CITY OF COLUMBIA
TENNESSEE

AGENDA

The Columbia Municipal Planning Commission will meet on Wednesday, July 12, 2023 at 4:00 PM in Council Chambers in the basement of City Hall, 700 N. Garden Street. The Planning Commission will consider the following:

I. Organization

1. Call to Order
2. Roll Call
3. Welcome of Visitors/Rules of Conduct
4. Acknowledgement of Official Communications of the Columbia City Council on Annexation and Zoning.
5. Approval of Minutes
6. Review of Bonds and Letters of Credit

II. Consent

1. Request from TKC Architecture and Engineering for Final Plat approval with surety in the amount of $295,000 for Honey Lakes Townhomes Phase 1 off Williamsport Pike consisting of 91 lots.
2. Request from Allen O'Leary for Preliminary and Final plat approval for 3 lots at 462 Mooresville Pike.
3. Request from T-Square Engineering for Final Plat approval with surety in the amount of $175,000 for Summit at Carter's Stations Phase 2 consisting of 32 lots off Wellwind Road.
4. Request from Allen O'Leary for Final Plat approval with surety in the amount of $200,000 for Drumwright Phase 2A consisting of 29 lots off Scooter Street and Lyman Ridge Road.

5. Request from Allen O'Leary for Final Plat approval with surety in the amount of $125,000 for Drumwright Phase 2B consisting of 14 lots off Steadman Street and Lyman Ridge Road.

6. Request from Allen O'Leary for Final Plat approval with surety in the amount of $265,000 for Drumwright 2D consisting of 51 townhome units off Drumwright Way and Fordham Street.

III. Discussion Items

1. Request from Sue Stephenson to rezone multiple properties from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District) in the Carriage Hills subdivision located off Concord Road.
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

2. Request from Chapdelaine and Associates for Preliminary Plat and Site Development Plan approval for 29 lots in Fieldstone Farms Section 5 Phase 2 off Williamsport Pike and Golden Place.
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

3. Request from Larry Owens to rezone property from CD-3L (Neighborhood Large Lot Character District) to CD-4(General Urban Character District) at 1205 East End Street.
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

4. Request from Joseph Ahler for Preliminary Plat and Development Plan approval for Liberty Pointe at Bear Creek located at 1451 Lasea Road consisting of 143 lots.
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

5. Request from P-R Vesper, LLC for Final Plat approval of Vesper Court with surety in the amount of $28,500 for 16 lots off Sunset Avenue.

6. Request from Adam Crunk for Preliminary PUD Master Plan approval for Honey Farm Townhomes consisting of 197 units off Honey Farm Way.

7. Request from Eric McNeely for Access Management Exception at 2408 Nashville Highway and Greens Mill Road.

8. Request from Travis Bonar for revision to Final PUD Master Plan and Preliminary Plat approvals of McClure Farms Phases 1-4 consisting of 431 lots at 2504 Nashville Highway.

9. Request from M2 Group LLC for Site Development Plan approval of Mackenzie Place consisting of 34 units at 220 Theta Pike.

IV. Other Business

1. Adjournment

The Planning Commission of the City of Columbia welcomes your presence and participation at this meeting. If you wish to address the Commission regarding any item on the Agenda, please sign the sign-up sheet and indicate which agenda item you would like to comment on. You will have the opportunity to comment on an item when it comes up on the Agenda and before the Commission votes on the item. Once recognized, you may then come to the podium and state your name and address. Anyone requesting accommodation due to disabilities should contact the ADA Coordinator, Wanda McClain, at 931-560-1570 prior to the meeting. For other questions, please contact the Department of Development Services at 931-560-1560.

Municipal Planning Commission - COLUMBIA, TENNESSEE

June 14, 2023 - 4:00 PM

Organization

Item I.1. - **Call to Order**

Chairman Charlie Goatz called the Planning Commission Meeting for the City of Columbia to order at 4:00 p.m.
The meeting was held at Council Chambers at City Hall.

Item I.2. - **Roll Call**

Chairman Goatz asked for a verbal roll call.
Quorum present and including the following:
Present were: Councilman Coleman, Mr. Thomas Hutto, Dr. Christa Martin, Mr. James Shannon, Mr. Ray Pace and Mr. Charlie Goatz.
Absent was: Mayor Molder.
Other Attendees: Mr. Glenn Harper, City Engineer; Mr. Paul Keltner, Development Services Director; Mr. Tony Massey, City Manager; Mrs. Sandra Richardson, Secretary; Mrs. Melissa Sanders, Planning Associate I; Mr. Kevin McCarthy, City Planner;Mr. Robert Archibald, Planning Associate, II

Item I.3. - **Welcome of Visitors/Rules of Conduct**

Chairman Goatz welcomed guests and applicants to the meeting. The Chairman discussed the meeting order and the process for speakers to be heard.

Item I.4. - **Acknowledgement of Official Communications of the Columbia City Council on Annexation and Zoning.**

Director Paul Keltner shared the updated status of the Planning items that were forwarded to City Council.

Item I.5. - **Approval of Minutes**

Councilman Coleman moved to approve and Mr. Shannon seconded the motion. The minutes were approved by a vote of six to zero.

Item I.6. - **Review of Bonds and Letters of Credit**

City Engineer Glenn Harper stated all letters of credit are in order.

Consent

Item II.1. - **Quail Run Meadows Phase 3 - Request from T-Square Engineering for Final Plat approval of 34 lots with surety in the amount of $185,000, being Tax Map 73 Parcels 17 and 17.04.**

Mr. Goatz moved to approve with Councilman Coleman seconding. Mr. Keltner asked that the motion and the vote be resent. The Motion to approve passed six to zero.

Discussion Items

Item III.1. - **Request from Adam Crunk for Preliminary Plat and Development Plan approval of 126 lots off Trotwood Avenue and Foster Lane, being portions of Tax Map 112 Parcels 18, 18.03, and 18.04. This request is updated to approval of 124 lots.**

THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

THE APPLICANT IS REQUESTING A DEFERRAL

Mr. Keltner gave the details of the request. Mr. Jake Wolaver was present to answer questions. Mr. Wolaver stated that they will withdraw this item for tonight's purposes, and the item will be submitted again at a later date.

Item III.2. - **Request from Cole Gaumnitz for Preliminary Plat and Development Plan review for Tax Map 89 Parcel 46 off Industrial Park Road.**
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

Mr. Keltner gave the details of the report. There are some changes that are still not conforming to the Ordinance. It would be a good opportunity for the Design Review Team to have a complete review of this so that staff could present a more informed staff report for you. Cole Gaumnitz and Ryan Carroll were present to answer questions. Mr. Gaumnitz stated that they would like to request a variance to approve access to the nonconforming lots, via easement, as opposed to a full fifty-foot wide thoroughfare that would service those on the other side of the parking lot. Mr. Ryan Carrol stated that the overall view of the park is for small businesses. He also stated that the nice things about the park are it is uniformed, it is clean, and being able to accommodate a good number of units. They do have a couple of buildings that are interior in doing so they still, made large enough for turning radius and access. Discussion included deferral, resubmission, non-conforming lots, and the water availability letter expiring. Mr. Goatz stated to allow the time to get the request resubmitted, because what the Commission is seeing today is non-conforming, he will make a motion to deny giving them another month to work with staff to get the request more conforming to the Ordinance. Mr. Keltner stated that this body does not do variances. Mr. Goatz moved to deny, with Mr. Coleman seconding. The motion to deny passed six to zero.

Item III.3. - **Request from Jacob Vincent for Preliminary Plat and Development Plan approval for Rock Springs Phases 1-4 consisting of 187 lots off Rock Springs Road.**

THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

Mr. Keltner gave the details of the request. Mr. Scotty Bernick, Ragan Smith Landscape Architect, was present to answer questions. Discussion included civic spaces, water availability letter, and phase one. Mr. Goatz asked if they were going to be setting back further than the others. Mr. Keltner stated that Columbia Power and Water are both having problems with infrastructure supplies, and have started to ration how much of the transformers, water meters and things of that nature that they will be handing out for development. Mr. Harper stated that the traffic study stayed in line. Further discussion included the set back of the homes, creative solutions to address the setbacks, lots forty six and forty seven, conforming to the subdivision regulations, and it is not under their control at this time. Mr. Goatz moved to approve. Mr. Hutto asked if they had plans to burn the tip of the property to the east so that they would know if, somewhere in this process, they were going to expand the road farther east. Mr. Bernick stated that at this point, that is not apart of this application. Mr. Pace asked about the motion. Mr. Goatz stated that his motion is to approve subject to any Technical comments. Mr. Shannon seconded. The motion to approve subject to comments passed six to zero.

Item III.4. - **Request from Sue Stephenson to rezone 55 properties from CD-3 (Neighborhood Character District) to CD-3L (**Neighborhood **Large Lot Character District) in the Carriage Hills subdivision located off Concord Road.**

Mr. Keltner gave the details of the request. The homes inside the development are in compliance with the CD-3L with the exception of Saxton Court. There are also a few homes that portions of the properties are outside the city limits. Only a portion inside the city will be rezoned. Staff included section 8.5.19 pg 4 is in the Commission packet. The Commission can amend the items as you please in your motion. Sue Stephenson, 110 Concord Drive, in Carriage Hills Subdivision, was present to answer questions. She stated that the four lots that were excluded were non-buildable lots. She also stated that they are not in conflict with the comprehensive plan. For legal purposes, the zoning which exists is not contravened. Every home owner signed the petition there were no exceptions. Most of the homes are one half an acre or greater. Originally, in the early 2000 when they were annexed, they were zoned RS-15. Then the City decided to eliminate that zoning classification, and bumped them up to a higher density RS-10. There is no adverse effect on the adjoining property owners. The ones that are partially in the City is because they front Highway 31. They simply want their property to reflect the zoning classification that they should being larger lot homes, and larger lots. Mr. Goatz asked if the 4 lots are not buildable. Why wouldn't they, agree to rezone it to a 3L . Ms. Stephenson stated that there is nothing on those lots. Mr. Goatz stated if the request is approved will there be some kind of pocket zoning for those last four lots. Mr. Keltner stated that those four lots would have a different zoning than the neighboring properties. He also stated that his discussion with the owner representative stated that he just didn't want to down zone his property. Mr. Goatz stated if sewer was in there then they would become buildable lots. Mr. Keltner stated yes. Mr. Hutto asked if they had looked at the restriction for your subdivision to see if anything more than a single family home was even possible. Ms. Stephenson stated that the covenant is no longer in effect.

Discussion included it is built out except for the four lots. Mr. Hutto stated that he doesn't see what benefit they will get from changing the zoning. Ms. Stephenson stated that she didn't declare any particular benefit, they just wanted the zoning. She also stated that they didn't know that the RS-15 had been changed to RS-10, and they didn't find that out for years. She stated that she is real perplexed by it because they didn't receive any notification. The bottom line is, all of the properties in there are half acres or greater. They just want the larger lot subdivision neighborhood. Mr. Goatz stated just a designation, it is all built out, except for the four lots. Ms. Stephenson stated yes, if anything ever happened he can come before you and ask for rezoning and whatever he wants to do. He has the potential to do exactly what they are trying to do. She stated that what they are doing has no adverse effects on anyone. Dr. Martin stated that she didn't understand this at all. She also stated that the area is built out, you have four items that are not in agreement with what you want to do. She asked what were the future implications of this? When you say something is nonbuildable, what does that mean? Who designates that, and who makes those criteria. She doesn't recall the Board ever having something like this come to us, so what is the ultimate goal? Mrs. Stephenson stated first of all, the statement nonbuildable came directly from the property owner's mouth. Dr. Martin stated," I am asking who makes that designation? Somebody has to have the skill set to say the lot is nonbuildable". She also stated that she is not going to take that from a person just saying out of the blue the lot is not buildable. She stated what makes it not buildable? Ms. Stephenson stated that it doesn't perk right now, it is full of rocks, and it has sink holes. She stated that she also wanted to point out the she went and spoke directly to the property owner. She told him what they wanted to do, and he had no objection. In fact, if he had an objection she would imagine that he would be here today. She talked to him about what they wanted to do and he said they didn't have any problem with what they were wanting to do with their properties in the subdivision. Dr. Martin stated, so I still don't understand Mrs. Stephenson, why you are before the Commission with the request? She also asked what ultimately does this get you. Dr. Martin stated the subdivision is built out, everybody is living in their homes, what is this for? She also stated you guys have had some conversations, you have had some meetings, and she doesn't understand this. Ms. Stephenson stated that it seems that some of you are looking at this solely from the perspective of what is there or isn't there to gain, and that not so much is the question. Dr. Martin stated then give the Commission the explanation. Ms. Stephenson stated that they simply wanted the zoning verification to comport with the size of the lots and the homes. Dr. Martin asked for what purpose? Ms. Stephenson stated," it seems that you are wanting to make this more complicated than it really is, there is no alternative agenda here." Further discussion included annexation, zoning classification, higher density, wanting the designation, and lot size. They are not looking for fringe benefits, they just want it stated that they live in a subdivision with large homes and lots. Mr. Hutto stated that they already live in a subdivision that has larger lots. Ms. Stephenson stated but it is zoned RS-10. Councilman Coleman asked Mr. Keltner what if this zoning request did not happen? Future property owners, what could they do that is not different from what it is now? Could a duplex happen? Mr. Keltner stated yes you could, that is the only difference that

he could see. Additional discussion included lots one hundred foot, there is sewer in the area, if the zoning request isn't granted there is a possibility that a future property owner could put duplexes on one hundred foot lots, per block. This is an older style cul de sac. It is hard to define a block out of a cull de sac, one can visualize two blocks, this is an attempt for all the neighbors who got together for this to make sure that the possibility is not a possibility, or eliminate that possibility. There wasn't a single home owner that didn't sign the petition. Mr. Goatz stated that the lots that did not conform to the CD-3L are the cull de sac lots. If something devastating happens to those homes, could they be rebuilt if they don't conform to the CD-3L. Mr. McCarthy stated that they would be nonconforming and you are not supposed to have created a new lot, so we are not creating a new lot here. So you are not creating a nonconforming lot, just changing the zoning classification. If there was catastrophic loss they could build a new home, but they would have to meet the standards. Ms. Stephenson asked what if the cul-de-sac lots wanted to build on the county property, then they are free to do what they want? Mr. Keltner stated the county would be outside. Mr. Hutto stated that the subdivision was under restriction for forty years. If you could organize and get fifty neighbors to sign this letter, why couldn't you establish new restrictive covenants to prevent whatever it is that you are trying to prevent. Ms. Stephenson stated again we weren't looking at something that we were trying to prevent. She has heard people say that covenants don't mean much, or it is difficult to enforce covenants. She also stated that she thought that this was a whole lot simpler than trying to get ninety people to go along with trying to outline new covenants. All they are asking for is a change in the zoning classification, that is it. Dr. Martin stated that this is so legal for her, has an attorney looked at this and given insight on it? Mr. Keltner stated that he does not know if he has done an analysis on it or not, but they have had discussion on it. He doesn't know if there was a thorough analysis, but there was discussion. Dr. Martin moved to defer until she had time to speak with the City attorney, with Mr. Goatz second. Mr. Goatz stated that the motion to defer failed by a vote of three to three with Mr. Hutto, Mr. Pace, and Mr. Shannon voting nay. Mr. James Shannon asked that the vote be recalled because he had issues with his device. Mr. Goatz called for a revote because Mr. Shannon's device didn't register correctly. Mr. Keltner stated that he was saying that it did not do it correctly. Mr. Goatz stated correct. The revote on the motion to defer passed four to two, with Mr. Hutto and Mr. Pace voting nay. Ms. Stephenson asked so that she understands, was the deferred so that counsel could be consulted. Mr. Goatz stated that was the motion. Dr. Martin stated that is correct.

Item III.5. - **Request from Chapdelaine and Associates for Preliminary Plat and Site Development Plan approval for 29 lots in Fieldstone Farms Section 5 Phase 2 off Williamsport Pike and Golden Place.**

Mr. Keltner gave the details of the request. He pointed out that there was additional information that was extra in the packet. This request is strictly for the plat itself, and the site development plan. It will not include any layout of individual lots, mail kiosks, and things of that nature. Those items will all be addressed at the site construction plan

level. The plat and the site development plan conform to the Zoning Ordinance. Zack Harvill & Allen Brawner were present to answer questions. Discussion included right-of-way width will be wider, civic space, walking trials, green space, amenities for the tenants, the intent is included in the staff report, the Ordinance, amenities, the design to fit the neighborhood, landscaping plan, buffer, varying in width, evergreen trees, safety, the wood fence around the detention pond, and material. Dr. Martin asked if they could give additional explanation about the fence around the detention pond. Mr. Brawner stated that it is to prevent children from coming up and getting into the pond, and animals and things of that nature. Dr. Martin stated that her question was in regards to the detention pond and the flow into the area. She asked if they put the wooden fence up, is that going to impede the flow of anything going into the detention pond. Mr. Brawner stated that he did not believe so, but he could not speak about the drainage. The civil engineer did the design for that work. Mr. Keltner said it is incapsilated but it is not flowing into the detention pond per say, it is being captured then directed by pipes into that pond. Mr. Harper stated that the fence is not a consideration for this item or the detention. They will work it all out with construction. Mr. Goatz stated the Development Review comments that he saw in the packet that was dated May 9th, seem to only reflect comments from planning. Is that because it is a resubmittal? Mr. Harvill stated that those were additional comments that were addressed. Mr. Goatz stated that wastewater comments stated that there is a low pressure system and grinder pumps and their department will not take ownership of this. He asked if they didn't want this ginder pump, and if this was the owner's responsibility, and stated that they are not allowed in the City of Columbia. He asked are they not allowed or do they just not want to take ownership. Mr. Keltner stated that he had not had a discussion with Mr. Boshers, and he wouldn't want to comment on his response.Mr. Goatz stated that based on the wastewater comments, he moved to defer this item to get clarification from that department, with Councilman Coleman seconding and adding the civic space. Mr. Harper asked if this item had been deferred last month. Mr. Goatz stated no. The motion to defer passed six to zero. Additional discussion included gravity flow, and clarity.

Item III.6. - **Request from Larry Owens for Comprehensive Plan Amendment from Urban Neighborhood to Suburban Neighborhood along with Rezoning from CD-3L (Neighborhood Large Lot Character District) to CD-3 (Neighborhood Character District) at 1205 East End Street.**

Mr. Goatz abstained. Councilman Coleman led the discussion. Mr. Keltner gave the details of the report. The current designation would not support a CD-3. It would also have to require a comprehensive plan amendment to down zone from urban to a suburban, which is a less dense environment. The review criteria for rezoning, of any map criteria, is section 8.5.19. Councilman Coleman asked if the Board were to leave the zoning as is and not grant the request, what could be done with the property. Mr. Keltner stated that there could be single family homes per one hundred foot wide lot frontage. Accessory dwelling units are also allowed. The concept of this is depicting the rezoning of the CD-3 which shows the three lots. Mr. Larry Owens was present to answer

questions. Discussion included that it has water and sewer tap already on it, because there was a house there once before. Mr. Owens stated that he didn't know that it was only zoned for one when he bought it. He stated that he knocked the house down, and trimmed the trees, cleaned the lot off and would divide it into three lots. He is here today to see what he will be able to do. Mr. Keltner stated that the CD-4 will be more in line. Councilman Coleman CD-4 will be able to have four lots. He would like to put three houses there. He is willing to put a privacy fence up for the American Legion. He talked with the American Legion and provided them with a water tap to avoid problems. Councilman Coleman asked Mr. Keltner to speak more to the zoning that is more appropriate. Mr. Keltner stated in Urban Neighborhood, the CD-4 would be supported by the comprehensive plan that would allow Mr. Owen to do what he is requesting to do, but also affords him the opportunity to have something instead of three lots. Maybe he will be able to achieve four lots. This is close to the core of our City at the time it was done it was looked at as redevelopment for infill and to create more density within that core area. That is why this area is looked at as more of an urban neighbourhood. The CD-4 district will do single family homes, and they will also give other product types that could be included inside of this as well. Councilman Coleman stated that the CD-4 is what staff would rather have him go to. Mr. Keltner stated that the CD-4 would be more inline with the comprehensive plan. It wouldn't prohibit Mr. Owens from doing what he wants to do, it would actually potentially help him do more as well as afford opportunities for others to do that as well. Councilman Coleman asked Mr. Owens if there was a reason why he wouldn't want to follow that zoning. Mr. Owens stated what is he saying I could do four instead of three. Mr. Keltner stated that the difference between a CD-3 and a CD-4 is a CD-3 has a sixty-five foot lot frontage. The CD-4 for a single family home would be fifty. It is a reduction of the frontage of your lot. Mr. Owens stated that he is willing to do whatever the Commission tells him to do. Councilman Coleman stated that if he requested the CD-4 he could get four lots off of the property. Mr. Keltner stated that since it is a more intense zoning, he suggests if the applicant is agreeable to the CD-4, and it sounds like he is. You should defer this item and let staff re-advertise this item as a CD-4 so that the public will be aware. Councilman Coleman moved to defer, and Dr. Martin seconded. The motion to defer passed five to zero with Mr. Goatz abstained. Mr. Owens asked if he would need to submit additional paperwork. Mr. Keltner stated no it would be advertised in the paper, and plan to attend the next month's meeting.

Item III.7. - **Request from Nelson Crowe to correct a mistake on the official zoning map and rezone property from CD-3 (Neighborhood Character District) to CD-4 (General Urban Character District) at Tax Map 41 Parcel 15 at Cleburne Road and Freehand Lane.**

Mr. Keltner gave the details of the report. Mr. Jake Wolaver and Nelson Crowe were present to answer questions. Based on the systematic error, Mr. Goatz moved to approve the request with Councilman Coleman seconding. The motion to approve passed six to zero.

Item III.8. - **Request from Greg Gamble for rezoning of Tax Map 90 Parcel 7.08 off River Road from MU-PUD (Planned Unit Development - Mixed Use) to CD-5 (Urban Center Character District).**

Mr. Keltner gave the details of the staff report. Mr. Greg Gamble was present to answer questions. Karen Moyers, 201 River Road, stated that her property is directly across from the lot. She is against the CD-5. She is for residential, but she is against commercial. Patty Webster, 209 River Road, stated she agrees with Karen, she is not for commercial. Jalen Sowell, 652 Taylor Bend, stated that he is not against commercial. He thinks what devalues homes is the massive parking lots, different types of large store takes away from the community, having one way to get around and traffic is a concern. He also stated that this area of town needs to be addressed by the City. Parker Scobey, 241 River Road, expressed concerns with the lack of infrastructure, the lack of speed limit signs, quality of life, sidewalk problems, crosswalks, and drainage problems. Howard Todd, 203 River Road, expressed concerns with the infrastructure, and exits. They would not like to see the pine trees taken down. Mr. Greg Gamble was present to answer questions. Mr. Gamble stated in the new zoning ordinance there is a high bar to be met for the PUD. Discussion included CD-5 set up for infill, varying density, mixture of uses already established, park with amenities, on street parking on River Road, and landscape. Mr. Goatz stated in the concept plan what do we do as far as water availability. Mr. Keltner stated that the water availability is only for the development itself. Just because you have a potential zone, if you don't have water to do a hundred, maybe it is only fifty, then that is all you can do. If it was to be rezoned and then the water availability came up, then said we can't support the one hundred but we can support seventy-nine, then that is all that would be able to build without some agreement to metigate that. Mr. Hutto asked about the building types, because this is large multi-family, looks like and townhomes, it is one hundred percent that. He also stated that it looks like CD-5 requires thirty percent commercial. It all may fit there when you look at the sketches. The front of each character district the one for CD-5 where it says sidewalks, a two or three story building is very similar to what we have downtown with retail and office space on the bottom maybe and apartments, condos whatever upstairs. He also stated that he doesn't see any commercial on this site. He doesn't know if it meets the thirty percent requirement. Looking at this area, you have all of the residential areas behind it with these great sidewalks to walk up and down the river and around it. You have Harbor Freight and a lot of other stores that go in and out of Northway Shopping Center, which in some way is an eyesore. Why not take the opportunity to put restaurants, small offices, coffee shops that will both benefit the residents of Taylor Landing and the people living above it and around it, with the parks in the interior for the residents as well. Mr. Gamble stated that the property that they are looking at has a land use policy that speaks more residential. The policy of Harbor Freight is a policy that speaks more to what you are describing. Further discussion included the size lot, and mix of use. Mr. Keltner stated that is a good catch, but in the zoning ordinance it is only for ten acres or more. Mr. Pace stated that the neighbors that spoke didn't want commercial. Mr. Keltner stated that it is not required for this particular one. Councilman

Coleman asked what are some of the things that could be done to improve modality as was mentioned in doing more in tying that side of Nashville Highway's residents to easier access to downtown. Mr. Keltner stated that there is a gap from the sidewalk to the bridge itself into River Road with no sidewalk system. Is River Road a City street, or is it just a private street, he is not for sure. It depends on if it is private or public as to who would be in charge of trying to devise that. Mr. Harper stated that section is public. Councilman Coleman asked is that something that we could do. Mr. Keltner stated that he haven't had it requested to us. Additional discussion included connectivity, the Comp Plan, Connection of Riverwalk, sidewalk system, crossing the street at Nashville Hwy from Harbor Freight. The first two properties there is no sidewalks, a crosswalk, and grade. Mr. Keltner stated that this is a different ordinance that was approved in July. Things that are being discussed may not be as ideal as we would want it to be. It is all done under different ordinances that is not the standards that any development on this site would have to adhere to. Their parking would have to be behind the building or what we call the third layer.Further discussion included public comments, not wanting to see a lot of parking lots, a multi-family site creates a large parking lot, it is screened behind the building. You will not be able to experience that until you drive into the parking lot past the building, the original PUD, and estimation. Mr. Goatz asked if this would remain a PUD. Is it the heavier restrictions, based on CD-5 could you not have achieved with your concept plan. Mr. Gamble stated that he is not sure that they qualify for a PUD. Mr. Keltner stated it is still a PUD itself it would need a new Master Plan to go with it. Mr. McCarthy stated to bring in a PUD Master plan now under the PUD use standards or request to rezone to a CD-4 or CD-5. Mr. Goatz stated so you could technically bring in the concept plan , more detail would require a PUD Master plan and maybe achieve what he is requesting without the concept plan based on CD-5 which technically would be allowed for all apartments, all townhomes, and all commercials. It is less than ten acres. He could allow many different things with the base zoning. Mr. Keltner stated that is correct. Mr. McCarthy stated that we wouldn't allow a property this size to use a PUD at all, and like Mr. Gamble said because they can do what they want to do under one of the character districts in the way the zoning ordinance was written. Mr. Goatz asked if this concept plan would be allowed under a CD-4, or 4C. Possibly under a CD-4. Mr. Gamble stated it is more appropriate under the CD-5 based upon the criteria of the ordinance. Mr. Goatz asked what part makes it more appropriate. Mr. Gamble stated the CD-5 is really meant to be more of an infill zone, it does allow for commercial, and it allows for architectural mixing. Additional discussion included the density, units, green space, qualifying, it is a stand alone PUD, creating a new PUD today, existing zone, bound,and bringing in a Master Plan that conforms to standards. Mr. Goatz asked if the Commission is bound to change the zone. Mr. McCarthy stated that the way we see it, so far under 4400, existing PUDs can come in and bring in new master plans, and revised a master plan, to create a new PUD have to be a novel concept, but it couldn't be under the character district. Mr. Goatz stated so this would fall under the existing PUD. Mr. Keltner stated that the overlay is there just the plan itself expired. Additional discussion included the density of the new PUD, commercial box use, rezoning approval, reviewing this again, and the neighborhood fit. Dr. Martin referenced Mr. McCarthy's

email, and asked if they didn't want to do the PUD, is that what you are saying. Mr. Gamble stated it would be their purpose tonight to have consideration and recommendation to the Commission based upon their request for CD-5 Based District. He also stated that his understanding is there is some hurdles that they would have to cross in order to renew. They have a couple of options either they are going to amend all of Taylor Landing PUD, and contemplate the entirety of the neighborhood, what's built and whats not built or they could have a stand alone PUD of just the five point eight acres. This is apart of that PUD. The bigger PUD includes much of this area. This was a component of that. This couldn't be built under the previous PUD it was approved, but it technically expired. They can't pursue the plan that was on the previous PUD. To simplify things they said, let's just follow the current zoning ordinance, your current regulations, and your current design standards and request the CD-5, because they know that their proposed master plan showing townhomes, across from single-family creating a park on the corner and having multi family building types transitioned to the commercial fits within CD-5. This is what they were planning to bring back to the Commission with the proposed architecture and the preliminary plats. Dr. Martin stated so that plays into your big picture with all the rest of the things that he showed her on the other document. Mr. Gamble stated yes. He also pointed out and stated that these are two story townhomes, and these are three-story buildings with compatibility. Mr. Goatz stated you mentioned that option one was to encompass the whole PUD where option two was to stand alone PUD. He also stated that he thought, the Taylor Landing was a new PUD that excluded yours already, and the piece kiddycorner that is already zoned for multifamily, is that a stand alone PUD. Because it did not come in with Taylor Landing. Mr. Keltner stated that he would have to research that. It was approved under the old code for one hundred and thirty-five units. It has expired. Mr. Goatz stated that it would be under the same what the applicant is trying to do. Mr. Keltner stated that specific sections were modified not the whole thing. Mr. Goatz stated one of the criteria items that the Board has to look at item was 8.5.19. He read the description and stated that it sounds like other than not wanting to meet the density requirement of a PUD. What conditions have changed to warrant the change? It could still be achieved as a PUD. Mr. Gamble stated that the PUD has expired, and you have a zoning ordinance and they feel like they have been encouraged to follow the zoning ordinance criteria. Mr. Goatz stated that it still allows a PUD. Mr. Hutto stated not when there is a zoning district that can be used to accommodate that. There is a minimum acreage requirement too. Mr. Keltner stated that it would be for a new one. Staff have always wanted to move away from PUDs. Staff have seen those not done to what they hoped to, so staff rely on our standards to set that fabric that we are looking for in the area. The question is to what district this would be. Then let the standards play out for that district, not necessarily rely on a PUD. If we are relying on a PUD then something is wrong with our standards and zoning ordinance. It may not be a CD-5, it may be a CD-4 in either case, staff would always encourage applicants to let the traditional zoning be the deciding site standard for their development. Mr. Goatz stated, based on that, the PUD requirements now would be twelve units per acre, which would correlate to a conversion to a CD-4. Mr. Keltner stated for a MU-PUD yes sir. Mr. Hutto stated that

looking at the Zoning map all the things along the highway is 4C. All the other parcels around there are 4C that might be a better fit than having one spot of five right there. Mr. Gamble stated that they really didn't have an issue with 4C except for 4C doesn't conform to the land use policy. They would have to do a Land Use amendment for a five point eight acre property, when everything surrounding it is urban neighborhood and not corridor. Further discussion included urban neighborhoods would be CD-4 or CD-5. Mr. Goatz asked if it was safe to say that the rest of Taylor Landing would conform more to a CD-4 than a PUD. Mr. Keltner stated yes. Mr. Gamble stated that he really don't think they would be as concerned about using the PUD if they could change the entire of the Taylor's Landing PUD as opposed to the stand alone five point eight acres PUD. They felt like since they were apart of that it would be an inappropriate amendment to the existing PUD. Tonight they are very interested in knowing what the recommendation would be on the CD-5. Mr. Goatz stated so even if it would conform to the PUD for the whole Taylor's Landing he is not sure what they would be trying to achieve there. Mr. Gamble stated that it would allow them to keep their number of units in their proposed plan. Further discussion included the CD-4, there is a lot of aspects to this area, he would have to do more research, recalculating the density for the entire PUD, under the density, things change, that is why they expire, defaults, base district, and recommendations. Dr. Martin stated it comes down to today what best fits the property, and what are we doing with that PUD that it was originally dealing with. Mr. Keltner stated to rezone it you would have to vacate the PUD at the same time. It would be done at the same time. Mr. Hutto moved to rezone this to CD-5 subject to any technical comments, Councilman Coleman second. The motion to approve passed five to one, with Mr. Goatz voting nay.

Item III.9. - **Request from Joseph Ahler for Preliminary Plat and Development Plan approval for Liberty Pointe at Bear Creek located at 1451 Lasea Road.**
THE APPLICANT IS REQUESTING A DEFERRAL

Mr. Keltner gave the details of the request. The applicant requested a deferral. Mr. Goatz inquired about questions he has. Mr. Keltner stated that he could relay them to staff and they would try to find the answers. Mr. Goatz move to defer with Dr. Martin seconding. Motion to defer passed six to zero.

Item III.10. - **Request from Eric McNeely for Final PUD Master Plan revision for property at Tax Map 51 Parcel 32 off Drumwright Way.**

Mr. Keltner gave the details of the staff report. They are requesting to add some amenities, cleaning up the retaining wall, and entry signs. A staff request on this in the new zoning home sales office are allowed, one standard that is in there is you cannot use residential lots as parking lots. Staff would like to add that request in there to clean it up. Discussion included we are adding more amenities, and we are reducing four lots, cleaning up with the retaining wall. Mr. Goatz moved to approve under the condition that to allow Mr. McCarthy authority to direct the parking lot conversion, and to allow use of lots as temporary parking. Mr. Shannon seconded the motion. Mr. Hutto

suggested that parking lots be immediately adjacent to whatever the sales area that is not a few houses down. The motion to approve passed six to zero.

Other Business

Councilman Coleman discussed considering expansion of the central business district downtown, with the courthouse at the end of South Main. He thinks that there are a lot of opportunities, especially because of the fact that the area is run down. Extending that zone so it can be seen for business going down from the Courthouse. Mr. Keltner stated that they would look at that and bring it for review.
Dr. Martin stated that she just wanted to say a couple of things about the crowds that are coming to the meetings now, and their demeanor. It is okay for somebody to disagree with her, she is good with that, but when she has fifteen people coming before the Board as a Commission to try to work and make good decisions for the City of Columbia. It is unacceptable what that group did from the Sue Stephenson item on the agenda. She expects people to be decorous whether they get what they ask for or whether they have to wait thirty days. That is all she asked. She stated that she is not good with that. Mr. Goatz stated that he understands. She also discussed parking issues. Mr. Goatz stated that first and foremost we set a precedence, especially with large crowds. It has been discussed in the past that once the item has been discussed, then they get up and leave. He also stated that he understood completely where she was coming from. Mr. Goatz stated that he can put that more in his rules on the front end, and when he outlines the rules of conduct at the front end of the meeting, and exiting quietly.
Mr. Goatz stated if the Commission could ask the department heads of the DRC reports to express their concerns. He also stated that he suggested open discussions.
Councilman Coleman stated that he echoed that he spoke to the City Manager about that issue that happened at City Council, and then he understood and very much appreciated the unbiased nature in which the Commission and staff do a great job. He feels bringing who you are along with your expertise. He respects that, he knows that you have to stay away from opinions, but he knows that if he hadn't asked a question a certain way of any one of the directors there is certain information that he would not have had. Mr. Pace stated that you have to realize the Commission is just making a recommendation, and the Council is the one that makes the decision. Further discussion included parking concerns, creating more onstreet parking, public infrastructure improvements, business parking requirements when they first open, street parking, walking and biking, safe connection from Nashville highway, walkways, green way, re-educate the public, deferrals, staff reports, general plan for the city, and the steering committee, zoning text amendment, and allowing more time.

Item IV.1. - **Adjournment**

Mr. Hutto moved to adjourn with Mr. Goatz second. The motion to adjourn passed six to zero. The meeting adjourned at 6:30 p.m.

_____ _____

Planning Commission Chairman, Charlie Goatz

Date

Active Letters of Credit and Sureties

7/6/2023

DEVELOPMENT	DEVELOPER	AMOUNT	EXP. DATE
Colter Place Subidivison, Section 1 (rds/drainage)	Sterling Martin	$44,502.69	09/09/2016
Honey Farm Townhomes- Phase 1A (completion of roads)	Honey Farms Management, LLC	$20,000.00	12/13/2018
Honey Farms Townhomes Phase 2, Section 2 (roads)	Honey Farms Management, LLC	$40,000.00	01/12/2019
Armstrong Meadow, Phase 1, Section 3 (roadsd/drainage)	General Homes of Columbia, LLC	$203,500.00	05/05/2019
Honey Farms Subdivsion, Phase 2, Section 8	Charles Raines Construction, LLC	$14,500.00	05/05/2020
Honey Farms Subdivision, Phase 2, Section 10	Charles Raines Construction, LLC	$103,000.00	05/23/2020
Greystone Subdivision	LPT, LLC	$166,500.00	03/07/2021
Arlington Heights Subdivision, Phase 2, Section 2	Arlington Heights General Partnership	$105,000.00	04/25/2021
Baker Landing Subdivision, Phase 1, Section 1	Howell Home Builders, LLC	$13,900.00	04/27/2021
Arlington Heights Subdivision, Phase 1, Section 2	Arlington Heights General Partnership	$106,000.00	05/09/2021
Polk Place PUD Subdivision, Phase 1 (roads & drainage)	Columbia Properties, LLC	$28,000.00	05/23/2021
Independence @Carter's Station, Section 3, Phase 1	Pulte Homes Tennessee Partnership	$390,000.00	09/15/2021
Savannah Cove Subdivision - roads/drainage	Campbell and Lovell Rentals	$45,000.00	09/28/2021
Summerdale, Phase 1 (roads & drainage)	P & L Development	$135,000.00	11/17/2021
Honey Farm Subdivision - Phase 2, Sections 3,4,5,6,& 7	J.D.Eatherly & Charles Raines	$25,000.00	12/11/2021
Elan Subdivision, Phase 2 (roads and drainage)	Shaw Enterprises	$142,000.00	01/04/2022
Polk Place PUD Subdivsion, Section 2A (roads & drainage)	Columbia Properties, LLC	$55,000.00	02/03/2022
Fieldstone Farms - Section 4 (roads & drainage)	Estate of Cyril Evers	$21,000.00	03/13/2022
Summerdale Subdivision, Phase 4 (roads & drainage)	P & L Development	$64,000.00	03/19/2022
Hatton Hills Subdivision (roads & drainage)	J & B Estate	$32,000.00	03/22/2022
Honey Farms Townhomes , Phase 2, Section 3	Lennar Homes of Tenn, LLC	$50,000.00	04/05/2022
Homestead at Carter's Station, Section 2, Phase 1B	FP TCI CCS, LLC	$6,500.00	03/17/2024
Homestead at Carter's Station, 5.2 and 6.1	Pulte Homes Tennessee Partnership	$254,000.00	04/16/2022
Homestead at Carter's Station. Section 4, Phase 1A	FP TCI CCS, LLC	$13,400.00	10/17/2023
Homestead at Carter's Station, Section 4, Phase 1 B	FP TCI CCS, LLC	$12,000.00	10/17/2023
Summerdale Subdivision, Phase 2 (roads & drainage)	P & L Development, LLC	$105,000.00	05/30/2024
Homestead at Carter's Station, Section 4, Phase 2	FP TCI CCS, LLC	$12,100.00	10/17/2023
Taylor Bend Road - roads & drainage	Meritage Homes of Tenn., Inc.	$120,000.00	06/30/2024
Taylor Landing Subdivision, Phase 5A (roads & drainage)	Meritage Homes of Tenn., Inc.	$48,000.00	06/30/2022
Taylor Landing Subdivision, Phase 5B (roads & drainage)	Meritage Homes of Tenn., Inc.	$72,000.00	06/30/2022
Taylor Landing Subdivision, Phase 4B, (roads & drainage)	Meritage Homes of Tenn., Inc.	$78,000.00	06/30/2022
Homestead @Carter's Station Subdivision, Section 4 Ph 3	FP,TCI,CCS,LLC	$16,000.00	10/17/2023
Cottages at Bear Creek , Phase 1 (roads & drainage)	Riverstone Homes, LLC	$165,000.00	07/19/2022
Valley View Subdivision, (roads and drainage)	James Davis, Sr.	$258,000.00	08/14/2022
Homestead @ Carter's Station Section 2 Phase 2B	FP TCI CCS, LLC	$11,100.00	04/20/2024
Summerdale Subdivision, Phase 5 (roads & drainage)	P & L Development, LLC	$55,000.00	10/14/2022
Independence at Carter's Station, Section 6, Phase 2	Pulte Homes Tennessee Partnership	$207,000.00	11/08/2022
Polk Place , Phase 2B (roads & drainage)	Columbia Properties, LLC	$56,000.00	11/12/2022
Homestead at Carter's Station Subm Section2 Phase 3	FP TCI CCS, LLC	$19,000.00	03/17/2024

Active Letters of Credit and Sureties

7/6/2023

DEVELOPMENT	DEVELOPER	AMOUNT	EXP. DATE
The Ridge at Carter's Station, Phase 1A	Richmond American Homes of Tenn	$121,000.00	12/03/2022
Independence at Carter's Station, Section 3, Phase 2	Pulte Homes Tennessee Partnership	$372,000.00	12/06/2022
Homestead at Carter's Station Section 2, Phase 1	FP TCI CCS, LLC	$14,100.00	03/17/2024
Homestead at Carter's Station, Section 2, Phase 2A	FP TCI CCS, LLC	$8,700.00	04/20/2024
Armstrong Meadows Subdivision, Section 4	Smith Douglas, LLC	$475,000.00	02/01/2023
Villages at Carter's Station	Villages at Carter's Station Dev., LLC	$200,000.00	02/04/2023
Cottages at Bear Creek , Phase II (roads & drainage)	Riverstone Homes, LLC	$156,000.00	03/18/2023
Summerdale Subdivision, Phase 7 (roads & drainage)	P & L Development, LLC	$66,000.00	03/21/2023
Ridge at Carter's Station, Phase 1B (roads & drainage)	Richmond American Homes of Tenn	$260,000.00	03/31/2023
Vesper Court (completion of the work)	P-R Vesper, LLC	$18,500.00	04/18/2023
Morgan Meadow Phase 2 (roads & drainage)	KCS Property, LLC	$135,000.00	05/12/2024
Armstrong Street Subdivision (roads & drainage)	Tennessee Regional Holdings, LLC	$75,500.00	05/14/2023
Polk Place, Phase 3 , (roads and drainage)	Columbia Properties, LLC	$79,000.00	06/17/2023
Independence at Carters Station Section6, Phase 3	Pulte Homes Tennessee Partnership	$197,000.00	07/14/2023
Bear Creek Overlook Place Phase 1 (roads and drainage)	CHR Land, LLC	$203,000.00	07/18/2023
Bear Creek Glen, Phase 1 (roads and drainage)	CHR Land, LLC	$90,000.00	07/18/2023
Homestead at Carters Station, Section 5, Phase 2	Pulte Homes Tennessee Partnership	$149,000.00	07/29/2023
Independence at Carters Section 3, Phase 3	Pulte Homes Tennessee Partnership	$155,000.00	08/05/2023
Quail Run Development, Phase 2 (roads and drainage)	Quail Run Development Co., LLC	$182,000.00	08/09/2023
Quail Run Development, Phase 1B (roads and drainage)	Quail Run Development Co., LLC	$185,000.00	08/09/2023
Drumwright, Phase 1 Townhomes Section (roads & drainage)	Lennar Homes of Tenn, LLC	$275,000.00	08/11/2023
Drumwright, Phase 1 Family Section (roads & drainage)	Lennar Homes of Tenn, LLC	$890,000.00	08/11/2023
Ridgeview Oaks, Phase 1 (roads and drainage)	A1 Home Builders, Inc.	$450,000.00	08/22/2023
Taylor Landing Subdivision, Phase 1A (roads & drainage)	Meritage Homes of Tenn., Inc.	$9,000.00	08/30/2023
Elan Subdivision, Phase 1 (roads and drainage)	Shaw Enterprises, Inc	$15,700.00	10/11/2023
Morgan Meadows Subdivision (roads & drainage)	KCS Property, LLC	$242,000.00	10/12/2023
Ridge at Carter's Station, Phase 2 (roads & drainage)	Richmond American Homes of Tenn	$645,000.00	10/31/2023
Taylor Landing, Phase 1B (roads & drainage)	Meritage Homes of Tenn., Inc.	$11,850.00	11/30/2023
Taylor Landing, Phase 4A (roads & drainage)	Meritage Homes of Tenn., Inc.	$121,000.00	11/30/2023
Summerdale Subdivision, Phase 3 (roads & drainage)	P & L Development	$97,000.00	12/22/2023
Quail Run Development Phase 1 (roads & drainage)	Quail Run Development Co., LLC	$157,000.00	01/03/2024
Summerdale Subdivision, Phase 3B (roads & drainage)	P & L Development, LLC	$17,000.00	01/27/2024
Summerdale Subdivision, Phase 6 (roads & drainage)	P & L Development, LLC	$103,000.00	02/07/2024
Morgan Meadow Phase 3 (roads & drainage)	KCS Property, LLC	$220,000.00	02/10/2024
Vulcan Quary Site Restoration	Vulcan Construction Materials, LLC	$62,000.00	03/01/2024
Ridgeview Oaks, Phase 2 (roads and drainage)	A-1 Home Builders, Inc.	$335,000.00	03/10/2024
Summit at Carter's Station Phase 1 (roads & drainage)	Tamarack Land - Carter's Station LLC	$465,000.00	03/17/2024
Baker Creek Place (roads & drainage)	SDH Nashville, LLC	$360,000.00	04/28/2024
Taylor Landing - Phase 2 (roads & drainage)	Meritage Homes of Tenn., Inc.	$188,000.00	04/30/2024

Active Letters of Credit and Sureties

DEVELOPMENT	DEVELOPER	AMOUNT	EXP. DATE
Taylor Landing Subdivision, Phase 3 (roads and drainage)	Meritage Homes of Tenn., Inc.	$11,700.00	07/31/2024
Quail Run Meadows, Phase 3	Quail Run Development Co., LLC	$185,000.00	05/18/2024
Drumwright, Phase 2C	Lennar Homes of Tenn, LLC	$125,000.00	05/23/2024
Drumwright, Phase 2A	Lennar Homes of Tenn, LLC	$200,000.00	05/23/2024
Drumwright, Phase 2B	Lennar Homes of Tenn, LLC	$125,000.00	05/23/2024
Drumwright TH, Phase 2D	Lennar Homes of Tenn, LLC	$265,000.00	05/23/2024
Honey Lakes LLC	Honey Lakes LLC	$295,000.00	06/14/2024

Williamsport Pike Townhomes (aka Honey Lakes)

Project #:	23-0095	Location:	Map 88 Parcel 51.03
Applicant:	TKC Arch. & Eng.	Case Type(s):	Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Towhnhomes

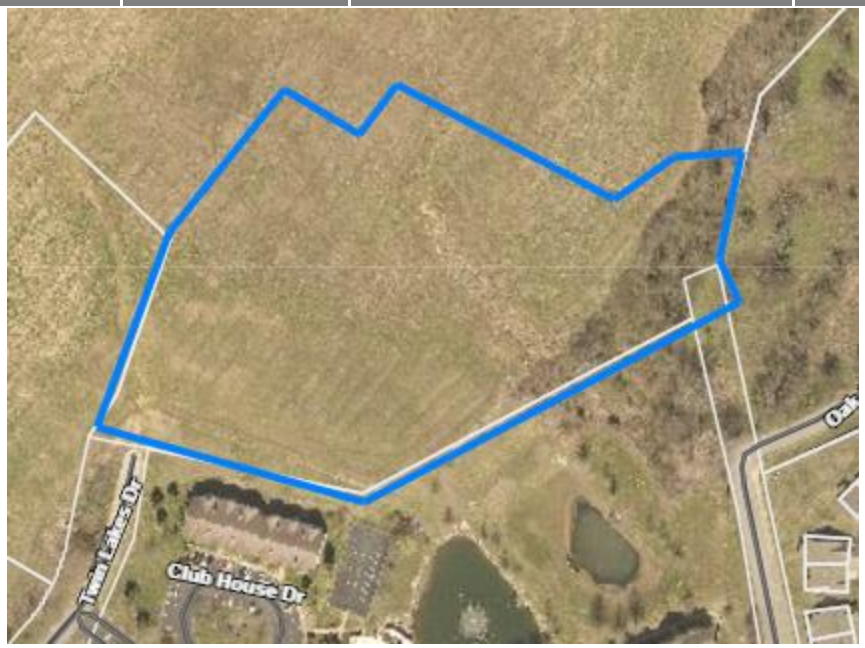
PROJECT SUMMARY

The applicant requests approval of a Final Plat to create ninety-one single-family home lots with accompanying infrastructure. The Planning Commission approved a Preliminary Plat for the development in February 2022. The approval created a vested right to develop under PUD Master Plan based on the RM-1 standards of the previous Zoning Ordinance.

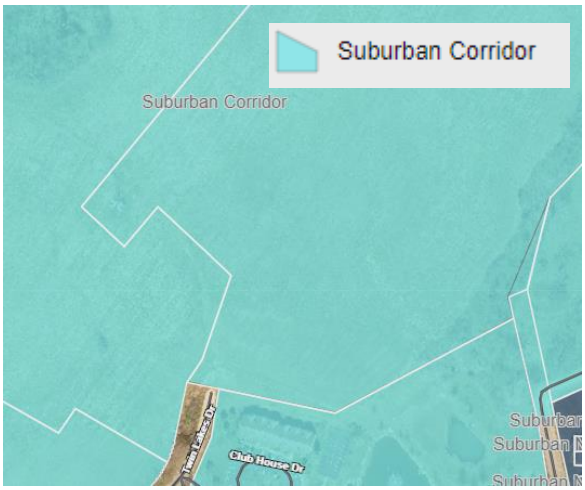
- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat conforms to the approved Preliminary Plat.
- The applicant has provided financial surety in the amount of $295,000 to guarantee completion of infrastructure.
- The applicant has executed a development agreement in the format prescribed by Appendix B of the Subdivision Regulations.
- The applicant has provided a stormwater maintenance agreement.
- The DRC reviewed this proposal at its May 2023 meeting. Staff review included standard comments and requests for technical corrections. Full technical comments are provided in the agenda packet.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

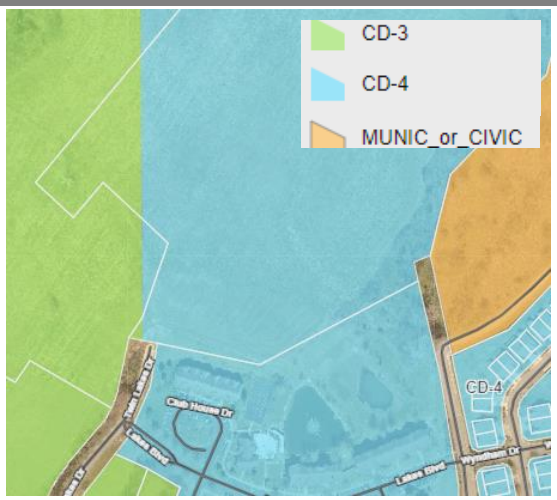
SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-4	Vacant	Infrastructure for Development	+/-15.09 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	CD-4	Vacant/Developing
North	Suburban Corridor	CD-4	Vacant/Developing
South	Suburban Corridor	CD-4	Multifamily
East	Suburban Corridor	Civic	Indoor Recreation
West	Suburban Corridor	CD-3	Vacant/Developing

The subject site is part of the larger multiphase development. The property is bounded on the north and west by other portions of the development site. Existing multifamily residential property is border the property on the south. The Muletown Recreation Center is located to the east of the property. City Council approve a PUD Master Plan for the site in August of 2021 (20-0267). The Planning Commission approved a Preliminary Plat (21-0293) for development of 91 single family lots and 251 townhomes on the site in February of 2022.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the PUD Master Plan, the modified RM-1 standards of the applicable zoning ordinance (3638), the Subdivision Regulations, and the approved Preliminary Plat.

- The proposed structures conform to the setbacks and other bulk standards of the Master Plan.
- The PUD include architectural standards. Conformity with these and other applicable zoning standards will be confirmed at the time of building permit.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*
>
> > *1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;*
> >
> > *2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and*
> >
> > *3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.*
>
> *B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.*

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

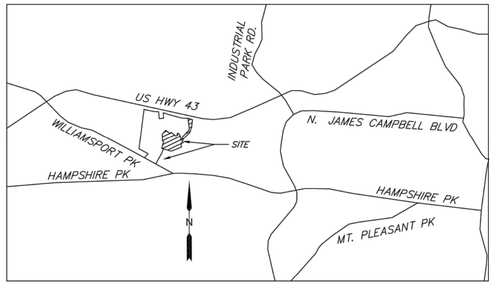
Defer for Continued Review:

Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional

information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].



VICINITY MAP – N.T.S.

UTILITY NOTES:

1. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN (3) THREE OR MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL 1-615-366-1987 OR 1-800-351-1111.

2. PUBLIC ELECTRIC AND COMMUNICATION UTILITIES SERVING THIS DEVELOPMENT TRAVERSE UNDERGROUND AND ALL RELATED FIXTURES REQUIRED FOR THIS SERVICE ARE ENCOMPASSED BY A 10-FOOT PUBLIC UTILITY RIGHTS OF WAY EASEMENT ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC OR PRIVATE ROADWAYS AND 5 FEET WIDE EASEMENT ON ALL INTERIOR LOT LINES FOR UTILITY AND DRAINAGE EASEMENTS.

3. SERVICE LINES AND FIXTURES WILL BRANCH FROM MAIN UTILITY LINE AND EXTEND TO AN INDIVIDUAL MULTI-UNIT STRUCTURE WITHIN THIS EASEMENT. THE GANG METER BASE WILL BE ATTACHED TO THE EXTERIOR WALL OF THE STRUCTURE. THIS GANG METER BASE WILL SERVE AS A BRANCH IN WHICH INDIVIDUAL SERVICE LINES WILL EXTEND TO EACH UNIT WITHIN THE STRUCTURE.

4. THE GANG METER BASE WILL BE ENCOMPASSED BY A BLANKET UTILITY EASEMENT FOR SERVICE AND MAINTENANCE AS NEEDED AND REQUIRED. GANG METER BASES, ELECTRICAL SERVICE ENTRANCE CONDUCTORS FROM TRANSFORMER TO GANG METER BASES AS WELL AS LINES LEAVING THE GANG METER BASE TO SERVE INDIVIDUAL UNITS WILL BE THE RESPONSIBILITY OF THE HOME OWNERS ASSOCIATION.

5. ADDITIONALLY, A 10-FOOT PUBLIC UTILITY RIGHTS OF WAY EASEMENT SHALL CONTINUE VERTICALLY FROM THE FOUNDATION THROUGH THE ROOF ON THE EXTERIOR WALL AT THE LOCATION OF THE METER BASES OF EACH BUILDING.

GPS NOTE:

I, DANIEL A. CURRY, HEREBY CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM TWO POINTS ESTABLISHED VIA THE TDOT GNSS REFERENCE NETWORK AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THIS SURVEY:

TYPE OF SURVEY: REAL TIME KINEMATIC
POSITIONAL ACCURACY: 0.05 FEET
DATE OF SURVEY: FEBRUARY 12TH, 2021
DATUM/EPOCH: NAD83(2011) EPOCH 2010.00
PUBLISHED/FIXED CONTROL USED: TDOT CORS NETWORK
GEOID MODEL: 2003(CONUS)
COMBINED GRID FACTOR: NONE



TYPICAL TOWNHOME LOT LAYOUT

NOTES:

1. THE PURPOSE OF THIS PLAT IS TO CREATE 91 TOWNHOME UNITS.

2. THIS SURVEY WAS PREPARED FROM CURRENT DEEDS OF RECORD AND DOES NOT REPRESENT A TITLE SEARCH OR GUARANTEE OF TITLE, AND IS SUBJECT TO ANY STATE OF FACTS A CURRENT AND ACCURATE SEARCH MAY REVEAL.

3. BEARINGS SHOWN HEREON ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM, ZONE 4100, NAD83. GPS EQUIPMENT WAS USED TO DETERMINE THE POSITION ON TWO (2) CONTROL POINTS FOR THE SURVEYED PROPERTY TO ESTABLISH AS BASIS FOR BEARING FOR THE SURVEY.

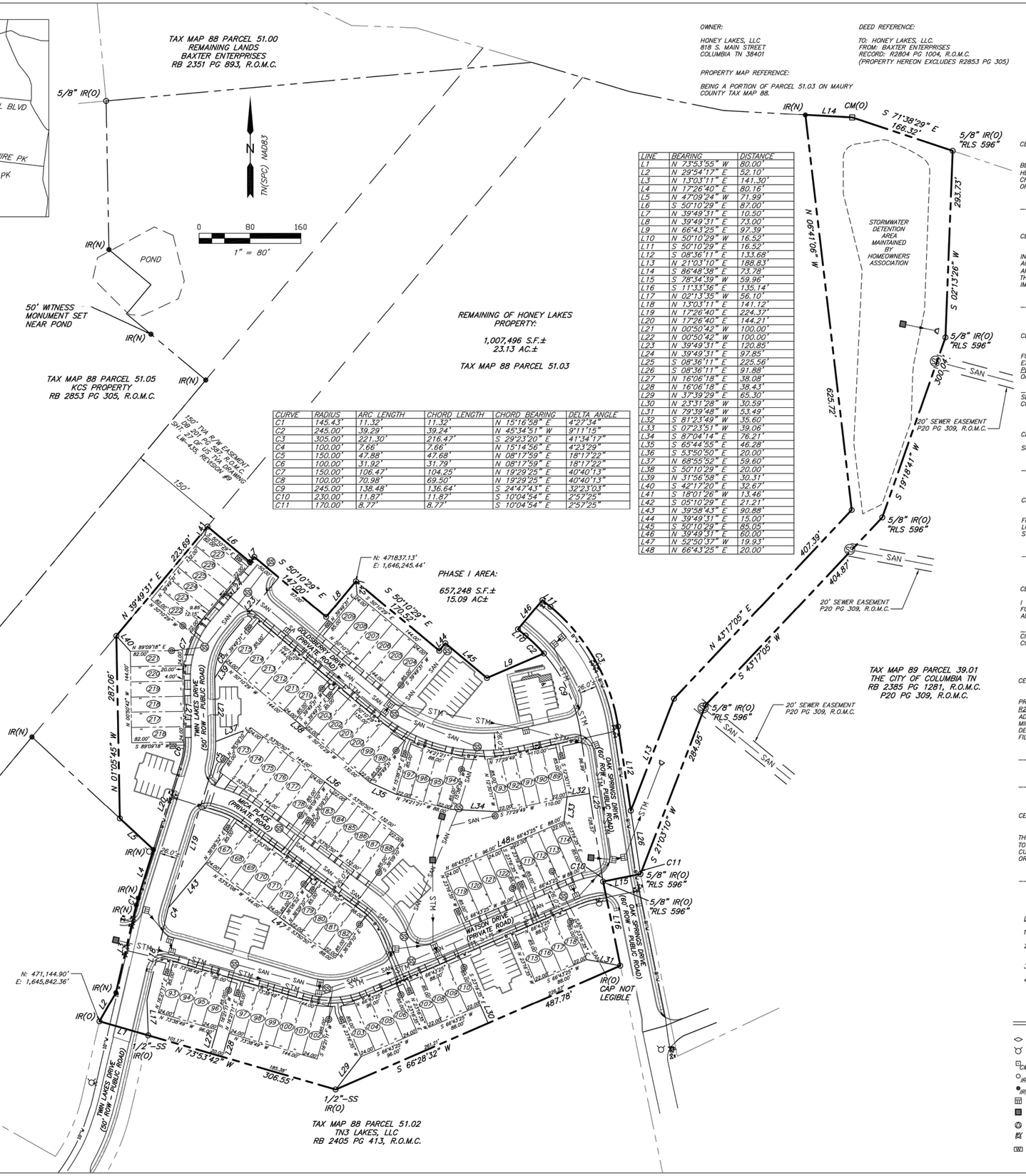
4. BY GRAPHIC PLOTTING ONLY THIS PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA PER FEMA MAP AND PANEL NUMBER 47119C0165E AND 47119C0280E BOTH DATED APRIL 16TH, 2007.

5. ALL TOWNHOMES TO BE CONSTRUCTED TO MEET THE LATEST IRC.

6. THERE IS A 10 FOOT EASEMENT ON PROPERTY LINES PARALLEL TO THE PUBLIC ROAD FOR UTILITY AND DRAINAGE EASEMENTS. ADDITIONAL REQUIREMENTS MAY APPLY BASED ON FIELD CONDITIONS.

7. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC., ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENTAL SERVICES.

8. ALL IR(N)s SHOWN HEREON ARE 1/2" X 18" REBAR WITH A "COLLIER ENG" PLASTIC CAP UNLESS OTHERWISE NOTED.



LINE	BEARING	DISTANCE
L1	N 73°53'55" W	80.00'
L2	N 29°54'17" E	52.10'
L3	N 13°03'11" E	141.30'
L4	N 17°26'40" E	80.16'
L5	N 47°09'24" W	71.99'
L6	S 50°10'29" E	87.00'
L7	N 39°49'31" E	10.50'
L8	N 39°49'31" E	73.00'
L9	N 66°43'25" E	97.39'
L10	N 50°10'29" W	16.52'
L11	S 50°10'29" E	16.52'
L12	S 08°36'11" E	133.68'
L13	N 21°03'10" E	188.83'
L14	S 86°48'39" W	73.78'
L15	S 78°34'39" W	59.96'
L16	S 11°33'36" E	135.14'
L17	N 02°13'35" W	56.10'
L18	N 13°03'11" E	141.12'
L19	N 17°26'40" E	224.37'
L20	N 17°26'40" E	144.21'
L21	N 00°50'42" W	100.00'
L22	N 00°50'42" W	100.00'
L23	N 39°49'31" E	120.85'
L24	N 39°49'31" E	97.85'
L25	S 08°36'11" E	225.56'
L26	S 08°36'11" E	91.88'
L27	N 16°06'18" E	38.08'
L28	N 16°06'18" E	38.43'
L29	N 37°39'29" E	65.30'
L30	N 23°31'28" W	30.59'
L31	N 79°39'48" W	33.49'
L32	S 81°23'49" W	35.60'
L33	S 07°23'51" W	39.06'
L34	S 87°04'14" E	76.21'
L35	S 65°44'55" E	46.28'
L36	S 53°50'50" E	20.00'
L37	N 68°55'52" E	59.80'
L38	S 50°10'29" E	20.00'
L39	N 31°56'58" E	30.31'
L40	S 42°17'20" E	32.67'
L41	S 18°01'26" W	13.46'
L42	S 05°10'29" E	21.21'
L43	N 39°58'43" E	90.88'
L44	N 39°49'31" E	15.00'
L45	S 50°10'29" E	85.05'
L46	N 39°49'31" E	60.00'
L47	N 52°50'37" W	19.93'
L48	N 66°43'25" E	20.00'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	145.43'	11.32'	11.32'	N 15°16'58" E	4°27'34"
C2	245.00'	39.29'	39.24'	N 45°34'51" W	9°11'15"
C3	305.00'	221.30'	216.47'	S 29°23'20" E	41°34'17"
C4	100.00'	7.66'	7.66'	N 15°14'56" E	4°23'29"
C5	150.00'	47.88'	47.68'	N 08°17'59" E	18°17'22"
C6	100.00'	31.92'	31.79'	N 08°17'59" E	18°17'22"
C7	150.00'	106.47'	104.25'	N 19°29'25" E	40°40'13"
C8	100.00'	70.98'	69.50'	N 19°29'25" E	40°40'13"
C9	245.00'	138.48'	136.64'	S 24°47'43" E	32°23'03"
C10	230.00'	11.87'	11.87'	S 10°04'54" E	2°57'25"
C11	170.00'	8.77'	8.77'	S 10°04'54" E	2°57'25"

OWNER:

HONEY LAKES, LLC
818 S. MAIN STREET
COLUMBIA TN 38401

PROPERTY MAP REFERENCE:

BEING A PORTION OF PARCEL 51.03 ON MAURY COUNTY TAX MAP 88.

DEED REFERENCE:

TO: HONEY LAKES, LLC.
FROM: BAXTER ENTERPRISES
RECORD: R2804 PG 1004, R.O.M.C.
(PROPERTY HEREON EXCLUDES R2853 PG 305)

I HEREBY CERTIFY THAT THIS IS A CATEGORY I SURVEY AND THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY DOES NOT EXCEED 1:10,000. THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE

DANIEL A CURRY RLS#2964 05/19/23
DANIEL A CURRY DATE

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THAT THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CLASS "I" LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY DOES NOT EXCEED 1:10,000.

_____, 2023 _____ _____
DATE REGISTERED LAND SURVEYOR NUMBER

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE, AND UTILITIES DESIGNATED IN WILLIAMSPORT PIKE TOWNHOMES – PHASE 1 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE BOND IN THE AMOUNT OF $_____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA, TENNESSEE, TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 2023 _____
DATE CITY ENGINEER, COLUMBIA, TENNESSEE

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS, WITH THE EXCEPTIONS OF SUCH VARIANCES, IF ANY, AS NOTED IN THE MINUTES OF THE PLANNING COMMISSION, AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____ _____
SECRETARY, PLANNING COMMISSION DATE
COLUMBIA, TENNESSEE

CERTIFICATE OF APPROVAL OF SUBDIVISION NAME AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES APPROVED BY MAURY COUNTY E-911,

_____, 2023 _____
DATE MAURY COUNTY E-911

CERTIFICATE OF APPROVAL FOR SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS, OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 2023 _____
DATE SUPERINTENDENT, COLUMBIA WASTEWATER SYSTEM

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____ _____
CITY ENGINEER DATE
COLUMBIA, TENNESSEE

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN BOOK NUMBER R2804, PAGE 1004, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES, AND OTHER FACILITIES HAVE BEEN FILED.

June 13, 2023
DATE

Owner - Gary Martin
TITLE (HONEY LAKES, LLC.)

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER SYSTEM(S) OUTLINED OR INDICATED ON THE FINAL SUBDIVISION PLAT ENTITLED "FINAL PLAT – WILLIAMSPORT PIKE TOWNHOMES – PHASE 1" HAS/HAVE BEEN INSTALLED IN ACCORDANCE WITH CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS, OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 2023 _____
DATE SUPERINTENDENT, COLUMBIA WATER SYSTEM

LOT AREAS:

1. THE FOLLOWING LOTS ARE 82.00'X22.00' AND ARE 1804 S.F.±: 222–227.
2. THE FOLLOWING LOTS ARE 85.00'X22.00' AND ARE 1870 S.F.±: 107–118, 179–203.
3. THE FOLLOWING LOTS ARE 82.00'X24.00' AND ARE 1968 S.F.±: 216–221.
4. THE FOLLOWING LOTS ARE 85.00'X24.00' AND ARE 2040 S.F.±: 93–106, 119–122, 167–178, & 204–215.

LEGEND

◇	SANITARY SEWER VALVE	(SS)	SANITARY MANHOLE
♂	FIRE HYDRANT	◎	SEWER CLEANOUT
CM(O)	MONUMENT	♿	ACCESSIBLE PARKING
IR(O)	IRON ROD, OLD	(11)	LOT NUMBER
IR(N)	IRON ROD, NEW		PROPERTY LINE
	CATCH BASIN	8"W	WATER LINE
	AREA DRAIN	SAN	SANITARY SEWER LINE
	CONTROL POINT	STM	STORM SEWER LINE
	WATER VALVE		CONCRETE
	WATER METER VAULT		

REVISIONS

NO	DATE	BY	DESCRIPTION

COLLIER ENGINEERING CO., INC.
CONSULTING • DESIGN • CONSTRUCTION
2949 NOLENSVILLE PIKE, NASHVILLE, TN 37211
PHONE: (615) 331-1441 FAX: (615) 331-1050

FINAL PLAT
WILLIAMSPORT PIKE TOWNHOMES - PH. I
CITY OF COLUMBIA - 9TH CIVIL DISTRICT
MAURY COUNTY, TENNESSEE

DANIEL A. CURRY — NO. 2964 — LICENSED LAND SURVEYOR — STATE OF TENNESSEE — 5/19/23

DATE: 5/19/2023
DRAWN BY: DAC
SUPERVISED BY: DAC
CHECKED BY: DAC

PLAT

SHEET NO: 1 OF 1

DOCUMENT PREPARED BY:
Name: Gary Martin
Company Martin Engineering & Surveying, LLC
Address: 808 S. Main Street
Columbia, TN 38401
After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 88 Parcel 51.00
Project Name: Williamsport Pike Townhomes Phase 1

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book _____, Page(s) _____.

THIS AGREEMENT, made this _____ day of _____, 20____ , by and between _____ hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name Gary Martin

Title Owner

Signature _____

Owner Honey Lakes, LLC

Address 808 S. Main Street

City, State ZIP Columbia, TN 38401

STATE OF TN
COUNTY OF Williamson

Before me, Sharon Martin of the state and county mentioned, personally appeared Gary Martin, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the 14th day of June, 2023.

Sharon R Martin
Notary Public

SHARON R. MARTIN
STATE OF TENNESSEE NOTARY PUBLIC
COUNTY OF WILLIAMSON

My Commission Expires: 8/15/25

MY COMMISSION EXPIRES: 8/15/25

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT

APPROVED BY : _____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

POST CONSTRUCTION LONG TERM MAINTENANCE PLAN

WILLIAMSPORT PIKE TOWNHOMES PHASE 1

TWIN LAKES DRIVE AND OAKS SPRINGS DRIVE,
NORTH OF WILLIAMSPORT PIKE
COLUMBIA, TENNESSEE

PREPARED FOR:
HONEY LAKES, LLC
818 S. MAIN STREET
COLUMBIA, TENNESSEE 38401

FEBRUARY 2022

Martin Engineering and Surveying, LLC.
808 S. Main Street, Columbia, TN 38401, 615-812-2147
gary@martinengrg.com

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SECTION 1: INTRODUCTION

The project is to construct 91 townhome units for Phase 1 of the proposed Williamsport Pike Townhome development in Columbia, Maury County, Tennessee. This post construction long term maintenance plans addresses Phase 1 of the development which consist of 15.06 acres in which utility infrastructures (water, sewer, and storm) will be installed. Proposed construction for Phase 1 consists primarily of site grading related to the installation of roadway pavements, curbs sidewalks, residential lots, utility infrastructure, and storm water conveyance system located within the permitted project area.

SECTION 2: SYSTEM DESCRIPTION

The site consists of a stormwater detention basin, stormwater conveyance inlets and pipes.

1. There is a stormwater detention basin sized to detain the 2-yr through 100-yr peak event, with the detention outfall structure designed to contain the first flush, 1 inch, for 48 hours.
2. 1,231 lf 18" pipe, 768 lf of 30" pipe, 329 lf of 36" pipe, and 20 storm inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

SECTION 3: MAINTENANCE PROCEDURES

3.1 Stormwater Detention Basin:

1. The outlet structure shall be checked regularly for clogging and shall be cleaned and repaired as necessary. The outlet structure shall be checked on a monthly basis until the detention basin side slopes and grass lined ditches have stabilized and no heavy sediment laden runoff enters the detention basin. Then it shall be checked on a quarterly basis and after a large rain event.

2. Check detention basin side slopes and bottom for erosion and correct necessary at least on a quarterly basis.

3. At least quarterly and after each large rain event, the facility should be cleaned of accumulated debris. Remove nuisance wetland species and take appropriate measures to control mosquitos.

4. At least quarterly and after each large rain event, the retention basin outfall structure shall be cleaned of sediment, floatables, and debris.

5. Remove sediment within retention basin outfall structure and headwalls when sediment accumulation reaches 6" or if resuspension is observed or probable. This sediment may contain contaminants and should be disposed of using the Tennessee Department of Environment and Conservation (TDEC) special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations

followed. The TDEC Division of Water Pollution Control should be contacted at (931)-380-3371.

6. Some sediment collected may be innocuous (free from pollutants) and can be used as fill material, cover or land spreading. It is important that the material not be placed in a way that may promote or allow re-suspension in storm runoff.

3.2 Storm drains and storm inlets:

These structures to be inspected annually and cleaned monthly of accumulated debris and sediment. All sediment to be disposed of per TDEC disposal procedures. All debris (paper products, floatables) to be disposed of per Maury County Waste Management requirements.

Stormwater Pond Inspections and Maintenance Checklist

Site Name: _____Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address_____ Phone Number _____

Site Status: _____

Date:_____ Time: _____Site conditions:

Stormwater Pond Type: Wet Pond fl Wet ED Pond fl Micropool Pond fl Multiple Pond System fl
Dry Pond fl

Inspection Frequency Key: A=annual(required); M=monthly(recommended); S=after major storms(recommende

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Embankment and Emergency Spillway				
Vegetation healthy?	*A/S*			
Erosion on embankment?	*A/S*			
Animal burrows in embankment?	*A/S*			
Cracking, sliding, bulging of dam?	*A/S*			
Drains blocked or not functioning?	*A/S*			
Leaks or seeps on embankment?	*A/S*			
Slope protection failure functional?	*A/S*			
Emergency spillway obstructed?	*A/S*			
Erosion in/around emergency spillway?	*A/S*			
Other (describe)	*A/S*			
Riser and Principal Spillway				(describe type: concrete pipe, slotted weir, channel, etc.)
Low-flow orifice functional?	*A/S*			
Trash rack (Debris removal needed? Corrosion noted?)	*A/S*			
Sediment buildup in riser?	*A*			
Concrete/masonry condition (Cracks or displacement? Spalling?)	*A*			
Metal pipe in good condition?	*A*			
Control valve operation?	*A*			
Pond drain valve operation?	*A*			
Outfall channels function, not eroding?	*A*			
Other (describe)	*A*			
Sediment Forebays				
Sedimentation description				
Sediment cleanout needed (over 50	*A/S*			

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
percent full)?				
Permanent Pool Areas (if applicable)				
Undesirable vegetation growth?	*A/M*			
Visible pollution?	*A/M*			
Shoreline erosion?	*A/M*			
Erosion at outfalls into pond?	*A/M*			
Headwalls and endwalls in good condition?	*A/M*			
Encroachment into pond or easement area by other activities?	*A/M*			
Evidence of sediment accumulation?	*A*			
Dry Pond Areas (if applicable)				
Vegetation adequate?	*A/M*			
Undesirable vegetation or woody plant growth?	*A/M*			
Excessive sedimentation?	*A*			
Hazards				
Have there been complaints from residents?	*A/M*			
Public hazards noted?	*A/M*			

Inspector Comments: _____

_____

_____

Overall Condition of Facility: □ Acceptable □ Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	**Due Date**

The next routine inspection is scheduled for approximately: _____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____

Grass Channel Inspections and Maintenance Checklist

Site Name: _____Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address: _____ Phone Number: _____

Site Status: _____

Date: _____ Time: _____Site conditions:

Inspection Frequency Key: A=annual (required); M=monthly (recommended); S=after major storms (recommended)

Inspection Items	Inspection	Inspected?	Maintenance Needed? (Yes/No)	Comments/Description
Debris Removal				
Facility and adjacent area free of debris?	*A/M*			
Inlets and outlets free of debris?	*A/M*			
Any dumping of yard wastes into facility?	*A/M*			
Litter (branches) removed?	*A/M*			
Vegetation				
Surrounding area fully stabilized? (no evidence of eroding material into swale, channel or filter strip)	*A/M*			
Grass mowed?	*A/M*			
Grass height not less than 3 to 4 inches?	*A/M*			
Fertilized per specifications?	*A/M*			
Grasses planted according to approved plan?	*A/M*			
Unauthorized or inappropriate plantings?	*A*			
Grasses healthy? (no diseased or dying vegetation)	*A/M*			
Evidence of grasses stressed from inadequate watering?	*A/M*			
Filtration Capacity				
Clogging from oil or grease?	*A/M*			
Facility dewaters between storms?	*A/M*			
Check dams and energy dissipaters/sumps				
Any evidence of sedimentation buildup?	*A/S*			
Are sumps greater than 50% full of sediment?	*A/S*			
Any evidence of erosion and downstream	*A/S*			

Inspection Items	Inspection	Inspected?	Maintenance Needed? (Yes/No)	Comments/Description
toe of drop structures?				
Any trash or blockages at weep holes?	*A/S*			
Sediment Deposition				
Swale clean of sediments?	*A*			
Sediment not > 25% of swale design depth?	*A*			
Outlet/Overflow Spillway				
In good condition?	*A*			
Any evidence of erosion?	*A*			
Any evidence of blockages?	*A*			
Has facility been filled or blocked inappropriately?	*A*			
Hazards				
Have there been complaints from residents?	*A/M*			
Public hazards noted?	*A/M*			
Maintenance accesses free of hazards and fully operational?	*A/M*			

Inspector Comments: _____

_____

_____

Overall Condition of Facility: □ Acceptable □ Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	**Due Date**

The next routine inspection is scheduled for approximately: _____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____

Storm Sewer Inspections and Maintenance Checklist

Site Name: _____ Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address: Phone Number: _____

Site Status: _____

Date: _____ Time: _____ Site conditions: _____

Indicate Features Present: Catch Basins fl Storm Pipe fl Headwalls fl Outfalls fl Catch Basin Inlets fl

Inspection Frequency Key: A=annual; M=monthly; S=after major storms

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Catch Basins				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition ensure all are set properly in place over inlets	*A/S*			
Check for sediment, leaf, or debris clogging grates and remove	*A/S*			
Catch Basin Inlets				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment accumulation and remove when capacity is diminished by 20% or greater	*A/S*			
Pipes				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment accumulation and remove when capacity is diminished by 20% or greater.	*A/S*			
Concrete/masonry condition of pipes and joints? (Cracks or displacement? Spalling?)	*A/S*			

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Headwalls and Endwalls				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment	*A/S*			
Check for erosion or scouring around headwall inlets and repair	*A/S*			
Evidence of staining?	*A/S*			
If flowing water is present does it appear to contain anything other than stormwater? I.e. Discoloration, odors, sheens, etc? Note location and describe.	*A/S*			
Hazards				
Have there been complaints from residents?	*A/S*			

Inspector Comments: _____

_____

_____

_____

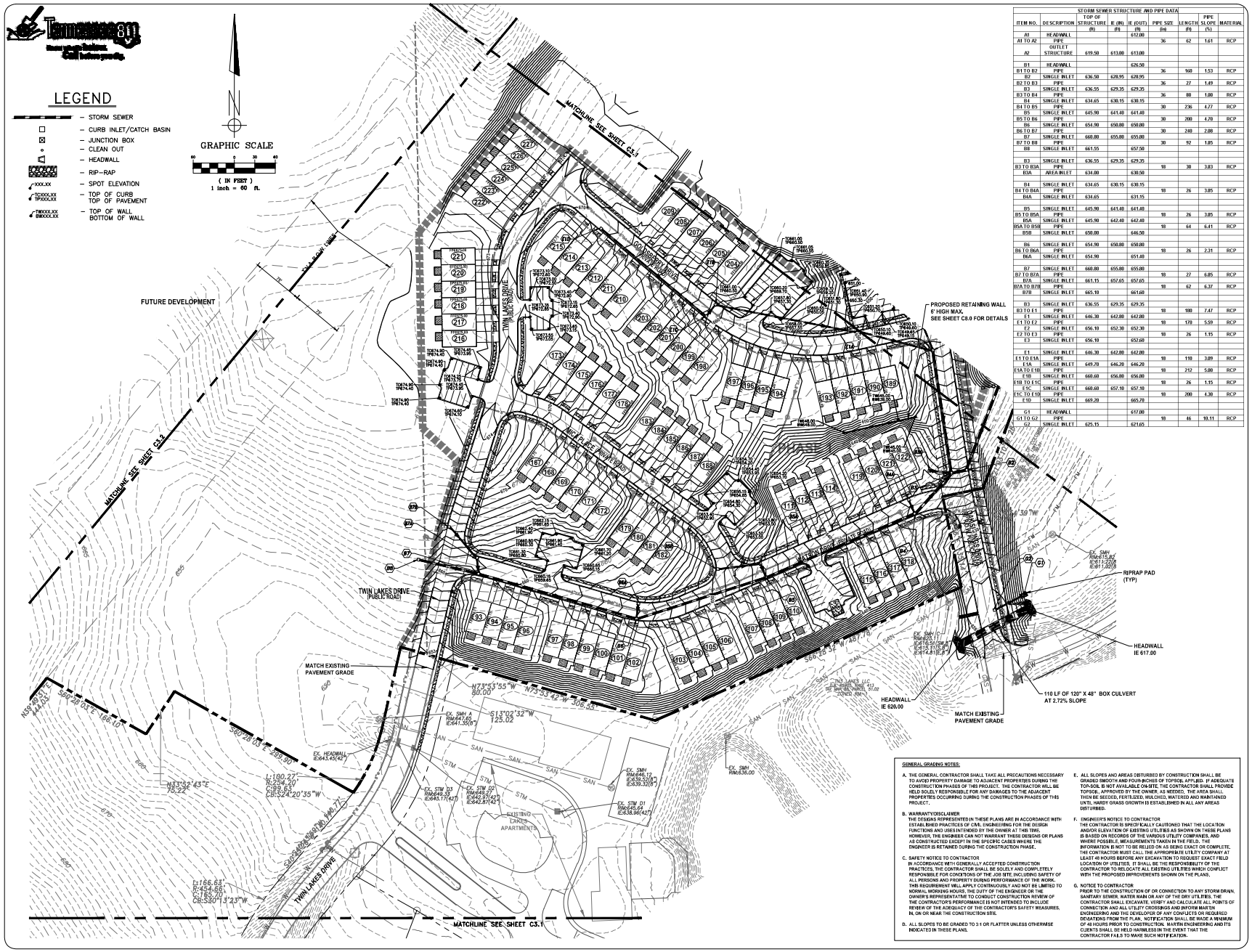
Overall Condition of Facility: fl Acceptable fl Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	Due Date

The next routine inspection is scheduled for approximately:_____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____



STORM SEWER STRUCTURE AND PIPE DATA

ITEM NO.	DESCRIPTION	TOP OF STRUCTURE (ft)	IE (IN) (ft)	IE (OUT) (ft)	PIPE SIZE (in)	LENGTH (ft)	PIPE SLOPE (%)	MATERIAL
A1	HEADWALL			612.00				
A1 TO A2	PIPE				36	62	1.61	RCP
A2	OUTLET STRUCTURE	619.50	613.00	613.00				
B1	HEADWALL			626.50				
B1 TO B2	PIPE				36	160	1.53	RCP
B2	SINGLE INLET	636.50	628.95	628.95				
B2 TO B3	PIPE				36	27	1.49	RCP
B3	SINGLE INLET	636.55	629.35	629.35				
B3 TO B4	PIPE				36	80	1.00	RCP
B4	SINGLE INLET	634.65	630.15	630.15				
B4 TO B5	PIPE				30	236	4.77	RCP
B5	SINGLE INLET	645.90	641.40	641.40				
B5 TO B6	PIPE				30	200	4.70	RCP
B6	SINGLE INLET	654.90	650.00	650.00				
B6 TO B7	PIPE				30	240	2.08	RCP
B7	SINGLE INLET	660.80	655.80	655.80				
B7 TO B8	PIPE				30	92	1.85	RCP
B8	SINGLE INLET	661.55		657.50				
B3	SINGLE INLET	636.55	629.35	629.35				
B3 TO B3A	PIPE				18	30	3.83	RCP
B3A	AREA INLET	634.80		630.50				
B4	SINGLE INLET	634.65	630.15	630.15				
B4 TO B4A	PIPE				18	26	3.85	RCP
B4A	SINGLE INLET	634.65		631.35				
B5	SINGLE INLET	645.90	641.40	641.40				
B5 TO B5A	PIPE				18	26	3.85	RCP
B5A	SINGLE INLET	645.90	642.40	642.40				
B5A TO B5B	PIPE				18	64	6.41	RCP
B5B	SINGLE INLET	650.80		646.50				
B6	SINGLE INLET	654.90	650.80	650.80				
B6 TO B6A	PIPE				18	26	2.31	RCP
B6A	SINGLE INLET	654.90		651.40				
B7	SINGLE INLET	660.80	655.80	655.80				
B7 TO B7A	PIPE				18	27	6.85	RCP
B7A	SINGLE INLET	661.15	657.65	657.65				
B7A TO B7B	PIPE				18	62	6.37	RCP
B7B	SINGLE INLET	665.10		661.60				
B3	SINGLE INLET	636.55	629.35	629.35				
B3 TO E1	PIPE				18	100	7.47	RCP
E1	SINGLE INLET	646.30	642.80	642.80				
E1 TO E2	PIPE				18	170	5.59	RCP
E2	SINGLE INLET	656.10	652.30	652.30				
E2 TO E3	PIPE				18	26	1.15	RCP
E3	SINGLE INLET	656.10		652.60				
E1	SINGLE INLET	646.30	642.80	642.80				
E1 TO E1A	PIPE				18	110	3.89	RCP
E1A	SINGLE INLET	649.70	646.20	646.20				
E1A TO E1B	PIPE				18	212	5.00	RCP
E1B	SINGLE INLET	660.60	656.80	656.80				
E1B TO E1C	PIPE				18	26	1.15	RCP
E1C	SINGLE INLET	660.60	657.10	657.10				
E1C TO E1D	PIPE				18	200	4.30	RCP
E1D	SINGLE INLET	669.20		665.70				
G1	HEADWALL			617.00				
G1 TO G2	PIPE				18	46	10.11	RCP
G2	SINGLE INLET	625.15		621.65				

GENERAL GRADING NOTES:

A. THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

B. WARRANTY/DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, THE ENGINEER CAN NOT WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER IS RETAINED DURING THE CONSTRUCTION PHASE.

C. SAFETY NOTICE TO CONTRACTOR
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR THE OWNER'S REPRESENTATIVE TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

D. ALL SLOPES TO BE GRADED TO 3:1 OR FLATTER UNLESS OTHERWISE INDICATED IN THESE PLANS.

E. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR-INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOP-SOIL IS NOT AVAILABLE ON-SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL ANY AREAS DISTURBED.

F. ENGINEER'S NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

G. NOTICE TO CONTRACTOR
PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM MARTIN ENGINEERING AND THE DEVELOPER OF ANY CONFLICTS OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. MARTIN ENGINEERING AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.

MARTIN ENGINEERING & SURVEYING, LLC
818 S. Main Street
Columbia, TN 38401
615.812.2147
gary@martinengrg.com

GARY W. MARTIN
REGISTERED ENGINEER
No. 102573
STATE OF TENNESSEE

GRADING AND DRAINAGE PLAN

WILLIAMSPORT PIKE TOWNHOMES PHASE 1

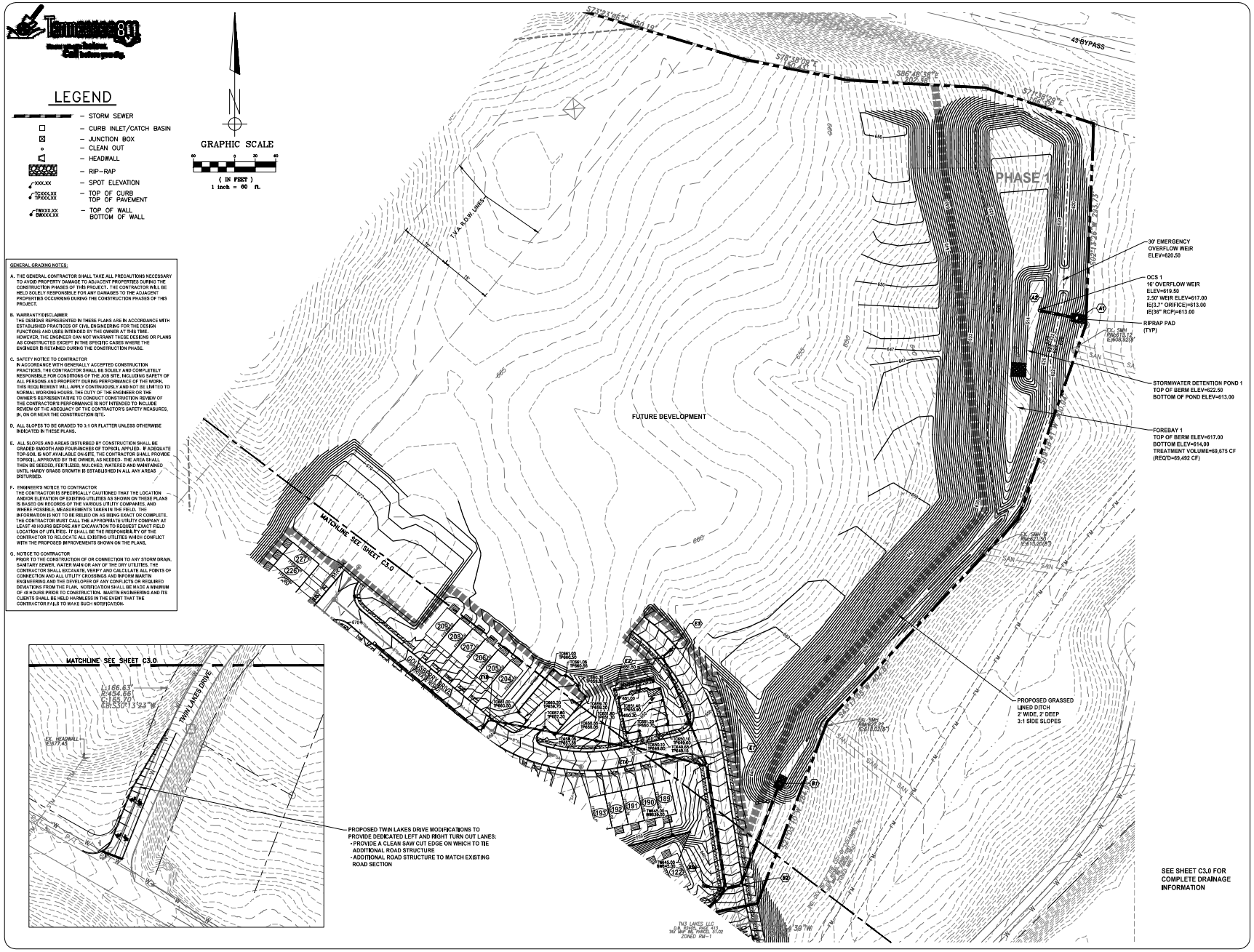
COLUMBIA, TENNESSEE
MAURY COUNTY

General Notes

No.	Revision/Issue	Date

Date: 2/17/22
Scale: 1"= 60'

C3.0



MARTIN ENGINEERING & SURVEYING, LLC
818 S. Main Street
Columbia, TN 38401
615.812.2147
gary@martinengrg.com

GARY W. MARTIN
REGISTERED ENGINEER
AGRICULTURE
No. 15573
STATE OF TENNESSEE

GRADING AND DRAINAGE PLAN

WILLIAMSPORT PIKE TOWNHOMES PHASE 1

COLUMBIA, TENNESSEE
MAURY COUNTY

General Notes

No.	Revision/Issue	Date

Date 2/17/22
Scale 1"= 60'

C3.1

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

20 day of March, 2023,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Honey Lakes LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the “CMPC”) on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS”); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the “IMPROVEMENTS”); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER’s properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register’s Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Williamsport Pike Townhomes Phase I

PROJECT

Completed by the Developer	*Completed by the City*
Honey lakes LLC	
DEVELOPER NAME	
Gary W. Martin	
AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
June 1, 2023	
DATE	DATE
818 S. Main Street	
STREET	
Columbia, TN 38401	
CITY, STATE, ZIP	
615-812-2147	
PHONE	
gary@martinengrg.com	
EMAIL	
Attest	*Attest*
Cole Newton	
ATTEST NAME	ATTEST NAME
Cole Newton	
ATTEST SIGNATURE	ATTEST SIGNATURE
June 1, 2023	
DATE	DATE

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION			
	TAX MAP: 88	GROUP:	PARCEL: 51.03
SUMMARY OF NATURE OF REQUEST AND WORK	TO OBTAIN FINAL PLAT APPROVAL FOR WILLIAMSPORT PIKE TOWNHOMES PHASE 1 CONSISITING OF 91 TOWNHOME UNITS		

DATE OF PRE-APPLICATION CONFERENCE	3/1/23	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☒ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Williamsport Pike Townhomes Phase 1 ☒ Total Number of Lots 91 units ☒ Total acreage 15.09 acres

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	TKC Architecture & Engineering LLC	PHONE	615-617-7477
ADDRESS	2004 Carmack Blvd, Suite C Columbia, TN 38401	EMAIL	cole@tkc-ae.com

PROPERTY OWNER NAME	Honey Lakes LLC	PHONE	615-812-2147
ADDRESS	818 S. Main Street, Columbia, TN 38401	EMAIL	gary@martinengrg.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

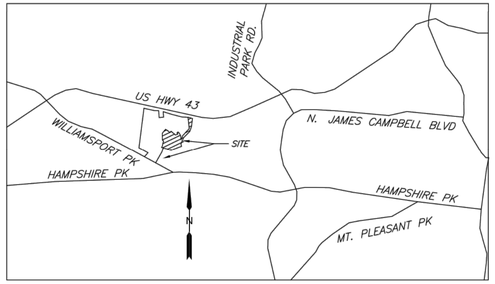
Cole Newton (TKC A&E)	Cole Newton	3/20/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Honey Lakes, LLC		3/16/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	



VICINITY MAP — N.T.S.

UTILITY NOTES:

1. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN (3) THREE OR MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL 1-615-366-1987 OR 1-800-351-1111.

2. PUBLIC ELECTRIC AND COMMUNICATION UTILITIES SERVING THIS DEVELOPMENT TRAVERSE UNDERGROUND AND ALL RELATED FIXTURES REQUIRED FOR THIS SERVICE ARE ENCOMPASSED BY A 10-FOOT PUBLIC UTILITY RIGHTS OF WAY EASEMENT ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC OR PRIVATE ROADWAYS AND 5 FEET WIDE EASEMENT ON ALL INTERIOR LOT LINES FOR UTILITY AND DRAINAGE EASEMENTS.

3. SERVICE LINES AND FIXTURES WILL BRANCH FROM MAIN UTILITY LINE AND EXTEND TO AN INDIVIDUAL MULTI-UNIT STRUCTURE WITHIN THIS EASEMENT. THE GANG METER BASE WILL BE ATTACHED TO THE EXTERIOR WALL OF THE STRUCTURE. THIS GANG METER BASE WILL SERVE AS A BRANCH IN WHICH INDIVIDUAL SERVICE LINES WILL EXTEND TO EACH UNIT WITHIN THE STRUCTURE.

4. THE GANG METER BASE WILL BE ENCOMPASSED BY A BLANKET UTILITY EASEMENT FOR SERVICE AND MAINTENANCE AS NEEDED AND REQUIRED. GANG METER BASES, ELECTRICAL SERVICE ENTRANCE CONDUCTORS FROM TRANSFORMER TO GANG METER BASES AS WELL AS LINES LEAVING THE GANG METER BASE TO SERVE INDIVIDUAL UNITS WILL BE THE RESPONSIBILITY OF THE HOME OWNERS ASSOCIATION.

5. ADDITIONALLY, A 10-FOOT PUBLIC UTILITY RIGHTS OF WAY EASEMENT SHALL CONTINUE VERTICALLY FROM THE FOUNDATION THROUGH THE ROOF ON THE EXTERIOR WALL AT THE LOCATION OF THE METER BASES OF EACH BUILDING.

GPS NOTE:

I, DANIEL A. CURRY, HEREBY CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM TWO POINTS ESTABLISHED VIA THE TDOT GNSS REFERENCE NETWORK AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THIS SURVEY:

TYPE OF SURVEY: REAL TIME KINEMATIC
POSITIONAL ACCURACY: 0.05 FEET
DATE OF SURVEY: FEBRUARY 12TH, 2021
DATUM/EPOCH: NAD83(2011) EPOCH 2010.00
PUBLISHED/FIXED CONTROL USED: TDOT CORS NETWORK
GEOID MODEL: 2003(CONUS)
COMBINED GRID FACTOR: NONE

NOTES:

1. THE PURPOSE OF THIS PLAT IS TO CREATE 91 TOWNHOME UNITS.

2. THIS SURVEY WAS PREPARED FROM CURRENT DEEDS OF RECORD AND DOES NOT REPRESENT A TITLE SEARCH OR GUARANTEE OF TITLE, AND IS SUBJECT TO ANY STATE OF FACTS A CURRENT AND ACCURATE SEARCH MAY REVEAL.

3. BEARINGS SHOWN HEREON ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM, ZONE 4100, NAD83. GPS EQUIPMENT WAS USED TO DETERMINE THE POSITION ON TWO (2) CONTROL POINTS FOR THE SURVEYED PROPERTY TO ESTABLISH AS BASIS FOR BEARING FOR THE SURVEY.

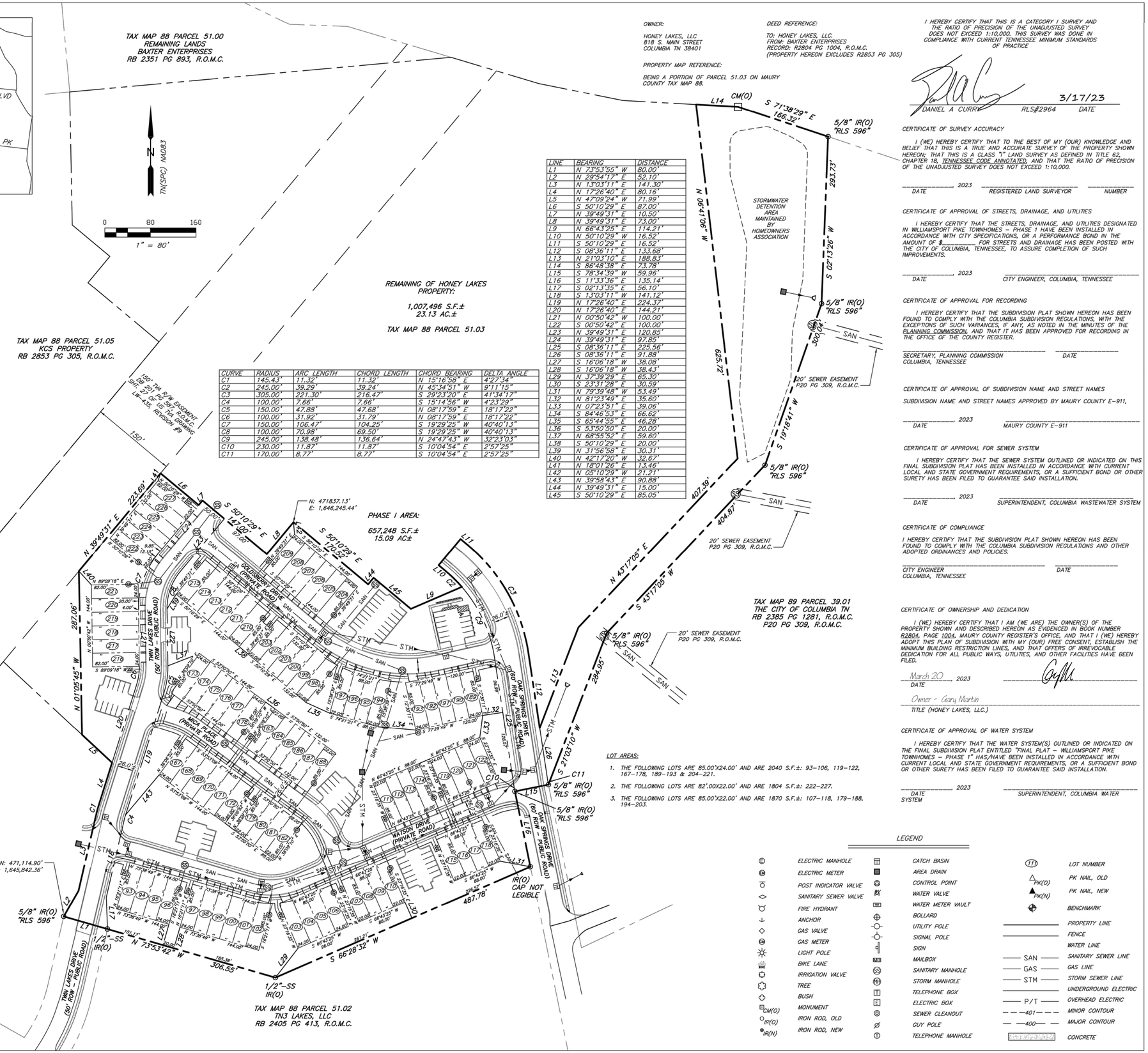
4. BY GRAPHIC PLOTTING ONLY THIS PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA PER FEMA MAP AND PANEL NUMBER 47119C0165E AND 47119C0280E BOTH DATED APRIL 16TH, 2007.

5. UNLESS OTHERWISE NOTED, ALL CORNERS ARE 1/2" REBAR WITH A "COLLIER ENG" PLASTIC CAP.

6. ALL TOWNHOMES TO BE CONSTRUCTED TO MEET THE LATEST IRC.

7. THERE IS A 10 FOOT EASEMENT ON PROPERTY LINES PARALLEL TO THE PUBLIC ROAD FOR UTILITY AND DRAINAGE EASEMENTS. ADDITIONAL REQUIREMENTS MAY APPLY BASED ON FIELD CONDITIONS.

8. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC., ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENTAL SERVICES.



CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	145.43'	11.32'	11.32'	N 15°16'58" E	4°27'34"
C2	245.00'	39.29'	39.24'	N 45°34'51" W	9°11'15"
C3	305.00'	221.30'	216.47'	S 29°23'20" E	41°34'17"
C4	100.00'	7.66'	7.66'	S 15°14'56" W	4°23'29"
C5	150.00'	47.88'	47.68'	N 08°17'59" E	18°17'22"
C6	100.00'	31.92'	31.79'	N 08°17'59" E	18°17'22"
C7	150.00'	106.47'	104.25'	S 19°29'25" W	40°40'13"
C8	100.00'	70.98'	69.50'	S 19°29'25" W	40°40'13"
C9	245.00'	138.48'	136.64'	N 24°47'43" W	32°23'03"
C10	230.00'	11.87'	11.87'	S 10°04'54" E	2°57'25"
C11	170.00'	8.77'	8.77'	S 10°04'54" E	2°57'25"

LINE	BEARING	DISTANCE
L1	N 73°53'55" W	80.00'
L2	N 29°54'17" E	52.10'
L3	N 13°03'11" E	141.30'
L4	N 17°26'40" E	80.16'
L5	N 47°09'24" W	71.99'
L6	S 50°10'29" E	87.00'
L7	N 39°49'31" E	10.50'
L8	N 39°49'31" E	73.00'
L9	N 66°43'25" E	114.21'
L10	N 50°10'29" W	16.52'
L11	S 50°10'29" E	16.52'
L12	S 08°36'11" E	133.68'
L13	N 21°03'10" E	188.83'
L14	S 86°48'38" E	73.78'
L15	S 78°34'39" W	59.96'
L16	S 11°33'36" E	135.14'
L17	S 02°13'35" E	56.10'
L18	S 13°03'11" W	141.12'
L19	N 17°26'40" E	224.37'
L20	N 17°26'40" E	144.21'
L21	N 00°50'42" W	100.00'
L22	S 00°50'42" E	100.00'
L23	N 39°49'31" E	120.85'
L24	N 39°49'31" E	97.85'
L25	S 08°36'11" E	225.56'
L26	S 08°36'11" E	91.88'
L27	S 16°06'18" W	38.08'
L28	S 16°06'18" W	38.43'
L29	N 37°39'29" E	65.30'
L30	S 23°31'28" E	30.59'
L31	N 79°39'48" W	53.49'
L32	N 81°23'49" E	35.60'
L33	N 07°23'51" E	39.06'
L34	S 84°46'53" E	66.62'
L35	S 65°44'55" E	46.28'
L36	S 53°50'50" E	20.00'
L37	N 68°55'52" E	59.60'
L38	S 50°10'29" E	20.00'
L39	N 31°56'58" E	30.31'
L40	N 42°17'20" W	32.67'
L41	N 18°01'26" E	13.46'
L42	N 05°10'29" W	21.21'
L43	N 39°58'43" E	90.88'
L44	N 39°49'31" E	15.00'
L45	S 50°10'29" E	85.05'

LOT AREAS:

1. THE FOLLOWING LOTS ARE 85.00'X24.00' AND ARE 2040 S.F.±: 93-106, 119-122, 167-178, 189-193 & 204-221.
2. THE FOLLOWING LOTS ARE 82'.00X22.00' AND ARE 1804 S.F.±: 222-227.
3. THE FOLLOWING LOTS ARE 85.00'X22.00' AND ARE 1870 S.F.±: 107-118, 179-188, 194-203.

LEGEND

ELECTRIC MANHOLE	CATCH BASIN	(11)	LOT NUMBER
ELECTRIC METER	AREA DRAIN	PK(O)	PK NAIL, OLD
POST INDICATOR VALVE	CONTROL POINT	PK(N)	PK NAIL, NEW
SANITARY SEWER VALVE	WATER VALVE		BENCHMARK
FIRE HYDRANT	WATER METER VAULT		PROPERTY LINE
ANCHOR	BOLLARD		FENCE
GAS VALVE	UTILITY POLE		WATER LINE
GAS METER	SIGNAL POLE	SAN	SANITARY SEWER LINE
LIGHT POLE	SIGN	GAS	GAS LINE
BIKE LANE	MAILBOX	STM	STORM SEWER LINE
IRRIGATION VALVE	SANITARY MANHOLE		UNDERGROUND ELECTRIC
TREE	STORM MANHOLE	P/T	OVERHEAD ELECTRIC
BUSH	TELEPHONE BOX	401	MINOR CONTOUR
MONUMENT	ELECTRIC BOX	400	MAJOR CONTOUR
IRON ROD, OLD	SEWER CLEANOUT		CONCRETE
IRON ROD, NEW	GUY POLE		
	TELEPHONE MANHOLE		

OWNER:

HONEY LAKES, LLC
818 S. MAIN STREET
COLUMBIA TN 38401

PROPERTY MAP REFERENCE:

BEING A PORTION OF PARCEL 51.03 ON MAURY COUNTY TAX MAP 88.

DEED REFERENCE:

TO: HONEY LAKES, LLC.
FROM: BAXTER ENTERPRISES
RECORD: R2804 PG 1004, R.O.M.C.
(PROPERTY HEREON EXCLUDES R2853 PG 305)

I HEREBY CERTIFY THAT THIS IS A CATEGORY I SURVEY AND THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY DOES NOT EXCEED 1:10,000. THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE

DANIEL A CURRY — RLS#2964 — 3/17/23
DANIEL A CURRY — DATE

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THAT THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CLASS "I" LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY DOES NOT EXCEED 1:10,000.

_____, 2023 _____ _____
DATE REGISTERED LAND SURVEYOR NUMBER

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE, AND UTILITIES DESIGNATED IN WILLIAMSPORT PIKE TOWNHOMES – PHASE 1 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE BOND IN THE AMOUNT OF $_____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA, TENNESSEE, TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 2023 _____
DATE CITY ENGINEER, COLUMBIA, TENNESSEE

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS, WITH THE EXCEPTIONS OF SUCH VARIANCES, IF ANY, AS NOTED IN THE MINUTES OF THE PLANNING COMMISSION, AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____ _____
SECRETARY, PLANNING COMMISSION DATE
COLUMBIA, TENNESSEE

CERTIFICATE OF APPROVAL OF SUBDIVISION NAME AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES APPROVED BY MAURY COUNTY E-911,

_____, 2023 _____
DATE MAURY COUNTY E-911

CERTIFICATE OF APPROVAL FOR SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS, OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 2023 _____
DATE SUPERINTENDENT, COLUMBIA WASTEWATER SYSTEM

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____ _____
CITY ENGINEER DATE
COLUMBIA, TENNESSEE

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN BOOK NUMBER R2804, PAGE 1004, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES, AND OTHER FACILITIES HAVE BEEN FILED.

March 20, 2023
DATE

Owner - Gary Martin
TITLE (HONEY LAKES, LLC.)

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER SYSTEM(S) OUTLINED OR INDICATED ON THE FINAL SUBDIVISION PLAT ENTITLED "FINAL PLAT – WILLIAMSPORT PIKE TOWNHOMES – PHASE 1" HAS/HAVE BEEN INSTALLED IN ACCORDANCE WITH CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS, OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 2023 _____
DATE SUPERINTENDENT, COLUMBIA WATER
SYSTEM

REVISIONS

NO	DATE	BY	DESCRIPTION

COLLIER ENGINEERING CO., INC.
CONSULTING • DESIGN • CONSTRUCTION
2949 NOLENSVILLE PIKE, NASHVILLE, TN 37211
PHONE: (615) 331-1441 FAX: (615) 331-1050

FINAL PLAT
WILLIAMSPORT PIKE TOWNHOMES - PH. I
CITY OF COLUMBIA - 9TH CIVIL DISTRICT
MAURY COUNTY, TENNESSEE

DANIEL A. CURRY — REGISTERED LAND SURVEYOR — STATE OF TENNESSEE — 3/17/23 — TENNESSEE NO. 2964

DATE: 3/17/2023
DRAWN BY: DAC
SUPERVISED BY: DAC
CHECKED BY: DAC

PLAT

SHEET NO: 1 OF 1

DOCUMENT PREPARED BY:
Name: Gary Martin
Company Martin Engineering & Surveying, LLC
Address: 808 S. Main Street
Columbia, TN 38401
After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 88 Parcel 51.00
Project Name: Williamsport Pike Townhomes Phase 1

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book _____, Page(s) _____.

THIS AGREEMENT, made this _____ day of _____, 20____ , by and between _____ hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.
11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.
12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.
13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name Gary Martin

Title _____

Signature _____

Owner Honey Lakes, LLC

Address 808 S. Main Street

City, State ZIP Columbia, TN 38401

STATE OF _____
COUNTY OF _____

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public

My Commission Expires:_____

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

POST CONSTRUCTION LONG TERM MAINTENANCE PLAN

WILLIAMSPORT PIKE TOWNHOMES PHASE 1

TWIN LAKES DRIVE AND OAKS SPRINGS DRIVE,
NORTH OF WILLIAMSPORT PIKE
COLUMBIA, TENNESSEE

PREPARED FOR:
HONEY LAKES, LLC
818 S. MAIN STREET
COLUMBIA, TENNESSEE 38401

FEBRUARY 2022

Martin Engineering and Surveying, LLC.
808 S. Main Street, Columbia, TN 38401, 615-812-2147
gary@martinengrg.com

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SECTION 1: INTRODUCTION

The project is to construct 91 townhome units for Phase 1 of the proposed Williamsport Pike Townhome development in Columbia, Maury County, Tennessee. This post construction long term maintenance plans addresses Phase 1 of the development which consist of 15.06 acres in which utility infrastructures (water, sewer, and storm) will be installed. Proposed construction for Phase 1 consists primarily of site grading related to the installation of roadway pavements, curbs sidewalks, residential lots, utility infrastructure, and storm water conveyance system located within the permitted project area.

SECTION 2: SYSTEM DESCRIPTION

The site consists of a stormwater detention basin, stormwater conveyance inlets and pipes.

1. There is a stormwater detention basin sized to detain the 2-yr through 100-yr peak event, with the detention outfall structure designed to contain the first flush, 1 inch, for 48 hours.
2. 1,231 lf 18" pipe, 768 lf of 30" pipe, 329 lf of 36" pipe, and 20 storm inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

SECTION 3: MAINTENANCE PROCEDURES

3.1 Stormwater Detention Basin:

1. The outlet structure shall be checked regularly for clogging and shall be cleaned and repaired as necessary. The outlet structure shall be checked on a monthly basis until the detention basin side slopes and grass lined ditches have stabilized and no heavy sediment laden runoff enters the detention basin. Then it shall be checked on a quarterly basis and after a large rain event.

2. Check detention basin side slopes and bottom for erosion and correct necessary at least on a quarterly basis.

3. At least quarterly and after each large rain event, the facility should be cleaned of accumulated debris. Remove nuisance wetland species and take appropriate measures to control mosquitos.

4. At least quarterly and after each large rain event, the retention basin outfall structure shall be cleaned of sediment, floatables, and debris.

5. Remove sediment within retention basin outfall structure and headwalls when sediment accumulation reaches 6" or if resuspension is observed or probable. This sediment may contain contaminants and should be disposed of using the Tennessee Department of Environment and Conservation (TDEC) special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations

followed. The TDEC Division of Water Pollution Control should be contacted at (931)-380-3371.

6. Some sediment collected may be innocuous (free from pollutants) and can be used as fill material, cover or land spreading. It is important that the material not be placed in a way that may promote or allow re-suspension in storm runoff.

3.2 Storm drains and storm inlets:

These structures to be inspected annually and cleaned monthly of accumulated debris and sediment. All sediment to be disposed of per TDEC disposal procedures. All debris (paper products, floatables) to be disposed of per Maury County Waste Management requirements.

Stormwater Pond Inspections and Maintenance Checklist

Site Name: _____Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address_____ Phone Number _____

Site Status: _____

Date:_____ Time: _____Site conditions:

Stormwater Pond Type: Wet Pond fl Wet ED Pond fl Micropool Pond fl Multiple Pond System fl
Dry Pond fl

Inspection Frequency Key: A=annual(required); M=monthly(recommended); S=after major storms(recommende

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Embankment and Emergency Spillway				
Vegetation healthy?	*A/S*			
Erosion on embankment?	*A/S*			
Animal burrows in embankment?	*A/S*			
Cracking, sliding, bulging of dam?	*A/S*			
Drains blocked or not functioning?	*A/S*			
Leaks or seeps on embankment?	*A/S*			
Slope protection failure functional?	*A/S*			
Emergency spillway obstructed?	*A/S*			
Erosion in/around emergency spillway?	*A/S*			
Other (describe)	*A/S*			
Riser and Principal Spillway				(describe type: concrete pipe, slotted weir, channel, etc.)
Low-flow orifice functional?	*A/S*			
Trash rack (Debris removal needed? Corrosion noted?)	*A/S*			
Sediment buildup in riser?	*A*			
Concrete/masonry condition (Cracks or displacement? Spalling?)	*A*			
Metal pipe in good condition?	*A*			
Control valve operation?	*A*			
Pond drain valve operation?	*A*			
Outfall channels function, not eroding?	*A*			
Other (describe)	*A*			
Sediment Forebays				
Sedimentation description				
Sediment cleanout needed (over 50	*A/S*			

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
percent full)?				
Permanent Pool Areas (if applicable)				
Undesirable vegetation growth?	*A/M*			
Visible pollution?	*A/M*			
Shoreline erosion?	*A/M*			
Erosion at outfalls into pond?	*A/M*			
Headwalls and endwalls in good condition?	*A/M*			
Encroachment into pond or easement area by other activities?	*A/M*			
Evidence of sediment accumulation?	*A*			
Dry Pond Areas (if applicable)				
Vegetation adequate?	*A/M*			
Undesirable vegetation or woody plant growth?	*A/M*			
Excessive sedimentation?	*A*			
Hazards				
Have there been complaints from residents?	*A/M*			
Public hazards noted?	*A/M*			

Inspector Comments: _____

_____

_____

Overall Condition of Facility: □ Acceptable □ Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	**Due Date**

The next routine inspection is scheduled for approximately: _____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____

Grass Channel Inspections and Maintenance Checklist

Site Name: _____Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address: _____ Phone Number: _____

Site Status: _____

Date: _____ Time: _____Site conditions:

Inspection Frequency Key: A=annual (required); M=monthly (recommended); S=after major storms (recommended)

Inspection Items	Inspection	Inspected?	Maintenance Needed? (Yes/No)	Comments/Description
Debris Removal				
Facility and adjacent area free of debris?	*A/M*			
Inlets and outlets free of debris?	*A/M*			
Any dumping of yard wastes into facility?	*A/M*			
Litter (branches) removed?	*A/M*			
Vegetation				
Surrounding area fully stabilized? (no evidence of eroding material into swale, channel or filter strip)	*A/M*			
Grass mowed?	*A/M*			
Grass height not less than 3 to 4 inches?	*A/M*			
Fertilized per specifications?	*A/M*			
Grasses planted according to approved plan?	*A/M*			
Unauthorized or inappropriate plantings?	*A*			
Grasses healthy? (no diseased or dying vegetation)	*A/M*			
Evidence of grasses stressed from inadequate watering?	*A/M*			
Filtration Capacity				
Clogging from oil or grease?	*A/M*			
Facility dewaters between storms?	*A/M*			
Check dams and energy dissipaters/sumps				
Any evidence of sedimentation buildup?	*A/S*			
Are sumps greater than 50% full of sediment?	*A/S*			
Any evidence of erosion and downstream	*A/S*			

Inspection Items	Inspection	Inspected?	Maintenance Needed? (Yes/No)	Comments/Description
toe of drop structures?				
Any trash or blockages at weep holes?	*A/S*			
Sediment Deposition				
Swale clean of sediments?	*A*			
Sediment not > 25% of swale design depth?	*A*			
Outlet/Overflow Spillway				
In good condition?	*A*			
Any evidence of erosion?	*A*			
Any evidence of blockages?	*A*			
Has facility been filled or blocked inappropriately?	*A*			
Hazards				
Have there been complaints from residents?	*A/M*			
Public hazards noted?	*A/M*			
Maintenance accesses free of hazards and fully operational?	*A/M*			

Inspector Comments: _____

_____

_____

Overall Condition of Facility: □ Acceptable □ Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	**Due Date**

The next routine inspection is scheduled for approximately: _____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____

Storm Sewer Inspections and Maintenance Checklist

Site Name: _____ Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address: Phone Number: _____

Site Status: _____

Date: _____ Time: _____ Site conditions: _____

Indicate Features Present: Catch Basins fl Storm Pipe fl Headwalls fl Outfalls fl Catch Basin Inlets fl

Inspection Frequency Key: A=annual; M=monthly; S=after major storms

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Catch Basins				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition ensure all are set properly in place over inlets	*A/S*			
Check for sediment, leaf, or debris clogging grates and remove	*A/S*			
Catch Basin Inlets				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment accumulation and remove when capacity is diminished by 20% or greater	*A/S*			
Pipes				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment accumulation and remove when capacity is diminished by 20% or greater.	*A/S*			
Concrete/masonry condition of pipes and joints? (Cracks or displacement? Spalling?)	*A/S*			

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Headwalls and Endwalls				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment	*A/S*			
Check for erosion or scouring around headwall inlets and repair	*A/S*			
Evidence of staining?	*A/S*			
If flowing water is present does it appear to contain anything other than stormwater? I.e. Discoloration, odors, sheens, etc? Note location and describe.	*A/S*			
Hazards				
Have there been complaints from residents?	*A/S*			

Inspector Comments: _____

_____

_____

_____

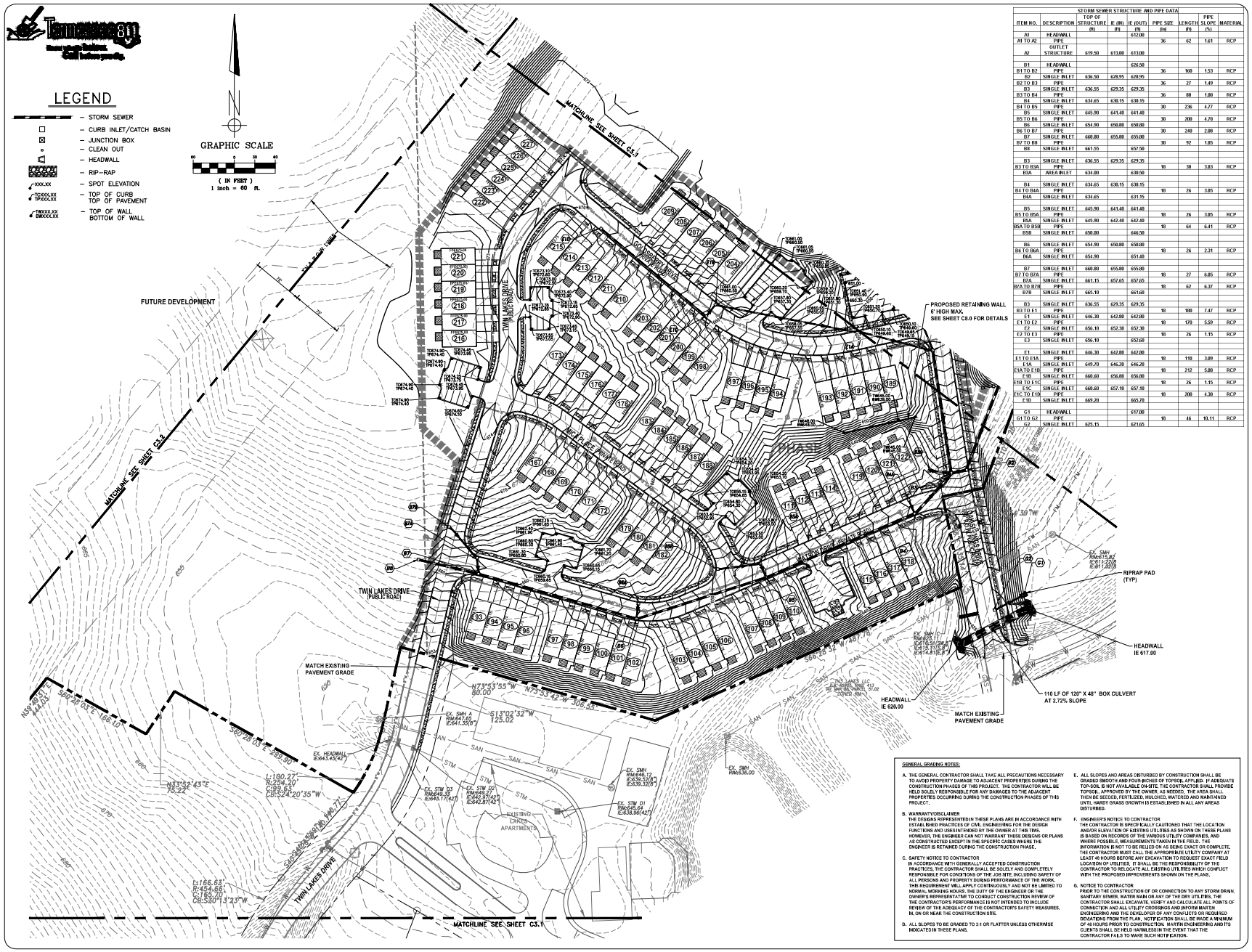
Overall Condition of Facility: fl Acceptable fl Unacceptable

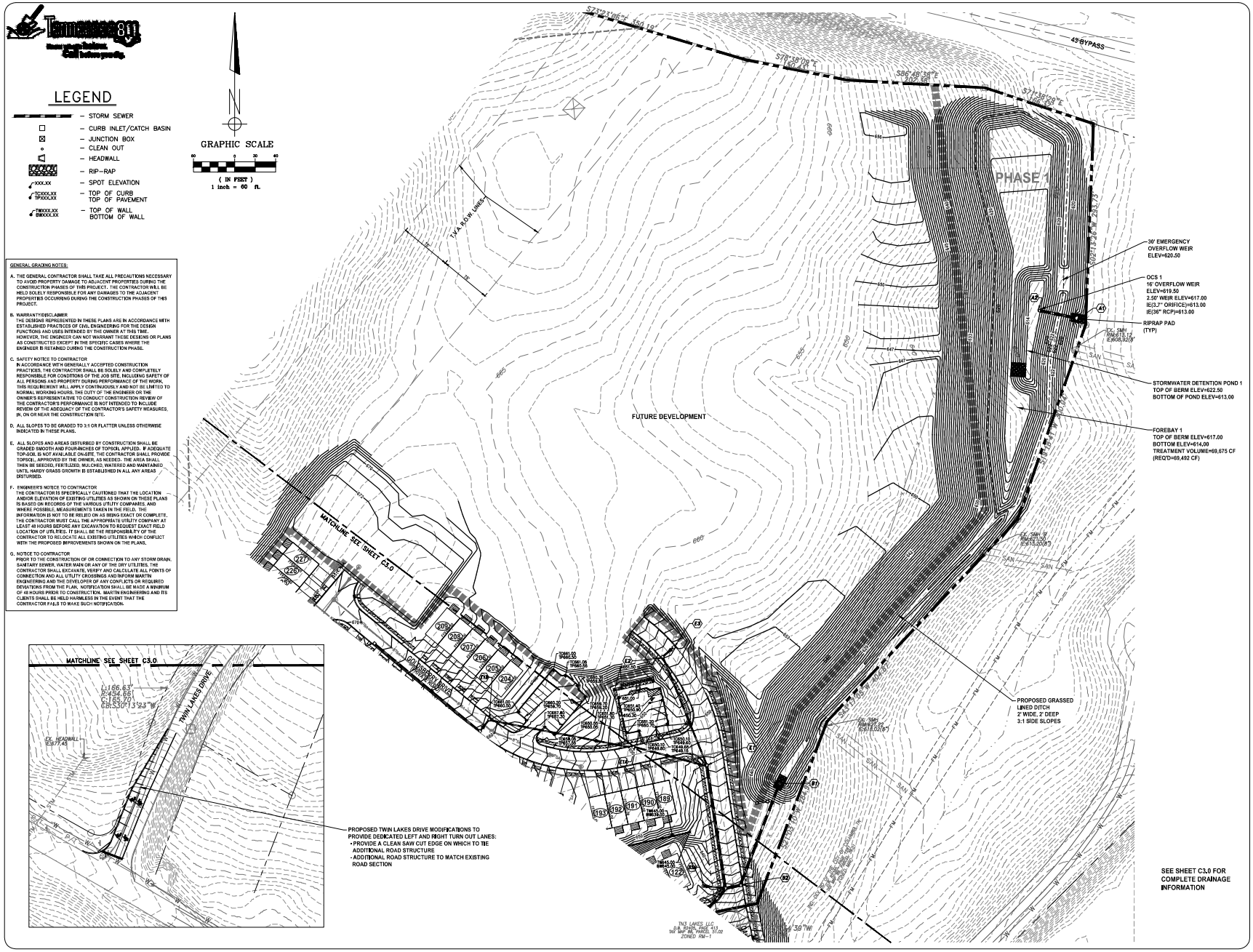
If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	Due Date

The next routine inspection is scheduled for approximately:_____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____


LEGEND
– STORM SEWER
– CURB INLET/CATCH BASIN
– JUNCTION BOX
– CLEAN OUT
– HEADWALL
– RIP–RAP
XXX.XX – SPOT ELEVATION
TCXXX.XX TPXXX.XX – TOP OF CURB TOP OF PAVEMENT
BWXXX.XX BWXXX.XX – TOP OF WALL BOTTOM OF WALL
N
GRAPHIC SCALE
(IN FEET)
1 inch = 60 ft.
MATCHLINE SEE SHEET C3.2
MATCHLINE SEE SHEET C3.1
MATCHLINE SEE SHEET C3.1
TWIN LAKES DRIVE (PUBLIC ROAD)
FUTURE DEVELOPMENT
PROPOSED RETAINING WALL 6' HIGH MAX. SEE SHEET C8.0 FOR DETAILS
PHASE 1
RIPRAP PAD (TYP)
HEADWALL IE 617.00
110 LF OF 120" X 48" BOX CULVERT AT 2.72% SLOPE
HEADWALL IE 620.00
MATCH EXISTING PAVEMENT GRADE
MATCH EXISTING PAVEMENT GRADE
EXISTING LAKES APARTMENTS
TWIN LAKES DRIVE
EX. HEADWALL IE:643.45(42")
EX. SMH A RIM:647.65 IE:641.30(8")
EX. STM D3 RIM:649.33 IE:643.17(42")
EX. STM D2 RIM:648.77 IE:642.87(42")
EX. STM D1 RIM:645.64 IE:638.98(42")
EX. SMH RIM:636.00
EX. SMH RIM:646.72 IE:639.52(8") IE:639.32(8")
EX. SMH RIM:644.03 IE:640.83(8")
EX. SMH RIM:644.03 IE:640.83(8") IE:640.63(8")
EX. SMH RIM:615.82 IE:611.22(8") IE:611.02(8")
EX. SMH C RIM:623.1 IE:618.59(15") IE:618.51(8") IE:614.81(8") IE:614.61(8")
N73°53'55"W 80.00
S13°02'32"W 125.02
N75°55'42"W 349.55
S66°28'03"E 166.10
S66°28'03"E 355.90
L=190.27' R=254.50' CB=S24°20'35"W
L=166.63' R=454.66' CB=S30°13'23"W
N33°52'43"E 75.22
S66°28'03"E 349.77'
S66°28'03"E 349.77'
S66°28'03"E 349.77'



MARTIN ENGINEERING & SURVEYING, LLC
818 S. Main Street
Columbia, TN 38401
615.812.2147
gary@martinengrg.com

GARY W. MARTIN
REGISTERED ENGINEER
No. 113573
STATE OF TENNESSEE

GRADING AND DRAINAGE PLAN

WILLIAMSPORT PIKE TOWNHOMES PHASE 1

COLUMBIA, TENNESSEE
MAURY COUNTY

General Notes

No.	Revision/Issue	Date

Date 2/17/22
Scale 1"= 60'

C3.1

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

20 day of March, 2023,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Honey Lakes LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the “CMPC”) on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS”); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the “IMPROVEMENTS”); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER’s properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register’s Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Williamsport Pike Townhomes Phase I

PROJECT

Completed by the Developer	*Completed by the City*
Honey lakes LLC DEVELOPER NAME	
Gary W. Martin AUTHORIZED AGENT NAME	CITY ENGINEER
 SIGNATURE	SIGNATURE
March 20, 2023 DATE	DATE
818 S. Main Street STREET	
Columbia, TN 38401 CITY, STATE, ZIP	
615-812-2147 PHONE	
gary@martinengrg.com EMAIL	
Attest	*Attest*
ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
DATE	DATE

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION			
	TAX MAP: 88	GROUP:	PARCEL: 51.03
SUMMARY OF NATURE OF REQUEST AND WORK	TO OBTAIN FINAL PLAT APPROVAL FOR WILLIAMSPORT PIKE TOWNHOMES PHASE 1 CONSISITING OF 91 TOWNHOME UNITS		

DATE OF PRE-APPLICATION CONFERENCE	3/1/23	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☒ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Williamsport Pike Townhomes Phase 1 ☒ Total Number of Lots 91 units ☒ Total acreage 15.09 acres

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	TKC Architecture & Engineering LLC	PHONE	615-617-7477
ADDRESS	2004 Carmack Blvd, Suite C Columbia, TN 38401	EMAIL	cole@tkc-ae.com

PROPERTY OWNER NAME	Honey Lakes LLC	PHONE	615-812-2147
ADDRESS	818 S. Main Street, Columbia, TN 38401	EMAIL	gary@martinengrg.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Cole Newton (TKC A&E)	Cole Newton	3/20/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Honey Lakes, LLC		3/16/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Mooresville Pike Three Lots

Project #:	23-0210/23-0211	Location:	Map 99P Grp D Parcel 13/16
Applicant:	Allen O'Leary	Case Type(s):	Preliminary/Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests approval of a Preliminary Plat and Final Plat to create two single-family home lots and add area to a third existing lot. The subject property is the remaining portion of the Baker Creek development site. The proposed plat creates lots which conform to the standards of the CD-3 character district.

- The DRC reviewed this proposal at its June 2023 meeting. Staff review included standard comments and requests for technical corrections. Full technical comments are provided in the agenda packet.
- In addition to dividing the property into two conforming lots, the plat also dedicates land to an existing lot enfronting Polk Street. Adding this area to the existing lot avoids the creation of a through-lot which is prohibited by § 4.3.3.D.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-3	Vacant	Vacant	+/- 5.30 Acres



FUTURE LAND USE MAP	ZONING MAP
	

SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Neighborhood	CD-3	Vacant/Developing
North	Urban Neighborhood	CD-3	Single Family
South	Urban Neighborhood	CD-3	Family
East	Urban Neighborhood	CD-3	Single Family
West	Urban Neighborhood	CD-3	Family

The subject property is bounded on all sides by established or developing single-family homes. The subject property and all adjacent properties share the same future land use classification and zoning.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the standards of the Zoning Ordinance and the Subdivision Regulations.

- The plat created two conforming CD-3 lots.
- The plat also dedicates a land to an existing lot enfronting Polk Street. Adding this area to the existing lot avoids the creation of a through-lot which is prohibited by § 4.3.3.D.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*
>
> > *1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;*

2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and

3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.

B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

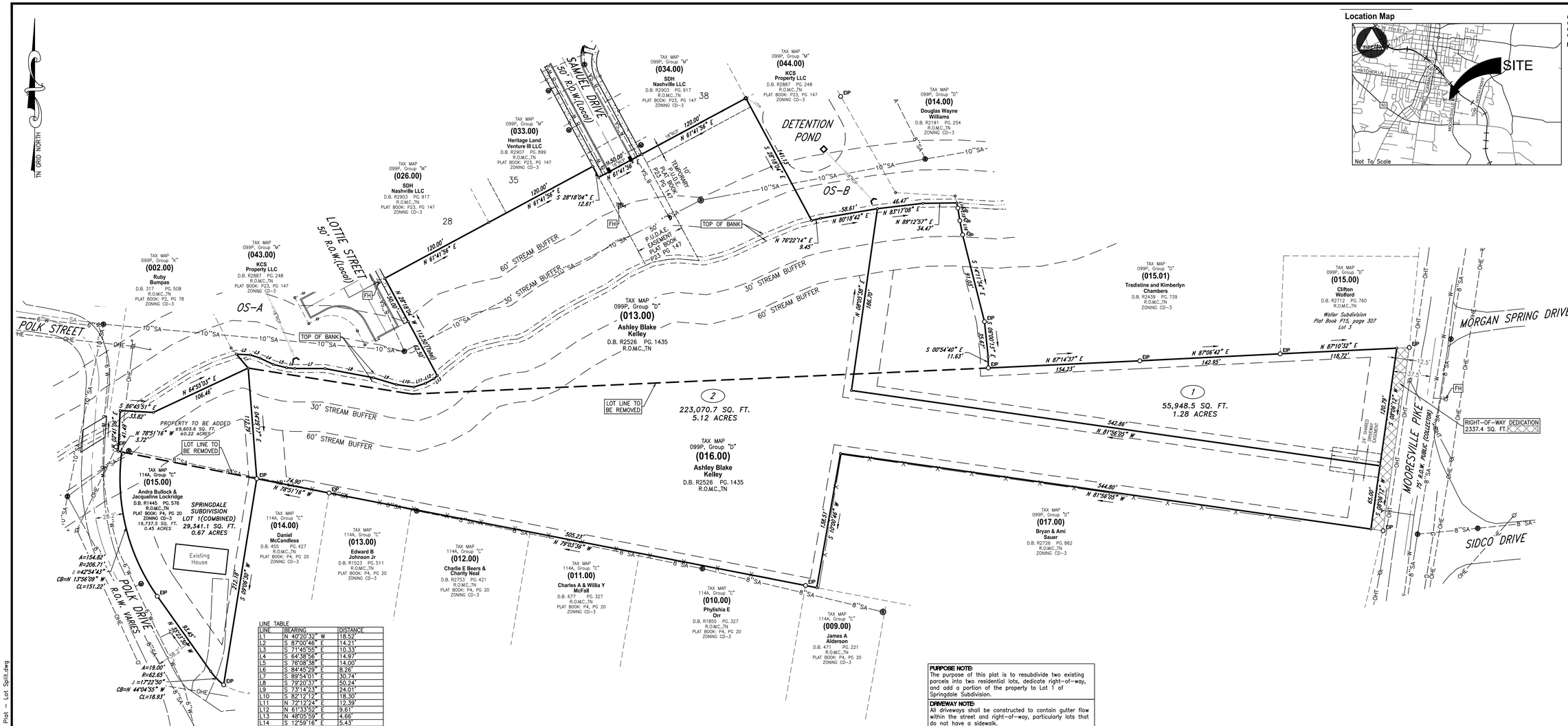
Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

Defer for Continued Review:

Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].



LINE TABLE

LINE	BEARING	DISTANCE
L1	N 40°20'32" W	18.52'
L2	S 87°00'46" E	14.21'
L3	S 71°45'55" E	10.33'
L4	S 64°38'56" E	14.97'
L5	S 76°08'38" E	14.00'
L6	S 84°45'29" E	8.26'
L7	S 89°54'01" E	30.74'
L8	S 79°20'37" E	50.24'
L9	S 73°14'23" E	24.01'
L10	S 82°12'12" E	18.30'
L11	N 72°12'24" E	12.39'
L12	N 61°33'52" E	9.61'
L13	N 48°05'59" E	4.66'
L14	S 12°59'16" E	5.43'
L15	S 08°29'01" E	12.83'
L16	S 11°13'25" E	14.73'

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 099P, Group 'D' Parcel No. 013.00 & 016.00 and Tax Map No.114A, Group 'C' Parcel No. 015.00, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: P4, Page 20
9. Deed reference: Book R2526, Page 1435 & R1445, Page 576
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0285E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. There exists a Public Utility and Drainage Easement 10' in width along the front & rear and 5' in width along the side property lines.

Legend

EIP
- IPS Iron Rod Found
- Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- CM Fence Post
- Concrete Monument Existing
- P.K.F. PK Nail Found
- P.K.S. PK Nail Set
- R.R.S.-F.Railroad Spike Found
- R.R.S.S.Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Bollard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- Gas Line
- Sanitary Sewer Line
- Water Line
- Storm Sewer Line
- Overhead Utility Line
- Overhead Cable Line
- Overhead Electric Line
- Overhead Telephone Line
- Underground Utility Line
- Underground Cable Line
- Underground Electric Line
- Underground Telephone Line
- Forced Main Line

PURPOSE NOTE:
The purpose of this plat is to resubdivide two existing parcels into two residential lots, dedicate right-of-way, and add a portion of the property to Lot 1 of Springdale Subdivision.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

PARCEL NUMBER:
TAX MAP 099P, Group 'D', PARCEL 013.00 & 16.00

DEED BOOK:
R2526, PAGE 1435

PARCEL ADDRESS:
MOORESVILLE PIKE
COLUMBIA, TENNESSEE 38401

ACREAGE OF PARCEL:
±6.68 ACRES

PROPERTY OWNER:
ASHLEY BLAKE KELLEY
3147 CARRINGTON LANE
COLUMBIA, TN 38401

PARCEL NUMBER:
TAX MAP 114A, Group 'C', PARCEL 015.00

PLAT BOOK:
P4, PAGE 20

DEED BOOK:
R1445, PAGE 576

PARCEL ADDRESS:
401 HUGHES AVE
COLUMBIA, TENNESSEE 38401

ACREAGE OF PARCEL:
±0.45 ACRES

PROPERTY OWNER:
ANDRA BULLOCK & JACQUELINE LOCKRIDGE
401 HUGHES AVE
COLUMBIA, TN 38401

EXISTING ZONING:
CD-3

BUILDING SETBACKS:
FRONT – 25'
SIDE – 8'
REAR – 25'

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

ALLEN B. OLIVER
REGISTERED LAND SURVEYOR
AGRICULTURE
TENNESSEE NO. 1997

WES Engineers & Surveyors
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
BLAKE KELLEY
3147 CARRINGTON LANE
COLUMBIA, TN 38401

PRELIMINARY PLAT
462 MOORESVILLE PIKE, LOTS 1 & 2 AND REVISION TO SPRINGDALE SUBDIVISION LOT 1
COLUMBIA, TN

REVISIONS	DATE
Tech Review Comments Addressed	06-19-2023

Drawn: EB
Checked: AO
Approved: AO
Date: 06-22-2023

Job. no. 18588
Scale: Vertical: 1"=50' Horizontal:

1 of 1

FILE: J:\ WES_Engineers_Surveyors 2018\18588 – Mooresville Pike – Blake Kelly\Dwg\Survey\01 – Final Plats\18588 – Final Plat – Lot Split.dwg

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*

Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	462 Mooresville Pike, Columbia, TN		
	TAX MAP: 099P	GROUP: D	PARCEL: 013.00/016.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request for Preliminary Plat approval that is resubdividing 2 existing parcels into 2 residential lots, dedicating right of way, and dedicating a portion to adjoining property.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ☑ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) 462 MOORESVILLE PIKE, LOTS 1 & 2 ☑ Total Number of Lots 2 ☑ Total acreage ±6.68

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	Ashley Blake Kelley	PHONE	931-446-0909
ADDRESS	3147 Carrington Lane Columbia, TN 38401	EMAIL	blakekelley@charter.net

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Allen B O'Leary	Allen B O'Leary	5/19/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Ashley B. Kelley	Ashley B. Kelley	5/19/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

June 19, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: 462 Mooresville Pike, Lots 1 & 2, Preliminary Plat**
City of Columbia Planning Commission Submittal

On behalf of Ashley Blake Kelley, the owner of these 2 proposed single family lots, **WES Engineers & Surveyors** would like to resubmit this Preliminary Plat to the City of Columbia Planning Commission for approval. Comments are addressed in red.

Engineering

1. Show combination into one lot of dedication and the adjoining property. This has been shown on the plat.

Planning

1. The dedicated property on the western side of Lot 2, where is that property being added to. The property that is receiving the portion of property has been shown.
2. Please revise to depict the entirety of lots to be altered, including 114A C 15.0 (owned by Andra Bullock and Jacqueline Lockridge). This lot has been shown on the plat.
3. See additional comments on related Final Plat request. Additional comments have been reviewed.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0211

DESCRIPTION: Request from Allen O'Leary for preliminary plat approval at 462 Mooresville Pike.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Show combination into one lot of dedication and the adjoining property

Fire

2. No comments

Planning

3. The dedicated property on the western side of Lot 2, where is that property being added to.
4. Please revise to depict the entirety of lots to be altered, including 114A C 15.0 (owned by Andra Bullock and Jacqueline Lockridge).
5. See additional comments on related Final Plat request.

Maury County Schools

6. Brown Elementary School, Cox Middle School, Central High School. See Attached Capacity Numbers. The development combined with neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Police

7. No comments provided.

Building

8. No comments.

Public Works

9. No comments.

Maury County E911

10. Contact Maury 911 for street name application. cgideon@maury911.org

Columbia Power

11. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Highway Dept.

12. No comment.

Wastewater

13. Columbia Wastewater will require any sanitary sewer solutions to include only gravity sewer.

Columbia Water

14. "A water service tap will be required for each lot and payment of associated fees."

Atmos Energy

15. No comments provided.

Duck River Electric Membership Corp

16. No comments provided.

ATT

17. No comments provided.

ATTACHMENTS: Preliminary and Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	

Erik Bakke

From: Kevin McCarthy <kmccarthy@columbiatn.com>
Sent: Thursday, May 4, 2023 12:50 PM
To: Gerald Vick; Brad Massey
Cc: Mike Harris; Allen O'Leary; Blake Kelley
Subject: RE: Hydrant Analysis - Blake Kelly Property - Mooresville Pike

Gerald,

After speaking with Mike and Mr. Kelly today, I was persuaded that I was being overly rigid on this application requirement. Mike sent me an email today which can serve as "acknowledgement from water… utility providers that the proposed development may be adequately served with existing infrastructure." Brad has already confirmed in a previous email that there is adequate flow for fire protection. In this circumstance that correspondence is sufficient for purposes of submitting a complete application.

Thanks!

Kevin C. McCarthy, AICP
City Planner

From: Kevin McCarthy
Sent: Tuesday, May 2, 2023 11:24 AM
To: 'Gerald Vick' <gerald@wesengineers.com>; Brad Massey <bmassey@columbiatn.com>
Cc: Mike Harris <mike.harris@inflodesign.com>; Allen O'Leary <allen@wesengineers.com>; Blake Kelley <blakekelley@charter.net>
Subject: RE: Hydrant Analysis - Blake Kelly Property - Mooresville Pike

Gerald,

Please go ahead and request the letter from Inflo. If you are unable to get it in time for the submittal deadline we can discuss alternative informal confirmation limited to this unusual circumstance where the applicant is proposing to reduce the total number of potential dwelling units.

Thanks!

Kevin C. McCarthy, AICP
City Planner

From: Gerald Vick <gerald@wesengineers.com>
Sent: Tuesday, May 2, 2023 11:16 AM
To: Brad Massey <bmassey@columbiatn.com>; Kevin McCarthy <kmccarthy@columbiatn.com>
Cc: Mike Harris <mike.harris@inflodesign.com>; Allen O'Leary <allen@wesengineers.com>; Blake Kelley <blakekelley@charter.net>
Subject: [External Email] - RE: Hydrant Analysis - Blake Kelly Property - Mooresville Pike

Kevin,

I wanted to follow up with you again to see if you had a chance to consider this, I need to know so that we can request the letter if this information and correspondence is not acceptable for the submittal.

Thank you,

Gerald

Gerald W. Vick, PE
WES Engineers & Surveyors
2486 Nashville Hwy
Columbia, TN 38401
O: 931.388.2329
F: 931.548.2013
gerald@wesengineers.com

From: Brad Massey <bmassey@columbiatn.com>
Sent: Wednesday, April 26, 2023 2:10 PM
To: Gerald Vick <gerald@wesengineers.com>; Kevin McCarthy <kmccarthy@columbiatn.com>
Cc: Mike Harris <mike.harris@inflodesign.com>; Allen O'Leary <allen@wesengineers.com>; Blake Kelley <blakekelley@charter.net>
Subject: RE: Hydrant Analysis

Kevin, this easily meets them being able to build and not have to sprinkle the homes.
Thank you

Brad Massey
Fire Marshal
Columbia Fire & Rescue

bmassey@columbiatn.com
931-560-1740
931-626-1236
700 North Garden Street
Columbia, TN 38401
Columbiatn.com

From: Gerald Vick <gerald@wesengineers.com>
Sent: Wednesday, April 26, 2023 1:38 PM
To: Kevin McCarthy <kmccarthy@columbiatn.com>
Cc: Brad Massey <bmassey@columbiatn.com>; Mike Harris <mike.harris@inflodesign.com>; Allen O'Leary <allen@wesengineers.com>; Blake Kelley <blakekelley@charter.net>
Subject: [External Email] - FW: Hydrant Analysis

Kevin,

This is Inflodesign / CPWS stance on the water availability for Blake Kelley's project on Mooresville Pike. Are you good with moving forward with this as proof that water is available in order for you to accept the Preliminary and Final Plat Submission?

Thank you,

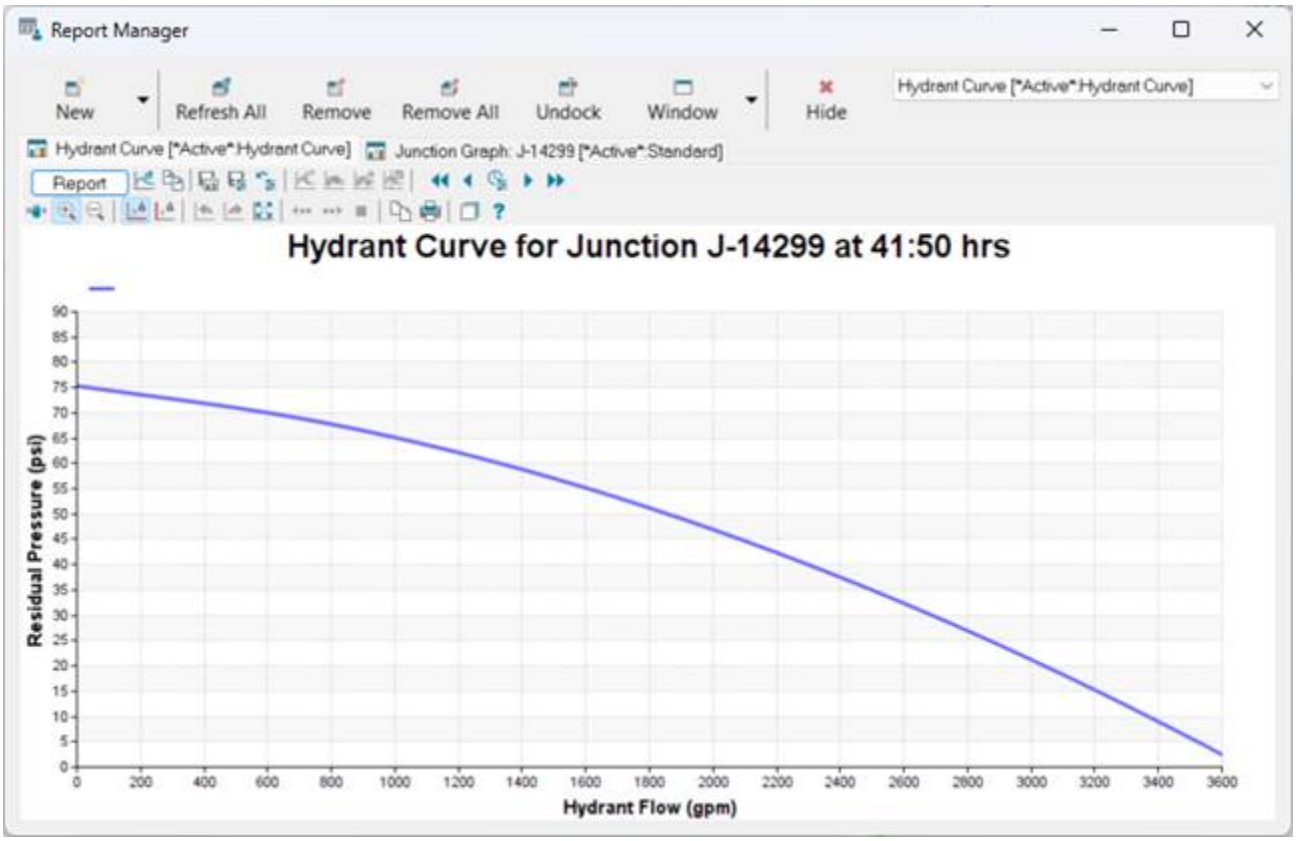
Gerald

Gerald W. Vick, PE
WES Engineers & Surveyors
2486 Nashville Hwy
Columbia, TN 38401
O: 931.388.2329
F: 931.548.2013
gerald@wesengineers.com

From: Mike Harris <mike.harris@inflodesign.com>
Sent: Wednesday, April 26, 2023 1:33 PM
To: Brad Massey <bmassey@columbiatn.com>
Cc: Gerald Vick <gerald@wesengineers.com>
Subject: FW: Hydrant Analysis

See hydrant flow analysis on Mooresville Pike we discussed this morning. Water flow is not an issue at this location, theoretically if the hydrant could flow this much, even at 20 psi residual, we could get 3000 gpm at this location. If you are okay with it, I suggest saving this analysis in the file or have Gerald upload it to the project file and not require a water availability letter.

From: Eric King <eric.king@inflodesign.com>
Sent: Wednesday, April 26, 2023 11:38 AM
To: Mike Harris <mike.harris@inflodesign.com>
Subject: RE: Hydrant Analysis



Eric King, PE (TN)
Inflo Design Group, LLC

From: Mike Harris <mike.harris@inflodesign.com>
Sent: Wednesday, April 26, 2023 11:13 AM
To: Eric King <eric.king@inflodesign.com>
Subject: Hydrant Analysis

Eric, can you run a quick hydrant analysis on the hydrant on the attached screenshot? Thank you!

Mike Harris, PE
Inflo Design Group, LLC
615-306-5208

Disclaimer

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May 22, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: 462 Mooresville Pike, Lots 1 & 2, Preliminary Plat**
City of Columbia Planning Commission Submittal

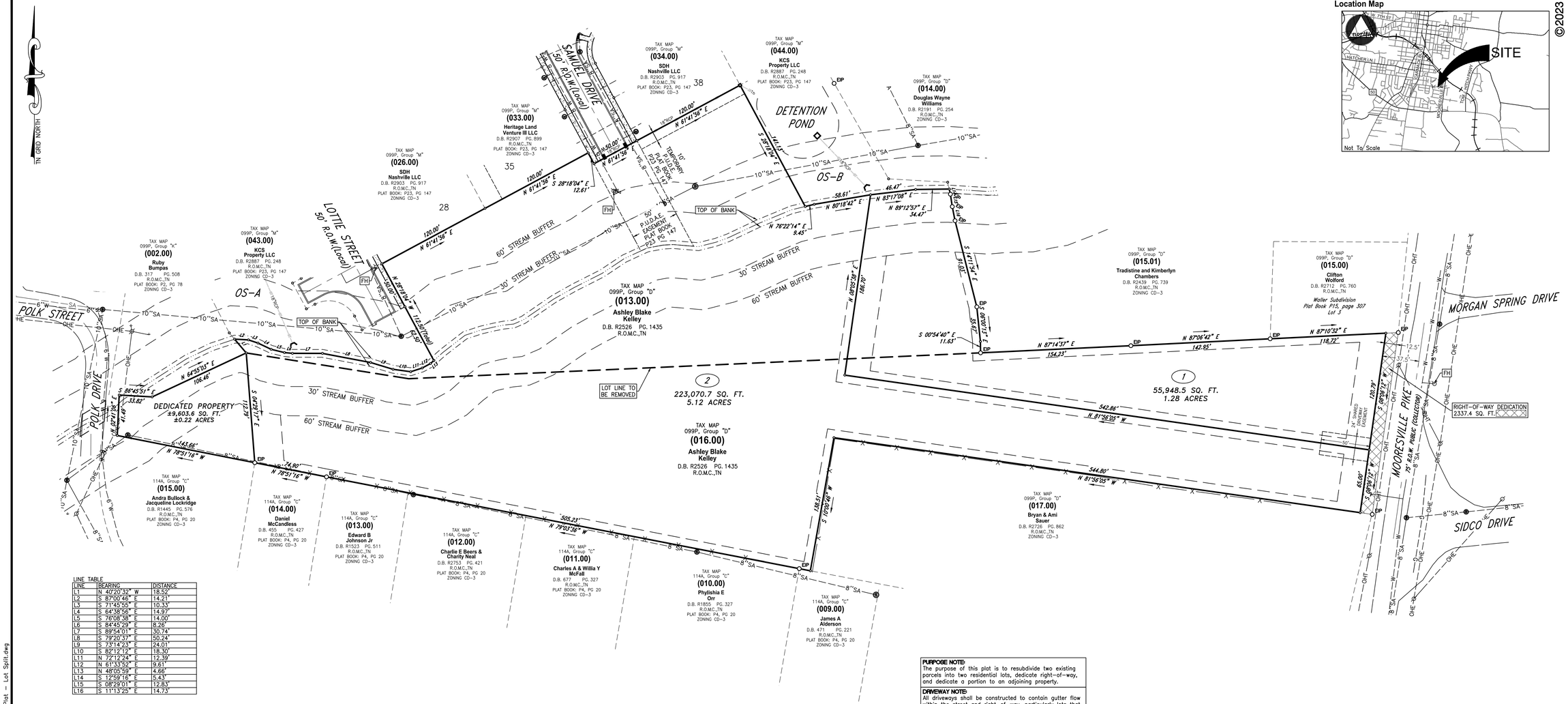
On behalf of Ashley Blake Kelley, the owner of these 2 proposed single family lots, **WES Engineers & Surveyors** would like to submit this Preliminary Plat to the City of Columbia Planning Commission for approval.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 40°20'32" W	18.52'
L2	S 87°00'46" E	14.21'
L3	S 71°45'55" E	10.33'
L4	S 64°38'56" E	14.97'
L5	S 76°08'38" E	14.00'
L6	S 84°45'29" E	8.26'
L7	S 89°54'01" E	30.74'
L8	S 79°20'37" E	50.24'
L9	S 73°14'23" E	24.01'
L10	S 82°12'12" E	18.30'
L11	N 72°12'24" E	12.39'
L12	N 61°33'52" E	9.61'
L13	N 48°05'59" E	4.66'
L14	S 12°59'16" E	5.43'
L15	S 08°29'01" E	12.83'
L16	S 11°13'25" E	14.73'

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 099P, Group 'D' Parcel No. 013.00 & 016.00, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: N/A
9. Deed reference: Book R2526, Page 1435
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0285E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. There exists a Public Utility and Drainage Easement 10' in width along the front & rear and 5' in width along the side property lines.

Legend

- EIP Iron Rod Found
- IPS Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- ECM Fence Post Concrete Monument Existing
- P.K.F. PK Nail Found
- P.K.S. PK Nail Set
- R.R.S.F. Railroad Spike Found
- R.R.S.S. Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Bollard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- Gas Line
- Sanitary Sewer Line
- Water Line
- Storm Sewer Line
- Overhead Utility Line
- Overhead Cable Line
- Overhead Electric Line
- Overhead Telephone Line
- Underground Utility Line
- Underground Cable Line
- Underground Electric Line
- Underground Telephone Line
- Forced Main Line

PURPOSE NOTE:
The purpose of this plat is to resubdivide two existing parcels into two residential lots, dedicate right-of-way, and dedicate a portion to an adjoining property.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

PARCEL NUMBER:
TAX MAP 099P, Group 'D', PARCEL 013.00 & 16.00

DEED BOOK:
R2526, PAGE 1435

PARCEL ADDRESS:
MOORESVILLE PIKE
COLUMBIA, TENNESSEE 38401

EXISTING ZONING:
CD-3

BUILDING SETBACKS:
FRONT – 25'
SIDE – 8'
REAR – 25'

ACREAGE OF PARCEL:
±6.68 ACRES

PROPERTY OWNER:
ASHLEY BLAKE KELLEY
3147 CARRINGTON LANE
COLUMBIA, TN 38401

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

ALLEN B. OLEAR
REGISTERED LAND SURVEYOR
AGRICULTURE
TENNESSEE NO. 1987

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
BLAKE KELLEY
3147 CARRINGTON LANE
COLUMBIA, TN 38401

PRELIMINARY PLAT
462 MOORESVILLE PIKE, LOTS 1 & 2
COLUMBIA, TN

REVISIONS	DATE

Drawn: EB
Checked: AO
Approved: AO
Date: 05-22-2023

Job. no. 18588
Scale: Vertical: 1"=50' Horizontal:

1 of 1

FILE: k:\WES_Engineers_Surveyors 2018\18588 - Mooresville Pike - Blake Kelly\Dwg\Survey\01 - Final Plats\18588 - Final Plat - Lot Split.dwg

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*

Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	462 Mooresville Pike, Columbia, TN		
	TAX MAP: 099P	GROUP: D	PARCEL: 013.00/016.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request for Preliminary Plat approval that is resubdividing 2 existing parcels into 2 residential lots, dedicating right of way, and dedicating a portion to adjoining property.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ☑ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) 462 MOORESVILLE PIKE, LOTS 1 & 2 ☑ Total Number of Lots 2 ☑ Total acreage ±6.68

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	Ashley Blake Kelley	PHONE	931-446-0909
ADDRESS	3147 Carrington Lane Columbia, TN 38401	EMAIL	blakekelley@charter.net

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

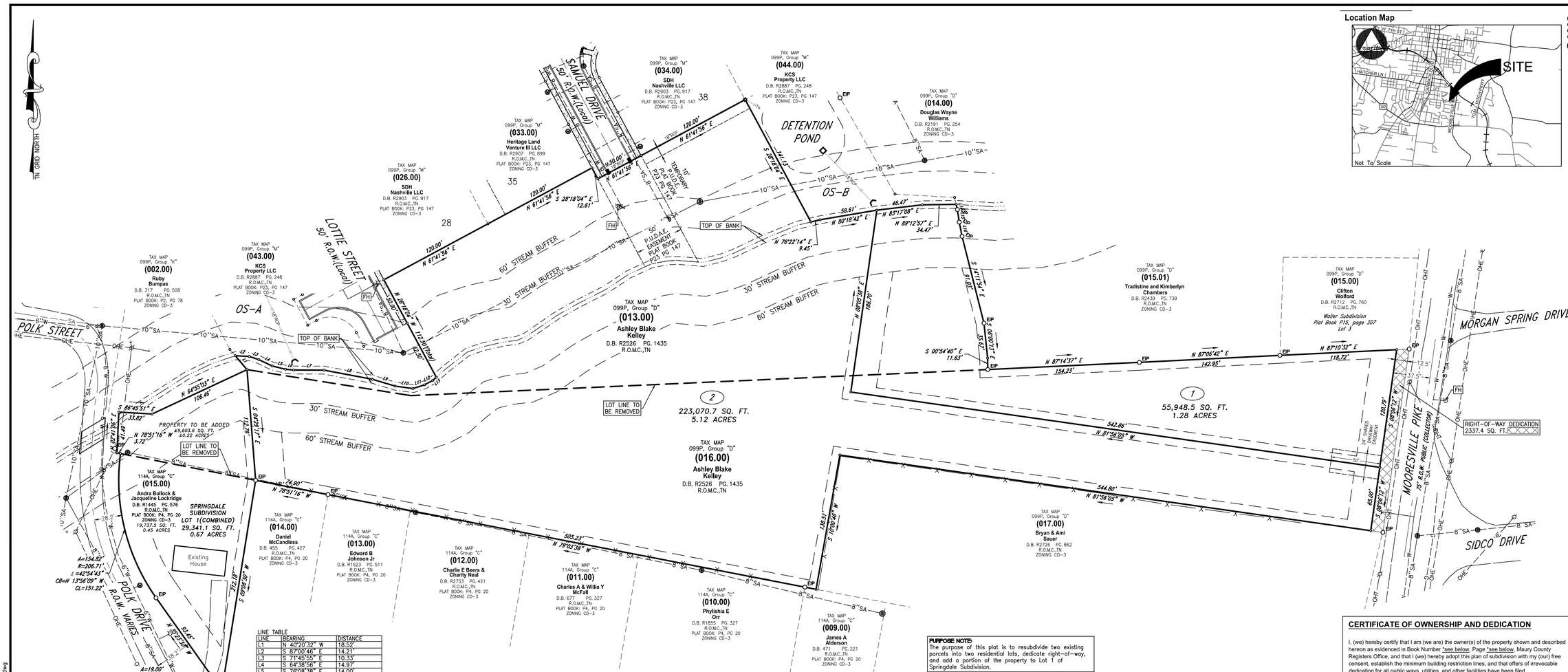
Allen B O'Leary	Allen O'Leary	5/19/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Ashley B. Kelley	[signature]	5/19/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	


TN GRID NORTH
POLK STREET
LOTTIE STREET
50' R.O.W.(Local)
SAMUEL DRIVE
50' R.O.W.(Local)
POLK DRIVE
R.O.W. VARIES
DETENTION POND
OS-A
OS-B
TOP OF BANK
60' STREAM BUFFER
30' STREAM BUFFER
LOT LINE TO BE REMOVED
PROPERTY TO BE ADDED
±9,603.6 SQ. FT.
±0.22 ACRES
SPRINGDALE SUBDIVISION
LOT 1(COMBINED)
29,341.1 SQ. FT.
0.67 ACRES
Existing House
2
223,070.7 SQ. FT.
5.12 ACRES
1
55,948.5 SQ. FT.
1.28 ACRES
MOORESVILLE PIKE
75' R.O.W. PUBLIC (COLLECTOR)
MORGAN SPRING DRIVE
SIDCO DRIVE
RIGHT-OF-WAY DEDICATION
2337.4 SQ. FT.
P.U.D.E. EASEMENT PLAT BOOK P23, PG 147
TEMPORARY P.U.D.E. PLAT BOOK P23, PG 147
TAX MAP 099P, Group "M" (026.00) SDH Nashville LLC D.B. R2903 PG. 917 R.O.M.C.,TN PLAT BOOK: P23, PG 147 ZONING CD-3
TAX MAP 099P, Group "M" (033.00) Heritage Land Venture III LLC D.B. R2907 PG. 899 R.O.M.C.,TN PLAT BOOK: P23, PG 147 ZONING CD-3
TAX MAP 099P, Group "M" (034.00) SDH Nashville LLC D.B. R2903 PG. 917 R.O.M.C.,TN PLAT BOOK: P23, PG 147 ZONING CD-3
TAX MAP 099P, Group "M" (044.00) KCS Property LLC D.B. R2887 PG. 248 R.O.M.C.,TN PLAT BOOK: P23, PG 147 ZONING CD-3
TAX MAP 099P, Group "M" (043.00) KCS Property LLC D.B. R2887 PG. 248 R.O.M.C.,TN PLAT BOOK: P23, PG 147 ZONING CD-3
TAX MAP 099P, Group "K" (002.00) Ruby Bumpas D.B. 317 PG. 508 R.O.M.C.,TN PLAT BOOK: P2, PG 78 ZONING CD-3
TAX MAP 099P, Group "D" (014.00) Douglas Wayne Williams D.B. R2191 PG. 254 R.O.M.C.,TN ZONING CD-3
TAX MAP 099P, Group "D" (013.00) Ashley Blake Kelley D.B. R2526 PG. 1435 R.O.M.C.,TN
TAX MAP 099P, Group "D" (016.00) Ashley Blake Kelley D.B. R2526 PG. 1435 R.O.M.C.,TN
TAX MAP 099P, Group "D" (015.01) Tradistine and Kimberlyn Chambers D.B. R2439 PG. 739 R.O.M.C.,TN ZONING CD-3
TAX MAP 099P, Group "D" (015.00) Clifton Wolford D.B. R2712 PG. 760 R.O.M.C.,TN Waller Subdivision Plat Book P15, page 307 Lot 3
TAX MAP 099P, Group "D" (017.00) Bryan & Ami Sauer D.B. R2726 PG. 862 R.O.M.C.,TN ZONING CD-3
TAX MAP 114A, Group "C" (015.00) Andra Bullock & Jacqueline Lockridge D.B. R1445 PG. 576 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3 19,737.5 SQ. FT. 0.45 ACRES
TAX MAP 114A, Group "C" (014.00) Daniel McCandless D.B. 455 PG. 427 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3
TAX MAP 114A, Group "C" (013.00) Edward B Johnson Jr D.B. R1523 PG. 511 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3
TAX MAP 114A, Group "C" (012.00) Charlie E Beers & Charity Neal D.B. R2753 PG. 421 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3
TAX MAP 114A, Group "C" (011.00) Charles A & Willia Y McFall D.B. 677 PG. 327 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3
TAX MAP 114A, Group "C" (010.00) Phylishia E Orr D.B. R1855 PG. 327 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3
TAX MAP 114A, Group "C" (009.00) James A Alderson D.B. 471 PG. 221 R.O.M.C.,TN PLAT BOOK: P4, PG 20 ZONING CD-3
A=154.82'
R=206.71'
Δ=42°54'43"
CB=N 13°56'09" W
CL=151.22'
A=19.01'
R=62.65'
Δ=17°22'50"
CB=N 44°04'55" W
CL=18.93'
N 61°41'56" E 120.00'
S 28°18'04" E 12.61'
N 28°18'04" W 112.58'(Total)
82.30'
S 61°41'56" W 120.00'
N 61°41'56" E 120.00'
S 28°18'04" E 141.13'
N 61°41'56" E 120.00'
S 28°18'04" E 12.61'
N 61°41'56" E 120.00'
N 28°18'04" W 90.00'
S 61°41'56" W 120.00'
N 64°55'03" E 106.46'
S 86°45'51" E 33.82'
N 27°47'06" E 41.48'
N 78°51'16" W 3.72'
S 04°57'17" E 114.79'
N 78°51'16" W 74.90'
S 11°09'06" W 138.51'
N 81°56'05" W 544.80'
N 81°56'05" W 542.86'
S 08°09'12" W 120.29'
S 08°09'12" W 65.08'
N 79°03'36" W 505.23'
S 08°56'39" W 212.18'
N 18°21'24" W 81.45'
S 08°09'12" W 65.08'
N 08°05'58" E 186.70'
S 81°17'08" E 46.47'
N 89°12'57" E 34.47'
N 80°18'42" E 58.61'
N 76°22'14" E 9.45'
S 14°11'54" E 91.02'
S 00°54'40" E 11.63'
S 00°00'21" E 95.57'
N 87°14'37" E 154.23'
N 87°06'42" E 142.85'
N 87°10'32" E 118.72'
S 61°41'56" W 50.00'
S 28°18'04" E 50.00'
S 61°41'56" W 50.00'
N 28°18'04" W 50.00

June 19, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: 462 Mooresville Pike, Lots 1 & 2, Final Plat**
City of Columbia Planning Commission Submittal

On behalf of Ashley Blake Kelley, the owner of these 2 proposed single family lots, **WES Engineers & Surveyors** would like to resubmit this Final Plat to the City of Columbia Planning Commission for approval. Comments has been addressed in red.

Planning

1. Please add signature blocks for all property owners, including Andra Bullock and Jacqueline Lockridge. They have been added to the signature block.
2. Please revise to depict the entirety of lots to be altered, including 114A C 15.0. The plat has been revised to show all altered lots.
3. Please add a note that the plat supercedes and replaces previous plats for the subject properties. A note for vacating, voiding, and superceding previous plats has been added.

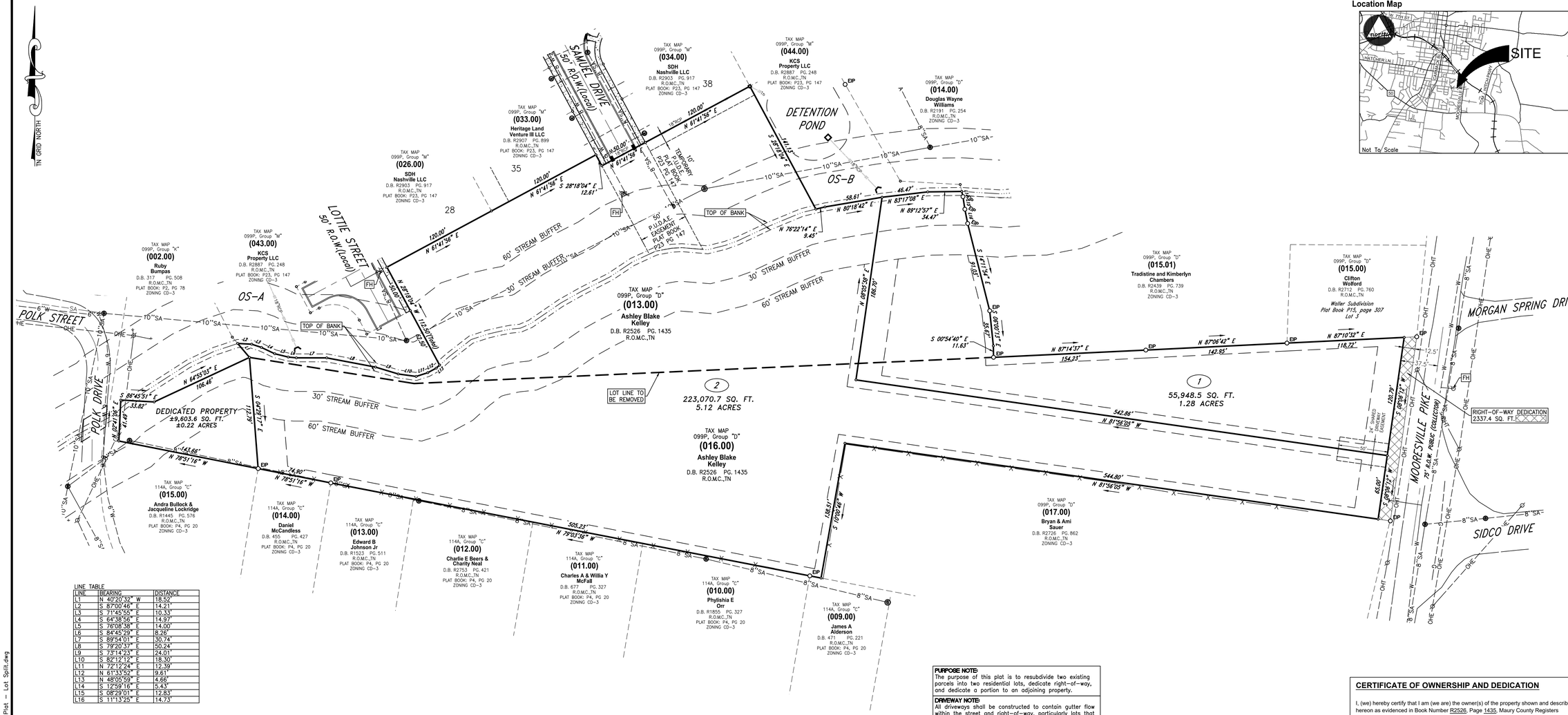
Engineering

1. Show combination into one lot of dedication and the adjoining property. The property that is being combined has been shown.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors

Allen B. O'Leary, RLS
Principal



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 40°20'32" W	18.52'
L2	S 87°00'46" E	14.21'
L3	S 71°45'55" E	10.33'
L4	S 64°38'56" E	14.97'
L5	S 76°08'38" E	14.00'
L6	S 84°45'29" E	8.26'
L7	S 89°54'01" E	30.74'
L8	S 79°20'37" E	50.24'
L9	S 73°14'23" E	24.01'
L10	S 82°12'12" E	18.30'
L11	N 72°12'24" E	12.39'
L12	N 61°33'52" E	9.61'
L13	N 48°05'59" E	4.66'
L14	S 12°59'16" E	5.43'
L15	S 08°29'01" E	12.83'
L16	S 11°13'25" E	14.73'

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 099P, Group 'D' Parcel No. 013.00 & 016.00, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: N/A
9. Deed reference: Book R2526, Page 1435
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0285E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. There exists a Public Utility and Drainage Easement 10' in width along the front & rear and 5' in width along the side property lines.

Legend

EIP	Iron Rod Found	Bench Mark	Catch Basin	Electric Riser	Power Pole	Adjoining Property Line	Edge of Water
IPS	Iron Rod Set	Stake Found	Curb Inlet	Telephone Riser	Flag Pole	Subject Property Line	Ditch / Creek Centerline
I.P.F.	Iron Pipe Found	Fire Hydrant	Storm Pipe	Telephone Booth	Guy Wire	Easement Line	Minor Contour Line
AXLE	Axle Found	Water Meter	Cable Manhole	Gas Meter	Mailbox	Building Setback Line	Index Contour Line
ECM	Fence Post	Water Valve	Electric Manhole	Gas Valve	Parking Block	Centerline	Gas Line
	Concrete Monument Existing	Water Reducer	Telephone Manhole	Light Pole	Satellite Dish	Edge of Pavement	Sanitary Sewer Line
P.K.F.	PK Nail Found	Clean Out	Water Manhole	Power Pole	Handicap Parking	Edge of Gravel	Water Line
P.K.S.	PK Nail Set	Sanitary Sewer Manhole	Electric Meter	Telephone Pole	Water Spigot	Fence Line	Storm Sewer Line
R.R.S.F.	Railroad Spike Found	Storm Sewer Manhole	Cable Riser	Guy Pole	Bollard	Landscape	Overhead Utility Line
R.R.S.S.	Railroad Spike Set					Woods / Tree line	Overhead Cable Line

Overhead Electric Line	Evergreen Tree	
Overhead Telephone Line	Deciduous Tree	
Underground Utility Line	Bush	
Underground Cable Line	Sign	
Underground Electric Line		
Underground Telephone Line		
Forced Main Line		

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

PURPOSE NOTE:
The purpose of this plat is to resubdivide two existing parcels into two residential lots, dedicate right-of-way, and dedicate a portion to an adjoining property.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

PARCEL NUMBER:
TAX MAP 099P, Group 'D', PARCEL 013.00 & 16.00

DEED BOOK:
R2526, PAGE 1435

PARCEL ADDRESS:
MOORESVILLE PIKE
COLUMBIA, TENNESSEE 38401

EXISTING ZONING:
CD-3

BUILDING SETBACKS:
FRONT – 25'
SIDE – 8'
REAR – 25'

ACREAGE OF PARCEL:
±6.68 ACRES

PROPERTY OWNER:
ASHLEY BLAKE KELLEY
3147 CARRINGTON LANE
COLUMBIA, TN 38401

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2526, Page 1435, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date Ashley Blake Kelley

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date Maury County E-911
Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date Director of Wastewater Department
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

Date Secretary, Planning Commission
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Baker Creek Place, Phase 1 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date Columbia Power & Water Systems
Columbia, Tennessee

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

5/22/23 Allen B. O'Leary TN RLS #1987
Date Allen B. O'Leary Number

Register of Deed Recording Stamp

ALLEN B. O'LEARY REGISTERED LAND SURVEYOR STATE OF TENNESSEE NO. 1987 AGRICULTURE SURVEYOR

Location Map

©2023

WES Engineers & Surveyors
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com
ENGINEERS & SURVEYORS

Client
BLAKE KELLEY
3147 CARRINGTON LANE
COLUMBIA, TN 38401

FINAL PLAT
462 MOORESVILLE PIKE, LOTS 1 & 2
COLUMBIA, TN

REVISIONS	DATE

Drawn: EB
Checked: AO
Approved: AO
Date: 05-22-2023

Job. no. 18588
Scale:
Vertical: 1"=50'
Horizontal:

1 of 1

FILE:J:\WES_Engineers_Surveyors 2018\18588 - Mooresville Pike - Blake Kelly\Dwg\Survey\01 - Final Plats\18588 - Final Plat - Lot Split.dwg

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0210

DESCRIPTION: Request from Allen O'Leary for final plat approval at 462 Mooresville Pike.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Fire

1. No comments

Building

2. No comments.

Public Works

3. No comments.

Planning

4. Please add signature blocks for all property owners, including Andra Bullock and Jacqueline Lockridge.
5. Please revise to depict the entirety of lots to be altered, including 114A C 15.0.
6. Please add a note that the plat supercedes and replaces previous plats for the subject properties.

Maury County Schools

7. Brown Elementary School, Cox Middle School, Central High School. See Attached Capacity Numbers. The development combined with neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Police

8. No comments provided.

Wastewater

9. Columbia Wastewater will require any sanitary sewer solutions to include only gravity sewer.

Maury County E911

10. Contact Maury 911 for street name application. cgideon@maury911.org

Columbia Power

11. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Highway Dept.

12. No comment.

Duck River Electric Membership Corp

13. No comment.

Columbia Water

14. "A water service tap will be required for each lot and payment of associated fees."

Atmos Energy

15. No comments provided.

ATT

16. No comments provided.

Engineering

17. Show combination into one lot of dedication and the adjoining property

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	

May 22, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: 462 Mooresville Pike, Lots 1 & 2, Final Plat**
City of Columbia Planning Commission Submittal

On behalf of Ashley Blake Kelley, the owner of these 2 proposed single family lots, **WES Engineers & Surveyors** would like to submit this Final Plat to the City of Columbia Planning Commission for approval.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	462 Mooresville Pike, Columbia, TN		
	TAX MAP: 099P	GROUP: D	PARCEL: 013.00/016.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request for Final Plat approval that is resubdividing 2 existing parcels into 2 residential lots, dedicating right of way, and dedicating a portion to adjoining property.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☐ Preliminary Plat ☑ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) 462 MOORESVILLE PIKE, LOTS 1 & 2 ☑ Total Number of Lots 2 ☑ Total acreage ±6.68

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	Ashley Blake Kelley	PHONE	931-446-0909
ADDRESS	3147 Carrington Lane Columbia, TN 38401	EMAIL	blakekelley@charter.net

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Allen O'Leary		5/14/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Ashley B. Kelley		5/15/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Summit at Carter's Creek Station Ph. 2

Project #:	23-0202	Location:	Map 42 Parcel 35
Applicant:	T-Square Eng.	Case Type(s):	Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests approval of a Final Plat to create thirty-two single-family home lots with accompanying infrastructure. The Planning Commission approved a Preliminary Plat for the development in June 2021. The approval created a vested right to develop under the R-6 and R-10 standards of the previous Zoning Ordinance.

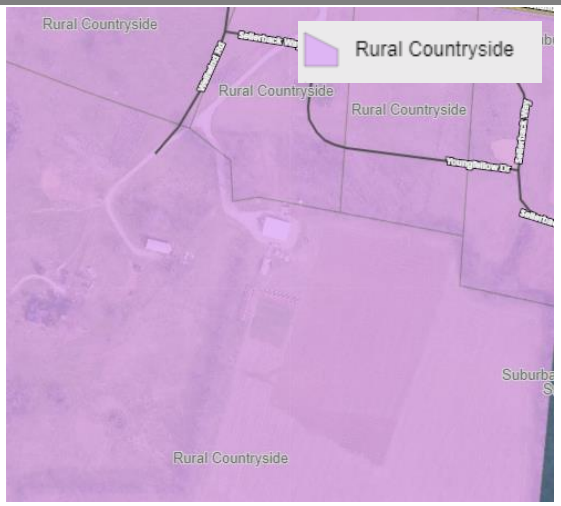
- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat conforms to the approved Preliminary Plat.
- The applicant has provided financial surety in the amount of $175,000 to guarantee completion of infrastructure.
- The applicant has executed a development agreement in the format prescribed by Appendix B of the Subdivision Regulations.
- The DRC reviewed this proposal at its June 2023 meeting. Staff review included standard comments and requests for technical corrections. Full technical comments, along with the applicant's responses, are provided in the agenda packet.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-3	Vacant	Infrastructure for Development	+/-6.77 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Rural Countryside	CD-3	Vacant/Developing
North	Rural Countryside	CD-3	Vacant/Developing
South	Rural Countryside	CD-3	Vacant/Developing
East	Rural Countryside	CD-3	Vacant/Developing
West	Rural Countryside	CD-3	Vacant/Developing

The subject site is part of a multiphase development, Summit at Carter's Creek. The property is bounded on the north, east and west by other portions of the development site. The Planning Commission approved a Preliminary Plat (21-0102) for development of 399 lots in April of 2021.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the R-6 and R-10 standards of the applicable zoning ordinance (3638), the Subdivision Regulations, and the approved Preliminary Plat.

- The proposed lots conform to the setbacks and size requirements of § 6.3.8 of Ordinance 3638.
- The Final Plat matches the general layout approved by Planning Commission in the Preliminary Plat (with updates to the phasing of development).

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*
>
> > *1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;*

2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and

3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.

B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

Defer for Continued Review:

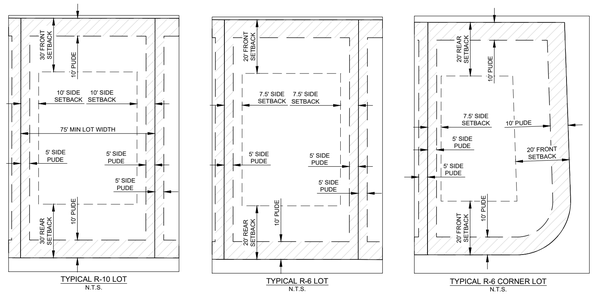
Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].



VICINITY MAP - NOT TO SCALE



* DENOTES R-10 LOT
~ DENOTES A CRITICAL LOT THAT WILL REQUIRE A LOT GRADING PLAN

SITE DATA		
CURRENT ZONING:	R-10 & R6	
MINIMUM BUILDING SETBACKS:	R-10	R6
FRONT:	30'	20'
REAR:	30'	20'
SIDE:	10'	7.5'
TOTAL PHASE AREA:	7.01 ACRES	
NEW ROW:	1.41 ACRES	

- HEADWALL
- CATCH BASIN
- PROPOSED SEWER LINE (TYP.)
- PROPOSED STORM LINE (TYP.)
- PROPOSED WATER LINE (TYP.)
- CURB INLET
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT (TYP.)

Parcel Line Table		
Line #	Length	Direction
L80	120.00	S31° 19' 27.78"W
L81	120.00	N24° 36' 56.61"E
L82	120.00	S17° 54' 25.45"W
L83	120.00	S11° 11' 54.28"W
L84	47.01	N79° 46' 30.51"W
L85	47.01	S79° 46' 30.51"E
L86	120.00	S10° 13' 29.49"W
L87	55.00	N79° 46' 30.51"W
L88	55.00	S79° 46' 30.51"E
L89	120.00	S10° 13' 29.49"W
L90	55.00	N79° 46' 30.51"W
L91	55.00	S79° 46' 30.51"E
L92	120.00	S10° 13' 29.49"W
L93	55.00	N79° 46' 30.51"W
L94	55.00	S79° 46' 30.51"E
L95	120.00	S10° 13' 29.49"W
L96	55.00	N79° 46' 30.51"W
L97	55.00	S79° 46' 30.51"E
L98	120.00	N10° 13' 29.49"E
L99	16.45	S79° 46' 30.51"E
L100	16.45	N79° 46' 30.51"W
L101	120.00	S14° 26' 35.03"W
L102	120.00	N19° 43' 11.21"E
L103	120.00	S24° 59' 47.38"W
L104	120.00	N30° 16' 23.55"E
L105	120.00	S33° 59' 47.75"W
L106	5.00	N42° 37' 33.10"E
L198	125.00	S41° 33' 39.91"W
L199	125.00	N38° 32' 42.61"E

Parcel Line Table		
Line #	Length	Direction
L200	125.00	S35° 31' 45.32"W
L201	125.00	N32° 30' 48.02"E
L202	125.00	S29° 29' 50.72"W
L203	125.00	N26° 28' 53.43"E
L204	125.00	S23° 27' 56.13"W
L205	125.00	N20° 26' 58.84"E
L206	125.00	S17° 26' 01.54"W
L207	125.00	S14° 25' 04.25"W
L208	125.00	N11° 24' 06.95"E
L209	33.53	N79° 46' 30.51"W
L210	33.53	S79° 46' 30.51"E
L211	125.00	N10° 13' 29.49"E
L212	55.00	N79° 46' 30.51"W
L213	55.00	S79° 46' 30.51"E
L214	125.00	N10° 13' 29.49"E
L215	55.00	N79° 46' 30.51"W
L216	55.00	S79° 46' 30.51"E
L217	125.00	N10° 13' 29.49"E
L218	55.00	N79° 46' 30.51"W
L219	55.00	S79° 46' 30.51"E
L220	125.00	N10° 13' 29.49"E
L221	55.00	N79° 46' 30.51"W
L222	55.00	S79° 46' 30.51"E
L223	125.00	N10° 13' 29.49"E
L224	29.93	N79° 46' 30.51"W
L225	29.93	S79° 46' 30.51"E
L226	125.00	N15° 05' 49.80"E
L227	125.00	S25° 47' 41.86"W
L228	125.00	N36° 29' 33.93"E

Parcel Area Table		
PARCEL	SQ. FT.	ACRES
352	7165.79	0.16
353	7165.79	0.16
354	7165.79	0.16
355	6681.60	0.15
356	6600.00	0.15
357	6600.00	0.15
358	6600.00	0.15
359	6600.00	0.15
360~	10057.93	0.23
361~	10112.14	0.23
362~	10112.14	0.23
363~	10112.14	0.23
364~	6235.39	0.14
365~	7419.23	0.17
425~	7155.43	0.16
426~	7155.43	0.16
427~	7155.43	0.16
428~	7155.43	0.16
429~	7155.43	0.16
430~	7155.43	0.16
431~	7155.43	0.16
432	7155.43	0.16
433	7155.43	0.16
434	7155.43	0.16
435	6984.27	0.16
436	6875.00	0.16
437	6875.00	0.16
438	6875.00	0.16
439	6875.00	0.16
440	7329.25	0.17

Parcel Area Table		
PARCEL	SQ. FT.	ACRES
441	7876.90	0.18
442	7876.90	0.18

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C113	52.69	450.00	6.71	N62° 01' 48"W	52.66
C114	66.74	570.00	6.71	S62° 01' 48"E	66.70
C115	52.69	450.00	6.71	S68° 44' 19"E	52.66
C116	66.74	570.00	6.71	N68° 44' 19"W	66.70
C117	52.69	450.00	6.71	N75° 26' 50"W	52.66
C118	66.74	570.00	6.71	S75° 26' 50"E	66.70
C119	7.65	450.00	0.97	N79° 17' 18"W	7.65
C120	9.69	570.00	0.97	S79° 17' 18"E	9.69
C121	62.95	855.00	4.22	N77° 39' 58"W	62.93
C122	71.78	975.00	4.22	S77° 39' 58"E	71.76
C123	89.79	975.00	5.28	N72° 55' 07"W	89.76
C124	78.74	855.00	5.28	S72° 55' 07"E	78.71
C125	89.79	975.00	5.28	S67° 38' 31"E	89.76
C126	78.74	855.00	5.28	N67° 38' 31"W	78.71
C127	89.79	975.00	5.28	N62° 21' 55"W	89.76
C128	78.74	855.00	5.28	S62° 21' 55"E	78.71
C129	55.86	975.00	3.28	S58° 05' 08"E	55.85
C130	32.79	855.00	2.20	N58° 37' 41"W	32.79
C131	14.86	855.00	1.00	N57° 01' 54"W	14.86
C132	36.28	975.00	2.13	N51° 46' 36"W	36.27
C133	54.16	855.00	3.63	N54° 43' 08"W	54.15
C134	83.77	975.00	4.92	N40° 09' 52"E	83.75
C135	48.87	30.00	93.34	N4° 02' 33"W	43.64
C136	61.12	855.00	4.10	N50° 51' 23"W	61.11
C187	53.95	1025.00	3.02	N49° 56' 49"W	53.95
C188	60.53	1150.00	3.02	S49° 56' 49"E	60.53
C189	53.95	1025.00	3.02	S52° 57' 46"E	53.95
C190	60.53	1150.00	3.02	N52° 57' 46"W	60.53
C191	53.95	1025.00	3.02	N55° 58' 43"W	53.95
C192	60.53	1150.00	3.02	S55° 58' 43"E	60.53
C193	53.95	1025.00	3.02	S58° 59' 41"E	53.95
C194	60.53	1150.00	3.02	N58° 59' 41"W	60.53
C195	53.95	1025.00	3.02	N62° 00' 38"W	53.95
C196	60.53	1150.00	3.02	S62° 00' 38"E	60.53
C197	53.95	1025.00	3.02	S65° 01' 35"E	53.95

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C198	60.53	1150.00	3.02	N65° 01' 35"W	60.53
C199	53.95	1025.00	3.02	N68° 02' 33"W	53.95
C200	60.53	1150.00	3.02	S68° 02' 33"E	60.53
C201	53.95	1025.00	3.02	S71° 03' 30"E	53.95
C202	60.53	1150.00	3.02	N71° 03' 30"W	60.53
C203	53.95	1025.00	3.02	N74° 04' 27"W	53.95
C204	60.53	1150.00	3.02	S74° 04' 27"E	60.53
C205	53.95	1025.00	3.02	N77° 05' 24"W	53.95
C206	60.53	1150.00	3.02	S77° 05' 24"E	60.53
C207	21.06	1025.00	1.18	N79° 11' 12"W	21.06
C208	23.63	1150.00	1.18	S79° 11' 12"E	23.62
C209	34.02	400.00	4.87	N77° 20' 20"W	34.00
C210	23.39	275.00	4.87	S77° 20' 20"E	23.38
C211	74.68	400.00	10.70	S69° 33' 14"E	74.58
C212	25.80	275.00	5.38	N72° 12' 55"W	25.79
C213	25.55	275.00	5.32	N66° 51' 59"W	25.54
C214	74.68	400.00	10.70	N58° 51' 22"W	74.58
C215	51.35	275.00	10.70	S58° 51' 22"E	51.27

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____
DATE — NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN SUMMIT AT CARTER'S STATION, PHASE 2 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE SURETY IN THE AMOUNT OF $ _____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 20____
DATE — CITY ENGINEER

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____
DATE — NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CATEGORY I LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION IS LESS THAN OR EQUAL TO 1:10,000.

_____, 20____
DATE — MARK CANTRELL, R.L.S

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____, 20____
DATE — CITY ENGINEER

CERTIFICATE OF APPROVAL OF SUBDIVISION AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES ARE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND MAURY COUNTY E911.

_____, 20____
DATE — MAURY E911

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____
DATE — DIRECTOR OF COLUMBIA WASTEWATER DEPARTMENT

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN RECORD BOOK NUMBER R2828, PAGE 296, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINE, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES AND OTHER FACILITIES HAVE BEEN FILED.

_____, 20____
DATE — OWNER

GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE 33 LOTS AND DEDICATE RIGHT-OF-WAY.
2. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC. ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENT SERVICES.
3. SUBJECT PROPERTY IS PARCEL 35.00 AS SHOWN ON MAURY COUNTY TAX MAP 42.
4. THE HORIZONTAL LOCATION DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS) USING THE TDOT NETWORK. TENNESSEE STATE PLANE COORDINATE SYSTEM ZONE 4100, NAD83. DRONE AERIAL PHOTOMETRY WAS ALSO USED TO SURVEY SOME ELEMENTS.
5. NO TITLE REPORT HAS BEEN FURNISHED, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH.
6. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF A GENERAL PROPERTY SURVEY AND CONFORMS TO THE ACCURACY OF A CATEGORY 1 SURVEY AS CURRENTLY DEFINED AND ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, AND THE RATIO OF PRECISION IS LESS THAN 1:10,000.
7. ALL PLOT AND DEED RECORDATION REFERENCES SHOWN HEREON ARE AS RECORDED IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
8. COLUMBIA POWER AND WATER SYSTEMS IS THE POWER PROVIDER.
9. STORMWATER MANAGEMENT OPERATION & MAINTENANCE WILL BE GOVERNED BY THE INSPECTION & MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES, DATED _____, RECORDED IN DEED BOOK ____, PAGE ____, REGISTER'S OFFICE OF MAURY COUNTY, TN.
10. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0180E WITH AN EFFECTIVE DATE OF 4/16/2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NO. 119C, PANEL NO. 0180 SUFFIX E, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
11. ACCORDING TO THE TYPICAL LOT DETAIL, ALL LOTS ARE TO HAVE A 10' PUDE IN THE FRONT AND REAR OF THE LOTS, AS WELL AS A 5' PUDE IN THE SIDE OF THE LOTS.

OWNER OF RECORD
TAMARACK LAND-CARTERS STATION LLC DEED BK. R2828 PG. 296, MAP 042 PARCEL 035.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

J. MARK CANTRELL XVI — PROFESSIONAL LAND SURVEYOR — AGRICULTURE — COMMERCE — TENNESSEE NO. 1859

NO.	DATE	REVISIONS

DATE: 5-19-2023
SCALE: 1" = 50'
DRAWN BY: DSW
REVIEWER:

FINAL PLAT - PHASE 2

MAP 042, P/O PARCEL 035.00
MAURY COUNTY, TENNESSEE

SUMMIT AT CARTER'S STATION

PROJECT
21-0515

SHEET
1 OF 1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-eng.com

June 20th, 2023
City of Columbia
Comment Response Letter – Final Plat – Summit at Carters Station Phase 2
Project Number – 21-0515
Project Name – Summit at Carter's Station Phase 2

Engineering

1. Binder and curbing shall be installed prior to the resubmittal date of 6/19/23.
   Binder and curbing is down.
2. Surety in the amount of $175,000 shall be provided prior to the resubmittal date.
   Surety is submitted.
3. Provide temporary turnarounds at the end of Fellowship Road.
   Temporary turnaround is now proposed.
4. Record/reference stormwater maintenance agreement.
   Documents will be recorded prior to recording final plat.

Fire

5. No comments

Building

6. No comments.

Public Works

7. No comments.

Planning

8. Please have the PLS add a date and signature to the Final Plat upon approval by the Planning Commission.
   Final plat will have date and signature.
9. Please add a typical for the corner lot.
   An R6 corner lot is now shown.

Maury County Schools

10. Spring Hill Elementary, Spring Hill Middle School, Spring Hill High School. See attached capacity numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.
    Acknowledged.

Maury County E911

11. No comment.

RECEIVED
JUN 20 2023
22-0208
23-0202

Columbia Power

12. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
    Acknowledged.

Duck River Electric Membership Corp

13. No comment provided.

Maury County Highway Dept.

14. No comment.

Wastewater

15. Columbia Wastewater has no concerns.

Columbia Water

16. "Complete all infrastructure in accordance with the approved plans, flush system, conduct bacteria testing and deed infrastructure to CPWS. System must be "active" in order for the final plat to be signed for recording."
    Acknowledged.

Police

17. No comments provided.

Atmos Energy

18. No comments provided.

ATT

19. No comments provided.

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0202

DESCRIPTION: Final Plat Phase 2 Summit at Carter's Station

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Binder and curbing shall be installed prior to the resubmittal date of 6/19/23
2. Surety in the amount of $175,000 shall be provided prior to the resubmittal date.
3. Temporary turnaround required at the end of Fellowship Rd.
4. Record stormwater maintenance agreement.

Fire

5. No comments

Building

6. No comments.

Public Works

7. No comments.

Planning

8. Please have the PLS add a date and signature to the Final Plat upon approval by the Planning Commission.
9. Please add a typical for the corner lot.

Maury County Schools

10. Spring Hill Elementary, Spring Hill Middle School, Spring Hill High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Maury County E911

11. No comment.

Columbia Power

12. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Duck River Electric Membership Corp

13. No comment provided.

Maury County Highway Dept.

14. No comment.

Wastewater

15. Columbia Wastewater has no concerns.

Columbia Water

16. "Complete all infrastructure in accordance with the approved plans, flush system, conduct bacteria testing and deed infrastructure to CPWS. System must be "active" in order for the final plat to be signed for recording."

Police

17. No comments provided.

Atmos Energy

18. No comments provided.

ATT

19. No comments provided.

ATTACHMENTS: Final Plat

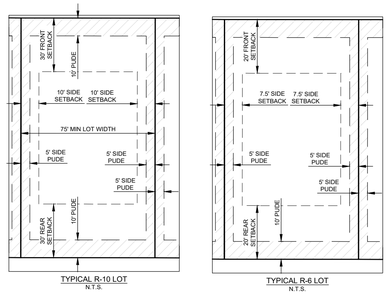
NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	



VICINITY MAP - NOT TO SCALE



TYPICAL R-10 LOT
N.T.S.

TYPICAL R-6 LOT
N.T.S.

* DENOTES R-10 LOT
~ DENOTES A CRITICAL LOT THAT WILL REQUIRE A LOT GRADING PLAN

SITE DATA		
CURRENT ZONING:	R-10 & R6	
MINIMUM BUILDING SETBACKS:	R-10	R6
FRONT:	30'	20'
REAR:	30'	20'
SIDE:	10'	7.5'
TOTAL PHASE AREA:	7.01 ACRES	
NEW ROW:	1.41 ACRES	

- HEADWALL
- CATCH BASIN
- PROPOSED SEWER LINE (TYP.)
- PROPOSED STORM LINE (TYP.)
- PROPOSED WATER LINE (TYP.)
- CURB INLET
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT (TYP.)

PULTE HOMES TENNESSEE LTD PARTNERSHIP
MAP 041, PARCEL 015.05
D.B. R2806, PG. 535, R.O.M.C.

Parcel Line Table		
Line #	Length	Direction
L80	120.00	S31° 19' 27.78"W
L81	120.00	N24° 36' 56.61"E
L82	120.00	S17° 54' 25.45"W
L83	120.00	S11° 11' 54.28"W
L84	47.01	N79° 46' 30.51"W
L85	47.01	S79° 46' 30.51"E
L86	120.00	S10° 13' 29.49"W
L87	55.00	N79° 46' 30.51"W
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L104	120.00	N30° 16' 23.55"E
L105	120.00	S33° 59' 47.75"W
L106	5.00	N42° 37' 33.10"E
L198	125.00	S41° 33' 39.91"W
L199	125.00	N38° 32' 42.61"E

Parcel Line Table		
Line #	Length	Direction
L200	125.00	S35° 31' 45.32"W
L201	125.00	N32° 30' 48.02"E
L202	125.00	S29° 29' 50.72"W
L203	125.00	N26° 28' 53.43"E
L204	125.00	S23° 27' 56.13"W
L205	125.00	N20° 26' 58.84"E
L206	125.00	S17° 26' 01.54"W
L207	125.00	S14° 25' 04.25"W
L208	125.00	N11° 24' 06.95"E
L209	33.53	N79° 46' 30.51"W
L210	33.53	S79° 46' 30.51"E
L211	125.00	N10° 13' 29.49"E
L212	55.00	N79° 46' 30.51"W
L213	55.00	S79° 46' 30.51"E
L214	125.00	N10° 13' 29.49"E
L215	55.00	N79° 46' 30.51"W
L216	55.00	S79° 46' 30.51"E
L217	125.00	N10° 13' 29.49"E
L218	55.00	N79° 46' 30.51"W
L219	55.00	S79° 46' 30.51"E
L220	125.00	N10° 13' 29.49"E
L221	55.00	N79° 46' 30.51"W
L222	55.00	S79° 46' 30.51"E
L223	125.00	N10° 13' 29.49"E
L224	29.93	N79° 46' 30.51"W
L225	29.93	S79° 46' 30.51"E
L226	125.00	N15° 05' 49.80"E
L227	125.00	S25° 47' 41.86"W
L228	125.00	N36° 29' 33.93"E

Parcel Area Table		
PARCEL	SQ. FT.	ACRES
352	7165.79	0.16
353	7165.79	0.16
354	7165.79	0.16
355	6681.60	0.15
356	6600.00	0.15
357	6600.00	0.15
358	6600.00	0.15
359	6600.00	0.15
360~	10057.93	0.23
361~	10112.14	0.23
362~	10112.14	0.23
363~	10112.14	0.23
364~	6235.39	0.14
365~	7419.23	0.17
425~	7155.43	0.16
426~	7155.43	0.16
427~	7155.43	0.16
428~	7155.43	0.16
429~	7155.43	0.16
430~	7155.43	0.16
431~	7155.43	0.16
432	7155.43	0.16
433	7155.43	0.16
434	7155.43	0.16
435	6984.27	0.16
436	6875.00	0.16
437	6875.00	0.16
438	6875.00	0.16
439	6875.00	0.16
440	7329.25	0.17

Parcel Area Table		
PARCEL	SQ. FT.	ACRES
441	7876.90	0.18
442	7876.90	0.18

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C113	52.69	450.00	6.71	N62° 01' 48"W	52.66
C114	66.74	570.00	6.71	S62° 01' 48"E	66.70
C115	52.69	450.00	6.71	S68° 44' 19"E	52.66
C116	66.74	570.00	6.71	N68° 44' 19"W	66.70
C117	52.69	450.00	6.71	N75° 26' 50"W	52.66
C118	66.74	570.00	6.71	S75° 26' 50"E	66.70
C119	7.65	450.00	0.97	N79° 17' 18"W	7.65
C120	9.69	570.00	0.97	S79° 17' 18"E	9.69
C121	62.95	855.00	4.22	N77° 39' 58"W	62.93
C122	71.78	975.00	4.22	S77° 39' 58"E	71.76
C123	89.79	975.00	5.28	N72° 55' 07"W	89.76
C124	78.74	855.00	5.28	S72° 55' 07"E	78.71
C125	89.79	975.00	5.28	S67° 38' 31"E	89.76
C126	78.74	855.00	5.28	N67° 38' 31"W	78.71
C127	89.79	975.00	5.28	N62° 21' 55"W	89.76
C128	78.74	855.00	5.28	S62° 21' 55"E	78.71
C129	55.86	975.00	3.28	S58° 05' 08"E	55.85
C130	32.79	855.00	2.20	N58° 37' 41"W	32.79
C131	14.86	855.00	1.00	N57° 01' 54"W	14.86
C132	36.28	975.00	2.13	N51° 46' 36"W	36.27
C133	54.16	855.00	3.63	N54° 43' 08"W	54.15
C134	83.77	975.00	4.92	N40° 09' 52"E	83.75
C135	48.87	30.00	93.34	N4° 02' 33"W	43.64
C136	61.12	855.00	4.10	N50° 51' 23"W	61.11
C187	53.95	1025.00	3.02	N49° 56' 49"W	53.95
C188	60.53	1150.00	3.02	S49° 56' 49"E	60.53
C189	53.95	1025.00	3.02	S52° 57' 46"E	53.95
C190	60.53	1150.00	3.02	N52° 57' 46"W	60.53
C191	53.95	1025.00	3.02	N55° 58' 43"W	53.95
C192	60.53	1150.00	3.02	S55° 58' 43"E	60.53
C193	53.95	1025.00	3.02	S58° 59' 41"E	53.95
C194	60.53	1150.00	3.02	N58° 59' 41"W	60.53
C195	53.95	1025.00	3.02	N62° 00' 38"W	53.95
C196	60.53	1150.00	3.02	S62° 00' 38"E	60.53
C197	53.95	1025.00	3.02	S65° 01' 35"E	53.95

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C198	60.53	1150.00	3.02	N65° 01' 35"W	60.53
C199	53.95	1025.00	3.02	N68° 02' 33"W	53.95
C200	60.53	1150.00	3.02	S68° 02' 33"E	60.53
C201	53.95	1025.00	3.02	S71° 03' 30"E	53.95
C202	60.53	1150.00	3.02	N71° 03' 30"W	60.53
C203	53.95	1025.00	3.02	N74° 04' 27"W	53.95
C204	60.53	1150.00	3.02	S74° 04' 27"E	60.53
C205	53.95	1025.00	3.02	N77° 05' 24"W	53.95
C206	60.53	1150.00	3.02	S77° 05' 24"E	60.53
C207	21.06	1025.00	1.18	N79° 11' 12"W	21.06
C208	23.63	1150.00	1.18	S79° 11' 12"E	23.62
C209	34.02	400.00	4.87	N77° 20' 20"W	34.00
C210	23.39	275.00	4.87	S77° 20' 20"E	23.38
C211	74.68	400.00	10.70	S69° 33' 14"E	74.58
C212	25.80	275.00	5.38	N72° 12' 55"W	25.79
C213	25.55	275.00	5.32	N66° 51' 59"W	25.54
C214	74.68	400.00	10.70	N58° 51' 22"W	74.58
C215	51.35	275.00	10.70	S58° 51' 22"E	51.27

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____
DATE — NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN SUMMIT AT CARTER'S STATION, PHASE 2 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE SURETY IN THE AMOUNT OF $ _____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 20____
DATE — CITY ENGINEER

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____
DATE — NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CATEGORY I LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION IS LESS THAN OR EQUAL TO 1:10,000.

_____, 20____
DATE — MARK CANTRELL, R.L.S

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____, 20____
DATE — CITY ENGINEER

CERTIFICATE OF APPROVAL OF SUBDIVISION AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES ARE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND MAURY COUNTY E911.

_____, 20____
DATE — MAURY E911

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____
DATE — DIRECTOR OF COLUMBIA WASTEWATER DEPARTMENT

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN RECORD BOOK NUMBER R2828, PAGE 296, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINE, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES AND OTHER FACILITIES HAVE BEEN FILED.

_____, 20____
DATE — OWNER

GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE 33 LOTS AND DEDICATE RIGHT-OF-WAY.
2. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC. ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENT SERVICES.
3. SUBJECT PROPERTY IS PARCEL 35.00 AS SHOWN ON MAURY COUNTY TAX MAP 42.
4. THE HORIZONTAL LOCATION DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS) USING THE TDOT NETWORK. TENNESSEE STATE PLANE COORDINATE SYSTEM ZONE 4100, NAD83. DRONE AERIAL PHOTOMETRY WAS ALSO USED TO SURVEY SOME ELEMENTS.
5. NO TITLE REPORT HAS BEEN FURNISHED, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH.
6. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF A GENERAL PROPERTY SURVEY AND CONFORMS TO THE ACCURACY OF A CATEGORY 1 SURVEY AS CURRENTLY DEFINED AND ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, AND THE RATIO OF PRECISION IS LESS THAN 1:10,000.
7. ALL PLOT AND DEED RECORDATION REFERENCES SHOWN HEREON ARE AS RECORDED IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
8. COLUMBIA POWER AND WATER SYSTEMS IS THE POWER PROVIDER.
9. STORMWATER MANAGEMENT OPERATION & MAINTENANCE WILL BE GOVERNED BY THE INSPECTION & MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES, DATED _____; RECORDED IN DEED BOOK _____, PAGE _____, REGISTER'S OFFICE OF MAURY COUNTY, TN.
10. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0180E WITH AN EFFECTIVE DATE OF 4/16/2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NO. 119C, PANEL NO. 0180 SUFFIX E, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED, SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
11. ACCORDING TO THE TYPICAL LOT DETAIL, ALL LOTS ARE TO HAVE A 10' PUDE IN THE FRONT AND REAR OF THE LOTS, AS WELL AS A 5' PUDE IN THE SIDE OF THE LOTS.

TN SPCS NAD 83

SCALE 1" = 50'

50 0 25 50 100

OWNER OF RECORD
TAMARACK LAND-CARTERS STATION LLC DEED BK. R2828 PG. 296, MAP 042 PARCEL 035.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

J. MARK CANTRELL XVI
PROFESSIONAL LAND SURVEYOR
AGRICULTURE COMMERCE
TENNESSEE NO. 1859

NO.	DATE	REVISIONS

DATE: 5-19-2023
SCALE: 1" = 50'
DRAWN BY: DSW
REVIEWER:

FINAL PLAT - PHASE 2

MAP 042, P/O PARCEL 035.00
MAURY COUNTY, TENNESSEE

SUMMIT AT CARTER'S STATION

PROJECT
21-0515

SHEET
1 OF 1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

DOCUMENT PREPARED BY:
Name: Allison Corolla
Company T-Square Engineering
Address: 1329 West Main Street
Franklin, TN
After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 42, Parcel 35.00
Project Name: Summit at Carter's Station, Phase 2

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book _____, Page(s) _____.

THIS AGREEMENT, made this _____ day of _____, 20____ , by and between Tamarack Land - Carter's Station, LLC hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

RECEIVED
MAY 22 2023
By: 23-0202

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name Jeff Leone

Title Authorized Representative

Signature _____

Owner Tamarack Land - Carters Station, LLC

Address 512 Vista Blvd

City, State ZIP Waconia, MN 55387

STATE OF Tennessee
COUNTY OF Williamson

Before me, Jeff Leone of the state and county mentioned, personally appeared _____, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the 10th day of May, 2023.

Brayden Hosford
Notary Public

BRAYDEN HOSFORD
STATE OF TENNESSEE NOTARY PUBLIC
WILLIAMSON COUNTY
MY COMM. EXPIRES 01-23-2027

My Commission Expires: 01-23-27

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT

APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

T-SQUAREENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-ENG.com

5/8/2023

City of Columbia
Development Services
700 N. Garden Street
Columbia, TN 38401

POST CONSTRUCTION LONG TERM MAINTENANCE PLAN
PROJECT NAME: THE SUMMIT AT CARTER'S STATION, PHASE 2

SYSTEM DESCRIPTION:

The site consists of stormwater conveyances through piped channel and detention ponds. This phase consists of:

- 1,458 LF of round concrete pipe and 22 storms inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

A copy of the INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES that has been completed, notarized and recorded in the Land Records of the County of Maury, Tennessee will be kept on site with this document.

MAINTENANCE PROCEDURES

1. 1,458 LF OF RCP AND 22 STORM DRAINS
   - These structures will be inspected and cleaned quarterly to ensure pipes and drain inlets do not fill with sediment or trash.

CONSTRUCTION PLANS

FOR

SUMMIT AT CARTER'S STATION

PHASE 1

3040 CLEBURNE ROAD

COLUMBIA, TN 37174

CITY OF COLUMBIA, WARD #5

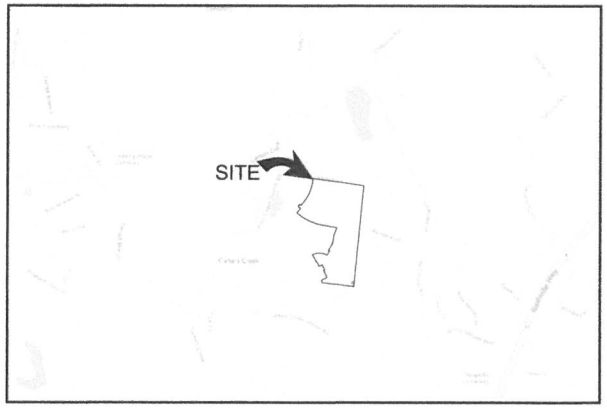
DEVELOPER: RICHMOND AMERICAN HOMES
12220 SUNRISE VALLEY DRIVE SUITE 400
RESTON, VA 20191
703-390-0900

ENGINEER: T-SQUARE ENGINEERING
1329 WEST MAIN STREET
FRANKLIN, TN 37064
615-678-8212

SURVEYOR: T-SQUARE ENGINEERING
1329 WEST MAIN STREET
FRANKLIN, TN 37064
615-678-8212

WATER UTILITY: CPWS Shane Andrews
CPWS
201 Pickens Lane
PO Box 379
Columbia, TN 38402
931-388-4833

POWER UTILITY: CPWS Doug Burgess
CPWS
201 Pickens Lane
PO Box 379
Columbia, TN 38402
931-388-4833



SITE VICINITY MAP
N.T.S.

Sheet Schedule

C-0.0	Cover Sheet
C-1.0	Preliminary Plat
C-1.1	Existing Conditions
C-2.0	Site Plan
C-2.1	Parcel Site Plan
C-2.2	Parcel Data Tables
C-3.0	Initial Erosion Control
C-3.1	Temporary Erosion Control
C-3.2	Final Erosion Control
C-4.0	Predevelopment Stormwater Plan
C-4.1	Postdevelopment Stormwater Plan
C-5.0	Grading Plan
C-5.1	Drainage Plan
C-5.2	Drainage Plan Tables
C-5.3	Inlet Area Plan
C-6.0	Roadway Plan and Profile Wellwind Road
C-6.1	Roadway Plan and Profile Sellerback Way
C-6.2	Roadway Plan and Profile Youngfellow Drive
C-6.3	Fellowship Road
C-6.4	Fellowship Road & Haplander Court
C-6.5	Cobler Court & Candler Road
C-6.6	Pippin Street
C-7.0	Utility Plan
C-7.1	Sanitary Plan and Profile
C-7.2	Sanitary Plan and Profile
C-7.3	Sanitary Plan and Profile
C-7.4	Sanitary Plan and Profile
C-7.5	Sanitary Plan and Profile
C-7.6	Sanitary Plan and Profile
C-8.0	Detail Sheet
C-8.1	Detail Sheet
C-8.2	Detail Sheet
C-8.3	Detail Sheet
C-8.4	Detail Sheet
C-8.5	Detail Sheet
C-8.6	Detail Sheet
C-8.7	Detail Sheet

FLOOD NOTE
A PORTION OF THIS PROPERTY LIES WITHIN AN AREA DESIGNATED AS AE, AS EVIDENCED ON FEMA PANEL 47119C0180D OF MAURY COUNTY, TN, DATED 04/16/2007

OWNER OF RECORD
FP TCI CCS LLC MAP 41, P/O PARCEL 15.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS
1	03/02/22	SANITARY SEWER MAIN REVISION
2	03/16/22	REVISIONS PER TDEC COMMENTS
3	04/14/22	REVISIONS PER TDEC COMMENTS
4	08/03/22	REVISIONS PER TDEC COMMENTS
5	09/07/22	REVISIONS PER PULTE COMMENTS
6	11/15/22	REVISIONS TO MAIL DELIVERY
7	05/04/23	REVISIONS TO SANITARY PER CONTRACTOR

DATE: 10/13/21
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

COVER SHEET
MAP 41, P/O PARCEL 15.00
COLUMBIA, TENNESSEE 37174

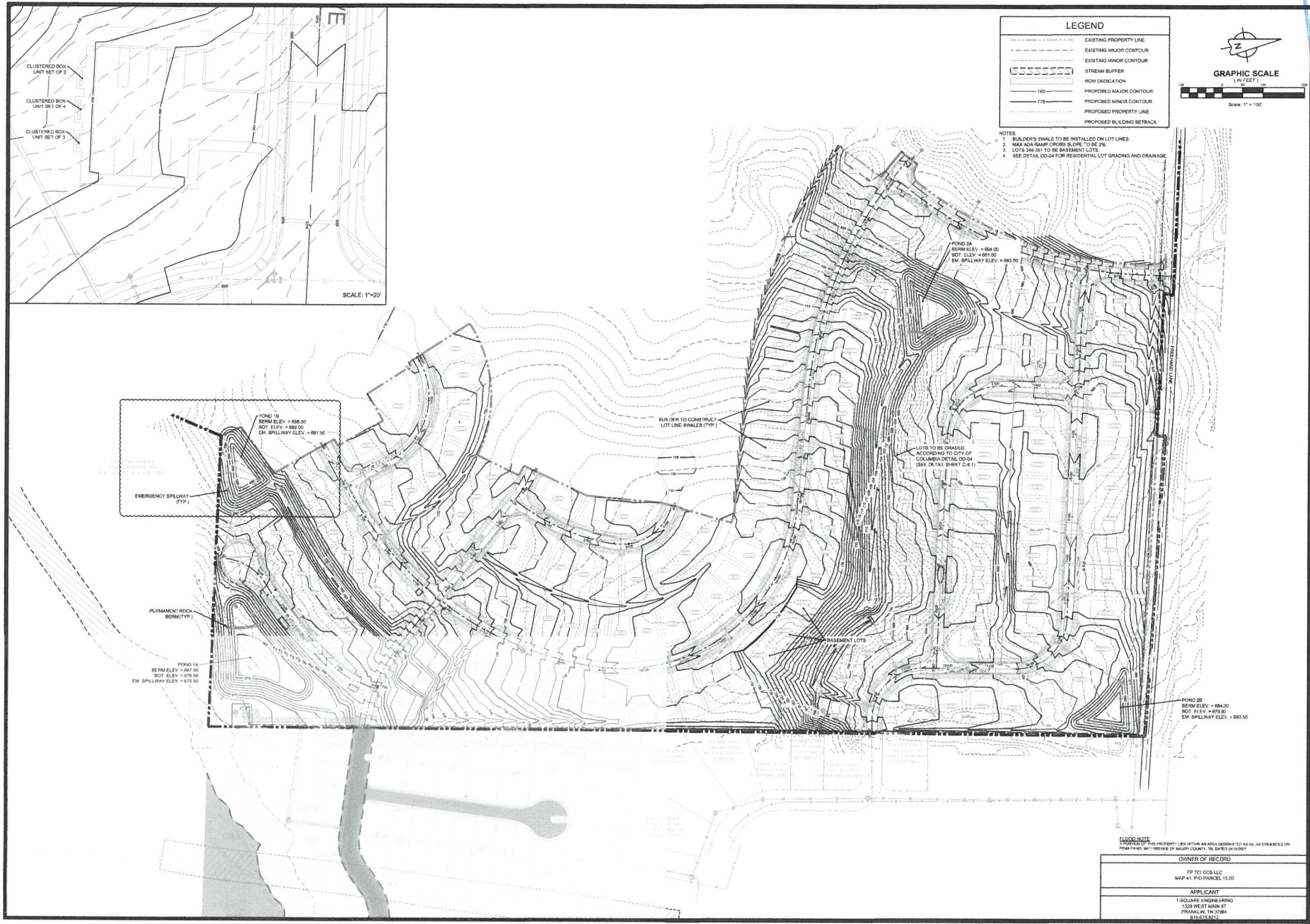
SUMMIT AT CARTER'S STATION

TIMOTHY E. TURNER
REGISTERED ENGINEER
10174
STATE OF TENNESSEE
5/4/2023

PROJECT
21-0515

SHEET
C-0.0

T-SQUARE ENGINEERING



NO.	DATE	REVISIONS
1	03/02/22	SANITARY SEWER MAIN REVISION
2	03/16/22	REVISIONS PER TDEC COMMENTS
3	04/14/22	REVISIONS PER CITY COMMENTS
4	08/31/22	REVISIONS PER TDEC COMMENTS
5	09/07/22	REVISIONS PER PLLC COMMENTS
6	11/15/22	REVISIONS TO MAIL DELIVERY
7	03/04/23	REVISIONS TO SANITARY PER CONTRACTOR

DATE: 10/13/21
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SUMMIT AT CARTER'S STATION

GRADING PLAN

MAP 41, P/O PARCEL 15.00
COLUMBIA, TENNESSEE 37174

TIMOTHY E. TURNER
REGISTERED ENGINEER
101115
STATE OF TENNESSEE
5/4/2023

PROJECT
21-0515

SHEET
C-5.0

T-SQUARE ENGINEERING

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T-SQUARE ENGINEERING

OWNER OF RECORD

PT PD DEVELOPMENT, LLC
MAP 41, P/O PARCEL 15.00

APPLICANT

T-SQUARE ENGINEERING
1323 WEST MAIN ST
COLUMBIA, TN 38401
615.678.7522

FLOOD NOTE

PROJECT
21-0515

SHEET
C-5.1

DRAINAGE PLAN

MAP 41, P/O PARCEL 15.00
COLUMBIA, TENNESSEE 37174

DATE:	10/13/21
SCALE:	AS SHOWN
DRAWN BY:	T-SQUARE
REVIEWER:	TET

NO.	DATE	REVISIONS
1	03/02/22	SANITARY SEWER MAIN REVISION
2	03/16/22	REVISIONS PER TDEC COMMENTS
3	04/14/22	REVISIONS PER CITY COMMENTS
4	08/03/22	REVISIONS PER TDEC COMMENTS
5	09/07/22	REVISIONS PER PULTE COMMENTS
6	11/15/22	REVISIONS TO MAIL DELIVERY
7	05/04/23	REVISIONS TO SANITARY PER CONTRACTOR

SUMMIT AT CARTER'S STATION

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-1A	RIM = 969.10 TOP = 966.42	INV. IN = 966.39		HEADWALL
HW-2A	RIM = 981.12 TOP = ???	INV. IN = 978.41		HEADWALL
HW-2C	RIM = 979.77 TOP = 974.35	INV. IN = 973.09		HEADWALL
RISER-1A	RIM = 975.00 TOP = 968.83		INV. OUT =967.00	RISER
RISER-2A	RIM = 982.00 TOP = 982.00		INV. OUT =951.00	RISER
RISER-2C	RIM = 982.00 TOP = 976.00		INV. OUT =975.00	RISER

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-A1	RIM = 977.87 TOP = 962.38	INV. IN = 960.00		HEADWALL
ST-A1	RIM = 715.53 TOP = 716.63	INV. IN = 711.28	INV. OUT =711.28	SINGLE INLET
ST-A1A	RIM = 718.13 TOP = 716.13		INV. OUT =711.53	SINGLE INLET
ST-A2	RIM = 714.83 TOP = 714.83	INV. IN = 709.68 INV. IN = 709.88	INV. OUT =709.68	SINGLE INLET
ST-A2A	RIM = 714.03 TOP = 714.03		INV. OUT =710.03	SINGLE INLET
ST-A2B	RIM = 714.78 TOP = 714.78	INV. IN = 710.90	INV. OUT =710.90	SINGLE INLET
ST-A3	RIM = 712.58 TOP = 712.58	INV. IN = 707.99	INV. OUT =707.99	SINGLE INLET
ST-A4	RIM = 708.93 TOP = 709.93	INV. IN = 705.12 INV. IN = 705.12	INV. OUT =709.12	SINGLE INLET
ST-A4A	RIM = 709.34 TOP = 709.34	INV. IN = 708.37	INV. OUT =705.37	SINGLE INLET
ST-A5	RIM = 708.45 TOP = 708.45	INV. IN = 704.97 INV. IN = 704.97	INV. OUT =704.97	SINGLE INLET
ST-A6A	RIM = 709.09 TOP = 709.09	INV. IN = 704.32	INV. OUT =704.32	SINGLE INLET
ST-A6B	RIM = 696.97 TOP = 696.97	INV. IN = 692.31 INV. IN = 692.31	INV. OUT =692.31	AREA DRAIN
ST-A6C	RIM = 695.92 TOP = 695.62	INV. IN = 691.11	INV. OUT =691.11	AREA DRAIN
ST-A6D	RIM = 696.98 TOP = 696.98		INV. OUT =694.18	AREA DRAIN
ST-A6	RIM = 709.67 TOP = 709.67		INV. OUT =705.83	SINGLE INLET
ST-A7	RIM = 713.48 TOP = 713.48	INV. IN = 709.20	INV. OUT =709.30	SINGLE INLET
ST-A7A	RIM = 714.09 TOP = 714.09		INV. OUT =709.48	SINGLE INLET
ST-A8	RIM = 710.97 TOP = 710.02	INV. IN = 709.97 INV. IN = 705.97	INV. OUT =709.97	SINGLE INLET
ST-A8A	RIM = 717.41 TOP = 716.81		INV. OUT =714.20	AREA DRAIN

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-B1	RIM = 878.48 TOP = 874.43	INV. IN = 874.18		HEADWALL
HW-B2	RIM = 811.56 TOP = 809.56	INV. IN = 809.25		HEADWALL
RISER-1B	RIM = 890.71 TOP = 890.52		INV. OUT =886.00	RISER
ST-B1	RIM = 730.98 TOP = 730.98	INV. IN = 726.65	INV. OUT =726.65	SINGLE INLET
ST-B1A	RIM = 731.54 TOP = 731.54		INV. OUT =726.90	SINGLE INLET
ST-B2	RIM = 727.48 TOP = 727.48	INV. IN = 723.18 INV. IN = 723.18	INV. OUT =723.18	SINGLE INLET
ST-B2A	RIM = 726.09 TOP = 726.08		INV. OUT =723.43	SINGLE INLET
ST-B3	RIM = 734.85 TOP = 734.86	INV. IN = 729.82	INV. OUT =729.82	SINGLE INLET
ST-B3A	RIM = 725.44 TOP = 729.44	INV. IN = 720.57	INV. OUT =720.57	SINGLE INLET
ST-B4	RIM = 724.57 TOP = 724.57	INV. IN = 719.73 INV. IN = 719.73	INV. OUT =719.73	SINGLE INLET
ST-B4A	RIM = 723.88 TOP = 723.98		INV. OUT =718.98	SINGLE INLET
ST-B4B	RIM = 727.47 TOP = 722.47	INV. IN = 717.38 INV. IN = 717.38	INV. OUT =717.38	SINGLE INLET
ST-B4C	RIM = 722.13 TOP = 722.13		INV. OUT =718.00	AREA DRAIN
ST-B5	RIM = 718.42 TOP = 718.42	INV. IN = 713.38 INV. IN = 713.38	INV. OUT =713.38	SINGLE INLET
ST-B5A	RIM = 717.83 TOP = 717.83		INV. OUT =713.68	SINGLE INLET
ST-B6	RIM = 710.67 TOP = 710.67	INV. IN = 706.68 INV. IN = 705.68 INV. IN = 705.68	INV. OUT =705.68	SINGLE INLET
ST-B6A	RIM = 710.57 TOP = 716.07		INV. OUT =708.16	SINGLE INLET
ST-B7	RIM = 699.28 TOP = 699.28	INV. IN = 694.28 INV. IN = 694.28	INV. OUT =694.28	SINGLE INLET
ST-B7A	RIM = 698.96 TOP = 698.87		INV. OUT =694.79	SINGLE INLET
ST-B8	RIM = 699.11 TOP = 699.11	INV. IN = 675.42 INV. IN = 675.49	INV. OUT =675.49	SINGLE INLET
ST-B9	RIM = 694.00 TOP = 694.00	INV. IN = 679.10 INV. IN = 679.10	INV. OUT =679.10	SINGLE INLET
ST-B9A	RIM = 693.40 TOP = 693.40		INV. OUT =679.99	SINGLE INLET
ST-B9B	RIM = 734.00 TOP = 734.00		INV. OUT =727.00	AREA DRAIN
ST-B10	RIM = 697.74 TOP = 697.74	INV. IN = 677.70	INV. OUT =677.70	SINGLE INLET
ST-B10A	RIM = 698.31 TOP = 698.31	INV. IN = 677.95	INV. OUT =677.95	SINGLE INLET
ST-B11	RIM = 695.71 TOP = 693.71	INV. IN = 678.66 INV. IN = 678.66	INV. OUT =678.66	SINGLE INLET
ST-B11A	RIM = 686.31 TOP = 686.31		INV. OUT =682.29	SINGLE INLET
ST-B11B	RIM = 699.38 TOP = 698.38	INV. IN = 676.31	INV. OUT =676.31	SINGLE INLET
ST-B12	RIM = 699.56 TOP = 699.56	INV. IN = 674.92	INV. OUT =674.92	SINGLE INLET
ST-B12A	RIM = 697.19 TOP = 697.15	INV. IN = 674.67	INV. OUT =674.67	SINGLE INLET
ST-B13	RIM = 737.48 TOP = 737.48	INV. IN = 732.60	INV. OUT =732.60	SINGLE INLET
ST-B13A	RIM = 736.97 TOP = 736.87		INV. OUT =732.95	SINGLE INLET
ST-B14	RIM = 730.98 TOP = 730.98	INV. IN = 730.96 INV. IN = 730.96	INV. OUT =730.96	SINGLE INLET
ST-B14A	RIM = 735.27 TOP = 735.27		INV. OUT =731.34	SINGLE INLET
ST-B15	RIM = 733.80 TOP = 733.80	INV. IN = 729.03 INV. IN = 729.03	INV. OUT =729.03	SINGLE INLET
ST-B15A	RIM = 733.32 TOP = 733.32		INV. OUT =729.28	SINGLE INLET
ST-B16	RIM = 723.36 TOP = 723.36	INV. IN = 718.46 INV. IN = 718.46	INV. OUT =718.46	SINGLE INLET
ST-B16A	RIM = 722.78 TOP = 722.78		INV. OUT =718.71	SINGLE INLET
ST-B17	RIM = 716.99 TOP = 716.09	INV. IN = 710.22 INV. IN = 710.22	INV. OUT =710.22	SINGLE INLET
ST-B17A	RIM = 714.61 TOP = 714.61		INV. OUT =710.41	SINGLE INLET
ST-B19	RIM = 882.43 TOP = 882.43	INV. IN = 878.17 INV. IN = 878.17	INV. OUT =878.17	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
[illegible]	RIM = 886.05 TOP = 886.00	INV. IN = 880.80	OUT =879.42	SINGLE INLET
ST-C1	RIM = 733.78 TOP = 733.78	INV. IN = 729.44	INV. OUT =729.44	SINGLE INLET
ST-C1A	RIM = 732.79 TOP = 733.79		INV. OUT =729.69	SINGLE INLET
ST-C2	RIM = 727.18 TOP = 727.18	INV. IN = 723.10	INV. OUT =723.10	SINGLE INLET
ST-C3	RIM = 721.99 TOP = 721.99	INV. IN = 717.85 INV. IN = 717.85	INV. OUT =717.85	SINGLE INLET
ST-C3A	RIM = 721.58 TOP = 721.98		INV. OUT =717.90	SINGLE INLET
ST-C4	RIM = 716.99 TOP = 716.99	INV. IN = 712.91	INV. OUT =712.91	SINGLE INLET
ST-C5	RIM = 711.41 TOP = 711.41	INV. IN = 707.03 INV. IN = 707.03	INV. OUT =707.03	SINGLE INLET
ST-C6A	RIM = 712.02 TOP = 712.02		INV. OUT =707.28	SINGLE INLET
ST-C6	RIM = 701.03 TOP = 701.03	INV. IN = 691.14 INV. IN = 691.14	INV. OUT =691.14	SINGLE INLET
ST-C8A	RIM = 696.00 TOP = 699.00		INV. OUT =692.90	AREA DRAIN
ST-C7	RIM = 694.12 TOP = 694.12	INV. IN = 689.96	INV. OUT =689.96	SINGLE INLET
ST-C7A	RIM = 694.72 TOP = 694.72	INV. IN = 689.71	INV. OUT =689.71	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-D1	RIM = 885.20 TOP = 880.20			HEADWALL
ST-D1	RIM = 696.34 TOP = 695.34	INV. IN = 692.03 INV. IN = 692.03	INV. OUT =692.03	SINGLE INLET
ST-D1A	RIM = 696.98 TOP = 696.98		INV. OUT =692.38	SINGLE INLET
ST-D1B	RIM = 708.08 TOP = 708.08		INV. OUT =703.00	AREA DRAIN
ST-D2	RIM = 693.71 TOP = 693.71	INV. IN = 689.67 INV. IN = 689.67	INV. OUT =689.67	SINGLE INLET
ST-D2A	RIM = 707.87 TOP = 701.87		INV. OUT =697.87	AREA DRAIN
ST-D3	RIM = 693.16 TOP = 693.16	INV. IN = 688.66	INV. OUT =688.66	SINGLE INLET
ST-D3A	RIM = 693.76 TOP = 693.76	INV. IN = 688.38	INV. OUT =688.38	SINGLE INLET
ST-D4	RIM = 685.77 TOP = 685.77	INV. IN = 684.84	INV. OUT =684.84	SINGLE INLET
ST-D5	RIM = 685.31 TOP = 685.31	INV. IN = 679.78 INV. IN = 679.78	INV. OUT =679.78	SINGLE INLET
ST-D6A	RIM = 664.72 TOP = 664.72		INV. OUT =660.28	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-E1	RIM = 883.77 TOP = ???	INV. IN = 880.50		HEADWALL
HW-E2	RIM = 976.15 TOP = 974.46	INV. IN = 973.39		HEADWALL
HW-E3	RIM = 875.82 TOP = ???	INV. IN = 872.91		HEADWALL
HW-E4	RIM = 856.45 TOP = 854.06		INV. OUT =852.74	HEADWALL
HW-E5	RIM = 873.11 TOP = 872.73	INV. IN = 871.95		HEADWALL
ST-E1	RIM = 894.07 TOP = 894.07		INV. OUT =890.11	SINGLE INLET
ST-E2	RIM = 892.80 TOP = 892.80	INV. IN = 888.62	INV. OUT =888.62	SINGLE INLET
ST-E2A	RIM = 892.80 TOP = 892.80	INV. IN = 888.67	INV. OUT =888.67	SINGLE INLET
ST-E2B	RIM = 892.28 TOP = 892.28	INV. IN = 888.09	INV. OUT =888.09	SINGLE INLET
ST-E2C	RIM = 891.15 TOP = 891.15	INV. IN = 887.04	INV. OUT =887.04	SINGLE INLET
ST-E3	RIM = 888.67 TOP = 888.67	INV. IN = 883.23	INV. OUT =883.23	AREA DRAIN
ST-E4	RIM = 885.67 TOP = 885.67	INV. IN = 881.84	INV. OUT =881.84	AREA DRAIN
ST-E5	RIM = 884.68 TOP = 884.68	INV. IN = 879.20	INV. OUT =879.20	AREA DRAIN
ST-E6	RIM = 885.48 TOP = 885.48	INV. IN = 875.37 INV. IN = 875.37	INV. OUT =878.37	SINGLE INLET
ST-E9	RIM = 879.73 TOP = 879.73	INV. IN = 875.62	INV. OUT =875.62	SINGLE INLET
ST-E10	RIM = 887.64 TOP = 887.64	INV. IN = 883.61 INV. IN = 883.61	INV. OUT =883.61	SINGLE INLET
ST-E10A	RIM = 893.24 TOP = 888.24	INV. IN = 883.36	INV. OUT =883.36	SINGLE INLET
ST-E11	RIM = 894.58 TOP = 894.58	INV. IN = 890.32	INV. OUT =890.32	SINGLE INLET
ST-E11A	RIM = 891.17 TOP = 891.17	INV. IN = 887.07	INV. OUT =887.57	SINGLE INLET
ST-E12	RIM = 885.64 TOP = 885.64	INV. IN = 882.11 INV. IN = 882.11	INV. OUT =882.11	SINGLE INLET
ST-E12A	RIM = 897.23 TOP = 887.23	INV. IN = 882.62	INV. OUT =882.62	SINGLE INLET
ST-E13	RIM = 880.93 TOP = 880.93	INV. IN = 873.82	INV. OUT =873.82	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
ST-E13A	RIM = 880.93 TOP = 880.93	INV. IN = 873.87	INV. OUT =873.87	SINGLE INLET
ST-E14	RIM = 871.17 TOP = 871.17	INV. IN = 866.59	INV. OUT =866.59	SINGLE INLET
ST-E15	RIM = 880.79 TOP = 880.79	INV. IN = 876.98	INV. OUT =876.98	SINGLE INLET
ST-E15A	RIM = 880.20 TOP = 880.20		INV. OUT =876.21	SINGLE INLET
ST-E16	RIM = 881.45 TOP = 881.43		INV. OUT =877.44	SINGLE INLET
ST-E17	RIM = 880.33 TOP = 880.33	INV. IN = 876.09 INV. IN = 876.09	INV. OUT =876.09	SINGLE INLET
ST-E17A	RIM = 880.32 TOP = 880.32		INV. OUT =876.34	SINGLE INLET
ST-E18	RIM = 880.16 TOP = 880.16	INV. IN = 875.11 INV. IN = 875.11	INV. OUT =879.11	DOUBLE INLET
ST-E18A	RIM = 879.54 TOP = 879.54	INV. IN = 874.86	INV. OUT =874.86	SINGLE INLET
ST-E18B	RIM = 880.58 TOP = 880.58		INV. OUT =876.19	SINGLE INLET
ST-E19	RIM = 882.78 TOP = 882.78		INV. OUT =878.14	SINGLE INLET
ST-E20	RIM = 882.00 TOP = 882.00	INV. IN = 878.18	INV. OUT =878.18	SINGLE INLET
ST-E20A	RIM = 880.22 TOP = 880.22	INV. IN = 876.33	INV. OUT =876.33	SINGLE INLET
ST-E20B	RIM = 881.86 TOP = 881.86		INV. OUT =878.00	AREA DRAIN
ST-E21	RIM = 879.27 TOP = 879.97	INV. IN = 875.35 INV. IN = 875.35	INV. OUT =875.35	SINGLE INLET
ST-E21A	RIM = 879.38 TOP = 879.38	INV. IN = 875.19	INV. OUT =875.19	SINGLE INLET
ST-E22	RIM = 878.14 TOP = 878.14	INV. IN = 873.23 INV. IN = 873.23	INV. OUT =873.23	SINGLE INLET
ST-E22A	RIM = 877.54 TOP = 877.54		INV. OUT =873.48	SINGLE INLET
ST-E23	RIM = 894.21 TOP = 894.21	INV. IN = 889.91	INV. OUT =889.91	SINGLE INLET
ST-E23A	RIM = 894.21 TOP = 894.21		INV. OUT =890.16	SINGLE INLET
ST-E24	RIM = 890.14 TOP = 890.14	INV. IN = 886.09	INV. OUT =886.09	SINGLE INLET
ST-E25	RIM = 887.87 TOP = 887.87	INV. IN = 883.39 INV. IN = 883.26	INV. OUT =883.39	SINGLE INLET
ST-E25A	RIM = 887.86 TOP = 887.86		INV. OUT =883.61	SINGLE INLET
ST-E26	RIM = 880.80 TOP = 880.80	INV. IN = 876.87	INV. OUT =876.87	SINGLE INLET
ST-E27	RIM = 880.80 TOP = 880.80	INV. IN = 876.83	INV. OUT =876.83	SINGLE INLET

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
RISER-1A TO HW-1A	18" Reinforced Concrete Pipe	66.80	1.00%
RISER-2A TO HW-2A	18" Reinforced Concrete Pipe	256.10	1.00%
RISER 2C TO HW-2C	18" Reinforced Concrete Pipe	189.91	1.00%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-A1 TO ST-A2B	18" Reinforced Concrete Pipe	76.87	1.00%
ST-A1A TO ST-A1	18" Reinforced Concrete Pipe	24.17	1.00%
ST-A2 TO ST-A3	18" Reinforced Concrete Pipe	90.35	1.88%
ST-A2A TO ST-A2	18" Reinforced Concrete Pipe	24.20	1.38%
ST-A2B TO ST-A2	18" Reinforced Concrete Pipe	80.91	1.00%
ST-A3 TO ST-A4	18" Reinforced Concrete Pipe	96.12	2.95%
ST-A4 TO ST-A5	18" Reinforced Concrete Pipe	52.55	1.00%
ST-A4A TO ST-A4	18" Reinforced Concrete Pipe	24.17	1.00%
ST-A5 TO ST-A5A	18" Reinforced Concrete Pipe	24.17	1.00%
ST-A5A TO ST-A5B	18" Reinforced Concrete Pipe	131.76	9.08%
ST-A5B TO ST-A5C	24" Reinforced Concrete Pipe	119.07	1.00%
ST-A5C TO HW-A1	24" Reinforced Concrete Pipe	57.78	1.90%
ST-A5C TO ST-A5B	24" Reinforced Concrete Pipe	183.04	1.00%
ST-A6 TO ST-A6A	18" Reinforced Concrete Pipe	44.19	1.00%
ST-A7 TO ST-A6	18" Reinforced Concrete Pipe	150.04	2.14%
ST-A7A TO ST-A7	18" Reinforced Concrete Pipe	24.23	1.00%
ST-A8 TO ST-A3	18" Reinforced Concrete Pipe	84.63	1.88%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
RISER-1B TO ST-B1B	18" Reinforced Concrete Pipe	170.11	5.08%
ST-B1 TO ST-B2	18" Reinforced Concrete Pipe	130.82	2.83%
ST-B1A TO ST-B1	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B2 TO ST-B3	18" Reinforced Concrete Pipe	97.62	2.38%
ST-B2A TO ST-B2	18" Reinforced Concrete Pipe	24.17	1.00%
ST-B3 TO ST-B3A	18" Reinforced Concrete Pipe	24.23	1.00%
ST-B3A TO ST-B4	18" Reinforced Concrete Pipe	36.30	2.04%
ST-B4 TO ST-B4B	18" Reinforced Concrete Pipe	105.73	2.20%
ST-B4A TO ST-B4	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B4B TO ST-B5	24" Reinforced Concrete Pipe	104.90	3.77%
ST-B4C TO ST-B4B	24" Reinforced Concrete Pipe	13.24	4.31%
ST-B5 TO ST-B5B	24" Reinforced Concrete Pipe	88.31	8.85%
ST-B5A TO ST-B5	18" Reinforced Concrete Pipe	24.19	1.97%
ST-B6 TO ST-B7	24" Reinforced Concrete Pipe	113.19	10.03%
ST-B6A TO ST-B6	18" Reinforced Concrete Pipe	24.19	1.97%
ST-B7 TO ST-B8	24" Reinforced Concrete Pipe	118.65	10.21%
ST-B7A TO ST-B7	18" Reinforced Concrete Pipe	24.19	1.97%
ST-B8 TO ST-B10A	30" Reinforced Concrete Pipe	53.00	1.00%
ST-B9 TO ST-B8	24" Reinforced Concrete Pipe	59.53	1.00%
ST-B9A TO ST-B9	18" Reinforced Concrete Pipe	25.33	3.36%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-B9B TO ST-B9	18" Reinforced Concrete Pipe	134.49	19.81%
ST-B10 TO ST-B11	30" Reinforced Concrete Pipe	160.84	1.00%
ST-B10A TO ST-B10	30" Reinforced Concrete Pipe	24.22	1.00%
ST-B11 TO ST-B11B	30" Reinforced Concrete Pipe	36.13	1.00%
ST-B11A TO ST-B11	18" Reinforced Concrete Pipe	25.13	21.97%
ST-B11B TO ST-B12	30" Reinforced Concrete Pipe	137.99	1.00%
ST-B12 TO ST-B12A	30" Reinforced Concrete Pipe	24.17	1.00%
ST-B12A TO HW-B1	30" Reinforced Concrete Pipe	47.48	1.00%
ST-B13 TO ST-B14	18" Reinforced Concrete Pipe	163.08	1.00%
ST-B13A TO ST-B13	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B14 TO ST-B15	18" Reinforced Concrete Pipe	160.34	1.18%
ST-B14A TO ST-B14	18" Reinforced Concrete Pipe	24.18	1.10%
ST-B15 TO ST-B16	18" Reinforced Concrete Pipe	202.23	5.26%
ST-B15A TO ST-B15	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B16 TO ST-B17	18" Reinforced Concrete Pipe	186.48	4.11%
ST-B16A TO ST-B16	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B17 TO ST-B16	18" Reinforced Concrete Pipe	49.41	5.95%
ST-B17A TO ST-B17	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B18 TO HW-B2	18" Reinforced Concrete Pipe	113.99	5.17%
ST-B19A TO ST-B18	18" Reinforced Concrete Pipe	85.61	4.90%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-C1 TO ST-C2	18" Reinforced Concrete Pipe	130.83	4.90%
ST-C1A TO ST-C1	18" Reinforced Concrete Pipe	24.17	1.00%
ST-C2 TO ST-C3	18" Reinforced Concrete Pipe	159.66	4.91%
ST-C3 TO ST-C4	18" Reinforced Concrete Pipe	166.89	4.40%
ST-C3A TO ST-C3	18" Reinforced Concrete Pipe	24.17	1.00%
ST-C4 TO ST-C5	18" Reinforced Concrete Pipe	155.58	5.52%
ST-C5 TO ST-C6	18" Reinforced Concrete Pipe	157.53	14.80%
ST-C6A TO ST-C6	18" Reinforced Concrete Pipe	24.18	1.00%
ST-C6 TO ST-C7	18" Reinforced Concrete Pipe	68.03	1.78%
ST-C8A TO ST-C8	18" Reinforced Concrete Pipe	135.10	1.00%
ST-C7 TO ST-C7A	18" Reinforced Concrete Pipe	24.16	1.00%
ST-C7A TO HW-C1	18" Reinforced Concrete Pipe	161.76	1.00%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-D1 TO ST-D2	18" Reinforced Concrete Pipe	110.67	2.16%
ST-D1A TO ST-D1	18" Reinforced Concrete Pipe	24.17	1.00%
ST-D1B TO ST-D1	18" Reinforced Concrete Pipe	131.67	8.29%
ST-D2 TO ST-D3	18" Reinforced Concrete Pipe	88.07	1.78%
ST-D2A TO ST-D2	18" Reinforced Concrete Pipe	124.21	8.40%
ST-D3 TO ST-D3A	24" Reinforced Concrete Pipe	25.29	1.00%
ST-D3A TO ST-D4	24" Reinforced Concrete Pipe	791.79	1.57%
ST-D4 TO ST-D5	24" Reinforced Concrete Pipe	113.01	4.28%
ST-D5 TO HW-D1	24" Reinforced Concrete Pipe	186.66	1.00%
ST-D6A TO ST-D5	18" Reinforced Concrete Pipe	24.19	1.97%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
HW-E4 TO ST-E12A	18" Reinforced Concrete Pipe	11.50	1.00%
ST-E1 TO ST-E2	18" Reinforced Concrete Pipe	88.68	1.44%
ST-E2 TO ST-E2A	18" Reinforced Concrete Pipe	24.17	1.00%
ST-E2A TO ST-E2B	18" Reinforced Concrete Pipe	48.58	1.00%
ST-E2B TO ST-E2C	18" Reinforced Concrete Pipe	103.31	1.00%
ST-E2C TO ST-E3	18" Reinforced Concrete Pipe	179.61	1.00%
ST-E3 TO ST-E4	18" Reinforced Concrete Pipe	181.15	1.80%
ST-E4 TO ST-E5	18" Reinforced Concrete Pipe	126.31	2.15%
ST-E5 TO ST-E6	18" Reinforced Concrete Pipe	163.21	2.39%
ST-E6 TO ST-E7	24" Reinforced Concrete Pipe	110.78	1.00%
ST-E6A TO ST-E6	18" Reinforced Concrete Pipe	24.19	1.97%
ST-E7 TO ST-E13	24" Reinforced Concrete Pipe	40.91	1.00%
ST-E7A TO ST-E8	18" Reinforced Concrete Pipe	41.10	6.63%
ST-E8 TO ST-E9	18" Reinforced Concrete Pipe	86.10	6.30%
ST-E9 TO ST-E10	18" Reinforced Concrete Pipe	111.17	1.79%
ST-E10 TO ST-E10A	18" Reinforced Concrete Pipe	24.19	1.00%
ST-E10A TO ST-E11A	18" Reinforced Concrete Pipe	59.83	8.72%
ST-E11 TO ST-E12	18" Reinforced Concrete Pipe	114.18	7.12%
ST-E11A TO ST-E11	18" Reinforced Concrete Pipe	24.17	1.00%
ST-E12 TO HW-E1	24" Reinforced Concrete Pipe	157.82	1.00%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-E12A TO ST-E12	18" Reinforced Concrete Pipe	24.49	1.98%
ST-E13 TO ST-E13A	30" Reinforced Concrete Pipe	24.17	1.00%
ST-E13A TO HW-E3	30" Reinforced Concrete Pipe	163.61	1.00%
ST-E14 TO ST-E15	18" Reinforced Concrete Pipe	40.03	7.13%
ST-E15 TO ST-E15A	18" Reinforced Concrete Pipe	133.32	6.99%
ST-E15A TO ST-E15	18" Reinforced Concrete Pipe	24.16	1.00%
ST-E16 TO ST-E17	18" Reinforced Concrete Pipe	108.78	1.73%
ST-E17 TO ST-E18	18" Reinforced Concrete Pipe	96.96	1.00%
ST-E17A TO ST-E17	18" Reinforced Concrete Pipe	24.19	1.00%
ST-E18 TO ST-E18A	18" Reinforced Concrete Pipe	24.72	0.99%
ST-E18A TO HW-E2	18" Reinforced Concrete Pipe	146.74	1.00%
ST-E18B TO ST-E18	18" Reinforced Concrete Pipe	95.06	1.25%
ST-E19 TO ST-E21	18" Reinforced Concrete Pipe	98.81	2.79%
ST-E20 TO ST-E21	18" Reinforced Concrete Pipe	41.92	1.89%
ST-E20A TO ST-E20	18" Reinforced Concrete Pipe	33.50	1.00%
ST-E20B TO ST-E20A	18" Reinforced Concrete Pipe	138.09	1.07%
ST-E21 TO ST-E21A	18" Reinforced Concrete Pipe	24.21	1.00%
ST-E21A TO ST-E22	18" Reinforced Concrete Pipe	50.36	3.99%
ST-E22 TO HW-E3	18" Reinforced Concrete Pipe	30.13	1.00%
ST-E22A TO ST-E22	18" Reinforced Concrete Pipe	24.17	1.00%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-E23 TO ST-E24	18" Reinforced Concrete Pipe	123.84	3.85%
ST-E23A TO ST-E23	18" Reinforced Concrete Pipe	24.17	1.00%
ST-E24 TO ST-E25	18" Reinforced Concrete Pipe	74.86	3.99%
ST-E25 TO ST-E26	18" Reinforced Concrete Pipe	129.69	2.94%
ST-E25A TO ST-E25	18" Reinforced Concrete Pipe	24.18	1.00%
ST-E26 TO ST-E27	18" Reinforced Concrete Pipe	109.66	2.76%
ST-E27 TO ST-E26A	18" Reinforced Concrete Pipe	93.69	1.37%

FLOOD NOTE
A PORTION OF THIS PROPERTY LIES WITHIN AN AREA DESIGNATED AS AE, AS EVIDENCED ON FEMA PANEL #47119C0180E OF MAURY COUNTY, TN, DATED 04/20/2007.

OWNER OF RECORD
FP TCI CCS LLC
MAP 41, P/O PARCEL 15.00

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS		
NO.	DATE	
1	03/02/23	SANITARY SEWER MAIN REVISION
2	03/16/23	REVISIONS PER TDEC COMMENTS
3	04/14/23	REVISIONS PER CITY COMMENTS
4	05/04/23	REVISIONS PER TDEC COMMENTS
5	09/07/22	REVISIONS PER PULTE COMMENTS
6	11/15/22	REVISIONS TO MAIL DELIVERY
7	05/04/23	REVISIONS TO SANITARY PER CONTRACTOR

DATE: 10/13/21
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

DRAINAGE PLAN TABLES

MAP 41, P/O PARCEL 15.00
COLUMBIA, TENNESSEE 37174

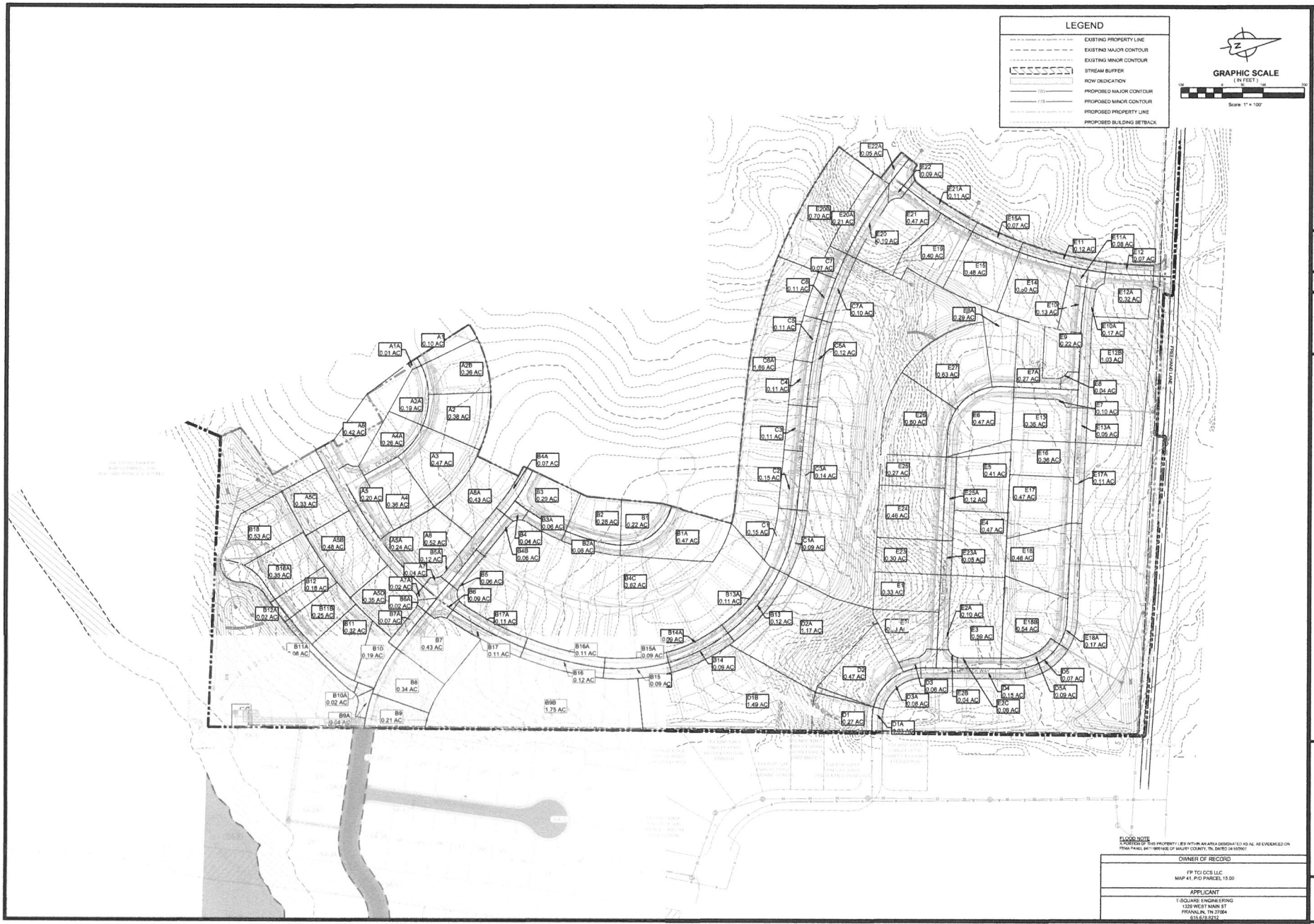
SUMMIT AT CARTER'S STATION

TIMOTHY E. TURNER
10175
STATE OF TENNESSEE
REGISTERED
5/4/2023

PROJECT
21-0515

SHEET
C-5.2

T-SQUARE ENGINEERING



NO.	DATE	REVISIONS
1	03/02/23	SANITARY SEWER MAIN REVISION
2	03/16/23	REVISIONS PER TDEC COMMENTS
3	04/14/23	REVISIONS PER CITY COMMENTS
4	05/03/23	REVISIONS PER TDEC COMMENTS
5	05/04/23	REVISIONS TO MAIL DELIVERY LOTS
6	11/15/22	REVISIONS TO MAIL DELIVERY LOTS
7	05/04/23	REVISIONS TO SANITARY PER CONTRACTOR

DATE: 10/13/21
SCALE: 1" = 100'
AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

INLET AREA PLAN

MAP 41, P/O PARCEL 15.00
COLUMBIA, TENNESSEE 37174

SUMMIT AT CARTER'S STATION

TIMOTHY E. TURNER
REGISTERED ENGINEER
10743
STATE OF TENNESSEE
5/4/2023

PROJECT
21-0515

SHEET
C-5.3

T-SQUARE ENGINEERING

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

_____ day of _____, 20_____ ,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Tamarack Land, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "CMPC") on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS"); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the "IMPROVEMENTS"); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

RECEIVED
MAY 22 2023
By: 23-0202

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Summit at Carter's Station - Phase 2
PROJECT

Completed by the Developer	*Completed by the City*
Tamarack Land - Carter's Station, LLC DEVELOPER NAME	
Jeff Loore AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
5/10/23 DATE	DATE
512 Vista Blvd STREET	
Waconia, MN 55387 CITY, STATE, ZIP	
201-463-7866 PHONE	
Jeff@TamarackLand.com EMAIL	
Attest	*Attest*
Brayden Hosford ATTEST NAME	ATTEST NAME
Brayden Hosford ATTEST SIGNATURE	ATTEST SIGNATURE
05/10/23 DATE	DATE

HYDRANT FLOW ANALYSIS

HYDRANT # & LOCATION: Cobbler Court DATE: 11/1/2022

MODEL BY: Inflo Design Group, LLC SYS. DEMAND Max Day DURATION: 2 hrs

WATER SUPPLIED BY: Columbia Power and Water Systems

PURPOSE OF TEST: Summit at Carters Station

MODEL DATA

FLOW HYDRANT(S)	0	n/a	n/a
GPM:	**1000**	0	0

TOTAL FLOW DURING SIMULATION: **1000** GPM

GAUGE HYDRANT

HYDRANT # & LOCATION: Stone Creek Pass

CONDITION 1
STATIC 82 PSI RESIDUAL: 70 PSI

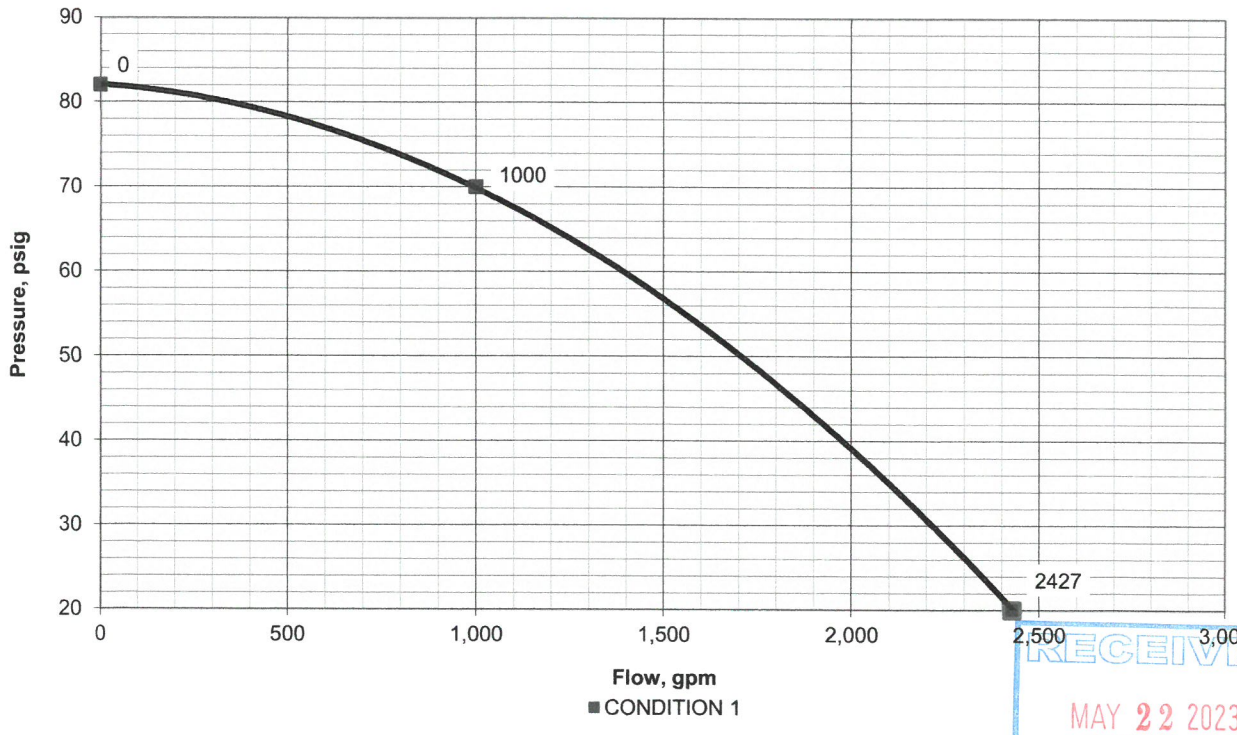
CONDITION 2
STATIC _____ PSI RESIDUAL: _____ PSI

RESULTS: AT 20 PSI RESIDUAL

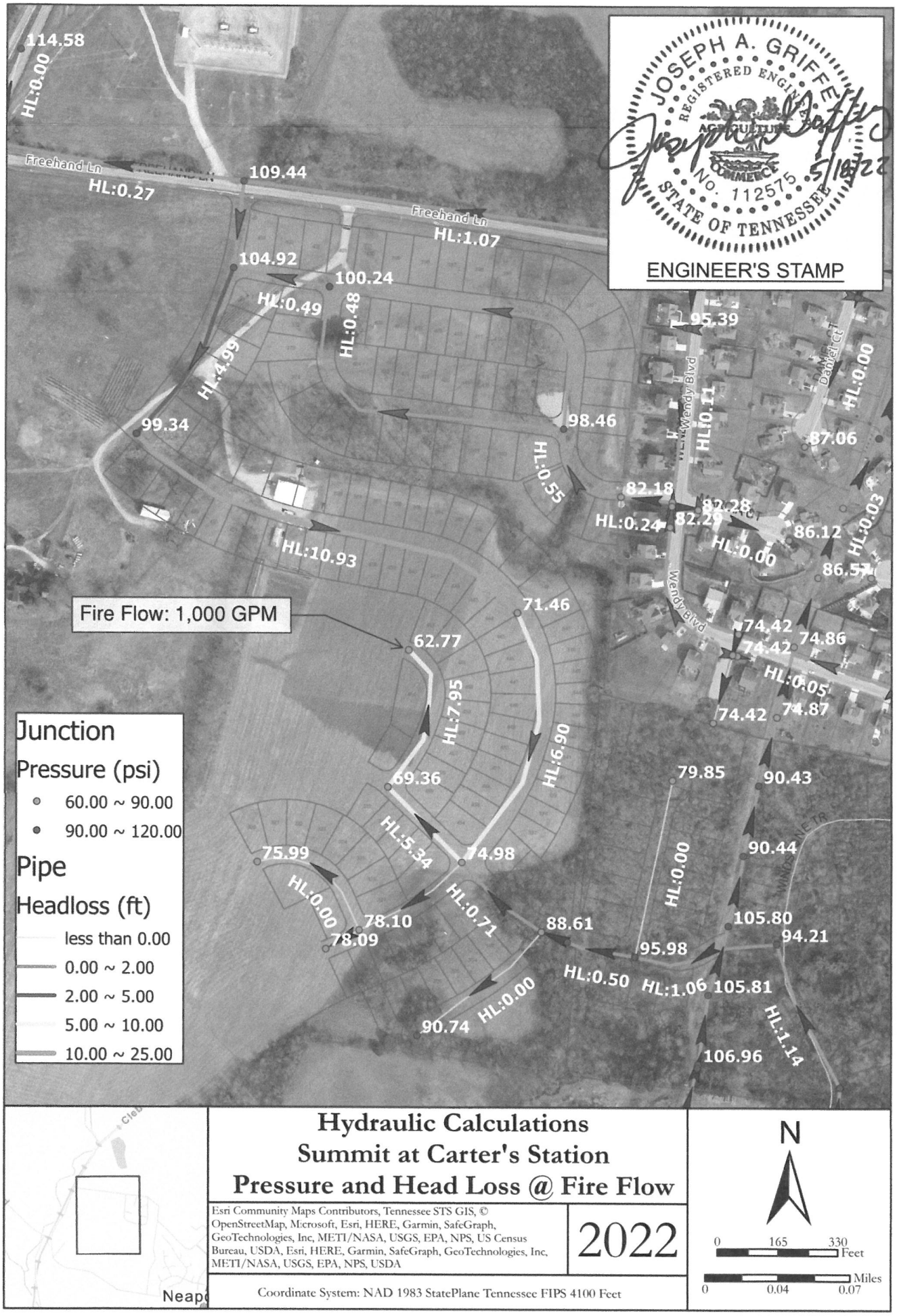
CONDITION 1 **2427** GPM

CONDITION 2 **---** GPM

REMARKS: Performance based on service elevation of 725' and current CPWS water infrastructure and do not account for additional losses associated with development piping.



RECEIVED
MAY 22 2023
By: 23-0202


JOSEPH A. GRIFFEE
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 112575
STATE OF TENNESSEE
5/18/22
ENGINEER'S STAMP
114.58
HL:0.00
Freehand Ln
HL:0.27
109.44
Freehand Ln
HL:1.07
104.92
100.24
HL:0.49
HL:0.48
HL:4.99
99.34
98.46
HL:0.55
95.39
Wendy Blvd
HL:0.11
Daniel Ct
HL:0.00
87.06
82.18
82.28
82.29
HL:0.24
86.12
HL:0.03
HL:0.00
86.57
HL:10.93
Fire Flow: 1,000 GPM
71.46
62.77
Wendy Blvd
74.42
74.42
74.86
HL:0.05
74.42
74.87
HL:7.95
HL:6.90
69.36
79.85
90.43
HL:5.34
74.98
75.99
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90.44
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78.10
78.09
HL:0.71
88.61
105.80
94.21
95.98
HL:0.50
HL:1.06
105.81
HL:0.00
90.74
HL:1.14
106.96
Junction
Pressure (psi)
60.00 ~ 90.00
90.00 ~ 120.00
Pipe
Headloss (ft)
less than 0.00
0.00 ~ 2.00
2.00 ~ 5.00
5.00 ~ 10.00
10.00 ~ 25.00
Hydraulic Calculations
Summit at Carter's Station
Pressure and Head Loss @ Fire Flow
Esri Community Maps Contributors, Tennessee STS GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
2022
Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet
N
0 165 330 Feet
0 0.04 0.07 Miles

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Wellwind Road, Columbia, TN		
	TAX MAP: 42	GROUP:	PARCEL: 35.00
SUMMARY OF NATURE OF REQUEST AND WORK	This application is to approve the final plat for the second phase of Summit at Carter's Station.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☐ Preliminary Plat ☒ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Summit at Carter's Station ☒ Total Number of Lots 32 ☒ Total acreage 6.77

RECEIVED
MAY 22 2023
By: 23-0202

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	T-Square Engineering	PHONE	615.678.8212
ADDRESS	1329 West Main St., Franklin, TN 37064	EMAIL	Allison.Corolla@T2-Eng.com

PROPERTY OWNER NAME	Tamarack Land - Carters Station, LLC	PHONE	201.463.7866
ADDRESS	712 Vista Blvd. #303 Waconia, MN 55387	EMAIL	Jeff@TamarackLand.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Allison Corolla	Allison Corolla	5/8/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Jeff Leone		5/10/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.	23-0202	FEE PAID	1,300.00
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Drumwright Phase 2A

Project #:	23-0138	Location:	Map 51 Parcel 32.01
Applicant:	Allen O'Leary	Case Type(s):	Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests approval of a Final Plat to create twenty-nine single-family home lots with accompanying infrastructure. The subdivision is part of a larger multiphase Planned Unit Development. The Planning Commission approved Preliminary Plat for the development in August 2022 (22-0173). The previous approvals created a vested right to develop under PUD Master Plan based on the RM-1 standards of the previous Zoning Ordinance.

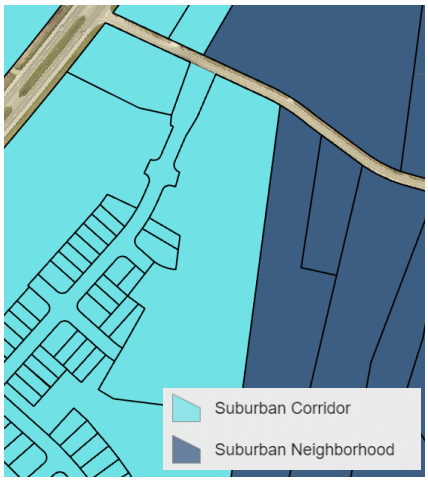
- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat conforms to the approved Preliminary Plat.
- The applicant has provided financial surety in the amount of $200,000 to guarantee completion of infrastructure.
- The applicant has executed a development agreement in the format prescribed by Appendix B of the Subdivision Regulations.
- The applicant will record a stormwater maintenance agreement prior to recordation of the Final Plat.
- The DRC reviewed this proposal at its May 2023 meeting. Staff review included standard comments and requests for technical corrections. Full technical comments are provided in the agenda packet.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
PUD	In Development	Infrastructure for Development	+/- 5.30 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	PUD	Vacant/Developing
North	Suburban Corridor	PUD	Vacant/Developing
South	Suburban Corridor	PUD	Vacant/Developing
East	Suburban Neighborhood	County	Single Family
West	Suburban Corridor	PUD	Vacant/Developing

The subject site is part of the larger multiphase development. The property is bounded on the north, west and south by other portions of the development site. An existing single-family residence borders the property on the east. City Council approve a PUD Master Plan for the site in September of 2020 (20-0078). The Planning Commission approved a Preliminary Plat (22-0173) for development of 126 lots on the site in August of 2022.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the PUD Master Plan, the modified RM-1 standards of the applicable zoning ordinance (3638), the Subdivision Regulations, and the approved Preliminary Plat.

- The proposed structures conform to the setbacks and other bulk standards of the Master Plan.
- The PUD include architectural standards. Conformity with these and other applicable zoning standards will be confirmed at the time of building permit.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:

1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;

2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and

3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.

B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

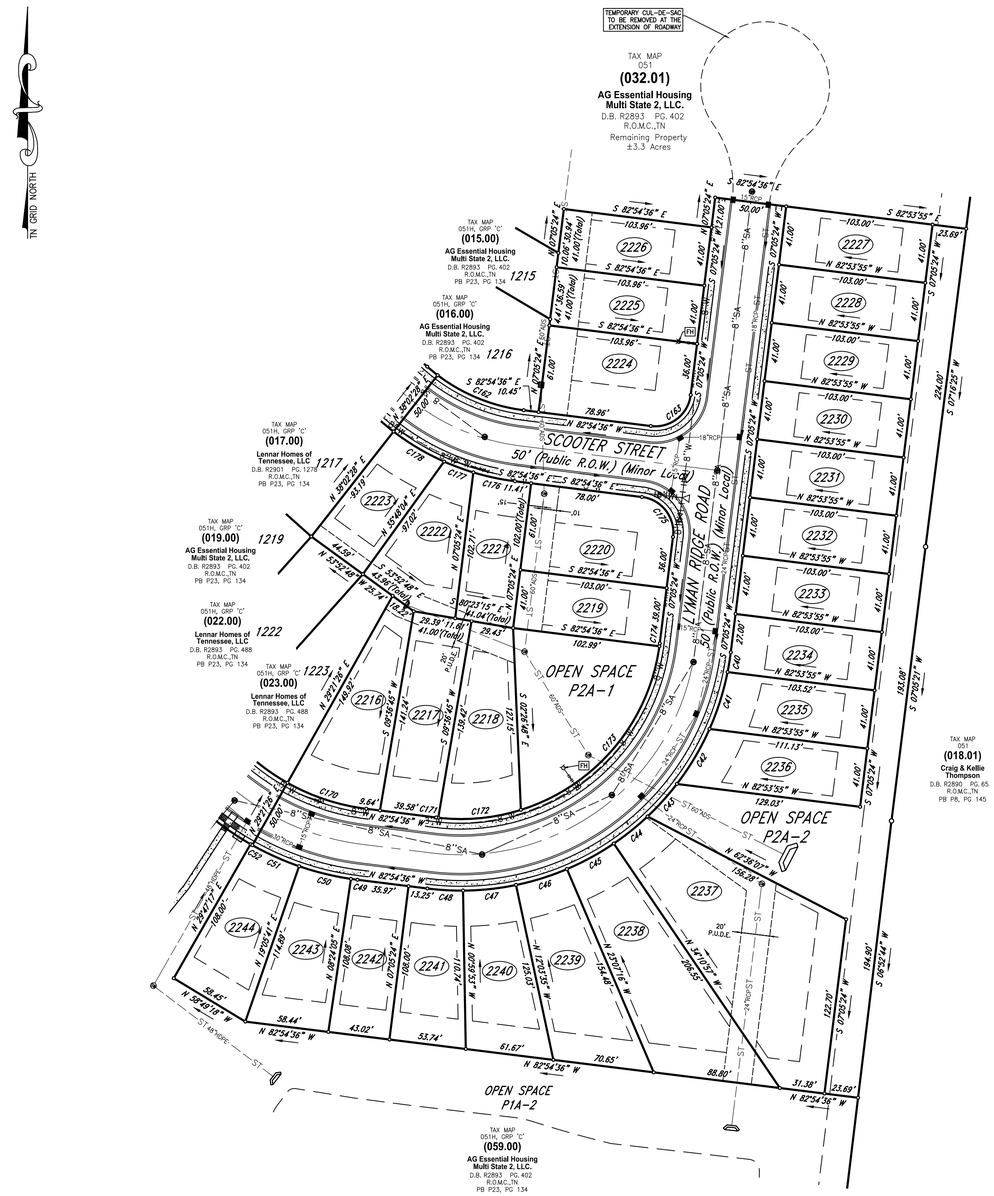
Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

Defer for Continued Review:

Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].



OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED A PUBLIC UTILITY, AND DRAINAGE EASEMENT.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft.

Legend

- EIP
- IPS Iron Rod Found
- Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- CM Concrete Monument Existing
- P.K.F. PK Nail Found
- P.K.S. PK Nail Set
- R.R.S.F. Railroad Spike Found
- R.R.S.S. Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Bollard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- Gas Line
- Sanitary Sewer Line
- Water Line
- Storm Sewer Line
- Overhead Utility Line
- Overhead Cable Line
- Overhead Electric Line
- Overhead Telephone Line
- Underground Utility Line
- Underground Cable Line
- Underground Electric Line
- Underground Telephone Line
- Forced Main Line

LOT AREA TABLE

LOT	SQ. FT.	ACRES
2216	6,247.9	0.14
2217	5,753.7	0.13
2218	5,850.4	0.13
2219	4,223.0	0.10
2220	6,148.9	0.14
2221	4,169.7	0.10
2222	4,783.4	0.11
2223	4,028.6	0.09
2224	6,207.7	0.14
2225	4,262.6	0.10
2226	4,262.6	0.10
2227	4,223.0	0.10
2228	4,223.0	0.10
2229	4,223.0	0.10
2230	4,223.0	0.10
2231	4,223.0	0.10
2232	4,223.0	0.10
2233	4,223.0	0.10
2234	4,225.4	0.10
2235	4,368.4	0.10
2236	4,884.0	0.11
2237	14,868.7	0.34
2238	9,736.6	0.22
2239	7,012.8	0.16
2240	5,671.7	0.13
2241	4,989.4	0.11
2242	4,512.3	0.10
2243	5,267.6	0.12
2244	5,265.2	0.12
OS-P2A-1	8,661.0	0.20
OS-P2A-2	21,626.3	0.50

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C40	190.00'	14.01'	14.01'	S 09°12'09" W	4°13'30"
C41	190.00'	41.78'	41.70'	S 17°36'54" W	12°36'01"
C42	190.00'	44.84'	44.73'	S 30°40'32" W	13°31'16"
C43	190.00'	30.63'	30.59'	S 42°03'14" W	9°14'07"
C44	190.00'	30.27'	30.24'	S 51°14'10" W	9°07'45"
C45	190.00'	37.34'	37.28'	S 61°25'52" W	11°15'38"
C46	190.00'	37.32'	37.26'	S 72°41'18" W	11°15'14"
C47	190.00'	37.27'	37.21'	S 83°56'06" W	11°14'24"
C48	190.00'	24.99'	24.97'	N 86°40'39" W	7°32'06"
C49	200.00'	4.58'	4.58'	N 82°15'16" W	1°18'41"
C50	200.00'	37.33'	37.27'	N 76°15'07" W	10°41'36"
C51	200.00'	35.87'	35.83'	N 65°46'01" W	10°16'37"
C52	200.00'	1.45'	1.45'	N 60°25'13" W	0°24'59"
C162	125.00'	65.71'	64.95'	S 67°51'03" E	30°07'06"
C163	25.00'	39.27'	35.36'	N 52°05'24" E	90°00'00"
C170	150.00'	58.35'	57.98'	S 71°46'01" E	22°17'11"
C171	140.00'	1.46'	1.46'	S 83°12'35" E	0°35'52"
C172	140.00'	58.41'	57.99'	N 84°32'18" E	23°54'15"
C173	140.00'	158.04'	149.78'	N 40°14'50" E	64°40'40"
C174	140.00'	2.00'	2.00'	N 07°29'57" E	0°49'07"
C175	25.00'	39.27'	35.36'	N 37°54'36" W	90°00'00"
C176	175.00'	29.73'	29.69'	N 78°02'36" W	9°44'01"
C177	175.00'	21.79'	21.77'	N 69°36'36" W	7°07'57"
C178	175.00'	41.20'	41.11'	N 59°17'56" W	13°29'24"

PURPOSE NOTE:
The purpose of this plat is to create 29 single family lots and dedicate right-of-way.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

STORMWATER MANAGEMENT AGREEMENT:
RECORDED: _____
DEED BOOK: _____ PAGE: _____

PARCEL NUMBER:
TAX MAP 051, PARCEL 032.01

DEED BOOK:
R2893, PAGE 402

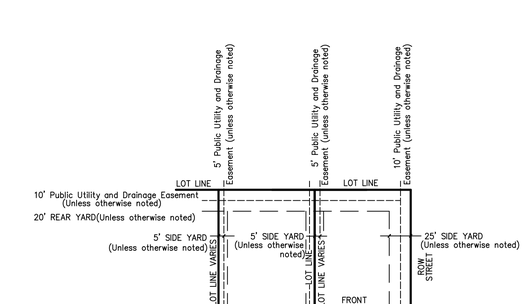
PARCEL ADDRESS:
NASHVILLE HIGHWAY
COLUMBIA, TENNESSEE 38401

EXISTING ZONING:
R-PUD

BUILDING SETBACKS:
FRONT – 25'
SIDE – 5'
REAR – 20'
SIDE (CORNER LOTS) – 25'

ACREAGE OF PARCEL:
±5.30 ACRES – 231,062.1 S.F.
±1.02 ACRES – 44,472.5 S.F. – R.O.W. DEDICATION

PROPERTY OWNER:
AG ESSENTIAL HOUSING MULTI STATE 2, LLC
2372 NASHVILLE HWY
COLUMBIA, TN 38401



DRUMWRIGHT TYPICAL LOT LAYOUT
NOT TO SCALE

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2893, Page 402, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date

AG ESSENTIAL HOUSING MULTI STATE 2, LLC, a Delaware limited liability company

By: AGWIP Asset Management, LLC, an Arizona limited liability company, its Authorized Agent

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, STREET SIGNS, AND UTILITIES

I hereby certify that the streets, drainage, and utilities designated in Drumwright, Phase 2A have been installed in accordance with City Specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

Date

City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date

Maury County E-911
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date

Director of Wastewater Department
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Drumwright, Phase 2A has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date

Columbia Power & Water Systems
Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date

City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

Date

Secretary, Planning Commission
Columbia, Tennessee

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

6/20/23
Date

Allen B. O'Leary
Allen B. O'Leary

TN RLS #1987
Number

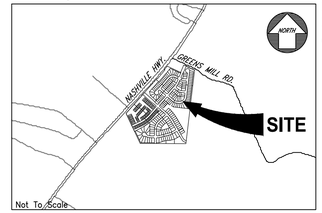
Register of Deed Recording Stamp

allenwesengineers.com

Drumwright Development Map



Location Map



Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 051 Parcel No. 032.01, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: N/A
9. Deed reference: Book R2893, Page 402
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0280E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. All property corners are ½" rebar with cap reading "WES 1987" unless otherwise noted.

© 2023

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
Lennar Homes of Tennessee, LLC.
381 Mallory Station Road, Suite 200
Franklin, TN 37067
615-716-7188

REVISIONS	DATE
Tech Review Comments Addressed	06-20-2023

FINAL PLAT
DRUMWRIGHT, PHASE 2A
NASHVILLE HIGHWAY, COLUMBIA, TN

Drawn: EB
Checked: AO
Approved: AO
Date: 04-17-2023

Job. no. 21523-100
Scale: Vertical: 1"=50'
Horizontal:

1 of 1

FILE: J:\WES_Engineers_Surveyors 2021\21523 - Drumwright - Smith\21523-100 Drumwright Lennar\Dwg\Survey\21523-100 - Phase 2 - Final Plat.dwg

WES
ENGINEERS & SURVEYORS

June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Drumwright P.U.D., Phase 2A, Final Plat**
City of Columbia Staff Review Submittal

On behalf of AG Essential Housing Multi State 2, LLC, the owner of these 29 proposed single family lots, **WES Engineers & Surveyors** would like to resubmit this Final Plat to the City of Columbia for Planning Commission approval. Comments are addressed below in red.

Engineering

1. Install asphalt binder and curbing by 5/22 resubmittal date. Understood.
2. Provide LOC in the amount of $200,000 by 5/22 resubmittal date. This will be provided by the developer.
3. Record/reference stormwater maintenance agreement. Will be recorded and added prior to the recording of the final plat.
4. Label streets as public or private and provide classification. The streets have been labeled.

Planning

1. Typical lot layout shows 20 secondary frontage setback and should reflect the note for such as 25'. The typical lot layout has been corrected.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors

Allen B. O'Leary

Allen B. O'Leary, RLS
Principal

RECEIVED
JUN 20 2023
By: 23-0138

2486 Nashville Hwy | Columbia, Tennessee 38401 | Phone: 931.388.2329 | Fax: 931.548.2013 | www.wesengineers.com

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0138

DESCRIPTION: Phase 2A of Drumwright.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Install asphalt binder and curbing by 5/22 resubmittal date
2. Provide LOC in the amount of $200,000 by 5/22 resubmittal date
3. Record/reference stormwater maintenance agreement
4. Label streets as public or private and provide classification

Planning

5. Typical lot layout shows 20 secondary frontage setback and should reflect the note for such as 25'

Fire

6. No comments

Building

7. No comments.

ATT

8. Plan to serve.

Wastewater

9. Wastewater approves this request.

Maury County Highway Dept.

10. No comment.

Columbia Power

11. Columbia Power System has an existing power line near your proposed development. We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

12. Complete water system infrastructure, currently only mains are installed, no vaults, service lines, meter saddles or meter setters.

Maury County E911

13. Scooter Street is correct. Lyman Ridge Road is correct.

Maury County Schools

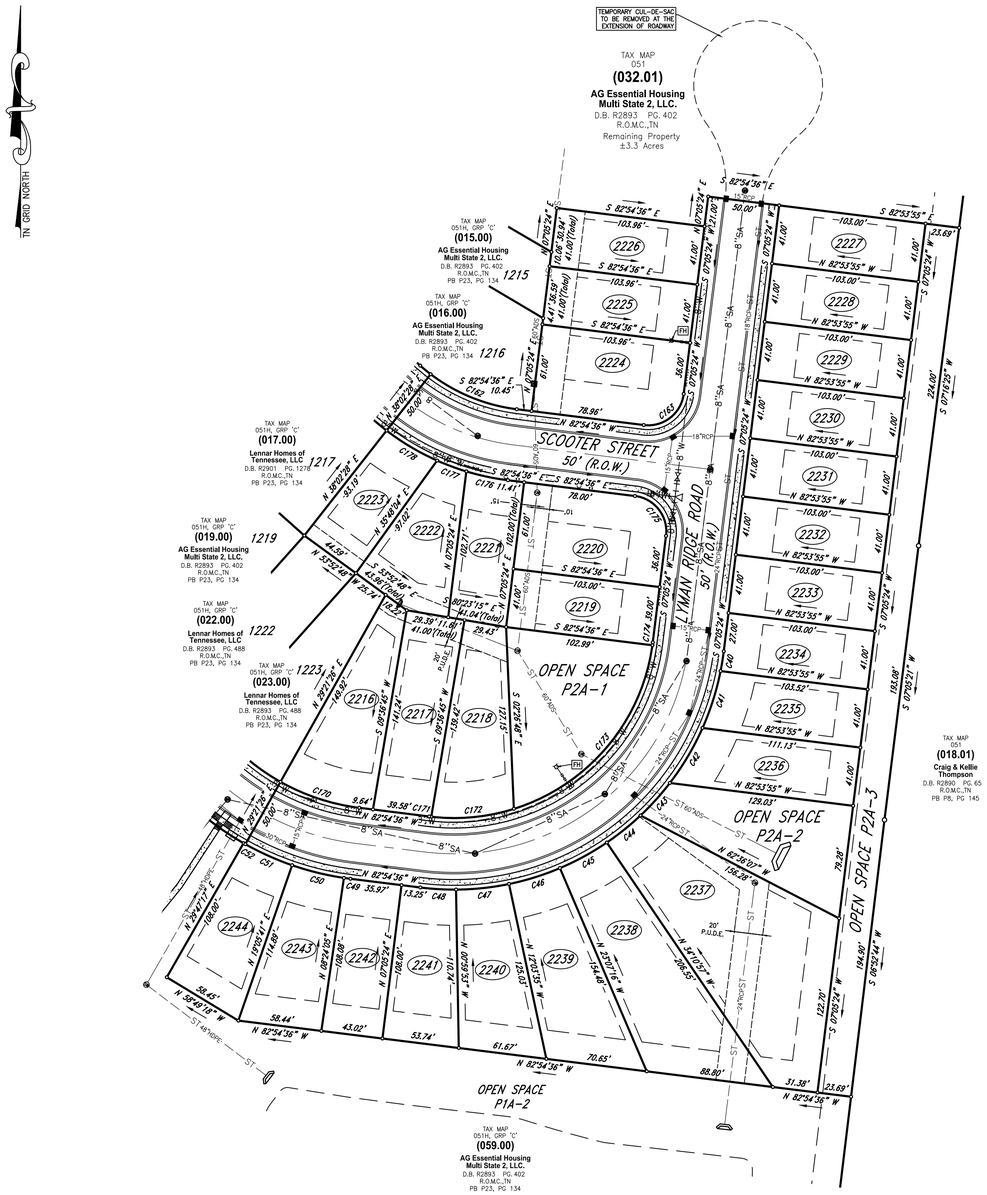
14. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Duck River Electric Membership Corp

15. No comments provided.

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.



LOT AREA TABLE		
LOT	SQ. FT.	ACRES
2216	6,247.9	0.14
2217	5,753.7	0.13
2218	5,850.4	0.13
2219	4,223.0	0.10
2220	6,148.9	0.14
2221	4,169.7	0.10
2222	4,783.4	0.11
2223	4,028.6	0.09
2224	6,207.7	0.14
2225	4,262.6	0.10
2226	4,262.6	0.10
2227	4,223.0	0.10
2228	4,223.0	0.10
2229	4,223.0	0.10
2230	4,223.0	0.10
2231	4,223.0	0.10
2232	4,223.0	0.10
2233	4,223.0	0.10
2234	4,225.4	0.10
2235	4,368.4	0.10
2236	4,884.0	0.11
2237	14,868.7	0.34
2238	9,736.6	0.22
2239	7,012.8	0.16
2240	5,671.7	0.13
2241	4,989.4	0.11
2242	4,512.3	0.10
2243	5,267.6	0.12
2244	5,265.2	0.12
OS-P2A-1	8,661.0	0.20
OS-P2A-2	7,415.2	0.17
OS-P2A-3	14,211.1	0.33

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C40	190.00'	14.01'	14.01'	S 09°12'09" W	4°13'30"
C41	190.00'	41.78'	41.70'	S 17°36'54" W	12°36'01"
C42	190.00'	44.84'	44.73'	S 30°40'32" W	13°31'16"
C43	190.00'	30.63'	30.59'	S 42°03'14" W	9°14'07"
C44	190.00'	30.27'	30.24'	S 51°14'10" W	9°07'45"
C45	190.00'	37.34'	37.28'	S 61°25'52" W	11°15'38"
C46	190.00'	37.32'	37.26'	S 72°41'18" W	11°15'14"
C47	190.00'	37.27'	37.21'	S 83°56'06" W	11°14'24"
C48	190.00'	24.99'	24.97'	N 86°40'39" W	7°32'06"
C49	200.00'	4.58'	4.58'	N 82°15'16" W	1°18'41"
C50	200.00'	37.33'	37.27'	N 76°15'07" W	10°41'36"
C51	200.00'	35.87'	35.83'	N 65°46'01" W	10°16'37"
C52	200.00'	1.45'	1.45'	N 60°25'13" W	0°24'59"
C162	125.00'	65.71'	64.95'	S 67°51'03" E	30°07'06"
C163	25.00'	39.27'	35.36'	N 52°05'24" E	90°00'00"
C170	150.00'	58.35'	57.98'	S 71°46'01" E	22°17'11"
C171	140.00'	1.46'	1.46'	S 83°12'35" E	0°35'52"
C172	140.00'	58.41'	57.99'	N 84°32'18" E	23°54'15"
C173	140.00'	158.04'	149.78'	N 40°14'50" E	64°40'40"
C174	140.00'	2.00'	2.00'	N 07°29'57" E	0°49'07"
C175	25.00'	39.27'	35.36'	N 37°54'36" W	90°00'00"
C176	175.00'	29.73'	29.69'	N 78°02'36" W	9°44'01"
C177	175.00'	21.79'	21.77'	N 69°36'36" W	7°07'57"
C178	175.00'	41.20'	41.11'	N 59°17'56" W	13°29'24"

PURPOSE NOTE:
The purpose of this plat is to create 29 single family lots and dedicate right-of-way.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

STORMWATER MANAGEMENT AGREEMENT:
RECORDED: _____
DEED BOOK: _____ PAGE: _____

PARCEL NUMBER:
TAX MAP 051, PARCEL 032.01

DEED BOOK:
R2893, PAGE 402

PARCEL ADDRESS:
NASHVILLE HIGHWAY
COLUMBIA, TENNESSEE 38401

EXISTING ZONING:
R-2, PUD

BUILDING SETBACKS:
FRONT – 25'
SIDE – 5'
REAR – 20'
SIDE (CORNER LOTS) – 25'

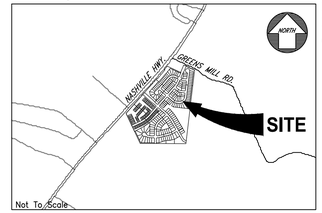
ACREAGE OF PARCEL:
±5.30 ACRES – 231,062.1 S.F.
±1.02 ACRES – 44,472.5 S.F. – R.O.W. DEDICATION

PROPERTY OWNER:
AG ESSENTIAL HOUSING MULTI STATE 2, LLC
2372 NASHVILLE HWY
COLUMBIA, TN 38401

Drumwright Development Map



Location Map



Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 051 Parcel No. 032.01, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: N/A
9. Deed reference: Book R2893, Page 402
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0280E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. All property corners are ½" rebar with cap reading "WES 1987" unless otherwise noted.

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2893, Page 402, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date

AG ESSENTIAL HOUSING MULTI STATE 2, LLC, a Delaware limited liability company

By: AGWIP Asset Management, LLC, an Arizona limited liability company, its Authorized Agent

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, STREET SIGNS, AND UTILITIES

I hereby certify that the streets, drainage, and utilities designated in Drumwright, Phase 2A have been installed in accordance with City Specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

Date

City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date

Maury County E-911
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date

Director of Wastewater Department
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Drumwright, Phase 2A has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date

Columbia Power & Water Systems
Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date

City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

Date

Secretary, Planning Commission
Columbia, Tennessee

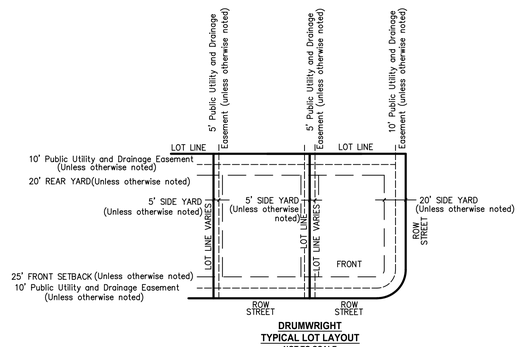
SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

4/17/23
Date

Allen B. O'Leary
Allen B. O'Leary

TN RLS #1987
Number



DRUMWRIGHT
TYPICAL LOT LAYOUT
NOT TO SCALE

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED A PUBLIC UTILITY, AND DRAINAGE EASEMENT.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

Legend

- EIP Iron Rod Found
- IPS Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- CM Concrete Monument Existing
- P.K.F. PK Nail Found
- P.K.S. PK Nail Set
- R.R.S.F. Railroad Spike Found
- R.R.S.S. Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Bollard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- Gas Line
- Sanitary Sewer Line
- Water Line
- Storm Sewer Line
- Overhead Utility Line
- Overhead Cable Line
- Overhead Electric Line
- Overhead Telephone Line
- Underground Utility Line
- Underground Cable Line
- Underground Electric Line
- Underground Telephone Line
- Forced Main Line

Register of Deed Recording Stamp



allenwesengineers.com

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

© 2023

ENGINEERS & SURVEYORS

Client
Lennar Homes of Tennessee, LLC.
381 Mallory Station Road, Suite 200
Franklin, TN 37067
615-716-7188

REVISIONS	DATE

FINAL PLAT
DRUMWRIGHT, PHASE 2A
NASHVILLE HIGHWAY, COLUMBIA, TN

Drawn: EB
Checked: AO
Approved: AO
Date: 04-17-2023

Job. no. 21523-100
Scale: Vertical: 1"=50'
Horizontal:

1 of 1

FILE: J:\WES_Engineers_Surveyors 2021\21523 - Drumwright - Smith\21523-100 Drumwright Lennar\Dwg\Survey\21523-100 - Phase 2 - Final Plat.dwg

April 17, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Drumwright P.U.D., Phase 2A, Final Plat**
City of Columbia Staff Review Submittal

On behalf of AG Essential Housing Multi State 2, LLC, the owner of these 29 proposed single family lots, **WES Engineers & Surveyors** would like to submit this Final Plat to the City of Columbia for Planning Commission approval.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal

DocuSign Envelope ID: 6A61EF12-C288-41CA-B352-4D63252C4701

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Nashville Hwy, Columbia, TN		
	TAX MAP: 051	GROUP:	PARCEL: 032.01
SUMMARY OF NATURE OF REQUEST AND WORK	Request Final Plat approval for 29 single family residential lots - Phase 2A of Drumwright.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) Drumwright, Phase 2A ☑ Total Number of Lots 29 ☑ Total acreage ±5.30

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	AG Essential House Multi State 2, LLC	PHONE	
ADDRESS	2372 Nashville Highway Columbia, TN 38401	EMAIL	

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Lennar Homes of Tennessee LLC Nick Branum	Nick Branum	04-04-2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Steven S. Benson, the manager of AGWIP Asset Management, LLC, an Arizona limited liability company, the Authorized Agent of AG Essential Housing Multi State 2, LLC	DocuSigned by: Steve Benson 5267235E778A4E5...	4/4/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Drumwright Phase 2B

Project #:	23-0138	Location:	Map 51 Parcel 32.01
Applicant:	Allen O'Leary	Case Type(s):	Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests approval of a Final Plat to create fourteen single-family home lots with accompanying infrastructure. The subdivision is part of a larger multiphase Planned Unit Development. The Planning Commission approved Preliminary Plat for the development in August 2022 (22-0173). The previous approvals created a vested right to develop under PUD Master Plan based on the RM-1 standards of the previous Zoning Ordinance.

- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat conforms to the approved Preliminary Plat.
- The applicant has provided financial surety in the amount of $200,000 to guarantee completion of infrastructure.
- The applicant has executed a development agreement in the format prescribed by Appendix B of the Subdivision Regulations.
- The applicant will record a stormwater maintenance agreement prior to recordation of the Final Plat.
- The DRC reviewed this proposal at its May 2023 meeting. Staff review included standard comments and requests for technical corrections. Full technical comments are provided in the agenda packet.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

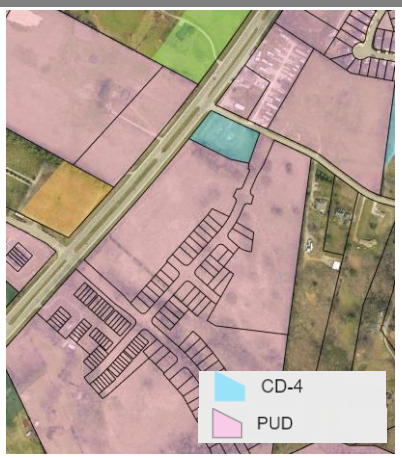
CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
PUD	In Development	Infrastructure for Development	+/- 5.30 Acres



FUTURE LAND USE MAP



ZONING MAP



SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	PUD	Vacant/Developing
North	Suburban Corridor	PUD	Vacant/Developing
South	Suburban Corridor	PUD	Vacant/Developing
East	Suburban Corridor	PUD	Vacant/Developing
West	Suburban Corridor	PUD	Vacant/Developing

The subject site is part of the larger multiphase development. The property is bounded on the north, east and south by other portions of the development site. Nashville Highway abuts the property on the west. City Council approve a PUD Master Plan for the site in September of 2020 (20-0078). The Planning Commission approved a Preliminary Plat (22-0173) for development of 126 lots on the site in August of 2022.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the PUD Master Plan, the modified RM-1 standards of the applicable zoning ordinance (3638), the Subdivision Regulations, and the approved Preliminary Plat.

- The proposed structures conform to the setbacks and other bulk standards of the Master Plan.
- The PUD include architectural standards. Conformity with these and other applicable zoning standards will be confirmed at the time of building permit.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*

1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;

2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and

3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.

B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

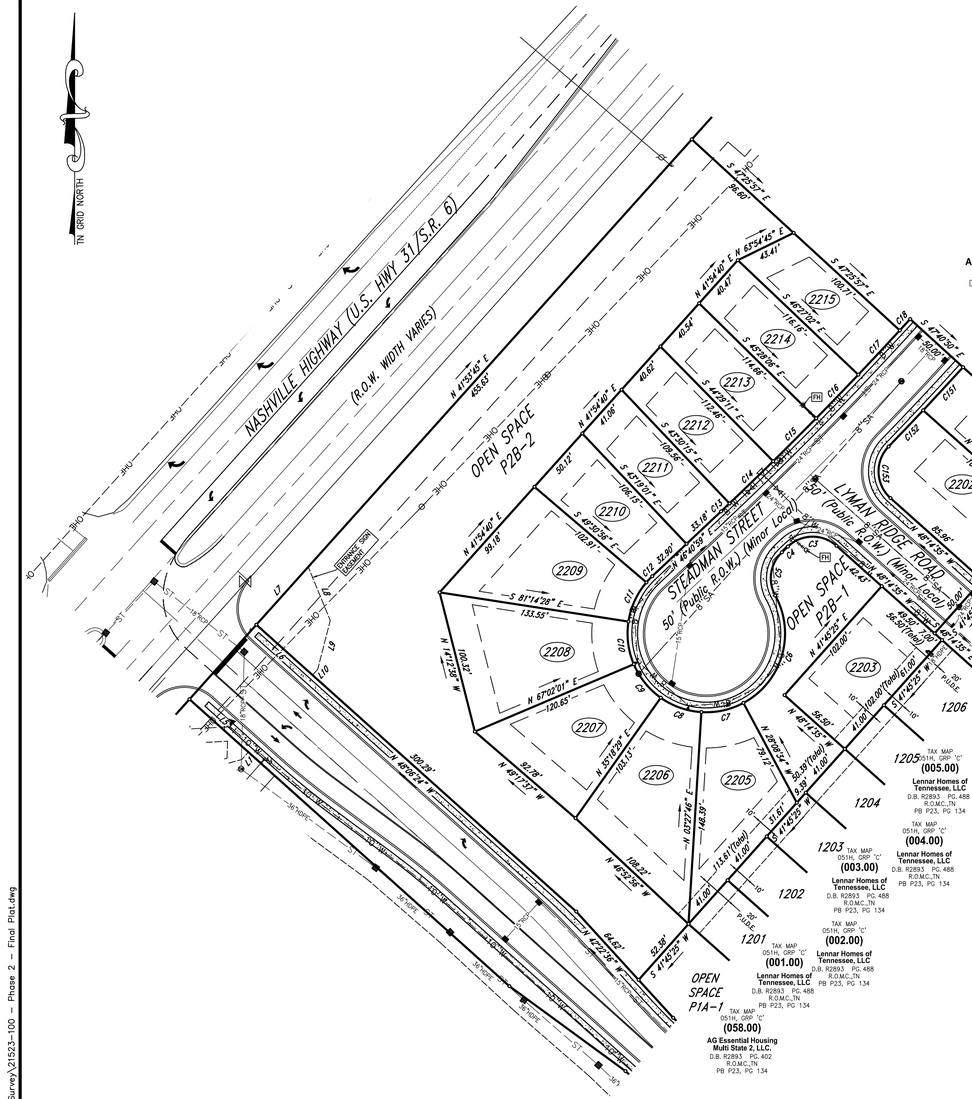
Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

Defer for Continued Review:

Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].


TN GRID NORTH
NASHVILLE HIGHWAY (U.S. HWY 31/S.R. 6)
(R.O.W. WIDTH VARIES)
OPEN SPACE P2B-2
STEADMAN STREET
50' (Public R.O.W.) (Minor Local)
LYMAN RIDGE ROAD
50' (Public R.O.W.) (Minor Local)
OPEN SPACE P2B-1
OPEN SPACE P1A-1
TAX MAP 051 (032.01) AG Essential Housing Multi State 2, LLC. D.B. R2893 PG. 402 R.O.M.C.,TN Remaining Property ±4.4 Acres
TAX MAP 051H, GRP 'C' (009.00) Lennar Homes of Tennessee, LLC D.B. R2893 PG. 488 R.O.M.C.,TN PB P23, PG 134
TAX MAP 051H, GRP 'C' (008.00) Lennar Homes of Tennessee, LLC D.B. R2893 PG. 488 R.O.M.C.,TN PB P23, PG 134
TAX MAP 051H, GRP 'C' (007.00) Lennar Homes of Tennessee, LLC D.B. R2893 PG. 488 R.O.M.C.,TN PB P23, PG 134
TAX MAP 051H, GRP 'C' (006.00) Lennar Homes of Tennessee, LLC D.B. R2893 PG. 488 R.O.M.C.,TN PB P23, PG 134
TAX MAP 051H, GRP 'C' (005.00) Lennar Homes of Tennessee, LLC D.B. R2893 PG. 488 R.O.M.C.,TN PB P23, PG 134
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TAX MAP 051H, GRP 'C' (058.00) AG Essential Housing Multi State 2, LLC. D.B. R2893 PG. 402 R.O.M.C.,TN PB P23, PG 134
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S 47°25'20" E 86.60'
N 41°54'40" E 40.40'
N 67°54'45" E 43.41'
S 47°25'20" E 108.71'
S 42°40'39" E 60.00'
S 41°45'25" E 108.00'
N 41°45'25" W 108.79'
S 41°45'25" W 61.00'
N 41°45'25" W 85.98'
S 41°45'25" E 56.56'(Field)
S 41°45'25" E 102.00'(Field)
S 41°45'25" E 61.00'
N 41°45'25" W 55.50'
N 41°45'25" W 41.00'
S 41°45'25" E 41.00'
S 41°45'25" E 52.58'
N 41°45'25" W 41.00'
N 41°54'40" E 41.08'
N 41°54'40" E 99.18'
S 48°06'56" E 102.91'
S 81°14'28" E 133.55'
N 41°47'32" W 108.27'
N 67°02'01" E 120.65'
N 52°18'58" E 103.13'
N 41°17'32" W 92.28'
N 48°06'24" W 300.29'
S 41°54'23" W 108.22'
N 48°32'36" W 54.60'
S 41°42'25" W 52.58'
N 41°54'40" E 40.40'
S 41°54'23" W 5.38'
S 22°21'29" E 40.46'
S 14°22'54" W 35.31'
S 02°05'57" E 92°17'16"
S 43°38'50" W 0°47'41"
S 42°47'05" W 0°55'50"
S 47°40'39" E 60.00'
S 43°27'02" E 116.14'
S 43°20'06" E 114.46'
S 43°20'15" E 114.46'
S 43°20'24" E 114.46'
S 43°20'34" E 108.05'
S 43°20'15" E 106.75'
S 43°20'24" E 106.75'
S 43°20'34" E 106.75'
S 43°20'34" E 108.05'
S 43°20'24" E 114.46'
S 43°20'15" E 114.46'
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N 41°45'25" W 85.98'
S 41°45'25" E 108.00'
S 41°45'25" E 102.00'(Field)
N 41°45'25" W 108.79'
S 41°45'25" W 61.00'
N 41°45'25" W 85.98'
S 41°45'25" E 108.00

WES
ENGINEERS & SURVEYORS

June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Drumwright P.U.D., Phase 2B, Final Plat**
City of Columbia Staff Review Submittal

On behalf of AG Essential Housing Multi State 2, LLC, the owner of these 14 proposed single family lots, **WES Engineers & Surveyors** would like to resubmit this Final Plat to the City of Columbia for Planning Commission approval. Comments are addressed below in red.

Planning

1. Typical lot layout shows 20 secondary frontage setback and should reflect the note for such as 25. The typical lot layout has been corrected.

Engineering

2. Install asphalt binder and curbing by 5/22 resubmittal date. Understood.
3. Provide LOC in the amount of $125,000 by 5/22 resubmittal date. This will be provided by the developer.
4. Record/reference stormwater maintenance agreement. Will be recorded and added prior to the recording of the final plat.
5. Label streets as public or private and provide classification. The streets have been labeled.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors

Allen B. O'Leary

Allen B. O'Leary, RLS
Principal

RECEIVED
JUN 20 2023
By: 23-0140

2486 Nashville Hwy | Columbia, Tennessee 38401 | Phone: 931.388.2329 | Fax: 931.548.2013 | www.wesengineers.com

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0140

DESCRIPTION: Final Plat Phase 2B

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. Typical lot layout shows 20 secondary frontage setback and should reflect the note for such as 25

Engineering

2. Install asphalt binder and curbing by 5/22 resubmittal date
3. Provide LOC in the amount of $125,000 by 5/22 resubmittal date
4. Record/reference stormwater maintenance agreement
5. Label streets as public or private and provide classification

Fire

6. No comments

Building

7. No comments.

ATT

8. Plan to serve.
9. Plan to serve.

Wastewater

10. Wastewater approves this request.

Maury County Highway Dept.

11. No comment.

Columbia Power

12. Columbia Power System has an existing power line near your proposed development. We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

13. "Complete water system infrastructure, currently only mains are installed, no vaults, service lines, meter saddles or meter setters."

Maury County E911

14. Steadman Street is correct. Lymon Ridge Road is correct.

Maury County Schools

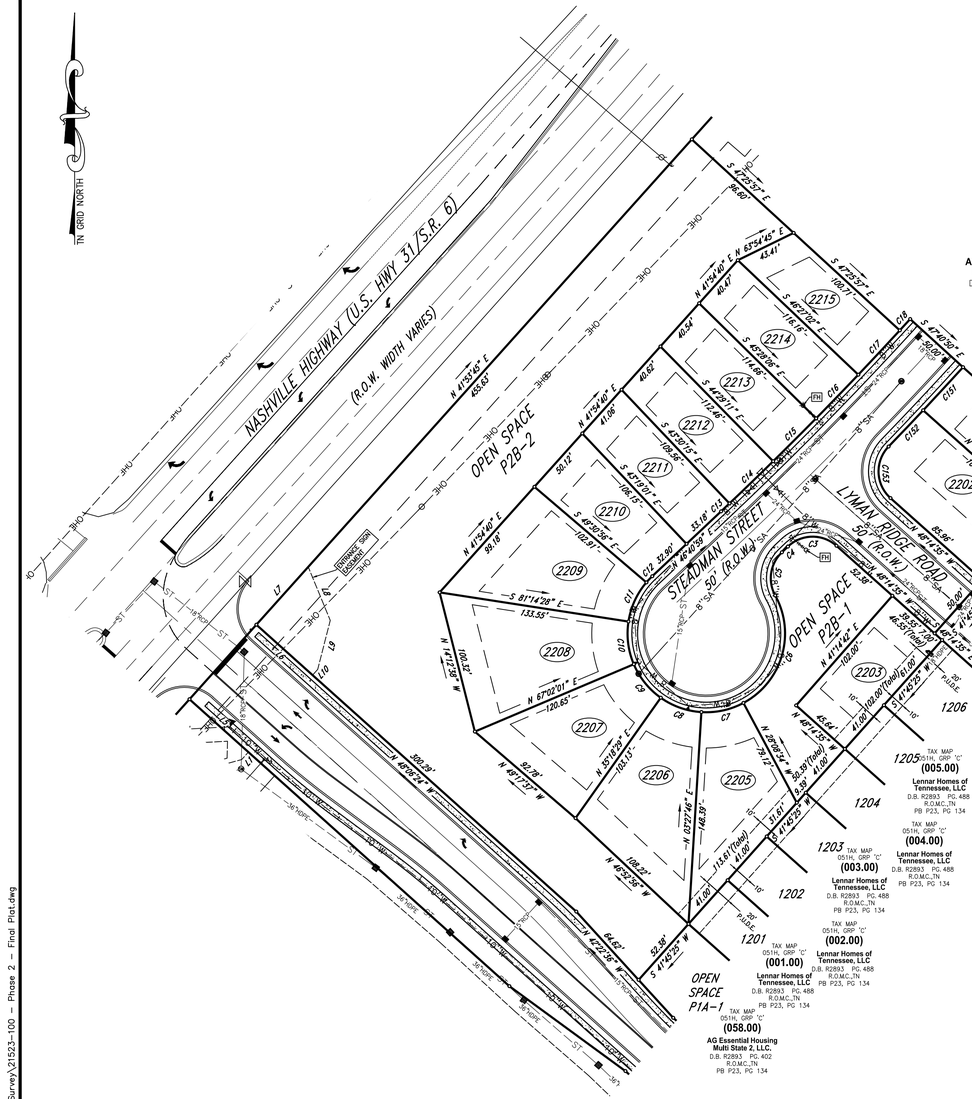
15. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Duck River Electric Membership Corp

16. No comment provided.

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.


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50' (R.O.W.)
LYMAN RIDGE ROAD
50' (R.O.W.)
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AG Essential Housing Multi State 2, LLC.
D.B. R2893 PG. 402
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June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Drumwright P.U.D., Phase 2B, Final Plat**
City of Columbia Staff Review Submittal

On behalf of AG Essential Housing Multi State 2, LLC, the owner of these 14 proposed single family lots, **WES Engineers & Surveyors** would like to resubmit this Final Plat to the City of Columbia for Planning Commission approval. Comments are addressed below in red.

Planning

1. Typical lot layout shows 20 secondary frontage setback and should reflect the note for such as 25. The typical lot layout has been corrected.

Engineering

2. Install asphalt binder and curbing by 5/22 resubmittal date. Understood.
3. Provide LOC in the amount of $125,000 by 5/22 resubmittal date. This will be provided by the developer.
4. Record/reference stormwater maintenance agreement. Will be recorded and added prior to the recording of the final plat.
5. Label streets as public or private and provide classification. The streets have been labeled.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors

Allen B. O'Leary, RLS
Principal

DocuSign Envelope ID: 6A61EF12-C288-41CA-B352-4D63252C4701

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Nashville Hwy, Columbia, TN		
	TAX MAP: 051	GROUP:	PARCEL: 032.01
SUMMARY OF NATURE OF REQUEST AND WORK	Request Final Plat approval for 14 single family residential lots - Phase 2B of Drumwright.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) Drumwright, Phase 2B ☑ Total Number of Lots 14 ☑ Total acreage ±3.81

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	AG Essential House Multi State 2, LLC	PHONE	
ADDRESS	2372 Nashville Highway Columbia, TN 38401	EMAIL	

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Lennar Homes of Tennessee LLC Nick Branum	NHBranum	04.04.2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Steven S. Benson, the manager of AGWIP Asset Management, LLC, an Arizona limited liability company, the Authorized Agent of AG Essential Housing Multi State 2, LLC	DocuSigned by: Steve Benson 5967935E778A4E5...	4/4/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Drumwright Phase 2D

Project #:	23-0142	Location:	Map 51 Parcel 32.00
Applicant:	Allen O'Leary	Case Type(s):	Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests approval of a Final Plat to create fifty-one townhome lots with accompanying infrastructure. The subdivision is part of a larger multiphase Planned Unit Development. The Planning Commission approved Preliminary Plat for the development in August 2022 (22-0173). The previous approvals created a vested right to develop under PUD Master Plan based on the RM-1 standards of the previous Zoning Ordinance.

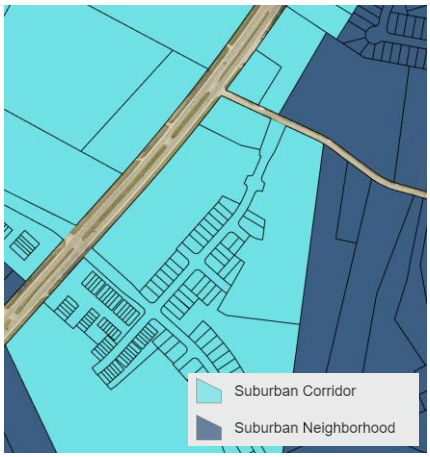
- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat conforms to the approved Preliminary Plat.
- The applicant has provided financial surety in the amount of $200,000 to guarantee completion of infrastructure.
- The applicant has executed a development agreement in the format prescribed by Appendix B of the Subdivision Regulations.
- The applicant will record a stormwater maintenance agreement prior to recordation of the Final Plat.
- The DRC reviewed this proposal at its May 2023 meeting. Staff review included standard comments and requests for technical corrections. Full technical comments are provided in the agenda packet.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

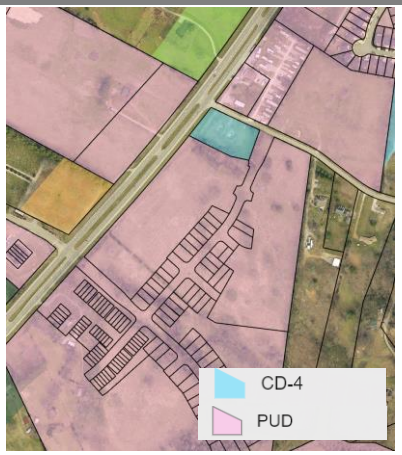
CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
PUD	In Development	Infrastructure for Development	+/- 5.30 Acres



FUTURE LAND USE MAP



ZONING MAP



SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	PUD	Vacant/Developing
North	Suburban Corridor	PUD	Townhomes (Developing)
South	Suburban Neighborhood	CD-2	Single Family
East	Suburban Corridor	PUD	Vacant/Developing
West	Suburban Corridor	PUD	Vacant/Developing

The subject site is part of the larger multiphase development. The property is bounded on the north and east by other portions of the development site. Nashville Highway abuts the property on the west. An existing single-family home is south of the property. City Council approve a PUD Master Plan for the site in September of 2020 (20-0078). The Planning Commission approved a Preliminary Plat (22-0173) for development of 126 lots on the site in August of 2022.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the PUD Master Plan, the modified RM-1 standards of the applicable zoning ordinance (3638), the Subdivision Regulations, and the approved Preliminary Plat.

- The proposed structures conform to the setbacks and other bulk standards of the Master Plan.
- The PUD include architectural standards. Conformity with these and other applicable zoning standards will be confirmed at the time of building permit.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*

1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;

2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and

3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.

B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

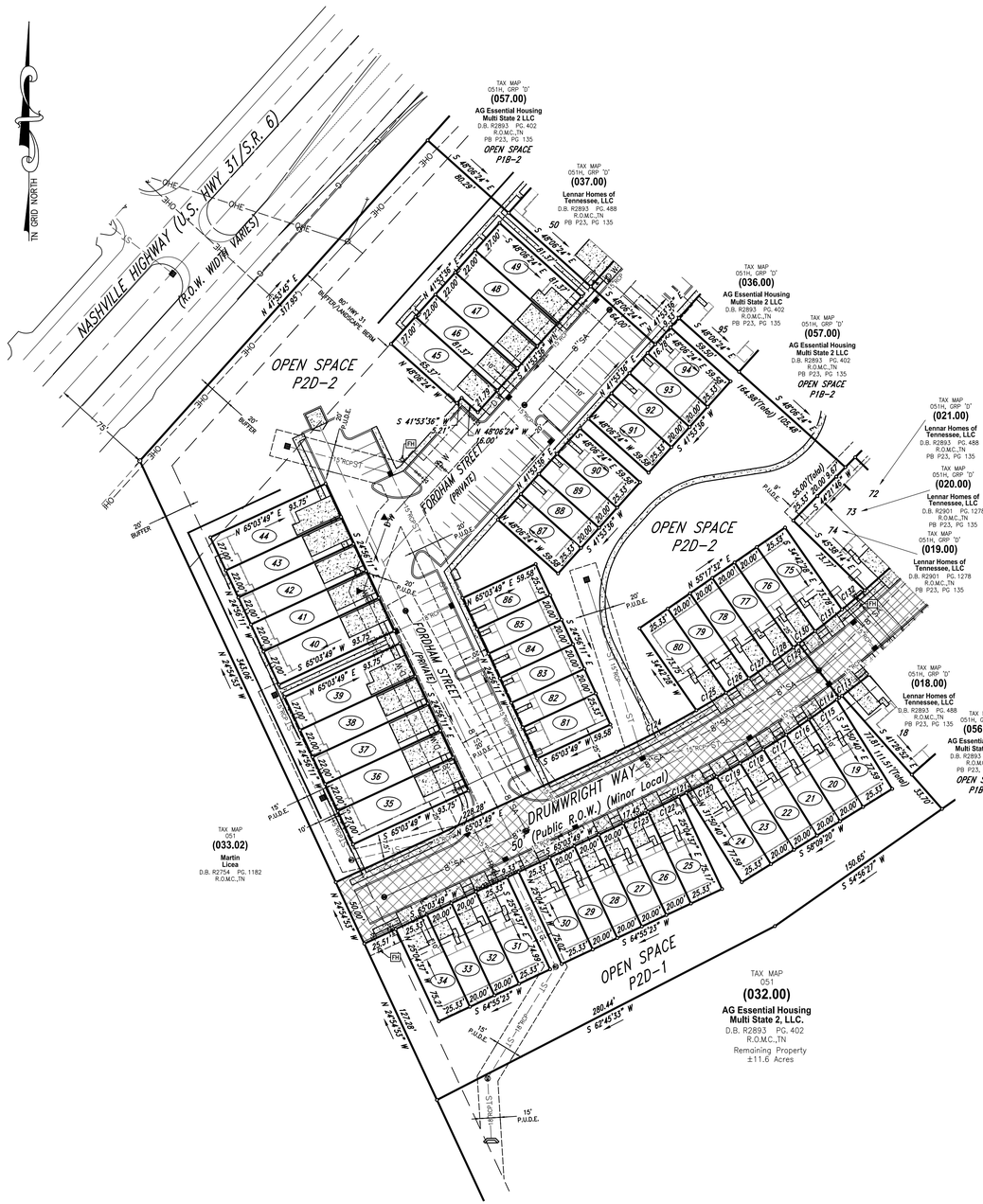
Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

Defer for Continued Review:

Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].


TN GRID NORTH
NASHVILLE HIGHWAY (U.S. HWY 31/S.R. 6)
(V.A.R.W. WIDTH VARIES)
N 41°53'45" E
317.85'
80' HWY. 31 BUFFER/LANDSCAPE SEEN
OPEN SPACE P2D-2
FORDHAM STREET (PRIVATE)
DRUMWRIGHT WAY (Public R.O.W.) (Minor Local)
50'
OPEN SPACE P2D-2
OPEN SPACE P2D-1
OPEN SPACE P1B-2
OPEN SPACE P1B-1
TAX MAP 051H, GRP 'D'
(057.00)
AG Essential Housing Multi State 2 LLC
D.B. R2893 PG. 402
R.O.M.C.,TN
PB P23, PG 135
TAX MAP 051H, GRP 'D'
(037.00)
Lennar Homes of Tennessee, LLC
D.B. R2893 PG. 488
R.O.M.C.,TN
PB P23, PG 135
TAX MAP 051H, GRP 'D'
(036.00)
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(021.00)
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R.O.M.C.,TN
PB P23, PG 135
TAX MAP 051H, GRP 'D'
(020.00)
Lennar Homes of Tennessee, LLC
D.B. R2901 PG. 1278
R.O.M.C.,TN
PB P23, PG 135
TAX MAP 051H, GRP 'D'
(019.00)
Lennar Homes of Tennessee, LLC
D.B. R2901 PG. 1278
R.O.M.C.,TN
PB P23, PG 135
TAX MAP 051H, GRP 'D'
(018.00)
Lennar Homes of Tennessee, LLC
D.B. R2893 PG. 488
R.O.M.C.,TN
PB P23, PG 135
TAX MAP 051H, GRP 'D'
(056.00)
AG Essential Housing Multi State 2 LLC
D.B. R2893 PG. 402
R.O.M.C.,TN
PB P23, PG 135
OPEN SPACE P1B-1
TAX MAP 051
(033.02)
Martin Licea
D.B. R2754 PG. 1182
R.O.M.C.,TN
TAX MAP 051
(032.00)
AG Essential Housing Multi State 2, LLC.
D.B. R2893 PG. 402
R.O.M.C.,TN
Remaining Property
±11.6 Acres
20' BUFFER
15' P.U.D.E.
20' P.U.D.E.
10' P.U.D.E.
8' SWA
5' SWA
S 41°53'36" W 7.21'
N 48°06'24" W 16.00'
S 41°53'36" E 116.00'
N 41°53'36" W 116.00'
S 48°06'24" E 184.98'(Total) 108.48'
S 48°06'24" E 56.00'(Total) 20.08' & 8.92'
S 41°53'36" E 20.00'
S 48°06'24" E 59.55'
N 41°53'36" W 20.00'
N 48°06'24" W 59.55'
S 41°53'36" E 20.00'
N 65°03'49" E 93.75'
S 65°03'49" W 93.75'
N 24°54'51" W 544.06'
S 24°54'51" E 270.00'
S 65°03'49" W 59.58'
N 65°03'49" E 59.58'
S 24°56'11" E 544.06'
N 65°03'49" E 228.28'
S 65°03'49" W 93.75'
N 24°54'51" W 122.08'
S 64°56'23" W 280.44'
S 67°42'35" W
S 54°59'27" W 190.65'
S 41°28'33" E 11.63'(Total) 15.00'
S 48°06'24" E 72.77'
S 41°53'36" E 72.78'
N 55°17'32" E 25.55'
S 54°42'28" E 22.77'
S 48°06'24" E 25.55'
S 41°53'36" E 25.55

WES
ENGINEERS & SURVEYORS

June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Drumwright P.U.D., Phase 2D, Final Plat**
City of Columbia Staff Review Submittal

On behalf of AG Essential Housing Multi State 2, LLC, the owner of these 51 proposed townhome lots, **WES Engineers & Surveyors** would like to resubmit this Final Plat to the City of Columbia for Planning Commission approval. Comments are addressed below in red.

Engineering

1. Install asphalt binder and curbing by 5/22 resubmittal date. Understood.
2. Provide LOC in the amount of $265,000 by 5/22 resubmittal date. This will be provided by the developer.
3. Record/reference stormwater maintenance agreement. Will be recorded and added prior to the recording of the final plat.
4. Label Drumwright Way as public or private and provide classification. The streets have been labled.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors

Allen B. O'Leary

Allen B. O'Leary, RLS
Principal

RECEIVED
JUN 20 2023
23-042

2486 Nashville Hwy | Columbia, Tennessee 38401 | Phone: 931.388.2329 | Fax: 931.548.2013 | www.wesengineers.com

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0142

DESCRIPTION: Final Plat Phase 2D

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Install asphalt binder and curbing by 5/22 resubmittal date
2. Provide LOC in the amount of $265,000 by 5/22 resubmittal date
3. Record/reference stormwater maintenance agreement
4. Label Drumwright Way as public or private and provide classification

Fire

5. No comments

Building

6. No comments.

ATT

7. Plan to serve.

Wastewater

8. Wastewater approves this request.

Maury County Highway Dept.

9. No comment.

Columbia Power

10. Columbia Power System has an existing power line near your proposed development. We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

11. "Complete water system infrastructure, currently only mains are installed, no vaults, service lines, meter saddles or meter setters."

Public Works

12. We recommend a double enclosure to fit two 8-yard dumpsters. One dumpster will be pushing capacity even when emptied 3 days a week. Please see attached dumpster guidelines and accessibility requirements. Private sanitation services are an option for townhomes.

Maury County E911

13. Fordham Street - is correct.

Maury County Schools

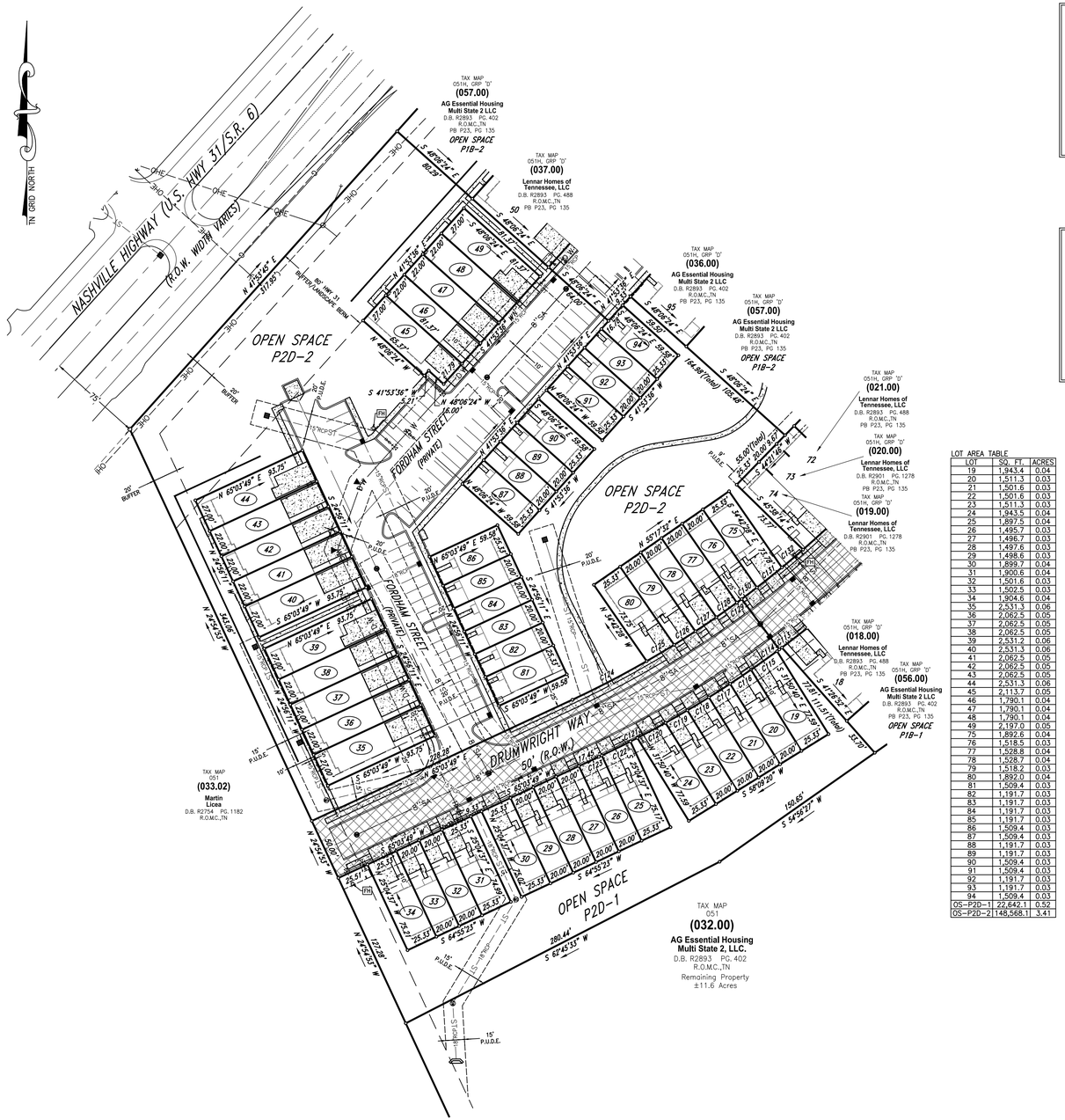
14. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Duck River Electric Membership Corp

15. No comments provided.

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.


TN GRID NORTH
NASHVILLE HIGHWAY (U.S. HWY 31/S.R. 6)
(V.A.R.W. WIDTH VARIES)
N 41°53'45" E
317.85'
80' HWY. 31 BUFFER/LANDSCAPE BERM
OPEN SPACE P2D-2
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OPEN SPACE P1B-1
OPEN SPACE P2D-1
FORDHAM STREET (PRIVATE)
DRUMWRIGHT WAY (R.O.W.)
50' (R.O.W.)
S 41°53'36" E
184.98'(Total)
S 48°06'24" W
16.00'
N 41°53'36" W
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N 48°06'24" E
16.00'
S 65°03'49" W 59.58'
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N 24°56'11" W 544.06'

April 17, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

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Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal

DocuSign Envelope ID: 6A61EF12-C288-41CA-B352-4D63252C4701

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Nashville Hwy, Columbia, TN		
	TAX MAP: 051	GROUP:	PARCEL: 032.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request Final Plat approval for 51 townhome lots - Phase 2D of Drumwright.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) Drumwright, Phase 2D ☑ Total Number of Lots 51 ☑ Total acreage ±5.38

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

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APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	AG Essential House Multi State 2, LLC	PHONE	
ADDRESS	2372 Nashville Highway Columbia, TN 38401	EMAIL	

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Lennar Homes of Tennessee LLC Nick Branum	Nick Branum	04-04-2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Steven S. Benson, the manager of AGWIP Asset Management, LLC, an Arizona limited liability company, the Authorized Agent of AG Essential Housing Multi State 2, LLC	DocuSigned by: Steve Benson 526792SE778A4E5...	4/4/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

CITY OF COLUMBIA TENNESSEE
PLANNING COMMISSION
STAFF REPORT

STAFF REPORT CONTACT INFORMATION
Kevin McCarthy, kmccarthy@columbiatn.com, 931-560-1560

APPLICATION NUMBER	APPLICANT/PROPERTY OWNER
23-0093	**Susan Stephenson/ Various**
PUBLIC HEARING DATE	PROPERTY ADDRESS/LOCATION
N/A	**Carriage Hills Subdivision/ Various Parcels Tax Maps 66F and 66K**

SUMMARY OF REQUEST: **Zoning Map Amendment (CD-3 to CD-3L)**

The applicant, a representative of a larger group of property owners, requests to rezone 52 existing single-family lots and portions of an additional 3 lots. All together the subject properties comprise approximately 33 acres in the Carriage Hills subdivision from CD 3 (Neighborhood Character District) to CD-3L (Neighborhood- Large Lot Character District).

This request is unusual in that it is made by a group of property owners who do not intend to further develop the subject properties. The concept plan submitted with the request is simply the current lot configuration of the neighborhood. This report summarizes staff analysis regarding consistency, conformity, and compatibility of the proposed rezoning. The applicant also provided a thorough explanation of how the request satisfies the approval criteria for a rezoning as part of the response to technical comments.



MAP SOURCE: City GIS

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	SITE IMPROVEMENTS PROPOSED	SIZE OF PROPERTY
CD 3	Single-Family Home	CD-2/ SD-LI/Unincorporated Single-Family Homes/Vacant/Light Industrial Services	Single-Family Homes	± 33 Acres

CONSISTENCY with the **COMPREHENSIVE PLAN:**	**PROPERTY HISTORY:**
Suburban Neighborhood: The future land use of the subject property is Suburban Neighborhood. The classification is characterized by residential neighborhoods with limited intermixed and compatible civic uses. The requested CD-3L zoning designation is consistent with the Suburban Neighborhood future land use classification.	Existing improvements on the property consists of single-family homes and various accessory structures. The homes were constructed outside the City of Columbia in 1980s and 90s. The City annexed the neighborhood in the early 2000s.

CONFORMITY to the ZONING ORDINANCE:

As required by § 8.5.19.F.3 of the Zoning Ordinance, the applicants provided a concept plan (i.e. "Sketch Development Plan"). In this case the applicants do not intend to develop the properties and simply provided a cadastral map depicting the current lot configuration.

The lots at 104, 108, and 112 Saxon Court are partially in the City and partially in unincorporated Maury County. The street frontages and existing principal structures are located inside Columbia. For those properties, the rezoning would only impact the portions located inside the corporate limits of Columbia.

Zoning Ordinance Referenced:

Proposed CD-3L Character District (Table 4.3.1-C, p. 56-65)

Both the current and requested zoning designations are residential in character. The Zoning Ordinance permits two dwelling unit per acre in CD-3L and four dwelling units per acre in CD-3. The minimum lot width for a "front-loaded" single family home is 100 feet in a CD-3L and 65-feet in a CD-3. House (i.e. detached single family homes) is the only permitted structure type in CD-3L. The CD-3 permits the duplex (i.e. two-family homes) structure type on lots with at least 100 feet of frontage under limited circumstances.

The Ordinance describes the CD-3L Neighborhood District as a low density single-family detached residential area in which houses form the predominant building type. Lots and building sites are large with medium to deep setbacks. Thoroughfares form medium to large-sized blocks, may have curbs, and may include sidewalks and street trees. The district permits a maximum density of two dwelling units per acre. CD-3L is an appropriate implementing district for the Suburban Neighborhood future land use classification.

Lot/Building Site Width (Table 4.3.1-C, p. 57)

- Minimum lot width of 100
- No less than 80% of lots must enfront a vehicular thoroughfare or internal drive conforming to the standards of the Ordinance and Subdivision Regulation
- Up to ≤ 20% of the lots may enfront a pedestrian path, passage, pedestrian walkway if such Lots have legal and physical vehicular access to a vehicular thoroughfare via driveway or Easement

Lot Standards/ Principle Buildings (Table 4.3.1-C, p. 68)

- 30' min front setback
- 12' ft min side setback
- 30' min rear setback (measured from the rear property line or centerline of rear alley as applicable)

Staff Comment:

The request to rezone all lots in an existing built-out subdivision is unusual. The change in entitlements is unlikely to change the physical character of the neighborhood. The existing homes and lots generally conform to the CD-3L standards, although cul-de-sac lots on Saxon Court have less than 100 feet of frontage. Although it is unlikely, some lots in the neighborhood could accommodate duplexes under the current CD-3 zoning. Changing the zoning to CD-3L would eliminate this option, effectively "downzoning" the properties by reducing the maximum permissible intensity of development.

ATTACHMENTS (CIRCLE)	SUBMITTED PLANS	CITY MAPS	LEGAL NOTICE	LEGAL DESCRIPTION
	PUBLIC COMMENTS	AGENCY COMMENTS	RESPONSE TO STANDARDS	

Zoning Map Amendment:

Staff reviewed the request for a zoning map amendment for conformity with the standards listed in the City of Columbia Zoning Ordinance. The relevant provisions of the Ordinance are listed below, followed by staff analysis.

Staff's review of Section 8.5.19.H.4 in relation to this request finds the following:

a. Whether the Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;

The subject properties have a future land use classification of Suburban Neighborhood (Connect Columbia Map 4). Both the current and proposed character districts are consistent with the Suburban Corridor future land use classification (Connect Columbia p.22; Table 3.7.1 p.36 of Zoning Ordinance).

Most of the subject properties are not located in an Area of Change; some of the lots in the northern portion of the subdivision are located within an Area of Change (Connect Columbia Map 3). The partial inclusion of the neighborhood in an Area of Change appears to be an error. The Area of Change map appears to indicate that in 2017-2018, the Planning Commission determined that the development pattern was established and changes to overall character of the area should rarely occur. This does not necessarily mean that the proposed change is inconsistent with Connect Columbia. However, the plan advises a "pause" and careful review to ensure that the context of the area surrounding the subject property is considered (Connect Columbia p. 14).

b. Whether the legal purposes for which zoning exists, as set forth in Section 1.5[, are not

contravened];[1]

All future use of the properties will be required to conform to the standards of the Zoning Ordinance. The standards protect and promote the public health, safety, morals, comfort, convenience, and general welfare of the people and community (§ 1.5.1.A p. 6).

The requested rezoning will potentially reduce the beneficial use of property by eliminating the option to construct duplexes on some lots (§ 1.5.1.P p. 7). However, the predominate and actual use of the properties for single family homes will not change.

The Planning Commission may determine that the proposed rezoning furthers the other purposes of zoning listed at §§ 1.5.1 and 1.5.2 of the Ordinance.

c. Whether there will be any adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;

There are no known adverse effects upon adjacent property owners.

d. Whether any one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;

Rezoning the property will not confer material benefits to the owners. Any potential detrimental effects on the general public can be mitigated through the standards in the Zoning Ordinance.

e. Whether conditions affecting the area have changed to a sufficient [extent] to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;[2]

The proposed change to the zoning map does not have a material impact on the city as a whole or the subject properties, except that that maximum potential development of the neighborhood would be reduced by a few units. The unanimity of the residents in making this request indicates that the change (elimination of potential duplex units) is the desire of the Carriage Hills residents.

f. Whether adequate school, road, parks, wastewater treatment, water supply, and stormwater

[1] Ordinance 4400 contains this incomplete sentence. The previous ordinance contained a nearly identical list of criteria at § 3.18.7.B. The corresponding criterion in Ordinance 3638 read "the legal purposes for which zoning exists are not contravened."

[2] The word *extent* was unintentionally omitted in the drafting of Ordinance 4400. The word was present in the corresponding criterion in Ordinance 3638.

drainage facilities are available.

The Carriage Hills neighborhood is already established. Residents benefit from established urban services except that most properties in the subdivision are served by private septic systems and do utilize sanitary sewer. The proposed rezoning would reduce rather than increase the potential number of households on the subject properties. In practically terms the total number of dwelling units will not change. Technical comments from public service providers generally indicate that services remain in place. However, Maury County Schools, did submit comments on the proposed rezoning indicating that the high school which serves families in Carriage Hills is currently operating above capacity.

Re: Carriage Hills Subdivision Proposed Rezoning-Responses requested of the applicant by Planning per the Development Review Committee Meeting held on Tuesday, April 11, 2023:

Responses to the 8.5.19h.4 criteria outlined in Planning Commission Action:

a) The rezoning request is consistent and not in conflict with the Comprehensive Plan since the Carriage Hills Subdivision area is designated as Suburban Neighborhood.

b) The City of Columbia has determined that the legal purposes for zoning exist and are outlined in Ordinance 440, Section 1.5 – Purposes, Intent & Objectives: 1.5.1 – General (A)-(P) on pages 6-7.

c) 1. There are no adverse effects upon adjoining property owners. This Subdivision was established prior to 1989 and most of the original homebuilders and owners still reside in the Subdivision today. Every homeowner in Carriage Hills Subdivision is in agreement with the rezoning request and all of them concur with this downzoning. Every one of the 55 homes located in this subdivision are represented on the petition that we have submitted and this is reflected with the signatures of all 88 homeowners.
2. The 4 adjoining property owners are large agricultural parcels that include a 19-acre cattle farm and a 12-acre horse farm, both of which are mostly in the county, a 4.5-acre farm in the county, a 40-acre heavily-forested area in the county that was heavily mined, and a 30-acre parcel that has been vacant for over 35 years. Again, these few contiguous farm properties consist of only 3 large agricultural homesteads and land that has been determined unbuildable by the owner (due to sink holes, caverns, and a lot of rock).

d) No one property owner or small group of property owners will benefit materially from the change, nor will it cause any detriment to the general public.

e) 1. It has been determined that conditions affecting the area <u>have changed to warrant the Zoning Map Amendment and this new CD-3L rezoning will reflect the Larger Lot Character District our homes and lots represent.</u> Every lot in Carriage Hills Subdivision has the frontage width that is required for the CD-3L zoning classification.
2. Around 2005, Carriage Hills Subdivision was annexed into the City of Columbia and initially zoned RS-15. It was then changed to RS-10 when RS-15 was eliminated. However, none of the homes on Carter's Creek Pike, Concord Drive or Lenox Drive were less than 20,000 square feet (RS-20) and most are significantly larger. Subsequently, a Lenox Drive extension, Dover Drive, Grayson Place, Saxon Court, and a Lenox Drive extension were then built and additional homes were constructed on lots that were comparable to ours or even larger. The lots in Carriage Hills Subdivision range from approximately 1/2-acre, ½-acre+, 1+ acre, on up to 3.4-acres, and everything in between. <u>However, the Zoning Ordinance today focuses on the frontage width of lots, not the square footage of the lots.</u>
3. The CD-3L downzoning for a less intensive and more restrictive classification reflects the lots within the Subdivision and therefore CD-3L is the appropriate zoning for Carriage Hills Subdivision. The zoning classification should correspond with and complement the large homes and lots that exist in Carriage Hills. We want to protect our home and property values.

f) This is a long-established, built-out Subdivision. Maury County schools expressed that they "had no concerns with neighborhood design," and no other city department, county department or entity had any comments or questions, except for Planning which has been addressed.

Responses to the K.6. criteria outlined in City Council Action:

a) The rezoning request is in agreement with the Comprehensive Plan since the Carriage Hills Subdivision area is designated as Suburban Neighborhood.
b) The City of Columbia has determined that the legal purposes for zoning exist and are not contravened (reference outline in Ordinance 440, Section 1.5 – Purposes, Intent & Objectives: 1.5.1 – General (A)-(P) on pages 6-7).
c) 1. There are no adverse effects upon adjoining property owners. This Subdivision was established prior to 1989 and most of the original homebuilders and owners still reside in the Subdivision today. Every homeowner in Carriage Hills Subdivision is in agreement with the rezoning request and all of them concur with this downzoning. Every one of the 55 homes located in this subdivision are represented on the petition that we have submitted and this is reflected with the signatures of all 88 homeowners.
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Footnote:

1. It has been determined that conditions affecting the area have changed to warrant the Zoning Map Amendment and this new CD-3L rezoning will reflect the Larger Lot Character District our homes and lots represent. Every lot in Carriage Hills Subdivision has the frontage width that is required for the CD-3L zoning classification.
2. Around 2005, Carriage Hills Subdivision was annexed into the City of Columbia and initially zoned RS-15. It was then changed to RS-10 when RS-15 zoning was eliminated. However, none of the homes on Carter's Creek Pike, Concord Drive or Lenox Drive were less than 20,000 square feet (RS-20) and most are significantly larger. Subsequently, a Lenox Drive extension, Dover Drive, Grayson Place, Saxon Court, and a Lenox Drive extension were then built and additional homes were constructed on lots that were comparable to ours or even larger. The lots in Carriage Hills Subdivision range from approximately 1/2-acre, ½-acre+, 1+ acre, on up to 3.4-acres, and everything in between. <u>However, the Zoning Ordinance today focuses on the frontage width of lots, not the square footage of the lots.</u>
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Sue Stephenson, Representative
Carriage Hills Subdivision
April 16, 2023

CITY OF COLUMBIA
TENNESSEE

ITEM # 1

DEVELOPMENT REVIEW COMMITTEE COMMENT FORM

April 11, 2023

NAME OR DEPARTMENT: Maury County 911

Case Number: 23-0093

Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivision located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

COMMENTS:

No Comment

CITY OF COLUMBIA
TENNESSEE

ITEM # 1

DEVELOPMENT REVIEW COMMITTEE COMMENT FORM

April 11, 2023

NAME OR DEPARTMENT: Wastewater

Case Number: 23-0093

Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivision located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

COMMENTS:

Columbia Wastewater has no concern with this change.

1
23-0093

CPWS
Columbia Power & Water Systems

201 Pickens Lane
P.O. Box 379
Columbia, TN 38402

P 931.388.4833
F 931.388.5287
www.cpws.com

April 5, 2023

Susan Stephenson

Re: Rezone several properties within Carriage Hills subdivision located off Carters Creek Pike from CD-3 to CD-3L (Neighborhood large lot character District)

Dear Sir:

Columbia Power System has an existing power line near your proposed development.

We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

- **Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.**

Yours truly,

COLUMBIA POWER SYSTEM

Ryan Massey, P.E.
Vice President of Power Operations

kw

CITY OF COLUMBIA
TENNESSEE

ITEM # 1

DEVELOPMENT REVIEW COMMITTEE COMMENT FORM

April 11, 2023

NAME OR DEPARTMENT: Maury County Public Schools

Case Number: 23-0093

Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivision located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

COMMENTS:

Current Zones and Capacity: Spring Hill Elementary School (82%), Spring Hill Middle School (55%), Spring Hill High School (102%).

1) **No residence is guaranteed zone to a specific school.**
2) **All zones are subject to change yearly.**
3) **No concerns with neighborhood design.**

CITY OF COLUMBIA
TENNESSEE

ITEM # 1

DEVELOPMENT REVIEW COMMITTEE COMMENT FORM

April 11, 2023

NAME OR DEPARTMENT:
ATT

Case Number: 23-0093

Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivision located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

COMMENTS: ATT INTENDS TO SERVE

CITY OF COLUMBIA
TENNESSEE

ITEM # 1

DEVELOPMENT REVIEW COMMITTEE COMMENT FORM

April 11, 2023

NAME OR DEPARTMENT: Atmos Energy

Case Number: 23-0093

Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivision located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

COMMENTS:

No Comment

CITY OF COLUMBIA
TENNESSEE

ITEM # 1

DEVELOPMENT REVIEW COMMITTEE COMMENT FORM

April 11, 2023

NAME OR DEPARTMENT: CPWS Broadband

Case Number: 23-0093

Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivision located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

COMMENTS: Plan to Serve

Sandra Richardson

From: Mike Harris <mike.harris@inflodesign.com>
Sent: Wednesday, April 12, 2023 1:29 PM
To: Melissa Sanders; Sandra Richardson
Cc: Eric King; Jason English; Bart Anderson; Shane Andrews; Darrin Hall; Jermaine Cooper; Bridgett Griggs; Jonathan Hardin; Barney Fullington
Subject: [External Email] - Development Committee CPWS Water Comments

Sandra and Melissa,

See CPWS Water Comments below for the April Development Committee Meeting. Please let us know if you have any questions!

23-0093 - Request from Susan Stephenson for approval to rezone multiple properties within Carriage Hills Subdivison located off Carters Creek Pike from CD-3 (Neighborhood Character District) to CD-3L (Neighborhood Large Lot Character District).

"No comments"

23-0094 - Request from Jacob Vincent for preliminary plat and development plan approval of Rock Springs consisting of four phases and 187 lots at Tax Map 92 Parcels 11.01 and 11.02.

"A Water Availability Letter was recently issued. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any Off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

23-0095 - Request from TKC Architect and Engineering for final plat and surety approval of Williamsport Pike Townhomes Phase 1 consisting of 91 units off Williamsport Pike and Twin Lakes Drive.

"Complete water system infrastructure per approved plans, complete pressure and bacterial test, deed infrastructure to CPWS."

23-0096 - Request from T-Square Engineering for final plat and surety approval of Quail Run Meadows Phase 3 consisting of 34 lots off Quail Run Way.

"Complete remaining water system infrastructure per approved plans, perform bacteria testing and deed infrastructure to CPWS"

23-0097 - Request from Adam Crunk for preliminary and final plat approval for Honey Farm Crossings being a six lot subdivision at Nashville Highway and Honey Farm Way.

"No comments."

23-0099 - Request from WES Engineers & Surveyors for preliminary plat approval at 1009 Woodland Street consisting of four lots.

LABELS

LEADERLINES

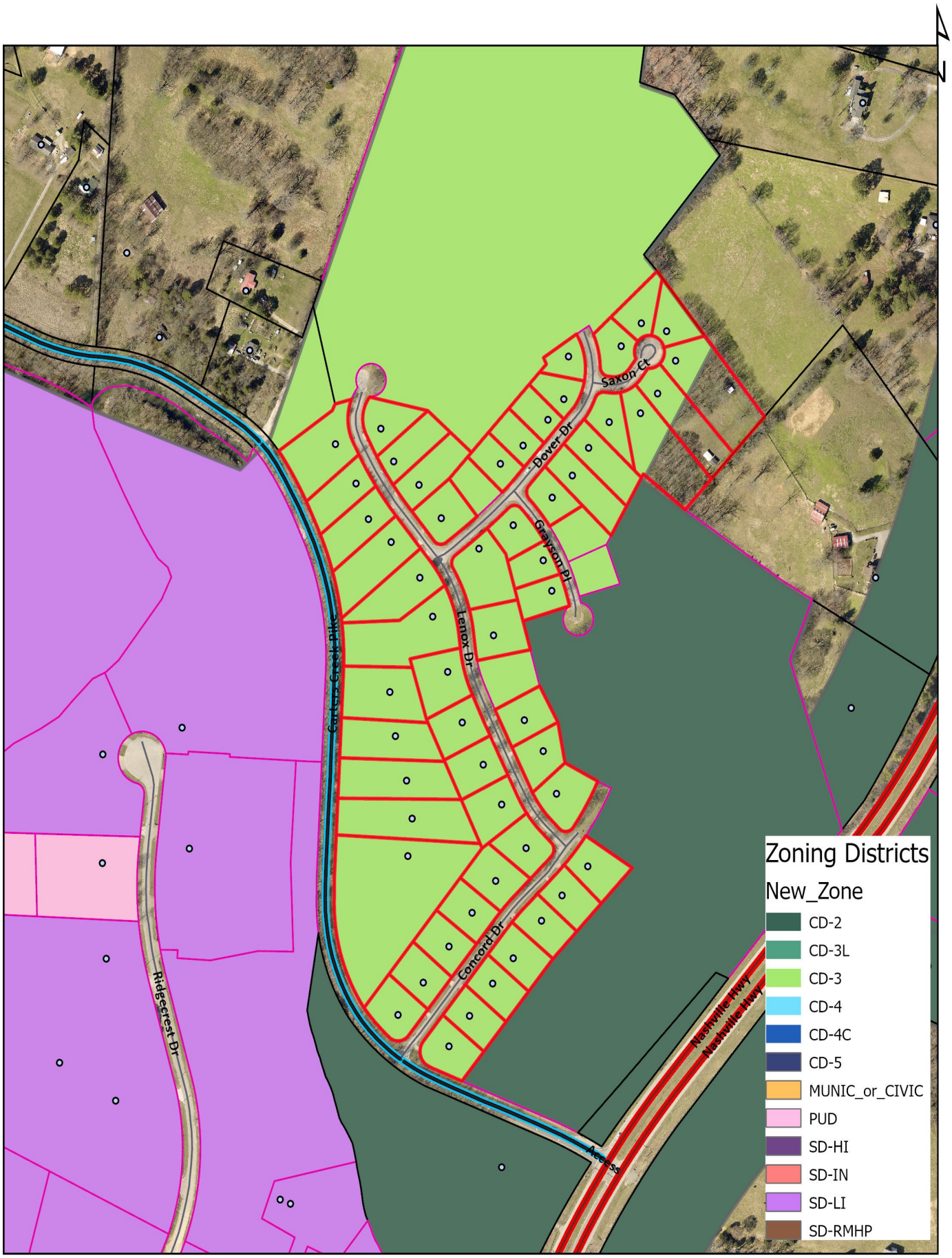
TEXT_PARCEL

PARCELS

2020_ORTHOS (Image)

MAURY COUNTY, TENNESSEE

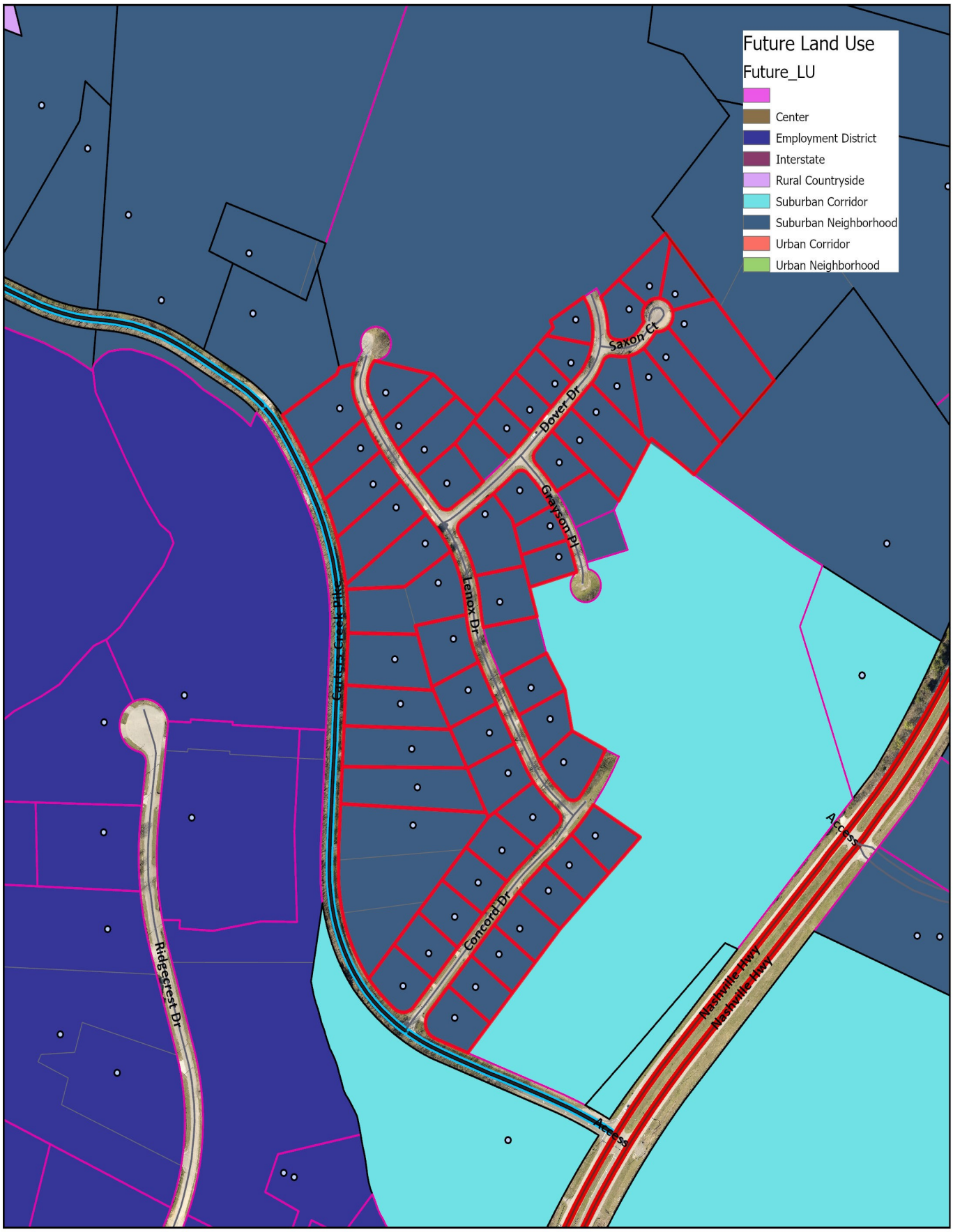
DISCLAIMER: THIS MAP IS FOR PROPERTY TAX ASSESSMENT PURPOSES ONLY. IT WAS CONSTRUCTED FROM PROPERTY INFORMATION RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, AND IS NOT CONCLUSIVE AS TO LOCATION OF PROPERTY OR LEGAL OWNERSHIP.



23-0093
Carriage Hills Subdivision

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541



23-0093
Carriage Hills Subdivision

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

This Instrument Prepared By:
K. Brian Hay, Attorney at Law
104 W. 6th Street, Ste. 200
Columbia, TN 38401

MAIL

BROKER TITLE AND ESCROW LLC
1404 7TH AVE S
NASHVILLE, TN 37212

Name and Address of New Owner:	Name and Address of Entity Responsible for Payment of Real Property Taxes
Patrick Lucero and wife Carol Lucero	New Owner
1125 Dover Drive	
Columbia TN 38401	

WARRANTY DEED

FOR AND IN CONSIDERATION OF One Dollar ($1.00) and other good and valuable consideration, the receipt and legal sufficiency of all of which are hereby acknowledged, **Wanda H. Smith, an unmarried person** *(herein called "Grantor")*, has this day bargained and sold, transferred and conveyed and by these presents does bargain, sell, transfer and convey unto **Patrick Lucero and wife Carol Lucero** *(herein called "Grantee")* the following described property situated and located in Maury County, Tennessee, to wit:

SITUATE in the THIRD (3RD) Civil District of Maury County, Tennessee and being more particularly described as follows:

Lot 51 of the Carriage Hills Subdivision, Section II as shown by a map of record in Plat Book 8 at page 82 in the Maury County, Tennessee Register of Deeds office, which is incorporated herein by reference for a more complete property description.

BEING the same property conveyed to Wanda H. Smith by instruments of record in Book R1500 at page 370 (corrected in Book R1672 at page 200) and Book R2006 at page 1072 in the Maury County, Tennessee Register of Deeds office.

Tax Parcel #066F-A-16.00

The property description used herein above is the same as contained in the last deed of reference and no new boundary survey is available.

TO HAVE AND TO HOLD the aforesaid real estate, together with all appurtenances and hereditaments thereunto appertaining unto Grantee, its successors and assigns in fee simple forever.

Grantor covenants that Grantor is lawfully seized and possessed of said real estate, has full power and lawful authority to sell and convey the same; that the title thereto is free, clear and unencumbered except for easements and restrictions, if any, appearing in the Maury County, Tennessee Register of Deeds office; and, Grantor will forever warrant and defend the same against the lawful claims of all persons whomsoever.

The words "Grantor" and "Grantee" shall include their respective successors and assigns where the context requires or permits.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed on this 24th day of November, 2015

GRANTOR:

Wanda H. Smith

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

TAX YEAR 2023 MAURY	060	066F	A	016.00		000
	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

1125 DOVER DR
Property Address
Ownership and Mailing Address

LUCERO PATRICK ETUX CAROL
1125 DOVER DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **51** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **147.02X150.33 IRR**

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**3 Part Basement**
Stories	**1 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**2001**	Eff Yr Built	**2007**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **0**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

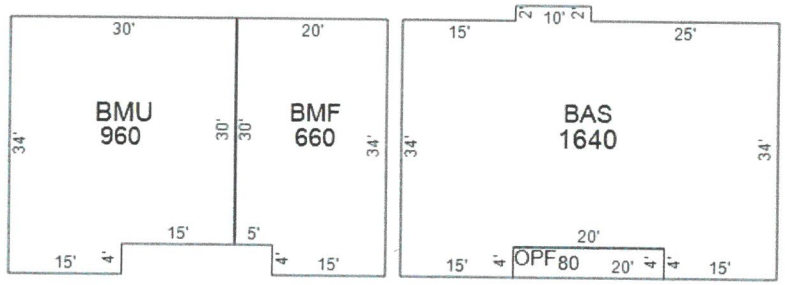
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**03 Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**03 Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**03 Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **15**	Other Phys	Functional	External	% Good **85**	

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,640	**1.083**	**1**	**1.07**	**1.07**	**1,640**	**2022**	**15**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**231,360**	**60,330**	**291,690**	**177.86**	Dwelling Factor	**1**
RCNLD	**196,660**	**51,280**	**247,940**	**151.18**	Dwelling Value	**247,940**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,640**			
	BMF	**660**	**0**	**50.27**	**33,180**
	OPF	**80**	**0**	**37.75**	**3,020**
	BMU	**960**	**0**	**25.14**	**24,130**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**253,500**
TOTAL APPRAISAL	**313,500**
GREENBELT APR	
ASSESSMENT	**78,375**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**313,500**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006** By **32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**2001**	**2001**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
WDK	**Wood Deck**	**2001**	**2001**	**200**	**C**	**1**	**10 X 20**		**20.85**	**AV**	**4,170**	**37**		**1**	**1,540**
PTO	**Patio**	**2001**	**2001**	**336**	**C**	**1**	**14 X 24**		**7.8274**	**AV**	**2,630**	**37**		**1**	**970**

Total OBY Value **5,510**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**147**	**150**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
11/24/2015	**R2348**	**1006**	**198,000**	**198,000**	**I**	**WD**	**A**	**LUCERO PATRICK ETUX CAROL**
09/21/2007	**R2006**	**1072**						**SMITH WANDA H**
12/30/2002	**R1672**	**200**						**SMITH WAYNE ETUX**
08/30/2000	**R1500**	**370**	**17,000**	**17,000**	**V**	**WD**	**A**	**SMITH WAYNE ETUX**

NOTES

R22: CHG DRW VAL PER 32 *CB - 22: ADD PTO, CHG WDK PER 51 *CB

This Instrument Prepared by and Return to:
Bell & Alexander Title Services, Inc.
8110 Isabella Lane, 2nd Floor
Brentwood, TN 37027

STATE OF TENNESSEE
COUNTY OF Williamson

The actual consideration or value, whichever is greater is $330,000.00.

Affiant

Subscribed and sworn before me this the 27th day of July, 2021.

Notary Public
My commission expires: 9-6-22

DIANA K GALL
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY

WARRANTY DEED

Address of New Owner:	Send Tax Bill to:	Tax Information:
Bradley J. Imburgia and Michelle N. Imburgia 1113 Dover Drive Columbia, TN 38401	Churchill Mortgage Corporation 1749 Mallory Lane, Suite 100 Brentwood, TN 37027	066F A 019.00

For and in consideration of the sum of ten and no/100 dollars ($10.00), cash in hand paid by the hereinafter Grantees, and other good and valuable consideration, the receipt of which is hereby acknowledged, STEPHEN DICK, AN UNMARRIED MAN, AND SHARI DICK, AN UNMARRIED WOMAN, hereinafter referred to as Grantors, have bargained and sold, and do hereby transfer and convey to BRADLEY J. IMBURGIA AND MICHELLE N. IMBURGIA, HUSBAND AND WIFE, hereinafter called the Grantees, their successors and assigns, a certain tract or parcel of land, together with all tenements, hereditaments and appurtenances thereto located in Maury County, State of Tennessee, described as follows:

Land in Maury County, Tennessee and being more particularly described as Lot 54 in the Carriage Hills Subdivision, Section 2, as shown by Final Plat of record in Plat Book 8, page 82, Register's Office for said County, to which plan reference is hereby made for a more complete description.

Being the same property conveyed to Shari Dick and Stephen Dick, wife and husband, by deed dated 01/28/2019, from Michael G. Lester and wife, Melissa K. Lester, of record in Book R2539, page 775, Register's Office for said County.

Subject to all Easements and Restrictions of record.

THIS IS IMPROVED PROPERTY KNOWN AS 1113 Dover Drive, Columbia, TN 38401.

To have and to hold the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said Grantees, their heirs, successors and/or assigns, forever. Grantors covenant with Grantees that Grantors are lawfully seized and possessed of said land in fee simple, have a good right to convey it, and the same is unencumbered, unless otherwise herein set out. Grantors do further covenant and bind ourselves, our heirs, successors, assigns and representatives, to warrant and forever defend the title to said land to said Grantees, their successors, heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

BK/PG: R2754/651-652
21016201

2 PGS:AL-WARRANTY DEED	
JANE BATCH: 253027	07/28/2021 - 09:35 AM
VALUE	330000.00
MORTGAGE TAX	0.00
TRANSFER TAX	1221.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1234.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1113 DOVER DR Property Address	Subdivision **CARRIAGE HILLS SEC 2** BK **8** PG **82** BLOCK LOT **54** TRACT	**TAX YEAR 2023** **MAURY**	**060**	**066F**	**A**	**019.00**		**000**
Ownership and Mailing Address	Alt Subdiv BK PG BLOCK LOT TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
IMBURGIA BRADLEY J ETUX MICHELLE N **1113 DOVER DR** **COLUMBIA TN 38401**	Additional Description Dimensions **100.00X160.97 IRR**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066F** Dist **03**		Updated 10/27/2022 Printed 03/17/2023			
			Card: 1 of 1					
			Page: 1 of 1					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1996**	Eff Yr Built	**2014**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**	Amount **0**		Sched

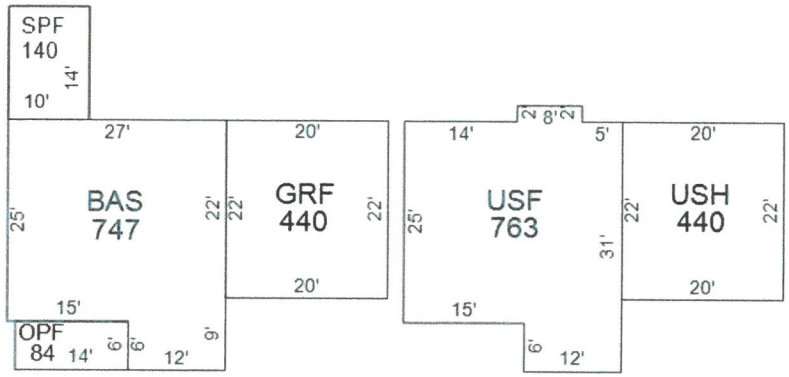
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:		
Prorate	Date	Factor	% Comp	Cost & Design **0**		
Depr: Physical **10**	Other Phys	Functional	External	% Good **90**		

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
747	**.539**	**1**	**1**	**1.07**	**1,774**	**2022**	**8**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**114,300**	**153,580**	**267,880**	**151.00**	Dwelling Factor	**1**
RCNLD	**102,870**	**138,230**	**241,100**	**135.91**	Dwelling Value	**241,100**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**747**			
	USF	**763**	**100**	**113.12**	**86,310**
	OPF	**84**	**0**	**37.74**	**3,170**
	GRF	**440**	**0**	**62.84**	**27,650**
	USH	**440**	**60**	**62.84**	**27,650**
	SPF	**140**	**0**	**62.86**	**8,800**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**259,700**
TOTAL APPRAISAL	**319,700**
GREENBELT APR	
ASSESSMENT	**79,925**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**319,700**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1996**	**1996**	**168**	**C**	**1**	**14X12**		**20.8333**	**AV**	**3,500**	**22**		**1**	**770**
DRW	**Driveway**	**1996**	**1996**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**
POL	**Swimming Pool**	**1997**	**2010**	**512**	**D**	**1**	**16X32**		**67.6172**	**FR**	**34,620**	**40**		**1**	**13,850**

Total OBY Value **18,620**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**100**	**160**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
07/26/2021	**R2754**	**651**	**330,000**	**330,000**	**I**	**WD**	**A**	**IMBURGIA BRADLEY J ETUX MICHELLE**
01/28/2019	**R2539**	**775**	**285,000**	**285,000**	**I**	**WD**	**A**	**DICK SHARI ETVIR STEPHEN**
04/29/2005	**R1855**	**575**	**165,900**	**165,900**	**I**	**WD**	**A**	**LESTER MICHAEL G ETUX**
05/30/1997	**1332**	**668**	**115,005**	**115,005**	**I**	**WD**	**A**	**BEDFORD CARL C ETUX**

NOTES

R18: CHG QLTY PER 32 *CB - R22: CHG DRW VAL PER 32 *CB
R22: ADD OPF, CHG POL EYB PER 41 *CB - 22: CHG OPF/SPF PER 51 *CB

Address New Owner And return deed to: Benjamin F. Inman, Jr. 1118 Dover Columbia, TN 38401	Send Tax Bills to: NEW OWNER	Drafted by: Paul J. Fealk 019252 UAW Legal Services Plan 100 Stephen P. Yokich Parkway, P.O. Box 1797 Spring Hill, TN 37174

QUITCLAIM DEED

P/U BY:

KNOW ALL BY THESE PRESENTS that Delaine C. Inman, for and in consideration of the sum of Ten and No/100 Dollars ($10.00), cash in hand paid, the receipt of which is hereby acknowledged, has bargained and sold, and does hereby convey, remise, release and forever quitclaim unto Benjamin F. Inman, Jr., his heirs successors and assigns, her entire right, title and interest in and to a certain tract or parcel of land in Maury County, Tennessee, described as follows:

Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 44, Carriage Hills Subdivision, Section 2, Phase 1, as shown on plat of record in Plat Book 8, page 82, Register's Office of Maury County, Tennessee.

Being the same property conveyed to Benjamin F. Inman, Jr and wife, Delaine C. Inman, by deed of record in Book R1457, Page 924, Register's Office for Maury County, Tennessee.

Map 66F Group A Parcel 9

This is improved property commonly known as 1118 Dover Drive, Columbia, Tennessee 38401.

This instrument and the interest hereby released and quitclaimed are subject to such limitations, restrictions and encumbrances as may affect the premises.

WITNESS my hand this 21ST day of June, 2004.

Delaine C. Inman

Delaine C. Inman

STATE OF TENNESSEE)
COUNTY OF Perry)

Personally appeared before me, Delaine C. Inman, the undersigned Notary Public in and for said County and State, the within named grantor, Delaine C. Inman, with whom I am personally acquainted (or proved to be on the basis of satisfactory evidence), and who acknowledged executing the within instrument for the purpose therein contained.

Witness my hand and official seal, this 21 day of, June, 2004.

Janet Hester

Notary Public
My commission expires : Nov. 15, 2005

THIS TRANSFER IS EXEMPT FROM RECORDATION TAX PURSUANT TO TENN. CODE ANN.67-4-409(a) (3)(A): Creation or dissolution of tenancy by the entirety by the conveyance from one (1) spouse to the other; AND NO OATH OF VALUE SHALL BE REQUIRED FOR THIS TRANSACTION AS PROVIDED IN TENN. CODE ANN.67-4-409((5).

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1118 DOVER DR
Property Address
Ownership and Mailing Address

INMAN BENJAMIN F JR
1118 DOVER DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **44** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **169.57X251.66 IRR**

TAX YEAR 2023
MAURY

060	066F	A	009.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1991**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

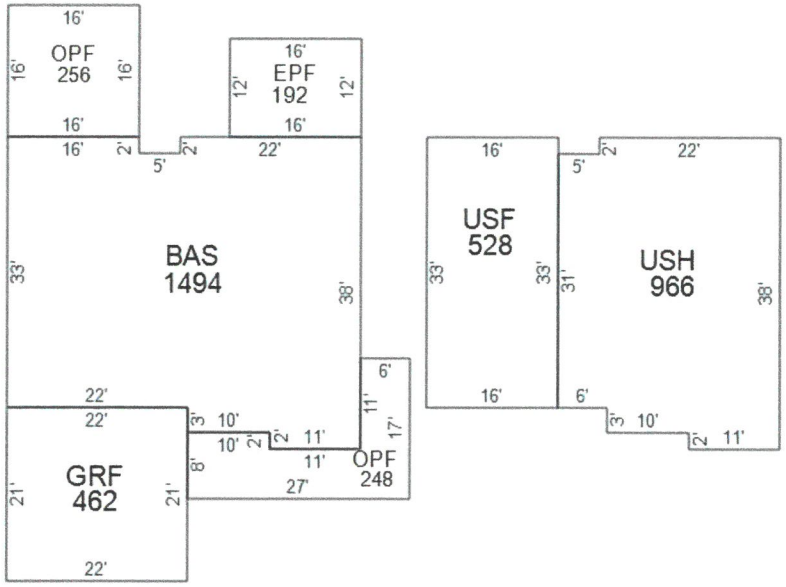
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,494	**.996**	**1**	**1**	**1.07**	**2,602**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**198,520**	**187,770**	**386,290**	**148.46**	Dwelling Factor	**1**
RCNLD	**158,820**	**150,210**	**309,030**	**118.77**	Dwelling Value	**309,030**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,494**			
	USF	**528**	**100**	**113.13**	**59,730**
	EPF	**192**	**0**	**100.57**	**19,310**
	OPF	**256**	**0**	**37.70**	**9,650**
	OPF	**248**	**0**	**37.70**	**9,350**
	GRF	**462**	**0**	**62.84**	**29,030**
	USH	**966**	**60**	**62.84**	**60,700**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**314,600**
TOTAL APPRAISAL	**374,600**
GREENBELT APR	
ASSESSMENT	**93,650**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**374,600**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **1 Rolling**
Road Type **0 Us Highway**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1991**	**1991**	**396**	**C**	**1**	**22X18**		**15.4798**	**AV**	**6,130**	**10**		**1**	**610**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
UTB	**Utility Building**	**2000**	**2000**	**140**	**C**	**1**	**10X14**		**25.2857**	**AV**	**3,540**	**56**		**1**	**1,980**

Total OBY Value **5,590**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**169**	**251**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/21/2004	**R1805**	**378**						**INMAN BENJAMIN F JR**
10/29/1999	**R1457**	**924**	**156,500**	**156,500**	**I**	**WD**	**A**	**INMAN BENJAMIN F JR ETUX**
10/24/1997	**1350**	**486**	**134,000**	**134,000**	**I**	**WD**	**A**	**MCSHURLEY BRUCE A ETUX**
06/29/1995	**1261**	**597**	**126,000**	**126,000**	**I**	**WD**	**A**	**GREEN JAMES ANTHONY ETUX**

NOTES

ADD OPF & UTB PER 32*FN06VI*QUAL TO 01 INCR LAND PRICE*R06FN*CHG AREA CODE*FN
CHG EYB INCR DRWY PRICE CHG OPF TO EPF*R10/32*FN - CHG EYB*R10/42*FN
R22: CHG DRW VAL PER 32 *CB

RE1001CH.L43
This Instrument Prepared By:
R. W. Hardison
Edwards & Hardison, Attorneys at Law
805 South Garden Street
Post Office Box 334
Columbia, Tennessee 38402-0334

GENERAL WARRANTY DEED

This indenture is made and entered into this 28th day of June, 1991 between Larry G. Reaves, and wife, Sharon G. Reaves (hereinafter referred to as "GRANTOR") and David Francis Goodness, and wife, Patsy Goodness (hereinafter referred to as "GRANTEE").

For and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, cash in hand paid, Grantor does by these presents, sell, transfer and convey unto grantee, the following described tract or parcel of land:

SITUATE in the Third (3rd) Civil District of Maury County, Tennessee and being more particularly described as Lot 43 in the Carriage Hills Subdivision, Section 2, Phase 1, as shown by map of record in Plat Book 8 at page 82 in the Maury County, Tennessee Register of Deeds office.

BEING the same property conveyed to Larry G. Reaves, and wife, Sharon G. Reaves by instrument of record in Book 1109 at page 118 in the Maury County, Tennessee Register of Deeds office.

Tax Parcel # 66-66-8.00 P/O

To have and to hold the above-described tract or parcel of land, together with all rights, titles, interests, easements, appurtenances, and hereditaments thereto appertaining, to Grantee, its heirs and assigns forever in fee simple.

Grantor covenants with Grantee that Grantor is lawfully seized and possessed in fee simple of the above-described tract or parcel of land, that Grantor has the full, good and lawful right and authority to sell, transfer and convey the same, and that the above-described tract or parcel of land is unencumbered, except for covenants, conditions and restrictions of record in Book 853 at Page 210 in the Maury County, Tennessee Registers of Deeds Office.

And, Grantor does warrant, and hereby binds its successors to title, to forever defend the title to the above-described tract or parcel of land against the lawful claims of all persons whatsoever, unto Grantee, its heirs and assigns.

In Witness Whereof, Grantor has set its hand(s) the date first above-written.

Larry G. Reaves

Sharon G. Reaves

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1116 DOVER DR	Subdivision **CARRIAGE HILLS SEC 2**	**TAX YEAR 2023**	**060**	**066F**	**A**	**008.00**		**000**
Property Address	BK **8** PG **82** BLOCK LOT **43** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**	Updated 10/27/2022				
GOODNESS DAVID FRANCIS	BK PG BLOCK LOT TRACT	SSD1	Dist **03**	Printed 03/17/2023				
ETUX PATSY	Additional Description	SSD2	Card: 1 of 1					
1116 DOVER DR	Dimensions **98.58X287.32 IRR**	Total Land Units **1**	Page: 1 of 1					
COLUMBIA TN 38401		Deed Acres **0**						
		Calculated Acres **0**						

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	**4 Full-Fin**
Heating Fuel			

Year Built **1991**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **7**	Total Fixtures **7**				
Wood FP Stacks	Openings	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

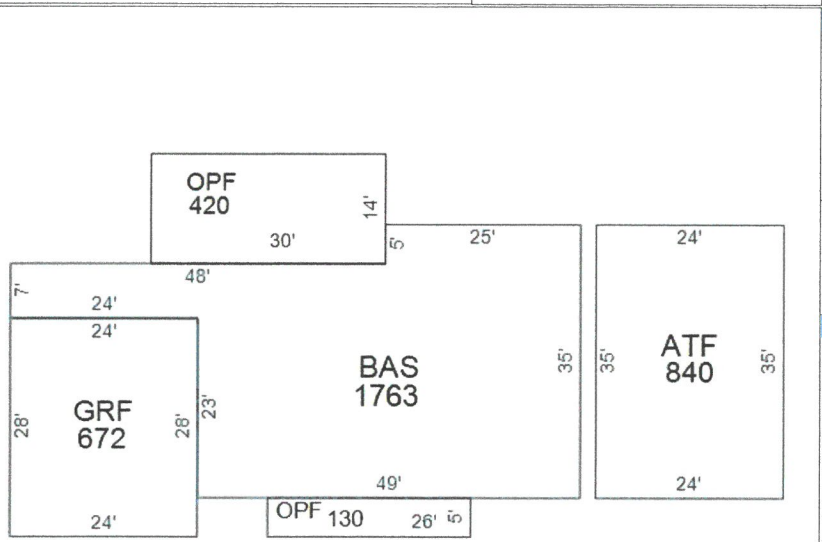
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,763	**1.157**	**1**	**1**	**1.07**	**1,763**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**223,960**	**84,080**	**308,040**	**174.72**	Dwelling Factor	**1**
RCNLD	**179,170**	**67,260**	**246,430**	**139.78**	Dwelling Value	**246,430**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,763**			
	OPF	**130**	**0**	**37.69**	**4,900**
	GRF	**672**	**0**	**62.84**	**42,230**
	ATF	**840**	**0**	**25.13**	**21,110**
	OPF	**420**	**0**	**37.71**	**15,840**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**247,400**
TOTAL APPRAISAL	**307,400**
GREENBELT APR	
ASSESSMENT	**76,850**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**307,400**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**		**1**	**1,000**

Total OBY Value **1,000**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**98**	**287**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/28/1991	**1121**	**421**	**98,900**	**98,900**	**I**	**WD**	**M**	**GOODNESS DAIVD FRANCIS**
01/09/1991	**1109**	**118**	**17,900**	**17,900**	**V**	**WD**	**H**	**REAVES LARRY G**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

ADD DRWY PER 32*FN06VI - INCR LAND PRICE*R06FN - CHG AREA CODE*R06JS
CHG AREA CODE*FN - R18: CHG QLTY PER 32 *CB - 19:CHG EYB PER 45*PB
21: ADD OPF PER 50 *CB

WARRANTY DEED

Mail:

BROKER TITLE & ESCROW LLC
1404 17TH AVE SO
NASHVILLE TN 37212

J-SB-P-20-1121

STATE OF TENNESSEE
COUNTY OF MAURY

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $278,000.00.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 30th DAY OF JULY, 2020.

Notary Public

MY COMMISSION EXPIRES: 11.8.2021

(AFFIX SEAL)

GREG FAIRBETTER NOTARY PUBLIC DAVIDSON COUNTY TENNESSEE My Commission Expires NOV 8 2021

THIS INSTRUMENT WAS PREPARED BY

Rudy Title and Escrow, LLC
2012 21st Avenue South
Nashville, TN 37212

ADDRESS NEW OWNER (S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP / PARCEL NUMBER (S)
Rafael De Jesus Garcia and Carla J. Martinez Macias	**New Owner**	
(NAME)	(NAME)	**066F-A-017.00**
1121 Dover Drive		
(ADDRESS)	(ADDRESS)	
Columbia, TN 38401		
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

For and in consideration of the sum of TEN DOLLARS, cash in hand, paid by the hereinafter named Grantee(s), and other good and valuable consideration, the receipt of which is hereby acknowledged, **JMAY, LLC, A NEVADA LIMITED LIABILITY COMPANY, SERIES 35, THE 1121 DOVER DRIVE SERIES THEREOF,** hereinafter called the Grantor(s), has/have bargained and sold, and by these presents do/does transfer and convey unto **RAFAEL DE JESUS GARCIA AND CARLA J. MARTINEZ MACIAS, BOTH UNMARRIED,** hereinafter called the Grantee(s), his/her/its/their heirs, successors and assigns, that certain tract or parcel of land in **MAURY** COUNTY, STATE OF **TENNESSEE**, described as follows, to wit:

Land in Maury County, Tennessee, being Lot No. 52, The Carriage Hills Subdivision, Section 2, as shown on plat of record in Plat Book 8, Page 82, in the Register's Office for Maury County, Tennessee, to which plat reference is hereby made for a more complete description of said property.

Being the same property conveyed to Jmay, LLC, a Nevada Limited Liability Company, Series 35, The 1121 Dover Drive Series Thereof by Warranty deed from Music City Holdings, LLC, a Texas limited liability company of record in Book R2616, page 683, Register's Office for Maury County, Tennessee, dated February 18, 2020 and recorded on March 02, 2020.

This conveyance is subject to:
- Taxes for the year 2020, a lien not yet due and payable.
- Subject to all matters shown on the Plan of record in Plat Book 8, Page 82, Register's Office for Maury County, Tennessee.
- Covenants, Conditions and Restrictions of record in Book 853, Page 210, in the Register's Office for Maury County, Tennessee, but omitting any restriction, if any, based on race, color, religion, sex, handicap, familial status, or national origin unless and only to the extent that the restriction (a) is exempt under Title 42 of the United States Code, or (b) relates to handicap but does not discriminate against handicapped persons.
- Subject to the flow of any creeks, streams, or branches across subject property.
- Any and all existing easements and restrictions as shown of record not stated herein

This is **improved** property known as: **1121 Dover Drive, Columbia, Tennessee 38401**.

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEE(S), their heirs and assigns forever; and we do covenant with the said GRANTEE(S) that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said GRANTEE(S), their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

BK/PG: R2663/419-420
20013163

2 PGS:AL-WARRANTY DEED	
NANCY BATCH: 232734	08/03/2020 - 10:00 AM
VALUE	278000.00
MORTGAGE TAX	0.00
TRANSFER TAX	1028.60
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1041.60

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1121 DOVER DR
Property Address

Ownership and Mailing Address
GARCIA RAFAEL DE JESUS &
CARLA J MARTINEZ MACIAS
1121 DOVER DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **52** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **138.81X157.82 IRR**

TAX YEAR 2023
MAURY

JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
060	066F	A	017.00		000

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**3 Part Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**12 Brick/Wood**	Attic	
Heating Fuel			

Year Built	**1999**	Eff Yr Built	**2010**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**	Amount **0**		Sched

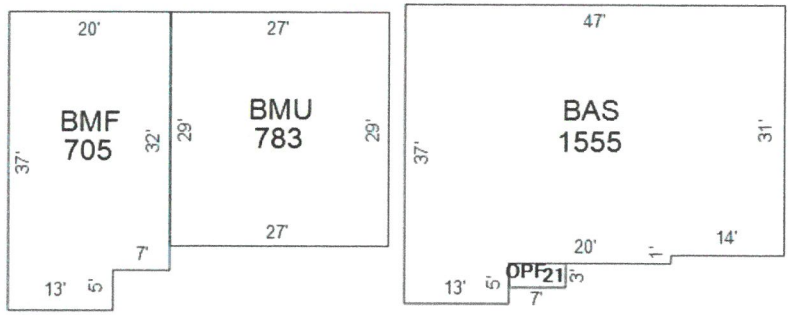
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**02 L-Shaped**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**15**	Other Phys	Functional	External	% Good **85**

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,555	**1.033**	**1**	**1.021**	**1.07**	**1,555**	**2022**	**12**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**205,710**	**55,920**	**261,630**	**168.25**	Dwelling Factor	**1**
RCNLD	**174,850**	**47,530**	**222,380**	**143.01**	Dwelling Value	**222,380**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,555**			
	BMF	**705**	**0**	**50.28**	**35,450**
	OPF	**21**	**0**	**37.62**	**790**
	BMU	**783**	**0**	**25.13**	**19,680**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**225,000**
TOTAL APPRAISAL	**285,000**
GREENBELT APR	
ASSESSMENT	**71,250**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**285,000**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **1 Rolling**
Road Type **0 Us Highway**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1997**	**1997**	**120**	**C**	**1**	**10X12**		**20.8333**	**AV**	**2,500**	**25**		**1**	**630**
DRW	**Driveway**	**1997**	**1997**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **2,630**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**138**	**157**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
07/30/2020	**R2653**	**419**	**278,000**	**278,000**	**I**	**WD**	**A**	**GARCIA RAFAEL DE JESUS &**
02/18/2020	**R2616**	**683**	**181,000**	**181,000**	**I**	**WD**	**N**	**JMAY LLC SERIES 35**
02/18/2020	**R2616**	**678**	**175,000**	**175,000**	**I**	**WD**	**N**	**MUSIC CITY HOLDINGS LLC**
07/12/2019	**R2568**	**487**	**176,278**	**176,278**		**TR**		**WILMINGTON SAVINGS FUND SOCIETY I**

NOTES

INCR LAND PR*R06FN*CHG AREA CO*R06JS*08:M/A CHG PER OWNER*JG
CHG AREA CODE*FN*INCR DRWY PRICE CHG EYB*FN*CHG EYB*R10/42*
FN*CHG M/A PER OWNR-NH*R14:32 CHG EFF AGE*LDS
R18: CHG QLTY PER 32 *CB.20*CHG MA C/O NEW OWNER-MS

PREPARED BY (JI)
Homeland Title LLC
126 Kedron Parkway
Spring Hill TN 37174

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between **Benjamin W. Farris and wife Rebecca R. Farris,** FIRST PARTY, which expression shall include heirs, personal representatives and assigns, and **Alan J. Doscher and Ashley J. Doscher, husband and wife, SECOND** PARTY, which expression shall include heirs, personal representatives and assigns.

WITNESSETH:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

> Land in Maury County, Tennessee, being Lot 53, SECTION 2, PHASE 1, CARRIAGE HILLS, as shown on plat of record in Plat Book 8, Page 82, in the Register's Office, Maury County, Tennessee, to which plat reference is hereby made for a more particular description of said property.
>
> Being the same property conveyed to Benjamin W. Farris and Rebecca R. Farris, husband and wife by Warranty Deed from Ryan Heichelbech and wife, Megan Heichelbech, recorded on the 23rd day of September, 2013 in Book R2251, Page 1361, in the Register's Office of Maury County, Tennessee.
>
> Map 66F, Group A, Parcel 18.00
>
> Same description as in prior deed
>
> Property Address (for approximate identification only): 1117 Dover Drive Columbia, TN 38401

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, titles, easements and appurtenances thereunto belonging, forever.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1117 DOVER DR (Property Address)	Subdivision **CARRIAGE HILLS SEC 2**	**TAX YEAR 2023 MAURY**	060	066F	A	018.00	000
	BK **8** PG **82** BLOCK LOT **53** TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**		Updated 10/27/2022		
DOSCHER ALAN J ETUX ASHLEY J	BK PG BLOCK LOT TRACT	SSD1	Dist **03**		Printed 03/17/2023		
1117 DOVER DR	Additional Description	SSD2	Card: 1 of 1				
COLUMBIA TN 38401	Dimensions **100.00X159.39 IRR**	Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**3 Part Basement**
Stories	**1 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**12 Brick/Wood**	Attic	
Heating Fuel			

Year Built **2002**	Eff Yr Built **2010**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **7**	Total Fixtures **7**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

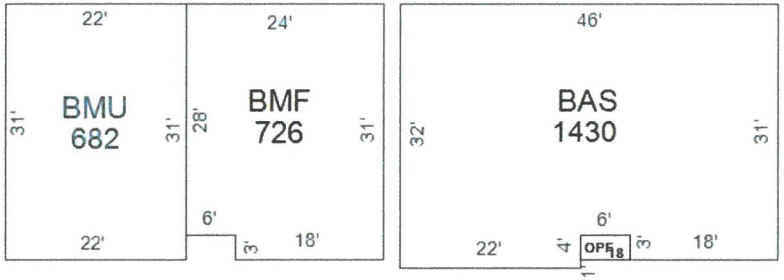
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **15**	Other Phys	Functional	External	% Good **85**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,430	**.958**	**1**	**1.021**	**1.07**	**1,430**	**2022**	**12**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**197,330**	**54,320**	**251,650**	**175.98**	Dwelling Factor	**1**
RCNLD	**167,730**	**46,180**	**213,910**	**149.59**	Dwelling Value	**213,910**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,430**			
	BMF	**726**	**0**	**50.28**	**36,500**
	BMU	**682**	**0**	**25.13**	**17,140**
	OPF	**18**	**0**	**37.78**	**680**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**216,500**
TOTAL APPRAISAL	**276,500**
GREENBELT APR	
ASSESSMENT	**69,125**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**276,500**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
PTO	**Patio**	**1991**	**1991**	**300**	**C**	**1**	**12 X 25**		**8.1667**	**AV**	**2,450**	**10**		**1**	**250**
WDK	**Wood Deck**	**1991**	**1991**	**140**	**C**	**1**	**10 X 14**		**20.8571**	**AV**	**2,920**	**10**		**1**	**290**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **2,540**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**100**	**159**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
04/02/2019	**R2549**	**776**	**260,000**	**260,000**	**I**	**WD**	**A**	**DOSCHER ALAN J ETUX ASHLEY J**
09/20/2013	**R2251**	**1361**	**178,000**	**178,000**	**I**	**WD**	**A**	**FARRIS BENJAMIN W ETUX**
11/14/2012	**R2211**	**1200**			**I**	**QC**	**A**	**HEICHELBECH RYAN ETUX**
08/23/2012	**R2202**	**866**	**69,470**	**69,470**	**I**	**TR**	**G**	**HEICHELBECH DAN**

NOTES

R14:32*LDS - R22: CHG DRW VAL PER 32 *CB - 22: CHG PTO, WDK, PP-UTB PER 51 *CB

Prepared by & Return to:
TransContinental Title Co.
4033 Tampa Rd Suite 101
Oldsmar, FL 34677
800-225-7897

BK/PG:R1884/1267-1269
05016113

3 PGS : AL - QUITCLAIM DEED	
SUSIE BATCH: 40684	
10/19/2005 - 09:20 AM	
VALUE	0.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	17.00

STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

THIS INSTRUMENT PREPARED BY:
William E. Curphey & Associates
2605 Enterprise Road East
Suite 155
Clearwater, Florida 33759

D#10-340207-3
T-697680

QUIT CLAIM DEED

Return to mail tax statements to:
KELLIE L. CONGER
1109 DOVER DRIVE
COLUMBIA, TN 38401

Property Tax ID#: 066F-A-020-00

For and in consideration of Ten and 00/100 Dollars ($10.00) and other good and valuable consideration, KELLIE L. CONGER, Married To, KEVIN RAY CONGER, as Grantor, and KELLIE L. CONGER, a married person, KEVIN RAY CONGER, a married person, Joint Tenants w/ rights of survivorship as Grantee hereby conveys all right, title and interest that I may have in and to the following described real property located in MAURY County, Tennessee, to wit:

"SEE COMPLETE LEGAL ATTACHED AS EXHIBIT "A" INCLUDED HEREWITH AND MADE A PART HEREOF"

PROPERTY ADDRESS:
1109 DOVER DRIVE
COLUMBIA, TN 38401

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1109 DOVER DR (Property Address)	Subdivision **CARRIAGE HILLS SEC 2**	**TAX YEAR 2023 MAURY**	060	066F	A	020.00	000
	BK **8** PG **82** BLOCK LOT **55** TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI S/I
Ownership and Mailing Address	Alt Subdiv BK PG BLOCK LOT TRACT	City **60156 Columbia**	Map **066F**		Updated 10/27/2022		
CONGER KELLIE L &	Additional Description	SSD1	Dist **03**		Printed 03/17/2023		
KEVIN RAY CONGER	Dimensions **104.94X160.97 IRR**	SSD2	Card: 1 of 1				
1109 DOVER DR		Total Land Units **1**					
COLUMBIA TN 38401		Deed Acres **0**	Page: 1 of 1				
		Calculated Acres **0**					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1991**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **7**	Total Fixtures **7**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

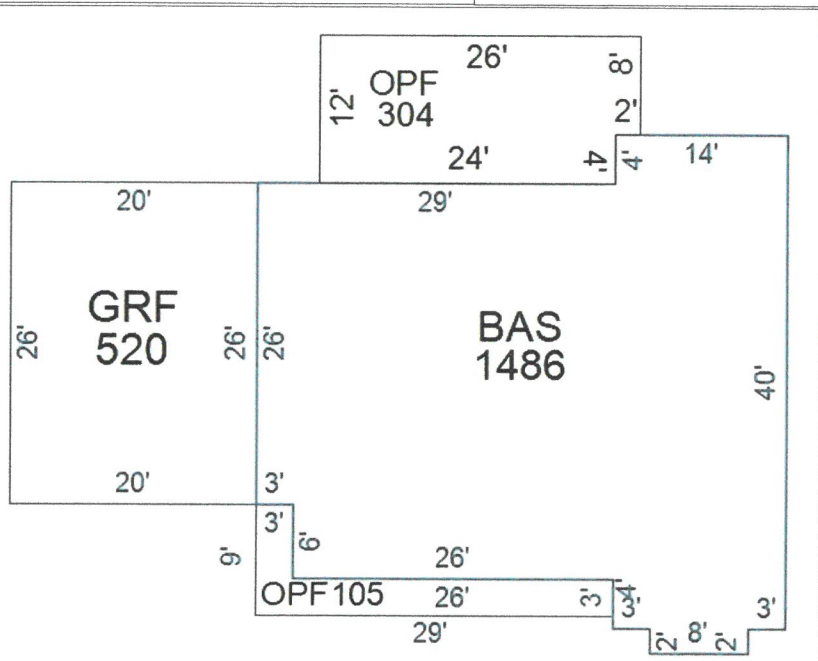
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,486	**.991**	**1**	**1**	**1.07**	**1,486**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**196,040**	**48,100**	**244,140**	**164.29**	Dwelling Factor	**1**
RCNLD	**156,830**	**38,480**	**195,310**	**131.43**	Dwelling Value	**195,310**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,486**			
	OPF	**105**	**0**	**37.71**	**3,960**
	GRF	**520**	**0**	**62.85**	**32,680**
	OPF	**304**	**0**	**37.70**	**11,460**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**198,700**
TOTAL APPRAISAL	**258,700**
GREENBELT APR	
ASSESSMENT	**64,675**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**258,700**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1991**	**2000**	**200**	**C**	**1**	**IRR**		**20.85**	**AV**	**4,170**	**34**		**1**	**1,420**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **3,420**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**104**	**160**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/07/2005	**R1884**	**1267**						**CONGER KELLIE L &**
08/31/1992	**1158**	**1**	**93,000**	**93,000**	**I**	**WD**	**A**	**CONGER KEVIN RAY**
07/29/1991	**1123**	**922**	**17,900**	**17,900**	**V**	**WD**	**M**	**ROSCOE MICHAEL**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

R22: CHG WDK EYB, DRW VAL PER 32 *CB - 22: ADD OPF PER 51 *CB

(1)

BK/PG: R2405/452-453
16016462

2 PGS:AL-WARRANTY DEED	
NANCY BATCH: 180095	12/02/2016 - 10:25 AM
VALUE	185000.00
MORTGAGE TAX	0.00
TRANSFER TAX	684.50
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	697.50

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

mail to:
MID-STATE TITLE & ESCROW, INC.
128 HOLIDAY COURT
SUITE 125
FRANKLIN, TN 37067
(615) 790-3156

Prepared by:
Security Title & Escrow Co., LLC
Columbia, Tennessee 38402-1431

Return to Security Title & Escrow Company

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between **Charles L. Mann, Jr. or Hazel M. Mann, Trustees of the Charles L. Mann, Jr. and/or Hazel M. Mann Revocable Living Trust dated August 13, 2005,** FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and **Wesley D. Andrews and Stephanie Andrews, husband and wife,** SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

WITNESSETH:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

LOCATED in the Third (3rd) Civil District of Maury County, Tennessee and being Lot 41, Carriage Hills Subdivision, Section 2, Phase 1, as shown on plat of record in Plat Book 8, Page 82, Register's Office of Maury County, Tennessee.

BEING the same property conveyed to Charles L. Mann, Jr. or Hazel M. Mann, Trustees of the Charles L. Mann, Jr. and/or Hazel M. Mann Revocable Living Trust dated August 13, 2005 by deed dated May 11, 2009 of record in Book R2078, Page 206, Register's Office of Maury County, Tennessee.

Map 66F, Group A, Parcel 6

Property Address: 1108 Dover Drive, Columbia, TN 38401

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, title, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that he is lawfully seized and possessed of said real estate, that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except for easements and/or restrictions, if any, of record in the **MAURY** County, Tennessee Register of Deeds office.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1108 DOVER DR
Property Address
Ownership and Mailing Address
ANDREWS WESLEY D ETUX STEPHANIE
1108 DOVER DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **41** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **131.04X175.00 IRR**

TAX YEAR 2023
MAURY

JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
060	066F	A	006.00		000

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **1 No Basement**
Stories **2 Story Frame** Heating/Air **7 Heat And Cooling Split**
Exterior Wall **04 Siding Average** Attic
Heating Fuel

Year Built	Eff Yr Built	Rooms	Bedrooms
1991	**2006**	**0**	**0**

Full Baths	Half Baths	Add'l Fixtures	Total Fixtures
		9	**9**

Wood FP Stacks	Openings	Add'l Sty	PreFab	Add'l Sty

Info Src	Occ	Rental: Src	Year	Amount	Sched
3	**1**		**0**	**0**	

Foundation **02 Continuous Footing** Floor Finish **11 Carpet Combination**
Floor System **04 Wood W/ Sub Floor** Interior Finish **07 Drywall**
Party Wall **00 None** Paint/Decor **04 Above Average**
Struct. Frame **00 None** Bath Tile **00 None**
Roof Framing **02 Gable/Hip** Electrical **04 Above Average**
Roof Cov/Deck **03 Composition Shingle** Shape **01 Rectangular Design**
Cab/Millwork **04 Above Average**

Quality **1+ : Average +** Condition **Average** Class:

Prorate	Date	Factor	% Comp	Cost & Design
				0

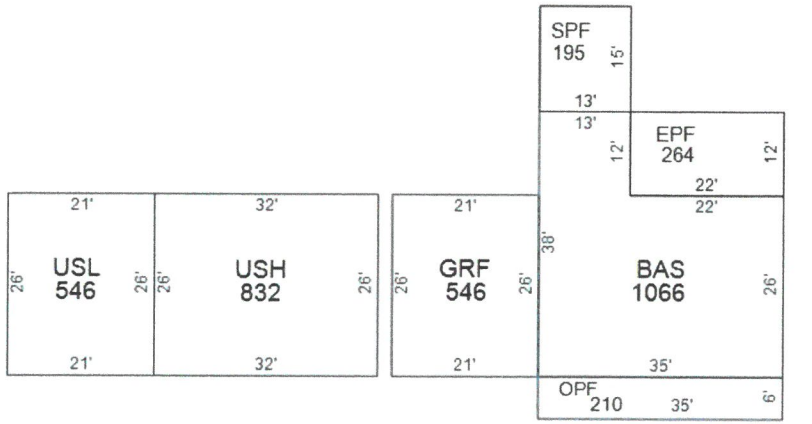
Depr: Physical	Other Phys	Functional	External	% Good
20				**80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,066	**.737**	**1**	**1**	**1.07**	**1,729**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt
RCN	**149,160**	**153,890**	**303,050**	**175.27**
RCNLD	**119,330**	**123,110**	**242,440**	**140.22**

% Complete
Dwelling Factor **1**
Dwelling Value **242,440**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,066**			
	OPF	**210**	**0**	**37.71**	**7,920**
	GRF	**546**	**0**	**62.84**	**34,310**
	USH	**832**	**60**	**62.84**	**52,280**
	USL	**546**	**30**	**37.71**	**20,590**
	EPF	**264**	**0**	**100.53**	**26,540**
	SPF	**195**	**0**	**62.82**	**12,250**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**248,100**
TOTAL APPRAISAL	**308,100**
GREENBELT APR	
ASSESSMENT	**77,025**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**308,100**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **1 Rolling**
Road Type **0 Us Highway**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**2006**	**2006**	**352**	**C**	**1**	**16 X 22**		**16.2784**	**AV**	**5,730**	**52**		**1**	**2,980**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**1500**	**UN**	**1,500**	**100**		**1**	**1,500**
UTB	**Utility Building**	**1996**	**1996**	**100**	**C**	**1**	**10X10**		**25.3**	**AV**	**2,530**	**48**		**1**	**1,210**

Total OBY Value **5,690**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**131**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
11/29/2016	**R2405**	**452**	**185,000**	**185,000**	**I**	**WD**	**A**	**ANDREWS WESLEY D ETUX STEPHANIE**
05/11/2009	**R2078**	**206**						**MANN CHARLES L JR OR HAZEL**
07/26/1991	**1123**	**654**	**99,500**	**99,500**	**V**	**WD**	**M**	**MANN CHARLES LYNWOOD**
04/03/1991	**1114**	**474**	**17,900**	**17,900**	**V**	**WD**	**M**	**REAVES LARRY G**

NOTES

CHG SPU TO EPU PER 32*FN06VI*INCR LAND PRICE*R06FN
CHG AREA CODE*R06JS*CHG AREA CODE*FN*INCR DRWY PRICE
CHG EYB ON WD DECK*R10/32*FN*R2078-206 LIV TRUST*JG
15:32 CHG DWELLING REMEASURE HSE*LDS

BK/PG:R1721/940-941
03106048
2 PGS : AL - WARRANTY DEED
SUSIE BATCH: 3583
06/30/2003 - 08:48 AM
VALUE 116000.00
MORTGAGE TAX 0.00
TRANSFER TAX 429.20
RECORDING FEE 10.00
DP FEE 2.00
REGISTER'S FEE 1.00
TOTAL AMOUNT 442.20
STATE of TENNESSEE, MAURY COUNTY
L WAYNE WHITE
REGISTER OF DEEDS

PREPARED BY:
JAMES T. DUBOIS
ATTORNEY AT LAW
COLUMBIA, TENN.

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between Christ Our Savior Evangelical Lutheran Church, FIRST PARTY, which expression shall include successors and assigns, and Charles Alwin Westra and wife, Debra Dawn Westra, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

> Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 19, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.
>
> Being the same property conveyed to FIRST PARTY herein by deed of record in Book 1165, Page 208, Register's Office of Maury County, Tennessee.
>
> Map 66K, Group A, Parcel 34.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that it is lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except as follows: current year's property taxes which will be prorated as of the date of this deed and assumed by SECOND PARTY; building restrictions of record in Book 647, Page 280, as amended in Book 653, Page 511, and Book 733, Page 432, Register's Office of Maury County, Tennessee; and applicable utility and drainage easements, building setback lines and other matters as shown on recorded plat.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1100 DOVER DR
Property Address
Ownership and Mailing Address

WESTRA CHARLES ALWIN ETUX
DEBRA DAWN
1100 DOVER DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **0019** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **140X134.37 IRR**

TAX YEAR 2023
MAURY

060	066K	A	034.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **4 Full Basement**
Stories **1 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **11 Common Brick** Attic
Heating Fuel

Year Built	**1993**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**10**	Total Fixtures	**10**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src	**3**	Occ **0**	Rental: Src	Year	**0**	Amount **0**	Sched

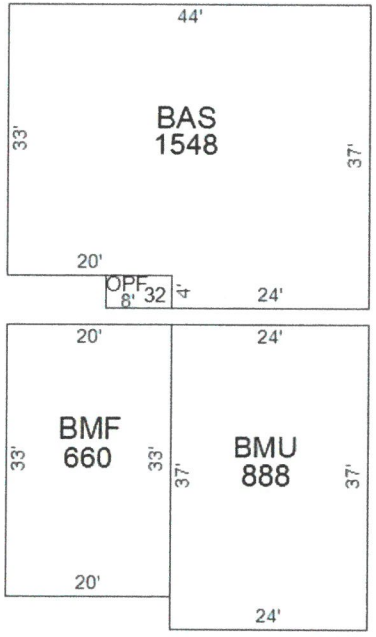
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**01 Floor Only**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,548	**1.028**	**1**	**1.07**	**1.21**	**1,548**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**250,170**	**64,130**	**314,300**	**203.04**	Dwelling Factor	**1**
RCNLD	**200,140**	**51,300**	**251,440**	**162.43**	Dwelling Value	**251,440**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,548**			
	BMF	**660**	**0**	**56.86**	**37,530**
	OPF	**32**	**0**	**42.5**	**1,360**
	BMU	**888**	**0**	**28.42**	**25,240**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**253,500**
TOTAL APPRAISAL	**313,500**
GREENBELT APR	
ASSESSMENT	**78,375**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**313,500**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **01 Public / Public**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1993**	**1993**	**224**	**C**	**1**	**14X16**		**19.8214**	**AV**	**4,440**	**13**		**1**	**580**
DRW	**Driveway**	**1993**	**2005**	**1**	**C**	**1**			**1500**	**UN**	**1,500**	**100**		**1**	**1,500**

Total OBY Value **2,080**

ENTRANCES

Date	Code	ID
07/09/2003	**01 Bldg Apr**	**45**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**140**	**134**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/26/2003	**R1721**	**940**	**116,000**	**116,000**	**I**	**WD**	**F**	**WESTRA CHARLES ALWIN ETUX**
11/16/1992	**1165**	**208**	**17,900**	**17,900**	**V**	**WD**	**A**	**CHRIST OUR SAVIOR EVANGELI**
04/17/1990	**835**	**71**	**10**	**10**	**V**	**WD**	**M**	**PARKS REAVES PROPERTIES**
04/16/1990	**835**	**65**	**355,750**	**355,750**	**V**	**WD**	**M**	**PARKS ROBERT S**

NOTES

INCR LAND PRICE*R06FN*AREA CODE R06BV*CHG AREA CODE*FN
CHG CAB,PAINT, ELEC, ADD FRPL*R10/32*FN - R22: CHG WDK EYB PER 32 *CB

STATE OF TENNESSEE
COUNTY OF MAURY

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $ 89,000.00

Diane McKee, GRI
Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 19th DAY OF May 19 93

Carlene Messick
Notary Public

MY COMMISSION EXPIRES: 5-22-95
(AFFIX SEAL)

CARLENE MESSICK NOTARY PUBLIC STATE OF TENNESSEE LAW

THIS INSTRUMENT WAS PREPARED BY

Steltemeier & Westbrook, Attys, 2002 Richard Jones Rd., C-101, Nashville, Tn. 37215

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NUMBERS
Cristi Secrest (NAME)	Atlantic Coast Mortgage Company (NAME)	MAP 066F
1104 Dover Drive (ADDRESS)	12700 Fair Lakes Circle, Suite 400 (ADDRESS)	GROUP A
Columbia, TN 38401 (CITY) (STATE) (ZIP)	Farifax, VA 22033 (CITY) (STATE) (ZIP)	PARCEL 00100

FOR AND CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, Richard L. Hawkersmith and wife, Dawn O. Hawkersmith

HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO Cristi Secrest , a single person

HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN Maury COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Land in the Third (3rd) Civil District of Maury County, Tennessee, being Lot No. 38 on the Plan of Carriage Hills Subdivision, Section 2, Phase I, as of record in Plat Book 8, page 82, Register's Office for said County, to which plat reference is hereby made for a more complete and accurate legal description.

Being the same property conveyed to Richard L. Hawkersmith and wife, Dawn O. Hawkersmith by deed from Richard H. Fleeman of record in Book 1143, page 17, Register's Office for Maury County, Tennessee.

This conveyance is subject to any and all existing restrictions and easements of record.

MAURY COUNTY, STATE OF TENNESSEE
Received for record this 19 of May 1993 at 2:10 o'clock P M
Note Book 15 Page 547 Receipt #22887 Recording Fee 8.00
State Tax 329.30 Probate Fee 1.00 Total 338.30
Book 1182 Page 102, Witness my Hand,
MAURY COUNTY REGISTER OF DEEDS L. Wayne White

unimproved ( )
This is improved (X) property, known as 1104 Dover Drive, Columbia, TN 38401
(House Number) (Street) (P.O. Address) (City or Town) (Postal Zip)

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEES, their heirs and assigns forever; and we do covenant with the said GRANTEES that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said GRANTEES, their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Witness our hand S this 26th day of February 19 93

Richard L. Hawkersmith
Richard L. Hawkersmith

Dawn O. Hawkersmith
Dawn O. Hawkersmith

DCTTN01W 12/88

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1104 DOVER DR	Subdivision **CARRIAGE HILLS SEC 2**				**TAX YEAR 2023**	**060**	**066F**	**A**	**001.00**		**000**
Property Address	BK **8**	PG **82**	BLOCK	LOT **38**	TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv					City **60156 Columbia**		Map **066F**		Updated 10/27/2022	
SECREST CRISTI	BK	PG	BLOCK	LOT	TRACT	SSD1		Dist **03**		Printed 03/17/2023	
1104 DOVER DR	Additional Description					SSD2					
COLUMBIA TN 38401	Dimensions **137.30X130.55 IRR**					Total Land Units **1**		Card: 1 of 1			
						Deed Acres **0**					
						Calculated Acres **0**		Page: 1 of 1			

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1991**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **6**	Total Fixtures **6**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **2**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

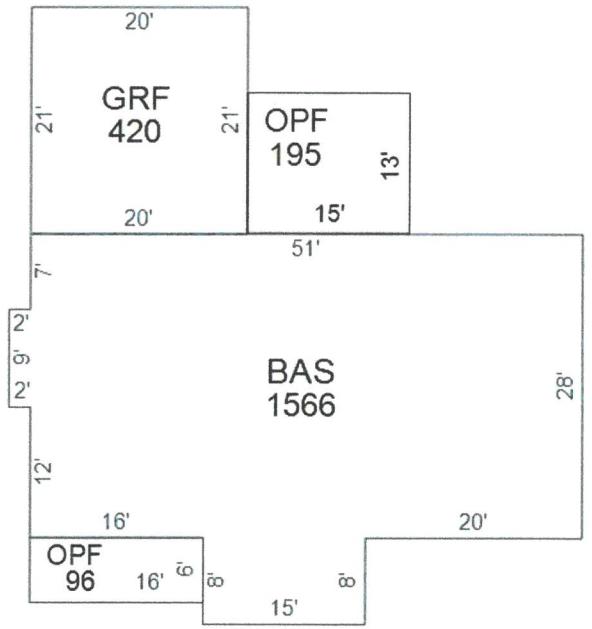
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,566	**1.039**	**1**	**1**	**1.21**	**1,566**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**230,410**	**42,250**	**272,660**	**174.11**	Dwelling Factor	**1**
RCNLD	**184,330**	**33,800**	**218,130**	**139.29**	Dwelling Value	**218,130**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,566**			
	OPF	**96**	**0**	**42.60**	**4,090**
	GRF	**420**	**0**	**71.07**	**29,850**
	OPF	**195**	**0**	**42.62**	**8,310**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**223,700**
TOTAL APPRAISAL	**283,700**
GREENBELT APR	
ASSESSMENT	**70,925**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**283,700**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**500**	**UN**	**500**	**100**		**1**	**500**
GAZ	**Gazebo**	**2006**	**2006**	**64**	**B**	**1**	**8 X 8**		**83.125**	**GD**	**5,320**	**76**		**1**	**4,040**
WDK	**Wood Deck**	**2010**	**2010**	**80**	**C**	**1**	**8 X 10**		**20.875**	**AV**	**1,670**	**64**		**1**	**1,070**

Total OBY Value **5,610**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**137**	**130**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
02/26/1993	**1182**	**102**	**89,000**	**89,000**	**I**	**WD**	**A**	**SECREST CRISTI**
03/18/1992	**1143**	**17**	**88,000**	**88,000**	**I**	**WD**	**A**	**HAWKERSMITH RICHARD L**
03/20/1991	**1113**	**333**	**17,900**	**17,900**	**V**	**WD**	**A**	**FLEEMAN RICHARD H**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

R14:32 DEL OPF, ADD GAZ, CHG EYB*LDS - R18: CHG QLTY, GAZ QLTY PER 32 *CB
22: ADD OPF, DEL WDK PER 51 *CB

This Instrument Prepared By:

William A. Graham
Columbia, TN 38401

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between PHOENIX HOMES, INC., a Tennessee corporation, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and SON MINH DO AND WIFE, KATHRINE M. DO, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

WITNESSETH:

For the consideration of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys to SECOND PARTY the following described property:

Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot 42, Carriage Hills Subdivision, Section 2, Phase 1, as shown on plat of record in Plat Book 8, Page 82, Register's Office of Maury County, Tennessee.

Legal Description obtained from prior deed.

This property is shown on the tax records of Maury County, Tennessee, as Map 66F, Group A, Parcel 7.

Being the same property conveyed to FIRST PARTY herein by deed of record in Deed Book 1111, Page 837, Register's Office of Maury County, Tennessee.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY, together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS that it is lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered, except for current year's property taxes, building restrictions of record in Book 853, Page 210, Register's Office of Maury County, Tennessee, and building setback lines and utility and drainage easements as shown on recorded plat.

FIRST PARTY FURTHER COVENANTS to forever warrant and defend the title to the above described property unto SECOND PARTY against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, this conveyance has been executed on the 28 day of April, 1992.

PHOENIX HOMES, INC.

BY: _____
JOE GULLETT, JR. PRESIDENT

STATE OF TENNESSEE

COUNTY OF MAURY

Personally appeared before me, the undersigned, a Notary Public in and for the State and County aforesaid, JOE GULLETT, JR., with whom I am

LIBER 1146 PAGE 961

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1112 DOVER DR	Subdivision **CARRIAGE HILLS SEC 2**	**TAX YEAR 2023**	**060**	**066F**	**A**	**007.00**	**000**
Property Address	BK **8** PG **82** BLOCK LOT **42** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**		Updated 10/27/2022		
DO SON MINH	BK PG BLOCK LOT TRACT	SSD1	Dist **03**		Printed 03/17/2023		
ETUX KATHERINE M	Additional Description	SSD2	Card: 1 of 1				
1112 DOVER DR	Dimensions **100.00X392.48 IRR**	Total Land Units **1**	Page: 1 of 1				
COLUMBIA TN 38401		Deed Acres **0**					
		Calculated Acres **0**					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**11 Common Brick**	Attic	**4 Full-Fin**
Heating Fuel			

Year Built **1992**	Eff Yr Built **2002**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **10**	Total Fixtures **10**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

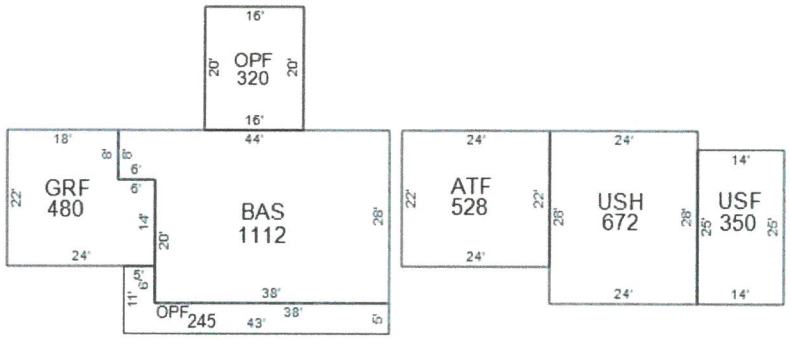
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**	Class:		
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,112	**.765**	**1**	**1.07**	**1.07**	**1,865**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**170,250**	**146,560**	**316,810**	**169.87**	Dwelling Factor	**1**
RCNLD	**136,200**	**117,250**	**253,450**	**135.90**	Dwelling Value	**253,450**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,112**			
	USF	**350**	**100**	**113.11**	**39,590**
	OPF	**245**	**0**	**37.71**	**9,240**
	GRF	**480**	**0**	**62.83**	**30,160**
	USH	**672**	**60**	**62.84**	**42,230**
	ATF	**528**	**0**	**25.13**	**13,270**
	OPF	**320**	**0**	**37.72**	**12,070**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**261,000**
TOTAL APPRAISAL	**321,000**
GREENBELT APR	
ASSESSMENT	**80,250**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**321,000**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**2014**	**2014**	**300**	**C**	**1**	**20 X 15**		**17.4333**	**AV**	**5,230**	**76**	**1**	**1**	**3,980**
DRW	**Driveway**	**1992**	**1992**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**	**1**	**1**	**2,000**
UTB	**Utility Building**	**1997**	**1997**	**120**	**C**	**1**	**10X12**		**25.25**	**AV**	**3,030**	**50**	**1**	**1**	**1,520**

Total OBY Value **7,500**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**100**	**392**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
04/28/1992	**1146**	**961**	**17,900**	**17,900**	**V**	**WD**	**A**	**DO SON MINH**
02/28/1991	**1111**	**837**	**17,900**	**17,900**	**V**	**WD**	**A**	**PHOENIX HOMES INC**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

CHG OPF TO SPF INCR LAND PRICE*R06FN*CHG AREA CODE*R06JS
CHG AREA CODE*FN*INCR DRWY PRICE*R10/32*FN
15:32 ADD OPF/CHG WD DECK/CHG QUA*LDS - 21: ADD TO BAS PER 50 *CB

Title Realty Title

BK/PG:R2354/298-299

16000486

2 PGS : AL - WARRANTY DEED	
SUSIE BATCH: 168364	
01/13/2016 - 09:35 AM	
VALUE	170000.00
MORTGAGE TAX	0.00
TRANSFER TAX	629.00
RECORDING FEE	10.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	642.00

STATE of TENNESSEE, MAURY COUNTY

JOHN FLEMING
REGISTER OF DEEDS

THIS INSTRUMENT PREPARED BY:
PAUL B. PLANT, ATTY. AT LAW
225 MAHR AVENUE
LAWRENCEBURG, TN. 38464
File #151249BR

FROM: LILLIE ELAINE TRUITT, A MARRIED PERSON, JEFFREY TRUITT, A MARRIED PERSON, SARA SMITH, A MARRIED PERSON AND JACOB POWELL, A MARRIED PERSON

TO: ALISON EPPS AND ANDREW C. EPPS, WIFE AND HUSBAND

WARRANTY DEED

For and in consideration of the sum of ONE HUNDRED SEVENTY THOUSAND AND NO/100--- ($170,000.00) ---DOLLARS, cash in hand paid, the receipt of which is hereby acknowledged, We, LILLIE ELAINE TRUITT, A MARRIED PERSON, JEFFREY TRUITT, A MARRIED PERSON, SARA SMITH, A MARRIED PERSON AND JACOB POWELL, A MARRIED PERSON, have bargained and sold, and by these presents, do transfer and convey unto the said ALISON EPPS AND ANDREW C. EPPS, WIFE AND HUSBAND, their heirs and assigns, a certain tract or parcel of land located in Maury County, Tennessee, being more fully described as follows:

Land in Maury County, Tennessee, being Lot 37, Carriage Hills Subdivision, Section 2, as shown on plat of record in Plat Book 8, Page 82, in the Register's Office, Maury County, Tennessee, to which plat reference is hereby made for a more particular description of said property.

Subject to all matters as shown on plat of record in Book 8, Page 82, Register's Office of Maury County, Tennessee.

Subject to Restrictions of record in Book 853, Page 210, Register's Office of Maury County, Tennessee.

This being the same property conveyed to Lillie Elaine Truitt, Jeffrey Truitt, Sara Smith and Jacob Powell, as equal tenants in common by Warranty Deed from Bryan P. Rider, unmarried, recorded on the 8th day of October, 2014 in Deed Book R2294, Page 542, in the Register's Office of Maury County, Tennessee.

SUBJECT PROPERTY IS NOT THE GRANTORS USUAL PLACE OF RESIDENCE.

MAP 66FA, PARCEL 2.00

PROPERTY ADDRESS: 1004 GRAYSON PLACE, COLUMBIA, TN 38401

To have and to hold the said tract or parcel of land, with the appurtenances, estate title and interest, thereto belonging to the said ALISON EPPS AND ANDREW C. EPPS, WIFE AND HUSBAND, their heirs and assigns forever. And we do covenant with the said ALISON EPPS AND ANDREW C. EPPS, WIFE AND HUSBAND, that we are lawfully seized and

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1004 GRAYSON PL	Subdivision **CARRIAGE HILLS SEC 2**				**TAX YEAR 2023**	**060**	**066F**	**A**	**002.00**		**000**
Property Address	BK **8**	PG **82**	BLOCK	LOT **37**	TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv					City **60156 Columbia**		Map **066F**		Updated 10/27/2022	
EPPS ALISON ETVIR ANDREW C	BK	PG	BLOCK	LOT	TRACT	SSD1		Dist **03**		Printed 03/17/2023	
1004 GRAYSON PL	Additional Description					SSD2					
COLUMBIA TN 38401	Dimensions **117.89X158.75 IRR**					Total Land Units **1**		Card: 1 of 1			
						Deed Acres **0**					
						Calculated Acres **0**		Page: 1 of 1			

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1991**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **7**	Total Fixtures **7**				
Wood FP Stacks	Openings	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

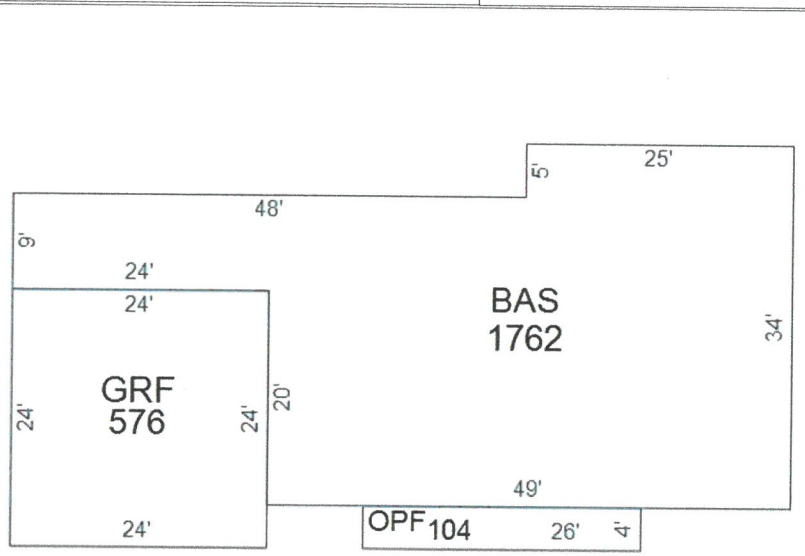
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,762	**1.156**	**1**	**1**	**1.21**	**1,762**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**253,060**	**45,360**	**298,420**	**169.36**	Dwelling Factor	**1**
RCNLD	**202,450**	**36,280**	**238,730**	**135.49**	Dwelling Value	**238,730**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,762**			
	OPF	**104**	**0**	**42.60**	**4,430**
	GRF	**576**	**0**	**71.06**	**40,930**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**244,200**
TOTAL APPRAISAL	**304,200**
GREENBELT APR	
ASSESSMENT	**76,050**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**304,200**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**500**	**UN**	**500**	**100**		**1**	**500**
WDK	**Wood Deck**	**2020**	**2020**	**300**	**C**	**1**	**15 X 20**		**17.4333**	**AV**	**5,230**	**94**		**1**	**4,920**

Total OBY Value **5,420**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**117**	**158**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
01/08/2016	**R2354**	**298**	**170,000**	**170,000**	**I**	**WD**	**A**	**EPPS ALISON ETVIR ANDREW C**
10/07/2014	**R2294**	**542**	**95,000**	**95,000**	**I**	**WD**	**A**	**TRUITT LILLIE ELAINE ETAL JEFFREY TI**
03/24/1995	**1248**	**687**	**102,000**	**102,000**	**I**	**WD**	**A**	**RIDER BRYAN P**
08/31/1993	**1194**	**182**	**95,000**	**95,000**	**I**	**WD**	**A**	**TAMEZ RAUL ETUX**

NOTES

R18: CHG QLTY PER 32 *CB - 22: REPL WDK PER 51 *CB

BK/PG: R2623/1073-1074

20005431

2 PGS:AL-WARRANTY DEED	
SUSIE BATCH: 227082	04/03/2020 - 09:30 AM
VALUE	260000.00
MORTGAGE TAX	0.00
TRANSFER TAX	962.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	975.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

WARRANTY DEED

KIMBERLY HOLLINGSHEAD STATE OF TENNESSEE NOTARY PUBLIC WILLIAMSON COUNTY

STATE OF TENNESSEE
COUNTY OF WILLIAMSON
THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER FOR THIS TRANSFER IS $260,000.00

AFFIANT

SUBSCRIBED AND SWORN TO ME ON THE 30TH DAY OF MARCH, 2020.

NOTARY PUBLIC

MY COMMISSION EXPIRES 2/12/23

THIS INSTRUMENT PREPARED BY
Jim R. Vanderpool, P.C., 256 Seaboard Lane, G-104, Franklin, TN 37067
file # 20-1707KH

ADDRESS OF NEW OWNER	SEND TAX BILLS TO (If left blank please use the address of the new owner)	MAP-PARCEL
Hunter L. Tyree and Lauren Tyree	Legacy Mutual Home Mortgage	66F-A-003.00
1008 Grayson Place	3503 Paesanos Parkway	
Columbia, TN 38401	San Antonio, TX 78231	

FOR AND CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATION, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE,

MARTY TYREE AND JAMIE TYREE

HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO:

HUNTER L. TYREE AND LAUREN TYREE, MARRIED COUPLE

HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN MAURY COUNTY, TENNESSEE, DESCRIBED AS FOLLOWS TO-WIT:

SEE EXHIBIT "A"

This is property known as 1008 Grayson Place, Columbia, TN 38401

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEE(S), their heirs and/or assigns forever; and we do covenant with the said GRANTEE(S) that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said GRANTEE(S), their heirs and/or assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Witness hand on the 30th day of March, 2020.

Marty Tyree

Jamie Tyree

STATE OF TENNESSEE
COUNTY OF WILLIAMSON

Personally appeared before me, the undersigned, a Notary Public, in and for said County and State, the within named, MARTY TYREE AND JAMIE TYREE, the bargainor(s), with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who acknowledged that executed the within instrument for the purposes therein contained.

Witness my hand and official seal at Franklin, Tennessee, this 30th day of March, 2020.

Notary Public

My Commission Expires: 2/12/23

KIMBERLY HOLLINGSHEAD STATE OF TENNESSEE NOTARY PUBLIC WILLIAMSON COUNTY

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

1008 GRAYSON PL Property Address Ownership and Mailing Address **TYREE HUNTER L ETUX LAUREN** **1008 GRAYSON PL** **COLUMBIA TN 38401**	Subdivision **CARRIAGE HILLS SEC 2** BK **8** PG **82** BLOCK LOT **36** TRACT Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **102.09X161.98 IRR**	**TAX YEAR 2023** **MAURY**	**060**	**066F**	**A**	**003.00**		**000**
		JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I	
		City **60156 Columbia**	Map **066F**	Updated 10/27/2022				
		SSD1	Dist **03**	Printed 03/17/2023				
		SSD2	Card: 1 of 1					
		Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Page: 1 of 1					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**4 Full Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**12 Brick/Wood**	Attic	
Heating Fuel			

Year Built **1991**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **7**	Total Fixtures **7**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

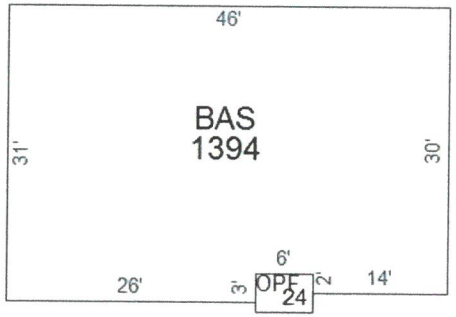
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

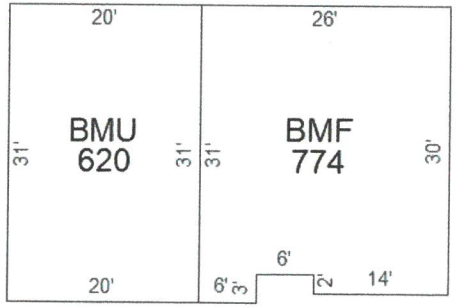
Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,394	**.936**	**1**	**1.021**	**1.21**	**1,394**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**213,910**	**62,650**	**276,560**	**198.39**	Dwelling Factor	**1**
RCNLD	**171,130**	**50,130**	**221,260**	**158.72**	Dwelling Value	**221,260**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,394**			
	BMF	**774**	**0**	**56.86**	**44,010**
	OPF	**24**	**0**	**42.5**	**1,020**
	BMU	**620**	**0**	**28.42**	**17,620**





APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**222,600**
TOTAL APPRAISAL	**282,600**
GREENBELT APR	
ASSESSMENT	**70,650**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**282,600**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1991**	**1991**	**240**	**C**	**1**	**12X20**		**19.2083**	**AV**	**4,610**	**10**		**1**	**460**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**900**	**UN**	**900**	**100**		**1**	**900**

Total OBY Value **1,360**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**102**	**161**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
03/30/2020	**R2623**	**1073**	**260,000**	**260,000**	**I**	**WD**	**B**	**TYREE HUNTER L ETUX LAUREN**
09/26/1995	**1266**	**736**	**110,500**	**110,500**	**I**	**WD**	**A**	**TYREE MARTY G ETUX**
06/19/1992	**1152**	**31**	**90,000**	**90,000**	**I**	**WD**	**A**	**STAFFORD DENNIS R**
08/12/1991	**1125**	**214**	**17,900**	**17,900**	**V**	**WD**	**M**	**REAVES LARRY G**

NOTES

INCR LAND PRICE*R06FN*CHG AREA CODE*R06JS*CHG AREA CODE*FN
CHG QUAL ON FRPL*R10/32*FN

CA330TN

State of Tennessee - IMPACT System

282600

File:

This instrument prepared by: Marshall Title & Escrow 104 West 6th Street PO Box 8150 Columbia, Tennessee 38402	Name and Address of New Property Owner: Margaret H. Tinsley 112 Lenox Drive Columbia, TN 38401 Person or Agency Responsible for Taxes: Same Map 066K-A-035.00

WARRANTY DEED

THIS INDENTURE, made and entered into on this 15th day of June, 2007, by and between the Grantors, **Mackey Cutler and wife, Brenda Cutler** and the Grantee, **Margaret H. Tinsley, unmarried...**

That for and in consideration of **One Hundred Sixty Five Thousand and no/100 ($165,000.00)** and other good and valuable considerations, the receipt of all of which is hereby acknowledged, Grantors have conveyed the described property unto Grantee:

BK/PG:R1990/563-564
07010209
2 PGS : AL - WARRANTY DEED
30318 BATCH: 67536
06/19/2007 - 10:06 AM
VALUE 165000.00
MORTGAGE TAX 0.00
TRANSFER TAX 610.50
RECORDING FEE 10.00
DP FEE 2.00
REGISTER'S FEE 1.00
TOTAL AMOUNT 623.50
STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Land in Maury County, Tennessee, being Lot 20, SECTION 1, CARRIAGE HILLS Subdivision, as shown on plat of record in Plat Book 5, Page 282, in the Register's Office, Maury County, Tennessee, to which plat reference is hereby made for a more particular description of said property.

Being the same property conveyed by Quitclaim Deed from James W. Wilson and Linda M. Wilson to Mackey Cutler and Brenda Cutler as recorded on the 3rd day of May, 2006 in Book R1916, Page 611 and General Warranty Deed from Daniel L. Kendall and wife Lisa R. Kendall to James W. Wilson and wife, Linda M. Wilson as recorded on the 19th day of July, 1999 in Book R1442, Page 236, in the Register's Office of Maury County, Tennessee.

TO HAVE AND TO HOLD said property to Grantee and, her heirs and assigns, together with all rights, titles, easements, hereditaments, and appurtenances forever in fee simple.

The Grantors does hereby covenant with the Grantee that they are lawfully seized in fee of said property; that they have a good right to sell and convey the same; that the same is unencumbered except

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

112 LENOX DR	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023 MAURY**	060	066K	A	035.00		000
Property Address	BK **5** PG **282** BLOCK LOT **0020** TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv BK PG BLOCK LOT TRACT	City **60156 Columbia**	Map **066F**	Updated 10/27/2022
TINSLEY MARGARET H	Additional Description	SSD1	Dist **03**	Printed 03/17/2023
112 LENOX DR	Dimensions **137.50X165 IRR**	SSD2		Card: 1 of 1
COLUMBIA TN 38401		Total Land Units **1** Deed Acres **0** Calculated Acres **0**		Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1988**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **9**	Total Fixtures **9**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

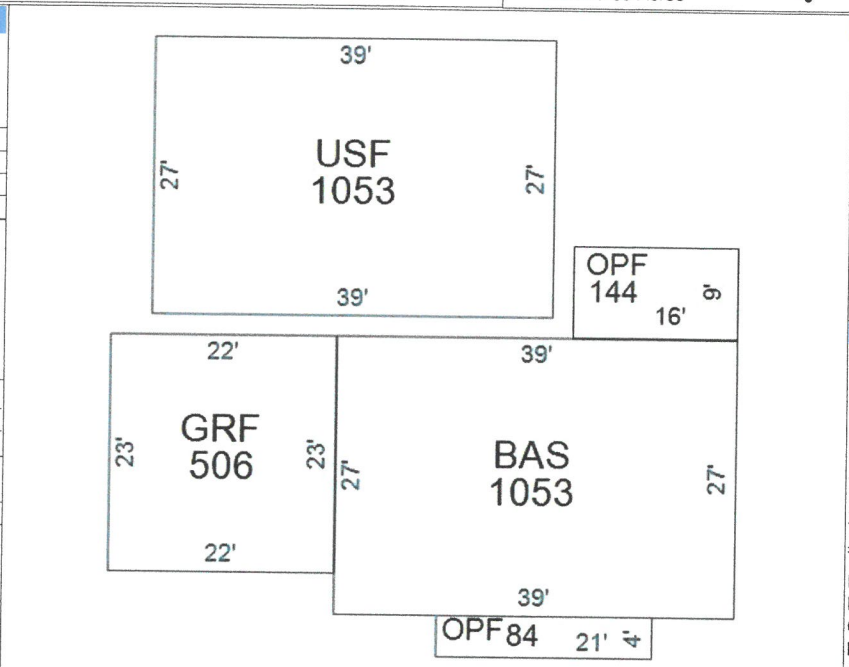
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,053	**.729**	**1**	**1**	**1.21**	**2,106**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**168,110**	**180,380**	**348,490**	**165.47**	Dwelling Factor	**1**
RCNLD	**134,490**	**144,300**	**278,790**	**132.38**	Dwelling Value	**278,790**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,053**			
	USF	**1,053**	**100**	**127.92**	**134,700**
	OPF	**84**	**0**	**42.62**	**3,580**
	GRF	**506**	**0**	**71.07**	**35,960**
	OPF	**144**	**0**	**42.64**	**6,140**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**282,900**
TOTAL APPRAISAL	**342,900**
GREENBELT APR	
ASSESSMENT	**85,725**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**342,900**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**2006**	**2006**	**192**	**C**	**1**	**12X16**		**20.8333**	**AV**	**4,000**	**52**		**1**	**2,080**
DRW	**Driveway**	**1988**	**1988**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **4,080**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**137**	**165**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/15/2007	**R1990**	**563**	**165,000**	**165,000**	**I**	**WD**	**A**	**TINSLEY MARGARET H**
05/02/2006	**R1916**	**611**						**CUTLER MACKEY &**
07/12/1999	**R1442**	**236**	**135,000**	**135,000**	**I**	**WD**	**A**	**WILSON JAMES W ETUX**
09/08/1998	**R1417**	**341**						**KENDALL DANIEL L ETUX**

NOTES

R2014:32 CHG QUALITY*LDS*15:32 ADD OPF/CHG QUA*LDS - R22: CHG DRW VAL PER 32 *CB
R22: CHG QLTY PER 51 *CB

CA330TN

State of Tennessee - IMPACT System

342900

QUITCLAIM DEED

STATE OF TENNESSEE
COUNTY OF WILLIAMSON

The actual consideration for this transfer is $0.

Affiant

Subscribed and sworn to before me on this 23rd day of February, 2022.

NOTARY PUBLIC

STACY NEISLER
STATE OF TENNESSEE NOTARY PUBLIC
MAURY COUNTY

My Commission Expires: 05/22/2023

File.

This Instrument Was Prepared By:
Stacy S. Neisler / The Law Office of Stacy S. Neisler PLLC
2011 Wall Street Spring Hill TN 37174 / (615) 302-3300

New Owner Address: Melissa Sorrento as Trustee of the Sorrento Family Trust dated February 23, 2022
100 Lenox Drive
Columbia, Tennessee 38401

Send Tax Bills To: Melissa Sorrento as Trustee of the Sorrento Family Trust dated February 23, 2022
100 Lenox Drive
Columbia, Tennessee 38401

NOW, THEREFORE, for and in consideration of the sum of One Dollar ($1.00), cash in hand paid, and other good and valuable consideration, **MELISSA D. SORRENTO, an unmarried person, the Grantor,** does hereby convey, remise, release and forever quitclaim unto **MELISSA SORRENTO AS TRUSTEE OF THE SORRENTO FAMILY TRUST DATED FEBRUARY 23, 2022, the Grantee,** her successors and assigns, all of her right, title and interest in and to a certain tract of land in Maury County, Tennessee described as follows:

> Land in Maury County, Tennessee, being Lot No. 14, on the Plan of Carriage Hills, Section 1, of record in Plat Book 5, Page 282, Register's Office for said County, to which plan reference is hereby made for a more complete description.
>
> Being the same property and legal description conveyed to Melissa D. Sorrento by Warranty Deed dated September 22, 2015, of record in Book R2339, Pages 1188-1189 in the Register's Office for Maury County, Tennessee.
>
> **Map 066F, Control Map 066K, Group A, Parcel 029.00**
>
> This property is improved property known as **100 Lenox Drive, Columbia, Tennessee 38401**.
>
> *The legal description herein was taken from the prior deed of record.*
>
> *All information contained herein was provided to the preparer of this instrument by Grantor. A title examination was not performed or requested by either party.*

Said property is conveyed subject to such limitations, taxes, rights of way, by-laws, restrictions and encumbrances as may affect the premises.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

TAX YEAR 2023	060	066K	A	029.00		000
MAURY	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

100 LENOX DR
Property Address

Ownership and Mailing Address

SORRENTO FAMILY TRUST
MELISSA SORRENTO TRUSTEE
100 LENOX DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **14** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **152.32X172.53 IRR.**

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 03/29/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1986**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**	Amount **0**		Sched

Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

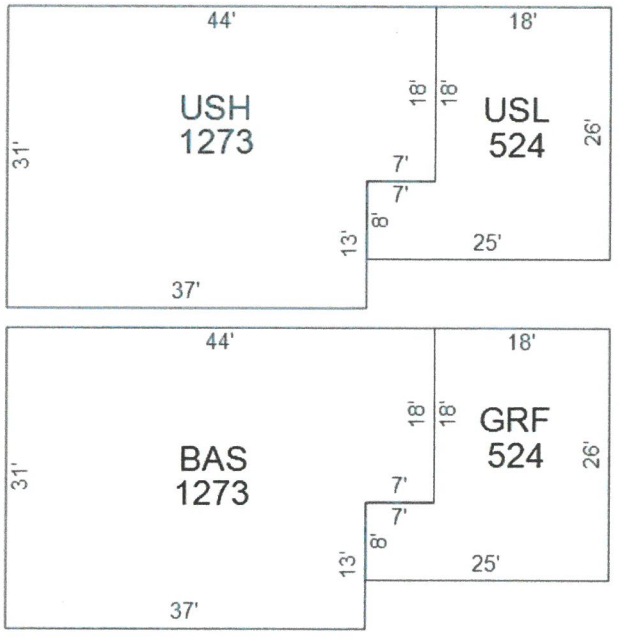
Quality **2 : Above Average** Condition **Average** Class:

Prorate	Date	Factor	% Comp	Cost & Design **0**
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,273	**.863**	**1**	**1**	**1.21**	**2,194**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**199,450**	**150,040**	**349,490**	**159.29**	Dwelling Factor	**1**
RCNLD	**159,560**	**120,030**	**279,590**	**127.43**	Dwelling Value	**279,590**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,273**			
	GRF	**524**	**0**	**71.07**	**37,240**
	USH	**1,273**	**60**	**71.06**	**90,460**
	USL	**524**	**30**	**42.63**	**22,340**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**284,100**
TOTAL APPRAISAL	**344,100**
GREENBELT APR	
ASSESSMENT	**86,025**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**344,100**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**2006**	**2006**	**204**	**C**	**1**	**12X17**		**20.6373**	**AV**	**4,210**	**52**		**1**	**2,190**
STP	**Stoop**	**1990**	**1990**	**28**	**C**	**1**	**4X7**		**21.0714**	**AV**	**590**	**60**		**1**	**350**
DRW	**Driveway**	**1990**	**1990**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **4,540**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**152**	**172**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
02/23/2022	**R2819**	**986**				**QC**		**SORRENTO FAMILY TRUST**
09/22/2015	**R2339**	**1188**	**186,500**	**186,500**	**I**	**WD**	**A**	**SORRENTO MELISSA D**
10/31/1990	**849**	**121**	**87,500**	**87,500**	**I**	**WD**	**G**	**PHILPOT JOHN A**
12/09/1987	**783**	**527**	**91,500**	**91,500**	**I**	**WD**	**A**	**WILSON DONALD KEVIN**

NOTES

CHG EYB INCR LAND PRICE*R06FN*AREA CODE R06BV *CHG AREA CODE*FN
CHG DECK EYB*R10/32*JG* R18: CHG QLTY PER 32 *CB - R22: PP-UTB PER 51 *CB

PREPARED BY
JAMES T. DuBOIS
ATTORNEY AT LAW
COLUMBIA, TENN.

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between Golden Brothers, a partnership consisting of Taylor R. Golden and Terry W. Golden, by and through his Attorney in Fact, Taylor R. Golden, whose Power of Attorney is of record in Book 1206, Page 160, Register's Office of Maury County, Tennessee, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and Donald E. Feyers and wife, Linda Feyers, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

> Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 57, Carriage Hills Subdivision, Section 3, Phase I, as shown on plat of record in Plat Book 9, Page 139, Register's Office of Maury County, Tennessee.
>
> Being the same property conveyed to FIRST PARTY herein by deed of record in Book 1209, Page 741, Register's Office for Maury County, Tennessee.
>
> Map 66F, Group 13, Parcel 1.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that they are lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except as follows: current year's property taxes which will be prorated as of the date of this deed and assumed by SECOND PARTY; building restrictions of record in Book 1180, Page 595, Register's Office of Maury County, Tennessee; and applicable

MAURY COUNTY, STATE OF TENNESSEE
Received for record this 22 of JUNE 1994 at 3:56 o'clock P M
Note Book 16 Page 217 Receipt # 40819 Recording Fee 12.00
State Tax 299.33 Probate Fee 1.00 Total 312.33
Book 1225 Page 082, Witness my Hand,
MAURY COUNTY REGISTER OF DEEDS
L. Wayne White

BOOK 1225 PAGE 082

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

122 LENOX DR Property Address	Subdivision **CARRIAGE HILLS SEC 3**				**TAX YEAR 2023** **MAURY**	060	066F	B	001.00		000
Ownership and Mailing Address	BK **9**	PG **139**	BLOCK	LOT **57**	TRACT	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
FEYERS DONALD E ETUX **LINDA** **122 LENOX DR** **COLUMBIA TN 38401**	Alt Subdiv BK	PG	BLOCK	LOT	TRACT	City **60156 Columbia** SSD1 SSD2	Map **066F** Dist **03**		Updated 10/27/2022 Printed 03/17/2023		
	Additional Description					Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Card: 1 of 1 Page: 1 of 1				
	Dimensions **103.82X269.15 IRR**										

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1994**	Eff Yr Built	**2000**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **0**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

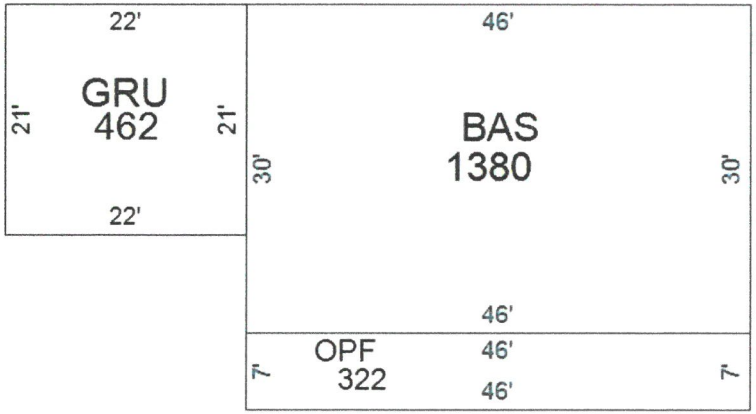
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**03 Wood W/O Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**27.5**	Other Phys	Functional	External	% Good **72.5**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,380	**.927**	**1**	**1**	**1.21**	**1,380**	**2022**	**22**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**206,070**	**33,430**	**239,500**	**173.55**	Dwelling Factor	**1**
RCNLD	**149,400**	**24,230**	**173,630**	**125.82**	Dwelling Value	**173,630**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,380**			
	OPF	**322**	**0**	**42.64**	**13,730**
	GRU	**462**	**0**	**42.64**	**19,700**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**177,800**
TOTAL APPRAISAL	**237,800**
GREENBELT APR	
ASSESSMENT	**59,450**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**237,800**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006** By **32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1994**	**1994**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
STP	**Stoop**	**1994**	**1994**	**28**	**C**	**1**	**4X7**		**21.0714**	**AV**	**590**	**65**		**1**	**380**
WDK	**Wood Deck**	**1994**	**1994**	**270**	**C**	**1**	**15 X 18**		**18.2593**	**AV**	**4,930**	**16**		**1**	**790**

Total OBY Value **4,170**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**103**	**269**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/22/1994	**1225**	**82**	**80,900**	**80,900**	**I**	**WD**	**N**	**FEYERS DONALD E ETUX**
01/19/1994	**1209**	**741**	**17,900**	**17,900**	**V**	**WD**	**A**	**GOLDEN BROTHERS**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

R22: CHG DRW VAL PER 32 *CB - R22: CHG QLTY, CORR BAS, ADD WDK PER 51 *CB

This instrument prepared by:

Jerry C. Colley
Colley and Colley
P.O. Box 1476
Columbia TN 38402-1476

Person or Agency Responsible
for payment of taxes:

Jesse L. Hogan
724 Sir Winston Place
Franklin TN 37064

BK/PG:R2294/1267-1269

14011578

3 PGS : AL - WARRANTY DEED
SUSIE BATCH: 152069
10/14/2014 - 02:22 PM

VALUE	112200.00
MORTGAGE TAX	0.00
TRANSFER TAX	415.14
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	433.14

STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

WARRANTY DEED

FOR AND IN CONSIDERATION of Ten Dollars ($10.00), cash in hand paid, and other good and valuable considerations, the receipt and sufficiency of which is hereby acknowledged, I, **TODD LOVETT**, have this date, bargained and sold, and do hereby transfer and convey unto **JESSE L. HOGAN**, his heirs and assigns, the following described real estate located in the 3rd Civil District of Maury County, Tennessee, and more particularly described as follows:

> Lot 24 of the Carriage Hills Subdivision, Section 1 as shown by a map of record in Plat Book 5, page 282, ROMCT.
>
> Being the same property conveyed to Doris Lovett and wife, Mary R. Lovett, by deed of record in Deed Book R2132, Page 1418, ROMCT. Mary R. Lovett predeceased Doris Lovett who is also deceased. Doris Lovett devised this property to his son, Todd Lovett, by will of record in Case Number P-291-13, Maury County Chancery Court. The address for this property is 109 Lennox Drive, Columbia TN 38401. This is the same description used in the previous deed. See Map 066K, Parcel 025.00, Maury County Tax Assessors Office.

TO HAVE AND TO HOLD the above described real estate together with all rights, titles, interests, easements, hereditaments and appurtenances thereunto appertaining unto **JESSE L. HOGAN**, his heirs and assigns, forever.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

109 LENOX DR
Property Address
Ownership and Mailing Address

HOGAN JESSE L
724 SIR WINSTON PL
FRANKLIN TN 37064

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **24** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **149.65X170 IRR.**

TAX YEAR 2023
MAURY

060	066K	A	025.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1985**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src **0**		Year **0**		Amount **700**	Sched **1**

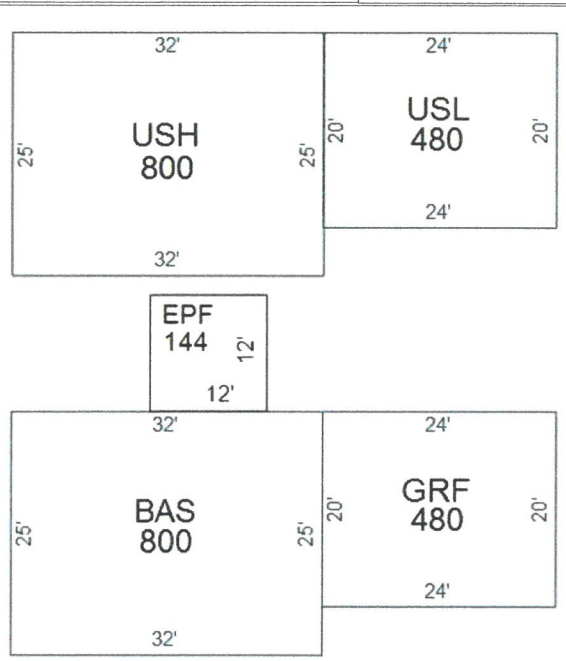
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
800	**.573**	**1**	**1.07**	**1.21**	**1,424**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**137,640**	**127,800**	**265,440**	**186.40**	Dwelling Factor	**1**
RCNLD	**110,110**	**102,250**	**212,360**	**149.13**	Dwelling Value	**212,360**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**800**			
	GRF	**480**	**0**	**71.06**	**34,110**
	USH	**800**	**60**	**71.06**	**56,850**
	USL	**480**	**30**	**42.65**	**20,470**
	EPF	**144**	**0**	**113.68**	**16,370**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**214,100**
TOTAL APPRAISAL	**274,100**
GREENBELT APR	
ASSESSMENT	**68,525**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**274,100**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer
01 Public / Public
Electricity
01 Public
Gas
00 None
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1986**	**1986**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**		**1**	**1,000**
WDK	**Wood Deck**	**1986**	**1986**	**252**	**C**	**1**	**12X21**		**18.8095**	**AV**	**4,740**	**10**		**1**	**470**
STP	**Stoop**	**1989**	**1989**	**24**	**C**	**1**	**4X6**		**20.8333**	**AV**	**500**	**58.75**		**1**	**290**

Total OBY Value **1,760**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**31**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**149**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/13/2014	**R2294**	**1264**	**112,200**	**112,200**	**I**	**WD**	**A**	**HOGAN JESSE L**
10/25/2010	**R2132**	**1418**	**105,000**	**105,000**	**I**	**WD**	**A**	**LOVETT DORRIS ETUX**
10/31/1997	**1351**	**639**	**104,000**	**104,000**	**I**	**WD**	**A**	**BURNS RICKY L ETUX**
06/15/1995	**1256**	**726**	**97,000**	**97,000**	**I**	**WD**	**A**	**FLUEALLEN ANTHONY BYRON**

NOTES

14*M/A CHG PER SON TODD LOVETT-MS.14*NAME CHG PER WILL P291-13-MS
22: ADD EPF PER 51 *CB

Plt Brooke Biase

QUITCLAIM DEED

From: **PRESTON MURRAY**

To: **COLLEEN KATHLEEN MORONEY**

This instrument prepared by:
M. Stuart Saylor
Fort, Holloway & Rogers, LLC
517 Cummins Street
Franklin, TN 37064

NO TRANSFER TAX IS DUE ON THIS CONVEYANCE PURSUANT TO T.C.A. § 67-4-409(a)(3)(F) AND NO OATH OF VALUE IS REQUIRED PURSUANT TO T.C.A. § 67-4-409(a)(5)

Address New Owner:	Send Tax Bills To:	Map-Group-Parcel Nos.
Colleen Kathleen Moroney 129 Lenox Drive Columbia, TN 38401	Same	066F-B-006.00

FOR AND IN CONSIDERATION of the sum of zero ($0.00) dollars in accordance with the terms and conditions of the Final Decree of Divorce in that certain case styled *Colleen Moroney-Murray v. Donald Preston Murray*, Chancery Court for Maury County, Tennessee, Docket No. 22-231, **Preston Murray** (the "Grantor"), by these presents hereby sells, assigns and quitclaims unto **Colleen Kathleen Moroney** (the "Grantee") all of Grantor's right, title and interest in and to certain improved lot located at 129 Lenox Drive, Columbia, Tennessee 38401, in Williamson County, Tennessee, to-wit:

> Land in Maury County, Tennessee, being Lot No. 62, as shown on the map entitled Final Plat, Carriage Hills, Section 3, of record in Plat Book 9, page 139, in the Register's Office of Maury County, Tennessee, to which plat reference is hereby made for a more complete description.
>
> Being the same property conveyed to **Colleen Kathleen Murray-Moroney** and **Preston Murray, wife and husband**, by Warranty Deed from **Joseph B. Ward, a married man**, recorded on April 5, 2021, of record in Book R2722, Page 1194, in the Register's Office of Maury County, Tennessee.

NO BOUNDARY SURVEY WAS MADE AT THE TIME OF THIS CONVEYANCE WITH THE LEGAL DESCRIPTION BEING THE SAME AS THE PREVIOUS DEED OF RECORD.

THIS DEED PREPARED SOLELY UPON INFORMATION FURNISHED BY THE PARTIES. THERE HAS BEEN NO TAX ADVICE, INCLUDING, BUT NOT LIMITED TO, INCOME OR GIFT TAX ADVICE OF THE TRANSFER OF THIS PROPERTY NOR THE FILING (IF REQUIRED) OF ANY TAX RETURNS, NOR MEDICAID ADVICE GIVEN ON THIS TRANSFER. THE PREPARER OF THIS DEED HAS NEITHER BEEN REQUESTED TO CONDUCT A TITLE SEARCH NOR HAS THE PREPARER CONDUCTED A TITLE SEARCH OR AN INSPECTION OF THE PROPERTY TRANSFERRED HEREBY. NO REPRESENTATIONS OR WARRANTIES AS TO THE STATUS OF TITLE OR CONDITION OF THE PROPERTY HAVE BEEN MADE BY THE PREPARER.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

129 LENOX DR	Subdivision **CARRIAGE HILLS SEC 3**	**TAX YEAR 2023**	060	066F	B	006.00		000
Property Address	BK **9** PG **139** BLOCK LOT **62** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**		Updated 11/07/2022			
MORONEY COLLEEN KATHLEEN	BK PG BLOCK LOT TRACT	SSD1	Dist **03**		Printed 03/17/2023			
129 LENOX DR	Additional Description	SSD2						
COLUMBIA TN 38401	Dimensions **179.63X231.10 IRR**	Total Land Units **1**			Card: 1 of 1			
		Deed Acres **0**						
		Calculated Acres **0**			Page: 1 of 1			

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **2019**	Eff Yr Built **2019**	Rooms	Bedrooms		
Full Baths **2**	Half Baths **1**	Add'l Fixtures **1**	Total Fixtures **9**		
Wood FP Stacks	Openings	Add'l Sty	PreFab **1**	Add'l Sty	
Info Src **3** Occ **0**	Rental: Src	Year **0**	Amount **0**	Sched	

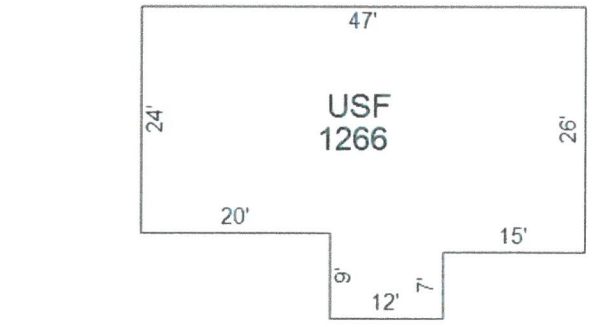
Foundation	Floor Finish
Floor System	Interior Finish
Party Wall	Paint/Decor
Struct. Frame	Bath Tile
Roof Framing	Electrical
Roof Cov/Deck	Shape
Cab/Millwork	

Quality **2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**
Depr: Physical **3.75**	Other Phys	Functional	External	% Good **96.25**

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
732	**.53**	**1**	**1**	**1.21**	**1,998**	**2022**	**3**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**123,050**	**222,430**	**345,480**	**172.91**	Dwelling Factor	**1**
RCNLD	**118,440**	**214,090**	**332,530**	**166.43**	Dwelling Value	**332,530**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**732**			
	USF	**1,266**	**100**	**127.92**	**161,950**
	OPF	**105**	**0**	**42.67**	**4,480**
	GRF	**788**	**0**	**71.07**	**56,000**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**342,100**
TOTAL APPRAISAL	**402,100**
GREENBELT APR	
ASSESSMENT	**100,525**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**402,100**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006** By **32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1996**	**1996**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**
WDK	**Wood Deck**	**2019**	**2019**	**260**	**C**	**1**	**20 X 13**		**18.5769**	**AV**	**4,830**	**91**		**1**	**4,400**
PTO	**Patio**	**2019**	**2019**	**130**	**C**	**1**	**10 X 13**		**9.6154**	**AV**	**1,250**	**91**		**1**	**1,140**

Total OBY Value **9,540**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**179**	**231**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/24/2022	**R2883**	**1026**				**QC**		**MORONEY COLLEEN KATHLEEN**
03/26/2021	**R2722**	**1194**	**360,000**	**360,000**	**I**	**WD**	**A**	**MURRAY-MORONEY COLLEEN KATHLEI**
05/20/2019	**R2557**	**631**	**62,000**	**62,000**	**I**	**WD**	**M**	**WARD JOSEPH B**
11/30/2001	**R1584**	**94**	**127,000**	**127,000**	**I**	**WD**	**A**	**HENSON TRAVIS E**

NOTES

15:32 CHG QUA/ADD OPU*LDS - 19: CHG QLTY & EYB, ADD OTH PHYS PER 49 *CB
19: HSE DEMO'D, LEFT FOUNDATION-MK - 20: HOUSE REBUILT PER 50 *CB
21: CHG DRW PER 32 *CB - 22: ADD PTO, CHG WDK PER 51 *CB
R22:CHG QUALITY PER 51*PB

Prepared by: Charles H. Patton, Attorney at Law, 5100 Poplar Avenue, Suite 2723, Memphis, TN 38137, (901) 685-8475

QUIT CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, that we, **DOUGLAS (M.) and REBA (T.) LaFOND,** for and in consideration of Ten Dollars ($10.00) cash in hand paid, together with other good and valuable consideration, receipt of which is hereby acknowledged, do hereby bargain, sell, remise, release, quit claim, and convey all of our right, title and interest in and to the below-described property to **THE DOUGLAS AND REBA LaFOND REVOCABLE LIVING TRUST,** dated APR 1 1 2017, **DOUGLAS & REBA LaFOND,** Trustees or their successors in trust and any amendments thereto. Said property is real property situated in the State of Tennessee, County of Maury, and is more particularly described as follows, to wit:

Situate in the Third civil District of Maury County, Tennessee, and being more particularly described as follows:

Lot 60 of the Carriage Hills Subdivision, Section e as shown by a map of record in Plat Book 9 at page 139 in the Maury County, Tennessee Register of Deeds office.

Being the same property conveyed to the Grantors by Special Warranty Deed of record at Instrument 05001427, and Book R1839, pages 1216-1217, in the Register's Office of Maury County, Tennessee.

The Trustees of said trust (or any successor trustees) to have full power to sell, mortgage, rent, lease and convey, without the purchaser lender, mortgagee, or tenant being required to see to the distribution and application of any proceeds of sale, loan, or rent.

This instrument is prepared without benefit of title search or abstract, and the preparer gives no opinion as to title

IN TESTIMONY WHEREOF, we have executed this instrument this date APR 1 1 2017.

DOUGLAS LaFOND

REBA LaFOND

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, a Notary Public in and for said state and county, duly commissioned and qualified, personally appeared **DOUGLAS and REBA LaFOND,** personally known to me (or

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

| | | |

BK/PG:R2895/1246-1248
23000209

3 PGS : WARRANTY DEED	
NANCY MCMEEN 295914 - 23000209	
01/05/2023 - 10:19 AM	
VALUE	
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	17.00

STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

This Instrument Prepared by:
Oath Law
1214 East 33rd Street
Tulsa, Oklahoma 74105

Taxes To:
Roger D. and Brenda M. Goodwin
113 Lenox Drive
Columbia, Tennessee 38401

TENNESSEE WARRANTY DEED

STATE OF TENNESSEE

COUNTY OF MAURY

KNOW ALL MEN BY THESE PRESENTS, that the grantor, **Roger Dale Goodwin** and **Brenda M. Goodwin**, husband and wife, whose address is: 113 Lenox Drive, Columbia, Tennessee 38401 for and in consideration of the sum of Ten and No/100 Dollars ($10.00) to me in hand paid and the receipt of which is hereby acknowledged, has granted, sold, and conveyed, and by these presents do grant, sell, and convey to the grantee, **Roger D. Goodwin and Brenda M. Goodwin Trustees of the Goodwin Protection Trust dated December 12, 2022 (referred to herein as "Grantee" whether one or more).** whose address is: 113 Lenox Drive, Columbia, Tennessee 38401

Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 22, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, page 282, Register's Office of Maury County, Tennessee.

Derivation Clause: Said property being one and the same property conveyed to Granter herein by way of deed of record at Book 835, Page 490-491, in the Register's Office of Maury, Tennessee.

This conveyance is made by a transferor of real estate to a revocable living trust created by the same transferor or by a spouse of the transferor. This transfer constitutes a nontaxable exchange pursuant to T.C.A. §67-4-409(3)(F).

IN WITNESS WHEREOF, the undersigned has caused this instrument to be executed on **December 12, 2022**

Roger Dale Goodwin, GRANTOR

Brenda M. Goodwin, GRANTOR

STATE OF TENNESSEE)

COUNTY OF WILLIAMSON)

Before me, the undersigned, a Notary Public of the State and County aforesaid, personally appeared Roger Dale Goodwin and Brenda M. Goodwin, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who, upon oath, acknowledged them to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

WITNESS my hand and Official Seal at office this December 12, 2022.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

113 LENOX DR	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023**	**060**	**066K**	**A**	**022.00**		**000**
Property Address	BK **5** PG **282** BLOCK LOT **0022** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**	Updated 01/24/2023				
GOODWIN PROTECTION TRUST	BK PG BLOCK LOT TRACT	SSD1	Dist **03**	Printed 03/17/2023				
ROGER D & BRENDA M GOODWIN--TRUSTEES	Additional Description	SSD2						
113 LENOX DR	Dimensions **145.15X356.93 IRR.**	Total Land Units **1**	Card: 1 of 1					
COLUMBIA TN 38401		Deed Acres **0**						
		Calculated Acres **0**	Page: 1 of 1					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1986**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **8**	Total Fixtures **8**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **0**	Rental: Src	Year **0**	Amount **0**	Sched		

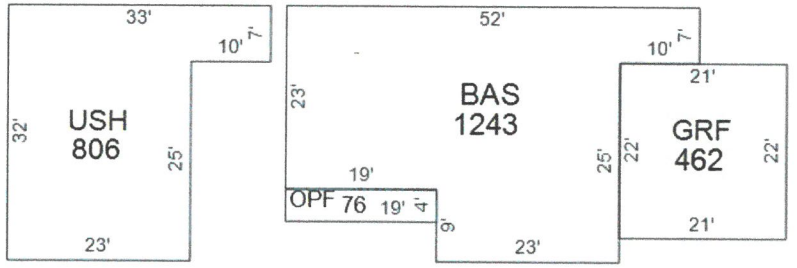
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,243	**.845**	**1**	**1**	**1.21**	**1,727**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**195,470**	**93,350**	**288,820**	**167.24**	Dwelling Factor	**1**
RCNLD	**156,380**	**74,670**	**231,050**	**133.79**	Dwelling Value	**231,050**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,243**			
	OPF	**76**	**0**	**42.63**	**3,240**
	GRF	**462**	**0**	**71.06**	**32,830**
	USH	**806**	**60**	**71.07**	**57,280**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**239,800**
TOTAL APPRAISAL	**299,800**
GREENBELT APR	
ASSESSMENT	**74,950**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**299,800**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1986**	**1986**	**240**	**C**	**1**	**8X30**		**19.2083**	**AV**	**4,610**	**10**		**1**	**460**
DRW	**Driveway**	**1986**	**1986**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
UTB	**Utility Building**	**2019**	**2019**	**240**	**C**	**1**	**12 X 20**		**23.5833**	**AV**	**5,660**	**94**		**1**	**5,320**

Total OBY Value **8,780**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**145**	**356**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
12/12/2022	**R2895**	**1246**						**GOODWIN PROTECTION TRUST**
04/30/1990	**835**	**490**	**89,700**	**89,700**	**I**	**WD**	**A**	**GOODWIN ROGER DALE**
01/28/1987	**767**	**381**	**85,500**	**85,500**	**I**	**WD**	**A**	**BARNES VAN C**
05/15/1986	**753**	**642**	**12,000**	**12,000**	**V**	**WD**	**A**	**PRONGHORN CONSTRUCTION**

NOTES

R22: CHG DRW VAL PER 32 *CB - 22: ADD PTO PER 51*CB
***R2895-1246 WD WITH 0 CONSID-MV**

This instrument prepared by Robin Courtney, Attorney, Columbia, Tennessee.

DEED

For and in the consideration of the sum of Ten Dollars ($10.00), cash in hand paid, and other good and valuable considerations, the receipt and sufficiency of all of which are hereby acknowledged, We, Robert S. Parks and Paul Scribner, have bargained and sold and do by these presents sell, transfer and convey unto Robert Lofton Fox and wife, Shirley Ann Fox, as tenants by the entirety, their heirs and assigns, the following described tract or parcel of land lying and being in the Third (3rd) Civil District of Maury County, Tennessee, and within the City of Columbia, more fully described as follows:

Being Lot No. 21 of Carriage Hills Subdivision, Section 1, a plat of which appears of record in Plat Book 5, Page 282 of the Register's Office of Maury County, Tennessee.

Being a portion of the property conveyed to the Grantors by deeds of record in Book 631, Page 347 and Book 809, Page 567 of the said Register's Office.

TO HAVE AND TO HOLD the above described tract or parcel of land, together with all rights, titles, interests, easements, appurtenances and hereitaments thereunto belonging and pertaining unto the said Robert Lofton Fox and wife, Shirley Ann Fox, as tenants by the entirety, their heirs and assigns, in fee simple forever.

We covenant with the said Robert Lofton Fox and wife, Shirley Ann Fox, that we are lawfully seized and possessed of the above described tract or parcel of land, have a good and lawful right to sell and convey same, and that it is unencumbered, except for subdivision restrictions recorded in Book 647, Page 280, amended by instrument recorded in Book 653, Page 511 of said Register's Office, and all matters, including building setback lines and utility and drainage easements imposed by the plat of said subdivision; and we do further covenant and bind ourselves, our heirs and personal representatives, to forever warrant and

Maury County, State of Tennessee
Received for record the 15 day of June 1989 at 3:59 o'clock P M
Note Book 12 Pg 345 Receipt#38768 Recording Fee 8.00
State Tax 52.80 Probate Fee 504 Total 61.30
Book ____ Page ____ Witness my hand Jannette Andrews
Register

BOOK 815 PAGE 10

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

115 LENOX DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0021** TRACT	**TAX YEAR 2023** **MAURY**	**060** JUR	**066K** CONTROL MAP	**A** GROUP	**023.00** PARCEL	PI	**000** S/I
Ownership and Mailing Address **FOX ROBERT LOFTON** **ETUX SHIRLEY ANN** **115 LENOX DR** **COLUMBIA TN 38401**	Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **130X340.05 IRR.**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066F** Dist **03** Card: 1 of 1 Page: 1 of 1		Updated 10/27/2022 Printed 03/17/2023			

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1989**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**11**	Total Fixtures	**11**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**	Amount **0**		Sched

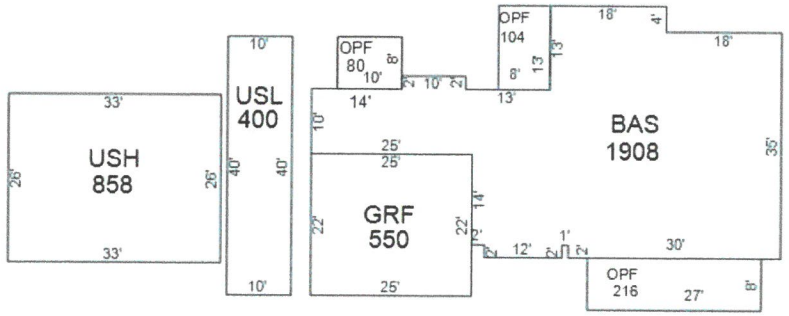
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,908	**1.243**	**1**	**1**	**1.21**	**2,543**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**283,180**	**134,160**	**417,340**	**164.11**	Dwelling Factor	**1**
RCNLD	**226,540**	**107,330**	**333,870**	**131.29**	Dwelling Value	**333,870**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,908**			
	OPF	**104**	**0**	**42.60**	**4,430**
	OPF	**216**	**0**	**42.64**	**9,210**
	GRF	**550**	**0**	**71.05**	**39,080**
	USH	**858**	**60**	**71.06**	**60,970**
	USL	**400**	**30**	**42.65**	**17,060**
	OPF	**80**	**0**	**42.63**	**3,410**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**339,500**
TOTAL APPRAISAL	**399,500**
GREENBELT APR	
ASSESSMENT	**99,875**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**399,500**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1989**	**1999**	**288**	**C**	**1**	**12X24**		**17.7431**	**AV**	**5,110**	**31**		**1**	**1,580**
DRW	**Driveway**	**1989**	**1989**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**

Total OBY Value **5,580**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**130**	**340**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/15/1989	**815**	**10**	**16,000**	**16,000**	**V**	**WD**	**A**	**FOX ROBERT LOFTON**
04/03/1989	**809**	**567**	**230,000**	**230,000**	**V**	**WD**	**M**	**PARKS ROBERT S**
06/21/1979	**631**	**347**						**HITCH TOM J ETAL**

NOTES

R14:32 ADD OPF*LDS - R18: CHG QLTY PER 32 *CB
R22: CHG DRW VAL, WDK EYB PER 32 *CB - 22: CHG OPF, ADD UTB PER 51 *CB

PREPARED BY:
File JASON A. GOLDEN
ATTORNEY AT LAW
COLUMBIA TENN

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between Jeffery T. Whitley, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and Wayne D. Crowley, Sr. and wife, Gail Crowley, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

> Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 59, Carriage Hills Subdivision, Section 3, as shown on plat of record in Plat Book 9, Page 139, Register's Office of Maury County, Tennessee.
>
> Being the same property conveyed to FIRST PARTY by deed of record in Book 1324, Page 418, Register's Office of Maury County, Tennessee.
>
> Map 66F, Group B, Parcel 3.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that he is lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except as follows: current year's property taxes which will be prorated as of the date of this deed and assumed by SECOND PARTY; building restrictions of record in Book 1180, Page 596, Register's Office of Maury County, Tennessee; and applicable utility and drainage easements, building setback lines, a 20 ft. sewer easement along the north property line, and other matters as shown on recorded plat.

18 7 AUG 97 1:15 P
177 12345 1200
1340 480.63 1.00 493.63
883

BOOK 1340 PAGE 883

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

130 LENOX DR
Property Address
Ownership and Mailing Address
CROWLEY WAYNE D SR ETUX
GAIL
130 LENOX DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 3**
BK **9** PG **139** BLOCK LOT **59** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **200.38X221.97 IRR**

TAX YEAR 2023 MAURY

JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
060	066F	B	003.00		000

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **3 Part Basement**
Stories **1 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **12 Brick/Wood** Attic
Heating Fuel

Year Built **1997**	Eff Yr Built **2010**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **9**	Total Fixtures **9**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **1**	Rental: Src	Year **0**	Amount **0**	Sched		

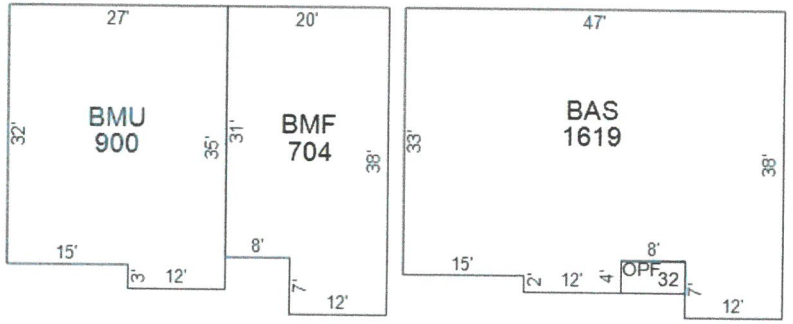
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**02 L-Shaped**
Cab/Millwork	**04 Above Average**		

Quality **1+ : Average +** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **15** Other Phys Functional External % Good **85**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,619	**1.071**	**1**	**1.021**	**1.07**	**1,619**	**2022**	**12**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete
RCN	**218,670**	**59,230**	**277,900**	**171.65**	Dwelling Factor **1**
RCNLD	**185,870**	**50,350**	**236,220**	**145.90**	Dwelling Value **236,220**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,619**			
	BMF	**704**	**0**	**50.28**	**35,400**
	OPF	**32**	**0**	**37.81**	**1,210**
	BMU	**900**	**0**	**25.13**	**22,620**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**239,900**
TOTAL APPRAISAL	**299,900**
GREENBELT APR	
ASSESSMENT	**74,975**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**299,900**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1997**	**1997**	**130**	**C**	**1**	**13X10**		**20.8462**	**AV**	**2,710**	**25**		**1**	**680**
DRW	**Driveway**	**1997**	**1997**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**

Total OBY Value **3,680**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**99**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**200**	**221**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
08/07/1997	**1340**	**883**	**129,900**	**129,900**	**I**	**WD**	**A**	**CROWLEY WAYNE D SR ETUX**
03/24/1997	**1324**	**418**	**17,900**	**17,900**	**V**	**WD**	**A**	**WHITLEY JEFFERY T**
05/12/1994	**1220**	**924**	**10**	**10**	**V**	**WD**	**P**	**PARKS ROBERT S**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

R06FN*CHG AREA CO*R06JS*CHG AREA CODE*FN - R18: CHG QLTY PER 32 *CB
R22: CHG DRW VAL PER 32 *CB

RE1001CH.L61
This Instrument Prepared By:
R. W. Hardison, Attorney at Law
710 North Main Street
Post Office Box 1967
Columbia, Tennessee 38402-1967

File

GENERAL WARRANTY DEED

This indenture is made and entered into this 4 day of May, 1993 between Parks-Reaves Properties, a Tennessee General Partnership (hereinafter referred to as "GRANTOR") and Michael J. White, and wife, Yvonne White (hereinafter referred to as "GRANTEE").

For and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, cash in hand paid, Grantor does by these presents, sell, transfer and convey unto grantee, the following described tract or parcel of land:

SITUATE in the Third (3rd) Civil District of Maury County, Tennessee and being more particularly described as Lot 61 in the Carriage Hills Subdivision, Section 3, as shown by map of record in Plat Book 9 at page 139 in the Maury County, Tennessee Register of Deeds office.

BEING a portion of the same property conveyed to Parks-Reaves Properties by instrument of record in Book 835 at page 71 in the Maury County, Tennessee Register of Deeds office. See also Certificate of Partnership of record in Book 835 at page 77 in the same said office.

Tax Parcel # 66-66-8.00 P/O

NOTE: The legal description set forth above is a portion of the same property as contained in Grantor's previous deed of record and is derived from a plat dated 3/29/93 by James D. Webb, Registered Land Surveyor (No. 596) of Maury, County, Tennessee.

To have and to hold the above-described tract or parcel of land, together with all rights, titles, interests, easements, appurtenances, and hereditaments thereto appertaining, to Grantee, its heirs and assigns forever in fee simple.

Grantor covenants with Grantee that Grantor is lawfully seized and possessed in fee simple of the above-described tract or parcel of land, that Grantor has the full, good and lawful right and authority to sell, transfer and convey the same, and that the above-described tract or parcel of land is unencumbered, except for covenants, conditions and restrictions of record in Book 1180 at Page 596 in the Maury County, Tennessee Registers of Deeds Office.

And, Grantor does warrant, and hereby binds its successors to title, to forever defend the title to the above-described tract or parcel of land against the lawful claims of all persons whatsoever, unto Grantee, its heirs and assigns.

MAURY COUNTY, STATE OF TENNESSEE
Received for record this 5 of May 1993 at 3:31 o'clock P M
Note Book 15 Page 535 Receipt #27250 Recording Fee 8.00
State Tax 66.23 Probate Fee 1.00 Total 75.23
Book 1180 Page 600, Witness my Hand,
MAURY COUNTY REGISTER OF DEEDS

BOOK 1180 PAGE 600

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

125 LENOX DR
Property Address

Ownership and Mailing Address
WHITE MICHAEL J ETUX
YVONNE
125 LENOX DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 3**
BK **9** PG **139** BLOCK LOT **61** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **111.58X243.84 IRR**

TAX YEAR 2023
MAURY

060	066F	B	005.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	**4 Full-Fin**
Heating Fuel			

Year Built	**1993**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**7**	Total Fixtures	**7**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year	**0**	Amount **0**	Sched

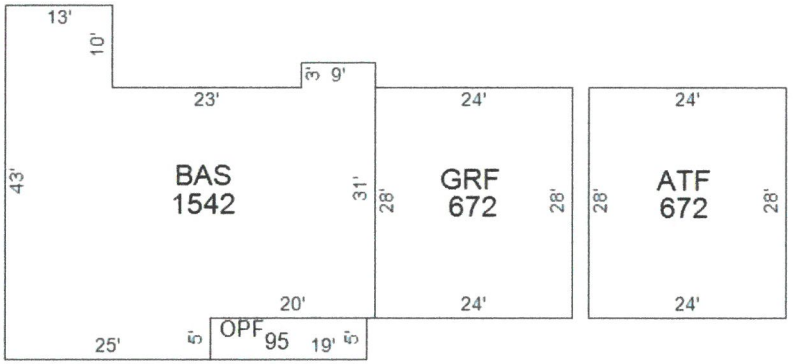
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **1+ : Average +** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,542	**1.025**	**1**	**1.07**	**1.07**	**1,542**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**216,120**	**62,700**	**278,820**	**180.82**	Dwelling Factor	**1**
RCNLD	**172,900**	**50,150**	**223,050**	**144.65**	Dwelling Value	**223,050**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,542**			
	OPF	**95**	**0**	**37.68**	**3,580**
	GRF	**672**	**0**	**62.84**	**42,230**
	ATF	**672**	**0**	**25.13**	**16,890**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**232,900**
TOTAL APPRAISAL	**292,900**
GREENBELT APR	
ASSESSMENT	**73,225**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**292,900**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer
03 Public / Individual
Electricity
01 Public
Gas
00 None
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
POL	**Swimming Pool**	**1995**	**1995**	**576**	**E**	**1**	**16X36**		**55.0521**	**PR**	**31,710**	**10**		**1**	**3,170**
DRW	**Driveway**	**1995**	**1995**	**1**	**C**	**1**			**1500**	**UN**	**1,500**	**100**		**1**	**1,500**
UTB	**Utility Building**	**2021**	**2021**	**216**	**C**	**1**	**18 X 12**		**24.537**	**AV**	**5,300**	**98**		**1**	**5,190**

Total OBY Value **9,860**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**111**	**243**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/04/1993	**1180**	**600**	**17,900**	**17,900**	**V**	**WD**	**A**	**WHITE MICHAEL J**
04/17/1990	**835**	**71**						**PARKS-REAVES PROPERTIES**

NOTES

R18: CHG QLTY PER 32 *CB - 22: ADD UTB, PP-UTB PER 51 *CB

Mail Stafford Land Title
549 Heritage Pointe Dr
Ste A
Clarksville TN 37042

Name and Address of New Owner:
Briana Ryelle Waldrum and Bronson R. Waldrum
(B) 126 Lenox Dr
Columbia TN 38401

Send Tax Bills To:
Briana Ryelle Waldrum and Bronson R. Waldrum
(B) 126 Lenox Dr
Columbia TN 38401

This Instrument Prepared By:
Devan Spinelli
CLOSED LLC
1212 East Broward Boulevard
Suite 202
Fort Lauderdale, FL 33301

Map & Parcel No: 066F-B-002.00

BK/PG: R2651/1340-1342
20012833

3 PGS:AL-WARRANTY DEED	
JANE BATCH: 232483	07/29/2020 - 10:15 AM
VALUE	267000.00
MORTGAGE TAX	0.00
TRANSFER TAX	987.90
RECORDING FEE	15.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1005.90

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

WARRANTY DEED

FOR AND IN CONSIDERATION of the sum of Ten Dollars ($10.00) cash in hand paid, and other good and valuable consideration, the receipt and legal sufficiency of which are hereby irrevocably acknowledged, **Spencer Valdez and Jessica Valdez, husband and wife**, "the Grantor," has this day bargained and sold and by these presents does hereby sell, give, transfer and convey unto **Briana Ryelle Waldrum and Bronson R. Waldrum, wife and husband,** "the Grantees," the following described real estate in Maury County, Tennessee:

Land in Maury County, Tennessee being Lot No. 58, on the Plan of Carriage Hills, Section 3 of record in Plat Book 9, Page 139, in the Register's Office for Maury County, Tennessee, to which plan reference is hereby made for a more complete description of the property.

Being the same property conveyed to Spencer Valdez and Jessica Valdez, Husband and Wife from Laura J. Valdez by Quitclaim Deed dated the 6th day of November, 2017, in the Register's Office of Maury County, Tennessee. ref R2465 pg 684

The real estate being conveyed is subject to all terms, matters and conditions as shown on the aforementioned plat of record and restrictive covenants of record in the Register's Office for Maury County, Tennessee.

TO HAVE AND TO HOLD said real estate unto the Grantees, and the Grantees' successors, heirs and assigns, forever in fee simple.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

126 LENOX DR
Property Address

Ownership and Mailing Address
WALDRUM BRIANA RYELLE ETVIR BRONSON R
126 LENOX DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 3**
BK **9** PG **139** BLOCK LOT **58** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **100.00X250.30 IRR**

TAX YEAR 2023
MAURY

060	066F	B	002.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1996**	Eff Yr Built	**2010**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

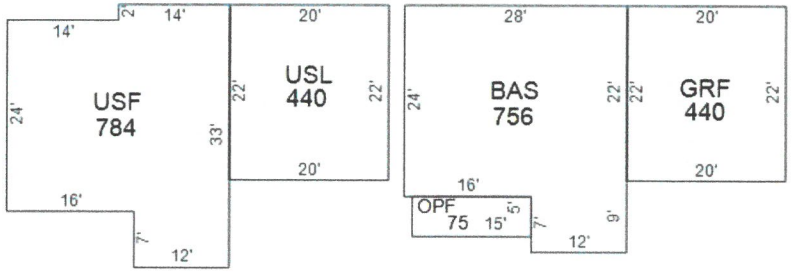
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **15**	Other Phys	Functional	External	% Good **85**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
756	**.545**	**1**	**1**	**1.07**	**1,672**	**2022**	**12**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**113,290**	**135,760**	**249,050**	**148.95**	Dwelling Factor	**1**
RCNLD	**96,300**	**115,400**	**211,700**	**126.61**	Dwelling Value	**211,700**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**756**			
	USF	**784**	**100**	**113.13**	**88,690**
	OPF	**75**	**0**	**37.73**	**2,830**
	GRF	**440**	**0**	**62.84**	**27,650**
	USL	**440**	**30**	**37.70**	**16,590**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**214,300**
TOTAL APPRAISAL	**274,300**
GREENBELT APR	
ASSESSMENT	**68,575**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**274,300**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1996**	**1996**	**130**	**C**	**1**	**10X13**		**20.8462**	**AV**	**2,710**	**22**		**1**	**600**
DRW	**Driveway**	**1996**	**1996**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **2,600**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**100**	**250**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
07/24/2020	**R2651**	**1340**	**267,000**	**267,000**	**I**	**WD**	**A**	**WALDRUM BRIANA RYELLE ETVIR BRO**
11/06/2017	**R2465**	**684**				**QC**		**VALDEZ SPENCER ETUX JESSICA**
01/11/2016	**R2354**	**281**	**189,000**	**189,000**	**I**	**WD**	**A**	**VALDEZ JESSICA K ETVIR SPENCER &**
04/16/2010	**R2112**	**1116**	**145,900**	**145,900**	**I**	**WD**	**A**	**CARROLL JEFFREY M**

NOTES

CHG LAND UNIT PRICE R06BV*R2055-504 TRUSTEE DEED*JG
CHG AREA CODE*FN*CHG SE*R10/32*FN*JG - R18: CHG QLTY PER 32 *CB
R22: CHG DRW VAL PER 32 *CB

file Title Assoc of Columbia

WARRANTY DEED	STATE OF TENNESSEE COUNTY OF WILLIAMSON THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $309,000.00. Suzanne Jordan Affiant SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 18TH DAY OF AUGUST, 2020. Teresa J Smith Notary Public MY COMMISSION EXPIRES: _____ (AFFIX SEAL)

TERESA J. SMITH
State of Tennessee Notary Public
MAURY COUNTY
MY COMMISSION EXPIRES AUGUST 25, 2021

THIS INSTRUMENT WAS PREPARED BY
Foundation Title & Escrow Franklin , 7112 Crossroads Blvd, Ste. 100, Brentwood, TN 37027

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NO.(S)
Matthew Turner and Sara Denise Kueck	SAME AS Owner	66K-A-024.00 & 66K-A-021.00
(NAME) 111 Lenox Drive	(NAME)	
(ADDRESS) Columbia, TN 38401	(ADDRESS)	
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

For and in consideration of the sum of Ten and No/100 Dollars ($10.00), cash in hand paid by the hereinafter named Grantees, and other good and valuable considerations, the receipt of which is hereby acknowledged, WE, **Josh Koziura and Kristin James, also known as Kristin Elizabeth James, husband and wife**, hereinafter called the Grantors, have bargained and sold, and by these presents do transfer and convey unto **Matthew Turner, husband and Sara Denise Kueck, wife**, hereinafter called the Grantees, their heirs and assigns, a certain tract or parcel of land in Maury County, State of Tennessee, described as follows, to-wit:

Land in Maury County, Tennessee, being Lot Nos. 23 and 35 on the Plan of Carriage Hills Subdivision, Section 1, of record in Plat Book 5, page 282, in the Register's Office for Maury County, Tennessee, to which Plan reference is hereby made for a more complete description of the property.

Being the same property conveyed to Josh Koziura and Kristin James, husband and wife, by Warranty Deed from Tom C. Lunn and wife, Christina Lunn, dated August 5, 2016 and recorded on August 9, 2016 in Book R2385, page 282, Register's Office for Maury County, Tennessee.

This conveyance is subject to (a) all restrictions of record; (b) all easements of record; (c) all visible easements; (d) all matters appearing on the plan(s) of record; and (e) all matters referenced in the master deed and by-laws; and (f) all applicable government and zoning regulations.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

111 LENOX DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **23** TRACT	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	024.00 PARCEL	000 PI S/I
Ownership and Mailing Address **TURNER MATTHEW ETUX SARA DENISE KUECK** **111 LENOX DR** **COLUMBIA TN 38401-7203**	Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **199.93X188.74 IRR**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1.4** Deed Acres **0** Calculated Acres **1.4**	Map **066F** Dist **03** Card: 1 of 1 Page: 1 of 1	Updated 10/27/2022 Printed 03/17/2023			

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**3 Part Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1987**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **6**	Total Fixtures **6**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **0**	Rental: Src	Year **0**	Amount **0**	Sched		

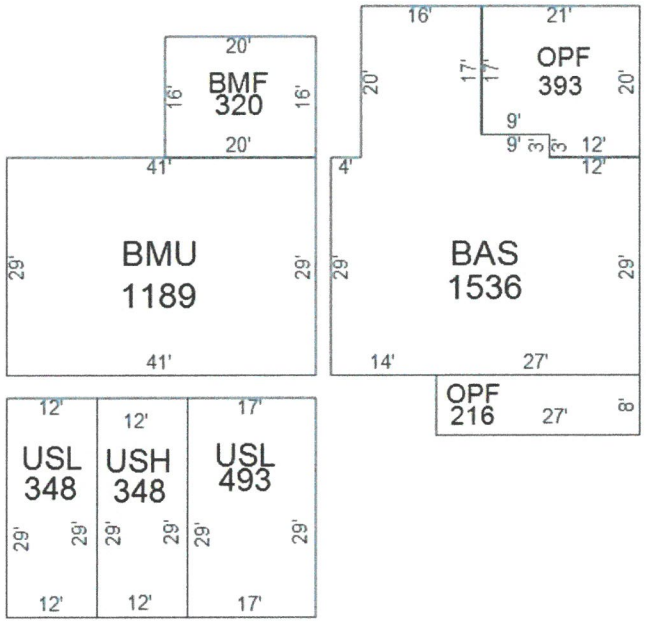
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,536	**1.021**	**1**	**1**	**1.21**	**1,997**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**231,130**	**138,540**	**369,670**	**185.11**	Dwelling Factor	**1**
RCNLD	**184,900**	**110,830**	**295,730**	**148.09**	Dwelling Value	**295,730**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,536**			
	BMF	**320**	**0**	**56.84**	**18,190**
	OPF	**216**	**0**	**42.64**	**9,210**
	OPF	**393**	**0**	**42.65**	**16,760**
	BMU	**1,189**	**0**	**28.42**	**33,790**
	USH	**348**	**60**	**71.06**	**24,730**
	USL	**348**	**30**	**42.64**	**14,840**
	USL	**493**	**30**	**42.64**	**21,020**



APPRAISED VALUES

LAND	**69,100**
IMPROVEMENTS	**300,100**
TOTAL APPRAISAL	**369,200**
GREENBELT APR	
ASSESSMENT	**92,300**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**369,200**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**05/23/2022 By 51**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**2006**	**2006**	**336**	**C**	**1**	**14X24**		**16.6071**	**AV**	**5,580**	**52**		**1**	**2,900**
DRW	**Driveway**	**2006**	**2006**	**1**	**C**	**1**			**1500**	**UN**	**1,500**	**100**		**1**	**1,500**

Total OBY Value **4,400**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**				**1.4**	**49,357.14**							**100**	**49,357.14**	**69,100**
						Totals:	**1.4**										**69,100**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
08/18/2020	**R2657**	**1412**	**309,000**	**309,000**	**I**	**WD**	**P**	**TURNER MATTHEW ETUX SARA DENISE**
08/05/2016	**R2385**	**282**	**229,900**	**229,900**	**I**	**WD**	**P**	**KOZIURA JOSH & KRISTIN JAMES**
05/21/2007	**R1985**	**1202**						**LUNN TOM C ETUX**
09/06/2006	**R1940**	**700**	**200,000**	**200,000**	**I**	**WD**	**P**	**LUNN TOM C ETUX**

NOTES

INCR LAND PRICE*R06FN*AREA CODE R06BV*R1940-700 ALSO LOT 21*R1985-1202 CORRECTION*JG*CHG AREA CODE*FN CHG EYB FRPL & DECK*R10/32*JG*CHG EYB*R10/42*FN R2385-282 ALSO 66K-A-21*JG R18: CHG QLTY PER 32 *CB.*R2657-1412 INCLDS 66K-A-21-MS FOR 22:DELETE 66K-A-21.00 & COMBINE W/THIS PCL PER OWNERS REQUEST*PB

THIS INSTRUMENT WAS PREPARED BY	STATE OF TENNESSEE COUNTY OF Davidson
Bankers Title & Escrow Corp. 5107 Maryland Way, Ste. 115 Brentwood, TN 37027 P18-9664-BW	THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $ 250,000.00. Affiant SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 21 DAY OF December 2018 Notary Public MY COMMISSION EXPIRES: 7-26-21 (AFFIX SEAL)

JODI JACKSON STATE OF TENNESSEE NOTARY PUBLIC WILLIAMSON COUNTY

WARRANTY DEED

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NUMBERS
Trevin J. Tolbert	Fairway Mortgage	MAP
104 Lenox Drive	4201 Marsh Lane	PARCEL 066K-A-031.00
Columbia, TN 38401	Carrollton, TX 75007	
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

FOR AND CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS. THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, **Jason Anderson, a unmarried man**

HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO **Trevin J. Tolbert and wife, Megan R. Tolbert**

HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN MAURY COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Tract 1:

Located in the Third (3rd) Civil District of Maury County, Tennessee, and more particularly described as all of Lot 16 in the Carriage Hills Subdivision, Section 1, as shown by a map of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.

Tract 2:

Located in the Third (3rd) Civil District of Maury County, Tennessee, and more particularly described as follows: Being a 5 foot easement running contiguous with and parallel to the Southerly boundary of Lot 17, Carriage Hills Subdivision, Section 1, Plat Book 5, Page 282, and being a portion of said Lot 17, for the purpose of driveway benefiting Lot 16, Carriage Hills Subdivision, Section 1, Plat Book 5, Page 282, Register's Office of Maury County, Tennessee

Being the same property conveyed to Jason Anderson, a married man by Warranty deed from Mary Graham Lane, a single person of record in Book R2265, page 253, Register's Office for Maury County, Tennessee, dated February 04, 2014 and recorded on February 05, 2014. The said Jason Anderson having since divorced on May 4, 2017 by Final Decree, docket number 17143, Chancery Court for Cheatham County, Tennessee by which former spousal marital interest was terminated.

THIS CONVEYANCE IS SUBJECT TO: (1) Taxes which have been prorated and assumed by Grantee; (2) All restrictions of record; (3) All easements of record; (4) All visible easements; (5) All matters appearing on the plan of record; (6) All applicable governmental and zoning regulations.

This is () UNIMPROVED

(X) IMPROVED property known as **104 Lenox Drive, Columbia, TN 38401.**

Mail: FOUNDATION TITLE AND ESCROW SERIES
277 MALLORY STATION RD
STE 102
FRANKLIN TN 37067

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

104 LENOX DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **16** TRACT	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	031.00 PARCEL	PI	000 S/I
Ownership and Mailing Address **TOLBERT TREVIN J ETUX MEGAN R** **104 LENOX DR** **COLUMBIA TN 38401**	Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **130X175 IRR.**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066F** Dist **03**	Updated 10/27/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1988**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

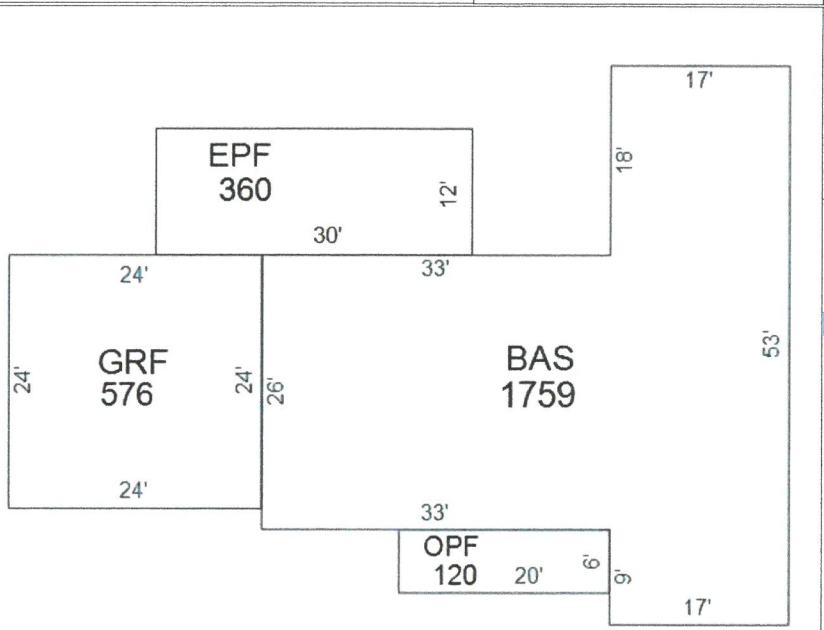
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**04 Irregular Shape**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,759	**1.154**	**1**	**1**	**1.21**	**1,759**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**255,420**	**86,980**	**342,400**	**194.66**	Dwelling Factor	**1**
RCNLD	**204,340**	**69,580**	**273,920**	**155.72**	Dwelling Value	**273,920**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,759**			
	OPF	**120**	**0**	**42.67**	**5,120**
	GRF	**576**	**0**	**71.06**	**40,930**
	EPF	**360**	**0**	**113.69**	**40,930**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**280,800**
TOTAL APPRAISAL	**340,800**
GREENBELT APR	
ASSESSMENT	**85,200**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**340,800**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1989**	**1989**	**192**	**C**	**1**	**12X16**		**20.8333**	**AV**	**4,000**	**10**		**1**	**400**
DRW	**Driveway**	**1989**	**1989**	**1**	**C**	**1**			**1500**	**UN**	**1,500**	**100**		**1**	**1,500**
GUD	**Detached Garage Unfi**	**1995**	**1995**	**240**	**C**	**1**	**12X20**		**44.625**	**AV**	**10,710**	**46**		**1**	**4,930**

Total OBY Value **6,830**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**130**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
12/21/2018	**R2534**	**1032**	**250,000**	**250,000**	**I**	**WD**	**A**	**TOLBERT TREVIN J ETUX MEGAN R**
02/04/2014	**R2265**	**253**	**172,900**	**172,900**	**I**	**WD**	**A**	**ANDERSON JASON**
02/07/2003	**R1681**	**958**	**137,500**	**137,500**	**I**	**WD**	**A**	**LANE MARY GRAHAM**
09/07/1999	**R1450**	**949**	**109,680**	**109,680**	**I**	**WD**	**B**	**CHEEK HUBERT**

NOTES

R18: CHG QLTY PER 32 *CB - 22: ADD EPF PER 51 *CB

THIS INSTRUMENT WAS PREPARED BY:
J. Blake Freeman, Attorney
Priority Escrow Services, Inc.
51 Century Boulevard, Suite 110
Nashville, TN 37214-3614

Mail

WARRANTY DEED

FOR AND IN CONSIDERATION of the sum of Ten Dollars, cash in hand paid by the hereinafter named Grantees, and other good and valuable consideration, the receipt of which is hereby acknowledged, **JAMES S. WHEELER and wife, MARY A. WHEELER**, hereinafter called the Grantors, have bargained and sold and by these presents do hereby transfer and convey unto PAUL A. TAYLOR and wife, BRENDA K. TAYLOR hereinafter called the Grantees, their heirs and assigns, a certain tract or parcel of land in **Maury County, Tennessee**, described as follows, to-wit:

LOCATED in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 25, Carriage Hills Subdivision, Section 1, as shown on Plat of record in Plat Book 5, page 282, of the Register's Office of Maury County, Tennessee.

BEING the same property conveyed to James S. Wheeler and wife, Mary A. Wheeler by deed from Wayne Smith and Gary Smith, of record in Book 783, page 561, Register's Office for Maury County, Tennessee.

THIS property is conveyed subject to all applicable local government planning, building and zoning regulations; Restrictive covenants filed of record in Book 653, page 511; and all matters as shown on the recorded plat.

This is a duplicate original of deed dated December 31, 1994, which was inadvertently lost and not recorded.

This is improved property known as: **107 Lenox Drive, Columbia, TN 38401**

TO HAVE AND TO HOLD the same tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said Grantees, their heirs and assigns, forever; and we do covenant with the said Grantees that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it, and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves and our heirs and representatives, to warrant and forever defend the title to the said land to the said Grantees, their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

WITNESS our hands this 22 day of September, 1996

James S. Wheeler

Mary A. Wheeler

MAURY COUNTY, STATE OF TENNESSEE
Received for record this 30 of Sept. 1996 at 11:55 o'clock A M
Note Book 17 Page 411 Receipt # 75051 Recording Fee 8.00
State Tax 357.05 Probate Fee 1.00 Total 366.05
Book 1305 Page 951, Witness my Hand,
MAURY COUNTY REGISTER OF DEEDS

L. Wayne White

BOOK 1305 PAGE 951

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

107 LENOX DR
Property Address

Ownership and Mailing Address

TAYLOR PAUL A ETUX
BRENDA K
107 LENOX DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **0025** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **140X170**

TAX YEAR 2023
MAURY

060	066K	A	026.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**4 Full Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

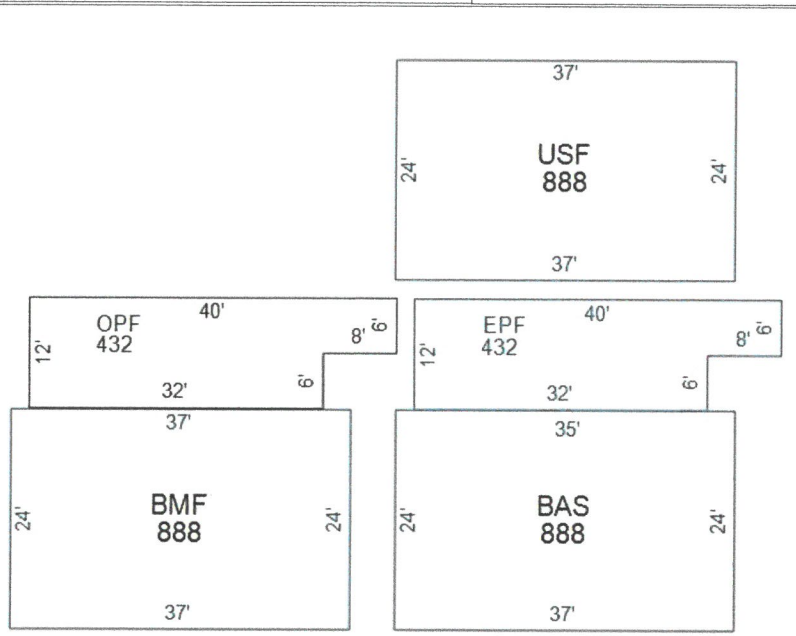
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
888	**.627**	**1**	**1**	**1.21**	**1,776**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**148,780**	**231,620**	**380,400**	**214.19**	Dwelling Factor	**1**
RCNLD	**119,020**	**185,300**	**304,320**	**171.35**	Dwelling Value	**304,320**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**888**			
	USF	**888**	**100**	**127.92**	**113,590**
	BMF	**888**	**0**	**56.86**	**50,490**
	EPF	**432**	**0**	**113.70**	**49,120**
	OPF	**432**	**0**	**42.64**	**18,420**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**311,100**
TOTAL APPRAISAL	**371,100**
GREENBELT APR	
ASSESSMENT	**92,775**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**371,100**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1992**	**1992**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**
STP	**Stoop**	**1992**	**1992**	**35**	**C**	**1**	**5X7**		**20.8571**	**AV**	**730**	**62.5**		**1**	**460**
PTO	**Patio**	**1997**	**1997**	**192**	**C**	**1**	**12X16**		**9.5833**	**AV**	**1,840**	**25**		**1**	**460**
WDK	**Wood Deck**	**1992**	**2014**	**120**	**C**	**1**	**IRR**		**20.8333**	**AV**	**2,500**	**76**		**1**	**1,900**

Total OBY Value **6,820**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**140**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
09/22/1996	**1305**	**951**	**96,500**	**96,500**	**I**	**WD**	**A**	**TAYLOR PAUL A ETUX**
12/10/1987	**783**	**561**	**92,000**	**92,000**	**I**	**WD**	**A**	**WHEELER JAMES S**
08/19/1986	**759**	**110**	**15,000**	**15,000**	**V**	**WD**	**A**	**SMITH WAYNE &**

NOTES

R14:32 ADD EPF INCREASE DRWY*LDS - R18: CHG QLTY PER 32 *CB
R22: CHG DRW, WDK EYB PER 32 *CB - 22: ADD OPF PER 51 *CB

PREPARED BASED ON PRIOR DEED. TITLE SEARCH NOT PROVIDED

Prepared and Return to:
Amy Cross Nance Attorney at Law, PLLC
103 Forrest Crossing Blvd Suite 205
Franklin, Tennessee 37064
615-794-5644

STATE OF TENNESSEE
COUNTY OF WILLIAMSON

THE ACTUAL CONSIDERATION FOR THIS TRANSFER IS $0.00.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 5th DAY OF March, 2019.

Notary Public
My Commission Expires: 1-21-20

Dana Thomas
State of Tennessee Notary Public
Maury County

BK/PG: R2545/397-398
19003298

2 PGS:AL-QUITCLAIM DEED

SUSIE BATCH: 210847	03/11/2019 - 10:35 AM
VALUE	0.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	12.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Address New Owner	Send Tax Bills	Map-Parcel Numbers
Fay G. & Dianne Hazen **Lacey J. Hazen** **105 Lenox Dr** **Columbia, TN 38401**	**Same**	**066K A 02700**

QUITCLAIM DEED

FOR AND IN consideration of the sum of One Dollar ($1.00) cash in hand paid and other good and valuable consideration, the receipt of which is hereby acknowledged that Fay G. Hazen and Dianne Hazen have bargained and sold, and do hereby convey, remise, release and forever quitclaim a life estate without right to sell to Fay G. Hazen and Dianne Hazen and the remainder interest to Lacey J. Hazen their heirs and/or assigns, their entire right, title and interest in and to a certain tract of land in Maury County, Tennessee, described as follows:

Being Lot No. 26 Carriage Hills Subdivision Section 1 as shown on plat of record in Plat Book 5 Page 282 Register's Office for Maury County, Tennessee to which plan reference is hereby made for a more complete and accurate description.

Being the same property conveyed to Fay G. Hazen and wife Dianne Hazen by deed from Bailey Mortgage Company of record in Book 789 Page 212 Register's Office for Maury County, Tennessee

This is improved property known as 105 Lenox Dr. Columbia, TN 38401

This instrument and the interest released and quitclaimed are subject to such limitations, restrictions and encumbrances as may affect the premises.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

105 LENOX DR
Property Address

Ownership and Mailing Address

HAZEN FAY G & DIANNE HAZEN &
LACEY J HAZEN
105 LENOX DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **26** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description **LIFE ESTATE**
Dimensions **135X170**

TAX YEAR 2023
MAURY

060	066K	A	027.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023

Card: 1 of 1

Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src	**3**	Occ **1**	Rental: Src	Year	**0**	Amount **0**	Sched

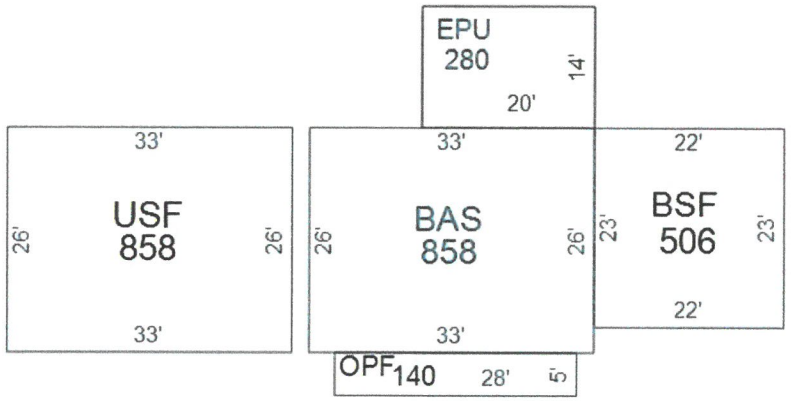
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
858	**.609**	**1**	**1**	**1.21**	**2,222**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete
RCN	**144,790**	**197,140**	**341,930**	**153.88**	Dwelling Factor **1**
RCNLD	**115,830**	**157,710**	**273,540**	**123.11**	Dwelling Value **273,540**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**858**			
	BSF	**506**	**100**	**113.70**	**57,530**
	USF	**858**	**100**	**127.93**	**109,760**
	OPF	**140**	**0**	**42.64**	**5,970**
	EPU	**280**	**0**	**85.29**	**23,880**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**285,100**
TOTAL APPRAISAL	**345,100**
GREENBELT APR	
ASSESSMENT	**86,275**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**345,100**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **01 Public / Public**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1990**	**1990**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
GUD	**Detached Garage Unfi**	**1990**	**1990**	**744**	**C**	**1**	**24X31**		**30.7661**	**AV**	**22,890**	**36**		**1**	**8,240**
WDK	**Wood Deck**	**1990**	**1990**	**1**	**C**	**1**			**300**	**UN**	**300**	**100**		**1**	**300**

Total OBY Value **11,540**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**135**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
03/05/2019	**R2545**	**397**				**QC**		**HAZEN FAY G & DIANNE HAZEN &**
03/28/1988	**789**	**212**	**94,000**	**94,000**	**I**	**WD**	**I**	**HAZEN FAY G**
08/31/1987	**777**	**605**	**72,125**	**72,125**	**I**	**AO**	**D**	**BAILEY MORTGAGE COMPANY**
10/09/1986	**761**	**472**						**COHENOUR JULIAN S JR**

NOTES

CHG EYB INCR LAND PRICE*R06FN*CHG AREA CODE*FN*R14:32 DEL OPU/ADD EPU*LDS
R18: CHG QLTY PER 32*CB*R2545-397 LIFE EST TO FAY & DIANNE REMAINDER TO LACEY*JG
R22: CHG DRW VAL PER 32 *CB - R22: PP-UTB PER 51 *CB

This Instrument Prepared by:
Delilah A. Speed, Attorney at Law, 710B North Main Street, P.O. Box 973, Columbia, Tennessee 38402-0973.

BK/PG:R1759/397-399

03113905

3 PGS : AL - QUITCLAIM DEED
SUSIE BATCH: 10063
10/30/2003 - 01:04 PM

VALUE	0.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	17.00

STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Person or Agency Responsible For Payment of Taxes:

P/U BY:

TINA MARIE GREEN
103 LENOX DRIVE
COLUMBIA, TN 38401

QUITCLAIM DEED

For and in consideration of the sum of Ten Dollars ($10.00) Dollars, cash in hand paid, the receipt and sufficiency of which is hereby acknowledged, I, **BRUCE W. GREEN**, have this day bargained and sold and by these presents do hereby transfer and convey all my right, title and interest that I might have in and to the following described property unto **TINA GREEN**, said property lying and being in the 3RD **CIVIL DISTRICT** of Maury County, Tennessee being more particularly described as follows:

TAX MAP AND PARCEL NO'S. 66K-A-2A.

Being Lot number 27 of the Carriage Hill Subdivision, Section 1, a plat of which appears of record in Plat Book 5, page 282, Register's Office of Maury County, Tennessee.

Being the same property conveyed to Bruce W. Green and Tina Green by Deed from Bob P. Keith and wife, Lisa E. Keith of record Book 1343, page 693, Register's office for Maury County, Tennessee.

TO HAVE AND TO HOLD said interest that I might have in said

property to the said **TINA GREEN**, together with all rights, titles, claims, interests, easements,

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

103 LENOX DR (Property Address)	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023 MAURY**	060	066K	A	028.00	000
	BK **5** PG **282** BLOCK LOT **0027** TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**		Updated 10/27/2022		
GREEN TINA	BK PG BLOCK LOT TRACT	SSD1	Dist **03**		Printed 03/17/2023		
103 LENOX DR	Additional Description	SSD2	Card: 1 of 1				
COLUMBIA TN 38401	Dimensions **135.03X175.75 IRR.**	Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1980**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

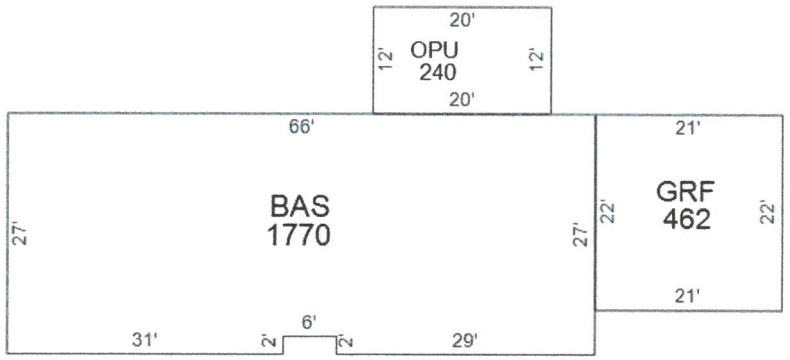
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,770	**1.161**	**1**	**1.07**	**1.21**	**1,770**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**269,780**	**37,950**	**307,730**	**173.86**	Dwelling Factor	**1**
RCNLD	**215,820**	**30,360**	**246,180**	**139.08**	Dwelling Value	**246,180**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,770**			
	GRF	**462**	**0**	**71.06**	**32,830**
	OPU	**240**	**0**	**21.33**	**5,120**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**249,700**
TOTAL APPRAISAL	**309,700**
GREENBELT APR	
ASSESSMENT	**77,425**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**309,700**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year Recorded

App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1986**	**1986**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
STP	**Stoop**	**1986**	**1986**	**48**	**C**	**1**	**6X8**		**20.8333**	**AV**	**1,000**	**55**		**1**	**550**

Total OBY Value **3,550**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**15**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**135**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/29/2003	**R1759**	**397**						**GREEN TINA**
08/27/1997	**1343**	**693**	**95,500**	**95,500**	**I**	**WD**	**A**	**GREEN BRUCE W ETUX**
05/11/1993	**1182**	**87**	**88,900**	**88,900**	**I**	**WD**	**A**	**KEITH BOB P**
03/20/1991	**1113**	**276**	**89,900**	**89,900**	**I**	**WD**	**A**	**MCGRADY CLIFFORD E**

NOTES

CHG EYB INCR LAND PRICE*R06FN*AREA CODE R06BV*CHG AREA CODE*FN
R2014:32 CHG DRWY*LDS - R18: CHG QLTY PER 32 *CB - R22: CHG DRW VAL PER 32 *CB

RE1001.115
This Instrument Prepared By:
R. W. Hardison, Attorney at Law
710 North Main Street
Post Office Box 1967
Columbia, Tennessee 38402-1967

GENERAL WARRANTY DEED

This indenture is made and entered into this 27 day of December, 1993 between Robert M. Young, and wife, Joan M. Young (hereinafter referred to as "GRANTOR") and Sandra C. Taylor, and husband, Robert M. Taylor (hereinafter referred to as "GRANTEE").

For and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, cash in hand paid, Grantor does by these presents, sell, transfer and convey unto grantee, the following described tract or parcel of land:

SITUATE in the Third (3rd) Civil District of Maury County, Tennessee and being more particularly described as Lot 18 in the Carriage Hills Subdivision, Section 1, as shown by map of record in Plat Book 5 at page 282 in the Maury County, Tennessee Register of Deeds office.

BEING the same property conveyed toRobert M. Young, and wife, Joan M. Young by instrument of record in Book 811 at page 547 in the Maury County, Tennessee Register of Deeds office.

Tax Parcel # 66F-A-66K-33.00

NOTE: The legal description set forth above is the same property as contained in Grantor's previous deed of record and no new boundary survey is available.

To have and to hold the above-described tract or parcel of land, together with all rights, titles, interests, easements, appurtenances, and hereditaments thereto appertaining, to Grantee, its heirs and assigns forever in fee simple.

Grantor covenants with Grantee that Grantor is lawfully seized and possessed in fee simple of the above-described tract or parcel of land, that Grantor has the full, good and lawful right and authority to sell, transfer and convey the same, and that the above-described tract or parcel of land is unencumbered, except for covenants, conditions and restrictions of record in Book 647 at Page 280 and as amended in Book 653 at page 511 and Book 733 at page 432 in the Maury County, Tennessee Registers of Deeds Office.

And, Grantor does warrant, and hereby binds its successors to title, to forever defend the title to the above-described tract or parcel of land against the lawful claims of all persons whatsoever, unto Grantee, its heirs and assigns.

In Witness Whereof, Grantor has set its hand(s) the date first above-written.

Robert M. Young

Joan M. Young

216115

BOOK 1207 PAGE 749

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

108 LENOX DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0018** TRACT	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	033.00 PARCEL	PI	000 S/I
Ownership and Mailing Address **TAYLOR SANDRA C ETVIR** **ROBERT M** **108 LENOX DR** **COLUMBIA TN 38401**	Alt Subdiv BK PG BLOCK LOT TRACT	City **60156 Columbia** SSD1 SSD2	Map **066F** Dist **03**	Updated 10/27/2022 Printed 03/17/2023				
	Additional Description	Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Card: 1 of 1 Page: 1 of 1					
	Dimensions **159.93X185 IRR.**							

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1988**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**7**	Total Fixtures	**7**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

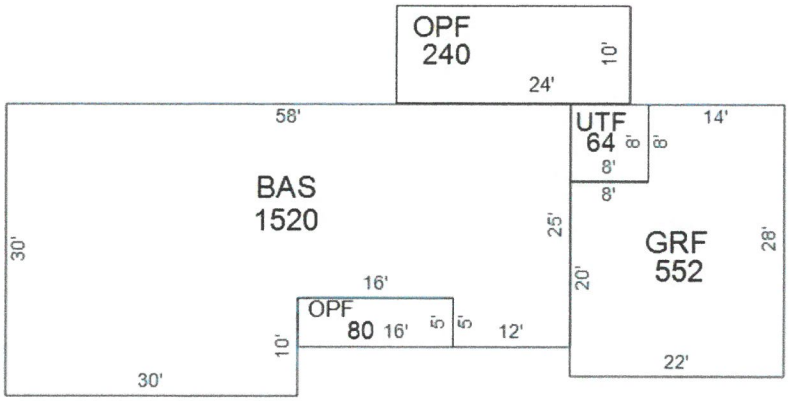
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,520	**1.012**	**1**	**1**	**1.21**	**1,520**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**226,250**	**57,420**	**283,670**	**186.63**	Dwelling Factor	**1**
RCNLD	**181,000**	**45,930**	**226,930**	**149.30**	Dwelling Value	**226,930**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,520**			
	UTF	**64**	**0**	**71.09**	**4,550**
	OPF	**80**	**0**	**42.63**	**3,410**
	GRF	**552**	**0**	**71.07**	**39,230**
	OPF	**240**	**0**	**42.63**	**10,230**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**229,200**
TOTAL APPRAISAL	**289,200**
GREENBELT APR	
ASSESSMENT	**72,300**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**289,200**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1989**	**1989**	**120**	**C**	**1**	**10X12**		**20.8333**	**AV**	**2,500**	**10**		**1**	**250**
DRW	**Driveway**	**1989**	**1989**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **2,250**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**159**	**185**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
12/27/1993	**1207**	**749**	**106,900**	**106,900**	**I**	**WD**	**A**	**TAYLOR SANDRA C ETVIR**
05/05/1989	**811**	**547**	**91,000**	**91,000**	**I**	**WD**	**M**	**YOUNG ROBERT M**
10/20/1988	**801**	**115**	**20,000**	**20,000**	**V**	**WD**	**C**	**SCRIBNER PAUL**
06/21/1978	**631**	**347**						**HITCH TOM J ETAL**

NOTES

R18: CHG EYB PER 32 *CB - R22: CHG DRW VAL PER 32 *CB
22: ADD OPF PER 51 *CB

BK/PG:R2791/1165-1168
21025325

4 PGS : QUITCLAIM DEED	
BECKY BUCHANAN 262730 - 21025325	
11/19/2021 - 08:10 AM	
VALUE	10.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	20.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	22.00

STATE of TENNESSEE, MAURY COUNTY

JOHN FLEMING
REGISTER OF DEEDS

New Owner

Prepared By:	Record and Return To:	New Owner Name and Tax Mailing Address:
Vidmar & Hardesty, Ltd., John Vidmar (TN Bar#032525) P.O. Box 211031 Columbus, Ohio 43221	**CHURCHILL TITLE SOLUTIONS** 4501 Charlotte Park Drive Suite 120 Charlotte, NC 28217	Barbara Jean McArthur 102 Lenox Dr. Columbia, TN 38401

Order Number: CTSL-BC906TN

QUIT-CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, that the Grantor(s) **Barbara Jean McArthur , fka Barbara Jean Woodard, , an unmarried woman,** for Ten Dollars ($10.00) and other valuable consideration paid, does hereby bargain, sell, remise, release, quit claim, and convey unto the Grantee(s), **Barbara Jean McArthur, an unmarried woman,** whose address is 102 Lenox Dr., Columbia, TN 38401, the following described real property located in Third 3rd Civil District of Maury County, State of Tennessee and further described as follows:

Being more particularly described as Lot 15 in the Carriage Hills Subdivision, Section 1, as shown by map of record in Plat Book 5 at Page 282 in the Maury County, Tennessee register of Deeds Office.

Said Lot No. 15 fronts 150.00 feet on the Easterly margin of Lenox Drive and extends back between unparallel lines, then Northerly boundary line measuring 175.00 feet thereon and the Southerly boundary line measuring 145.00 feet thereon to the rear boundary line which measures 117. 71 feet thereon.

Be the same more or less, but subject to all legal highways.

This description is the same as the description contained in the prior deed referenced herein.

Subject to all easements, restrictions and other matters of record, zoning ordinances, real estate taxes and assessments, if any, prorated to the date of this deed.

County Parcel Numbers: 066K A 030.00
Street address of property: 102 Lenox Dr., Columbia, TN 38401

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

102 LENOX DR Property Address Ownership and Mailing Address **MCARTHUR BARBARA JEAN** **102 LENOX DR** **COLUMBIA TN 38401**	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **15** TRACT Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **150X175 IRR**	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	030.00 PARCEL	000 PI S/I
		City **60156 Columbia** SSD1 SSD2	Map **066F** Dist **03**	Updated 10/27/2022 Printed 03/17/2023			
		Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

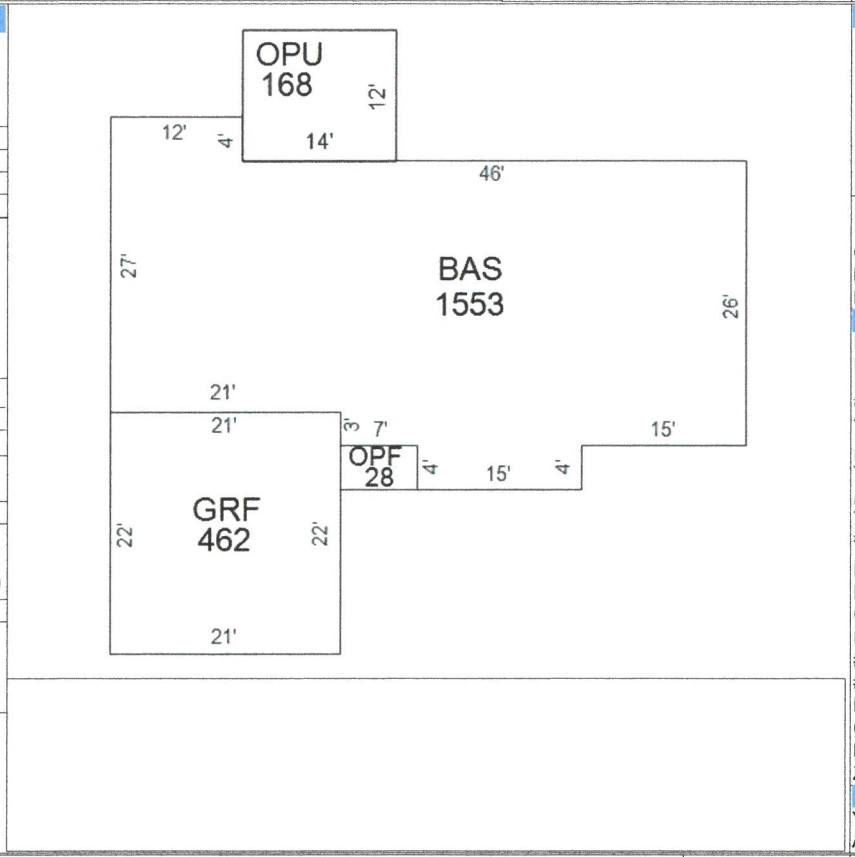
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,553	**1.031**	**1**	**1**	**1.21**	**1,553**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**228,680**	**37,600**	**266,280**	**171.46**	Dwelling Factor	**1**
RCNLD	**182,940**	**30,070**	**213,010**	**137.16**	Dwelling Value	**213,010**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,553**			
	OPF	**28**	**0**	**42.5**	**1,190**
	GRF	**462**	**0**	**71.06**	**32,830**
	OPU	**168**	**0**	**21.31**	**3,580**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**214,800**
TOTAL APPRAISAL	**274,800**
GREENBELT APR	
ASSESSMENT	**68,700**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**274,800**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1987**	**1987**	**160**	**C**	**1**	**10X16**		**20.8125**	**AV**	**3,330**	**10**		**1**	**330**
DRW	**Driveway**	**1987**	**1987**	**1**	**C**	**1**			**1500**	**UN**	**1,500**	**100**		**1**	**1,500**

Total OBY Value **1,830**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**150**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
11/12/2021	**R2791**	**1165**				**QC**		**MCARTHUR BARBARA JEAN**
08/07/2020	**R2655**	**495**				**QC**		**WOODARD BARBARA JEAN**
08/23/2016	**R2388**	**373**	**171,500**	**171,500**	**I**	**WD**	**A**	**WOODARD BARBARA JEAN ETVIR DAVI**
05/03/2005	**R1854**	**1392**	**100,000**	**100,000**	**I**	**WD**	**A**	**MARBET LEE BOULDIN ETUX**

NOTES

14:CHG M/A PER RET ACN*LDS - R18: CHG EYB & QLTY PER 32 *CB
22: ADD OPU PER 51*CB

Petition to [action]

Petition summary and background	Carriage Hills Subdivision was originally zoned RS-15. Following annexation, the City of Columbia eliminated the RS-15 zoning classification and changed our zoning to RS-10 which is a higher density. Carriage Hills zoning should have been changed to RS-20 since all the parcels are lower density being ½-acre, 3/4-acre, 1-acre, 1+-acre lots with the exception of a couple original lots that are just under a ½-acre. The City of Columbia just approved Zoning Ordinance 4400 and currently Carriage Hills is zoned CD-3 (4 units per acre). Carriage Hills is also designated Suburban Neighborhood.
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	Printed Name	Signature	Address	Phone # Or Email Address	Date
1	Pat O. Coleman Jr	Pat O. Coleman Jr	214 Carters Creek Pike	698-5948	5-11-23
2	Kathy Langley	Kathy Langley	210 Carters Creek Pike	446-3643	5-11-23
3	Amy B Vaught	Amy B. Vaught	208 Carters Creek Pike	698-6237	5-11-23
4	Perry M Langley	Perry M Langley	210 Carters Creek Pk	446-3845	5-11-23
5	Brenda Coleman	Brenda Coleman	214 Carters Creek Pike	931-626-5253	5/11/23
6	George W. Waggoner	George W. Waggoner	212 CARTERS CREEK PIKE	931-381-0503	5/11/23
7	Deborah Waggoner	Deborah Waggoner	212 Carters Creek Pike	921 334-1644	3/11/23
8	Kelly Smith	Kelly Smith	206 Carters Creek Pike	615-595-4391	3/11/23
9	David Smith	David Smith	206 Carters Creek Pike	615-598-0482	3/11/23
10	Tabitha Philpott	Tabitha Philpott	109 Concord Dr.	931-334-3611	3/14/23
11	Greg Philpott	Greg Philpott	109 Concord Dr.	931-334-3611	3/14/23

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
12	Melissa Sorrento	Melissa Sorrento	100 Lenox Dr	615-927-4583	3/12/23
13	Hunter Tyree	Hunter Tyree	1008 Grayson Place	931-374-0131	3-12-23
14	Lauren Tyree	Lauren Tyree	1008 Grayson Place	931-212-0700	3-12-23
15	Doug LaFond	Doug LaFond	121 Lenox DR	931-446-7483	3/12/23
16	Caroline Lewis	Caroline Lewis	124 Saxon Ct.	919-710-1717	3-12-23
17	Kathryn York	Kathryn York	106 Concord Dr.	615-243-3101	3-12-23
18	Megan Tolbert	Megan Tolbert	104 Lenox Dr	615-772-8531	3-13-23
19	Trevin Tolbert	Trevin Tolbert	104 Lenox Dr	256-603-6685	3-13-23
20	Colleen Moroney	Colleen Moroney	129 Lenox DR.	(949) 922-7874	3.13.23
21	Bobby Fox	Bobby Fox	115 Lenox	931 698-1647	3-13-23
22	Jesse Hogan	Jesse L Hogan	109 Lenox Dr	615-429-7506	3/13/23

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
23	Patsy Goodness	Patsy Goodness	1116 Dover Dr.	931374-0935	3-11-23
24	Benjamin Inman	B. F. Inman Jr	1118 Dover Drive	931 334 5970	3.11.23
25	Jane Love	Jane Love	105 Concord Drive	931-626-1124	3-11-23
26	Tim Love	Tim Love	105 Concord Dr.	931-215-3765	3-11-23
27	Shelby J Ford	Shelby J Ford	117 Saxon Ct.	931-380-0705	3-12-23
28	H Rbie Ford	Orbie Ford	112 Saxon Ct	931 380 0205	3-12-23
29	SON MINH DO	SON MINH DO	1112 DOVER DR	931-384-0066	3-12-23
30	Kathrina M. D	Kathrina M. D	1112 Dover Dr	931-384-0247	3/12/23
31	Kim Doscher		1117 Dover Dr	205-757-7404	3/12/23
32	Briana Waldrum		126 Lenox Drive	717-793-7933	3/13/23
33	Branson Waldrum		126 Lenox Drive	931-446-8036	03/13/23

Petition to [action]

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
34	Ted Ford	Ted Ford	103 Concord Dr	theoford01@gmail.com	Mar 11, 23
35	Barbara Ford	Barbara Ford	103 Concord Dr	931-380-0244	Mar, 11, 23
36	Harvey Nicholson	Harvey Nicholson	101 Concord Dr	374-1055	Mar 11
37	Eddie Kelley	Eddie Kelley	107 concord dr	388-0067	Mar 11
38	Tina Green	Tina G	103 Lenox Drive	615-973-7805	3/11/23
39	SANDY TAYLOR	Sandra C. Taylor	108 LENOX DRIVE	931-446-3787	3/11/23
40	Debra Westra	Debra Westra	1100 Dover Dr	931-380-3968	3/11/23
41	WAYNE CROWLEY	WAYNE Crowley	130 LENOX DR	931 840 0218	3/11/23
42	GAIL CROWLEY	Gail Crowley	130 LENOX DR	931 840 0218	3/11/23
43	Kellie Conger	Kellie Conger	1109 Dover Dr	931 505 2300	3/11/23
44	DAVID GOODNESS	David Goodness	1116 DOVER DRIVE	931 881 7803	3/11/23

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
45	Robert G. Marshall	Robert G. Marshall	102 Concord Dr. Columbia, Tn 38401	rdjmarshall@bellsouth.net	03-11-23
46	Donna J. Marshall	Donna J Marshall	102 Concord Dr. Columbia TN 38401	rdjmarshall@bellsouth.net	03-11-23
47	Adam York	Adam York	106 Concord Dr Columbia, TN	theadamyork@gmail.com	03-11-23
48	Rudy A. Holzer	Rudy A. Holzer	109 Concord Dr Columbia TN	rudyholzer@gmail.com	03/11-23
49	Valerie Holzer	Valerie Holzer	108 Concord Dr Columbia, TN 38401		3/11/23
50	Fay Hazen	Fay Hazen	105 Lenox DR Columbia TN	Fay.Hazen@yahoo.com	3/11/23
51	Dianne Hazen	Dianne Hazen	105 Lenox DR. Tn Columbia		3-11-23
52	Reba LaFond	Reba LaFond	121 Lenox Dr Col.		3-11-23
53	Margaret Tinsley	Margaret Tinsley	112 Lenox Dr.	Margaret tinsley@bellsouth.net	3-11-23
54	Brad Imburgia	Brad Imburgia	1113 Dover Dr.	bimburgia@gmail	3-11-23
55	Michelle Imburgia	Michelle Imburgia	1113 Dover Dr.	mimburgia@gmail.com	3-11-23

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
56	Robert Fesser		1121 Dover	(615) 637-6262	3/10
57	Carol Lucero	Carol J. Lucero	1125 DOVER	505) 553-6636	3/10
58	EDWARDS MARLENE	Marlene Edwards	116 Lenox CT	949 351-3320	3/10
59	GERARD EDWARDS		116 Lenox CT	949 351-3291	3/10
60	BRENDA Taylor	Brenda Taylor	107 LENOX	931-381-4561	3/10
61	PAUL Taylor	Paul Taylor	107 LENOX	931-381-4561	3/10
62	Hector Guzman	Hector Guzman	111 Concord Dr;	931-626-4119	3-11-23
63	Cristi SECREST		1104 DOVER DR	931-334-3352	3/12/23
64	Chuck Weston	Chuck Weston	1100 Dover Dr.	931-446-3968	3/12/23
65	Roger D Goodwin	Roger D Goodwin	113 LENOX DR	931 381 4619	3/12/23
66	Brenda Goodwin	Brenda Goodwin	113 Lenox Dr.	931-381-4619	3/12/23

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
67	Nita L. Burdett	Nita L Burdett	112 Concord Dr Columbia	(931) 626-7312	3/10/23
68	VERNON L BURDETT	Vernon L. Burdett	112 CONCORD DR COLUMBIA	(931) 374-2295	3/10/2023
69	ROBERT STEPHENSON	Robert Stephenson	110 CONCORD DR COLUMBIA	931-446-5337	3/10/2023
70	Matthew Turner		111 Lenox Drive	931-398-8666	3/11/23
71	Sara Kueck	Sara Kueck	111 Lenox Dr.	931-215-2985	3/11/23
72	Shirley Fox (Shirley Fox)	Shirley Fox	115 Lenox Dr	931-388-6168	3/11/23
73	ASHLEY DOSCHER	Ashley Drescher	1117 Dover Drive	708-212-7132	3/11/23
74	Jared Yrabien	Jared R Yrabien	108 Saxon Ct	931-698-2382	3/11/23
75	[illegible]	Susan Stephenson	110 Concord Drive	sucintennk@gmail.com	3/11/23
76	Zachary Colburn		100 Concord Drive	(530) 210-0469	3-11-23
77	Lindsay Colburn		100 Concord drive	615-785-5961	3/11/23

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	Printed Name	Signature	Address	Phone # Or Email Address	Date
78	Michael Johnson	Michael Johnson	104 Concord Dr Columbia	615-533-6546	3/11/23
79	JOSE A. YRABIEN	Jose A. Yrabien	108 SAXON CT COLUMBIA	(931) 215-5354	03/11/23
80	KEVIN CONGER	Kevin Conger	1109 DOVER DR.	(931) 505-1317	3/11/23
81	Brandon Blalock	Brandon Blalock	120 Saxon Dr.	931-676-7652	3/12/23
82	Alison Christie	Alison Christie	1004 Grayson Pl	214-229-3589	3/12/23
83	Michael White	Michael White	125 Lenox Dr	931-334-0867	3/12/23
84	Yvonne White	Yvonne White	125 Lenox Dr.	931 334-0866	3-12-23
85	Linda Feyers	Linda Feyers	122 Lenox Dr.	931-[illegible]626-3441	3-12-23
86	Barb McArthur	Barb McArthur	102 Lenox Dr	303-881-6629	3-12-23
87	Jose Costa		104 Saxon CT	6156389286	3/12/23
88	Mik Cofer		104 Saxon CT	9316752558	3/12/23

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Printed Name	Signature	Address	Phone # Or Email Address	Date
Stephanie Andrews		1108 Dover Dr	S_Sluder13@yahoo.com 931-626-3361	3/12/2023
Wesley Andrews		1108 Dover Dr	Wesmgd@yahoo.com 931-626-3361	3/12/2023

Return To:
McCann & Hubbard
1804 Williamson Ct, Suite 201
Brentwood, TN 37027
615-377-3319

(6)

DEVIN OAKLEY
TENNESSEE NOTARY PUBLIC
My Comm Exp. 03/21/26
COUNTY OF WILLIAMSON

STATE OF TENNESSEE
COUNTY OF Maury

The actual consideration or value, whichever is greater, for this transfer is $330,000.00

Affiant

Subscribed and sworn to before me, this 17th day of June, 2022.

Notary Public

My commission expires: 3-21-26

THIS INSTRUMENT WAS PREPARED BY
Lakeside Title & Escrow Series, LLC
854 Wren Road
Goodlettsville, TN 37072

WARRANTY DEED

Address of New Owner(s) as follows:	Send Tax Bills To:	Map-Parcel Numbers:
Caroline Lewis	**New Owner**	**066F-A-015.00**
124 Saxon Court		
Columbia, TN 38401		

FOR AND IN CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, **Betty L. Thompson, LaSonya P. Thompson, Sherronda D. Thompson, Yolanda S. Knight, LaTosha M. Thompson, and the heirs at law of Larry N. Thompson, joined herein by Betty L. Thompson, Administrator of the Estate of Larry N. Thompson**, HEREINAFTER REFERRED TO AS THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO **Caroline Lewis** HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN **Maury** COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Situate in the Third (3rd) Civil District of Maury County, Tennessee, and more particularly described as all of Lot 50 in the Plan of Carriage Hills Subdivision, Section 2, as shown by a map of record in Plat Book 8 at page 82, in the Maury County, Tennessee Register of Deeds Office.

Being the same property conveyed to Larry N. Thompson by Quitclaim Deed from Millicent Y. Thompson, dated 12/01/1997 and recorded 12/03/1997 in Book 1355, Page 435, Register's Office for Maury County, Tennessee. The said Larry N. Thompson is deceased as of 10/15/2021. A probate estate for Larry N. Thompson was opened in the Chancery Court for Maury County, Tennessee, Case No. P-337-21). Pursuant to the Petition to Probate and to Affidavits of Heirship recorded of record in Book R2854, Page 241, and Book R2854, Page 243, and Book R2854, Page 245, and Book R2854, Page 247, and Book R2854, Page 249, Register's Office for Maury County, Tennessee. Larry N. Thompson was survived by the following heirs at law: Betty L. Thompson, LaSonya P. Thompson, Sherronda D. Thompson, Yolanda S. Knight, and LaTosha M. Thompson. Betty L. Thompson also joins in this conveyance as Administrator of the Estate of Larry N. Thompson.

Tax Map/Parcel ID: 066F-A-015.00

THIS CONVEYANCE IS MADE SUBJECT TO: (1) all easements, restrictive covenants and conditions, and other matters of record, including all items set out on any applicable plat of record; (2) any and all applicable governmental and/or zoning regulations; (3) taxes which have been pro-rated as of the date of closing and assumed by the Grantee herein.

This is improved property known as: 124 Saxon Court, Columbia, TN 38401.

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEES, their heirs and assigns forever; and we do covenant with the said GRANTEES that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same in

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

124 SAXON CT	Subdivision **CARRIAGE HILLS SEC 2**	**TAX YEAR 2023**	060	066F	A	015.00	000
Property Address	BK **8** PG **82** BLOCK LOT **50** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066F**	Updated 08/05/2022			
LEWIS CAROLINE	BK PG BLOCK LOT TRACT	SSD1	Dist **03**	Printed 03/17/2023			
124 SAXON CT	Additional Description	SSD2	Card: 1 of 1				
COLUMBIA TN 38401	Dimensions **208.18X118.33 IRR**	Total Land Units **1** / Deed Acres **0** / Calculated Acres **0**	Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1991**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**	Amount **0**		Sched

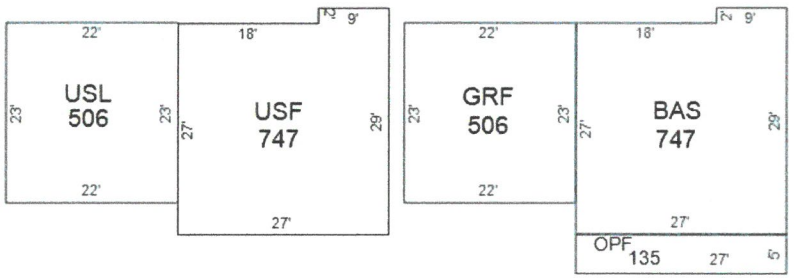
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
747	**.539**	**1**	**1**	**1.07**	**1,646**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**112,140**	**140,470**	**252,610**	**153.47**	Dwelling Factor	**1**
RCNLD	**89,710**	**112,370**	**202,080**	**122.77**	Dwelling Value	**202,080**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**747**			
	OPF	**135**	**0**	**37.70**	**5,090**
	GRF	**506**	**0**	**62.85**	**31,800**
	USL	**506**	**30**	**37.71**	**19,080**
	USF	**747**	**100**	**113.12**	**84,500**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**204,400**
TOTAL APPRAISAL	**264,400**
GREENBELT APR	
ASSESSMENT	**66,100**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**264,400**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**	**1**	**1**	**1,000**
WDK	**Wood Deck**	**2006**	**2006**	**120**	**C**	**1**	**10X12**		**20.8333**	**AV**	**2,500**	**52**	**1**	**1**	**1,300**

Total OBY Value **2,300**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**208**	**118**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/23/2022	**R2854**	**251**	**330,000**	**330,000**	**I**	**WD**	**J**	**LEWIS CAROLINE**
06/23/2022	**R2854**	**249**				**HR**		**THOMPSON LARRY N HEIRS**
06/23/2022	**R2854**	**247**				**HR**		**THOMPSON LARRY N HEIRS**
06/22/2022	**R2854**	**245**				**HR**		**THOMPSON LARRY N HEIRS**

NOTES

R18: CHG QLTY PER 32 *CB - 22: ADD TO USF PER 51 *CB. *R2854-251 LARRY THOMPSON DOD 10-15-21-MS

File:

This instrument prepared by:	Name and Address of New Property Owner:
Marshall Title & Escrow 28 Public Square PO Box 8150 Columbia, Tennessee 38402	Mr. & Mrs. Arbie Ford 112 Saxon Court Columbia, TN 38401 **Person or Agency Responsible for Taxes:** SAME **Map:** 66F, **Group** A, **Parcel:** 12.00

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into on the 27 day of May, 2005, between **Johnny L. Brooks and wife, Martha M. Brooks, by and through Johnny Brooks, her Attorney in Fact, whose Power of Attorney is of record in Book ____, Page ____,** R1859 815 **Register's Office of Maury County, Tennessee,** GRANTORS, which expression shall include heirs, assigns and personal representatives, and **Arbie Ford and wife, Shelby Jean Ford,** as tenants by the entirety, GRANTEES, which expression shall include heirs, assigns and personal representatives.

WITNESSETH:

That for and in consideration of the sum of One Hundred Fifty One Thousand Five Dollars and No/100's ($151,500.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, GRANTOR conveys unto GRANTEES the following described property:

Tract 1:
Located in the Third (3rd) Civil District of Maury County, Tennessee, and being more particularly described as Lot No. 47, Carriage Hills Subdivision, Section 2, Phase 1, as shown by plat of record in Plat Book 8, Page 82, Register's Office of Maury County, Tennessee.
Map 66F, Group A, Parcel 12.00

Tract 2:
Located in the Third (3rd) Civil District of Maury County, Tennessee, and being more particularly described as Tract 1 as shown on minor plat for Clark Bennett of record in Plat Book P14, Page 147, Register's Office of Maury County, Tennessee.
Map 66F, Group A, Parcel 12.00-001

Being all of the same property and legal description conveyed to Johnny L. Brooks and wife, Martha M. Brooks by deed of record in Book R1835, Page 1389, Register's Office of Maury County, Tennessee.

TO HAVE AND TO HOLD said real estate unto GRANTEES together with all rights, titles, easements and appurtenances thereunto belonging, forever.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

112 SAXON CT Property Address	Subdivision **CARRIAGE HILLS SEC 2**				**TAX YEAR 2023**	060	066F	A	012.00		000
Ownership and Mailing Address	BK **8**	PG **82**	BLOCK	LOT **47**	TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
FORD ARBIE ETUX **SHELBY JEAN** **112 SAXON CT** **COLUMBIA TN 38401**	Alt Subdiv BK	PG	BLOCK	LOT	TRACT	City **60156 Columbia**		Map **066F**		Updated 10/27/2022		
	Additional Description					SSD1		Dist **03**		Printed 03/17/2023		
	Dimensions **55.45X139.44 IRR**					SSD2		Card: 1 of 1				
						Total Land Units **1** Deed Acres **0** Calculated Acres **0**		Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1991**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**7**	Total Fixtures	**7**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

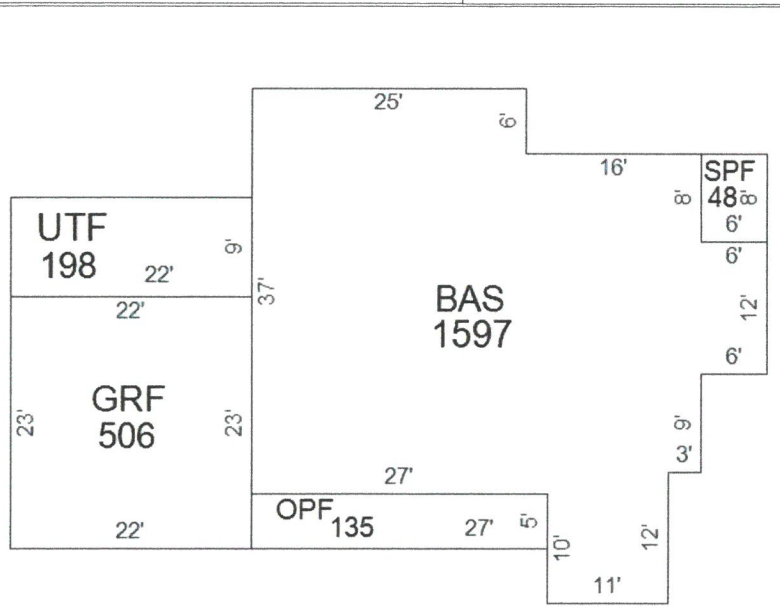
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**02 L-Shaped**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,597	**1.058**	**1**	**1**	**1.07**	**1,597**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**208,930**	**52,350**	**261,280**	**163.61**	Dwelling Factor	**1**
RCNLD	**167,140**	**41,880**	**209,020**	**130.88**	Dwelling Value	**209,020**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,597**			
	UTF	**198**	**0**	**62.83**	**12,440**
	SPF	**48**	**0**	**62.92**	**3,020**
	OPF	**135**	**0**	**37.70**	**5,090**
	GRF	**506**	**0**	**62.85**	**31,800**



APPRAISED VALUES

LAND	**41,400**
IMPROVEMENTS	**223,700**
TOTAL APPRAISAL	**265,100**
GREENBELT APR	
ASSESSMENT	**66,275**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**265,100**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1991**	**1991**	**220**	**C**	**1**	**11X20**		**19.9545**	**AV**	**4,390**	**10**		**1**	**440**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**		**1**	**1,000**
GUD	**Detached Garage Unfi**	**2005**	**2005**	**600**	**C**	**1**	**20X30**		**33.5**	**AV**	**20,100**	**66**		**1**	**13,270**

Total OBY Value **14,710**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**55**	**139**	**1**	**60,000.00**					**69**		**100**	**41,400.00**	**41,400**	
					Totals:		**1**										**41,400**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/27/2005	**R1859**	**817**	**151,500**	**151,500**	**I**	**WD**	**P**	**FORD ARBIE ETUX**
12/31/2004	**R1835**	**1389**	**140,000**	**140,000**	**I**	**WD**	**P**	**BROOKS JOHNNY L &**
06/13/2003	**R1717**	**147**						**BENNETT SONJA R**
04/13/1992	**1145**	**412**	**111,000**	**111,000**	**I**	**WD**	**A**	**BUTTREY SONJA R**

NOTES

DECR LAND PRICE*R06FN*R06:ADD DGUVI06BG*CHG AREA CO*R06JS*FOR 09:INCR LAND PRICE*FN*CHG AREA CODE*FN FOR 09:INCR LAND PRICE*FN*CHG AREA CODE*FN*CHG SE EYB & DECR LAND PRICE*R10/32*FN*CHG EYB*R10/42*FN

mail to: Anchor Title
6910 Moores Ln
Brentwood TN 37027

BK/PG: R2667/312-313
20016935

2 PGS:AL-WARRANTY DEED	
BECKY BATCH: 235498	09/22/2020 - 10:50 AM
VALUE	289900.00
MORTGAGE TAX	0.00
TRANSFER TAX	1072.63
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1085.63

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Prepared by:
Security Title & Escrow Co., LLC
1517 Hatcher Lane, Ste A
Columbia, Tennessee 38401

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between **John K. Layden and wife, Wendy J. Layden** , FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and **Gerard M. Edwards and Marlene B. Edwards,** SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

WITNESSETH:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

LOCATED in the Third (3rd) Civil District of Maury County, Tennessee, being Lot No. 48, Carriage Hills Subdivision, Section 2, Phase 1, of record in Plat Book 8, Page 82, Register`s Office of Maury County, Tennessee.

Being the same property conveyed to John K. Layden and Wendy J. Layden by deed dated June 11, 2019, of record in Book R2561, Page 1406, Register`s Office of Maury County, Tennessee. See also deed dated July 18, 1991, of record in Book 1123, Page 1, Register`s Office of Maury County, Tennessee.

Map 66F, Group A, Parcel 13

Property Address: 116 Saxon Court, Columbia, Tennessee 38401

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, title, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that it is lawfully seized And possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except for easements and/or restrictions, if any, of record in the Maury County, Tennessee Register of Deeds office.

FIRST PARTY FURTHER COVENANTS to forever warrant and defend the title to said real estate unto SECOND PARTY against the lawful claims of all persons whomsoever.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

116 SAXON CT
Property Address
Ownership and Mailing Address
EDWARDS GERARD M & MARLENE B EDWARDS
116 SAXON CT
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **48** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **54.87X181.28 IRR**

TAX YEAR 2023
MAURY

JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
060	066F	A	013.00		000

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1991**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**	Amount **0**		Sched

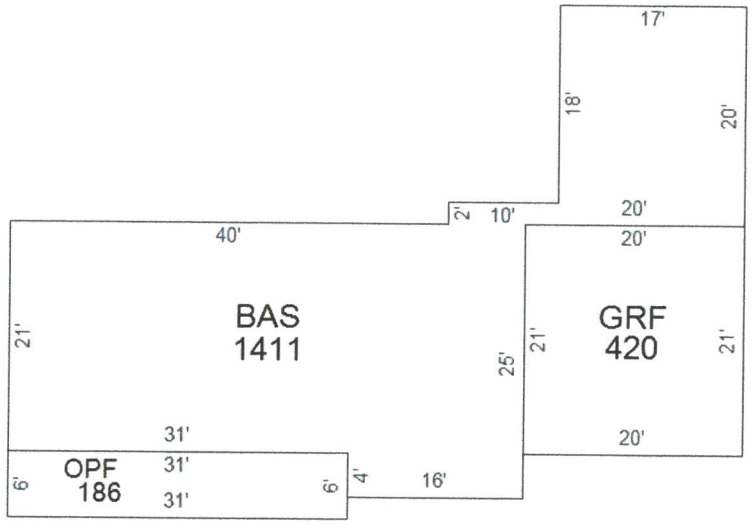
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **1+ : Average +** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,411	.946	1	1.07	1.07	1,411	2022	20	1.00

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete
RCN	201,380	33,400	234,780	166.39	Dwelling Factor 1
RCNLD	161,100	26,720	187,820	133.11	Dwelling Value 187,820

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	1,411			
	OPF	186	0	37.69	7,010
	GRF	420	0	62.83	26,390



APPRAISED VALUES

LAND	60,000
IMPROVEMENTS	190,400
TOTAL APPRAISAL	250,400
GREENBELT APR	
ASSESSMENT	62,600
ASSESSED @	25%
APPROACH	COST VALUE

Value Correlation

	Value
COST	250,400
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **1 Rolling**
Road Type **0 Us Highway**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
UTB	**Utility Building**	**1991**	**1991**	**320**	**E**	**1**	**16X20**		**8.5**	**PR**	**2,720**	**10**		**1**	**270**
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**		**1**	**1,000**
WDK	**Wood Deck**	**2002**	**2002**	**160**	**C**	**1**	**IRR**		**20.8125**	**AV**	**3,330**	**40**		**1**	**1,330**

Total OBY Value **2,600**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	U	22	01		54	181	1	60,000.00							100	60,000.00	60,000
					Totals:		1										60,000

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
08/27/2020	**R2667**	**312**	**289,900**	**289,900**	**I**	**WD**	**A**	**EDWARDS GERARD M & MARLENE B ED**
06/11/2019	**R2561**	**1406**	**250,000**	**250,000**	**I**	**WD**	**A**	**LAYDEN JOHN K ETUX WENDY J**
07/18/1991	**1123**	**1**	**108,500**	**108,500**	**I**	**WD**	**M**	**PETERSON VICTOR N**
01/09/1991	**1109**	**126**	**17,900**	**17,900**	**V**	**WD**	**H**	**REAVES LARRY G**

NOTES

ADD DRWY PER 32*FN06VI*INCR LAND PRICE*R06FN* CHG AREA CO*R06JS*CHG AREA CODE*FN
20: ADD WDK PER 49 *CB

Prepared by:
Centennial Title Company, Inc.
30 Burton Hills Blvd., #165
Nashville, TN 37215

39-B
File #20-1352

WARRANTY DEED

FOR AND IN CONSIDERATION of the sum of Ten Dollars, cash in hand paid by the hereinafter named Grantee, and other good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned **Martin T. Bryant, married,** hereinafter called the **Grantor**, has bargained and sold, and by these presents does hereby transfer and convey unto **Mia Costa and Jose Costa** hereinafter called the **Grantee**, Grantee's heirs and assigns, a certain tract or parcel of land in Maury County, Tennessee, described as follows: **To Wit:**

Land in the Third (3rd) Civil District of Maury County, Tennessee, being Lot No. 45 on the Plan of Final Plat of Carriage Hills, Section 2, Phase 1 of record in Plat Book 8, Page 82, in the Register's Office for Maury County, Tennessee, to which Plan reference is hereby made for a more complete description of the property.

Being a portion of the same property conveyed to Martin T. Bryant, unmarried by Warranty Deed from Lewis Eugene Lindsay a/k/a Lewis E. Lindsey, of record in Book R2091, Page 359, Register's Office for Maury County, Tennessee, dated August 20, 2009 and recorded on September 04, 2009. Martin T. Bryant is now married to Casey Bryant who joins in this conveyance to convey any and all marital interest in subject property.

The property conveyed herein is subject to matters shown on the recorded plan, matters set out in the above referenced Declarations and By-Laws, if any, and to applicable easements, conditions, assessments and restrictions therein, and Property Taxes for the current year.

This is improved property, known as: 104 Saxon Court, Columbia, TN 38201.

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said Grantee, Grantee's heirs or assigns, forever. Grantor covenant with the said Grantee that Grantor is lawfully seized and possessed of said land in fee simple, has good right to convey it, and the same is unencumbered, unless otherwise herein set out. Grantor further covenants and binds Grantor, Grantor's heirs and representatives, to warrant and forever defend the title to the said land to the said Grantee, Grantee's heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Mail:
CONCORD TITLE
3000 MERIDIAN BLVD
STE 140
FRANKLIN TN 37067

NEW OWNER:	RESPONSIBLE FOR TAX PAYMENT	TAX MAP-PARCEL #:
Mia Costa **104 Saxon Court** **Columbia, TN 38201**	Northpointe Bank 3333 Deposit Drive NE Grand Rapids, MI 49546	**066F-A-010.00-000**

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

104 SAXON CT
Property Address
Ownership and Mailing Address
COSTA MIA & JOSE COSTA
104 SAXON CT
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **45** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **58.52X251.66 IRR**

TAX YEAR 2023
MAURY

JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
060	066F	A	010.00		000

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **1 No Basement**
Stories **1 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **04 Siding Average** Attic
Heating Fuel

Year Built **1991** Eff Yr Built **2006** Rooms **0** Bedrooms **0**
Full Baths Half Baths Add'l Fixtures **9** Total Fixtures **9**
Wood FP Stacks **1** Openings **1** Add'l Sty PreFab Add'l Sty
Info Src **3** Occ **1** Rental: Src Year **0** Amount **0** Sched

Foundation **02 Continuous Footing** Floor Finish **11 Carpet Combination**
Floor System **04 Wood W/ Sub Floor** Interior Finish **07 Drywall**
Party Wall **00 None** Paint/Decor **04 Above Average**
Struct. Frame **00 None** Bath Tile **00 None**
Roof Framing **02 Gable/Hip** Electrical **04 Above Average**
Roof Cov/Deck **03 Composition Shingle** Shape **01 Rectangular Design**
Cab/Millwork **04 Above Average**

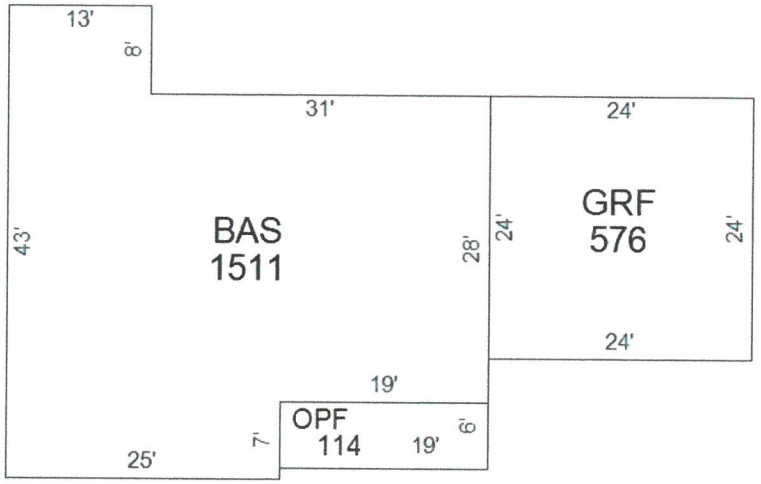
Quality **1+ : Average +** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,511	1.006	1	1	1.07	1,511	2022	16	1.00

	Base Dwelling	Add'l Areas	Total	$/SqFt
RCN	201,940	40,500	242,440	160.45
RCNLD	161,550	32,400	193,950	128.36

% Complete
Dwelling Factor **1**
Dwelling Value **193,950**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	1,511			
	OPF	114	0	37.72	4,300
	GRF	576	0	62.85	36,200



APPRAISED VALUES

LAND	41,400
IMPROVEMENTS	196,100
TOTAL APPRAISAL	237,500
GREENBELT APR	
ASSESSMENT	59,375
ASSESSED @	25%
APPROACH	COST VALUE

Value Correlation

	Value
COST	237,500
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **1 Rolling**
Road Type **0 Us Highway**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **3 TRANSITION**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
PTO	Patio	1991	1991	192	C	1	12X16		9.5833	AV	1,840	10		1	180
DRW	Driveway	1991	1991	1	C	1			2000	UN	2,000	100		1	2,000

Total OBY Value 2,180

ENTRANCES

Date	Code	ID
01/01/2002	01 Bldg Apr	34

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	U	22	01		58	251	1	60,000.00					69		100	41,400.00	41,400
					Totals:		1										41,400

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
08/04/2020	R2654	820	278,000	278,000	I	WD	P	COSTA MIA & JOSE COSTA
08/20/2009	R2091	359	131,500	131,500	I	WD	P	BRYANT MARTIN T
08/08/2003	R1736	852	4,400	4,400	V	WD	P	LINDSAY LEWIS EUGENE
04/16/2001	R1533	839						LINDSAY LEWIS EUGENE

NOTES

DECR LAND PRICE*R06FN - CHG AREA CODE*R06JS*09:INCR LAND PRICE*FN
CHG AREA CODE*FN*CHG EYB*R10/32*FN*CHG EYB*R10/42*FN
R2091-359 ALSO SI001*JG - R18: CHG QLTY PER 32 *CB*FOR 21:R2654-820 ALSO SI 001
ADD REF:R2719-298 QC (CORRECTION DEED) CORRRECTING LEGAL IN R2654-820*PB
R22: CHG DRW VAL PER 32 *CB

This instrument Prepared by Gene Hallworth, Attorney at Law, Columbia, Tennessee
Upon information furnished by the parties, no title Examination Requested

Address New Owner:	Send Tax Bill to:	Tax Parcel Identification:
P/u Brandon Blalock 120 Saxon ~~County~~ Court Columbia, Tennessee 38401	New Owner	Map/Parcel 066F-A-014.00

QUIT-CLAIM DEED

For and in consideration of the sum of Ten Dollars ($10.00), cash in hand paid, and other good and valuable considerations I, **AMIE MURA BLALOCK**, do hereby sell, transfer, quitclaim, and convey unto **BRANDON CODY BLALOCK**, all my interest in the following real property. Said property is described as follows:

> Land if Maury County, Tennessee, being Lot No. 49 on the Plan of Final Plat Carriage Hills, Section 2 of record in Plat Book 8, Page 82, in the Register's Office for Maury County, Tennessee, to which Plan reference is hereby made for a more complete description of the property.
>
> Being the same property conveyed in Book R2602, Page 1399 of the Register's Office for Maury County, Tennessee.
>
> This is improved property known as 120 Saxon County, Columbia, Tennessee 38401.

TO HAVE AND TO HOLD said tract or parcel unto the Grantee, his heirs and assigns, together with all of the rights, titles, interests, easements, and appurtenances thereunto belonging.

IN WITNESS WHEREOF, we have hereunto set our hands, this 25th day of June, 2021.

Amie Blalock
Amie Mura Blalock

BK/PG: R2746/221-222
21013814

2 PGS:AL-QUITCLAIM DEED	
JANE BATCH: 251314	06/25/2021 - 03:01 PM
VALUE	10.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	12.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

120 SAXON CT	Subdivision **CARRIAGE HILLS SEC 2**	**TAX YEAR 2023 MAURY**	060	066F	A	014.00		000
Property Address	BK **8** PG **82** BLOCK LOT **49** TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv BK PG BLOCK LOT TRACT	City **60156 Columbia**	Map **066F**	Updated 10/27/2022				
BLALOCK BRANDON CODY	Additional Description	SSD1	Dist **03**	Printed 03/17/2023				
120 SAXON CT	Dimensions **54.25X181.28 IRR**	SSD2	Card: 1 of 1					
COLUMBIA TN 38401		Total Land Units **1** / Deed Acres **0** / Calculated Acres **0**	Page: 1 of 1					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1991**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**	Amount **0**		Sched

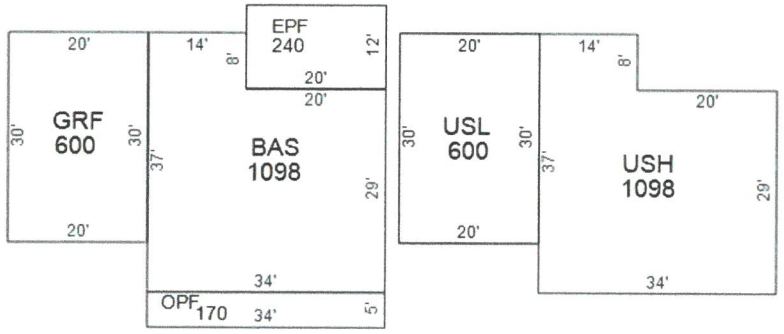
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition	**Average**	Class:		
Prorate	Date	Factor	% Comp	Cost & Design **0**		
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**		

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,098	**.756**	**1**	**1**	**1.07**	**1,937**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**149,860**	**159,860**	**309,720**	**159.90**	Dwelling Factor	**1**
RCNLD	**119,890**	**127,890**	**247,780**	**127.92**	Dwelling Value	**247,780**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,098**			
	OPF	**170**	**0**	**37.71**	**6,410**
	GRF	**600**	**0**	**62.83**	**37,700**
	USH	**1,098**	**60**	**62.84**	**69,000**
	EPF	**240**	**0**	**100.54**	**24,130**
	USL	**600**	**30**	**37.7**	**22,620**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**248,800**
TOTAL APPRAISAL	**308,800**
GREENBELT APR	
ASSESSMENT	**77,200**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**308,800**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**		**1**	**1,000**

Total OBY Value **1,000**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**54**	**181**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/25/2021	**R2746**	**221**				**QC**		**BLALOCK BRANDON CODY**
12/18/2019	**R2602**	**1399**	**313,500**	**313,500**	**I**	**WD**	**A**	**BLALOCK BRANDON ETUX AMIE**
03/02/2007	**R1970**	**1124**	**171,500**	**171,500**	**I**	**WD**	**A**	**BROOKS JOHN E &**
04/28/2000	**R1481**	**885**	**131,900**	**131,900**	**I**	**WD**	**A**	**BOND STANLEY ETUX**

NOTES

ADD DRWY PER 32*FN06VI*INCR LAND PRICE*R06FN - CHG AREA CO*R06JS*JG
CHG AREA CODE*FN - CHG EYB*R10/32*FN - CHG EYB*R10/42*FN
15:32 ADD SPF/CHG QUA/DEL WD DECK*LDS - 21: CHG SPF/EPF PER 50 *CB

BK/PG: R2563/163-164
19008811

2 PGS:AL-QUITCLAIM DEED	
SUSIE BATCH: 214676	06/21/2019 - 10:30 AM
VALUE	0.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	12.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

THIS INSTRUMENT WAS PREPARED BY: W. Faye Novelly, UAW-FCA-Ford-General Motors Legal Services Plan 3011 Harrah Drive, Suite B, Spring Hill, TN 37174		
NAMES AND ADDRESS OF NEW OWNERS: Jose A. Yrabien and Janet L. Yrabien 108 Saxon Court Columbia, TN 38401	**SEND TAX BILLS TO:** New Owners	**TAX IDENTIFICATION ID:** **Map: 066F** **Group: A** **Parcel: 011.00**

QUITCLAIM DEED

KNOW ALL BY THESE PRESENTS that I, JOSE A. YRABIEN, for and in consideration of the sum of Ten and No/100 Dollars ($10.00), cash in hand paid, the receipt of which is hereby acknowledged, have bargained and sold, and do hereby convey, remise, release and forever quitclaim unto myself, JOSE A. YRABIEN, and wife, JANET L. YRABIEN, such right, title and interest as is required to vest title in us as tenants by the entirety, in and to certain tracts or parcels of land located in the Third (3rd) Civil District of Maury County, Tennessee, to-wit:

FIRST PARCEL:

Being Tract 2 as shown on Minor Plat for Clark Bennett of record in Plat Book P14, Page 325, Register's Office of Maury County, Tennessee, consisting of 26,557 square feet or .610 acres by survey of A.E. Adkins, R.L.S. #1075, 606 South James M. Campbell Blvd., Columbia, Tennessee.

Map 066F, Group A, Parcel 011.00

SECOND PARCEL:

Situated in the Third (3rd) Civil District of Maury County, Tennessee and being more particularly described as Lot 46 in the Carriage Hills Subdivision, Section 2, Phase I, as shown by map of record in Plat Book 8 at page 82 in the Maury County, Tennessee Register of Deeds Office.

Map 066F, Group A, Parcel 011.00 001

Being the same property conveyed to JOSE A. YRABIEN from JULIA YRABIEN by deed dated November 17, 2016, of record in Book R2402, Page 1044, Register's Office of Maury County, Tennessee.

This is improved property known as 108 Saxon Court, Columbia, TN 38401.

This instrument was prepared in accordance with the information provided by the Grantor without the benefit of a title search or survey. The preparer was not responsible for determining the status of the title, the accuracy of the description or the accuracy of any other information provided by the Grantor.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

TAX YEAR 2023 MAURY	060	066F	A	011.00		000
	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

108 SAXON CT
Property Address
Ownership and Mailing Address

YRABIEN JOSE A ETUX JANET L
108 SAXON CT
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 2**
BK **8** PG **82** BLOCK LOT **46** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description **INSIDE CITY**
Dimensions **107.48X174.63 IRR**

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1991**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

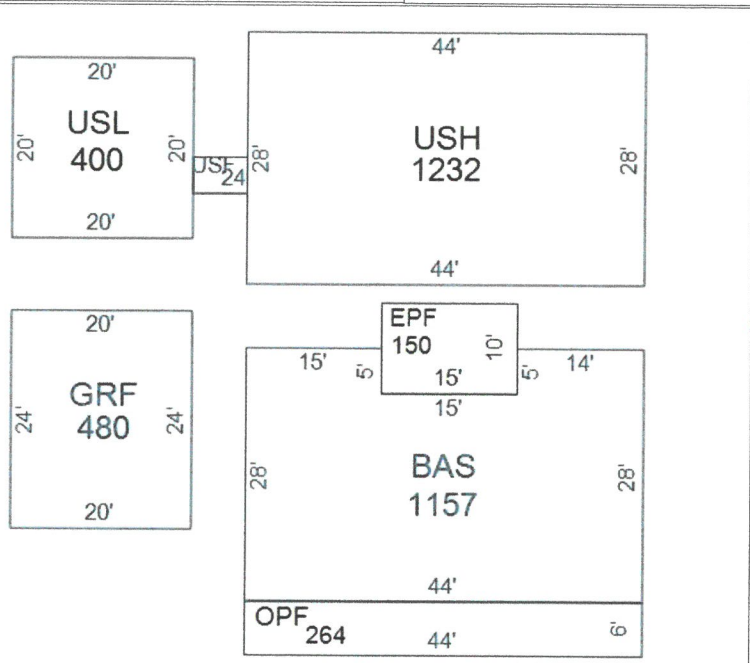
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**1+ : Average +**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,157	**.792**	**1**	**1**	**1.07**	**2,040**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**158,460**	**150,400**	**308,860**	**151.40**	Dwelling Factor	**1**
RCNLD	**126,770**	**120,320**	**247,090**	**121.12**	Dwelling Value	**247,090**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,157**			
	EPF	**150**	**0**	**100.53**	**15,080**
	USF	**24**	**100**	**112.92**	**2,710**
	OPF	**264**	**0**	**37.69**	**9,950**
	GRF	**480**	**0**	**62.83**	**30,160**
	USH	**1,232**	**60**	**62.84**	**77,420**
	USL	**400**	**30**	**37.7**	**15,080**



APPRAISED VALUES

LAND	**41,400**
IMPROVEMENTS	**272,000**
TOTAL APPRAISAL	**313,400**
GREENBELT APR	
ASSESSMENT	**78,350**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**313,400**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**1 Rolling**
Road Type	**0 Us Highway**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 32**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**3 TRANSITION**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1991**	**1991**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**
GUD	**Detached Garage Unfi**	**2005**	**2005**	**320**	**C**	**1**	**16X20**		**43.4063**	**AV**	**13,890**	**66**		**1**	**9,170**
WDK	**Wood Deck**	**2020**	**2020**	**700**	**C**	**1**	**25 X 28**		**12.2143**	**AV**	**8,550**	**94**		**1**	**8,040**
CUD	**Detached Carport Unf**	**2021**	**2021**	**480**	**C**	**1**	**20 X 24**		**12.1042**	**AV**	**5,810**	**98**		**1**	**5,690**

Total OBY Value **24,900**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**107**	**174**	**1**	**60,000.00**					**69**		**100**	**41,400.00**	**41,400**
					Totals:		**1**										**41,400**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/21/2019	**R2563**	**163**				**QC**		**YRABIEN JOSE A ETUX JANET L**
11/17/2016	**R2402**	**1044**				**QC**		**YRABIEN JOSE A**
08/08/2003	**R1736**	**850**	**3,965**	**3,965**	**V**	**WD**	**P**	**YRABIEN JOSE A ETUX**
10/22/1993	**1200**	**327**	**109,500**	**109,500**	**I**	**WD**	**A**	**YRABIEN JOSE A ETUX**

NOTES

14:32 CHG OPF TO USF/ INCR LND*LDS*R2563-163 ALSO SI001*JG
R22: ADD HVAC, CHG DRW VAL PER 32 *CB - 22: ADD WDK, CUD PER 51 *CB

File.

Lenders Title Company
Columbia Office
811 Hatcher Lane, Ste B
Columbia, TN. 38401

WARRANTY DEED

BK/PG: R2879/1250-1251
22019355

2 PGS:AL-WARRANTY DEED	
NANCY BATCH 290675	10/12/2022 - 01:52 PM
VALUE	439900.00
MORTGAGE TAX	0.00
TRANSFER TAX	1627.63
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1640.63

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

STATE OF TENNESSEE
COUNTY OF ~~WILLIAMSON~~ MAURY

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $439,900.00

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 11th DAY OF October, 2022

Notary Public

MY COMMISSION EXPIRES: 2-25-24

(AFFIX SEAL)

SHERRI ANN CHURCH NOTARY PUBLIC STATE OF TENNESSEE

MST 2022-1337

THIS INSTRUMENT WAS PREPARED BY:
James T. Oglesby, Attorney and Yvette L. Meldrum, Attorney
Mid-State Title & Escrow, Inc., 128 Holiday Court, Suite 125, Franklin, TN 37067

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NUMBERS
Vernon Burdett and Nita Burdett husband and wife	Liberty Federal Credit Union	066K-A-007.00
(NAME)	(NAME)	
112 Concord Drive	4401 Theater Drive	
(ADDRESS)	(ADDRESS)	
Columbia, TN 38401	Evansville IN 47715	
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

FOR AND CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, **Michael Melton and Tonyanna Rose Melton, husband and wife,** HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO **Vernon Burdett and Nita Burdett husband and wife,** HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN **MAURY** COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Situate in the Third (3rd) Civil District of Maury County, Tennessee, being Lot No. 7 on the Plan of Carriage Hills Subdivision., Section 1, of record in Plat Book 5, Page 282, in the Register's Office for Maury County, Tennessee, to which Plan reference is hereby made for a more complete description of the property.

Being the same property conveyed to Michael Melton and Tonyanna Rose Melton, husband and wife by Warranty deed from Kerlind Investment Group, LLC, a Tennessee Limited Liability Company of record in Book R2557, page 1445, Register's Office for Maury County, Tennessee, dated May 20, 2019 and recorded on May 24, 2019.

Subject to: Property taxes have been prorated and the Grantee has assumed payment thereof when same become due and payable. Subject to all matters shown on the Plan of record in Plat Book 5, Page 282, Register's Office for Maury County, Tennessee. Restrictions of record in Book 647, Page 280, as amended in Book 653, Page 511 and Book 733, Page 432, in the Register's Office for Maury County, Tennessee. Easement for Gas Pipeline of record in Book 765, Page 696, in the Register's Office for Maury County, Tennessee.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

112 CONCORD DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **7** TRACT	**TAX YEAR 2023** **MAURY**	**060** JUR	**066K** CONTROL MAP	**A** GROUP	**007.00** PARCEL	PI	**000** S/I
Ownership and Mailing Address **BURDETT VERNON ETUX NITA BURDETT** **112 CONCORD DR** **COLUMBIA TN 38401**	Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **115X178.25 IRR.**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066K** Dist **03**	Updated 10/28/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**	Amount **0**		Sched

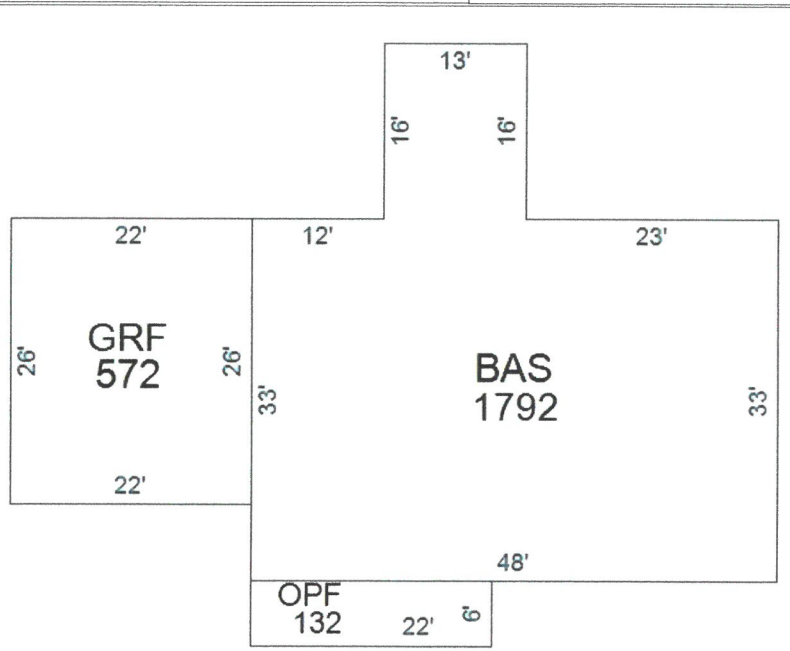
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,792	**1.174**	**1**	**1**	**1.21**	**1,792**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**259,770**	**46,280**	**306,050**	**170.79**	Dwelling Factor	**1**
RCNLD	**207,820**	**37,020**	**244,840**	**136.63**	Dwelling Value	**244,840**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,792**			
	OPF	**132**	**0**	**42.65**	**5,630**
	GRF	**572**	**0**	**71.07**	**40,650**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**248,000**
TOTAL APPRAISAL	**308,000**
GREENBELT APR	
ASSESSMENT	**77,000**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**308,000**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1987**	**1987**	**1**	**C**	**1**			**2500**	**UN**	**2,500**	**100**		**1**	**2,500**
PTO	**Patio**	**1987**	**2000**	**192**	**C**	**1**	**12X16**		**9.5833**	**AV**	**1,840**	**34**		**1**	**630**

Total OBY Value **3,130**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**115**	**178**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/07/2022	**R2879**	**1250**	**439,900**	**439,900**	**I**	**WD**	**A**	**BURDETT VERNON ETUX NITA BURDET**
05/20/2019	**R2557**	**1445**	**179,000**	**179,000**	**I**	**WD**	**A**	**MELTON MICHAEL ETUX TONYANNA RO**
11/30/2016	**R2404**	**1118**				**QC**		**KERLIND INVESTMENT GROUP LLC**
09/29/2015	**R2341**	**400**	**135,000**	**135,000**	**I**	**WD**	**I**	**BAILEY THOMAS ETUX DOROTHY**

NOTES

CHG EYB INCR LAND PRICE*R06FN*AREA CODE R06BV*R1944-76 SUB TRUSTEE*JG
CHG AREA CODE*FN*CHG EYB & SHAPE R10/32*JG*CHG EYB*R10/42*FN
R2404-1118 ALSO 43N-F-6*JG*R18: CHG QLTY PER 32 *CB -R22: CHG WDK/PTO PER 32 *CB

file: F. Dale

THIS INSTRUMENT PREPARED BY:
STEENBERGEN & GREFSENG
ATTORNEYS AT LAW
COLUMBIA, TENNESSEE 38401

TAX MAP: 66K, GROUP A
PARCEL: 12

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS that for and in consideration of the sum of Ten Dollars ($10.00), cash in hand paid, and other good and valuable considerations, the receipt and sufficiency of which is hereby acknowledged, we, John H. Bliss and wife, Jacquelyn K. Bliss, have this day sold and by these presents do hereby bargain, sell, transfer and convey unto Barbara Bartley, a single person, her heirs and assigns, the following described property located in the Third (3rd) Civil District of Maury County, Tennessee, more particularly bounded and described as follows, to wit:

> Being Lot 9 of Carriage Hills Subdivision, Section 1 as shown on the plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.
>
> Being the same property conveyed to Sellers by deed of record in Book 815, Page 581, Register's Office of Maury County, Tennessee, and also knows as Parcel 12 on Map 66K, Group A in the Tax Assessor's Office of Maury County, Tennessee.
>
> This is the same description as was contained in the last deed of record.

TO HAVE AND TO HOLD said tract or parcel of real estate unto the said Barbara Bartley, her heirs and assigns, together with all rights, title, interest, easements, appurtenances and hereditaments thereunto belonging in fee simple forever.

WE DO COVENANT with the said Barbara Bartley, her heirs and assigns, that we are lawfully seized and possessed of said above described tract or parcel of real estate, have a good and lawful right to sell and convey the same and that the same is unencumbered except for building restrictions of record, minimum building set back lines and utility and drainage easements as shown on the recorded plat and current year's property taxes which are pro-rated and assumed by grantee.

WE FURTHER COVENANT and bind ourselves, our heirs and personal representatives to warrant and forever defend the title to said above described tract or parcel of real estate unto the said Barbara Bartley, her heirs and assigns, against the lawful

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

103 CONCORD DR	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023**	060	066K	A	012.00		000
Property Address	BK **5** PG **282** BLOCK LOT **0009** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066K**	Updated 10/27/2022				
FORD BARBARA J	BK PG BLOCK LOT TRACT	SSD1	Dist **03**	Printed 03/17/2023				
103 CONCORD DR	Additional Description	SSD2		Card: 1 of 1				
COLUMBIA TN 38401	Dimensions **130X170**	Total Land Units **1** / Deed Acres **0** / Calculated Acres **0**		Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

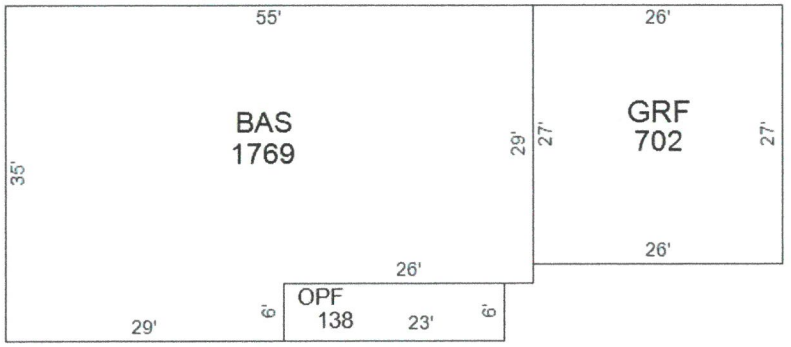
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**		
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**		
Party Wall	**00 None**	Paint/Decor	**04 Above Average**		
Struct. Frame	**00 None**	Bath Tile	**00 None**		
Roof Framing	**02 Gable/Hip**	Electrical	**03 Average**		
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**		
Cab/Millwork	**04 Above Average**				

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,769	**1.16**	**1**	**1.07**	**1.21**	**1,769**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**269,530**	**55,770**	**325,300**	**183.89**	Dwelling Factor	**1**
RCNLD	**215,620**	**44,610**	**260,230**	**147.11**	Dwelling Value	**260,230**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,769**			
	OPF	**138**	**0**	**42.61**	**5,880**
	GRF	**702**	**0**	**71.07**	**49,890**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**265,300**
TOTAL APPRAISAL	**325,300**
GREENBELT APR	
ASSESSMENT	**81,325**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**325,300**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**2006**	**2006**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**
WDK	**Wood Deck**	**2006**	**2006**	**360**	**C**	**1**	**12X30**		**16.1111**	**AV**	**5,800**	**52**		**1**	**3,020**

Total OBY Value **5,020**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**130**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
07/01/1991	**1121**	**645**	**86,000**	**86,000**	**I**	**WD**	**A**	**BARTLEY BARBARA**
06/30/1989	**815**	**581**	**85,900**	**85,900**	**I**	**WD**	**A**	**HARMON WILLIAM**
09/29/1986	**761**	**233**						**HARMON WILLIAM**

NOTES

INCR LAND PRICE*R06FN*AREA CODE R06BV*CHG AREA CODE*FN
CHG EYB & COMBINE DECKS R10/32*JG*CHG ELEC TO 03 &
EYB*R10/IH*FN
R18: CHG QLTY PER 32 *CB

BK/PG: R2752/412-413

21015576

2 PGS:AL-WARRANTY DEED	
BECKY BATCH: 252599	07/20/2021 - 10:00 AM
VALUE	290000.00
MORTGAGE TAX	0.00
TRANSFER TAX	1073.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1086.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

STATE OF TENNESSEE
COUNTY OF Sumner

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $290,000.00.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 14 DAY OF JULY, 2021.

Notary Public

MY COMMISSION EXPIRES: 4/23/2025
(AFFIX SEAL)

Crystal Johnson
State of Tennessee Notary Public
Sumner County

PREPARED BY & RETURN TO:
Realty Title & Escrow Company, Inc.
5407 Main St., Suite 103
Spring Hill, TN 37174

18-NSH21-02208

Address of New Owner:	Send Tax Bills to:	Tax Information:
Michael Johnson 104 Concord Drive Columbia, TN 38401	New Owner PO BOX 1148 Franklin, TN 37065	Tax Map(s): 066K-A-003.00 000 Parcel ID(s): 066K A 003.00

WARRANTY DEED

For and in consideration of the sum of ten dollars and no/100 ($10.00), cash in hand paid by the hereinafter named Grantees, and other good and valuable consideration, the receipt of which is hereby acknowledged, **Barry Alan Kent, a single man**, hereinafter referred to as Grantors, have bargained and sold, and do hereby transfer and convey to **Michael Johnson, an unmarried man**, hereinafter called the Grantees, their successors and assigns, a certain tract or parcel of land in Maury County, State of Tennessee, described as follows: to- wit:

Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 3, Carriage Hills Subd. Sec. 1, as shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.

Being the same property conveyed to Barry Alan Kent, a single man by Warranty Deed from Janice F. Smith, a single woman of record in Book R2449, Page 153, in the Register's Office of Maury County, Tennessee, dated August 07, 2017 and recorded on August 14, 2017.

This conveyance is subject to all easements, restrictive covenants and conditions, and other matters of record, including all items set out on any applicable plat of record.

This property is improved property known as: **104 Concord Drive, Columbia, TN 38401**

To have and to hold the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said Grantees, their heirs, successors and assigns, forever. Grantors covenant with Grantees that Grantors are lawfully seised and possessed of said land in fee simple, have a good right to convey it, and the same is unencumbered, unless otherwise herein set out. Grantors do further covenant and bind ourselves, our heirs, successors, assigns and representatives, to warrant and forever defend the title to said land to said Grantees, their heirs and assigns, against the lawful claims of all persons whomsoever.

Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

104 CONCORD DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **3** TRACT	**TAX YEAR 2023** **MAURY**	**060** JUR	**066K** CONTROL MAP	**A** GROUP	**003.00** PARCEL	PI	**000** S/I
Ownership and Mailing Address **JOHNSON MICHAEL** **104 CONCORD DR** **COLUMBIA TN 38401**	Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **120X175**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066K** Dist **03**	Updated 10/27/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1980**	Eff Yr Built	**2008**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**	Amount **0**		Sched

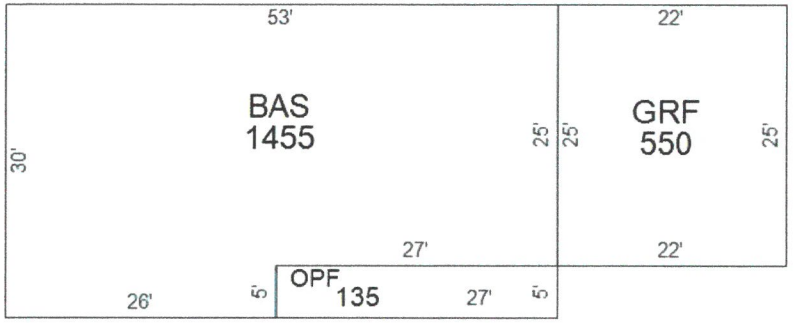
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**10 Panel-Plast-Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**03 Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**14**	Other Phys	Functional	External	% Good **86**

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,455	**.973**	**1**	**1.07**	**1.21**	**1,455**	**2022**	**14**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**230,580**	**44,840**	**275,420**	**189.29**	Dwelling Factor	**1**
RCNLD	**198,300**	**38,560**	**236,860**	**162.79**	Dwelling Value	**236,860**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,455**			
	OPF	**135**	**0**	**42.67**	**5,760**
	GRF	**550**	**0**	**71.05**	**39,080**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**239,300**
TOTAL APPRAISAL	**299,300**
GREENBELT APR	
ASSESSMENT	**74,825**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**299,300**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**03 Public / Individual**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
PTO	**Patio**	**2006**	**2006**	**80**	**C**	**1**	**8X10**		**9.625**	**AV**	**770**	**52**		**1**	**400**
DRW	**Driveway**	**2006**	**2006**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **2,400**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**04**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**120**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
07/14/2021	**R2752**	**412**	**290,000**	**290,000**	**I**	**WD**	**A**	**JOHNSON MICHAEL**
08/07/2017	**R2449**	**153**	**185,500**	**185,500**	**I**	**WD**	**A**	**KENT BARRY ALAN**
04/30/1997	**1329**	**272**	**102,000**	**102,000**	**I**	**WD**	**A**	**SMITH JANICE F**
04/19/1993	**1179**	**1**	**10**	**10**	**I**	**QC**	**D**	**GABBERT KATHLEEN A**

NOTES

FOR 06:CHG WD DECK TO PATIO PER 32*INCR LAND PRICE*R06FN
06>CHG AREA CO*R06JS*FN*CHG PATIO EYB*R10/32*JG*
R2014:32 INCREASE DRWY*LDS

This instrument prepared by Thomas Napier Gordon, Attorney, Columbia, Tennessee.

D E E D

For and in consideration of the sum of Ten Dollars ($10.00), cash in hand paid, and other good and valuable considerations, the receipt and sufficiency of all of which are hereby acknowledged, I, PAUL SCRIBNER, a single person, have this day bargained and sold, and do by these presents sell, transfer and convey unto EDDIE D. KELLEY and wife, SHIRLEY H. KELLEY, as tenants by the entirety, their heirs and assigns, the following described tract or parcel of land lying and being in the Third Civil District of Maury County, Tennessee, more particularly described as follows, to-wit:

> Being Lot No. 11 of Carriage Hills Subdivision, Section I, a plat of which appears of record in Plat Book 5, Page 282 of the Register's Office of Maury County, Tennessee.
>
> For source of title see deeds recorded in Book 631, Page 347 and Book 649, Page 594 of the Register's Office of Maury County, Tennessee.

TO HAVE AND TO HOLD the above described tract or parcel of land, together with all rights, titles, interests, easements, appurtenances and hereditaments thereunto belonging and pertaining, unto EDDIE D. KELLEY and wife, SHIRLEY H. KELLEY, as tenants by the entirety, their heirs and assigns, in fee simple forever.

I, PAUL SCRIBNER, covenant with the said EDDIE D. KELLEY and wife, SHIRLEY H. KELLEY, that I am lawfully seized and possessed of the above described tract or parcel of land, have a good and lawful right to sell and convey the same, and that said property is unencumbered except for subdivision restrictions of record in Book 647, Page 280, as amended in Book 653, Page 511 of the Register's Office of Maury County, Tennessee, and any building setback lines and utility and drainage easements imposed by the plat of said subdivision; and I do further covenant and bind myself, my heirs and personal representatives, to forever warrant and defend the title to said above described property unto the said EDDIE D. KELLEY and wife, SHIRLEY H. KELLEY, their

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

107 CONCORD DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0011** TRACT	**TAX YEAR 2023** **MAURY**	**060**	**066K**	**A**	**010.00**		**000**
Ownership and Mailing Address	Alt Subdiv		JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
KELLEY EDDIE D ETUX **SHIRLEY H** **107 CONCORD DR** **COLUMBIA TN 38401**	BK PG BLOCK LOT TRACT Additional Description Dimensions **130X170**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066K** Dist **03**	Updated 10/27/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1980**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

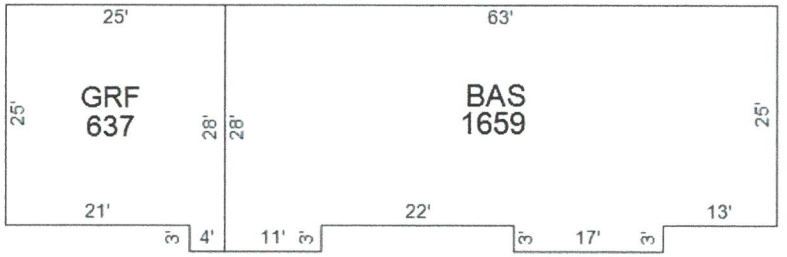
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**10 Panel-Plast-Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,659	**1.095**	**1**	**1.07**	**1.21**	**1,659**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**258,940**	**45,270**	**304,210**	**183.37**	Dwelling Factor	**1**
RCNLD	**207,150**	**36,220**	**243,370**	**146.70**	Dwelling Value	**243,370**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,659**			
	GRF	**637**	**0**	**71.07**	**45,270**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**246,700**
TOTAL APPRAISAL	**306,700**
GREENBELT APR	
ASSESSMENT	**76,675**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**306,700**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units

Water/Sewer
03 Public / Individual
Electricity
01 Public
Gas
00 None

Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1980**	**1990**	**1**	**C**	**1**			**300**	**UN**	**300**	**100**		**1**	**300**
DRW	**Driveway**	**1980**	**1980**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
PTO	**Patio**	**1980**	**1980**	**66**	**C**	**1**	**3 X 22**		**9.5455**	**AV**	**630**	**10**		**1**	**60**

Total OBY Value **3,360**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**04**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**130**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/23/1980	**661**	**252**						**KELLEY EDDIE D ETUX**

NOTES

R14:32 INCREASE DRWY*LDS - R18: CHG QLTY PER 32 *CB - 22: ADD PTO PER 51 *CB
R22: CHG DRW VAL, WDK EYB PER 32 *CB

File Security Title

This Instrument Prepared By:

JOE M. LAMBERT, JR.
Second Floor Firstar Bank Building
P.O. Box 306
Shelbyville, TN 37162
(931) 684-9600

New Property Owners:

TIMOTHY LOVE and wife,
JANE LOVE
105 Concord Drive
Columbia, TN 38402

Tax Responsibility:
SAME

This property is identified
on the Tax Assessor's records
as Map 66K, Group A, Parcel 11.00

State of Tennessee, County of MAURY
Received for record the 19 day of
APRIL 2002 at 2:13 PM. (REC# 79202)
Recorded in official records
Book R1613 pages 258- 259

WARRANTY DEED

FOR AND IN CONSIDERATION of the sum of Ten ($10.00) Dollars, cash in hand paid, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, **SUSAN E. COLEMAN,** has this day bargained and sold and does, by these presents, sell, transfer, and convey unto **TIMOTHY LOVE and wife, JANE LOVE,** their heirs and assigns, a certain tract or parcel of land, lying and being in the Ninth (9th) Civil District of Maury County, Tennessee, bounded and described as follows, to-wit:

Being Lot No. 10, Carriage Hills Subdivision, Section I, as shown on plat of record in Plat Book 5, Page 282, Register's Office for Maury County, Tennessee.

Said lot fronts 130 feet on the west side of concord Drive and extends back in a westerly direction between parallel lines, a distance of 170.0 feet to a common line in the rear measuring 130.0 feet.

This conveyance is subject to any and all existing easements and restrictions of record.

Being the same property conveyed to Susan E. Coleman by Warranty Deed of record at Deed Book 1293, Page 648, Register's Office, Maury County, Tennessee.

TO HAVE AND TO HOLD said tract or parcel of land, together with all improvements thereon, and all appurtenances thereunto belonging, unto the said **TIMOTHY LOVE and wife, JANE LOVE**, their heirs and assigns, forever.

State Tax $ 432.90 Clerks Fee $ 1.00,
Recording $ 12.00, Total $ 445.90,
Register of Deeds L. WAYNE WHITE
Deputy Register LENNIS CHESNUT
BK R1613 PG 258

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

105 CONCORD DR
Property Address

Ownership and Mailing Address
LOVE TIMOTHY ETUX
JANE
105 CONCORD DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **0010** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **130X170**

TAX YEAR 2023
MAURY

060	066K	A	011.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**
Map **066K** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **1 No Basement**
Stories **1 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **11 Common Brick** Attic
Heating Fuel

Year Built	**1980**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src	**3**	Occ **0**	Rental: Src	Year **0**	Amount **0**		Sched

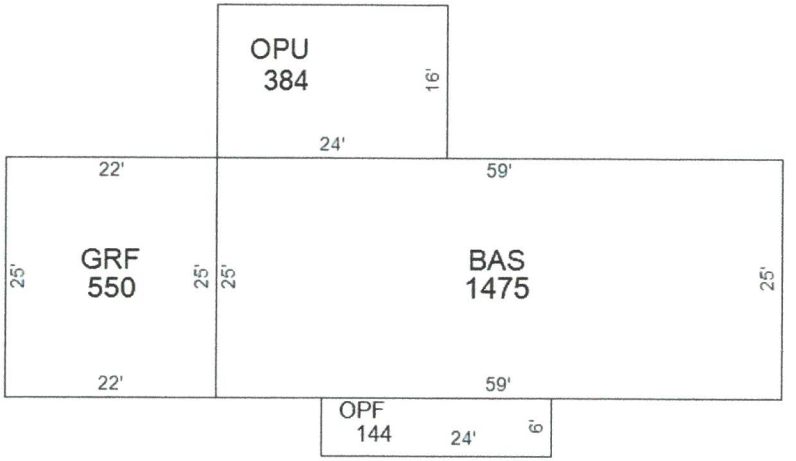
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**10 Panel-Plast-Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,475	**.985**	**1**	**1.07**	**1.21**	**1,475**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete
RCN	**233,380**	**53,410**	**286,790**	**194.43**	Dwelling Factor **1**
RCNLD	**186,700**	**42,720**	**229,420**	**155.54**	Dwelling Value **229,420**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,475**			
	OPF	**144**	**0**	**42.64**	**6,140**
	GRF	**550**	**0**	**71.05**	**39,080**
	OPU	**384**	**0**	**21.33**	**8,190**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**232,400**
TOTAL APPRAISAL	**292,400**
GREENBELT APR	
ASSESSMENT	**73,100**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**292,400**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1995**	**1995**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**

Total OBY Value
3,000

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**04**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**130**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
04/18/2002	**R1613**	**258**	**117,000**	**117,000**	**I**	**WD**	**A**	**LOVE TIMOTHY ETUX**
06/06/1996	**1293**	**648**	**102,000**	**102,000**	**I**	**WD**	**A**	**COLEMAN SUSAN E**
02/12/1993	**1172**	**881**	**83,500**	**83,500**	**I**	**WD**	**A**	**WALKER J CLIFF ETUX**
01/24/1991	**1109**	**960**	**75,000**	**75,000**	**I**	**WD**	**A**	**PECKENPAUGH ROBERT**

NOTES

R14:32 INCREASE DRWY*LDS - R18: CHG QLTY PER 32*CB - R22: CHG DRW VAL PER 32*CB 22: CHG OPU PER 51 *CB

PREPARED BY FRANK K. DALE
FILE 805 SOUTH GARDEN STREET
P. O. BOX 1017
COLUMBIA, TN 38402

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between RONALD J. HAMILTON and wife, SHIRLEY J. HAMILTON, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and ROBERT G. MARSHALL and wife, DONNA J. MARSHALL, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys to SECOND PARTY the following described property:

> Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot 2, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, Page 282 of the Register's Office of Maury County, Tennessee.
>
> Being the same property conveyed to FIRST PARTY by deed recorded in Book 767, Page 389 of said Register's Office.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY, together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS that it is lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered, except for current year's property taxes, building restrictions recorded in Book 647, Page 280, as amended in Book 653, Page 511 and Book 733, Page 432, building setback lines, utility and drainage easements shown on plat of record in Plat Book 5, Page 282 and possible telephone line easement shown in Book 295, Page 292 of said Register's Office.

FIRST PARTY FURTHER COVENANTS to forever warrant and defend the title to the above described property unto SECOND PARTY against the lawful claims of all persons whomsoever.

Maury County, State of Tennessee
Received for record the 26 day of Nov 19 89 at 12:15 o'clock P M
Note Book 12 Pg 339 Receipt# 38076 Recording Fee 8.00
State Tax 306.90 Probate Fee 50 Total 315.40
Book Page Witness my hand

BOOK 813 PAGE 276

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

102 CONCORD DR
Property Address

Ownership and Mailing Address

MARSHALL ROBERT G
ETUX DONNA J
102 CONCORD DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **0002** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **120X175**

TAX YEAR 2023
MAURY

060	066K	A	002.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2

Map **066K** Updated 10/27/2022
Dist **03** Printed 03/17/2023

Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **1 No Basement**
Stories **1 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **04 Siding Average** Attic
Heating Fuel

Year Built	1987	Eff Yr Built	2006	Rooms	0	Bedrooms	0
Full Baths		Half Baths		Add'l Fixtures	8	Total Fixtures	8
Wood FP Stacks	1	Openings	1	Add'l Sty		PreFab	Add'l Sty
Info Src	3	Occ 0	Rental: Src	Year	0	Amount 0	Sched

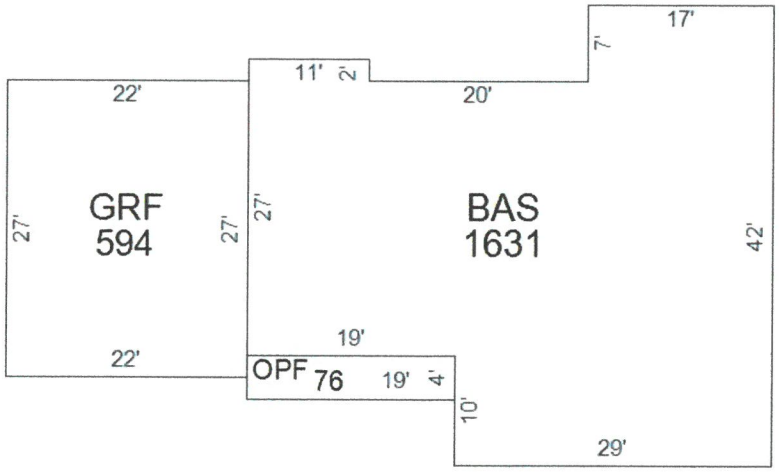
Foundation	02 Continuous Footing	Floor Finish	11 Carpet Combination
Floor System	04 Wood W/ Sub Floor	Interior Finish	07 Drywall
Party Wall	00 None	Paint/Decor	04 Above Average
Struct. Frame	00 None	Bath Tile	00 None
Roof Framing	02 Gable/Hip	Electrical	04 Above Average
Roof Cov/Deck	03 Composition Shingle	Shape	01 Rectangular Design
Cab/Millwork	04 Above Average		

Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,631	1.078	1	1	1.21	1,631	2022	16	1.00

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete
RCN	242,300	45,450	287,750	176.43	Dwelling Factor 1
RCNLD	193,840	36,360	230,200	141.14	Dwelling Value 230,200

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	1,631			
	OPF	76	0	42.63	3,240
	GRF	594	0	71.06	42,210



APPRAISED VALUES

LAND	60,000
IMPROVEMENTS	237,900
TOTAL APPRAISAL	297,900
GREENBELT APR	
ASSESSMENT	74,475
ASSESSED @	25%
APPROACH	COST VALUE

Value Correlation

	Value
COST	297,900
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **01 Public / Public**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	Wood Deck	2006	2006	200	C	1	10X20		20.85	AV	4,170	52		1	2,170
DRW	Driveway	1998	1998	1	C	1			3000	UN	3,000	100		1	3,000
UTB	Utility Building	1998	1998	192	C	1	12X16		25.2604	AV	4,850	52		1	2,520

Total OBY Value 7,690

ENTRANCES

Date	Code	ID
01/01/2002	01 Bldg Apr	32

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	U	22	01		120	175	1	60,000.00							100	60,000.00	60,000
					Totals:		1										60,000

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/26/1989	813	276	93,000	93,000	I	WD	A	MARSHALL ROBERT G
01/29/1987	767	389	80,500	80,500	I	WD	A	HAMILTON RONALD J
10/03/1986	761	369						STEARNS THOMAS W.

NOTES

CHG EYB INCR LAND PRICE*R06FN*CHG AREA CODE*FN*CHG DECK EYB
& DRWY PRICE*R10/32*JG*R18: CHG QLTY & EYB PER 32 *CB - R22: CHG HVAC PER 32 *CB

WARRANTY DEED

STATE OF TENNESSEE
COUNTY OF WILLIAMSON
THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER
IS GREATER, FOR THIS TRANSFER IS $ 107,000.00

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE
12th DAY OF March 19 99

Notary Public

MY COMMISSION EXPIRES: 9-11-2001
(AFFIX SEAL)

RUSSELL JOHN McCANN NOTARY PUBLIC AT LARGE WILLIAMSON COUNTY, TENN.

MAIL

THIS INSTRUMENT WAS PREPARED BY
Sidwell & Barrett, P.C., 121 First Ave. Suite 200, Franklin, Tennessee 37064

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NUMBERS
Gregory F. Philpott (NAME)	Countrywide Home Loans, Inc. (NAME)	MAP: 66K
109 Concord Drive (ADDRESS)	718 Thompson Lane, Suite 114 (ADDRESS)	GROUP: A
Columbia, Tennessee 38401 (CITY) (STATE) (ZIP)	Nashville, Tennessee 37204 (CITY) (STATE) (ZIP)	PARCEL: 009.00

FOR AND CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, Jimmy Kent Woody and wife, Anita B. Woody

HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO Gregory F. Philpott and wife, Tabitha N. Philpott

HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN Maury COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Tract I:

Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 12, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, page 282, Register's Office for Maury County, Tennessee.

Being the same property conveyed to JIMMY KENT WOODY and wife, ANITA B. WOODY, as tenants by the entirety, by deed from Francis T. Sparkman and wife, Bettie V. Sparkman of record in Book 715, page 782, Register's Office for Maury County, Tennessee.

Tract II:

SITUATE in the Third (3rd) Civil District of Maury County, Tennessee and being a part of Lot 13 of Carriage Hills Subdivision, Section I as shown by a map of record in Plat Book 5 at page 282 and more particularly described as follows:

Beginning at a point in the southwest corner of Lot 13 a common corner to Lot 12 in the northern margin of Concord Drive; thence north 55 degrees 37 minutes west 182.70 feet to a point in the northwest corner of Lot 13 a common corner

CONTINUED

unimproved ( )
This is improved (X) property, known as 109 Concord Drive, Columbia, Tennessee 38401
(House Number) (Street) (P.O. Address) (City or Town) (Postal Zip)

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEES, their heirs and assigns forever; and we do covenant with the said GRANTEES that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said GRANTEES, their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Witness our hand s this 12th day of March 19 99

Jimmy Kent Woody
Jimmy Kent Woody

Anita B. Woody
Anita B. Woody

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

109 CONCORD DR
Property Address

Ownership and Mailing Address
PHILPOTT GREGORY F ETUX
TABITHA N
109 CONCORD DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **0012** TRACT
Alt Subdiv **LOT P/13**
BK PG BLOCK LOT **P/13** TRACT
Additional Description
Dimensions **142.91X182.7 IRR**

TAX YEAR 2023
MAURY

060	066K	A	009.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066K** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **1 No Basement**
Stories **1 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **11 Common Brick** Attic
Heating Fuel

Year Built	Eff Yr Built	Rooms	Bedrooms
1980	**2002**	**0**	**0**

Full Baths	Half Baths	Add'l Fixtures	Total Fixtures
		6	**6**

Wood FP Stacks	Openings	Add'l Sty	PreFab	Add'l Sty
1	**1**			

Info Src	Occ	Rental: Src	Year	Amount	Sched
3	**0**		**0**	**0**	

Foundation **02 Continuous Footing** Floor Finish **11 Carpet Combination**
Floor System **04 Wood W/ Sub Floor** Interior Finish **10 Panel-Plast-Drywall**
Party Wall **00 None** Paint/Decor **04 Above Average**
Struct. Frame **00 None** Bath Tile **00 None**
Roof Framing **02 Gable/Hip** Electrical **03 Average**
Roof Cov/Deck **03 Composition Shingle** Shape **01 Rectangular Design**
Cab/Millwork **04 Above Average**

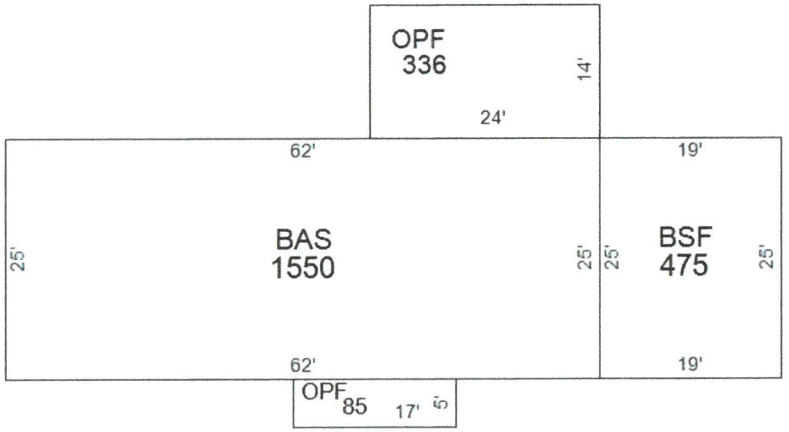
Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,550	**1.03**	**1**	**1.07**	**1.21**	**2,025**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt
RCN	**243,840**	**71,960**	**315,800**	**155.95**
RCNLD	**195,070**	**57,570**	**252,640**	**124.76**

% Complete
Dwelling Factor **1**
Dwelling Value **252,640**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,550**			
	BSF	**475**	**100**	**113.71**	**54,010**
	OPF	**85**	**0**	**42.59**	**3,620**
	OPF	**336**	**0**	**42.65**	**14,330**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**274,400**
TOTAL APPRAISAL	**334,400**
GREENBELT APR	
ASSESSMENT	**83,600**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**334,400**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **03 Public / Individual**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1990**	**1990**	**1**	**C**	**1**			**1000**	**UN**	**1,000**	**100**		**1**	**1,000**
GUD	**Detached Garage Unfi**	**1990**	**2008**	**912**	**C**	**1**	**38 X 24**		**29.9013**	**AV**	**27,270**	**72**		**1**	**19,630**
PTO	**Patio**	**2019**	**2019**	**130**	**C**	**1**	**10 X 13**		**9.6154**	**AV**	**1,250**	**91**		**1**	**1,140**

Total OBY Value **21,770**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**15**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**142**	**182**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
03/12/1999	**R1422**	**817**	**107,000**	**107,000**	**I**	**WD**	**A**	**PHILPOTT GREGORY F ETUX**
10/15/1987	**781**	**105**						**WOODY JIMMY K**
07/16/1984	**715**	**782**						**WOODY JIMMY K**

NOTES

R18: CHG QLTY PER 32 *CB - R22: ADD OPF, DEL CUD PER 32 *CB
22: ADD PTO, DEL WDK PER 51 *CB

Standard Form RE1001 - General Warranty Deed

This Instrument Prepared by: R. W. Hardison, Attorney at Law
710 N. Main Street, P. O. Box 1505, Columbia, TN 38402-1505

Send Tax Bills To:	Owner:
Rudy A. Holzer	same
2395	
Burton, MI 48519	

OATH: I, the undersigned Affiant, do hereby swear or affirm that the actual consideration for transfer or the value of the property being transferred, whichever is greater, is $ 18000.00.

Affiant

Subscribed and sworn before me this 28th day of October, 1988.

Notary Public

Commission Expires: 1-22-91

NOTARY PUBLIC AT LARGE STATE OF TN

D E E D

This indenture is made and entered into this 28th day of October, 1988 between Bobby R. Pilkinton (GRANTOR) and Rudy A. Holzer, and wife, Valerie D. Holzer (GRANTEE).

For and in consideration of ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, cash in hand paid, Grantor does by these presents, sell, transfer and conveys unto Grantee, the following described tract or parcel of land:

(See Exhibit A attached hereto and incorporated herein by reference.)

To have and to hold the above-described tract or parcel of land, together with all rights, titles, interests, easements, appurtenances, and hereditaments thereto appertaining, to Grantee, its heirs and assigns forever in fee simple.

Grantor covenants with Grantee that Grantor is lawfully seized and possessed in fee simple of the above-described tract or parcel of land, that Grantor has the full, good and lawful right and authority to sell, transfer and convey the same, and that the above-described tract or parcel of land is unencumbered except for covenants, conditions and restrictions as set forth in instrument dated June 27, 1979 of record in Book 647 at page 289 and as amended in Book 653 at page 511 and Book 733 at page 432 in the Maury County, Tennessee Register of Deeds Office.

And, Grantor does warrant, and hereby binds its successors to title, to forever defend the title to the above-mentioned tract or parcel of land against the lawful claims of all persons whatsoever, unto Grantee, its heirs and assigns.

Maury County, State of Tennessee
Received for record the 10 day of Nov 1988 at 1:45 o'clock P M
Note Book 12 Pg 387 Receipt# 31600 Recording Fee 8.50
State Tax 59.40 Probate Fee .50 Total 67.90
Book ____ Page ____ Witness my hand Janice W. Andrews Register

I hereby certify that I registered the above instrument the 14 day of Nov 1988
Janice W. Andrews Register

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

108 CONCORD DR	Subdivision **CARRIAGE HILLS SEC 1**				**TAX YEAR 2023**	**060**	**066K**	**A**	**005.00**		**000**
Property Address	BK **5**	PG **282**	BLOCK	LOT **0005**	TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv					City **60156 Columbia**		Map **066K**		Updated 10/27/2022		
HOLZER RUDY A ETUX	BK	PG	BLOCK	LOT	TRACT	SSD1		Dist **03**		Printed 03/17/2023		
VALERIE D	Additional Description					SSD2						
108 CONCORD DR						Total Land Units **1**		Card: 1 of 1				
COLUMBIA TN 38401	Dimensions **120.65X175 IRR.**					Deed Acres **0**						
						Calculated Acres **0**		Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1989**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

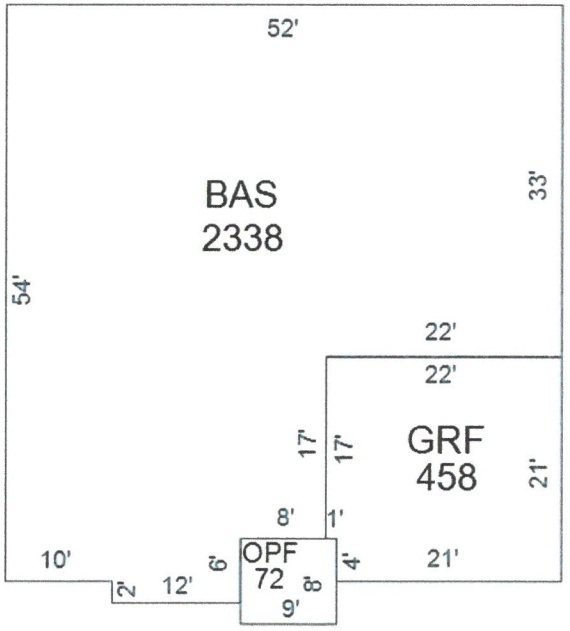
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**03 Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**		Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**	
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**	

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
2,338	**1.496**	**1**	**1.07**	**1.21**	**2,338**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**355,520**	**35,620**	**391,140**	**167.30**	Dwelling Factor	**1**
RCNLD	**284,420**	**28,500**	**312,920**	**133.84**	Dwelling Value	**312,920**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**2,338**			
	OPF	**72**	**0**	**42.64**	**3,070**
	GRF	**458**	**0**	**71.07**	**32,550**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**317,300**
TOTAL APPRAISAL	**377,300**
GREENBELT APR	
ASSESSMENT	**94,325**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**377,300**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1989**	**1989**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**
PTO	**Patio**	**1989**	**2002**	**1**	**C**	**1**			**400**	**UN**	**400**	**100**		**1**	**400**

Total OBY Value **4,400**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**120**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/28/1988	**801**	**544**	**18,000**	**18,000**	**V**	**WD**	**A**	**HOLZER RUDY A ETUX**
10/28/1986	**763**	**112**						**PILKINTON BOBBY R**

NOTES

ADD PATIO PER 32*FN06VI*INCR LAND PRICE*R06FN*06:CHG AREA CODER*R06JS
CHG AREA CODE*FN*CHG EYB & DRWY R10/32*JG*CHG EYB*R10/42*FN
R18: CHG QLTY PER 32 *CB - R22: CHG DRW VAL, PTO EYB PER 32 *CB

State of Tennessee, County of MAURY
Received for record the 02 day of
JUNE 2000 at 3:43 PM. (REC# 39841)
Recorded in official records
Book R1487 pages 409- 410
State Tax $ 462.50 Clerks Fee $ 1.00,
Recording $ 10.00, Total $ 473.50,
Register of Deeds L. WAYNE WHITE
Deputy Register JUNE RUSHING ANDERSON

File

PREPARED BY:
JAMES T. DUBOIS
ATTORNEY AT LAW
COLUMBIA, TENN.

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between Donald L. Joyce and wife, Brenda K. Joyce, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and Hector Guzman, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

> Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 13, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.
>
> INCLUDED IN THE ABOVE DESCRIBED PROPERTY BUT TO BE EXCLUDED FROM THIS CONVEYANCE IS THE FOLLOWING DESCRIBED TRACT OR PARCEL OF LAND:
>
> Beginning at a point in the southwest corner of Lot 13, Carriage Hills Subdivision, Section 1, as shown in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee, a common corner to Lot 12 in the northern margin of Concord Drive; thence North 55 degrees 37 minutes West 182.70 feet to a point the northwest corner of Lot 13 a common corner to Lot 12; thence North 52 degrees 42 minutes East 14 feet to a point; thence in a straight line to the point of beginning.
>
> Being the same property conveyed to FIRST PARTY by deed of record in Book 813, Page 700, Register's Office of Maury County, Tennessee.
>
> Map 66K, Group A, Parcel 8.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that they are lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except as follows: current year's property taxes

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

111 CONCORD DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0013** TRACT	**TAX YEAR 2023** **MAURY**	060	066K	A	008.00		000
Ownership and Mailing Address	Alt Subdiv BK PG BLOCK LOT TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
GUZMAN HECTOR **111 CONCORD DR** **COLUMBIA TN 38401**	Additional Description	City **60156 Columbia** SSD1 SSD2	Map **066K** Dist **03**		Updated 10/27/2022 Printed 03/17/2023			
	Dimensions **126.28X182.70 IRR**	Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Card: 1 of 1 Page: 1 of 1					

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

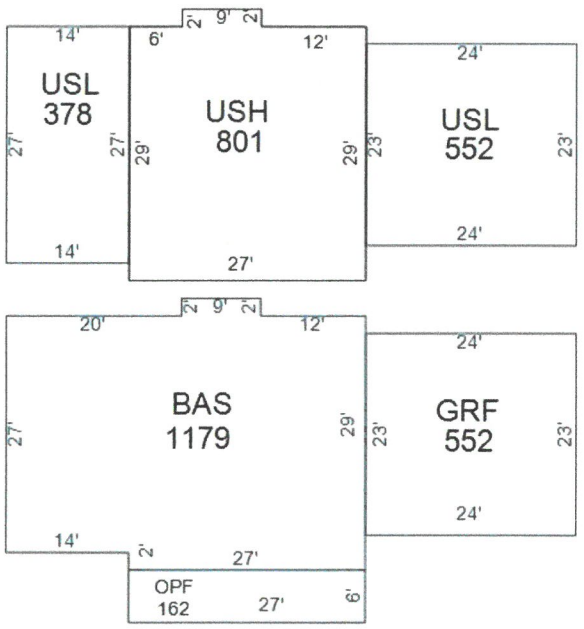
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,179	**.806**	**1**	**1**	**1.21**	**1,939**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**183,150**	**142,720**	**325,870**	**168.06**	Dwelling Factor	**1**
RCNLD	**146,520**	**114,180**	**260,700**	**134.45**	Dwelling Value	**260,700**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,179**			
	OPF	**162**	**0**	**42.65**	**6,910**
	GRF	**552**	**0**	**71.07**	**39,230**
	USL	**552**	**30**	**42.64**	**23,540**
	USL	**378**	**30**	**42.65**	**16,120**
	USH	**801**	**60**	**71.06**	**56,920**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**263,600**
TOTAL APPRAISAL	**323,600**
GREENBELT APR	
ASSESSMENT	**80,900**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**323,600**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1987**	**2000**	**120**	**C**	**1**	**10X12**		**20.8333**	**AV**	**2,500**	**34**		**1**	**850**
DRW	**Driveway**	**1987**	**1987**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**

Total OBY Value **2,850**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**126**	**182**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
06/02/2000	**R1487**	**409**	**125,000**	**125,000**	**I**	**WD**	**A**	**GUZMAN HECTOR**
06/12/1989	**813**	**700**	**110,000**	**110,000**	**I**	**WD**	**A**	**JOYCE DONALD L**
08/21/1987	**777**	**229**	**80,250**	**80,250**	**I**	**WD**	**A**	**MARECLE MILTON H ETUX**
10/09/1986	**761**	**472**						**COHENOUR JULIAN S JR**

NOTES

INCR LAND PRICE*R06FN*AREA CODE R06BV*CHG AREA CODE*FN
R2014:32 CHG EFF AGE*LDS - R18: CHG QLTY PER 32 *CB
R22: CHG HVAC, WDK EYB PER 32 *CB

WARRANTY DEED

BK/PG:R2846/1034-1036
22010739

3 PGS : WARRANTY DEED	
BECKY BUCHANAN 279629 - 22010739	
05/27/2022 - 02:19 PM	
VALUE	429200.00
MORTGAGE TAX	0.00
TRANSFER TAX	1588.04
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1606.04

STATE of TENNESSEE, MAURY COUNTY

JOHN FLEMING
REGISTER OF DEEDS

STATE OF TENNESSEE
COUNTY OF Williamson

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $429,200.00

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 27TH DAY OF MAY, 2022.

Notary Public

MY COMMISSION EXPIRES: 3-28-26
(AFFIX SEAL)

BETHANY D SCOTT
STATE OF TENNESSEE NOTARY PUBLIC
WILSON COUNTY
MY COMMISSION EXPIRES MARCH 28, 2026

THIS INSTRUMENT WAS PREPARED BY
Kathryn Cassidy, Ark Title Group, LLC, 1612 Westgate Circle, Suite 115, Brentwood, TN 37027

File No.: TN-22-06967

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NO.(S)
Zachary Colburn and Lindsay Colburn, husband and wife	Zachary Colburn and Lindsay Colburn, husband and wife	
(NAME) 100 Concord Drive	(NAME) 100 Concord Drive	066K-A-001.00
(ADDRESS) Columbia, TN 38401	(ADDRESS) Columbia, TN 38401	
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

FOR AND IN CONSIDERATION OF THE SUM OF Four Hundred Twenty-Nine Thousand Two Hundred And No/100 Dollars ($429,200.00), CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, **EDGEMONT PROPERTIES LLC, A TENNESSEE LIMITED LIABILITY COMPANY, DBA EDGEMONT HOLDINGS**, HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO **ZACHARY COLBURN AND LINDSAY COLBURN, HUSBAND AND WIFE**, HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN MAURY COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Land in Maury County, Tennessee, being Lot No. 1 on the Plan of Carriage Hills Subdivision, Section 1 of record in Plat Book 5, Page 282, in the Register's Office for Maury County, Tennessee, to which Plan reference is hereby made for a more complete description of the property.

Being the same property conveyed to Edgemont Properties LLC, a Tennessee Limited Liability Company, DBA Edgemont Holdings by Warranty deed from Justin Whitwell and Brittany Whitwell, a Married Couple of record in Book R2647, page 1063, Register's Office for Maury County, Tennessee, dated June 25, 2020 and recorded on July 14, 2020.

Being the same property conveyed to Justin Whitwell, a single man by Warranty deed from Heirs at Law of Wallace F. Wissen, Deceased, Kimberly Rolfson, and Heidi Lablue, by and Through Its Duly Appointed Attorney-in-fact, Kimberly Rolfson of record in Book R2432, page 879, Register's Office for Maury County, Tennessee, dated May 01, 2017 and recorded on May 15, 2017.

unimproved ☐
This is improved ☒ property, known as 100 Concord Drive, Columbia, TN 38401
(House No.) (Street) (P.O. Address) (City or Town) (Postal Zip)

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEES, their heirs and assigns forever; and we do covenant with the said GRANTEES that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said GRANTEES, their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

100 CONCORD DR	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023**	060	066K	A	001.00		000
Property Address	BK **5** PG **282** BLOCK LOT **1** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066K**		Updated 07/06/2022			
COLBURN ZACHARY ETUX LINDSAY COLBURN	BK PG BLOCK LOT TRACT	SSD1	Dist **03**		Printed 03/17/2023			
100 CONCORD DR	Additional Description	SSD2						
COLUMBIA TN 38401	Dimensions **153.98X170.64 IRR.**	Total Land Units **1**			Card: 1 of 1			
		Deed Acres **0**						
		Calculated Acres **0**			Page: 1 of 1			

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built **1987**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **8**	Total Fixtures **8**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **0**	Rental: Src	Year **0**	Amount **0**	Sched		

Foundation	**02 Continuous Footing**	Floor Finish	**12 Carpet**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality **2 : Above Average** Condition **Average** Class:

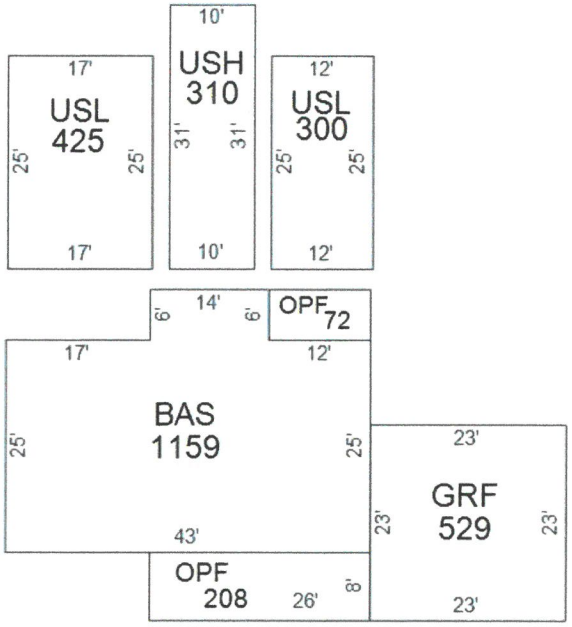
Prorate Date Factor % Comp Cost & Design **0**

Depr: Physical **20** Other Phys Functional External % Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,159	**.794**	**1**	**1**	**1.21**	**1,563**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**184,140**	**102,470**	**286,610**	**183.37**	Dwelling Factor	**1**
RCNLD	**147,310**	**81,980**	**229,290**	**146.70**	Dwelling Value	**229,290**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,159**			
	OPF	**208**	**0**	**42.64**	**8,870**
	OPF	**72**	**0**	**42.64**	**3,070**
	GRF	**529**	**0**	**71.06**	**37,590**
	USH	**310**	**60**	**71.06**	**22,030**
	USL	**300**	**30**	**42.63**	**12,790**
	USL	**425**	**30**	**42.64**	**18,120**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**242,200**
TOTAL APPRAISAL	**302,200**
GREENBELT APR	
ASSESSMENT	**75,550**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**302,200**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units

Water/Sewer
01 Public / Public
Electricity
01 Public
Gas
00 None

Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1987**	**1987**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
WDK	**Wood Deck**	**1987**	**1987**	**264**	**C**	**1**	**11X24**		**18.447**	**AV**	**4,870**	**10**		**1**	**490**
GUD	**Detached Garage Unfi**	**1996**	**1996**	**576**	**C**	**1**	**24X24**		**34.0625**	**AV**	**19,620**	**48**		**1**	**9,420**

Total OBY Value **12,910**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**153**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/27/2022	**R2846**	**1034**	**429,200**	**429,200**	**I**	**WD**	**A**	**COLBURN ZACHARY ETUX LINDSAY CO**
06/25/2020	**R2647**	**1063**	**230,000**	**230,000**	**I**	**WD**	**A**	**EDGEMONT PROPERTIES LLC**
05/01/2017	**R2432**	**879**	**171,500**	**171,500**	**I**	**WD**	**A**	**WHITWELL JUSTIN**
04/26/2017	**R2432**	**877**				**HR**		**ROLFSON KIMBERLY & HEIDI LABLUE**

NOTES

INCR LAND PRICE*R06FN*CHG AREA CODE*R06JS*CHG AREA CODE FN*R2014:32 CHG EFF AGE INCREASE DRWY*LDS 15:32 CHG EYB*LDS

Return to: DLO Title, LLC
101 SE Parkway Court, Ste 220
Franklin, TN 37064-3982

BK/PG: R2586/393-394
19015212

2 PGS:AL-WARRANTY DEED	
SUSIE BATCH: 219199	10/03/2019 - 08:30 AM
VALUE	349900.00
MORTGAGE TAX	0.00
TRANSFER TAX	1294.63
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1307.63

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

STATE OF TENNESSEE
COUNTY OF ~~Maury~~ Williamson (ETK)

The actual consideration or value, whichever is greater, for this transfer is $349,900.00

Affiant

Subscribed and sworn to before me, this 2nd day of October, 2019.

E. Mannix
Notary Public

My commission expires: 1-3-23

E. MANNIX STATE OF TENNESSEE NOTARY PUBLIC DAVIDSON COUNTY

THIS INSTRUMENT WAS PREPARED BY
SIGNATURE TITLE SERVICES, LLC
7065 Moores Lane, Suite 100
Brentwood, TN 37027

WARRANTY DEED

Address of New Owner(s) as follows:	Send Tax Bills To:	Map-Parcel Numbers:
Adam York **Kathryn York**	New Owner	**066K-A-004.00**
106 Concord Drive		
Columbia, TN 38401		

FOR AND IN CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGE, WE,

Preston Dalton and wife, Asiah Dalton, as tenants by the entirety

HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO

Adam York and Kathryn York, husband and wife

HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN Maury COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Located in the Third (3rd) Civil District of Maury County, Tennessee, being Lot No. 4 on the Plan of Carriage Hills Subdivision, Section 1 of record in Plat Book 5, Page 282, in the Register's Office for Maury County, Tennessee, to which Plan reference is hereby made for a more complete description of the property.

Being the same property conveyed to Preston Dalton and wife, Asiah Dalton, as tenants by the entirety by Warranty deed from First Farmers and Merchants Bank, Conservators for Kurt Brydon Peterson, a 1/2 undivided interest and Bonita J. Peterson, a 1/2 undivided interest of record in Book R2544, page 1141, Register's Office for Maury County, Tennessee, dated March 05, 2019 and recorded on March 07, 2019.

THIS CONVEYANCE IS MADE SUBJECT TO THE FOLLOWING:

Restrictions of record in Book 647, page 280, Book 653, page 511, Book 733, page 432, said Register's Office.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

106 CONCORD DR
Property Address

Ownership and Mailing Address
YORK ADAM ETUX KATHRYN
106 CONCORD DR
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **4** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **130X175**

TAX YEAR 2023
MAURY

060	066K	A	004.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066K** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**7 Heat And Cooling Split**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

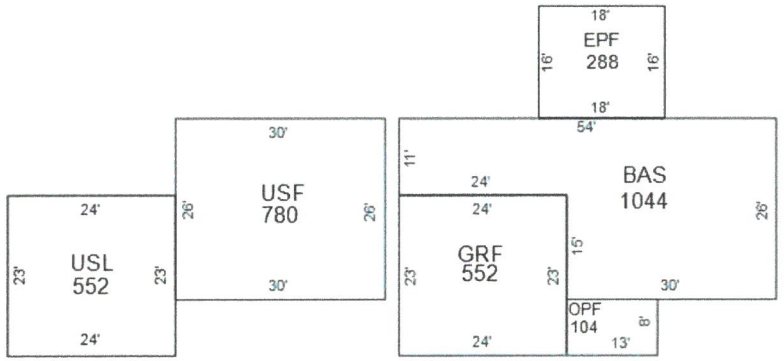
Foundation	**02**	**Continuous Footing**	Floor Finish	**11**	**Carpet Combination**
Floor System	**04**	**Wood W/ Sub Floor**	Interior Finish	**07**	**Drywall**
Party Wall	**00**	**None**	Paint/Decor	**04**	**Above Average**
Struct. Frame	**00**	**None**	Bath Tile	**00**	**None**
Roof Framing	**02**	**Gable/Hip**	Electrical	**04**	**Above Average**
Roof Cov/Deck	**03**	**Composition Shingle**	Shape	**03**	**U-Shaped**
Cab/Millwork	**04**	**Above Average**			

Quality **2 : Above Average** Condition **Average** Class:
Prorate Date Factor % Comp Cost & Design **0**
Depr: Physical **20** Other Phys Functional External % Good **80**

	Factors							
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,044	**.723**	**1**	**1**	**1.21**	**1,990**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**168,380**	**199,730**	**368,110**	**184.98**	Dwelling Factor	**1**
RCNLD	**134,700**	**159,770**	**294,470**	**147.97**	Dwelling Value	**294,470**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,044**			
	USF	**780**	**100**	**127.92**	**99,780**
	OPF	**104**	**0**	**42.60**	**4,430**
	GRF	**552**	**0**	**71.07**	**39,230**
	EPF	**288**	**0**	**113.72**	**32,750**
	USL	**552**	**30**	**42.64**	**23,540**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**298,100**
TOTAL APPRAISAL	**358,100**
GREENBELT APR	
ASSESSMENT	**89,525**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**358,100**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer
01 Public / Public
Electricity
01 Public
Gas
00 None
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
PTO	**Patio**	**1995**	**1995**	**288**	**B**	**1**	**18X16**		**10.8681**	**GD**	**3,130**	**19**		**1**	**600**
DRW	**Driveway**	**1995**	**1995**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**

Total OBY Value **3,600**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**130**	**175**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
10/02/2019	**R2585**	**393**	**349,900**	**349,900**	**I**	**WD**	**A**	**YORK ADAM ETUX KATHRYN**
03/05/2019	**R2544**	**1141**	**236,800**	**236,800**	**I**	**WD**	**J**	**DALTON PRESTON ETUX ASIAH**
09/24/2018	**R2519**	**529**				**CO**		**FIRST FARMERS/MERCHANTS BANK CO**
08/05/2005	**R1872**	**942**	**169,900**	**169,900**	**I**	**WD**	**A**	**PETERSON KURT B ETUX**

NOTES

06:DELETE PATIO & ADD OPF PER 32*FN06VI 1841-284 QC*CHG EYB* FN06VI*CHG EYB INCR LAND PRICE*R06FN*06:CHG AREA CO*FN CHG EYB, PATIO, & DRWY R10/32*JG*CHG EYB*R10/42*FN R18: CHG QLTY PER 32 *CB - R2519-529 ORDER TO CONVEY TO CONSERVATOR & SELL PROPERTY*JG - 20: CHG OPF/EPF PER 50 *CB

MORTGA[illegible] SOVRAN MORTGAGE CORPORA[illegible]

STATE OF TENNESSEE
COUNTY OF Williamson

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $ 112,000.00

Susan C. Stephenson
Affiant

SUBSCRIBED AND SWORN TO BEFORE ME THIS THE 28th DAY OF April 19 89

Notary Public

MY COMMISSION EXPIRES: 4/11/92

(AFFIX SEAL)

THIS INSTRUMENT PREPARED BY Brenda Franks Hale

HALE & HALE ATTORNEYS, 312 First Tennessee Bank Building, Franklin, Tennessee 37064

NAME	ADDRESS	
ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NUMBERS
Robert F. Stephenson (NAME)	Sovran Mortgage Corporation (NAME)	MAP 66K
110 Concord Drive (STREET ADDRESS OR ROUTE NUMBER)	1512 Willowlawn Drive (STREET ADDRESS)	GROUP A
Columbia, Tennessee 38401 (CITY) (STATE) (P.O. ZIP)	Richmond, VA 23230 (CITY) (STATE) (ZIP)	PARCEL 6

FOR AND CONSIDERATION OF THE SUM OF TEN DOLLARS, CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, Kenneth D. Thomas and wife, Helen L. Thomas

HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO Robert F. Stephenson and wife, Susan C. Stephenson

HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN Maury COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

A parcel of land lying and being in the Third Civil District of Maury County, Tennessee, and more particularly described as follows, to-wit:

Being Lot No. 6 of Carriage Hills Subdivision, Section I, a plat of which appears of record in Plat Book 5, page 282, Register's Office for Maury County, Tennessee.

Being the same property conveyed to Kenneth D. Thomas and wife, Helen L. Thomas by deed from Flanigan Builders, Inc. of record in Book 769, page 304, Register's Office for Maury County, Tennessee.

This conveyance is subject to the plan of Carriage Hills Subdivision, Section I, of record in Plat Book 5, page 282, Register's Office for Maury County, Tennessee; and further to restrictions of record in Book 647, page 280, Book 653, page 511, and Book 733, page 432, said Register's Office.

Maury County, State of Tennessee
Received for record the 1 day of May 1989 at 11:35 o'clock A M
Note Book 14 Pg 427 Receipt# 37031 Recording Fee 8.00
State Tax 369.60 Probate Fee .50 Total 378.10
Book [illegible] Page [illegible] Witness my hand Pamela Andrews
Register

This is improved (XX) unimproved ( ) property, known as 110 Concord Drive, Columbia, Tennessee 38401
(House Number) (Street) (P.O. Address) (City or Town) (Postal Zip)

TO HAVE AND TO HOLD the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said GRANTEES, their heir and assigns, forever; and we do covenant with the said GRANTEES that we are lawfully seized and possessed of said land in fee simple, have a good right to covey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said GRANTEES, their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Witness our hand this 28th day of April, 19 89

Kenneth D. Thomas

Helen L. Thomas

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

110 CONCORD DR	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023**	060	066K	A	006.00		000
Property Address	BK **5** PG **282** BLOCK LOT **0006** TRACT	**MAURY**	JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066K**	Updated 10/27/2022				
STEPHENSON ROBERT F	BK PG BLOCK LOT TRACT	SSD1	Dist **03**	Printed 03/17/2023				
ETUX SUSAN C	Additional Description	SSD2	Card: 1 of 1					
110 CONCORD DR	Dimensions **128.91X171.90 IRR.**	Total Land Units **1**	Page: 1 of 1					
COLUMBIA TN 38401		Deed Acres **0**						
		Calculated Acres **0**						

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**12 Brick/Wood**	Attic	**4 Full-Fin**
Heating Fuel			

Year Built **1987**	Eff Yr Built **2006**	Rooms **0**	Bedrooms **0**				
Full Baths	Half Baths	Add'l Fixtures **12**	Total Fixtures **12**				
Wood FP Stacks **1**	Openings **1**	Add'l Sty	PreFab	Add'l Sty			
Info Src **3**	Occ **0**	Rental: Src	Year **0**	Amount **0**	Sched		

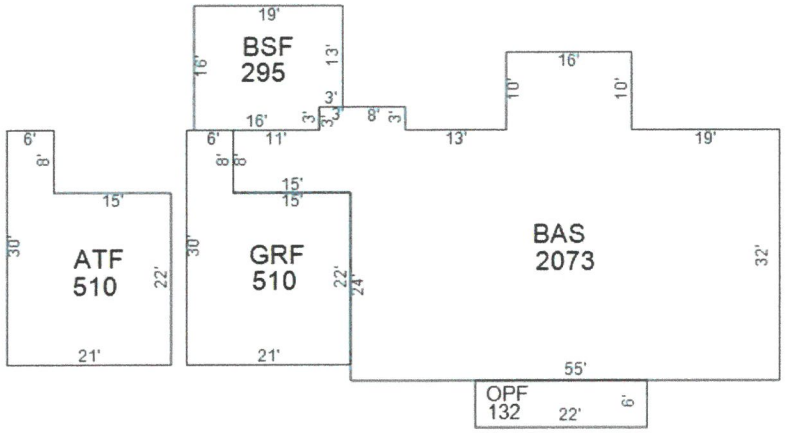
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition **Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design **0**
Depr: Physical **20**	Other Phys	Functional	External	% Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
2,073	**1.34**	**1**	**1.021**	**1.21**	**2,368**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**311,970**	**89,910**	**401,880**	**169.71**	Dwelling Factor	**1**
RCNLD	**249,580**	**71,920**	**321,500**	**135.77**	Dwelling Value	**321,500**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**2,073**			
	BSF	**295**	**100**	**113.69**	**33,540**
	OPF	**132**	**0**	**42.65**	**5,630**
	GRF	**510**	**0**	**71.06**	**36,240**
	ATF	**510**	**0**	**28.43**	**14,500**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**352,500**
TOTAL APPRAISAL	**412,500**
GREENBELT APR	
ASSESSMENT	**103,125**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**412,500**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1996**	**1996**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**
WDK	**Wood Deck**	**2012**	**2012**	**420**	**C**	**1**	**21 X 20**		**15.0952**	**AV**	**6,340**	**70**		**1**	**4,440**
GFD	**Detached Garage Fini**	**1996**	**2002**	**1,008**	**C**	**1**	**24 X 42**		**37.371**	**AV**	**37,670**	**60**		**1**	**22,600**

Total OBY Value **31,040**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**128**	**171**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
04/28/1989	**811**	**351**	**112,000**	**112,000**	**I**	**WD**	**A**	**STEPHENSON ROBERT F**
03/10/1987	**769**	**304**	**95,500**	**95,500**	**I**	**WD**	**A**	**THOMAS KENNETH D**
10/16/1986	**761**	**573**						**FLANIGAN BUILDERS**

NOTES

CHG EYB INCR LAND PRICE*R06FN*AREA CODE R06BV*06:ELECT TO 04 QUAL TO 01*R06FN
CHG AREA CODE*FN -R18: CHG QLTY PER 32 *CB -R22: CHG DRW VAL, REP WDK PER 32 *CB

Ret- Alpha & Omega

This instrument prepared by Daniel L. Murphy, Attorney at Law, 207 W. 8th St., Columbia, Tennessee.

GENERAL WARRANTY DEED

This indenture is made and entered into this the 28th day of May, 2004 between **Ralph H. Warner and wife, Betty L. Warner** (hereinafter referred to as "GRANTOR") and **Harvey P. Nicholson and wife, Carolyn D. Nicholson** (hereinafter referred to as "GRANTEE").

For and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, cash in hand paid, Grantor does by these presents, sell, transfer and convey unto grantee, the following described tract or parcel of land:

SITUATE in the Third (3rd) Civil District of Maury County, Tennessee and being more particularly described as follows:

Lot 8 of the Carriage Hills Subdivision, Section 1 as shown by a map of record in Plat Book 5 at page 282 in the Maury County, Tennessee Register of Deeds office.

Being the same property conveyed to Ralph H. Warner and wife, Betty L. Warner by instrument dated May 18, 2001 of record in Book R1540 at page 784 in the Maury County, Tennessee Register of Deeds office.

Tax Parcel #66K-A-66K-13.00

Note: The legal description set forth above is the same property as contained in Grantor's previous deed of record and no new survey is available.

To have and to hold the above-described tract or parcel of land, together with all rights, titles, interest, easements, appurtenances, and hereditaments thereto appertaining, to Grantee, its heirs and assigns forever in fee simple.

Grantor covenants with Grantee that Grantor is lawfully seized and possessed in fee simple of the above-described tract or parcel of land, that Grantor has the full, good and lawful right and authority to sell, transfer and convey the same, and that the above-described tract or parcel of land is unencumbered, except for easements and rights-of-way as shown by map of record in Plat Book 5, Page 282; covenants, conditions and restrictions as set forth in instrument of record in Book 647, Page 280 and amended in Book 653 at page 511 and Book 733 at page 432; an easement for the purpose of telephone line, in favor of A T & T, of record in Book 295, Page 292 and by an easement for the purpose of electric transmission line, in favor of U S of America, of record in Book 661, Page 46 in the Maury County, Tennessee Register of Deeds Office.

And, Grantor does warrant, and hereby binds its successors to title, to forever defend the title to the above-described tract or parcel of land against the lawful claims of all persons whatsoever, unto Grantee, its heirs and assigns.

In Witness Whereof, Grantor has set its hand(s) the date first above-written.

Ralph H. Warner

Ralph H. Warner

Betty L. Warner

Betty L. Warner

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

101 CONCORD DR Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0008** TRACT	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	013.00 PARCEL	PI	000 S/I
Ownership and Mailing Address **NICHOLSON HARVEY P ETUX** **CAROLYN D** **101 CONCORD DR** **COLUMBIA TN 38401**	Alt Subdiv BK PG BLOCK LOT TRACT Additional Description Dimensions **141.73X170 IRR.**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066K** Dist **03**	Updated 10/27/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1993**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **0**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

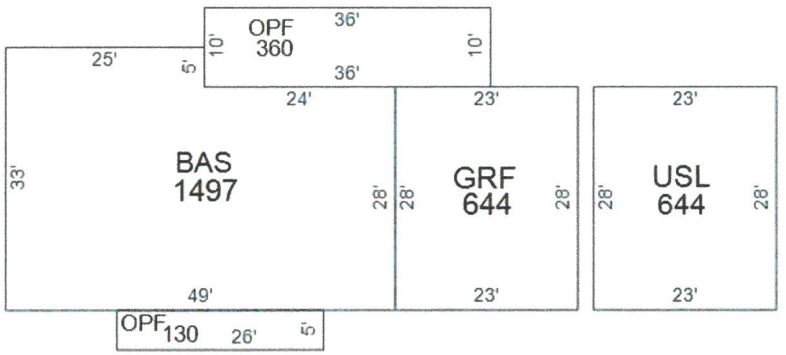
Foundation	**02**	**Continuous Footing**	Floor Finish	**11**	**Carpet Combination**
Floor System	**04**	**Wood W/ Sub Floor**	Interior Finish	**07**	**Drywall**
Party Wall	**00**	**None**	Paint/Decor	**04**	**Above Average**
Struct. Frame	**00**	**None**	Bath Tile	**00**	**None**
Roof Framing	**02**	**Gable/Hip**	Electrical	**04**	**Above Average**
Roof Cov/Deck	**03**	**Composition Shingle**	Shape	**02**	**L-Shaped**
Cab/Millwork	**04**	**Above Average**			

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,497	**.998**	**1**	**1**	**1.21**	**1,690**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**222,110**	**94,110**	**316,220**	**187.11**	Dwelling Factor	**1**
RCNLD	**177,690**	**75,290**	**252,980**	**149.69**	Dwelling Value	**252,980**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,497**			
	OPF	**130**	**0**	**42.62**	**5,540**
	OPF	**360**	**0**	**42.64**	**15,350**
	GRF	**644**	**0**	**71.06**	**45,760**
	USL	**644**	**30**	**42.64**	**27,460**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**263,100**
TOTAL APPRAISAL	**323,100**
GREENBELT APR	
ASSESSMENT	**80,775**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**323,100**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**1993**	**1993**	**1**	**C**	**1**			**2000**	**UN**	**2,000**	**100**		**1**	**2,000**
GUD	**Detached Garage Unfi**	**1995**	**1995**	**480**	**C**	**1**	**20X24**		**36.6667**	**AV**	**17,600**	**46**		**1**	**8,100**

Total OBY Value **10,100**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**141**	**170**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/28/2004	**R1801**	**273**	**145,000**	**145,000**	**I**	**WD**	**A**	**NICHOLSON HARVEY P ETUX**
05/18/2001	**R1540**	**784**	**137,500**	**137,500**	**I**	**WD**	**A**	**WARNER RALPH H ETUX**
12/15/1999	**R1463**	**855**	**134,500**	**134,500**	**I**	**WD**	**A**	**PARSONS DAVID I ETUX**
02/15/1995	**1245**	**379**	**111,550**	**111,550**	**I**	**WD**	**A**	**CHEEK WILLIAM L SR**

NOTES

QUAL TO 01 DELETE WD DECK INCR LAND PRICE & ADD OPF*R06FN
AREA CODE R06BV*CHG AREA CODE*FN*CHG EYB & DRWY R10/32*JG*
CHG EYB*R10/42*FN
R18: CHG QLTY PER 32 *CB

BK/PG: R2373/191-192
16006695

2 PGS:AL-WARRANTY DEED	
SUSIE BATCH: 173060	05/25/2016 - 12:55 PM
VALUE	230000.00
MORTGAGE TAX	0.00
TRANSFER TAX	851.00
RECORDING FEE	10.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	864.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

FILE

Prepared by:
Security Title & Escrow Co., LLC
Columbia, Tennessee 38402-1431

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between **Jacob M. Mann and wife, Melissa A. Mann,** FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and **Amy B. Vaught and husband, Joseph R. Vaught,** SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

WITNESSETH:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

Located in the Third (3rd) Civil District of Maury County, Tennessee, being Lot 31, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.

Being the same property conveyed to Jacob M. Mann and wife, Melissa A. Mann by deed dated April 30, 2007 and recorded in Book R1987, Page 224, Register's Office of Maury County, Tennessee.

Map & Parcel 66K-A-17

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, title, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that he is lawfully seized and possessed of said real estate, that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except for easements and/or restrictions, if any, of record in the **MAURY** County, Tennessee Register of Deeds office.

FIRST PARTY FURTHER COVENANTS to forever warrant and defend the title to said real estate unto SECOND PARTY against the lawful claims of all persons whomsoever.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

208 CARTERS CREEK PIKE (Property Address)	Subdivision **CARRIAGE HILLS SEC 1**	**TAX YEAR 2023 MAURY**	060	066K	A	017.00	000
	BK **5** PG **282** BLOCK LOT **31** TRACT		JUR	CONTROL MAP	GROUP	PARCEL	PI S/I
Ownership and Mailing Address	Alt Subdiv	City **60156 Columbia**	Map **066K**		Updated 10/27/2022		
VAUGHT AMY B ETVIR JOSEPH R	BK PG BLOCK LOT TRACT	SSD1	Dist **03**		Printed 03/17/2023		
208 CARTERS CREEK PIKE	Additional Description	SSD2					
COLUMBIA TN 38401	Dimensions **120X493.62 IRR**	Total Land Units **1** / Deed Acres **0** / Calculated Acres **0**	Card: 1 of 1				
			Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**2 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**11 Common Brick**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks		Openings		Add'l Sty		PreFab	Add'l Sty
Info Src **0**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

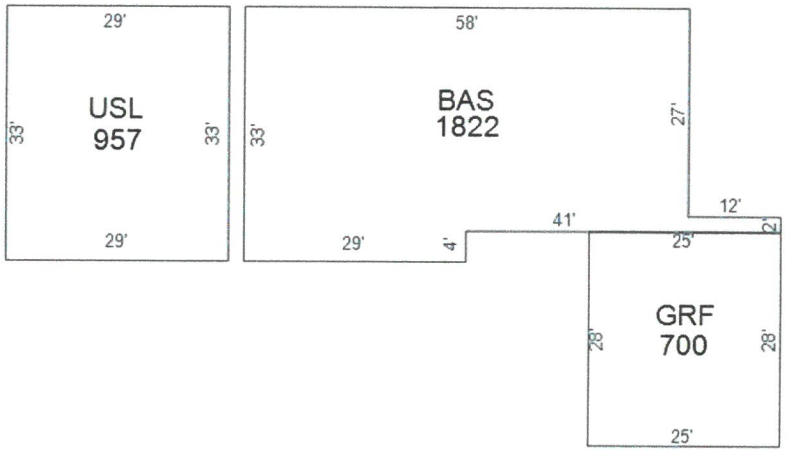
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**01 Rectangular Design**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,822	**1.192**	**1**	**1.07**	**1.21**	**2,109**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**282,080**	**90,550**	**372,630**	**176.69**	Dwelling Factor	**1**
RCNLD	**225,660**	**72,440**	**298,100**	**141.35**	Dwelling Value	**298,100**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,822**			
	GRF	**700**	**0**	**71.06**	**49,740**
	USL	**957**	**30**	**42.64**	**40,810**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**303,800**
TOTAL APPRAISAL	**363,800**
GREENBELT APR	
ASSESSMENT	**90,950**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**363,800**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
DRW	**Driveway**	**2000**	**2000**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
WDK	**Wood Deck**	**2000**	**2000**	**144**	**C**	**1**	**12X12**		**20.8333**	**AV**	**3,000**	**34**		**1**	**1,020**
CUD	**Detached Carport Unf**	**1998**	**1998**	**440**	**D**	**1**	**20X22**		**9.3182**	**FR**	**4,100**	**40**		**1**	**1,640**

Total OBY Value **5,660**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**33**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**120**	**493**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
05/20/2016	**R2373**	**191**	**230,000**	**230,000**	**I**	**WD**	**A**	**VAUGHT AMY B ETVIR JOSEPH R**
04/30/2007	**R1982**	**224**	**184,900**	**184,900**	**I**	**WD**	**A**	**MANN JACOB M ETUX**
04/03/2001	**R1531**	**503**	**146,500**	**146,500**	**I**	**WD**	**A**	**STERNENBERG FREDERICK K**
02/10/1987	**767**	**567**	**17,500**	**17,500**	**V**	**WD**	**A**	**MOORES DANIEL L**

NOTES

INCR LAND UNIT PRICE PER 32*FN06VI
INCR LAND PRICE*R06FN*AREA CODE R06BV*JG*CHG AREA CODE*FN
R18: CHG EYB, KITCHEN REMODEL PER 32 *CB - R18: CHG QLTY, CHG WDK EYB PER 32 *CB

PREPARED BY:
DAVID A. HUGHES
ATTORNEY AT LAW
COLUMBIA, TENN.

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between Charles O. Morton and wife, Judy L. Morton, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and George W. Waggoner, Jr. and wife, Deborah K. Waggoner, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys unto SECOND PARTY the following described property:

> Located in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot No. 33, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.
>
> Being the same property conveyed to FIRST PARTY herein by deed of record in Book 783, Page 188, Register's Office for Maury County, Tennessee.
>
> Map 66K, Group A, Parcel 19.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS with SECOND PARTY that they are lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered except as follows: current year's property taxes which will be prorated as of the date of this deed and assumed by SECOND PARTY; building restrictions of record in Book 647, Page 280, as amended in Book 653, Page 511, and Book 733, Page 432, Register's Office of Maury County, Tennessee; subject to a 10 ft. gas line easement, for the benefit of United Cities Gas Company, Inc., running across subject property, as shown by instrument of

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

212 CARTERS CREEK PIKE
Property Address

Ownership and Mailing Address
WAGGONER GEORGE W JR
ETUX DEBORAH K
212 CARTERS CREEK PIKE
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **0033** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **125X361.10 IRR.**

TAX YEAR 2023
MAURY

060	066K	A	019.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **0**

Map **066F** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**12 Brick/Wood**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**9**	Total Fixtures	**9**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

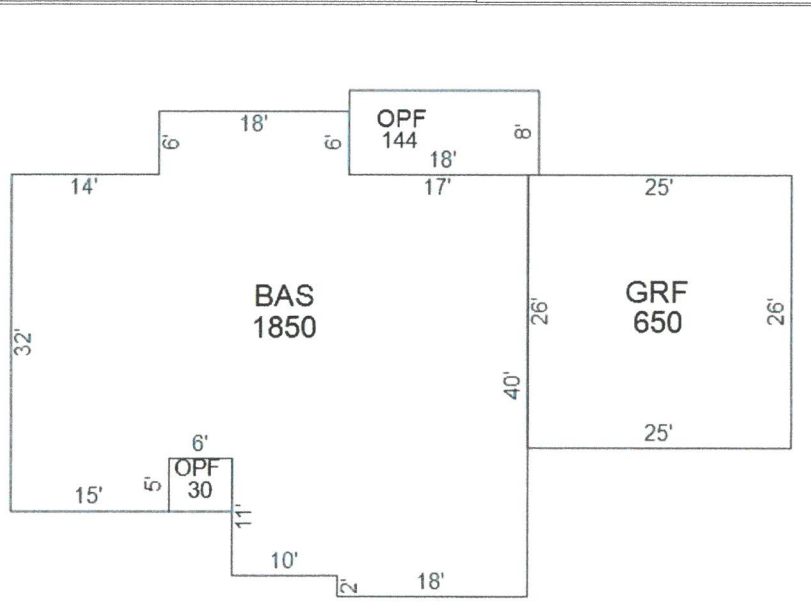
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**04 Irregular Shape**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,850	**1.208**	**1**	**1.021**	**1.21**	**1,850**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**277,680**	**53,610**	**331,290**	**179.08**	Dwelling Factor	**1**
RCNLD	**222,140**	**42,880**	**265,020**	**143.25**	Dwelling Value	**265,020**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,850**			
	OPF	**30**	**0**	**42.67**	**1,280**
	OPF	**144**	**0**	**42.64**	**6,140**
	GRF	**650**	**0**	**71.06**	**46,190**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**269,500**
TOTAL APPRAISAL	**329,500**
GREENBELT APR	
ASSESSMENT	**82,375**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**329,500**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **01 Public / Public**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **01/01/2006** By **04**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1987**	**1987**	**252**	**C**	**1**	**21X12**		**18.8095**	**AV**	**4,740**	**10**		**1**	**470**
DRW	**Driveway**	**1987**	**1987**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**

Total OBY Value **4,470**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value Class
1	**U**	**22**	**01**		**125**	**361**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**
					Totals:		**1**										**60,000**

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
07/29/1994	**1228**	**874**	**87,120**	**87,120**	**I**	**WD**	**A**	**WAGGONER GEORGE W JR**
11/23/1987	**783**	**188**	**92,300**	**92,300**	**I**	**WD**	**D**	**MORTON CHARLES O**
08/31/1987	**777**	**601**	**78,651**	**78,651**	**I**	**AO**	**D**	**BAILEY MORTGAGE COMPANY**
01/21/1987	**767**	**262**	**28,000**	**28,000**	**V**	**WD**	**D**	**FLANIGAN BLDRS INC**

NOTES

INCR LAND UNIT PRICE PER 32*FN06VI*CHG EYB*R06FN*AREA CODE R06BV*CHG AREA*FN*CHG EYB & DRWY R10/32*JG*CHG EYB*R10/42*FN R14:32 INC LND*LDS - R18: CHG QLTY PER 32 *CB - R22: CHG DRW VAL PER 32 *CB

PREPARED BY:
WILLIAM A. GRAHAM
ATTORNEY AT LAW
COLUMBIA, TENN.

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between ROBERT H. PLUMHOF and wife, LIKANAH PLUMHOF, FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and PAT O. COLEMAN, JR. and wife, BRENDA M. COLEMAN, as tenants by the entirety, SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

W I T N E S S E T H:

For the consideration of TEN DOLLARS ($10.00), and other good and valuable consid- tions, the receipt of all of which is here OWNER REQUESTS NO PUBLICATION OF THIS DOCUMENT 3T PARTY conveys to SECOND PARTY the following

Loca d) Civil District of Maury Coun eing Lot No. 34, Carriage Hills n 1, as shown on plat of recor , Page 282 of the Register's Offic of Maury County, Tennessee.

Being the same property conveyed to FIRST PARTY by deed recorded in Book 787, Page 57 of said Register's Office.

This property is shown on the tax records of Maury County, Tennessee as Map 66K, Group A, Parcel 20.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY, together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS that it is lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered, except for current year's property taxes, building restrictions recorded in Book 647, Page 280, as amended in Book 653, Page 511 and Book 733, Page 342, and a 10' wide pipeline easement granted to United Cities Gas Co., Inc. as described in Book 765, Page 696 of said Register's Office.

FIRST PARTY FURTHER COVENANTS to forever warrant and defend the title to the above described property unto SECOND PARTY against the lawful claims of all persons whomsoever.

MAURY COUNTY, STATE OF TENNESSEE
Received for record this 12 of Sept 1990 at 9:45 o'clock A M
Note Book 12 Page 477 Receipt # 56253 Recording Fee 12.00
State Tax 356.40 Probate Fee 1.00 Total 369.40
Book ____ Page ____ Witness my Hand,
MAURY COUNTY REGISTER OF DEEDS

I hereby certify that I registered the above instrument this 20 day of Sept 1990
P. Warren White
MAURY COUNTY REGISTER OF DEEDS

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

214 CARTERS CREEK PIKE Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0034** TRACT Alt Subdiv BK PG BLOCK LOT TRACT	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	020.00 PARCEL	PI	000 S/I
Ownership and Mailing Address **COLEMAN PAT O JR ETUX** **BRENDA M** **214 CARTERS CREEK PIKE** **COLUMBIA TN 38401**	Additional Description Dimensions **154.78X292.08 IRR.**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066F** Dist **03**	Updated 10/27/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**04 Siding Average**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2006**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**8**	Total Fixtures	**8**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **3**	Occ **1**	Rental: Src		Year **0**		Amount **0**	Sched

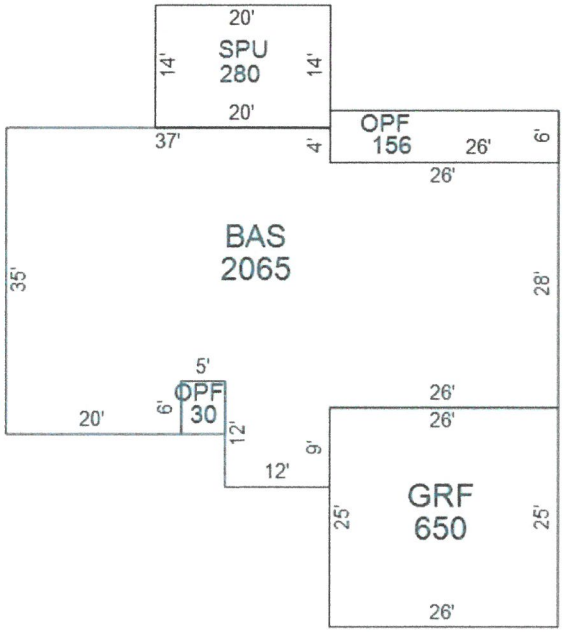
Foundation	**02 Continuous Footing**	Floor Finish	**11 Carpet Combination**
Floor System	**04 Wood W/ Sub Floor**	Interior Finish	**07 Drywall**
Party Wall	**00 None**	Paint/Decor	**04 Above Average**
Struct. Frame	**00 None**	Bath Tile	**00 None**
Roof Framing	**02 Gable/Hip**	Electrical	**04 Above Average**
Roof Cov/Deck	**03 Composition Shingle**	Shape	**02 L-Shaped**
Cab/Millwork	**04 Above Average**		

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

Factors								
GFLA	Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
2,065	**1.335**	**1**	**1**	**1.21**	**2,065**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**298,190**	**66,060**	**364,250**	**176.39**	Dwelling Factor	**1**
RCNLD	**238,550**	**52,840**	**291,390**	**141.11**	Dwelling Value	**291,390**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**2,065**			
	OPF	**30**	**0**	**42.67**	**1,280**
	GRF	**650**	**0**	**71.06**	**46,190**
	OPF	**156**	**0**	**42.63**	**6,650**
	SPU	**280**	**0**	**42.64**	**11,940**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**296,300**
TOTAL APPRAISAL	**356,300**
GREENBELT APR	
ASSESSMENT	**89,075**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**356,300**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
WDK	**Wood Deck**	**1987**	**2000**	**350**	**C**	**1**	**14 X 25**		**16.3143**	**AV**	**5,710**	**34**		**1**	**1,940**
DRW	**Driveway**	**1987**	**1987**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**

Total OBY Value **4,940**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**154**	**292**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
09/19/1990	**845**	**355**	**108,000**	**108,000**	**I**	**WD**	**A**	**COLEMAN PAT O JR**
02/03/1988	**787**	**57**	**101,000**	**101,000**	**I**	**WD**	**I**	**PLUMHOF ROBERT H**
08/31/1987	**777**	**603**	**73,338**	**73,338**	**I**	**WD**	**D**	**BAILEY MORTGAGE COMPANY**
01/21/1987	**767**	**262**	**28,000**	**28,000**	**V**	**WD**	**D**	**FLANIGAN BLDRS INC**

NOTES

INCR LAND PRICE*R06FN*AREA CODE R06BV*CHG AREA CODE*FN
CHG EYB & CHG OPF TO SPU R10/32*JG*CHG EYB*R10/42*FN
15:32 ADD SPU/OPF/CHG OBY'S*LDS
R18: CHG QLTY PER 32 *CB

BK/PG:R2832/618-620
22007049

3 PGS : WARRANTY DEED	
BECKY BUCHANAN 274899 - 22007049	
04/07/2022 - 08:13 AM	
VALUE	350000.00
MORTGAGE TAX	0.00
TRANSFER TAX	1295.00
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1313.00

STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

This Instrument Prepared By:
Thomas M. Hutto, Esq.
Dale, Hutto & Lyle, PLLC
805 South Garden Street
P.O. Box 1017
Columbia, TN 38402-1017

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture entered into between **MARVIN JEROME SEVERSON, JR., AND WIFE, HOPE SEVERSON,** FIRST PARTY, which expression shall include heirs, assigns and personal representatives, and, **PERRY MICHAEL LANGLEY AND KATHY LANGLEY, HUSBAND AND WIFE, AS TENANTS BY ENTIRETY,** SECOND PARTY, which expression shall include heirs, assigns and personal representatives.

WITNESSETH:

For the consideration of TEN DOLLARS ($10.00), and other good and valuable considerations, the receipt of all of which is hereby acknowledged, FIRST PARTY conveys to SECOND PARTY the following described property:

Located in the Third (3rd) Civil District of Maury County, Tennessee, more particularly described as follows: Lot 32, Carriage Hills Subdivision, Section 1, as shown on plat of record in Plat Book 5, Page 282, ROMCT.

Being the same property conveyed to Marvin Jerome Severson, Jr and wife, Hope Severson by deed recorded on June 30, 1993 in Book 1187, Page 83, in the Maury County Register of Deeds.

This property is shown on the tax records of Maury County, Tennessee as Map 066K, Group A, Parcel 018.00.

Legal description obtained from prior deed.

TO HAVE AND TO HOLD said real estate unto SECOND PARTY, together with all rights, titles, easements and appurtenances thereunto belonging, forever.

FIRST PARTY COVENANTS that it is lawfully seized and possessed of said real estate and that FIRST PARTY has a good and lawful right to convey the same, and that it is unencumbered, except for current year's property taxes; gas pipeline easement conveyed to United Cities Gas Company in Deed Book 765, Page 696, Register's Office of Maury County, Tennessee; all matters shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee; building restrictions of record in Book 647, Page 280, as amended in Book 653, Page 511 and Book 733, Page 432, Register's Office of Maury County, Tennessee; and any other matters of record.

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

210 CARTERS CREEK PIKE Property Address	Subdivision **CARRIAGE HILLS SEC 1** BK **5** PG **282** BLOCK LOT **0032** TRACT Alt Subdiv BK PG BLOCK LOT TRACT	**TAX YEAR 2023** **MAURY**	060 JUR	066K CONTROL MAP	A GROUP	018.00 PARCEL	PI	000 S/I
Ownership and Mailing Address **LANGLEY PERRY MICHAEL ETUX KATHY LANGLEY** **210 CARTERS CREEK PIKE** **COLUMBIA TN 38401**	Additional Description Dimensions **120X427.36 IRR.**	City **60156 Columbia** SSD1 SSD2 Total Land Units **1** Deed Acres **0** Calculated Acres **0**	Map **066F** Dist **03**	Updated 07/06/2022 Printed 03/17/2023 Card: 1 of 1 Page: 1 of 1				

DWELLING DATA

Improv Type	**01 Single Family**	Lower Level	**1 No Basement**
Stories	**1 Story Frame**	Heating/Air	**8 Heat And Cooling Pkg**
Exterior Wall	**05 Siding Above Avg**	Attic	
Heating Fuel			

Year Built	**1987**	Eff Yr Built	**2002**	Rooms	**0**	Bedrooms	**0**
Full Baths		Half Baths		Add'l Fixtures	**6**	Total Fixtures	**6**
Wood FP Stacks	**1**	Openings	**1**	Add'l Sty		PreFab	Add'l Sty
Info Src **0**	Occ **0**	Rental: Src		Year **0**		Amount **0**	Sched

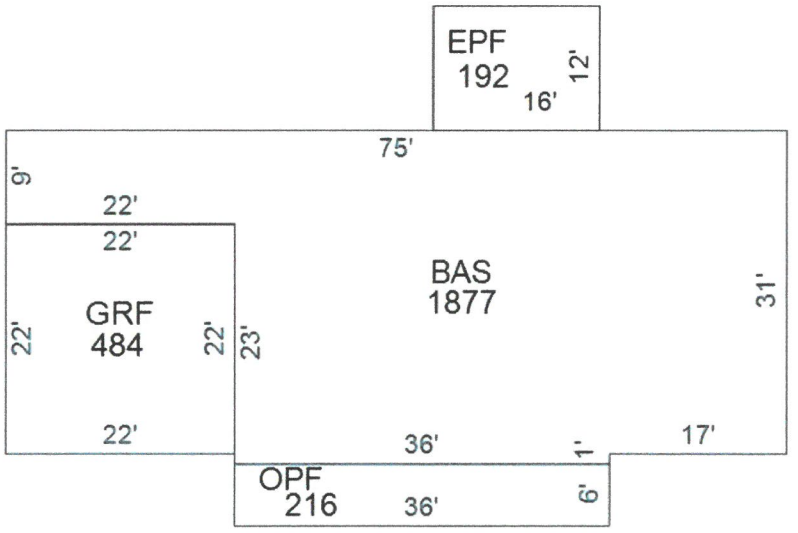
Foundation	**02**	**Continuous Footing**	Floor Finish	**11**	**Carpet Combination**
Floor System	**04**	**Wood W/ Sub Floor**	Interior Finish	**07**	**Drywall**
Party Wall	**00**	**None**	Paint/Decor	**04**	**Above Average**
Struct. Frame	**00**	**None**	Bath Tile	**00**	**None**
Roof Framing	**02**	**Gable/Hip**	Electrical	**04**	**Above Average**
Roof Cov/Deck	**03**	**Composition Shingle**	Shape	**01**	**Rectangular Design**
Cab/Millwork	**04**	**Above Average**			

Quality	**2 : Above Average**	Condition	**Average**	Class:	
Prorate	Date	Factor	% Comp	Cost & Design	**0**
Depr: Physical	**20**	Other Phys	Functional	External	% Good **80**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,877	**1.224**	**1**	**1.021**	**1.21**	**1,877**	**2022**	**20**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete	
RCN	**276,130**	**65,430**	**341,560**	**181.97**	Dwelling Factor	**1**
RCNLD	**220,900**	**52,340**	**273,240**	**145.57**	Dwelling Value	**273,240**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,877**			
	OPF	**216**	**0**	**42.64**	**9,210**
	GRF	**484**	**0**	**71.05**	**34,390**
	EPF	**192**	**0**	**113.70**	**21,830**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**278,900**
TOTAL APPRAISAL	**338,900**
GREENBELT APR	
ASSESSMENT	**84,725**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**338,900**
INCOME	
MARKET	

PARCEL DATA

NBHD	**C64**
Review Flag	
Living Units	
Water/Sewer	**01 Public / Public**
Electricity	**01 Public**
Gas	**00 None**
Topo	**0 Level**
Road Type	**3 Paved**
Delete Next Year	
Greenbelt Review	**N**
Land Apr Date	**01/01/2006 By 04**
# Improvements	**1**
# Mobile Homes	**0**
NH Trend	**0 STABLE**
Other	
Land Use Code	**11**
Zoning	

GREENBELT

Year	Recorded
App#	Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
PTO	**Patio**	**1989**	**1989**	**1**	**C**	**1**			**300**	**UN**	**300**	**100**		**1**	**300**
DRW	**Driveway**	**1995**	**1995**	**1**	**C**	**1**			**4000**	**UN**	**4,000**	**100**		**1**	**4,000**
POL	**Swimming Pool**	**2005**	**2005**	**240**	**E**	**1**	**12X20**		**57.75**	**PR**	**13,860**	**10**		**1**	**1,390**

Total OBY Value **5,690**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**32**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**		**120**	**427**	**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
					Totals:		**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
04/06/2022	**R2832**	**618**	**350,000**	**350,000**	**I**	**WD**	**A**	**LANGLEY PERRY MICHAEL ETUX KATH**
06/25/1993	**1187**	**83**	**112,000**	**112,000**	**I**	**WD**	**A**	**SEVERSON MARVIN JEROME JR**
12/01/1987	**783**	**322**	**87,500**	**87,500**	**I**	**WD**	**D**	**STINSON ROBERT MARK**
07/23/1987	**775**	**585**	**16,500**	**16,500**	**V**	**WD**	**A**	**PERRY WILLIAM R**

NOTES

INCR LAND UNIT PRICE PER 32*CHG QUAL INCR LAND*R06FN
AREA CODE R06BV*CHG AREA CODE*FN*CHG EYB & DRWY R10/32*JG*
CHG EYB*R10/42*FN - R18: CHG QLTY, CHG POL EYB PER 32 *CB
R22: CHG PRT OF BAS TO EPF, CHG DRW VAL PER 32 *CB

BK/PG:R2792/156-159
21025402

4 PGS : WARRANTY DEED	
BECKY BUCHANAN 262836 - 21025402	
11/19/2021 - 01:47 PM	
VALUE	530000.00
MORTGAGE TAX	0.00
TRANSFER TAX	1961.00
RECORDING FEE	20.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	1984.00

STATE of TENNESSEE, MAURY COUNTY

JOHN FLEMING
REGISTER OF DEEDS

WARRANTY DEED

STATE OF TENNESSEE
COUNTY OF Williamson

THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $530,000.00.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 17TH DAY OF NOVEMBER, 2021.

Notary Public

MY COMMISSION EXPIRES:
(AFFIX SEAL)

MEGAN DUPRIEST
TENNESSEE NOTARY PUBLIC
My Comm Exp. 5/24/2025
COUNTY OF WILLIAMSON

THIS INSTRUMENT WAS PREPARED BY
Land Title South, Inc. 3326 Aspen Grove Drive, Sutie 400, Franklin, TN 37067

File No.: 21-CD-740

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NO.(S)
Ronnie David Smith and Kelly Todd Smith	New Owners	Tax Map: 066K-A-016.00 and Parcel ID:
(NAME) 206 Carters Creek Pike	(NAME)	
(ADDRESS) Columbia, TN 38401	(ADDRESS)	
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

FOR AND IN CONSIDERATION OF THE SUM OF Five Hundred Thirty Thousand Dollars And No/100 Dollars ($530,000.00), CASH IN HAND PAID BY THE HEREINAFTER NAMED GRANTEES, AND OTHER GOOD AND VALUABLE CONSIDERATIONS, THE RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, WE, DOUGLAS W. WILLIAMS AND ROSEANN WILLIAMS, HEREINAFTER CALLED THE GRANTORS, HAVE BARGAINED AND SOLD, AND BY THESE PRESENTS DO TRANSFER AND CONVEY UNTO RONNIE SMITH AND KELLY SMITH, husband and wife, HEREINAFTER CALLED THE GRANTEES, THEIR HEIRS AND ASSIGNS, A CERTAIN TRACT OR PARCEL OF LAND IN MAURY COUNTY, STATE OF TENNESSEE, DESCRIBED AS FOLLOWS, TO-WIT:

Lot 28:

LOCATED in the Third (3rd) Civil District of Maury County, Tennessee, and being Lot 28, Carriage Hills Subdivision, Section 1 as shown on plat of record in Plat Book 5, Page 282, Register's Office of Maury County, Tennessee.

Being the same property conveyed to Douglas W. Williams and wife, Roseann Williams, as tenants by the entirety, by Warranty Deed, from John W. Pilkinton, dated April 10, 2013, recorded April 12, 2013, of

Property Type: **00 Residential**

ASSESSOR OF PROPERTY - PROPERTY RECORD CARD

206 CARTERS CREEK PIKE
Property Address

Ownership and Mailing Address
SMITH RONNIE ETUX KELLY SMITH
206 CARTERS CREEK PIKE
COLUMBIA TN 38401

Subdivision **CARRIAGE HILLS SEC 1**
BK **5** PG **282** BLOCK LOT **28-30** TRACT
Alt Subdiv
BK PG BLOCK LOT TRACT
Additional Description
Dimensions **171.31X493.62 IRR.**

TAX YEAR 2023
MAURY

060	066K	A	016.00		000
JUR	CONTROL MAP	GROUP	PARCEL	PI	S/I

City **60156 Columbia**
SSD1
SSD2
Total Land Units **1**
Deed Acres **0**
Calculated Acres **3.4**

Map **066K** Updated 10/27/2022
Dist **03** Printed 03/17/2023
Card: 1 of 1
Page: 1 of 1

DWELLING DATA

Improv Type **01 Single Family** Lower Level **1 No Basement**
Stories **2 Story Frame** Heating/Air **8 Heat And Cooling Pkg**
Exterior Wall **11 Common Brick** Attic
Heating Fuel

Year Built	Eff Yr Built	Rooms	Bedrooms
1993	**2006**	**0**	**0**

Full Baths	Half Baths	Add'l Fixtures	Total Fixtures
		7	**7**

Wood FP Stacks	Openings	Add'l Sty	PreFab	Add'l Sty

Info Src	Occ	Rental: Src	Year	Amount	Sched
2	**1**		**0**	**0**	

Foundation **02 Continuous Footing** Floor Finish **11 Carpet Combination**
Floor System **04 Wood W/ Sub Floor** Interior Finish **07 Drywall**
Party Wall **00 None** Paint/Decor **04 Above Average**
Struct. Frame **00 None** Bath Tile **00 None**
Roof Framing **02 Gable/Hip** Electrical **04 Above Average**
Roof Cov/Deck **03 Composition Shingle** Shape **01 Rectangular Design**
Cab/Millwork **04 Above Average**

Quality **1 : Average** Condition **Average** Class:

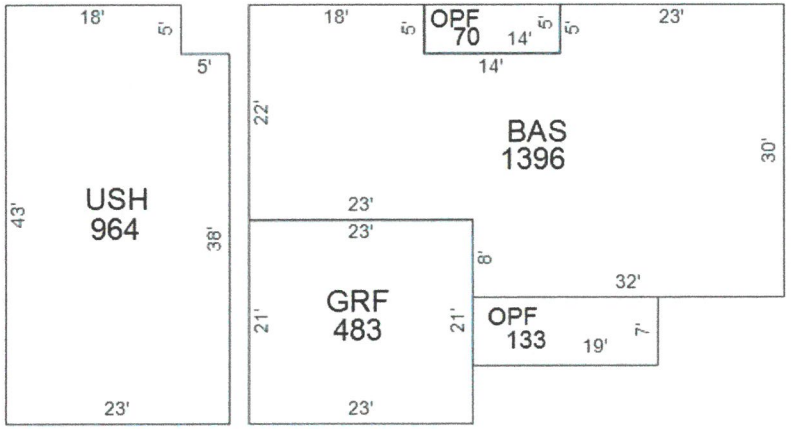
Prorate	Date	Factor	% Comp	Cost & Design
				0

Depr: Physical	Other Phys	Functional	External	% Good
16				**84**

GFLA	Factors: Area	Story	Const	Grade	SFLA	Depr Yr	Eff Age	County Factor
1,396	**.937**	**1**	**1.07**	**1**	**1,974**	**2022**	**16**	**1.00**

	Base Dwelling	Add'l Areas	Total	$/SqFt	% Complete
RCN	**181,340**	**92,150**	**273,490**	**138.55**	Dwelling Factor **1**
RCNLD	**152,330**	**77,410**	**229,740**	**116.38**	Dwelling Value **229,740**

AREAS: Lower Floor	First & Above	Area	% SFLA	Rate	RCN
	BAS	**1,396**			
	OPF	**70**	**0**	**35.29**	**2,470**
	OPF	**133**	**0**	**35.26**	**4,690**
	GRF	**483**	**0**	**58.74**	**28,370**
	USH	**964**	**60**	**58.73**	**56,620**



APPRAISED VALUES

LAND	**60,000**
IMPROVEMENTS	**239,000**
TOTAL APPRAISAL	**299,000**
GREENBELT APR	
ASSESSMENT	**74,750**
ASSESSED @	**25%**
APPROACH	**COST VALUE**

Value Correlation

	Value
COST	**299,000**
INCOME	
MARKET	

PARCEL DATA

NBHD **C64**
Review Flag
Living Units
Water/Sewer **01 Public / Public**
Electricity **01 Public**
Gas **00 None**
Topo **0 Level**
Road Type **3 Paved**
Delete Next Year
Greenbelt Review **N**
Land Apr Date **07/14/2014** By **32**
Improvements **1**
Mobile Homes **0**
NH Trend **0 STABLE**
Other
Land Use Code **11**
Zoning

GREENBELT

Year Recorded
App# Book/Pg

OUTBUILDINGS and YARD ITEMS

Code	Description	Yr Blt	Eff Yr	Area	Grade	Units	Add'l Description	Class	Rate	Cnd	RCN	%Good	Prort	Adj Fact	Value
GUD	**Detached Garage Unfi**	**1995**	**1995**	**280**	**C**	**1**	**14X20**		**44.6071**	**AV**	**12,490**	**46**		**1**	**5,750**
DRW	**Driveway**	**2000**	**2000**	**1**	**C**	**1**			**3000**	**UN**	**3,000**	**100**		**1**	**3,000**
PTO	**Patio**	**2000**	**2000**	**144**	**C**	**1**	**12X12**		**9.5833**	**AV**	**1,380**	**34**		**1**	**470**

Total OBY Value **9,220**

ENTRANCES

Date	Code	ID
01/01/2002	**01 Bldg Apr**	**34**

BUILDING PERMITS

Date	Type	Status	Last Visit

MARKET LAND

#	Type	Table	Code	Acc	Front	Depth	Units	Rate	Infl	Fld	Topo	Loc	Size	Mkt	Dep	Adj Rate	Value	Class
1	**U**	**22**	**01**				**1**	**60,000.00**							**100**	**60,000.00**	**60,000**	
						Totals:	**1**										**60,000**	

AGRICULTURAL / GREENBELT LAND

#	Mkt Line	Use Type	Soil Type	Access	Acres	Rate	Use Value
				Totals:			

SALES

Date	Book	Page	Price	Adj Price	V/I	Instr	A/R	Owner
11/17/2021	**R2792**	**156**	**530,000**	**530,000**	**I**	**WD**	**N**	**SMITH RONNIE ETUX KELLY SMITH**
04/10/2013	**R2230**	**443**						**WILLIAMS DOUGLAS WAYNE ETUX ROS**
06/23/2003	**R1721**	**765**						**WILLIAMS DOUG ETUX ROSEANN**
04/28/2000	**R1482**	**171**	**165,000**	**165,000**	**I**	**WD**	**A**	**WILLIAMS DOUG ETUX**

NOTES

CHG QUAL TO 01 INCR LAND PRICE*R06FN*AREA CODE R06BV*
CHG AREA CODE*FN*CHG EYB & PATIO EYB R10/32*JG
CHG EYB*R10/42*FN
2015:DEL 66K-A-14,15 COMBINE W/THIS PRCL PER OWNER*PB

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Carriage Hills Subdivision		
	TAX MAP:	GROUP:	PARCEL:
SUMMARY OF NATURE OF REQUEST AND WORK	Rezone from CB-3 to CB3L Carriage Hills is Suburban Neighborhood		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☑ Rezoning ☐ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☑ Written Legal Description copy ☑ Requested Zone Listed ☑ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☐ Project Name (include Sections & Phases) _____ ☐ Total Number of Lots _____ ☐ Total acreage _____

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	SUSAN STEPHENSON	PHONE	931-446-1337
ADDRESS	110 CONCORD DRIVE	EMAIL	sueintenn@gmail.com

PROPERTY OWNER NAME	CARRIAGE HILLS SUBDIVISION	PHONE	—
ADDRESS	—	EMAIL	—

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

SUSAN STEPHENSON		3/20/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
CARRIAGE HILLS SUBDIVISION	—	—
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

(1)

Results

Click rows to view property details

Displaying **1 - 50 of 59**

	Parcel ID▲	Owner Name	Address	PT	Appraisal	Jur	Future	Taxyr
☐	066F A 00100 000	SECREST CRISTI	1104 DOVER DR	00	$283,700	060	N	2023
☐	066F A 00200 000	EPPS ALISON ETVIR ANDREW...	1004 GRAYSON PL	00	$304,200	060	N	2023
☐	066F A 00300 000	TYREE HUNTER L ETUX LAUR...	1008 GRAYSON PL	00	$282,600	060	N	2023
☐	066F A 00400 000	PARKS ROBERT S	GRAYSON PL	00	$60,000	060	N	2023
☐	066F A 00500 000	PARKS ROBERT S	GRAYSON PL	00	$60,000	060	N	2023
☐	066F A 00600 000	ANDREWS WESLEY D ETUX ST...	1108 DOVER DR	00	$308,100	060	N	2023
☐	066F A 00700 000	DO SON MINH	1112 DOVER DR	00	$321,000	060	N	2023
☐	066F A 00800 000	GOODNESS DAVID FRANCIS	1116 DOVER DR	00	$307,400	060	N	2023
☐	066F A 00900 000	INMAN BENJAMIN F JR	1118 DOVER DR	00	$374,600	060	N	2023
☐	066F A 01000 000	COSTA MIA & JOSE COSTA	104 SAXON CT	00	$237,500	060	N	2023
☐	066F A 01100 000	YRABIEN JOSE A ETUX JANE...	108 SAXON CT	00	$313,400	060	N	2023
☐	066F A 01200 000	FORD ARBIE ETUX	112 SAXON CT	00	$265,100	060	N	2023
☐	066F A 01300 000	EDWARDS GERARD M & MARLE...	116 SAXON CT	00	$250,400	060	N	2023
☐	066F A 01400 000	BLALOCK BRANDON CODY	120 SAXON CT	00	$308,800	060	N	2023
☐	066F A 01500 000	LEWIS CAROLINE	124 SAXON CT	00	$264,400	060	N	2023
☐	066F A 01600 000	LUCERO PATRICK ETUX CAROL	1125 DOVER DR	00	$313,500	060	N	2023
☐	066F A 01700 000	GARCIA RAFAEL DE JESUS &	1121 DOVER DR	00	$285,000	060	N	2023
☐	066F A 01800 000	DOSCHER ALAN J ETUX ASHL...	1117 DOVER DR	00	$276,500	060	N	2023
☐	066F A 01900 000	IMBURGIA BRADLEY J ETUX ...	1113 DOVER DR	00	$319,700	060	N	2023
☐	066F A 02000 000	CONGER KELLIE L &	1109 DOVER DR	00	$258,700	060	N	2023
☐	066F A 02100 000	PARKS ROBERT S	DOVER DR	00	$60,000	060	N	2023
☐	066F B 00100 000	FEYERS DONALD E ETUX	122 LENOX DR	00	$237,800	060	N	2023
☐	066F B 00200 000	WALDRUM BRIANA RYELLE ET...	126 LENOX DR	00	$274,300	060	N	2023
☐	066F B 00300 000	CROWLEY WAYNE D SR ETUX	130 LENOX DR	00	$299,900	060	N	2023
☐	066F B 00400 000	LAFOND DOUGLAS & REBA RE...	121 LENOX DR	00	$315,700	060	N	2023
☐	066F B 00500 000	WHITE MICHAEL J ETUX	125 LENOX DR	00	$292,900	060	N	2023
☐	066F B 00600 000	MORONEY COLLEEN KATHLEEN	129 LENOX DR	00	$402,100	060	N	2023
☐	066K A 00100 000	COLBURN ZACHARY ETUX LIN...	100 CONCORD DR	00	$302,200	060	N	2023
☐	066K A 00200 000	MARSHALL ROBERT G	102 CONCORD DR	00	$297,900	060	N	2023
☐	066K A 00300 000	JOHNSON MICHAEL	104 CONCORD DR	00	$299,300	060	N	2023

(2)

☐	066K A 00400 000	YORK ADAM ETUX KATHRYN	106 CONCORD DR	00	$358,100	060	N	2023
☐	066K A 00500 000	HOLZER RUDY A ETUX	108 CONCORD DR	00	$377,300	060	N	2023
☐	066K A 00600 000	STEPHENSON ROBERT F	110 CONCORD DR	00	$412,500	060	N	2023
☐	066K A 00700 000	BURDETT VERNON ETUX NITA...	112 CONCORD DR	00	$308,000	060	N	2023
☐	066K A 00800 000	GUZMAN HECTOR	111 CONCORD DR	00	$323,600	060	N	2023
☐	066K A 00900 000	PHILPOTT GREGORY F ETUX	109 CONCORD DR	00	$334,400	060	N	2023
☐	066K A 01000 000	KELLEY EDDIE D ETUX	107 CONCORD DR	00	$306,700	060	N	2023
☐	066K A 01100 000	LOVE TIMOTHY ETUX	105 CONCORD DR	00	$292,400	060	N	2023
☐	066K A 01200 000	FORD BARBARA J	103 CONCORD DR	00	$325,300	060	N	2023
☐	066K A 01300 000	NICHOLSON HARVEY P ETUX	101 CONCORD DR	00	$323,100	060	N	2023
☐	066K A 01600 000	SMITH RONNIE ETUX KELLY ...	206 CARTERS CREEK PIKE	00	$299,000	060	N	2023
☐	066K A 01700 000	VAUGHT AMY B ETVIR JOSEP...	208 CARTERS CREEK PIKE	00	$363,800	060	N	2023
☐	066K A 01800 000	LANGLEY PERRY MICHAEL ET...	210 CARTERS CREEK PIKE	00	$338,900	060	N	2023
☐	066K A 01900 000	WAGGONER GEORGE W JR	212 CARTERS CREEK PIKE	00	$329,500	060	N	2023
☐	066K A 02000 000	COLEMAN PAT O JR ETUX	214 CARTERS CREEK PIKE	00	$356,300	060	N	2023
☐	066K A 02200 000	GOODWIN PROTECTION TRUST	113 LENOX DR	00	$299,800	060	N	2023
☐	066K A 02300 000	FOX ROBERT LOFTON	115 LENOX DR	00	$399,500	060	N	2023
☐	066K A 02400 000	TURNER MATTHEW ETUX SARA...	111 LENOX DR	00	$369,200	060	N	2023
☐	066K A 02500 000	HOGAN JESSE L	109 LENOX DR	00	$274,100	060	N	2023
☐	066K A 02600 000	TAYLOR PAUL A ETUX	107 LENOX DR	00	$371,100	060		

Results

Click rows to view property details

Displaying **51 - 59 of 59**

(3)

	Parcel ID▲	Owner Name	Address	PT	Appraisal	Jur	Future	Taxyr
☐	066K A 02700 000	HAZEN FAY G & DIANNE HAZ...	105 LENOX DR	00	$345,100	060	N	2023
☐	066K A 02800 000	GREEN TINA	103 LENOX DR	00	$309,700	060	N	2023
☐	066K A 02900 000	SORRENTO FAMILY TRUST	100 LENOX DR	00	$344,100	060	N	2023
☐	066K A 03000 000	MCARTHUR BARBARA JEAN	102 LENOX DR	00	$274,800	060	N	2023
☐	066K A 03100 000	TOLBERT TREVIN J ETUX ME...	104 LENOX DR	00	$340,800	060	N	2023
☐	066K A 03200 000	PARKS ROBERT S	106 LENOX DR	00	$60,000	060	N	2023
☐	066K A 03300 000	TAYLOR SANDRA C ETVIR	108 LENOX DR	00	$289,200	060	N	2023
☐	066K A 03400 000	WESTRA CHARLES ALWIN ETUX	1100 DOVER DR	00	$313,500	060	N	2023
☐	066K A 03500 000	TINSLEY MARGARET H	112 LENOX DR	00	$342,900	060	N	2023

print Printable Version

Results Page: keyboard_arrow_left 1 **2**

July 11, 2023

Mr. Zack Harvill
Chapdelaine and Associates
7376 Walker Rd
Fairview, TN 37062
Sent via email: zharvill@chapsurveyor.com

RE: Water Availability Letter
Habitat for Humanity Fieldstone Farms Phase 2 Section 5 – 35 Units
Tax Map 88, Parcel 70.01
Columbia, Maury County, TN

Dear Mr. Chapdelaine:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 35 single-family units. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 8-inch water mains located on Golden Place and Normandy Drive.
- Minimum size 8-inch water mains will be required.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Prior to expiration of this water availability letter in 120 days, remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (35 SFUs)	$14,450.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid. Meter and Impact Fees are as follows:

Meter Fee: $540 per 3/4" meter (35 meters)	$18,900.00
Impact Fee: $4,500 per 3/4" meter (35 meters)	$157,500.00
Total Meter and Impact Fees Due =	**$176,400.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

- Subsequent phases will require individual applications and associated fees. Should this letter expire prior to payment of the New Water Service Fee for this phase of the development, a new application will be required to evaluate current conditions before proceeding.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.



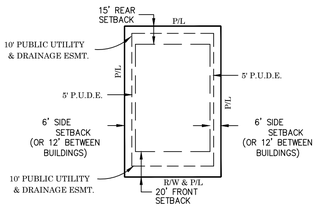
Sincerely,
Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-013

GENERAL NOTES

1.) THE PURPOSE OF THIS PLAT IS TO CREATE A 29 LOT SUBDIVISION.
2.) ALL DISTANCES SHOWN HEREON ARE BASED UPON A FIELD-RUN SURVEY USING E.D.M. EQUIPMENT AND OR ALL GPS, AND ARE ADJUSTED FOR TEMPERATURE.
3.) UTILITIES, IF SHOWN WERE TAKEN FROM VISIBLE STRUCTURES AT THE SITE, VERIFICATION OF THEIR EXISTENCE, LOCATION, SIZE, AND DEPTH SHOULD BE MADE BEFORE MAKING DECISIONS REGARDING THEM. AVAILABILITY OF SERVICE SHOULD BE CONFIRMED WITH APPROPRIATE LOCAL UTILITY COMPANY. TENNESSEE ONE CALL (811) SHOULD BE CALLED BEFORE ANY CONSTRUCTION OR DIGGING.
4.) THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT. IT IS THEREFORE SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE REPORT.
5.) THIS PROPERTY IS SUBJECT TO BOTH RECORDED EASEMENTS, AND TO THOSE UNKNOWN TO THIS SURVEYOR.
6.) THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
7.) PROPERTY ZONED CD-4. SETBACKS ARE FRONT=6'/20'; SIDE =6' TOTAL; REAR=15'
8.) THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
9.) POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
10.) SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
11.) NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
12.) ALL STORM WATER RUNOFF WILL FLOW AWAY FROM THE ROAD AND TOWARD THE STREAM. FOR CALCULATIONS SEE D1 & D2 STORM WATER PLAN ENGINEERING PLAN IN THE CONSTRUCTION DRAWINGS.
13.) ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622' ELEVATION DUE TO POSSIBLE FLOODING.
14.) TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.

TYPICAL LAYOUT (LOTS 146-174)



LOT(S) AREA

LOT #	SQ FT
LOT 146	5,996 ft²
LOT 147	8,106 ft²
LOT 148	5,444 ft²
LOT 149	5,909 ft²
LOT 150	6,150 ft²
LOT 151	9,990 ft²
LOT 152	5,915 ft²
LOT 153	5,119 ft²
LOT 154	4,998 ft²
LOT 155	5,000 ft²
LOT 156	5,000 ft²
LOT 157	5,029 ft²
LOT 158	5,088 ft²
LOT 159	5,140 ft²
LOT 160	5,184 ft²
LOT 161	5,218 ft²
LOT 162	5,239 ft²
LOT 163	5,248 ft²
LOT 164	5,249 ft²
LOT 165	5,249 ft²
LOT 166	5,786 ft²
LOT 167	5,690 ft²
LOT 168	5,622 ft²
LOT 169	5,579 ft²
LOT 170	5,554 ft²
LOT 171	5,529 ft²
LOT 172	5,525 ft²
LOT 173	5,518 ft²
LOT 174	5,561 ft²

TYPICAL PAVEMENT SECTION

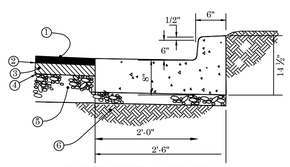
GENERAL NOTE:
1. PLACEMENT OF SIDEWALK SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF COLUMBIA, LATEST VERSION.
2. CONSTRUCTION SHALL CONFIRM TO THE CITY OF COLUMBIA ENGINEERING DEPARMENT SPECIFICATIONS, LATEST REVISION.

(NOT TO SCALE)

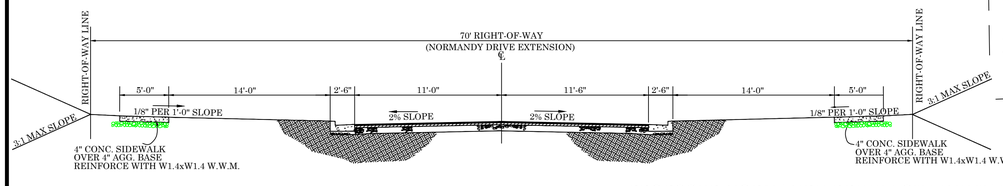
MINIMUM REQUIREMENTS:

① 11/2" ASPHALTIC CONCRETE SURFACE (GRADING E) ITEM NO. 411-01.11
② TACK COAT (RS-2) ITEM NO. 403-01
③ 2" ASPHALTIC CONCRETE BASE (GRADING B) ITEM NO. 307-01.06
④ PRIME COAT (AE-P) ITEM NO. 402-01
⑤ 10" STONE (GRADING D PUG MILL MIX) ITEM NO. 303-01
⑥ APPROVED COMPACTED SUBGRADE

ITEM NUMBERS ARE TO MEET TOOT SPECIFICATIONS
NOTES:
ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED NEAR INTERSECTIONS.
ELEMENTS OF THIS TYPICAL SECTION MAY BE REVISED IF APPROVED BY THE CITY ENGINEER.



PAVEMENT COURSES
NOT TO SCALE



PROPOSED NORMANDY DRIVE R.O.W LOT CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	160.00'	62.88'	62.48'	S 41°24'44" E	22°31'03"
C2	160.00'	136.88'	132.74'	S 05°38'47" E	49°00'50"
C3	20.00'	31.00'	27.99'	N 66°12'02" E	88°49'15"
C4	182.03'	18.40'	18.40'	S 72°17'07" E	5°47'33"
C5	182.03'	44.58'	44.47'	S 82°11'50" E	14°01'52"
C6	90.00'	7.40'	7.40'	S 86°20'58" E	4°42'41"
C7	90.00'	144.17'	129.24'	S 38°06'16" E	91°46'45"
C8	90.00'	17.41'	17.38'	S 13°19'32" W	11°04'50"
C9	9817.04'	13.87'	13.87'	S 18°54'22" W	0°04'51"
C10	9817.04'	50.03'	50.03'	S 19°05'34" W	0°17'31"
C11	9817.04'	50.00'	50.00'	S 19°23'04" W	0°17'30"
C12	9817.04'	50.00'	50.00'	S 19°40'35" W	0°17'31"
C13	9817.04'	50.00'	50.00'	S 19°58'05" W	0°17'31"
C14	9817.04'	50.00'	50.00'	S 20°15'36" W	0°17'31"
C15	9817.04'	35.01'	35.01'	S 20°30'29" W	0°12'16"
C16	9887.04'	14.62'	14.62'	N 20°34'05" E	0°05'05"
C17	9887.04'	50.03'	50.03'	N 20°22'50" E	0°17'24"
C18	9887.04'	50.14'	50.14'	N 20°05'25" E	0°17'26"
C19	9887.04'	50.03'	50.03'	N 19°48'01" E	0°17'24"
C20	9887.04'	50.00'	50.00'	N 19°30'37" E	0°17'23"
C21	9887.04'	50.13'	50.13'	N 19°13'13" E	0°17'26"
C22	9887.04'	36.11'	36.11'	N 18°58'13" E	0°12'33"
C23	25.08'	38.01'	34.48'	N 65°22'51" E	86°51'16"
C24	25.01'	35.92'	32.91'	S 19°22'37" E	82°17'39"

PROPOSED NORMANDY DRIVE LOT LINE TABLE

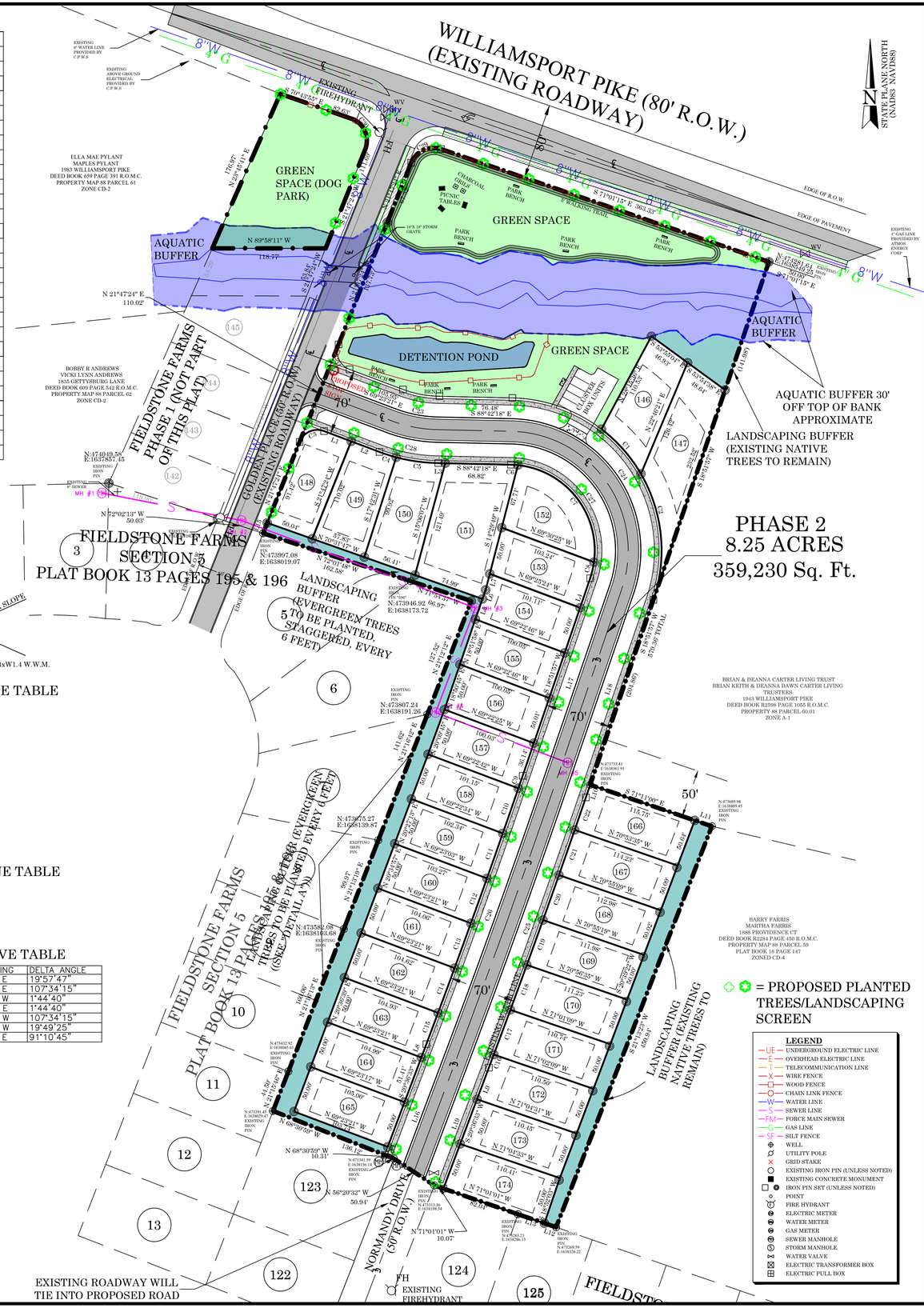
LINE	BEARING	DISTANCE
L1	S 69°23'21" E	30.42'
L2	S 69°23'21" E	31.66'
L3	S 88°42'18" E	7.32'
L4	S 18°51'57" W	32.64'
L5	N 19°20'05" E	22.58'
L6	N 19°19'11" E	9.99'
L7	N 14°29'46" E	17.43'
L8	S 20°36'33" W	14.99'
L9	N 20°36'33" E	35.46'
L10	N 18°51'57" E	13.93'
L11	S 71°11'00" E	19.00'
L12	N 71°12'13" W	12.98'
L13	N 71°12'13" W	29.36'
L14	S 20°36'39" W	9.10'
L15	N 21°47'24" E	11.76'

PROPOSED NORMANDY DRIVE R.O.W LINE TABLE

LINE	BEARING	DISTANCE
L16	N 20°36'33" E	130.19'
L17	N 18°51'57" E	218.79'
L18	N 18°51'57" E	218.79'
L19	S 20°36'33" W	130.19'

PROPOSED NORMANDY DRIVE R.O.W CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C23	112.03'	39.03'	38.84'	S 79°22'14" E	19°57'47"
C24	160.00'	300.39'	258.18'	S 34°55'11" E	107°34'15"
C25	9887.04'	301.04'	301.03'	S 19°44'17" W	1°44'40"
C26	9817.04'	298.91'	298.90'	N 19°44'17" E	1°44'40"
C27	92.50'	173.67'	149.26'	N 34°55'11" W	107°34'15"
C28	182.03'	62.98'	62.67'	N 79°18'03" W	19°49'25"
C31	20.00'	31.83'	28.57'	S 23°47'58" E	91°10'45"



LEGEND

- UE UNDERGROUND ELECTRIC LINE
- E OVERHEAD ELECTRIC LINE
- T TELECOMMUNICATION LINE
- X WIRE FENCE
- WOOD FENCE
- CHAIN LINK FENCE
- W WATER LINE
- S SEWER LINE
- FM FORCE MAIN SEWER
- G GAS LINE
- SF SILT FENCE
- WELL
- UTILITY POLE
- GRID STAKE
- EXISTING IRON PIN (UNLESS NOTED)
- EXISTING CONCRETE MONUMENT
- IRON PIN SET (UNLESS NOTED)
- POINT
- FIRE HYDRANT
- ELECTRIC METER
- WATER METER
- GAS METER
- SEWER MANHOLE
- STORM MANHOLE
- WATER VALVE
- ELECTRIC TRANSFORMER BOX
- ELECTRIC PULL BOX

UTILITY OWNERS

ELECTRIC
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

WATER
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS:COLUMBIA, TN 38401
PHONE # (931) 388-4833

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

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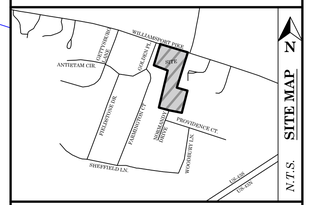
SEWER STRUCTURE	
EXISTING MH #1	MH TOP 619.97' 8" S. IN 616.59' 8" E. IN 614.23' 8" W. OUT 614.17'
EXISTING MH #2	MH TOP 624.65' 4" PLASTIC SE. IN 621.65' 8" E. IN 616.90' 8" W. OUT 616.88'
EXISTING MH #3	MH TOP 630.31' 8" S. IN 623.51' 8" W. OUT 623.35'
EXISTING MH #4	MH TOP 633.24' 8" E. IN 627.13' 8" N. OUT 627.03'
EXISTING MH #5	MH TOP 636.35' 8" S. IN 630.74' 8" W. OUT 630.66'

FIELDSTONE FARMS PHASE II AREA TO BE DEVELOPED:

	AREA IN Sq. Ft.
COMBINED LOT AREA:	164,635 Sq. Ft. 3.78 Acres
AQUATIC BUFFER AREA:	34,144 Sq. Ft. 0.78 Acres
COMMON SPACE AREA:	22,902 Sq. Ft. 0.53 Acres
GREEN SPACE AREA:	55,719 Sq. Ft. 1.28 Acres
DETENTION POND AREA:	5,236 Sq. Ft. 0.12 Acres
R.O.W AREA:	76,594 Sq. Ft. 1.76 Acres
TOTAL AREA TO BE DEVELOPED:	359,230 Sq. Ft. 8.25 Acres

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

7376 WALKER ROAD,
FAIRVIEW, TENNESSEE 37062
(615) 799-8104
chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



RANDOLPH L. CHAPDELAINE
REGISTERED LANDSURVEYOR
AGRICULTURE
TENNESSEE NO. 1444
06/21/2023

CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 — 06/21/2023 DATE

HABITAT FOR HUMANITY
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
p/o DEED BOOK R-2425 PAGE 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONING: CD-4
TOTAL ACRES 8.25
TOTAL AREA BEING DEVELOPED: 8.25 ACRES
CITY OF COLUMBIA

REVISION #	DATE
REVISION # 3	6/21/2023
REVISION # 2	5/22/2023
REVISION # 1	4/17/2023

DATE: JANUARY 17, 2023
DRAWN BY: NAB
JOB #: 6171
SCALE: 1" = 60'

0 60 120

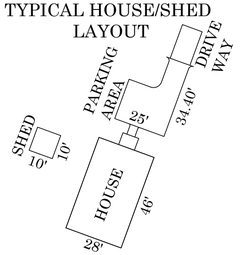
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PRELIMINARY PLAT-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2

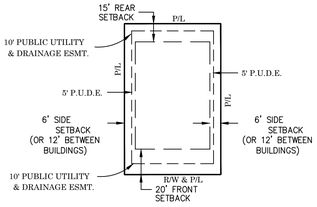
GENERAL NOTES

1.) THE PURPOSE OF THIS PLAT IS TO CREATE A 29 LOT SUBDIVISION.
2.) ALL DISTANCES SHOWN HEREON ARE BASED UPON A FIELD–RUN SURVEY USING E.D.M. EQUIPMENT AND OR ALL GPS, AND ARE ADJUSTED FOR TEMPERATURE.
3.) UTILITIES, IF SHOWN WERE TAKEN FROM VISIBLE STRUCTURES AT THE SITE, VERIFICATION OF THEIR EXISTENCE, LOCATION, SIZE, AND DEPTH SHOULD BE MADE BEFORE MAKING DECISIONS REGARDING THEM. AVAILABILITY OF SERVICE SHOULD BE CONFIRMED WITH APPROPRIATE LOCAL UTILITY COMPANY. TENNESSEE ONE CALL (811) SHOULD BE CALLED BEFORE ANY CONSTRUCTION OR DIGGING.
4.) THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT. IT IS THEREFORE SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE REPORT.
5.) THIS PROPEERTY IS SUBJECT TO BOTH RECORDED EASEMENTS, AND TO THOSE UNKNOWN TO THIS SURVEYOR.
6.) THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
7.) PROPERTY ZONED CD-4. SETBACKS ARE FRONT=6'/20'; SIDE =6' TOTAL; REAR=15'
8.) THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
9.) POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
10.) SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
11.) NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
12.) ALL STORM WATER RUNOFF WILL FLOW AWAY FROM THE ROAD AND TOWARD THE STREAM. FOR CALCULATIONS SEE D1 & D2 STORM WATER PLAN ENGINEERING PLAN IN THE CONSTRUCTION DRAWINGS.
13.) ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622' ELEVATION DUE TO POSSIBLE FLOODING.
14.) TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.
15.) ALL FACADES ON STRUCTURES SHALL CONFORM TO STANDARDS IN TABLE 4.3.1-D AND TABLE 4.3.8.B OF THE ZONING ORDINANCE. CONFORMITY WILL BE CONFIRMED AT BUILDING PERMIT.
16.) MAINTENANCE AND UPKEEP OF COMMON SPACE TO BE MANAGED BY H.O.A.
17.) ALL PRIVATE LANDSCAPING WILL CONFORM TO SECTION 4.3.16 OF THE ZONING ORDINANCE.
18.) FUTURE REMOVAL OF TREES DEPICTED ON THE PLAN WILL REQUIRE APPROVAL BY THE PLANNING COMMISSION PER SECTION 4.3.16.C.1 OF THE ZONING ORDINANCE.
19.) LIGHTING AT FRONTAGE LINES WILL NOT EXCEED 1.0 FOOT CANDLE AND ONSITE OUTDOOR LIGHTING WILL CONFORM TO THE STANDARDS OF SECTION 4.3.17.B OF THE ZONING ORDINANCE.
20.) URBAN NEIGHBORHOOD STREET THOROUGHFARE TO BE UTILIZED.
21.) VEHICLE PARKING IS TO BE OFF STREET AND ACCOMMODATE 2 VEHICLES.
22.) ALL LOTS ARE TO HAVE 1 SINGLE FAMILY DWELLING UNIT PER LOT.
23.) NO FENCE, STRUCTURE, WALL OR ANY OTHER SEPARATING DEVICE SHALL BE PERMITTED BEYOND THE FRONT SIDE OF THE HOUSE. NO FENCES ARE ALLOWED IN FRONT YARDS. IN THE CASE OF RESIDENCES LOCATED ON CORNER LOTS, THE RESTRICTIONS SHALL APPLY TO THE MIDLINE OF THE SIDE OF THE HOUSE FACING THE STREET. ALL SUCH FENCES, STRUCTURE WALLS, HEDGES OR OTHER SEPARATING DEVICES REQUIRE APPROVAL BY THE DECLARANT OR HOME OWNERS ASSOCIATION PRIOR TO INSTALLATION. UNLESS OTHERWISE APPROVED, CHAIN LINK FENCES SHALL NOT EXCEED FOUR (4) FEET IN HEIGHT, WOOD PRIVACY FENCES SHALL NOT EXCEED SIX (6) FEET IN HEIGHT.
24.) ALL RESIDENCES TO BE WOOD FRAME, SINGLE STORY BUILDINGS. DRIVEWAYS ARE TO BE CONCRETE.
25.) THIS DEVELOPMENT TO BE GOVERNED UNDER H.O.A REGULATIONS.
26.) HOMEOWNERS ARE TO BE RESPONSIBLE FOR INDIVIDUAL REFUSE SERVICE.

TYPICAL HOUSE/SHED LAYOUT



TYPICAL LAYOUT (LOTS 146–174)



PROPOSED NORMANDY DRIVE LOT LINE TABLE

LINE	BEARING	DISTANCE
L1	S 69°23'21" E	30.42'
L2	S 69°23'21" E	31.66'
L3	S 88°42'18" E	7.32'
L4	S 18°51'57" W	32.64'
L5	N 19°20'05" E	22.58'
L6	N 19°19'11" E	9.99'
L7	N 14°29'46" E	17.43'
L8	S 20°36'33" W	14.99'
L9	N 20°36'33" E	35.46'
L10	N 18°51'57" E	13.93'
L11	S 71°11'00" E	19.00'
L12	N 71°12'13" W	12.98'
L13	N 71°12'13" W	29.36'
L14	S 20°36'39" W	9.10'
L15	N 21°47'24" E	11.76'

PROPOSED NORMANDY DRIVE R.O.W LOT CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	160.00'	62.88'		S 41°24'44" E	22°31'03"
C2	160.00'	136.88'	132.74'	S 05°38'47" E	49°00'50"
C3	20.00'	31.00'	27.99'	N 66°12'02" E	88°49'15"
C4	182.03'	18.40'	18.40'	S 72°17'07" E	5°47'33"
C5	182.03'	44.58'	44.47'	S 82°11'50" E	14°01'52"
C6	90.00'	7.40'	7.40'	S 86°20'58" E	4°42'41"
C7	90.00'	144.17'	129.24'	S 38°06'16" E	91°46'45"
C8	90.00'	17.41'	17.38'	S 13°19'32" W	11°04'50"
C9	9817.04'	13.87'	13.87'	S 18°54'22" W	0°04'51"
C10	9817.04'	50.03'	50.03'	S 19°05'34" W	0°17'31"
C11	9817.04'	50.00'	50.00'	S 19°23'04" W	0°17'30"
C12	9817.04'	50.00'	50.00'	S 19°40'35" W	0°17'31"
C13	9817.04'	50.00'	50.00'	S 19°58'05" W	0°17'31"
C14	9817.04'	50.00'	50.00'	S 20°15'36" W	0°17'31"
C15	9817.04'	35.01'	35.01'	S 20°30'29" W	0°12'16"
C16	9887.04'	14.62'	14.62'	N 20°34'05" E	0°05'05"
C17	9887.04'	50.03'	50.03'	N 20°22'50" E	0°17'24"
C18	9887.04'	50.14'	50.14'	N 20°05'25" E	0°17'26"
C19	9887.04'	50.03'	50.03'	N 19°48'01" E	0°17'24"
C20	9887.04'	50.00'	50.00'	N 19°30'37" E	0°17'23"
C21	9887.04'	50.13'	50.13'	N 19°13'13" E	0°17'26"
C22	9887.04'	36.11'	36.11'	N 18°58'13" E	0°12'33"
C29	25.08'	38.01'	34.48'	N 65°22'51" E	86°51'16"
C30	25.01'	35.92'	32.91'	S 19°22'37" E	82°17'39"

UTILITY OWNERS

ELECTRIC
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

WATER
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS:COLUMBIA, TN 38401
PHONE # (931) 388-4833

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

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TENNESSEE ONE CALL IT'S THE LAW

SEWER STRUCTURE

EXISTING MH #1	MH TOP 619.97' 8" S. IN 616.59' 8" E. IN 614.23' 8" W. OUT 614.17'
EXISTING MH #2	MH TOP 624.65' 4" PLASTIC SE. IN 621.65' 8" E. IN 616.90' 8" W. OUT 616.88'
EXISTING MH #3	MH TOP 630.31' 8" S. IN 623.51' 8" W. OUT 623.35'
EXISTING MH #4	MH TOP 633.24' 8" E. IN 627.13' 8" N. OUT 627.03'
EXISTING MH #5	MH TOP 636.35' 8" S. IN 630.74' 8" W. OUT 630.66'

LOT(S) AREA

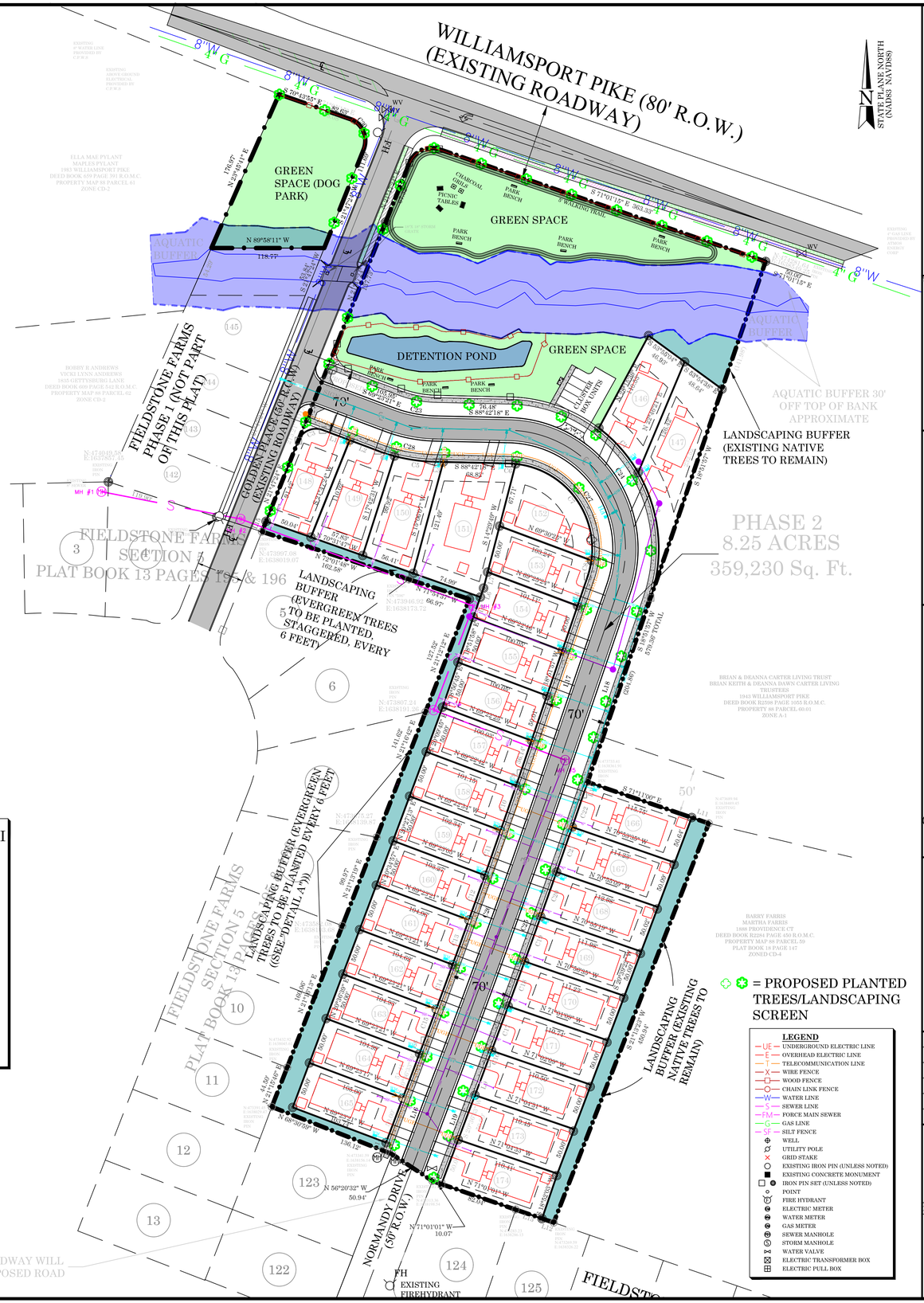
LOT #	SQ FT	RESIDENCE SQ FT	RATIO
LOT 146	5,996 ft²	1,288 ft²	21.5%
LOT 147	8,106 ft²	1,288 ft²	15.9%
LOT 148	5,444 ft²	1,288 ft²	23.7%
LOT 149	5,909 ft²	1,288 ft²	21.8%
LOT 150	6,150 ft²	1,288 ft²	20.9%
LOT 151	9,990 ft²	1,288 ft²	12.9%
LOT 152	5,915 ft²	1,288 ft²	21.8%
LOT 153	5,119 ft²	1,288 ft²	25.2%
LOT 154	4,998 ft²	1,288 ft²	25.8%
LOT 155	5,000 ft²	1,288 ft²	25.8%
LOT 156	5,000 ft²	1,288 ft²	25.8%
LOT 157	5,029 ft²	1,288 ft²	25.6%
LOT 158	5,088 ft²	1,288 ft²	25.3%
LOT 159	5,140 ft²	1,288 ft²	25.1%
LOT 160	5,184 ft²	1,288 ft²	24.8%
LOT 161	5,218 ft²	1,288 ft²	24.7%
LOT 162	5,239 ft²	1,288 ft²	24.6%
LOT 163	5,248 ft²	1,288 ft²	24.5%
LOT 164	5,249 ft²	1,288 ft²	24.5%
LOT 165	5,249 ft²	1,288 ft²	24.5%
LOT 166	5,786 ft²	1,288 ft²	22.3%
LOT 167	5,690 ft²	1,288 ft²	22.6%
LOT 168	5,622 ft²	1,288 ft²	22.9%
LOT 169	5,579 ft²	1,288 ft²	23.1%
LOT 170	5,554 ft²	1,288 ft²	23.2%
LOT 171	5,529 ft²	1,288 ft²	23.3%
LOT 172	5,525 ft²	1,288 ft²	23.3%
LOT 173	5,518 ft²	1,288 ft²	23.3%
LOT 174	5,561 ft²	1,288 ft²	23.2%

IMPERVIOUS AREA CHART:

	AREA IN Sq. Ft.
PROPOSED DRIVE IMPERVIOUS AREA:	7,653 Sq. Ft. 0.18 Acres
PROPOSED PARKING IMPERVIOUS AREA:	17,638 Sq. Ft. 0.40 Acres
PROPOSED ROAD IMPERVIOUS AREA:	24,334 Sq. Ft. 0.56 Acres
PROPOSED SIDEWALK IMPERVIOUS AREA:	11,386 Sq. Ft. 0.26 Acres
PROPOSED CURB IMPERVIOUS AREA:	1,113 Sq. Ft. 0.03 Acres
PROPOSED CLUSTERBOX PARKING & DRIVE IMPERVIOUS AREA:	2,654 Sq. Ft. 0.06 Acres
PROPOSED HOUSE IMPERVIOUS AREA:	37,352 Sq. Ft. 0.86 Acres
PROPOSED SHED IMPERVIOUS AREA:	2,900 Sq. Ft. 0.07 Acres
TOTAL IMPERVIOUS AREA:	104,805 Sq. Ft. 2.41 Acres

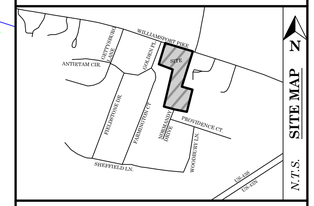
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chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



RANDOLPH L. CHAPDELAINE, TENNESSEE REGISTERED LAND SURVEYOR AGRICULTURE & LAND DEVELOPMENT SURVEYOR — 06/21/2023 — TENNESSEE NO. 1444

CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 — 06/21/2023 DATE

HABITAT FOR HUMANITY
(615) 550-5619
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
p/o DEED BOOK R-2425 *PAGE* 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONING: CD-4
TOTAL ACRES 8.25
TOTAL AREA BEING DEVELOPED: 8.25 ACRES
CITY OF COLUMBIA

REVISION #	DATE
REVISION # 3	6/21/2023
REVISION # 2	5/22/2023
REVISION # 1	4/17/2023
DATE:	JANUARY 17, 2023
DRAWN BY:	NAB
JOB #:	6171
SCALE:	1" = 60'

0 60 120

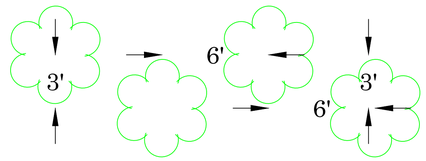
V-2.0

SITE DEVELOPMENT PLAN-MAJOR SUBDIVISION FOR FIELDSTONE FARMS SECTION 5 PHASE 2

OVERHEAD VIEW

LANDSCAPING BUFFER AREA

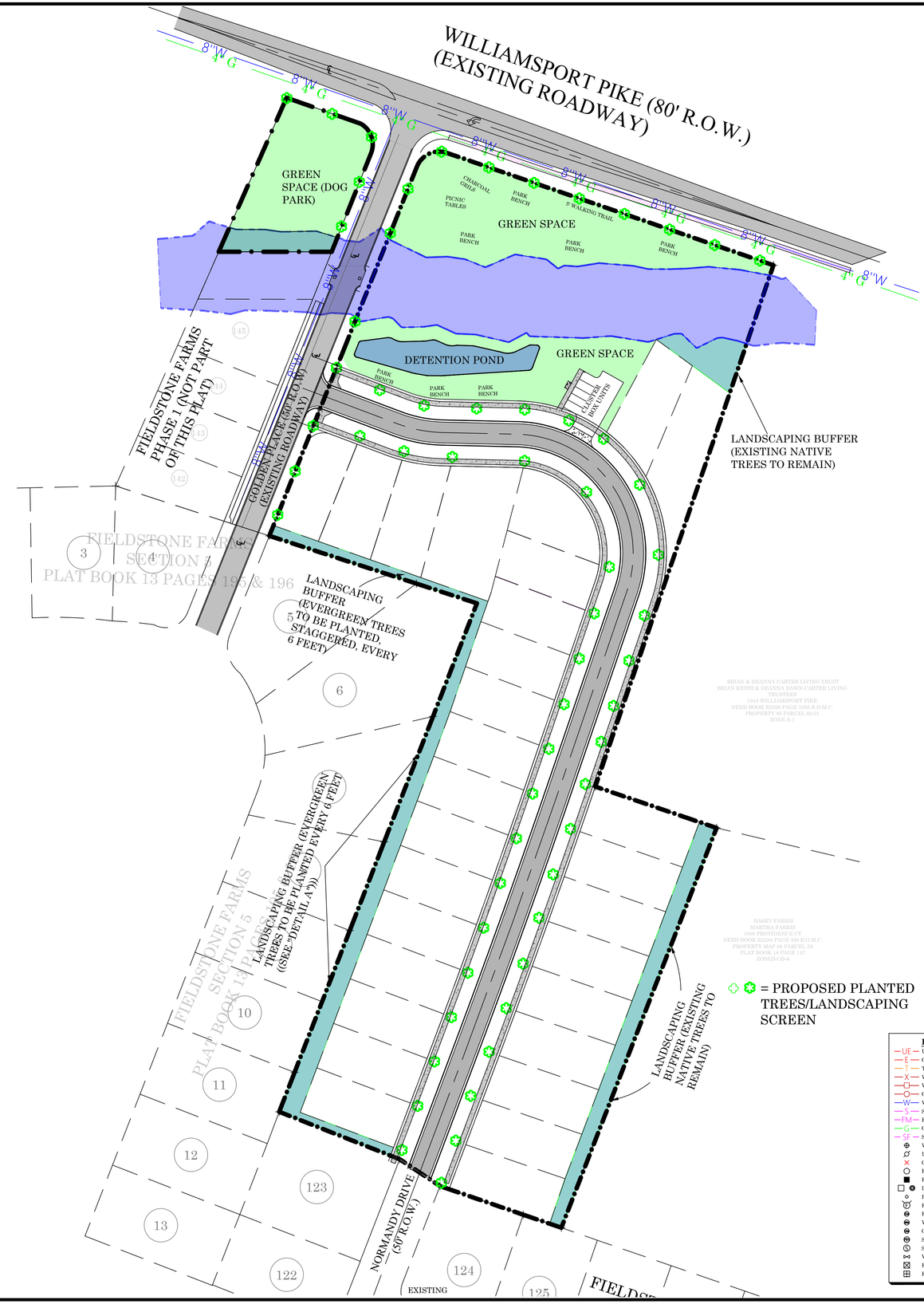
AMERICAN HOLLY (LLEX OPACA),
SHORT LEAF PINE (PINUS ECHINATA),
LOBLOLLY PINE (PINUS TAEDA),
EASTERN WHITE PINE (PINUS STROBUS)



DETAIL A

PROPOSED LANDSCAPING CHART:

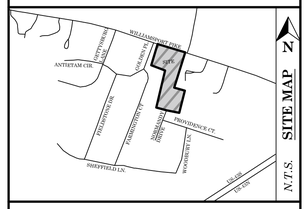
	QUANTITY TO BE PLANTED
SHORT LEAF PINE/ PINUS ECHINATA (4"):	54
LOBLOLLY PINE/ PINUS TAEDA (4"):	53
EASTERN WHITE PINE/ PINUS STROBUS (4"):	53
TOTAL NUMBER OF AMERICAN HOLLY (LLEX OPACA) EVERGREEN TREES TO BE PLANTED (12"):	35
TOTAL NUMBER OF TREES TO BE PLANTED:	195
TOTAL NUMBER OF SWEET LEAF (SYMPLOCUS EINCTORIA) BUSHES TO BE PLANTED (6'-9") :	88
TOTAL AREA OF LANDSCAPING TO BE PLANTED/RETAINED:	29, 941 Sq. Ft.



STATE PLANE NORTH (NAD83 NAVD88)

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

7376 WALKER ROAD,
FAIRVIEW, TENNESSEE 37062
(615) 799-8104
chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



RANDOLPH L. CHAPDELAINE, TENNESSEE REGISTERED LAND SURVEYOR NO. 1444
06/21/2023

CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 — 06/21/2023 — DATE

HABITAT FOR HUMANITY
(615) 550-5619
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
p/o DEED BOOK R-2425 *PAGE* 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONING: CD-4
TOTAL ACRES 8.25
TOTAL AREA BEING DEVELOPED: 8.25 ACRES
CITY OF COLUMBIA

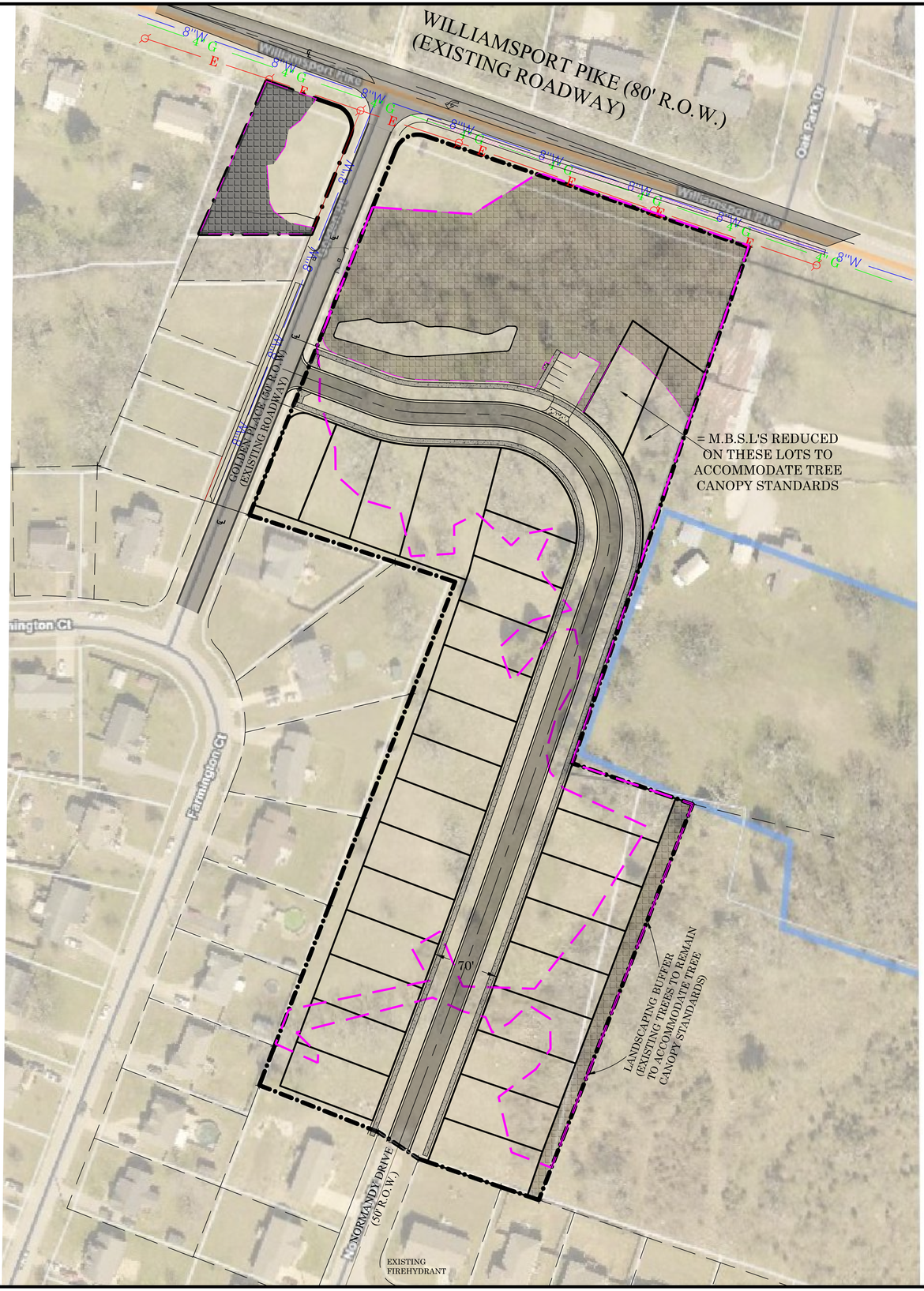
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DATE: JANUARY 17, 2023
DRAWN BY: NAB
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SCALE: 1" = 60'

0 60 120

V-4.0

LANDSCAPING PLAN EXHIBIT-SITE DEVELOPMENT PLAN-MAJOR SUBDIVISION FOR FIELDSTONE FARMS SECTION 5 PHASE 2



EXISTING TREE CANOPY

TREE CANOPY

UNDISTURBED AREA

TREE CANOPY CALCULATIONS

	AREA IN ft²
TOTAL PROPERTY AREA	359,230'
TOTAL TREE CANOPY	186,104' (52%)
PERCENTAGE OF TREE CANOPY TO BE RETAINED	45%
TOTAL DISTURBED TREE CANOPY	110,016' (59%)
TOTAL UNDISTURBED TREE CANOPY	85,153' (45.8%)

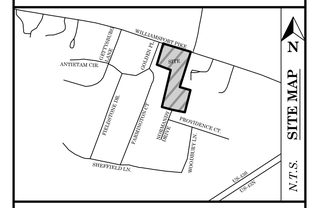
STATE PLANE NORTH (NAD83 NAVD88)

LEGEND

- UE — UNDERGROUND ELECTRIC LINE
- E — OVERHEAD ELECTRIC LINE
- T — TELECOMMUNICATION LINE
- X — WIRE FENCE
- WOOD FENCE
- CHAIN LINK FENCE
- W — WATER LINE
- S — SEWER LINE
- FM — FORCE MAIN SEWER
- G — GAS LINE
- SF — SILT FENCE
- WELL
- UTILITY POLE
- GRID STAKE
- EXISTING IRON PIN (UNLESS NOTED)
- EXISTING CONCRETE MONUMENT
- IRON PIN SET (UNLESS NOTED)
- POINT
- FIRE HYDRANT
- ELECTRIC METER
- WATER METER
- GAS METER
- SEWER MANHOLE
- STORM MANHOLE
- WATER VALVE
- ELECTRIC TRANSFORMER BOX
- ELECTRIC PULL BOX

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

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Randolph L. Chapdelaine 06/21/2023

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 DATE

HABITAT FOR HUMANITY
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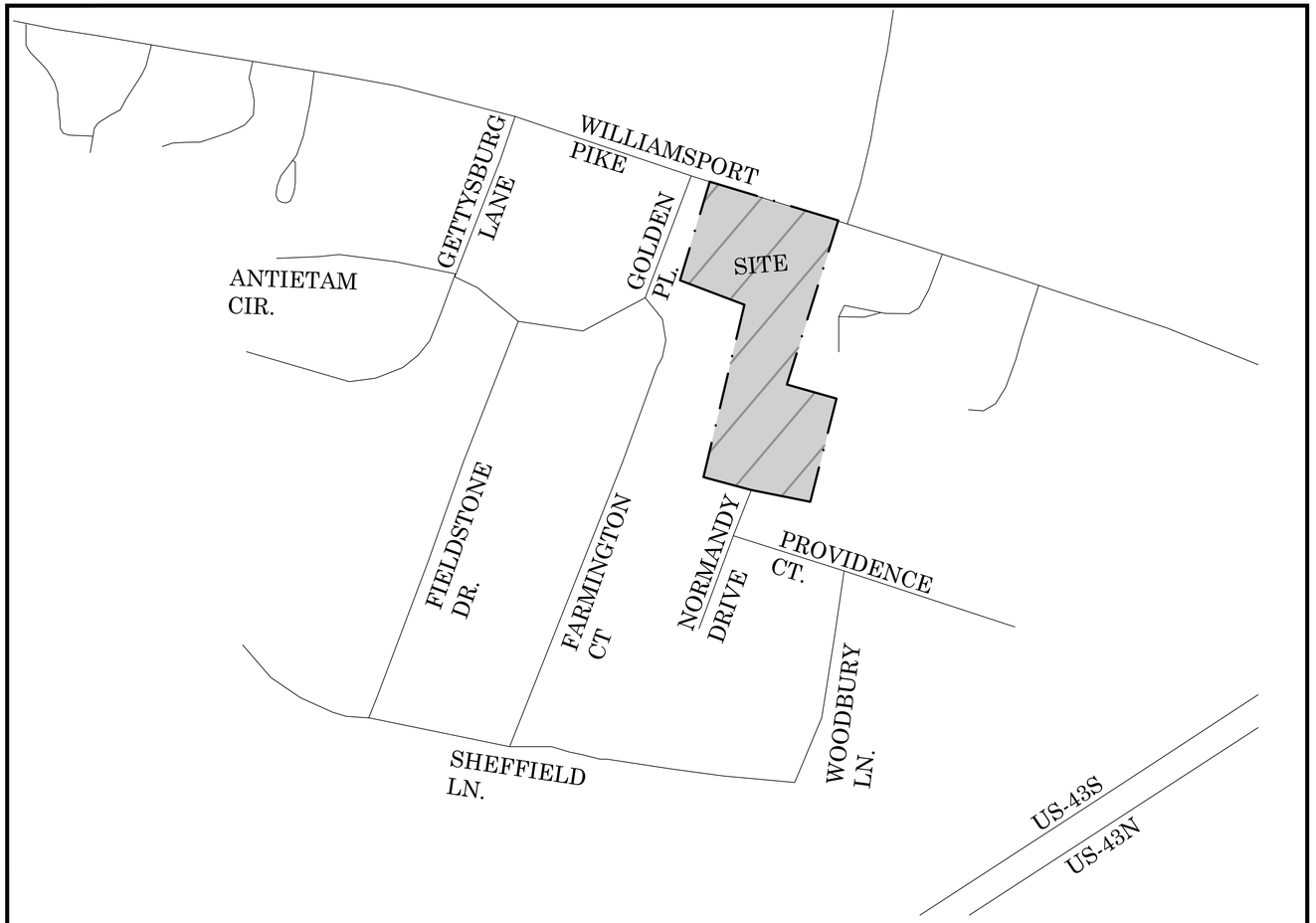
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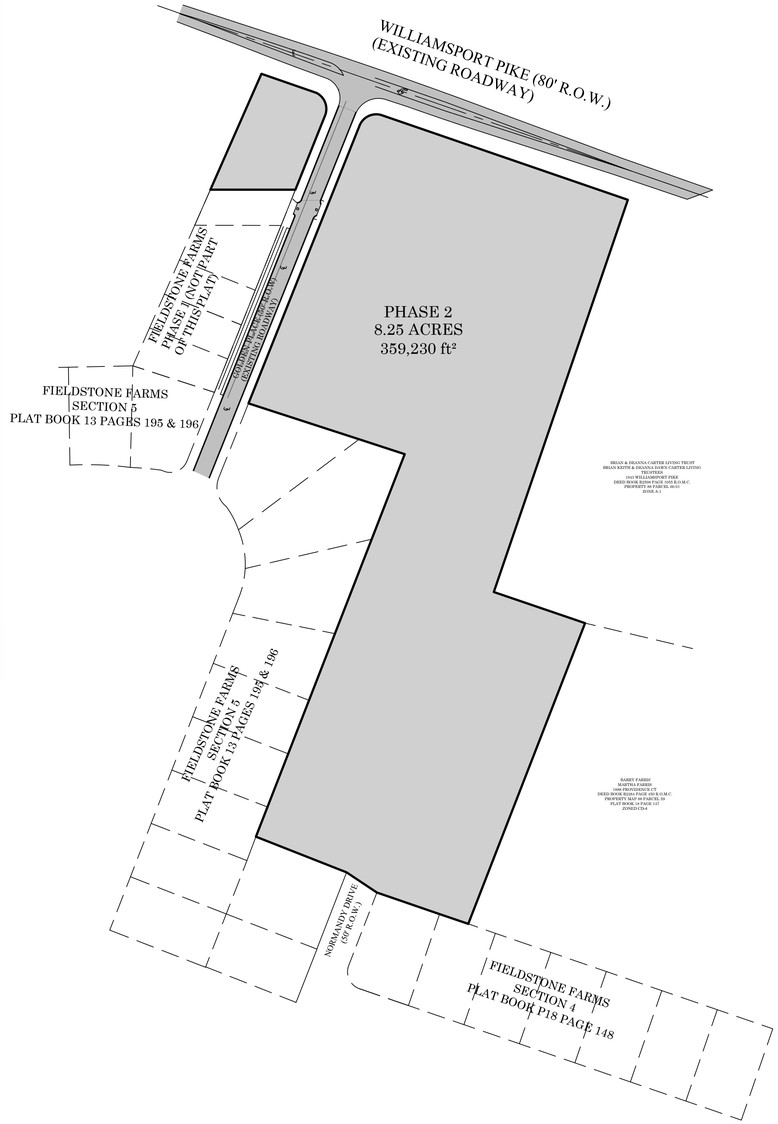
V-3.0

TREE CANOPY EXHIBIT-SITE DEVELOPMENT PLAN-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2



SITE MAP SCALED 1:200'

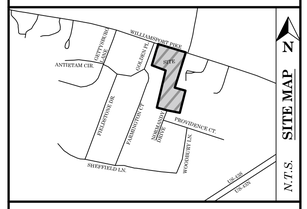
0 200 400



STATE PLANE NORTH
(NAD83 NAVD88)

CHAPDELAINE & ASSOCIATES
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chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



RANDOLPH L. CHAPDELAINE
REGISTERED LAND SURVEYOR
AGRICULTURE
2444
TENNESSEE NO. 1444
06/21/2023

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DATE: JANUARY 17, 2023
DRAWN BY: NAB
JOB #: 6171
SCALE: 1" = 60'

0 100 200

V-0.0

COVER SHEET-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2

Return To:
McCann & Hubbard
1804 Williamson Ct, Suite 201
Brentwood, TN 37027
615-377-3319

This Instrument Prepared By:
K. Brian Hay, Attorney at Law
104 W. 6th Street, Ste. 200
Columbia, TN 38401

Name and Address of New Owner:	Name and Address of Entity Responsible for Payment of Real Property Taxes
Habitat for Humanity Williamson-Maury	SAME AS NEW OWNER
1804 Williamsport Pike, Suite 201	
Brentwood, TN 37027	

WARRANTY DEED

FOR AND IN CONSIDERATION OF One Dollar ($1.00) and other good and valuable consideration, the receipt and legal sufficiency of all of which are hereby acknowledged, **LPT, LLC, a Tennessee limited liability company** *(herein called "Grantor")*, has this day bargained and sold, transferred and conveyed and by these presents does bargain, sell, transfer and convey unto **Habitat for Humanity Williamson-Maury** *(herein called "Grantee")* the following described property situated and located in Maury County, Tennessee, to wit:

SITUATE in the NINTH (9TH) Civil District of Maury County, Tennessee and being more particularly described as follows:

Being a parcel of land in Maury County, Tennessee and the remaining property of Cyril Evers property as shown on Tax Map 88, page 70.01 and recorded in Deed Book R2093, page 230 in the Register's Office Of Maury County, TN and more particularly described as follows:

Beginning at an iron pin found at the north west corner of Brian and Deanna Carter as recorded in Deed Book R1852, page 1487, said point being the north east corner of the tract herein described and lying on the south margin of Williamsport Pike (Highway 50);
Thence with the west line of aforesaid Carter, South 18°52'24" West a distance of 579.27' to a found pinch pipe;
Thence with south line of Carter, South 71°10'56" East a distance of 134.80' to a found iron pin (596);
Thence with the west line of Barry and Martha Farris as recorded in Deed Book R2083, page 720, South 21°13'34" West a distance of 451.23' to a found iron pin (596);
Thence with the north line of Fieldstone Farms, Section 4 as recorded in Plat Book P18, page 147, North 70°57'14" West a distance of 134.94' to an iron pin found (596);
Thence with the same, N 56°18'55" West a distance of 50.98' to an iron pin found (596);
Thence with the same, North 68°32'14" West a distance of 136.14' to an iron pin found (596);
Thence with the east line of Fieldstone Farms, Section 1 as recorded in Plat Book P13, page 195, North 21°15'59" East a distance of 573.86' to an iron pin found;
Thence with the same, North 72°02'43" West a distance of 229.69' to an iron pin found (596);
Thence crossing Golden Place Road, North 72°01'17" West a distance of 50.02' to an iron pin found (596);
Thence with the north line of Fieldstone Farms, Section 1 as recorded in Plat Book P13, page 195, North 72°01'07" West a distance of 119.95' to an iron pin found;
Thence with the east line of Bobby and Vicki Andrews as recorded in Deed Book 609, page 542, North 23°49'39" East a distance of 446.61' to an iron pin found;
Thence with the south margin of Williamsport Pike (Highway 50), South 70°57'35" East a distance of 541.09' to the point of beginning, having an area of 414,563 square feet, 9.52 acres, according to survey dated March 31, 2016 prepared by Allen B. O'Leary, TN RLS #1987.

Book R2425 Page 1181

SHEET INDEX	
V-0.0	COVER SHEET
V-1.0	SUBDIVISION
V-2.0	SITE DEVELOPMENT PLAN
V-3.0	TREE CANOPY EXHIBIT
V-4.0	LANDSCAPING PLAN

RE: [External Email] - Fieldstone Farms Phase 2

2 messages

Austin Brass <abrass@columbiatn.com> Fri, Jan 13, 2023 at 11:30 AM
To: Zack Harvill <zharvill@chapsurveyor.com>
Cc: "abrawner@chapsurveyor.com" <abrawner@chapsurveyor.com>, Douglas Toney <dtoney@columbiatn.com>

Mr. Harvill;

I have copied our engineer Mr. Toney is this email regarding the need for a traffic study.

Thank you.

From: Zack Harvill <zharvill@chapsurveyor.com>
Sent: Friday, January 13, 2023 11:24 AM
To: Austin Brass <abrass@columbiatn.com>
Cc: abrawner@chapsurveyor.com
Subject: [External Email] - Fieldstone Farms Phase 2

Good morning Austin, we are gathering our information together and going over our preliminary checklist for Fieldstone Farms Phase 2. Will there need to be a traffic impact study? We can provide you a pdf of this plat if needed. We appreciate your attention to this matter. We look forward to hearing from you.

Sincerely,

Zack Harvill

Chapdelaine and Associates Land Surveying

615-799-8104

Disclaimer

The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may

be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast, a leader in email security and cyber resilience. Mimecast integrates email defenses with brand protection, security awareness training, web security, compliance and other essential capabilities. Mimecast helps protect large and small organizations from malicious activity, human error and technology failure; and to lead the movement toward building a more resilient world. To find out more, visit our website.

Douglas Toney <dtoney@columbiatn.com> Fri, Jan 13, 2023 at 3:27 PM
To: Austin Brass <abrass@columbiatn.com>, Zack Harvill <zharvill@chapsurveyor.com>
Cc: "abrawner@chapsurveyor.com" <abrawner@chapsurveyor.com>

Zach,

A traffic impact study will not be required.

Douglas Toney, P.E.

Assistant City Engineer

City of Columbia

(931) 560-1560

[Quoted text hidden]
[Quoted text hidden]

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: 23-0018

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☑ Name of development
- ☑ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☑ Plan sealed by a Design Professional licensed in the State of Tennessee.
- ☑ North Arrow, legend, and site vicinity map
- ☑ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☑ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☑ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☑ All property boundaries, existing easements, and encumbrances
- ☑ Parcel identification, owner, and deed and plat references of adjoining properties
- ☑ Proposed phasing and timetable for all phases of development
- ☑ Traffic Impact Study, as required.
- ☑ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☑ The size of total property to be developed in square feet and acres
- ☑ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☑ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☑ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☑ Location and approximate dimensions of all existing and proposed structures.
- ☑ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☑ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☑ Location, type, and size of proposed signs
- ☑ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF
COLUMBIA
TENNESSEE

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COLUMBIA, TN 38401
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Grading, Drainage, and Storm

- ☑ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☑ General proposed contours at vertical intervals of not more than two (2) feet
- ☑ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☑ Location and dimension of aquatic buffer zones
- ☑ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☑ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☑ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☑ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☑ Proposed improvements as identified in the Traffic Impact Study, as required
- ☑ Existing and proposed sidewalks, trails, and other pedestrian elements
- ☑ Existing and proposed on-street and off-street parking and loading areas
- ☑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☑ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☑ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☑ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☑ Any amenity features and structures for private or public benefit.
- ☑ Location, dimension, and materials of fences and walls
- ☑ Tree Canopy retention

Utilities

- ☑ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☑ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

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PUD Specific Items

- ❑ Legal Description of Property
- ❑ Owner's Affidavit
- ❑ List of all variances requested
- ❑ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ❑ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ❑ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ❑ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Zack Harvill	Zack Harvill	5/22/2023
Print Name	Signature	Date

Rev. 6/7/2022

CITY OF COLUMBIA TENNESSEE
PLANNING COMMISSION
STAFF REPORT

STAFF REPORT CONTACT INFORMATION
Kevin C. McCarthy, AICP, City Planner kmccarthy@columbiatn.com, 931-560-1560

APPLICATION NUMBER
23-0018

APPLICANT/PROPERTY OWNER
Chapdelaine & Associates/ Habitat for Humanity of Williamson & Maury

PUBLIC HEARING DATE
N/A

PROPERTY ADDRESS/LOCATION
Tax Map 88, Parcel 70.01

SUMMARY OF REQUEST: **Preliminary Plat & Site Development Plan**

The applicant requests approval of a Preliminary Plat and Site Development Plan for 29 single-family lots as well as associated civic spaces on an 8.14-acre site yielding a density of 3.56 density units per acre (du/ac). The home sites consist of single family detached homes. The subject site is located off Golden Place near Williamsport Pike within a CD-4 Character District.



MAP SOURCE: City GIS

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	SITE IMPROVEMENTS PROPOSED	SIZE OF PROPERTY
CD-4	Undeveloped	CD-4/CD-2/ Unincorporated Single-Family	35 Single-Family Home Lots	8.14 acres

CONSISTENCTY with the **COMPREHENSIVE PLAN:**

Rural Countryside: The future land use character area of the subject property is Rural Countryside. The future land use is characterized by very low residential development and agricultural uses with limited, intermixed and compatible civic uses.

PROPERTY HISTORY:

In 2022, the applicant submitted a Preliminary Plat for the subject site which was ultimately withdrawn.

Later in 2022, Planning Commission approved a request for Preliminary and Final Plat for a smaller portion of the site, adjacent to the subject of this request.

CONFORMITY with the ZONING ORDINANCE:

Zoning Ordinance Referenced:
The CD-4 General Urban Charter District consists primarily of a medium density (12 du/ac) area in with a range of building types. The CD-4 district permits a range of residential, retail, artisan, office, and civic uses. The arrangement of buildings features medium, shallow or no front Setbacks and narrow to medium side Setbacks. Private landscaping varies. Thoroughfares and Internal Drives with curbs, sidewalks and trees define medium-sized blocks with a perimeter of 2,400 feet or less (Table 3.7.1 p. 36; Table 4.3.1-D, p. 76-85).

Lot Building Site Standards/ Setbacks (*Table 4.3.1-D, p. 76-85*):

- Building site width of 50' for non-alley loaded houses;
- 6' minimum, 20' maximum front setback;
- 6' side yard setback;
- 3' rear yard setback.
- Up to 20% of lots or building sites may enfront a pedestrian path, passage, or walkway.

This Preliminary Plat depicts 29 single-family lots that comply with the building site standards within a CD-4 Character District. AS noted in the staff analysis at the end of this report, the Site Development Plan depicts improvements on individual lots which do not conform to the Ordinance. The placement of structures on individual lots will be reviewed administratively after the subdivision process is complete.

Streets/Connectivity:

Thoroughfares and Internal Drives shall be provided and designed to define Blocks which do not exceed a maximum block permitter (§ 5.2.2.D, p.308).

- The proposed Preliminary Plat and Site Development Plan will create a new thoroughfare connecting to and extending existing rights of way.
- The proposed Thoroughfare will extend a block which exceeds the maximum perimeter. However, within the subject site, the Thoroughfare assembly will conform to all standards of the Ordinance. Section 5.2 provides for this situation by through "adjustment by Waiver of the Zoning Administrator at the edge of a Development Parcel." Section 5.2 provides for further adjustment by the City Engineer to accommodate the transition between the new Thoroughfare and the existing right-of-way.
- The block pattern conforms as strictly as practicable to the standards of the Zoning Ordinance in the context of an existing neighborhood.

Civic Space:

Section 5.3.1 of Zoning Ordinance 4400 requires any development parcel[1] to utilize at least 5% but no more than 20% of its gross acreage as Civic Space conforming to the standards of § 5.3.3. Section 5.3.3 offers a variety of Civic Space types that include green space, natural areas, pocket parks etc. Each Civic Space type has its own standards for intent, size, frontage, character, and typical facilities described in Table 5.3.3-B.

- The proposed Preliminary Plat and Site Development Plan depicts 1.28 acres of Civic Space, exceeding the 5% minimum.
- Greens account for all of the proposed Civic Space.
- The Civic Spaces depicted in the Preliminary Plat and Site Development Plan are defined by open lawns and perimeter trees.
- It is within the discretion of the Planning Commission to determine whether the Greens as

[1] Development Parcel: a parcel of land: (1) which, either alone or together with one or more other parcels under a common Development scheme, program or plan, is ten (10) or more gross acres; (2) with respect to the Development of which any new Thoroughfare, Internal Drive, or extension or change of the design of any existing Thoroughfare or Internal Drive is required or will be made or proposed; or (3) with respect to which any District assignment or any Thoroughfare or Internal Drive or alignment thereof is proposed to be made or changed by a Zoning Map or Zoning Map amendment. (§ 9.3, p. 490).

depicted meet the standards in Table 5.3.3-B. The Planning Commission may determine that the addition of paths and walking trails within the Greens better conform to the intent and typical facilities of the Civic Space type.

Green



Permitted In / Adjacent to:

CD-2 | CD-3L | CD-3 | CD-4 | CD-4C | SD-MHP | PUD-R

Intent

An open area, available for unstructured recreation. A Green may be spatially defined by landscaping rather than Building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size is 0.5 acre and the maximum is 8 acres.

Specifications

Size	0.5 ac min, 8 ac max
Frontage	Independent
Character	Informal

Typical Facilities

- Passive and active recreation
- Playgrounds and play structures
- Paths and trails
- Accessory structures

Tree Canopy Cover Retention:

Section 4.3.16 of the Zoning Ordinance requires a percentage of existing tree cover to be preserved based upon the existing canopy on the development site.

- The applicant's tree preservation plan identifies 4.3 acres (52%) of the 8.14 acre site as existing tree canopy.
- Table 4.3.16.L of the Ordinance requires retention of at least 45% of the existing canopy.
- The applicant's tree preservation plan proposes to preserve 45.8% of the existing tree canopy and identifies 1.9 acres of tree save areas.

Procedural Requirements:

Section 8.5.6 of the Zoning Ordinance requires that the appropriate Decision-Making Authority approve a Site Development Plan demonstrating compliance with the Ordinance prior to any development or

subdivision of land. The Planning Commission is the Decision-Making Authority for properties which qualify as Development Parcels, including the subject site. Approval should be conditioned on timely submittal of "as-approved" documents which, in the determination of the Zoning Administrator and the City Engineer, reflect the substance of the plans approved by the Planning Commission.

Site Development Plan:

Staff reviewed the request for a Site Development Plan for conformity with the standards listed in the City of Columbia Zoning Ordinance. The relevant provisions of the Ordinance are listed below. Staff analysis follows in the next section.

N. Review Criteria.

1. The criteria to be applied by the Zoning Administrator in reviewing a Development Plan and application shall be whether such Plan and application comply with the applicable conditions, standards, and requirements of this Ordinance, all applicable previously approved Plans, such as earlier Development Plans, the Comprehensive Plan and all other applicable Land Use Plans.

2. With respect to a Development Plan the Planning Commission shall rely on all conditions, standards, and requirements of Articles 1-5 and Article 7 of this Ordinance and the Planning Commission shall review the Plan and application for compliance with all other conditions, standards, and requirements of this Ordinance, including without limitation those of Article 6 (Supplemental Standards) , and compliance with all applicable previously approved Plans, such as earlier Development Plans, the Comprehensive Plan and all other applicable Land Use Plans. Additionally, in the case of Development in a Special District, the Planning Commission shall determine:

a. Whether the Development design and Development intensity are appropriate for and tailored to the unique characteristics of the site, such as significant wooded areas, specimen trees, wetlands, steep slopes, floodplains, and zoning of or existing Development on Adjacent property;

b. Whether the proposed access and circulation are adequate with respect to traffic patterns, traffic control measures, and street pavement areas, with provisions for maintaining traffic flows and reducing any negative effects of traffic on nearby properties;

c. Compliance with site construction requirements;

d. Adequacy of stormwater facilities, water supply, sanitary sewer service, fire protection, street signs, and street lighting as evidenced by conformance with City standards, specifications and guidelines; and

e. Compliance with requirements for Easements or dedications.

O. Development Plan Procedures Decision-Making Authority's Action.

1. Within 62 days for a Development Plan and application for which the Zoning Administrator is the Decision-Making Authority, or within 62 days after the hearing on a Development Plan and application for which the Planning Commission is the Decision-Making Authority, the Development Plan and application shall be approved or disapproved by the Decision-Making Authority in accordance with the review criteria of Section 8.5.6.N and Sections 8.5.6.O.2-.5 below:

2. A Development Plan and application shall be approved by the Decision-Making Authority, upon a finding that the Development Plan and application are in compliance with the review criteria set forth in Section 8.5.6.N.

3. If a Development Plan and Application are approved, the Development Plan as approved shall become part of the record of approval, and subsequent actions relating to the authorized Development must be consistent with approved items.

4. A Development Plan and application shall be disapproved if the Decision-Making Authority determines that the Plan and application do not comply with any one or more of the review criteria set forth in Section 8.5.6.N.

Staff's review of Section 8.5.6.N and O in relation to this request finds the following:

The proposed Site Development Plan generally conforms to the requirements of the Zoning Ordinance. Adjustment of the block pattern based on site conditions is discussed in the standards section above.

The Planning Commission may choose to condition approval on enhancement of the Civic Spaces with paths and walking trails for the benefit of future residents.

The Site Development Plan depicts building footprints and parking areas which **do not conform** to the standards of the Ordinance. The plan also depicts fencing around the storm water detention pond. A motion to approve the Preliminary Plat and Site Development Plan should make clear that the approval does not include elements like fences, driveways, parking, or the structures on individual lots. At the time of building permit, Development Services will review each application for conformity with the Zoning Ordinance. Similarly, detailed engineering plans submitted by the applicant **should not be regarded as part of the Preliminary Plat and Site Development Plan** reviewed by Planning Commission. Detailed administrative reviews will occur between the Preliminary Plat approval and review by Planning Commission of any subsequent Final Plat.

A note on the Tree Preservation Plan indicates the setbacks for lots 146 and 147 have been reduced to accommodate the tree save area. However, the plat and typical lot layout depict conforming setbacks for all lots, including 146 and 147. Deviation from the minimum and

maximum setbacks requires administrative adjustment granted by the Zoning Administrator or a variance granted by the Board of Zoning Appeals. At the time of building permit, the Zoning Administrator will consider any requests for administrative adjustment. A variance is not viable when the applicant is creating the lot of record and designing the conditions which cause a hardship. Fortunately, no adjustment appears necessary.

Technical comments from service providers indicate that services are in place to support the proposed development. A few technical comments are noteworthy and may warrant further evaluation by the Planning Commission.

- During technical review, planning staff commented that the application was not ready to proceed to Planning Commission. The applicant subsequently met with planning staff to review the requirements of the Zoning Ordinance. The May resubmittal improved significantly from the previous iterations of the plan. The resubmittal has some remaining technical issues, which are noted in this report.
- Maury County Schools commented that the proposed development would be served by Baker Elementary, Whitthorne Middle, and Central High School. The school system provided an additional note that this development combined with current neighborhoods and additional approved developments in the same attendance zones may require construction of new schools or realignment of attendance zones to accommodate new students.
- The Wastewater Department has advised the applicant that the city will not take ownership of the low-pressure system depicted in (re)submitted plans. The system will remain the responsibility of the homeowners.

Preliminary Plat and Site Development Plan are two separate documents which are reviewed concurrently.[2]

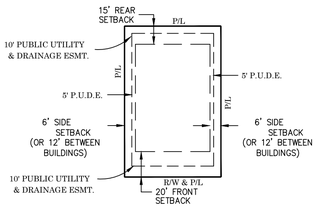
- The Preliminary Plat must adhere to the Subdivision Regulations and propose a plan for installation of infrastructure and the subdivision of land in a manner that conforms to the Zoning Ordinance and other regulations of the City. A Preliminary Plat approved by Planning Commission is the first step in the process of subdividing the property into smaller parcels.
- The Site Development Plan details how the proposed development of the site will conform to the requirements of the Zoning Ordinance for Development Parcels. A Site Development Plan approved by the Planning Commission will control all subsequent development of the site.
- Approval should be conditioned on the submittal of separate “as-approved” documents which reflect the determinations of the Planning Commission.

[2] There are some exceptions where Preliminary Plats and/or Site Construction Plans serve as the required Development Plan.

GENERAL NOTES

1.) THE PURPOSE OF THIS PLAT IS TO CREATE A 29 LOT SUBDIVISION.
2.) ALL DISTANCES SHOWN HEREON ARE BASED UPON A FIELD-—RUN SURVEY USING E.D.M. EQUIPMENT AND OR ALL GPS, AND ARE ADJUSTED FOR TEMPERATURE.
3.) UTILITIES, IF SHOWN WERE TAKEN FROM VISIBLE STRUCTURES AT THE SITE, VERIFICATION OF THEIR EXISTENCE, LOCATION, SIZE, AND DEPTH SHOULD BE MADE BEFORE MAKING DECISIONS REGARDING THEM. AVAILABILITY OF SERVICE SHOULD BE CONFIRMED WITH APPROPRIATE LOCAL UTILITY COMPANY. TENNESSEE ONE CALL (811) SHOULD BE CALLED BEFORE ANY CONSTRUCTION OR DIGGING.
4.) THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT. IT IS THEREFORE SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE REPORT.
5.) THIS PROPERTY IS SUBJECT TO BOTH RECORDED EASEMENTS, AND TO THOSE UNKNOWN TO THIS SURVEYOR.
6.) THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
7.) PROPERTY ZONED CD-4. SETBACKS ARE FRONT=6'/20'; SIDE =6' TOTAL; REAR=15'
8.) THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
9.) POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
10.) SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
11.) NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
12.) ALL STORM WATER RUNOFF WILL FLOW AWAY FROM THE ROAD AND TOWARD THE STREAM. FOR CALCULATIONS SEE D1 & D2 STORM WATER PLAN ENGINEERING PLAN IN THE CONSTRUCTION DRAWINGS.
13.) ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622' ELEVATION DUE TO POSSIBLE FLOODING.
14.) TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.

TYPICAL LAYOUT (LOTS 146-174)



LOT(S) AREA

LOT #	SQ FT
LOT 146	5,996 ft²
LOT 147	8,106 ft²
LOT 148	5,444 ft²
LOT 149	5,909 ft²
LOT 150	6,150 ft²
LOT 151	9,990 ft²
LOT 152	5,915 ft²
LOT 153	5,119 ft²
LOT 154	4,998 ft²
LOT 155	5,000 ft²
LOT 156	5,000 ft²
LOT 157	5,029 ft²
LOT 158	5,088 ft²
LOT 159	5,140 ft²
LOT 160	5,184 ft²
LOT 161	5,218 ft²
LOT 162	5,239 ft²
LOT 163	5,248 ft²
LOT 164	5,249 ft²
LOT 165	5,249 ft²
LOT 166	5,786 ft²
LOT 167	5,690 ft²
LOT 168	5,622 ft²
LOT 169	5,579 ft²
LOT 170	5,554 ft²
LOT 171	5,529 ft²
LOT 172	5,525 ft²
LOT 173	5,518 ft²
LOT 174	5,561 ft²

TYPICAL PAVEMENT SECTION

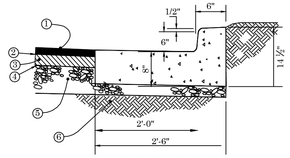
GENERAL NOTE:
1. PLACEMENT OF SIDEWALK SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF COLUMBIA, LATEST VERSION.
2. CONSTRUCTION SHALL CONFIRM TO THE CITY OF COLUMBIA ENGINEERING DEPARMENT SPECIFICATIONS, LATEST REVISION.

(NOT TO SCALE)

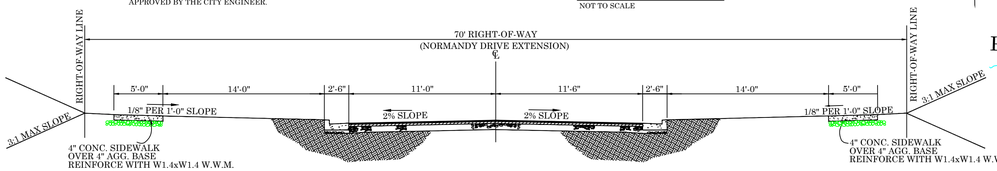
MINIMUM REQUIREMENTS:

① 11/2" ASPHALTIC CONCRETE SURFACE (GRADING E) ITEM NO. 411-01.11
② TACK COAT (RS-2) ITEM NO. 403-01
③ 2" ASPHALTIC CONCRETE BASE (GRADING B) ITEM NO. 307-01.06
④ PRIME COAT (AE-P) ITEM NO. 402-01
⑤ 10" STONE (GRADING D PUG MILL MIX) ITEM NO. 303-01
⑥ APPROVED COMPACTED SUBGRADE

ITEM NUMBERS ARE TO MEET TOOT SPECIFICATIONS
NOTES:
ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED NEAR INTERSECTIONS
ELEMENTS OF THIS TYPICAL SECTION MAY BE REVISED IF APPROVED BY THE CITY ENGINEER.



PAVEMENT COURSES
NOT TO SCALE



PROPOSED NORMANDY DRIVE R.O.W LOT CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	160.00'	62.88'	62.48'	S 41°24'44" E	22°31'03"
C2	160.00'	136.88'	132.74'	S 05°38'47" E	49°00'50"
C3	20.00'	31.00'	27.99'	N 66°12'02" E	88°49'15"
C4	182.03'	18.40'	18.40'	S 72°17'07" E	5°47'33"
C5	182.03'	44.58'	44.47'	S 82°11'50" E	14°01'52"
C6	90.00'	7.40'	7.40'	S 86°20'58" E	4°42'41"
C7	90.00'	144.17'	129.24'	S 38°06'16" E	91°46'45"
C8	90.00'	17.41'	17.38'	S 13°19'32" W	11°04'50"
C9	9817.04'	13.87'	13.87'	S 18°54'22" W	0°04'51"
C10	9817.04'	50.03'	50.03'	S 19°05'34" W	0°17'31"
C11	9817.04'	50.00'	50.00'	S 19°23'04" W	0°17'30"
C12	9817.04'	50.00'	50.00'	S 19°40'35" W	0°17'31"
C13	9817.04'	50.00'	50.00'	S 19°58'05" W	0°17'31"
C14	9817.04'	50.00'	50.00'	S 20°15'36" W	0°17'31"
C15	9817.04'	35.01'	35.01'	S 20°30'29" W	0°12'16"
C16	9887.04'	14.62'	14.62'	N 20°34'05" E	0°05'05"
C17	9887.04'	50.03'	50.03'	N 20°22'50" E	0°17'24"
C18	9887.04'	50.14'	50.14'	N 20°05'25" E	0°17'26"
C19	9887.04'	50.03'	50.03'	N 19°48'01" E	0°17'24"
C20	9887.04'	50.00'	50.00'	N 19°30'37" E	0°17'23"
C21	9887.04'	50.13'	50.13'	N 19°13'13" E	0°17'26"
C22	9887.04'	36.11'	36.11'	N 18°58'13" E	0°12'33"
C29	25.08'	38.01'	34.48'	N 65°22'51" E	86°51'16"
C30	25.01'	35.92'	32.91'	S 19°22'37" E	82°17'39"

PROPOSED NORMANDY DRIVE LOT LINE TABLE

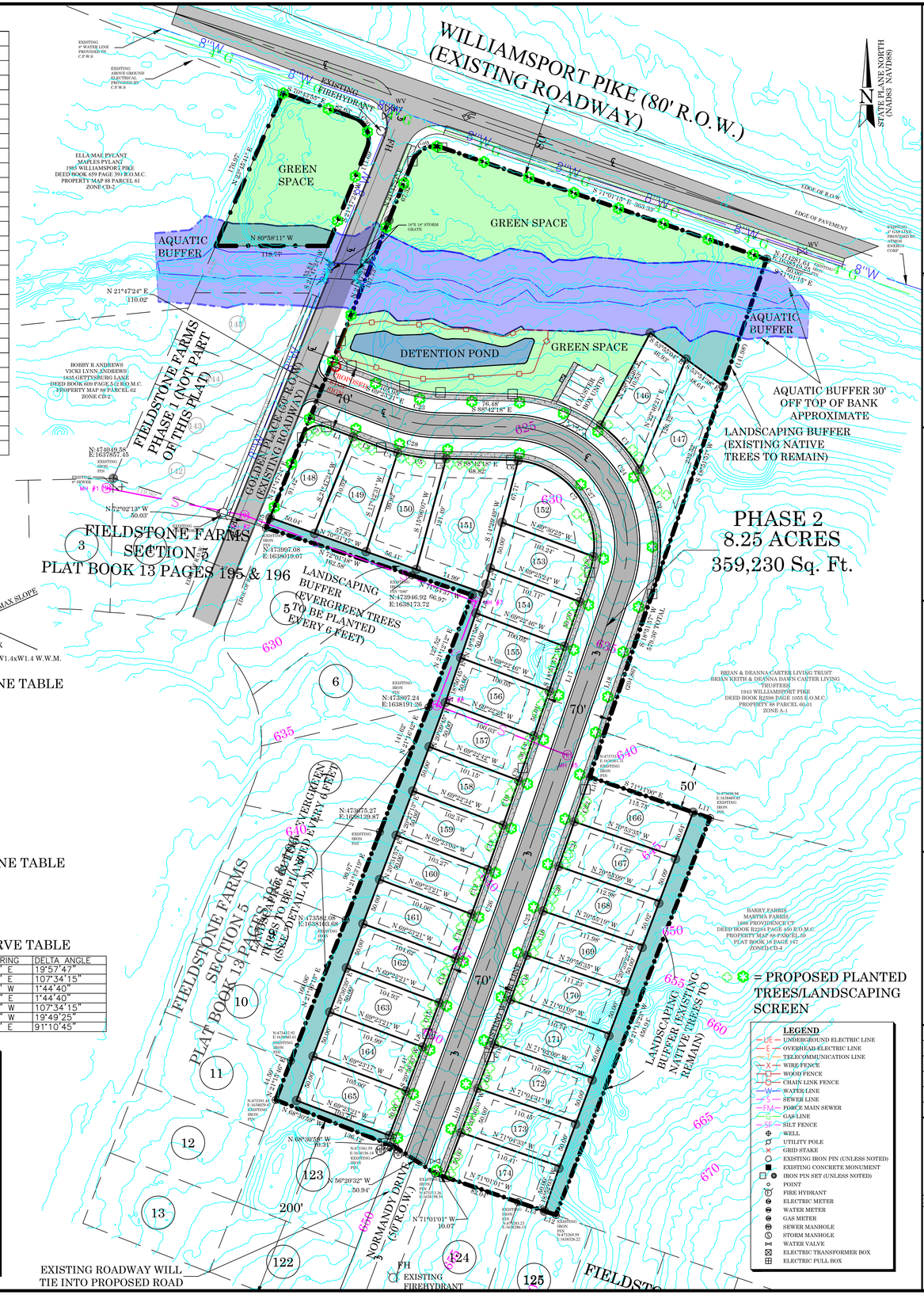
LINE	BEARING	DISTANCE
L1	S 69°23'21" E	30.42'
L2	S 69°23'21" E	31.66'
L3	S 88°42'18" E	7.32'
L4	S 18°51'57" W	32.64'
L5	N 19°20'05" E	22.58'
L6	N 19°19'11" E	9.99'
L7	N 14°29'46" E	17.43'
L8	S 20°36'33" W	14.99'
L9	N 20°36'33" E	35.46'
L10	N 18°51'57" E	13.93'
L11	S 71°11'00" E	19.00'
L12	N 71°12'13" W	12.98'
L13	N 71°12'13" W	29.36'
L14	S 20°36'39" W	9.10'
L15	N 21°47'24" E	11.76'

PROPOSED NORMANDY DRIVE R.O.W LINE TABLE

LINE	BEARING	DISTANCE
L16	N 20°36'33" E	130.19'
L17	N 18°51'57" E	218.79'
L18	N 18°51'57" E	218.79'
L19	S 20°36'33" W	130.19'

PROPOSED NORMANDY DRIVE R.O.W CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C23	112.03'	39.03'	38.84'	S 79°22'14" E	19°57'47"
C24	160.00'	300.39'	258.18'	S 34°55'11" E	107°34'15"
C25	9887.04'	301.04'	301.03'	S 19°44'17" W	1°44'40"
C26	9817.04'	298.91'	298.90'	N 19°44'17" E	1°44'40"
C27	92.50'	173.67'	149.26'	N 34°55'11" W	107°34'15"
C28	182.03'	62.98'	62.67'	N 79°18'03" W	19°49'25"
C31	20.00'	31.83'	28.57'	S 23°47'58" E	91°10'45"



UTILITY OWNERS

ELECTRIC
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

WATER
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS:COLUMBIA, TN 38401
PHONE # (931) 388-4833

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

811
IF YOU DIG TENNESSEE... CALL US FIRST!
811
TENNESSEE ONE CALL IT'S THE LAW

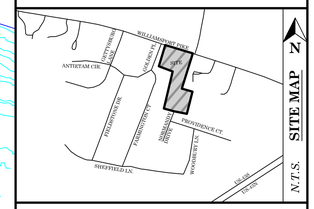
SEWER STRUCTURE	
EXISTING MH #1	MH TOP 619.97' 8" S. IN 616.59' 8" E. IN 614.23' 8" W. OUT 614.17'
EXISTING MH #2	MH TOP 624.65' 4" PLASTIC SE. IN 621.65' 8" E. IN 616.90' 8" W. OUT 616.88'
EXISTING MH #3	MH TOP 630.31' 8" S. IN 623.51' 8" W. OUT 623.35'
EXISTING MH #4	MH TOP 633.24' 8" E. IN 627.13' 8" N. OUT 627.03'
EXISTING MH #5	MH TOP 636.35' 8" S. IN 630.74' 8" W. OUT 630.66'

FIELDSTONE FARMS PHASE II
AREA TO BE DEVELOPED:

	AREA IN Sq. Ft.
COMBINED LOT AREA:	164,635 Sq. Ft. 3.78 Acres
AQUATIC BUFFER AREA:	34,144 Sq. Ft. 0.78 Acres
COMMON SPACE AREA:	22,902 Sq. Ft. 0.53 Acres
GREEN SPACE AREA:	55,719 Sq. Ft. 1.28 Acres
DETENTION POND AREA:	5,236 Sq. Ft. 0.12 Acres
R.O.W AREA:	76,594 Sq. Ft. 1.76 Acres
TOTAL AREA TO BE DEVELOPED:	359,230 Sq. Ft. 8.25 Acres

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

7376 WALKER ROAD,
FAIRVIEW, TENNESSEE 37062
(615) 799-8104
chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 DATE

HABITAT FOR HUMANITY
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
p/o DEED BOOK R-2425 PAGE 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONING: CD-4
TOTAL ACRES 8.25
TOTAL AREA BEING DEVELOPED: 8.25 ACRES
CITY OF COLUMBIA

REVISION #	DATE
REVISION # 2	5/22/2023
REVISION # 1	4/17/2023
DATE:	JANUARY 17, 2023
DRAWN BY:	NAB
JOB #:	6171
SCALE:	1" = 60'

0 60 120

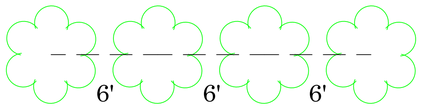
V-1.0

PRELIMINARY PLAT-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2

* OVERHEAD VIEW

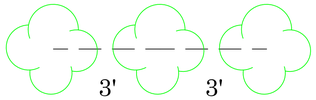
LANDSCAPING BUFFER AREA

AMERICAN HOLLY
(LLEX OPACA)



PARKING AREA LANDSCAPING

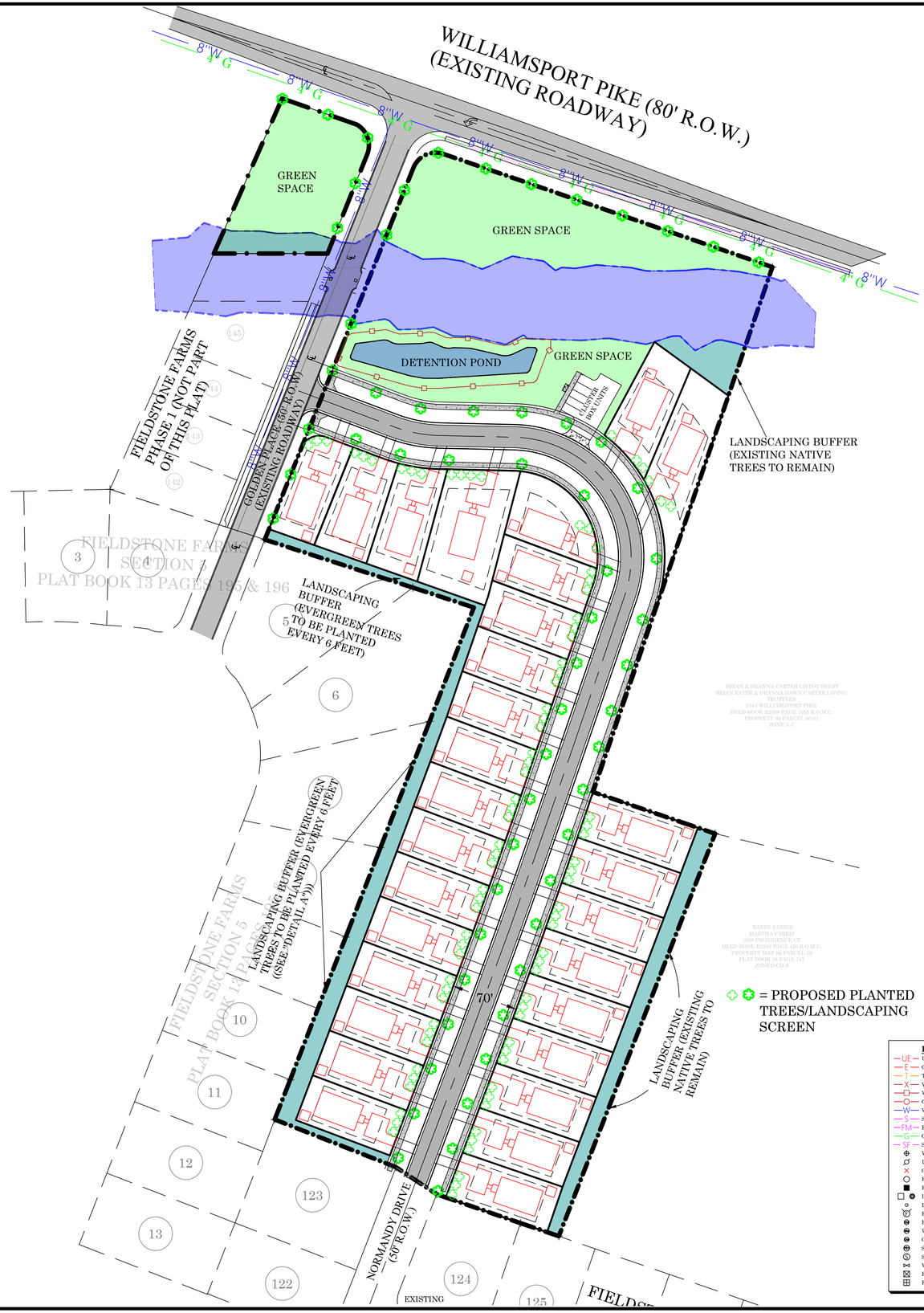
SWEET LEAF BUSHES
(SYMPLOCUS EINCTORIA)



DETAIL A

PROPOSED LANDSCAPING CHART:

	QUANTITY TO BE PLANTED
SHORT LEAF PINE/ PINUS ECHINATA (4"):	21
LOBLOLLY PINE/ PINUS TAEDA (4"):	20
EASTERN WHITE PINE/ PINUS STROBUS (4"):	20
TOTAL NUMBER OF TREES TO BE PLANTED:	61
TOTAL NUMBER OF SWEET LEAF (SYMPLOCUS EINCTORIA) BUSHES TO BE PLANTED (6"-9") :	88
TOTAL NUMBER OF AMERICAN HOLLY (LLEX OPACA) EVERGREEN TREES TO BE PLANTED (12"):	134
TOTAL AREA OF LANDSCAPING TO BE PLANTED/RETAINED:	29, 941 Sq. Ft.



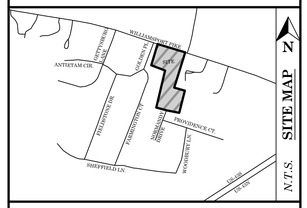
STATE PLANE NORTH (NAD83 NAVD88)

LEGEND

- UE — UNDERGROUND ELECTRIC LINE
- E — OVERHEAD ELECTRIC LINE
- T — TELECOMMUNICATION LINE
- X — WIRE FENCE
- WOOD FENCE
- CHAIN LINK FENCE
- W — WATER LINE
- S — SEWER LINE
- FM — FORCE MAIN SEWER
- G — GAS LINE
- SF — SILT FENCE
- WELL
- UTILITY POLE
- GRID STAKE
- EXISTING IRON PIN (UNLESS NOTED)
- EXISTING CONCRETE MONUMENT
- IRON PIN SET (UNLESS NOTED)
- POINT
- FIRE HYDRANT
- ELECTRIC METER
- WATER METER
- GAS METER
- SEWER MANHOLE
- STORM MANHOLE
- WATER VALVE
- ELECTRIC TRANSFORMER BOX
- ELECTRIC PULL BOX

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

7376 WALKER ROAD,
FAIRVIEW, TENNESSEE 37062
(615) 799-8104
chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444





CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

5/22/2023

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 DATE

HABITAT FOR HUMANITY
(615) 550-5619
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
p/o DEED BOOK R-2425 PAGE 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONING: CD-4
TOTAL ACRES 8.25
TOTAL AREA BEING DEVELOPED: 8.25 ACRES
CITY OF COLUMBIA

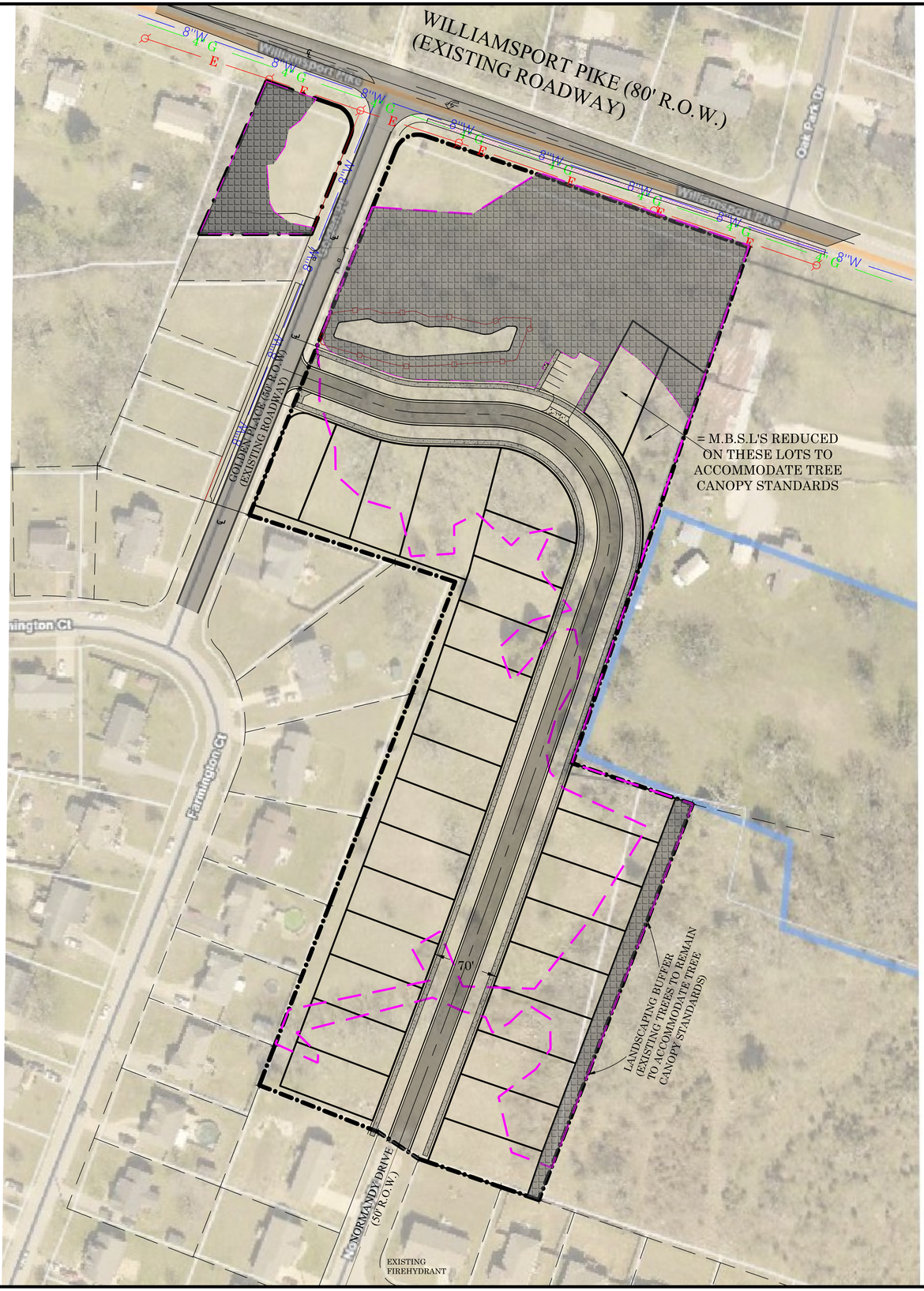
REVISION #	DATE
REVISION # 2	5/22/2023
REVISION # 1	4/17/2023

DATE: JANUARY 17, 2023
DRAWN BY: NAB
JOB #: 6171
SCALE: 1" = 60'

0 60 120

V-4.0

LANDSCAPING PLAN EXHIBIT-SITE DEVELOPMENT PLAN-MAJOR SUBDIVISION FOR FIELDSTONE FARMS SECTION 5 PHASE 2



EXISTING TREE CANOPY

TREE CANOPY

UNDISTURBED AREA

TREE CANOPY CALCULATIONS

	AREA IN ft²
TOTAL PROPERTY AREA	359,230'
TOTAL TREE CANOPY	186,104' (52%)
PERCENTAGE OF TREE CANOPY TO BE RETAINED	45%
TOTAL DISTURBED TREE CANOPY	110,016' (59%)
TOTAL UNDISTURBED TREE CANOPY	85,153' (45.8%)

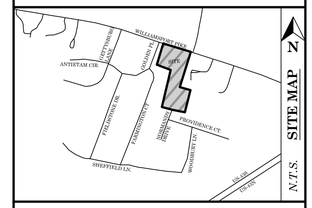
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RANDOLPH L. CHAPDELAINE — REGISTERED LAND SURVEYOR — AGRICULTURE — TENNESSEE — 5/22/2023

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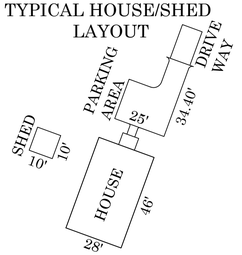
V-3.0

TREE CANOPY EXHIBIT-SITE DEVELOPMENT PLAN-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2

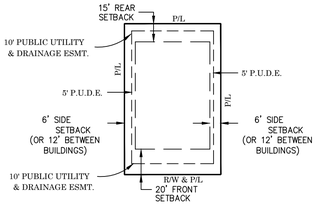
GENERAL NOTES

1.) THE PURPOSE OF THIS PLAT IS TO CREATE A 29 LOT SUBDIVISION.
2.) ALL DISTANCES SHOWN HEREON ARE BASED UPON A FIELD–RUN SURVEY USING E.D.M. EQUIPMENT AND OR ALL GPS, AND ARE ADJUSTED FOR TEMPERATURE.
3.) UTILITIES, IF SHOWN WERE TAKEN FROM VISIBLE STRUCTURES AT THE SITE, VERIFICATION OF THEIR EXISTENCE, LOCATION, SIZE, AND DEPTH SHOULD BE MADE BEFORE MAKING DECISIONS REGARDING THEM. AVAILABILITY OF SERVICE SHOULD BE CONFIRMED WITH APPROPRIATE LOCAL UTILITY COMPANY. TENNESSEE ONE CALL (811) SHOULD BE CALLED BEFORE ANY CONSTRUCTION OR DIGGING.
4.) THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT. IT IS THEREFORE SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE REPORT.
5.) THIS PROPEERTY IS SUBJECT TO BOTH RECORDED EASEMENTS, AND TO THOSE UNKNOWN TO THIS SURVEYOR.
6.) THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
7.) PROPERTY ZONED CD-4. SETBACKS ARE FRONT=6'/20'; SIDE =6' TOTAL; REAR=15'
8.) THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
9.) POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
10.) SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
11.) NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
12.) ALL STORM WATER RUNOFF WILL FLOW AWAY FROM THE ROAD AND TOWARD THE STREAM. FOR CALCULATIONS SEE D1 & D2 STORM WATER PLAN ENGINEERING PLAN IN THE CONSTRUCTION DRAWINGS.
13.) ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622' ELEVATION DUE TO POSSIBLE FLOODING.
14.) TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.
15.) ALL FACADES ON STRUCTURES SHALL CONFORM TO STANDARDS IN TABLE 4.3.1-D AND TABLE 4.3.8.B OF THE ZONING ORDINANCE. CONFORMITY WILL BE CONFIRMED AT BUILDING PERMIT.
16.) MAINTENANCE AND UPKEEP OF COMMON SPACE TO BE MANAGED BY H.O.A.
17.) ALL PRIVATE LANDSCAPING WILL CONFORM TO SECTION 4.3.16 OF THE ZONING ORDINANCE.
18.) FUTURE REMOVAL OF TREES DEPICTED ON THE PLAN WILL REQUIRE APPROVAL BY THE PLANNING COMMISSION PER SECTION 4.3.16.C.1 OF THE ZONING ORDINANCE.
19.) LIGHTING AT FRONTAGE LINES WILL NOT EXCEED 1.0 FOOT CANDLE AND ONSITE OUTDOOR LIGHTING WILL CONFORM TO THE STANDARDS OF SECTION 4.3.17.B OF THE ZONING ORDINANCE.
20.) URBAN NEIGHBORHOOD STREET THOROUGHFARE TO BE UTILIZED.
21.) VEHICLE PARKING IS TO BE OFF STREET AND ACCOMMODATE 2 VEHICLES.
22.) ALL LOTS ARE TO HAVE 1 SINGLE FAMILY DWELLING UNIT PER LOT.
23.) NO FENCE, STRUCTURE, WALL OR ANY OTHER SEPARATING DEVICE SHALL BE PERMITTED BEYOND THE FRONT SIDE OF THE HOUSE. NO FENCES ARE ALLOWED IN FRONT YARDS. IN THE CASE OF RESIDENCES LOCATED ON CORNER LOTS, THE RESTRICTIONS SHALL APPLY TO THE MIDLINE OF THE SIDE OF THE HOUSE FACING THE STREET. ALL SUCH FENCES, STRUCTURE WALLS, HEDGES OR OTHER SEPARATING DEVICES REQUIRE APPROVAL BY THE DECLARANT OR HOME OWNERS ASSOCIATION PRIOR TO INSTALLATION. UNLESS OTHERWISE APPROVED, CHAIN LINK FENCES SHALL NOT EXCEED FOUR (4) FEET IN HEIGHT, WOOD PRIVACY FENCES SHALL NOT EXCEED SIX (6) FEET IN HEIGHT.
24.) ALL RESIDENCES TO BE WOOD FRAME, SINGLE STORY BUILDINGS. DRIVEWAYS ARE TO BE CONCRETE.
25.) THIS DEVELOPMENT TO BE GOVERNED UNDER H.O.A REGULATIONS.
26.) HOMEOWNERS ARE TO BE RESPONSIBLE FOR INDIVIDUAL REFUSE SERVICE.

TYPICAL HOUSE/SHED LAYOUT



TYPICAL LAYOUT (LOTS 146–174)



PROPOSED NORMANDY DRIVE LOT LINE TABLE

LINE	BEARING	DISTANCE
L1	S 69°23'21" E	30.42'
L2	S 69°23'21" E	31.66'
L3	S 88°42'18" E	7.32'
L4	S 18°51'57" W	32.64'
L5	N 19°20'05" E	22.58'
L6	N 19°19'11" E	9.99'
L7	N 14°29'46" E	17.43'
L8	S 20°36'33" W	14.99'
L9	N 20°36'33" E	35.46'
L10	N 18°51'57" E	13.93'
L11	S 71°11'00" E	19.00'
L12	N 71°12'13" W	12.98'
L13	N 71°12'13" W	29.36'
L14	S 20°36'39" W	9.10'
L15	N 21°47'24" E	11.76'

PROPOSED NORMANDY DRIVE R.O.W LOT CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	160.00'	62.88'	62.48'	S 41°24'44" E	22°31'03"
C2	160.00'	136.88'	132.74'	S 05°38'47" E	49°00'50"
C3	20.00'	31.00'	27.99'	N 66°12'02" E	88°49'15"
C4	182.03'	18.40'	18.40'	S 72°17'07" E	5°47'33"
C5	182.03'	44.58'	44.47'	S 82°11'50" E	14°01'52"
C6	90.00'	7.40'	7.40'	S 86°20'58" E	4°42'41"
C7	90.00'	144.17'	129.24'	S 38°06'16" E	91°46'45"
C8	90.00'	17.41'	17.38'	S 13°19'32" W	11°04'50"
C9	9817.04'	13.87'	13.87'	S 18°54'22" W	0°04'51"
C10	9817.04'	50.03'	50.03'	S 19°05'34" W	0°17'31"
C11	9817.04'	50.00'	50.00'	S 19°23'04" W	0°17'30"
C12	9817.04'	50.00'	50.00'	S 19°40'35" W	0°17'31"
C13	9817.04'	50.00'	50.00'	S 19°58'05" W	0°17'31"
C14	9817.04'	50.00'	50.00'	S 20°15'36" W	0°17'31"
C15	9817.04'	35.01'	35.01'	S 20°30'29" W	0°12'16"
C16	9887.04'	14.62'	14.62'	N 20°34'05" E	0°05'05"
C17	9887.04'	50.03'	50.03'	N 20°22'50" E	0°17'24"
C18	9887.04'	50.14'	50.14'	N 20°05'25" E	0°17'26"
C19	9887.04'	50.03'	50.03'	N 19°48'01" E	0°17'24"
C20	9887.04'	50.00'	50.00'	N 19°30'37" E	0°17'23"
C21	9887.04'	50.13'	50.13'	N 19°13'13" E	0°17'26"
C22	9887.04'	36.11'	36.11'	N 18°58'13" E	0°12'33"
C29	25.08'	38.01'	34.48'	N 65°22'51" E	86°51'16"
C30	25.01'	35.92'	32.91'	S 19°22'37" E	82°17'39"

UTILITY OWNERS

ELECTRIC
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

WATER
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS:COLUMBIA, TN 38401
PHONE # (931) 388-4833

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

811
IF YOU DIG TENNESSEE...
CALL US FIRST!
811
TENNESSEE ONE CALL IT'S THE LAW

SEWER STRUCTURE	
EXISTING MH #1	MH TOP 619.97' 8" S. IN 616.59' 8" E. IN 614.23' 8" W. OUT 614.17'
EXISTING MH #2	MH TOP 624.65' 4" PLASTIC SE. IN 621.65' 8" E. IN 616.90' 8" W. OUT 616.88'
EXISTING MH #3	MH TOP 630.31' 8" S. IN 623.51' 8" W. OUT 623.35'
EXISTING MH #4	MH TOP 633.24' 8" E. IN 627.13' 8" N. OUT 627.03'
EXISTING MH #5	MH TOP 636.35' 8" S. IN 630.74' 8" W. OUT 630.66'

LOT(S) AREA

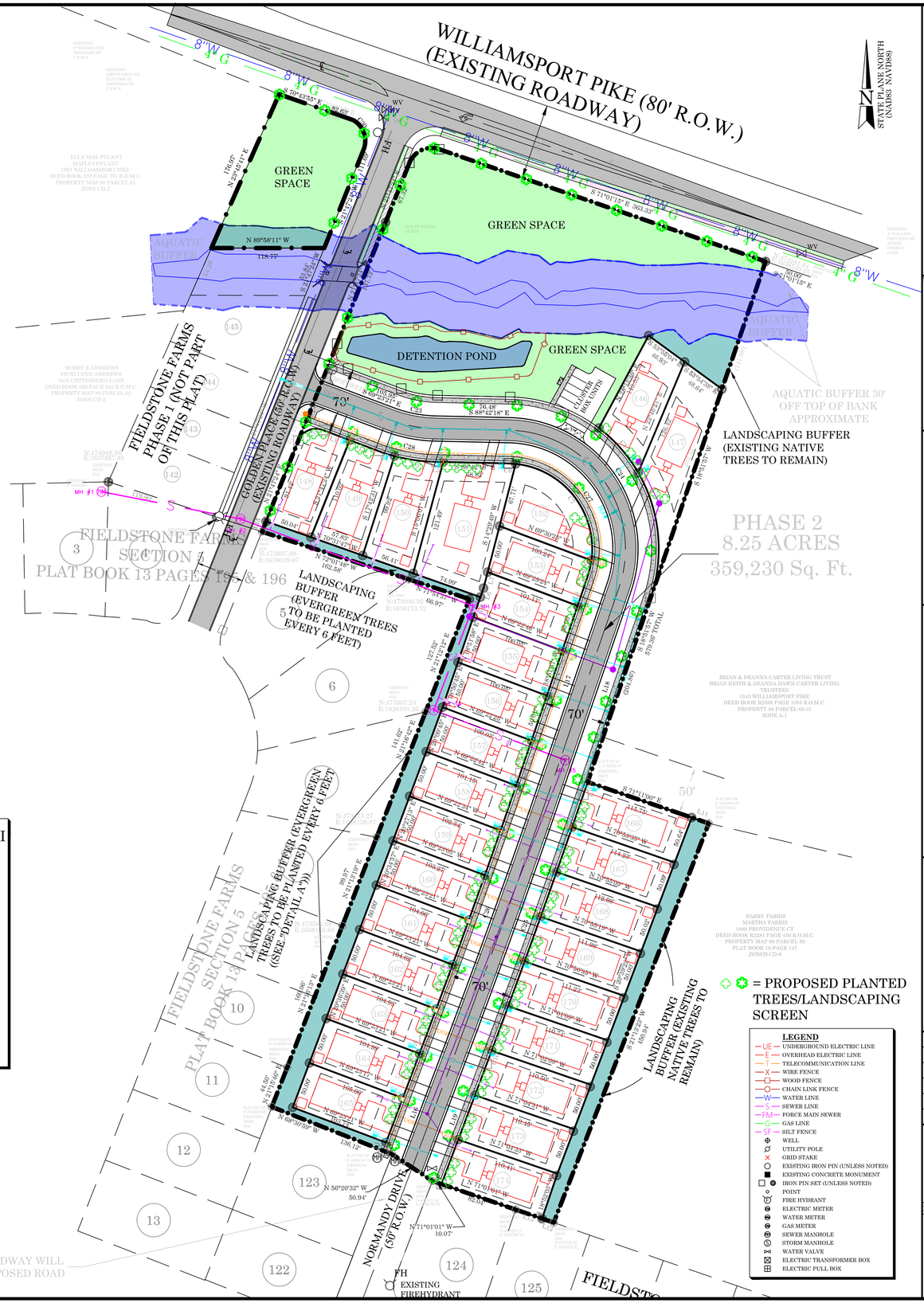
LOT #	SQ FT	RESIDENCE SQ FT	RATIO
LOT 146	5,996 ft²	1,288 ft²	21.5%
LOT 147	8,106 ft²	1,288 ft²	15.9%
LOT 148	5,444 ft²	1,288 ft²	23.7%
LOT 149	5,909 ft²	1,288 ft²	21.8%
LOT 150	6,150 ft²	1,288 ft²	20.9%
LOT 151	9,990 ft²	1,288 ft²	12.9%
LOT 152	5,915 ft²	1,288 ft²	21.8%
LOT 153	5,119 ft²	1,288 ft²	25.2%
LOT 154	4,998 ft²	1,288 ft²	25.8%
LOT 155	5,000 ft²	1,288 ft²	25.8%
LOT 156	5,000 ft²	1,288 ft²	25.8%
LOT 157	5,029 ft²	1,288 ft²	25.6%
LOT 158	5,088 ft²	1,288 ft²	25.3%
LOT 159	5,140 ft²	1,288 ft²	25.1%
LOT 160	5,184 ft²	1,288 ft²	24.8%
LOT 161	5,218 ft²	1,288 ft²	24.7%
LOT 162	5,239 ft²	1,288 ft²	24.6%
LOT 163	5,248 ft²	1,288 ft²	24.5%
LOT 164	5,249 ft²	1,288 ft²	24.5%
LOT 165	5,249 ft²	1,288 ft²	24.5%
LOT 166	5,786 ft²	1,288 ft²	22.3%
LOT 167	5,690 ft²	1,288 ft²	22.6%
LOT 168	5,622 ft²	1,288 ft²	22.9%
LOT 169	5,579 ft²	1,288 ft²	23.1%
LOT 170	5,554 ft²	1,288 ft²	23.2%
LOT 171	5,529 ft²	1,288 ft²	23.3%
LOT 172	5,525 ft²	1,288 ft²	23.3%
LOT 173	5,518 ft²	1,288 ft²	23.3%
LOT 174	5,561 ft²	1,288 ft²	23.2%

IMPERVIOUS AREA CHART:

	AREA IN Sq. Ft.
PROPOSED DRIVE IMPERVIOUS AREA:	7,653 Sq. Ft. 0.18 Acres
PROPOSED PARKING IMPERVIOUS AREA:	17,638 Sq. Ft. 0.40 Acres
PROPOSED ROAD IMPERVIOUS AREA:	24,334 Sq. Ft. 0.56 Acres
PROPOSED SIDEWALK IMPERVIOUS AREA:	11,386 Sq. Ft. 0.26 Acres
PROPOSED CURB IMPERVIOUS AREA:	1,113 Sq. Ft. 0.03 Acres
PROPOSED CLUSTERBOX PARKING & DRIVE IMPERVIOUS AREA:	2,654 Sq. Ft. 0.06 Acres
PROPOSED HOUSE IMPERVIOUS AREA:	37,352 Sq. Ft. 0.86 Acres
PROPOSED SHED IMPERVIOUS AREA:	2,900 Sq. Ft. 0.07 Acres
TOTAL IMPERVIOUS AREA:	104,805 Sq. Ft. 2.41 Acres

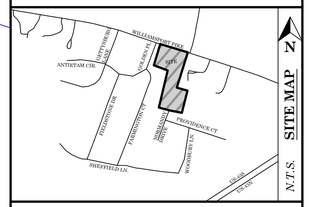
FIELDSTONE FARMS PHASE II AREA TO BE DEVELOPED:

	AREA IN Sq. Ft.
COMBINED LOT AREA:	164,812 Sq. Ft. 3.78 Acres
AQUATIC BUFFER AREA:	34,144 Sq. Ft. 0.78 Acres
COMMON SPACE AREA:	22,902 Sq. Ft. 0.53 Acres
GREEN SPACE AREA:	55,542 Sq. Ft. 1.28 Acres
DETENTION POND AREA:	5,236 Sq. Ft. 0.12 Acres
R.O.W AREA:	76,594 Sq. Ft. 1.76 Acres
TOTAL AREA TO BE DEVELOPED:	359,230 Sq. Ft. 8.25 Acres



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0 60 120

V-2.0

SITE DEVELOPMENT PLAN-MAJOR SUBDIVISION FOR FIELDSTONE FARMS SECTION 5 PHASE 2

RE: [External Email] - Fieldstone Farms Phase 2

2 messages

Austin Brass <abrass@columbiatn.com> Fri, Jan 13, 2023 at 11:30 AM
To: Zack Harvill <zharvill@chapsurveyor.com>
Cc: "abrawner@chapsurveyor.com" <abrawner@chapsurveyor.com>, Douglas Toney <dtoney@columbiatn.com>

Mr. Harvill;

I have copied our engineer Mr. Toney is this email regarding the need for a traffic study.

Thank you.

From: Zack Harvill <zharvill@chapsurveyor.com>
Sent: Friday, January 13, 2023 11:24 AM
To: Austin Brass <abrass@columbiatn.com>
Cc: abrawner@chapsurveyor.com
Subject: [External Email] - Fieldstone Farms Phase 2

Good morning Austin, we are gathering our information together and going over our preliminary checklist for Fieldstone Farms Phase 2. Will there need to be a traffic impact study? We can provide you a pdf of this plat if needed. We appreciate your attention to this matter. We look forward to hearing from you.

Sincerely,

Zack Harvill

Chapdelaine and Associates Land Surveying

615-799-8104

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Douglas Toney <dtoney@columbiatn.com> Fri, Jan 13, 2023 at 3:27 PM
To: Austin Brass <abrass@columbiatn.com>, Zack Harvill <zharvill@chapsurveyor.com>
Cc: "abrawner@chapsurveyor.com" <abrawner@chapsurveyor.com>

Zach,

A traffic impact study will not be required.

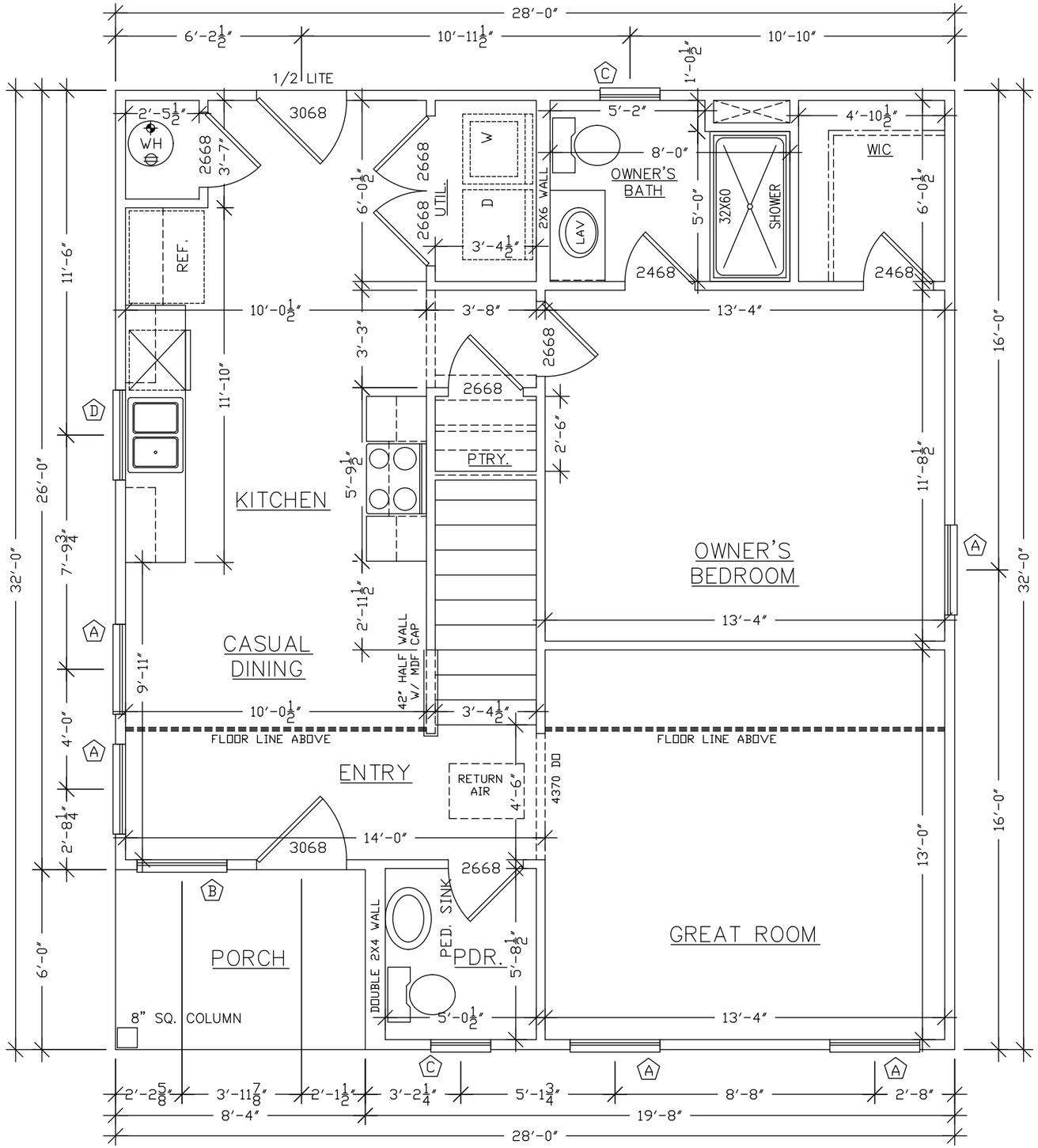
Douglas Toney, P.E.

Assistant City Engineer

City of Columbia

(931) 560-1560

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[Quoted text hidden]



FIRST FLOORPLAN 1/4"=1'-0"

WINDOW SCHEDULE:

A. 3050 SH
B. 3050 SH TEMPERED
C. 2020 FXD
D. 3030 SLIDER

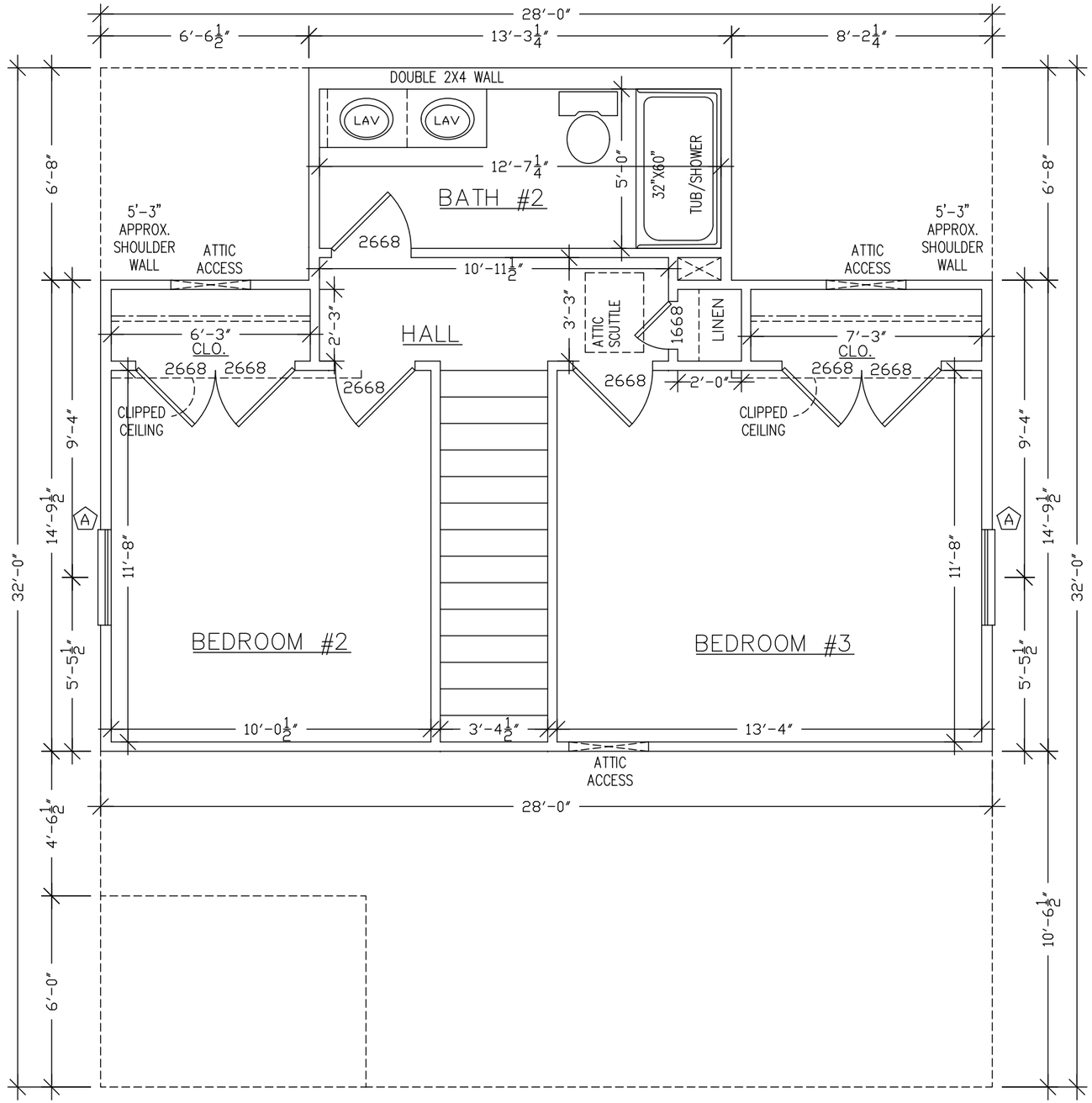
ALL WINDOWS FEATURE SINGLE HUNG, DOUBLE PANE W/ LOW E GLASS & VINYL CONSTRUCTION.

Project	
HABITAT	
Spec. Revision Date:	
Lot #	Market Home or Home Owner
#	Name:
Plan Name:	
AUTUMN	
Sheet Name:	
FLOOR PLAN	

Habitat for Humanity of Williamson/Maury

Drawn By: BSR	
Scale: 1/4"=1'-0"	
Date:	
Revision Dates:	
00/00/00	

A1.0



SECOND FLOORPLAN 1/4"=1'-0"

WINDOW SCHEDULE:

A. 3050 SH
B. 3050 SH TEMPERED
C. 2020 FXD
D. 3030 SLIDER

ALL WINDOWS FEATURE SINGLE HUNG, DOUBLE PANE W/ LOW E GLASS & VINYL CONSTRUCTION.

Project	
HABITAT	
Spec. Revision Date:	
Lot #	Market Home or Home Owner
#	Name:
Plan Name:	
AUTUMN	
Sheet Name:	
FLOOR PLAN	

Habitat for Humanity of Williamson/Maury

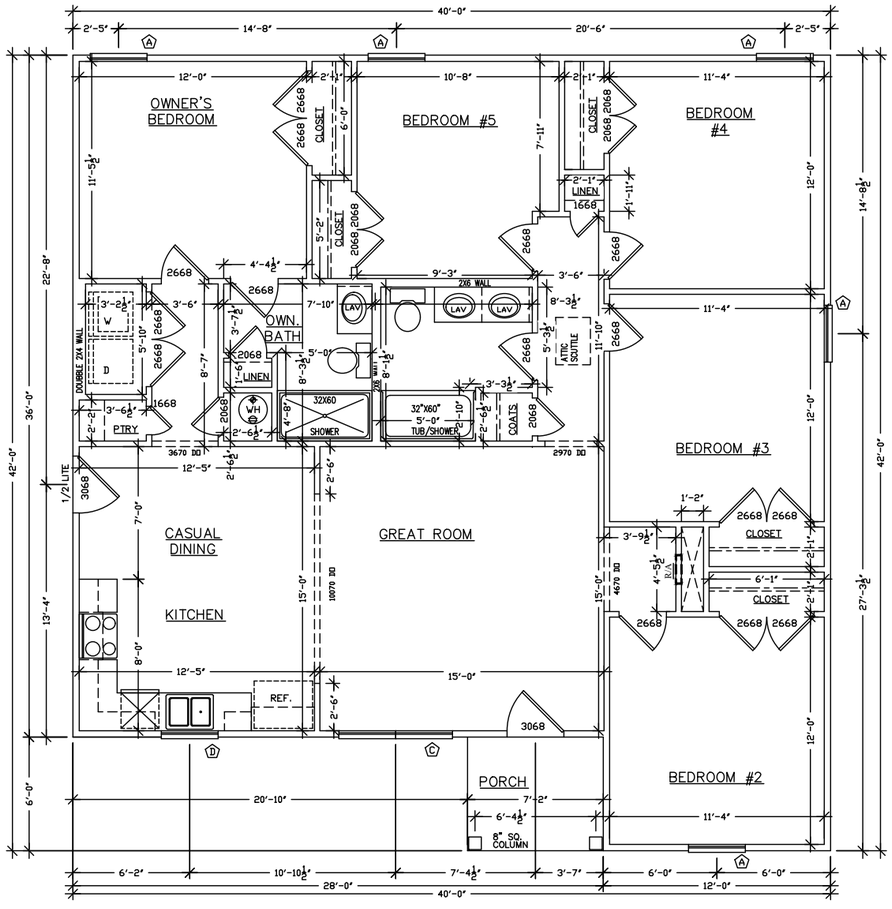
Drawn By: BSR	
Scale: 1/4"=1'-0"	
Date:	
Revision Dates:	
00/00/00	

A2.0

WINDOW SCHEDULE:

A. 3050 SH
B. 3050 SH TEMPERED
C. 3050 SH TWIN
D. 3030 SLIDER

ALL WINDOWS FEATURE SINGLE HUNG, DOUBLE PANE W/ LOW E GLASS & VINYL CONSTRUCTION.



FIRST FLOORPLAN 1/8"=1'-0"

Project

HABITAT

Spec. Revision Date:

Lot #	Market Home or Home Owner
#	Name:

Plan Name:

DAHLIA

Sheet Name:

FLOOR PLAN

Habitat for Humanity of Williamson/Maury

Drawn By: BSR

Scale: 1/8"=1'-0"

Date:

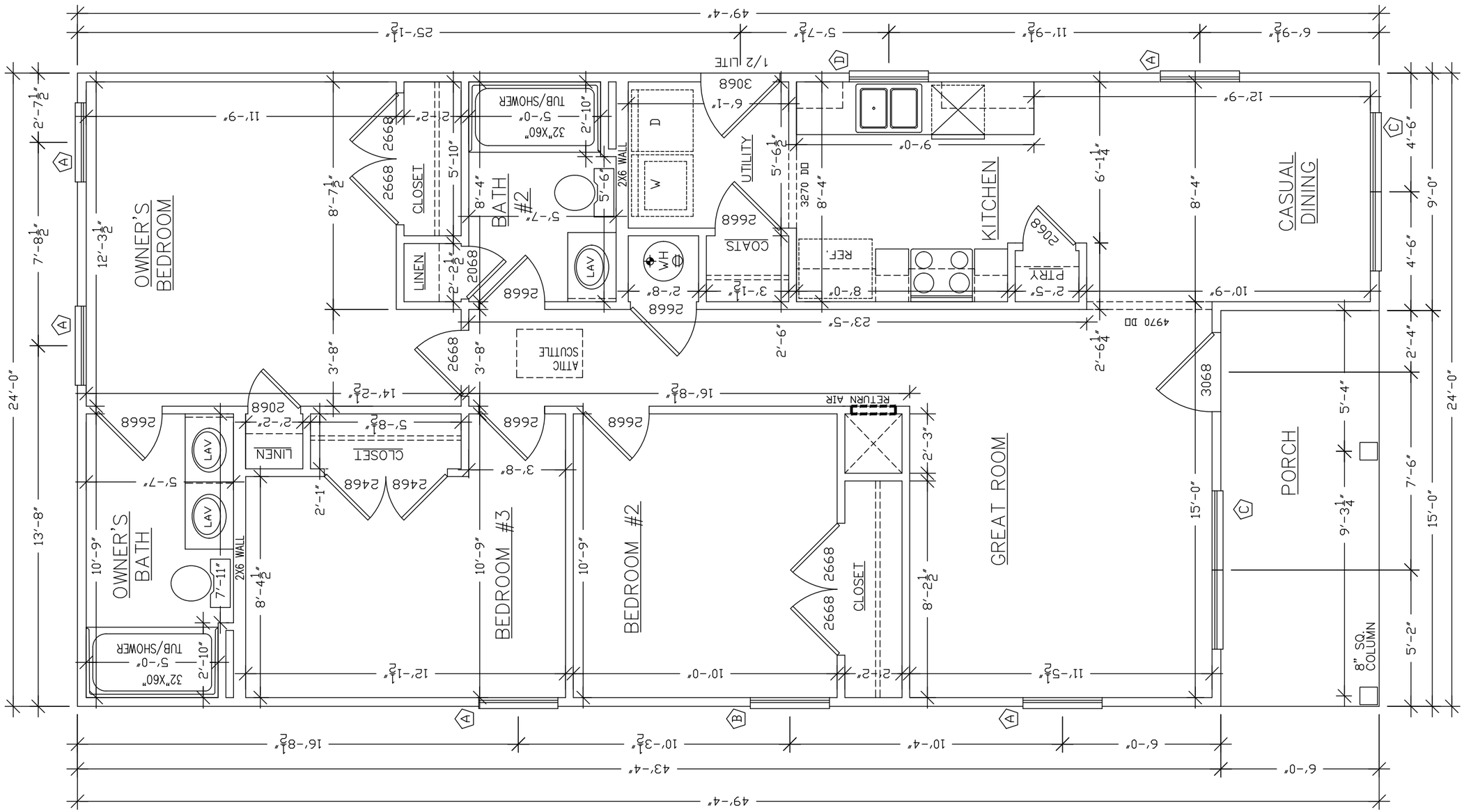
Revision Dates:
00/00/00

A1.0

WINDOW SCHEDULE:

A. 3050 SH
B. 3050 SH TEMPERED
C. 3050 SH TWIN
D. 3030 SLIDER

ALL WINDOWS FEATURE SINGLE HUNG, DOUBLE PANE W/ LOW E GLASS & VINYL CONSTRUCTION.



FIRST FLOORPLAN 1/4"=1'-0"

Project

HABITAT

Spec. Revision Date:

Lot #	Market Home or Home Owner
#	Name:

Plan Name:

LEIGH

Sheet Name:

FLOOR PLAN

Habitat for Humanity of Williamson/Maury

Drawn By: BSR

Scale: 1/4"=1'-0"

Date:

Revision Dates:

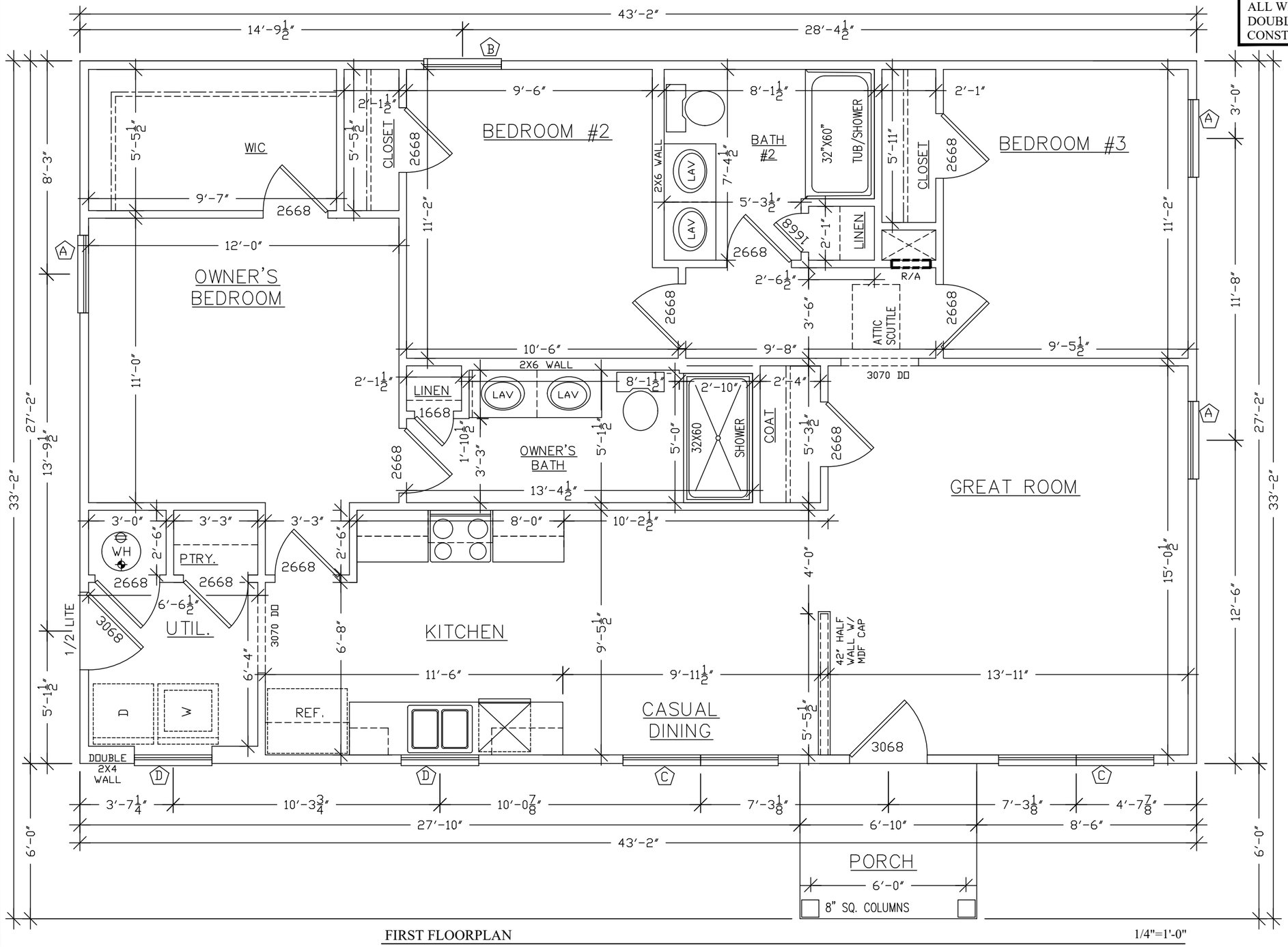
00/00/00

A1.0

WINDOW SCHEDULE:

A. 3050 SH
B. 3050 SH TEMPERED
C. 3050 SH TWIN
D. 3030 SLIDER

ALL WINDOWS FEATURE SINGLE HUNG, DOUBLE PANE W/ LOW E GLASS & VINYL CONSTRUCTION.



FIRST FLOORPLAN 1/4"=1'-0"

Project

HABITAT

Spec. Revision Date:

Lot # | Market Home or Home Owner

| Name:

Plan Name:

SADIE

Sheet Name:

FLOOR PLAN

Habitat for Humanity of Williamson/Maury

Drawn By: BSR

Scale: 1/4"=1'-0"

Date:

Revision Dates:
00/00/00

A1.0

Site Development Plan Proposed Houses.

1.Proposed Floor Area:

a At this time, we don't know which home will go on each lot since the size of the home is tied to the family who qualifies for our program. However, we have seven house plans that we would choose from, making sure to bring diversity to the curb appeal.

b Our smallest plan is a 3 bed/ 2 bath (1046 sq. ft.) and our largest is a 5 bed/2 bath (1458 sq. ft.). To estimate, I would say 80% of the homes we build are 3 bed/ 2 bath homes.

2. Dimensions:

MODEL	SQ. FOOTAGE	DIMENSIONS	STORIES
Leigh	1046 sq. ft.	24 ft. front & back, 49ft. 4 inches sides	1
Sadie	1125 sq. ft.	43ft. 2 inches front & back, 33ft. 2 inches sides	1
Autumn	1226 sq. ft.	28 ft. front & back, 32 ft. sides	2
Dahlia	1458 sq. ft.	40 ft. front & back, 42 ft. sides	1



Sadie Floor Plan



Autumn Floor Plan



Dahlia Floor Plan



Leigh Floor Plan

3. **Floor Elevations:**
   Typically, crawl space is 48 inches of block to the finished floor, depending on grade.

4. **Floor-to-Ceiling Heights:**
   Floor to ceiling height of all models is 8 feet.

5. **Height of each Building:**

MODEL	HEIGHT OF EACH MODEL
Leigh	18 ft, 4 inches
Sadie	19 ft, 4 inches
Autumn	26 ft, 4 inches
Dahlia	22 t, 9 inches

6. **Private Frontage and Façade Elements**
   a. We use LP Smartside, which will blend in with the other sections of the neighborhood whose homes have vinyl siding.
   b. Our craftsman-style homes have wood columns, front porches, and gutters, which match the other homes in the neighborhood.

7.

Building Roof Type & Pitch:

MODEL	BUILDING ROOF TYPE	PITCH
Leigh	asphalt shingle	6 to 12
Sadie	asphalt shingle	5 to 12
Autumn	asphalt shingle	12 to 12
Dahlia	asphalt shingle	6 to 12

Private Landscaping – Each home comes with a mulched landscape bed near the porch. Grass seed and straw will be added to both the front and back yards.

a. **Walls** – We will only install retaining walls if needed.
b. **Fencing** – Our HOA rules state the following:

> No fence, structure, wall, or any other separating device shall be permitted beyond the front side of the house. No fences are allowed in front yards. In the case of residences located on corner lots, the restriction shall apply to the midline of the side of the house not facing the street. All such fences, structure walls, hedges or other separating devices require approval by the Declarant or Homeowners Association prior to installation. Unless otherwise approved, chain-link fences shall not exceed four (4) feet in height, wood privacy fences shall not exceed six (6) feet in height.

8. Ground Floor Elevation above grade for each Building:

MODEL	GROUND FLOOR ELEVATION
Leigh	68 inches
Sadie	68 inches
Autumn	68 inches
Dahlia	68 inches





Model #: WRB684217 MPN #: 1570-16DBAF

Vital Cluster Box Unit, 16 Mailboxes, 2 Parcel Lockers, Dark Bronze

View All Vital™ Pedestal Mounted Outdoor Cluster Mail Box Units

| Questions & Answers (0)

Purchase Information

PRICE

$2,411.00

SELECT COLOR

Brown Tan Gray Black

Get the best in centralized mail delivery with this USPS Approved Outdoor Cluster Mail Box Unit. This free-standing Cluster Mail Box Unit is an Official Licensed Product of the US Postal Service and is theft, vandal and impact resistant. Heavy gauge, welded construction protects mail from the

See more details

Easy online or call-in returns. **Read return policy**

Product Information

Get the best in centralized mail delivery with this USPS Approved Outdoor Cluster Mail Box Unit. This free-standing Cluster Mail Box Unit is an Official Licensed Product of the US Postal Service and is theft, vandal and impact resistant. Heavy gauge, welded construction protects mail from the elements and ensures years of worry-free delivery. Large mail compartments accept most sizes of mail and periodicals without damage, and the parcel compartments accommodate packages for tenant pickup. Installation is hassle-free with an included heavy-duty pedestal. Warranty of 5 years.

Specifications

Weights & Dimensions

2nd Parcel Box Dimensions (W x D x H)	12" x 15" x 18"
Weight	175 lbs
Mailbox Dimensions (W x D x H)	12" x 15" x 3-1/4"
Collection Box Dimensions (W x D x H)	12" x 15" x 3-1/4"

Height	62 in
Parcel Box Dimensions (W x D x H)	12" x 15" x 15"
Depth	17-7/8 in
Width	30-1/2 in

Product Details

Assembly Required	Unassembled
Type	Front/Front Loading Master Access
Color	Brown
Series	Vital™
Style	Type III
Mounting Location	Pedestal (Included)
Material	Aluminum

Package Quantity	1
Number of Collection Boxes	1
Manufacturers Part Number	1570-16DBAF
Number of Parcel Boxes	2
Brand	Florence
Number of Mailboxes	16

Warranty

Warranty	5 yr

Compliance & Certifications

Certifications	CDSEQ-08-B-0012

CPWS

March 3, 2023

Mr. Joe Chapdelaine
Chapdelaine and Associates
7376 Walker Rd
Fairview, TN 37062
Sent via email: chapsurveyors@msn.com

RE: Water Availability Letter
Fieldstone Farms Phase 2 Section 5 – 35 Units
Tax Map 88, Parcel 70.01
Columbia, Maury County, TN

Dear Mr. Chapdelaine:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 35 single-family units. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 8-inch water mains located on Golden Place and Normandy Drive.
- Minimum size 8-inch water mains will be required.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Prior to expiration of this water availability letter in 120 days, remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (35 SFUs)	$14,450.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid. Meter and Impact Fees are as follows:

Meter Fee: $540 per 3/4" meter (35 meters)	$18,900.00
Impact Fee: $4,500 per 3/4" meter (35 meters)	$157,500.00
Total Meter and Impact Fees Due =	**$176,400.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

- Subsequent phases will require individual applications and associated fees. Should this letter expire prior to payment of the New Water Service Fee for this phase of the development, a new application will be required to evaluate current conditions before proceeding.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.



Sincerely,
Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-013

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

8 March 2023

Zack Harvill
Chapdelaine and Associates Land Surveying
7376 Walker Road
Fairview, TN 37062

RE: Map 88, Parcel 70.01

Zack,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. Grinder Pump systems are not allowed by the City of Columbia. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 2/10/2023
Name: Randolph L. Chapdelain
Phone: 615-799-8104
Email: chapsurveyors@msn.com
Address/Parcel ID: Map 088, Parcel 8.14
Property Type: (•) Residential ( ) Commercial ( ) Industrial
Construction Type: Single Family Homes
Enclosed Area (ft^2): < 3,600

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: NFPA 13D

Water System Demand without Sprinkler Credit

Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: 1,000 gpm Duration: 1 hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: 1

Average spacing between hydrants: 500 ft.

Maximum distance from frontage to hydrant: 250 ft.

Water System Demand with Sprinkler Credit

Fire flow requirements (International Fire Code Appendix B)

Fire Flow: 500 gpm Duration: 1/2 hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: 1

Average spacing between hydrants: 500 ft.

Maximum distance from frontage to hydrant: 250 ft.

Fire Plan Reviewer: Brad Massey Date: 2/13/2023

Chapdelaine & Associates Land Surveying
7376 Walker Rd. Fairview, TN 37062
(615) 799-8104
chapsurveyors@msn.com
SI CUPIS TERRAM MENSURARE VOLI STELLAS SPECTARE

7/6/2023

City of Columbia
Planning Department

CASE NUMBER 23-0018
Fieldstone Farms Section Five Phase Two

Chapdelaine and Associates has been retained to provide to the City of Columbia a 29-lot subdivision development which was presented under the old regulation and has received comments returned to us. We have corrected the comments and re-submitting under the most recent regulations.

The development under CD-4 zoning, we are proposing to extend the existing Normandy Drive and connect to Golen Place. We have a total of 29 lots and will include Green Space along with Landscape & Aquatic Buffer, with required cluster box units. Normandy Drive R.O.W. shall be expanded to 70 and allow for sidewalk and grass strip.

Sincerely,

Joe Chapdelaine

joe.chapdelaine@outlook.com

Chapdelaine & Assoc. Land Surveying
7376 Walker Rd. Fairview, TN 37062
(615)799-8104

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0018

DESCRIPTION: 35 Lot Subdivision.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. Typical lot layout shows 30' front setback but max is 20'. Corrected.
2. Will need Development Plan showing Civic Space types, playground areas, and tree preservation plan
3. Please correct number of lots listed in notes on plat. Corrected.
4. Section 5.3.3.B (p. 335) of the Zoning Ordinance requires a playground within 800 feet of each lot or building site in residential use. Please add playground spaces and show distance from all residential lots/building sites.
5. Note indicates 18 lots, application and preliminary plat depicts 36. Corrected.
6. Due to site altering comments re submittal will need Development Review
7. Two concurrent submittals are required: Preliminary Plat and Site Development Plan. The Preliminary Plat should be provided as a single document which provides all information in Section 2.2.8 C of the SubRegs. The Site Development Plan should provide the information required of a CD-4 zoned Development Parcel per 8.5.6 and other provisions of the Zoning Ordinance. Understood.
8. I am unable to discern the extent of the property to be subdivided and developed. Understood.
9. This proposal is not ready to proceed to advance to Planning Commission. The project may be best served by withdrawing this application and scheduling a pre-application meeting with staff to talk through the requirements for a complete Preliminary Plat/Site Development Plan submittal.
10. One of the documents mislabels the subject property as a PUD. Corrected.

Engineering

11. Cross section should match the applicable detail in the ESS for the zoning. See Zoning Code TABLE 5.2.2.G-1 for applicable street sections for CD-4. Corrected.
12. Lots adjacent to a river, stream, waterbody, aquatic buffer, or large drainage channel that do not have a base flood elevation established shall at minimum be elevated two (2.0) feet above the nearest top of bank for the entire building footprint of any primary and accessory structure. Corrected.
13. Lots 146-149 should be padded up to a minimum elevation of 623. Understood.

14. Eliminate the ditch that runs parallel to/and behind the sidewalk. Corrected.
15. Subject to Construction Plans. Understood.
16. 3H:1V maximum for manmade slopes. Understood.
17. Preliminary plat shall be signed and dated. Understood.
18. Applicant has submitted what appears to be full construction plans. Unless requested only supply information as required in the subdivision regulations for Preliminary Plats. Understood.
19. Transition from existing roadway to new roadway shall hold the same centerline. Understood.

Building

20. No comments.

Police

21. No comments provided.

Columbia Power

22. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. Understood.
23. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development. Understood.

Maury County E911

24. Normandy Drive and Golden PL connection Maury County 911 have no comment to add.
25. Golden Place and Normandy Drive street names are both correct.

Atmos Energy

26. No comment provided.

Maury County Schools

27. Baker Elementary School, Whitthorne Middle School, Central High School. 1) No residence is guaranteed zone to a specific school. 2) All zones are subject to change yearly. 3) No concerns with neighborhood design.
28. Baker Elementary, Whitthorne Middle, Central High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Wastewater

29. Columbia Wastewater does not allow grinder pump systems. Understood.
30. The plans show a 1.5 - inch force main that indicaters a low-pressure system (grinder pumps). Our department will not take ownership of the system as a whole or in part. It will remain the responsibility of the homeowner/resident. Make sure this is understood before occupancy. Understood.

Public Works

31. No comment.

Duck River Electric Membership Corp

32. No comments provided.

Columbia Water

33. "A Water Availability Letter was issued February 14, 2023, it expires after 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements." Understood.

Fire

34. Need to upload the water availability letter to this permit. Understood.

ATT

35. Plans to serve.

Maury County Highway Dept.

36. No comment.

ATTACHMENTS: Preliminary Plat and Site Development Plan

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0018

DESCRIPTION: 32 (?) Lot Subdivision.

COMMENTS:
Planning

1. Please revise typical lot layout and verify that all reference to the CD-4 standards conform to Table 4.3.1-D of the Ordinance (p.76-85). For example, the minimum front MBSL is 6', the maximum is 20'; C1.0 lists a minimum lot area (there is none) but does not identify the minimum lot width (50'). Revised.
2. Please verify that reference to lot numbers are consistent throughout the submittal (e.g. Note #1 on C0.0 indicates 32 lots, note #1 on C1.0 indicates 31 lots). Verified.
3. Two concurrent submittals are required: Preliminary Plat and Site Development Plan. The Preliminary Plat should be provided as a single document which provides all information in Section 2.2.8 C of the SubRegs. The Site Development Plan should provide the information required of a CD-4 zoned Development Parcel per 8.5.6 and other provisions of the Zoning Ordinance.
    - In this case the Site Development Plan should be fairly simple and should consist of a cover sheet, a general layout, a tree preservation plan, and notes indicating how the development will conform with the standards of the Zoning Ordinance for residential development in a CD-4 character district. The site development plan should how the layout and character of the area to be developed. The plan should identify all lots and building sites and demonstrate conformity with the CD-4 standards. You may provide additional information as applicable. Understood.
    - The Site Development Plan should depict all common areas, open spaces, and civic areas (if provided) and note ownership as well as plans for maintenance and upkeep.
    - Please indicate the Thoroughfare type to be utilized (note where adjustments must be approved by the City Engineer) from Article 5. Understood.
    - Please add note acknowledging the design and façade standards of Table 4.3.1-D (p.78-85) and Table 4.3.8.B (p. 210) of the Zoning Ordinance and indicate that structures will conform. Conformity will be confirmed at building permit. Added.
    - Please note that all private landscaping will conform to section 4.3.16 of the Zoning Ordinance. Added.
    - At resubmittal, please indicate Tree Save Areas as described in 4.3.16.L (p.294) (include the recent aerial image identifying tree cover). If replacements are necessary please indicate which plantings function as replacements in compliance with 4.3.16.L.4.e (p.295) of the Zoning Ordinance. Please indicate areas which may be at risk of being disturbed during construction. Indicated.
    - Please add note to Site Development Plan acknowledging requirement at 4.3.16.C.1 (p. 290) of the Zoning Ordinance that future removal of trees depicted on the plan will require approval by Planning Commission. Added.

- Please include a note on the Site Development Plan indicating that lighting at frontage lines will not exceed 1.0 foot candle and that on-site outdoor lighting will conform to the standards of 4.3.17.B (p.297) of the Zoning Ordinance (to be confirmed at building permit). Note Added.
- If a mail kiosk is needed, please provide detail of the mail center and associated parking conforming to ESS detail MD-03. Understood.

4. Please indicate the extent of the subject property to be divided and developed. Understood.
5. If the applicant team determines that this proposal will not be ready to resubmit and advance to Planning Commission without additional review, the project may be well served by withdrawing this application and scheduling a pre-application meeting with staff to talk through the requirements for a complete Preliminary Plat/Site Development Plan submittal. Understood.

ATTACHMENTS:

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0018

DESCRIPTION: 35 Lot Subdivision.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. Typical lot layout shows 30' front setback but max is 20'
2. Will need Development Plan showing Civic Space types, playground areas, and tree preservation plan
3. Please correct number of lots listed in notes on plat.
4. Section 5.3.3.B (p. 335) of the Zoning Ordinance requires a playground within 800 feet of each lot or building site in residential use. Please add playground spaces and show distance from all residential lots/building sites.
5. Note indicates 18 lots, application and preliminary plat depicts 36.
6. Due to site altering comments re submittal will need Development Review
7. Two concurrent submittals are required: Preliminary Plat and Site Development Plan. The Preliminary Plat should be provided as a single document which provides all information in Section 2.2.8 C of the SubRegs. The Site Development Plan should provide the information required of a CD-4 zoned Development Parcel per 8.5.6 and other provisions of the Zoning Ordinance.
8. I am unable to discern the extent of the property to be subdivided and developed.
9. This proposal is not ready to proceed to advance to Planning Commission. The project may be best served by withdrawing this application and scheduling a pre-application meeting with staff to talk through the requirements for a complete Preliminary Plat/Site Development Plan submittal.
10. One of the documents mislabels the subject property as a PUD.

Engineering

11. Cross section should match the applicable detail in the ESS for the zoning. See Zoning Code TABLE 5.2.2.G-1 for applicable street sections for CD-4.
12. Lots adjacent to a river, stream, waterbody, aquatic buffer, or large drainage channel that do not have a base flood elevation established shall at minimum be elevated two (2.0) feet above the nearest top of bank for the entire building footprint of any primary and accessory structure.
13. Lots 146-149 should be padded up to a minimum elevation of 623.
14. Eliminate the ditch that runs parallel to/and behind the sidewalk.

15. Subject to Construction Plans
16. 3H:1V maximum for manmade slopes.
17. Preliminary plat shall be signed and dated.
18. Applicant has submitted what appears to be full construction plans. Unless requested only supply information as required in the subdivision regulations for Preliminary Plats.
19. Transition from existing roadway to new roadway shall hold the same centerline.

Building

20. No comments.

Police

21. No comments provided.

Columbia Power

22. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
23. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County E911

24. Normandy Drive and Golden PL connection Maury County 911 have no comment to add.
25. Golden Place and Normandy Drive street names are both correct.

Atmos Energy

26. No comment provided.

Maury County Schools

27. Baker Elementary School, Whitthorne Middle School, Central High School. 1) No residence is guaranteed zone to a specific school. 2) All zones are subject to change yearly. 3) No concerns with neighborhood design.
28. Baker Elementary, Whitthorne Middle, Central High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Wastewater

29. Columbia Wastewater does not allow grinder pump systems.
30. The plans show a 1.5 - inch force main that indicaters a low-pressure system (grinder pumps). Our department will not take ownership of the system as a whole or in part. It will remain the responsibility of the homeowner/resident. Make sure this is understood before occupancy.

Public Works

31. No comment.

Duck River Electric Membership Corp

32. No comments provided.

Columbia Water

33. "A Water Availability Letter was issued February 14, 2023, it expires after 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Fire

34. Need to upload the water availability letter to this permit

ATT

35. Plans to serve.

Maury County Highway Dept.

36. No comment.

ATTACHMENTS: Preliminary Plat and Site Development Plan

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Project Description and the Scope of Site Work for

Habitat for Humanity Subdivision

Williamsport Pike at Golden Place,
Columbia, Tennessee 38401

Owner:
Habitat for Humanity
511 W. Meade Blvd.
Franklin, Tennessee 37062

Prepared by:

Masoud Fathi, PE
Civil & Environmental Engineering Services, LLC
803 Albemarle Court
Brentwood, Tennessee 37027
(615) 504-9915 Cell
masoudfathi@comcast.net
April 17, 2023



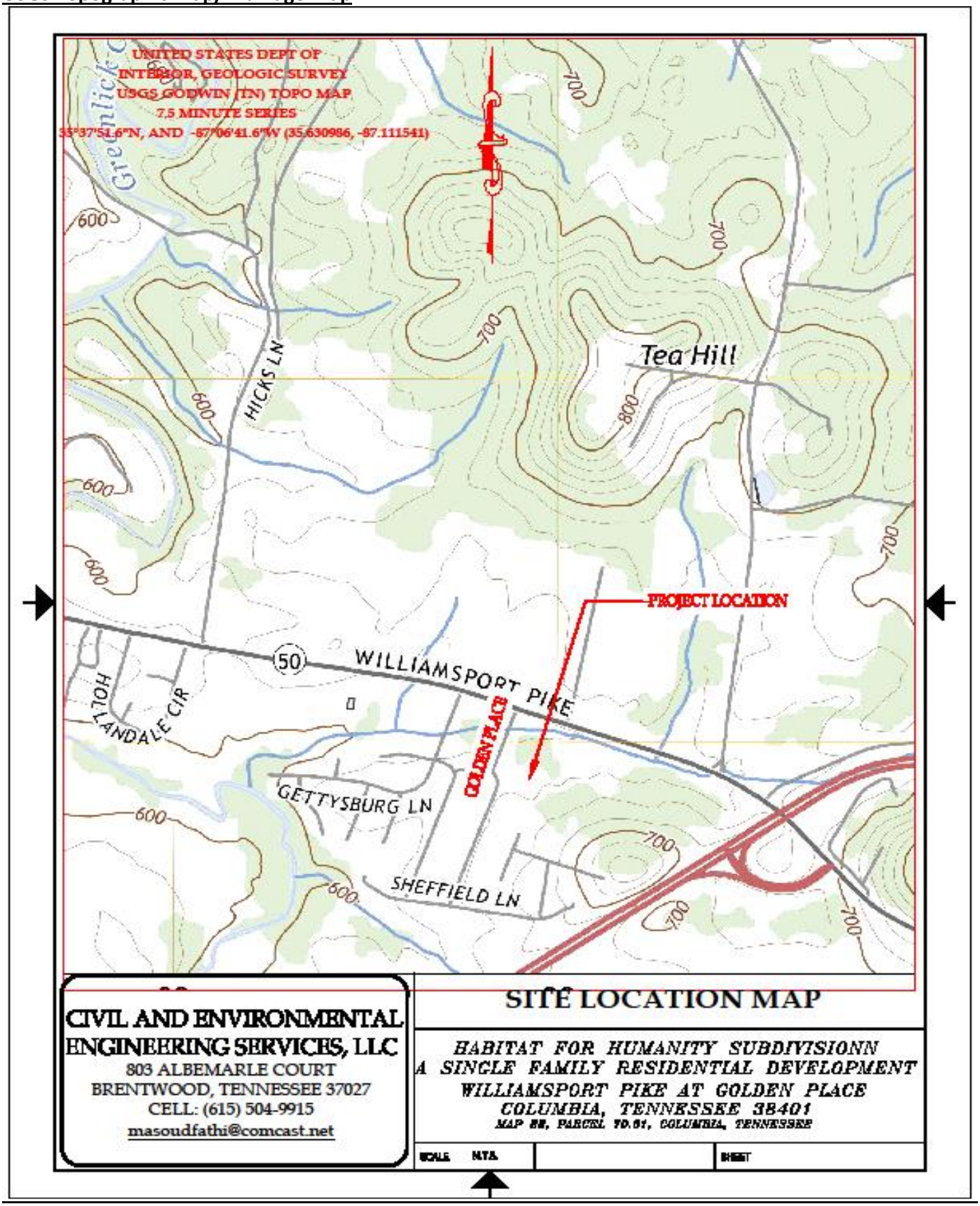
Habitat for Humanity Subdivision

Site Information:

Property Location: The site is located on the Southeast corner of Williamsport Pike and Golden Place in Columbia, Tennessee 38401. It is located at LATITUDE 35°37'51.6"N, and LONGITUDE -87°06'41.6"W (35.630986, -87.111541). It is described in Subdivision Deed Book R2495 page 1181 of the 9th Civil District of Maury County in the City of Columbia Register of Deeds Office.

Tax Map/Parcel:	Map 88 - Parcel 70.01
Acreage of property:	8.14± AC
Zoning:	Character District CD-4
Owner:	Habitat For Humanity Williamson-Maury 511 W. Meade Blvd. Franklin, Tennessee 37062
Applicant Representative:	MSS. Lexi Bolinski Habitat For Humanity Williamson-Maury 511 W. Meade Blvd. Franklin, Tennessee 37062 lbolinski@hfhwm.org Cell: 615-550-5619

USGS Topographic Map/Drainage Map



Project Description

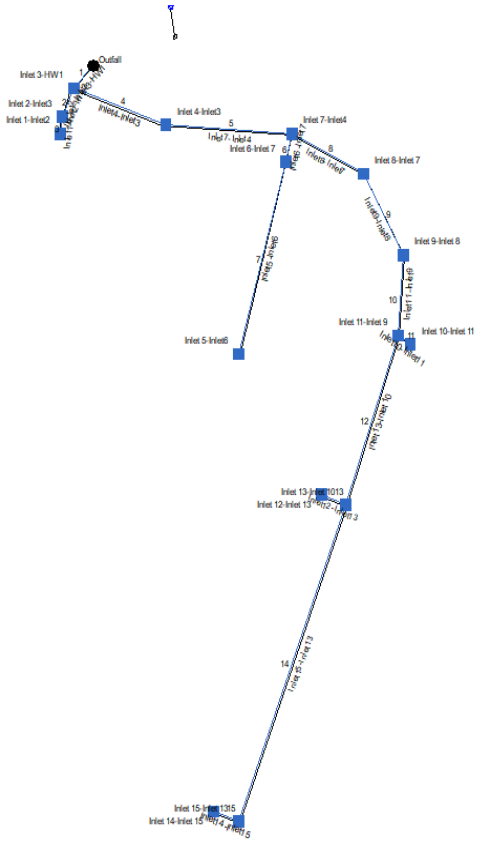
The subject property is a vacant lot zoned CD-4. The scope of site work is to subdivide the lot into 32 lots. The existing property is a vacant lot. An existing water line and sewer line is extended into the property. Stormwater run-off drains from the south end of the property to the north where is a stream that crosses the lot. The stream has a 30' buffer from the top of the bank. The Normandy Drive on the southside of the property is to be extended to Golden Place to provide access to each lot. A new 8" sanitary sewer line will be installed along the center line of extension of Normandy Drive to the existing sewer manhole. Also, the water line will be extended and tied to the existing line in Golden Place. The proposed road pavement will be 26' with 12" extruded curb, 4' grass strip and 5' sidewalk on both sides. The Right-of-Way is set at 70'. A 10' PUDE is established along the road Right-Of-Way and a 5' PUDE is established along the side lot lines.

At current conditions the stormwater run-off from the property flows from south and east side of the property to north and northwest direction. Refer to sheet D1.0 for existing conditions flow pattern, and flow rates. Hydraflow model is used to calculate the flow rates. To minimize the run-on from adjacent properties, a perimeter ditch along eastern property lines will intercept the flow and divert it to the off-site. The stormwater contributing drainage area (CDA) for this site is approximately 266,983 S.F. or 6.13 acres. The CDA slopes vary between 4 % to 8%. The longest flow path is shown on sheet D1.0. Based on this flow path the time of concentration for pre-developed conditions is 12.3 minutes. Based on USDA website, majority of soil on this site is Braxton cherty silty clay loam with hydrologic Soils Group "C" and a CN of 79.

After installation of the initial erosion control measures and installation of the interceptor ditches, the site will be graded to drain to a temporary sediment basin. The detention pond initially will be utilized as a sediment basin before it is converted to a detention pond. Refer to sheet C3.2 and C3.3 for details of the Phase II erosion control plan. Also refer to details on sheet C3.3 for the temporary outlet structure details. Once the grading is finalized and the site is stabilized, all the sediment deposited in the sediment basin will be removed and the basin will be regraded to accommodate for the permanent detention pond. After all the grading work is completed and all pavement is installed, the remaining disturbed areas will receive topsoil and will be stabilized with seeding. Sodding or reinforcing matt. Refer to sheet C3.4 and C3.5 for final erosion control measures.

Refer to sheets D2.0 for Post Developed drainage conditions and drainage pattern. Based on the longest flow path shown on this sheet, t_c is determined to be 10.9 minutes. A table of the impervious areas is shown on this sheet. The post developed CN is determined to be 86. The post developed contributing drainage is subdivided to 16 sub areas. Hydraflow Storm Sewer Model is utilized to evaluate each subarea. A weighted run-off coefficient is calculated for each sub area and entered in the model. The time of concentration for each subarea is assumed to be minimum of 5 minutes. A report of the model is attached to this narrative. The detention pond is designed to detain the run-off for 2-year through 100-year storm events to pre developed run-off rates. A summary of the 2-year through 100-year run-off rates is shown on sheet D2.0 and sheet C2.1 along with the detail of the pond's outlet structure. The stormwater treatment volume calculations are shown on sheet D2.0. Based on these calculations a 3" orifice is sized to be installed on the outlet structure at elevation 615.75. the treatment volume will be stored below this elevation. A 5' rectangular weir is designed at elevation 616.2 to route the stormwater.

Hydraflow Plan View



Fieldstone Farms	No. Lines: 15	04-14-2023

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line size (in)	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line slope (%)	HGL down (ft)	HGL up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns line No.
1	Inlet3-HW1	15.79	24 c	27.0	614.50	615.04	2.000	616.00	616.45	n/a	616.45	End
2	Inlet2-Inlet3	4.36	18 c	28.0	615.24	615.80	2.000	617.01	617.03	0.07	617.10	1
3	Inlet1-Inlet2	3.68	15 c	15.0	616.00	616.30	2.000	617.10	617.07	n/a	617.07 j	2
4	Inlet4-Inlet3	12.79	24 c	95.0	615.24	617.56	2.442	616.88	618.83	n/a	618.83 j	1
5	Inlet7-Inlet4	12.67	24 c	124.0	617.76	620.24	2.000	619.15	621.50	n/a	621.50 j	4
6	Inlet6-Inlet7	9.82	18 c	26.0	620.44	620.96	2.000	621.59	622.16	n/a	622.16	5
7	Inlet5-Inlet6	8.98	18 c	177.0	621.16	624.50	1.887	622.41	625.64	n/a	625.64 j	6
8	Inlet8-Inlet7	5.73	24 c	78.0	621.16	623.50	3.000	622.02	624.35	n/a	624.35 j	5
9	Inlet9-Inlet8	5.63	18 c	82.0	623.70	626.66	3.610	624.51	627.57	n/a	627.57 j	8
10	Inlet11-Inlet9	5.52	18 c	72.0	626.86	627.82	1.333	627.81	628.72	n/a	628.72 j	9
11	Inlet10-Inlet11	4.56	15 c	14.0	628.02	628.30	2.000	628.89	629.16	n/a	629.16	10
12	Inlet13-Inlet10	2.05	15 c	159.0	628.50	632.61	2.585	629.06	633.18	n/a	633.18 j	10
13	Inlet12-Inlet13	0.93	15 c	26.0	632.81	633.33	2.000	633.39	633.72	n/a	633.72 j	12
14	Inlet15-Inlet13	0.87	15 c	300.0	632.81	640.93	2.707	633.39	641.30	n/a	641.30 j	12
15	Inlet14-Inlet15	0.35	15 c	26.0	641.13	641.65	2.000	641.43	641.89	n/a	641.89 j	14

Fieldstone Farms | Number of lines: 15 | Run Date: 04-14-2023

NOTES: c = cir; e = ellip; b = box; Return period = 10 Yrs. ; j - Line contains hyd. jump.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	Inlet 3-HW1	0.29	3.44	0.59	3.13	Comb	6.0	3.00	0.00	3.00	2.00	0.011	0.01	0.080	0.020	0.012	0.21	10.47	0.38	10.47	2.00	Off
2	Inlet 2-Inlet3	0.69	0.00	0.36	0.34	Comb	6.0	6.00	0.00	6.00	2.00	0.028	0.01	0.080	0.020	0.012	0.10	4.97	0.26	4.67	2.00	1
3	Inlet 1-Inlet2	3.68	0.00	3.68	0.00	DrGrt	0.0	0.00	6.00	3.00	2.00	Sag	0.01	0.020	0.020	0.000	0.31	33.31	0.31	33.31	0.00	Off
4	Inlet 4-Inlet3	0.41	3.03	0.34	3.10	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.18	8.97	0.34	8.52	2.00	1
5	Inlet 7-Inlet4	0.23	3.13	0.33	3.03	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.17	8.47	0.33	8.42	2.00	4
6	Inlet 6-Inlet 7	1.10	0.00	0.17	0.93	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.12	5.97	0.28	5.57	2.00	5
7	Inlet 5-Inlet6	8.98	0.00	8.98	0.00	DrGrt	0.0	0.00	6.00	3.00	2.00	Sag	0.01	0.020	0.020	0.000	0.57	58.76	0.57	58.76	0.00	Off
8	Inlet 8-Inlet 7	0.23	2.25	0.28	2.20	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.16	7.97	0.32	7.52	2.00	5
9	Inlet 9-Inlet 8	0.23	2.30	0.28	2.25	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.16	7.97	0.32	7.57	2.00	8
10	Inlet 11-Inlet 9	0.46	2.13	0.29	2.30	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.16	7.97	0.32	7.67	2.00	9
11	Inlet 10-Inlet 11	4.56	0.00	4.56	0.00	DrGrt	0.0	0.00	6.00	3.00	2.00	Sag	0.01	0.020	0.020	0.000	0.36	38.13	0.36	38.13	0.00	Off
12	Inlet 13-Inlet 10	0.93	1.47	0.27	2.13	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.15	7.47	0.31	7.42	2.00	10
13	Inlet 12-Inlet 13	0.93	0.00	0.16	0.77	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.11	5.47	0.27	5.22	2.00	12
14	Inlet 15-Inlet 13	0.58	0.27	0.15	0.70	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.11	5.47	0.27	5.02	2.00	12
15	Inlet 14-Inlet 15	0.35	0.00	0.09	0.27	Comb	6.0	3.00	0.00	3.00	2.00	0.028	0.01	0.080	0.020	0.012	0.08	3.97	0.24	3.62	2.00	14

Fieldstone Farms | Number of lines: 15 | Run Date: 04-14-2023

NOTES: Inlet N-Values = 0.016 ; Intensity = 65.85 / (Inlet time + 12.20) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added

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Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	-------	9.82	-------	16.07	20.37	25.96	30.15	34.31	Fieldstone Predeveloped
2	SCS Runoff	-------	-------	13.59	-------	20.33	24.81	30.53	34.76	38.93	Fieldstone Post Developed
3	Reservoir	2	-------	7.89	-------	15.36	20.33	25.74	29.54	33.20	Fieldstone Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	9.82	6	720	30,896	----	------	------	Fieldstone Predeveloped
2	SCS Runoff	13.59	6	720	41,749	----	------	------	Fieldstone Post Developed
3	Reservoir	7.89	6	732	41,705	2	616.79	16,791	Fieldstone Pond

Hydrograph Plot

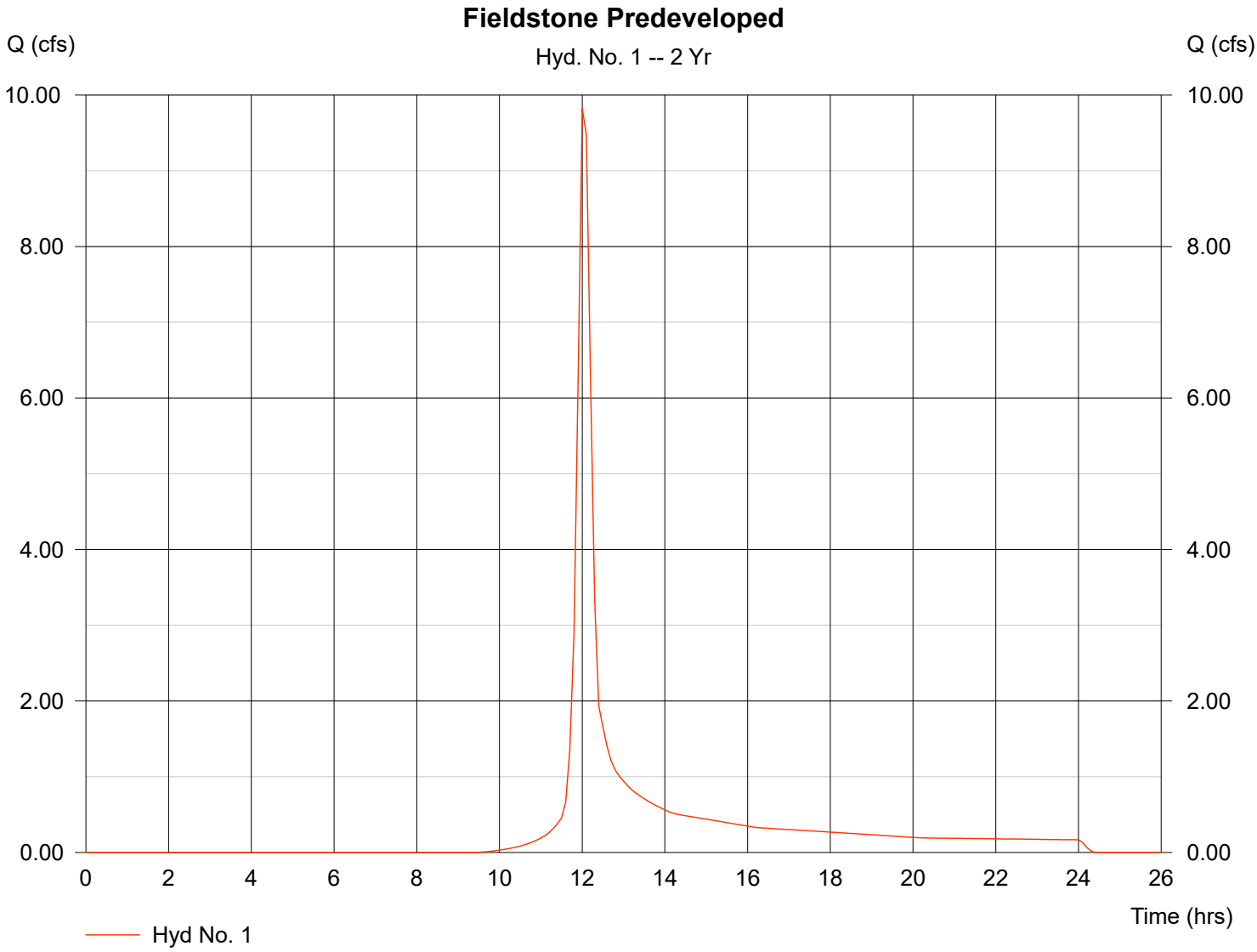
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:56 AM

Hyd. No. 1

Fieldstone Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 9.82 cfs
Storm frequency	= 2 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.30 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 30,896 cuft



TR55 Tc Worksheet

Hyd. No. 1

Fieldstone Predeveloped

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.150	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.39	0.00	0.00	
Land slope (%)	= 8.00	0.00	0.00	
Travel Time (min)	**= 7.96**	**+ 0.00**	**+ 0.00**	**= 7.96**
Shallow Concentrated Flow				
Flow length (ft)	= 843.00	0.00	0.00	
Watercourse slope (%)	= 4.00	0.00	0.00	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	= 3.23	0.00	0.00	
Travel Time (min)	**= 4.35**	**+ 0.00**	**+ 0.00**	**= 4.35**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 12.30 min

Hydrograph Plot

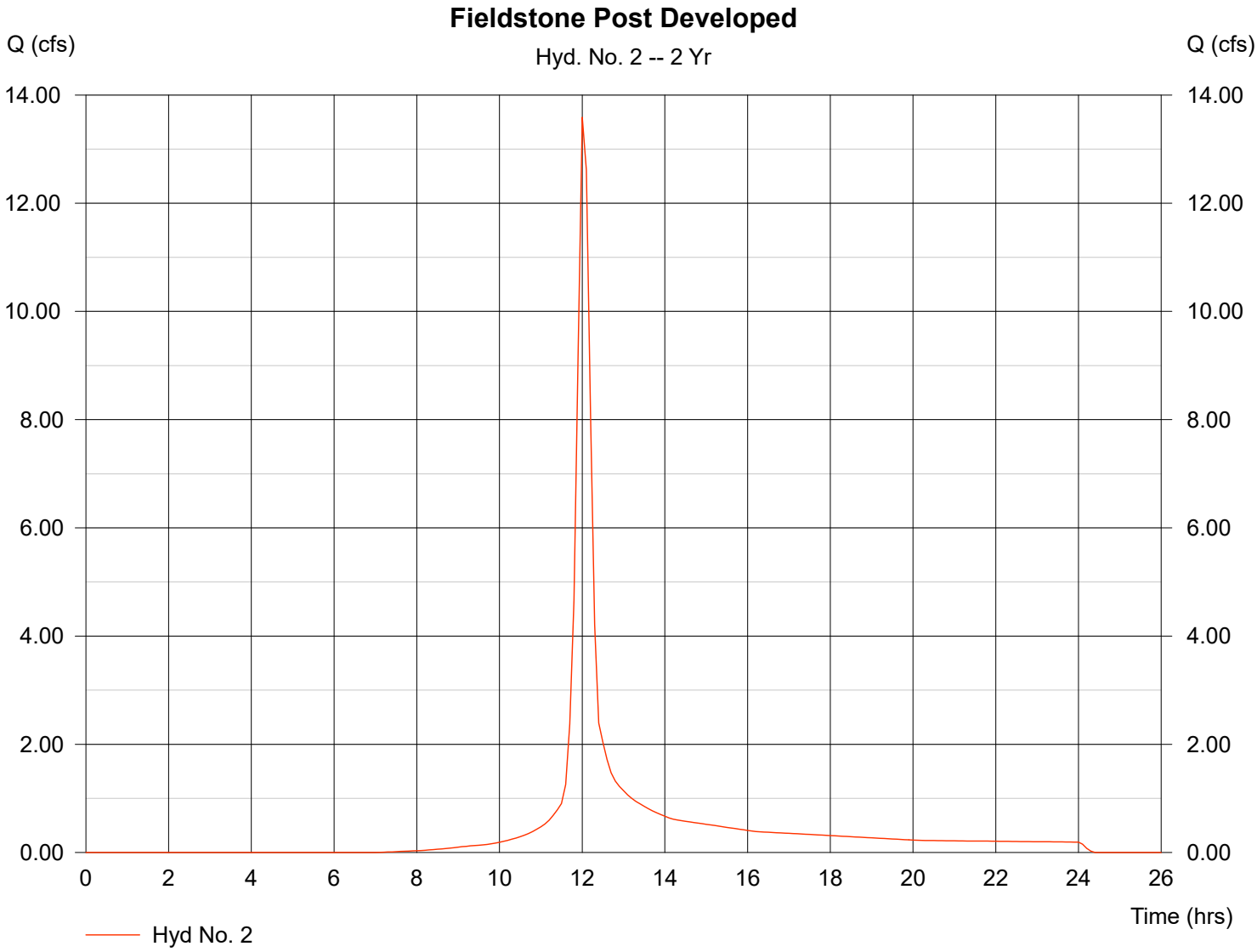
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Hyd. No. 2

Fieldstone Post Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 13.59 cfs
Storm frequency	= 2 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 41,749 cuft



TR55 Tc Worksheet

Hyd. No. 2

Fieldstone Post Developed

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 7.96**	**+**	**0.00**	**+**	**0.00**	**=**	**7.96**
Shallow Concentrated Flow							
Flow length (ft)	= 74.00		0.00		0.00		
Watercourse slope (%)	= 11.00		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	= 5.35		0.00		0.00		
Travel Time (min)	**= 0.23**	**+**	**0.00**	**+**	**0.00**	**=**	**0.23**
Channel Flow							
X sectional flow area (sqft)	= 6.00		1.77		0.00		
Wetted perimeter (ft)	= 7.10		4.71		0.00		
Channel slope (%)	= 2.60		2.60		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 8.59		8.31		0.00		
Flow length (ft)	= 440.0		500.0		0.0		
Travel Time (min)	**= 0.85**	**+**	**1.00**	**+**	**0.00**	**=**	**1.86**

Total Travel Time, Tc ..... 10.10 min

Hydrograph Plot

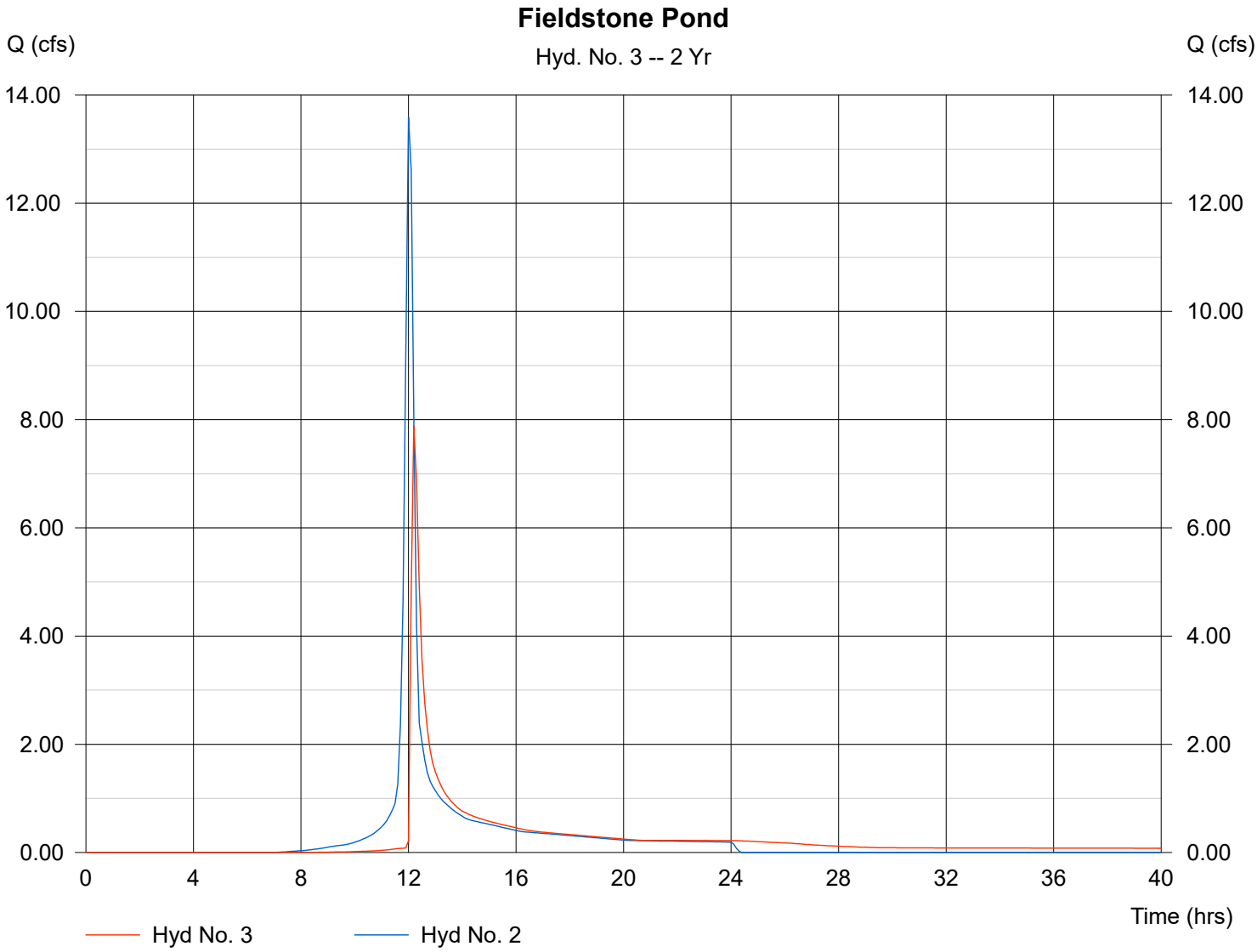
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Hyd. No. 3

Fieldstone Pond

Hydrograph type	=	Reservoir	Peak discharge	=	7.89 cfs
Storm frequency	=	2 yrs	Time interval	=	6 min
Inflow hyd. No.	=	2	Max. Elevation	=	616.79 ft
Reservoir name	=	Fieldstone Pond	Max. Storage	=	16,791 cuft

Storage Indication method used. | Hydrograph Volume = 41,705 cuft



Pond Report

Pond No. 1 - Fieldstone Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	614.00	00	0	0
1.00	615.00	6,405	3,203	3,203
2.00	616.00	7,578	6,992	10,194
3.00	617.00	9,105	8,342	18,536
4.00	618.00	11,557	10,331	28,867

Culvert / Orifice Structures

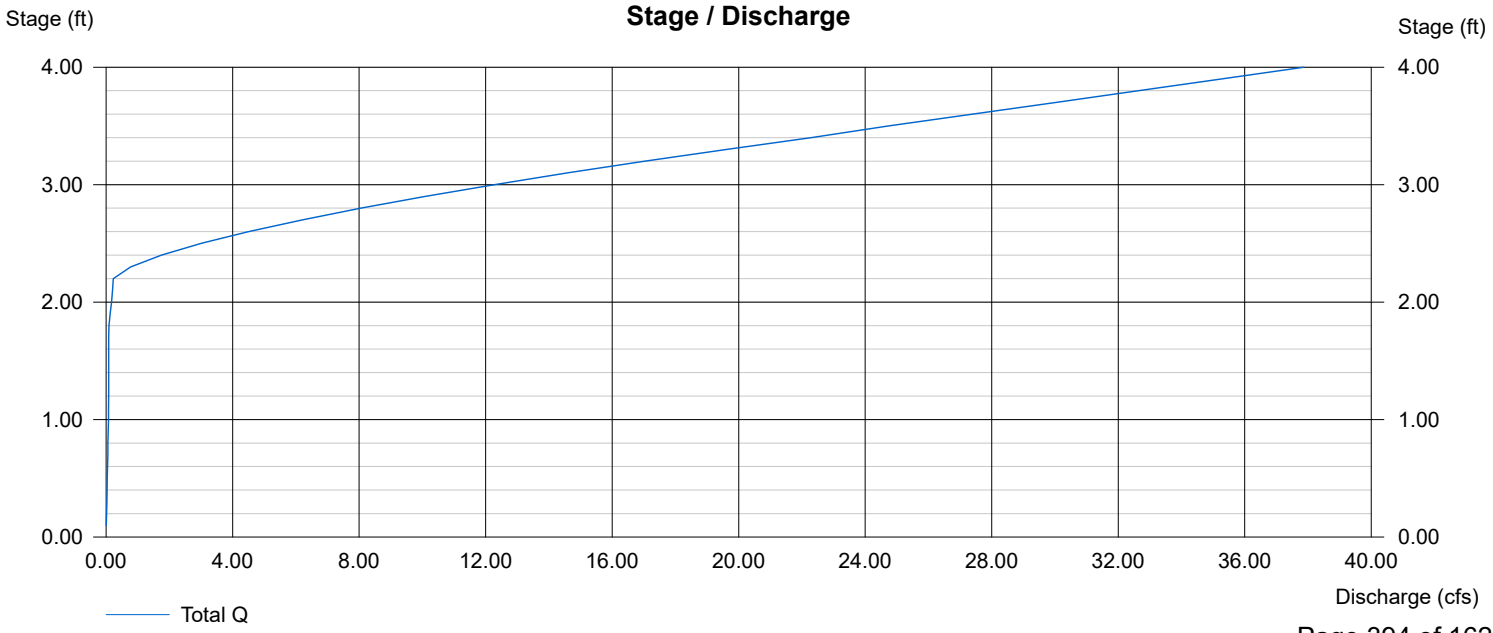
	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 613.30	615.75	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	0.00
N-Value	= .012	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	5.00	0.00	0.00
Crest El. (ft)	= 618.00	616.20	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfiltration = 0.500 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	16.07	6	720	49,576	----	------	------	Fieldstone Predeveloped
2	SCS Runoff	20.33	6	720	62,651	----	------	------	Fieldstone Post Developed
3	Reservoir	15.36	6	726	62,608	2	617.13	19,898	Fieldstone Pond

Hydrograph Plot

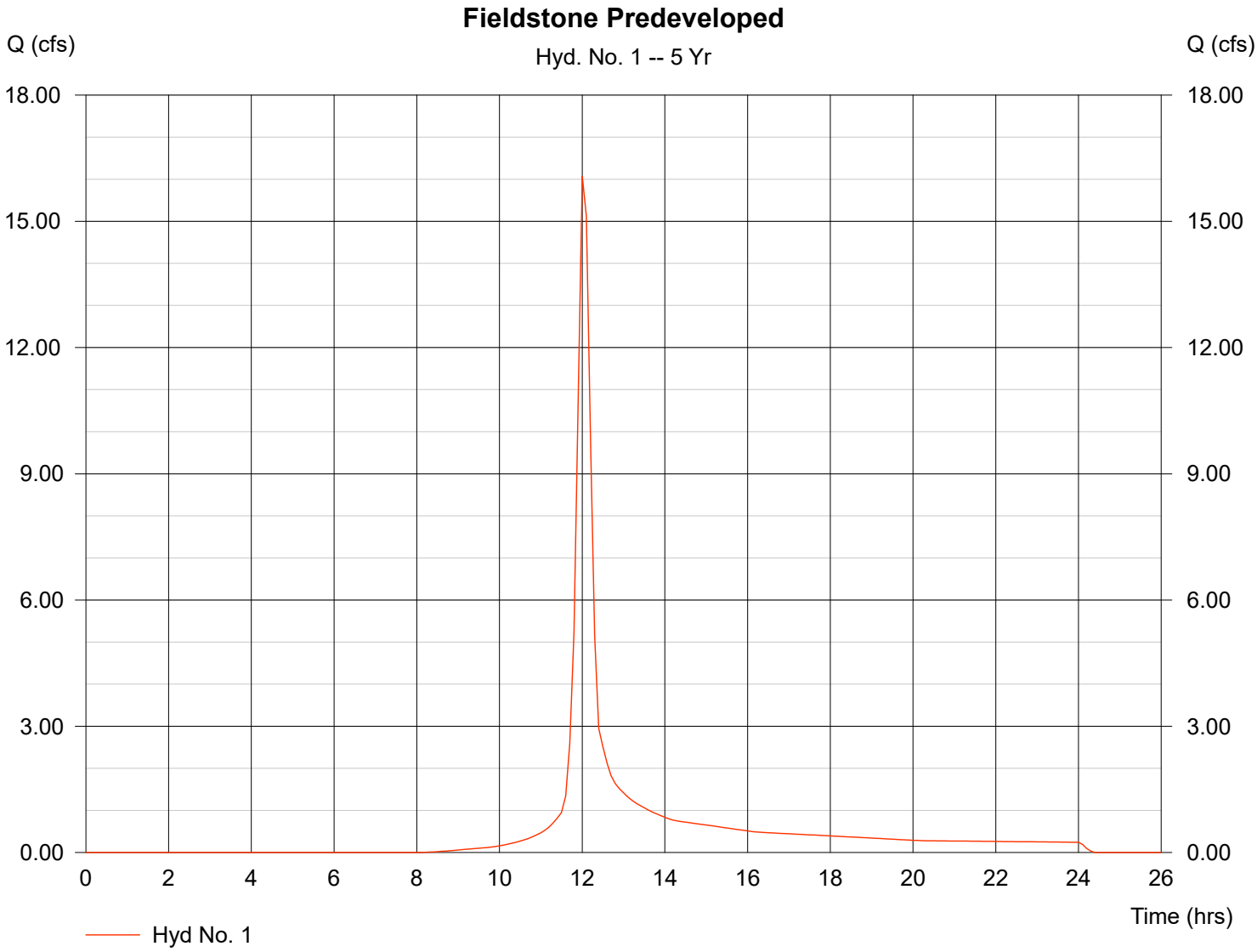
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:56 AM

Hyd. No. 1

Fieldstone Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 16.07 cfs
Storm frequency	= 5 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.30 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 49,576 cuft



TR55 Tc Worksheet

Hyd. No. 1

Fieldstone Predeveloped

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.150	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.39	0.00	0.00	
Land slope (%)	= 8.00	0.00	0.00	
Travel Time (min)	**= 7.96**	**+ 0.00**	**+ 0.00**	**= 7.96**
Shallow Concentrated Flow				
Flow length (ft)	= 843.00	0.00	0.00	
Watercourse slope (%)	= 4.00	0.00	0.00	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	= 3.23	0.00	0.00	
Travel Time (min)	**= 4.35**	**+ 0.00**	**+ 0.00**	**= 4.35**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 12.30 min

Hydrograph Plot

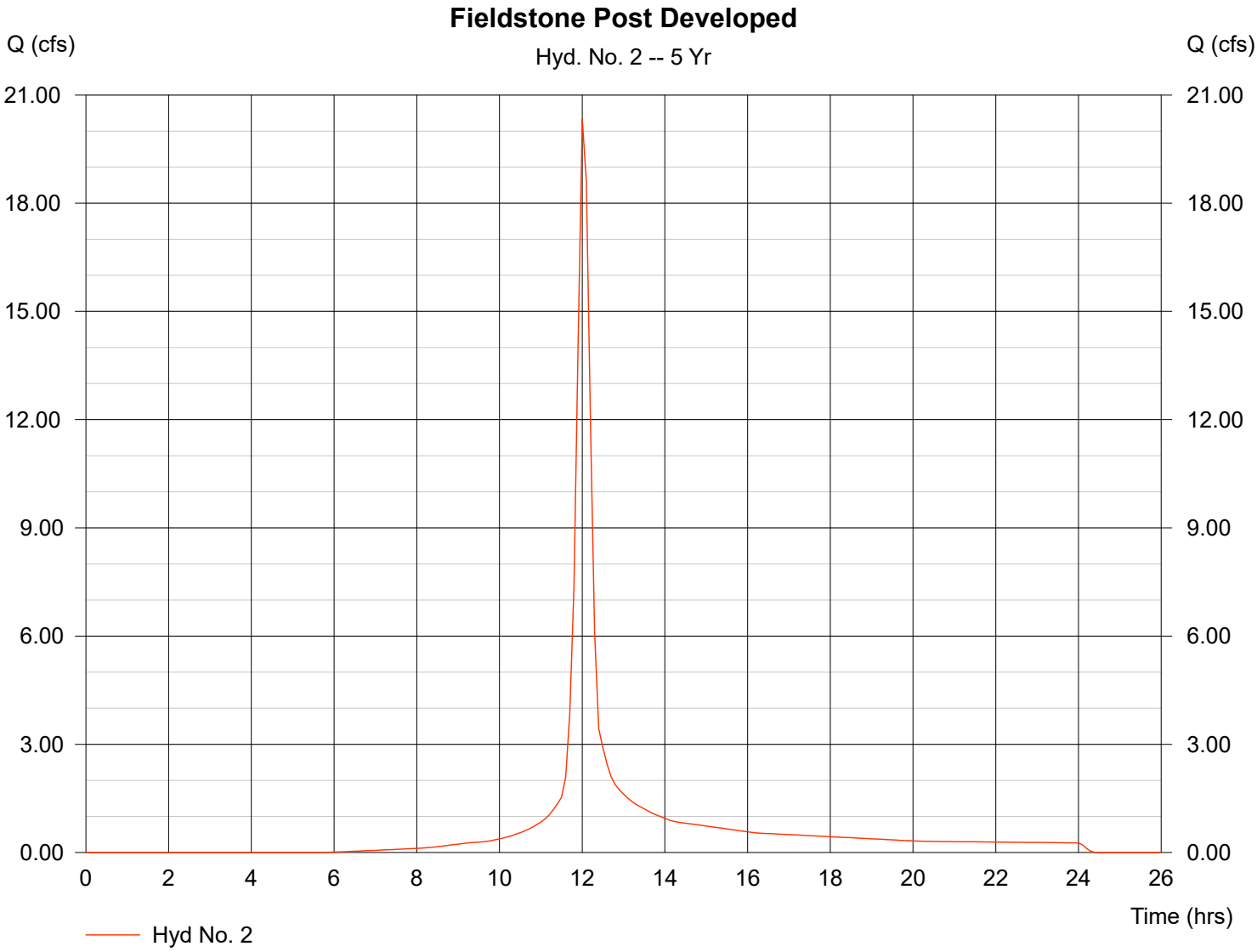
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:56 AM

Hyd. No. 2

Fieldstone Post Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 20.33 cfs
Storm frequency	= 5 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 62,651 cuft



TR55 Tc Worksheet

Hyd. No. 2

Fieldstone Post Developed

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 7.96**	**+**	**0.00**	**+**	**0.00**	**=**	**7.96**
Shallow Concentrated Flow							
Flow length (ft)	= 74.00		0.00		0.00		
Watercourse slope (%)	= 11.00		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	= 5.35		0.00		0.00		
Travel Time (min)	**= 0.23**	**+**	**0.00**	**+**	**0.00**	**=**	**0.23**
Channel Flow							
X sectional flow area (sqft)	= 6.00		1.77		0.00		
Wetted perimeter (ft)	= 7.10		4.71		0.00		
Channel slope (%)	= 2.60		2.60		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 8.59		8.31		0.00		
Flow length (ft)	= 440.0		500.0		0.0		
Travel Time (min)	**= 0.85**	**+**	**1.00**	**+**	**0.00**	**=**	**1.86**

Total Travel Time, Tc ..... 10.10 min

Hydrograph Plot

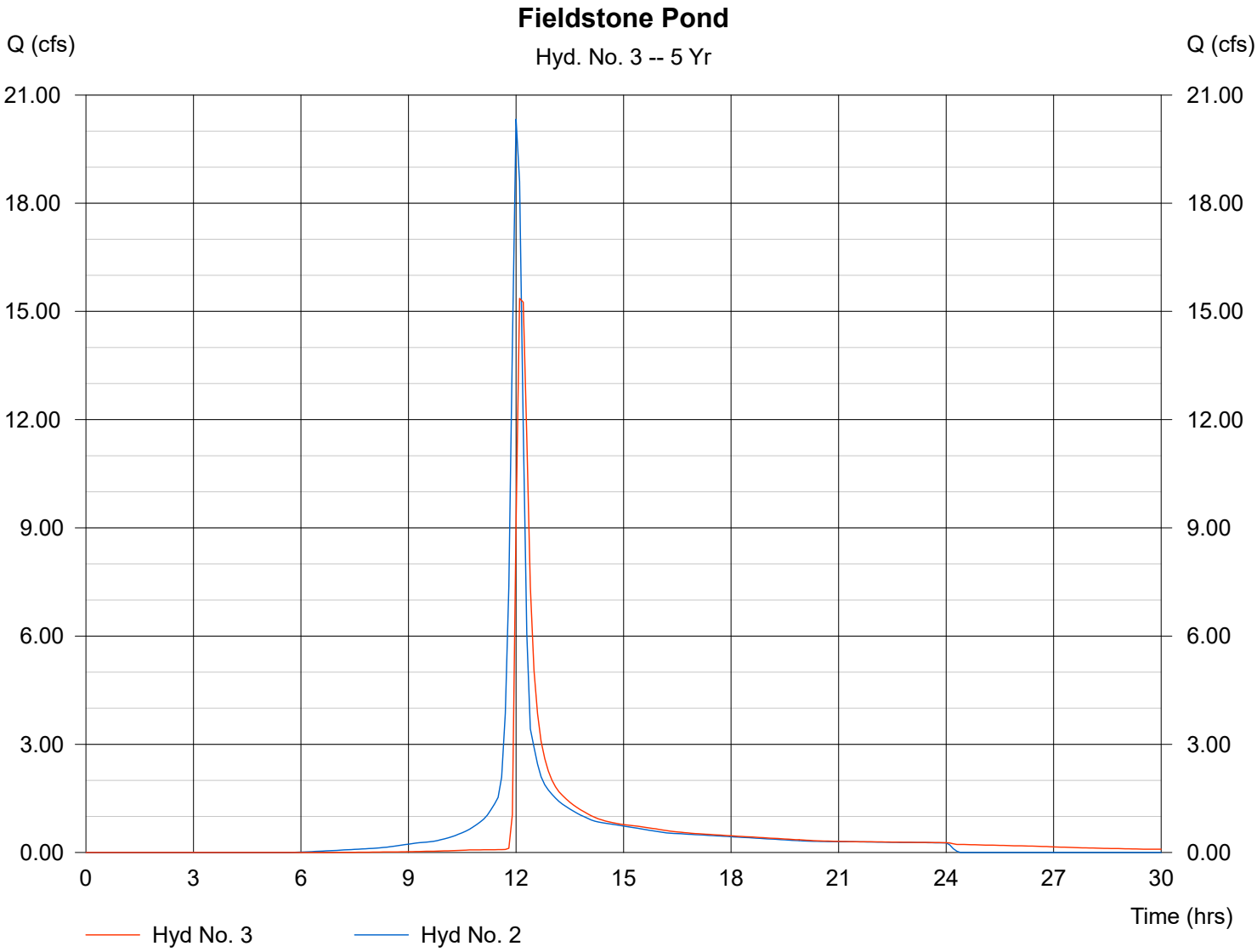
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Hyd. No. 3

Fieldstone Pond

Hydrograph type	=	Reservoir	Peak discharge	=	15.36 cfs
Storm frequency	=	5 yrs	Time interval	=	6 min
Inflow hyd. No.	=	2	Max. Elevation	=	617.13 ft
Reservoir name	=	Fieldstone Pond	Max. Storage	=	19,898 cuft

Storage Indication method used. | Hydrograph Volume = 62,608 cuft



Pond Report

Pond No. 1 - Fieldstone Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	614.00	00	0	0
1.00	615.00	6,405	3,203	3,203
2.00	616.00	7,578	6,992	10,194
3.00	617.00	9,105	8,342	18,536
4.00	618.00	11,557	10,331	28,867

Culvert / Orifice Structures

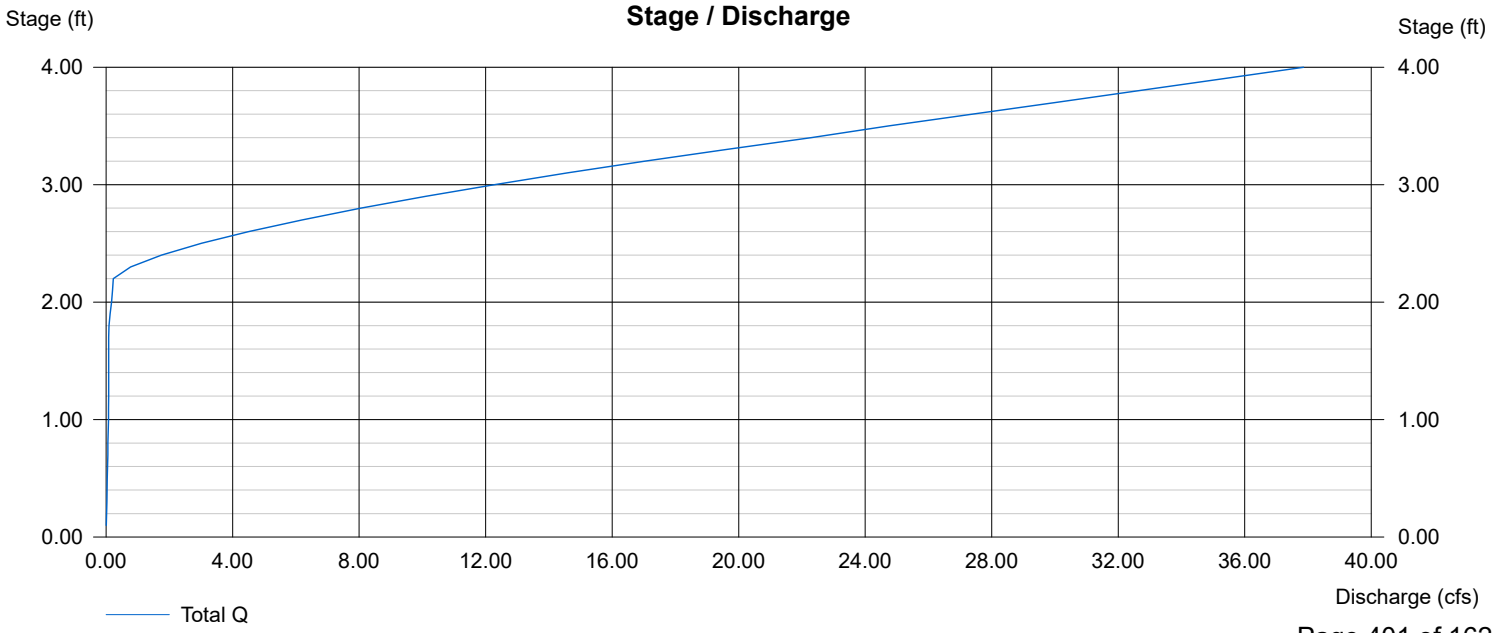
	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 613.30	615.75	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	0.00
N-Value	= .012	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	5.00	0.00	0.00
Crest El. (ft)	= 618.00	616.20	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfiltration = 0.500 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	20.37	6	720	62,597	----	------	------	Fieldstone Predeveloped
2	SCS Runoff	24.81	6	720	76,815	----	------	------	Fieldstone Post Developed
3	Reservoir	20.33	6	726	76,772	2	617.33	21,914	Fieldstone Pond

Hydrograph Plot

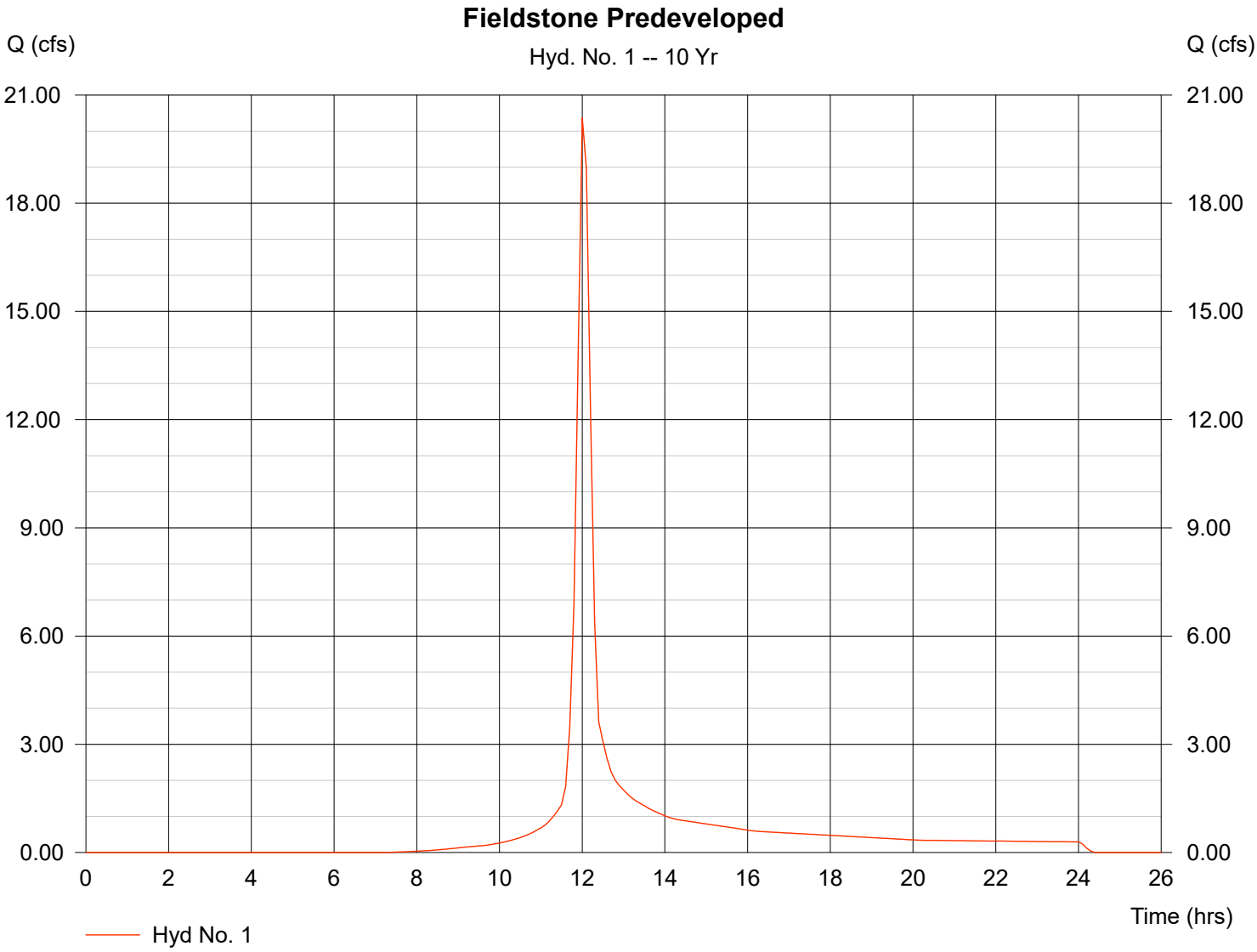
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Hyd. No. 1

Fieldstone Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 20.37 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.30 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 62,597 cuft



TR55 Tc Worksheet

Hyd. No. 1

Fieldstone Predeveloped

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.150	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.39	0.00	0.00	
Land slope (%)	= 8.00	0.00	0.00	
Travel Time (min)	**= 7.96**	**+ 0.00**	**+ 0.00**	**= 7.96**
Shallow Concentrated Flow				
Flow length (ft)	= 843.00	0.00	0.00	
Watercourse slope (%)	= 4.00	0.00	0.00	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	= 3.23	0.00	0.00	
Travel Time (min)	**= 4.35**	**+ 0.00**	**+ 0.00**	**= 4.35**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 12.30 min

Hydrograph Plot

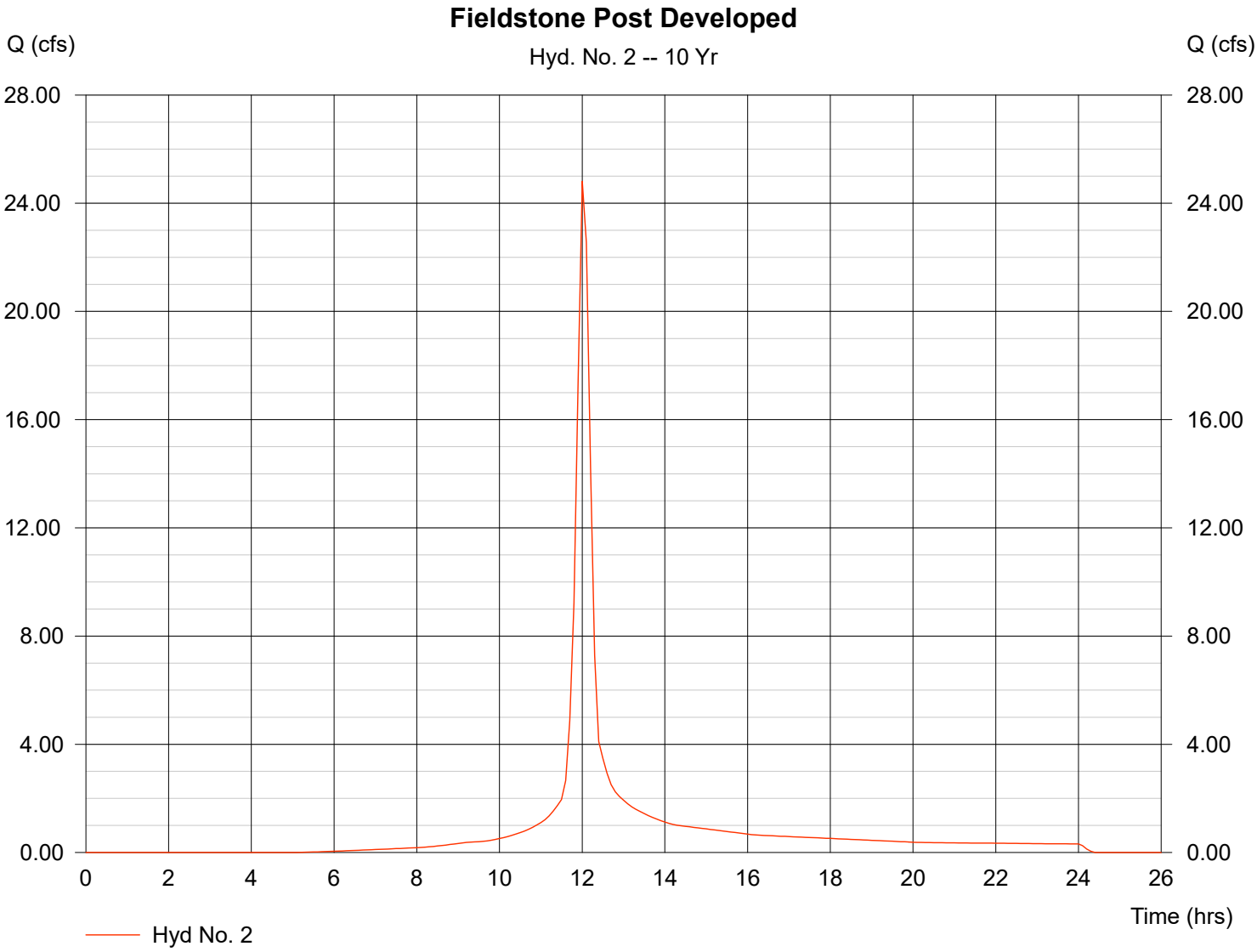
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Hyd. No. 2

Fieldstone Post Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 24.81 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 76,815 cuft



TR55 Tc Worksheet

Hyd. No. 2

Fieldstone Post Developed

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 7.96**	**+**	**0.00**	**+**	**0.00**	**=**	**7.96**
Shallow Concentrated Flow							
Flow length (ft)	= 74.00		0.00		0.00		
Watercourse slope (%)	= 11.00		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	= 5.35		0.00		0.00		
Travel Time (min)	**= 0.23**	**+**	**0.00**	**+**	**0.00**	**=**	**0.23**
Channel Flow							
X sectional flow area (sqft)	= 6.00		1.77		0.00		
Wetted perimeter (ft)	= 7.10		4.71		0.00		
Channel slope (%)	= 2.60		2.60		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 8.59		8.31		0.00		
Flow length (ft)	= 440.0		500.0		0.0		
Travel Time (min)	**= 0.85**	**+**	**1.00**	**+**	**0.00**	**=**	**1.86**

Total Travel Time, Tc ..... 10.10 min

Hydrograph Plot

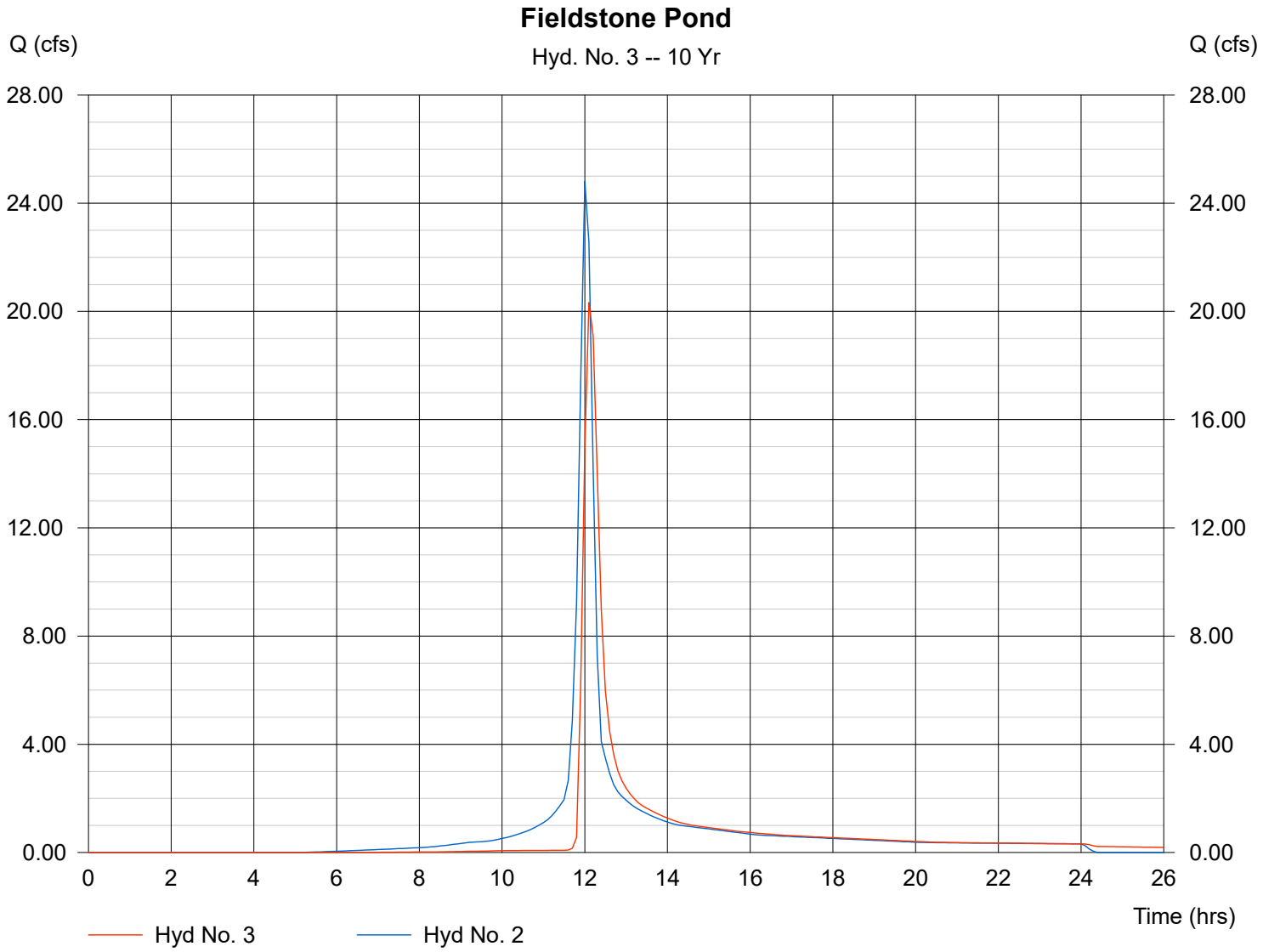
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Hyd. No. 3

Fieldstone Pond

Hydrograph type	=	Reservoir	Peak discharge	=	20.33 cfs
Storm frequency	=	10 yrs	Time interval	=	6 min
Inflow hyd. No.	=	2	Max. Elevation	=	617.33 ft
Reservoir name	=	Fieldstone Pond	Max. Storage	=	21,914 cuft

Storage Indication method used. | Hydrograph Volume = 76,772 cuft



Pond Report

Pond No. 1 - Fieldstone Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	614.00	00	0	0
1.00	615.00	6,405	3,203	3,203
2.00	616.00	7,578	6,992	10,194
3.00	617.00	9,105	8,342	18,536
4.00	618.00	11,557	10,331	28,867

Culvert / Orifice Structures

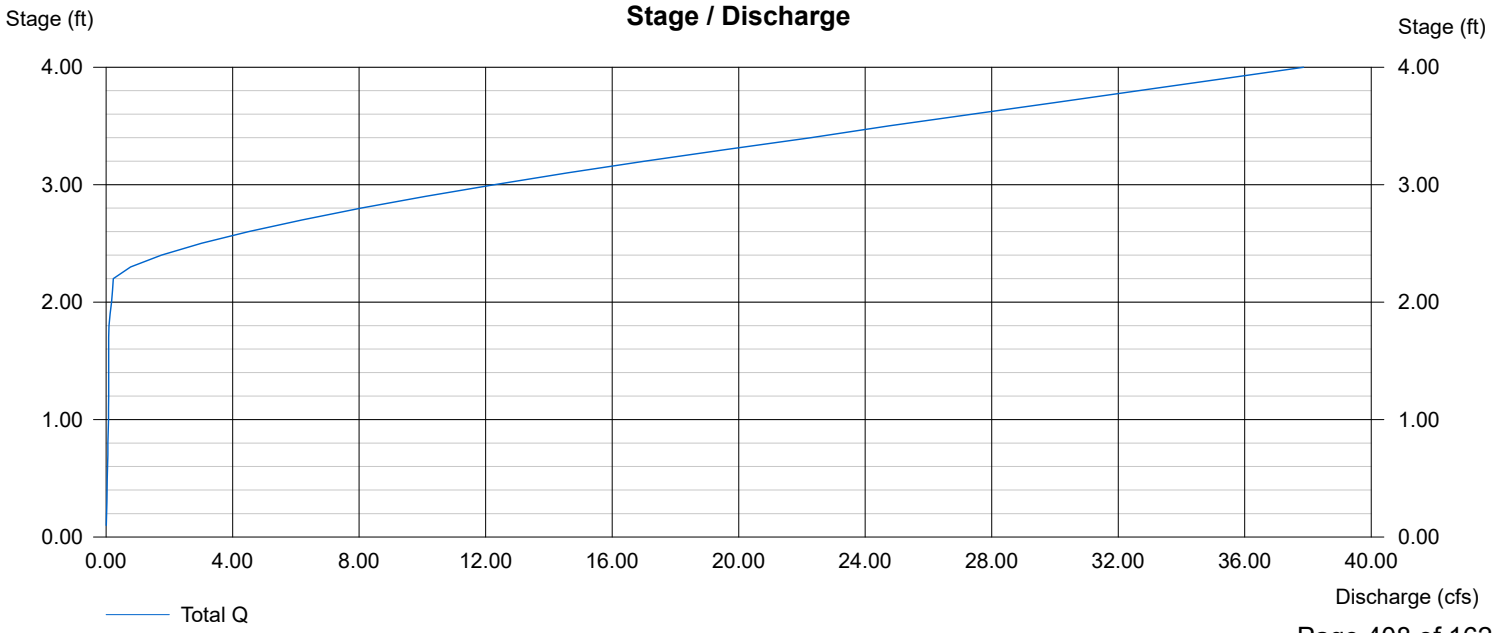
	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 613.30	615.75	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	0.00
N-Value	= .012	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	5.00	0.00	0.00
Crest El. (ft)	= 618.00	616.20	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfiltration = 0.500 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	25.96	6	720	79,749	----	------	------	Fieldstone Predeveloped
2	SCS Runoff	30.53	6	720	95,161	----	------	------	Fieldstone Post Developed
3	Reservoir	25.74	6	726	95,118	2	617.54	24,088	Fieldstone Pond

Hydrograph Plot

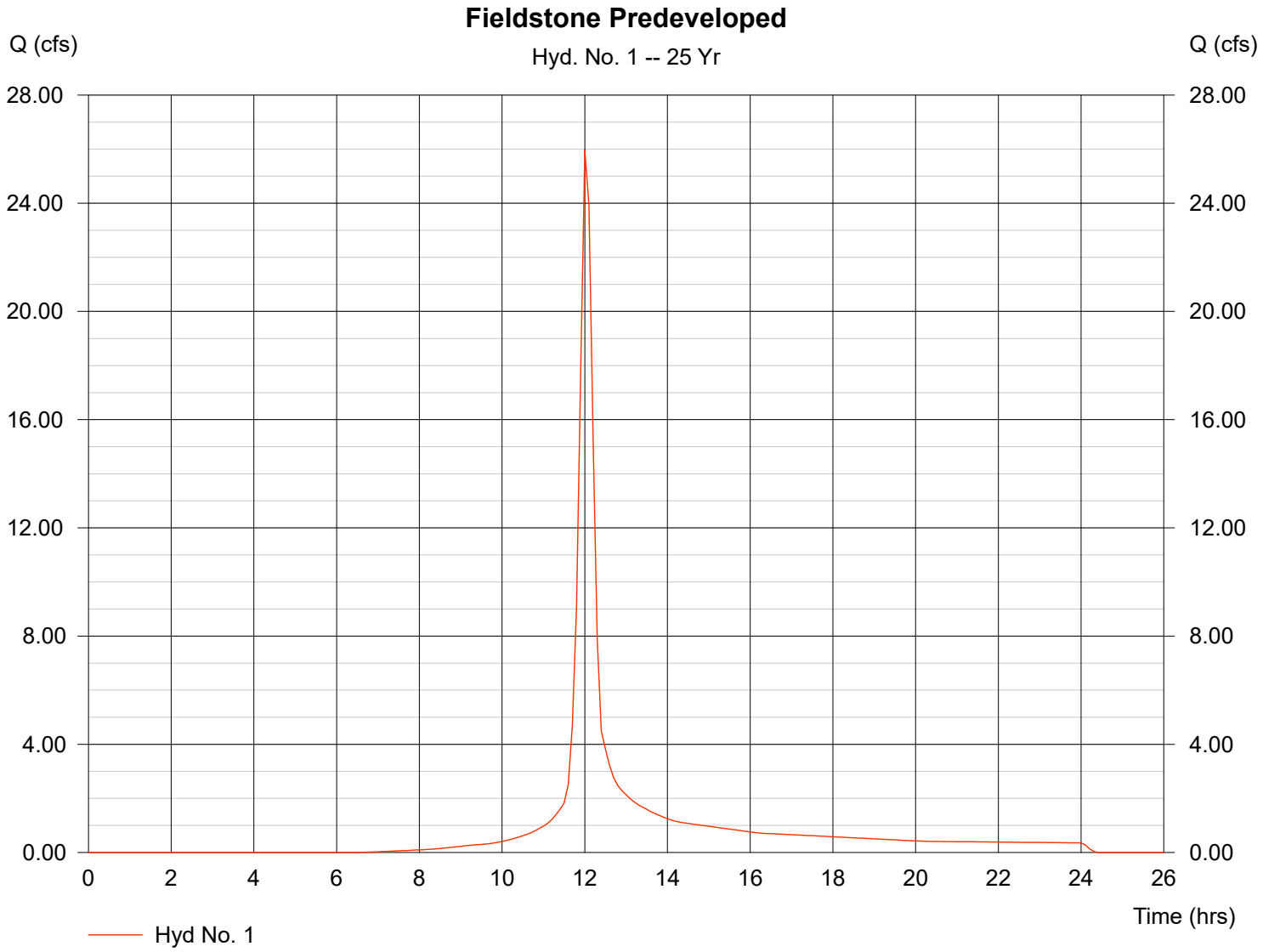
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Hyd. No. 1

Fieldstone Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 25.96 cfs
Storm frequency	= 25 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.30 min
Total precip.	= 6.16 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 79,749 cuft



TR55 Tc Worksheet

Hyd. No. 1

Fieldstone Predeveloped

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.150	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.39	0.00	0.00	
Land slope (%)	= 8.00	0.00	0.00	
Travel Time (min)	**= 7.96**	**+ 0.00**	**+ 0.00**	**= 7.96**
Shallow Concentrated Flow				
Flow length (ft)	= 843.00	0.00	0.00	
Watercourse slope (%)	= 4.00	0.00	0.00	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	= 3.23	0.00	0.00	
Travel Time (min)	**= 4.35**	**+ 0.00**	**+ 0.00**	**= 4.35**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 12.30 min

Hydrograph Plot

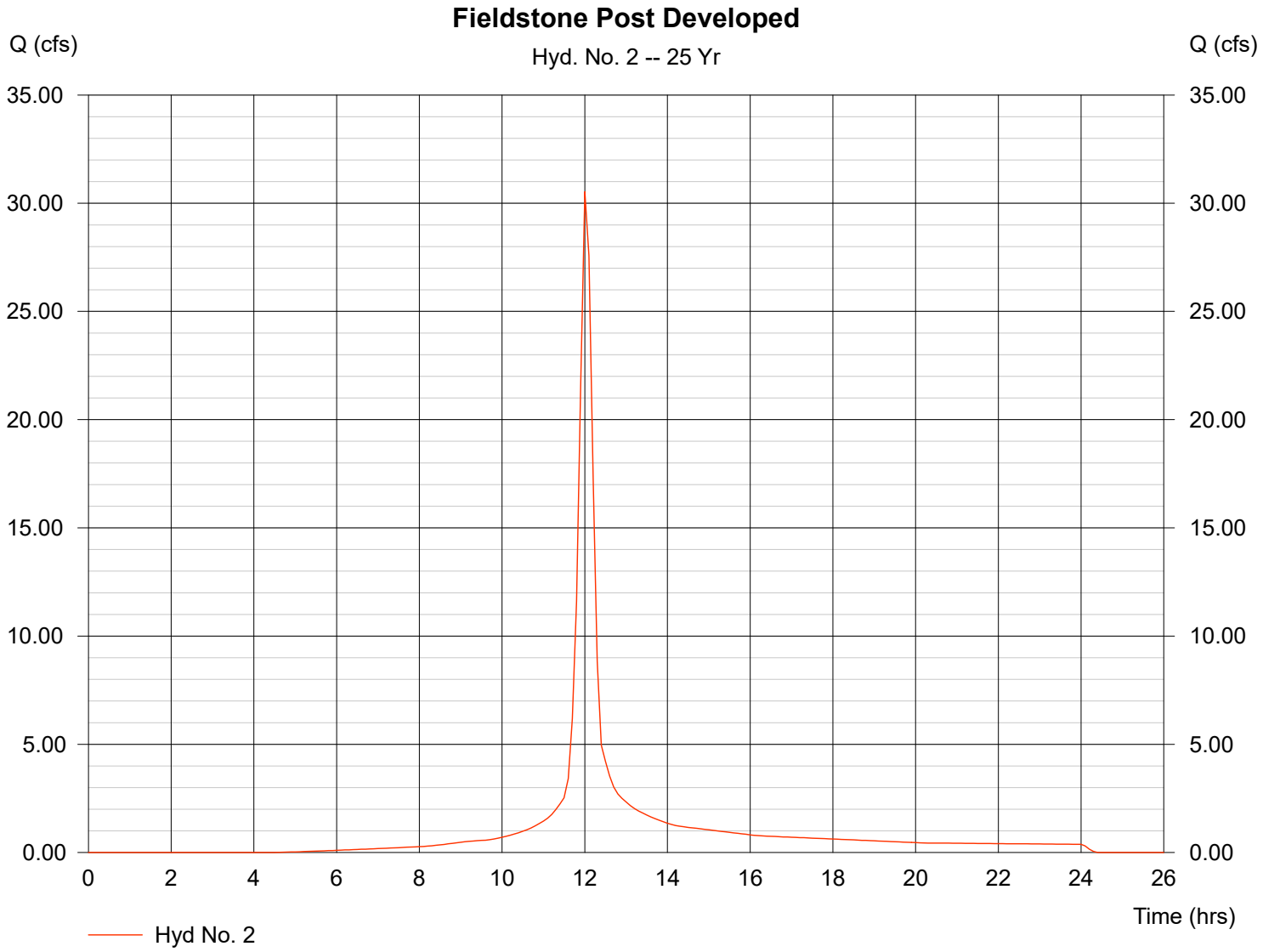
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 2

Fieldstone Post Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 30.53 cfs
Storm frequency	= 25 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 6.16 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 95,161 cuft



TR55 Tc Worksheet

Hyd. No. 2

Fieldstone Post Developed

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 7.96**	**+**	**0.00**	**+**	**0.00**	**=**	**7.96**
Shallow Concentrated Flow							
Flow length (ft)	= 74.00		0.00		0.00		
Watercourse slope (%)	= 11.00		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	= 5.35		0.00		0.00		
Travel Time (min)	**= 0.23**	**+**	**0.00**	**+**	**0.00**	**=**	**0.23**
Channel Flow							
X sectional flow area (sqft)	= 6.00		1.77		0.00		
Wetted perimeter (ft)	= 7.10		4.71		0.00		
Channel slope (%)	= 2.60		2.60		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 8.59		8.31		0.00		
Flow length (ft)	= 440.0		500.0		0.0		
Travel Time (min)	**= 0.85**	**+**	**1.00**	**+**	**0.00**	**=**	**1.86**

Total Travel Time, Tc ..... 10.10 min

Hydrograph Plot

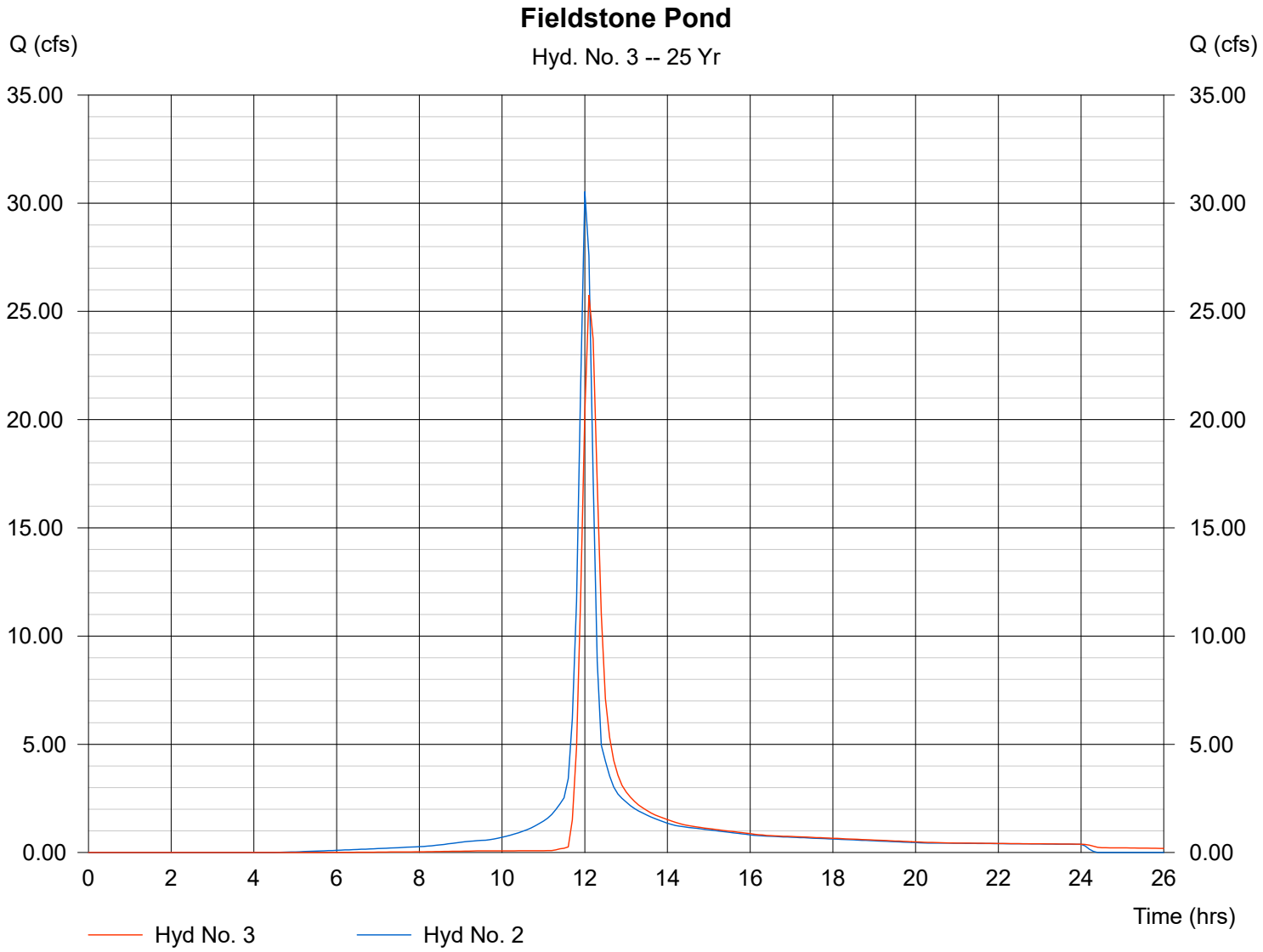
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 3

Fieldstone Pond

Hydrograph type	=	Reservoir	Peak discharge	=	25.74 cfs
Storm frequency	=	25 yrs	Time interval	=	6 min
Inflow hyd. No.	=	2	Max. Elevation	=	617.54 ft
Reservoir name	=	Fieldstone Pond	Max. Storage	=	24,088 cuft

Storage Indication method used. | Hydrograph Volume = 95,118 cuft



Pond Report

Pond No. 1 - Fieldstone Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	614.00	00	0	0
1.00	615.00	6,405	3,203	3,203
2.00	616.00	7,578	6,992	10,194
3.00	617.00	9,105	8,342	18,536
4.00	618.00	11,557	10,331	28,867

Culvert / Orifice Structures

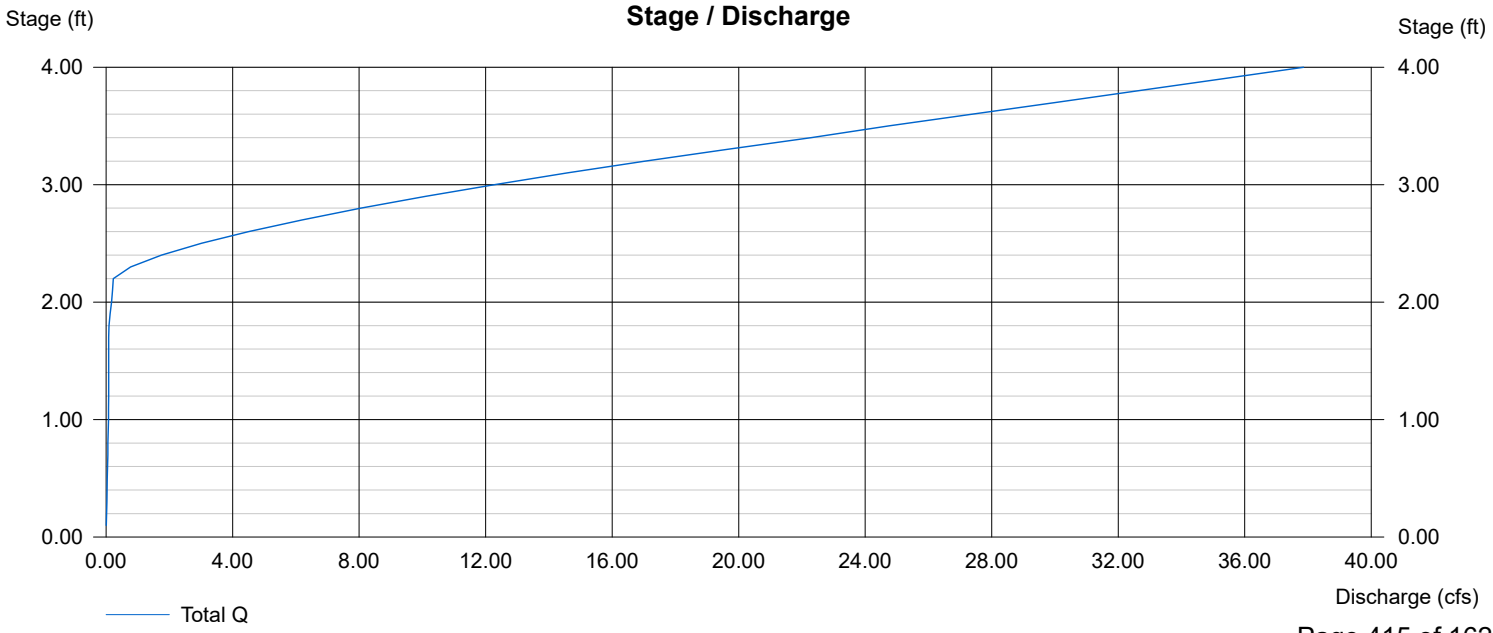
	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 613.30	615.75	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	0.00
N-Value	= .012	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	5.00	0.00	0.00
Crest El. (ft)	= 618.00	616.20	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfiltration = 0.500 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	30.15	6	720	92,776	----	------	------	Fieldstone Predeveloped
2	SCS Runoff	34.76	6	720	108,928	----	------	------	Fieldstone Post Developed
3	Reservoir	29.54	6	726	108,885	2	617.68	25,580	Fieldstone Pond

Hydrograph Plot

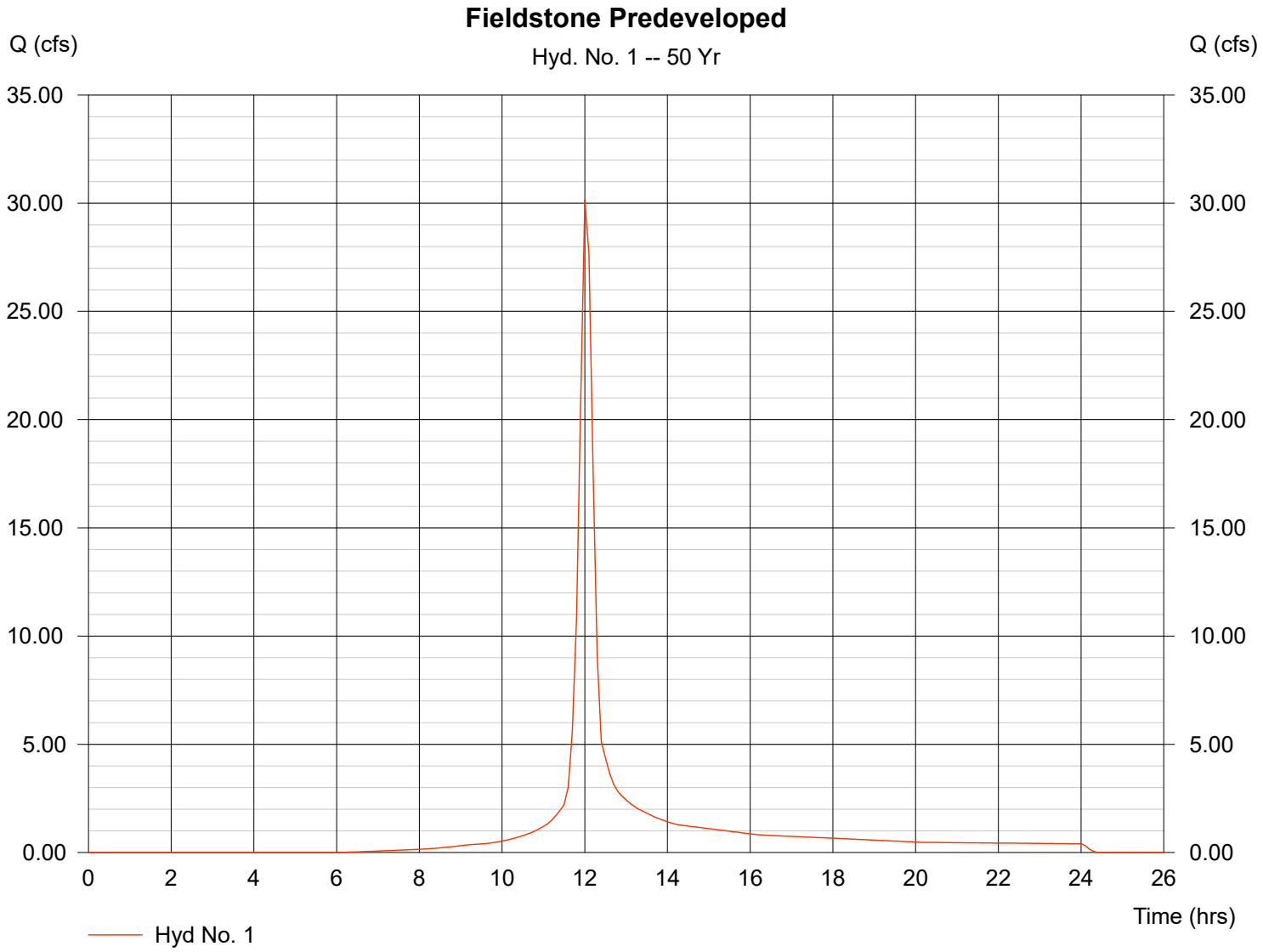
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 1

Fieldstone Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 30.15 cfs
Storm frequency	= 50 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.30 min
Total precip.	= 6.85 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 92,776 cuft



TR55 Tc Worksheet

Hyd. No. 1

Fieldstone Predeveloped

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.150	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.39	0.00	0.00	
Land slope (%)	= 8.00	0.00	0.00	
Travel Time (min)	**= 7.96**	**+ 0.00**	**+ 0.00**	**= 7.96**
Shallow Concentrated Flow				
Flow length (ft)	= 843.00	0.00	0.00	
Watercourse slope (%)	= 4.00	0.00	0.00	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	= 3.23	0.00	0.00	
Travel Time (min)	**= 4.35**	**+ 0.00**	**+ 0.00**	**= 4.35**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 12.30 min

Hydrograph Plot

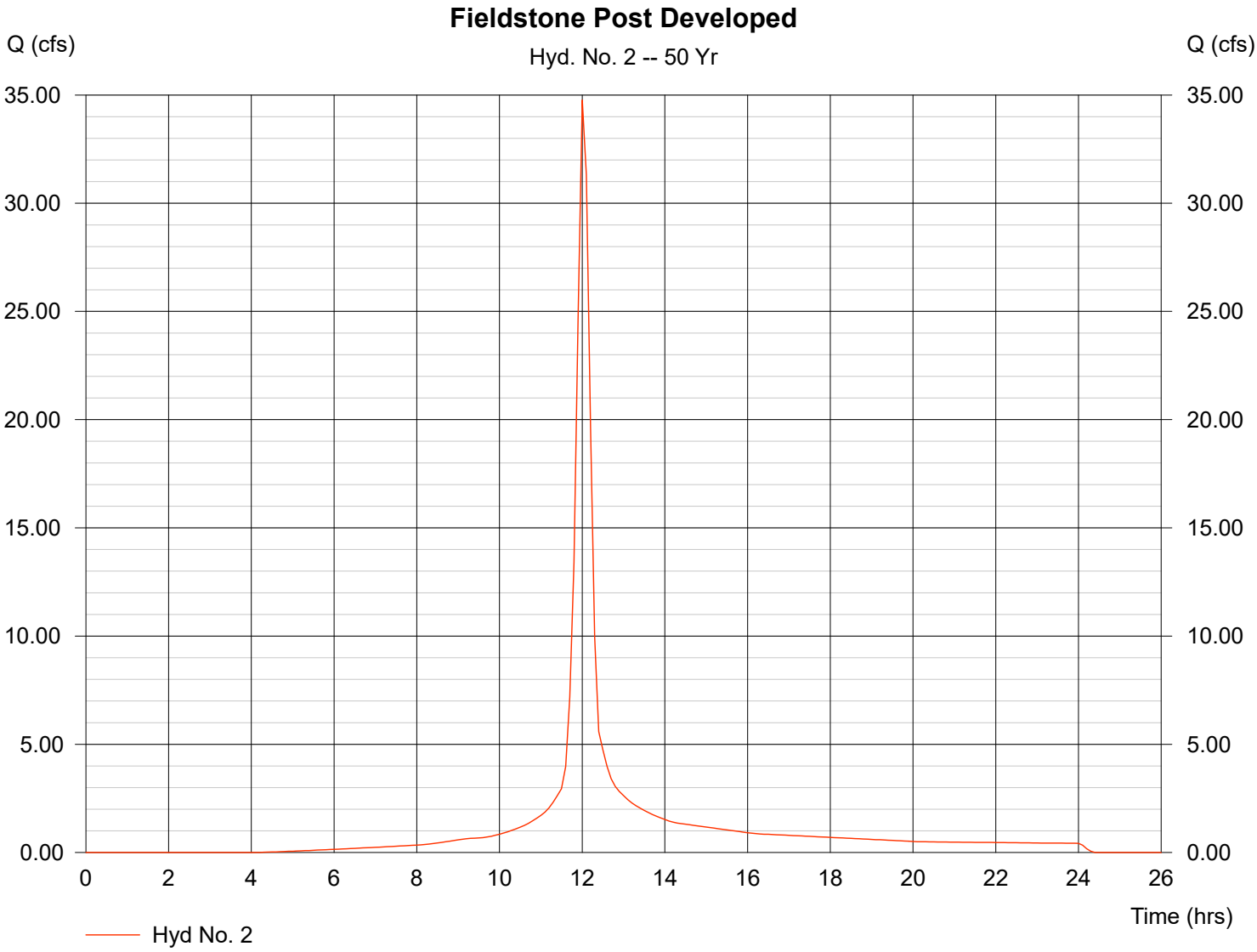
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 2

Fieldstone Post Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 34.76 cfs
Storm frequency	= 50 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 6.85 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 108,928 cuft



TR55 Tc Worksheet

Hyd. No. 2

Fieldstone Post Developed

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 7.96**	**+**	**0.00**	**+**	**0.00**	**=**	**7.96**
Shallow Concentrated Flow							
Flow length (ft)	= 74.00		0.00		0.00		
Watercourse slope (%)	= 11.00		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	= 5.35		0.00		0.00		
Travel Time (min)	**= 0.23**	**+**	**0.00**	**+**	**0.00**	**=**	**0.23**
Channel Flow							
X sectional flow area (sqft)	= 6.00		1.77		0.00		
Wetted perimeter (ft)	= 7.10		4.71		0.00		
Channel slope (%)	= 2.60		2.60		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 8.59		8.31		0.00		
Flow length (ft)	= 440.0		500.0		0.0		
Travel Time (min)	**= 0.85**	**+**	**1.00**	**+**	**0.00**	**=**	**1.86**

Total Travel Time, Tc ..... 10.10 min

Hydrograph Plot

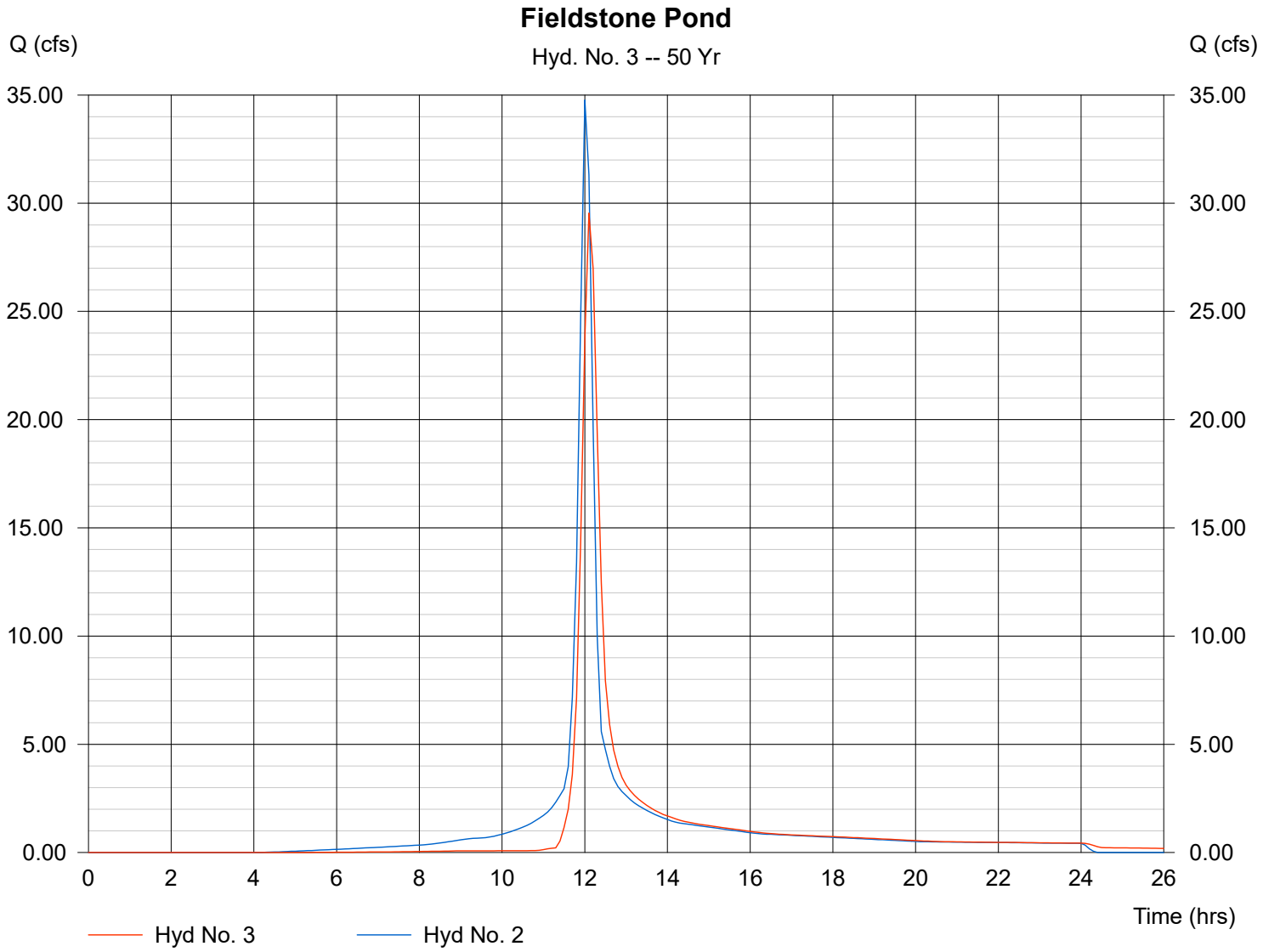
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 3

Fieldstone Pond

Hydrograph type	=	Reservoir	Peak discharge	=	29.54 cfs
Storm frequency	=	50 yrs	Time interval	=	6 min
Inflow hyd. No.	=	2	Max. Elevation	=	617.68 ft
Reservoir name	=	Fieldstone Pond	Max. Storage	=	25,580 cuft

Storage Indication method used. | Hydrograph Volume = 108,885 cuft



Pond Report

Pond No. 1 - Fieldstone Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	614.00	00	0	0
1.00	615.00	6,405	3,203	3,203
2.00	616.00	7,578	6,992	10,194
3.00	617.00	9,105	8,342	18,536
4.00	618.00	11,557	10,331	28,867

Culvert / Orifice Structures

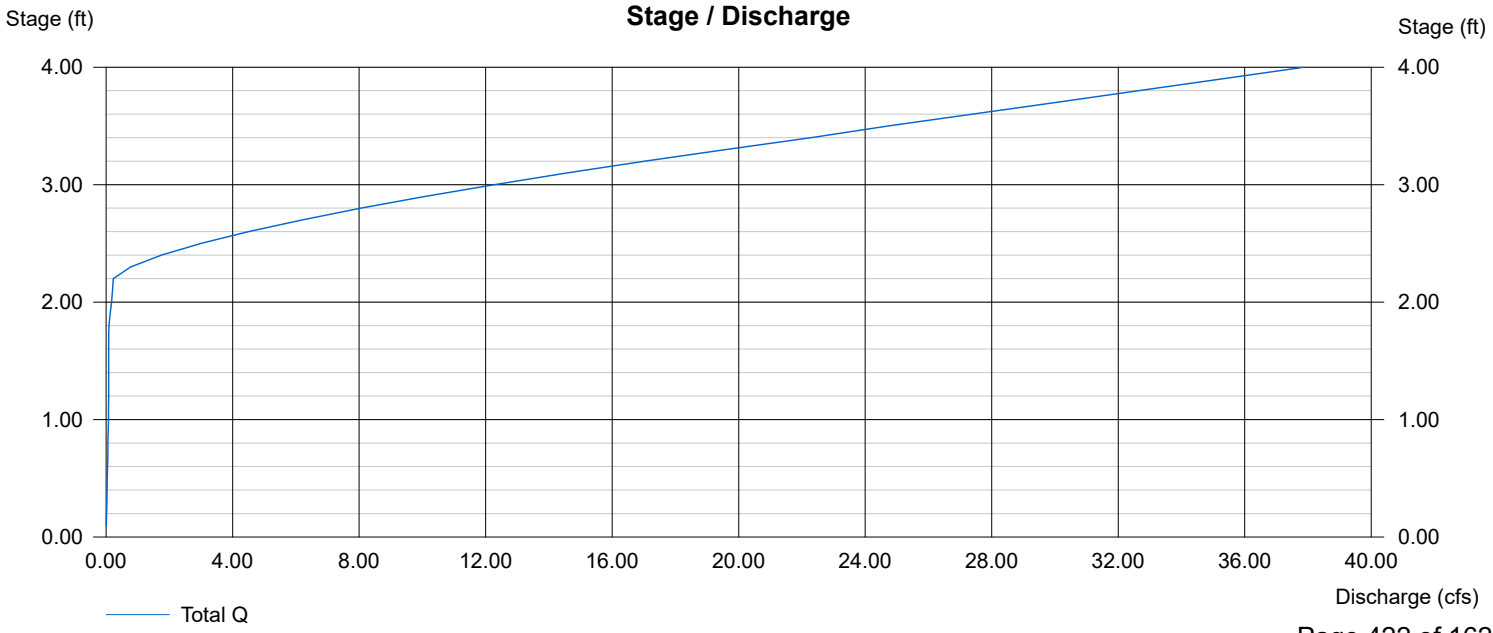
	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 613.30	615.75	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	0.00
N-Value	= .012	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	5.00	0.00	0.00
Crest El. (ft)	= 618.00	616.20	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfiltration = 0.500 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	34.31	6	720	105,805	----	------	------	Fieldstone Predeveloped
2	SCS Runoff	38.93	6	720	122,592	----	------	------	Fieldstone Post Developed
3	Reservoir	33.20	6	726	122,548	2	617.82	27,018	Fieldstone Pond

Hydrograph Plot

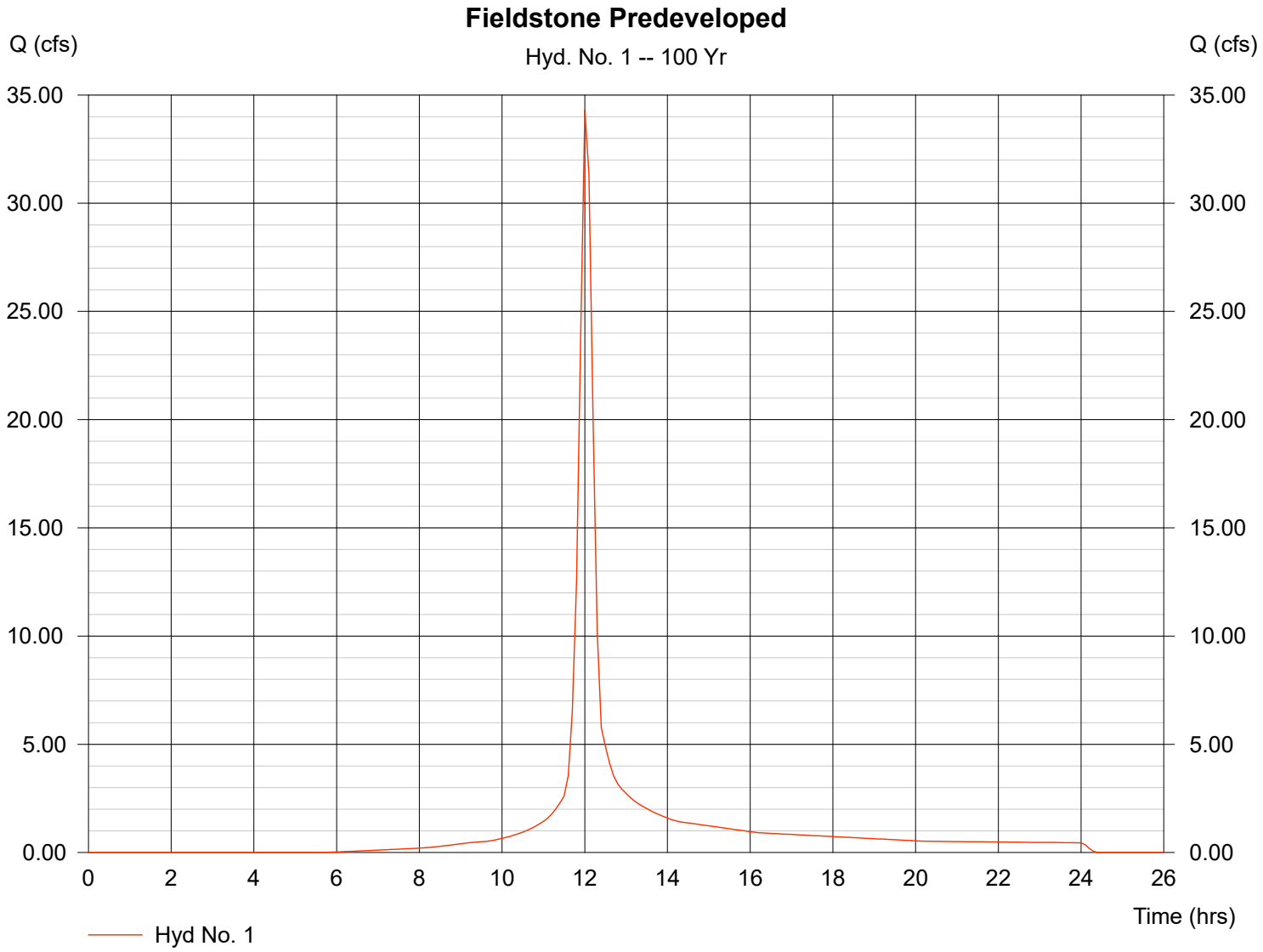
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 1

Fieldstone Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 34.31 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.30 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 105,805 cuft



TR55 Tc Worksheet

Hyd. No. 1

Fieldstone Predeveloped

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.150	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.39	0.00	0.00	
Land slope (%)	= 8.00	0.00	0.00	
Travel Time (min)	**= 7.96**	**+ 0.00**	**+ 0.00**	**= 7.96**
Shallow Concentrated Flow				
Flow length (ft)	= 843.00	0.00	0.00	
Watercourse slope (%)	= 4.00	0.00	0.00	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	= 3.23	0.00	0.00	
Travel Time (min)	**= 4.35**	**+ 0.00**	**+ 0.00**	**= 4.35**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 12.30 min

Hydrograph Plot

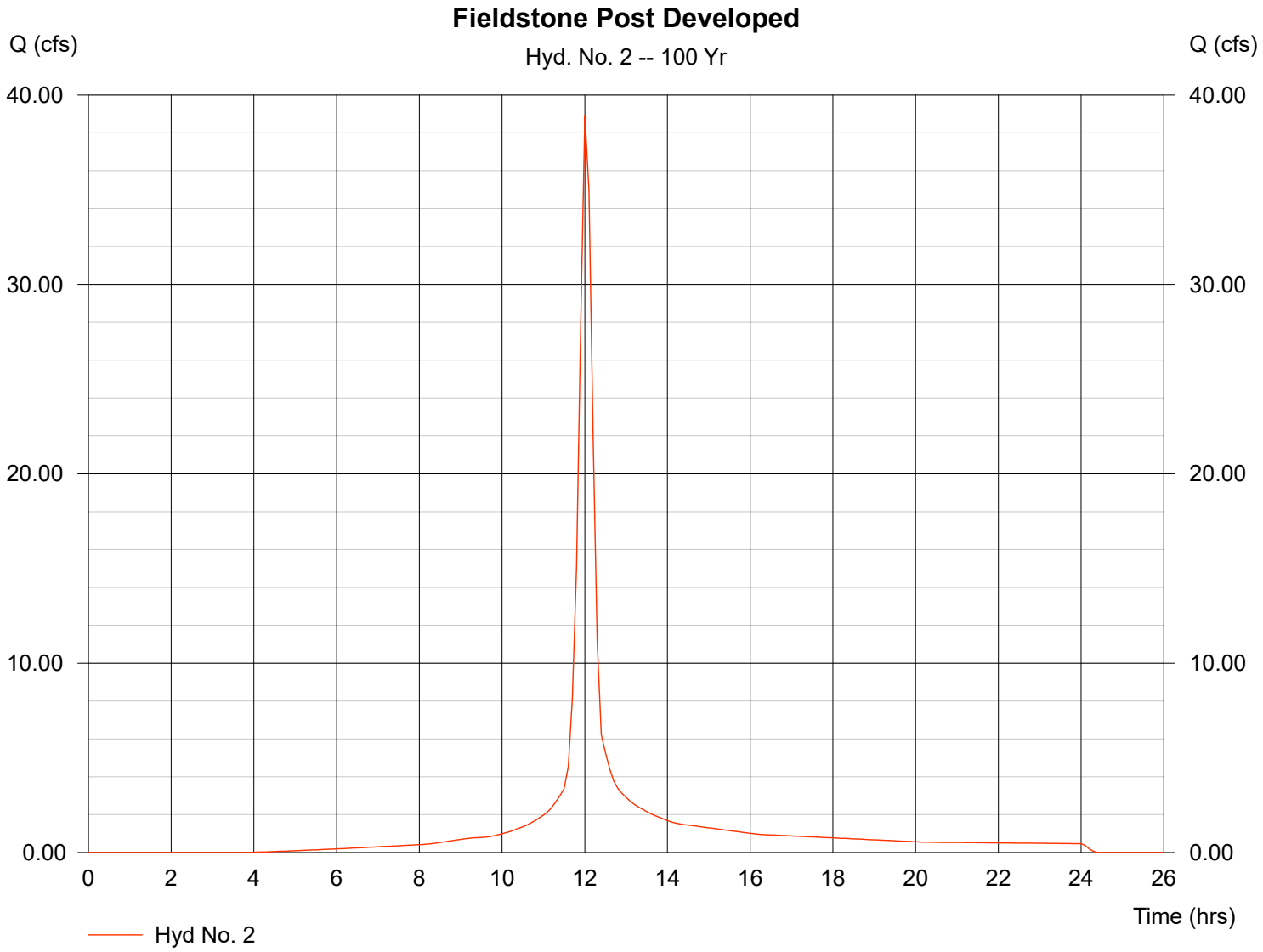
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 2

Fieldstone Post Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 38.93 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 6.130 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 122,592 cuft



TR55 Tc Worksheet

Hyd. No. 2

Fieldstone Post Developed

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 7.96**	**+**	**0.00**	**+**	**0.00**	**=**	**7.96**
Shallow Concentrated Flow							
Flow length (ft)	= 74.00		0.00		0.00		
Watercourse slope (%)	= 11.00		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	= 5.35		0.00		0.00		
Travel Time (min)	**= 0.23**	**+**	**0.00**	**+**	**0.00**	**=**	**0.23**
Channel Flow							
X sectional flow area (sqft)	= 6.00		1.77		0.00		
Wetted perimeter (ft)	= 7.10		4.71		0.00		
Channel slope (%)	= 2.60		2.60		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 8.59		8.31		0.00		
Flow length (ft)	= 440.0		500.0		0.0		
Travel Time (min)	**= 0.85**	**+**	**1.00**	**+**	**0.00**	**=**	**1.86**

Total Travel Time, Tc ..... 10.10 min

Hydrograph Plot

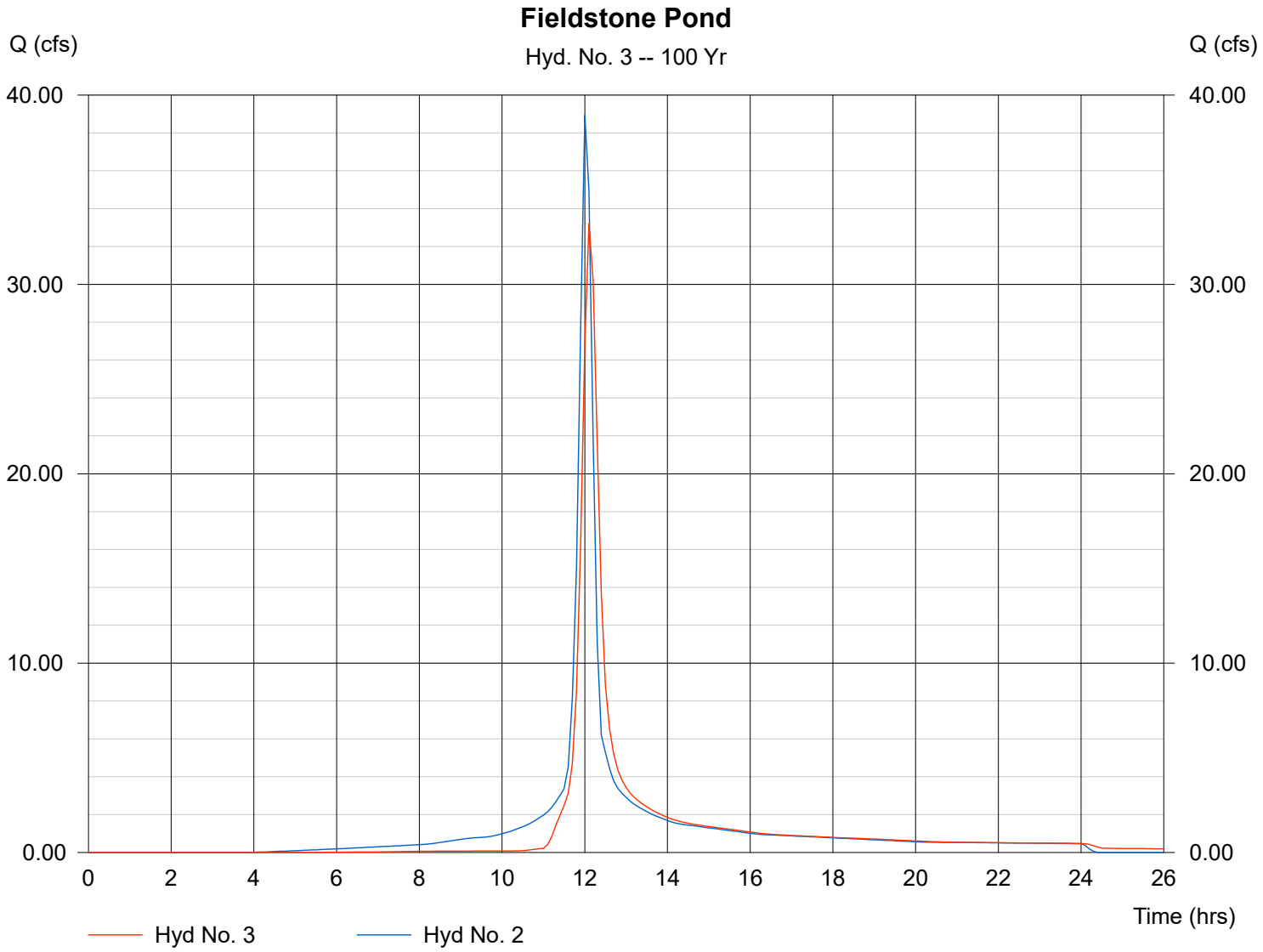
Hydraflow Hydrographs by Intelisolve | Friday, Apr 14 2023, 10:57 AM

Hyd. No. 3

Fieldstone Pond

Hydrograph type	=	Reservoir	Peak discharge	=	33.20 cfs
Storm frequency	=	100 yrs	Time interval	=	6 min
Inflow hyd. No.	=	2	Max. Elevation	=	617.82 ft
Reservoir name	=	Fieldstone Pond	Max. Storage	=	27,018 cuft

Storage Indication method used. | Hydrograph Volume = 122,548 cuft



Pond Report

Pond No. 1 - Fieldstone Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	614.00	00	0	0
1.00	615.00	6,405	3,203	3,203
2.00	616.00	7,578	6,992	10,194
3.00	617.00	9,105	8,342	18,536
4.00	618.00	11,557	10,331	28,867

Culvert / Orifice Structures

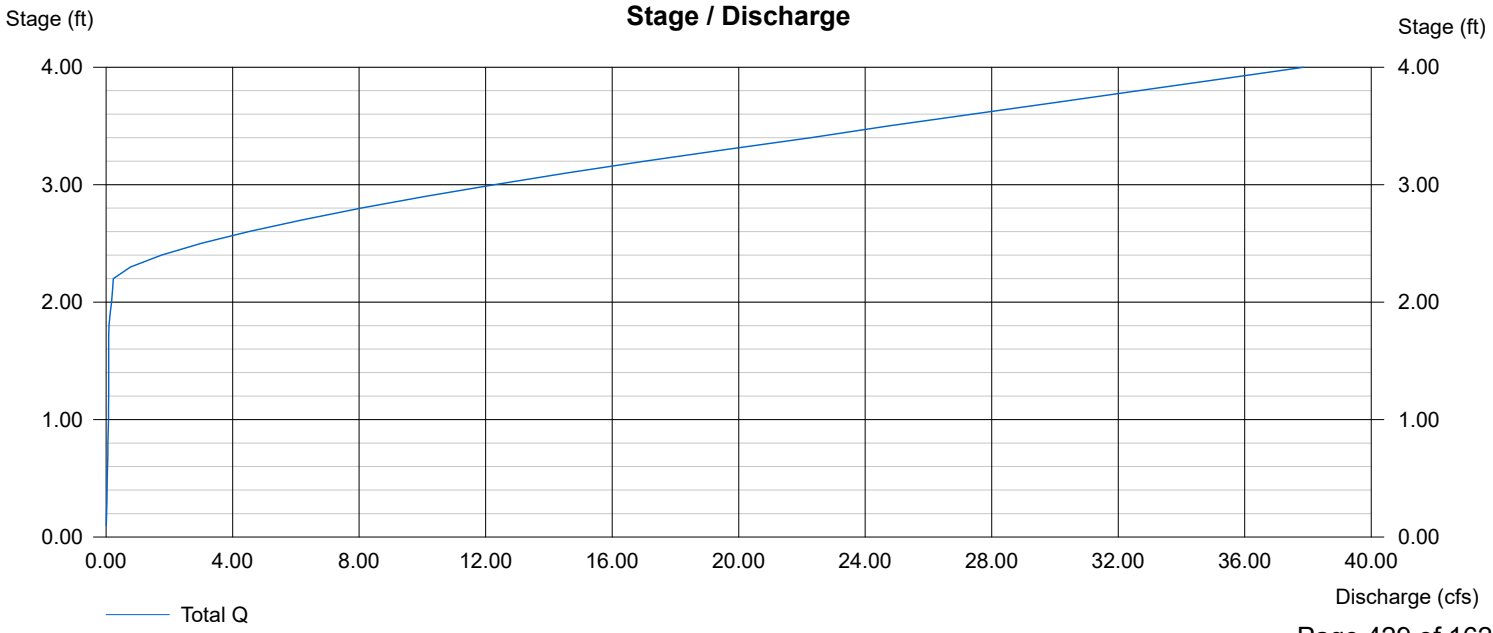
	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 613.30	615.75	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	0.00
N-Value	= .012	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	5.00	0.00	0.00
Crest El. (ft)	= 618.00	616.20	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfiltration = 0.500 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



CITY OF COLUMBIA
707 NORTH MAIN STREET
COLUMBIA, TENNESSEE 38401
(931) 388-0780
FAX (931) 380-2760

ENGINEERING DEPARTMENT

ENGINEERING ...

Enhancing
The Quality
Of Life

Erosion Prevention and Sediment Control Plan Review Checklist

Project Name: Habitat for Humanity Williamson County

Control Number: _____

Engineer: Civil and Environmental Engineering Services, LLC

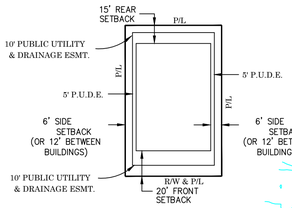
- ☒ Existing and Proposed Contour lines with elevations to indicate slope.
- ☒ Location for storage of excavated materials. to be determined at pre-con meeting
- ☒ Construction Entrance/Exit consisting of 2 to 3 inch washed stone with a nonwoven geotextile underliner.
- ☒ Property lines and distances to existing and proposed buildings.
- ☒ Location of all existing natural features within 200' of the project property boundry including but not limited to:
  - o Wetlands
  - o Drainage ways and water bodies.
  - o Heritage Trees
- ☒ Location of all existing and proposed channels, swales, or drainage pipes which convey either storm water or ground water through or around the construction area.
- ☒ Locations and detailed designs of all proposed erosion prevention and sedimentation control devices and/or facilities.
- ☒ Narrative describing best management practices scheduling, implementation, and maintenance for the duration of the project.
- ☒ Name, Address, 24-hour phone number(s) and fax number of the TDEC level 1 certified site inspector.
- ☒ Wash Pit for concrete trucks and waster material
- ☒ Separate detail sheet of erosion control devices
- ☒ Erosion and sediment control notes

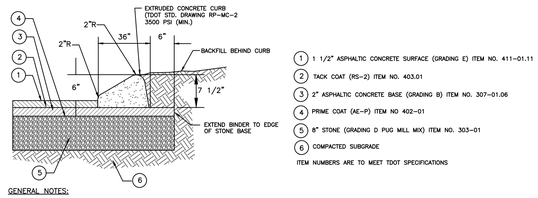
A Copy of the TDEC Notice of Coverage must be provided before a preconstruction meeting can be held.

GENERAL NOTES

1.) THE PURPOSE OF THIS PLAT IS TO CREATE A 31 LOT SUBDIVISION.
2.) ALL DISTANCES SHOWN HEREON ARE BASED UPON A FIELD-RUN SURVEY USING E.D.M. EQUIPMENT AND OR ALL GPS, AND ARE ADJUSTED FOR TEMPERATURE.
3.) UTILITIES, IF SHOWN WERE TAKEN FROM VISIBLE STRUCTURES AT THE SITE, VERIFICATION OF THEIR EXISTENCE, LOCATION, SIZE, AND DEPTH SHOULD BE MADE BEFORE MAKING DECISIONS REGARDING THEM. AVAILABILITY OF SERVICE SHOULD BE CONFIRMED WITH APPROPRIATE LOCAL UTILITY COMPANY. TENNESSEE ONE CALL (811) SHOULD BE CALLED BEFORE ANY CONSTRUCTION OR DIGGING.
4.) THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT. IT IS THEREFORE SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE REPORT.
5.) THIS PROPERTY IS SUBJECT TO BOTH RECORDED EASEMENTS, AND TO THOSE UNKNOWN TO THIS SURVEYOR.
6.) THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
7.) PROPERTY ZONED CD-4
SETBACKS ARE FRONT=6'/20'; SIDE =6' TOTAL; REAR=15'
8.) THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
9.) POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
10.) SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
11.) NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
12.) ALL STORM WATER RUNOFF WILL FLOW AWAY FROM THE ROAD AND TOWARD THE STREAM. FOR CALCULATIONS SEE C3.0 STORM WATER PLAN ENGINEERING PLAN.
13.) ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622' ELEVATION DUE TO POSSIBLE FLOODING.
14.) TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.

TYPICAL LAYOUT (LOTS 146-176)



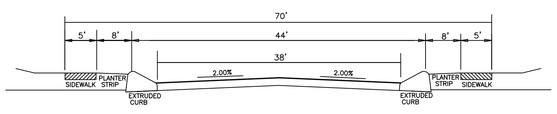


GENERAL NOTES:

1. EXPANSION JOINTS TO BE SPACED A MAXIMUM OF 100 FEET APART AND ALIGN WITH RAMPS, INLETS AND OTHER REQUIRED TARGET POINTS.
2. CONTRACTION/CONSTRUCTION JOINTS ARE REQUIRED AND ARE TO BE CUT INTO CURB EVERY 10 FEET.
3. DETAILS SHALL MEET THE STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN GUIDELINES.
4. THE EXTRUDED 6" MOUNTABLE CONCRETE CURB IS TO BE USED ONLY IN SPECIAL CONDITIONAL SUCH AS LOW SPEED VOLUME LOCAL STREETS AND WHEN TRYING TO SIMILAR CURBS ON SUBDIVISION STREETS OR IN PARKING LOTS.
5. WHERE CONCRETE MEDIAN PAVEMENT IS POURED BEHIND EXTRUDED 6" MOUNTABLE CONCRETE CURB, IT MAY BE POURED MONOLITHICALLY WITH THE CURB.

TYPICAL STREET SECTION

NOT TO SCALE



PROPOSED NORMANDY DRIVE
LOT LINE TABLES

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	20.00'	31.00'	27.99'	N 66°12'02" E	88°49'15"
C2	182.03'	18.40'	18.40'	S 72°17'07" E	5°47'33"
C3	182.03'	44.58'	44.47'	S 82°11'50" E	14°01'52"
C4	90.00'	7.40'	7.40'	S 86°20'58" E	4°42'41"
C5	90.00'	144.17'	129.24'	S 38°06'16" E	91°46'45"
C6	90.00'	17.41'	17.38'	S 13°19'32" W	11°04'50"
C7	160.00'	60.18'	59.83'	S 77°53'48" E	21°33'00"
C8	160.00'	56.78'	56.48'	S 56°59'19" E	20°19'59"
C9	160.00'	53.42'	53.17'	S 37°15'26" E	19°07'48"
C10	160.00'	129.78'	126.26'	S 04°27'16" E	46°28'32"
C11	25.08'	38.01'	34.48'	S 65°22'51" W	86°51'16"

LINE	BEARING	DISTANCE
L1	N 85°42'19" W	12.41'
L2	N 85°33'52" E	18.56'
L3	N 85°33'52" E	9.64'
L4	S 81°01'19" E	40.27'
L5	N 72°20'30" E	8.68'
L6	N 72°20'30" E	19.29'
L7	N 87°44'21" E	8.15'
L8	S 45°59'59" E	22.01'
L9	N 63°44'16" E	23.88'
L10	N 83°33'07" E	5.44'
L11	S 78°02'23" E	15.52'
L12	S 72°54'29" E	11.08'
L13	S 13°27'51" W	19.05'
L14	S 69°23'21" E	30.42'
L15	S 69°23'21" E	31.66'
L16	S 88°42'18" E	7.32'
L17	S 18°51'57" W	32.64'
L18	N 19°19'11" E	23.33'
L19	N 19°19'11" E	9.99'
L20	N 14°29'46" E	16.77'
L21	N 21°47'24" E	11.76'
L22	S 71°11'00" E	19.00'
L23	N 71°12'13" W	12.98'
L24	N 71°12'13" W	29.36'
L25	N 16°12'38" E	20.77'

UTILITY OWNERS

ELECTRIC
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

WATER
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS:COLUMBIA, TN 38401
PHONE # (931) 388-4833

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

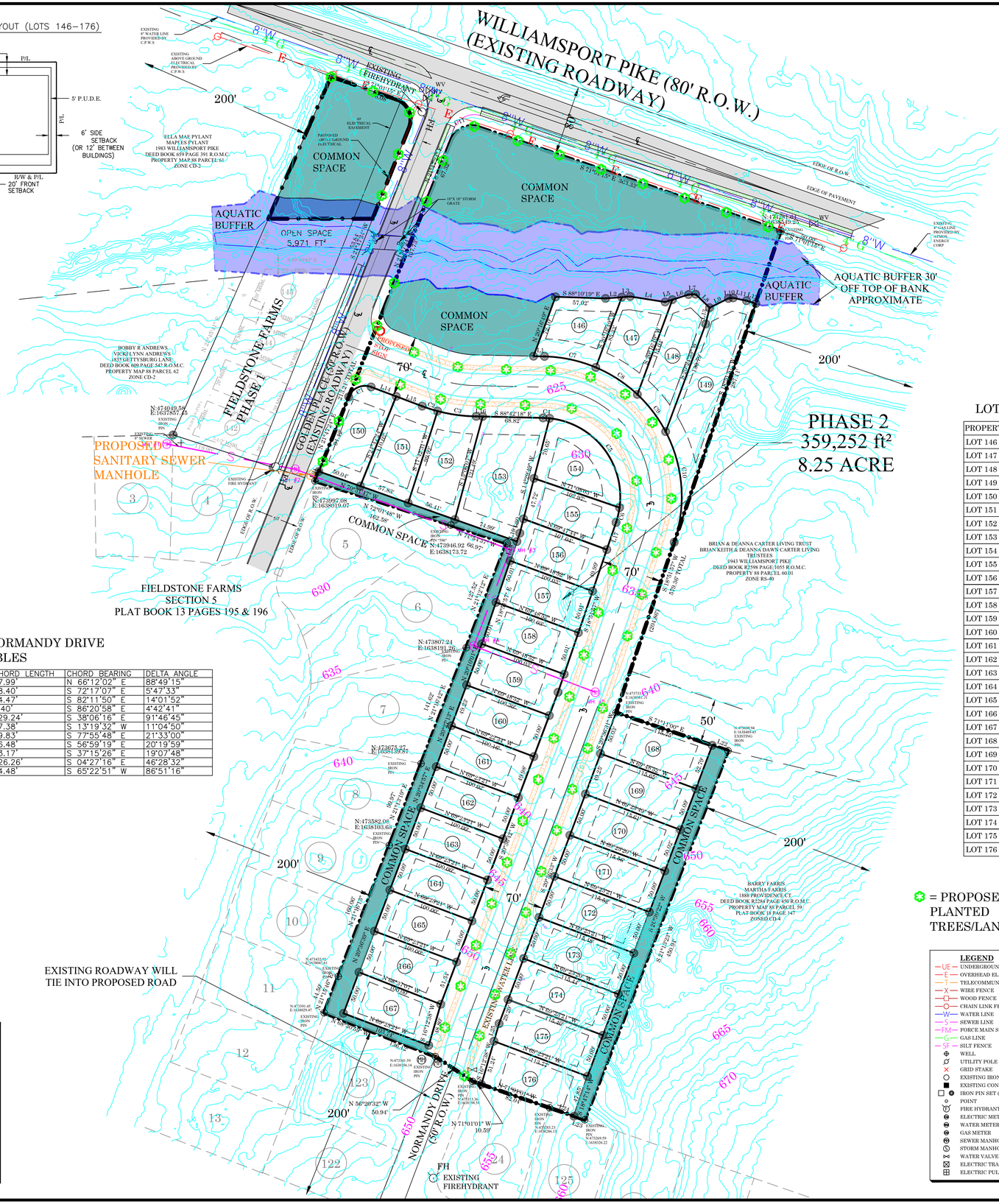
811

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SEWER STRUCTURE	
EXISTING MH #1	MH TOP 619.97' 8" S. IN 616.59' 8" E. IN 614.23' 8" W. OUT 614.17'
EXISTING MH #2	MH TOP 624.65' 4" PLASTIC SE. IN 621.65' 8" E. IN 616.90' 8" W. OUT 616.88'
EXISTING MH #3	MH TOP 630.31' 8" S. IN 623.51' 8" W. OUT 623.35'
EXISTING MH #4	MH TOP 633.24' 8" E. IN 627.13' 8" N. OUT 627.03'
EXISTING MH #5	MH TOP 636.35' 8" S. IN 630.74' 8" W. OUT 630.66'

FIELDSTONE FARMS PHASE II
AREA TO BE DEVELOPED:

	AREA IN Sq. Ft.
COMBINED LOT AREA:	177,276 Sq. Ft. 4.07 Acres
AQUATIC BUFFER AREA:	34,079 Sq. Ft. 0.78 Acres
COMMON SPACE AREA (19.8% OF DEVELOPMENT):	71,303 Sq. Ft. 1.64 Acres
R.O.W AREA:	76,594 Sq. Ft. 1.76 Acres
TOTAL AREA TO BE DEVELOPED:	359,252 Sq. Ft. 8.25 Acres



LOT(S) AREA

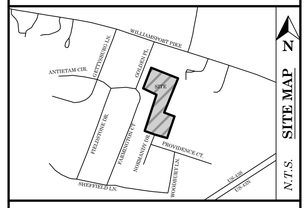
PROPERTY	SQ FT
LOT 146	5,344 ft²
LOT 147	5,381 ft²
LOT 148	6,141 ft²
LOT 149	9,776 ft²
LOT 150	5,544 ft²
LOT 151	5,909 ft²
LOT 152	6,148 ft²
LOT 153	9,990 ft²
LOT 154	6,066 ft²
LOT 155	5,002 ft²
LOT 156	5,002 ft²
LOT 157	5,001 ft²
LOT 158	5,001 ft²
LOT 159	5,017 ft²
LOT 160	4,973 ft²
LOT 161	5,003 ft²
LOT 162	5,000 ft²
LOT 163	4,999 ft²
LOT 164	4,999 ft²
LOT 165	4,999 ft²
LOT 166	5,066 ft²
LOT 167	5,023 ft²
LOT 168	5,946 ft²
LOT 169	5,743 ft²
LOT 170	5,780 ft²
LOT 171	5,777 ft²
LOT 172	5,775 ft²
LOT 173	5,773 ft²
LOT 174	5,771 ft²
LOT 175	5,752 ft²
LOT 176	5,575 ft²

✿ = PROPOSED PLANTED TREES/LANDSCAPING

LEGEND
- UE — UNDERGROUND ELECTRIC LINE
- E — OVERHEAD ELECTRIC LINE
- T — TELECOMMUNICATION LINE
- X — WIRE FENCE
- WOOD FENCE
- CHAIN LINK FENCE
- W — WATER LINE
- S — SEWER LINE
- FM — FORCE MAIN SEWER
- G — GAS LINE
- SF — SILT FENCE
- WELL
- UTILITY POLE
- GRID STAKE
- EXISTING IRON PIN (UNLESS NOTED)
- EXISTING CONCRETE MONUMENT
- IRON PIN SET (UNLESS NOTED)
- POINT
- FIRE HYDRANT
- ELECTRIC METER
- WATER METER
- GAS METER
- SEWER MANHOLE
- STORM MANHOLE
- WATER VALVE
- ELECTRIC TRANSFORMER BOX
- ELECTRIC PULL BOX

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

7376 WALKER ROAD,
FAIRVIEW, TENNESSEE 37062
(615) 799-8104
chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



RANDOLPH L. CHAPDELAINE
REGISTERED LAND SURVEYOR
AGRICULTURE
COMMERCE
TENNESSEE NO. 1444

CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 DATE

HABITAT FOR HUMANITY
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
DEED BOOK R-2495 *PAGE* 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONE CD-4
TOTAL ACRES 8.14
TOTAL AREA BEING DEVELOPED: 8.14 ACRES
CITY OF COLUMBIA

REVISION #	DATE
REVISION # 1	4/17/2023

DATE: JANUARY 17, 2023
DRAWN BY: NAB
JOB #: 6171
SCALE: 1" = 60'

0 60 120

V-1.1

P.U.D PRELIMINARY PLAT-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2

CITY OF COLUMBIA
ENGINEERING ...
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
(931) 560-1530
FAX (931) 380-2760
ENGINEERING DEPARTMENT
Enhancing
The Quality
Of Life

Construction Plan Submittal Checklist

This checklist shall be submitted with the plans or they will not be accepted

Project Name Habitat For Humanity Subdivision		
Project Location (street and nearest cross street) Williamsport Pike at Golden Place, Columbia, TN 38401		
Tax Map 88	Group	Parcel 70.01
Owner: Habitat for Humanity Williamson County	Engineer: Civil and Environmental Engineering Services, LLC	
Phone (615) 550-5619	Phone 615-504-9915	
Email lbolinski@hfhwm.org	Email masoudfathi@comcast.net	
Developer: Habitat for Humanity Williamson County	Project Number (office use only)	
Phone (615) 550-5619		
Email lbolinski@hfhwm.org		

A site development plan containing the information indicated hereon is required for all commercial, industrial and residential activities.

The Engineer shall affix his/her seal, signature, and date to all sheets of the plans in accordance with the State of Tennessee Board of Architectural and Engineering Examiners Rules of Professional Conduct, Section 0120-2-08, and other applicable laws as required.

This plan shall be approved by the City Engineer prior to any grading or excavation, including the removal of trees, vegetation, or any construction activity of any type.

Required Information

Note: The following is the minimum information that is required on a set of construction plans that is submitted to the City of Columbia for review. Sheet size shall be a minimum of 24" x 36", but in no case shall exceed 30" X 42". Construction plans submitted on other size sheets will not be reviewed.

YES	Items to be Completed and Provided with Initial Submittal:
x	Land Disturbance Permit Application and Fee
x	Stormwater Drainage maps and Detention Calculations
x	Stand Alone Erosion Prevention and Sediment Control Sheet(s)
	Landscaping Plan; If None, Reason: will provided with next submittal .
	4 Sets of Civil Plans
	Title Sheet Containing: Permanent Project Name, Index, Vicinity Map, Map and Parcel #, Engineers Seal Signed and Dated, Space Designated for TDEC NOC #

Upon Final Plan Approval the Following Items Must Be Completed:

-A Copy of the TDEC Notice of Coverage NOC
-Roadway Inspection Fee, $1 Per Linear Foot of Roadway
-Properly Executed and Recorded Inspection and Maintenance Agreement
-Any Approval Documentation Required From TDOT
-Any Other Needed Approvals From Any Entity of Authority
-Perimeter Siltation Control and Construction Access Properly Installed per the Plans and Inspected by the City of Columbia Engineering Department
-A Preconstruction Meeting with a TDEC EPSC Certified Level 1 and the Grading Contractor.

CITY OF COLUMBIA

APPLICATION FOR STORMWATER MANAGEMENT PERMIT

PERMIT NO#:_____ DATE ISSUED:_____

OWNER: __Habitat for Humanity Williamson County_____ PHONE#:_____

ADDRESS: __511 W Meade Blvd., Franklin, TN 37064_____

CONTRACTOR: _TBD._____ PHONE#: _____

CONTRACTOR ADDRESS: TBD_____ LICENSE NO.# EXPIRATION: _____

PROPERTY LOCATION: __ Williamsport Pike at Golden Place, Columbia, TN 38401_____

EXISTING LAND USE: ____Vacant Residential CD-4_____

INTENDED LAND USE: ____Residential Single family_CD-4_____

GENERAL DESCRIPTION OF WORK TO BE DONE: ___subdivision of 32 lots, driveway, utilities and Stormwater collection and treatment_____

NOTE: THIS APPLICATION DOES NOT GRANT PERMISSION TO PERFORM ANY WORK. UPON FAVORABLE REVIEW OF THIS APPLICATION.

**** IF YOU FAIL TO OBTAIN A STORMWATER MANAGEMENT PERMIT AND THE PROJECT IS STARTED WITHOUT IT YOUR PERMIT FEES WILL BE DOUBLED.**

BEFORE CONSTURCTION BEGINS EROSION CONTROL AND DETENTION IF REQUIRED MUST BE IN PLACE.

_____ _____

DATE OF APPLICATION SIGNATURE OF APPLICANT

* * * * * * * * * * * * * * * * *

ENGINEERING USE ONLY:

*1ST Inspection of the site by: _____ Date: _____

*Final inspection of the site by: _____ Date: _____

TAX MAP NO. ____88_____ GROUP _____ PARCEL _____70.01_____

TYPE PROJECT : __X____ PAVING ___X____CUTTING ___X____ FILLING ___X____ GRADING

DID APPLICANT PROVIDE SITE PLANS? __X__ YES _____ NO _____ N/A

DID APPLICANT PROVIDE EROSION CONTROL PLANS? __X__ YES _____ NO _____N/A

DID APPLICANT PROVIDE RUNOFF CALCULATIONS? __X___ YES _____ NO _____N/A

ARE DOWNSTREAM STRUCTURES ADEQUATE? __X__ YES _____ NO _____ N/A

APPROVED BY: _____ DATE: _____

A STORMWATER MANAGEMENT PERMIT WILL BE ISSUED AT A COST OF:

[ ] $150.00 / COMMERCIAL OR [ ] $ 50.00 / RESIDENTIAL

FEE: _____ DATE PAID:_____ RECEIPT NO:_____ REC'D BY_____

SITE CONSTRUCTION PLANS FOR

HABITAT FOR HUMANITY WILLIAMSON/MAURY COUNTY

FIELDSTONE FARMS, PHASE II

A SINGLE FAMILY RESIDENTIAL DEVELOPMENT

WILLIAMSPORT PIKE, 9TH CIVIL DISTRICT

GENERAL NOTES

1. THE PURPOSE OF THIS PLAN IS TO CREATE AN 32 LOT SUBDIVISION.
2. THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
3. PROPERTY ZONED CD-4
4. SETBACKS ARE FRONT=20'; SIDE =6'; REAR=20'
5. THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
6. POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
7. SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
8. NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
9. ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622'
10. ELEVATION DUE TO POSSIBLE FLOODING.
11. TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.

PREPARED FOR

HABITAT FOR HUMANITY WILLIAMSON-MAURY
511 W MEADE BLVD
FRANKLIN, TENNESSEE 37062

PREPARED BY:
CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net
www.ceestn.com

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UTILITY OWNERS

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

811
IT'S THE LAW



VICINITY MAP
(N.T.S.)

ZONE CD-4
TOTAL ACRES 8.14

SHEET INDEX

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC

MASOUD FATHI
REGISTERED ENGINEER
No. 102452
STATE OF TENNESSEE

DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

2		
	Revision/Issue	

Date:

Sheet:
C0.0 OF

Project No.

GENERAL NOTES

1. BASE BOUNDARY AND TOPO SURVEY IS PROVIDED BY CHAPDELAINE AND ASSOCIATES, 7376 WALKER ROAD, FAIRVIEW, TN 37062, (615) 799-8104. ALL REFERENCES REQUIRING ACCURACY SHOULD BE DIRECTED TO THE ORIGINAL SURVEY DATA. THIS DRAWING IS BELIEVED TO CONTAIN ACCURATE BASE INFORMATION, BUT VERIFICATION AGAINST SURVEY DATA IS REQUIRED.
2. OBTAIN WRITTEN AUTHORIZATION FROM THE OWNER AND UTILITY PROVIDERS PRIOR TO INTERRUPTING ANY EXISTING UTILITY (IE: WATER, SEWER, ELECTRICAL, OR TELEPHONE).
3. LOCATE, PROTECT AND FLAG ALL PROPERTY CORNERS AND MONUMENTS ADJACENT TO THE CONSTRUCTION AREA. DO NOT DISTURB ANY TREES OR VEGETATION OUTSIDE THE PROPERTY OR OUTSIDE THE LIMITS OF GRADING WITHOUT ANY AUTHORIZATION FROM THE OWNERS.
4. CONTRACTORS SHALL COMPLY WITH TENNESSEE EROSION AND SEDIMENT CONTROL REGULATIONS. A CERTIFIED EROSION AND SEDIMENT CONTROL PERSON SHALL BE CONTACTED FOR INSPECTION OF THE CONTROL MEASURES AS A 24 HR. P.O.C. NOTES SHALL BE POSTED "ON SITE" WITH INSPECTIONS PERFORMED EVERY 72- HRS.
5. TEMPORARY CONSTRUCTION ACCESS TO BE AT LOCATION DESIGNATED BY THE CITY OF COLUMBIA STORM WATER ENGINEERING DEPARTMENT. INSTALL MINIMUM 20'-0" WIDE 8" THICK GRAVEL AT EXISTING ROAD FOR A MINIMUM LENGTH OF 100 FEET AT ANY CONSTRUCTION ACCESS. USE 2"-3" GRADED ROCK.
6. PROVIDE TEMPORARY CULVERTS TO MAINTAIN ACCESS TO WORKING AREAS. REMOVE CULVERTS WHEN DIRECTED BY ENGINEER.
7. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TENNESSEE D. O. T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. THREE WORKING DAYS BEFORE YOU DIG, DRILL, BLAST OR BORE, CALL 1-800-351-1111. CALL ALL OTHER UTILITY OWNERS PRIOR TO WORK.
9. DURING GRADING OPERATIONS, IF DUE TO ADJUSTMENTS FOR SUBGRADE, WATER BECOMES TRAPPED, CONTRACTOR IS TO CUT A SWALE ALLOWING WATER TO DRAIN.
10. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES FOR EXECUTION OF THE WORK. ALL MATERIALS AND EXECUTION OF THE WORK SHALL BE IN ACCORDANCE WITH FEDERAL, STATE OF TENNESSEE, AND CITY OF COLUMBIA RULES AND REGULATIONS. ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL PAY ALL REQUIRED FEES.
11. CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY AGC OF AMERICA, INC., AND THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR. ALL SLOPES SHALL CONFORM WITH OSHA CONSTRUCTION STANDARDS FOR EXCAVATION, 29 CFR, PART 1926, SUBPART P.
12. THE CONTRACTOR SHALL VERIFY SITE CONDITIONS, DIMENSIONS, ELEVATIONS, AND LOCATIONS OF EXISTING FEATURES BEFORE STARTING WORK. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY INTERFERENCE OR DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. WORK DONE AFTER SUCH DISCOVERY, UNTIL AUTHORIZED TO PROCEED IN WRITING, SHALL BE AT THE CONTRACTOR'S RISK.
13. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXISTING UTILITIES SHOWN ON DRAWINGS ARE APPROXIMATE IN DEPTH AND LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING EXISTING UTILITIES DAMAGED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
14. MAINTAIN AND PROTECT EXISTING PAVEMENT OR GRAVEL SURFACES WHICH ARE TO REMAIN. CONTRACTOR SHALL REPLACE DAMAGED AREAS, MATCHING DEPTH, MATERIAL, AND GRADE OF EXISTING SURFACES.
15. EARTHWORK INCLUDING FINAL DRESSING, BASE & SUBGRADE TREATMENT, FLEXIBLE SURFACE & RIGID PAVEMENT, AND ANY OTHER APPLICABLE WORK SHALL AS A MINIMUM MEET THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
16. A GEOTECHNICAL REPORT HAS BEEN PROVIDED BY TERRA NOVA ENGINEERING PLLC., DATED JUNE 2018.
17. CHECK GRADES, LINES, LEVELS, AND DIMENSIONS SHOWN BY THE DRAWINGS AND PROMPTLY REPORT TO OWNER'S REPRESENTATIVE IN WRITING DISCREPANCIES FOR CLARIFICATION BEFORE COMMENCING WORK. EMPLOY A REGISTERED SURVEYOR CONTINUOUSLY ON WORK DURING ENTIRE PERIOD WHEN SUCH GRADES, LINES, LEVELS AND DIMENSIONS ARE NECESSARY FOR WORK. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR CORRECTNESS OF GRADES, LINES, LEVELS, AND DIMENSIONS.
18. LEVEL ONE CERTIFIED EROSION CONTROL NOTES SHALL BE POSTED AT THE SITE AT ALL TIMES.
19. ALL CONCRETE SHALL BE CLASS "A" CLASS 4,000 PSI (U.N.O.)
20. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE WORK.
21. ALL DAMAGE TO EXISTING PAVEMENT AND CURBS RESULTING FROM NEW CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
22. THE CONTRACTOR MUST UNDERSTAND THAT THE WORK IS ENTIRELY AT HIS RISK UNTIL SAME IS ACCEPTED, AND HE WILL BE HELD RESPONSIBLE FOR ITS SAFETY.
23. THE CONTRACTOR SHALL OFFSET ALL CENTERLINE STAKES BEFORE BEGINNING THE CLEANING AND GRADING OPERATION AND SET ALL NECESSARY STAKES FOR PROPER EXECUTION OF THE WORK.
24. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
25. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS RELATING TO BUILDING SIDEWALKS, STREETS, WATER MAINS, SEWERS, BLASTING, ETC.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THE PREMISES AND ADJACENT PREMISES, OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION OF WHAT WORK, CAUSED BY HIMSELF, HIS CONTRACTORS OR THE CARELESSNESS OF ANY OF HIS EMPLOYEES.
27. THE CONTRACTOR SHALL BE REQUIRED TO REIMBURSE THE CITY AND THE STATE FOR ALL INSPECTION COSTS.
28. CONTROL POINTS, GRADES AND OFFSET STAKES ARE TO BE SET BY THE CONTRACTOR.
29. IN THE EVENT OF ANY DISCREPANCIES AND/OR ERRORS FOUND IN THE DRAWINGS, OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. IF THE ENGINEER IS NOT NOTIFIED, THE CONTRACTOR SHALL TAKE RESPONSIBILITY FOR THE COST OF ANY FIELD ADJUSTMENTS.
30. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND OBTAIN ALL PERMITS PRIOR TO BEGINNING WORK.
31. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.
32. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK, THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED WIRES, THE ELECTRICAL COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN.
33. SURPLUS MATERIAL NOT REQUIRED FOR SITE CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AFTER THE OWNER'S APPROVAL.
34. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY AGC OF AMERICA, INC., AND THE "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION" ISSUED BY THE U.S. DEPARTMENT OF LABOR.
35. ALL PIPES UNDER EXISTING OR PROPOSED PAVED AREAS SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE.
36. DIMENSIONS ARE TO THE FACE OF CURBS, EDGE OF CONCRETE, OR TO THE FACE OF BUILDINGS UNLESS OTHERWISE NOTED.
37. ALL SIDEWALKS WILL HAVE A SIDEWALK HEADER AT THE JUNCTION TO PAVEMENT, UNLESS OTHERWISE DETAILED.
38. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE DAMAGE OR LOSS OF ANY REFERENCE POINTS, MONUMENTS, HUBS, AND STAKED LOT CORNERS DURING THE CONSTRUCTION OF HIS WORK, AND SHALL BEAR THE COST OF REPLACING SAME.
39. THE CONTRACTOR SHALL PROVIDE SUCH BRACING, SHEETING AND SHORING, BLASTING PROTECTION, WARNING LIGHTS AND BARRICADES, ETC., AS MAY BE NECESSARY FOR THE PROTECTION OF LIFE AND PROPERTY FOR HIS OWN EMPLOYEES AND THE GENERAL PUBLIC. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY STATUTES AND RULES REQUIRING CERTAIN PROTECTIVE PERSONAL APPAREL SUCH AS HARD HATS, EAR PLUGS, EYE SHIELDS, PROTECTIVE SHOES, ETC. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY OR LIABILITY FOR ACTIONS TAKEN BY THE CONTRACTOR ENDANGERING LIFE OR PROPERTY.

SITE WORK CONSTRUCTION SEQUENCE

1. SUBMIT NOTICE OF INTENT (N.O.I.) TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION AND APPLY FOR GRADING PERMIT FROM THE CITY OF COLUMBIA STORM WATER DEPARTMENT. WORK MAY NOT BEGIN UNTIL N.O.C. IS RECEIVED.
2. CONTRACTOR, ENGINEER, AND REPRESENTATIVES FROM THE CITY OF COLUMBIA STORM WATER DEPARTMENT SHALL MEET AT A PRE-CONSTRUCTION MEETING TO DISCUSS IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROL DEVICES
3. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PRIOR TO START OF ANY WORK, UNLESS OTHERWISE INSTRUCTED BY THE CITY BUILDING AND ZONING OFFICE.
4. INSTALL SILT FENCE, CONSTRUCTION ENTRANCE AND GRAVEL CHECK DAMS.
5. INSPECTION OF SEDIMENTATION CONTROL DEVICES BY ENGINEER AND REPRESENTATIVE OF THE LOCAL AUTHORITIES, INCLUDING INSPECTION OF THE CONSTRUCTION ENTRANCE.
6. OBTAIN GRADING PERMIT AND BEGIN EXCAVATION AND GRADING OF THE SITE.
7. INSTALL ALL NECESSARY UTILITIES AND STORM WATER STRUCTURES. INSTALL ALL NECESSARY PAVEMENTS. INSTALL ALL SPECIFIED REINFORCED MAT OR SEED, AND STABILIZE WITH MULCH, ANY GRADED RIP-RAP, WITHIN AREA NOT RECEIVING PAVEMENT, GRAVEL, OR 14 DAYS OF COMPLETION OF ANY PHASE OF GRADING. NO DISTURBED AREA SHALL BE LEFT BARE FOR MORE THAN 14 DAYS.
8. PROVIDE EVERY 72 HOUR INSPECTION AND MAINTENANCE OF SEDIMENTATION CONTROL DEVICES AND AFTER EVERY STORM EVENT.
9. COMPLETE SITE IMPROVEMENTS AND INSTALL PERMANENT EROSION CONTROL SYSTEMS.

NOTE:
1. CONTRACTOR TO EXPOSE ALL UNDERGROUND UTILITIES, VERIFY DEPTH AND IDENTIFY ANY AND ALL CONFLICTS WITH PROPOSED UTILITIES DESIGN. INFORM ENGINEER IN WRITING PRIOR TO START OF WORK.
2. THERE ARE NO EXEMPTIONS OR EXCLUSIONS. ALL MATERIAL, LABOR AND EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR FOR EXECUTION OF THIS WORK. ALL WORK INCLUDING MATERIAL, INSTALLATION SHALL BE COMPLETED TO SATISFACTION OF THE OWNER AND ALL AGENCIES HAVING JURISDICTION.
3. FINAL AS BUILD DRAWINGS OF ALL SITE AND UTILITIES SHALL BE PROVIDED BY CONTRACTOR. AS-BUILD PLANS SHALL BE SUFFICIENTLY DETAILED TO MEET THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION.
4. AFTER COMPLETION OF WORK AND ACCEPTANCE BY THE CITY OF COLUMBIA AND THE OWNER, ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AT CONTRACTORS COST.

THE PROJECT ASSOCIATED WITH THESE SUBMITTED PLANS IS COVERED UNDER TENNESSEE CONSTRUCTION GENERAL PERMIT _____ THE TOTAL DISTURBED AREA IS: 6.55 ACRES.

CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:
❑ IMPAIRED FOR SILTATION ❑ IMPAIRED FOR HABITAT ALTERATION ❑ EXCEPTIONAL

Masud Fathi — APRIL 17, 2023
SIGNATURE DATE:
CIRCLE ONE: DEVELOPER PROJECT ENGINEER OTHER _____

EPSC Signature

I, Masud Fathi, CERTIFIED EROSION CONTROL SPECIALIST, HAVE REVIEWED THIS PLAN FOR SUFFICIENT ONSITE EROSION AND SEDIMENT CONTROL PROVISIONS.

Date: APRIL 17, 2023

SITE DEMOLITION NOTES

1. OBTAIN ALL NECESSARY LICENSES AND PERMITS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. CONTRACTOR TO PROVIDE ALL ASSOCIATED FEES AND COSTS.
2. CONTRACTOR TO CONTACT TENNESSEE "ONE CALL" LINE LOCATORS TO AID IN IDENTIFYING & LOCATING EXISTING BURIED UTILITIES PRIOR TO COMMENCING WITH ANY CONSTRUCTION ACTIVITIES.
3. CONTRACTOR TO VERIFY THE PROJECT LIMITS AND FIELD CONDITIONS BEFORE BIDDING THIS PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO THE IRREGULAR SURFACE CONDITIONS THAT MAY BE ENCOUNTERED ON THIS SITE. EXCAVATION IS UNCLASSIFIED, AND INCLUDES EXCAVATION TO SUBGRADE ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIALS AND OBSTRUCTIONS ENCOUNTERED. IT SHALL BE UNDERSTOOD THAT ANY REFERENCE TO ROCK, EARTH, OR ANY OTHER MATERIAL ON THE DRAWINGS IS NOT TO BE TAKEN AS AN INDICATION OF CLASSIFIED EXCAVATION OR THE QUANTITY OF EITHER ROCK, EARTH, OR ANY OTHER MATERIAL INVOLVED. THE CONTRACTOR SHALL DRAW HIS OWN CONCLUSIONS AS TO THE CONDITIONS TO BE ENCOUNTERED.
4. ANY EXISTING PAVEMENT, SIDEWALKS, DRAINAGE STRUCTURES, UTILITIES, OR ANY OTHER EXISTING STRUCTURES THAT ARE DISTURBED AND ARE TO REMAIN, SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
5. SAW-CUT ASPHALT PAVING AND CONCRETE SIDEWALKS ON SMOOTH AND STRAIGHT LINE AT THE BOUNDARY OF EXISTING TO REMAIN AND EXISTING TO BE REMOVED.
6. THE BURNING OF CONSTRUCTION DEBRIS OR TRASH ON THE OWNER'S PROPERTY IS FORBIDDEN. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OFF THE OWNER'S PROPERTY. ALL DEBRIS SHALL BE DISPOSED OF IN A LANDFILL LICENSED BY THE STATE TO RECEIVE THE SPECIFIC DEMOLITION DEBRIS.
7. COORDINATE REMOVAL/ADJUSTMENT OF ANY EXISTING MANHOLES, CATCH BASINS, OR OTHER STRUCTURES WITH THE LAYOUT, GRADING & UTILITY PLANS.
8. ALL TREES THAT ARE TO BE REMOVED SHALL BE CLEARLY MARKED & FLAGGED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. ANY TREES THAT ARE TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED.
9. ADJUST ALL M.H., C.B., INLETS, VALVE COVERS, ETC. TO NEW GRADE.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. PERFORM ALL EARTHWORK OPERATIONS IN SUCH A MANNER AS TO CONTROL EROSION AND PREVENT SEDIMENTATION FROM ENTERING STREAMS OR BEING TRACKED ONTO ROADWAYS. COMPLY SPECIFICALLY AND COMPLETELY WITH STATE & LOCAL GOVERNMENT AGENCIES AND WITH EROSION AND SEDIMENTATION CONTROL PERMIT REQUIREMENTS.
2. INSTALL AND OBTAIN APPROVAL OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
3. ALL EROSION AND WATER QUALITY CONTROL STRUCTURES SHALL BE INSPECTED FOR STABILITY AND OPERATION FOLLOWING EVERY RUN-OFF PRODUCING RAINFALL DURING CONSTRUCTION, AS DIRECTED IN THE NPDES PERMIT.
4. MAKE NEEDED REPAIRS TO CONTROL STRUCTURES IMMEDIATELY UPON DETECTION OF DEFICIENCIES.
5. CLEAN SEDIMENT FROM BASIN(S) WHEN STORAGE CAPACITY IS DIMINISHED.
6. REMOVE SEDIMENT FROM SILT FENCES WHEN THE DEPTH REACHES APPROXIMATELY 4". SILT FENCES AND DIVERSION DITCHES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
7. REMOVE ALL TEMPORARY SEDIMENTATION CONTROL DEVICES NOT DESIGNATED TO REMAIN UPON COMPLETION OF GRADING AND FINAL ACCEPTANCE OF GRASSING, BUT NO LATER THAN 14 DAYS AFTER FINAL SITE STABILIZATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY MEASURES NECESSARY TO PREVENT SITE EROSION AND SEDIMENTATION AS DETERMINED BY TDEC.
9. INLET PROTECTION SHALL BE PROVIDED FOR CATCH BASINS AND FOR CURB INLETS CLEAN SEDIMENT FROM PIPE AFTER VEGETATION IS ESTABLISHED.
10. EXISTING AND PROPOSED INLETS RECEIVING DRAINAGE FROM DISTURBED AREAS SHALL HAVE INLET PROTECTION AS INDICATED ON PLANS.

UTILITIES NOTES

1. ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS OF THE RESPECTIVE UTILITY OWNER.
2. THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE CITY AND THE UTILITY PROVIDERS FOR THE COST OF INSPECTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE ELEVATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. SEE MECHANICAL, PLUMBING, AND ELECTRICAL PLANS FOR EQUIPMENT LAYOUT AND UTILITY ENTRANCES.
5. PIPE LENGTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY ACTUAL PIPE LENGTHS REQUIRED.
6. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
7. THE CONTRACTOR SHALL COORDINATE THE TIE-INS TO THE EXISTING WATER & SEWER LINES WITH THE RESPECTIVE UTILITY OWNERS, PRIOR TO COMMENCING THIS WORK.
8. THRUST BLOCKING SHALL BE PROVIDED FOR PRESSURE LINES WHEN THERE ARE DIRECTIONAL CHANGES (AT BENDS, TEES AND WYES), STOPS (AT DEAD ENDS) OR CHANGES IN SIZE (AT REDUCERS).
9. ALL SANITARY SEWER SERVICE LINES SHALL MAINTAIN A MINIMUM 1% SLOPE (U.N.O.)
10. ALL UTILITY LINES ON-SITE SHALL BE UNDER-GROUND.
11. CONTRACTOR SHALL VERIFY ALL MATERIAL TYPES AND INSTALLATION METHODS WITH UTILITY PROVIDERS AND OBTAIN APPROVAL.

GENERAL NOTES

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI — REGISTERED — 103332 — STATE OF TENNESSEE — LICENSED PROFESSIONAL ENGINEER

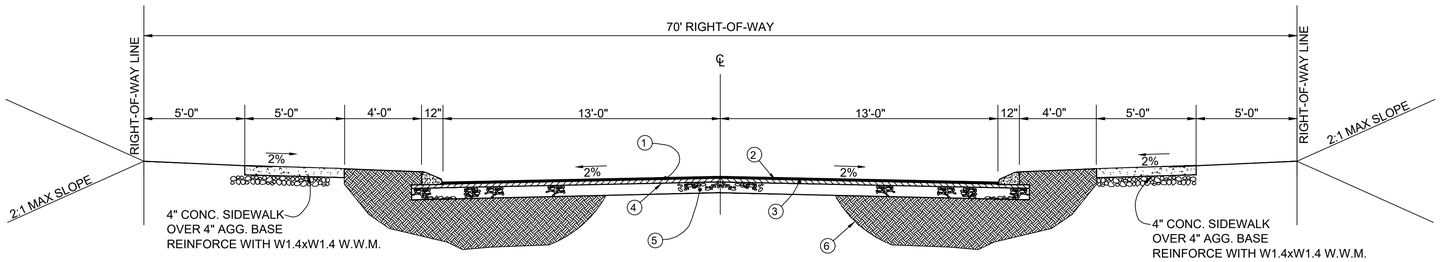
SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE
9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

General Notes

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4		
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Date: APR. 17, 2023
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Project No. 2023-15
Prepared By: MF

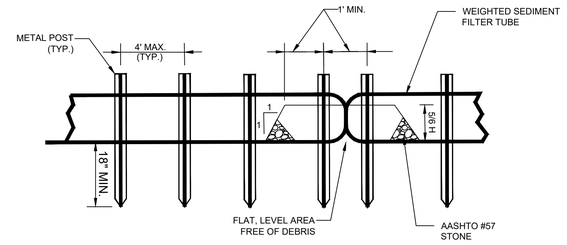
GENERAL NOTE:
1. PLACEMENT OF SIDEWALK SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF COLUMBIA, LATEST VERSION.
2. CONSTRUCTION SHALL CONFIRM TO THE CITY OF COLUMBIA ENGINEERING DEPARMENT SPECIFICATIONS, LATEST REVISION.

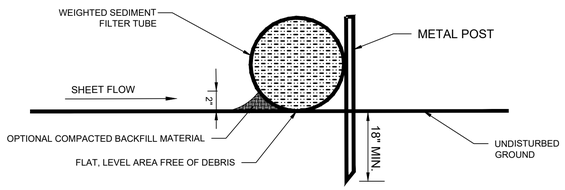


TYPICAL SUBDIVISION ROADWAY SECTION SD–04

NOT TO SCALE

1. 1-1/2" ASPHALTIC CONCRETE SURFACE (HOT MIX) (TDOT 411-01.11)
2. BITUMINOUS TACK COAT (RS-2) ITEM NO. 403-01
3. 2" ASPHALT CONCRETE BASE (GRADING B-M2) ITEM NO. 307-01.06
4. BITUMINOUS PRIME COAT (AE-P) ITEM NO. 402.01
5. 8" STONE (GRADING D PUG MILL MIX) ITEM NO.303-01
6. APPROVED COMPACTED SUBGRADE





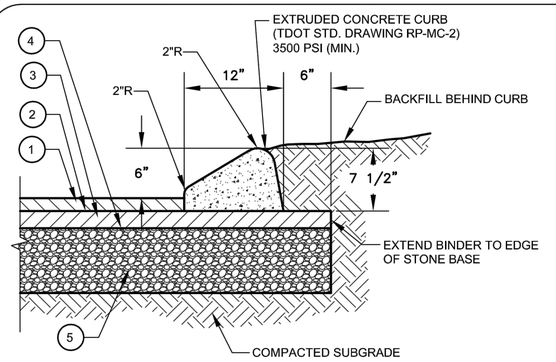
ELEVATION VIEW

SEDIMENT TUBE PLACEMENT AREA SHALL BE PREPARED SO THAT IT IS FREE OF ALL DEBRIS, INCLUDING ROCKS, STICKS, ROOTS, ETC. A 2" LAYER OF AASHTO #57 STONE SHALL BE PLACED WHERE THE LOGS COME TOGETHER. SEDIMENT TUBES SHALL BE PLACED AT EXISTING LEVEL GRADE. SEDIMENT TUBES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. SEDIMENT DEPOSITS SHALL BE CLEANED FROM THE LOG WHEN IT REACHES HALF THE HEIGHT OF THE TUBE. DAMAGED TUBES SHALL BE REPLACED WITHIN 24 HOURS OF INSPECTION. A SUPPLY OF TUBES SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.

WEIGHTED SEDIMENT TUBE INSTALLATION (TCP-14)

NOT TO SCALE

1 C2.1



1. 1 1/2" ASPHALTIC CONCRETE SURFACE (GRADING E) ITEM NO. 411-01.11
2. TACK COAT (RS-2) ITEM NO. 403-01
3. 2" ASPHALTIC CONCRETE BASE (GRADING B) ITEM NO. 307-01.06
4. PRIME COAT (AE-P) ITEM NO. 402-01
5. 8" STONE (GRADING D PUG MILL MIX) ITEM NO. 303-01

ITEM NUMBERS ARE TO MEET TDOT SPECIFICATIONS

General Notes:

1. Expansion joints to be spaced a maximum of 100 feet apart and align with ramps, inlets and other required target points.
2. Contraction/construction joints are required and are to be cut into curb every 10 feet.
3. Details shall meet the standards as set forth in the latest version of the Tennessee Department of Transportation Roadway Design Guidelines.
4. The extruded 6" mountable concrete curb is to be used only in special conditions such as low speed low volume local streets and when tying to similar curbs on subdivision streets or in parking lots.
5. Where concrete median pavement is poured behind extruded 6" mountable concrete curb, it may be poured monolithically with the curb.

CITY OF COLUMBIA TENNESSEE

MOUNTABLE CURB DETAIL

(NTS)

DATE 4-23-2012

DWG. NO. SD-09

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASSOUD FATHI — REGISTERED — 102361 — CIVIL — STATE OF TENNESSEE — ASSOCIATE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

General Notes

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Date: APR. 17, 2023 Scale:

Sheet: C0.2 OF

Project No. 2023-15 Prepared By: MF

MATCH LINE

SEE SHEET C1.1

SITE DATA

PROJECT NAME: HABITAT FOR HUMANITY COLUMBIA
PROJECT ADDRESS: WILLIAMSPORT PARKWAY AT GOLDEN PLACE
CITY: COLUMBIA
COUNTY: MAURY
STATE: TENNESSEE
EXISTING AND PROP. ZONING: RESIDENTIAL (CD-4)
MAP 88 PARCEL 70.01
DEEDBOOK R2495 PAGE 1181 R.O.M.C.
9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
EXISTING LAND USE: VACANT PARCEL
PROPOSED LAND USE: SINGLE FAMILY RESIDENTIAL
MINIMUM LOT AREA REQ.: 5,000 S.F.

	SQ. FT.	ACRES
PROPERTY	354,358	8.13
BUILDING FOOTPRINT (32 BUILDING AT 1200 S.F.)	38,400	0.88
DRIVEWAY (10'X45')	14,400	0.33
SIDEWALK	11,028	0.25
EXTRUDED CURB	2,250	0.05
PAVEMENT	29,165	0.67
REMAINING GRASS	259,115	5.95

NOTE:
QUANTITIES LISTED ARE NOT FOR BIDDING PURPOSES.
CONTRACTOR TO VERIFY ALL QUANTITIES.

GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE UNIVERSITY GROVE SUBDIVISION A 31 LOT SUBDIVISION PLAT. BY REVIEW OF THE SURVEYOR THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 500 YEAR FLOOD PLAN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
2. PROPERTY CURRENTLY ZONED (CD-4).
3. CONVENTIONAL RESIDENTIAL SETBACKS UNLESS NOTED ARE: FRONT 20', SIDE 6', REAR 20'.
4. PUBLIC UTILITY AND DRAINAGE EASEMENTS WHERE SHOWN HEREON ARE INTENDED TO INDICATE AN EASEMENT FOR CONSTRUCTION, OPERATION, AND MAINTENANCE OF PUBLIC UTILITIES AND DRAINAGE STRUCTURES; INCLUDING, BUT NOT LIMITED TO, SANITARY SEWERS, WATER LINES, TELEPHONE SIGNAL CONDUITS, ELECTRIC CONDUCTORS, DRAINAGE PIPES, AND NATURAL GAS LINES.
5. MINIMUM DRIVEWAY CULVERT SIZE FOR IS 15" DIAMETER.
6. THE H.O.A. SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR OF THE DETENTION POND . THE FREQUENCY OF REQUIRED POND MAINTENANCE, I.E. MOWING THE EASEMENT AREAS AT LEAST TWICE A MONTH DURING THE GROWING SEASON, MARCH TO OCTOBER; REMOVING ALL DEBRIS AND TRASH FROM THE EASEMENT AREAS AT LEAST MONTHLY.

ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622' ELEVATION DUE TO POSSIBLE FLOODING

LEGEND

- = SAN. SEWER LINE
- = WATER LINE
- FH = FIRE HYDRANT
- = IRON PINS SET UNLESS NOTED
- = STREET TREES
- = PROPOSED SEWER MANHOLE
- = PROPOSED CATCH BASIN
- WM = PROPOSED WATER METER & CAP
- = PROPOSED GATE VALVE
- = PROPOSED FIRE HYDRANT
- = PROPOSED HEADWALL
- = POWER POLE
- C.O. = SAN. SEWER CLEAN OUT

UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

ELECTRIC
COLUMBIA POWER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

SEWER
COLUMBIA WASTE WATER
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38402
(931) 388-2419

GAS
ATMOS ENERGY
810 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
(931) 384-0578

CONCRETE PAVEMENT

TELEPHONE
AT&T
760 ARMSTRONG LANE
COLUMBIA, TN 38402
1-800-626-9149

IF YOU DIG IN TENNESSEE...
CALL US FIRST!
1-800-351-1111
1-615-366-1987
TENNESSEE ONE CALL
IT'S THE LAW

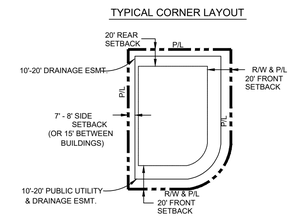
OWNER / DEVELOPER
HABITAT FOR HUMANITY
WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

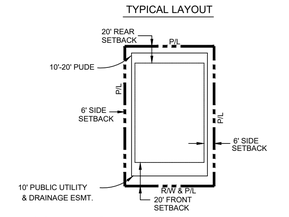
SITE LAYOUT PLAN

N 21°12'10" E 125.60'
N 21°12'12" E
N 21°16'27" E 87.09'
N 21°14'57" E 54.53'
S 71°10'58" E 134.75'
N 21°13'23" E 97.29'
N 21°13'23" E 89.83'
N 21°13'23" E 84.17'
N 71°01'01" W 92.63'
N 71°12'13" W 42.34'
EXISTING TREE LINE
12" EXTRUDED CURB. REFER TO SHEET C0.2 FOR DETAIL
5' CONCRETE SIDEWALK WITH W1.4x W1.4 W.W.M. ON 4" AGG. BASE (PUG MILL)
STA. 0+00 SANITARY SEWER LINE
P.C. STA 1+36.56
P.T. STA 1+55.56
P.T. STA 1+55.56
P.C. STA 1+36.56
P.T. STA 0+86.17
P.C. STA 0+86.68
P.C. STA 0+00.00
END SANITARY SEWER LINE
70.00' (R-O-W)
COMMON SPACE
10' PUDE
20.00'
10.00'
13.00'
5.00'
4.00'
FIELDSTONE FARMS
SECTION 4
PLAT BOOK P18 PAGE 148
LOT 165 5000.00 SQ FT 0.11 ACRES
LOT 166 5000.00 SQ FT 0.11 ACRES
LOT 167 5000.00 SQ FT 0.11 ACRES
LOT 168 5000.00 SQ FT 0.11 ACRES
LOT 169 5000.00 SQ FT 0.11 ACRES
LOT 170 5016.00 SQ FT 0.12 ACRES
LOT 171 4995.44 SQ FT 0.11 ACRES
LOT 172 5024.56 SQ FT 0.12 ACRES
LOT 173 5024.56 SQ FT 0.12 ACRES
LOT 174 5024.57 SQ FT 0.12 ACRES
LOT 175 5016.00 SQ FT 0.12 ACRES
LOT 176 5016.00 SQ FT 0.12 ACRES
LOT 177 5024.56 SQ FT 0.12 ACRES
M.B.S.L
P/L
MH
FH

TYPICAL CORNER LAYOUT



TYPICAL LAYOUT



TYPICAL LOT LAYOUT
(N.T.S.)

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

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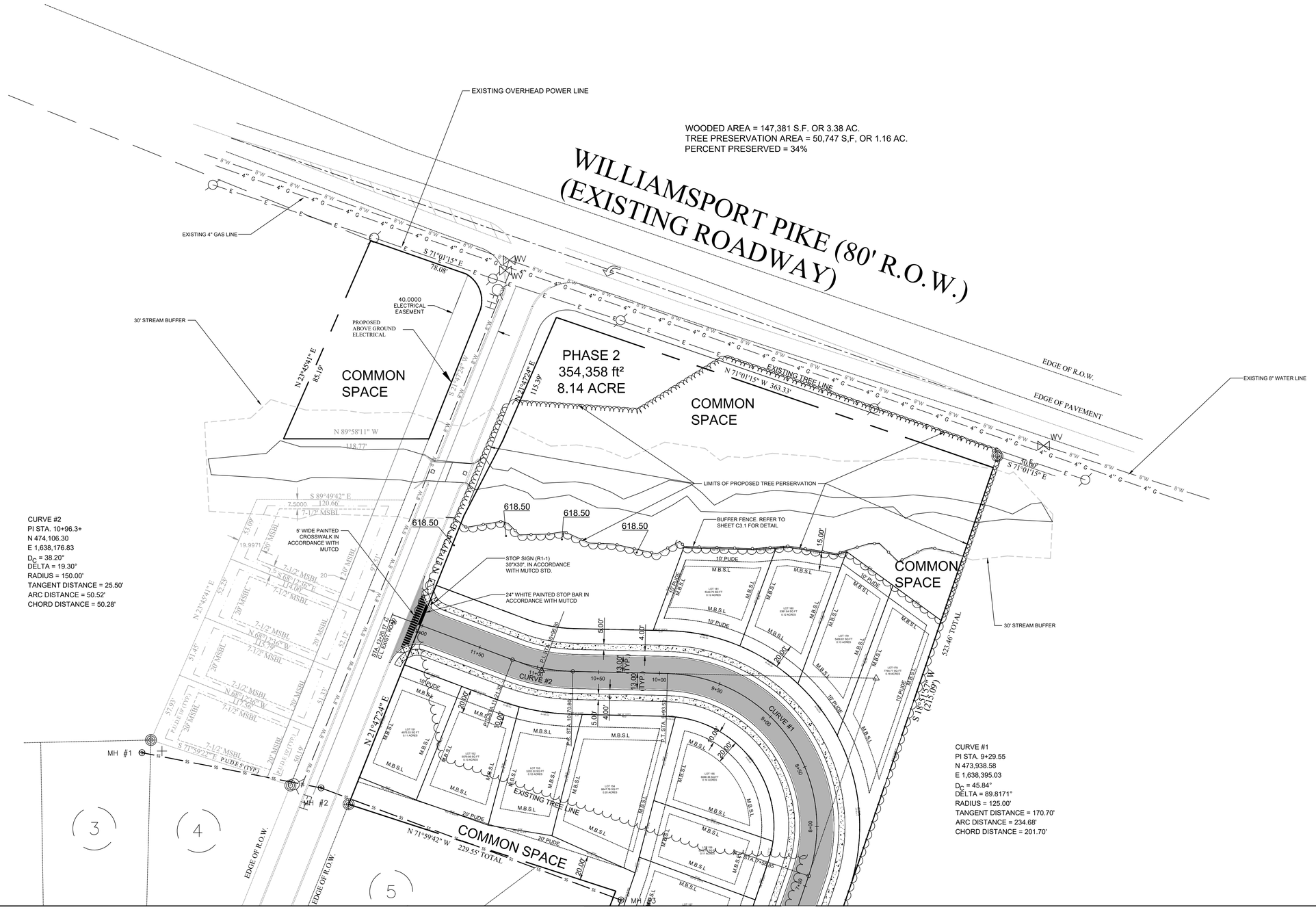
MASOUD FATHI 103 REGISTERED PROFESSIONAL ENGINEER STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
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DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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Scale:
Sheet: C1.0 OF
Project No: 2023-15
Prepared By: MF



CURVE #2
PI STA. 10+96.3+
N 474,106.30
E 1,638,176.83
D_C = 38.20°
DELTA = 19.30°
RADIUS = 150.00'
TANGENT DISTANCE = 25.50'
ARC DISTANCE = 50.52'
CHORD DISTANCE = 50.28'

CURVE #1
PI STA. 9+29.55
N 473,938.58
E 1,638,395.03
D_C = 45.84°
DELTA = 89.8171°
RADIUS = 125.00'
TANGENT DISTANCE = 170.70'
ARC DISTANCE = 234.68'
CHORD DISTANCE = 201.70'

MATCH LINE
SEE SHEET C1.0

SITE LAYOUT PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL
ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
No. 102393
STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

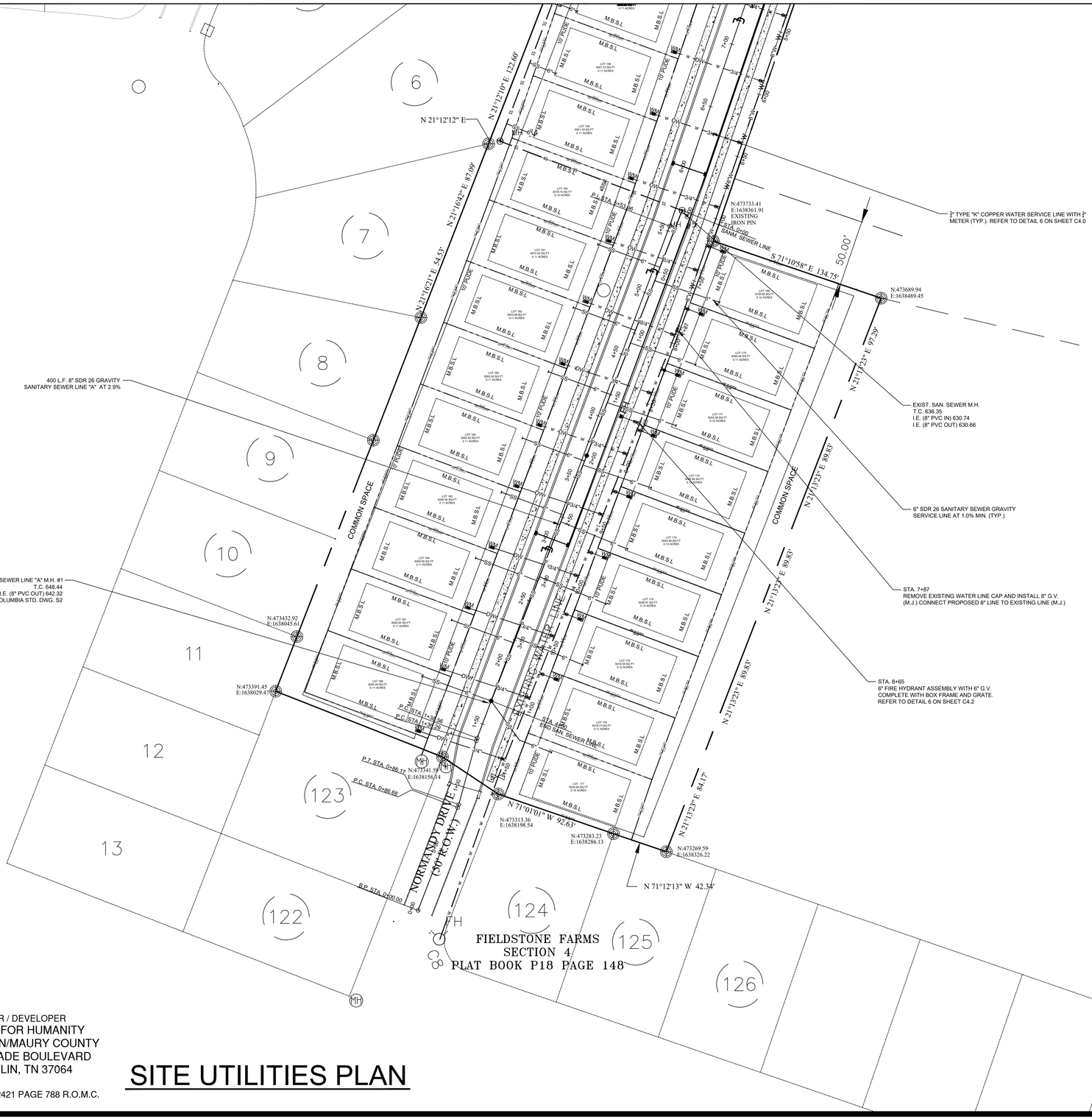
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MATCH LINE

SEE SHEET C1.3



UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

SEWER
COLUMBIA WASTE WATER
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38402
(931) 388-2419

CONCRETE PAVEMENT

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1-615-366-1987
TENNESSEE ONE CALL
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COLUMBIA POWER SYSTEMS
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P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

GAS
ATMOS ENERGY
810 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
(931) 384-0578

TELEPHONE
AT&T
760 ARMSTRONG LANE
COLUMBIA, TN 38402
1-800-626-9149

OWNER / DEVELOPER
HABITAT FOR HUMANITY
WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

SITE UTILITIES PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

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ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
PROFESSIONAL
ENGINEER
No. 102810
STATE OF TENNESSEE

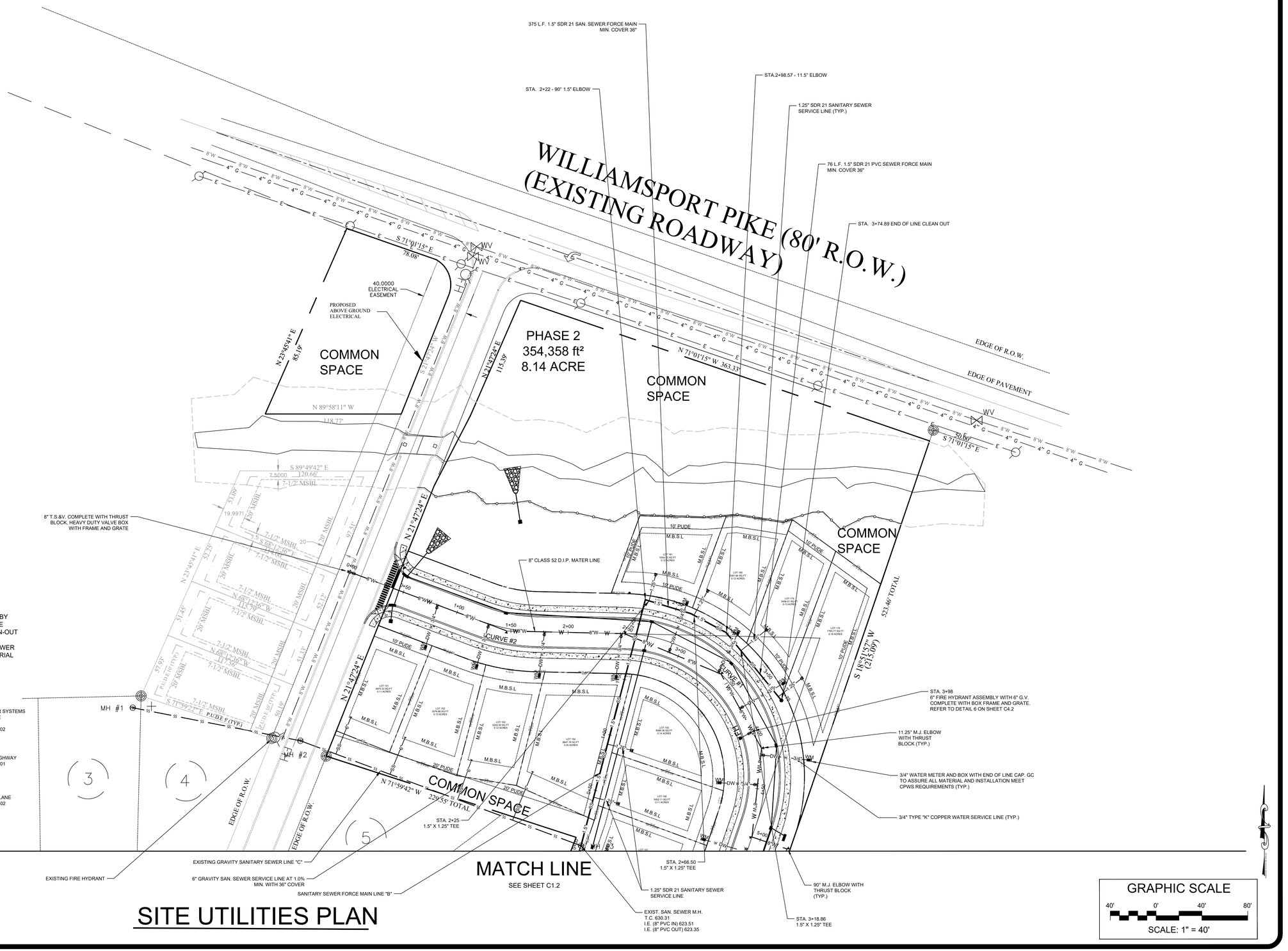
SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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NOTE:
- THE SEWER SERVICES SHOULD BE INSTALLED BY THE CONTRACTOR TO ONLY EXTEND UP TO THE PROPERTY LINE SUCH THAT THE SEWER CLEAN-OUT BOX WILL BE IN-LINE WITH THE WATER METER.
- IN ACCORDANCE WITH THE CITY STANDARD SEWER SPECIFICATIONS, SECTION 3.8, BACKFILL MATERIAL SHALL BE #67 STONE "TDOT STANDARDS"

UTILITY OWNERS

WATER COLUMBIA WATER SYSTEMS 201 PICKENS LANE P.O. BOX 379 COLUMBIA, TN 38402 (931) 388-4833	ELECTRIC COLUMBIA POWER SYSTEMS 201 PICKENS LANE P.O. BOX 379 COLUMBIA, TN 38402 (931) 388-4833
SEWER COLUMBIA WASTE WATER 1244 TREATMENT PLANT ROAD COLUMBIA, TN 38402 (931) 388-2419	GAS ATMOS ENERGY 810 NASHVILLE HIGHWAY COLUMBIA, TN 38401 (931) 384-0578
CONCRETE PAVEMENT	TELEPHONE AT&T 760 ARMSTRONG LANE COLUMBIA, TN 38402 1-800-626-9149

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1-615-366-1987
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SITE UTILITIES PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL
ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
ENGINEER
No. 102160
STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE
9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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Prepared By: MF

SANITARY SEWER LINE "A" PLAN AND PROFILE

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

STA. 5+68.40 LINE "A" PROP. M. H. #1
T.C. 637.50
I.E. (8" PVC-OUT) 630.66

400 L.F. 8" SDR 26 GRAVITY SANITARY SEWER LINE "A" AT 3.1%

6" SDR 26 SANITARY SEWER GRAVITY SERVICE LINE AT 1.0% MIN. (TYP.)

EXIST. SAN. SEWER M.H.
T.C. 636.35
I.E. (8" PVC IN) 630.86
I.E. (8" PVC OUT) 630.66

SANITARY SEWER FORCE MAIN LINE "B"

EXIST. SAN. SEWER M.H.
T.C. 630.31
I.E. (8" PVC IN) 623.51
I.E. (8" PVC OUT) 623.35

EXISTING GRAVITY SANITARY SEWER LINE "C"

6" GRAVITY SAN. SEWER SERVICE LINE AT 1.0% MIN. WITH 36" COVER

8" T.S.&V. COMPLETE WITH HEAVY DUTY BOX, FRAME AND GRATE

STA. 13+26.17
C.L. EXIST. ROAD

EDGE OF R.O.W.

N 21°47'24" E

N 21°47'24" E 115.39'

S 24°47'24" W

618.50

N 71°59'42" W 229.58' TOTAL

COMMON SPACE

N 21°16'21" E 54.53'

N 21°16'42" E 87.09'

N 21°12'10" E 122.60'

N 21°12'12" E

N 71°01'15" W 363.33'

EXISTING TREE LINE

10' PUDE

NORMANDY DRIVE
(50' R.O.W.)

EXISTING WATER LINE

N 71°01'15" W

S 18°51'57" W
(215.09')

523.46' TOTAL

P.C. STA. 0+00.00
P.T. STA. 0+00.00

P.C. STA. 0+18.68
P.T. STA. 0+38.68

P.C. STA. 1+38.68
P.T. STA. 1+58.68

P.C. STA. 4+37.50
P.T. STA. 4+57.50

P.C. STA. 4+58.60
P.T. STA. 4+78.60

P.C. STA. 7+58.60
P.T. STA. 7+78.60

P.T. STA. 11+78.60

P.C. STA. 10+78.60

P.I. STA. 11+28.60

CURVE #1

CURVE #2

TYP.

PVC STA. 0+50.13
PVT 650.67

STA. 1+00.00 BEGIN PROJECT
PVI 649.80

PVI STA. 1+25.11
PVI ELEV. 649.80
K: 86.97
LVC: 150.00

STA. 0+00 LINE "A" M.H. #1
T.C. 648.44

PVT STA. 2+00.13
PVT 647.93

STA. 3+00 CURB INLET #14, & #15
T.C. 644.65

EXISTING 8" WATER LINE

PROPOSED GRADE

REMOVE EXISTING CAP AND CONNECT PROPOSED LINE TO EXISTING LINE (M.J.)

EXISTING VALVE

I.E. (8" PVC-OUT) 642.32

400 L.F. 8" SDR 26 GRAVITY SANITARY SEWER LINE "A" AT 2.9%

STA. 5+68.40 LINE "A"
EXISTING M.H. #1
T.C. 637.50

STA. 6+00 CURB INLET #12, & #13
T.C. 638.25

STA. 1+00 LINE "A" M.H. #2
T.C. 637.00

EXISTING GROUND

-2.79%

6" EXISTINF SAN. SEWER LINE

I.E. (8" PVC-IN) 630.86

I.E. (8" PVC-OUT) 630.66

PROPOSED 8" WATER LINE

STA. 7+58.85 CURB INLET #11
T.C. 637.50

STA. 8+25 CURB INLET #9
T.C. 630.11

STA. 9+00 CURB INLET #8
T.C. 626.03

STORM SEWER INLET (TYP.)

STA. 9+00 CURB INLET #6 & #7
T.C. 626.00

STA. 9+00 CURB INLET #4
T.C. 622.48

STA. 11+98.50 CURB INLET #2 & #3
T.C. 619.08

STA. 12+14.22 EXISTING CURB END PROJECT
ELEV. 619.52
STA. 0+18.73 C.C.L. EXIST. ROAD

8" CLASS 52 D.I.P. WATER LINE

650 640 630 620

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00

SCALE:
HORZ.: 1" = 40'
VERT.: 1" = 4'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
LICENSED PROFESSIONAL ENGINEER
STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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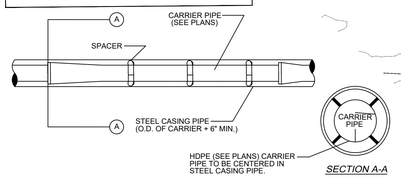
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Prepared By: MF

SEWER FORCE MAIN LINE "B" PLAN & PROFILE

GRAPHIC SCALE

40' 0' 40' 80'

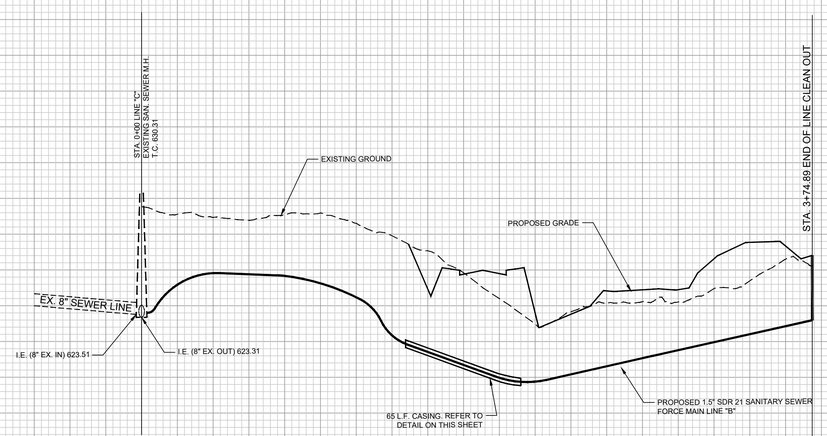
SCALE: 1" = 40'



NOTES:
- SPACERS TO BE PLACED ON 6.0' CENTERS OR THREE (3) TO A PIPE SEGMENT. SEE SPECIFICATIONS FOR SPACER MATERIAL REQUIREMENTS.
- CASING PIPE TO BE SEALED ON BOTH ENDS WITH NON-SHRINK GROUT.
- CASING SHALL EXTEND 5' OUTSIDE OF BUILDING WALLS.
- COORDINATE INSTALLATION WITH ARCHITECT AND STRUCTUAL ENGINEER.

CASING SPACER INSTALLATION DETAIL

NOT TO SCALE



CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI 102371 REGISTERED PROFESSIONAL ENGINEER STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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STORM WATER QUALITY CONTROL:

CONTRIBUTING AREA	266,983 S.F.	6.13 AC.
TOTAL IMPERVIOUS SURFACE	95,243	2.19
REMAINING GRASS	171,740	3.94

WATER QUALITY:
WQv = P * Rv * A/12
Rv = 0.015 + 0.0092 I
I =2.19/6.13=0.36
Rv = 0.015+0.0092(36) = 0.35
WQv = 1.1 * 0.35 * 6.13/12 = 0.19 AC.-FT. OR 8,474 C.F.

FLOW RATE:
Q = C * I * A
I = 2.45 IN/HR.
C = ((0.35 *3.94) + (0.95 * 2.19) / 6.13 = 0.56
Q = 0.56 * 2.45 * 6.13 = 8.41 CFS

ORIFICE SIZE:
WATER SURFACE AREA AT DEPTH OF 1.02' (WQv ELEV. 615.75) = 7,267 S.F.
A=(2A(H-H0)^.5)/3600 CT(2G)^.5 =
A=(2 * 7267 * (617.5-615.75)^0.5)/(3600 * 0.66 * 24 * ((2*32.2)^0.5))
A=0.042 S.F. OR 6.05 SQ. INCH
R = 1.39", D= 2.78 INSTALL 3" ORIFICE

DETENTION POND VOLUME:

ELEV.	CONTOUR AREA	VOLUME
614	0	0
615	6,405	3203
615.75	***7,267***	***8,474 W_QV***
616	7,578	10,194
617	9,105	18,536
618	11,577	28,867

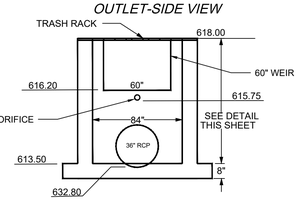
TRASH RACK



INSTALL TRASH RACK 1'X1'X1'
USE #3 EPOXY COATED REBAR
4" E.W. O.C. EA. SIDE. COVER WITH 6"Ø MIN. STONE

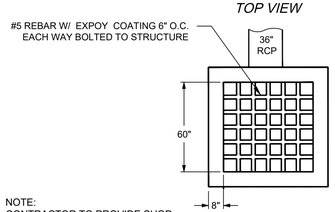
2.5" DEWATERING ORIFICE

OUTLET-SIDE VIEW



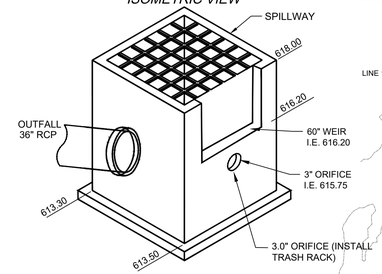
STORM EVENT	POND IN-FLOW	POND OUT-FLOW	ALLOWABLE FLOW	H.W. ELEVATION
Q2	13.59	7.89	9.82	616.79
Q5	20.33	15.36	16.07	617.13
Q10	24.81	20.33	20.37	617.33
Q25	30.53	25.74	25.96	617.54
Q50	34.76	29.64	30.15	617.68
Q100	38.98	33.20	34.31	617.82

TOP VIEW



NOTE:
CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ANCHORING AND SECURING THE STRUCTURE.

ISOMETRIC VIEW

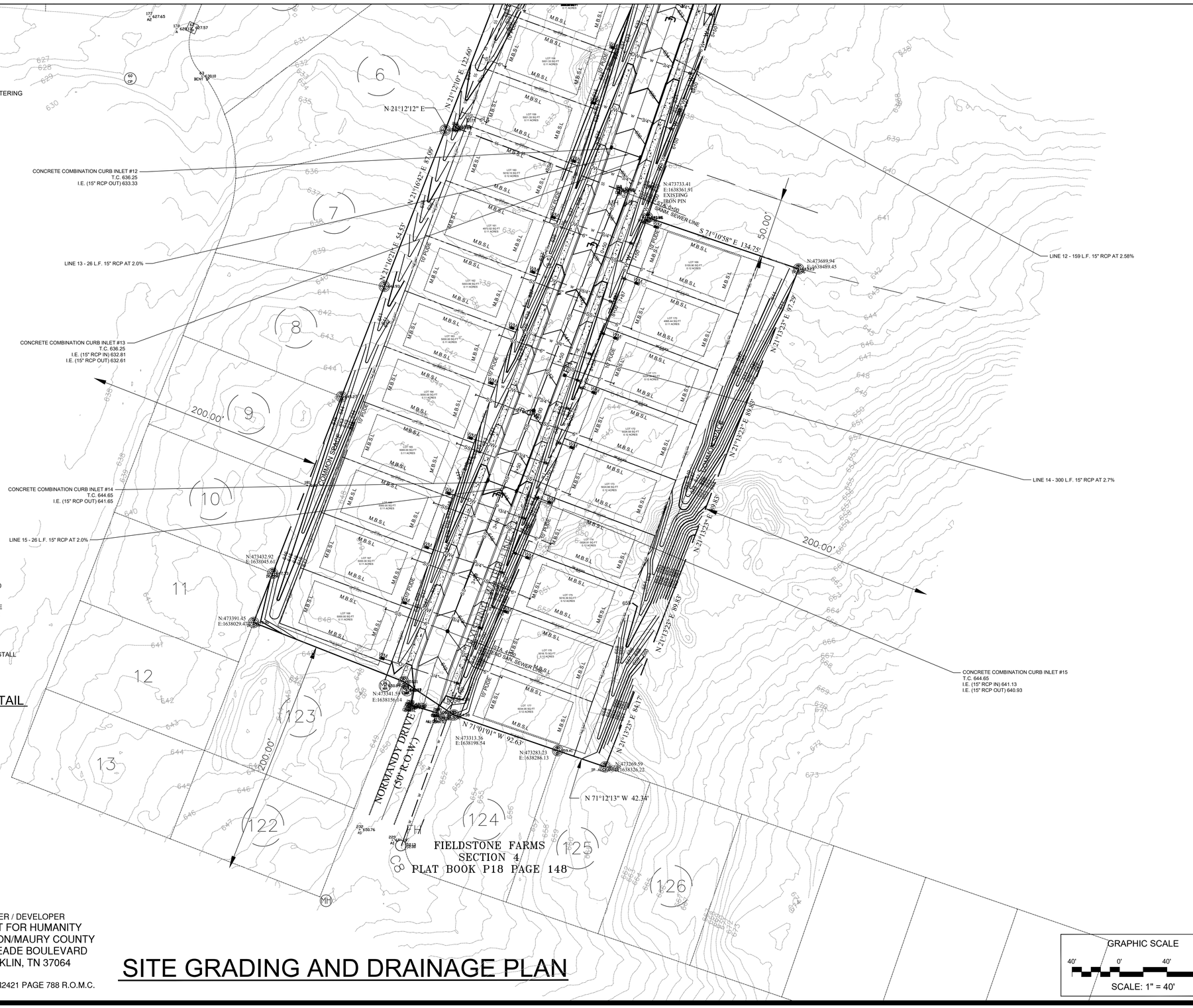


DETENTION POND OUTLET STRUCTURE DETAIL

NOT TO SCALE

MATCH LINE

SEE SHEET C2.1



UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
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SEWER
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FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

SITE GRADING AND DRAINAGE PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI — STATE OF TENNESSEE — REGISTERED PROFESSIONAL ENGINEER — 102533

SITE CONSTRUCTION PLANS FOR
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Prepared By: MF

GENERAL NOTES

1. PERFORM ALL EARTHWORK OPERATIONS IN SUCH A MANNER AS TO CONTROL EROSION AND PREVENT SEDIMENTATION FROM ENTERING STREAMS OR BEING TRACKED ONTO ROADWAYS. COMPLY SPECIFICALLY AND COMPLETELY WITH STATE & LOCAL GOVERNMENT AGENCIES AND WITH EROSION AND SEDIMENTATION CONTROL PERMIT REQUIREMENTS.
2. INSTALL AND OBTAIN APPROVAL OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
3. ALL EROSION AND WATER QUALITY CONTROL STRUCTURES SHALL BE INSPECTED FOR STABILITY AND OPERATION FOLLOWING EVERY RUN-OFF PRODUCING RAINFALL DURING CONSTRUCTION, AS DIRECTED IN THE NPDES PERMIT.
4. MAKE NEEDED REPAIRS TO CONTROL STRUCTURES IMMEDIATELY UPON DETECTION OF DEFICIENCIES.
5. CLEAN SEDIMENT FROM BASIN(S) WHEN STORAGE CAPACITY IS DIMINISHED.
6. REMOVE SEDIMENT FROM SILT FENCES WHEN THE DEPTH REACHES APPROXIMATELY 4". SILT FENCES AND DIVERSION DITCHES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
7. REMOVE ALL TEMPORARY SEDIMENTATION CONTROL DEVICES NOT DESIGNATED TO REMAIN UPON COMPLETION OF GRADING AND FINAL ACCEPTANCE OF GRASSING, BUT NO LATER THAN 14 DAYS AFTER FINAL SITE STABILIZATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY MEASURES NECESSARY TO PREVENT SITE EROSION AND SEDIMENTATION AS DETERMINED BY TDEC.
9. INLET PROTECTION SHALL BE PROVIDED FOR CATCH BASINS AND FOR CURB INLETS. CLEAN SEDIMENT FROM PIPE AFTER VEGETATION IS ESTABLISHED.
10. EXISTING AND PROPOSED INLETS RECEIVING DRAINAGE FROM DISTURBED AREAS SHALL HAVE INLET PROTECTION AS INDICATED ON PLANS.

GRADING. DRAINAGE. AND EROSION CONTROL NOTES:

1. NO TREES ARE TO BE REMOVED AND/OR VEGETATION DISTURBED EXCEPT AS NECESSARY FOR GRADING PURPOSES AND ONLY AS APPROVED BY OWNER'S REPRESENTATIVE.
2. TOPSOIL IS TO BE STRIPPED FROM ALL CUT AND FILL AREAS. STOCKPILED AND DISTRIBUTED OVER GRADED AREAS TO A MINIMUM OF 6".
3. CONSTRUCT EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING OF GRADING OPERATIONS.
4. ALL NEW STRUCTURES AND EXISTING STRUCTURES SHALL HAVE SEDIMENT REMOVED PRIOR TO THE ACCEPTANCE.
5. SILT BARRIERS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED WITH SUCH SEDIMENT.
6. ALL DIMENSIONS AND LOCATIONS OF TEMPORARY EROSION AND WATER POLLUTION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DESIGNATED BY THE CITY INSPECTOR.
7. WHEN THE TEMPORARY SOIL EROSION AND WATER POLLUTION DEVICES ARE NO LONGER REQUIRED FOR THE INTENDED PURPOSE IN THE OPINION OF THE CITY INSPECTOR, THEY SHALL BE REMOVED.
8. REPLACE SILT BARRIERS AS DIRECTED BY THE CERTIFIED EROSION CONTROL SPECIALIST.
9. THE CONTRACTOR SHALL PROVIDE THE NECESSARY PROTECTION, IN ACCORDANCE WITH THE SPECIFICATIONS FOR TREES TO REMAIN. DO NOT OPERATE OR STORE HEAVY EQUIPMENTS, NOR HANDLE OR STORE MATERIALS, WITHIN THE DRIPLINES OF TREES TO REMAIN.
10. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS PRIOR TO BEGINNING WORK.
11. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THE INTENT OR ANY PROBLEMS WITH CONTINUITY OF GRADES, THE ENGINEER SHOULD BE CONTACTED IMMEDIATELY PRIOR TO BEGINNING WORK.
12. ALL SOIL SPOILS EXCAVATED AND REMOVED FROM SITE MUST BE TAKEN TO A SITE WITH A VALID METRO GRADING PERMIT.

CONC. H.W. #1
I.E. 613.00

26 L.F. 36"
HDPE AT 1.1%

POND OUTLET STRUCTURE
I.E. (36" HDPE) 613.30
I.E. (3" ORIFICE) 613.50
T.C. 617.50
I.E. (12" WEIR) 614.00
I.E. (48" WEIR) 616.00

CONCRETE COMBINATION CURB INLET #7
T.C. 626.00
I.E. (15" RCP IN) 620.44
I.E. (15" RCP OUT) 620.24

200.00'

S 71°01'15" E
78.08'

40.0000
ELECTRICAL
EASEMENT

PROPOSED
ABOVE GROUND
ELECTRICAL

PHASE 2
354,358 ft²
8.14 ACRE

COMMON
SPACE

N 71°01'15" W 363.33'

EDGE OF R.O.W.

EDGE OF PAVEMENT

WV

30.00'
S 71°01'15" E

CONC. H.W. #1
I.E. 614.50

N 25°46'41" E
85.19'

LINE 1 - 27 L.F. 18" RCP AT 2.0%

N 89°58'11" W
119.57'

S 89°49'42" E
7.5000' 120.66'

N 21°47'24" E
115.39'

618.50

CONCRETE TRIPLE COMBINATION CURB INLET #3
T.C. 619.75
I.E. (18" RCP IN) 615.24
I.E. (18" RCP OUT) 615.04

LINE 2 - 28 L.F. 15" RCP AT 2.0%

CONCRETE TRIPLE COMBINATION CURB INLET #2
T.C. 620.10
I.E. (15" RCP IN) 616.00
I.E. (15" RCP OUT) 615.80

LINE 3 - 15 L.F. 15" RCP AT 2.0%

MH #1

MH #2

N 21°47'24" E

S 18°15'57" W
1215.09'

223.46' TOTAL

LINE 6 - 26 L.F. 18" RCP AT 2.0%

LINE 8 - 78 L.F. 18" RCP AT 3.0%

CONCRETE COMBINATION CURB INLET #6
T.C. 626.00
I.E. (15" RCP IN) 621.16
I.E. (15" RCP OUT) 620.96

CONCRETE COMBINATION CURB INLET #8
T.C. 626.03
I.E. (15" RCP IN) 623.70
I.E. (15" RCP OUT) 623.50

LINE 7 - 177 L.F. 18" RCP AT 1.89%

LINE 9 - 82 L.F. 18" RCP AT 3.61%

CONCRETE COMBINATION CURB INLET #9
T.C. 630.11
I.E. (15" RCP IN) 626.86
I.E. (15" RCP OUT) 626.66

LINE 10 - 72 L.F. 18" RCP AT 1.33%

CONCRETE COMBINATION CURB INLET #11
T.C. 631.95
I.E. (15" RCP IN) 628.02
I.E. (15" RCP OUT) 627.82

LINE 11 - 14 L.F. 15" RCP AT 2.0%

N 71°59'42" W
229.55' TOTAL

EDGE OF R.O.W.

EDGE OF R.O.W.

CONCRETE AREA DRAIN #1
T.C. 620.50
I.E. (15" RCP OUT) 616.30

LINE 4 - 95 L.F. 18"
RCP AT 2.44%

CONCRETE COMBINATION CURB INLET #4
T.C. 622.48
I.E. (15" RCP IN) 617.76
I.E. (15" RCP OUT) 617.56

LINE 5 - 124 L.F. 18" RCP AT 2.0%

CONCRETE DOUBLE INLET #5
T.C. 627.50
I.E. (15" RCP IN) 624.70
I.E. (15" RCP OUT) 624.50

CONCRETE DOUBLE INLET #10 T.C. 631.50
I.E. (15" RCP IN) 628.50
I.E. (15" RCP OUT) 628.30

MATCH LINE
SEE SHEET C2.0

SITE GRADING AND DRAINAGE PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL
ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
No. 102855
STATE OF TENNESSEE
LICENSED PROFESSIONAL ENGINEER

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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Prepared By: MF

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ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
933
STATE OF TENNESSEE
LICENSED PROFESSIONAL ENGINEER

SITE CONSTRUCTION PLANS FOR
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DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

CONC. H.W. #1
I.E. 613.00

26 L.F. 36"
HDPE AT 1.1%

POND OUTLET STRUCTURE
I.E. (36" HDPE) 613.30
I.E. (3" ORIFICE) 613.50
T.C. 617.50
I.E. (12" WEIR) 614.00
I.E. (48" WEIR) 616.00

CONCRETE COMBINATION CURB INLET #7
T.C. 626.00
I.E. (15" RCP IN) 620.44
I.E. (15" RCP OUT) 620.24

30' STREAM BUFFER

30' STREAM BUFFER

200.00'

S 71°01'15" E
78.08'

40.0000
ELECTRICAL
EASEMENT

PROPOSED
ABOVE GROUND
ELECTRICAL

CONC. H.W. #1
I.E. 614.50

N 25°46'41" E
85.19'

COMMON
SPACE

PHASE 2
354,358 ft²
8.14 ACRE

N 21°47'24" E
115.39'

COMMON
SPACE

N 71°01'15" W 363.33'

EDGE OF R.O.W.

EDGE OF PAVEMENT

WV

50.00'
S 71°01'15" E

27 L.F. 18"
RCP AT 2.0%

N 89°58'11" W
448.57'

S 89°49'32" E
7.5000' 120.66'

618.50

618.50

618.50

CONCRETE TRIPLE COMBINATION CURB INLET #3
T.C. 620.00
I.E. (18" RCP IN) 615.24
I.E. (18" RCP OUT) 615.04

N 21°47'24" E

COMMON
SPACE

223.46' TOTAL

S 18°15'57" W
215.09'

26 L.F. 18" RCP AT 2.0%

78 L.F. 18" RCP AT 2.0%

CONCRETE COMBINATION CURB INLET #6
T.C. 626.00
I.E. (15" RCP IN) 621.16
I.E. (15" RCP OUT) 620.96

CONCRETE COMBINATION CURB INLET #8
T.C. 626.03
I.E. (15" RCP IN) 622.20
I.E. (15" RCP OUT) 622.00

28 L.F. 15" RCP AT 2.0%

CONCRETE TRIPLE COMBINATION CURB INLET #2
T.C. 620.25
I.E. (15" RCP IN) 616.00
I.E. (15" RCP OUT) 615.80

15 L.F. 15" RCP AT 2.0%

MH #1

MH #2

LOT 151
4975.33 SQ FT
0.11 ACRES

LOT 152
5579.86 SQ FT
0.13 ACRES

LOT 153
5202.30 SQ FT
0.12 ACRES

LOT 154
8447.78 SQ FT
0.20 ACRES

LOT 155
6066.36 SQ FT
0.14 ACRES

LOT 156
5002.11 SQ FT
0.11 ACRES

LOT 157

177 L.F. 18" RCP AT 2.29%

82 L.F. 18" RCP AT 2.7%

CONCRETE COMBINATION CURB INLET #9
T.C. 630.11
I.E. (15" RCP IN) 626.86
I.E. (15" RCP OUT) 626.66

72 L.F. 18" RCP AT 2.0%

CONCRETE COMBINATION CURB INLET #11
T.C. 631.95
I.E. (15" RCP IN) 628.02
I.E. (15" RCP OUT) 627.82

14 L.F. 15" RCP AT 2.0%

N 71°59'42" W 229.55' TOTAL

COMMON SPACE

EDGE OF R.O.W.

EDGE OF R.O.W.

CONCRETE AREA DRAIN #1
T.C. 620.50
I.E. (15" RCP OUT) 616.30

95 L.F. 18" RCP AT 2.44%

CONCRETE COMBINATION CURB INLET #4
T.C. 622.48
I.E. (15" RCP IN) 617.76
I.E. (15" RCP OUT) 617.56

124 L.F. 18" RCP AT 2.0%

MATCH LINE
SEE SHEET C2.0

CONCRETE DOUBLE INLET #5
T.C. 627.50
I.E. (15" RCP IN) 624.70
I.E. (15" RCP OUT) 624.50

CONCRETE DOUBLE INLET #10 T.C. 631.50
I.E. (15" RCP IN) 628.50
I.E. (15" RCP OUT) 628.30

SITE GRADING AND DRAINAGE PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

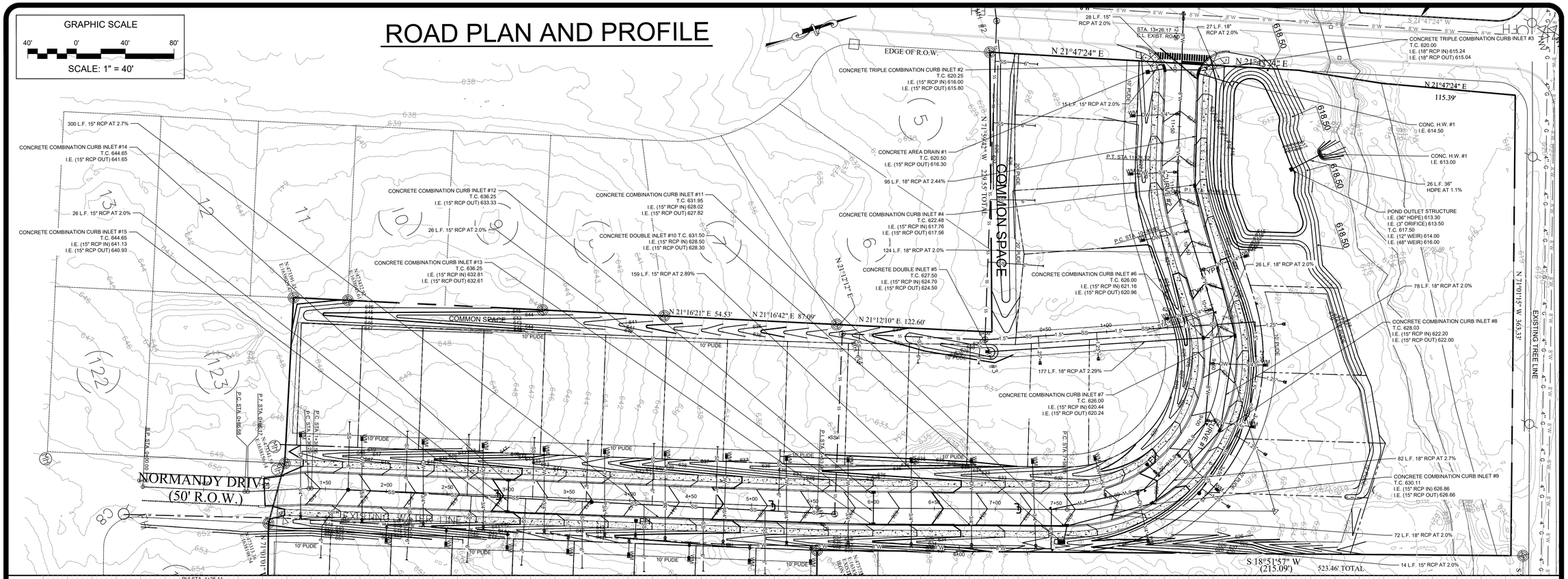
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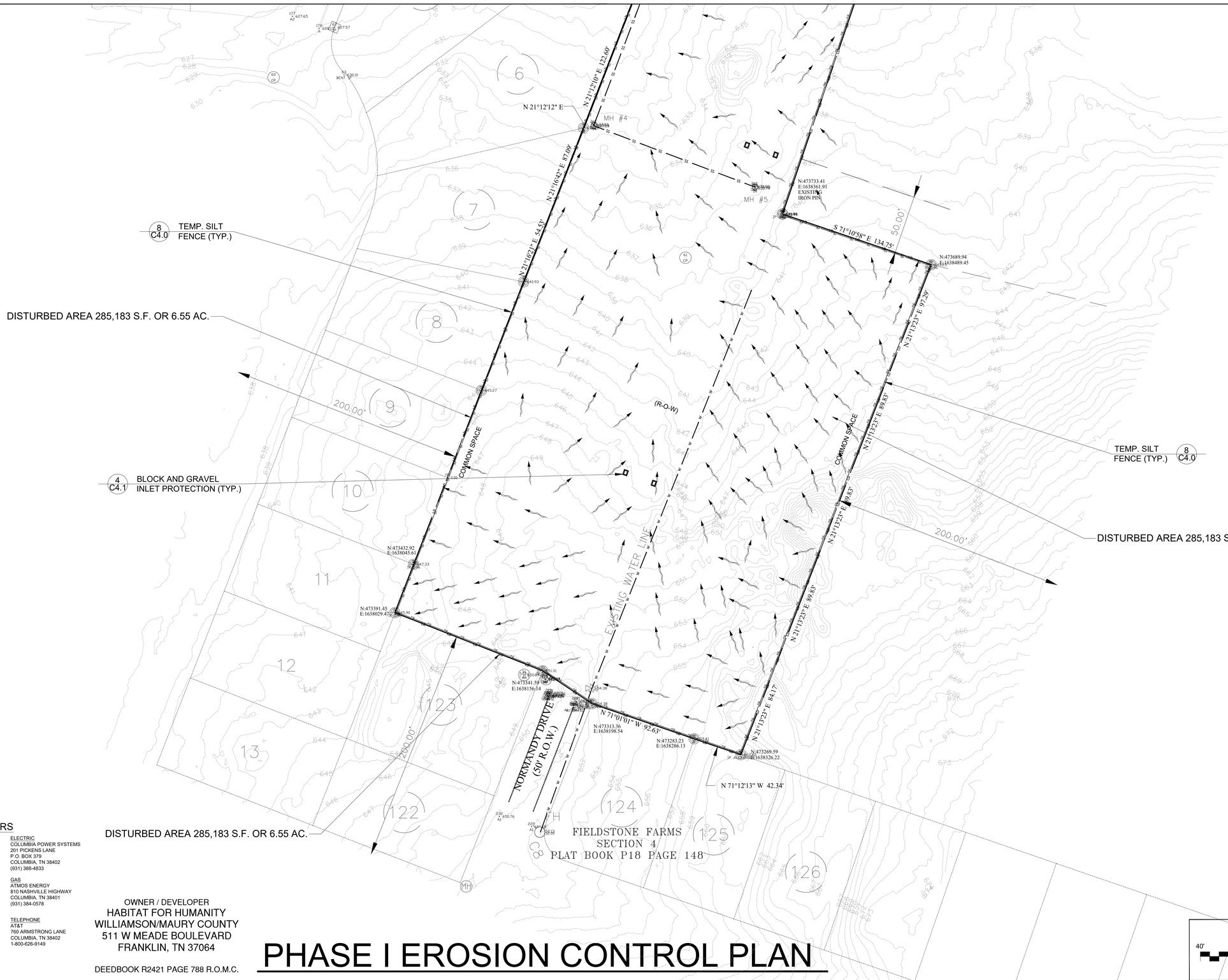
ROAD PLAN AND PROFILE

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'


EDGE OF R.O.W.
CONCRETE TRIPLE COMBINATION CURB INLET #2
T.C. 620.25
I.E. (15" RCP IN) 616.00
I.E. (15" RCP OUT) 615.80
CONCRETE AREA DRAIN #1
T.C. 620.50
I.E. (15" RCP OUT) 616.30
95 L.F. 18" RCP AT 2.44%
COMMON SPACE
N 71°01'45" W 235.51'
N 21°12'10" E
N 21°16'21" E 54.53'
N 21°16'42" E 87.09'
N 21°12'10" E 122.60'
28 L.F. 15" RCP AT 2.0%
STA. 13+26.17 ± C.L. EXIST. ROAD
27 L.F. 18" RCP AT 2.0%
N 21°47'24" E
N 21°47'24" E
115.39'
CONCRETE TRIPLE COMBINATION CURB INLET #3
T.C. 620.00
I.E. (15" RCP IN) 615.24
I.E. (18" RCP OUT) 615.04
15 L.F. 15" RCP AT 2.0%
CONC. H.W. #1
I.E. 614.50
CONC. H.W. #1
I.E. 613.00
26 L.F. 36" HDPE AT 1.1%
POND OUTLET STRUCTURE
I.E. (36" HDPE) 613.30
I.E. (3" ORIFICE) 613.50
T.C. 617.50
I.E. (12" WEIR) 614.00
I.E. (48" WEIR) 616.00
618.50
300 L.F. 15" RCP AT 2.7%
CONCRETE COMBINATION CURB INLET #14
T.C. 644.65
I.E. (15" RCP OUT) 641.65
26 L.F. 15" RCP AT 2.0%
CONCRETE COMBINATION CURB INLET #15
T.C. 644.65
I.E. (15" RCP IN) 641.13
I.E. (15" RCP OUT) 640.93
CONCRETE COMBINATION CURB INLET #12
T.C. 636.25
I.E. (15" RCP OUT) 633.33
26 L.F. 15" RCP AT 2.0%
CONCRETE COMBINATION CURB INLET #11
T.C. 631.95
I.E. (15" RCP IN) 628.02
I.E. (15" RCP OUT) 627.82
CONCRETE DOUBLE INLET #10 T.C. 631.50
I.E. (15" RCP IN) 628.50
I.E. (15" RCP OUT) 628.30
CONCRETE COMBINATION CURB INLET #13
T.C. 636.25
I.E. (15" RCP IN) 632.81
I.E. (15" RCP OUT) 632.61
159 L.F. 15" RCP AT 2.89%
CONCRETE COMBINATION CURB INLET #4
T.C. 622.48
I.E. (15" RCP IN) 617.76
I.E. (15" RCP OUT) 617.56
124 L.F. 18" RCP AT 2.0%
CONCRETE DOUBLE INLET #5
T.C. 627.50
I.E. (15" RCP IN) 624.70
I.E. (15" RCP OUT) 624.50
CONCRETE COMBINATION CURB INLET #6
T.C. 626.00
I.E. (15" RCP IN) 621.16
I.E. (15" RCP OUT) 620.96
26 L.F. 18" RCP AT 2.0%
78 L.F. 18" RCP AT 2.0%
CONCRETE COMBINATION CURB INLET #8
T.C. 628.03
I.E. (15" RCP IN) 622.20
I.E. (15" RCP OUT) 622.00
177 L.F. 18" RCP AT 2.29%
CONCRETE COMBINATION CURB INLET #7
T.C. 626.00
I.E. (15" RCP IN) 620.44
I.E. (15" RCP OUT) 620.24
82 L.F. 18" RCP AT 2.7%
CONCRETE COMBINATION CURB INLET #9
T.C. 630.11
I.E. (15" RCP IN) 626.86
I.E. (15" RCP OUT) 626.66
72 L.F. 18" RCP AT 2.0%
14 L.F. 15" RCP AT 2.0%
S 18°51'47" W
(215.09')
523.46' TOTAL
COMMON SPACE
10' PUDE
NORMANDY DRIVE
(50' R.O.W.)
EXISTING WATER LINE
EXISTING TREE LINE
N 71°01'45" W 363.33'
P.C. STA. 0+68.68
P.T. STA. 0+97.47
P.C. STA. 1+39.56
P.T. STA. 1+58.47
P.C. STA. 2+58.47
P.T. STA. 2+77.28
P.C. STA. 7+58.47
P.T. STA. 7+77.28
P.C. STA. 8+58.47
P.T. STA. 8+77.28
P.C. STA. 9+58.47
P.T. STA. 9+77.28
P.C. STA. 10+58.47
P.T. STA. 10+77.28
P.C. STA. 11+58.47
P.T. STA. 11+77.28
P.C. STA. 12+58.47
P.T. STA. 12+77.28
N 1470915.54
E 1636943.61
N 1470915.54
E 1636943.61
N 1470915.54
E 1636943.61

MATCH LINE

SEE SHEET C3.1



UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

SEWER
COLUMBIA WASTE WATER
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38402
(931) 388-2419

ELECTRIC
COLUMBIA POWER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

GAS
ATMOS ENERGY
810 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
(931) 384-0578

TELEPHONE
AT&T
760 ARMSTRONG LANE
COLUMBIA, TN 38402
1-800-626-9149

CONCRETE PAVEMENT

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CALL US FIRST!
1-800-351-1111
1-615-366-1987
TENNESSEE ONE CALL
IT'S THE LAW

OWNER / DEVELOPER
HABITAT FOR HUMANITY
WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

PHASE I EROSION CONTROL PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI
REGISTERED
No. 101101
STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

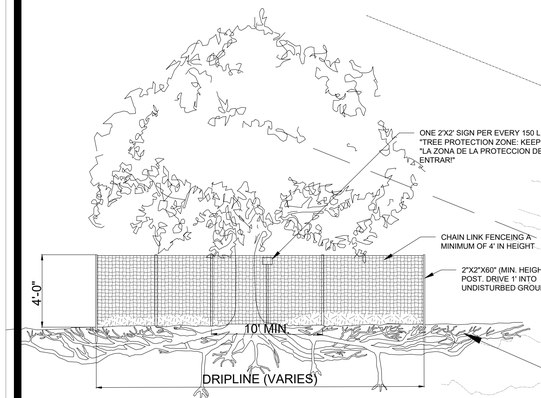
9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

General Notes

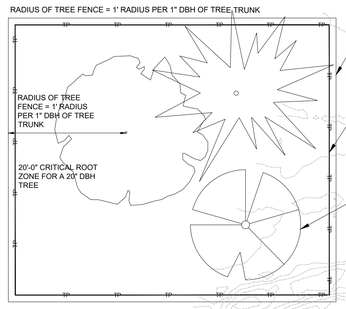
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AREAS WITH SLOPES 3:1 OR STEEPER MUST BE STABILIZED BY EROSION CONTROL BLANKETS. REFER TO SHEET C4.1 FOR DETAIL. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN SC250 OR APPROVED EQUAL INSTALLED AS RECOMMENDED BY MANUFACTURER AND METHODS APPROVED BY THE CITY.
INSTALL J-HOOKS SILT FENCE WHEREVER SILT FENCE IS NOT INSTALLED ALONG CONTOUR LINES. INSTALL ALL SPECIFIED SOD AS SHOWN ON SHEET C2.2, AND STABILIZE ANY GRADED AREA WITHIN AREA NOT RECEIVING PAVEMENT, GRAVEL, WITHIN 7 DAYS OF COMPLETION OF ANY PHASE OF GRADING. NO DISTURBED AREA SHALL BE LEFT BARE FOR MORE THAN 7 DAYS. SILT FENCE TO REMAIN IN OPERATION DURING PHASE 2.

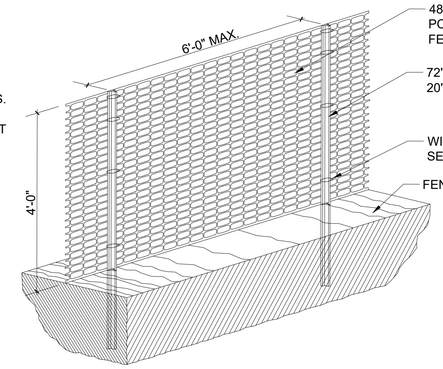


TREE PROTECTION



TREE PROTECTION DETAIL
NOT TO SCALE

1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
3. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
4. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
5. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION. ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.



SENSITIVE AREA PROTECTION FENCE. REFER TO DETAIL THIS SHEET. NO DISTURBANCE IS ALLOWED BEYOND THIS FENCE

SENSITIVE AREA PROTECTION FENCE
NOT TO SCALE

8 C4.0 TEMP. SILT FENCE (TYP.)

DISTURBED AREA 285,183 S.F. OR 6.55 AC.

4 C4.1 BLOCK AND GRAVEL INLET PROTECTION (TYP.)

TEMP. 20'X100' CONST. EXIT WITH CONC. WASH DOWN & TEMP. HYDRANT 7 C3.0

DISTURBED AREA 285,183 S.F. OR 6.55 AC.

TEMP. SILT FENCE (TYP.) 8 C4.0

MATCH LINE
SEE SHEET C2.0

GENERAL CONTRACTOR SHALL REMOVE ALL SEDIMENT, AND ALL TEMPORARY STRUCTURES FROM THE SEDIMENT TRAP AND STABILIZE THE BASIN PRIOR TO CONVERTING THE BASIN TO THE PERMANENT DETENTION POND.

ALL EROSION CONTROL MEASURES SHALL REMAIN IN GOOD WORKING CONDITIONS DURING THE CONSTRUCTION UNTIL SUCH TIME THAT ALL DISTURBED AREAS ARE STABILIZED.

PHASE I EROSION PROTECTION PLAN

NOTE:
CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH THE CITY OF COLUMBIA STANDARDS. CONTRACTOR TO COORDINATE EXACT LOCATION WITH THE CITY ENGINEERING DEPARTMENT DURING PRE-CONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE."

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

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BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI 93555 REGISTERED PROFESSIONAL ENGINEER STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

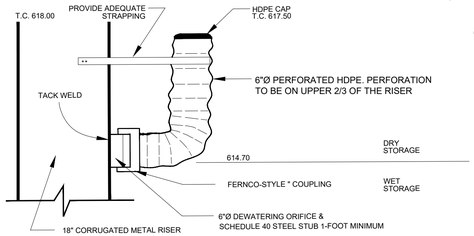
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Prepared By: MF

NOTE:
1. G.C. TO UTILIZE THE DETENTION POND PIT AS TEMPORARY SEDIMENT TRAP. AFTER THE EARTHWORK IS STABILIZED, REMOVE ALL SEDIMENT FROM SEDIMENT TRAP PRIOR TO CONVERTING TO DETENTION POND.
2. ALL PERIMETER EROSION CONTROL MEASURES SHALL REMAIN IN GOOD WORKING CONDITION DURING THE ENTIRE CONSTRUCTION PERIOD. IT IS CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES NO LATER THAN 14 DAYS AFTER FINAL GRADING AND SITE STABILIZATION AT NO EXTRA CHARGE.

NOTE:
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 7 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

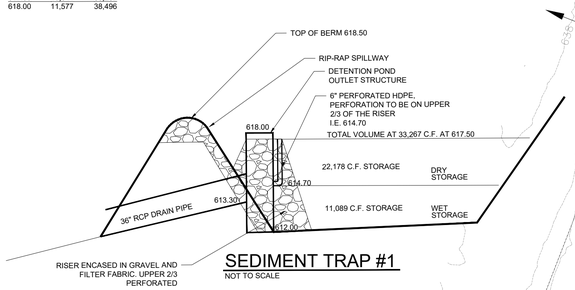


SEDIMENT TRAP CALCULATIONS

6.13 ACRES X 3,618 C.F. = 22,178 C.F.
REQUIRED WET STORAGE = 134 C.Y./AC. X 6.13 X 27 = 22,178 C.F.
REQUIRED DRY STORAGE = 67 C.Y./AC. X 6.13 X 27 = 11,089 C.F.
TOTAL VOLUME REQUIRED = 33,267 C.F.
VOLUME PROVIDED = 38,496 C.F. AT ELEV. 517.50
25 YR. STORM TO THE SEDIMENT TRAP = 9.02 CFS
25 YR. STORM THROUGH OUTLET STRUCTURE = 1.29 CFS 25 YR. STORM ELEVATION = 565.51

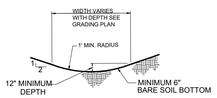
SEDIMENT TRAP VOLUME

ELEV.	CNTR. AREA	VOLUME
612.00	0	0
613.00	4,296	2148
614.00	5,323	6,958
614.70	**6,077**	**11,089**
615.00	6,405	12,822
616.00	7,578	19,813
617.00	9,105	28,155
617.50	**10,341**	**33,267**
618.00	11,577	38,496



SEDIMENT TRAP #1
NOT TO SCALE

PIPE CAPACITY
18" RCP FROM SEDIMENT BASIN TO OUTFALL POND 100 YR INFLOW = 11.3 CFS
PIPE CAPACITY: 36" CMP AT 1.1% A=7.07 S.F., WP=9.421', HR=0.75, n=0.012 Q=75.78 CFS, V=10.72 FPS



TEMP. DIVERSION CHANNEL
NOT TO SCALE

DIVERSION DITCH CAPACITY:
2:1 SIDE SLOPE
LONGITUDINAL SLOPE = 1%
n = 0.03
B=2'
D = 12"
A = 4.0 S.F.
W.P. = 6.47"
H.R. = 0.62'
V = 3.6 FPS
Q = 14.4 CFS
100 YR. STORM FROM DISTURBED AREA = 11.3 CFS

UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

SEWER
COLUMBIA WASTE WATER
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38402
(931) 388-2419

ELECTRIC
COLUMBIA POWER SYSTEMS
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P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

GAS
ATMOS ENERGY
810 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
(931) 384-0578

TELEPHONE
AT&T
760 ARMSTRONG LANE
COLUMBIA, TN 38402
1-800-626-9149

CONCRETE PAVEMENT

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WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

MATCH LINE

SEE SHEET C3.3



LEGEND

- = SAN. SEWER LINE
- = WATER LINE
- FH = FIRE HYDRANT
- = IRON PINS SET UNLESS NOTED
- = STREET TREES
- = PROPOSED SEWER MANHOLE
- = PROPOSED CATCH BASIN
- = PROPOSED WATER METER & CAP
- = PROPOSED GATE VALVE
- = PROPOSED FIRE HYDRANT
- = PROPOSED HEADWALL
- = POWER POLE
- C.O. = SAN. SEWER CLEAN OUT

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

PHASE II EROSION CONTROL PLAN

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI — REGISTERED — 93SS.ANANA — 101010 — STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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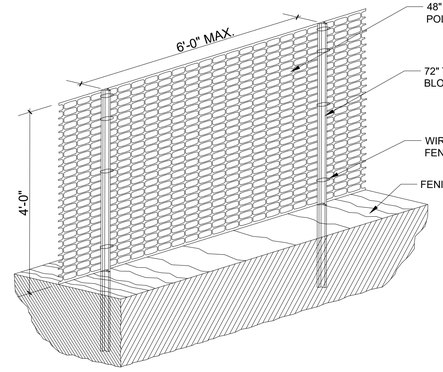
Date: APR. 17, 2023
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Project No. 2023-15
Prepared By: MF

AREAS WITH SLOPES 3:1 OR STEEPER MUST BE STABILIZED BY EROSION CONTROL BLANKETS. REFER TO DETAIL 6 ON SHEET C4.1. EROSION CONTROL BLANKET SHALL BE BIONET® 700BN™ LONG-TERM BIODEGRADABLE COIR-NET COCONUT BLANKET OR APPROVED EQUAL. INSTALLED AS RECOMMENDED BY MANUFACTURER AND METHODS APPROVED BY THE CITY.

INSTALL J-HOOKS SILT FENCE WHEREVER SILT FENCE IS NOT INSTALLED ALONG CONTOUR LINES.

INSTALL ALL SPECIFIED SOD AS SHOWN ON SHEET C3.5, AND STABILIZE ANY GRADED AREA WITHIN AREA NOT RECEIVING PAVEMENT, OR GRAVEL WITHIN 7 DAYS OF COMPLETION OF ANY PHASE OF GRADING. NO DISTURBED AREA SHALL BE LEFT BARE FOR MORE THAN 7 DAYS. SILT FENCE TO REMAIN IN OPERATION DURING PHASE II.

1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
3. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
4. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
5. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION. ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.



SENSITIVE AREA PROTECTION FENCE

NOT TO SCALE

SENSITIVE AREA PROTECTION FENCE. REFER TO DETAIL THIS SHEET. NO DISTURBANCE IS ALLOWED BEYOND THIS FENCE

CONCRETE HEADWALL I.E. 613.00 REFER TO DETAIL 5 ON SHEET C4.0

BASIN OUTLET STRUCTURE. REFER TO SHEET C3.2 FOR DETAIL

8 C4.0 TEMP. SILT FENCE (TYP.)

DISTURBED AREA 285,183 S.F. OR 6.55 AC.

4 C4.1 BLOCK AND GRAVEL INLET PROTECTION (TYP.)

200.00'

S 71°01'15" E 78.08'

40.0000 ELECTRICAL EASEMENT

PROPOSED ABOVE GROUND ELECTRICAL

N 23°45'41" E 85.19'

COMMON SPACE

PHASE 2
354,358 ft²
8.14 ACRE

N 71°47'24" E 115.39'

N 71°01'15" W 363.33'

COMMON SPACE

EDGE OF R.O.W.

EDGE OF PAVEMENT

N 89°58'11" W 118.77'

S 89°49'42" E 120.66'

7-1/2" MSBL

S 71°01'15" E 50.00'

SEDIMENT BASIN

CONC. WASH DOWN AREA

COMMON SPACE

TEMP. SILT FENCE (TYP.) 8 C4.0

N 21°47'24" E 115.39'

TEMP. 20'X100' CONST. EXIT WITH CONC. WASH DOWN & TEMP. HYDRANT 7 C3.0

PHASE II DRAINAGE AREA 266,983 S.F. OR 6.13 ACRES

S 18°51'57" W (215.09') 223.46' TOTAL

DISTURBED AREA 285,183 S.F. OR 6.55 AC.

TEMP. GRAVEL CHECK DAM. REFER TO DETAIL THIS SHEET.

MH #1

S 71°59'22" W P.U.D.E. 5' (TYP.)

MH #2

N 71°59'42" W 229.55' TOTAL

COMMON SPACE

MH #3

TEMP. SILT FENCE (TYP.) 8 C4.0

EDGE OF R.O.W.

EDGE OF R.O.W.

MATCH LINE

SEE SHEET C3.2

GENERAL CONTRACTOR SHALL REMOVE ALL SEDIMENT, AND ALL TEMPORARY STRUCTURES FROM THE SEDIMENT TRAP AND STABILIZE THE BASIN PRIOR TO CONVERTING THE BASIN TO THE PERMANENT DETENTION POND.

ALL EROSION CONTROL MEASURES SHALL REMAIN IN GOOD WORKING CONDITIONS DURING THE CONSTRUCTION UNTIL SUCH TIME THAT ALL DISTURBED AREAS ARE STABILIZED.

PHASE II EROSION CONTROL PLAN

NOTE:
CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH THE CITY OF COLUMBIA STANDARDS. CONTRACTOR TO COORDINATE EXACT LOCATION WITH THE CITY ENGINEERING DEPARTMENT DURING PRE-CONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE."

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI REGISTERED ENGINEER 102502 STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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MATCH LINE

SEE SHEET C3.5

ALL AREAS WITH SLOPES 3:1 OR FLATTER SHALL BE SODDED WITH KENTUCKY 31 FESCUE (FESTUCA ELATIOR); NEW SOD CONSISTING OF LIVE, DENSE, WELL ROOTED GROWTH; WELL SUITED FOR THE INTENDED PURPOSE AND SOIL CONDITIONS; COMPLETELY FREE OF NOXIOUS WEEDS AND GRASSES (BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, CANADA THISTLE); AND CONTAINING LESS THAN 5 PLANTS OF OBJECTIONABLE WEEDS PER 100 SQUARE FEET IF NURSERY GROWN OR 10 SUCH PLANTS IF FIELD GROWN.



GRAVEL/ RIP-RAP

CONCRETE SIDEWALK

SODDING

REINFORCED MATTING

DETENTION POND

PAVEMENT

UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4833

SEWER
COLUMBIA WASTE WATER
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CONCRETE PAVEMENT

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WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

PHASE III EROSION CONTROL PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI 33ASSIANA 10-00-2023 REGISTERED AGRICULTURAL ENGINEER STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

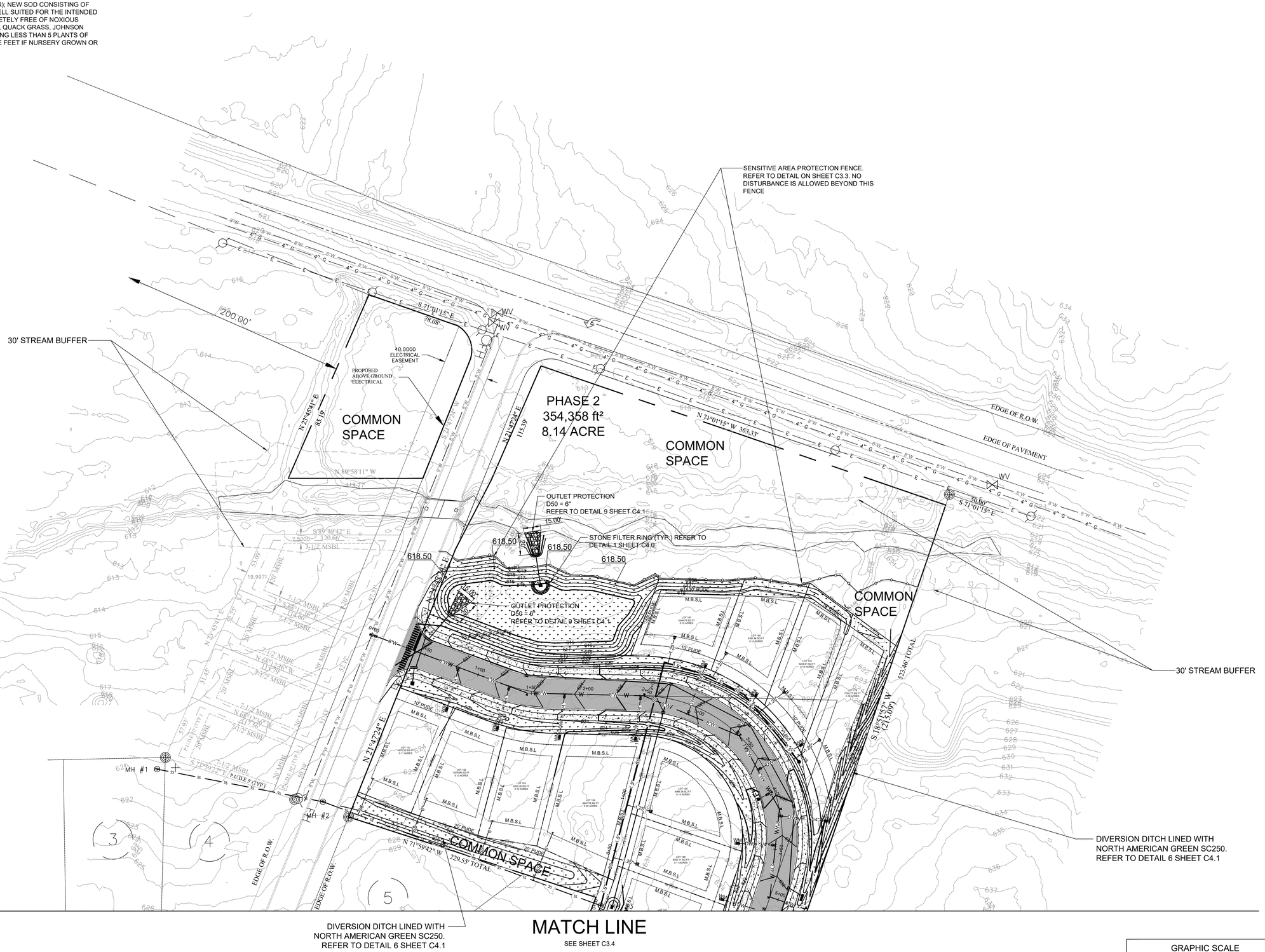
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Prepared By: MF

ALL AREAS WITH SLOPES 3:1 OR FLATTER SHALL BE SODDED WITH KENTUCKY 31 FESCUE (FESTUCA ELATIOR); NEW SOD CONSISTING OF LIVE, DENSE, WELL ROOTED GROWTH; WELL SUITED FOR THE INTENDED PURPOSE AND SOIL CONDITIONS; COMPLETELY FREE OF NOXIOUS WEEDS AND GRASSES (BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, CANADA THISTLE); AND CONTAINING LESS THAN 5 PLANTS OF OBJECTIONABLE WEEDS PER 100 SQUARE FEET IF NURSERY GROWN OR 10 SUCH PLANTS IF FIELD GROWN.



PHASE III EROSION CONTROL PLAN

GRAPHIC SCALE
40' 0' 40' 80'
SCALE: 1" = 40'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI 33SSHANN 10/20/23 STATE OF TENNESSEE REGISTERED AGRICULTURAL ENGINEER

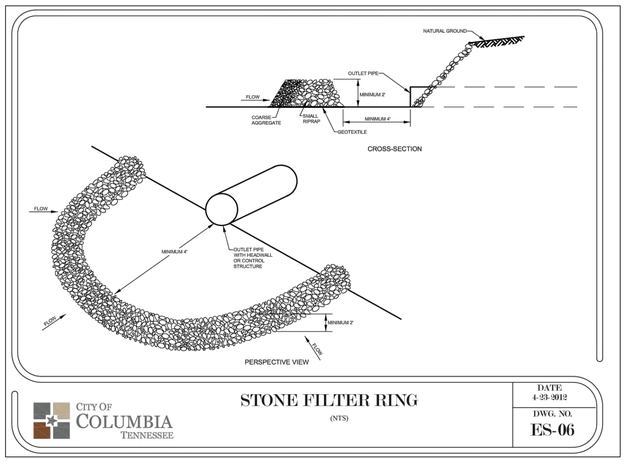
SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE

9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
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Prepared By: MF



CITY OF COLUMBIA TENNESSEE

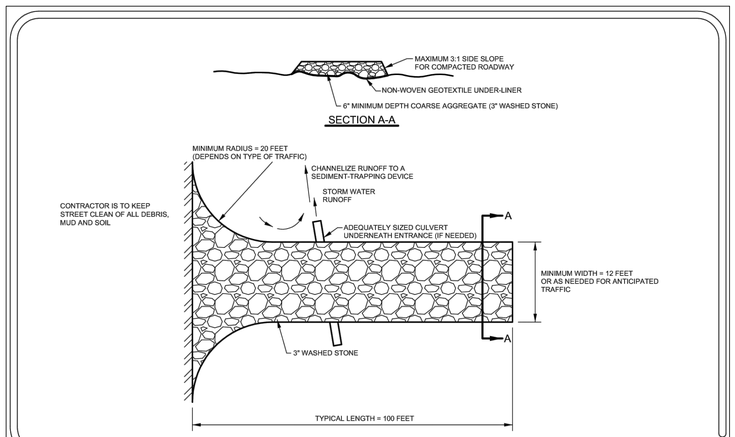
STONE FILTER RING

(NTS)

DATE 4-23-2012

DWG. NO. ES-06

STONE FILTER RING 1
NOT TO SCALE C2.0



CITY OF COLUMBIA TENNESSEE

CONSTRUCTION ACCESS

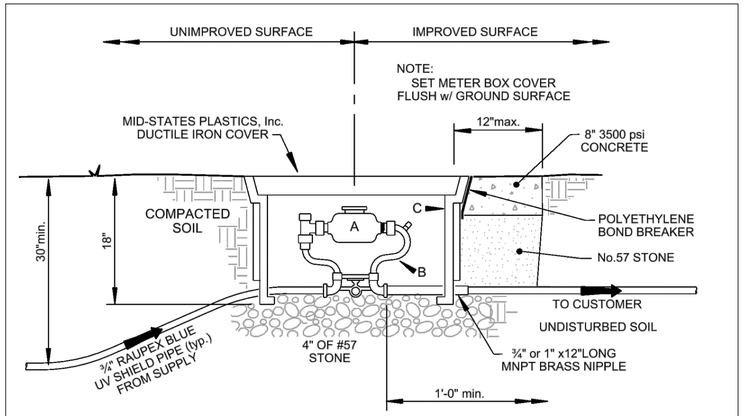
(NTS)

DATE 4-23-2012

DWG. NO. ES-01

NOTE:
GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN BE CLEARED OF MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO EXISTING PAVED SURFACES OR PUBLIC STREETS AND HELP CONTROL EROSION FROM SURFACE RUNOFF.

TEMP. CONSTRUCTION ENTRANCE 4
NOT TO SCALE C3.0,C3.1



A: ¾"x¾" METER SHALL BE BRONZE BADGER METER M25, 1" METER SHALL BE BRONZE BADGER METER M70. ALL METERS SHALL BE EQUIPPED WITH HIGH RESOLUTION ENCODER (HR-E) AND INTEGRAL MOUNTED ORION RTR ENDPOINT.

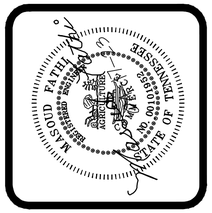
B: ¾"x¾" COPPER METER YOKE SHALL BE MUELLER CAT. NO. B-2404-2N WITH LOCK WING MUELLER 300 ANGLE BALL VALVE & ANGLE DUAL CHECK VALVE.

C: METER BOX SHALL BE MID-STATES PLASTICS, Inc. CAT. NO. MSBCF1118-18 (¾"), CAT. NO. MSBCF1324-18 (1").

NOTE:
METER TYPE, MATERIAL AND INSTALLATION SHALL MEET CPWS STANDARDS AND REQUIREMENTS. COORDINATE WITH CPWS.

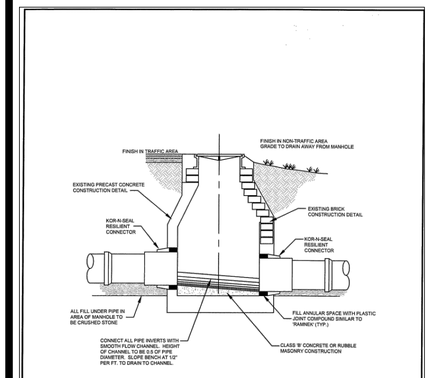
1" METER SETTING 6
NOT TO SCALE C1.1

CIVIL AND ENVIRONMENTAL
ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
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SITE CONSTRUCTION PLANS FOR
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9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01



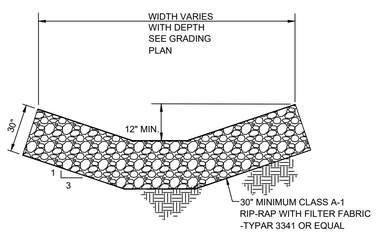
CONNECTION TO EXISTING MANHOLE
NOT TO SCALE

NOTE: THE CONTRACTOR SHALL NOT CONNECT TO EXISTING MANHOLE UNTIL ALL NEW SEWAGE FACILITIES HAVE BEEN INSTALLED, TESTED AND RELEASED FOR SERVICE.

CITY OF COLUMBIA, TENNESSEE

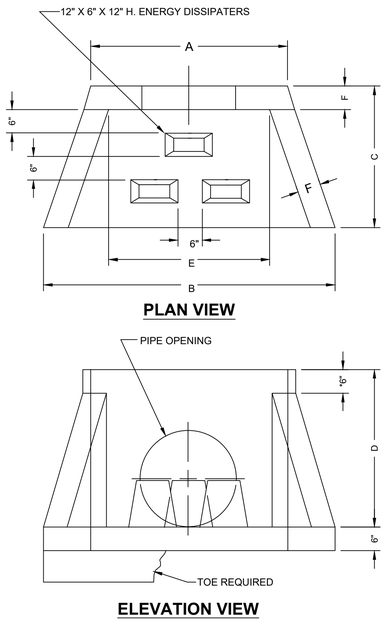
STANDARD SEWER DETAIL NO: S5

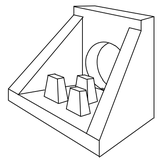
SEWER CONNECTION 2
NOT TO SCALE C1.1



FLAT BOTTOM DITCH 3
NOT TO SCALE C3.0,C3.1

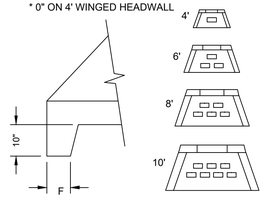
NOTES:
1. CONCRETE: 4500 PSI @ 28 DAYS
2. REINFORCED WITH #4 BAR - GR. 60
3. AVAILABLE WITH STANDARD OPENINGS OR CMP PIPE CAST IN 4. SPECIAL SHAPES & OPENINGS AVAILABLE ON REQUEST



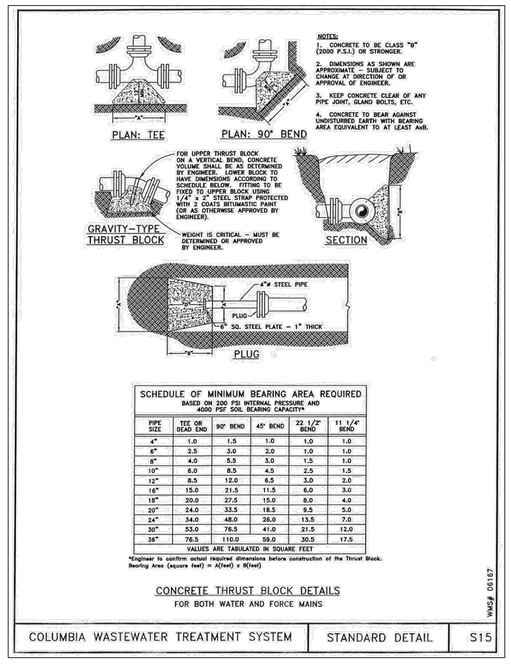


Size	4'	6'	8'	10'
A	32"	48"	72"	96"
B	48"	72"	96"	120"
C	30"	44"	50"	56"
D	25"	36"	52"	66"
E	24"	36"	59"	83"
F	NA	8"	8"	8"
Max. CMP	18"	30"	42"	54"
Max. RCP	15"	24"	36"	48"
WT./#	1090	3130	5625	8575

* 0" ON 4' WINGED HEADWALL



CONCRETE HEADWALL 5
NOT TO SCALE C2.0



SCHEDULE OF MINIMUM BEARING AREA REQUIRED
BASED ON 200 PSI INTERNAL PRESSURE AND 4000 PSF SOIL BEARING CAPACITY*

PIPE SIZE	TEE OR DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4"	1.0	1.5	1.0	1.0	1.0
6"	2.5	3.0	2.0	1.0	1.0
8"	4.0	5.5	3.0	1.5	1.0
10"	6.0	8.5	4.5	2.5	1.5
12"	8.5	12.0	6.5	3.0	2.0
16"	15.0	21.5	11.5	6.0	3.0
18"	20.0	27.5	15.0	8.0	4.0
20"	24.0	33.5	18.5	9.5	5.0
24"	34.0	48.0	26.0	13.5	7.0
30"	53.0	76.5	41.0	21.5	12.0
36"	76.5	110.0	59.0	30.5	17.5

VALUES ARE TABULATED IN SQUARE FEET

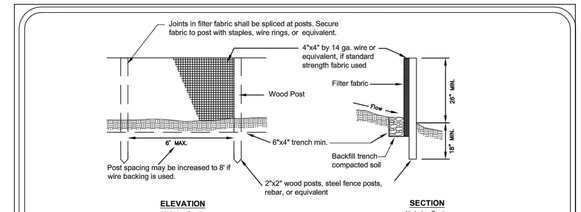
*Engineer to confirm actual required dimensions before construction of the Thrust Block. Bearing Area (square feet) = A(feet) x B(feet)

CONCRETE THRUST BLOCK DETAILS
FOR BOTH WATER AND FORCE MAINS

WMSR 05107

COLUMBIA WASTEWATER TREATMENT SYSTEM | STANDARD DETAIL | S15

THRUST BLOCK DETAIL 7
SCALE: NONE C1.1



Notes:

1.Silt fencing is used to intercept small amounts of sediment and reduce velocity from sheet flow only.

2. Static Slicing is the preferred method of installation and involves the insertion of a narrow cutting blade, placed at the specified anchor depth and simultaneously filling the fence fabric into the trench as the trench is being excavated.

3. Filter fabric fences shall be installed along ground contour with the end of the row turned upslope.

4. Maintenance shall be preformed as needed: Sediment shall be removed from behind the silt fence when it has accumulated to 1/3 the original height of the structure or if bulges develop in the silt fencing.

CITY OF COLUMBIA TENNESSEE

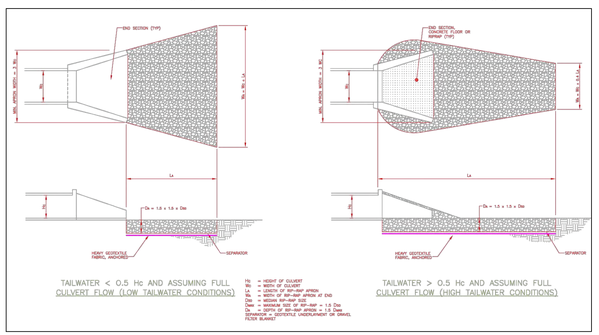
SILTATION CONTROL FENCE

(NTS)

DATE 4-23-2012

DWG. NO. ES-04

TEMP. SEDIMENT FENCE 8
NOT TO SCALE C3.0 & C3.1
SILT FENCE SHALL MEET TDOT STD. DWG. EC-STR-3C FOR WIRE MESH BACKED SILT FENCE



Hc = HEIGHT OF CULVERT
Ho = HEIGHT OF CULVERT
Ls = WIDTH OF RIP-RAP APRON
Lw = WIDTH OF RIP-RAP APRON AT END
Dia = MEDIAN RIP-RAP SIZE
Ds = DEPTH OF RIP-RAP APRON = 1.5 Dia
Ds = DEPTH OF RIP-RAP APRON = 1.5 Dias
SEPARATOR = GEOTEXTILE UNDERLAYMENT OR GRAVEL FILTER BLANKET

OUTLET PROTECTION 9
NOT TO SCALE C2.0

General Notes

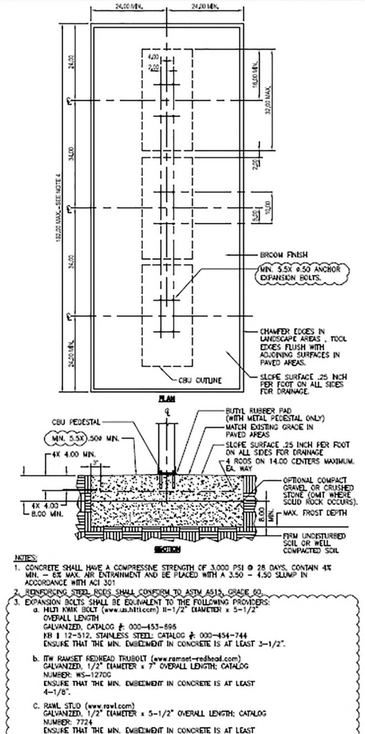
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Index D

Cluster Box Unit Installation Multiple Unit

ES TO A/E:

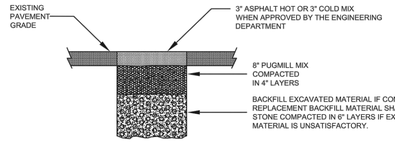


NOTES:

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, CONTAIN 4% MIN. – 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3.50 – 4.50 SLUMP IN ACCORDANCE WITH ACI 301
2. REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
3. EXPANSION BOLTS SHALL BE EQUIVALENT TO THE FOLLOWING PROVIDERS:
   a. HILTI KWIK BOLT (www.us.hilti.com) 8-1/2" DIAMETER x 5-1/2" OVERALL LENGTH
   GALVANIZED, CATALOG # 000-453-695
   NSI # 12-312, STAINLESS STEEL: CATALOG # 000-454-744
   ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 3-1/2".
   b. ITW RAMSET REDHEAD TRUBOLT (www.ramset-redhead.com)
   GALVANIZED, 1/2" DIAMETER x 7" OVERALL LENGTH; CATALOG NUMBER: WS-12700
   ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 4-1/8".
   c. RAWL STUD (www.rawl.com)
   GALVANIZED, 1/2" DIAMETER x 5-1/2" OVERALL LENGTH; CATALOG NUMBER: 7724
   ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 4".
4. A 3 CBU CONFIGURATION IS DEPICTED. A 2 OR 4 CBU CONFIGURATION MAY BE USED AS LONG AS THEY ARE ARRANGED IN GROUPS SUCH THAT THE OVERALL DIMENSION OF THE CONCRETE BASE DOES NOT EXCEED 16 FEET.

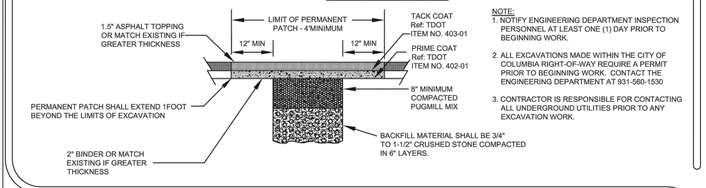
Detail: CLUSTER BOX UNIT (CBU) INSTALLATION – MULTIPLE UNIT	Fac.	Ch.	Sect.	Para.	Detail
	G1	-	2	- 0	e1
CAD File: ../uspe/library/details/G1-2-0e1	Scale: 1/2" = 1'-0"			USPS SDL Issued: 10/1/2016	
				Last Revised: 10/21/2016	

CLUSTER BOX DETAIL — NOT TO SCALE — 1 / C1.0



DRAWING 1 TEMPORARY PATCH

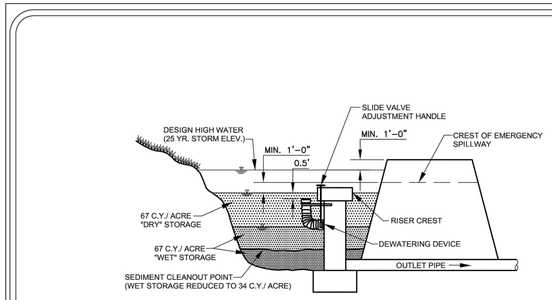
DRAWING 2 PERMANENT PATCH



NOTE:
1. NOTIFY ENGINEERING DEPARTMENT INSPECTION PERSONNEL AT LEAST ONE (1) DAY PRIOR TO BEGINNING WORK.
2. ALL EXCAVATIONS MADE WITHIN THE CITY OF COLUMBIA RIGHT-OF-WAY REQUIRE A PERMIT PRIOR TO BEGINNING WORK. CONTACT THE ENGINEERING DEPARTMENT AT 931-560-1530
3. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION WORK.

CITY OF COLUMBIA TENNESSEE — STREET CUT REPAIR (NTS) — DATE 4-23-2012 — DWG. NO. MD-06

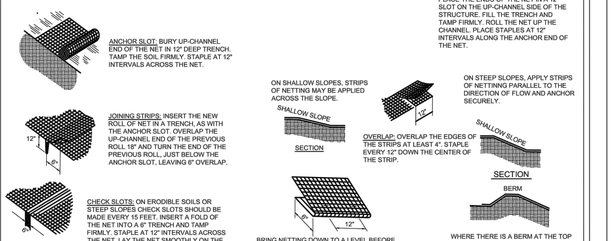
STREET CUT REPAIR — NOT TO SCALE — 2 / C1.2,C1.3



NOTE: SEE TDEC EROSION AND SEDIMENT CONTROL HANDBOOK FOR COMPLETE DETAILS AND DESIGN STANDARDS

CITY OF COLUMBIA TENNESSEE — SEDIMENT BASIN DETAIL (NTS) — DATE 4-23-2012 — DWG. NO. ES-08

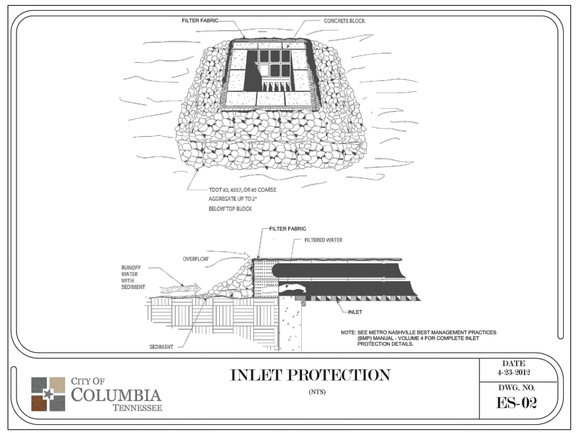
SEDIMENT BASIN DETAIL — NOT TO SCALE — 3 / C3.3



DESIGN ENGINEER TO SPECIFY TYPE OF BLANKET/MATTING TO BE USED.

CITY OF COLUMBIA TENNESSEE — SLOPE STABILIZATION (NTS) — DATE 4-23-2012 — DWG. NO. ES-09

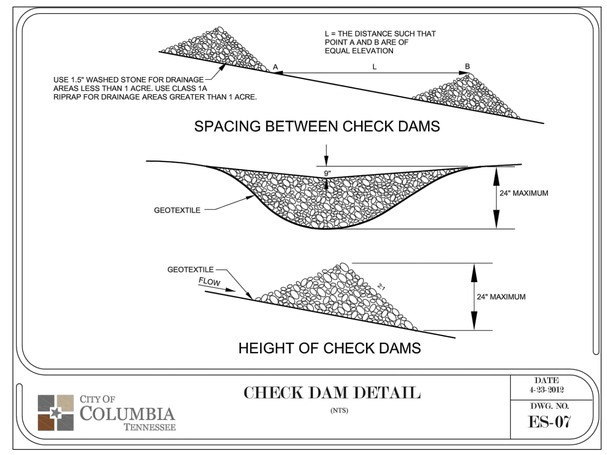
SLOPE STABILIZATION DETAIL — NOT TO SCALE — 6 / C3.4,C3.5



NOTE: SEE METRO NASHVILLE BEST MANAGEMENT PRACTICES (BMP) MANUAL - VOLUME 4 FOR COMPLETE INLET PROTECTION DETAILS.

CITY OF COLUMBIA TENNESSEE — INLET PROTECTION (NTS) — DATE 4-23-2012 — DWG. NO. ES-02

BLOCK AND GRAVEL INLET PROTECTION DETAIL — NOT TO SCALE — 4 / C3.2,C3.3



CITY OF COLUMBIA TENNESSEE — CHECK DAM DETAIL (NTS) — DATE 4-23-2012 — DWG. NO. ES-07

CHECK DAM DETAIL — NOT TO SCALE — 7 / C3.2,C3.3

Maury County, Tennessee (TN119)

Maury County, Tennessee (TN119)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ag	Armour silt loam, 5 to 12 percent slopes	5.1	17.5%
Bg	Braxton cherty silty clay loam, severely eroded sloping phase	12.0	41.1%
Ga	Godwin silt loam	2.5	8.4%
Ho	Huntington silt loam, phosphatic phase	3.6	12.3%
Mb	Maury silt loam, eroded gently sloping phase	0.6	2.2%
Mn	Mimosa silty clay, 5 to 12 percent slopes, severely eroded	3.9	13.3%
Rd	Rockland, Mimosa and	1.5	5.2%



SOILS MAP — NOT TO SCALE — 5 / D1.0,D2.0

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI — 103333 — REGISTERED PROFESSIONAL ENGINEER — STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE
9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

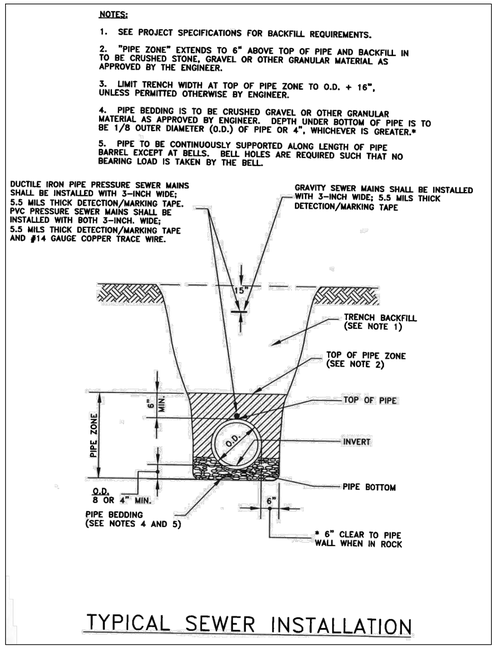
General Notes

No.	Revision/Issue	Date
3		
2		
1		

Date: APR. 17, 2023 — Scale:

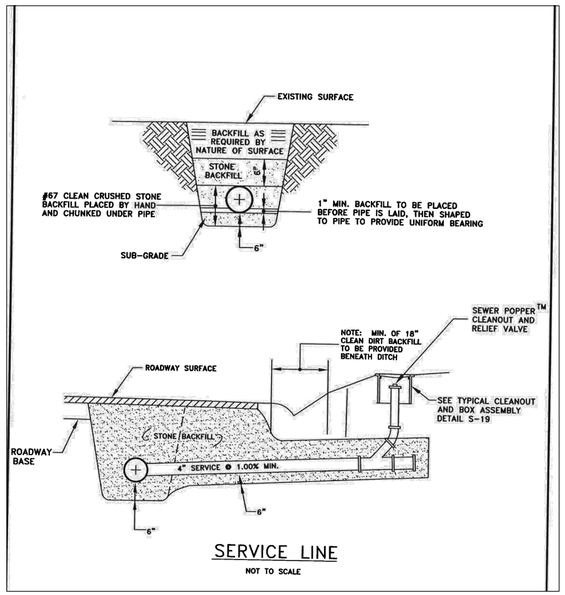
Sheet: C4.1 OF

Project No. 2023-15 — Prepared By: MF



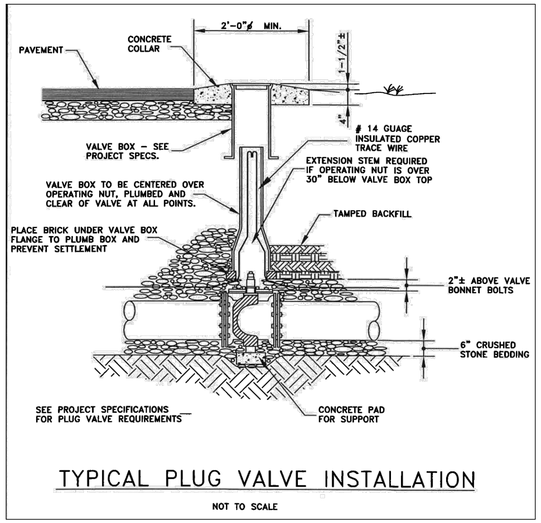
TYPICAL SEWER INSTALLATION

TYPICAL SEWER INSTALLATION 1
NOT TO SCALE C1.1



SERVICE LINE
NOT TO SCALE

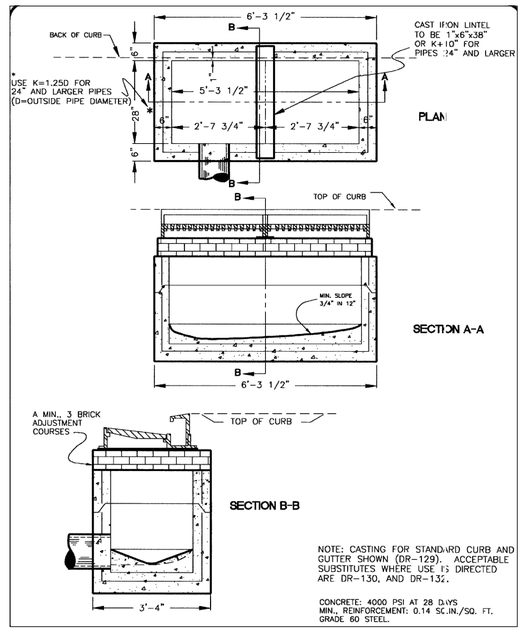
SEWER SERVICE LINE CONNECTION 3
NOT TO SCALE C1.1



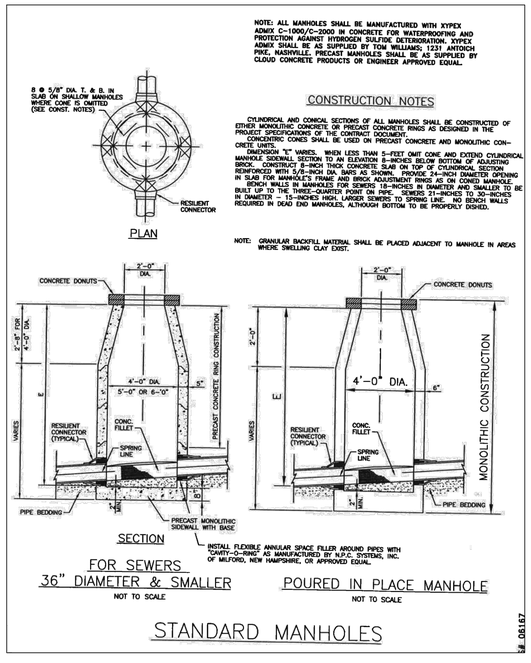
TYPICAL PLUG VALVE INSTALLATION

NOT TO SCALE

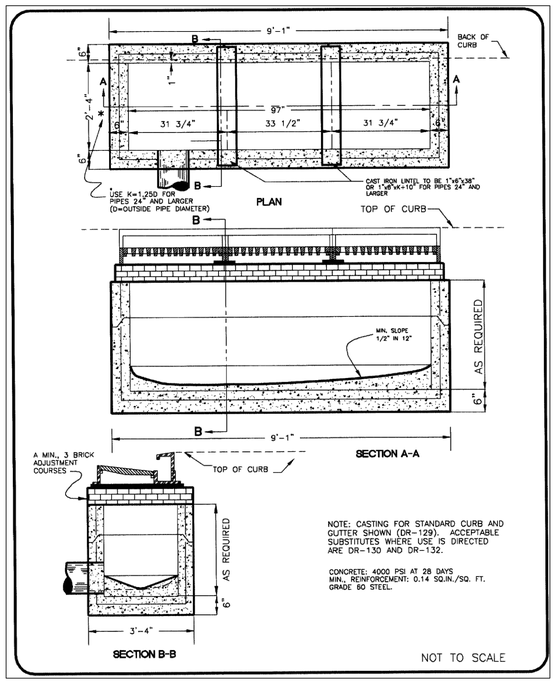
TYP. VALVE INSTALLATION 5
NOT TO SCALE C1.1



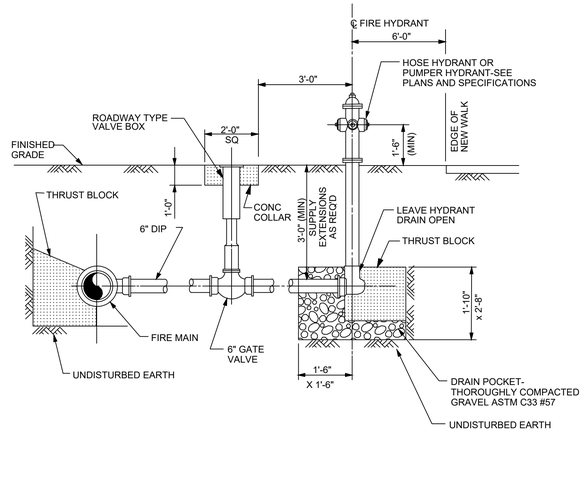
COMBINATION DOUBLE INLET 7
NOT TO SCALE C1.1



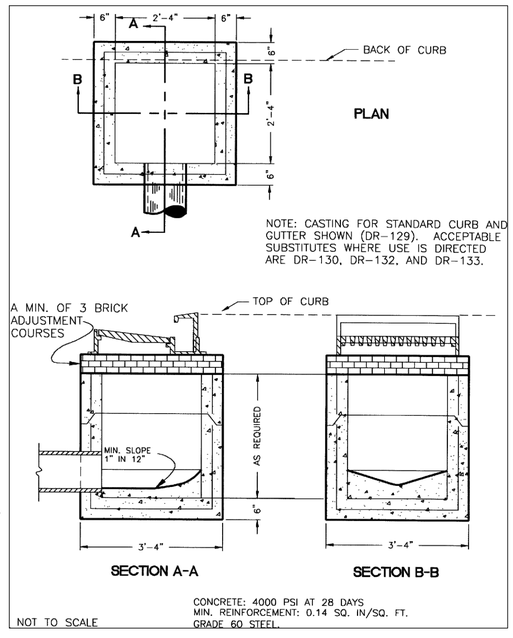
TYP. MANHOLE DETAIL 2
NOT TO SCALE C1.1



COMBINATION TRIPLE INLET 4
NOT TO SCALE C1.1



FIRE HYDRANT INSTALLATION DETAIL 6
NOT TO SCALE C1.1



COMBINATION SINGLE INLET 8
NOT TO SCALE C1.1

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
803 ALBEMARLE COURT
BRENTWOOD, TENNESSEE 37027
CELL: (615) 504-9915
masoudfathi@comcast.net

MASOUD FATHI — 103.000 — REGISTERED — STATE OF TENNESSEE — 2023

SITE CONSTRUCTION PLANS FOR
HABITAT FOR HUMANITY WILLIAMSON-MAURY
WILLIAMSPORT PIKE AT GOLDEN PLACE
9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

General Notes

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Date: APR. 17, 2023
Scale:
Sheet: C4.2 OF
Project No: 2023-15
Prepared By: MF

PRE-DEVELOPED RUN-OFF

STORM	ALLOWABLE
EVENT	FLOW
Q2	9.82
Q5	16.07
Q10	20.37
Q25	25.96
Q50	30.15
Q100	34.31

Tc = 12.6 MIN. (FROM HYDRAFLOW MODEL)
CN = 79 (HYDROLOGIC SOILS GROUP "C"
USDA WEBSITE)



UTILITY OWNERS

WATER
COLUMBIA WATER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4933

SEWER
COLUMBIA WASTE WATER
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38402
(931) 388-2419

ELECTRIC
COLUMBIA POWER SYSTEMS
201 PICKENS LANE
P.O. BOX 379
COLUMBIA, TN 38402
(931) 388-4933

GAS
ATMOS ENERGY
810 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
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WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

PRE-DEVELOPED DRAINAGE PLAN

GRAPHIC SCALE
60' 0' 60' 120'
SCALE: 1" = 60'

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES, LLC
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MASOUD FATHI 103 REGISTERED PROFESSIONAL ENGINEER STATE OF TENNESSEE

SITE CONSTRUCTION PLANS FOR
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DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

General Notes

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1		

Date: APR. 17, 2023
Scale:
Sheet: D1.0 OF
Project No. 2023-15
Prepared By: MF

DETENTION POND SUMMARY

STORM EVENT	POND IN-FLOW	POND OUT-FLOW	ALLOWABLE FLOW	H.W. ELEVATION
Q2	13.59	7.89	9.82	616.79
Q5	20.33	15.36	16.07	617.13
Q10	24.81	20.33	20.37	617.33
Q25	30.53	25.74	25.96	617.54
Q50	34.76	29.54	30.15	617.68
Q100	38.98	33.20	34.31	617.82

Tc = 10.1 MIN. (FROM HYDRAFLOW MODEL)
CN = 86 (HYDROLOGIC SOILS GROUP "C"
USDA WEBSITE)

	SQ. FT.	ACRES
CONTRIBUTING DRAINAGE AREA	266,983	6.13
HEAVY DUTY PAVEMENT	29,165	0.67
CONCRETE SIDEWALK	11,028	0.25
EXTRUDED CURB	2250	0.05
32 HOMES (AT 1,200 S.F. FOOTPRINT)	38,400	0.88
32 DRIVEWAY (AT 450 S.F. EACH)	14,400	0.33
REMAINING GRASS	171,740	3.94
TOTAL IMPERVIOUS SURFACE	95,243	2.19

30' STREAM BUFFER

CONC. H.W. #1
I.E. 614.50

27 L.F. 18" RCP AT 2.0%

CONCRETE TRIPLE COMBINATION CURB INLET #3
T.C. 619.75
I.E. (18" RCP IN) 615.24
I.E. (18" RCP OUT) 615.04

28 L.F. 15" RCP AT 2.0%

CONCRETE TRIPLE COMBINATION CURB INLET #2
T.C. 620.10
I.E. (15" RCP IN) 616.00
I.E. (15" RCP OUT) 615.80

15 L.F. 15" RCP AT 2.0%

CONCRETE AREA DRAIN #1
T.C. 620.50
I.E. (15" RCP OUT) 616.30

95 L.F. 18" RCP AT 2.44%

CONCRETE COMBINATION CURB INLET #4
T.C. 622.48
I.E. (15" RCP IN) 617.76
I.E. (15" RCP OUT) 617.56

124 L.F. 18" RCP AT 2.0%

CONCRETE DOUBLE INLET #5
T.C. 627.50
I.E. (15" RCP OUT) 624.50

CONCRETE COMBINATION CURB INLET #12
T.C. 636.25
I.E. (15" RCP OUT) 633.33

CONTRIBUTING DRAINAGE AREA
266,983 S.F. OR 6.13 AC.

CONCRETE COMBINATION CURB INLET #14
T.C. 644.65
I.E. (15" RCP OUT) 641.65

26 L.F. 15" RCP AT 2.0%

CONTRIBUTING DRAINAGE AREA
266,983 S.F. OR 6.13 AC.

CONC. H.W. #1
I.E. 613.00

26 L.F. 36" HDPE AT 1.1%

POND OUTLET STRUCTURE
I.E. (36" HDPE) 613.30
I.E. (3" ORIFICE) 613.50
T.C. 617.50
I.E. (12" WEIR) 614.00
I.E. (48" WEIR) 616.00

CONTRIBUTING DRAINAGE
AREA 266,983 S.F. OR 6.13 AC.

CONCRETE COMBINATION CURB INLET #7
T.C. 626.00
I.E. (15" RCP IN) 620.44
I.E. (15" RCP OUT) 620.24

30' STREAM BUFFER

26 L.F. 18" RCP AT 2.0%

CONCRETE COMBINATION CURB INLET #6
T.C. 626.00
I.E. (15" RCP IN) 621.16
I.E. (15" RCP OUT) 620.96

78 L.F. 18" RCP AT 3.00%

CONCRETE COMBINATION CURB INLET #8
T.C. 628.03
I.E. (15" RCP IN) 623.70
I.E. (15" RCP OUT) 623.50

177 L.F. 18" RCP AT 1.89%

82 L.F. 18" RCP AT 3.61%

CONCRETE COMBINATION CURB INLET #9
T.C. 630.11
I.E. (15" RCP IN) 626.86
I.E. (15" RCP OUT) 626.66

72 L.F. 18" RCP AT1.33%

CONCRETE COMBINATION CURB INLET #11
T.C. 631.95
I.E. (15" RCP IN) 628.02
I.E. (15" RCP OUT) 627.82

14 L.F. 15" RCP AT 2.0%

CONCRETE DOUBLE INLET #10
T.C. 631.50
I.E. (15" RCP IN) 628.50
I.E. (15" RCP OUT) 628.30

159 L.F. 15" RCP AT 2.58%

CONCRETE COMBINATION CURB INLET #13
T.C. 636.25
I.E. (15" RCP IN) 632.81
I.E. (15" RCP OUT) 632.61

26 L.F. 15" RCP AT 2.0%

300 L.F. 15" RCP AT 2.7%

CONTRIBUTING DRAINAGE AREA
266,983 S.F. OR 6.13 AC.

CONCRETE COMBINATION CURB INLET #15
T.C. 644.65
I.E. (15" RCP IN) 641.13
I.E. (15" RCP OUT) 640.93

PHASE 2
354,358 ft²
8.14 ACRE

COMMON SPACE

FIELDSTONE FARMS
SECTION 4
PLAT BOOK P18 PAGE 148

NORMANDY DRIVE
(50' R.O.W.)

UTILITY OWNERS

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SEWER
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HABITAT FOR HUMANITY
WILLIAMSON/MAURY COUNTY
511 W MEADE BOULEVARD
FRANKLIN, TN 37064

DEEDBOOK R2421 PAGE 788 R.O.M.C.

PRE-DEVELOPED DRAINAGE PLAN

STORMWATER SUMMARY REPORT

Line No.	Line ID	Flow Rate	Line Size (Rise x Span)	Line Type	Invert Elev. Down	Invert Elev. Up	Line Slope	HGL Down	HGL Up	Minor Loss	HGL Junct	Dn Str Line No.
		(cfs)	(in)		(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	
1	Inlet3-HW1	15.79	24	Cir	614.50	615.04	2.00	616.00	616.45	n/a	616.45	Outfall
2	Inlet2-Inlet3	4.36	18	Cir	615.24	615.80	2.00	617.01	617.03	0.07	617.10	1
3	Inlet1-Inlet2	3.68	15	Cir	616.00	616.30	2.00	617.10	617.07	n/a	617.07 j	2
4	Inlet4-Inlet3	12.79	24	Cir	615.24	617.56	2.44	616.88	618.83	n/a	618.83 j	1
5	Inlet7-Inlet4	12.67	24	Cir	617.76	620.24	2.00	619.15	621.50	n/a	621.50 j	4
6	Inlet6-Inlet7	9.82	18	Cir	620.44	620.96	2.00	621.59	622.16	n/a	622.16	5
7	Inlet5-Inlet6	8.98	18	Cir	621.16	624.50	1.89	622.41	625.64	n/a	625.64 j	6
8	Inlet8-Inlet7	5.73	24	Cir	621.16	623.50	3.00	622.02	624.35	n/a	624.35 j	5
9	Inlet9-Inlet8	5.63	18	Cir	623.70	626.66	3.61	624.51	627.57	n/a	627.57 j	8
10	Inlet11-Inlet9	5.52	18	Cir	626.86	627.82	1.33	627.81	628.72	n/a	628.72 j	9
11	Inlet10-Inlet11	4.56	15	Cir	628.02	628.30	2.00	628.89	629.16	n/a	629.16	10
12	Inlet13-Inlet10	2.05	15	Cir	628.50	632.61	2.58	629.06	633.18	n/a	633.18 j	10
13	Inlet12-Inlet13	0.93	15	Cir	632.81	633.33	2.00	633.39	633.72	n/a	633.72 j	12
14	Inlet15-Inlet13	0.87	15	Cir	632.81	640.93	2.71	633.39	641.30	n/a	641.30 j	12
15	Inlet14-Inlet15	0.35	15	Cir	641.13	641.65	2.00	641.43	641.89	n/a	641.89 j	14

GRAPHIC SCALE
60' 0' 60' 120'
SCALE: 1" = 60'

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CELL: (615) 504-9915
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MASOUD FATHI 103323 REGISTERED PROFESSIONAL ENGINEER STATE OF TENNESSEE

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9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE
DEED BOOK R-2495 PAGE 1181 R.O.M.C., PROPERTY MAP 88 PARCEL 70.01

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Date: APR. 17, 2023
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Sheet: D2.0 OF
Project No. 2023-15
Prepared By: MF

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, February 7, 2023

ITEM NO.
23-0018

DESCRIPTION: 35 Lot Subdivision.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Fire

1. You will need to get a required fire flow letter from the Fire Marshal's Office. Received fire flow letter 2/13/2023.
2. Once you get the required fire flow letter, you will need to send that to Columbia Power & Water System to get a water availability letter. Received water availability letter 3/3/2023.

Planning

3. Typical lot layout shows 30' front setback but max is 20'. Front setback is set at 20'.
4. Will need Development Plan showing Civic Space types, playground areas, and tree preservation plan. A landscaping plan will be provided.
5. Please correct number of lots listed in notes on plat. Corrected to 31 lots.
6. Section 5.3.3.B (p. 335) of the Zoning Ordinance requires a playground within 800 feet of each lot or building site in residential use. Please add playground spaces and show distance from all residential lots/building sites. Does not apply because 20 acres is needed for Section 5.3.3.B. to apply regarding the playground.
7. Note indicates 18 lots, application and preliminary plat depicts 36. Corrected to 31 lots.
8. Due to site altering comments re submittal will need Development Review. Concurred.

Engineering

9. Preliminary Plat shall be submitted and stamped by a registered engineer. Signed sealed preliminary plat will be submitted.
10. Provide proposed contours at vertical intervals of not more than two (2) feet. One foot contours are provided.
11. Minimum horizontal curvature for roadways is 125 ft. Horizontal curves are at min. 125'.
12. Cross section should match the applicable detail in the ESS for the zoning. Typical cross section is corrected.
13. Aquatic buffer shall be located in open space. A 30' buffer from top of back is shown on the plan.

14. Reverse curves shall be separated by a minimum tangent length of fifty (50) feet. Horizontal curves are min. 50’ apart.
15. Lots adjacent to a river, stream, waterbody, aquatic buffer, or large drainage channel that do not have a base flood elevation established shall at minimum be elevated two (2.0) feet above the nearest top of bank for the entire building footprint of any primary and accessory structure. Proposed grading concurs with the requirement.
16. This item will return to Development Review Committee. Understood.

Building

17. No comments.

Police

18. No comments provided.

City Attorney

19. No comments provided.

Columbia Power

20. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. Information will be provided to Columbia Power System.

Maury County E911

21. Normandy Drive and Golden PL connection Maury County 911 have no comment to add.

Atmos Energy

22. Gas Available on TN Hwy 50. Contact Bradie Armstrong 615-485-6377.

Maury County Schools

23. Baker Elementary School, Whittorne Middle School, Central High School. 1) No residence is guaranteed zone to a specific school. 2) All zones are subject to change yearly. 3) No concerns with neighborhood design.

Wastewater

24. Columbia Wastewater does not allow grinder pump systems.

Public Works

25. No comment.

Duck River Electric Membership Corp

26. No comments provided.

Columbia Water

27. "The project is within Columbia Power and Water's service area, however a water availability letter had not been issued at the time of the writing. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. CPWS will study the existing infrastructure and determine its ability to serve the proposed development. Should adequate facilities not currently exist the study will determine any required off-site improvements necessary to serve your development. Off-site improvements needed to serve a development are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements." Received water availability letter 3/3/2023.

Maury County Highway Department (Collier Engineering Company, Inc.)

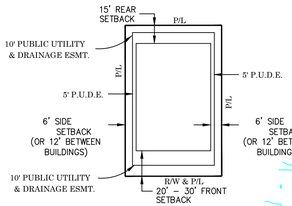
28. No comment.

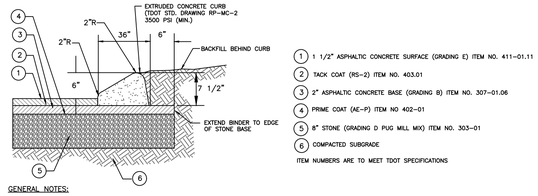
NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

GENERAL NOTES

1.) THE PURPOSE OF THIS PLAT IS TO CREATE AN 18 LOT SUBDIVISION.
2.) ALL DISTANCES SHOWN HEREON ARE BASED UPON A FIELD-TO-RUN SURVEY USING E.D.M. EQUIPMENT AND OR ALL GPS, AND ARE ADJUSTED FOR TEMPERATURE.
3.) UTILITIES, IF SHOWN WERE TAKEN FROM VISIBLE STRUCTURES AT THE SITE, VERIFICATION OF THEIR EXISTENCE, LOCATION, SIZE, AND DEPTH SHOULD BE MADE BEFORE MAKING DECISIONS REGARDING THEM. AVAILABILITY OF SERVICE SHOULD BE CONFIRMED WITH APPROPRIATE LOCAL UTILITY COMPANY. TENNESSEE ONE CALL (811) SHOULD BE CALLED BEFORE ANY CONSTRUCTION OR DIGGING.
4.) THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT. IT IS THEREFORE SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE REPORT.
5.) THIS PROPERTY IS SUBJECT TO BOTH RECORDED EASEMENTS, AND TO THOSE UNKNOWN TO THIS SURVEYOR.
6.) THE SUBJECT PROPERTY LIES IN A ZONE "X" (AREAS OUTSIDE OF THE 100 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAP 47119C0285E DATED 04-16-2007.
7.) PROPERTY ZONED CD-4
SETBACKS ARE FRONT=6'/20'; SIDE =6' TOTAL; REAR=15'
8.) THERE IS A 10' P.U.D.E. ON ALL PROPERTY LINES PARALLEL AND ABUTTING PUBLIC ROADS AND 5' P.U.D.E. ALONG ALL INTERIOR LOT LINES.
9.) POWER & WATER SERVED BY CPWS COLUMBIA POWER & WATER SYSTEMS.
10.) SEWER IS SERVED BY COLUMBIA WASTEWATER DEPARTMENT.
11.) NO DRIVEWAY ACCESS OFF WILLIAMSPORT PIKE.
12.) ALL STORM WATER RUNOFF WILL FLOW AWAY FROM THE ROAD AND TOWARD THE STREAM. FOR CALCULATIONS SEE C3.0 STORM WATER PLAN ENGINEERING PLAN.
13.) ALL FIRST FLOOR ELEVATIONS AND MECHANICAL SYSTEMS TO BE ABOVE 622'
ELEVATION DUE TO POSSIBLE FLOODING.
14.) TOPOGRAPHY DATUM BASED ON NAVD 1988 TAKEN FROM TENNESSEE LIDAR MAPPING AND FIELD CHECKED.

TYPICAL LAYOUT (LOTS 146-180)





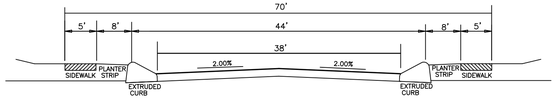
ITEM NUMBERS ARE TO MEET TDOT SPECIFICATIONS

GENERAL NOTES:

1. EXPANSION JOINTS TO BE SPACED A MAXIMUM OF 100 FEET APART AND ALIGN WITH RAMPS, INLETS AND OTHER REQUIRED TARGET POINTS.
2. CONTRACTION/CONSTRUCTION JOINTS ARE REQUIRED AND ARE TO BE CUT INTO CURB EVERY 10 FEET.
3. DETAILS SHALL MEET THE STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN GUIDELINES.
4. THE EXTRUDED 6" MOUNTABLE CONCRETE CURB IS TO BE USED ONLY IN SPECIAL CONDITIONAL SUCH AS LOW SPEED VOLUME LOCAL STREETS AND WHEN TRYING TO SIMILAR CURBS ON SUBDIVISION STREETS OR IN PARKING LOTS.
5. WHERE CONCRETE MEDIAN PAVEMENT IS POURED BEHIND EXTRUDED 6" MOUNTABLE CONCRETE CURB, IT MAY BE POURED MONOLITHICALLY WITH THE CURB.

TYPICAL STREET SECTION

NOT TO SCALE



UTILITY OWNERS

ELECTRIC
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

WATER
OWNER: COLUMBIA POWER & WATER
ADDRESS: 201 PICKENS LANE
ADDRESS:COLUMBIA, TN 38401
PHONE # (931) 388-4833

SEWER
OWNER: COLUMBIA WASTEWATER SYSTEM
ADDRESS: 1244 TREATMENT PLANT ROAD
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

GAS
OWNER:ATMOS ENERGY CORP
ADDRESS: 810 NASHVILLE HWY
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-9136

TELEPHONE
OWNER: CPWS
ADDRESS:201 PICKENS LANE
ADDRESS: COLUMBIA, TN 38401
PHONE # (931) 388-4833

811
IF YOU DIG TENNESSEE...
CALL US FIRST!
811
TENNESSEE ONE CALL
IT'S THE LAW

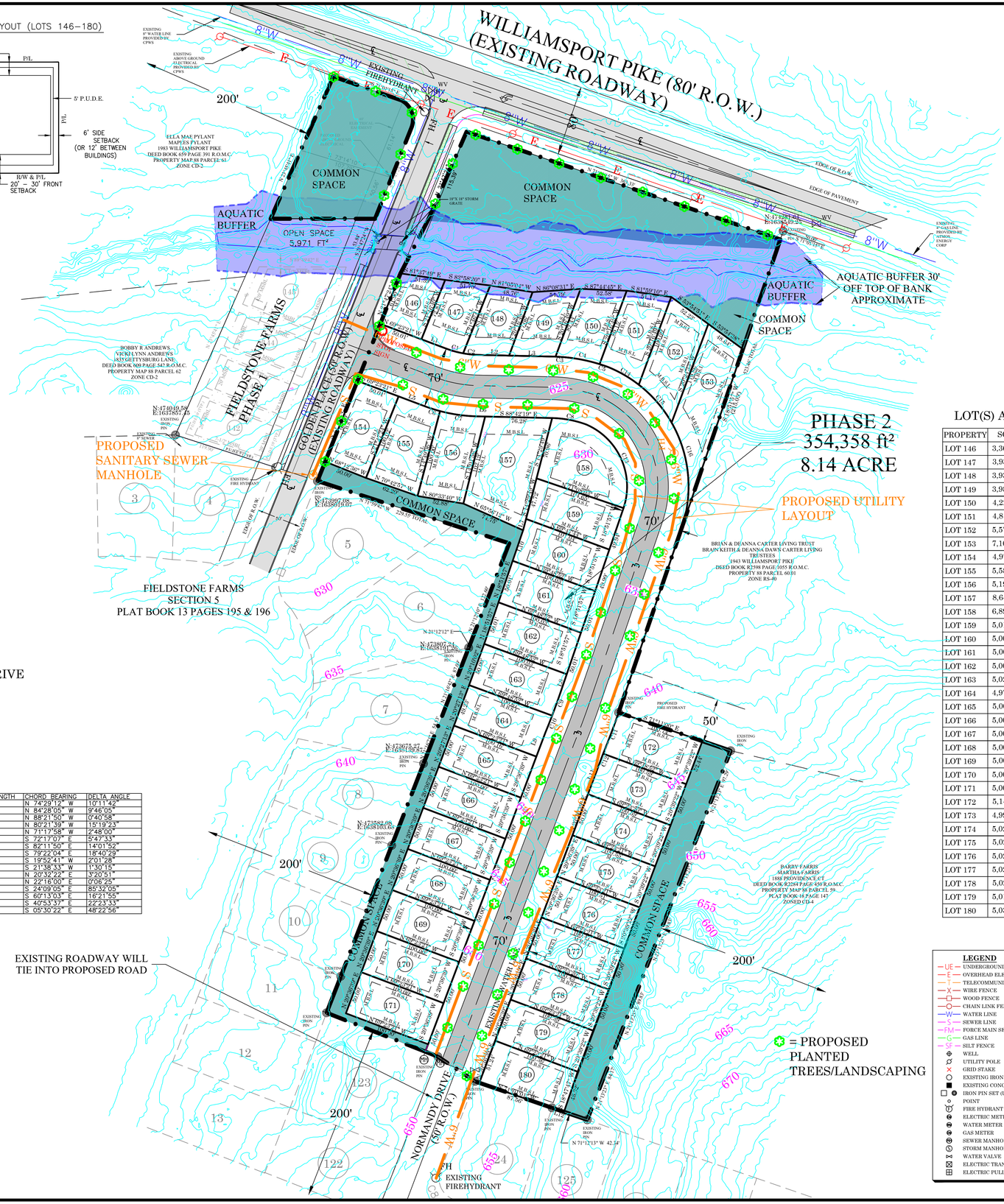
PROPOSED NORMANDY DRIVE
R.O.W TABLES

LINE	BEARING	DISTANCE
L1	N 69°23'21" W	30.22'
L2	N 88°42'19" W	33.35'
L3	N 88°42'19" W	50.60'
L4	N 69°23'21" W	40.68'
L5	S 69°23'21" E	31.66'
L6	N 88°42'19" W	7.32'
L7	S 14°29'49" W	13.31'
L8	S 18°51'57" E	22.24'
L9	S 20°36'39" W	29.35'
L10	N 18°51'57" E	36.77'
L11	N 20°36'39" E	47.65'
L12	N 71°12'13" W	14.36'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	112.03'	19.93'	19.91'	N 74°29'12" W	10°11'42"
C2	112.03'	19.10'	19.08'	N 84°28'05" W	9°46'05"
C3	190.80'	2.27'	2.27'	N 88°21'50" W	0°40'58"
C4	190.80'	51.03'	50.87'	N 80°21'39" W	15°19'23"
C5	190.80'	9.32'	9.32'	N 71°17'58" W	2°48'00"
C6	182.03'	18.40'	18.40'	S 72°17'07" E	5°47'33"
C7	182.03'	44.58'	44.47'	S 82°11'50" E	14°01'52"
C8	120.80'	39.37'	39.20'	S 79°22'04" E	18°40'29"
C9	785.97'	27.77'	27.77'	S 19°52'41" W	2°01'28"
C10	785.97'	20.63'	20.63'	S 21°38'33" W	1°30'15"
C11	855.97'	50.01'	50.00'	N 20°32'22" E	3°20'51"
C12	855.97'	1.60'	1.60'	N 22°16'00" E	0°06'25"
C13	75.91'	114.82'	104.45'	S 24°09'05" E	85°32'05"
C14	144.90'	41.39'	41.25'	S 60°13'03" E	16°21'55"
C15	146.91'	57.42'	57.05'	S 40°53'37" E	22°23'53"
C16	146.91'	124.06'	120.41'	S 05°30'22" E	48°22'56"

FIELDSTONE FARMS PHASE II
AREA TO BE DEVELOPED:

	AREA IN Sq. Ft.
COMBINED LOT AREA:	176,182 Sq. Ft. 4.04 Acres
AQUATIC BUFFER AREA:	31,363 Sq. Ft. 0.72 Acres
COMMON SPACE AREA (19.7% OF DEVELOPMENT):	69,858 Sq. Ft. 1.60 Acres
R.O.W AREA:	77,055 Sq. Ft. 1.77 Acres
TOTAL AREA TO BE DEVELOPED:	354,358 Sq. Ft. 8.135 Acres



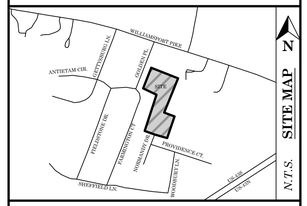
LOT(S) AREA

PROPERTY	SQ FT
LOT 146	3,367 ft²
LOT 147	3,932 ft²
LOT 148	3,931 ft²
LOT 149	3,982 ft²
LOT 150	4,227 ft²
LOT 151	4,815 ft²
LOT 152	5,570 ft²
LOT 153	7,105 ft²
LOT 154	4,975 ft²
LOT 155	5,583 ft²
LOT 156	5,196 ft²
LOT 157	8,648 ft²
LOT 158	6,892 ft²
LOT 159	5,011 ft²
LOT 160	5,006 ft²
LOT 161	5,001 ft²
LOT 162	5,001 ft²
LOT 163	5,025 ft²
LOT 164	4,976 ft²
LOT 165	5,004 ft²
LOT 166	5,000 ft²
LOT 167	5,000 ft²
LOT 168	5,000 ft²
LOT 169	5,000 ft²
LOT 170	5,000 ft²
LOT 171	5,000 ft²
LOT 172	5,143 ft²
LOT 173	4,992 ft²
LOT 174	5,028 ft²
LOT 175	5,026 ft²
LOT 176	5,024 ft²
LOT 177	5,022 ft²
LOT 178	5,020 ft²
LOT 179	5,018 ft²
LOT 180	5,036 ft²

LEGEND
- UE — UNDERGROUND ELECTRIC LINE
- E — OVERHEAD ELECTRIC LINE
- T — TELECOMMUNICATION LINE
- X — WIRE FENCE
- WOOD FENCE
- CHAIN LINK FENCE
- W — WATER LINE
- S — SEWER LINE
- FM — FORCE MAIN SEWER
- G — GAS LINE
- SF — SILT FENCE
- WELL
- UTILITY POLE
- GRID STAKE
- EXISTING IRON PIN (UNLESS NOTED)
- EXISTING CONCRETE MONUMENT
- IRON PIN SET (UNLESS NOTED)
- POINT
- FIRE HYDRANT
- ELECTRIC METER
- WATER METER
- GAS METER
- SEWER MANHOLE
- STORM MANHOLE
- WATER VALVE
- ELECTRIC TRANSFORMER BOX
- ELECTRIC PULL BOX

CHAPDELAINE & ASSOCIATES
LAND SURVEYING

7376 WALKER ROAD,
FAIRVIEW, TENNESSEE 37062
(615) 799-8104
chapsurveyors@msn.com
Randolph L. Chapdelaine
TN R.L.S. #1444



RANDOLPH L. CHAPDELAINE, TENNESSEE REGISTERED LAND SURVEYOR, AGRICULTURE, COMMERCE, TENNESSEE NO. 1444

CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THIS IS A CATEGORY IV SURVEY AND THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION, THIS SURVEY WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE, AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

a. REAL TIME KINEMATIC & BASE SOKKIA GRX 3
b. POSITIONAL ACCURACY: 0.05 FEET
c. DATE OF SURVEY: 02/01/2021
d. DATUM / EPOCH: NAD83 (2011) EPOCH
e. PUBLISHED / FIXED CONTROL: TDOT CORS NETWORK
f. GEOID MODEL: GEOID 12B
g. COMBINED GRID FACTOR: 0.99992837

RANDOLPH L. CHAPDELAINE, R.L.S. # 1444 DATE

HABITAT FOR HUMANITY
WILLIAMSON-MAURY
WILLIAMSPORT PIKE
DEED BOOK R-2495 *PAGE* 1181
R.O.M.C.
9th *CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE*
PROPERTY MAP 88 PARCEL 70.01
ZONE CD-4
TOTAL ACRES 8.14
TOTAL AREA BEING DEVELOPED: 8.14 ACRES
CITY OF COLUMBIA

REVISION #	DATE

DATE: JANUARY 17, 2023
DRAWN BY: NAB
JOB #: 6171
SCALE: 1" = 60'

0 60 120

V-1.1

P.U.D PRELIMINARY PLAT-MAJOR SUBDIVISION FOR FIELDSTONE SECTION 5 PHASE 2

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	088		070.01
	TAX MAP:	GROUP:	PARCEL:
SUMMARY OF NATURE OF REQUEST AND WORK	35 Lot subdivision		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ☒ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ❑ Project Name (include Sections & Phases) Fieldstone Farms Section 5 Phase 2 ❑ Total Number of Lots 35 Lots ❑ Total acreage 8.14 acres

RECEIVED
JAN 17 2023
By: 23-0018

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Chapdelaine & Associates Land Surveying	PHONE	931-799-8104
ADDRESS	7376 Walker Rd Fairview, TN	EMAIL	Chapsurveyors@msn.com

PROPERTY OWNER NAME	Jennee Galland	PHONE	615-550-5617
ADDRESS	109 Noah Drive Franklin, TN	EMAIL	jgalland@hfnwm.org

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

~~Ran~~ Randolph L. Chapdelaine — Randolph L. Chapdelaine

~~Jennee Galland~~ — 1/17/23

APPLICANT NAME — APPLICANT SIGNATURE — DATE

Jennee Galland — Jennee Galland — 1/17/23

PROPERTY OWNER NAME — PROPERTY OWNER SIGNATURE — DATE

STAFF USE ONLY

DOCKET NO.	23.0018	FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Receipt Date: 1/18/2023

City Of Columbia

700 North Garden Street
Columbia, TN 38401
(931) 560-1500
Receipt Number: 10088980

Miscellaneous Receipt

Name: CHAPDELAINE & ASSOCIATES

Code: 206-ZONING PERMITS AND FEES
Amt: $700.00
MR #: 10070768

Description: PRELIMINARY PLAT- 35
Reference: FIELDSTONE FARMS SECTION 5 PHASE 2
Notes:

GL Account	Description	Amount
110-32660-	Zoning Permits & Fees	700.00

Payment Information

Check 1986 $700.00 Paid By: CHAPDELAINE & ASSOCIATES

Amount Tendered: $700.00
Total Paid: $700.00
Change: $0.00

☐ Voided

Batch: LS - 1/18/2023

Collecting Official, City Of Columbia

1/18/2023 7:40 Page 1 of 1

RECEIVED
JAN 17 2023
By: 23-0018

Receipt Date: 1/18/2023

City Of Columbia

700 North Garden Street
Columbia, TN 38401
(931) 560-1500
Receipt Number: 10088980

Miscellaneous Receipt

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Payment Information

Check 1986 $700.00 Paid By: CHAPDELAINE & ASSOCIATES

Amount Tendered:	$700.00
Total Paid:	$700.00
Change:	$0.00

☐ Voided

Batch: LS - 1/18/2023

Collecting Official, City Of Columbia

1/18/2023 7:40 Page 1 of 1

DEVELOPMENT SERVICES
PLANNING DIVISION - FEES RECORD

#206

		MEETING DATE
_____BOARD OF ZONING APPLICATION	$200.00	_____
_____PLATS		
____ MINOR	$125.00	
____SKETCH	$100.00	
✓ ____ PRELIMINARY 35	$20/lot	_____
____ FINAL	$15/lot	_____
_____ANNEXATION FEES	$300.00	_____
_____REZONING FEES	$300.00/$500.00	_____
SUBDIVISIONS AND PLANS		
____SITE PLAN		
_____PUD MASTER PLAN		_____
____ RESIDENTIAL		
____COMMERCIAL/INDUSTRIAL		_____
AMENDMENTS		_____
____COMP PLAN TEXT GUIDELINE		_____
____ ACCESS MGMT EXCEPTION		_____
____ OTHER		_____
#575		_____
_____ MOBILE VENDING	$50	
TOTAL $ 700.00		_____

Chapdelaine & Associates
Fieldstone Farm Section 5 Phase 2
CK 1986

RECEIVED
JAN 17 2023
23-0018

PRELIMINARY CONCEPT PLAN

REZONING REQUEST OF THE
LARRY OWENS PROPERTY
9TH CIVIL DISTRICT OF MAURY COUNTY
TAX MAP 99, PARCEL 59.04
DEED BOOK R2857, PAGE 60
PLAT BOOK P23, PAGE 12 (TRACT-2)
R.O.M.C.

NOTES:
1. THE PURPOSE OF THIS PLAT IS TO ILLUSTRATE THE SUBDIVISION OF DEED BOOK 409, PAGE 182 INTO TWO TRACTS AND REQUEST REZONING FROM CD-3L TO CD-4

2. I, TRACY SEIBER, HEREBY CERTIFY THAT THIS MAP WAS DRAWN FROM AN CAT IV GPS SURVEY AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:
   A. TYPE OF SURVEY: RTK
   B. POSITIONAL ACCURACY: 0.05'
   C. PUBLISHED/FIXED CONTROL: TDOT CORS NETWORK
   D. GEOID MODEL: GEOID 12B
   E. DATUM/EPOCH: NAD83(2011)
   F. GPS: CARLSON BRX7 (BASE/ROVER)
   G. DISTANCES: GRID

3. SUBJECT PARCELS ARE NOT WITHIN A FLOOD ZONE ACCORDING TO FIRM MAP 47119C0285E DATED 4/16/2007.

4. PROPERTY IS CURRENTLY ZONED CD-3L CITY OF COLUMBIA ZONING ORDINANCE.
BUILDING SETBACKS:
FRONT 30'
REAR 30'
SIDE 12'
REQUESTING CD-4
FRONT 6' MIN/20' MAX
REAR 3'
SIDE 6'

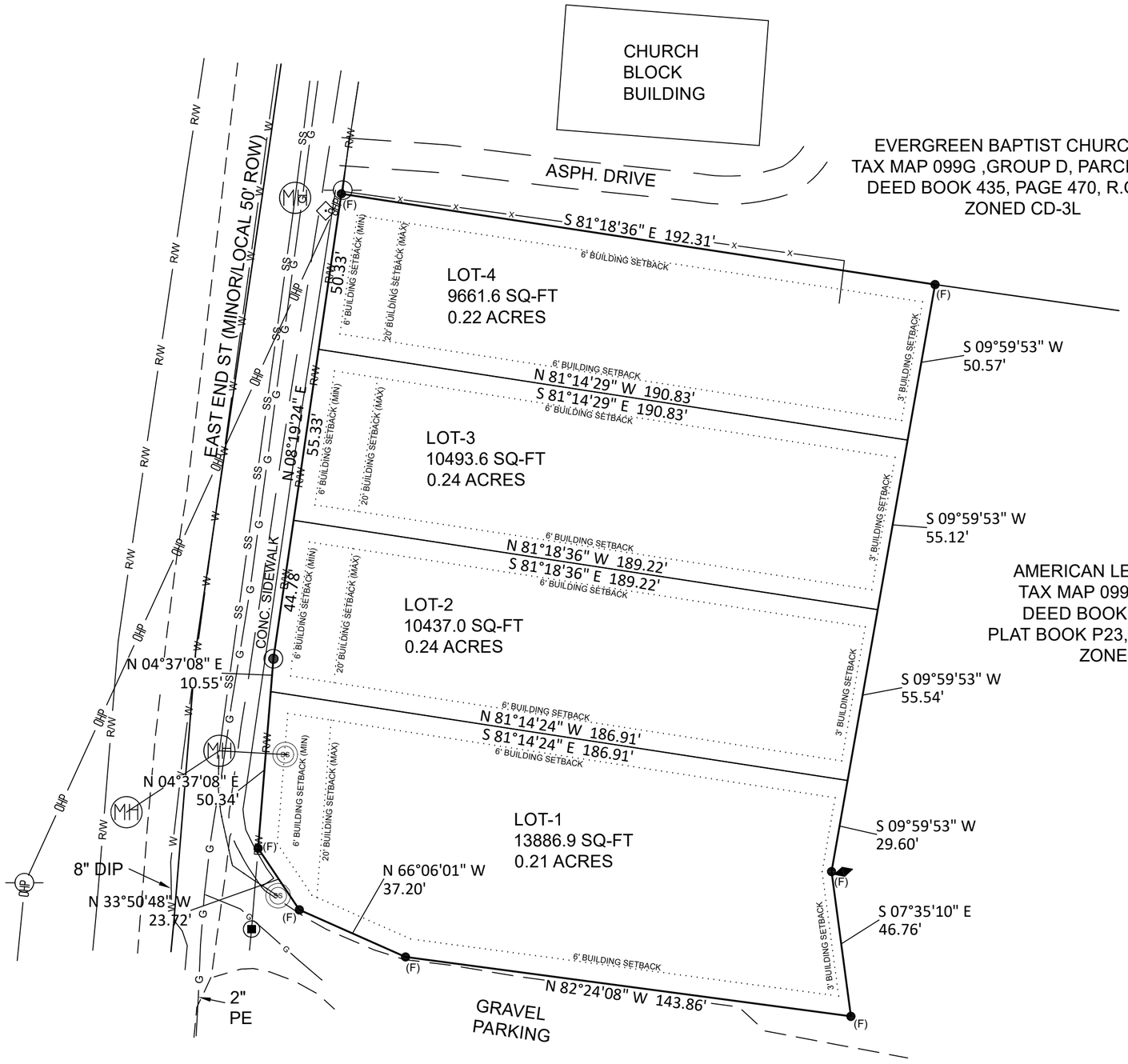
5. THIS PROPERTY IS SUBJECT TO ANY AND ALL RIGHT-OF-WAYS, EASEMENTS, EXCEPTIONS, AND/OR RESTRICTIONS, RECORDED AND UNRECORDED, WHICH MAY AFFECT THIS PROPERTY.

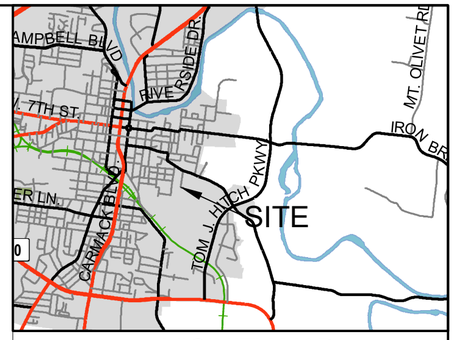
6. PROPERTY ADDRESS:
1205 E. END ST
COLUMBIA, TN 38401

7. ALL UNDERGROUND UTILITIES ARE NOT VERIFIED BY UTILITY OWNERS AND BASED ONLY ON FIELD EVIDENCE AND SCALED FROM UTILITY OWNER MAPS. CALL 811 BEFORE ANY EXCAVATION.

8. ELECTRIC & WATER PROVIDED BY
COLUMBIA POWER AND WATER
201 PICKENS LN
COLUMBIA, TN 38401

9. 10' PUDE ON PARALLEL OR ABUTTING STREET AND 5' PUDE ON INTERIOR LOT LINES.





VICINITY MAP
(NOT TO SCALE)

N

TN-NAD83

LEGEND

- GAS METER
- SEWER METER
- SEWER MANHOLE
- (F) IRON PIN FOUND
- (S) IRON PIN SET
- WATER METER
- RAIL ROAD SPIKE
- UTILITY POLE
- ANT. ANCHOR
- SS — SANITARY SEWER
- OHP — OVERHEAD POWER
- G — GAS LINE
- W — WATER LINE
- R/W — RIGHT OF WAY
- ZONING SETBACK
- X — FENCE
- EASEMENT

TRACY K. SEIBER
REGISTERED LAND SURVEYOR
TENNESSEE NO. 2397

CERTIFICATE OF SURVEY ACCURACY

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a Class"C" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1: 10,000.

7/10/2023
Date

TRACY SEIBER, RLS #2397

0 30 60 90

TRACY SEIBER

102 AVALON DRIVE
COLUMBIA, TN 38401
SEIBERSURVEYING@GMAIL.COM (931)446-6677

DRAWING BY: T. SEIBER	DATE: 6/28/2023
SCALE:1"=30'	JOB NO.:57-2022
R4	

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	1205 E. End, Columbia TN 38401		
	TAX MAP: 099	GROUP:	PARCEL: 59.04
SUMMARY OF NATURE OF REQUEST AND WORK	Urban neighborhood to General urban character District (CD-4)		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☑ Rezoning ☐ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☐ Project Name (include Sections & Phases) _____ ☐ Total Number of Lots _____ ☐ Total acreage _____

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Larry Owens	PHONE	615-924-5337
ADDRESS	2458 Steve Dr. Columbia	EMAIL	g2gpropertiesllc@mail.com

PROPERTY OWNER NAME	Generation 2 Generation LLC	PHONE	615-924-5337
ADDRESS	2458 Steve Dr. Columbia	EMAIL	g2gpropertiesllc@mail.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Larry Owens	Larry Owens	6/29/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE

Generation 2 Generation LLC	Larry Owens	6/29/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

CITY OF COLUMBIA TENNESSEE
PLANNING COMMISSION
STAFF REPORT

STAFF REPORT CONTACT INFORMATION
Kevin McCarthy, AICP, City Planner kmccarthy@columbiatn.com, 931-560-1560

APPLICATION NUMBER
23-0104

APPLICANT/PROPERTY OWNER
Larry Owens/ Generation 2 Generation LLC

PUBLIC HEARING DATE
N/A

PROPERTY ADDRESS/LOCATION
1205 E End/ Tax Map 99 Parcel 59.04

SUMMARY OF REQUEST: **Comprehensive Plan Amendment & Zoning Map Amendment (CD-3L to CD-3)**

The applicant requests to rezone a 1.02-acre parcel located on the east side of East End Street from CD-3L (Neighborhood-Large Lot) to CD-3 (Neighborhood Character District). Both the current and requested zoning designations are primarily residential in character. The Zoning Ordinance permits two dwelling units per acre in CD-3L and four dwelling units per acre in CD-3. In support of the requested rezoning, the applicant provided a concept plan which depicts the division of the property into three single family lots.

The requested CD-3 zoning is not consistent with the Future Land Use classification of Urban Neighborhood. Consequently, the applicant also requests to amend the Future Land Use Map (FLUM) of Connect Columbia, the City's comprehensive plan, from Urban Neighborhood to Suburban Neighborhood.

This report summarizes staff analysis of the FLUM amendment as well as the consistency, conformity, and compatibility of the proposed rezoning.



MAP SOURCE: City GIS

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	SITE IMPROVEMENTS PROPOSED	SIZE OF PROPERTY
CD 3L	Vacant	CD-3L/ CD-3/ Single-Family Homes/ Membership Lodge	Single-Family Homes	±1.02 Acres

CONSISTENCY with the **COMPREHENSIVE PLAN:**	**PROPERTY HISTORY:**
Urban Neighborhood: The future land use of the subject property is Urban Neighborhood. The classification is characterized by residential development and neighborhoods, with intermixed and compatible civic uses. The requested CD-3 zoning designation is not consistent with the Urban Neighborhood future land use classification. The applicant requests to amend the FLUM to designate the property Suburban Neighborhood. The requested CD-3 zoning is consistent with the Suburban Neighborhood future land use classification.	The subject property is currently vacant. Previously existing structures were demolished in 2022. The current owner acquired the property in 2022. This is the first development proposal on record for this property.

CONFORMITY to the ZONING ORDINANCE:

As required by § 8.5.19.F.3 of the Zoning Ordinance, the applicants provided a concept plan (i.e. "Sketch Development Plan") demonstrating that it is possible to develop the property in conformity with the standards applicable to the requested zoning designation. Any development plan/preliminary plat must comply with Zoning Ordinance 4400, adopted on July 14th, 2022. This request for rezoning simply establishes entitlements under the zoning ordinance, not a vested right to develop the site as depicted in the concept plan.

Zoning Ordinance Referenced: Proposed CD-3 Character District (Table 4.3.1-C, p. 66-67)

The Ordinance describes the CD-3 Neighborhood District as a medium density single-family detached residential area in which houses form the predominant building type, although limited use of duplexes is permitted. Homes are separated from the street and each other by minimum setbacks. Thoroughfares form medium-sized blocks, may have curbs, and may include sidewalks and street trees. The district permits a maximum gross density of four dwelling units per acre. CD-3 is an appropriate implementing district for the Suburban Neighborhood future land use classification. It is not an appropriate implementing zone for the subject property's current future land use classification: Urban Neighborhood. The CD-4 General Urban, and CD-5 Urban Center districts implement the Urban Neighborhood future land use classification.

Lot/Building Site Width (Table 4.3.1-C, p. 68)

- Minimum lot width of 65' (40' if alley-loaded garage is provided; 100' for a duplex)
- Frontage buildout not regulated
- No less than 80% of lots must enfront a vehicular thoroughfare or internal drive conforming to the standards of the Ordinance and Subdivision Regulation
- Up to ≤ 20% of the lots may Enfront a pedestrian path, passage, pedestrian walkway if such Lots have legal and physical vehicular access to a vehicular thoroughfare via driveway or Easement

Lot Standards/ Principle Buildings (Table 4.3.1-C, p. 68)

- 25' min front setback
- 8' min side setback

- 25’ min rear setback (measured from the rear property line or centerline of rear alley as applicable)

Staff Comment:

The concept plan depicts three 70’ wide single-family lots enfronting East End Street, yielding a gross density of 2.94 dwelling units per acre. The requested CD-3 zoning is inconsistent with Connect Columbia. The comprehensive plan calls for the future development of the site at higher density with more prescriptive design standards. The CD-3 zoning is consistent with the requested Suburban Neighborhood future land use classification. However, the requested amendment to the FLUM would create an island of Suburban Neighborhood surrounded by Urban Neighborhood. Over time, if the plan is fully implemented, surrounding properties will transition to CD-4 and CD-5 zoning, leaving the subject parcel as an incongruous spot on the zoning map.

If a Preliminary Plat is submitted for Planning Commission review in the future, staff will prepare a detailed analysis of whether it conforms to the standards of the Ordinance. Subsequent proposals to construct homes on the site would be subject to administrative review and approval.

Zoning Map Amendment:

Staff reviewed the request for a zoning map amendment for conformity with the standards listed in the City of Columbia Zoning Ordinance. The relevant provisions of the Ordinance are listed below, followed by staff analysis.

Staff’s review of Section 8.5.19.H.4 in relation to this request finds the following:

a. Whether the Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;

The subject property has a future land use classification of Urban Neighborhood (Connect Columbia Map 4). The proposed change, from a low-density CD-3L neighborhood large lot character district to a medium-density CD-3 neighborhood character district, is inconsistent with the Suburban Corridor future land use classification (Connect Columbia p.24; Zoning Ordinance Table 3.7.1 p.36; Zoning Ordinance Table 4.3.1-C, p. 66).

If the Planning Commission approves the request FLUM amendment to designate the subject site Suburban Neighborhood, the requested CD-3 zoning will be consistent with Connect Columbia.

The property is not located in an Area of Change (Connect Columbia Map 3), meaning that in 2017-2018, the Planning Commission determined that the development pattern was established and changes to overall character of the area should rarely occur. This does not necessarily mean that the proposed change is inconsistent with Connect

Columbia. However, the plan advises a "pause" and careful review to ensure that the context of the area surrounding the subject property is considered (Connect Columbia p. 14).

b. Whether the legal purposes for which zoning exists, as set forth in Section 1.5[, are not contravened];[1]

All future use of the properties will be required to conform to the standards of the Zoning Ordinance. The standards protect and promote the public health, safety, morals, comfort, convenience, and general welfare of the people and community (§ 1.5.1.A p. 6).

The Planning Commission may determine that the proposed rezoning furthers the other purposes of zoning listed at §§ 1.5.1 and 1.5.2 of the Ordinance.

c. Whether there will be any adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;

There are no known adverse effects upon adjacent property owners.

d. Whether any one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;

Rezoning the property will likely provide material benefits to the owner. However, any potential detrimental effects on the general public can be mitigated through the standards in the Zoning Ordinance.

e. Whether conditions affecting the area have changed to a sufficient [extent] to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;[2]

The proposed change to the zoning map will allow the property owner to add units to the local housing inventory. Planning Commission may determine that demand for housing in the City of Columbia has increased to a sufficient extent to warrant an increase in the area of the city zoned for medium-density residential development. It is within the discretion of the Planning Commission to determine that other circumstances have changed to a sufficient extent to warrant an increase in the area zoned for residential development.

[1] Ordinance 4400 contains this incomplete sentence. The previous ordinance contained a nearly identical list of criteria at § 3.18.7.B. The corresponding criterion in Ordinance 3638 reads "the legal purposes for which zoning exists are not contravened."

[2] The word *extent* was unintentionally omitted in the drafting of Ordinance 4400. The word was present in the corresponding criterion in Ordinance 3638.

f. Whether adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available.

Technical comments from public service providers generally indicate that services are in place to support the zoning change.

Comprehensive Plan Amendment /Adoption:

Staff reviewed the requested amendment to the Future Land Use Map under the review standards listed in the City of Columbia Zoning Ordinance. The relevant provisions of the Ordinance are listed below, followed by staff analysis.

Staff's review of Section 8.5.20.F in relation to this request finds the following:

Criteria for Planning Commission Recommendations

The recommendations of the Planning Commission to the City Council shall show that the Planning Commission has studied and considered the proposed Land Use Plan Amendment in relation to the following, where applicable:

1. Whether the proposed change would be consistent with the intent, goals, objectives, policies, guiding principles and programs of all other applicable adopted Land Use Plans;

   The proposed change to the future land use map ***is not consistent with the guiding principles of the adopted land use plan****. Connect Columbia, as adopted in 2018, utilizes the transect model as the guiding principle for organizing land use (Connect Columbia p. 11). The transect model "defines a series or character areas that transition from sparsely populated areas, consisting of farmland, to the dense urban core of a city" (p.10). Accordingly, the future land use element of the plan organizes the City into Character Areas forming a continuum of density and intensity from most rural to most urban. These future land use classifications are implemented through the character districts in the Zoning Ordinance (e.g. CD-3L, CD-3, CD-4). A reduction of intensity on a single parcel near the core of the planning area is inconsistent with this guiding principle. According to the plan, the subject site should remain available for higher intensity development in the future, partly in order to direct growth away from the periphery of the urban growth boundary.*

2. Whether the proposed change would be compatible with the existing land use pattern and designated future land uses;

   The proposed change to the future land use map is consistent with the existing land use

pattern but is inconsistent with the designated future land uses.

3. Whether the proposed change would create substantial adverse impacts in the Adjacent area or the City in general;

   There are no known adverse effects upon adjacent property owners. However, a change to the future land use map could have adverse impacts on the future development of the City in general. Maintaining the Urban Neighborhood classification inside the core of the planning area reserves land for future growth and relieves pressure on annexations and leap-from development.

4. Whether conditions affecting the area have changed to a sufficient extent to warrant the proposed change; and

   The proposed change to the future land use map will reduce the potential future development of the property. The current Urban Neighborhood future land use classification is implemented by the CD-4 and CD-5 zoning districts. Reducing the intensity of future development to Suburban Neighborhood, implemented by CD-3L and CD-3, would effectively reduce the total potential future housing inventory by one unit, and/or eliminate the possibility of developing the site for non-residential uses. Planning Commission may determine that conditions have changed to a sufficient extent that the proposed reduction in the intensity of future development is warranted.

5. Whether the subject parcel is of adequate shape and size to accommodate the proposed change.

   The subject site is just over one acre in size. The property can accommodate development at similar intensities under both the Urban Neighborhood and the Suburban Neighborhood future land use classifications.

G2G PROPERTIES
REAL ESTATE
GENERATION 2 GENERATION LLC.
P.O. BOX 1372 Columbia, TN 38402
g2gpropertiesllc@mail.com

Being a landlord and owning multiple properties, I have daily inquiries from residents in Maury County that are in need of housing. With Maury County growing and new out of state residents moving into the city, there will be a high demand for housing around this area. I feel like building these three properties will help provide housing for those who are searching for it. It will also bring a new look into an area that hasn't seen "new" in a long time. I have been in the business for over 20 years and my ultimate goal is to contribute to the GROWTH of Columbia!

Larry Owens

1205 East End St.
Columbia, TN 38401

RECEIVED
MAY 18 2023
By: 23-0104

Item # II 1.

Case Number: 23-0104

Request from Larry Owens for comprehensive plan amendment from Urban Neighborhood to Suburban Neighborhood to Suburban Neighborhood along with rezoning from CD-3L (Neighborhood Large Lot Character District) to CD-3 (Neighborhood Character District) at 1205 East End Street.

Comment:

In response to Maury County 911 item 2 comment:

Crystal from 911 stated that it is not a problem, one will just have to be 1203, 1205A and 1205B.

Larry Owens



RECEIVED
MAY 18 2023
By: 23-0104

PRELIMINARY CONCEPT PLAN

REZONING REQUEST OF THE
LARRY OWENS PROPERTY
9TH CIVIL DISTRICT OF MAURY COUNTY
TAX MAP 99, PARCEL 59.04
DEED BOOK R2857, PAGE 60
PLAT BOOK P23, PAGE 12 (TRACT-2)
R.O.M.C.

NOTES:
1. THE PURPOSE OF THIS PLAT IS TO ILLUSTRATE THE SUBDIVISION OF DEED BOOK 409, PAGE 182 INTO TWO TRACTS AND REQUEST REZONING FROM CD-3L TO CD-3

2. I, TRACY SEIBER, HEREBY CERTIFY THAT THIS MAP WAS DRAWN FROM AN CAT IV GPS SURVEY AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:
   A. TYPE OF SURVEY: RTK
   B. POSITIONAL ACCURACY: 0.05'
   C. PUBLISHED/FIXED CONTROL: TDOT CORS NETWORK
   D. GEOID MODEL: GEOID 12B
   E. DATUM/EPOCH: NAD83(2011)
   F. GPS: CARLSON BRX7 (BASE/ROVER)
   G. DISTANCES: GRID

3. SUBJECT PARCELS ARE NOT WITHIN A FLOOD ZONE ACCORDING TO FIRM MAP 47119C0285E DATED 4/16/2007.

4. PROPERTY IS CURRENTLY ZONED CD-3L CITY OF COLUMBIA ZONING ORDINANCE.
BUILDING SETBACKS:
FRONT 30'
REAR 30'
SIDE 12'
REQUESTING CD-3
FRONT 25'
REAR 25'
SIDE 8'

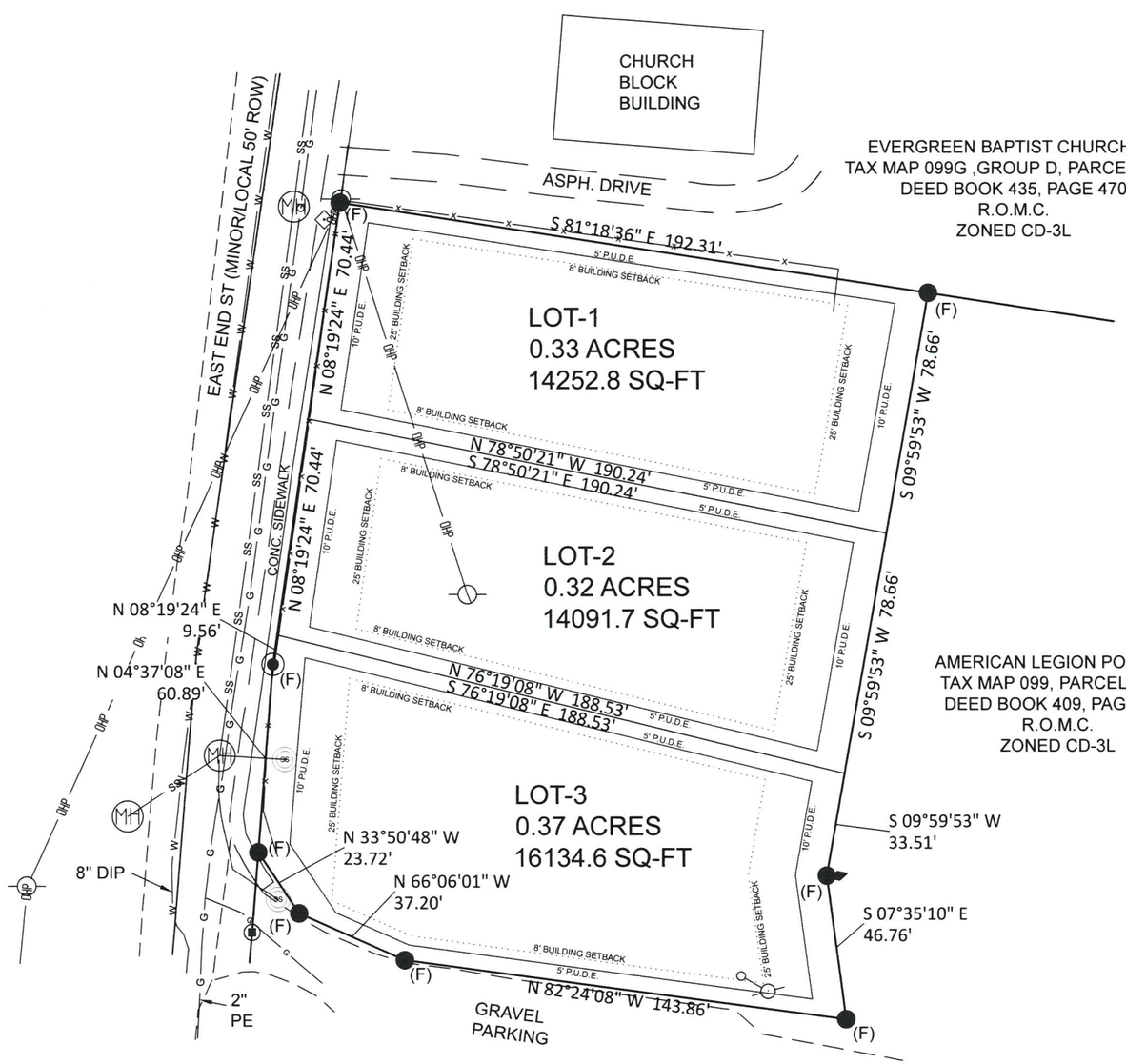
5. THIS PROPERTY IS SUBJECT TO ANY AND ALL RIGHT-OF-WAYS, EASEMENTS, EXCEPTIONS, AND/OR RESTRICTIONS, RECORDED AND UNRECORDED, WHICH MAY AFFECT THIS PROPERTY.

6. PROPERTY ADDRESS:
1205 E. END ST
COLUMBIA, TN 38401

7. ALL UNDERGROUND UTILITIES ARE NOT VERIFIED BY UTILITY OWNERS AND BASED ONLY ON FIELD EVIDENCE AND SCALED FROM UTILITY OWNER MAPS. CALL 811 BEFORE ANY EXCAVATION.

8. ELECTRIC & WATER PROVIDED BY
COLUMBIA POWER AND WATER
201 PICKENS LN
COLUMBIA, TN 38401

9. 10' PUDE ON PARALLEL OR ABUTTING STREET AND 5' PUDE ON INTERIOR LOT LINES.





VICINITY MAP
(NOT TO SCALE)

N

TN-NAD83

LEGEND

- GAS METER
- SEWER METER
- SEWER MANHOLE
- IRON PIN FOUND
- IRON PIN SET
- WATER METER
- RAIL ROAD SPIKE
- LIGHT POLE
- UTILITY POLE
- ANT. ANCHOR
- ANT. SUPPORT
- SANITARY SEWER
- OVERHEAD POWER
- GAS LINE
- WATER LINE
- RIGHT OF WAY
- ZONING SETBACK
- FENCE
- EASEMENT

0 30 60 90

TRACY K SEIBER
REGISTERED LAND SURVEYOR
STATE OF TENNESSEE
AGRICULTURE COMMERCE
TENNESSEE NO. 2397

CERTIFICATE OF SURVEY ACCURACY

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a Class"C" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1: 10,000.

5/17/2023
Date

TRACY SEIBER, RLS #2397

TRACY SEIBER
102 AVALON DRIVE
COLUMBIA, TN 38401
SEIBERSURVEYING@GMAIL.COM (931)446-6677

DRAWING BY: T. SEIBER	DATE: 1/25/2023
SCALE:1"=30'	JOB NO.:57-2022
R1	

RECEIVED
MAY 18 2023
By: 23-0104

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0104

DESCRIPTION: Request Comp Plan , Rezoning to CD-3

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. Please provide a full legal description as a separate document.
2. As a note: The previous zoning classification and setbacks are shown as (R-20) in note field. The concept plan misidentifies the proposed zoning of the property. Please revise.
3. The water availability letter provided with this application will expire on July 15th, before this request reaches second reading at Council in August. Please provide an updated letter at resubmittal.
4. The proposed amendment to the future land use plan reduces the potential intensity of development in the core area of Columbia. The subject property is not contiguous with any other property with a future land use classification of Suburban Neighborhood. At resubmittal, please provide a narrative justification for the change to the city's land use policies. Please specifically respond to the approval criterion: "how the proposed change would be consistent with the intent, goals, objectives, policies, guiding principles" of Connect Columbia (8.5.20.F.1; p. 450 of the Zoning Ordinance).

Fire

5. We will not require the fire hydrant that is on the water letter. They use information that is given to them from our office and we misspoke on this. There is a fire hydrant within less than 400' of the proposed structures. This hydrant can provide coverage.

Engineering

6. No comments on rezoning. To develop as conceptually shown the Preliminary and Final Plat will require Planning Commission approval.

ATT

7. No comment.

Maury County Highway Dept.

8. No comment.

Wastewater

9. There is an 8-inch gravity main in East End Street for connection after all fees are paid and permits applied for. Wastewater approves this request.

Police

10. No comments provided.

City Attorney

11. No comments provided.

Building

12. No comments.

Columbia Power

13. Columbia Power System has an existing power line near your proposed development. We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

14. "A Water Availability Letter was issued March 21, 2023, it expires after 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of

the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Maury County E911

15. 1. East End Street shows on our street list E. End St. 2. Tax Map 099-5904, if it splits into 3 lots, there is not enough unique addresses available. Evergreen church is 1201 E. End Street. & American Legion is 1207 E. End. St.

Public Works

16. No comment.

Maury County Schools

17. No comment.

Atmos Energy

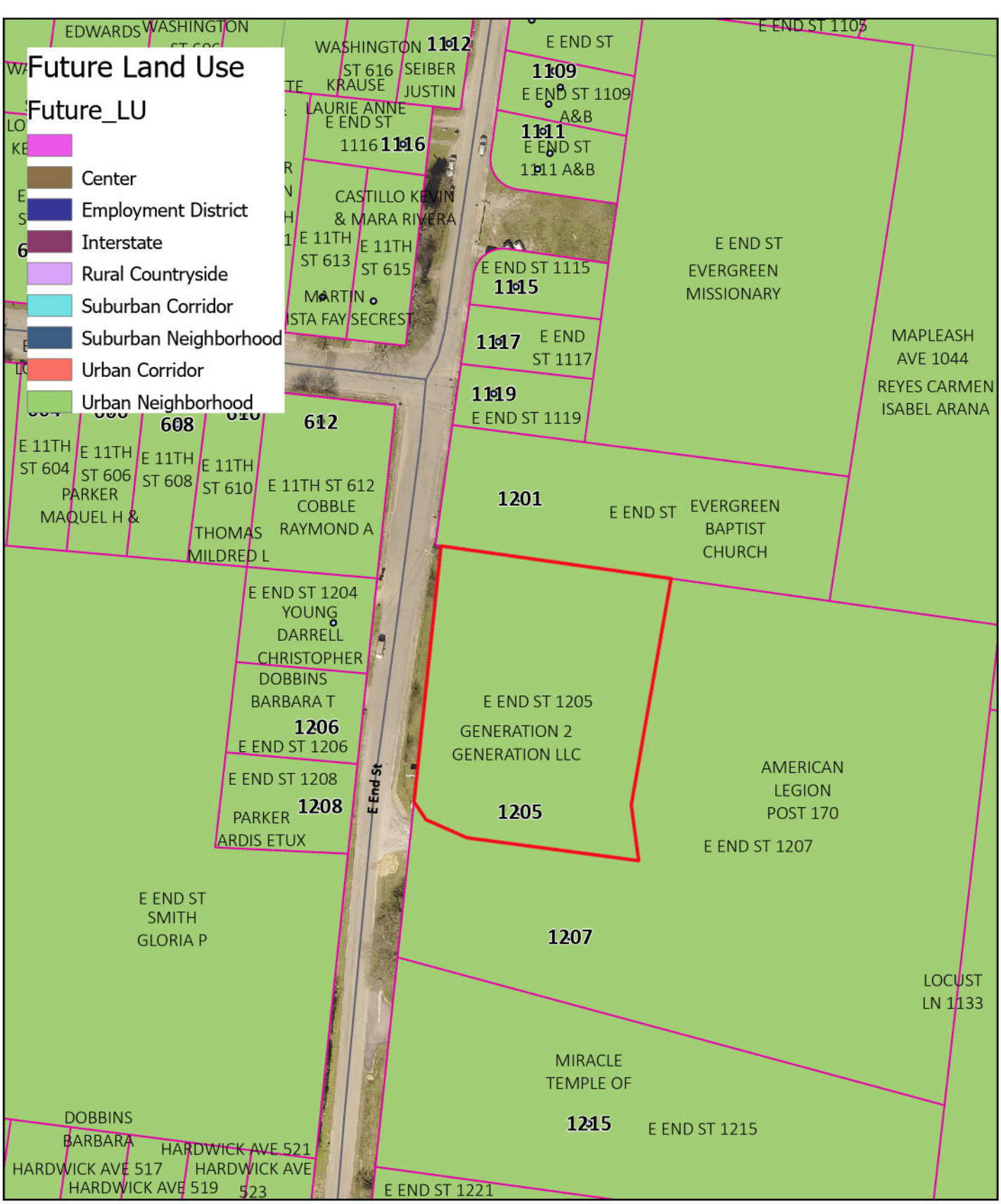
18. No comment provided.

Duck River Electric Membership Corp

19. No comment provided.

ATTACHMENTS: Concept Plan

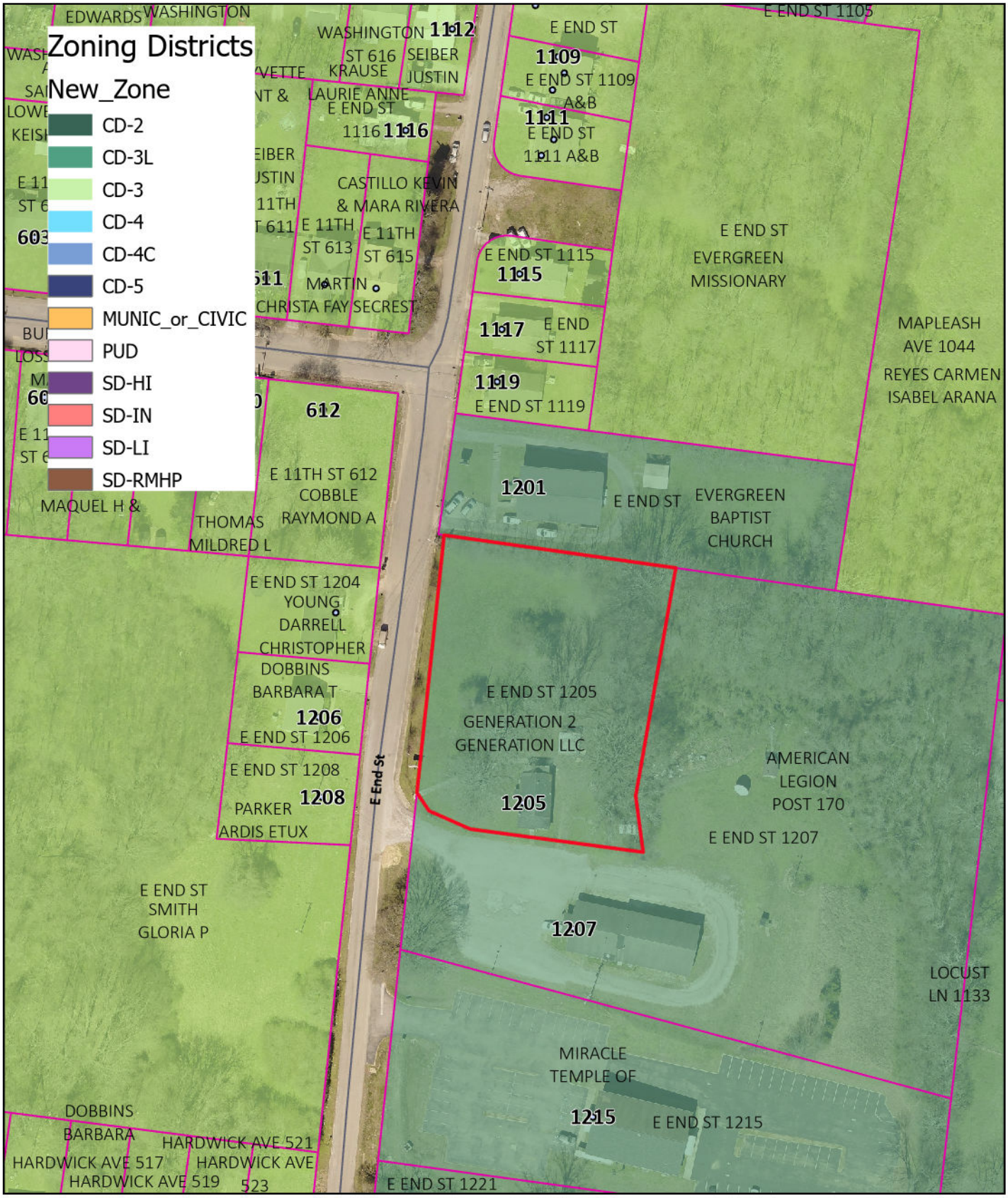
NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.



23-0104
1205 E. End Street

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541



23-0104
1205 E. End Street

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

CPWS

May 19, 2023

Mr. Larry Owens
Generation 2 Generation LLC
Columbia, TN 38401
Sent via email: g2gpropertiesllc@gmail.com

RE: **Water Availability Letter**
Larry Owens Development – 2 New Units
1205 E. End St. Columbia, TN 38401
Tax Map 99, Parcel 059.04
Columbia, Maury County, TN

Dear Mr. Owens:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development is a rezoning and subdivision of an existing lot with a single service to three lots, with two new services requested. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 8-inch water main located on East End Street.

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MAY 18 2023
By: 23-0104

CPWS

- No existing hydrants are located within 250 feet of the entire frontage of the parcel. If required by the Fire Marshall, a single public hydrant may be installed at the edge of right-of-way of East End Street, equidistant from existing system hydrants at Hardwick Avenue and E 11th St. Any additional hydrants required to meet fire protection requirements for the development will be considered private hydrants and must be located on the customer side of a fire protection meter.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $250 + $370 per SFU (2 SFUs)	$990.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: $1,000 per 3/4" meter (2 meters, tap and service by CPWS)	$2,000.00
Impact Fee: $4,500 per 3/4" meter (2 meters)	$9,000.00
Total Meter and Impact Fees Due =	**$11,000.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

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MAY 19 2023
By: 23.0104

CPWS

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,

Eric King

Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-018

RECEIVED
MAY 19 2023
By: .....

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0104

DESCRIPTION: Request Comp Plan , Rezoning to CD-3

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. Please provide a full legal description as a separate document.
2. As a note: The previous zoning classification and setbacks are shown as (R-20) in note field. The concept plan misidentifies the proposed zoning of the property. Please revise.
3. The water availability letter provided with this application will expire on July 15th, before this request reaches second reading at Council in August. Please provide an updated letter at resubmittal.
4. The proposed amendment to the future land use plan reduces the potential intensity of development in the core area of Columbia. The subject property is not contiguous with any other property with a future land use classification of Suburban Neighborhood. At resubmittal, please provide a narrative justification for the change to the city's land use policies. Please specifically respond to the approval criterion: "how the proposed change would be consistent with the intent, goals, objectives, policies, guiding principles" of Connect Columbia (8.5.20.F.1; p. 450 of the Zoning Ordinance).

Fire

5. We will not require the fire hydrant that is on the water letter. They use information that is given to them from our office and we misspoke on this. There is a fire hydrant within less than 400' of the proposed structures. This hydrant can provide coverage.

Engineering

6. No comments on rezoning. To develop as conceptually shown the Preliminary and Final Plat will require Planning Commission approval.

ATT

7. No comment.

Maury County Highway Dept.

8. No comment.

Wastewater

9. There is an 8-inch gravity main in East End Street for connection after all fees are paid and permits applied for. Wastewater approves this request.

Police

10. No comments provided.

City Attorney

11. No comments provided.

Building

12. No comments.

Columbia Power

13. Columbia Power System has an existing power line near your proposed development. We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

14. "A Water Availability Letter was issued March 21, 2023, it expires after 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of

the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Maury County E911

15. 1. East End Street shows on our street list E. End St. 2. Tax Map 099-5904, if it splits into 3 lots, there is not enough unique addresses available. Evergreen church is 1201 E. End Street. & American Legion is 1207 E. End. St.

Public Works

16. No comment.

Maury County Schools

17. No comment.

Atmos Energy

18. No comment provided.

Duck River Electric Membership Corp

19. No comment provided.

ATTACHMENTS: Concept Plan

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

PRELIMINARY CONCEPT PLAN

REZONING REQUEST OF THE
LARRY OWENS PROPERTY
9TH CIVIL DISTRICT OF MAURY COUNTY
TAX MAP 99, PARCEL 59.04
DEED BOOK 409, PAGE 182
PLAT BOOK P23, PAGE 12 (TRACT-2)
R.O.M.C.

NOTES:
1. THE PURPOSE OF THIS PLAT IS TO ILLUSTRATE THE SUBDIVISION OF DEED BOOK 409, PAGE 182 INTO TWO TRACTS AND REQUEST REZONING FROM CD-3L TO CD-3

2. I, TRACY SEIBER, HEREBY CERTIFY THAT THIS MAP WAS DRAWN FROM AN CAT IV GPS SURVEY AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:
   A. TYPE OF SURVEY: RTK
   B. POSITIONAL ACCURACY: 0.05'
   C. PUBLISHED/FIXED CONTROL: TDOT CORS NETWORK
   D. GEOID MODEL: GEOID 12B
   E. DATUM/EPOCH: NAD83(2011)
   F. GPS: CARLSON BRX7 (BASE/ROVER)
   G. DISTANCES: GRID

3. SUBJECT PARCELS ARE NOT WITHIN A FLOOD ZONE ACCORDING TO FIRM MAP 47119C0285E DATED 4/16/2007.

4. PROPERTY IS ZONED R-20 CITY OF COLUMBIA ZONING ORDINANCE.
BUILDING SETBACKS:
FRONT 30'
REAR 30'
SIDE 12' TOTAL EQUALS 30'

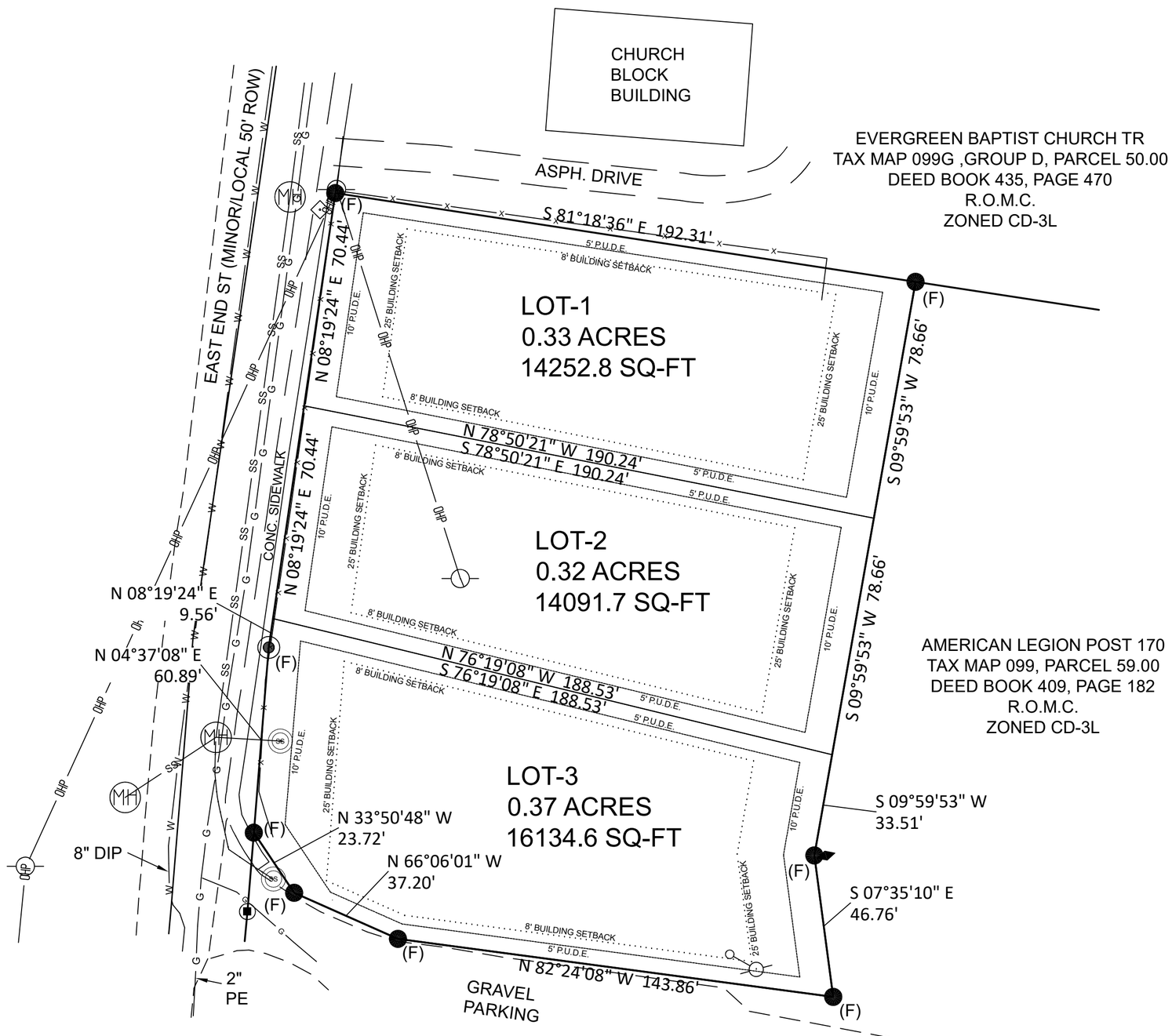
5. THIS PROPERTY IS SUBJECT TO ANY AND ALL RIGHT-OF-WAYS, EASEMENTS, EXCEPTIONS, AND/OR RESTRICTIONS, RECORDED AND UNRECORDED, WHICH MAY AFFECT THIS PROPERTY.

6. PROPERTY ADDRESS:
1205 E. END ST
COLUMBIA, TN 38401

7. ALL UNDERGROUND UTILITIES ARE NOT VERIFIED BY UTILITY OWNERS AND BASED ONLY ON FIELD EVIDENCE AND SCALED FROM UTILITY OWNER MAPS. CALL 811 BEFORE ANY EXCAVATION.

8. ELECTRIC & WATER PROVIDED BY
COLUMBIA POWER AND WATER
201 PICKENS LN
COLUMBIA, TN 38401

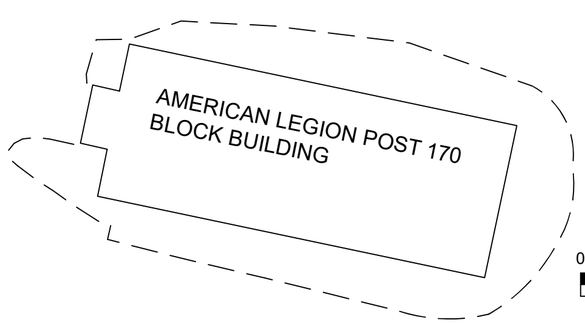
9. 10' PUDE ON PARALLEL OR ABUTTING STREET AND 5' PUDE ON INTERIOR LOT LINES.

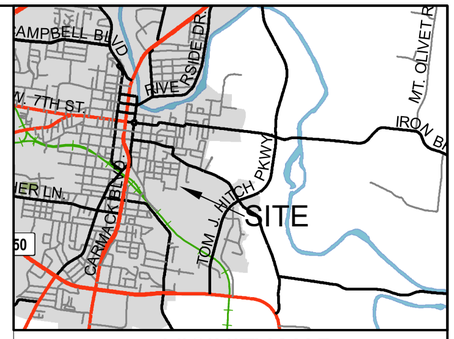


EVERGREEN BAPTIST CHURCH TR
TAX MAP 099G ,GROUP D, PARCEL 50.00
DEED BOOK 435, PAGE 470
R.O.M.C.
ZONED CD-3L

AMERICAN LEGION POST 170
TAX MAP 099, PARCEL 59.00
DEED BOOK 409, PAGE 182
R.O.M.C.
ZONED CD-3L

AMERICAN LEGION POST 170
TAX MAP 099, PARCEL 59.00
DEED BOOK 409, PAGE 182
R.O.M.C.
ZONED CD-3L





VICINITY MAP
(NOT TO SCALE)

N

TN-NAD83

LEGEND

- GM — GAS METER
- SS — SEWER METER
- MH — SEWER MANHOLE
- (F) — IRON PIN FOUND
- (S) — IRON PIN SET
- WATER METER
- RAIL ROAD SPIKE
- LIGHT POLE
- UTILITY POLE
- ANT. ANCHOR
- ANT. SUPPORT
- SS — SANITARY SEWER
- OHP — OVERHEAD POWER
- G — GAS LINE
- W — WATER LINE
- RIGHT OF WAY
- ZONING SETBACK
- X — FENCE
- EASEMENT

0 30 60 90

TRACY K SEIBER
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 2397

CERTIFICATE OF SURVEY ACCURACY

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a Class"C" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1: 10,000.

1/25/2023
Date

TRACY SEIBER, RLS #2397

TRACY SEIBER

102 AVALON DRIVE
COLUMBIA, TN 38401
SEIBERSURVEYING@GMAIL.COM (931)446-6677

DRAWING BY: T. SEIBER	DATE: 1/25/2023
SCALE:1"=30'	JOB NO.:57-2022
R0	

CPWS

March 17, 2023

Mr. Larry Owens
Generation 2 Generation LLC
Columbia, TN 38401
Sent via email: g2gpropertiesllc@gmail.com

RE: Water Availability Letter
Larry Owens Development – 2 New Units
1205 E. End St. Columbia, TN 38401
Tax Map 99, Parcel 059.04
Columbia, Maury County, TN

Dear Mr. Owens:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development is a rezoning and subdivision of an existing lot with a single service to three lots, with two new services requested. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 8-inch water main located on East End Street.

- No existing hydrants are located within 250 feet of the entire frontage of the parcel. A single public hydrant may be installed at the edge of right-of-way of East End Street, equidistant from existing system hydrants at Hardwick Avenue and E 11th St. Any additional hydrants required to meet fire protection requirements for the development will be considered private hydrants and must be located on the customer side of a fire protection meter.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $250 + $370 per SFU (2 SFUs)	$990.00

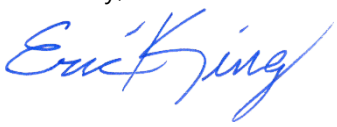
- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: $1,000 per 3/4" meter (2 meters, tap and service by CPWS)	$2,000.00
Impact Fee: $4,500 per 3/4" meter (2 meters)	$9,000.00
Total Meter and Impact Fees Due =	**$11,000.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-018

HYDRANT FLOW ANALYSIS

HYDRANT # & LOCATION: 535 East End @ Hardwick Ave DATE: 3/17/2023

MODEL BY: Inflo Design Group, LLC SYS. DEMAND Max Day DURATION: 1 hrs.

WATER SUPPLIED BY: Columbia Power and Water Systems

PURPOSE OF TEST: 1205 East End St

MODEL DATA

FLOW HYDRANT(S)	535	n/a	n/a
GPM:	**1000**	0	0

TOTAL FLOW DURING SIMULATION: **1000** GPM

GAUGE HYDRANT

HYDRANT # & LOCATION: 513 East End @ East 11th

CONDITION 1

STATIC 76 PSI RESIDUAL: 64 PSI

CONDITION 2

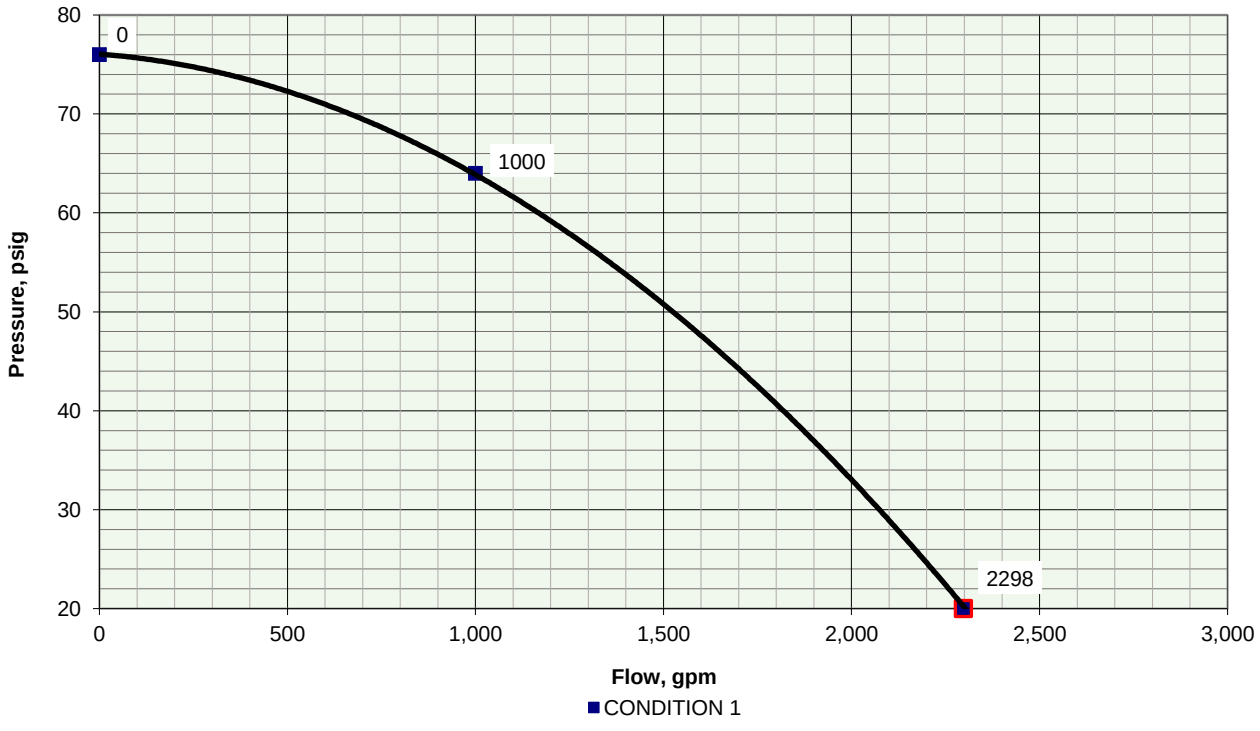
STATIC _____ PSI RESIDUAL: _____ PSI

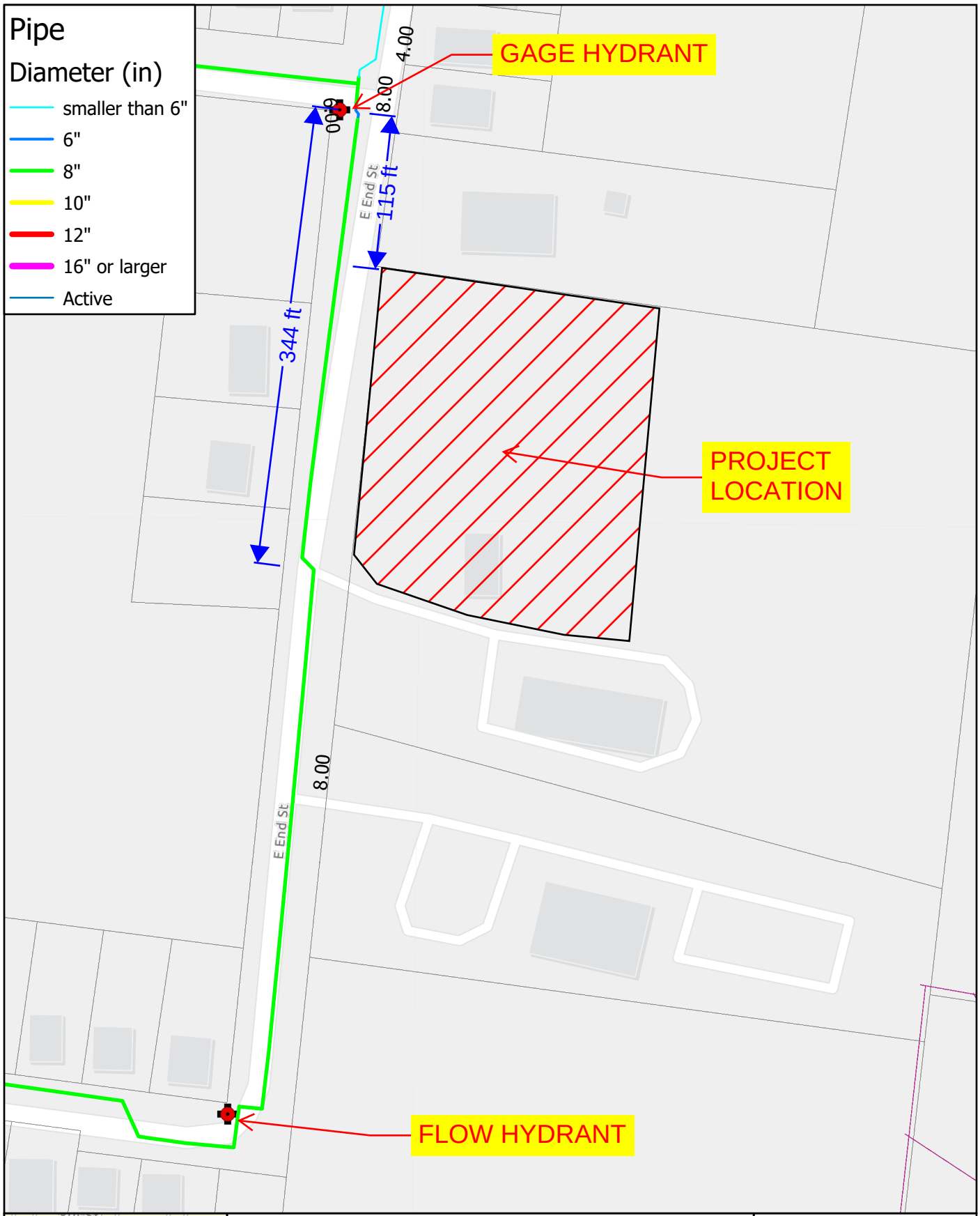
RESULTS: AT 20 PSI RESIDUAL

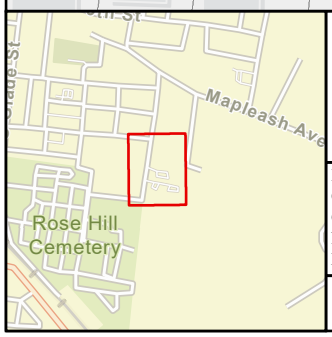
CONDITION 1 **2298** GPM

CONDITION 2 **---** GPM

REMARKS: Performance based on service elevation of 663' and current CPWS water infrastructure and does not account for additional losses associated with development piping.







Hydrant Analysis Location Map

1205 East End Street

Tax Map 99, Parcel 59.04

Esri Community Maps Contributors, Tennessee STS GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

2023

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 0.01 0.02 Mi

Feet

0 62.5 125

Columbia Power and Water Systems
Application for Water Service

This is an application to Columbia Power and Water Systems (CPWS) to evaluate the request for water service for the property set forth in this application, for any parcel of real property requiring new or increased service, or requiring a public water line extension.

This application package consists of this application form, a fire flow requirements letter from the Columbia Fire Marshall, and a digital copy of the site plan of the project (developed in CAD/GIS and submitted in PDF format, no hand-drawn plans will be accepted). All of these documents must be provided to CPWS before any action will be taken on this application.

Project Name:

Project Location: 1205 E. End St. Columbia TN. 38401

Tax Map & Parcel Number(s):

Is this part of a larger development? ☐ YES

Located within City limits? ☑ YES

Annexation? ☐ YES

Approved by the Planning Commission? ☐ YES

No. Trying to get it rc Zoned

Section/Phase number: I don't Know what it is.

Approximate date water service is desired: ASAP

Please indicate the primary contact for coordination with CPWS (provide contact info for all):

☑ Developer ☐ Owner ☐ Engineer

Developer Name: Larry Owens G2G LLC

Authorized Representative: Larry Owens G2GLLC

Title: Owner

Contact info for Authorized Representative

Address: [redacted]

Telephone: 615-924-5337

Email: g2gpropertiesllc@mail.com

Property Owner Name (if different):

Authorized Representative:

Title:

Address:

Telephone:

Email:

CITY OF COLUMBIA
FIRE DEPARTMENT

ISO 1 DEPARTMENT

Brad Massey
Assistant Fire Marshal

700 North Garden Street
Columbia, TN 38401
Phone: **931-560-1740**
Fax: **931-560-1711**
bmassey@columbiatn.com

The following is a legal description of 1205 East End Street, Columbia, TN (Tax Map 99, , Parcel 59.04, Deed Book R2857, Page 60, Plat Book P23, Page 12), 9th Civil District of Maury County, Tennessee. Being more particularly described as follows:

beginning at an iron pin (set) in the East margin of East End St., being the Northwest corner of this described property and the Southwest corner of the Evergreen Baptist Church property (Tax Map 99G, Group D, Parcel 50.00, Deed Book 435, Page 470); thence with the church's South line S81°18'36"E a distance of 192.31' to an iron pin (set), point being the Northeast corner of this described property and the Northwest corner of the American Legion Post 170 property (Tax Map 99, Parcel 59.00, Deed Book 409, Page 182, Plat Book P23, Page 12); thence leaving the church's South line and following the American Legion's West and North line S09°59'53"W a distance of 190.83' to an iron pin (set); thence S07°35'10"E a distance of 46.76' to an iron pin (set), point being the Southeast corner of this described property; thence N82°24'08"W a distance of 143.86' to an iron pin (set); thence N66°06'01"W a distance of 37.20' to an iron pin (set); thence N33°50'48"W a distance of 23.72' to an iron pin (set) in the East margin of East End St., point being the Southwest corner of this described property; thence following the East End St. East margin N04°37'08"E a distance of 60.89' to an iron pipe (found); thence N08°19'24"E a distance of 150.44' to the point of beginning containing 44478.8 square feet, 1.021 acres more or less according to a survey by Tracy K. Seiber, RLS2397, dated 4/20/2022.

This property is subject to any and all easements, recorded and unrecorded which may affect this property.

All bearings and distances are based on the Tennessee NAD-83 Grid Coordinate System.

Tracy Seiber, RLS#2397
102 Avalon Drive
Columbia, TN 38401
Seibersurveying@gmail.com
(931)446-6677

RECEIVED
MAY 18 2023
By: 23-0104

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: 1205 E END ST

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☒ Name of development
- ☒ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☒ Plan sealed by a Design Professional licensed in the State of Tennessee.
- ☒ North Arrow, legend, and site vicinity map
- ☒ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☒ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☒ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☒ All property boundaries, existing easements, and encumbrances
- ☒ Parcel identification, owner, and deed and plat references of adjoining properties
- ☐ Proposed phasing and timetable for all phases of development
- ☐ Traffic Impact Study, as required.
- ☒ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☒ The size of total property to be developed in square feet and acres
- ☒ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☒ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☒ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☐ Location and approximate dimensions of all existing and proposed structures.
- ☐ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☐ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☐ Location, type, and size of proposed signs
- ☐ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ❑ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ❑ General proposed contours at vertical intervals of not more than two (2) feet
- ☒ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ❑ Location and dimension of aquatic buffer zones
- ❑ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ❑ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ❑ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ❑ Proposed connections to existing and proposed streets (including classification) located outside the development
- ❑ Proposed improvements as identified in the Traffic Impact Study, as required
- ☒ Existing and proposed sidewalks, trails, and other pedestrian elements
- ❑ Existing and proposed on-street and off-street parking and loading areas
- ❑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ❑ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ❑ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ❑ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ❑ Any amenity features and structures for private or public benefit.
- ❑ Location, dimension, and materials of fences and walls
- ❑ Tree Canopy retention

Utilities

- ☒ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☒ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
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TENNESSEE

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FAX: (931) 560-1541

PUD Specific Items

- ❑ Legal Description of Property
- ❑ Owner's Affidavit
- ❑ List of all variances requested
- ❑ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ❑ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ❑ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ❑ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

LARRY OWENS		
Print Name	Signature	Date

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	1205 E EDN, COLUMBIA, TN 38401		
	TAX MAP: 099	GROUP:	PARCEL: 59.04
SUMMARY OF NATURE OF REQUEST AND WORK	REQUEST AMENDMENTS TO COMP PLAN REQUEST RE ZONING TO CD-3 Urban neighborhood to Suburban neighborhood.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☒ Rezoning ☐ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☒ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☒ Written Legal Description copy ☒ Requested Zone Listed ☒ Compliance with Comprehensive Plan ☒ Annexation Permission Form ☒ Plans and/or Plats conforming to City standards with check list completed ☒ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) OWENS PRELIMINARY CONCEPT PLAN ☒ Total Number of Lots THREE ☒ Total acreage 1.02 ACRES

23-0104

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	LARRY OWENS	PHONE	(615)924-5337
ADDRESS	2458 STEVE DR, COLUMBIA	EMAIL	g2gpropertiesllc@mail.com

PROPERTY OWNER NAME	GENERATION 2 GENERATION LLC	PHONE	(615)924-5337
ADDRESS	2458 STEVE DR, COLUMBIA	EMAIL	g2gpropertiesllc@mail.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

LARRY OWENS		3-21-23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
GENERATION 2 GENERATION LLC		
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.	23-0104	FEE PAID	$500.00
RECEIPT NO.	10091211	REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Kevin McCarthy

From: Joseph Ahler <joe.ahler@gmail.com>
Sent: Friday, July 7, 2023 7:37 AM
To: Kevin McCarthy
Cc: Stuart Beattie; Glenn Harper; Douglas Toney; Melissa Sanders
Subject: Re: [External Email] - Re: [External] Karst Location and treatment

Kevin,

I have to share my client's concern. Yes, we will request a thirty day deferral to address these new issues.

You are correct, the karst issue has been on the City's list for both proposed designs. We did explore every depression that was reflected on our 1' contour interval aerial survey.. At no time during this process did the City reveal the area of concern until just recently. If the City had such knowledge, it should have revealed it to us from the start and this would not be an issue.
In this case a hydraulogic determination was not warranted, Pumpkin Creek has been listed as "Exceptional" by TDEC, we simply provided the requested buffers from the start as a response to the City's comments. The wastewater department just recently threw up a flag on the sanitary design due to a second pump station proposed, we redesigned the layout to meet their request. They acknowledged last month that they didn't have time to complete their review, I forwarded their response to you once they did so.

On Thu, Jul 6, 2023 at 10:49 PM Kevin McCarthy <kmccarthy@columbiatn.com> wrote:

> Good evening, Mr. Beatty. Your frustration is understandable; we are not trying to make this process more difficult. I have little knowledge of the requests associated with this site prior to the 2022 Preliminary PUD Master Plan proposal. At that time the Wastewater Department noted that a significant offsite sewer extension would be required to reach public sewer. Wastewater's preference to flow directly to gravity rather than utilize pump stations requires creative design on many sites and is not limited to this property. The City Engineer has requested a geotechnical report evaluating the presence of karst features on the site for this proposal. Engineering made the same request for previous iterations of the development. Engineering has also previously requested a hydrologic determination for the pond, as well as other information pertaining to aquatic resources on the property. To the best of my knowledge these are not new concerns. We do have more information today than we had during previous reviews.
>
> As City Planner my primary concern is facilitating a consistent development review process that ensures requests are *approvable* when they reach the Planning Commission agenda. Mr. Ahler has presented a concept which largely conforms to the bulk and design standards of the Zoning Ordinance, subject to some revisions which could be handled through a conditional approval. However, the request cannot be approved without definite answers to the concerns raised by Wastewater and Engineering. Some of these will necessarily require changes to the plan of development. The Planning Commission meeting is in six days. The deadline to (re)submit material for review was sixteen days ago. As a practical matter, it simply isn't possible to respond to these concerns in time to present an approvable plan to the Commission. That is why I have asked you to withdraw or defer the item. We will gladly review a complete and timely application for the next development review cycle.
>
> Kevin C. McCarthy, AICP

City Planner & Zoning Administrator

700 N. Garden Street

Columbia, TN 38401

Office Phone: 931.560.1531

kmccarthy@columbiatn.com

CITY OF COLUMBIA
TENNESSEE

From: Stuart Beattie <stuart@nasonhomes.com>
Sent: Thursday, July 6, 2023 5:47 PM
To: Kevin McCarthy <kmccarthy@columbiatn.com>
Cc: Glenn Harper <gharper@columbiatn.com>; Joseph Ahler <joe.ahler@gmail.com>; Douglas Toney <dtoney@columbiatn.com>; Melissa Sanders <msanders@columbiatn.com>
Subject: [External Email] - Re: [External] Karst Location and treatment

Mr. McCarthy,

Thank you for your email as it was less vague than the previous responses received. However, How is this just now an issue? We have been in the design process for over 2 years now with the city while conforming to every comment we have received in this never ending cycle. We have been forced to comply with two sets of ordinances after a year plus was wasted when the first design was illegally denied. We have been professional throughout this process when all we really want to do is play by the rules and get our project approved and completed. I am afraid I can not see light at the end of this tunnel as the rules keep changing. Each month it is something different so I ask is this by design or does this project ever have a reasonable chance of being approved? I await your answer or anybody elses included in this email.

Thank you,

Stuart Beattie

On Thu, Jul 6, 2023 at 4:54 PM Kevin McCarthy <kmccarthy@columbiatn.com> wrote:

Mr. Ahler,

The location of these features will require substantial changes to the site design. The resubmittal date was June 20th. Even if we accepted a revision now, it is unrealistic to expect the Planning Commission to approve it without additional staff review and third-party analysis. Waiting to address these concerns through site construction documents is not viable. The location of the pond(s) and karst features could require substantial deviation from the layout presented in the Site Development Plan and Preliminary Plat. I recommend that you withdraw this application and submit a new request which accounts for these site specific challenges. Barring that, you could request to defer the item and redesign the site around these features before the next resubmittal deadline (July 17th). The Zoning Ordinance requires the Planning Commission to determine that the Site Development Plan presents a design which is "appropriate for and tailored to the unique characteristics of the site" (§ 8.5.6.N.2(a)). Based on the information you have provided, the plan submitted on June 20th does meet that criterion.

Thanks!

Kevin C. McCarthy, AICP

City Planner

From: Glenn Harper <gharper@columbiatn.com>
Sent: Thursday, July 6, 2023 3:12 PM
To: Joseph Ahler <joe.ahler@gmail.com>
Cc: Stuart Beattie <stuart@nasonhomes.com>; Kevin McCarthy <kmccarthy@columbiatn.com>; Douglas Toney <dtoney@columbiatn.com>
Subject: RE: [External] Karst Location and treatment

Open space does not have a minimum requirement unless you are considering it civic space. The highest closed contour around the sinkhole would need to be within the open space.

From: Joseph Ahler <joe.ahler@gmail.com>
Sent: Thursday, July 6, 2023 12:56 PM
To: Glenn Harper <gharper@columbiatn.com>
Cc: Stuart Beattie <stuart@nasonhomes.com>; Kevin McCarthy <kmccarthy@columbiatn.com>; Douglas Toney <dtoney@columbiatn.com>
Subject: Re: [External] Karst Location and treatment

How much open space?

On Thu, Jul 6, 2023 at 10:28 AM Glenn Harper <gharper@columbiatn.com> wrote:

This feature would have to be located in common or open space, regardless of closure.

Also, Where would the pond be?

Glenn Harper, P.E.

City Engineer

700 North Garden St.

Columbia, TN 38401

(931)560-1560

CITY OF COLUMBIA
TENNESSEE

From: Joseph Ahler <joe.ahler@gmail.com>
Sent: Thursday, July 6, 2023 10:13 AM

To: Glenn Harper <gharper@columbiatn.com>
Cc: Stuart Beattie <stuart@nasonhomes.com>
Subject: [External] Karst Location and treatment

Glenn,

Attached is a sketch on my proposed treatment of the karst location on the Lasea Road project. I would propose a regulatory closure as well.

--

Joseph Ahler P.E., R.L.S.

Ahler & Associates, LLC

www.ahlerengineering.com

phone 615-481-3106

fax 615-468-9357

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--

Joseph Ahler P.E., R.L.S.

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phone 615-481-3106

fax 615-468-9357

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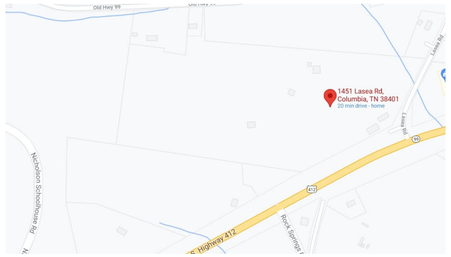
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--
Joseph Ahler P.E., R.L.S.
Ahler & Associates, LLC
www.ahlerengineering.com
phone 615-481-3106
fax 615-468-9357

PRELIMINARY DEVELOPMENT PLAN
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, TENNESSEE
MAP 73, PARCEL 51

SHEET INDEX

C0.0-COVER SHEET
C1.0- GENERAL NOTES
C2.0-EXISTING CONDITIONS
C3.0-SITE PLAN
C4.0-UTILITY PLAN
C5.0-GRADING PLAN
C6.0-CIVIC SPACE PLAN
C9.0-TREE PRESERVATION PLAN



VICINITY MAP
NTS

OWNER

IMER DEVELOPMENT, LLC
1909 COLUMBIA AVENUE
FRANKLIN, TN 37064
615-788-1320

UTILITY COMPANIES

WATER

COLUMBIA POWER & WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401
931-388-4833

SEWER

COLUMBIA WASTEWATER SYSTEM
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38401
931-560-1011

NATURAL GAS

ATMOS ENERGY
810 NASHVILLE HWY.
COLUMBIA, TN 38401
931-388-9136

ELECTRIC

COLUMBIA POWER & WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401
931-388-4833

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
LICENSE
CERTIFICATE
NO. 14745
STATE OF TENNESSEE

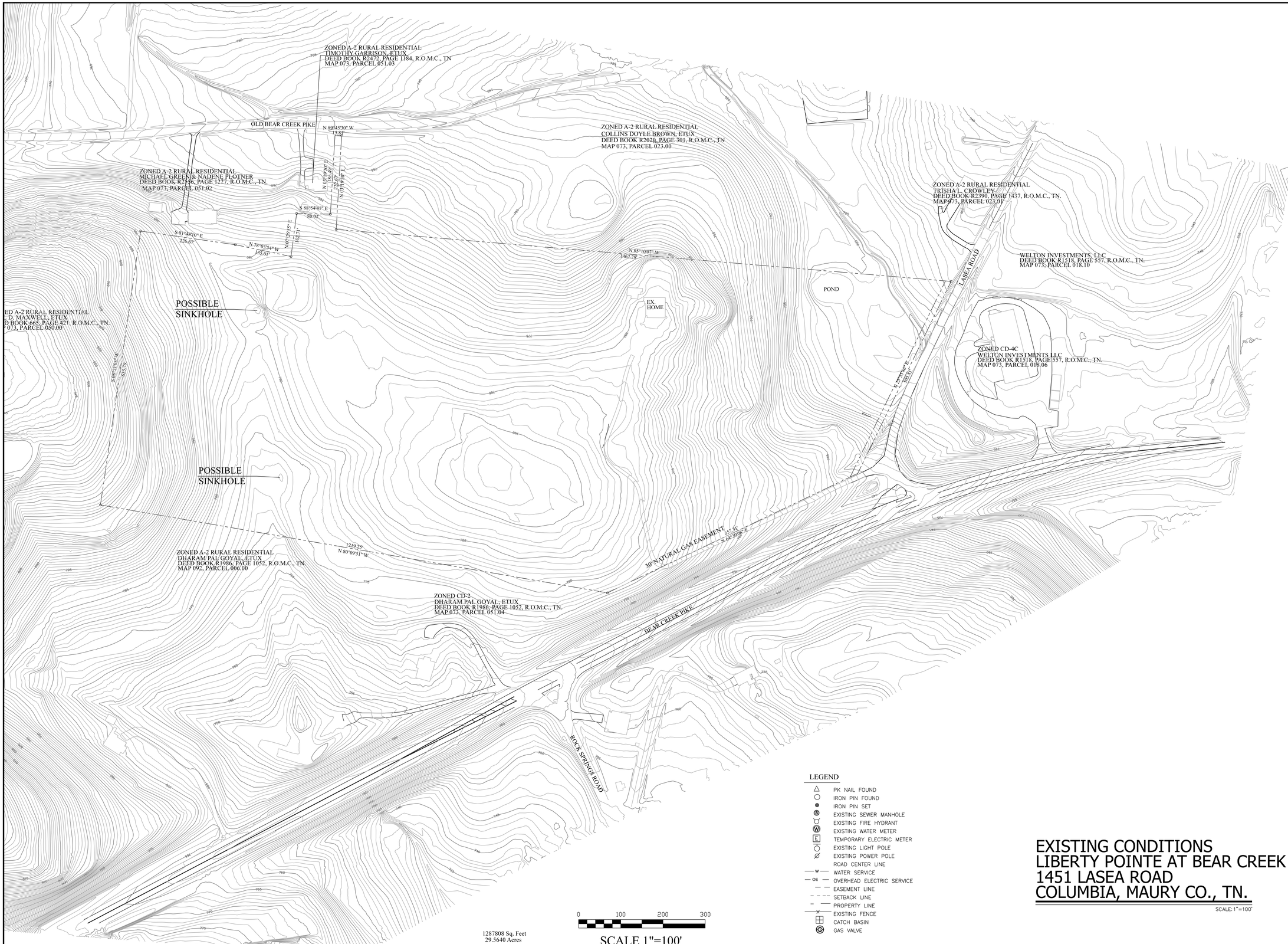
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	1/17/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
COVER SHEET
-

C0.0



EXISTING CONDITIONS
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL

JOSEPH E AHLER
REGISTERED ENGINEER
No. 109424
STATE OF TENNESSEE
No. 1474S

LIBERTY POINTE AT BEAR CREEK

1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

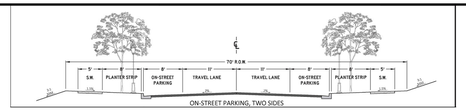
ISSUE:	MARK	DATE	DESCRIPTION
	-	1/04/23	ORIGINAL ISSUE

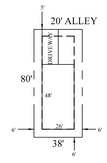
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DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION

EXISITING CONDITIONS
-

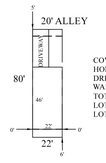
C2.0





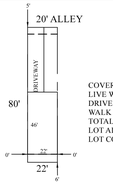
COVERAGE
HOME 1248 SQ. FT
DRIVE 312 SQ. FT
WALK 30 SQ. FT.
TOTAL 1590 SQ. FT.
LOT AREA 3040 SQ. FT
LOT COVERAGE= 52.3%

TYPICAL LOT LAYOUT
SINGLE FAMILY



COVERAGE
HOME 1012 SQ. FT
DRIVE 336 SQ. FT
WALK 30 SQ. FT.
TOTAL 1378 SQ. FT.
LOT AREA 1760 SQ. FT
LOT COVERAGE= 78%

TYPICAL LOT LAYOUT
TOWNHOME



COVERAGE
LIVE WORK 1012 SQ. FT.
DRIVE 366 SQ. FT
WALK 30 SQ. FT.
TOTAL 1378 SQ. FT.
LOT AREA 1760 SQ. FT
LOT COVERAGE= 78%

TYPICAL LOT LAYOUT
LIVE/WORK

ZONED A-2 RURAL RESIDENTIAL
TIMOTHY GARRISON, ETUX
DEED BOOK R2472, PAGE 1184, R.O.M.C., TN
MAP 073, PARCEL 051.03

OLD BEAR CREEK PIKE

N 89°45'30" W
15.81'

ZONED A-2 RURAL RESIDENTIAL
COLLINS DOYLE BROWN, ETUX
DEED BOOK R2020, PAGE 301, R.O.M.C., TN
MAP 073, PARCEL 023.00

ZONED A-2 RURAL RESIDENTIAL
MICHAEL GREEN & NADENE PLOTNER
DEED BOOK R2556, PAGE 1227, R.O.M.C., TN.
MAP 073, PARCEL 051.02

N 03°19'20" E
186.49'

N 01°19'20" E
212.50'

S 88°54'41" E
80.02'

N 07°25'55" E
102.71'

S 81°48'10" E
226.67'

N 78°03'54" W
135.01'

ZONED A-2 RURAL RESIDENTIAL
JOEL D. MAXWELL, ETUX
DEED BOOK 665, PAGE 421, R.O.M.C., TN.
MAP 073, PARCEL 050.00

S 08°21'05" W
655.79'

NOTE: SINGLE FAMILY UNITS WILL HAVE TRASH CAN PICKUP AND TOWNHOMES/WORK/LIVE UNITS WILL UTILIZE DUMPSTER COLLECTION THREE TIMES PER WEEK.

N 85°10'07" W
1462.28'

DUMPSTER

PLAYGROUND #2

OPEN SPACE

ALLEY (20' ROW)

FRANKLIN BRIDGE DRIVE (70' ROW) (PUBLIC)

ALLEY (20' ROW)

PINE CREEK DRIVE (70' ROW) (PUBLIC)

ALLEY (20' ROW)

FRANKLIN BRIDGE DRIVE (70' ROW) (PUBLIC)

ALLEY (20' ROW)

ALLEY (20' ROW)

CHESTNUT BRIDGE DRIVE (70' ROW) (PUBLIC)

PLAYGROUND #1

OPEN SPACE

STREAM BUFFER

30'

30'

GREEN SPACE
64716 SQ. FT.
1.4857 AC.

LASEA ROAD

ZONED A-2 RURAL RESIDENTIAL
TRISHA L. CROWLEY
DEED BOOK R2390, PAGE 1437, R.O.M.C., TN.
MAP 073, PARCEL 023.01

WELTON INVESTMENTS, LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.10

ZONED CD-4C
WELTON INVESTMENTS LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.06

MAIL KIOSK

S 17°19'00" E
67.31'

12.5' RIGHT-OF-WAY DEDICATION

OPEN SPACE

30' NATURAL GAS EASEMENT

S 64°30'06" E
657.31'

1219.25'
N 80°09'51" W

ZONED A-2 RURAL RESIDENTIAL
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 092, PARCEL 006.00

ZONED CD-2
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 073, PARCEL 051.04

BEAR CREEK PIKE

ROCK SPRINGS ROAD

THE STRUCTURES WILL CONFORM TO THE DESIGN AND FACADE STANDARDS OF TABLE 4.3.1-D AND TABLE 4.3.8.B OF THE ZONING ORDINANCE. EXTERIOR LIGHTING PLANS MAY BE REQUIRED AT SITE CONSTRUCTION PLAN REVIEW AND WILL MEET THE STANDARDS UNDER 4.3.17.B

CENTERLINE CURVE DATA

CURVE NO.	DELTA	RADIUS	LENGTH	CHORD	CH. BRG
C1	100°04'12"	250.17'	436.94'	383.48'	S 65°00'41" W
C2	49°25'51"	125.00'	107.84'	104.53'	S 39°43'25" W
C3	35°20'03"	333.00'	205.36'	202.12'	S 82°10'07" W
C4	90°17'32"	125.00'	197.98'	177.23'	N 34°02'50" W
C5	90°00'01"	125.00'	196.35'	176.78'	N 53°38'24" E
C6	6°17'57"	333.00'	36.61'	36.19'	S 77°02'57" E
C7	42°43'00"	333.00'	248.27'	242.56'	S 05°17'33" E
C8	47°53'01"	70.00'	58.50'	56.81'	N 39°33'05" E
C9	92°16'14"	70.02'	112.76'	100.93'	N 29°36'47" W
C10	5°43'30"	70.00'	6.99'	6.99'	N 76°45'15" W
C11	114°55'42"	70.00'	140.41'	118.03'	S 42°22'21" W
C12	89°55'28"	70.00'	109.86'	98.93'	N 54°52'25" E
C13	89°58'26"	70.00'	109.92'	98.97'	S 35°10'38" E
C14	44°04'23"	209.22'	160.94'	157.01'	S 78°37'33" W
C15	17°35'32"	333.00'	102.24'	101.84'	N 88°57'37" W
C16	02°08'00"	70.00'	2.61'	2.61'	N 81°13'54" W

SITE COVERAGE
DEVELOPED AREA =866408.4 SQ. FT OR 19.89 ACRES
TOTAL AREA=1287808 SQ. FT. OR 29.5640 ACRES
COVERAGE =67%

NEW IMPERVIOUS AREA= 472760.0 SQ. FT OR 10.85 ACRES

CIVIC SPACE PROVIDED
GREEN SPACE 1.48 ACRES
PLAYGROUND #1 0.14 ACRES
PLAYGROUND #2 0.30 ACRES
TOTAL 1.92 ACRES OR 6.5%

LEGEND
- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

1287808 Sq. Feet
29.5640 Acres

0 100 200 300

SCALE 1"=100'

PROPERTY IS ZONED CD-4

PROPOSED DEVELOPMENT
LOTS 60-87, LOTS 118-39 TOWN HOMES =53 UNITS OR 37.9%
LOTS 1-59, SINGLE FAMILY HOMES= 59 UNITS OR 42.1%
LOTS 88-115 LIVE/WORK UNITS=28 UNITS OR 20.0%

DENSITY= 140 UNITS/29.56 AC=4.74 DU/AC (12.0 DU/AC ALLOWED)

BUILDING BREAKDOWN
10-5 UNIT TOWNHOME BUILDINGS
1-3 UNIT TOWNHOME BUILDINGS

BUILDING FRONTAGE BREAKDOWN
TOWNHOMES=1166' OR 35.2%
SINGLE FAMILY=1534' OR 46.3%
LIVE/WORK=616 OR 18.6%

59-SINGLE FAMILY HOMES
5-5 UNIT LIVE/WORK BUILDINGS
1-3 UNIT LIVE/WORK BUILDING

28,336 SQ. FT. OF NON-RESIDENTIAL WORK SPACE
REQUIRED PARKING 57 SPACES
PROPOSED ON STREET PARKING
IN FRONT OF UNITS=35 SPACES
PARKING AT REAR OF THE LIVE/WORK UNITS=56 SPACES

PARKING SUMMARY
REAR PARKING 2/UNIT= 286 SPACES
STREET PARKING= 290 SPACES*
TOTAL=574 SPACES
REQUIRED 2/UNIT
*NOTE = ENTRY DRIVE SLOPE EXCEEDS 8%
NO PARKING ALONG THAT REACH WAS COUNTED

SITE PLAN
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
CIVIL
STATE OF TENNESSEE

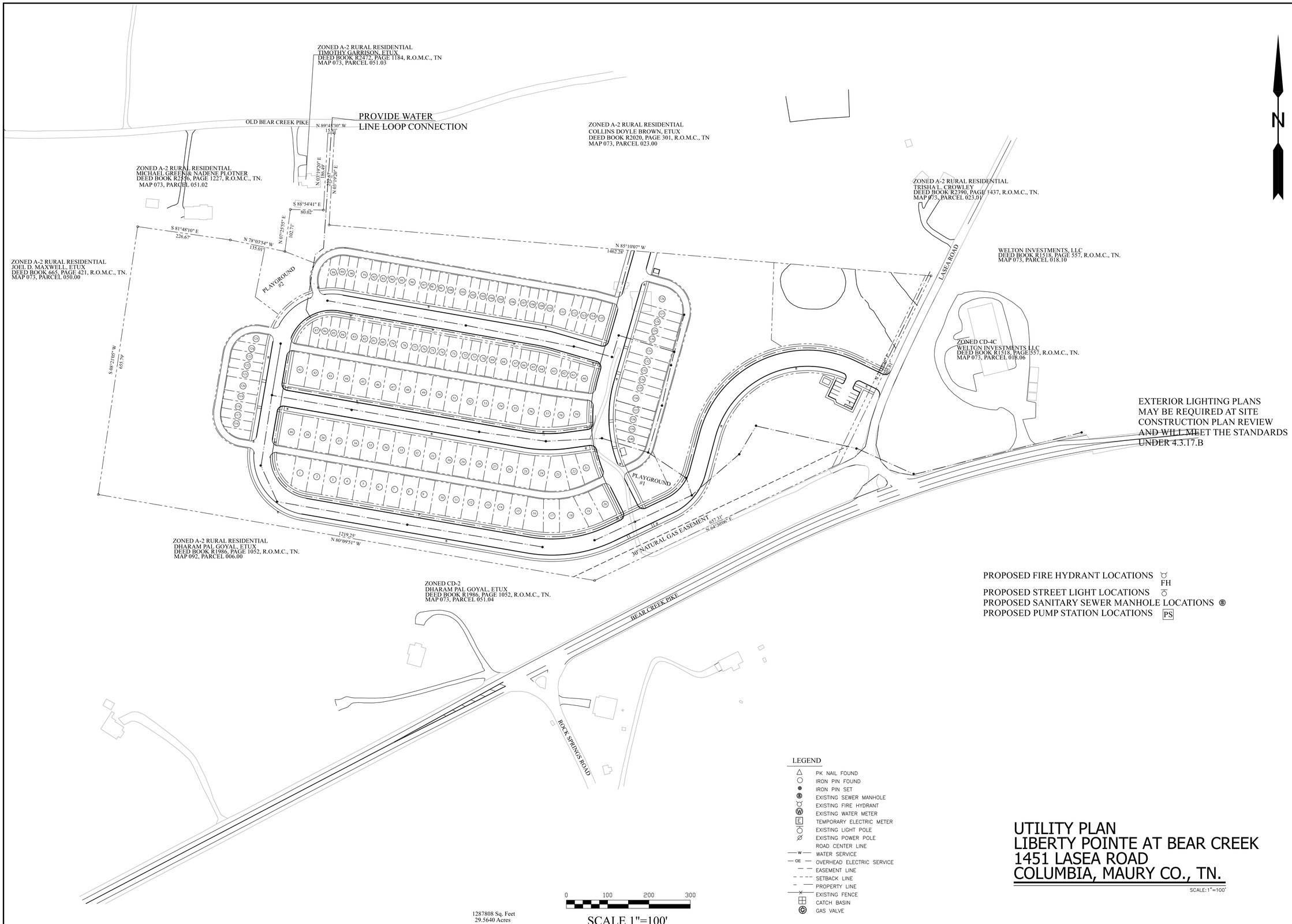
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
SITE PLAN
-

C3.0



UTILITY PLAN
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL

JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
CIVIL
STATE OF TENNESSEE

LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

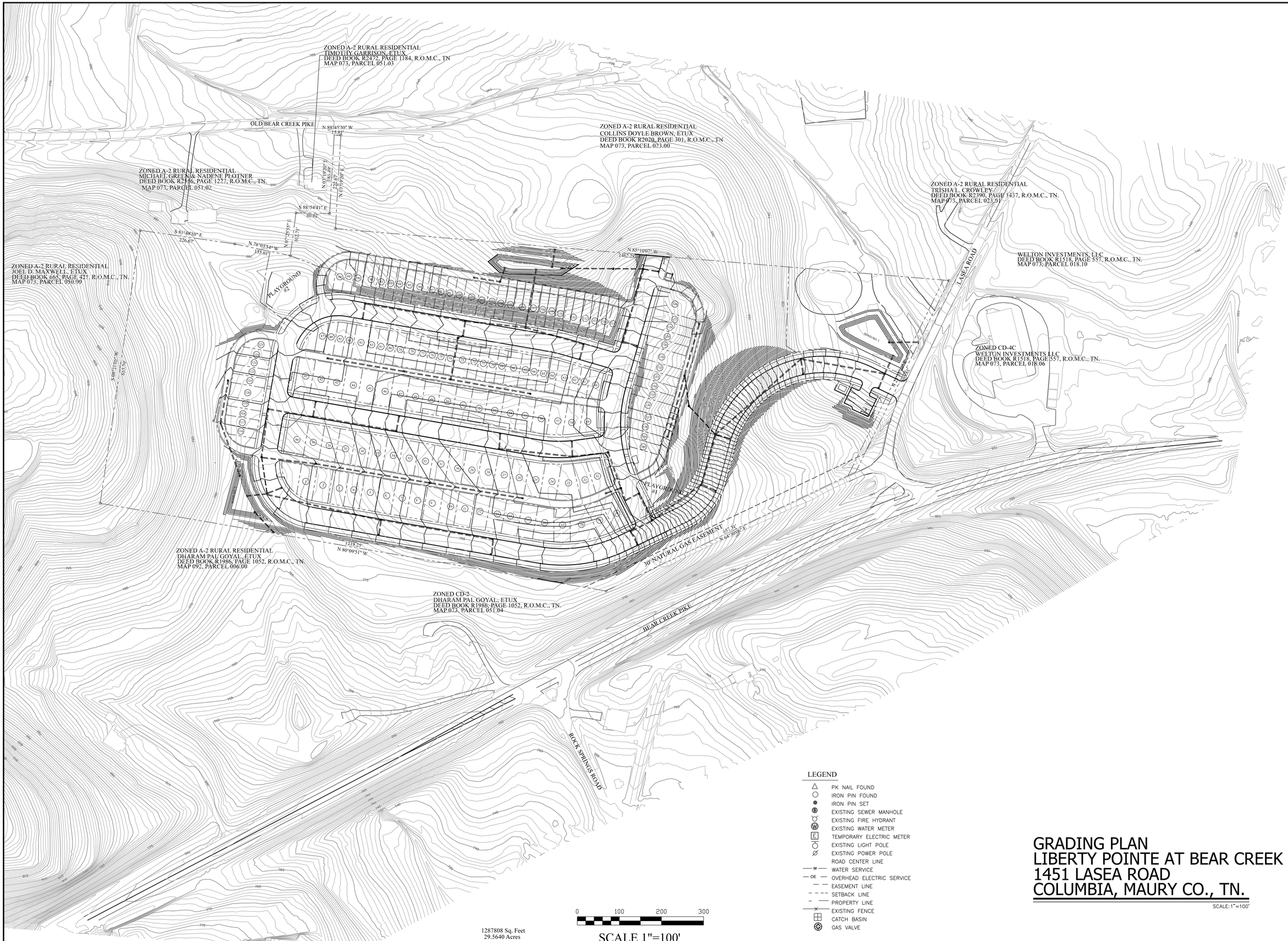
ISSUE:	MARK	DATE	DESCRIPTION
	-	10.4.23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION

UTILITY PLAN
-

C4.0



GRADING PLAN
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL

JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE

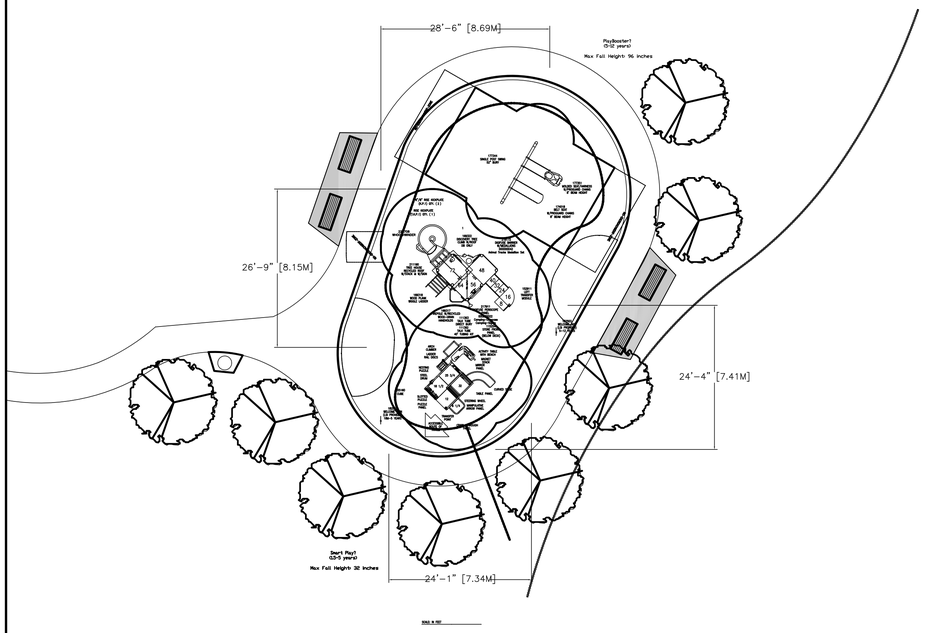
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	7/04/23	ORIGINAL ISSUE

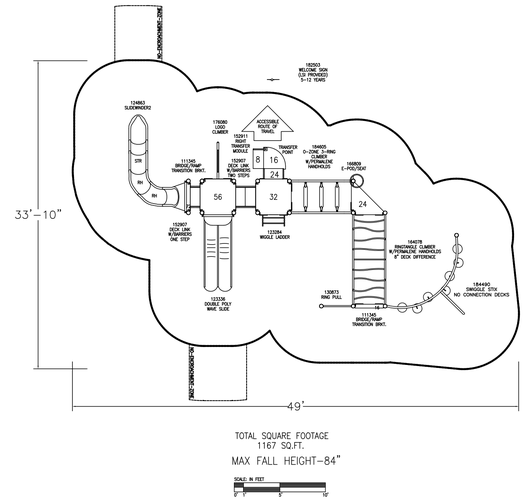
PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
GRADING PLAN
-

C5.0



PLAYGROUND NO. 2
NTS



TOTAL SQUARE FOOTAGE
1167 SQ.FT.
MAX FALL HEIGHT-84"

SCALE: IN FEET
0 3' 6' 12'

PLAYGROUND NO. 1
NTS



LEGEND

- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

GREEN SPACE

SCALE
1"=50'

CIVIC SPACE
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: NTS

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517

SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
OCTOBER
No. 14745
STATE OF TENNESSEE

LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
CIVIC SPACE PLAN

C6.0

APPROXIMATE TOTAL TREE CANOPY(UNDEVELOPED)=23.9 ACRES
APPROX. TOTAL TREE CANOPY(REMAININGG)=7.2 ACRES
TOTAL TREE CANOPY(UNDEVELOPED)=23.9/29.5=81%
TOTAL TREE CANOPY(RETAINED)=7.2/23.9=30.1%

AERIAL PHOTOGRAPHY FROM 2021 BY MAPTECH, LLC

ZONED A-2 RURAL RESIDENTIAL
TIMOTHY GARRISON, ETUX
DEED BOOK R2472, PAGE 1184, R.O.M.C., TN
MAP 073, PARCEL 051.03

OLD BEAR CREEK PIKE

N 89°58'30" W
73.85'

ZONED A-2 RURAL RESIDENTIAL
COLLINS DOYLE BROWN, ETUX
DEED BOOK R2020, PAGE 301, R.O.M.C., TN
MAP 073, PARCEL 025.00

ZONED A-2 RURAL RESIDENTIAL
MICHAEL GREEN & NADENE PLOTNER
DEED BOOK R2546, PAGE 1272, R.O.M.C., TN.
MAP 073, PARCEL 051.02

N 03°09'20" E
251.63'
N 03°09'20" E
125.82'

S 88°54'45" E
30.02'

S 81°38'00" E
226.67'

N 78°03'54" W
185.01'

N 07°25'55" E
102.73'

TREE SAVE AREA

N 85°10'07" W
146.21'

ZONED A-2 RURAL RESIDENTIAL
TRISHA L. CROWLEY
DEED BOOK R2560, PAGE 1437, R.O.M.C., TN.
MAP 073, PARCEL 023.01

LASEA ROAD

WELTON INVESTMENTS, LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN
MAP 073, PARCEL 018.10

PLAYGROUND #2

TREE SAVE AREA

GREEN SPACE
64716 SQ FT
1.4857 AC

ZONED A-2 RURAL RESIDENTIAL
D. MAXWELL, ETUX
DEED BOOK 665, PAGE 421, R.O.M.C., TN.
MAP 073, PARCEL 050.00

N 85°10'07" W
462.53'

ZONED CD-4C
WELTON INVESTMENTS LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.06

EXISTING TREE CANOPY LIMITS

TREE SAVE AREA

PLAYGROUND #1

TREE SAVE AREA

LIMITS OF DISTURBANCE

ZONED A-2 RURAL RESIDENTIAL
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 092, PARCEL 006.00

1219.25'
N 80°09'51" W

30' NATURAL GAS EASEMENT

S 64°30'00" E
657.45'

ZONED CD-2
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 073, PARCEL 051.04

BEAR CREEK PIKE

ROCK SPRINGS ROAD

1287808 Sq. Feet
29.5640 Acres

0 100 200 300
SCALE 1"=100'

LEGEND

- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

PER SECTION 4.3.16C.1 OF THE ZONING ORDINANCE, FUTURE TREE REMOVAL WITHIN THE TREE SAVE AREAS WILL REQUIRE APPROVAL BY THE PLANNING COMMISSION.

TREE PRESERVATION PLAN
LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517

SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
OF
TENNESSEE
No. 14745
STATE OF TENNESSEE

LIBERTY POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	1	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
TREE PRESERVATION PLAN

C9.0

CITY OF COLUMBIA TENNESSEE
PLANNING COMMISSION
STAFF REPORT

STAFF REPORT CONTACT INFORMATION
Kevin C. McCarthy, AICP, City Planner kmccarthy@columbiatn.com, 931-560-1560

APPLICATION NUMBER
23-0144

APPLICANT/PROPERTY OWNER
Joseph Ahler, P.E./ Imer Development

PUBLIC HEARING DATE
N/A

PROPERTY ADDRESS/LOCATION
1451 Lasea Road / Tax Map 73, Parcel 51.00

SUMMARY OF REQUEST: **Preliminary Plat & Site Development Plan**

The applicant requests approval of a Preliminary Plat and Site Development Plan for 140 lots as well as associated infrastructure and civic spaces on a 29.5-acre Development Parcel yielding a density of 4.74 density units per acre (du/ac). The home sites include a mix of townhomes, single family detached homes, and live-work units. The subject site is located on Lasea Road within a CD-4 Character District.



MAP SOURCE: City GIS

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	SITE IMPROVEMENTS PROPOSED	SIZE OF PROPERTY
CD-4	Undeveloped	Unincorporated/CD-2 Single-Family/Vacant	140 Single-Family Home Lots	29.5 acres

CONSISTENCTY with the **COMPREHENSIVE PLAN:**

Suburban Corridor: The future land use classification of the subject property is Suburban Corridor. The future land use is characterized by mix of residential and commercial uses. The general development pattern is context specific, and traverses through rural and urban settings.

PROPERTY HISTORY:

In 2022 the Planning Commission denied a request for an RM-1 PUD consisting of 198 townhome units on the subject site.

In 2016, City Council approved a request for annexation and rezoning of the subject site to the RM-1 zoning designation under the previous zoning ordinance.

CONFORMITY with the ZONING ORDINANCE:

Zoning Ordinance Referenced:
The CD-4 General Urban Charter District consists primarily of a medium density (12 du/ac) area in with a range of building types. The CD-4 district permits a range of residential, retail, artisan, office, and civic uses. The arrangement of buildings features medium, shallow or no front Setbacks and narrow to medium side Setbacks. Private landscaping varies. Thoroughfares and Internal Drives with curbs, sidewalks and trees define medium-sized blocks with a perimeter of 2,400 feet or less (Table 3.7.1 p. 36; Table 4.3.1-D, p. 76-85).

Lot Building Site Standards/ Setbacks (*Table 4.3.1-D, p. 76-85*):

- Building site width:
  - 8 – 36' for Townhouses with each unit on its own Lot or Building Site;
  - 38' for alley loaded houses, otherwise 50' for
- Maximum of 8 attached Townhouse units;
- 6' minimum, 20' maximum front setback;
- 0' side yard setback between townhome units;
- 6' side yard setback generally;
- 3' rear yard setback or 15' from center of alley.
- Up to 20% of lots or building sites may enfront a pedestrian path, passage, or walkway.

This preliminary plat indicates a variation of rear-loaded lots that comply with the building site standards within a CD-4 Character District:

- 59 single family lots will be a minimum of 38' wide with a rear-loaded driveway off an alley;
- 53 townhomes lots will be a minimum of 22' wide with a rear-loaded driveway off an alley;
- 28 live-work units will be a minimum of 22' wide with rear-loaded driveway off an alley.

Streets/Connectivity:

Thoroughfares and Internal Drives shall be provided and designed to define Blocks which do not exceed a maximum block perimeter (§ 5.2.2.D, p.308).

- The term block is defined in § 9.3 (p. 482) to include lots and building sites circumscribed by thoroughfares and alleys.
- The maximum block perimeter in a CD-4 character district is 2,400 feet.
- The proposed Preliminary Plat and Site Development Plan includes a network of thoroughfares and alleys which define conforming blocks.

Mix of Uses:

The Zoning Ordinance requires a mix of building types and land uses on CD-4 zoned sites larger than 10 acres. Section 5.1.10 of the Zoning Ordinance prescribes a minimum 15% of total building frontage be Live/Work, Commercial, Mixed Use or Flex buildings (p. 304-305). Section 5.1.11 establishes a maximum residential land use of 85% of the net site area.

- The proposed Preliminary Plat and Site Development Plan includes Live-Work units which conform to building type standards at Table 4.3.8.B (p. 215).
- The Live-Work units meet the frontage and area requirements under §§ 5.1.10 and 5.1.11.

Civic Space:

Section 5.3.1 of Zoning Ordinance 4400 requires any development parcel[1] to utilize at least 5% but no more than 20% of its gross acreage as Civic Space conforming to the standards of § 5.3.3.

Section 5.3.3 offers a variety of Civic Space types that include green space, natural areas, pocket parks

[1] Development Parcel: a parcel of land: (1) which, either alone or together with one or more other parcels under a common Development scheme, program or plan, is ten (10) or more gross acres; (2) with respect to the Development of which any new Thoroughfare, Internal Drive, or extension or change of the design of any existing Thoroughfare or Internal Drive is required or will be made or proposed; or (3) with respect to which any District assignment or any Thoroughfare or Internal Drive or alignment thereof is proposed to be made or changed by a Zoning Map or Zoning Map amendment. (§ 9.3, p. 490).

etc.

Each Civic Space type has its own standards for intent, size, frontage, character, and typical facilities. Section 5.3.3.B further requires civic space designed and equipped as a playground within 800 feet of every lot or building site greater than 20 acres in residential use.

- The proposed Preliminary Plat and Site Development Plan depicts 1.92 acres of Civic Space, exceeding the 5% minimum.
- Playgrounds account for 0.44 acres of the proposed Civic Space.
- Greens account for the balance of the proposed Civic Space.
- The Civic Space Plan on sheet 6.0 of the Preliminary Plat and Site Development Plan depicts the placement and type of playground equipment, as well as landscaping and other features in each playground.
- The Civic Space Plan depicts benches, picnic table, and walking trails within the Green.
- The Civic Spaces depicted in the Preliminary Plat and Site Development Plan generally conform to the standards of the Ordinance for these Civic Space types.

Playground



Permitted In / Adjacent to:

CD-2 | CD-3L | CD-3 | CD-4 | CD-4C | CD-5 | CD-5C | SD-MHP | SD-LI | PUD-R | PUD-MU

Intent

An open area designed and equipped for the recreation of children. A Playground may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within Natural Areas and Greens. There is no minimum or maximum size.

Specifications

Size	No min. No max
Frontage	Buildings
Character	Formal or Informal

Typical Facilities

- Active recreation
- Play structures
- Paths
- Water features

Green



Permitted In / Adjacent to:

CD-2 | CD-3L | CD-3 | CD-4 | CD-4C | SD-MHP | PUD-R

Intent

An open area, available for unstructured recreation. A Green may be spatially defined by landscaping rather than Building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size is 0.5 acre and the maximum is 8 acres.

Specifications

Size	0.5 ac min, 8 ac max
Frontage	Independent
Character	Informal

Typical Facilities

- Passive and active recreation
- Playgrounds and play structures
- Paths and trails
- Accessory structures

Tree Canopy Cover Retention:

Section 4.3.16 of the Zoning Ordinance requires a percentage of existing tree cover to be preserved based upon the existing canopy on the development site.

- The applicant's tree preservation plan identifies 23.9 acres (81%) of the 29.5 acre site as existing tree canopy.
- Table 4.3.16.L of the Ordinance requires retention of at least 30% of the existing canopy.
- The applicant's tree preservation plan proposes to preserve 30.1% of the existing tree canopy and identifies 7.2 acres of tree save areas.

Procedural Requirements:

The water availability letter provided at application has expired. If the applicant cannot verify water availability for the density and intensity of development proposed, action on this item should be deferred.

Section 8.5.6 of the Zoning Ordinance requires that the appropriate Decision-Making Authority approve a Site Development Plan demonstrating compliance with the Ordinance prior to any development or subdivision of land. The Planning Commission is the Decision-Making Authority for properties which qualify as Development Parcels, including the subject site. The applicant has submitted elements of a Site Development Plan along with a Preliminary Plat as a single document. Approval should be conditioned on timely submittal of two separate "as-approved" documents which, in the determination of the Zoning Administrator and the City Engineer, reflect the substance of the plans approved by the Planning Commission.

Site Development Plan:

Staff reviewed the request for a Site Development Plan for conformity with the standards listed in the City of Columbia Zoning Ordinance. The relevant provisions of the Ordinance are listed below. Staff analysis follows in the next section.

Section 8.5.6.N Review Criteria.

1. The criteria to be applied by the Zoning Administrator in reviewing a Development Plan and application shall be whether such Plan and application comply with the applicable conditions, standards, and requirements of this Ordinance, all applicable previously approved Plans, such as earlier Development Plans, the Comprehensive Plan and all other applicable Land Use Plans.

2. With respect to a Development Plan the Planning Commission shall rely on all conditions, standards, and requirements of Articles 1-5 and Article 7 of this Ordinance and the Planning Commission shall review the Plan and application for compliance with all other conditions, standards, and requirements of this Ordinance, including without limitation those of Article 6 (Supplemental Standards) , and compliance with all applicable previously approved Plans, such as earlier Development Plans, the Comprehensive Plan and all other applicable Land Use Plans.

Additionally, in the case of Development in a Special District, the Planning Commission shall determine:

a. Whether the Development design and Development intensity are appropriate for and tailored to the unique characteristics of the site, such as significant wooded areas, specimen trees, wetlands, steep slopes, floodplains, and zoning of or existing Development on Adjacent property;

b. Whether the proposed access and circulation are adequate with respect to traffic patterns, traffic control measures, and street pavement areas, with provisions for maintaining traffic flows and reducing any negative effects of traffic on nearby properties;

c. Compliance with site construction requirements;

d. Adequacy of stormwater facilities, water supply, sanitary sewer service, fire protection, street signs, and street lighting as evidenced by conformance with City standards, specifications and guidelines; and

e. Compliance with requirements for Easements or dedications.

Section 8.5.6.O Development Plan Procedures Decision-Making Authority's Action.

1. Within 62 days for a Development Plan and application for which the Zoning Administrator is the Decision-Making Authority, or within 62 days after the hearing on a Development Plan and application for which the Planning Commission is the Decision-Making Authority, the Development Plan and application shall be approved or disapproved by the Decision-Making Authority in accordance with the review criteria of Section 8.5.6.N and Sections 8.5.6.O.2-.5 below:

2. A Development Plan and application shall be approved by the Decision-Making Authority, upon a finding that the Development Plan and application are in compliance with the review criteria set forth in Section 8.5.6.N.

3. If a Development Plan and Application are approved, the Development Plan as approved shall become part of the record of approval, and subsequent actions relating to the authorized Development must be consistent with approved items.

4. A Development Plan and application shall be disapproved if the Decision-Making Authority determines that the Plan and application do not comply with any one or more of the review criteria set forth in Section 8.5.6.N.

Staff's review of Section 8.5.6.N and O in relation to this request finds the following:

The proposed Site Development Plan generally conforms to the requirements of the Zoning Ordinance.

Technical comments from service providers indicate that services are in place to support the proposed development. A few technical comments are noteworthy and may warrant further evaluation by the Planning Commission.

- **The water availability letter provided at application has expired. If the applicant cannot verify water availability for the density and intensity of development proposed, action on this item should be deferred.**
- Public works recommends the use of dumpsters or private sanitation services for townhomes and live/work units.
- Maury County Schools provided comments that the proposed development would be served by Howell Elementary; Cox Middle School; and Spring Hill High School. Maury County Schools reiterated in its comments that no residence is guaranteed assignment to a specific attendance zone.

Preliminary Plat and Site Development Plan are two separate documents which are reviewed concurrently.[2]

- The Preliminary Plat must adhere to the Subdivision Regulations and propose a plan for installation of infrastructure and the subdivision of land in a manner that conforms to the Zoning Ordinance and other regulations of the City. A Preliminary Plat approved by Planning Commission is the first step in the process of subdividing the property into smaller parcels.
- The Site Development Plan details how the proposed development of the site will conform to the requirements of the Zoning Ordinance for Development Parcels. A Site Development Plan approved by the Planning Commission will control all subsequent development of the site.
- Approval should be conditioned on the submittal of separate "as-approved" documents which reflect the determinations of the Planning Commission.

[2] There are some exceptions where Preliminary Plats and/or Site Construction Plans serve as the required Development Plan.

Ahler & Associates, LLC
CONSULTING ENGINEERS AND LAND SURVEYORS

June 23, 2023

Development Services
City of Columbia
700 N. Garden St.
Columbia, TN 38401

Re: Responses to Development Review Committee notes
May 9, 2023

To whom it may concern:

As a response to your request dated June 21, 2023, I have the following to offer. The responses are in the order of the comments listed.

Engineering

1. Acknowledged
2. We have enlarged the stormwater detention areas.
3. We have labeled the buffers and provided a minimum of 30' buffer from the top of Pumpkin Creek
4. We have had the areas pointed out by staff investigated and located, as soon as the report comes in, we will forward it to you.
5. The roadways have been labeled "public."
6. We have adjusted the radius of curves 4, 5, and 6 to meet the City's requirements.
7. We have lengthened the tangent between curves 1 and 2 to 94'.
8. We have provided a roadway cross section.
9. We have provided the storm inlets at 300' intervals.
10. We provided the survey with the seal of a Registered Land Surveyor
11. We have removed the EPSC sheets from the packet.
12. We have corrected the lot numbers of each sheet to agree with the others.
13. We have corrected the slope on the southern property line.

Wastewater

14. This comment was blank.
15. We changed the entire sanitary sewer collection system to gravity flow. Ryan Filipkowski, P.E. has reviewed and provided the following comments, "I don't think there are any major comments, as long as it's gravity sewer and made as shallow as possible; the sewer is definitely available through the ROW of Bear Creek Pike. I should have emailed you sooner."

Planning

16. The playgrounds are within 800' of each home proposed.
17. We have provided additional details on the Civic Space Green Area and the playgrounds.
18. There is sufficient parking to conform to 4.3.12.B.3 in the Live/Work locations.
19. The thoroughfare is shown on the drawings and the conformity note was added.

P.O. Box 1636
SPRING HILL, TN 37174
PHONE 615-481-3106
FAX 615-468-9357
www.ahlerengineering.com

20. We have corrected the spacing on the townhome units to conform to 4.3.1-D
21. An update water availability letter from CPWS has been provided,
22. Plans have been updated to comply with the Zoning Ordinance
23. Note has been added.
24. Note has been added.
25. Note has been added.
26. The aerial image has been provided.
27. Dumpsters were added for the townhome use while the single family residential will have rear alley collection.
28. Square footage of the non-residential area in the live/work units has been provided on the drawings.
29. Civic space page has been provided.
30. A detail of the mail kiosk area has been provided.
31. Noted

Fire

32. Provided no comment.

Building

33. Provided no comment.

Police

34. Provided no comment.

City Attorney

35. Provided no comment.

ATT

36. Plans to service the development.

Maury Co. Highway Department

37. Provided no comment.

Columbia Power

38. Duck River Electric will serve the development, CPWS has no power facilities in the area

Columbia Water

39. An updated water availability letter has been provided.

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FAX 615-468-9357
www.ahlerengineering.com

Public Works

40. Public Works recommends two 8-yard dumpsters serviced 3 times a week. We have shown these dumpsters at the north end of the site.

Maury County E911

41. Maury County E911 has approved the subdivision and street names.

Atmos Energy

42. Provided no comment.

Maury County Schools

43. Provided the following, "Howell Elementary, Cox Middle School, Spring Hill High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students."

Duck River Electric Membership Corp.

44. Provided no comment.

Should you have any additional comments or questions, do not hesitate to contact me.

Sincerely,

Joseph Ahler

Joseph Ahler P.E., R.L.S.
Ahler & Associates, LLC

P.O. Box 1636
SPRING HILL, TN 37174
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FAX 615-468-9357
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DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0144

DESCRIPTION: CD-4 RESIDENTIAL DEVELOPMENT

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Subject to construction plans and traffic impact study.
2. Stormwater detention area(s) appear to be small for the amount of added impervious surface.
3. Label aquatic buffers and provide dimensions. Pumpkin creek is exceptional and will require a 60 foot buffer average 30 ft minimum from the top of bank for each side of the creek.
4. Provide geotechnical report evaluating the presence of karst features on site, suitability of soils/rock formation for construction, and recommendations.
5. Label roadways as public or private (minor local)
6. Minimum horizontal centerline radius is 125 ft. (C4, C5, C6,)
7. 50 foot tangent required between reverse curves. (C1, C2)
8. Provide roadway cross section.
9. Inlets shall be located a minimum of every three hundred (300) feet of roadway for each side of the roadway, unless specific hydraulic analysis of spread is provided.
10. Provide survey signed and sealed by a Registered Land Surveyor.
11. Remove EPSC sheets
12. Lot numbers on Utility Sheet do not match the rest of the plan.
13. Slope along southern property line exceeds 3H:1V

Wastewater

14.
15. Wastewater does not approve this request. The Department would like to discuss the possibility of gravity flor to the Bear Creek Pike instead of two pump stations as shown on the plans.

Planning

16. Provide 800' radius for playgrounds and basic facilities to be added.
17. Provide details of Civic Space Green area, typical facilities. Please revise to provide sufficient detail for the Planning Commission to determine that the Green and Playground spaces meet

the standards for such areas in the Ordinance (e.g. show typical facilities and sufficient detail to discern that "landscape consists of lawn and trees, naturalistically disposed" etc).

18. Show live/work locations and extra parking for the commercial space (1:500 sf). Parlong locations must conform with § 4.3.12.B.3 (p. 268).
19. Please note on the plan which thoroughfare is being used and that structures shall comply with Article 4.3.1-D of Ordinance 4400.
20. In the typical lot layout please illustrate the series of Townhomes with the spacing between sets of units. Please include the lot layout for 32' wide townhome units (appears to be end units).
21. The water availability letter is dated January 13th and is set to expire before the June Planning Commission meeting. Please provide an updated letter at resubmittal.
22. Please provide Site Development Plan as a separate document (See sec. 8.5.6, p. 408-422 of the Zoning Ordinance). Site Development Plan should respond to planning comments and address all applicable standards of the Zoning Ordinance, including civic space and tree preservation requirements.
23. Please add note acknowledging the design and façade standards of Table 4.3.1-D (p.78-85) and Table 4.3.8.B (p. 212) of the Zoning Ordinance and indicate that structures will conform. Conformity will be confirmed at building permit.
24. Please add note to site development plan referencing the private lighting standards at Table 4.3.17.B (p. 297) of the Zoning Ordinance. Note should acknowledging that exterior lighting plans may be required as appropriate at site construction plan review/building permit (§ 8.5.6.G.4.p).
25. Please add note to tree preservation page pf Site Development Plan acknowledging requirement at 4.3.16.C.1 (p. 290) of the Zoning Ordinance that future removal of trees depicted on the plan will require approval by Planning Commission.
26. Please provide the ariel image referenced in the tree preservation plan.
27. Please indicate how solid waste will be handled. If dumpsters are to be utilized, please provide location and details (See ESS detail MD-01, Table 4.3.1-D and §4.3.15 of the Zoning Ordinance).
28. Please indicate the square footage of non-residential area in the Live-Work units (§ 8.5.6.H.3.C).
29. The Site Development Plan should include a Civic Space page. Please label pedestrian shed(s) and identify the "Main Civic Space" for each. The Main Civic Space must be a Green, Square, or Plaza (§ 5.3.3; p. 335).
30. Please show detail of mail kiosk area conforming to ESS detail MD-03.
31. The Site Development Plan portion of this application should be reviewed by the Development Review Committee again for completeness before advancing to the Planning Commission agenda. At resubmittal, the Preliminary Plat should be more legible and clear of matters not pertinent to the items listed at 2.2.8 of the Subdivision Regulations.

Fire

32. No comment

Building

33. No comments.

Police

34. No comments provided.

City Attorney

35. No comments provided.

ATT

36. Plan to serve.

Maury County Highway Dept.

37. No comment.

Columbia Power

38. Columbia Power System does not have existing power facilities near your proposed development within our service territory. DREMC will be the service provider for this area.

Columbia Water

39. "A water availability letter was issued on 1-13-23, it will expire prior to the Commission meeting. For the project to move forward the availability letter must be current. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements stated in the water availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Public Works

40. For the 54 townhomes and 28 live/work units, we recommend two 8 yd dumpsters serviced 3 times a week. Please see attached dumpster guidelines and accessibility requirements. Private

sanitation services (including individual garbage receptacles) are an option for townhomes and live/work units. Single family homes will receive our trashcan service.

Maury County E911

41. Contact Maury County 911 for subdivision and street name request. cgideon@maury911.org

Atmos Energy

42. No comment provided.

Maury County Schools

43. Howell Elementary, Cox Middle School, Spring Hill High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Duck River Electric Membership Corp

44. No comment provided.

ATTACHMENTS:

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Southern Consulting

Engineering • Materials Testing • Environmental Services

Project:	1451 Lasea Road (Columbia)	Date:	May 17, 2023
Engineering Technician:	TJ Randolph	Weather:	Clear

Condition of Site at Arrival:

Project property still has some exisiting structures on it with the vast majority of the property covered in dense foliage.

Inspection Activities:	_ Concrete Placement	_ Concrete/Mortar	_ Conc/Grout
_ Subgrade Suitable Soils	_ Proofroll	_ Moisture Density	_ Footing/SCP
_ Foundation Static Probe	_ Foundation Steel	_ Foundation Size/Depth	_ Steel/Weld
_ Frame	**X** Other (Describe): Sinkhole investigation		

Test(s) Location(s):

See attached image for testing locations

Testing Performed and Results:

- Visual observation of alleged sinkholes to make remediation recommendations if necessary.

REQUIREMENTS:

- Indications of a sinkhole would be a depression and area where water would drain with no surface outfall.
- If it is determined that there is a sinkhole the specification for sinkhole repair would be to undercut the location of the sinkhole until the opening in bedrock or "throat" is found and the placement of lean concrete to plug throat, a non-woven geotextile fabric for soil rock seperation and backfilled with large stone decreasing in size incrementally to the surface.

OBSERVATIONS:

- Technician traversed the majority site with a surveying employee, Chris, of Joe Ahler and Associates beginning at the exisiting home structure located on the attached drawing heading westward through the vegetation until coordinates of several individual locations designated by Joe Ahler were reached.
- At the first location Location 1 on attached image) there was a small area of standing water that was off of the target property approximately 20 feet to the North which had the potential to be a cause for concern.
- Technician continued to traverse the site to the two other locations (locations 2 and 3) on the attached image and at each location nothing was observed that would indicate the existence of a sinkhole on the property.

CONCLUSION:

- During this visit other than the original location that was deemed to be off our target property, no evidence of a sinkhole was observed.

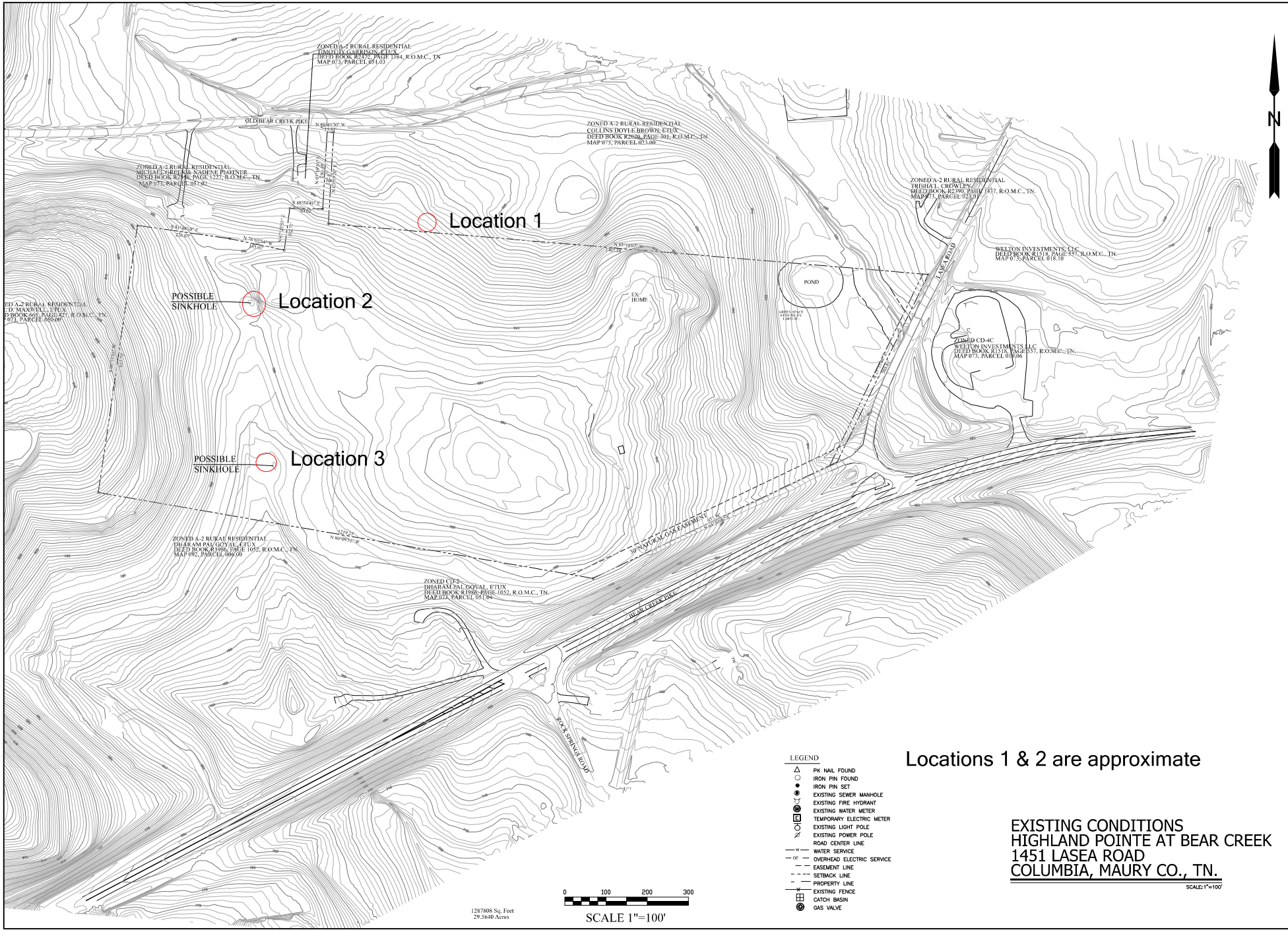
RECOMMENDATIONS:

- No further recommendations at this time.

This document does not indicate final test results. Test results are not considered final until they are reviewed and signed by a Southern Consulting Registered Engineer.

TJ Randolph
Southern Consulting Engineering Technician

Trent Smith
Southern Consulting Engineer



Ahler & Associates, LLC
CIVIL ENGINEERS & LAND SURVEYORS
P.O. BOX 6356
SPRING HILL, TN. 37174
PH: 615.861.3066
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E. AHLER
REGISTERED ENGINEER
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN

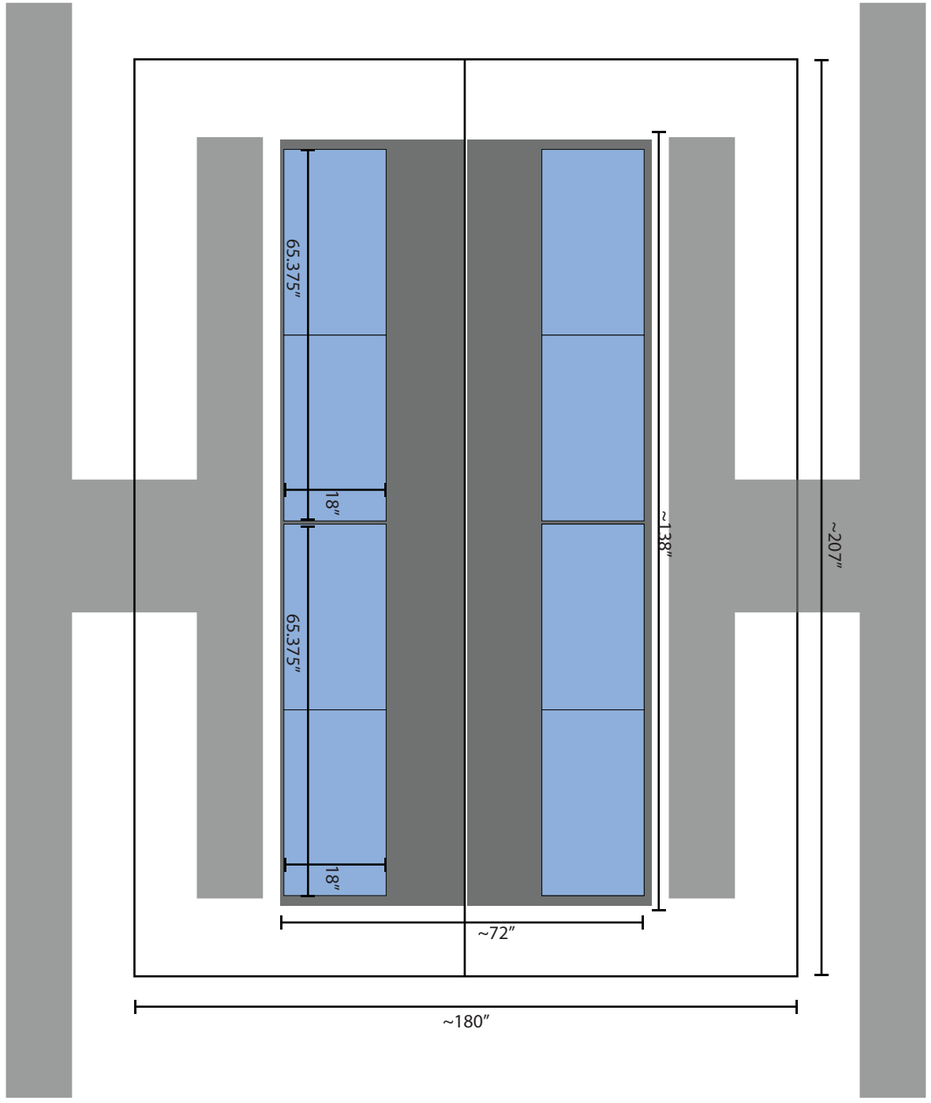
ISSUE:	DATE	DESCRIPTION
-	04/23	ORIGINAL ISSUE

PROJECT No:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
EXISITING CONDITIONS
-

C2.0







HEIGHT:

Unit height is 72 1/16"
WIDTH:

Unit width is 32 11/16"
DEPTH:

Unit depth is 18"

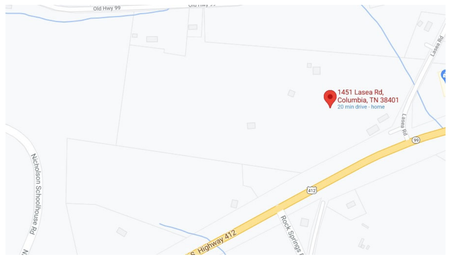
Florence Versatile 4C Depot Cabinet
4C16D-20-D

Quantity	Compartment Name	Compartment Type	Compartment Height	Compartment Width	Compartment Depth
20	1H Tenant	Standard Mail	3"	12"	15"
2	15" Parcel	Parcel Locker	15"	12"	15"
1	1H Outgoing	Outgoing Mail Slot	3"	12"	15"
1	1H Master	Master Collection	3"	12"	15"

PRELIMINARY DEVELOPMENT PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, TENNESSEE
MAP 73, PARCEL 51

SHEET INDEX

C0.0-COVER SHEET
C1.0- GENERAL NOTES
C2.0-EXISTING CONDITIONS
C3.0-SITE PLAN
C4.0-UTILITY PLAN
C5.0-GRADING PLAN
C6.0-EROSION CONTROL PLAN-PH. 1
C7.0-EROSION CONTROL PLAN-PH. 2
C8.0-EROSION CONTROL PLAN-PH. 3
C9.0-TREE PRESERVATION PLAN



VICINITY MAP
NTS

OWNER

IMER DEVELOPMENT, LLC
1909 COLUMBIA AVENUE
FRANKLIN, TN 37064
615-788-1320

UTILITY COMPANIES

WATER

COLUMBIA POWER & WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401
931-388-4833

SEWER

COLUMBIA WASTEWATER SYSTEM
1244 TREATMENT PLANT ROAD
COLUMBIA, TN 38401
931-560-1011

NATURAL GAS

ATMOS ENERGY
810 NASHVILLE HWY.
COLUMBIA, TN 38401
931-388-9136

ELECTRIC

COLUMBIA POWER & WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401
931-388-4833

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
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SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
LICENSE
CERTIFICATE
NO. 14745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
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PROJECT NO:	NUMBER
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SHEET DESCRIPTION
COVER SHEET
-

C0.0

GENERAL NOTES

1) THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IF INDICATED ON THE DRAWINGS ARE SO SHOWN INSOFAR AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES FAR ENOUGH IN ADVANCE TO ALLOW FOR ADJUSTMENTS DUE TO CONFLICTS IN THE HORIZONTAL AND VERTICAL LOCATION OF THE PIPE. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL OBTAIN FIELD UTILITY LOCATIONS BY CALLING "TENNESSEE ONE CALL" (1-800-351-1111) AND ALL OTHER UTILITIES 3 DAYS PRIOR TO WORKING IN THE VICINITY OF EXISTING UTILITIES. THE FIELD UTILITY LOCATIONS MUST BE SUBMITTED TO THE ENGINEER.

2) ALL WORK SHALL BE IN ACCORDANCE WITH THESE DRAWINGS AND THE TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN A COPY OF BOTH THE DRAWINGS AND SPECIFICATIONS AT THE SITE AT ALL TIMES.

3) ANY FENCING WHICH IS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY REPLACED OR SUPPLEMENTED BY TEMPORARY FENCING OR BARRICADE SUITABLE FOR INTENDED PURPOSE OF EXISTING FENCING OR BARRICADE. CONTRACTOR SHALL PROMPTLY REPAIR AND/OR REPLACE DAMAGED FENCING TO EQUAL OR BETTER CONDITIONS.

4) PHYSICAL CONDITIONS DISTURBED BY WORK SHALL BE RESTORED TO CONDITIONS EQUAL OR BETTER THAN THOSE EXISTING PRIOR TO THE WORK. REPAIR DAMAGES TO STRUCTURES AND UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. RESTORATION INCLUDES, BUT IS NOT LIMITED TO, FINE GRADING, SEEDING, PAVEMENT REPLACEMENT, AND DRAINAGE STRUCTURES.

5) THE CONTRACTOR SHALL MAKE EVERY ATTEMPT POSSIBLE TO MAINTAIN THROUGH TRAFFIC AT ALL TIMES. ALL CONSTRUCTION OPERATIONS SHALL BE SCHEDULED TO KEEP TRAFFIC DELAYS TO A MINIMUM. THE CONTRACTOR SHALL NOT CLOSE OR EXCAVATE WITHIN THE RIGHT-OF-WAY OF A STREET OR ALLEY WITHOUT OBTAINING THE APPROVAL OF AND THE REQUIRED PERMITS FROM THE LOCAL GOVERNING AUTHORITIES AND PROVIDING EVIDENCE OF SUCH APPROVAL TO ENGINEER. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN, AT HIS EXPENSE ALL WARNING DEVICES AND FLAG MEN REQUIRED TO CONTROL AND PROTECT TRAFFIC PASSING THROUGH THE WORK ZONE. THE CONTRACTOR SHALL PROVIDE PILOT TRUCKS AND DRIVERS WHEN NEEDED. ALL METHODS OF CONTROLLING AND PROTECTING THE TRAFFIC SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL GOVERNING AUTHORITIES.

TRENCH EXCAVATION NOTES

1) CONTRACTOR IS REQUIRED TO TAKE ALL NECESSARY AND POTENTIAL PRECAUTIONARY MEASURES TO ASSURE THAT NO DAMAGE (TO PERSONAL AND PRIVATE PROPERTY) WILL RESULT FROM THE EXCAVATION OF ROCK - INCLUDING THROUGH USE OF EXPLOSIVES. PRE-BLASTING STUDIES MUST BE PERFORMED. ADDITIONALLY, CONTRACTOR MUST PROVIDE A PLAN OF ACTION TO THE ENGINEER AT LEAST ONE (1) WEEK PRIOR TO BLASTING. THE PLAN OF ACTION MUST IDENTIFY MEANS AND METHODS TO FULLY PROTECT ALL ADJACENT REAL AND PERSONAL PROPERTY OWNED BY OTHERS. ENGINEER WILL NOT AND DOES NOT ACCEPT ANY LIABILITY ASSOCIATED WITH ADEQUACY OF PLAN.

2) CONTRACTOR IS STRONGLY URGED TO TAKE ALL PRECAUTIONS TO AVOID DAMAGE TO PERSONAL AND REAL PROPERTY. ALL DAMAGE RESULTING FROM CONTRACTORS OPERATION OR CONTRACTOR'S AGENTS MUST BE FULLY REPAIRED OR REPLACED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINALLY EXISTED.

3) TRENCH WIDTH AT THE GROUND SURFACE MAY VARY WITH AND DEPEND UPON DEPTH, TYPE OF SOILS, AND POSITION OF SURFACE STRUCTURES. THE MINIMUM CLEAR WIDTH OF THE TRENCH, SHEETED OR UNSHEETED, MEASURED AT THE SPRING LINE OF THE PIPE SHOULD BE ONE FOOT (1') GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE. THE MAXIMUM CLEAR WIDTH OF THE TRENCH AT THE TOP OF THE PIPE SHOULD NOT EXCEED A WIDTH EQUAL TO THE OUTSIDE DIAMETER PLUS TWO FEET (2'). IF THE ABOVE DEFINED TRENCH WIDTHS MUST BE EXCEEDED, OR IF THE PIPE IS INSTALLED IN A COMPACTED EMBANKMENT, PIPE EMBEDMENT SHOULD BE COMPACTED TO A POINT OF AT LEAST 2.5 PIPE DIAMETERS FROM THE PIPE ON BOTH SIDES OF THE PIPE OR THE TRENCH WALLS, WHICHEVER IS LESS. EXCAVATION AT MANHOLES AND SIMILAR STRUCTURES SHALL BE SUFFICIENT TO PROVIDE 12-INCHES IN THE CLEAR BETWEEN THE OUTSIDE OF THE STRUCTURE AND THE EMBANKMENT OR SHEETING.

4) THE TRENCH SHALL BE EXCAVATED TO THE DEPTH REQUIRED AND SHALL PROVIDE A FIRM, STABLE, AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE ON SOLID OR UNDISTURBED SOIL. BELL HOLES AND DEPRESSIONS SHALL BE PROVIDED TO PERMIT PROPER JOINT ASSEMBLY AND PIPE SUPPORT. ANY PART OF THE TRENCH BOTTOM EXCAVATED BELOW THE ESTABLISHED PIPE GRADE SHALL BE BACKFILLED AND COMPACTED AS REQUIRED TO PROVIDE FIRM PIPE SUPPORT. LEDGE ROCK, BOULDERS, AND LARGE STONES SHALL BE REMOVED TO PROVIDE SIX INCHES (6") OF SOIL CUSHION ON ALL SIDES OF THE PIPE, INCLUDING THE BOTTOM, AND ON ALL SIDES OF ACCESSORIES. ALL UNDERCUT TRENCH EXCAVATION SHALL BE BACKFILLED AND COMPACTED WITH APPROVED GRANULAR MATERIAL.

5) THE BOTTOM OF THE TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF TWO TO FOUR INCHES (4") BELOW THE BOTTOM OF THE PIPE TO PROVIDE FOR THE SPECIFIED PIPE BEDDING FOR THE ENTIRE LENGTH OF PIPELINE. ANY PART OF THE TRENCH BOTTOM THAT IS EXCAVATED BELOW THE REQUIRED LEVEL SHALL BE BACKFILLED WITH APPROVED GRANULAR MATERIAL AND COMPACTED/ CONSOLIDATED.

6) WHEN AN UNSTABLE SUBGRADE CONDITION IS ENCOUNTERED, WHICH WILL NOT PROVIDE ADEQUATE PIPE SUPPORT, ADDITIONAL TRENCH DEPTH SHALL BE EXCAVATED TO A STABLE FOUNDATION AND BACKFILLED WITH APPROVED GRANULAR MATERIAL. BACKFILL, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE.

7) THE CONTRACTOR SHALL REMOVE ALL ROCK THAT IS SHATTERED BELOW GRADE AND REFILL. THE EXCAVATION TO THE REQUIRED GRADE WITH COMPACTED GRAVEL. LEDGE ROCK, BOULDERS, OR LARGE STONES WILL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF 4 INCHES BELOW AND ON EACH SIDE OF PIPE. ALL LOOSE DIRT AND ROCK WILL BE REMOVED FROM THE TRENCH BOTTOM BEFORE PLACEMENT OF BEDDING MATERIAL.

8) DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONE, ORGANIC MATERIAL OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED FOR FINAL BACKFILL WITHIN 2 FEET OF THE TOP OF THE PIPE.

9) THE INTERIOR OF THE PIPE, AS THE WORK PROGRESSES, SHALL BE CLEANED OF ALL DIRT, JOINTING MATERIAL, AND SUPERFLUOUS MATERIAL OF EVERY DESCRIPTION.

10) PIPE CROSSING OF ALL PROPOSED AND/OR EXISTING STREETS, AND PARKING AREAS WILL BE BACKFILLED WITH TDOT No. 57 STONE TO THE TOP OF THE TRENCH SURFACE.

11) MINIMUM COVER OVER WATER PIPE IN DEVELOPED AREAS IS TO BE 36" UNLESS OTHERWISE NOTED.
MINIMUM COVER OVER VALVE NUT IS TO BE 12": MAXIMUM COVER IS TO BE 36".

12) THE ENGINEER AND OWNER MAY APPROVE EXTRA DEPTH TRENCHING WHERE VERTICAL BENDS ARE IDENTIFIED. WHERE EXTRA DEPTH TRENCHING IS APPROVED, THE CONTRACTOR SHALL NOT EXCEED THE MAXIMUM DEFLECTION OF THE PIPE JOINTS RECOMMENDED BY THE PIPE MANUFACTURER.

PROJECT LAYOUT

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL LAYOUT ALL WORK. THE CONTRACTOR SHALL SET TRENCH LINE STATIONS AHEAD OF TRENCHING. THESE STATIONS SHALL BE SET AT 100 FOOT INTERVALS ALONG THE CENTER OF THE PIPELINE AND AT THE LOCATIONS OF PIPELINE ACCESSORIES (VALVES, HYDRANTS, FITTINGS,....).
PRIOR TO EXCAVATION, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY OFFICE AND ANY OTHER APPLICABLE UTILITY COMPANY WHICH MAY HAVE UNDERGROUND UTILITIES ON OR IN CONTIGUOUS TO, THE PROJECT SITE.
THE CONTRACTOR IS RESPONSIBLE FOR MANAGING STORM WATER RUNOFF AND EROSION DURING CONSTRUCTION AS REQUIRED BY ORDINANCES SET FORTH BY CITY OF COLUMBIA AND ANY OTHER RESPONSIBLE AGENCIES.
CONSTRUCTION INSPECTION AND CERTIFICATION SHALL BE PROVIDED BY THE LOCAL UTILITY IF SO DESIRED/REQUIRED. NO TRENCHES SHALL BE BACKFILLED UNTIL THE LOCAL UTILITY AND/OR DESIGN ENGINEER HAS APPROVED THE GRADE AND ALIGNMENT OF THE WATER LINE.
THE LAYOUT OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL EROSION CONTROL NOTES

1. SEDIMENT BARRIERS SHALL BE PLACED AS INDICATED ON THE PLAN PRIOR TO ANY GRADING WORK.

2. DUST CONTROL ON SITE SHALL BE KEPT WITHIN ACCEPTABLE LIMITS BY SPRINKLING WITH WATER OR BY OTHER APPROPRIATE METHODS.

3. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF THE CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

4. THE LOCATIONS OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.

5. ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

6. INSPECTIONS
A. AN INSPECTION SHALL BE CONDUCTED AT LEAST TWICE EACH CALENDAR WEEK AND AT LEAST 72 HOURS APART. PERMITTEE MUST PROVIDE WRITTEN NOTIFICATION TO LOCAL ENVIRONMENTAL FIELD OFFICE.
B. INSPECTIONS SHALL INCLUDE OBSERVATIONS OF THE FOLLOWING:
1. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED
2. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION
3. EROSION AND SEDIMENT CONTROL DEVICES
4. OUTFALL POINTS
C. INADEQUATE CONTROL MEASURES OR MEASURES IN DISREPAIR SHOULD SHALL BE MODIFIED OR REPAIRED WITHIN SEVEN (7) DAYS OF THE NEED BEING IDENTIFIED.
D. PERSON CONDUCTING INSPECTION MAY BE LICENSED ENGINEER OR LANDSCAPE ARCHITECT,
CPESC, OR COMPLETED TDEC LEVEL II OR LEVEL I.

7. EROSION CONTROL DEVICES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.

8. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE OF THE SITE IS NOT IMPAIRED.

9. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 15 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING.

10. SILT BARRIERS TO BE CLEANED WHEN THEY ARE APPROXIMATELY 50% OBSTRUCTED BY SEDIMENT OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. SILT BARRIERS SHALL BE REPLACED AS EFFECTIVENESS IS SIGNIFICANTLY REDUCED.

11. SEDIMENT BASIN/POND TO BE CLEANED OF DEPOSITS WHEN CAPACITY HAS REACHED 50% OF VOLUME THROUGH OUT ALL PHASES OF CONSTRUCTION OR AS DIRECTED BY THE OWNERS REPRESENTATIVE.

12. TOPSOIL SHALL BE SPREAD TO A MINIMUM DEPTH OF 4 INCHES.

13. ALL DISTURBED AREAS SHALL BE SEEDED AND RESEEDED AS NECESSARY TO PROVIDE A STABILIZED SITE.

14. REMOVE ALL SEDIMENT FROM ALL DRAINAGE STRUCTURES PRIOR TO ACCEPTANCE BY THE OWNER.

15. CONTRACTOR TO INSTALL ALL EROSION CONTROL DEVICES IN ACCORDANCE WITH LOCAL CODES.

16. CONTRACTOR TO PROVIDE A RAIN GAUGE, MONITOR, AND RECORD RAIN DATA DAILY AND MONITOR AND RECORD THE START AND END TIME FOR EACH RAIN EVENT.

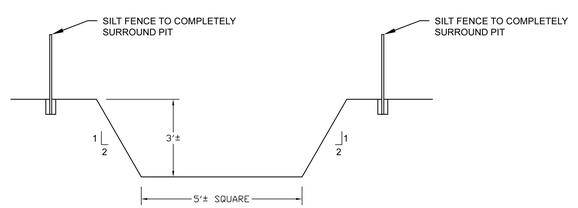
GENERAL GRADING NOTES:

1. ALL SUBGRADE AREAS TO BE PROOF ROLLED WITH FULLY LOADED TANDEM AXLE TRUCK WITH NO PUMPING OR YIELDING SOILS.
2. ALL SUBGRADE AREAS UNDER ROADWAY, PARKING, AND BUILDING EXTENDING OUT FIVE FEET RECOMMENDED TO BE TESTED FOR COMPACTION WITH A PASS/FAIL CRITERIA AS FOLLOWS:
> 98% COMPACTION RELATIVE TO STANDARD PROCTOR, AND
MOISTURE WITHIN - 1% AND 3+% OF OPTIMUM.
3. STONE TESTED FOR COMPACTION WITH A PASS/FAIL CRITERIA AS FOLLOWS:
> 95% COMPACTION RELATIVE TO STANDARD PROCTOR, AND
MOISTURE WITHIN - 1% AND 3+% OF OPTIMUM.
4. AT THE END OF EACH WORKING DAY (WHEN RAIN IS FORECAST), THE SOILS MUST BE SEALED BY AN APPROPRIATE METHOD, E.G., SMOOTH ROLLING.
5. PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITY, CONTRACTOR TO OBTAIN CONSTRUCTION STORM WATER PERMIT AND CONTACT TENNESSEE ONE-CALL AT (800) 351-1111.
6. CONTRACTOR TO INSTALL ALL EROSION AND SEDIMENT CONTROL PROTECTION PRIOR TO GRADING AND PROVIDE CONTINUOUS MAINTENANCE OF SAME.
7. CONTRACTOR TO PLACE FILL IN MAXIMUM 8-INCH LIFTS.

MISCELLANEOUS NOTES

ALL CONSTRUCTION MATERIALS AND METHODS PERFORMED ON THIS PROJECT SHALL CONFORM TO THE FOLLOWING DOCUMENTS:
A: THE CONSTRUCTION PLANS AS APPROVED BY CITY OF COLUMBIA, TN.
B: THE CITY OF COLUMBIA, TN APPROVAL LETTERS.
C: APPROVED SHOP DRAWINGS.
D: ANY SPECIAL SPECIFICATIONS OF SPECIAL PROVISIONS THAT MAY BE ASSIGNED TO THIS PROJECT.
SHOULD CIRCUMSTANCES EXIST WHERE THE CONSTRUCTION MATERIALS' AND/OR METHODS ARE NOT SPECIFICALLY REFERENCED, THE CONTRACTOR SHALL ADMINISTER RECOMMENDATIONS DEVELOPED BY THE ENGINEER AND APPROVED BY THE LOCAL UTILITY.
E. CITY OF COLUMBIA, TN STANDARD SPECIFICATIONS AND DETAILS.

CONTRACTOR TO PROVIDE AND SHALL ALWAYS USE A CONCRETE WASHDOWN CONTROL AS SHOWN BELOW.



NOTE: CONTRACTOR TO CLEAN WHEN WASHOUT MATERIAL ACCUMULATES TO A DEPTH OF 18 INCHES.

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
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SEAL

JOSEPH E. AHLER
REGISTERED ENGINEER
AGRICULTURE
CIVIL
STATE OF TENNESSEE
No. 14736

HIGHLAND POINTE AT BEAR CREEK

1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

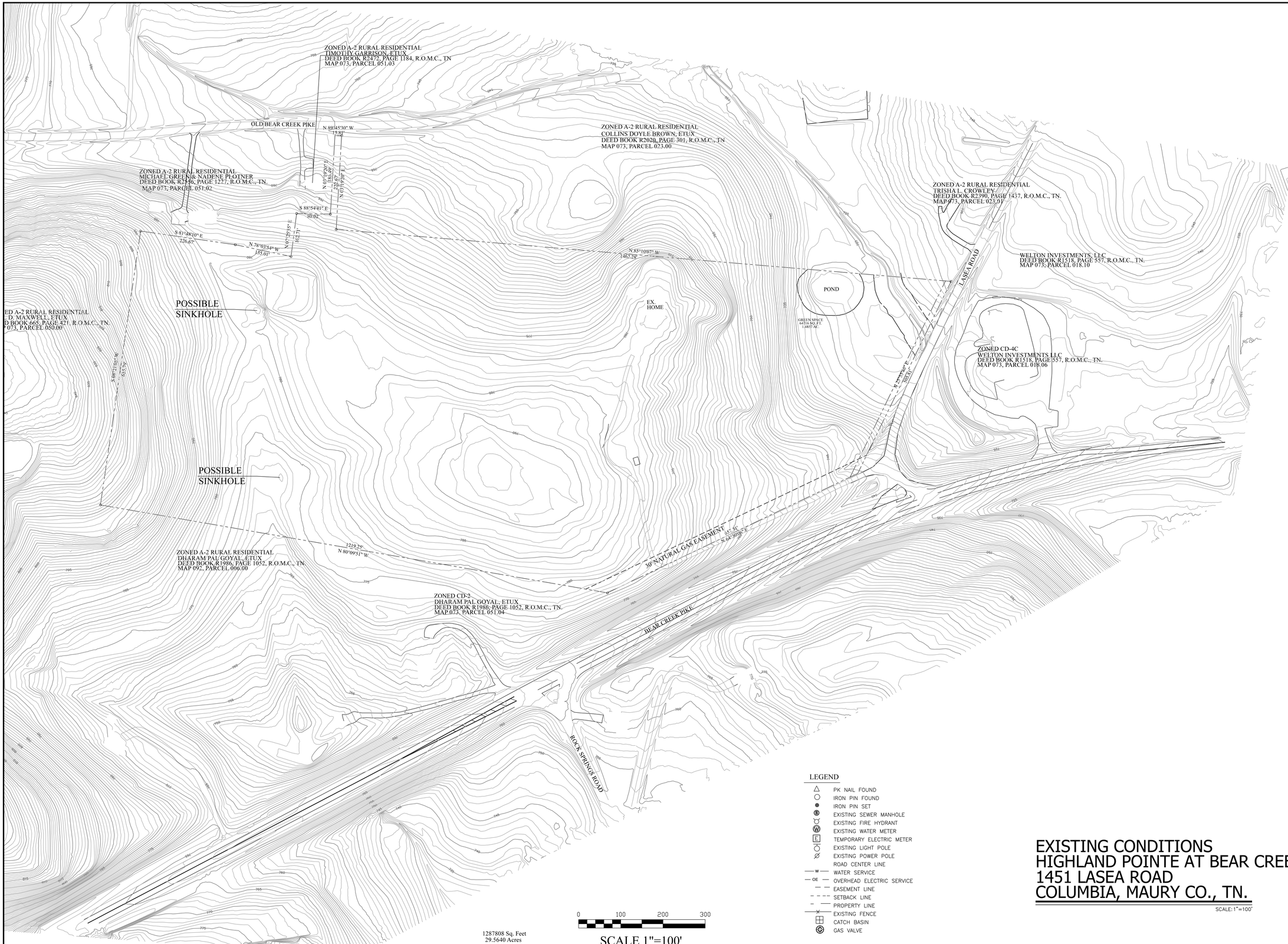
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SHEET DESCRIPTION

COVER SHEET
-

C0.0



EXISTING CONDITIONS
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

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PH 615.481.3106
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SEAL

JOSEPH E AHLER
REGISTERED ENGINEER
No. 109024
STATE OF TENNESSEE
No. 14745

HIGHLAND POINTE AT BEAR CREEK

1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

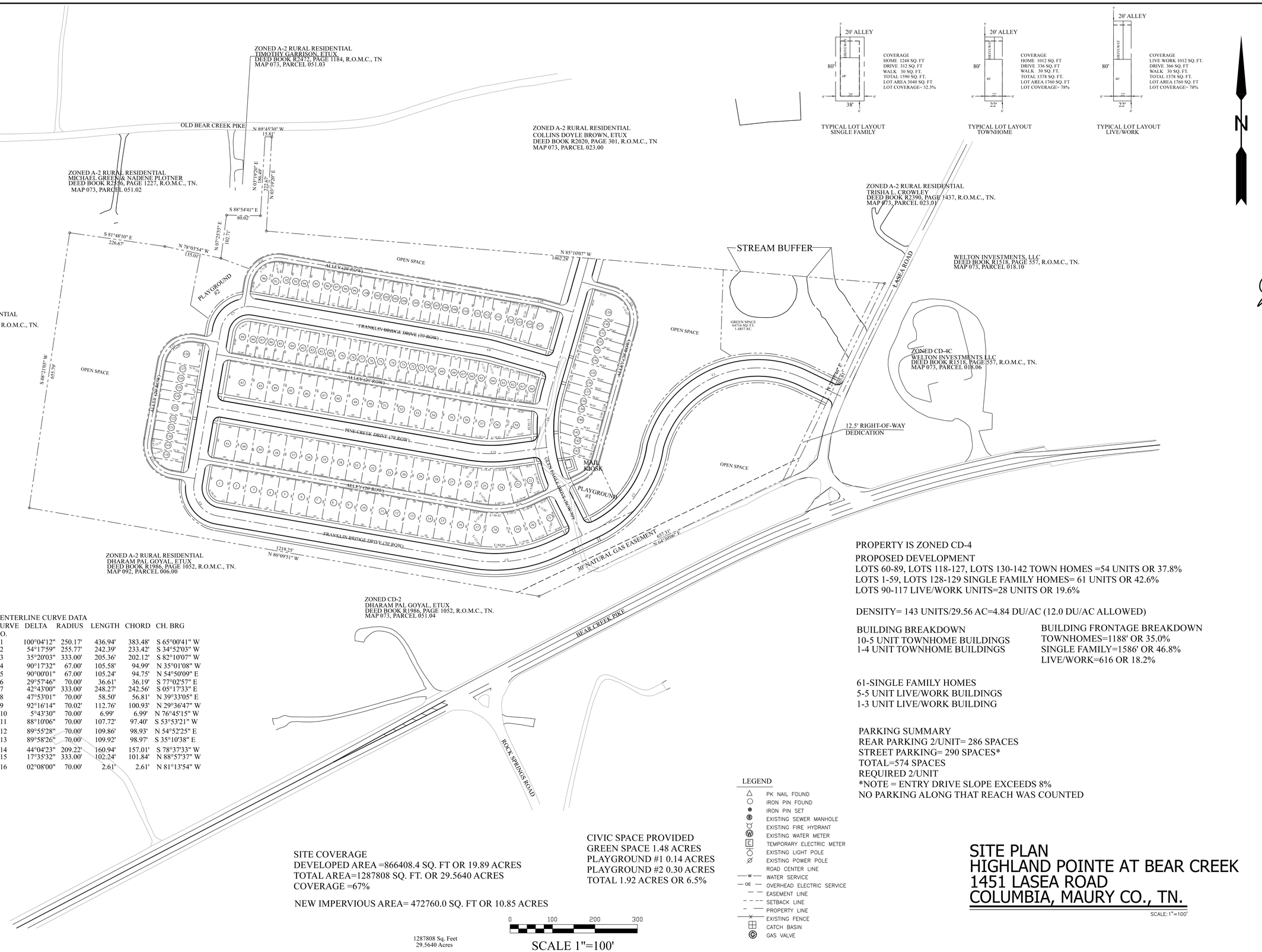
ISSUE:	MARK	DATE	DESCRIPTION
	1	7/04/23	ORIGINAL ISSUE

PROJECT No:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION

EXISITING CONDITIONS
-

C2.0



CENTERLINE CURVE DATA

CURVE NO.	DELTA	RADIUS	LENGTH	CHORD	CH. BRG
C1	100°04'12"	250.17'	436.94'	383.48'	S 65°00'41" W
C2	54°17'59"	255.77'	242.39'	233.42'	S 34°52'03" W
C3	35°20'03"	333.00'	205.36'	202.12'	S 82°10'07" W
C4	90°17'32"	67.00'	105.58'	94.99'	N 35°01'08" W
C5	90°00'01"	67.00'	105.24'	94.75'	N 54°50'09" E
C6	29°57'46"	70.00'	36.61'	36.19'	S 77°02'57" E
C7	42°43'00"	333.00'	248.27'	242.56'	S 05°17'33" E
C8	47°53'01"	70.00'	58.50'	56.81'	N 39°33'05" E
C9	92°16'14"	70.02'	112.76'	100.93'	N 29°36'47" W
C10	5°43'30"	70.00'	6.99'	6.99'	N 76°45'15" W
C11	88°10'06"	70.00'	107.72'	97.40'	S 53°53'21" W
C12	89°55'28"	70.00'	109.86'	98.93'	N 54°52'25" E
C13	89°58'26"	70.00'	109.92'	98.97'	S 35°10'38" E
C14	44°04'23"	209.22'	160.94'	157.01'	S 78°37'33" W
C15	17°35'32"	333.00'	102.24'	101.84'	N 88°57'37" W
C16	02°08'00"	70.00'	2.61'	2.61'	N 81°13'54" W

SITE COVERAGE
DEVELOPED AREA =866408.4 SQ. FT OR 19.89 ACRES
TOTAL AREA=1287808 SQ. FT. OR 29.5640 ACRES
COVERAGE =67%

NEW IMPERVIOUS AREA= 472760.0 SQ. FT OR 10.85 ACRES

CIVIC SPACE PROVIDED
GREEN SPACE 1.48 ACRES
PLAYGROUND #1 0.14 ACRES
PLAYGROUND #2 0.30 ACRES
TOTAL 1.92 ACRES OR 6.5%

LEGEND

△	PK NAIL FOUND
○	IRON PIN FOUND
●	IRON PIN SET
Ⓢ	EXISTING SEWER MANHOLE
	EXISTING FIRE HYDRANT
Ⓦ	EXISTING WATER METER
Ⓔ	TEMPORARY ELECTRIC METER
	EXISTING LIGHT POLE
	EXISTING POWER POLE
	ROAD CENTER LINE
—W—	WATER SERVICE
—OE—	OVERHEAD ELECTRIC SERVICE
— —	EASEMENT LINE
- - - -	SETBACK LINE
— —	PROPERTY LINE
—x—	EXISTING FENCE
	CATCH BASIN
Ⓖ	GAS VALVE

0 100 200 300

1287808 Sq. Feet
29.5640 Acres

SCALE 1"=100'

PROPERTY IS ZONED CD-4

PROPOSED DEVELOPMENT
LOTS 60-89, LOTS 118-127, LOTS 130-142 TOWN HOMES =54 UNITS OR 37.8%
LOTS 1-59, LOTS 128-129 SINGLE FAMILY HOMES= 61 UNITS OR 42.6%
LOTS 90-117 LIVE/WORK UNITS=28 UNITS OR 19.6%

DENSITY= 143 UNITS/29.56 AC=4.84 DU/AC (12.0 DU/AC ALLOWED)

BUILDING BREAKDOWN
10-5 UNIT TOWNHOME BUILDINGS
1-4 UNIT TOWNHOME BUILDINGS

BUILDING FRONTAGE BREAKDOWN
TOWNHOMES=1188' OR 35.0%
SINGLE FAMILY=1586' OR 46.8%
LIVE/WORK=616 OR 18.2%

61-SINGLE FAMILY HOMES
5-5 UNIT LIVE/WORK BUILDINGS
1-3 UNIT LIVE/WORK BUILDING

PARKING SUMMARY
REAR PARKING 2/UNIT= 286 SPACES
STREET PARKING= 290 SPACES*
TOTAL=574 SPACES
REQUIRED 2/UNIT
*NOTE = ENTRY DRIVE SLOPE EXCEEDS 8%
NO PARKING ALONG THAT REACH WAS COUNTED

SITE PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
STATE OF TENNESSEE

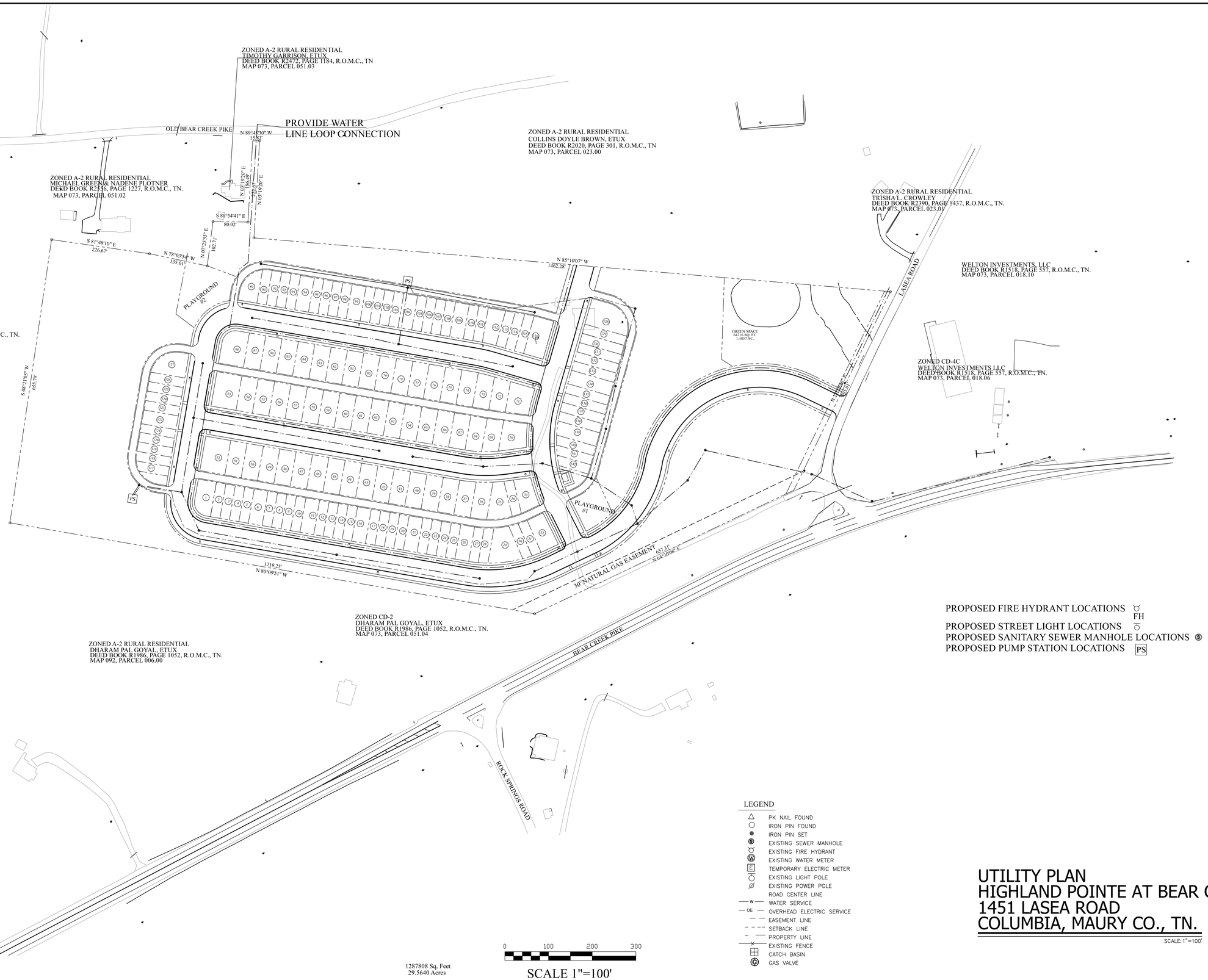
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
SITE PLAN
-

C3.0



UTILITY PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
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FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL

JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
OF
TENNESSEE
No. 14745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

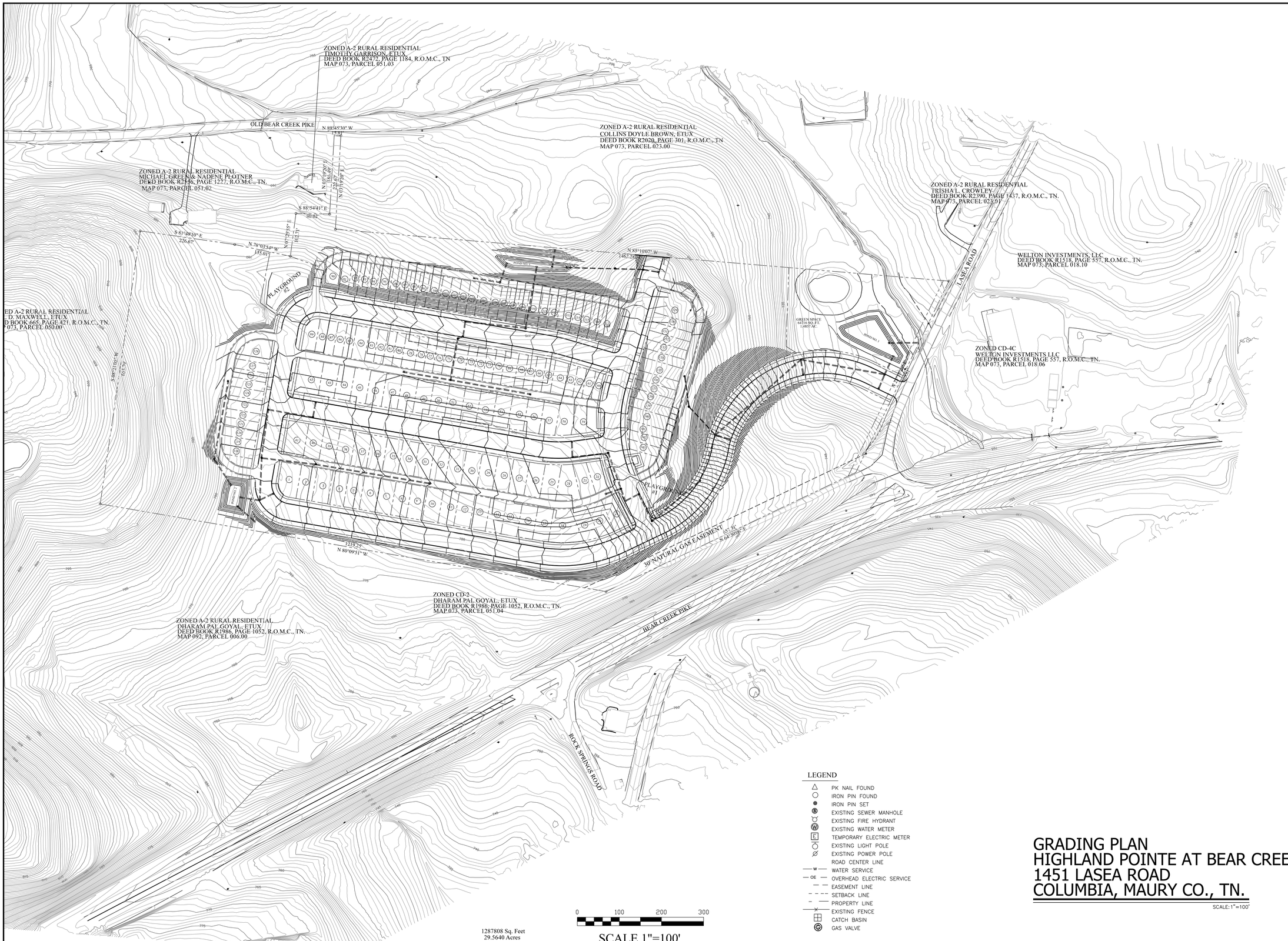
ISSUE:	MARK	DATE	DESCRIPTION
	-	1/04/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION

UTILITY PLAN
-

C4.0



GRADING PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517

SURVEYING
PLANNING
DESIGN
CIVIL

SEAL

JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
OCTOBER
CERTIFICATE NO. 114745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK

1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	7/04/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION

GRADING PLAN
-

C5.0

TENNESSEE GENERAL CONSTRUCTION PERMIT NO. TNR

ZONED A-2 RURAL RESIDENTIAL
TIMOTHY GARRISON, ETUX
DEED BOOK R2472, PAGE 1184, R.O.M.C., TN
MAP 073, PARCEL 051.03

OLD BEAR CREEK PIKE

N 89°45'30" W
15.81'

ZONED A-2 RURAL RESIDENTIAL
MICHAEL GREEN & NADENE PLOTNER
DEED BOOK R2556, PAGE 1227, R.O.M.C., TN.
MAP 073, PARCEL 051.02

N 03°19'20" E
186.49'

N 03°19'20" E
212.15'

S 88°54'41" E
80.02'

N 07°25'55" E
102.71'

S 81°48'10" E
226.67'

N 78°03'54" W
135.01'

ZONED A-2 RURAL RESIDENTIAL
L. D. MAXWELL, ETUX
D BOOK 665, PAGE 421, R.O.M.C., TN.
' 073, PARCEL 050.00

S 08°21'05" W
653.79'

ZONED A-2 RURAL RESIDENTIAL
COLLINS DOYLE BROWN, ETUX
DEED BOOK R2020, PAGE 301, R.O.M.C., TN
MAP 073, PARCEL 023.00

N 85°10'07" W
1462.24'

ZONED A-2 RURAL RESIDENTIAL
TRISHA L. CROWLEY
DEED BOOK R2390, PAGE 1437, R.O.M.C., TN.
MAP 073, PARCEL 023.01

LASEA ROAD

WELTON INVESTMENTS, LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.10

GREEN SPACE
64716 SQ.FT.
1.4857 AC.

ZONED CD-4C
WELTON INVESTMENTS LLC
DEEDBOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.06

S 77°55'E
200.00'

INSTALL
CONSTRUCTION
ENTRANCE

INSTALL
SILT FENCE

LIMITS OF
DISTURBANCE

1219.25'
N 80°09'51" W

30' NATURAL GAS EASEMENT
657.31'
N 64°30'06" E

ZONED CD-2
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 073, PARCEL 051.04

ZONED A-2 RURAL RESIDENTIAL
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 092, PARCEL 006.00

BEAR CREEK PIKE

ROCK SPRINGS ROAD

TOTAL AREA=1287808 SQ. FT OR 29.56 ACRES
TOTAL DISTURBED AREA=913481 SQ. FT. OR 20.97 ACRES

1287808 Sq. Feet
29.5640 Acres

0 100 200 300
SCALE 1"=100'

LEGEND

- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

GENERAL EROSION CONTROL NOTES

1. SEDIMENT BARRIERS SHALL BE PLACED AS INDICATED ON THE PLAN PRIOR TO ANY GRADING WORK.
2. DUST CONTROL ON SITE SHALL BE KEPT WITHIN ACCEPTABLE LIMITS BY SPRINKLING WITH WATER OR BY OTHER APPROPRIATE METHODS.
3. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF THE CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. THE LOCATIONS OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
5. ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
6. EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALL. MINIMUM CLEANING AND REPAIR FREQUENCY SHALL BE ONCE PER MONTH.
7. EROSION CONTROL DEVICES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
8. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE OF THE SITE IS NOT IMPAIRED.
9. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 15 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING.
10. SILT BARRIERS TO BE CLEANED WHEN THEY ARE APPROXIMATELY 50% OBSTRUCTED BY SEDIMENT OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. SILT BARRIERS SHALL BE REPLACED AS EFFECTIVENESS IS SIGNIFICANTLY REDUCED.
11. TOPSOIL SHALL BE SPREAD TO A MINIMUM DEPTH OF 4 INCHES.
12. ALL DISTURBED AREAS SHALL BE SEEDED AND RESEEDED AS NECESSARY TO PROVIDE A STABILIZED SITE.
13. REMOVE ALL SEDIMENT FROM ALL DRAINAGE STRUCTURES PRIOR TO ACCEPTANCE BY THE OWNER.
14. CONTRACTOR TO INSTALL ALL EROSION CONTROL DEVICES IN ACCORDANCE WITH LOCAL CODES.

SEEDING NOTES:

1. SOIL TO BE TILLED TO A DEPTH OF 4-INCHES.
2. SEED MIX TO BE A DROUGHT TOLERANCE FESCUE BLEND.
3. SEED TO BE SOWN AT A RATE OF 6#/1,000 S.F.
4. A 10-10-10 FERTILIZER IS TO BE SPREAD AT A RATE OF 10#/1,000 S.F.
5. LIME IS TO BE SPREAD AT A RATE OF 1,000#/ACRE.
6. STRAW TO BE PLACED AT A RATE OF 2 BALES/1,000 S.F.
7. CONTRACTOR IS RESPONSIBLE FOR RESEEDING BARE UNTIL AN ACCEPTABLE STAND OF GRASS IS ACHIEVED.

PHASE ONE
EROSION AND SEDIMENT CONTROL PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
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FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
CHEROKEE
No. 14745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
EROSION CONTROL PLAN

C6.0

TENNESSEE GENERAL CONSTRUCTION PERMIT NO. TNR

ZONED A-2 RURAL RESIDENTIAL
TIMOTHY GARRISON, ETUX
DEED BOOK R2472, PAGE 1184, R.O.M.C., TN
MAP 073, PARCEL 051.03

OLD BEAR CREEK PIKE

ZONED A-2 RURAL RESIDENTIAL
MICHAEL GREEN & NADENE PLOTNER
DEED BOOK R2556, PAGE 1227, R.O.M.C., TN.
MAP 073, PARCEL 051.02

ZONED A-2 RURAL RESIDENTIAL
COLLINS DOYLE BROWN, ETUX
DEED BOOK R2020, PAGE 301, R.O.M.C., TN
MAP 073, PARCEL 023.00

ZONED A-2 RURAL RESIDENTIAL
TRISHA L. CROWLEY
DEED BOOK R2390, PAGE 1437, R.O.M.C., TN.
MAP 073, PARCEL 023.01

WELTON INVESTMENTS, LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.10

ZONED CD-4C
WELTON INVESTMENTS LLC
DEEDBOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.06

LASEA ROAD

INSTALL CONSTRUCTION ENTRANCE

INSTALL SILT FENCE

LIMITS OF DISTURBANCE

ZONED CD-2
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 073, PARCEL 051.04

ZONED A-2 RURAL RESIDENTIAL
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 092, PARCEL 006.00

BEAR CREEK PIKE

ROCK SPRINGS ROAD

50' NATURAL GAS EASEMENT

TOTAL AREA=1287808 SQ. FT OR 29.56 ACRES
TOTAL DISTURBED AREA=913481 SQ. FT. OR 20.97 ACRES

1287808 Sq. Feet
29.5640 Acres

0 100 200 300
SCALE 1"=100'

IP PROVIDE INLET PROTECTION

OP PROVIDE OUTLET PROTECTION

LEGEND
- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

GENERAL EROSION CONTROL NOTES

1. SEDIMENT BARRIERS SHALL BE PLACED AS INDICATED ON THE PLAN PRIOR TO ANY GRADING WORK.
2. DUST CONTROL ON SITE SHALL BE KEPT WITHIN ACCEPTABLE LIMITS BY SPRINKLING WITH WATER OR BY OTHER APPROPRIATE METHODS.
3. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF THE CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. THE LOCATIONS OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
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8. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE OF THE SITE IS NOT IMPAIRED.
9. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 15 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING.
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11. TOPSOIL SHALL BE SPREAD TO A MINIMUM DEPTH OF 4 INCHES.
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13. REMOVE ALL SEDIMENT FROM ALL DRAINAGE STRUCTURES PRIOR TO ACCEPTANCE BY THE OWNER.
14. CONTRACTOR TO INSTALL ALL EROSION CONTROL DEVICES IN ACCORDANCE WITH LOCAL CODES.

SEEDING NOTES:

1.SOIL TO BE TILLED TO A DEPTH OF 4-INCHES.
2. SEED MIX TO BE A DROUGHT TOLERANCE FESCUE BLEND.
3. SEED TO BE SOWN AT A RATE OF 6#/1,000 S.F.
4. A 10-10-10 FERTILIZER IS TO BE SPREAD AT A RATE OF 10#/1,000 S.F.
5. LIME IS TO BE SPREAD AT A RATE OF 1,000#/ACRE.
6. STRAW TO BE PLACED AT A RATE OF 2 BALES/1,000 S.F.
7. CONTRACTOR IS RESPONSIBLE FOR RESEEDING BARE UNTIL AN ACCEPTABLE STAND OF GRASS IS ACHIEVED.

PHASE TWO
EROSION AND SEDIMENT CONTROL PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
CERTIFICATE NO. 114745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
EROSION CONTROL PLAN

C7.0

TENNESSEE GENERAL CONSTRUCTION PERMIT NO. TNR

STABILIZATION SYMBOLS

VM VEGETATIVE MAT AND SEED

SS SEED AND STRAW(ALL AREAS BETWEEN CURB & SIDEWALK)

AP ASPHALT PAVING

ZONED A-2 RURAL RESIDENTIAL
TIMOTHY GARRISON, ETUX
DEED BOOK R2472, PAGE 1184, R.O.M.C., TN
MAP 073, PARCEL 051.03

OLD BEAR CREEK PIKE

ZONED A-2 RURAL RESIDENTIAL
MICHAEL GREEN & NADENE PLOTNER
DEED BOOK R2556, PAGE 1227, R.O.M.C., TN.
MAP 073, PARCEL 051.02

ZONED A-2 RURAL RESIDENTIAL
COLLINS DOYLE BROWN, ETUX
DEED BOOK R2020, PAGE 301, R.O.M.C., TN
MAP 073, PARCEL 023.00

ZONED A-2 RURAL RESIDENTIAL
TRISHA L. CROWLEY
DEED BOOK R2390, PAGE 1437, R.O.M.C., TN.
MAP 073, PARCEL 023.01

WELTON INVESTMENTS, LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.10

ZONED CD-4C
WELTON INVESTMENTS LLC
DEEDBOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.06

LASEA ROAD

REMOVE CONSTRUCTION ENTRANCE

REMOVE SILT FENCE

ZONED A-2 RURAL RESIDENTIAL
D. D. MAXWELL, ETUX
D BOOK 665, PAGE 421, R.O.M.C., TN.
073, PARCEL 050.00

LIMITS OF DISTURBANCE

ZONED CD-2
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 073, PARCEL 051.04

ZONED A-2 RURAL RESIDENTIAL
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 092, PARCEL 006.00

BEAR CREEK PIKE

ROCK SPRINGS ROAD

30' NATURAL GAS EASEMENT

IP REMOVE INLET PROTECTION

OP PROVIDE OUTLET PROTECTION

LEGEND

- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

GENERAL EROSION CONTROL NOTES

1. SEDIMENT BARRIERS SHALL BE PLACED AS INDICATED ON THE PLAN PRIOR TO ANY GRADING WORK.
2. DUST CONTROL ON SITE SHALL BE KEPT WITHIN ACCEPTABLE LIMITS BY SPRINKLING WITH WATER OR BY OTHER APPROPRIATE METHODS.
3. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF THE CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. THE LOCATIONS OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
5. ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
6. EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALL. MINIMUM CLEANING AND REPAIR FREQUENCY SHALL BE ONCE PER MONTH.
7. EROSION CONTROL DEVICES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
8. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE OF THE SITE IS NOT IMPAIRED.
9. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 15 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING.
10. SILT BARRIERS TO BE CLEANED WHEN THEY ARE APPROXIMATELY 50% OBSTRUCTED BY SEDIMENT OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. SILT BARRIERS SHALL BE REPLACED AS EFFECTIVENESS IS SIGNIFICANTLY REDUCED.
11. TOPSOIL SHALL BE SPREAD TO A MINIMUM DEPTH OF 4 INCHES.
12. ALL DISTURBED AREAS SHALL BE SEEDED AND RESEEDED AS NECESSARY TO PROVIDE A STABILIZED SITE.
13. REMOVE ALL SEDIMENT FROM ALL DRAINAGE STRUCTURES PRIOR TO ACCEPTANCE BY THE OWNER.
14. CONTRACTOR TO INSTALL ALL EROSION CONTROL DEVICES IN ACCORDANCE WITH LOCAL CODES.

SEEDING NOTES:

1.SOIL TO BE TILLED TO A DEPTH OF 4-INCHES.
2. SEED MIX TO BE A DROUGHT TOLERANCE FESCUE BLEND.
3. SEED TO BE SOWN AT A RATE OF 6#/1,000 S.F.
4. A 10-10-10 FERTILIZER IS TO BE SPREAD AT A RATE OF 10#/1,000 S.F.
5. LIME IS TO BE SPREAD AT A RATE OF 1,000#/ACRE.
6. STRAW TO BE PLACED AT A RATE OF 2 BALES/1,000 S.F.
7. CONTRACTOR IS RESPONSIBLE FOR RESEEDING BARE UNTIL AN ACCEPTABLE STAND OF GRASS IS ACHIEVED.

TOTAL AREA=1287808 SQ. FT OR 29.56 ACRES
TOTAL DISTURBED AREA=913481 SQ. FT. OR 20.97 ACRES

1287808 Sq. Feet
29.5640 Acres

0 100 200 300
SCALE 1"=100'

PHASE THREE
EROSION AND SEDIMENT CONTROL PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 1636
SPRING HILL, TN 37174
PH 615.481.3106
FAX: 615.523.1517
SURVEYING
PLANNING
DESIGN
CIVIL

SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
CHEROKEE
No. 14745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	4/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION

EROSION CONTROL PLAN

C8.0

APPROXIMATE TOTAL TREE CANOPY(UNDEVELOPED)=23.9 ACRES
APPROX. TOTAL TREE CANOPY(REMAININGG)=7.2 ACRES
TOTAL TREE CANOPY(UNDEVELOPED)=23.9/29.5=81%
TOTAL TREE CANOPY(RETAINED)=7.2/23.9=30.1%

AERIAL PHOTOGRAPHY FROM 2021 BY MAPTECH, LLC

ZONED A-2 RURAL RESIDENTIAL
TIMOTHY GARRISON, ETUX
DEED BOOK R2472, PAGE 1184, R.O.M.C., TN
MAP 073, PARCEL 051.03

OLD BEAR CREEK PIKE

N 89°58'30" W
75.81'

ZONED A-2 RURAL RESIDENTIAL
MICHAEL GREEN & NADENE PLOTNER
DEED BOOK R2586, PAGE 1272, R.O.M.C., TN.
MAP 073, PARCEL 051.02

N 03°19'20" E
25.00'
N 03°19'20" E
25.00'
S 88°54'45" E
30.02'
S 81°38'00" E
226.67'
N 78°03'54" W
185.01'
N 07°25'55" E
102.73'

TREE SAVE AREA

PLAYGROUND #2

ZONED A-2 RURAL RESIDENTIAL
D. MAXWELL, ETUX
DEED BOOK 665, PAGE 421, R.O.M.C., TN.
MAP 073, PARCEL 050.00

N 15°51'55" W
92.53'

EXISTING TREE CANOPY LIMITS

TREE SAVE AREA

LIMITS OF DISTURBANCE

N 80°09'51" W
1219.25'

ZONED A-2 RURAL RESIDENTIAL
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 092, PARCEL 006.00

ZONED CD-2
DHARAM PAL GOYAL, ETUX
DEED BOOK R1986, PAGE 1052, R.O.M.C., TN.
MAP 073, PARCEL 051.04

ZONED A-2 RURAL RESIDENTIAL
COLLINS DOYLE BROWN, ETUX
DEED BOOK R2020, PAGE 301, R.O.M.C., TN
MAP 073, PARCEL 025.00

N 85°10'07" W
1462.71'

TREE SAVE AREA

GREEN SPACE
64316 SQ FT
1.4857 AC

PLAYGROUND #1

30' NATURAL GAS EASEMENT

S 04°50'00" E
657.36'

ZONED A-2 RURAL RESIDENTIAL
TRISHA L. CROWLEY
DEED BOOK R2949, PAGE 1437, R.O.M.C., TN.
MAP 073, PARCEL 022.01

LASEA ROAD

WELTON INVESTMENTS, LLC
DEED BOOK R1518, PAGE 557, R.O.M.C., TN
MAP 073, PARCEL 018.10

ZONED CD-4C
WELTON INVESTMENTS LLC
DEEDBOOK R1518, PAGE 557, R.O.M.C., TN.
MAP 073, PARCEL 018.06

N 04°50'00" W
657.36'

TREE SAVE AREA

BEAR CREEK PIKE

ROCK SPRINGS ROAD

LEGEND

- PK NAIL FOUND
- IRON PIN FOUND
- IRON PIN SET
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- TEMPORARY ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- ROAD CENTER LINE
- WATER SERVICE
- OVERHEAD ELECTRIC SERVICE
- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- EXISTING FENCE
- CATCH BASIN
- GAS VALVE

1287808 Sq. Feet
29.5640 Acres

0 100 200 300
SCALE 1"=100'

TREE PRESERVATION PLAN
HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA, MAURY CO., TN.

SCALE: 1"=100'

Ahler & Associates, LLC
CONSULTING ENGINEERS & LAND SURVEYORS
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SURVEYING
PLANNING
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SEAL
JOSEPH E AHLER
REGISTERED ENGINEER
AGRICULTURE
OCTOBER
No. 14745
STATE OF TENNESSEE

HIGHLAND POINTE AT BEAR CREEK
1451 LASEA ROAD
COLUMBIA,MAURY CO., TN

ISSUE:	MARK	DATE	DESCRIPTION
	-	11/10/23	ORIGINAL ISSUE

PROJECT NO:	NUMBER
DWG. FILE:	DWGFILE
DRAWN BY:	JEA
CHK'D BY:	JEA

SHEET DESCRIPTION
TREE PRESERVATION PLAN

C9.0

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

7 February 2023

Stuart Beattie
Imer Development, LLC
1909 Columbia Avenue
Franklin, TN 37064

RE: Map 73, Parcel 51
CC: Joseph Ahler

Stuart,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Major or minor improvements to existing infrastructure may or may not be necessary to satisfactorily convey the additional sanitary sewer flow from the above-referenced proposed development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. Grinder Pump systems are not allowed by the City of Columbia. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CPWS

June 15, 2023

Mr. Joseph Ahler
Ahler & Associates, LLC
Sent via email: joe.ahler@gmail.com

RE: Water Availability Letter
Highland Pointe at Bear Creek – 143 Lots
1451 Lasea Rd
Tax Map 73, Parcel 51
Columbia, Maury County, TN

Dear Mr. Ahler:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 143 units. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connections will be made to the existing 8-inch water main located on Lasea Road and the existing 6-inch water main located on Old Highway 99.
- Minimum size 8-inch, looped water mains are required throughout the development.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (143 SFUs)	$54,410.00

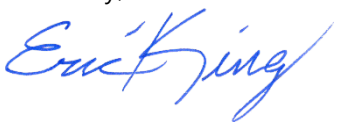
- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: $540 per ¾" meter (70 meters)	$77,220.00
Impact Fee: $4,500 per ¾" meter (70 meters)	$643,500.00
Total Meter and Impact Fees Due =	**$720,720.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact Mr. Jonathan Hardin or myself at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-103

CPWS

January 13, 2023

Mr. Joseph Ahler
Ahler & Associates, LLC
Sent via email: joe.ahler@gmail.com

RE: Water Availability Letter
Highland Pointe at Bear Creek – 143 Lots
1451 Lasea Rd
Tax Map 73, Parcel 51
Columbia, Maury County, TN

Dear Mr. Ahler:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

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- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (143 SFUs)	$54,410.00

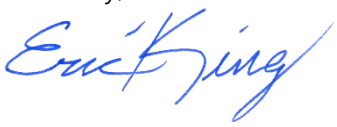
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- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact Mr. Jonathan Hardin or myself at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-103

TRAFFIC IMPACT STUDY

Crichton Property Development

Map 112 Parcel 003.00
Columbia, TN

T2-Eng.com

T-SQUARE ENGINEERING

TRAFFIC IMPACT STUDY

1451 Lasea Road Development
Tax Map 73 Parcel 51
Columbia, TN

Prepared for:

NASON HOMES

1909 Columbia Avenue
Franklin, TN 37064

Prepared by:

T-SQUARE ENGINEERING

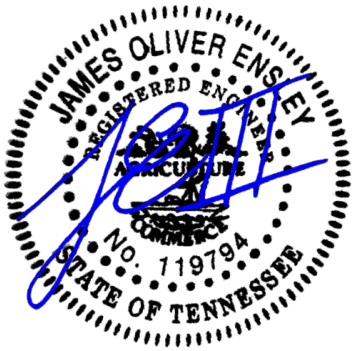
1329 West Main Street
Franklin, TN 37064
615.678.8212
www.T2-eng.com

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-Eng.com

Certification

I certify that this Traffic Impact Study has been prepared by me and under my immediate supervision and that I have the experience and training in the field of traffic and transportation engineering.



10/18/21

James O. Ensley, III, P.E.
T-Square Engineering, Inc.
Project Manager – Traffic Division

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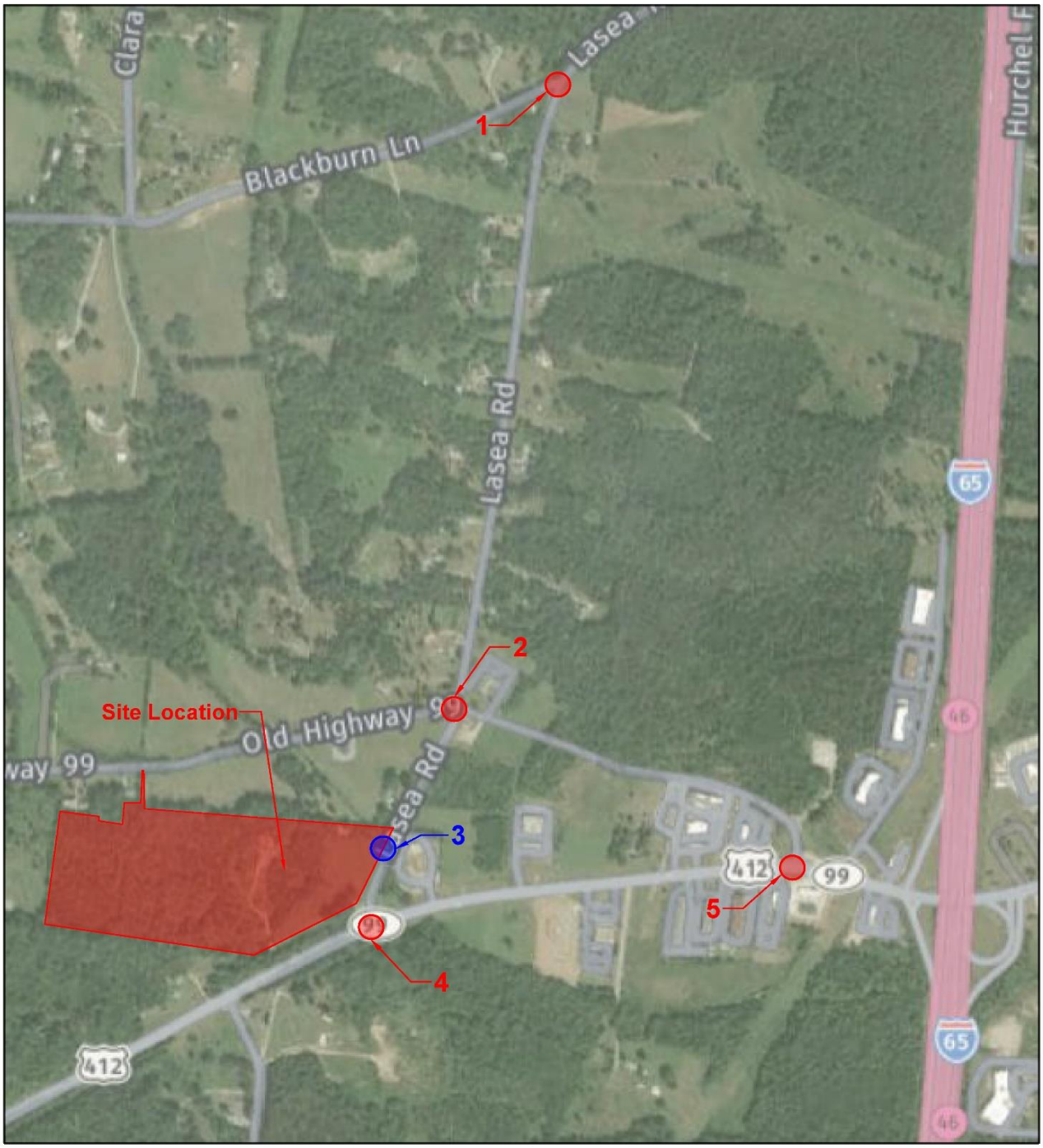
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Introduction

The purpose of this study is to analyze the traffic impacts on the surrounding roadway network associated with the proposed 1451 Lasea Road Development along Lasea Road in Columbia, TN. The proposed development will consist of approximately 208 multi-family (low-rise) housing units.

As shown on the Location Map and Preliminary Site Plan on Figures 1 and 2, respectively, the proposed development is located along the west side of Lasea Road in Columbia, TN. The development is proposing one (1) site access located approximately 400 feet north of the intersection of Lasea Road and Bear Creek Pike. The surrounding area is predominantly residential.

This study analyzes the existing and projected traffic operations of the roadway networks and intersections surrounding the proposed development. To evaluate the projected traffic operations, existing traffic volumes were grown (background traffic volumes) to a 2023 design year based on average traffic growth rates and combined with the generated traffic volumes from nearby background developments and estimated trips generated from the proposed development. Lastly, improvement recommendations were presented to alleviate the anticipated traffic volumes' effect on the existing roadway network near the site.



LEGEND
- Existing Study Intersection
- Proposed Study Intersection

N.T.S.

Figure 1
Location Map

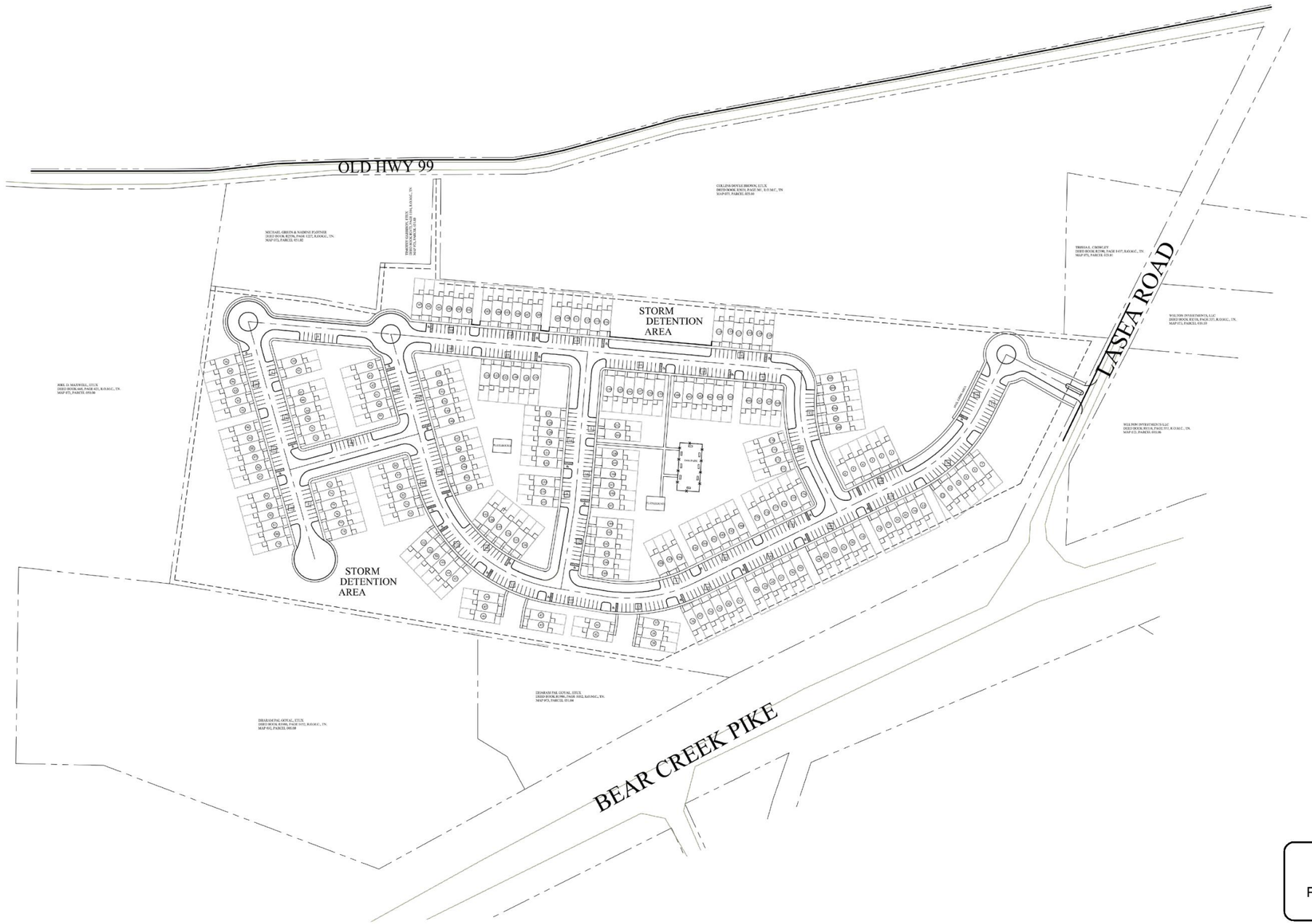


Figure 2
Preliminary Site Plan

Existing Study Area

Existing Roadway Network

The existing roadway network surrounding the proposed Quail Run Meadows Subdivisions includes Lasea Road, Bear Creek Pike (US-412), Old Highway 99, and Blackburn Lane. Below is a description of each roadway. Below is a description of each roadway serving the proposed development:

Lasea Road

Lasea Road is not functionally classified in the City of Columbia, and therefore assumed to be classified as a local roadway. Lasea Road is oriented in a north-south direction and provides a connection between Bear Creek Pike (US-412) to the south and Joe Brown Road to the north. Near the project site, Lasea Road is a two (2) lane roadway with one (1) ten (10) foot travel lane in each direction (northbound and southbound) and three (3) foot shoulders. There is no posted speed limit along Lasea Road. The assumed speed limit for Lasea Road is 35 MPH.



Looking south along Lasea Road

Bear Creek Pike (US-412)

Bear Creek Pike (US-412) is functionally classified by the City of Columbia as an arterial roadway. Bear Creek Pike (US-412) is oriented in an east-west direction and provides a connection between I-65 to the east and Nashville Highway to the west. Near the project site, Bear Creek Pike (US-412) is a three (3) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound), a center two-way left turn lane (TWLTL), and four (4) foot shoulders. The posted speed limit along Bear Creek Pike (US-412) is 45 MPH.



Looking east along Bear Creek Pike (US-412)

Old Highway 99

Old Highway 99 is functionally classified by the City of Columbia as a collector roadway. Near the project site, Old Highway 99 is oriented in an east-west direction and provides a connection to Bear Creek Pike (US-412) to the east and west. Near the project site, Old Highway 99 is a two (2) lane roadway with one (1) nine (9) foot travel lane in each direction (eastbound and westbound) and one (1) foot shoulders. The posted speed limit along Old Highway 99 is 25 MPH.



Looking east along Old Highway 99

Blackburn Lane

Blackburn Lane is not functionally classified in the City of Columbia, and therefore assumed to be classified as a local roadway. Near the project site, Blackburn Lane is oriented in an east-west direction and provides a connection from Lasea Road to the east and Old Highway 99 to the west. Blackburn Lane is a two (2) lane roadway with one (1) nine (9) foot travel lane in each direction (eastbound and westbound). No shoulders currently exist along Blackburn Lane. The posted speed limit along Blackburn Lane is 45 MPH.



Looking west along Blackburn Lane

Existing Intersections

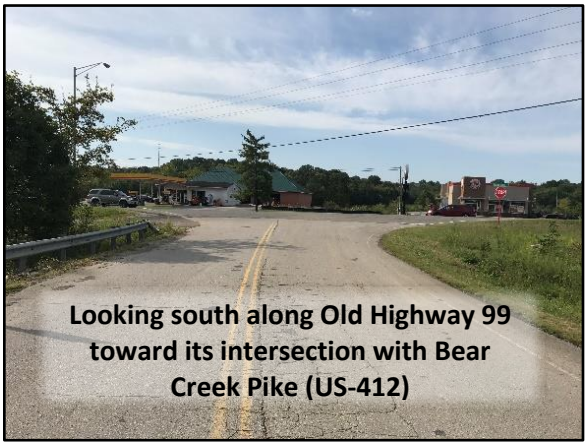
This study analyzed four (4) existing intersections within the vicinity of the project site. The intersections analyzed are listed below with a brief description of each, and Figure 3 shows the existing lane geometry at the intersections.

Lasea Road and Bear Creek Pike (US-412)


Looking west along Bear Creek Pike (US-412) toward its intersection with Lasea Road

The existing intersection of Lasea Road and Bear Creek Pike (US-412) is an unsignalized intersection with three (3) approaches. The southbound approach of Lasea Road has one (1) shared lane for left and right turn movements operating under a stop condition. The eastbound approach of Bear Creek Pike (US-412) has one (1) exclusive lane for left turn movements that transitions into a two-way left-turn lane and one (1) exclusive lane for through movements operating under a free-flow condition. The westbound approach of Bear Creek Pike (US-412) has one (1) shared lane for through and right turn movements operating under a free-flow condition.

Old Highway 99 and Bear Creek Pike (US-412)


Looking south along Old Highway 99 toward its intersection with Bear Creek Pike (US-412)

The existing intersection of Old Highway 99 and Bear Creek Pike (US-412) is an unsignalized intersection with three (3) approaches. The southbound approach of Old Highway 99 has one (1) shared lane for left and right turn movements operating under a stop condition. The eastbound approach of Bear Creek Pike (US-412) has one (1) exclusive lane for left turn movements that transitions into a two-way left-turn lane and one (1) exclusive lane for through movements operating under a free-flow condition. The westbound approach of Bear Creek Pike (US-412) has one (1) shared lane for through and right turn movements operating under a free-flow condition.

Lasea Road and Old Highway 99

The existing intersection of Lasea Road and Old Highway 99 is an unsignalized intersection with four (4) approaches. The southbound approach of Lasea Road has one (1) shared lane for left turn, through, and right turn movements operating under a stop condition. The northbound approach of Lasea Road has one (1) shared lane for left turn, through, and right turn movements operating under a stop condition. The eastbound approach of Old Highway 99 has one (1) shared lane for left turn, through, and right turn movements operating under a stop condition. The westbound approach of Old Highway 99 has one (1) shared lane for left turn, through, and right turn movements operating under a stop condition.



Looking north along Lasea Road toward its intersection with Old Highway 99

Lasea Road and Blackburn Lane

The existing intersection of Lasea Road and Blackburn Lane is an unsignalized intersection with three (3) approaches. The eastbound approach of Blackburn Lane has one (1) shared lane for left and right turn movements operating under a stop condition. The northbound approach of Lasea Road has one (1) shared lane for left turn and through movements operating under a free-flow condition. The southbound approach of Lasea Road has one (1) shared lane for through and right turn movements operating under a free-flow condition.



Looking east along Blackburn Lane toward its intersection with Lasea Road

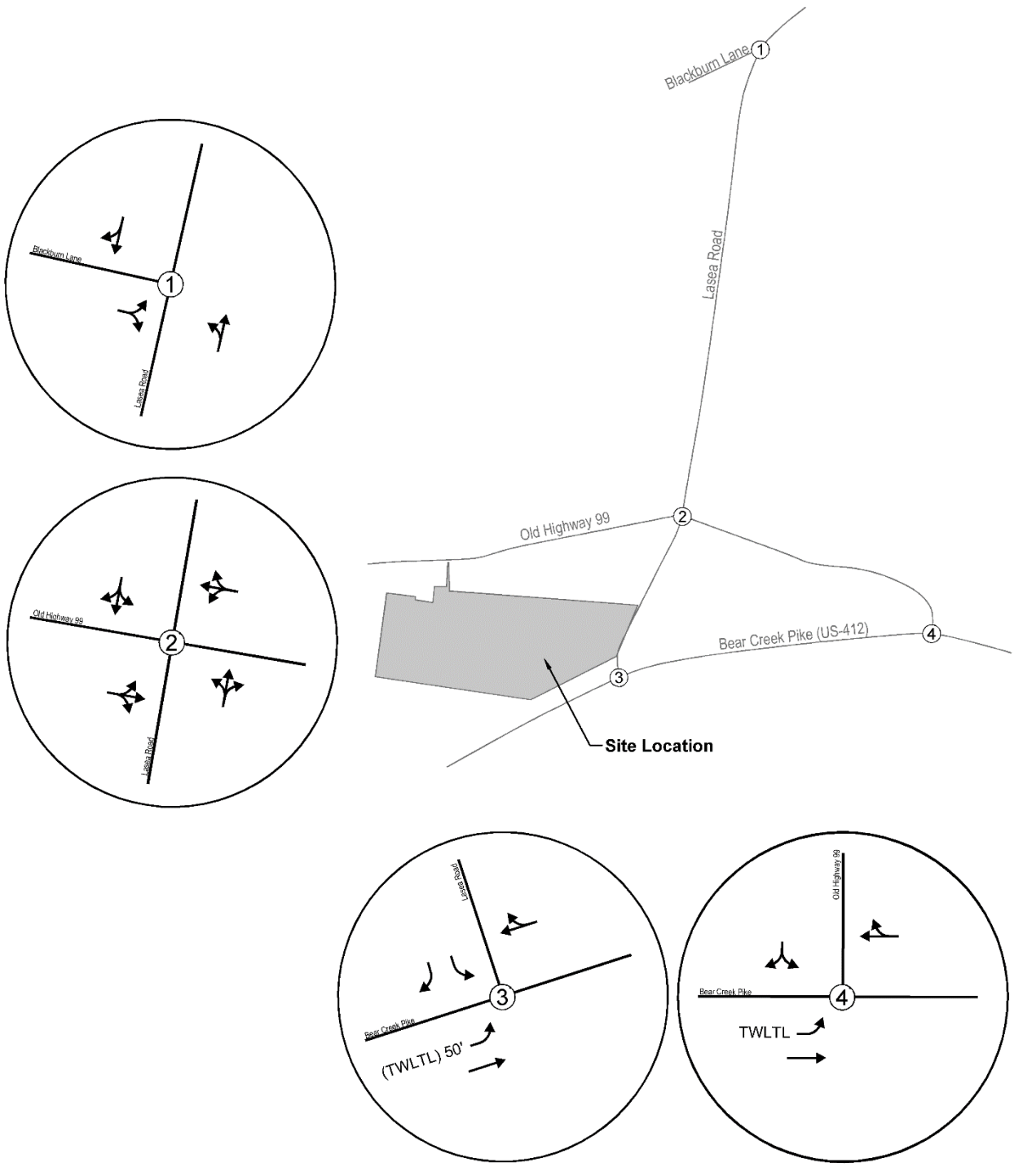


Figure 3
Existing Lane Geometry

Existing Traffic Volumes

To establish existing traffic volumes within the study area (as requested and provided by the City of Columbia), T-Square Engineering utilized the turning movement counts conducted by T-Square Engineering as part of the Quail Run Meadows Traffic Impact Study (TIS) in February 2018 for the following intersections:

- Lasea Road and Blackburn Lane
- Lasea Road and Old Highway 99
- Bear Creek Pike (US-412) and Old Highway 99

To establish existing (2021) traffic volumes, it should be noted that the traffic count volumes for the above intersections were grown for four (4) years by a rate of 2.00% which was determined based on information provided by the City of Columbia regarding growth within the surrounding area. The AM and PM peak hour traffic volumes for these intersections were established and determined to occur between 6:45 AM – 7:45 AM and 4:15 PM – 5:15 PM, respectively.

In addition, as requested by the City of Columbia, T-Square Engineering utilized the turning movement counts conducted by Ragan-Smith Associates as part of the 1449 Rock Springs Road PUD Traffic Impact Study (TIS) in April 2021 for the following intersection:

- Lasea Road and Bear Creek Pike (US-412)

For this analysis, the AM and PM peak hour traffic volumes for this intersection was established and determined to occur between 6:45 AM – 7:45 AM and 4:00 PM – 5:00 PM, respectively. As outlined in the 1449 Rock Springs Road PUD Traffic Impact Study (TIS), the AM peak hour volumes were grown by approximately 1.121 to account for the changes int ravel patterns due to COVID-19. Figure 4 shows the adjusted existing peak hour totals at the study intersections for the AM and PM peak hour periods. Appendix A contains the adjusted peak hour turning movement counts.

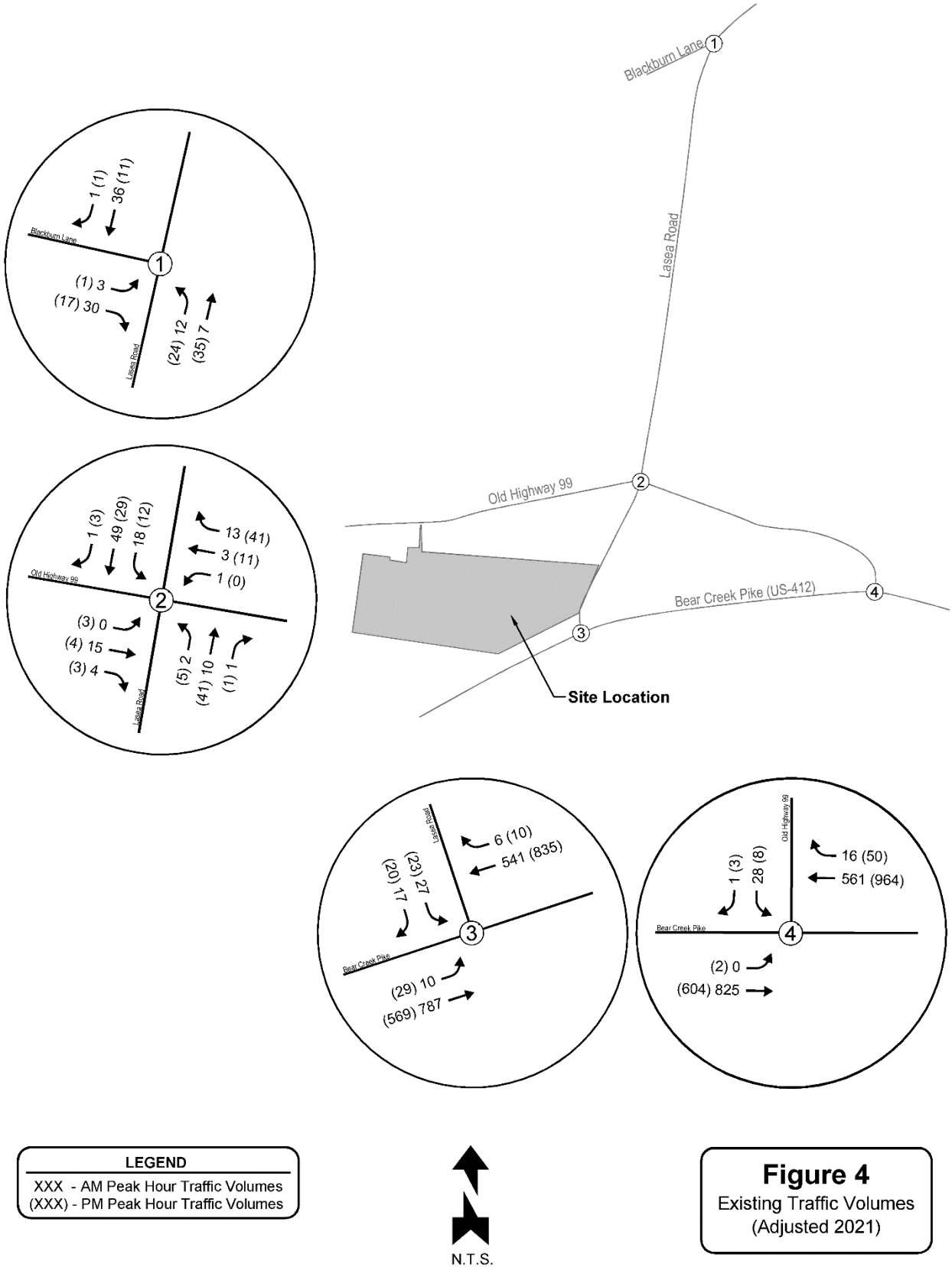


Figure 4
Existing Traffic Volumes
(Adjusted 2021)

Existing Capacity Analysis

To evaluate the existing traffic operations at the study intersections within the vicinity of the project site, AM and PM peak hour capacity analyses were performed per the calculations outlined in the Highway Capacity Manual[1](HCM). Levels of service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement. An LOS is a qualitative measure or grade used to distinguish how traffic is serviced at an intersection or along a roadway. The range of LOS is A to F, with A being the highest and F the lowest. The 95th percentile queue is the queue length (in vehicles) that has only a five (5) percent probability of being exceeded during the analysis period. The 95th percentile queue is not typical of what an average driver would experience, and driver experiences would be better characterized by the mean queue length. The table below details each LOS for signalized and unsignalized intersections, as specified within the HCM.

Table 1. Level of Service (LOS) Details

Level of Service*	Average Control Delay (seconds per vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50
Source: HCM 2010, Exhibits 18-4 and 19-1		

To determine the effectiveness of traffic operations within the study area a minimum LOS or baseline needs to be established. Any LOS below the established baseline will be considered unsatisfactory. LOS C is generally acceptable for typical roadway function while LOS D is typically considered to be the minimum acceptable LOS. According to the City of Columbia's *Transportation Master Plan (2018)*, "In urban areas, LOS D is typically considered to be the minimum acceptable level of service." The following conditions shall be considered unsatisfactory for the purposes of this study:

1. Overall intersections with an LOS E or F.
2. Individual traffic movements with an LOS E or F.

The existing intersections within the study area were analyzed with existing traffic volumes under existing roadway conditions/geometries. The existing capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for the unsignalized intersections. Appendix C contains the detailed capacity analyses results.

[1] Transportation Research Board (TRB). Highway Capacity Manual, 5th Edition (2010). Washington, DC: 2010

Table 2. Existing Capacity Analyses

Study Intersection	Control	Approach	2021 Existing Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Lasea Road and Bear Creek Pike (US-412)**	TWSC	SB Left/Right	C	17.6	59	C	20.5	56
		EB Left	A	8.7	19	B	10.1	41
2. **Bear Creek Pike (US-412) and Old Highway 99**	TWSC	SB Left/Right	C	20.0	51	C	21.3	35
		EB Left	A	0.0		B	10.7	9
3. **Lasea Road and Old Highway 99**	TWSC	NB L/T/R	A	7.1	16	A	7.4	26
		SB L/T/R	A	7.4	48	A	7.4	50
		EB L/T/R/	A	7.1	34	A	7.1	28
		WB L/T/R	A	6.8	38	A	6.9	56
4. **Lasea Road and Blackburn Lane**	TWSC	NB Left/Thru	A	7.3	10	A	7.3	9
		EB Left/Right	A	8.7	37	A	8.5	22

The following assessments are based on the results of the Existing Capacity Analyses as shown in the table above:

- All critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS C during the AM and PM peak hours with adjusted 2021 existing traffic volumes.

Background Traffic Volumes

To account for traffic growth within the vicinity of the project site prior to the completion of the proposed 1451 Lasea Road Development, background traffic volumes were established. A growth trend was used as a multiplication factor to grow the existing traffic volumes to the 2023 design year (expansion completion). The turning movement counts conducted by T-Square Engineering as part of the Quail Run Meadows Subdivision Traffic Impact Study (TIS) in February 2018 were grown for six (6) years by a rate of 2.00% to establish 2023 background traffic volumes. The turning movement counts conducted by Ragan-Smith Associates as part of the 1449 Rock Springs Road PUD Traffic Impact Study (TIS) in April 2021 were grown by +2.00% per year for two (2) years to establish 2023 background traffic volumes. Figure D1 in Appendix D shows the 2023 background peak hour totals at the study intersections for the AM and PM peak hour periods.

To account for the additional traffic growth within the vicinity of the project site, the generated traffic volumes from previously conducted Traffic Studies near the project site were added to the grown 2023 background traffic volumes. These Traffic Studies include the following:

- Quail Run Meadows Subdivision Traffic Impact Study in February 2018
- Bear Creek Hotel Traffic Impact Study in July 2018
- I-65 and Bear Creek Pike Traffic Impact Study in December 2020
- 1449 Rock Springs Road PUD Traffic Impact Study in April 2021

The generated traffic volumes from each development above are shown on Figures D2-D5 in Appendix D. The 2023 background traffic volumes as shown on Figure D1 were combined with the generated traffic volumes from each development above as shown on Figures D2, resulting in the total combined background peak hour traffic volumes for the study intersections, as shown on Figure 5.

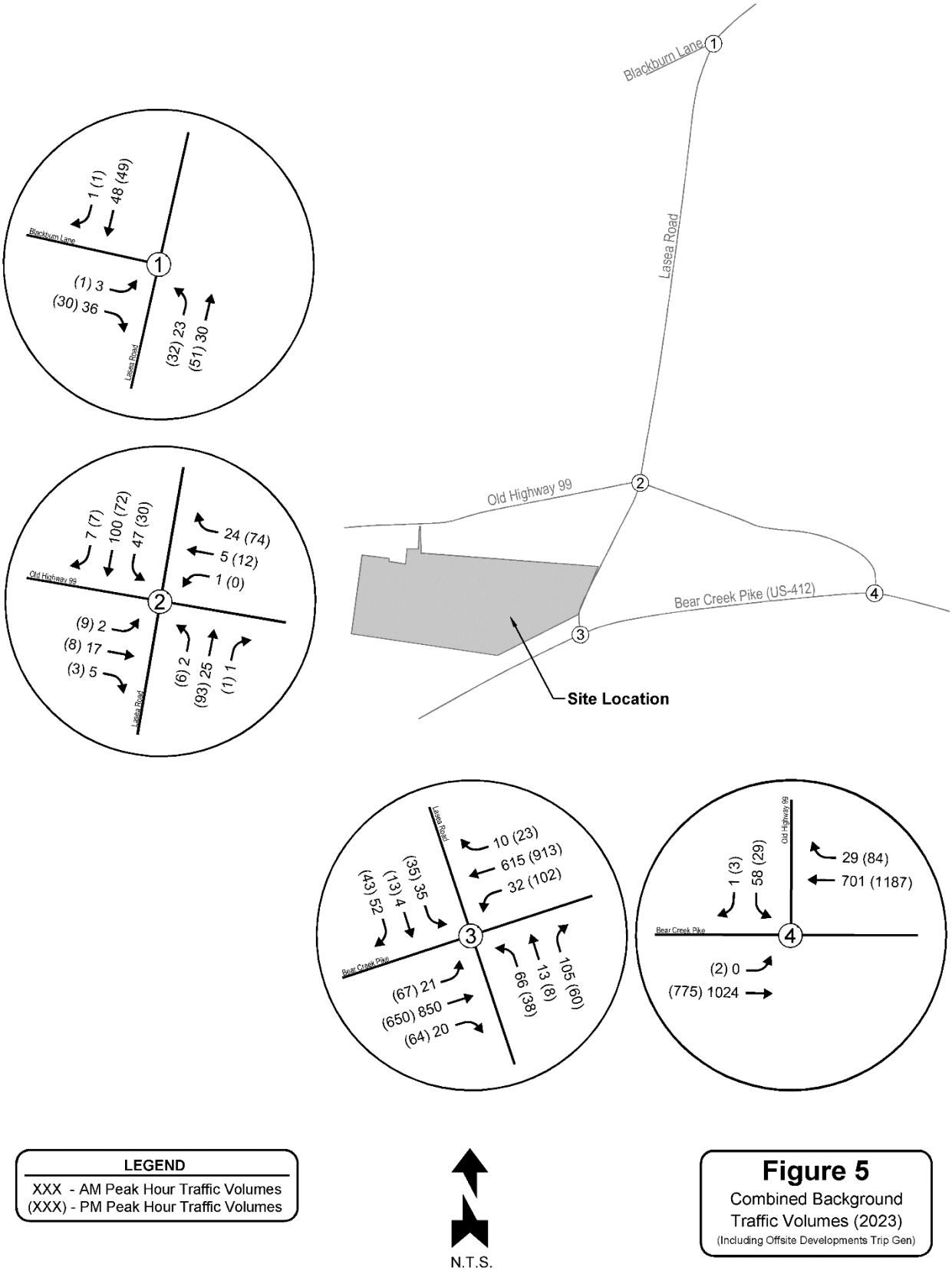


Figure 5
Combined Background Traffic Volumes (2023)
(Including Offsite Developments Trip Gen)

Background Capacity Analyses

To evaluate the background traffic operations at the study intersections within the vicinity of the project site, the AM and PM peak hour capacity analyses were performed based on calculations outlined in the Highway Capacity Manual (HCM). Levels of service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement.

The previously conducted Traffic Studies for the background developments resulted in multiple recommended roadway improvements to the study intersections. These recommended improvements will be utilized as part of the background roadway conditions and have been included in the background capacity analyses. The improvements are listed below by intersection. Figure 6 shows a summary of the off-site improvements from previously conducted traffic studies for background developments.

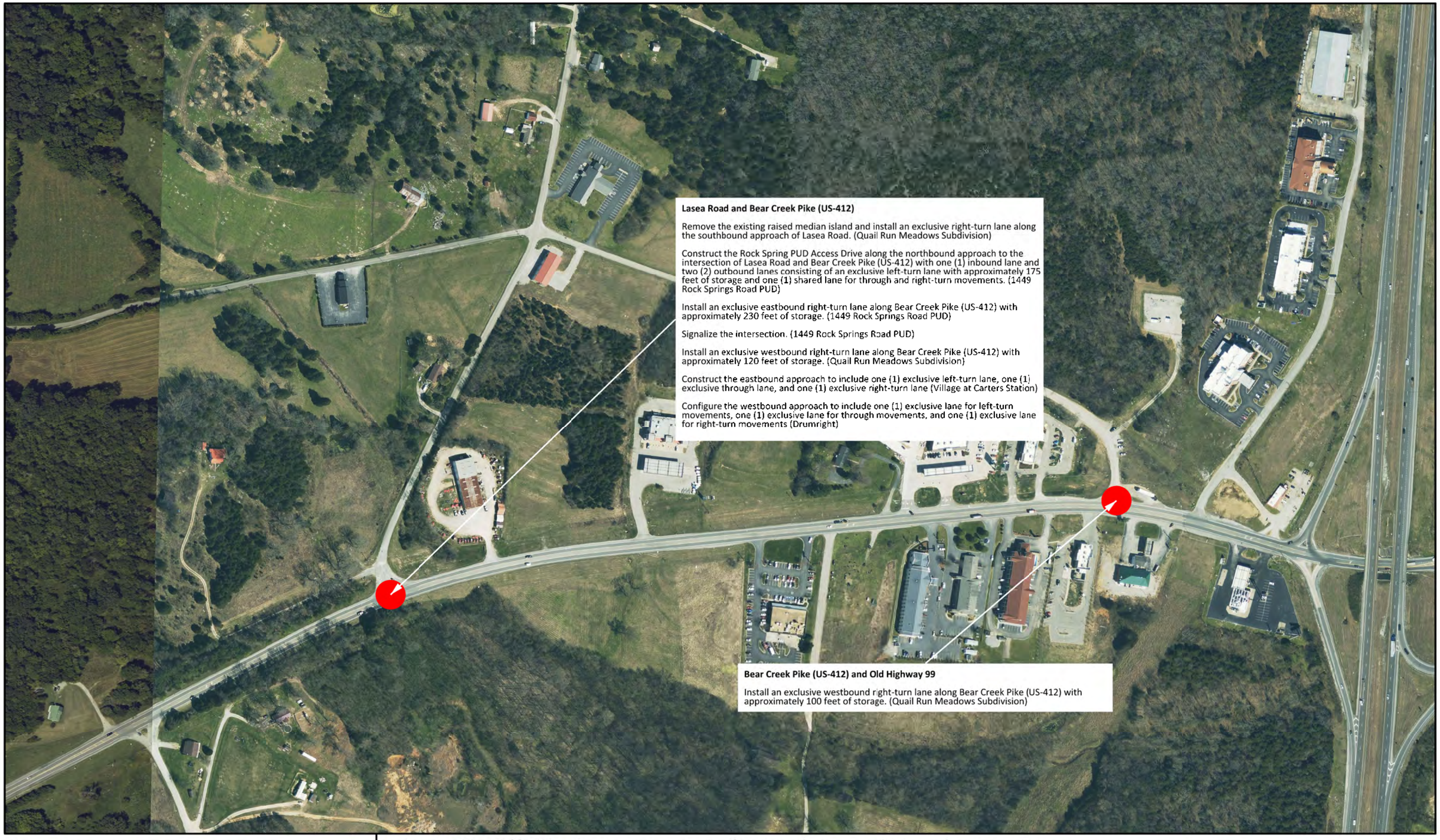
<u>Lasea Road and Bear Creek Pike (US-412)</u>

- Remove the existing raised median island and install an exclusive right-turn lane along the southbound approach of Lasea Road. (Quail Run Meadows Subdivision)
- Construct the Rock Spring PUD Access Drive along the northbound approach to the intersection of Lasea Road and Bear Creek Pike (US-412) with one (1) inbound lane and two (2) outbound lanes consisting of an exclusive left-turn lane with approximately 175 feet of storage and one (1) shared lane for through and right-turn movements. (1449 Rock Springs Road PUD)
- Install an exclusive eastbound right-turn lane along Bear Creek Pike (US-412) with approximately 230 feet of storage. (1449 Rock Springs Road PUD)
- Signalize the intersection. (1449 Rock Springs Road PUD)
- Install an exclusive westbound right-turn lane along Bear Creek Pike (US-412) with approximately 120 feet of storage. (Quail Run Meadows Subdivision)

<u>Bear Creek Pike (US-412) and Old Highway 99</u>

- Install an exclusive westbound right-turn lane along Bear Creek Pike (US-412) with approximately 100 feet of storage. (Quail Run Meadows Subdivision).

The study intersections were analyzed based on background roadway conditions and lane geometries. It should be noted that optimized traffic signal timings were utilized at the intersection of Lasea Road and Bear Creek Pike (US-412) for this analysis. The background capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.



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Figure 6 - Off-Site Improvements for Background Developments

1451 Lasea Road Development • Columbia, TN • Approximate Scale: 1" = 300'

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300' 150' 0' 300'

1 inch = 300 feet

Table 3. Background Capacity Analyses

Study Intersection	Control	Approach	2023 Background Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Lasea Road and Bear Creek Pike (US-412)**	Signal	NB Left	C	34.3	65	D	37.6	52
		NB Thru/Right	D	46.3	113	D	47.7	58
		SB Left	C	33.2	47	D	36.0	51
		SB Thru/Right	D	38.1	48	D	41.0	57
		EB Left	B	11.4	32	C	21.0	125
		EB Thru	C	28.3	388	B	15.8	254
		EB Right	A	9.6	28	A	9.3	39
		WB Left	B	18.5	82	B	11.6	192
		WB Thru	B	15.2	219	C	33.0	475
		WB Right	A	9.2	108	A	8.7	83
		Overall	**C**	**25.0**	**--**	**C**	**25.8**	**--**
2. **Bear Creek Pike (US-412) and Old Highway 99**	TWSC	SB Left/Right	D	30.2	152	D	31.4	73
		EB Left	A	9.4	0	B	12.3	9
3. **Lasea Road and Old Highway 99**	TWSC	NB L/T/R	A	7.4	28	A	7.9	46
		SB L/T/R	A	8.1	67	A	8.0	63
		EB L/T/R/	A	7.4	37	A	7.7	32
		WB L/T/R	A	7.1	42	A	7.4	60
4. **Lasea Road and Blackburn Lane**	TWSC	NB Left/Thru	A	7.4	9	A	7.4	10
		EB Left/Right	A	8.8	43	A	8.7	37

The following assessments are based on the results of the Background Capacity Analyses as shown in the table above:

- All critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours with background 2023 traffic volumes.

Impacts

Trips were generated to establish projected traffic volumes for the proposed 1451 Lasea Road Development. Daily and peak hour trips were generated by formulas presented in the Trip Generation Manual[2] based on the number of proposed housing units by the development. As previously stated, the development will consist of approximately 208 multi-family (low-rise) housing units. The Multi-Family (Low-Rise) Housing (220) ITE Land Use was used to estimate the generated traffic volumes. The table below provides the new trips generated for the proposed development. Appendix B contains detailed trip generation calculations.

Table 4. Crichton Property Development Trip Generation

ITE Land Use (Code)	Size	Generated Traffic Volumes				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Multi-Family (Low-Rise) Housing (220)	208 Units	1,532	22	74	71	42

Projected Traffic Distribution and Assignments

For the purposes of this study, estimated directional distributions shown on Figure 7 were established for the proposed development's generated traffic volumes. The development of these directional distributions was established based on the following:

- Conducted hourly turning movement counts
- Proposed land use characteristics
- Existing roadway network
- Existing lane geometry of surrounding intersections
- The developments proposed access locations
- Locations of populations centers within the surrounding area

The primary trips generated were assigned to the existing roadway network per the distributions shown on Figure 7, resulting in the generated peak hour traffic volumes shown on Figure 8. The generated peak hour traffic volumes were then added to the 2023 background volumes as shown on Figure 5, resulting in the total projected peak hour traffic volumes in Figure 9.

[2] Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. Washington, DC: ITE, 2018

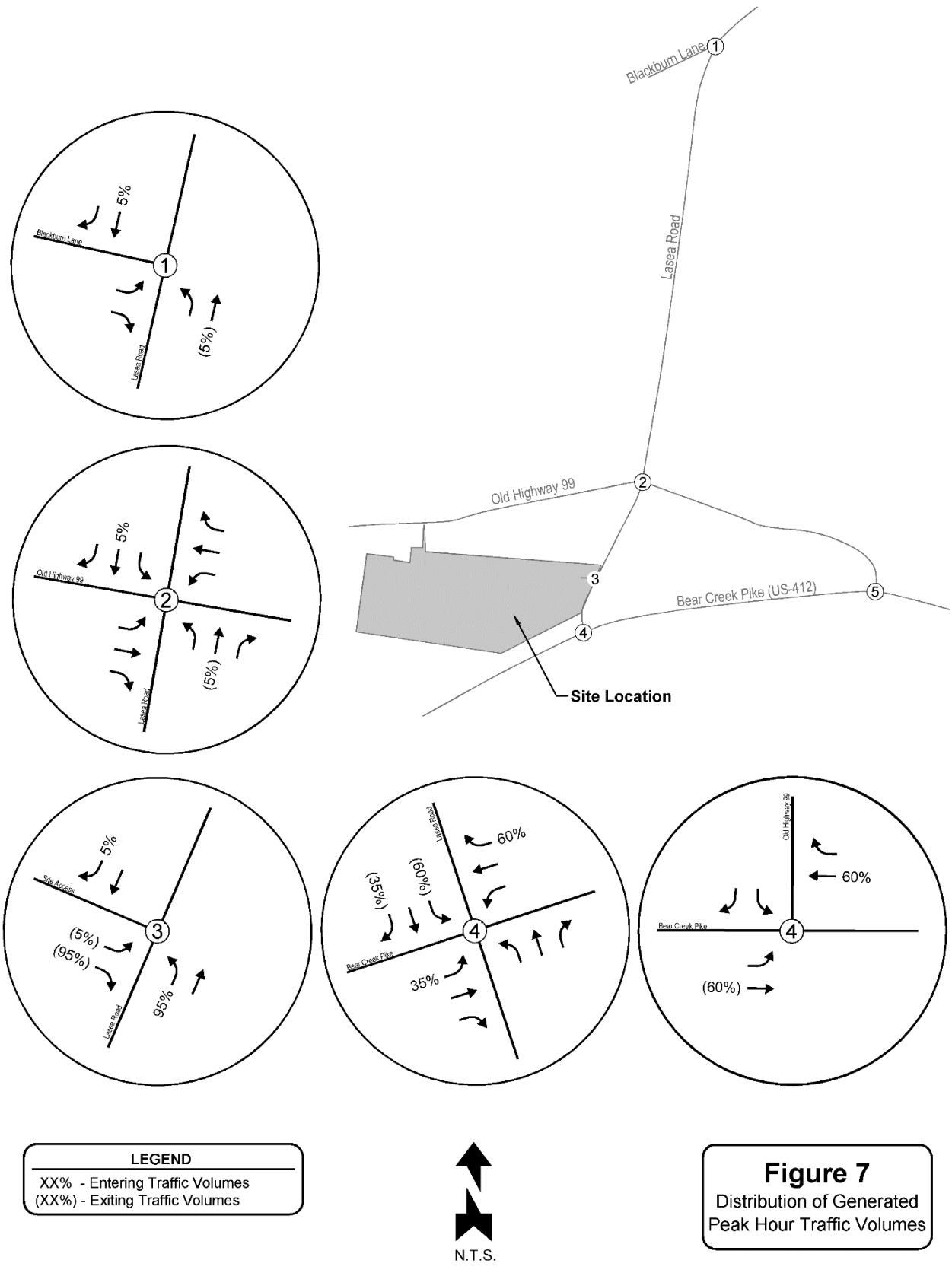


Figure 7
Distribution of Generated
Peak Hour Traffic Volumes

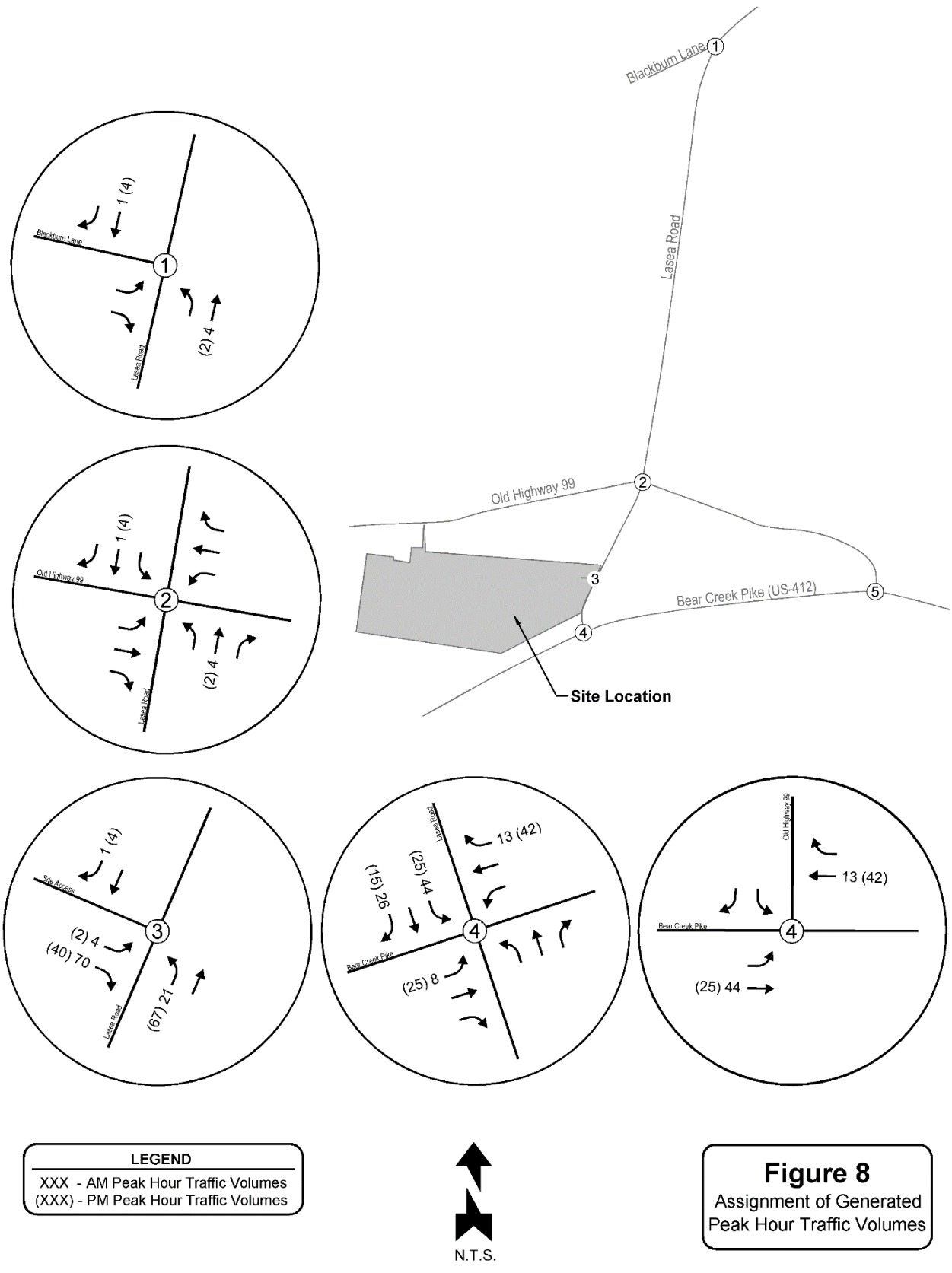


Figure 8
Assignment of Generated Peak Hour Traffic Volumes

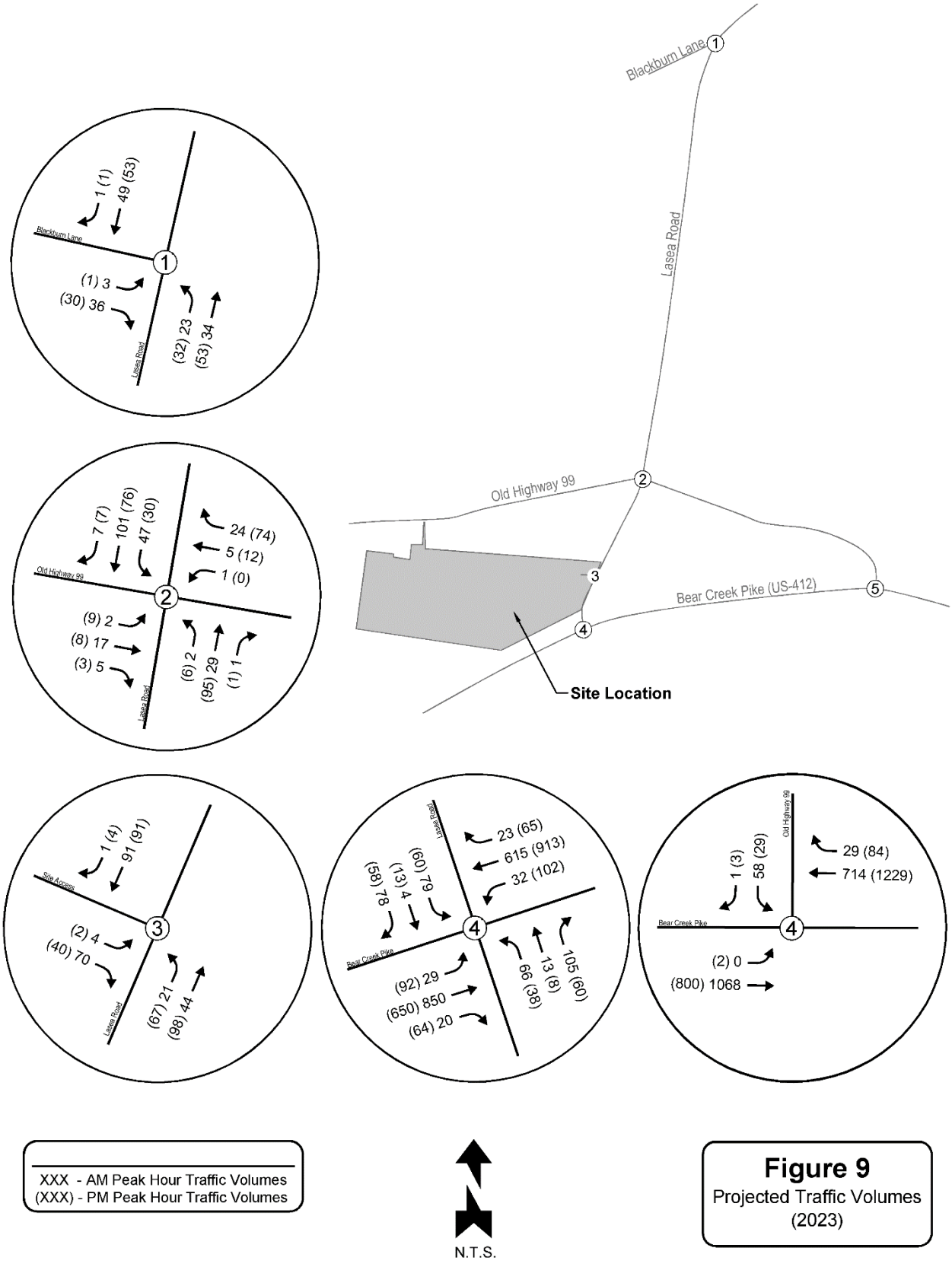


Figure 9
Projected Traffic Volumes
(2023)

Projected Capacity Analysis

To evaluate the projected traffic operations at the study intersections within the vicinity of the project site, AM and PM peak hour capacity analyses were performed. The capacity analyses include the total projected traffic volumes generated from the proposed development in addition to background traffic volumes. Levels-of-service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement. The intersections were analyzed based on background roadway conditions and lane geometries as outlined previously with projected traffic volumes.

The intersections were analyzed based on background roadway conditions and lane geometries as outlined in the Background Traffic Volumes section above. It should be noted that optimized traffic signal timings were utilized at the intersection of Lasea Road and Bear Creek Pike (US-412) for this analysis. The projected capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

Table 5. Projected Capacity Analyses

Study Intersection	Control	Approach	2023 Projected Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Lasea Road and Bear Creek Pike (US-412)**	Signal	NB Left	D	35.3	64	D	38.2	49
		NB Thru/Right	D	47.6	94	D	48.3	56
		SB Left	C	34.9	84	D	37.4	74
		SB Thru/Right	D	39.6	62	D	42.8	45
		EB Left	B	12.0	101	C	22.6	138
		EB Thru	C	29.7	354	B	15.7	289
		EB Right	A	10.0	8	A	9.2	36
		WB Left	B	19.2	44	B	11.6	237
		WB Thru	B	16.2	241	C	33.9	913
		WB Right	A	9.9	29	A	9.2	176
		Overall	**C**	**26.4**	**--**	**C**	**26.2**	**--**
2. **Bear Creek Pike (US-412) and Old Highway 99**	TWSC	SB Left/Right	D	31.9	122	D	33.2	51
		EB Left	A	0.0	0	B	12.6	19
3. **Lasea Road and Old Highway 99**	TWSC	NB L/T/R	A	7.4	28	A	8.0	39
		SB L/T/R	A	8.1	65	A	8.1	53
		EB L/T/R/	A	7.4	39	A	7.7	26
		WB L/T/R	A	7.1	50	A	7.4	50
4. **Lasea Road and Blackburn Lane**	TWSC	NB Left/Thru	A	7.4	0	A	7.4	0
		EB Left/Right	A	8.8	38	A	8.7	34
5. **Lasea Road and Site Access**	TWSC	NB Left/Thru	A	7.4	10	A	7.5	26
		EB Left/Right	A	9.2	44	A	9.1	50

The following assessments are based on the results of the Projected Capacity Analyses as shown in the table above:

- All critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours with projected 2023 traffic volumes.

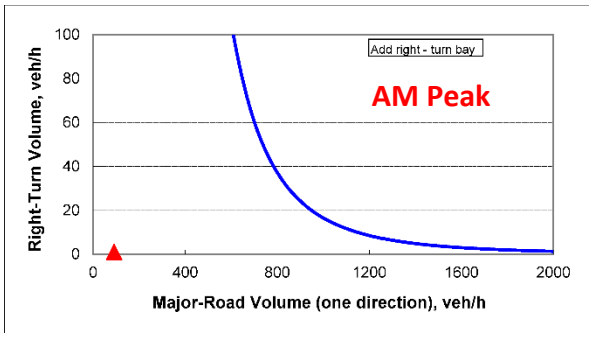
Intersection Assessments (Projected Conditions)

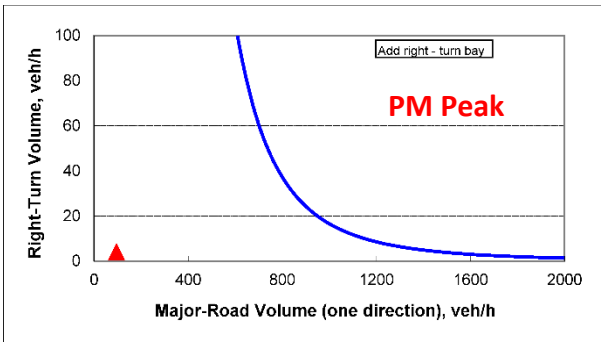
Engineering assessments were performed on the intersections within the study area to identify underlying inefficiencies and solutions to alleviate any concerns associated with intersection geometries and traffic volumes along the roadway network. Major-road approach left-turn lane warrants were performed based on Figures 2-5 and 2-6 in the *NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide*[3] and projected traffic volumes. Minor-road approach geometric warrants were performed based on Figure 2-4 in the *NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide*[4]. The results of the warrants are shown below.

Lasea Road and Site Access

Table 6. Major-Road Approach Geometry, SBR Lasea Road at Site Access

Variable	AM Peak	PM Peak
Major-road speed, mph:	35	35
Major-road volume (one direction), veh/h:	92	95
Major-road right-turn volume, veh/h:	1	4
Limiting right-turn volume, veh/h:	1000+	1000+
Right-turn bay warranted:	**NO**	**NO**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		





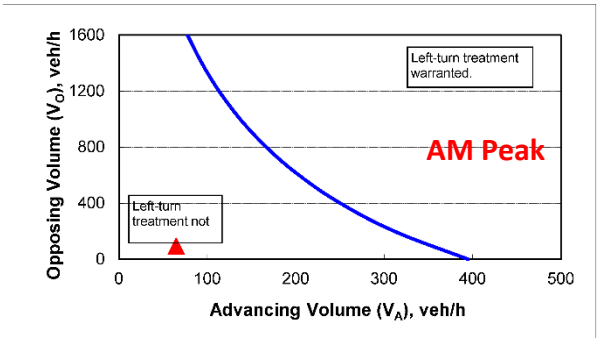
As shown in Table 6 and the corresponding graphs, it was determined that a southbound right-turn lane is not warranted along Lasea Road at its intersection with the proposed Site Access during either of the peak hour periods with projected traffic volumes.

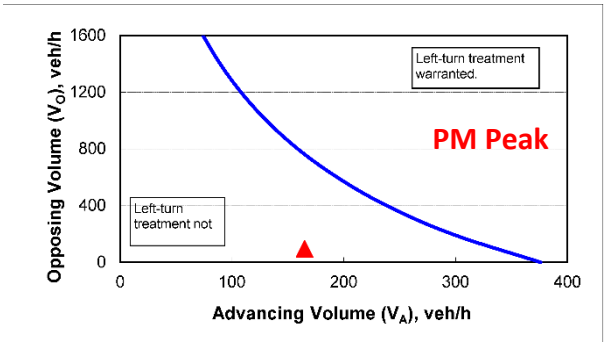
[3] Transportation Research Board (TRB). Evaluating Intersection Improvements: An Engineering Study Guide. Washington, DC: 2001

[4] Transportation Research Board (TRB). Evaluating Intersection Improvements: An Engineering Study Guide. Washington, DC: 2001

Table 7. Major-Road Approach Geometry, NBL Lasea Road at Site Access

Variable	AM Peak	PM Peak
85th percentile speed, mph:	35	35
Percent of left-turns in advancing volume (V_A), %:	32%	41%
Advancing volume (V_A), veh/h:	65	165
Opposing volume (V_O), veh/h:	92	95
Limiting advancing volume (V_A), veh/h:	353	335
Left-turn bay warranted:	**NO**	**NO**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		

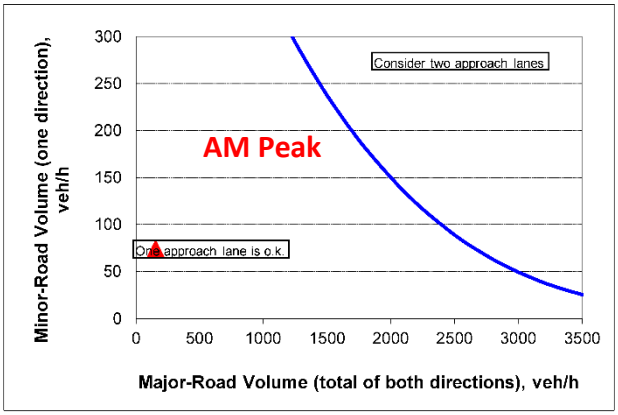


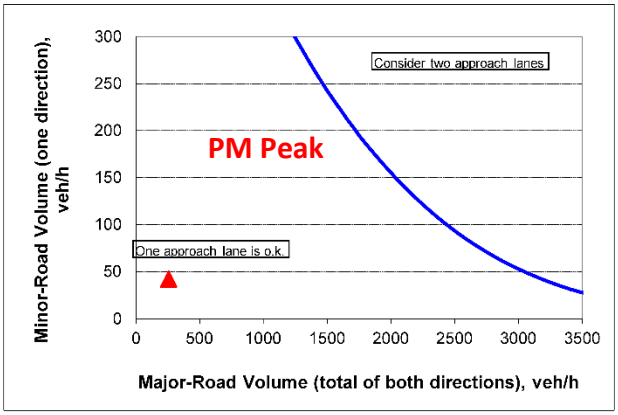


As shown in Table 7 and the corresponding graphs, it was determined that a northbound left-turn lane is not warranted along Lasea Road at its intersection with the proposed Site Access during either of the peak hour periods with projected traffic volumes.

Table 8. Minor-Road Approach Geometry, EBR Site Access at Lasea Road

Variable	AM Peak	PM Peak
Major-road volume (total both directions), veh/h:	157	260
Percentage of right-turns on minor road, %:	95%	95%
Minor-road volume (one direction), veh/h:	74	42
Limiting minor-road volume (one direction), veh/h:	673	628
Right-turn bay warranted:	**One (1) approach lane is sufficient**	**One (1) approach lane is sufficient**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		





As shown in Table 8 and the corresponding graphs, it was determined that one (1) shared lane for left-turn and right-turn movements on the eastbound approach of the proposed Site Access at its intersection with Lasea Road is sufficient with projected traffic volumes.

Conclusions

Existing Conditions

Intersection Capacity Analyses

- All critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS C during the AM and PM peak hours with adjusted 2021 existing traffic volumes.

Background Conditions

Intersection Capacity Analyses

- All critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours with background 2023 traffic volumes.

Projected Conditions

Intersection Capacity Analyses

- All critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours with projected 2023 traffic volumes.

Turn Lane Analyses

- It was determined that the eastbound approach of the proposed Site Access at its intersection with Lasea Road will be sufficient with one (1) shared lane for left-turn and right-turn movements with projected traffic volumes.

Recommendations

Based on the analyses within this study, and a review of the proposed development's access plan, the recommendations below have been presented to be implemented as part of the proposed 1451 Lasea Road Development in Columbia, TN. These recommendations will be implemented in addition to the various improvements at the study intersections outlined in previously conducted traffic studies within the area. Figure 10 shows a summary of the recommended improvements for this development and other nearby developments.

Improvement Recommendations for the 1451 Lasea Road Development

Lasea Road and Bear Creek Pike (US-412)

- No improvements are recommended for this intersection as part of the construction of the 1451 Lasea Road Development.

Bear Creek Pike (US-412) and Old Highway 99

- No improvements are recommended for this intersection as part of the construction of the 1451 Lasea Road Development.

Lasea Road and Old Highway 99

- No improvements are recommended for this intersection as part of the construction of the 1451 Lasea Road Development.

Lasea Road and Blackburn Lane

- No improvements are recommended for this intersection as part of the construction of the 1451 Lasea Road Development.

Lasea Road and Site Access

- Construct the proposed Site Access along Lasea Road with one (1) inbound lane and one (1) outbound lane operating under a stop condition for Lasea Road according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- All radii for the proposed access shall be designed via coordination with the City of Columbia to accommodate the largest turning vehicle requirements that will service the development according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Ensure the departure sight distance triangles for all driveways, internal intersections, and site access intersections are designed to be clear of all sight obstructions (including vegetation) as specified by AASHTO. The design of proposed internal roadway system should be completed according to the MUTCD, AASHTO, TDOT, and City of Columbia standards.



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Figure 10 - Recommended Improvements for 1451 Lasea Road Development

1451 Lasea Road Development • Columbia, TN • Approximate Scale: 1" = 600'

Prepared by T-Square Engineering, Inc.

1329 West Main Street • Franklin, TN 37064 • www.T2-Eng.com

600' 300' 0' 600'

1 inch = 600 feet

APPENDIX

APPENDIX A – DETAILED TURNING MOVEMENT COUNTS

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs) - Ragan Smith and Assoc

Count Sites: 4
Intersection #: 1
Intersection: Lasea Road and Bear Creek Pike (US-412)

Southbound: Lasea Road
Westbound: Bear Creek Pike (US-412)
Northbound: N/A
Eastbound: Bear Creek Pike (US-412)

Lat/Long: N/A

Count Date: 3/4/2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

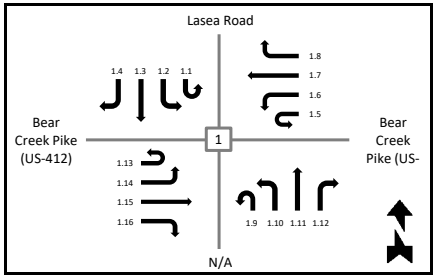
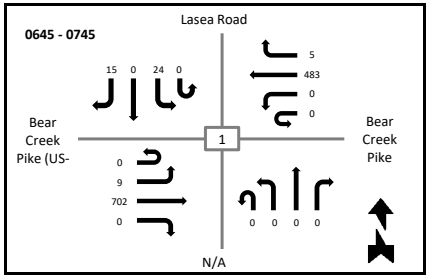


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Lasea Road						Bear Creek Pike (US-412)						N/A						Bear Creek Pike (US-412)					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
0600 - 0615	0	8	0	0	0	8	0	0	47	0	0	47	0	0	0	0	0	0	0	3	137	0	0	140
0615 - 0630	0	2	0	6	0	8	0	0	93	2	0	95	0	0	0	0	0	0	0	1	132	0	0	133
0630 - 0645	0	5	0	4	0	9	0	0	76	0	0	76	0	0	0	0	0	0	0	1	179	0	0	180
0645 - 0700	0	6	0	5	0	11	0	0	113	0	0	113	0	0	0	0	0	0	0	2	187	0	0	189
0700 - 0715	0	7	0	6	0	13	0	0	111	0	0	111	0	0	0	0	0	0	0	3	172	0	0	175
0715 - 0730	0	6	0	2	0	8	0	0	116	2	0	118	0	0	0	0	0	0	0	0	175	0	0	175
0730 - 0745	0	5	0	2	0	7	0	0	143	3	0	146	0	0	0	0	0	0	0	4	168	0	0	172
0745 - 0800	0	4	0	2	0	6	0	0	119	0	0	119	0	0	0	0	0	0	0	3	151	0	0	154
0800 - 0815	0	4	0	3	0	7	0	0	109	4	0	113	0	0	0	0	0	0	0	4	158	0	0	162
0815 - 0830	0	4	0	5	0	9	0	0	95	1	0	96	0	0	0	0	0	0	0	1	131	0	0	132
0830 - 0845	0	3	0	6	0	9	0	0	93	0	0	93	0	0	0	0	0	0	0	1	106	0	0	107
0845 - 0900	0	4	0	1	0	5	0	0	73	1	0	74	0	0	0	0	0	0	0	3	129	0	0	132
Grand Total	**0**	**58**	**0**	**42**	**0**	**100**	**0**	**0**	**1188**	**13**	**0**	**1201**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**1825**	**0**	**0**	**1851**
Peak Hour Total																								
0645 - 0745	**0**	**24**	**0**	**15**	**0**	**39**	**0**	**0**	**483**	**5**	**0**	**488**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**702**	**0**	**0**	**711**
App %	0.00%	58.00%	0.00%	42.00%			0.00%	0.00%	98.92%	1.08%			0.00%	0.00%	0.00%	0.00%			0.00%	1.40%	98.60%	0.00%		
Int %	0.00%	1.84%	0.00%	1.33%		3.17%	0.00%	0.00%	37.69%	0.41%		38.10%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.82%	57.90%	0.00%		58.72%
Cars Total	0	58	0	42			0	0	1188	13			0	0	0	0			0	26	1825	0		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs) - Ragan Smith and Assoc

Count Sites: 4
Intersection #: 1
Intersection: Lasea Road and Bear Creek Pike (US-412)

Southbound: Lasea Road
Westbound: Bear Creek Pike (US-412)
Northbound: N/A
Eastbound: Bear Creek Pike (US-412)

Lat/Long: N/A

Count Date: 3/4/2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

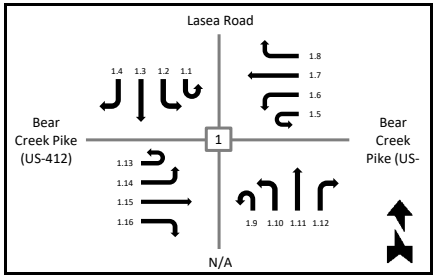
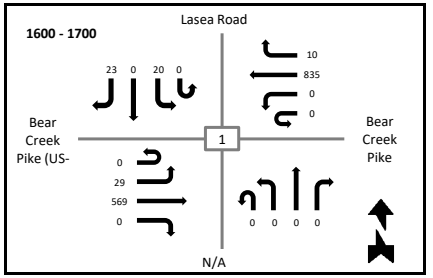


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Lasea Road						Bear Creek Pike (US-412)						N/A						Bear Creek Pike (US-412)					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
1500 - 1515	0	4	0	6	0	10	0	0	158	2	0	160	0	0	0	0	0	0	0	7	125	0	0	132
1515 - 1530	0	3	0	5	0	8	0	0	180	2	0	182	0	0	0	0	0	0	0	4	132	0	0	136
1530 - 1545	0	5	0	6	0	11	0	0	214	4	0	218	0	0	0	0	0	0	0	8	129	0	0	137
1545 - 1600	0	4	0	6	0	10	0	0	205	1	0	206	0	0	0	0	0	0	0	4	159	0	0	163
1600 - 1615	0	7	0	7	0	14	0	0	219	1	0	220	0	0	0	0	0	0	0	5	137	0	0	142
1615 - 1630	0	3	0	5	0	8	0	0	217	7	0	224	0	0	0	0	0	0	0	8	138	0	0	146
1630 - 1645	0	7	0	8	0	15	0	0	228	1	0	229	0	0	0	0	0	0	0	6	165	0	0	171
1645 - 1700	0	3	0	3	0	6	0	0	171	1	0	172	0	0	0	0	0	0	0	10	129	0	0	139
1700 - 1715	0	4	0	5	0	9	0	0	189	5	0	194	0	0	0	0	0	0	0	5	135	0	0	140
1715 - 1730	0	5	0	2	0	7	0	0	175	3	0	178	0	0	0	0	0	0	0	11	157	0	0	168
1730 - 1745	0	4	0	9	0	13	0	0	152	5	0	157	0	0	0	0	0	0	0	5	135	0	0	140
1745 - 1800	0	4	0	3	0	7	0	0	167	3	0	170	0	0	0	0	0	0	0	4	106	0	0	110
Grand Total	**0**	**53**	**0**	**65**	**0**	**118**	**0**	**0**	**2275**	**35**	**0**	**2310**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**77**	**1647**	**0**	**0**	**1724**
Peak Hour Total																								
1600 - 1700	**0**	**20**	**0**	**23**	**0**	**43**	**0**	**0**	**835**	**10**	**0**	**845**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**569**	**0**	**0**	**598**
App %	0.00%	44.92%	0.00%	55.08%			0.00%	0.00%	98.48%	1.52%			0.00%	0.00%	0.00%	0.00%			0.00%	4.47%	95.53%	0.00%		
Int %	0.00%	1.28%	0.00%	1.57%		2.84%	0.00%	0.00%	54.79%	0.84%		55.64%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	1.85%	39.67%	0.00%		41.52%
Cars Total	0	53	0	65			0	0	2275	35			0	0	0	0			0	77	1647	0		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs)

Count Sites: 4
Intersection #: 2
Intersection: Bear Creek Pike (US-412) and Old Highway 99

Southbound: Old Highway 99
Westbound: Bear Creek Pike (US-412)
Northbound: N/A
Eastbound: Bear Creek Pike (US-412)

Lat/Long: N/A

Count Date: 9/6/2017

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

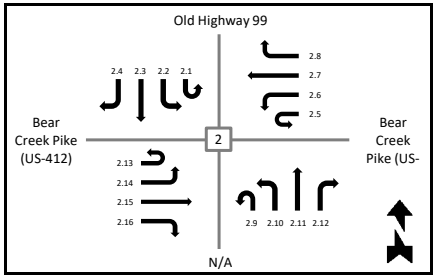
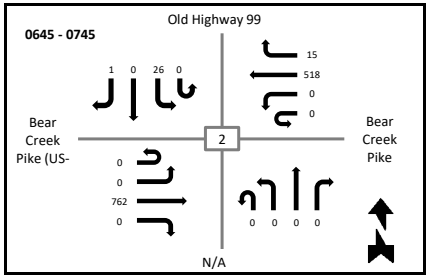


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Old Highway 99						Bear Creek Pike (US-412)						N/A						Bear Creek Pike (US-412)					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
0600 - 0615	0	13	0	0	0	13	0	0	69	1	0	70	0	0	0	0	0	0	0	0	260	0	0	260
0615 - 0630	0	7	0	0	0	7	0	0	81	0	0	81	0	0	0	0	0	0	0	0	204	0	0	204
0630 - 0645	0	3	0	0	0	3	0	0	104	3	0	107	0	0	0	0	0	0	0	1	190	0	0	191
0645 - 0700	0	8	0	1	0	9	0	0	110	1	0	111	0	0	0	0	0	0	0	0	201	0	0	201
0700 - 0715	0	10	0	0	0	10	0	0	144	2	0	146	0	0	0	0	0	0	0	0	200	0	0	200
0715 - 0730	0	4	0	0	0	4	0	0	142	5	0	147	0	0	0	0	0	0	0	0	191	0	0	191
0730 - 0745	0	4	0	0	0	4	0	0	122	7	0	129	0	0	0	0	0	0	0	0	170	0	0	170
0745 - 0800	0	8	0	1	0	9	0	0	108	2	0	110	0	0	0	0	0	0	0	0	152	0	0	152
0800 - 0815	0	8	0	0	0	8	0	0	100	2	0	102	0	0	0	0	0	0	0	0	158	0	0	158
0815 - 0830	0	2	0	1	0	3	0	0	106	3	0	109	0	0	0	0	0	0	0	1	139	0	0	140
0830 - 0845	0	6	0	1	0	7	0	0	107	4	0	111	0	0	0	0	0	0	0	0	135	0	0	135
0845 - 0900	0	5	0	0	0	5	0	0	103	1	0	104	0	0	0	0	0	0	0	1	102	0	0	103
Grand Total	**0**	**78**	**0**	**4**	**0**	**82**	**0**	**0**	**1296**	**31**	**0**	**1327**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**2102**	**0**	**0**	**2105**
Peak Hour Total																								
0645 - 0745	**0**	**26**	**0**	**1**	**0**	**27**	**0**	**0**	**518**	**15**	**0**	**533**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**762**	**0**	**0**	**762**
App %	0.00%	95.12%	0.00%	4.88%			0.00%	0.00%	97.66%	2.34%			0.00%	0.00%	0.00%	0.00%			0.00%	0.14%	99.86%	0.00%		
Int %	0.00%	2.22%	0.00%	0.11%		2.33%	0.00%	0.00%	36.88%	0.88%		37.76%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.09%	59.82%	0.00%		59.90%
Cars Total	0	78	0	4			0	0	1296	31			0	0	0	0			0	3	2102	0		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs)

Count Sites: 4
Intersection #: 2
Intersection: Bear Creek Pike (US-412) and Old Highway 99

Southbound: Old Highway 99
Westbound: Bear Creek Pike (US-412)
Northbound: N/A
Eastbound: Bear Creek Pike (US-412)

Lat/Long: N/A

Count Date: 9/6/2017

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

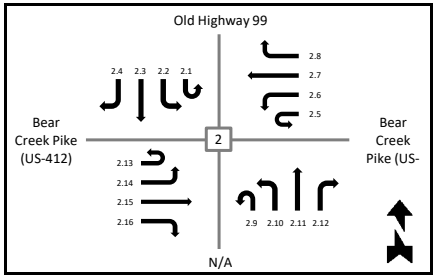
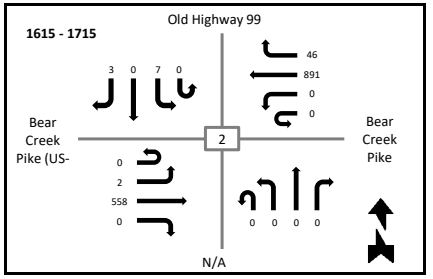


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Old Highway 99						Bear Creek Pike (US-412)						N/A						Bear Creek Pike (US-412)					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
1500 - 1515	0	4	0	0	0	4	0	0	171	3	0	174	0	0	0	0	0	0	0	0	128	0	0	128
1515 - 1530	0	3	0	1	0	4	0	0	170	4	0	174	0	0	0	0	0	0	0	0	137	0	0	137
1530 - 1545	0	8	0	3	0	11	0	0	190	16	0	206	0	0	0	0	0	0	0	2	127	0	0	129
1545 - 1600	0	2	0	3	0	5	0	0	179	11	0	190	0	0	0	0	0	0	0	0	112	0	0	112
1600 - 1615	0	5	0	4	0	9	0	0	196	9	0	205	0	0	0	0	0	0	0	0	125	0	0	125
1615 - 1630	0	2	0	0	0	2	0	0	212	10	0	222	0	0	0	0	0	0	0	1	148	0	0	149
1630 - 1645	0	3	0	2	0	5	0	0	232	16	0	248	0	0	0	0	0	0	0	0	121	0	0	121
1645 - 1700	0	1	0	1	0	2	0	0	233	9	0	242	0	0	0	0	0	0	0	1	148	0	0	149
1700 - 1715	0	1	0	0	0	1	0	0	214	11	0	225	0	0	0	0	0	0	0	0	141	0	0	141
1715 - 1730	0	4	0	0	0	4	0	0	205	10	0	215	0	0	0	0	0	0	0	0	129	0	0	129
1730 - 1745	0	4	0	0	0	4	0	0	204	13	0	217	0	0	0	0	0	0	0	0	133	0	0	133
1745 - 1800	0	5	0	1	0	6	0	0	177	13	0	190	0	0	0	0	0	0	0	1	118	0	0	119
Grand Total	**0**	**42**	**0**	**15**	**0**	**57**	**0**	**0**	**2383**	**125**	**0**	**2508**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**1567**	**0**	**0**	**1572**
Peak Hour Total																								
1615 - 1715	**0**	**7**	**0**	**3**	**0**	**10**	**0**	**0**	**891**	**46**	**0**	**937**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**558**	**0**	**0**	**560**
App %	0.00%	73.68%	0.00%	26.32%			0.00%	0.00%	95.02%	4.98%			0.00%	0.00%	0.00%	0.00%			0.00%	0.32%	99.68%	0.00%		
Int %	0.00%	1.02%	0.00%	0.36%		1.38%	0.00%	0.00%	57.60%	3.02%		60.62%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.12%	37.88%	0.00%		38.00%
Cars Total	0	42	0	15			0	0	2383	125			0	0	0	0			0	5	1567	0		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs)

Count Sites: 4
Intersection #: 3
Intersection: Lasea Road and Old Highway 99

Southbound: Lasea Road
Westbound: Old Highway 99
Northbound: Lasea Road
Eastbound: Old Highway 99

Lat/Long: N/A

Count Date: 9/6/2017

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

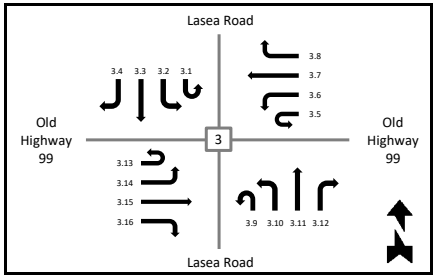
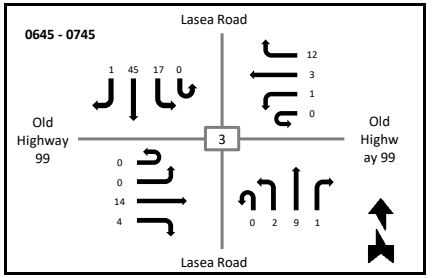


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Lasea Road						Old Highway 99						Lasea Road						Old Highway 99					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
0600 - 0615	0	8	15	0	0	23	0	0	1	0	0	1	0	0	1	0	0	1	0	0	5	1	0	6
0615 - 0630	0	5	15	0	0	20	0	0	0	0	0	0	0	1	3	0	0	4	0	0	1	1	0	2
0630 - 0645	0	5	10	0	0	15	0	1	0	1	0	2	0	0	3	0	0	3	0	2	0	3	0	5
0645 - 0700	0	3	11	0	0	14	0	0	0	2	0	2	0	0	4	0	0	4	0	0	6	2	0	8
0700 - 0715	0	5	9	1	0	15	0	0	0	2	0	2	0	0	0	1	0	1	0	0	4	1	0	5
0715 - 0730	0	5	14	0	0	19	0	0	2	4	0	6	0	1	2	0	0	3	0	0	2	1	0	3
0730 - 0745	0	4	11	0	0	15	0	1	1	4	0	6	0	1	3	0	0	4	0	0	2	0	0	2
0745 - 0800	0	9	7	0	0	16	0	0	1	2	0	3	0	1	2	0	0	3	0	0	1	1	0	2
0800 - 0815	0	4	6	0	0	10	0	0	1	2	0	3	0	0	3	0	0	3	0	0	3	1	0	4
0815 - 0830	0	1	5	0	0	6	0	0	2	1	0	3	0	0	8	0	0	8	0	0	1	0	0	1
0830 - 0845	0	5	10	1	0	16	0	0	1	3	0	4	0	0	5	0	0	5	0	0	0	0	0	0
0845 - 0900	0	6	4	0	0	10	0	0	0	2	0	2	0	0	2	0	0	2	0	0	2	0	0	2
Grand Total	**0**	**60**	**117**	**2**	**0**	**179**	**0**	**2**	**9**	**23**	**0**	**34**	**0**	**4**	**36**	**1**	**0**	**41**	**0**	**2**	**27**	**11**	**0**	**40**
Peak Hour Total																								
0645 - 0745	**0**	**17**	**45**	**1**	**0**	**63**	**0**	**1**	**3**	**12**	**0**	**16**	**0**	**2**	**9**	**1**	**0**	**12**	**0**	**0**	**14**	**4**	**0**	**18**
App %	0.00%	33.52%	65.36%	1.12%			0.00%	5.88%	26.47%	67.65%			0.00%	9.76%	87.80%	2.44%			0.00%	5.00%	67.50%	27.50%		
Int %	0.00%	20.41%	39.80%	0.68%		60.88%	0.00%	0.68%	3.06%	7.82%		11.56%	0.00%	1.36%	12.24%	0.34%		13.95%	0.00%	0.68%	9.18%	3.74%		13.61%
Cars Total	0	60	117	2			0	2	9	23			0	4	36	1			0	2	27	11		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs)

Count Sites: 4
Intersection #: 3
Intersection: Lasea Road and Old Highway 99

Southbound: Lasea Road
Westbound: Old Highway 99
Northbound: Lasea Road
Eastbound: Old Highway 99

Lat/Long: N/A

Count Date: 9/6/2017

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

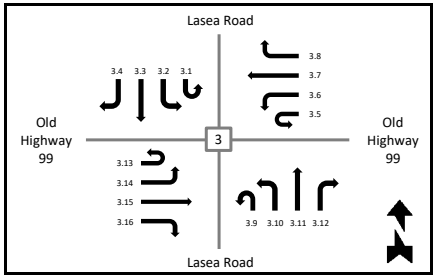
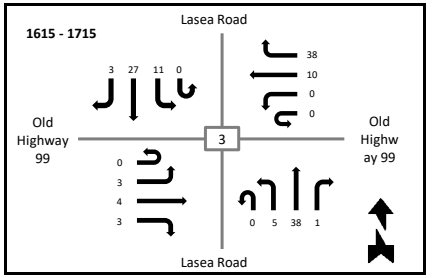


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Lasea Road						Old Highway 99						Lasea Road						Old Highway 99					
Time	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds X-Walk	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds X-Walk	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds X-Walk	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds X-Walk	App Total
1500 - 1515	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
1600 - 1615	0	2	2	0	0	4	0	0	1	4	0	5	0	2	8	0	0	10	0	0	0	1	0	1
1615 - 1630	0	3	7	0	0	10	0	0	2	9	0	11	0	2	14	0	0	16	0	1	3	1	0	5
1630 - 1645	0	4	8	2	0	14	0	0	1	15	0	16	0	0	8	0	0	8	0	1	1	0	0	2
1645 - 1700	0	1	10	0	0	11	0	0	3	9	0	12	0	3	10	1	0	14	0	1	0	0	0	1
1700 - 1715	0	3	2	1	0	6	0	0	4	5	0	9	0	0	6	0	0	6	0	0	0	2	0	2
1715 - 1730	0	1	4	0	0	5	0	0	4	5	0	9	0	1	10	0	0	11	0	1	1	1	0	3
1730 - 1745	0	3	9	0	0	12	0	0	2	13	0	15	0	1	6	0	0	7	0	0	1	1	0	2
1745 - 1800	0	2	7	0	0	9	0	0	5	7	0	12	0	3	7	0	0	10	0	1	0	0	0	1
Grand Total	**0**	**19**	**50**	**3**	**0**	**72**	**0**	**0**	**23**	**67**	**0**	**90**	**0**	**13**	**70**	**1**	**0**	**84**	**0**	**5**	**6**	**6**	**0**	**17**
Peak Hour Total																								
1615 - 1715	**0**	**11**	**27**	**3**	**0**	**41**	**0**	**0**	**10**	**38**	**0**	**48**	**0**	**5**	**38**	**1**	**0**	**44**	**0**	**3**	**4**	**3**	**0**	**10**
App %	0.00%	26.39%	69.44%	4.17%			0.00%	0.00%	25.56%	74.44%			0.00%	15.48%	83.33%	1.19%			0.00%	29.41%	35.29%	35.29%		
Int %	0.00%	7.22%	19.01%	1.14%		27.38%	0.00%	0.00%	8.75%	25.48%		34.22%	0.00%	4.94%	26.62%	0.38%		31.94%	0.00%	1.90%	2.28%	2.28%		6.46%
Cars Total	0	19	50	3			0	0	23	67			0	13	70	1			0	5	6	6		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs)

Count Sites: 4
Intersection #: 4
Intersection: Lasea Road and Blackburn Lane

Southbound: Lasea Road
Westbound: N/A
Northbound: Lasea Road
Eastbound: Blackburn Lane

Lat/Long: N/A

Count Date: 9/7/2017

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

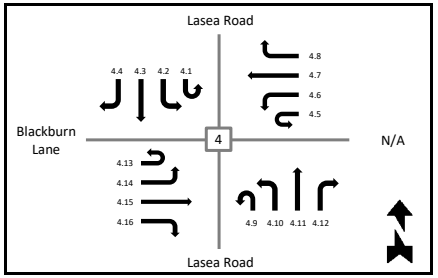
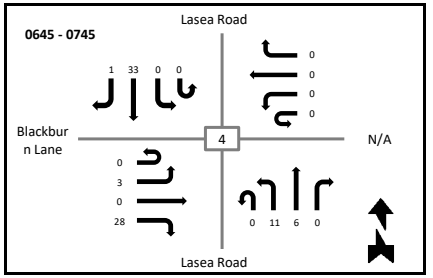


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Lasea Road						N/A						Lasea Road						Blackburn Lane					
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
0600 - 0615	0	0	9	0	0	9	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	10	0	10
0615 - 0630	0	0	9	0	0	9	0	0	0	0	0	0	0	1	5	0	0	6	0	0	0	11	0	11
0630 - 0645	0	0	7	2	0	9	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	9	0	9
0645 - 0700	0	0	9	1	0	10	0	0	0	0	0	0	0	5	3	0	0	8	0	0	0	6	0	6
0700 - 0715	0	0	11	0	0	11	0	0	0	0	0	0	0	3	1	0	0	4	0	1	0	9	0	10
0715 - 0730	0	0	9	0	0	9	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	5	0	5
0730 - 0745	0	0	4	0	0	4	0	0	0	0	0	0	0	2	2	0	0	4	0	2	0	8	0	10
0745 - 0800	0	0	1	0	0	1	0	0	0	0	0	0	0	3	2	0	0	5	0	0	0	7	0	7
0800 - 0815	0	0	6	0	0	6	0	0	0	0	0	0	0	5	4	0	0	9	0	0	0	3	0	3
0815 - 0830	0	0	2	0	0	2	0	0	0	0	0	0	0	3	6	0	0	9	0	0	0	2	0	2
0830 - 0845	0	0	6	0	0	6	0	0	0	0	0	0	0	4	1	0	0	5	0	0	0	4	0	4
0845 - 0900	0	0	4	0	0	4	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	3	0	3
Grand Total	**0**	**0**	**77**	**3**	**0**	**80**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**26**	**0**	**0**	**58**	**0**	**3**	**0**	**77**	**0**	**80**
Peak Hour Total																								
0645 - 0745	**0**	**0**	**33**	**1**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**6**	**0**	**0**	**17**	**0**	**3**	**0**	**28**	**0**	**31**
App %	0.00%	0.00%	96.25%	3.75%			0.00%	0.00%	0.00%	0.00%			0.00%	55.17%	44.83%	0.00%			0.00%	3.75%	0.00%	96.25%		
Int %	0.00%	0.00%	35.32%	1.38%		36.70%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	14.68%	11.93%	0.00%		26.61%	0.00%	1.38%	0.00%	35.32%		36.70%
Cars Total	0	0	77	3			0	0	0	0			0	32	26	0			0	3	0	77		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Turning Movement Counts (TMCs)

Count Sites: 4
Intersection #: 4
Intersection: Lasea Road and Blackburn Lane

Southbound: Lasea Road
Westbound: N/A
Northbound: Lasea Road
Eastbound: Blackburn Lane

Lat/Long: N/A

Count Date: 9/7/2017

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

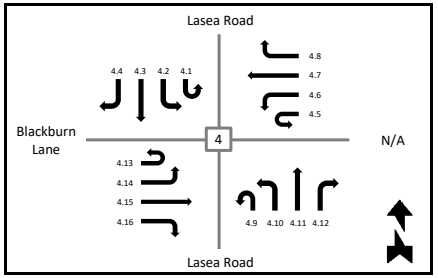
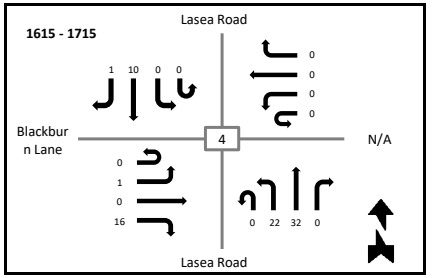


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Lasea Road						N/A						Lasea Road						Blackburn Lane					
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
1615 - 1630	0	0	2	0	0	2	0	0	0	0	0	0	0	5	4	0	0	9	0	0	0	3	0	3
1630 - 1645	0	0	4	0	0	4	0	0	0	0	0	0	0	6	10	0	0	16	0	0	0	3	0	3
1645 - 1700	0	0	2	0	0	2	0	0	0	0	0	0	0	4	8	0	0	12	0	0	0	4	0	4
1700 - 1715	0	0	2	1	0	3	0	0	0	0	0	0	0	7	10	0	0	17	0	1	0	6	0	7
1715 - 1730	0	0	4	0	0	4	0	0	0	0	0	0	0	5	6	0	0	11	0	1	0	5	0	6
1730 - 1745	0	0	5	0	0	5	0	0	0	0	0	0	0	7	7	0	0	14	0	0	0	7	0	7
1745 - 1800	0	0	2	0	0	2	0	0	0	0	0	0	0	9	3	0	0	12	0	0	0	2	0	2
Grand Total	**0**	**0**	**21**	**1**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**46**	**50**	**0**	**0**	**96**	**0**	**2**	**0**	**30**	**0**	**32**
Peak Hour Total																								
1615 - 1715	**0**	**0**	**10**	**1**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**32**	**0**	**0**	**54**	**0**	**1**	**0**	**16**	**0**	**17**
App %	0.00%	0.00%	95.45%	4.55%			0.00%	0.00%	0.00%	0.00%			0.00%	47.92%	52.08%	0.00%			0.00%	6.25%	0.00%	93.75%		
Int %	0.00%	0.00%	14.00%	0.67%		14.67%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	30.67%	33.33%	0.00%		64.00%	0.00%	1.33%	0.00%	20.00%		21.33%
Cars Total	0	0	21	1			0	0	0	0			0	46	50	0			0	2	0	30		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

APPENDIX B – DETAILED TRIP GENERATION CALCULATIONS

1329 West Main Street
Franklin, TN 37064
615.678.8212
www.T2-eng.com

TRIP GENERATION

Project:	1451 Lasea Road – Columbia, TN
ITE Land Use:	Multi-Family Housing (Low-Rise)
ITE Code:	220
Trip Ends vs:	**ITE 220** – 208 DU
Daily Equation:	Weekday – Fitted Curve Equation
AM Equation:	Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 AM – Fitted Curve Equation
PM Equation:	Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 PM – Fitted Curve Equation

Time Period	Formula[1]	Calculation	Trips
Daily	$T = 7.56(X) - 40.86$	$T = 7.56(208) - 40.86$	1,532
AM Peak (Total)	$Ln(T) = 0.95Ln(X) - 0.51$	$Ln(T) = 0.95Ln(208) - 0.51$	96
AM Peak (Entering)	$T = 0.23(Total\ AM\ Trips)$	$T = 0.23(96)$	22
AM Peak (Exiting)	$T = 0.77(Total\ AM\ Trips)$	$T = 0.77(96)$	74
PM Peak (Total)	$Ln(T) = 0.89Ln(X) - 0.02$	$Ln(T) = 0.89Ln(208) - 0.02$	113
PM Peak (Entering)	$T = 0.63(Total\ PM\ Trips)$	$T = 0.63(113)$	71
PM Peak (Exiting)	$T = 0.37(Total\ PM\ Trips)$	$T = 0.37(113)$	42

[1] Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. Washington, DC: ITE, 2020

Multifamily Housing (Low-Rise)
(220)

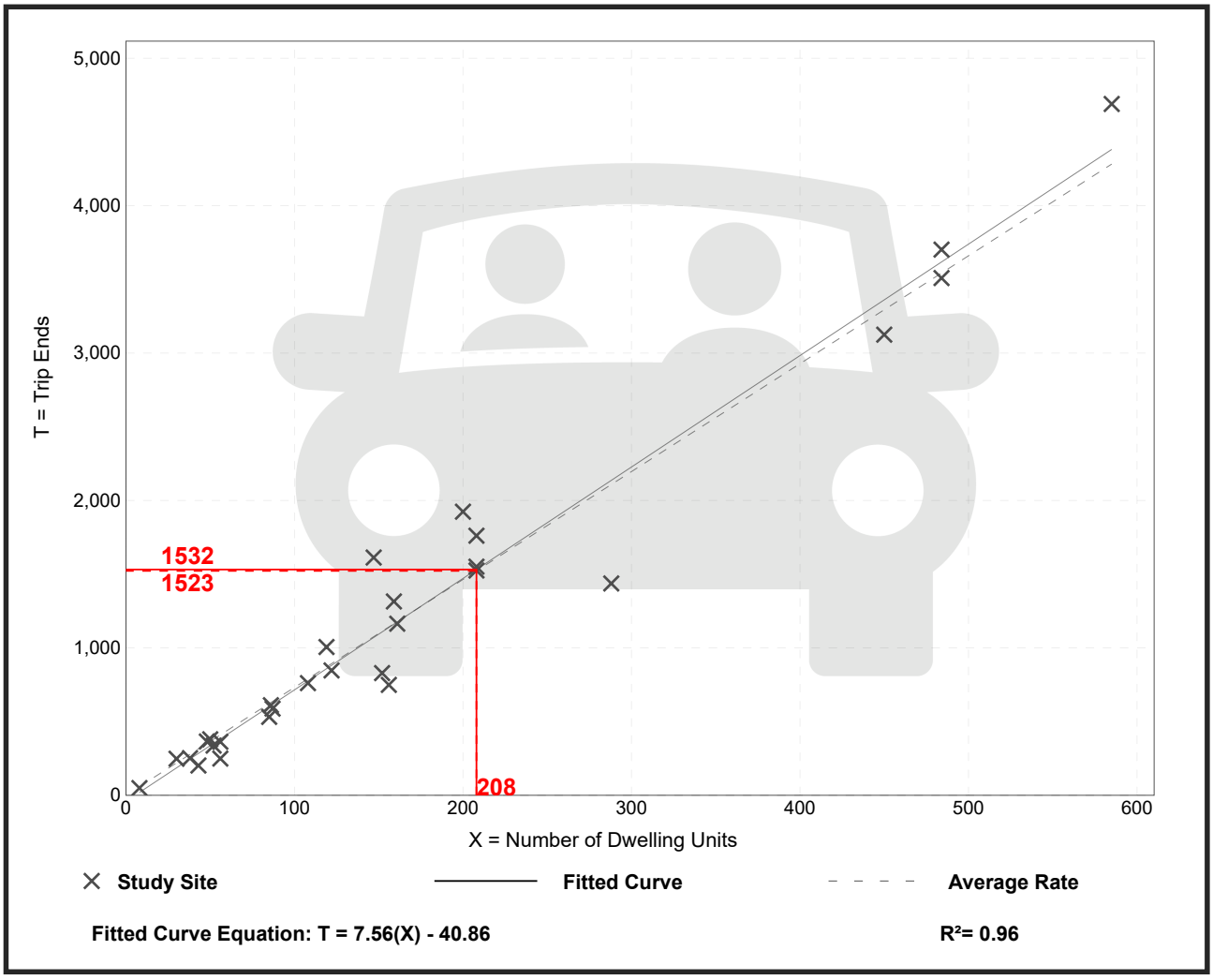
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 29
Avg. Num. of Dwelling Units: 168
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.32	4.45 - 10.97	1.31

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement ● Institute of Transportation Engineers

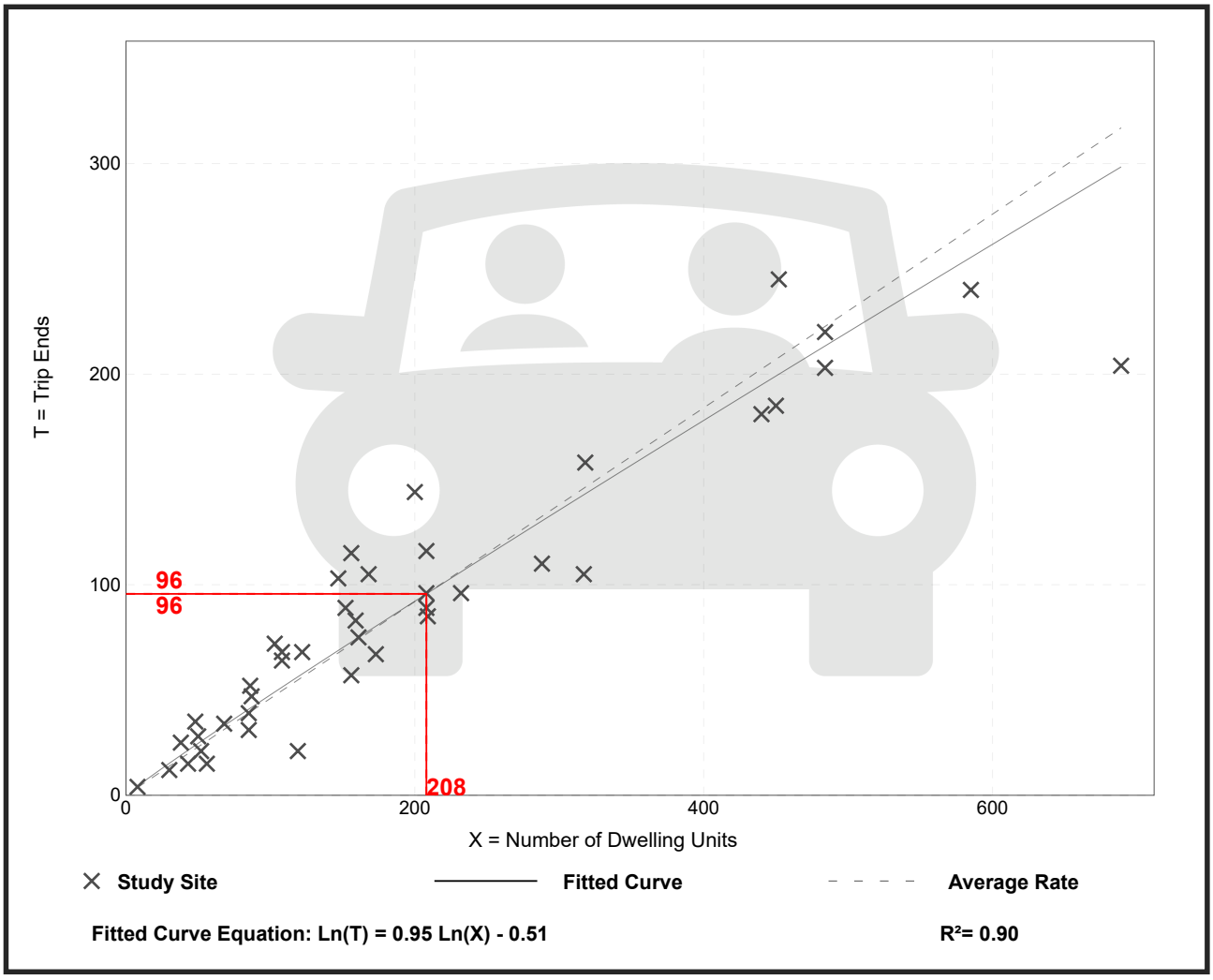
Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 42
Avg. Num. of Dwelling Units: 199
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement ● Institute of Transportation Engineers

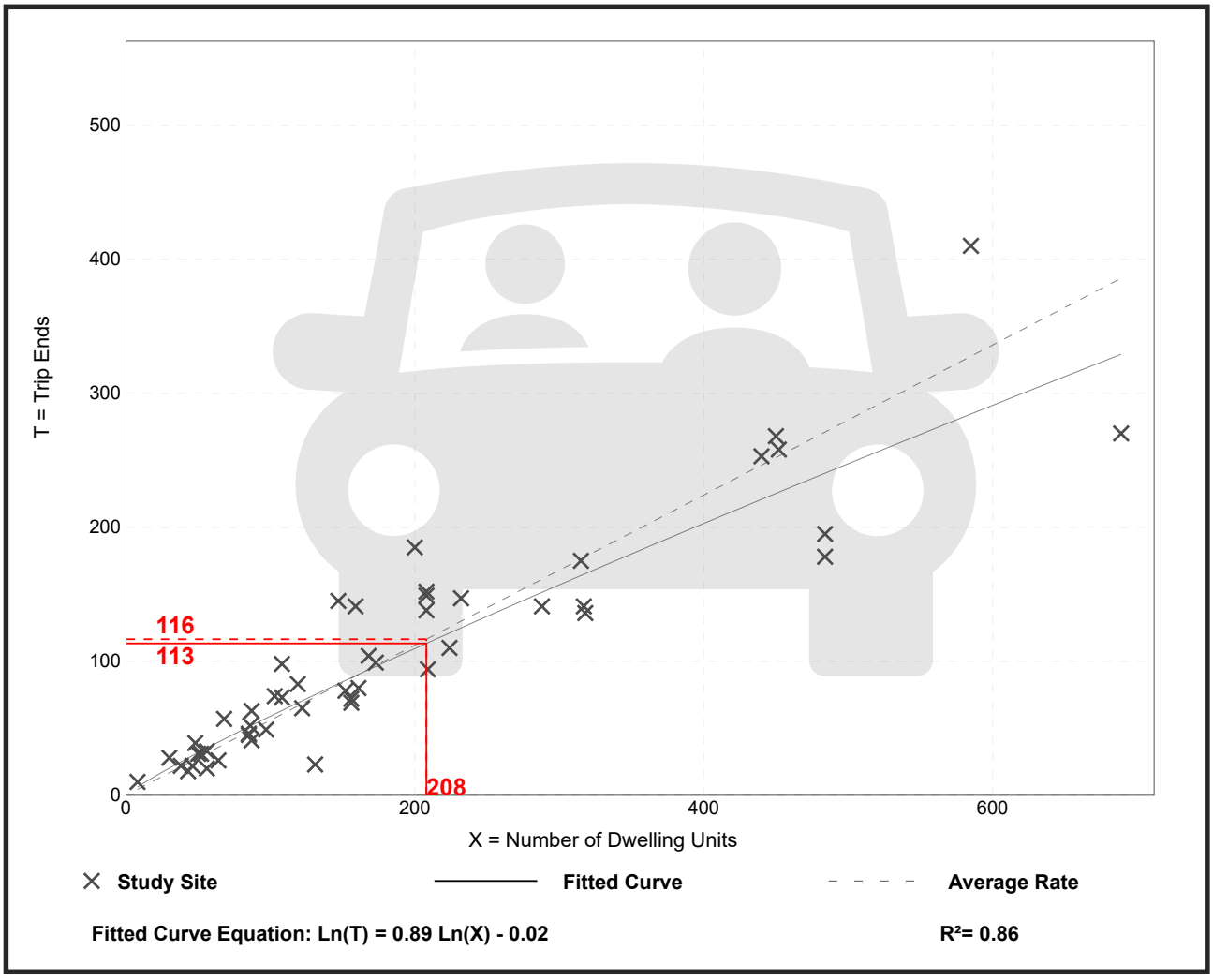
Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 50
Avg. Num. of Dwelling Units: 187
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement ● Institute of Transportation Engineers

APPENDIX C – CAPACITY ANALYSES

EXISTING CAPACITY ANALYSES

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	787	541	6	27	17
Future Vol, veh/h	10	787	541	6	27	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	855	588	7	29	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	595	0	-	0	1469	592
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	877	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	981	-	-	-	140	506
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	981	-	-	-	138	506
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	407	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	981	-	-	-	333
HCM Lane V/C Ratio	0.011	-	-	-	0.144
HCM Control Delay (s)	8.7	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	825	561	16	28	1
Future Vol, veh/h	0	825	561	16	28	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	897	610	17	30	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	627	0	-	0	1516	619
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	897	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	955	-	-	-	131	489
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	398	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	955	-	-	-	131	489
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	398	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	955	-	-	-	271
HCM Lane V/C Ratio	-	-	-	-	0.116
HCM Control Delay (s)	0	-	-	-	20
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	15	4	1	3	13	2	10	1	18	49	1
Future Vol, veh/h	0	15	4	1	3	13	2	10	1	18	49	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	4	1	3	14	2	11	1	20	53	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	6.8	7.1	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	0%	6%	26%
Vol Thru, %	77%	79%	18%	72%
Vol Right, %	8%	21%	76%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	19	17	68
LT Vol	2	0	1	18
Through Vol	10	15	3	49
RT Vol	1	4	13	1
Lane Flow Rate	14	21	18	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.023	0.019	0.083
Departure Headway (Hd)	4.041	3.976	3.656	4.056
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	897	973	885
Service Time	2.071	2.017	1.699	2.074
HCM Lane V/C Ratio	0.016	0.023	0.018	0.084
HCM Control Delay	7.1	7.1	6.8	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	30	12	7	36	1
Future Vol, veh/h	3	30	12	7	36	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	33	13	8	39	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	74	40	40	0	-	0
Stage 1	40	-	-	-	-	-
Stage 2	34	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	930	1031	1570	-	-	-
Stage 1	982	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	923	1031	1570	-	-	-
Mov Cap-2 Maneuver	923	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1570	-	1020	-	-
HCM Lane V/C Ratio	0.008	-	0.035	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Bear Creek Pike & Lasea Road

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	28	104
Average Queue (ft)	4	20
95th Queue (ft)	19	59
Link Distance (ft)		1262
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Bear Creek Pike & Old Highway 99

Movement	SB
Directions Served	LR
Maximum Queue (ft)	66
Average Queue (ft)	19
95th Queue (ft)	51
Link Distance (ft)	248
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Lasea Road & Old Highway 99

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	31	19	55
Average Queue (ft)	12	13	4	34
95th Queue (ft)	34	38	16	48
Link Distance (ft)	892	1948	1262	3595
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Lasea Road & Blackburn Lane

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	68	29
Average Queue (ft)	14	1
95th Queue (ft)	37	10
Link Distance (ft)	911	3595
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	569	835	10	23	20
Future Vol, veh/h	29	569	835	10	23	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	618	908	11	25	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	919	0	-	0	1596	914
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	682	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	743	-	-	-	117	331
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	743	-	-	-	112	331
Mov Cap-2 Maneuver	-	-	-	-	245	-
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	20.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	743	-	-	-	279
HCM Lane V/C Ratio	0.042	-	-	-	0.168
HCM Control Delay (s)	10.1	-	-	-	20.5
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	604	964	50	8	3
Future Vol, veh/h	2	604	964	50	8	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	657	1048	54	9	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1102	0	-	0	1736	1075
Stage 1	-	-	-	-	1075	-
Stage 2	-	-	-	-	661	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	633	-	-	-	96	267
Stage 1	-	-	-	-	328	-
Stage 2	-	-	-	-	514	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	633	-	-	-	96	267
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	327	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	633	-	-	-	233
HCM Lane V/C Ratio	0.003	-	-	-	0.051
HCM Control Delay (s)	10.7	-	-	-	21.3
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	4	3	0	11	41	5	41	1	12	29	3
Future Vol, veh/h	3	4	3	0	11	41	5	41	1	12	29	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	4	3	0	12	45	5	45	1	13	32	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	6.9	7.4	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	30%	0%	27%
Vol Thru, %	87%	40%	21%	66%
Vol Right, %	2%	30%	79%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	10	52	44
LT Vol	5	3	0	12
Through Vol	41	4	11	29
RT Vol	1	3	41	3
Lane Flow Rate	51	11	57	48
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.012	0.057	0.055
Departure Headway (Hd)	4.097	4.029	3.64	4.104
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	874	882	977	872
Service Time	2.125	2.083	1.69	2.133
HCM Lane V/C Ratio	0.058	0.012	0.058	0.055
HCM Control Delay	7.4	7.1	6.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.2	0.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	17	24	35	11	1
Future Vol, veh/h	1	17	24	35	11	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	18	26	38	12	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	103	13	13	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	895	1067	1606	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	880	1067	1606	-	-	-
Mov Cap-2 Maneuver	880	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1606	-	1055	-	-
HCM Lane V/C Ratio	0.016	-	0.019	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection: 1: Bear Creek Pike & Lasea Road

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	49	22	79
Average Queue (ft)	20	1	20
95th Queue (ft)	41	7	56
Link Distance (ft)		2447	1262
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Bear Creek Pike & Old Highway 99

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	27	31
Average Queue (ft)	1	11
95th Queue (ft)	9	35
Link Distance (ft)		248
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Lasea Road & Old Highway 99

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	56	19	54
Average Queue (ft)	8	31	16	23
95th Queue (ft)	28	56	26	50
Link Distance (ft)	892	1948	1262	3595
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

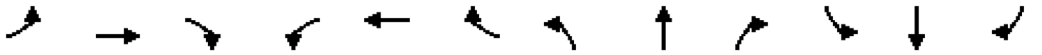
Intersection: 4: Lasea Road & Blackburn Lane

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	29
Average Queue (ft)	7	1
95th Queue (ft)	22	9
Link Distance (ft)	911	3595
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

BACKGROUND CAPACITY ANALYSES



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	850	20	32	615	10	66	13	105	35	4	52
Future Volume (veh/h)	21	850	20	32	615	10	66	13	105	35	4	52
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	924	22	35	668	11	72	14	114	38	4	57
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	1009	857	191	1024	870	267	18	149	212	12	166
Arrive On Green	0.02	0.54	0.54	0.03	0.55	0.55	0.05	0.10	0.10	0.06	0.11	0.11
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	176	1434	1774	105	1494
Grp Volume(v), veh/h	23	924	22	35	668	11	72	0	128	38	0	61
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	0	1610	1774	0	1599
Q Serve(g_s), s	0.5	40.6	0.6	0.8	22.7	0.3	3.2	0.0	7.0	1.7	0.0	3.2
Cycle Q Clear(g_c), s	0.5	40.6	0.6	0.8	22.7	0.3	3.2	0.0	7.0	1.7	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	349	1009	857	191	1024	870	267	0	167	212	0	178
V/C Ratio(X)	0.07	0.92	0.03	0.18	0.65	0.01	0.27	0.00	0.76	0.18	0.00	0.34
Avail Cap(c_a), veh/h	404	1231	1046	232	1231	1046	280	0	322	468	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	18.8	9.6	18.1	14.2	9.2	33.7	0.0	39.3	32.8	0.0	37.0
Incr Delay (d2), s/veh	0.1	9.5	0.0	0.5	0.9	0.0	0.5	0.0	7.1	0.4	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	23.2	0.3	0.4	11.8	0.1	1.6	0.0	3.4	0.8	0.0	1.5
LnGrp Delay(d),s/veh	11.4	28.3	9.6	18.5	15.2	9.2	34.3	0.0	46.3	33.2	0.0	38.1
LnGrp LOS	B	C	A	B	B	A	C		D	C		D
Approach Vol, veh/h		969			714			200			99	
Approach Delay, s/veh		27.4			15.2			42.0			36.2	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	54.8	10.4	16.0	8.2	55.5	11.0	15.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	59.5	5.0	29.5	5.0	59.5	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.8	42.6	5.2	5.2	2.5	24.7	3.7	9.0
Green Ext Time (p_c), s	0.0	6.1	0.0	0.3	0.0	4.6	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1024	701	29	58	1
Future Vol, veh/h	2	1024	701	29	58	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1113	762	32	63	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	794	0	-	0	1879	762
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	1117	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	827	-	-	-	78	405
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	313	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	827	-	-	-	78	405
Mov Cap-2 Maneuver	-	-	-	-	204	-
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	313	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	30.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	827	-	-	-	206
HCM Lane V/C Ratio	0.003	-	-	-	0.311
HCM Control Delay (s)	9.4	-	-	-	30.2
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	17	5	1	5	24	2	25	1	47	100	7
Future Vol, veh/h	2	17	5	1	5	24	2	25	1	47	100	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	18	5	1	5	26	2	27	1	51	109	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.1	7.4	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	8%	3%	31%
Vol Thru, %	89%	71%	17%	65%
Vol Right, %	4%	21%	80%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	24	30	154
LT Vol	2	2	1	47
Through Vol	25	17	5	100
RT Vol	1	5	24	7
Lane Flow Rate	30	26	33	167
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.031	0.036	0.19
Departure Headway (Hd)	4.156	4.295	3.923	4.092
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	839	918	874
Service Time	2.221	2.295	1.924	2.129
HCM Lane V/C Ratio	0.035	0.031	0.036	0.191
HCM Control Delay	7.4	7.4	7.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.7

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	36	23	30	48	1
Future Vol, veh/h	3	36	23	30	48	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	39	25	33	52	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	136	53	53	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	857	1014	1553	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	843	1014	1553	-	-	-
Mov Cap-2 Maneuver	843	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	940	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	3.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1553	-	998	-	-
HCM Lane V/C Ratio	0.016	-	0.042	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Rock Springs Access Drive/Lasea Road & Bear Creek Pike

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	40	552	29	199	307	220	66	124	59	87
Average Queue (ft)	11	220	8	24	128	18	35	57	17	16
95th Queue (ft)	32	388	28	82	219	108	65	113	47	48
Link Distance (ft)		2212			2439			620	1247	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		230	100		120	175			40
Storage Blk Time (%)		20			10				6	2
Queuing Penalty (veh)		8			4				3	1

Intersection: 2: Bear Creek Pike & Old Highway 99

Movement	SB
Directions Served	LR
Maximum Queue (ft)	200
Average Queue (ft)	69
95th Queue (ft)	152
Link Distance (ft)	239
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Lasea Road & Old Highway 99

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	31	37	78
Average Queue (ft)	16	19	11	42
95th Queue (ft)	37	42	28	67
Link Distance (ft)	892	1948	1247	3595
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Lasea Road & Blackburn Lane

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	66	27
Average Queue (ft)	18	1
95th Queue (ft)	43	9
Link Distance (ft)	911	3595
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 17

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	650	64	102	913	23	38	8	60	35	13	43
Future Volume (veh/h)	67	650	64	102	913	23	38	8	60	35	13	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	73	707	70	111	992	25	41	9	65	38	14	47
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	1042	885	385	1052	894	214	14	98	210	33	112
Arrive On Green	0.05	0.56	0.56	0.05	0.56	0.56	0.04	0.07	0.07	0.06	0.09	0.09
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	196	1417	1774	376	1263
Grp Volume(v), veh/h	73	707	70	111	992	25	41	0	74	38	0	61
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	0	1613	1774	0	1640
Q Serve(g_s), s	1.5	24.5	1.8	2.4	45.0	0.6	1.9	0.0	4.1	1.7	0.0	3.2
Cycle Q Clear(g_c), s	1.5	24.5	1.8	2.4	45.0	0.6	1.9	0.0	4.1	1.7	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.77
Lane Grp Cap(c), veh/h	200	1042	885	385	1052	894	214	0	112	210	0	146
V/C Ratio(X)	0.37	0.68	0.08	0.29	0.94	0.03	0.19	0.00	0.66	0.18	0.00	0.42
Avail Cap(c_a), veh/h	215	1109	943	411	1130	960	249	0	320	464	0	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	14.2	9.2	11.2	18.4	8.7	37.2	0.0	41.2	35.6	0.0	39.1
Incr Delay (d2), s/veh	1.1	1.6	0.0	0.4	14.6	0.0	0.4	0.0	6.5	0.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	12.8	0.8	1.2	27.1	0.3	1.0	0.0	2.0	0.9	0.0	1.5
LnGrp Delay(d),s/veh	21.0	15.8	9.3	11.6	33.0	8.7	37.6	0.0	47.7	36.0	0.0	41.0
LnGrp LOS	C	B	A	B	C	A	D		D	D		D
Approach Vol, veh/h		850			1128			115			99	
Approach Delay, s/veh		15.7			30.4			44.1			39.1	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	56.7	9.2	14.1	10.2	57.2	11.0	12.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	54.0	5.0	31.0	5.0	55.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.4	26.5	3.9	5.2	3.5	47.0	3.7	6.1
Green Ext Time (p_c), s	0.0	5.0	0.0	0.3	0.0	4.2	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	775	1187	84	29	3
Future Vol, veh/h	2	775	1187	84	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	842	1290	91	32	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1381	0	-	0	2136	1290
Stage 1	-	-	-	-	1290	-
Stage 2	-	-	-	-	846	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	496	-	-	-	54	200
Stage 1	-	-	-	-	258	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	496	-	-	-	54	200
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	421	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	31.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	496	-	-	-	171
HCM Lane V/C Ratio	0.004	-	-	-	0.203
HCM Control Delay (s)	12.3	-	-	-	31.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	8	3	0	12	74	6	93	1	30	72	7
Future Vol, veh/h	9	8	3	0	12	74	6	93	1	30	72	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	9	3	0	13	80	7	101	1	33	78	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.4	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	45%	0%	28%
Vol Thru, %	93%	40%	14%	66%
Vol Right, %	1%	15%	86%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	20	86	109
LT Vol	6	9	0	30
Through Vol	93	8	12	72
RT Vol	1	3	74	7
Lane Flow Rate	109	22	93	118
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.027	0.103	0.139
Departure Headway (Hd)	4.231	4.541	3.952	4.235
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	836	792	912	835
Service Time	2.317	2.545	1.952	2.318
HCM Lane V/C Ratio	0.13	0.028	0.102	0.141
HCM Control Delay	7.9	7.7	7.4	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.3	0.5

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	30	32	51	49	1
Future Vol, veh/h	1	30	32	51	49	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	33	35	55	53	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	179	54	54	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	811	1013	1551	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	792	1013	1551	-	-	-
Mov Cap-2 Maneuver	792	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1551	-	1004	-	-
HCM Lane V/C Ratio	0.022	-	0.034	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection: 1: Rock Springs Access Drive/Lasea Road & Bear Creek Pike

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	200	313	51	200	573	219	66	86	93	106
Average Queue (ft)	48	152	15	74	276	18	22	27	17	19
95th Queue (ft)	125	254	39	192	475	83	52	58	51	57
Link Distance (ft)		2212			2439			620	1247	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		230	100		120	175			40
Storage Blk Time (%)	0	12		0	24				6	4
Queuing Penalty (veh)	2	16		0	29				3	1

Intersection: 2: Bear Creek Pike & Old Highway 99

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	27	94
Average Queue (ft)	1	30
95th Queue (ft)	9	73
Link Distance (ft)		239
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Lasea Road & Old Highway 99

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	76	44	68
Average Queue (ft)	10	37	28	40
95th Queue (ft)	32	60	46	63
Link Distance (ft)	892	1948	1247	3595
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Lasea Road & Blackburn Lane

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	56	29
Average Queue (ft)	15	1
95th Queue (ft)	37	10
Link Distance (ft)	911	3595
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 52

PROJECTED CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	850	20	32	615	23	66	13	105	79	4	78
Future Volume (veh/h)	29	850	20	32	615	23	66	13	105	79	4	78
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	924	22	35	668	25	72	14	114	86	4	85
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1004	854	185	1007	856	253	18	148	227	9	183
Arrive On Green	0.03	0.54	0.54	0.03	0.54	0.54	0.05	0.10	0.10	0.07	0.12	0.12
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	176	1434	1774	72	1522
Grp Volume(v), veh/h	32	924	22	35	668	25	72	0	128	86	0	89
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	0	1610	1774	0	1594
Q Serve(g_s), s	0.7	41.9	0.6	0.8	23.7	0.7	3.3	0.0	7.1	3.9	0.0	4.8
Cycle Q Clear(g_c), s	0.7	41.9	0.6	0.8	23.7	0.7	3.3	0.0	7.1	3.9	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.89	1.00		0.96
Lane Grp Cap(c), veh/h	344	1004	854	185	1007	856	253	0	166	227	0	192
V/C Ratio(X)	0.09	0.92	0.03	0.19	0.66	0.03	0.28	0.00	0.77	0.38	0.00	0.46
Avail Cap(c_a), veh/h	387	1201	1021	225	1201	1021	263	0	314	457	0	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	19.5	9.9	18.8	15.2	9.9	34.7	0.0	40.3	33.8	0.0	37.8
Incr Delay (d2), s/veh	0.1	10.3	0.0	0.5	1.1	0.0	0.6	0.0	7.3	1.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	24.2	0.3	0.5	12.4	0.3	1.7	0.0	3.5	2.0	0.0	2.2
LnGrp Delay(d),s/veh	12.0	29.7	10.0	19.2	16.2	9.9	35.3	0.0	47.6	34.9	0.0	39.6
LnGrp LOS	B	C	A	B	B	A	D		D	C		D
Approach Vol, veh/h		978			728			200			175	
Approach Delay, s/veh		28.7			16.2			43.2			37.3	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	55.8	10.5	17.1	8.8	55.9	12.0	15.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	59.5	5.0	31.0	5.0	59.5	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.8	43.9	5.3	6.8	2.7	25.7	5.9	9.1
Green Ext Time (p_c), s	0.0	5.9	0.0	0.4	0.0	4.6	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1068	714	29	58	1
Future Vol, veh/h	0	1068	714	29	58	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1161	776	32	63	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	808	0	-	0	1937	776
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	1161	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	817	-	-	-	72	397
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	298	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	817	-	-	-	72	397
Mov Cap-2 Maneuver	-	-	-	-	195	-
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	298	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	31.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	817	-	-	-	197
HCM Lane V/C Ratio	-	-	-	-	0.326
HCM Control Delay (s)	0	-	-	-	31.9
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	17	5	1	5	24	2	29	1	47	101	7
Future Vol, veh/h	2	17	5	1	5	24	2	29	1	47	101	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	18	5	1	5	26	2	32	1	51	110	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.1	7.4	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	8%	3%	30%
Vol Thru, %	91%	71%	17%	65%
Vol Right, %	3%	21%	80%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	24	30	155
LT Vol	2	2	1	47
Through Vol	29	17	5	101
RT Vol	1	5	24	7
Lane Flow Rate	35	26	33	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.04	0.031	0.036	0.192
Departure Headway (Hd)	4.158	4.308	3.936	4.096
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	836	915	874
Service Time	2.224	2.309	1.937	2.133
HCM Lane V/C Ratio	0.041	0.031	0.036	0.192
HCM Control Delay	7.4	7.4	7.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.7

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	36	23	34	49	1
Future Vol, veh/h	3	36	23	34	49	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	39	25	37	53	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	141	54	54	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	852	1013	1551	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	838	1013	1551	-	-	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1551	-	997	-	-
HCM Lane V/C Ratio	0.016	-	0.043	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	70	21	44	91	1
Future Vol, veh/h	4	70	21	44	91	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	76	23	48	99	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	194	100	100	0	-	0
Stage 1	100	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	795	956	1493	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	782	956	1493	-	-	-
Mov Cap-2 Maneuver	782	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	930	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1493	-	945	-	-
HCM Lane V/C Ratio	0.015	-	0.085	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection: 1: Rock Springs Access Drive/Lasea Road & Bear Creek Pike

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	199	360	25	64	265	30	85	120	126	88
Average Queue (ft)	21	232	1	16	143	8	32	47	42	23
95th Queue (ft)	101	354	8	44	241	29	64	94	84	62
Link Distance (ft)		2212			2442			620	364	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		230	100		120	175			40
Storage Blk Time (%)		20			12				18	4
Queuing Penalty (veh)		10			7				14	3

Intersection: 2: Bear Creek Pike & Old Highway 99

Movement	SB
Directions Served	LR
Maximum Queue (ft)	134
Average Queue (ft)	70
95th Queue (ft)	122
Link Distance (ft)	239
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Lasea Road & Old Highway 99

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	54	41	79
Average Queue (ft)	19	24	11	40
95th Queue (ft)	39	50	28	65
Link Distance (ft)	891	1948	820	3595
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Lasea Road & Blackburn Lane

Movement	EB
Directions Served	LR
Maximum Queue (ft)	48
Average Queue (ft)	15
95th Queue (ft)	38
Link Distance (ft)	911
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Lasea Road & Site Access

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	48	31
Average Queue (ft)	26	1
95th Queue (ft)	44	10
Link Distance (ft)	316	364
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 34

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	650	64	102	913	65	38	8	60	60	13	58
Future Volume (veh/h)	92	650	64	102	913	65	38	8	60	60	13	58
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	707	70	111	992	71	41	9	65	65	14	63
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1047	890	387	1049	892	200	14	98	210	27	119
Arrive On Green	0.05	0.56	0.56	0.05	0.56	0.56	0.04	0.07	0.07	0.06	0.09	0.09
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	196	1417	1774	296	1332
Grp Volume(v), veh/h	100	707	70	111	992	71	41	0	74	65	0	77
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	0	1613	1774	0	1628
Q Serve(g_s), s	2.1	24.6	1.9	2.4	45.7	1.9	1.9	0.0	4.1	3.1	0.0	4.1
Cycle Q Clear(g_c), s	2.1	24.6	1.9	2.4	45.7	1.9	1.9	0.0	4.1	3.1	0.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.82
Lane Grp Cap(c), veh/h	202	1047	890	387	1049	892	200	0	111	210	0	146
V/C Ratio(X)	0.49	0.68	0.08	0.29	0.95	0.08	0.21	0.00	0.67	0.31	0.00	0.53
Avail Cap(c_a), veh/h	210	1096	932	412	1116	949	234	0	316	458	0	550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.8	14.2	9.2	11.2	18.7	9.2	37.7	0.0	41.7	36.6	0.0	39.9
Incr Delay (d2), s/veh	1.9	1.6	0.0	0.4	15.2	0.0	0.5	0.0	6.7	0.8	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	13.0	0.8	1.2	27.6	0.8	1.0	0.0	2.0	1.5	0.0	2.0
LnGrp Delay(d),s/veh	22.6	15.7	9.2	11.6	33.9	9.2	38.2	0.0	48.3	37.4	0.0	42.8
LnGrp LOS	C	B	A	B	C	A	D		D	D		D
Approach Vol, veh/h		877			1174			115			142	
Approach Delay, s/veh		16.0			30.3			44.7			40.3	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	57.6	9.2	14.2	10.6	57.7	11.1	12.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	54.0	5.0	31.0	5.0	55.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.4	26.6	3.9	6.1	4.1	47.7	5.1	6.1
Green Ext Time (p_c), s	0.0	5.0	0.0	0.4	0.0	4.0	0.1	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	800	1229	84	29	3
Future Vol, veh/h	2	800	1229	84	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	870	1336	91	32	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1427	0	-	0	2210	1336
Stage 1	-	-	-	-	1336	-
Stage 2	-	-	-	-	874	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	477	-	-	-	49	188
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	408	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	477	-	-	-	49	188
Mov Cap-2 Maneuver	-	-	-	-	160	-
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	408	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	33.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	477	-	-	-	162
HCM Lane V/C Ratio	0.005	-	-	-	0.215
HCM Control Delay (s)	12.6	-	-	-	33.2
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	8	3	0	12	74	6	95	1	30	76	7
Future Vol, veh/h	9	8	3	0	12	74	6	95	1	30	76	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	9	3	0	13	80	7	103	1	33	83	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.4	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	45%	0%	27%
Vol Thru, %	93%	40%	14%	67%
Vol Right, %	1%	15%	86%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	20	86	113
LT Vol	6	9	0	30
Through Vol	95	8	12	76
RT Vol	1	3	74	7
Lane Flow Rate	111	22	93	123
Geometry Grp	1	1	1	1
Degree of Util (X)	0.13	0.028	0.103	0.145
Departure Headway (Hd)	4.235	4.557	3.967	4.236
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	834	790	909	835
Service Time	2.324	2.56	1.968	2.321
HCM Lane V/C Ratio	0.133	0.028	0.102	0.147
HCM Control Delay	8	7.7	7.4	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.3	0.5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	30	32	53	53	1
Future Vol, veh/h	1	30	32	53	53	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	33	35	58	58	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	187	59	59	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	802	1007	1545	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	784	1007	1545	-	-	-
Mov Cap-2 Maneuver	784	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1545	-	998	-	-
HCM Lane V/C Ratio	0.023	-	0.034	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	40	67	98	91	4
Future Vol, veh/h	2	40	67	98	91	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	43	73	107	99	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	354	101	103	0	-	0
Stage 1	101	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	644	954	1489	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	611	954	1489	-	-	-
Mov Cap-2 Maneuver	611	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	789	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	3.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1489	-	929	-	-
HCM Lane V/C Ratio	0.049	-	0.049	-	-
HCM Control Delay (s)	7.5	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	-

Intersection: 1: Rock Springs Access Drive/Lasea Road & Bear Creek Pike

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	200	399	29	200	982	220	66	80	99	49
Average Queue (ft)	50	170	14	107	493	49	19	24	27	18
95th Queue (ft)	138	289	36	237	913	176	49	56	74	45
Link Distance (ft)		2212			2442			620	364	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		230	100		120	175			40
Storage Blk Time (%)		17		1	32				11	2
Queuing Penalty (veh)		26		9	54				8	1

Intersection: 2: Bear Creek Pike & Old Highway 99

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	48	64
Average Queue (ft)	3	23
95th Queue (ft)	19	51
Link Distance (ft)		239
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Lasea Road & Old Highway 99

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	56	43	55
Average Queue (ft)	7	35	23	35
95th Queue (ft)	26	50	39	53
Link Distance (ft)	891	1948	820	3595
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Lasea Road & Blackburn Lane

Movement	EB
Directions Served	LR
Maximum Queue (ft)	42
Average Queue (ft)	15
95th Queue (ft)	34
Link Distance (ft)	911
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Lasea Road & Site Access

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	75	32
Average Queue (ft)	23	6
95th Queue (ft)	50	26
Link Distance (ft)	316	364
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 98

APPENDIX D – ADDITIONAL FIGURES

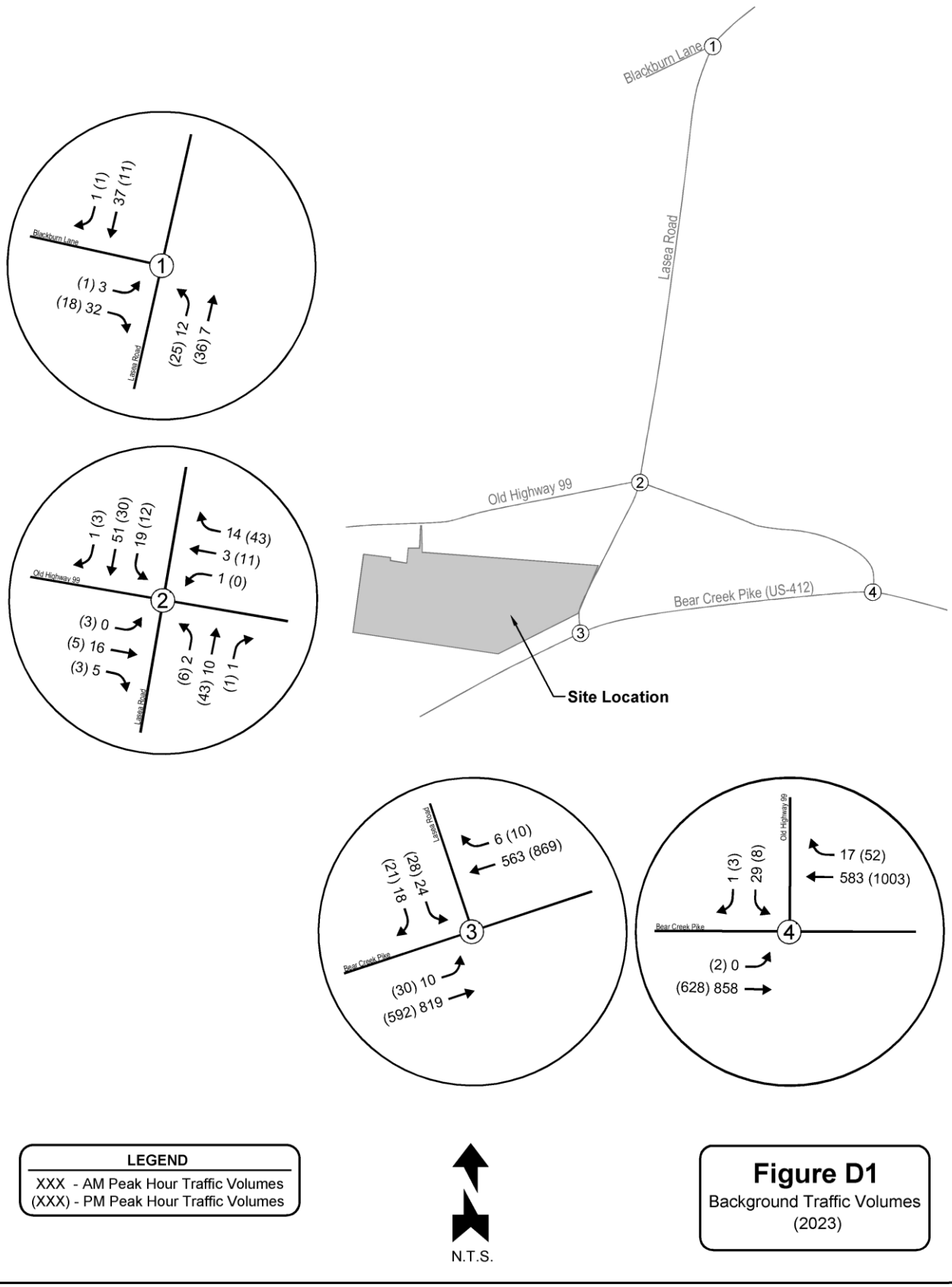


Figure D1
Background Traffic Volumes
(2023)

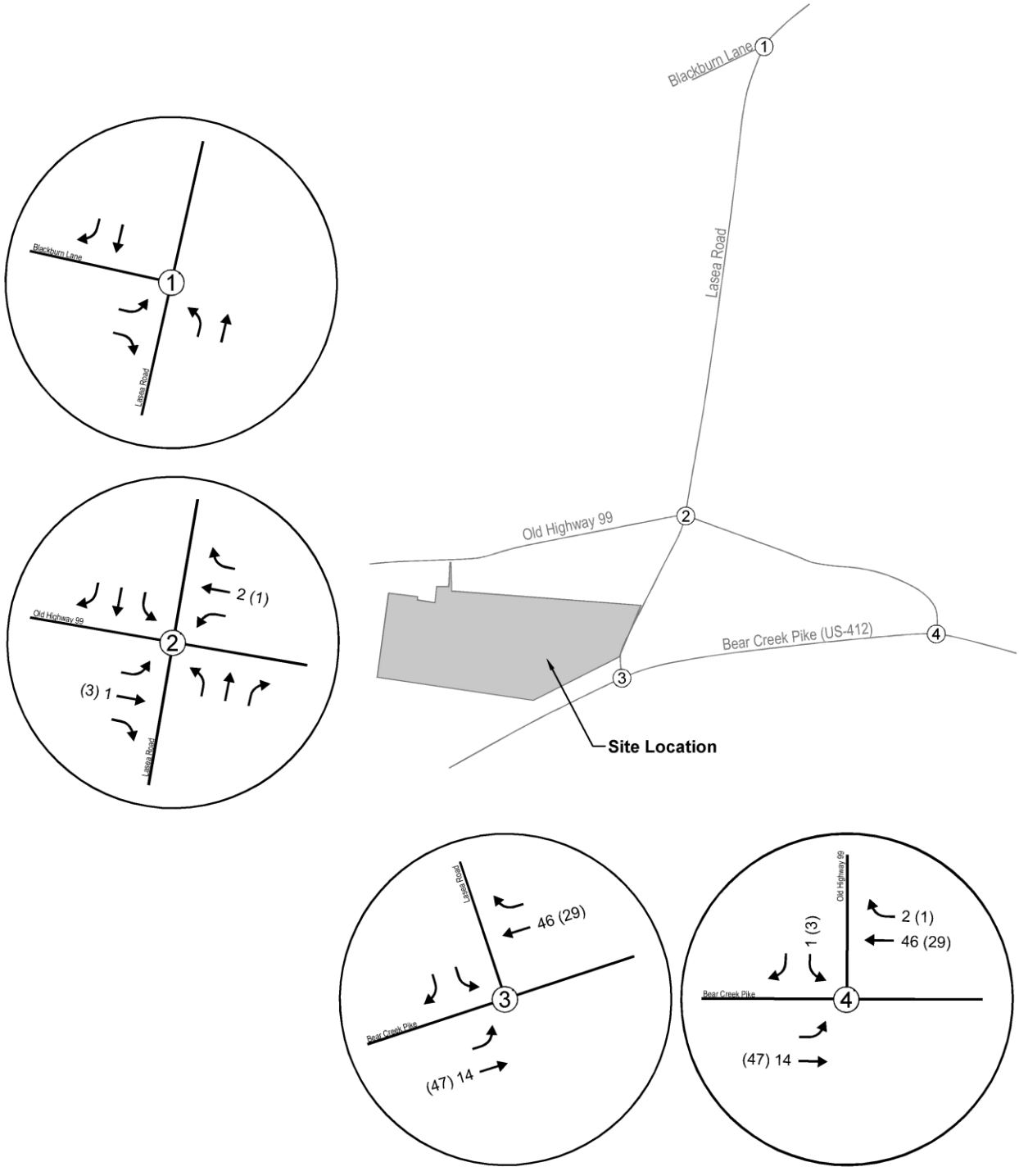


Figure D2
Generated Background Development Volumes (I-65 and Bear Creek Pike)

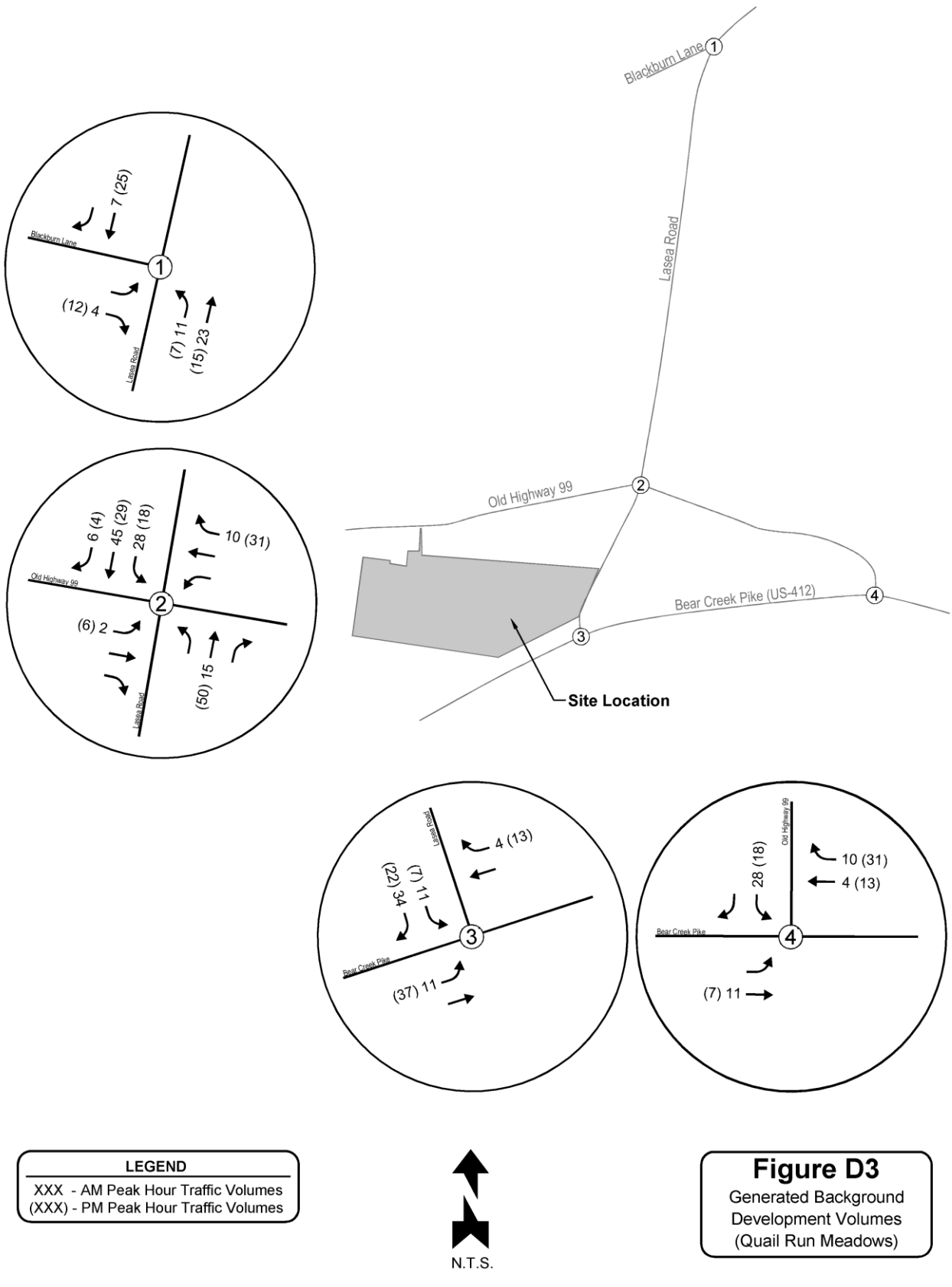


Figure D3
Generated Background Development Volumes (Quail Run Meadows)

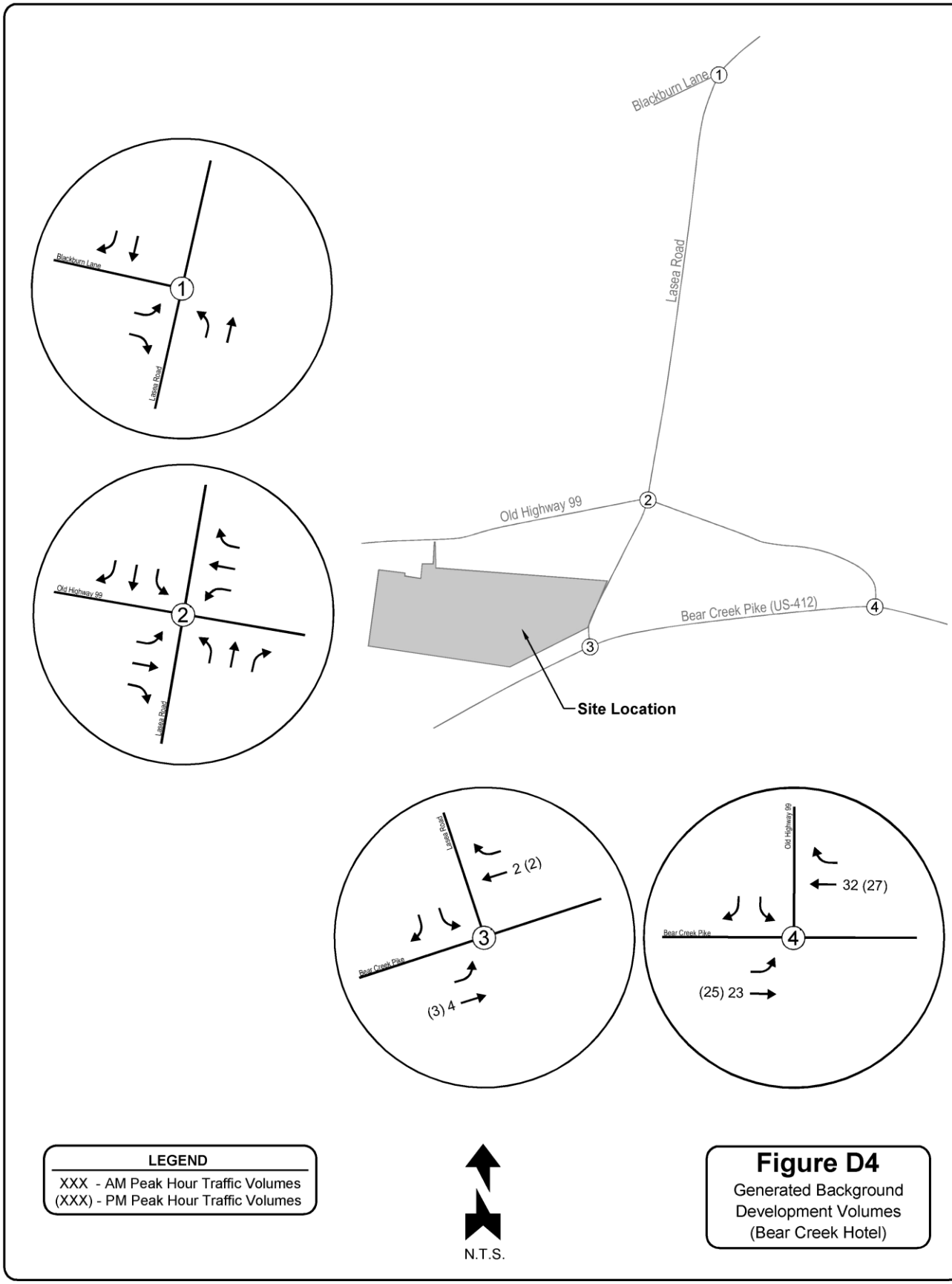


Figure D4
Generated Background Development Volumes (Bear Creek Hotel)

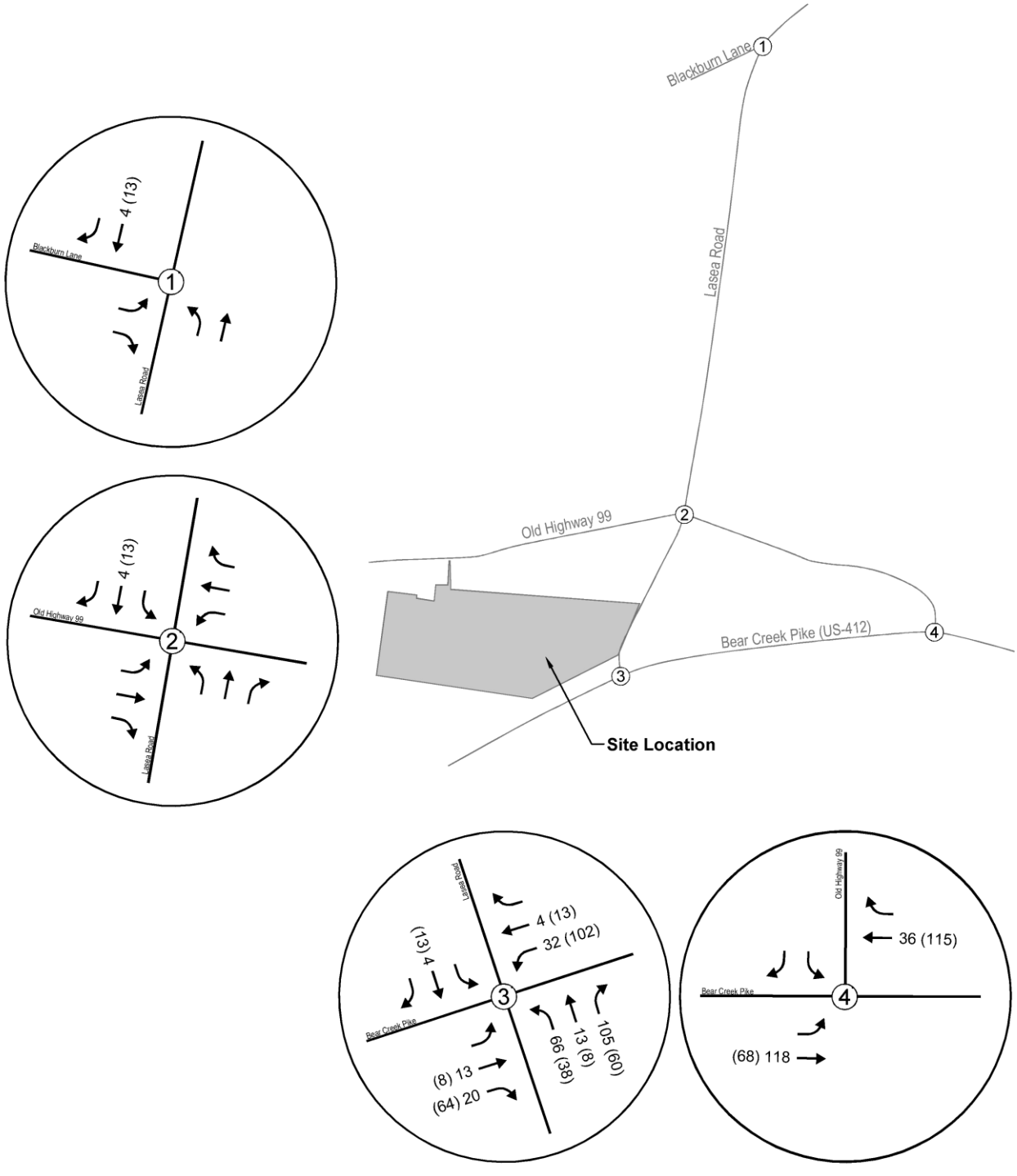


Figure D5
Generated Background Development Volumes
(1449 Rock Springs Rd PUD)

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	1451 Lasea Road, Columbia, TN		
	TAX MAP: 073	GROUP:	PARCEL: 051.00
SUMMARY OF NATURE OF REQUEST AND WORK	Preliminary Development Plan and Preliminary Plat of residential development		

DATE OF PRE-APPLICATION CONFERENCE	2/22/2023	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☒ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☒ Other: Preliminary Development plan **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☐ Project Name (include Sections & Phases) Highland Point @ Bear Creek ☐ Total Number of Lots 143 ☐ Total acreage 29.5 acres

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Joseph Ahler P.E., R.L.S.	PHONE	615-481-3106
ADDRESS	P.O. Box 1636, Spring Hill, TN 37174	EMAIL	joe.ahler@gmail.com

PROPERTY OWNER NAME	Imer Development, LLC	PHONE	615-788-1320
ADDRESS	1909 Columbia Ave.,Franklin TN, 37064	EMAIL	stuart@nasonhomes.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Joseph Ahler	Joseph Ahler	4/17/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Imer Development, LLC		4/17/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	
BOARD ACTION	

Vesper Court

Project #:	23-0170	Location:	Map 100N Grp J Parcel 3.01
Applicant:	P-R Vesper, LLC	Case Type(s):	Final Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Townhouses

PROJECT SUMMARY

The applicant requests approval of a Final Plat to create sixteen townhome lots with accompanying infrastructure. The Planning Commission approved a Preliminary Plat for the development in April 2021. The approval created a vested right to develop under the RM-1 standards of the previous Zoning Ordinance.

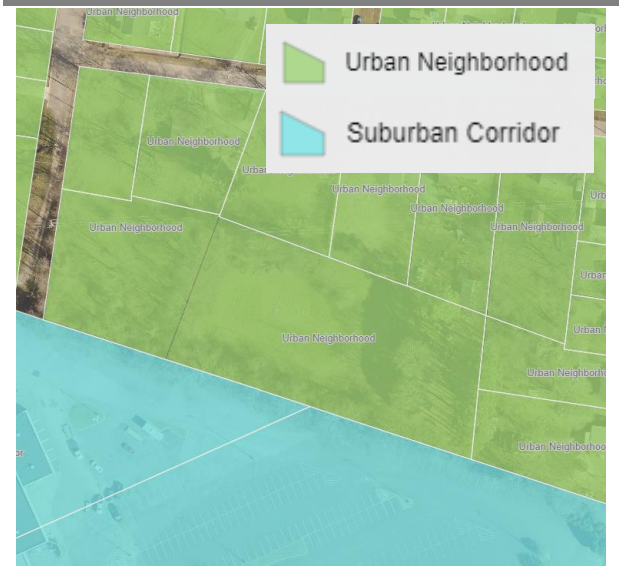
- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat is consistent with the approved Preliminary Plat.
- The applicant has provided additional surety to guarantee reconstruction of a bridge over a stormwater conveyance. Prior inspection by Engineering revealed that the structure was not constructed to city standards.
- The applicant has had a difficult time progressing thought the review process. The Final Plat was submitted to DRC for review more than once.
- It is important that approval of this request be conditioned on staff technical comments, especially the comments from Engineering related to the verification of the quality of construction of infrastructure.
- Some information related to driveway lengths, on-street parking, and the depth of landscape buffers is not shown on the Final Plat. Conformity to these standards was confirmed under concurrent administrative review of site construction documents. Excerpts from those documents are provided in this report for the benefit of Planning Commission, which is the decision-making authority.
- Key comments from the DRC are listed below. Full technical comments, along with the applicant's responses, are provided in the agenda packet.
- The Planning Commission is the **Decision-Making Authority** for the Final Plat.
- Commentary from professional planning staff identifies recommended conditions of approval.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

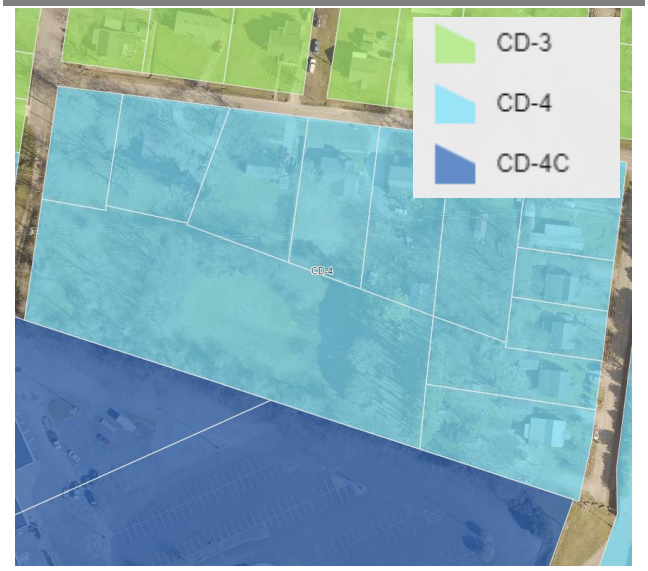
CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-4	Vacant	Infrastructure for Development	+/-1.89 Acres



FUTURE LAND USE MAP



ZONING MAP



SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Neighborhood	CD-4	Vacant
North	Urban Neighborhood	CD-3	Single Family Detached
South	Suburban Corridor	CD-4C	Retail
East	Urban Neighborhood	CD-4	Single Family Detached
West	Urban Neighborhood	CD-3	Single Family Detached

The subject site is located between an established single-family residential neighborhood and a high intensity commercial development. The property is bounded on the north, east and west by other residential uses. The property to the south is retail center. The Planning Commission approved a Preliminary Plat (21-0042) for development of sixteen townhomes units on the site in April of 2021.

CONSISTENCY WITH CONNECT COLUMBIA

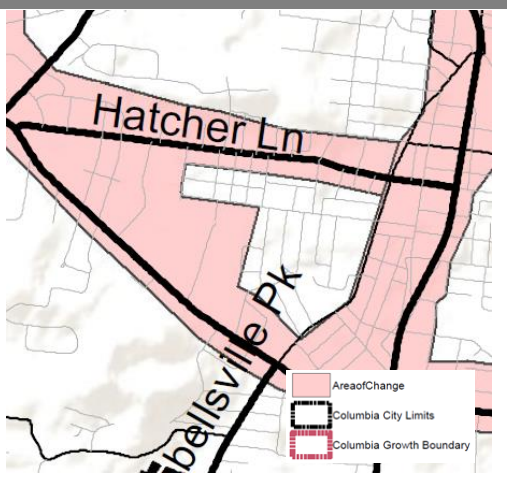
Urban Neighborhood: The future land use of the subject site is Urban Neighborhood. The Character Area is characterized by residential development and neighborhoods, with intermixed and compatible civic uses. The Future Land Use Plan indicates that "the general development pattern is defined by a single use activity on individual lots with a mixture of lot sizes" (Connect Columbia, p. 24). Future development should focus on context-responsive in-fill development that emphasizes connectivity and housing diversity. (Connect Columbia, p. 25). The future land use classification is implemented by the CD-4 and CD-5 character districts.

Urban Neighborhood

CHARACTER AREA MATRIX				
	Development Pattern	**Zoning Category and Uses**	**Infrastructure**	**Design Standard**
URBAN NEIGHBORHOOD	**Is the property in an Area of Change?** **No:** The development pattern is established. Changes to overall character of the area should rarely occur. **Yes:** The development pattern is evolving. Changes to area are likely as development occurs. New development should blend with existing, surrounding neighborhood assets.	**Residential Uses Zoning Category:** Low Density Residential, Medium High Residential, and High Residential Districts **Public and Civic Uses Zoning Category:** Religious Facilities, Government Facilities (low to medium impact), and Educational Facilities	**Not in an Area of Change:** Limited new services, with mostly in-fill enhancements to existing infrastructure. **Within an Area of Change:** Extensions to transportation, water, sewer, and other services should be expected. New service or extensive redevelopment of existing services should be vetted and reviewed by Planning Commission and City Council as a primary element of approval.	Scale: New dwellings and structures should aid in establishing the character of the area. Architecture: New developments or redevelopments should include a mix of architectural styles. Residential garages, if front-facing, should be recessed from the front façade of the structure. Civic use should respect the residential character, while providing architectural interest.

AREA OF CHANGE

The subject site is located in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was evolving. Changes to the area are likely, but new development should blend with existing neighborhood assets. The designation does not necessarily mean that any particular development proposal is consistent with Connect Columbia. It does mean that the Planning Commission has previously determined that in this area, the development character is not fixed and change is expected over time (Connect Columbia p. 14).



CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the RM-1 standards of the applicable zoning ordinance (3638), the Subdivision Regulations, and the approved Preliminary Plat.

- The proposed structures conform to the setbacks and other bulk standards of § 6.3.8 of Ordinance 3638.
- The landscape buffers conform to the requirements of Article 11 of Ordinance § 3638.
- The plat complies with the limited use standards for Townhomes at 8.3.2 of Ordinance § 3638.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Section **8.5.24** of the Zoning Ordinance directs the Planning Commission to review Subdivision Plats for conformity with the standards of the Ordinance and the City Subdivision Regulations. The Ordinance indicates that all Preliminary and Final Plats must be prepared, submitted, reviewed and acted upon in accordance with the Subdivision Regulations.

The Planning Commission is the Decision-Making Authority for Final Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.3** of the Subdivision Regulations.

Section **2.3.6** of the Subdivision Regulations establishes the review criteria for approval of Final Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*
>
> > *1. Whether the proposed Final Plat complies with the applicable zoning district and overlay districts;*
> >
> > *2. Whether the proposed Final Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and*
> >
> > *3. Whether the proposed Final Plat meets all the requirements or conditions of any applicable development approvals, such as development plans or associated modification of standards.*

B. Final Plat approval shall be subject to the completion of required improvements, or in lieu, the CMPC may approve a Performance Agreement.

In the event of a denial, **§ 2.3.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its June 2023 meeting. Planning and Engineering have provided several additional courtesy reviews. A full list of comments, and the applicant's responses, is provided in the agenda packet. Some key comments are noted below.

- **Engineering** requested additional surety for completion of the slab bridge structure, which crosses a storm water conveyance. The City Engineer has indicated that third-party certification should be required for the structure. City staff had previously inspected the structure and found the quality of construction to be lacking. The applicant has acknowledged this concern and has taken steps to replace the deficient structure. The applicant provided a letter of credit for the additional amount at resubmittal.
- **Public Works** recommended the use of private trash service or a dumpster enclosure. The resubmittal does not specify a dumpster location and the applicant has indicated that the development will utilize a private service.
- **Planning** requested revisions to the Final Plat related to driveway lengths, on-street parking, and the depth of landscape buffers. These are not shown on the Final Plat provided at resubmittal. However, as indicated in the applicant's response letter, they are shown in the Site Construction Documents submitted for administrative review. Excerpts from those documents are provided below in the Commentary from Planning Staff.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

The bridge structure must be replaced and constructed to a standard acceptable to the City Engineer. The applicant has provided financial surety to guarantee completion of the work. No homes may be occupied prior to completion of the infrastructure; the bridge must be replaced prior to issuance of the first Certificate of Occupancy in the development. This should be a condition of approval.

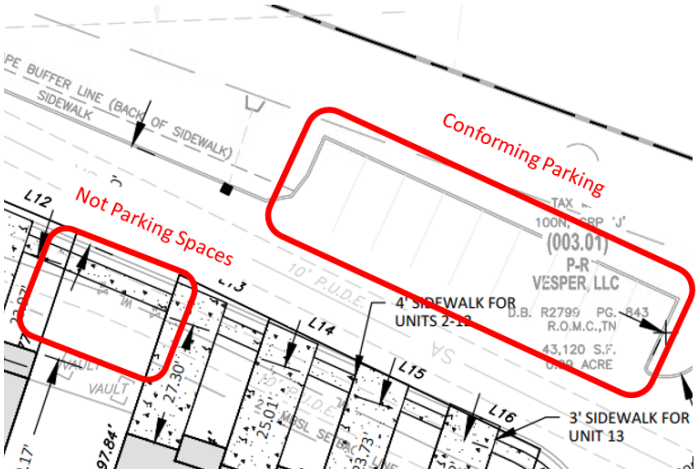
The site will develop as approved by Planning Commission. Note 21 on the Final Plat indicates that staff may make modifications to the drawings approved by Planning Commission. This is a

reference to the Zoning Administrator's general authority to grant administrative adjustments to dimensional standards of the Zoning Ordinance. The authority is limited and subject to criteria listed in the Ordinance. No administrative adjustment will be granted which contradicts or circumvents the direction of the Planning Commission. The Zoning Administrator will decline to grant any adjustment when strict compliance with the standards of the Ordinance is possible. Any significant deviation from the plan of development presented to Planning Commission will require a new review.

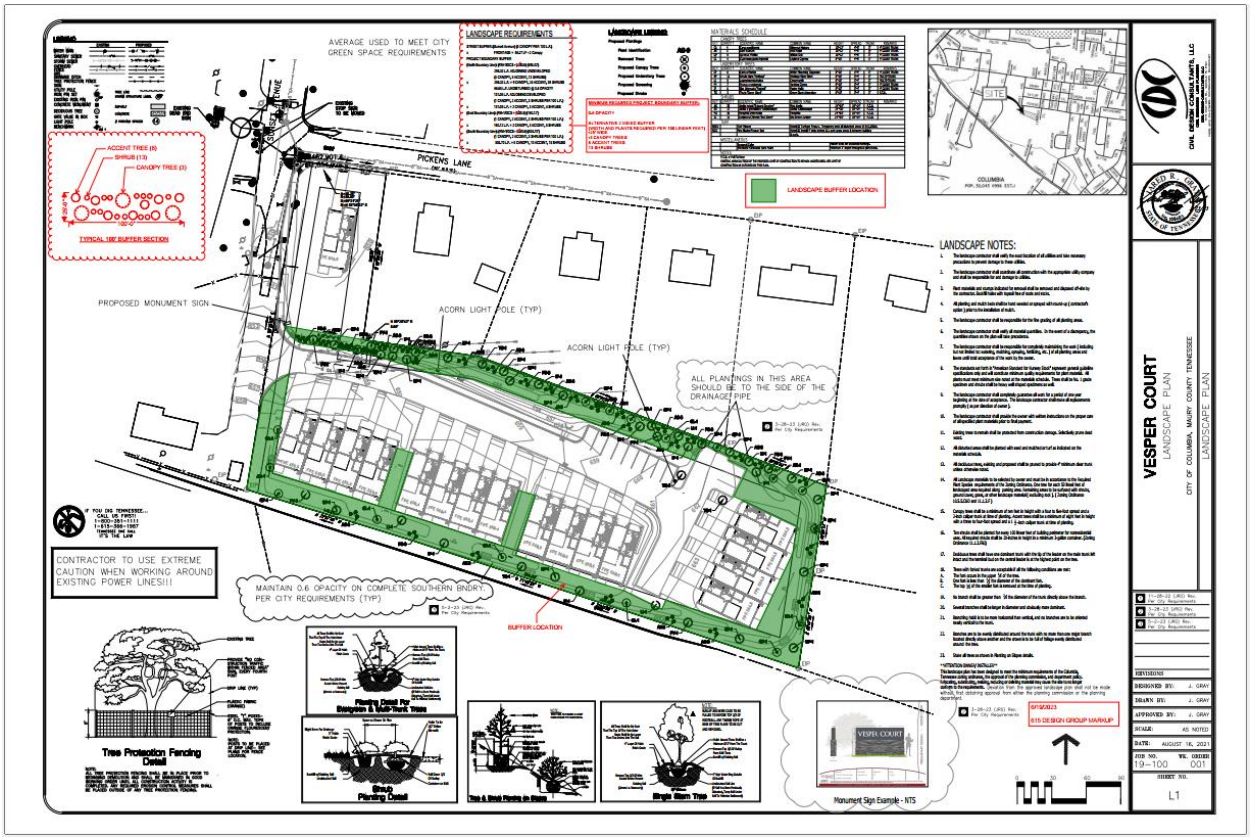
Changes made to site construction documents in response to technical comments are part of the Final Plat and are binding. The applicant did not respond to all technical comments with revisions the Final Plat. However, staff concerns about site design were addressed through submittals related to other concurrent administrative reviews. The applicable elements of these plans are excepted below to assure the Planning Commission that staff has confirmed compliance. Approval should be subject to technical comments.



Site Construction Documents Reflect Changes to Driveway Depth Requested in Tech. Comments



Site Construction Documents Depict Conforming Parking Spaces



Landscape Plan from Site Construction Documents Responds to Landscape Buffer Comment

SAMPLE MOTIONS

Approve:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat [subject to remaining technical comments from staff].

Approve with Conditions:

Move to approve the Final Plat as presented and find that the plat conforms to the applicable zoning ordinance, the Subdivision Regulations, and the Preliminary Plat, subject to the following conditions: [list conditions of approval crafted by Planning Commission].

Defer for Continued Review:

Move to find that there is insufficient information to make a decision, defer the application for continued review, and request that the applicant provide: [list additional information] for review at the next regularly scheduled meeting of the Planning Commission.

Deny:

Move to find that the Final Plat as presented does not conform to the applicable zoning ordinance, the Subdivision Regulations, or the approved Preliminary Plat, and deny the request due to [list specific deficiencies].

COLUMBIA, TN



VICINITY MAP N.T.S.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	30.00'	46.26'	41.81'	N 53°31'56" E	88°20'52"

LINE	BEARING	DISTANCE
L1	N 71°28'39" W	3.57'
L2	N 18°18'34" E	31.70'
L3	S 80°23'22" E	25.87'
L4	S 77°02'30" E	22.10'
L5	S 74°15'15" E	22.02'
L6	S 71°19'11" E	22.00'
L7	N 71°41'26" W	3.57'
L8	N 18°18'34" E	36.81'
L9	S 67°19'20" E	25.64'
L10	S 67°19'20" E	22.06'
L11	S 67°19'20" E	22.06'
L12	S 67°19'20" E	22.06'
L13	S 64°10'53" E	22.19'
L14	S 64°10'53" E	22.19'
L15	S 64°10'53" E	22.19'
L16	S 64°10'53" E	22.19'
L17	S 25°49'43" W	1.53'
L18	N 65°00'25" W	29.15'
L19	N 24°59'35" E	25.52'
L20	N 24°59'35" E	22.00'
L21	N 24°59'35" E	22.00'
L22	N 24°59'35" E	22.00'
L23	S 08°37'05" W	14.80'
L24	N 09°20'53" E	5.00'
L25	N 72°56'38" W	10.00'
L26	N 09°28'59" E	139.93'
L27	S 80°39'07" E	9.83'

PARCEL NUMBER: TAX MAP 100N, GROUP 'J', PARCEL 3.00

DEED BOOK: R2799, PAGE 843

PARCEL ADDRESS: SUNSET AVENUE COLUMBIA, TENNESSEE 38401

EXISTING ZONING: RM-1

BUILDING SETBACKS: FRONT – 20'(MINOR) SIDE – 10' REAR – 20'

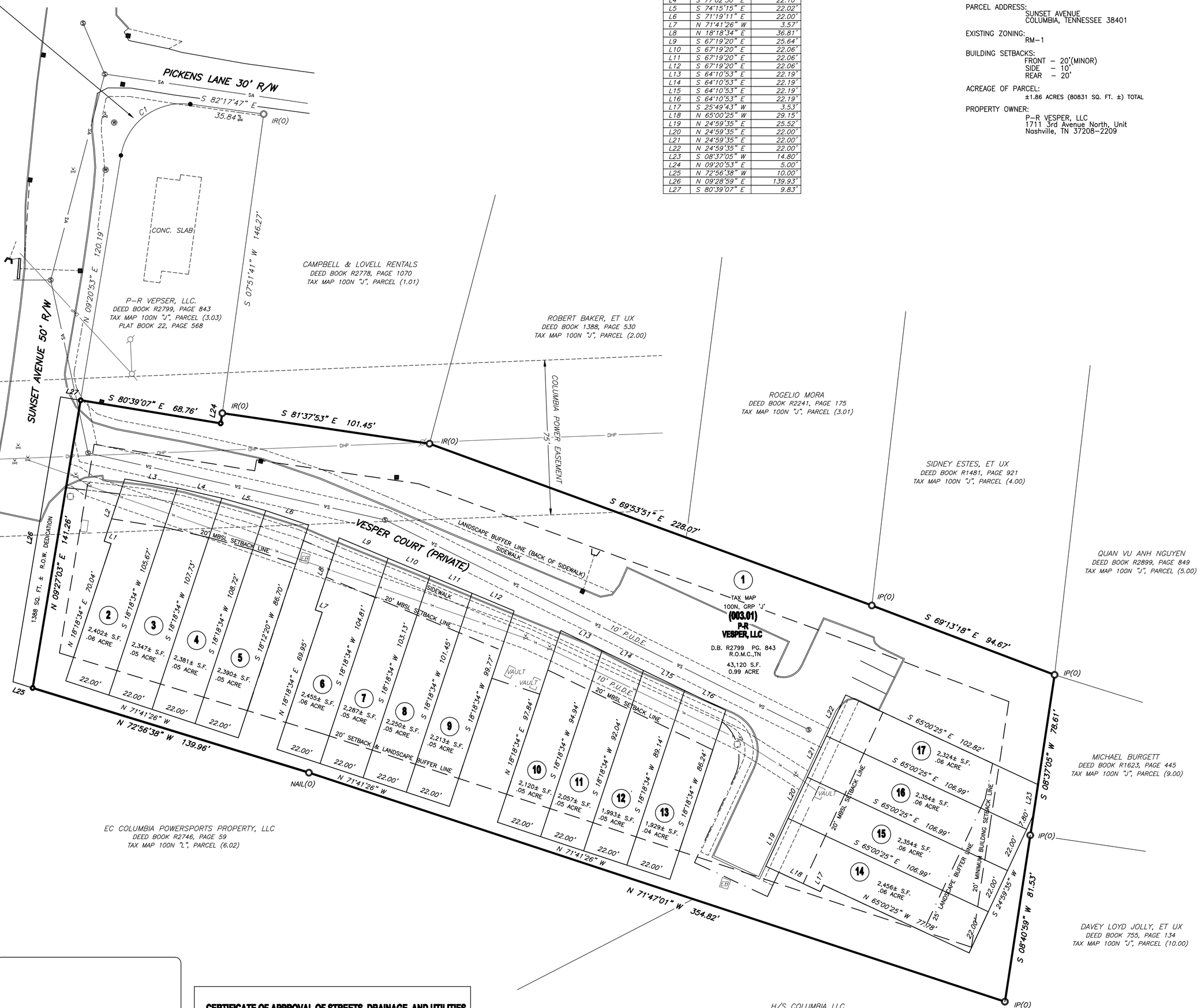
ACREAGE OF PARCEL: ±1.86 ACRES (80831 SQ. FT. ±) TOTAL

PROPERTY OWNER: P-R VESPER, LLC 1711 3rd Avenue North, Unit Nashville, TN 37208-2209

LEGEND

- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- CONCRETE MONUMENT
- UNMONUMENTED POINT
- TREE
- PROPERTY LINE
- OHP — OVERHEAD UTILITY LINE
- WL — APPROXIMATE WATER LINE
- SA — APPROXIMATE SEWER LINE
- GAS — APPROXIMATE GAS LINE
- N.T.S. — NOT TO SCALE
- IR(N) — IRON ROD NEW
- IR(O) — IRON ROD OLD
- IP(O) — IRON PIPE OLD
- UTILITY POLE
- LIGHT POLE
- WATER METER
- WATER VALVE
- FIRE INDICATOR POST
- FIRE HYDRANT
- CLEAN OUT
- GAS METER
- SEWER VALVE
- SANITARY SEWER AIR RELEASE VALVE
- SIGN
- BOLLARD

IRON RODS SET AT ALL LOT CORNERS UNLESS OTHERWISE NOTED



Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon is ±1.89 Acres.
7. This property currently identified as Tax Map No. 100N, Grou. 'J', Parcel No. 003.00, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: P10, Page 48
9. Deed reference: Book R2799, Page 843
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0285E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. There exists a P.U.D.E. that is 10' on all property lines parallel to and abutting roads and 5' on all interior lot lines
19. There exists a P.U.D.E. that is 10' on all property lines parallel to and abutting roads and 5' on all interior lot lines
20. The city staff is authorized to make modifications to the approved drawings of planning commission of up to 20% as deemed necessary without additional approval of the planning commission.
21. Stormwater Maintenance agreement of record in Book 22 Page 568 Maury County Register of Deeds.

Brown Land Surveying, LLC
105 Luther Road
Dickson, TN 37055
615.446.3700 phone
615.446.3784 fax
brownsurvey@bellsouth.net

JOSEPH A. BROWN REGISTERED LAND SURVEYOR XVI 6/15/2023 TENNESSEE No. 2438

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated , and that the ratio of precision is greater than or equal to 1:10,000.

6/15/2023 Date — 2438 Number

OPEN SPACE NOTE

ALL OPEN SPACE AREA IS TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE, PRIVATE ROADWAYS, AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT.

PURPOSE NOTE: The purpose of this plat is to create 16 residential lots.

GENERAL NOTE: The recording of this plat vacates, voids, and supercedes lot 2 on previous plat of record, P10, Page 48.

Register of Deed Recording Stamp

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, AND UTILITIES

I hereby certify that the streets, drainage, and utilities outline or indicated on this final plat have been in accordance with City specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with City of Columbia, Tennessee, to assure completion of such improvements.

Date — City Engineer, Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date — City Engineer

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Vesper Court, Phase 1,Rev 1 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date — Power & Water Systems

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date — Director of Wastewater Department, Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date — Maury County E-911, Columbia, Tennessee

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2799 , Page 843, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date — PRINTED NAME/TITLE

SIGNED P-R VESPER, LLC

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register.

Date — Secretary, Planning Commission, Columbia, Tennessee

FINAL PLAT OF:

VESPER COURT

FINAL PLAT RESUBDIVISION OF LOT 2
COLUMBIA, TN
9TH CIVIL DISTRICT OF
MAURY COUNTY, TENNESSEE
DEED BOOK R2799, PAGE 843
PLAT BOOK P10, PAGE 48
TAX MAP 100N, "J" PARCEL 3.00
SCALE 1" = 30' JUNE 15, 2023

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

SHEET 1 OF 1
JOB# 23-0303

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0170

DESCRIPTION: 16 Town Home Single Family Attached Project.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Provide surety in the amount of $10,000 for the slab bridge/storm structure. 3rd party engineer certification will be required. Surety Submitted online on the Permitting website.
2. Provide book and page number of recorded stormwater maintenance agreement. Info has been added to Revised Final Plat and uploaded onto the permitting website .
3. Include A.4 Certificate of Approval of Streets, Drainage, and Utilities (see subdivision regulations) It has been added to Revised final Plat uploaded onto the Permitting website
4. Provide updated development agreement. https://www.columbiatn.com/DocumentCenter/View/2228/Development-Agreement-PDF Updated has been Provided via the Online Permitting Account.

Fire

5. No comments

Building

6. No comments.

Public Works

7. Unless going with private trashcan service, the 16 townhomes will need a dumpster enclosure with either City sanitation or private sanitation services. Previous plat renderings showed a dumpster enclosure (WES Engineers & Surveyors). We recommend one 8-yard dumpster enclosure with one to two times a week collection. Please see attached dumpster guidelines and accessibility requirements. Please see attached renderings that include trash corral. We are providing Private Sanitary Service.

Planning

8. The landscape buffer is a .6 that would require 25' of buffer area. The preliminary plat showed the buffer area averaging in areas. Please adjust final plat to reflect similar notations as the approved preliminary plat. The item has been adjusted on Final Plat and uploaded onto the permitting website. A Landscape Exhibit, showing the typical landscape buffer and area, has been submitted to the City Engineer Douglas Toney.
9. It was noted on the site construction plans of the driveway lengths needed for lots 11,12,13. but they still appeared short. The driveway will need to be 22' plus from back of sidewalk. Site Plans have been adjusted for Driveway Setbacks. A Site Plan Exhibit, showing 22' driveways are being provided for all units, has been submitted to the City Engineer Douglas Toney.
10. On-street parking spaces between lots 9 and 10 would not conform. Parking spaces will be removed and shown in the Site Plan Exhibit.
11. Please show MBSL on final plat. MBSL was added to Final Plat.

Maury County E911

12. Vesper Ct has been reserved for this development. Any changes contact: Cgideon@maury911.org

Maury County Schools

13. Riverside Elementary, Cox Middle School, Central High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Columbia Power

14. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Duck River Electric Membership Corp

15. No comments provided.

Maury County Highway Dept.

16. No comment.

ATT

17. No comments provided.

Wastewater

18. Columbia Wastewater has no concerns.

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19. "Complete all infrastructure in accordance with the approved plans, flush system, conduct bacteria testing and deed infrastructure to CPWS. System must be "active" in order for the final plat to be signed for recording." We will have Completed Prior to 7/6.

Atmos Energy

20. No comments provided.

Police

21. No comments provided.

ATTACHMENTS: Final Plat

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DEVELOPMENT REVEW COMMITTEE MEETING
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CITY OF COLUMBIA
TENNESSEE

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12. Vesper Ct has been reserved for this development. Any changes contact: Cgideon@maury911.org

Maury County Schools

13. Riverside Elementary, Cox Middle School, Central High School. See Attached Capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Columbia Power

14. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Duck River Electric Membership Corp

15. No comments provided.

Maury County Highway Dept.

16. No comment.

ATT

17. No comments provided.

Wastewater

18. Columbia Wastewater has no concerns.

Columbia Water

19. "Complete all infrastructure in accordance with the approved plans, flush system, conduct bacteria testing and deed infrastructure to CPWS. System must be "active" in order for the final plat to be signed for recording."

Atmos Energy

20. No comments provided.

Police

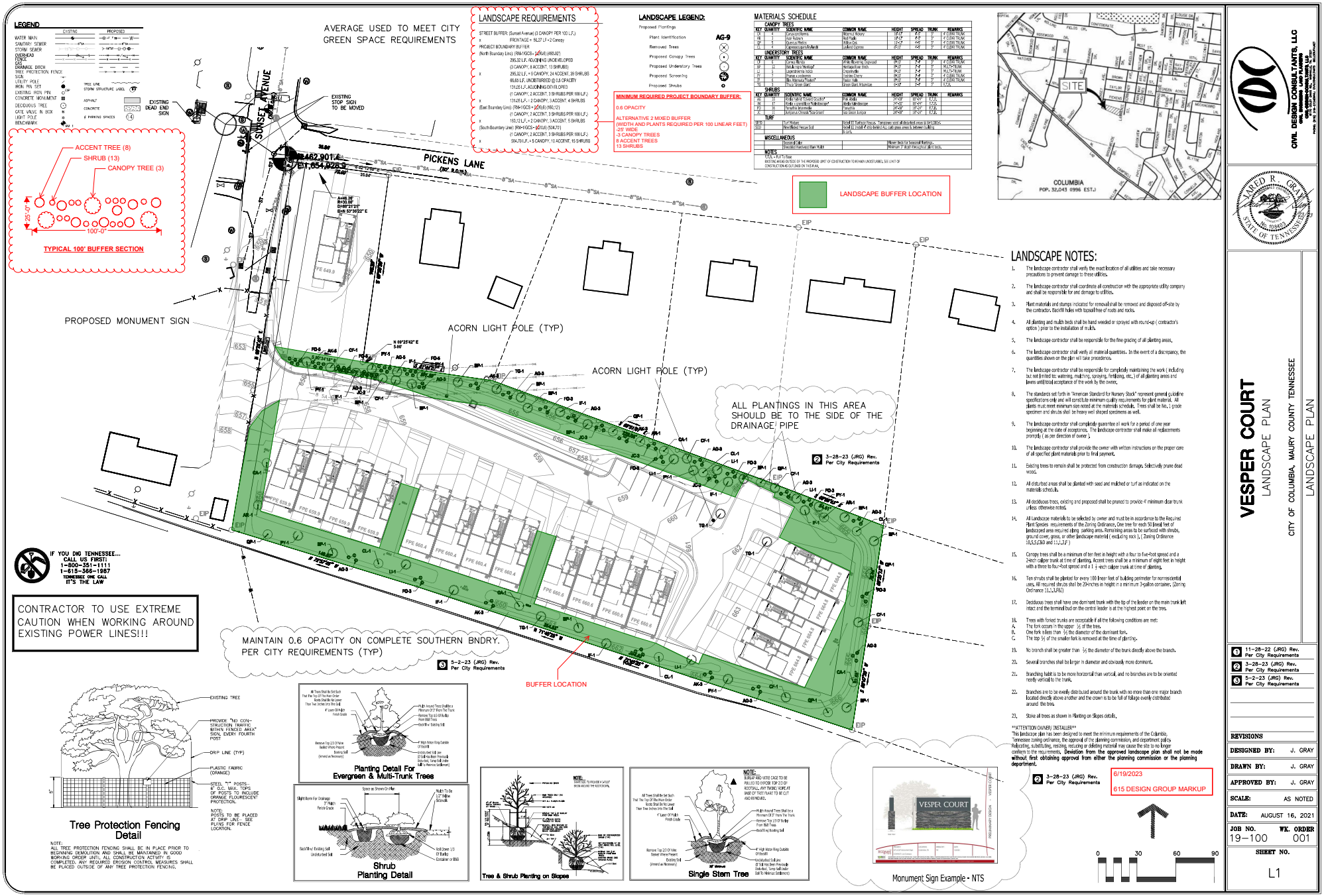
21. No comments provided.

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	


LEGEND
AVERAGE USED TO MEET CITY GREEN SPACE REQUIREMENTS
LANDSCAPE REQUIREMENTS
LANDSCAPE LEGEND:
MATERIALS SCHEDULE
MINIMUM REQUIRED PROJECT BOUNDARY BUFFER:
0.6 OPACITY
ALTERNATIVE 2 MIXED BUFFER (WIDTH AND PLANTS REQUIRED PER 100 LINEAR FEET)
-25' WIDE
-3 CANOPY TREES
9 ACCENT TREES
13 SHRUBS
LANDSCAPE BUFFER LOCATION
SITE
COLUMBIA
POP. 32,043 0996 EST.
ACCENT TREE (8)
SHRUB (13)
CANOPY TREE (3)
25'-0"
100'-0"
TYPICAL 100' BUFFER SECTION
EXISTING DEAD END SIGN
EXISTING STOP SIGN TO BE MOVED
SUNSET AVENUE
PICKENS LANE
(50' R.O.W.)
PROPOSED MONUMENT SIGN
ACORN LIGHT POLE (TYP)
ACORN LIGHT POLE (TYP)
ALL PLANTINGS IN THIS AREA SHOULD BE TO THE SIDE OF THE DRAINAGE PIPE
3-28-23 (JRG) Rev. Per City Requirements
IF YOU DIG TENNESSEE... CALL US FIRST! 1-800-351-1111 1-615-366-1987 TENNESSEE ONE CALL IT'S THE LAW
CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING AROUND EXISTING POWER LINES!!!
MAINTAIN 0.6 OPACITY ON COMPLETE SOUTHERN BNDRY. PER CITY REQUIREMENTS (TYP)
5-2-23 (JRG) Rev. Per City Requirements
BUFFER LOCATION
LANDSCAPE NOTES:
Tree Protection Fencing Detail
Planting Detail For Evergreen & Multi-Trunk Trees
Shrub Planting Detail
Tree & Shrub Planting on Slopes
Single Stem Tree
Monument Sign Example - NTS
VESPER COURT
CIVIL DESIGN CONSULTANTS, LLC
VESPER COURT
LANDSCAPE PLAN
CITY OF COLUMBIA, MAURY COUNTY TENNESSEE
LANDSCAPE PLAN
11-28-22 (JRG) Rev. Per City Requirements
3-28-23 (JRG) Rev. Per City Requirements
5-2-23 (JRG) Rev. Per City Requirements
REVISIONS
DESIGNED BY: J. GRAY
DRAWN BY: J. GRAY
APPROVED BY: J. GRAY
SCALE: AS NOTED
DATE: AUGUST 16, 2021
JOB NO. 19-100
WK. ORDER 001
SHEET NO. L1
6/19/2023
615 DESIGN GROUP MARKUP



PARCEL NUMBER:
TAX MAP 100N, GROUP 'J', PARCEL 3.00
DEED BOOK: R2799, PAGE 843
PARCEL ADDRESS:
SUNSET AVENUE
COLUMBIA, TENNESSEE 38401
EXISTING ZONING:
RM-1
BUILDING SETBACKS:
FRONT = 20'(MINOR)
SIDE = 10'
REAR = 20'
ACREAGE OF PARCEL:
±1.86 ACRES (80831 SQ. FT. ±) TOTAL
PROPERTY OWNER:
P-R VESPER, LLC
1711 3rd Avenue North, Unit
Nashville, TN 37208-2209

Detail DD-04 added on page C4.0

Culvert modification to be completed prior to first certificate of occupancy. 3rd party certification required for construction.

APPROVED

CITY OF COLUMBIA
DEVELOPMENT SERVICES

dtoney 06/21/2023

0 30 60 Feet

615 DESIGN GROUP
615 CLARK PLACE | BRENTWOOD, TN 37027
(615) 370-8888 | www.615designgroup.com

COREY NELSEN
REGISTERED ENGINEER
No. 124045
STATE OF TENNESSEE
12-31-2023

VESPER COURT TOWNHOMES
COLUMBIA, TN

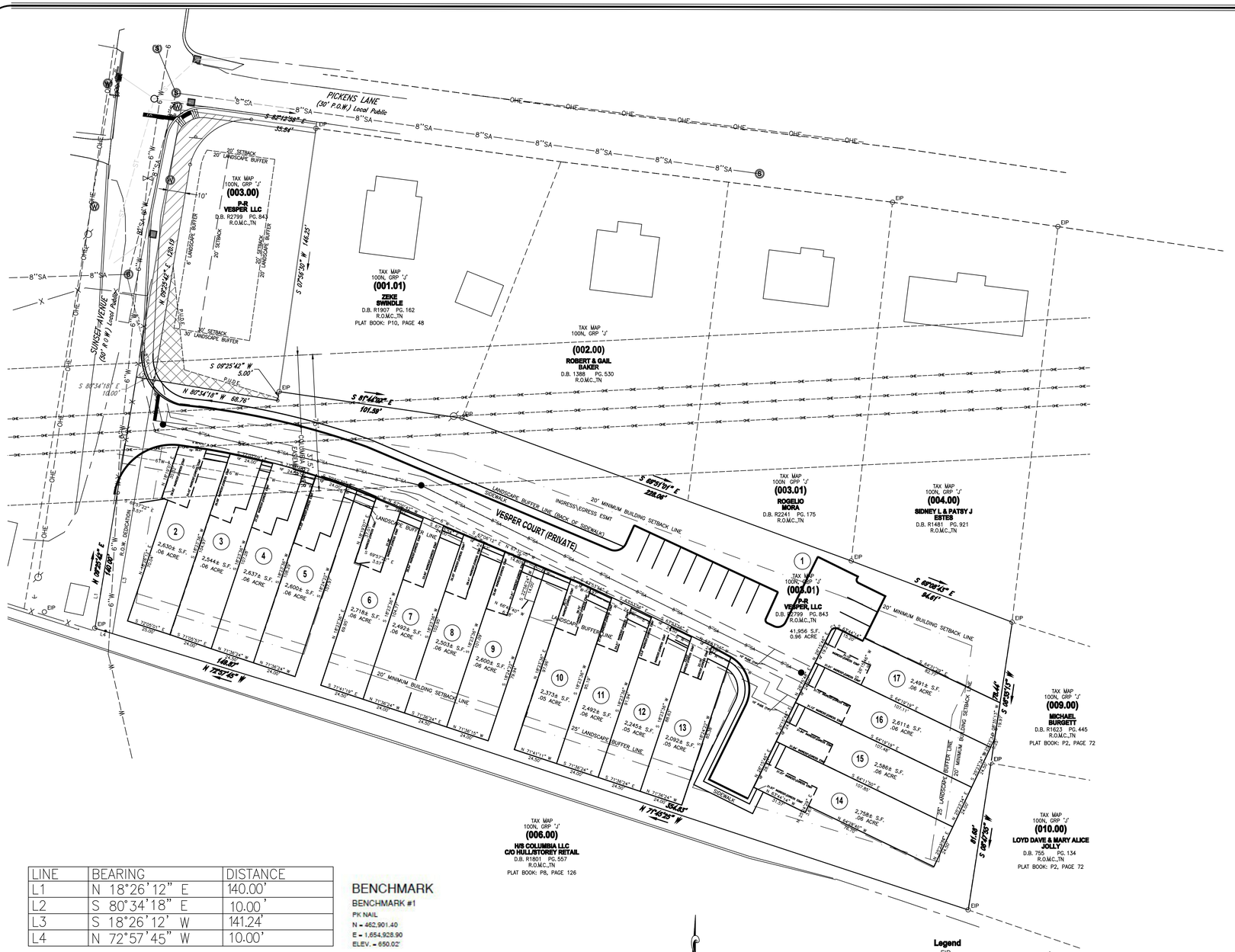
REVISIONS

NUMBER	DESCRIPTION	DATE

PROJECT #:	1055001
DESIGNED BY:	CMN
DRAWN BY:	CMN
DATE:	06/21/2023

SITE PLAN EXHIBIT

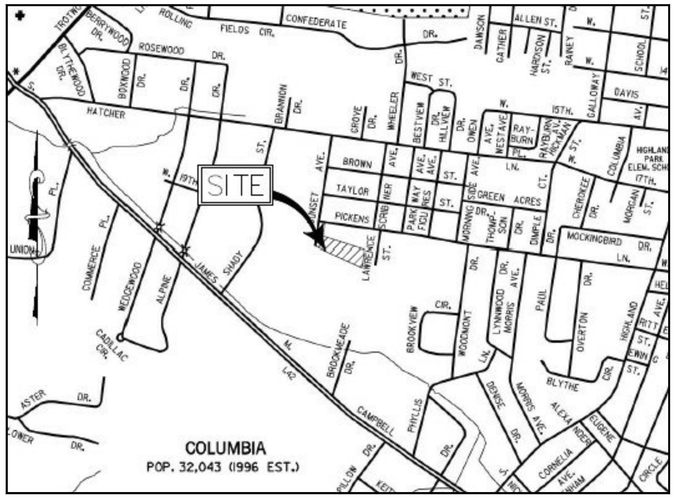
C2.0


PICKENS LANE
(50' P.O.W.) Local Public
SUNSET AVENUE
(50' P.O.W.) Local Public
VESPER COURT (PRIVATE)
TAX MAP 100N, GRP 'J' (003.00) P-R VESPER LLC D.B. R2799 PG. 843 R.O.M.C.,TN
TAX MAP 100N, GRP 'J' (001.01) ZEKE SWINDLE D.B. R1907 PG. 162 R.O.M.C.,TN PLAT BOOK: P10, PAGE 48
TAX MAP 100N, GRP 'J' (002.00) ROBERT L & GAIL BAKER D.B. 1388 PG. 530 R.O.M.C.,TN
TAX MAP 100N GPP 'J' (003.01) ROGELIO MORA D.B. R2241 PG. 175 R.O.M.C.,TN
TAX MAP 100N, GRP 'J' (004.00) SIDNEY L & PATSY J ESTES D.B. R1481 PG. 921 R.O.M.C.,TN
TAX MAP 100N, GRP 'J' (003.01) P-R VESPER, LLC D.B. R2799 PG. 843 R.O.M.C.,TN 41,956 S.F. 0.96 ACRE
TAX MAP 100N, GRP 'J' (009.00) MICHAEL BURGETT D.B. R1623 PG. 445 R.O.M.C.,TN PLAT BOOK: P2, PAGE 72
TAX MAP 100N, GRP 'J' (010.00) LOYD DAVE & MARY ALICE JOLLY D.B. 755 PG. 134 R.O.M.C.,TN PLAT BOOK: P2, PAGE 72
TAX MAP 100N, GRP 'J' (006.00) HIS COLUMBIA LLC C/O HULL/STOREY RETAIL D.B. R1801 PG. 557 R.O.M.C.,TN PLAT BOOK: P8, PAGE 126
20' SETBACK
20' LANDSCAPE BUFFER
30' SETBACK
30' LANDSCAPE BUFFER
20' MINIMUM BUILDING SETBACK LINE
25' LANDSCAPE BUFFER LINE
INGRESS\EGRESS ESMT
SIDEWALK
P.U.D.E.
S 08°25'42" W 5.00'
S 80°34'18" E 10.00'
N 80°34'18" W 68.76'
S 81°41'08" E 101.59'
S 69°31'01" E 128.08'
S 69°31'01" E 94.61'
S 64°41'08" E 107.81'
S 64°41'08" E 107.81'
S 64°41'08" E 107.81

SITE DESIGN PLAN REVISION
FOR
VESPER COURT

SUNSET AVENUE, COLUMBIA, TENNESSEE
TAX MAP 100N, PARCEL 01.00 & 03.00
RESIDENTIAL SITE PLAN

PENTAGON HOLDINGS



LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS

SHEET	DESCRIPTION
CS	COVER SHEET
C0	PRELIMINARY PLAT
C1	OVERALL LAYOUT PLAN
C2	OVERALL GRADING, DRAINAGE, OVERALL UTILITY PLAN
C2A	ROADWAY PLAN AND PROFILE
C2B	SEWER PLAN AND PROFILE
C2C	UTILITY PLAN
C2D	UTILITY NOTES AND DETAILS
C3	EPSC PLAN PHASE I
C3A	EPSC PLAN PHASE II
L1	LANDSCAPE ARCHITECTURE PLAN

3 5-2-23 (JRG) Rev. Per City Requirements

2 3-28-23 (JRG) Rev. Per City Requirements

OWNER: P-R VESPER LLC
1711 3RD AVE N UNIT A, NASHVILLE, TN, 37208

THIS SITE PLAN CONTAINS REVISIONS FROM THE APPROVED SITE PLAN COMPLETED BY WES ENGINEERING FOR WHICH REFERENCE WITHIN THIS PLAN IS MADE THE PURPOSE OF THIS SITE PLAN IS TO ALLOW CONSTRUCTION OF SINGLE FAMILY ATTACHED BUILDINGS.

CIVIL DESIGN CONSULTANTS, LLC
CIVIL ENGINEERS ◦ LAND PLANNERS
CIVIL-DESIGN-CONSULTANTS, LLC
5170 COLEY DAVIS RD., NASHVILLE, TN. 37221
PHONE: (615) 319-2734 EMAIL: JARED@CIVILCONSULTANTS.NET

VESPER COURT AND SUNSET AVE.
CITY OF COLUMBIA, MAURY COUNTY, TENNESSEE

THIS SITE PLAN HAS BEEN DESIGNED TO MEET THE CRITERIA OF THE CITY OF COLUMBIA, TENNESSEE. THE PLANS ARE NOT RELEASED FOR CONSTRUCTION UNTIL THE RELATIVE PERMIT HAS BEEN ISSUED BY THE MUNICIPALITY. CHANGES SHALL NOT BE MADE TO THE APPROVED SITE PLAN UNLESS APPROVED BY THE RELEVANT DEPARTMENT SUPERINTENDANT OR THE PLANNING COMMISSION.

CIVIL DESIGN CONSULTANTS, LLC
CIVIL ENGINEERS ◦ LAND PLANNERS
CIVIL-DESIGN-CONSULTANTS, LLC
5170 COLEY DAVIS RD., NASHVILLE, TN. 37221
PHONE: (615) 319-2734 EMAIL: JARED@CIVILCONSULTANTS.NET

JARED R. GRAY
REGISTERED
No. 108403
STATE OF TENNESSEE

VESPER COURT
CITY OF COLUMBIA, MAURY COUNTY TENNESSEE
COVER SHEET

3 5-2-23 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements

REVISIONS

DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	NOT TO SCALE
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

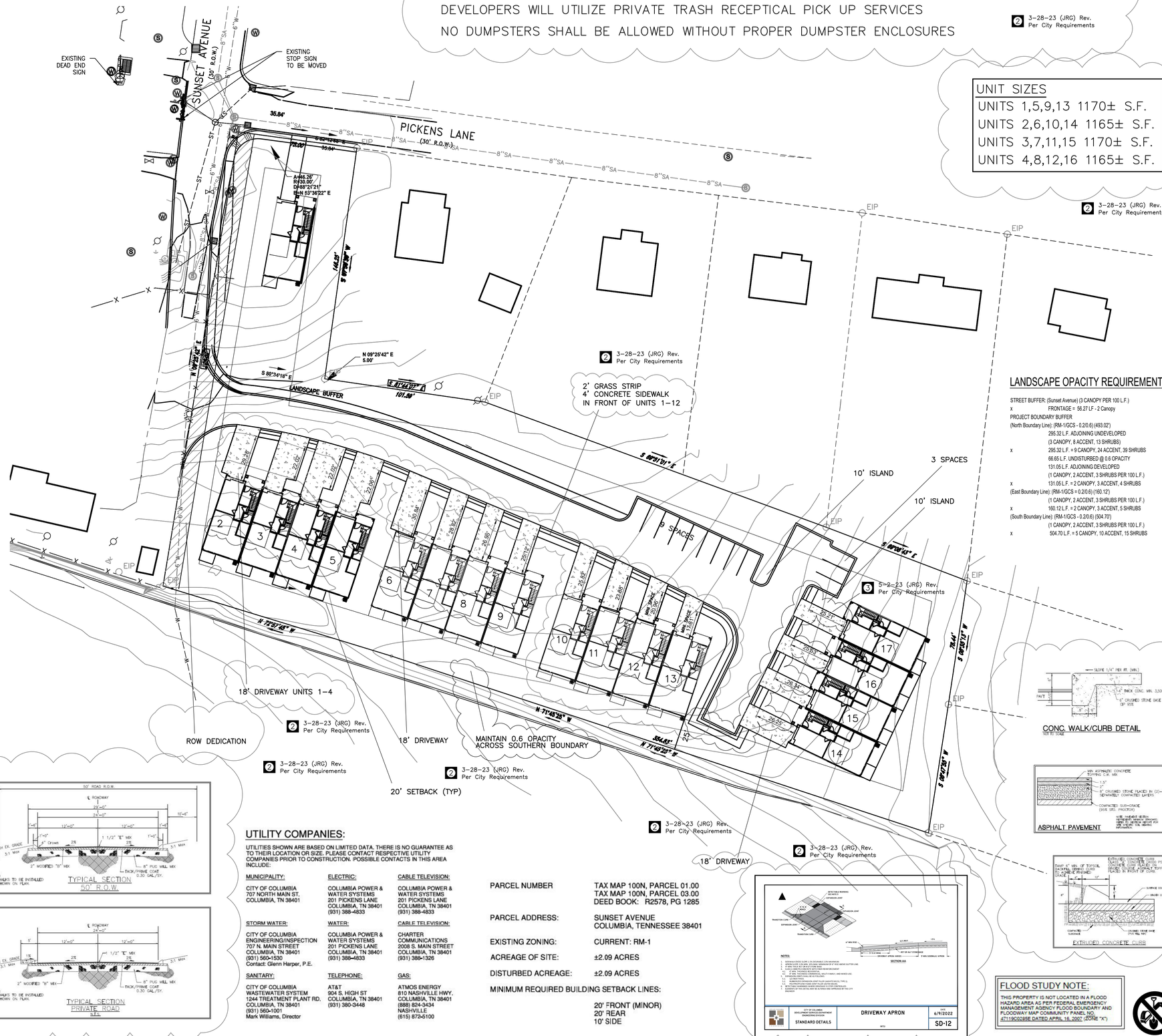
SHEET NO.
CS



28 SPACES PROVIDED 24 SPACES REQUIRED @ 1.5sp/UNIT BLDG. SPACES 10,11,12 ARE NOT COUNTED IN THE TOTAL. ALL DRIVES 12'X23' MIN. EXCEPT FOR UNITS 1,5,13 WHERE 18' IS USED FOR TWO SPACES
DEVELOPERS WILL UTILIZE PRIVATE TRASH RECEPTICAL PICK UP SERVICES
NO DUMPSTERS SHALL BE ALLOWED WITHOUT PROPER DUMPSTER ENCLOSURES

2 3-28-23 (JRG) Rev. Per City Requirements

UNIT SIZES
UNITS 1,5,9,13 1170± S.F.
UNITS 2,6,10,14 1165± S.F.
UNITS 3,7,11,15 1170± S.F.
UNITS 4,8,12,16 1165± S.F.



2 3-28-23 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements
3 5-2-23 (JRG) Rev. Per City Requirements

LANDSCAPE OPACITY REQUIREMENTS

STREET BUFFER: (Sunset Avenue) (3 CANOPY PER 100 L.F.)
x FRONTAGE = 56.27 LF - 2 Canopy
PROJECT BOUNDARY BUFFER
(North Boundary Line): (RM-1/GCS - 0.2/0.6) (493.02')
295.32 L.F. ADJOINING UNDEVELOPED
(3 CANOPY, 8 ACCENT, 13 SHRUBS)
x 295.32 L.F. = 9 CANOPY, 24 ACCENT, 39 SHRUBS
66.65 L.F. UNDISTURBED @ 0.6 OPACITY
131.05 L.F. ADJOINING DEVELOPED
(1 CANOPY, 2 ACCENT, 3 SHRUBS PER 100 L.F.)
x 131.05 L.F. = 2 CANOPY, 3 ACCENT, 4 SHRUBS
(East Boundary Line): (RM-1/GCS = 0.2/0.6) (160.12')
(1 CANOPY, 2 ACCENT, 3 SHRUBS PER 100 L.F.)
x 160.12 L.F. = 2 CANOPY, 3 ACCENT, 5 SHRUBS
(South Boundary Line): (RM-1/GCS - 0.2/0.6) (504.70')
(1 CANOPY, 2 ACCENT, 3 SHRUBS PER 100 L.F.)
x 504.70 L.F. = 5 CANOPY, 10 ACCENT, 15 SHRUBS

PAVING NOTES:

1. PROPOSED ASPHALT PAVEMENT CROSS-SECTION TO CONFORM TO CITY OF COLUMBIA STANDARDS. REFERENCE DETAIL PROVIDED.
2. ALL CURVE RADII = 5' (FIVE FEET) UNLESS NOTED OTHERWISE.
3. SURFACES TO RECEIVE MARKING PAINT SHALL BE CLEAN, DRY AND METAL SURFACES ARE TO BE FREE FROM HEAVY RUST.
4. YELLOW CURBING AND BOLLARDS ARE TO RECEIVE 2 COATS SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300 (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
5. 4" WIDE TRANSVERSE PAVEMENT MARKING TO RECEIVE TOP COAT SHERWIN WILLIAMS -PRO MAR TRAFFIC MARKING PAINT, YELLOW TM5495. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
6. ACCESSIBLE SPACES TO RECEIVE TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "H.C." BLUE.

STORMWATER NOTES:

1. ROOF DRAINAGE TO SHEET FLOW ACROSS PAVEMENT INTO THE PROPOSED DRAINAGE SYSTEM.
2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL #47119C0285E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. REFER TO COLUMBIA POWER & WATER SYSTEM DESIGN PLANS FOR WATER DESIGN AND SERVICE LOCATIONS.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARDS & SPECIFICATIONS OF COLUMBIA POWER & WATER SERVICE.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

SANITARY SEWER LEAD NOTES:

1. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL CLEARANCE BETWEEN ALL UTILITIES.
2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT CITY OF COLUMBIA WWTP STANDARDS.
3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
5. NO CONNECTION TO THE EXISTING SANITARY SEWER SYSTEM WILL BE PERMITTED UNTIL THE PROPOSED WORK HAS BEEN COMPLETED IN COMPLIANCE WITH THE CITY OF COLUMBIA WWTP REGULATIONS.

ELECTRICAL CONDUIT NOTES:

1. ALL BUILDERS, CONTRACTORS, AND ELECTRICIANS MUST MEET WITH CITY OF COLUMBIA POWER & WATER SERVICE BEFORE CONSTRUCTION.
2. ALL ELECTRICAL CONNECTIONS AND FACILITIES TO CONFORM TO CURRENT COLUMBIA POWER & WATER SERVICE STANDARDS.
3. ALL ELECTRICAL CONNECTIONS TO BE EXTENDED FROM WITHIN THE EXISTING BUILDING TO ADDITIONS. NO SITE CONSTRUCTION OF ELECTRICAL SERVICES IS PROPOSED.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS.
2. THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 10 FT IN WIDTH ON FRONT AND REAR PROPERTY LINES AND ON ALL PROPERTY LINES PARALLEL TO OR ABUTTING ROADS. AND THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 5 FT IN WIDTH ON ALL OTHER INTERIOR LOT LINES, EXCEPT AS OTHERWISE SHOWN.
3. TEMPORARY INLET FILTERS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS IN AREA PRIOR TO EARTH DISRUPTION.
4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. ALL RADII ARE 3' UNLESS DIMENSIONED.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND ANY UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SEWAGE LINES OR STORM SEWERS. INSTALL ALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
7. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL.
8. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
9. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THESE UNDERGROUND CABLES AND/OR LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.
10. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL REPAIR ANY CONTRACTOR CAUSED DAMAGE, ACCORDING TO THE LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALSO COORDINATE ALL CONSTRUCTION TO MAINTAIN REQUIRED SERVICES TO THE EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY(IES).

SPECIFIED SEQUENCE OF WORK FOR THE SELECTED CONTRACTOR:

1. INSTALL PHASE 1 OF EROSION PREVENTION & SEDIMENT CONTROL MEASURES.
2. BEGIN SITE EXCAVATION & FILLING TO CONSTRUCT DETENTION BASINS TO FUNCTION AS SEDIMENT BASINS DURING CONSTRUCTION.
3. BEGIN ROADWAY CONSTRUCTION & UTILITY CONSTRUCTION.
4. CONSTRUCT / INSTALL PAVEMENT BASE STONE & BINDER ONCE UTILITY CONSTRUCTION IS COMPLETE.
5. COMPLETE SOIL STABILIZATION (FINAL DRESSING SITE) ONCE ROADWAY IS NEARING COMPLETION.
6. COMPLETE PUNCH LIST ITEMS, AS-BUILT, INFRASTRUCTURE CERTIFICATIONS AS REQUIRED FOR C.O.

CONC. WALK/CURB DETAIL
NOT TO SCALE

ASPHALT PAVEMENT

EXTRUDED CONCRETE CURB

FLOOD STUDY NOTE:

THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP COMMUNITY PANEL NO. 47119C0285E DATED APRIL 16, 2007 (ZONE "X")

IF YOU DIG TENNESSEE... CALL US FIRST!
1-800-351-1111
1-615-366-1987
TENNESSEE ONE CALL IT'S THE LAW

0 30 60 90

UTILITY COMPANIES:

UTILITIES SHOWN ARE BASED ON LIMITED DATA. THERE IS NO GUARANTEE AS TO THEIR LOCATION OR SIZE. PLEASE CONTACT RESPECTIVE UTILITY COMPANIES PRIOR TO CONSTRUCTION. POSSIBLE CONTACTS IN THIS AREA INCLUDE:

MUNICIPALITY:	ELECTRIC:	CABLE TELEVISION:
CITY OF COLUMBIA 707 NORTH MAIN ST, COLUMBIA, TN 38401	COLUMBIA POWER & WATER SYSTEMS 201 PICKENS LANE COLUMBIA, TN 38401 (931) 388-4833	COLUMBIA POWER & WATER SYSTEMS 201 PICKENS LANE COLUMBIA, TN 38401 (931) 388-4833
STORM WATER:	**WATER:**	**CABLE TELEVISION:**
CITY OF COLUMBIA ENGINEERING/INSPECTION 707 N. MAIN STREET COLUMBIA, TN 38401 (931) 560-1530 Contact: Glenn Harper, P.E.	COLUMBIA POWER & WATER SYSTEMS 201 PICKENS LANE COLUMBIA, TN 38401 (931) 388-4833	CHARTER COMMUNICATIONS 2008 S. MAIN STREET COLUMBIA, TN 38401 (931) 388-1326
SANITARY:	**TELEPHONE:**	**GAS:**
CITY OF COLUMBIA WASTEWATER SYSTEM 1244 TREATMENT PLANT RD. COLUMBIA, TN 38401 (931) 560-1001 Mark Williams, Director	AT&T 904 S. HIGH ST COLUMBIA, TN 38401 (931) 380-3448	ATMOS ENERGY 810 NASHVILLE HWY. COLUMBIA, TN 38401 (888) 824-3434 NASHVILLE (615) 872-5100

TYPICAL SECTION
50' R.O.W.

TYPICAL SECTION
PRIVATE ROAD
N.T.S.

NOTE: SIDEWALKS TO BE INSTALLED AS SHOWN ON PLAN.

PARCEL NUMBER	TAX MAP 100N, PARCEL 01.00 TAX MAP 100N, PARCEL 03.00 DEED BOOK: R2578, PG 1285
PARCEL ADDRESS:	SUNSET AVENUE COLUMBIA, TENNESSEE 38401
EXISTING ZONING:	CURRENT: RM-1
ACREAGE OF SITE:	±2.09 ACRES
DISTURBED ACREAGE:	±2.09 ACRES
MINIMUM REQUIRED BUILDING SETBACK LINES:	
	20' FRONT (MINOR) 20' REAR 10' SIDE

CIVIL DESIGN CONSULTANTS, LLC
CIVIL ENGINEERS • LAND PLANNERS
CIVIL DESIGN CONSULTANTS, LLC
1420 HAMPSHIRE PIKE, COLUMBIA, TN 38401
PHONE: (615) 319-2733 EMAIL: CIVILCONSULTANTS1@ELLIJOY.NET

JARED R. GRAY — REGISTERED — No. 108403 — STATE OF TENNESSEE — LICENSED PROFESSIONAL ENGINEER

VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

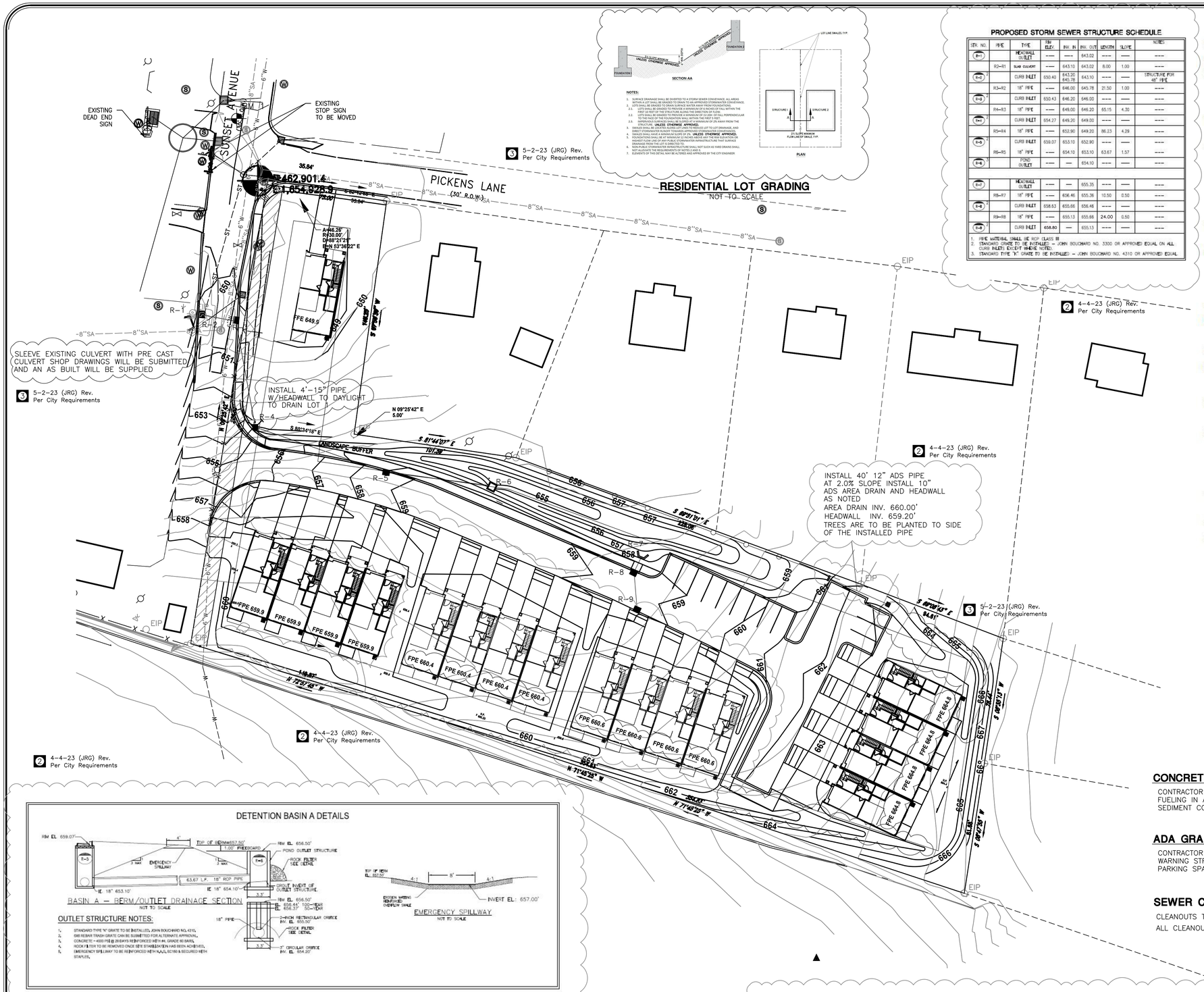
LAYOUT, AND UTILITY PLAN

1 11-28-22 (JRG) Rev. Per City Requirements
2 3-28-23 (JRG) Rev. Per City Requirements
3 5-2-23 (JRG) Rev. Per City Requirements

REVISIONS

DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	AS NOTED
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

SHEET NO.
C1



RESIDENTIAL LOT GRADING
NOT TO SCALE

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
B=1		HEADWALL OUTLET	----	----	643.02	----	----	----
	R2=R1	SLAB CULVERT	----	643.10	643.02	8.00	1.00	----
B=2		CURB INLET	650.40	643.26 645.78	643.10	----	----	STRUCTURE FOR 48" PIPE
	R3=R2	18" PIPE	----	646.00	645.78	21.50	1.00	----
B=3		CURB INLET	650.43	646.20	646.00	----	----	----
	R4=R3	18" PIPE	----	649.00	646.20	85.15	4.30	----
B=4		CURB INLET	654.27	649.20	649.00	----	----	----
	R5=R4	18" PIPE	----	652.90	649.20	86.23	4.29	----
B=5		CURB INLET	659.07	653.10	652.90	----	----	----
	R6=R5	18" PIPE	----	654.10	653.10	63.67	1.57	----
B=6		POND OUTLET	----	----	654.10	----	----	----
B=7		HEADWALL OUTLET	----	----	655.35	----	----	----
	R8=R7	18" PIPE	----	656.46	655.36	10.50	0.50	----
B=8		CURB INLET	658.63	655.66	656.46	----	----	----
	R9=R8	18" PIPE	----	655.13	655.66	24.00	0.50	----
B=9		CURB INLET	658.80	----	655.13	----	----	----

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD GRATE TO BE INSTALLED = JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "C" GRATE TO BE INSTALLED = JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL

GENERAL GRADING AND DRAINAGE NOTES:

1. ALL GRADING AND DRAINAGE WORK AS SHOWN ON THIS PLAN SHALL BE DONE IN STRICT ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL ENGINEERING DEPARTMENT.
2. THE NECESSARY PERMITS FOR THE WORK SHOWN ON THESE SITE DEVELOPMENT PLANS WILL BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK ON THIS PROJECT. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES INVOLVED IN SECURING SAID PERMITS. THE CONTRACTOR SHALL ALSO COMPLY WITH ALL LOCAL AND STATE BUILDING CODES, ORDINANCES AND REGULATIONS RELATING TO THE CONSTRUCTION OF THE ITEMS SHOWN ON THESE PLANS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID DAMAGE TO ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION. IF DAMAGE DOES OCCUR TO ANY SUCH EXISTING INSTALLATIONS, FULL REPAIR SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AS PER THE CURRENT SPECIFICATIONS FOR SUCH WORK FOR THE RESPONSIBLE AGENCY.
4. THE LOCATION OF EXISTING PIPING AND UNDERGROUND UTILITIES (I.E., WATER AND GAS LINES, ELECTRICAL AND TELEPHONE CONDUITS, ETC.) AS SHOWN ON THIS PORTION OF THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION FROM ACTUAL SURVEYS, OR TAKEN FROM THE RECORDS AND DRAWINGS OF THE EXISTING UTILITIES. HOWEVER, THE CIVIL ENGINEER DOES NOT ASSUME RESPONSIBILITY THAT, DURING CONSTRUCTION, THE POSSIBILITY OF UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT THE ACTUAL LOCATIONS OF UTILITIES SHOWN MAY VARY SOMEWHAT FROM THE LOCATIONS DESIGNATED ON THIS PORTION OF THE PLANS. IN AREAS WHERE IT IS NECESSARY THAT THE EXACT LOCATIONS OF UNDERGROUND UTILITIES BE KNOWN, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE LOCATION OF THE UTILITIES.
5. ALL DELETERIOUS MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF SITE BY THE CONTRACTOR AS PER THE INSPECTION AND FINAL APPROVAL OF THE ENGINEER AND OWNER. ALL FILL MATERIAL TO BE USED FOR SITE GRADING SHALL BE AN INORGANIC SOIL, FREE OF DEBRIS AND APPROVED BY THE ENGINEER AND OWNER.
6. THE PLACING AND SPREADING OF ANY FILL MATERIAL IS TO BE STARTED AT THE LOWEST POINT AND BROUGHT UP IN HORIZONTAL LAYERS OF 8 INCH THICKNESS. SAID FILL MATERIAL IS TO BE SOIL AND ROCK ONLY, FREE OF SOD, ROOTS, FROZEN SOILS, OR ANY OTHER DECOMPOSABLE MATERIAL. THE RELATIVE COMPACTION OF EACH LAYER SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698) IN ALL AREAS OF FILL, AND COMPACTION OF 98% OF SAME SPECIFICATION FOR MATERIALS USED IN THE UPPER 12 INCHES BENEATH PAVEMENT AND GRADE SLABS.
7. THE CONTRACTOR IS TO CHECK AND VERIFY ALL MEASUREMENTS, LEVELS, ETC., BEFORE ORDERING MATERIALS AND PROCEEDING WITH WORK, AND IS RESPONSIBLE FOR THE SAME.
8. CONTRACTOR IS RESPONSIBLE FOR SECURING WRITTEN APPROVAL FROM ADJOINING PROPERTY OWNER FOR OFF SITE GRADING WORK THAT RESULTS FROM CONSTRUCTION ACTIVITIES.

BERM CONSTRUCTION NOTES:

1. AREAS UNDER THE EMBANKMENT OR ANY STRUCTURAL WORKS RELATED TO THE BASIN SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL , TREES, VEGETATION, ROOTS, OR OTHER OBJECTIONABLE MATERIAL. IN ORDER TO FACILITATE CLEANOUT AND RESTORATION, THE AREA OF MOST FREQUENT INUNDATION (MEASURED FROM THE TOP OF THE PRINCIPAL SPILLWAY) WILL BE CLEARED OF ALL BRUSH AND TREES.
2. THE PLACING AND SPREADING OF EMBANKMENT MATERIALS IS TO BE STARTED AT THE LOWEST POINT AND BROUGHT UP IN HORIZONTAL LAYERS OF 8" THICKNESS. SAID MATERIAL IS TO BE FREE OF SOD, ROOTS, FROZEN SOIL, OR ANY OTHER DECOMPOSABLE MATERIAL. THE RELATIVE COMPACTION OF EACH LAYER SHALL NOT BE LESS THAN 95% OF STANDARD PROCTOR TEST IN ALL AREAS.
3. FOR EARTH FILL EMBANKMENTS, A CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE BERM. THE TRENCH MUST EXTEND AT LEAST 1 FOOT INTO A STABLE, IMPERVIOUS LAYER OF SOIL AND HAVE A MINIMUM DEPTH OF TWO FEET. THE CUTOFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM BOTTOM WIDTH SHALL BE FOUR FEET, BUT ALSO MUST BE WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE DRY DURING THE BACKFILLING AND COMPACTION OPERATIONS.
4. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT IF COMPACTION IS OBTAINED WITH HAULING EQUIPMENT. IF COMPACTORS ARE USED FOR COMPACTION, THE OVERBUILD MAY BE REDUCED TO NOT LESS THAN 5 PERCENT.
5. THE EMBANKMENT OF THE DETENTION POND SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATION IMMEDIATELY AFTER INSTALLATION OF THE BASIN.
6. ALL STATE AND LOCAL REQUIREMENTS SHALL BE MET CONCERNING FENCING AND SIGNS WARNING THE PUBLIC OF THE HAZARDS OF SOFT, SATURATED SEDIMENT AND FLOOD WATERS.

CONCRETE WASH DOWN/EQUIPMENT FUELING NOTE:

CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH THE CURRENT LATEST EDITION OF TDECS EROSION AND SEDIMENT CONTROL HANDBOOK.

ADA GRADING NOTE:

CONTRACTOR TO COMPLY WITH THE CURRENT ADA MANDATES WITH RESPECT TO DETECTABLE WARNING STRIPS AND SLOPE REQUIREMENTS FOR ALL HANDICAP ACCESSIBLE PATHS AND PARKING SPACES.

SEWER CLEANOUT NOTE:

CLEANOUTS TO BE PLACED 5' OUTSIDE OF BUILDING – SEE BUILDING PLUMBING PLANS
ALL CLEANOUTS AND MANHOLE FRAMES/LIDS TO BE TRAFFIC BEARING IN VEHICULAR AREAS.

DETENTION BASIN A DETAILS

OUTLET STRUCTURE NOTES:

1. STANDARD TYPE "K" GRATE TO BE INSTALLED, JOHN BOUCHARD NO. 4310,
2. EMI REBAR TRASH GRATE CAN BE SUBMITTED FOR ALTERNATE APPROVAL,
3. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS,
4. ROCK & TYEK TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED,
5. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. S0150 & SECURED WITH STAPLES,

SEE APPROVED DRAWINGS FOR VESPER COURT FROM WES ENGINEERING FOR DETAILS & PLAN AND PROFILES FOR VESPER COURT INCLUDING DRAINAGE STRUCTURE DETAILS AND PLAN AND PROFILES.

FPE ELEVATIONS SHOWN ARE BUILDING PAD GRADE ELEVATIONS. THE SLAB FOR EACH BUILDING WILL BE ABOVE THIS ELEVATION PER THE THICKNESS SHOWN ON THE STRUCTURAL DRAWINGS FOR EACH BUILDING. THE FFE OF THE BUILDING SHALL BE A MIN. 6" ABOVE THE GROUND ELEVATION AT THE BUILDING FACE.

ALL EROSION CONTROL MEASURES PREVIOUSLY INSTALLED PER WES ENGINEERING VESPER COURT PLANS TO REMAIN AND BE MAINTAINED

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1-615-366-1987
TENNESSEE ONE CALL
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0 30 60 90

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JARED R. GRAY
REGISTERED
No. 108403
STATE OF TENNESSEE

VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

GRADING, DRAINAGE & OVERALL UTILITY PLAN

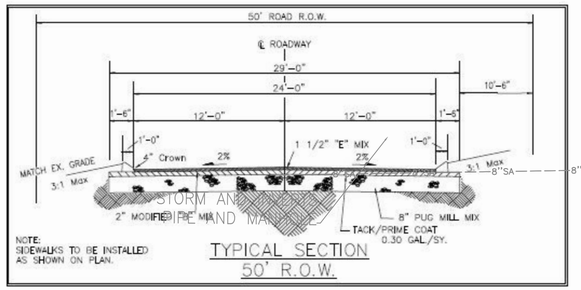
1 11-28-22 (JRG) Rev. Per City Requirements
2 4-4-23 (JRG) Rev. Per City Requirements
3 5-2-23 (JRG) Rev. Per City Requirements

REVISIONS

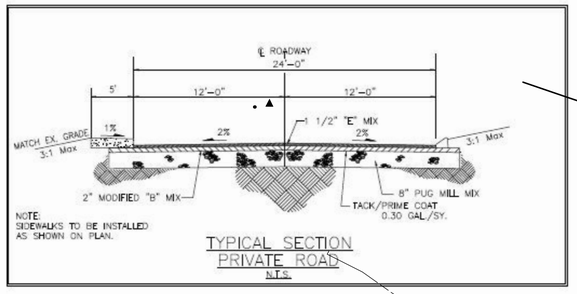
DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	AS NOTED
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

SHEET NO.
C2

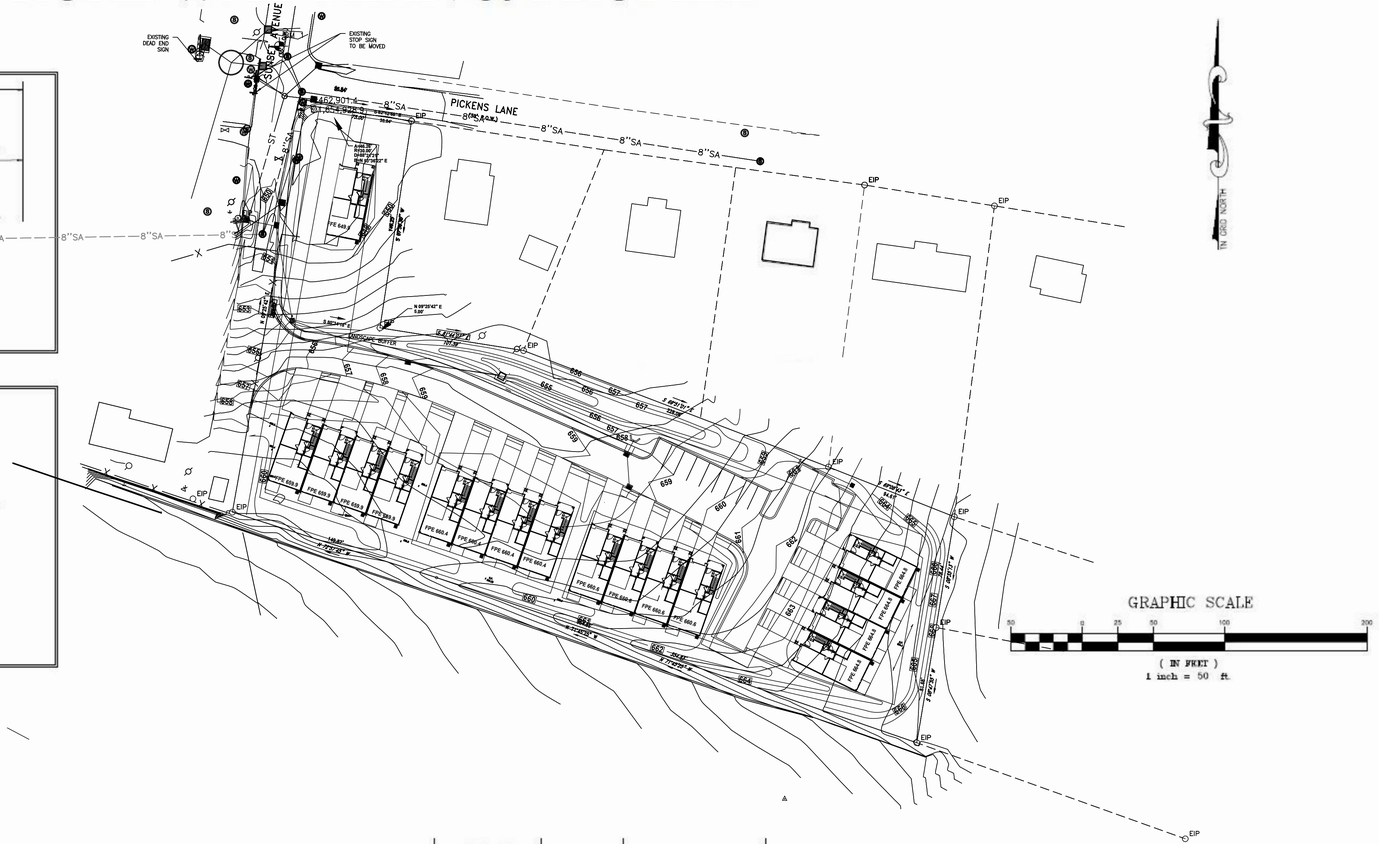
ROADWAY PLAN & PROFILE



TYPICAL SECTION
50' R.O.W.



TYPICAL SECTION
PRIVATE ROAD
N.T.S.


SUNSET AVENUE
EXISTING DEAD END SIGN
EXISTING STOP SIGN TO BE MOVED
PICKENS LANE
8"SA
8"SA
8"SA
8"SA
8"SA
EIP
EIP
EIP

SANITARY SEWER PLAN & PROFILE

Vesper Court - Townhomes
Proposed 8" Sewer

I. Data:

A. Proposed Sewer line extension - Vesper Court

B. 8" Gravity Sewer System with minimum slope of 0.40%

C. Sewer drains to existing system along southern boundary line on existing property.

D. 16 Unit

II. Design Flow:

A. Method 1: (TDEC)

Per Capita Flow (Section 2.2.2.1 of State Sewer Regulations) Indicates Minimum Design Peak Flow is not less than 400% of ADF.

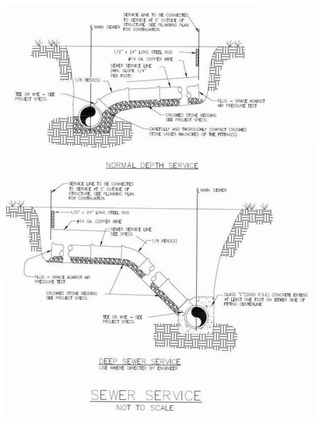
DEMAND 8" PIPE: ASSUME 4 PERSON PER LOT: 4*82/(100*(400%) = 91.1 GPM or 0.20 CFS

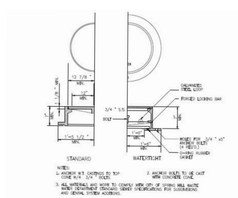
B The minimum slope for the proposed sewer extension is 0.50% slope for 8" SCR 26 PVC pipe. The full capacity flow @ 0.50% for 8" pipe is 466.8 gpm or 1.04 cfs.

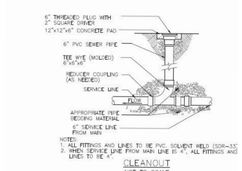
SEWER HYDRAULIC CALCULATIONS

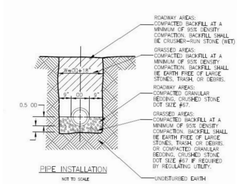
PROJECT: Vesper Court
PROJ. NO. 18-600 DATE: 1/15/2021

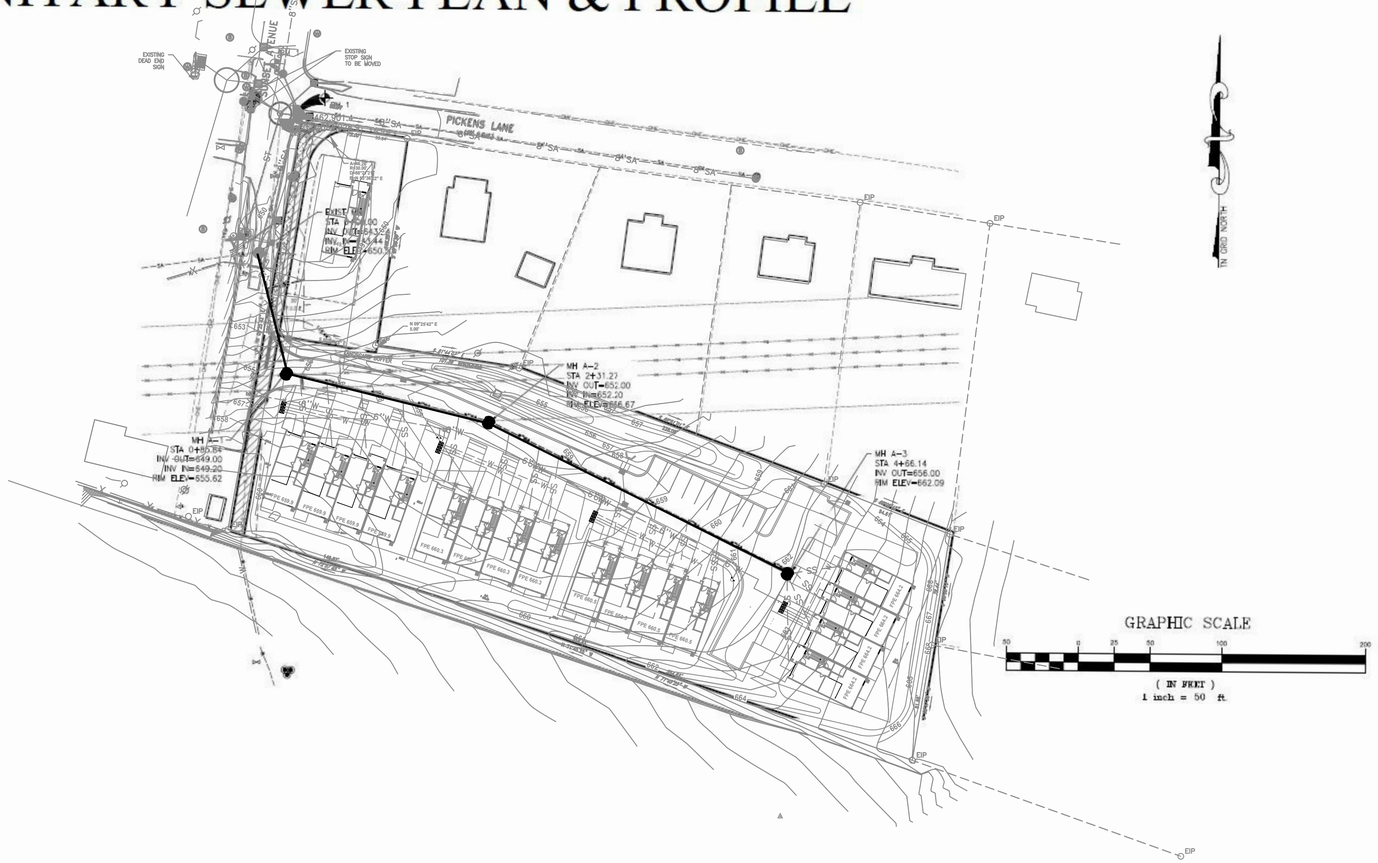
STREET	FROM MH	TO MH	LENGTH feet	MAX AREA SERVED			nn 0.0113	MAX SEWAGE FLOW cfs	PEAK SEWAGE FLOW cfs	PIPE DIAM. in	INVERT UPPER MH	INVERT LOWER MH	SEWER GRADE %	SEWER FALL feet	VELOCITY FLOWING FULL fts	CAPACITY FLOWING FULL cfs
							Line "A"									
	3A	2A	234.9	60 Ac			0.0113	0.069	0.275	8	653.76	652.35	0.60	1.41	3.1	1.074
	2A	1A	145.4	60 Ac			0.0113	0.069	0.275	8	652.15	650.70	1.00	1.45	4.0	1.384
	1A	EX	85.8				0.0113	0.069	0.275	8	650.50	645.14	6.24	5.36	9.9	3.463

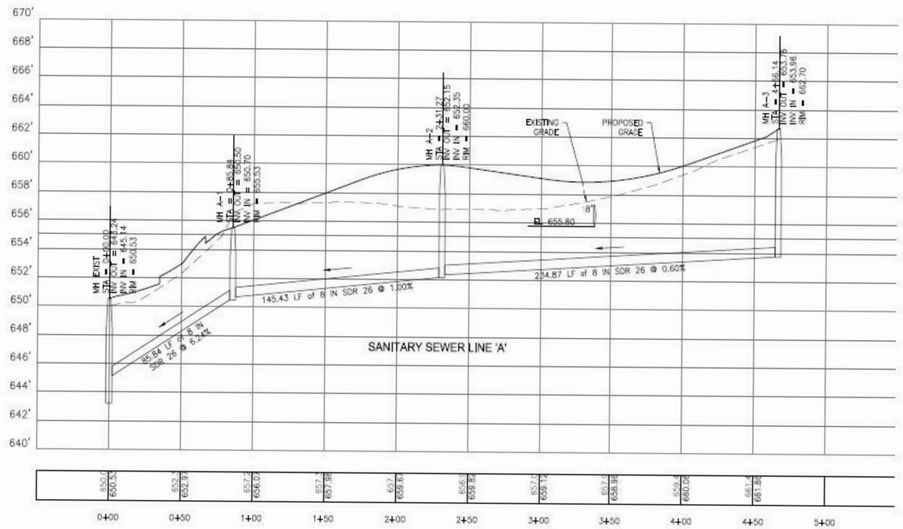


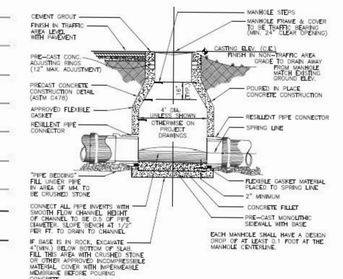


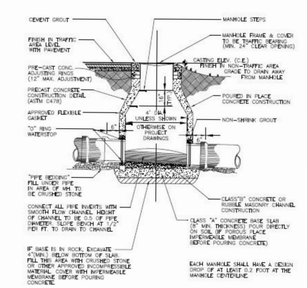












CIVIL DESIGN CONSULTANTS, LLC
CIVIL ENGINEERS • LAND PLANNERS
P.O. BOX 1331
COLUMBIA, TENNESSEE 38402
CIVIL DESIGN CONSULTANTS, LLC
PHONE: (615) 319-4781 FAX: (931) 490-0231
EMAIL: CIVILCONSULTANTS1@BELLSOUTH.NET

JARED R. GRAY — 102 — REGISTERED — No. 108403 — STATE OF TENNESSEE

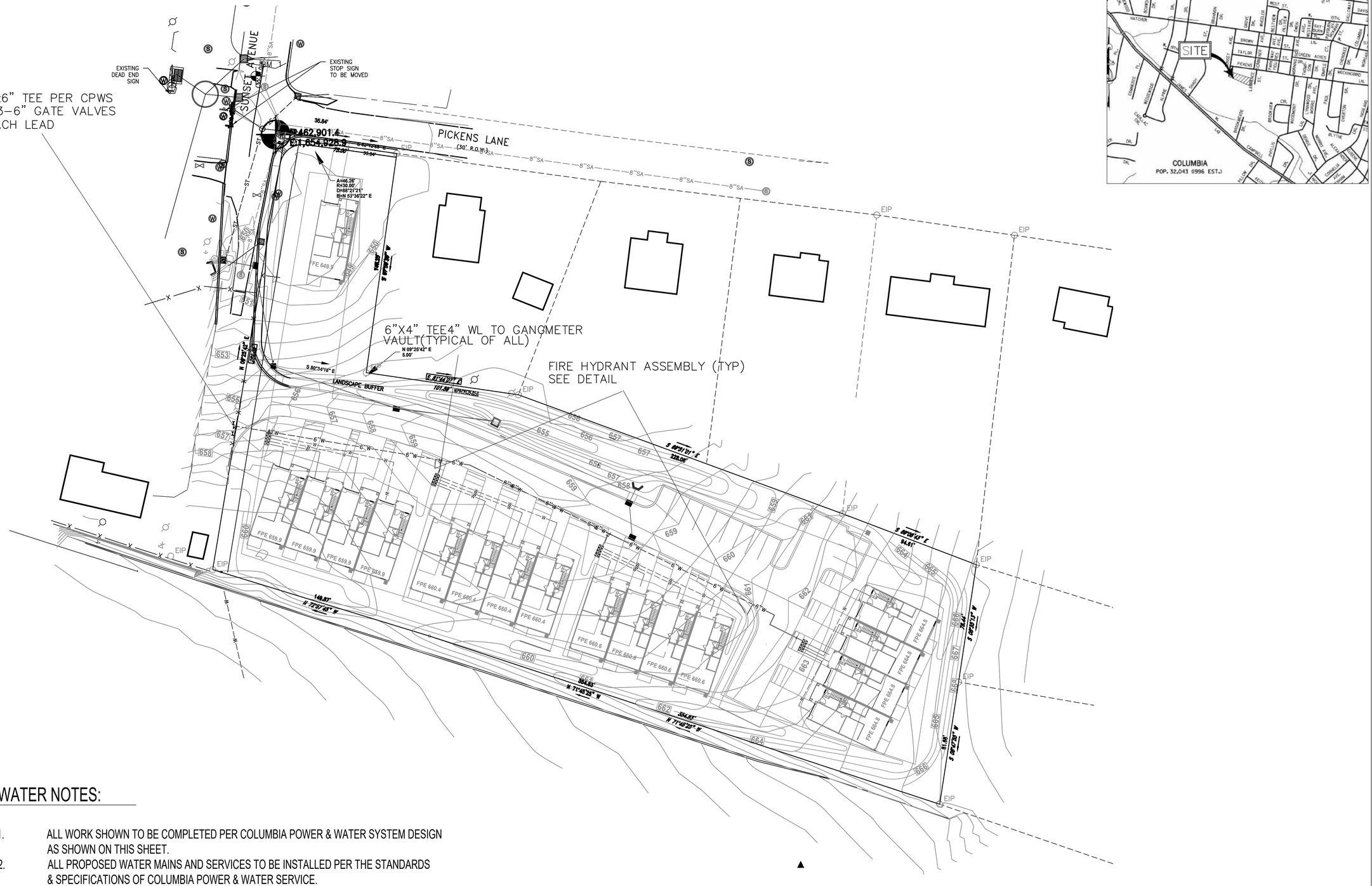
VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

SANITARY SEWER PLAN AND PROFILE SHEET

2	3-28-23 (JRG) Rev. Per City Requirements
3	5-2-23 (JRG) Rev. Per City Requirements
	REVISIONS
DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	AS NOTED
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

SHEET NO.
C2B
2



WATER NOTES:

1. ALL WORK SHOWN TO BE COMPLETED PER COLUMBIA POWER & WATER SYSTEM DESIGN AS SHOWN ON THIS SHEET.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARDS & SPECIFICATIONS OF COLUMBIA POWER & WATER SERVICE.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

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IT'S THE LAW

0 30 60 90

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PHONE: (615) 319-2734 EMAIL: CIVILCONSULTANTS1@ELLSOUTH.NET

JARED R. GRAY
REGISTERED
No. 108403
STATE OF TENNESSEE

VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

WATER UTILITY PLAN

1	11-28-22 (JRG) Rev. Per City Requirements
2	3-28-23 (JRG) Rev. Per City Requirements
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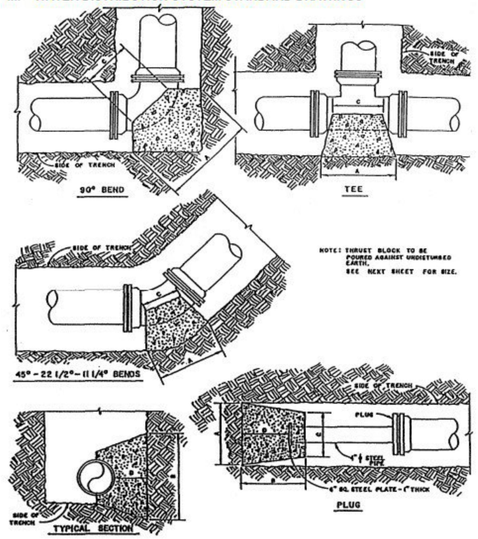
REVISIONS

DESIGNED BY:	J. GRAY
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SCALE:	AS NOTED
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JOB NO.	WK. ORDER
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SHEET NO.
2 C2C

ALL DETAILS SHOWN ON THIS SHEET NOT TO SCALE

III. WATER DISTRIBUTION SYSTEM STANDARD DRAWINGS



COLUMBIA WATER SYSTEM	REVISED: December 2019	THRUST BLOCKING DETAILS	DRAWING NO. CWS 1

COLUMBIA WATER SYSTEM	REVISED: December 2019	THRUST BLOCKING DIMENSIONS	DRAWING NO. CWS 2

90° BEND

Size	2"	4"	6"	8"	10"	12"	18"
A	16"	16"	26"	33"	40"	50"	70"
B	16"	16"	24"	33"	40"	50"	70"
C	9"	9"	12"	12"	15"	16"	22"
D	8"	8"	12"	16"	20"	25"	24"

11-1/4° BEND

Size	2"	4"	6"	8"	10"	12"	18"
A	9"	9"	11"	13"	16"	18"	30"
B	9"	9"	11"	13"	16"	18"	30"
C	8"	8"	10"	12"	14"	16"	15"
D	4"	4"	5"	6"	8"	9"	16"

45° BEND

Size	2"	4"	6"	8"	10"	12"	18"
A	12"	12"	18"	24"	31"	37"	52"
B	12"	12"	18"	24"	31"	37"	52"
C	8"	8"	10"	12"	14"	16"	14"
D	6"	6"	9"	12"	15"	18"	18"

TEE

Size		2"-6"	8"-12"	8"-10"	12"	12"	12"	18"
	Main	2"-6"	2"-6"	8"-10"	2"-6"	8"-10"	12"	16"-18"
	Branch							
A		9"	9"	11"	13"	16"	18"	30"
B		9"	9"	11"	13"	16"	18"	30"
C		8"	8"	10"	12"	14"	16"	15"
D		4"	4"	5"	6"	8"	9"	16"

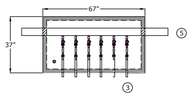
22-1/2° BEND

Size	2"	4"	6"	8"	10"	12"	18"
A	9"	9"	13"	18"	23"	26"	40"
B	9"	9"	13"	18"	23"	26"	40"
C	8"	8"	10"	12"	14"	16"	15"
D	4"	4"	6"	9"	11"	13"	16"

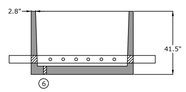
PLUG

Size	2"	4"	6"	8"	10"	12"	18"
A	26"	26"	26"	34"	43"	52"	79"
B	26"	26"	26"	34"	43"	52"	79"
C	12"	12"	12"	12"	12"	12"	39"
D	11	12	13	11"	22"	32"	32"

Top View



Side View

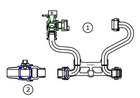


End View

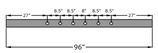


1. Line Setter
   Ford VBH71-7W-NL-41-33-Q-NL
   Single Check
2. Corporation Stop
   Ford FB1000-3-Q-NL
3. 3/4" x 18" Brass Nipple
4. 29" x 59" opening single leaf aluminum door, pedestrian rated (300 lb/ft^2) S1R029059CD
5. 4" Class 52 D.I.P.
6. 2" drain hole

Component Detail



Pipe detail for taps



Approved for Production

Project: _____ Date: _____

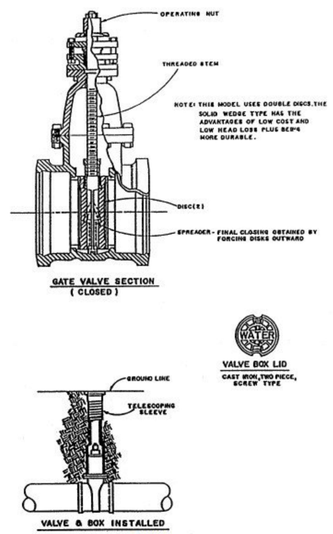
Quantity: _____ By: _____

CPWS

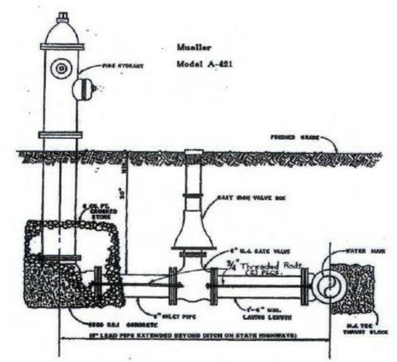
Specifications

6 Gang 5/8
Meter Vault MWSD

Date: Drawn By: Shane Andrews Approx. Empty Vault Weight: 3,100 lbs



COLUMBIA WATER SYSTEM	REVISED: December 2019	GATE VALVE & VALVE BOX	DRAWING NO. GV-VB 1



COLUMBIA WATER SYSTEM	REVISED: December 2019	FIRE HYDRANT ASSEMBLY	DRAWING NO. FHA 1

ADDITIONAL INFORMATION IS PROVIDED WITHIN THE CPWS SPECIFICATION MANUAL DATED DECEMBER 16, 2019 FROM WHICH THESE DETAILS ARE TAKEN. ALL WORK SHALL BE COMPLETED PER THE REQUIREMENTS OF THAT MANUAL.

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1-615-366-1987
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CIVIL DESIGN CONSULTANTS, LLC
2121 RIVA RIDGE DRIVE, HERMITAGE, TN 37076
PHONE: (615) 319-4730 EMAIL: CIVILCONSULTANTS1@ELLSOUTH.NET

ALL DETAILS SHOWN ON THIS SHEET PROVIDED BY CPWS

VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

WATER DETAILS PROVIDED BY CPWS

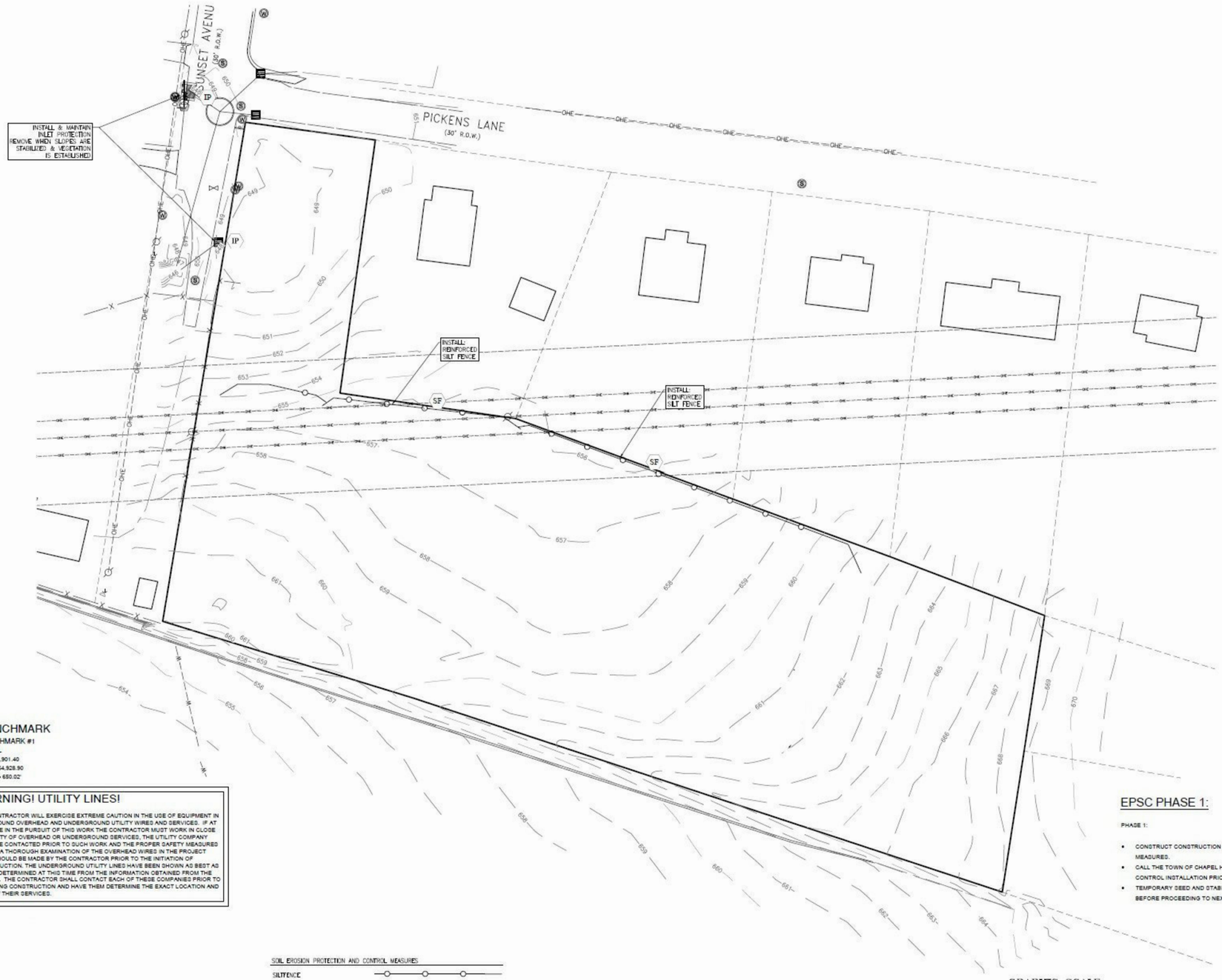
2 3-28-23 (JRG) Rev. Per City Requirements

REVISIONS

DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	NOT TO SCALE
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

SHEET NO.
2 C2D

EROSION PREVENTION AND SEDIMENT CONTROL PLAN



BENCHMARK

BENCHMARK #1
PK NAIL
N = 462,901.40
E = 1,684,928.90
ELEV. = 650.02'

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

SOIL EROSION PROTECTION AND CONTROL MEASURES

SILTFENCE			
CONSTRUCTION EXIT	CE	INLET PROTECTION	IP
SILT FENCE	SF	STORM OUTLET PROTECTION	OP
CHECK DAMS	CD	REINFORCEMENT MAT	MA
PERMANENT SEEDING & MULCHING	PS	TEMPORARY SEEDING	TS

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

EROSION/SILTATION CONTROL NOTES

1. EXPOSED AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MINIMUM WHENEVER POSSIBLE.
2. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS APPROVED BY THE OWNER'S REPRESENTATIVE.
3. DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.
4. NO OTHER WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURES SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
5. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
6. EROSION/SILTATION FENCING SHOWN IS TO BE USED AS A TEMPORARY SEDIMENT BARRIER. FENCING IS TO BE FIRM AND SECURELY TIED AS SHOWN ON THE INCLUDED DETAIL.
7. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM SEDIMENT LOSS DURING AND UPON COMPLETION OF CONSTRUCTION.
8. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD & ACCEPTABLE STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION INSTALLATIONS WILL BE REMOVED AND THE AREA DISTURBED WILL BE SEEDED AND MULCHED WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT.
9. A STONE ACCESS RAMP IS TO BE CONSTRUCTED WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM LENGTH OF 100 FEET. RAMP IS TO BE BASED WITH 6 INCHES INCHES OF ASTM D 448, SIZE NO. 1 STONE, AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. EROSION AND SEDIMENT CONTROL MUST BE IMPLEMENTED AND MAINTAINED. PERFORM ALL WORK IN ACCORDANCE WITH THE "TDEC EROSION AND SEDIMENT CONTROL HANDBOOK", AUGUST 2012. FAILURE TO COMPLY TO THESE BMP PRACTICES MAY RESULT IN A STOP WORK ORDER AND FINES.
11. IN AREAS OF 2:1 OR GREATER SLOPE THAT EXCEED 5-FEET IN UNINTERRUPTED VERTICAL ELEVATION CHANGE WILL RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MAT SEEDED FOR STABILIZATION (TEMPORARY OR PERMANENT). FOLLOW STABILIZATION PLAN INCLUDED IN APPROVED SWPPP FOR TEMPORARY & PERMANENT STABILIZATION OF SITE.
12. ALL PROPOSED INLETS WILL BE INSTALLED WITH SILT FENCE EROSION PROTECTION OR APPROVED MAT TYPE INLET FILTER UNTIL STABILIZATION IS ESTABLISHED.
13. PHASE I EPSC SHOWN. ADJUSTMENTS TO BE MADE WHEN SLOPE CONSTRUCTION BEGINS TO KEEP SILT FENCE @ TOE OF SLOPE.
14. ALL OPEN FLOW CHANNELS AND OUTLET STRUCTURES ARE TO RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MATTING FOR STABILIZATION.

BEST MANAGEMENT PRACTICES (BMP) NOTES:

1. LAND CLEARING SHALL TAKE PLACE ONLY IN AREAS WHERE ACTIVE CONSTRUCTION WILL BEGIN WITHIN A REASONABLE AMOUNT OF TIME. LAND CLEARING DURING THE RAINY SEASON SHALL BE AVOIDED IN SENSITIVE AREAS SUCH AS STEEP SLOPES AND BUFFERS, IF POSSIBLE.
2. DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, CHANNELS, ETC., ARE TO BE SEEDED AND MULCHED. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 15 DAYS. SUCH AREAS ARE TO IMMEDIATELY RECEIVE SEED AND MULCH STABILIZATION FOLLOWING THIS TIME PERIOD. ON STEEP SLOPES AND CHANNELS, MATTING SHALL BE FASTENED TO THE GROUND WITH WIRE STAPLES OR WOOD PEGS. WHERE SURFACE WATER CANNOT BE DIVERTED FROM FLOWING OVER THE FACE OF SLOPES, INSTALL A STRIP OF EROSION CONTROL MATTING AND FASTEN TIGHT ALONG THE CROWN OR TOP OF THE SLOPE FOR EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOIL.
3. STEEP AND UNSTABLE SLOPES SHALL NOT BE DISTURBED IF THEY ARE OUTSIDE OF THE APPROVED GRADING PLAN AREA. RUNOFF SHALL BE CONVEYED FROM THE TOP OF THE SLOPE IN A SAFE MANNER ENSURING THAT THE SLOPE IS STABILIZED AS SOON AS POSSIBLE. ALL RUNOFF EXITING THE CONSTRUCTION SITE SHALL BE FREE OF EXCESSIVE SEDIMENT, AND OTHER POLLUTANTS.
4. STREET AND/OR CURB INLET PROTECTION DEVICES SHALL BE PLACED AROUND ALL INLETS UPON THE CONSTRUCTION OF THE STORM WATER SEWER SYSTEM.
5. ALL MATTED AREAS TO RECEIVE PERMANENT SEEDING.
6. PLEASE CALL THE CITY OF COLUMBIA FOR INSPECTION OF EROSION CONTROL MEASURES BEFORE GRADING COMMENCES.

SUPPLEMENTAL NOTES

1. THE CONTRACTOR MUST OBTAIN AND REVIEW A COPY OF THE APPROVED STORM WATER POLLUTION PLAN SUBMITTED TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION. CONTRACTOR IS EXPECTED TO READ AND FOLLOW THIS PLAN DURING THE CONSTRUCTION OF THIS PROJECT. THE APPROVED SWPPP IS CONSIDERED TO BE A PART OF THE FINAL CONSTRUCTION DOCUMENTS.
2. THE EROSION PREVENTION & SEDIMENT CONTROL MEASURES INCLUDED ON THIS SHEET REPRESENT PHASE 1 ONLY AND ARE REQUIRED TO BE INSTALLED PRIOR TO THE START OF EARTH DISTURBANCE IN THE AFFECTED AREA.
3. ADJUSTMENTS TO THE EPSC MEASURES WILL BE REQUIRED DURING NORMAL PROGRESSION OF THE PROJECT. REVIEW ALL PHASES OF THE EPSC PLANS INCLUDED IN THE SWPPP FOR ADDITIONAL INFORMATION. COST ASSOCIATED WITH THESE ADJUSTMENTS ARE TO BE INCLUDED IN OTHER ITEMS OF CONSTRUCTION.
4. UNDERCUT / REPLACEMENT OF SOFT SOILS SHALL BE PERFORMED AT THE DIRECTION OF THE OWNER AND FOLLOWING THE REQUIREMENTS ESTABLISHED BY THE GEOTECHNICAL ENGINEER. THE REPLACEMENT OF MATERIAL MAY INCLUDE EXISTING SOILS MEETING THE GEOTECHNICAL REQUIREMENTS.
5. CONTRACTOR IS TO MARK THE LIMIT OF DISTURBANCE PRIOR TO START OF CONSTRUCTION AND OBSERVE THESE LIMITS FOR THE DURATION OF THE PROJECT.
6. MAINTAIN EROSION CONTROL MEASURES AS INDICATED IN THE SWPPP BETWEEN PHASES AND REPLACE BMP MATERIALS BEFORE FAILURE RESULTS DUE TO DEGREDATION.

EPSC PHASE 1:

PHASE 1:

- CONSTRUCT CONSTRUCTION EXIT AND TEMPORARY EPSC MEASURES.
- CALL THE TOWN OF CHAPEL HILL FOR INSPECTION OF EROSION CONTROL INSTALLATION PRIOR TO PROCEEDING.
- TEMPORARY SEED AND STABILIZATION OF EACH DISTURBED AREA BEFORE PROCEEDING TO NEXT AREA.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

FLOOD STUDY NOTE:

THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP COMMUNITY PANEL NO. 47119C0285E DATED APRIL 16, 2007 (ZONE "X")

CIVIL DESIGN CONSULTANTS, LLC
CIVIL ENGINEERS • LAND PLANNERS
CIVIL DESIGN CONSULTANTS, LLC
1420 KELLY JOHNSON BLVD, SUITE 210
COLORADO SPRINGS, CO 80920
PHONE: (615) 319-2734 EMAIL: CIVILCONSULTANTS1@ELLSOUTH.NET

JARED R. GRAY
REGISTERED
No. 108403
ENGINEER
STATE OF TENNESSEE

VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

EPSC PLAN PHASE I

2 3-28-23 (JRG) Rev. Per City Requirements

REVISIONS

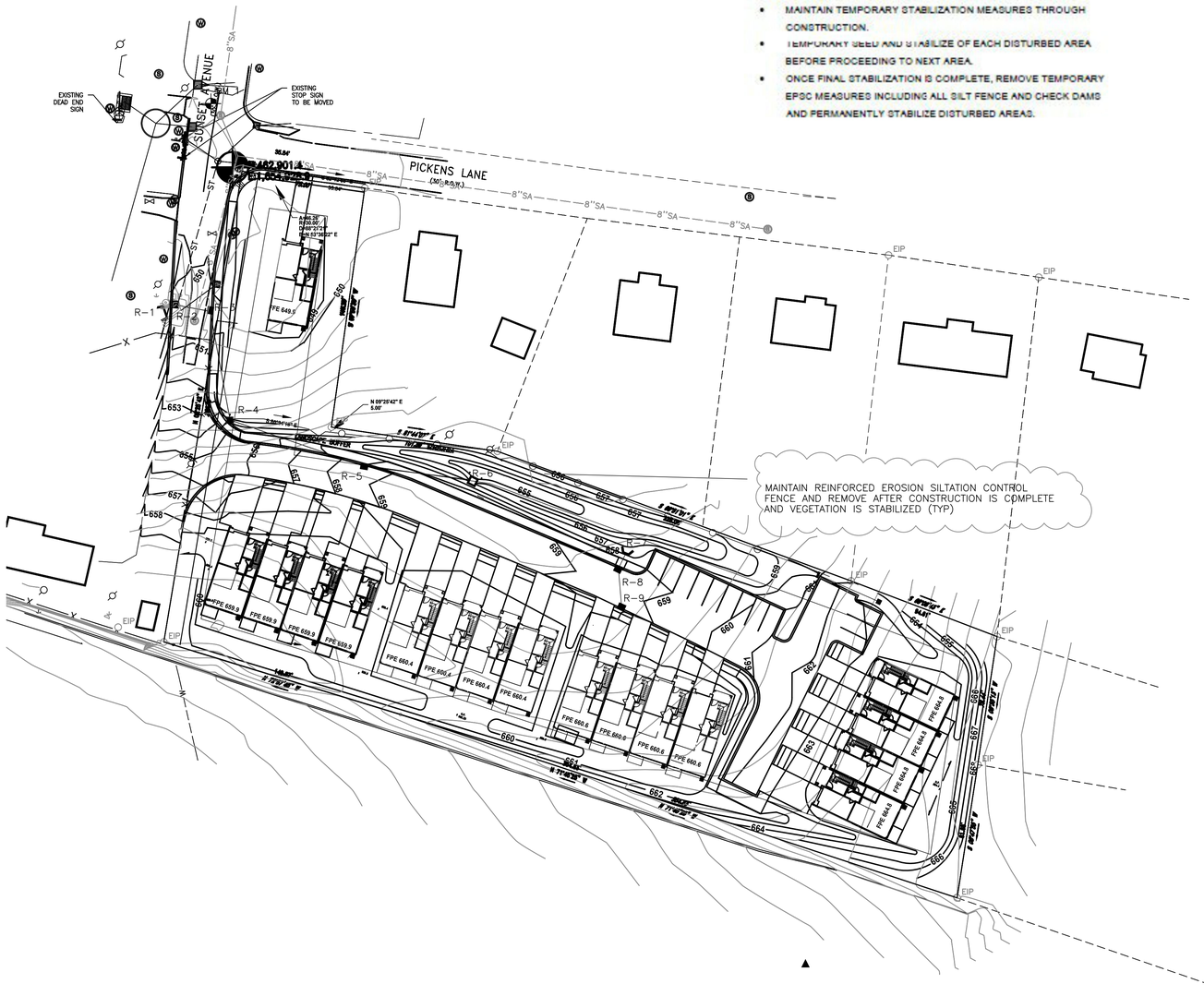
DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	AS NOTED
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

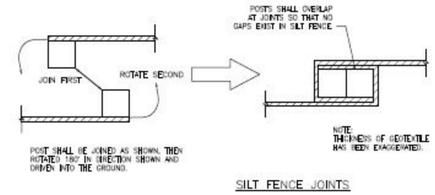
SHEET NO.
2 C3

EPSC PHASE 2:

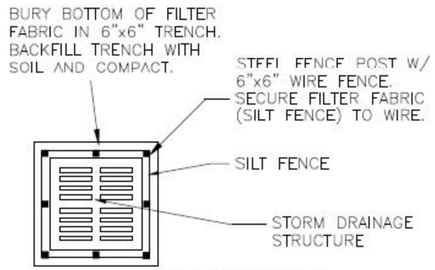
PHASE 2:

- MAINTAIN TEMPORARY STABILIZATION MEASURES THROUGH CONSTRUCTION.
- TEMPORARY SEED AND STABILIZE OF EACH DISTURBED AREA BEFORE PROCEEDING TO NEXT AREA.
- ONCE FINAL STABILIZATION IS COMPLETE, REMOVE TEMPORARY EPSC MEASURES INCLUDING ALL SILT FENCE AND CHECK DAMS AND PERMANENTLY STABILIZE DISTURBED AREAS.

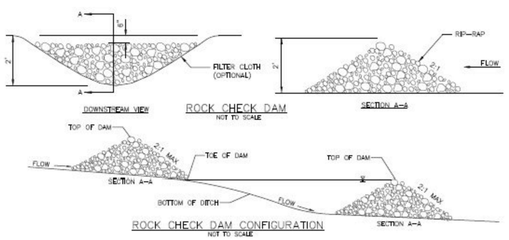




SILT FENCE JOINTS

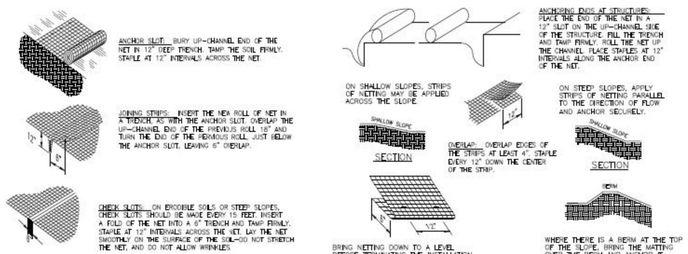


INLET PROTECTION
NOT TO SCALE



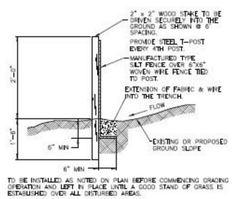
ROCK CHECK DAM
NOT TO SCALE

ROCK CHECK DAM CONFIGURATION
NOT TO SCALE



NOTE:
1. FOLLOW N.A.G. INSTALLATION INSTRUCTIONS FOR STAPLE PATTERN GUIDE.
2. INSTALL USING 3.75 STAPLES PER SQUARE YARD UNLESS OTHERWISE INDICATED ON THE PLANS.
3. ALL SLOPES 3:1 AND/OR GREATER TO RECEIVE EROSION CONTROL MATTING.

TEMPORARY EROSION CONTROL MATTING
NOT TO SCALE



TO BE INSTALLED AS NOTED ON PLAN BEFORE COMMENCING GRADING OPERATION AND LEFT IN PLACE UNTIL A GOOD STAND OF GRASS IS ESTABLISHED OVER ALL DISTURBED AREAS.

REINFORCED EROSION/SILTATION FENCE
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0 30 60 90

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CIVIL ENGINEERS • LAND PLANNERS
CIVIL DESIGN CONSULTANTS, LLC
2108 WESTWOOD AVENUE, NASHVILLE, TN 37212
PHONE: (615) 319-4730 EMAIL: CIVILCONSULTANTS1@BELLSOUTH.NET

JARED R. GRAY
REGISTERED CIVIL ENGINEER
No. 108403
STATE OF TENNESSEE

VESPER COURT

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

EPSC PLAN PHASE II

2	3-28-23 (JRG) Rev. Per City Requirements
3	5-2-23 (JRG) Rev. Per City Requirements
REVISIONS	
DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	AS NOTED
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19-100	001

SHEET NO.
2 C3A

LEGEND

	EXISTING	PROPOSED
WATER MAIN	——W——	——W——
SANITARY SEWER	——8"SA——	——8"SA——
STORM SEWER	——18"ST——	——18"ST——
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	IP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)

AVERAGE USED TO MEET CITY GREEN SPACE REQUIREMENTS

EXISTING DEAD END SIGN

EXISTING STOP SIGN TO BE MOVED

PROPOSED MONUMENT SIGN

ACORN LIGHT POLE (TYP)

ACORN LIGHT POLE (TYP)

ALL PLANTINGS IN THIS AREA SHOULD BE TO THE SIDE OF THE DRAINAGE PIPE

MAINTAIN 0.6 OPACITY ON COMPLETE SOUTHERN BNDRY. PER CITY REQUIREMENTS (TYP)

5–2–23 (JRG) Rev. Per City Requirements

3–28–23 (JRG) Rev. Per City Requirements

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TENNESSEE ONE CALL
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CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING AROUND EXISTING POWER LINES!!!

LANDSCAPE REQUIREMENTS

STREET BUFFER: (Sunset Avenue) (3 CANOPY PER 100 L.F.)
x FRONTAGE = 56.27 LF - 2 Canopy
PROJECT BOUNDARY BUFFER
(North Boundary Line)/ (RM-1/GCS - 0.20.6) (493.02')
295.32 L.F. ADJOINING UNDEVELOPED
(3 CANOPY, 8 ACCENT, 13 SHRUBS)
x 295.32 L.F. = 9 CANOPY, 24 ACCENT, 39 SHRUBS
66.65 L.F. UNDISTURBED @ 0.6 OPACITY
131.05 L.F. ADJOINING DEVELOPED
(1 CANOPY, 2 ACCENT, 3 SHRUBS PER 100 L.F.)
x 131.05 L.F. = 2 CANOPY, 3 ACCENT, 4 SHRUBS
(East Boundary Line): (RM-1/GCS = 0.20.6) (160.12')
(1 CANOPY, 2 ACCENT, 3 SHRUBS PER 100 L.F.)
x 160.12 L.F. = 2 CANOPY, 3 ACCENT, 5 SHRUBS
(South Boundary Line): (RM-1/GCS - 0.20.6) (504.70')
(1 CANOPY, 2 ACCENT, 3 SHRUBS PER 100 L.F.)
x 504.70 L.F. = 5 CANOPY, 10 ACCENT, 15 SHRUBS

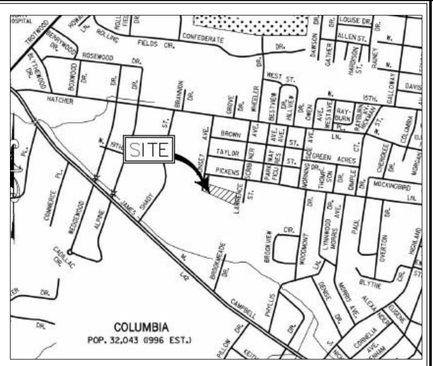
LANDSCAPE LEGEND:

Proposed Plantings
Plant Identification AG-9
Removed Trees
Proposed Canopy Trees
Proposed Understory Trees
Proposed Screening
Proposed Shrubs

MATERIALS SCHEDULE

KEY	QUANTITY	SCIENTIFIC NAME	COMMON NAME	HEIGHT	SPREAD	TRUNK	REMARKS
CANOPY TREES							
CA	4	Carya cordiformis	Bitternut Hickory	10'-12'	4'-5'	3"	4' CLEAR TRUNK
AR	3	Acer Rubrum	Red Maple	10'-12'	4'-5'	3"	4' CLEAR TRUNK
QP	5	Quercus Phellos	Willow Oak	10'-12'	4'-5'	3"	4' CLEAR TRUNK
CL	4	Cupressocyparis leylandii	Leyland Cypress	8'-10'	4'-5'	3"	4' CLEAR TRUNK
UNDERSTORY TREES							
CF	6	Cornus Florida	White Flowering Dogwood	8'-10'	3'-4'	3"	4' CLEAR TRUNK
BP	5	Betula nigra 'Heritage'	Heritage River Birch	8'-10'	3'-4'	3"	MULTI-TRUNK
LI	5	Lagerstroemia indica	Crapemyrtle	8'-10'	3'-4'	3"	MULTI-TRUNK
PY	7	Prunus x yedoensis	Yoshino Cherry	8'-10'	3'-4'	3"	4' CLEAR TRUNK
IF	6	Ilex Attenuata 'Fosteri'	Foster Holly	8'-10'	3'-4'	3"	4' CLEAR TRUNK
TG	3	Thuja 'Green Giant'	Green Giant Arborvitae	6'-10'	3'-4'	3"	F.T.B.
SHRUBS							
AG	10	Abelia hybrid 'Edward Goucher'	Pink Abelia	24"-30"	18"-24"	F.T.B.	
AK	17	Abelia x grandiflora 'Kaleidoscope'	Abelia Kaleidoscope	24"-30"	18"-24"	F.T.B.	
FO	36	Forsythia Intermedia	Forsythia	24"-30"	18"-24"	F.T.B.	
JC	11	Juniperus Chinensis 'Sea Green'	Sea Green Juniper	24"-30"	18"-24"	F.T.B.	
TURF							
SEED		Turf Mixture	Rebel III Turftype Fescue. Temporary seed all disturbed areas @ 91,000sf.				
SOD		Fine Bladed Fescue Sod	Rebel III Install 4' strip behind ALL curb grass areas & between building & curb.				
MISCELLANEOUS							
		Seasonal Color	Flower Beds for Seasonal Plantings.				
		Shredded Hardwood Bark Mulch	Minimum 3" depth throughout plant beds.				

NOTES
F.T.B. = Full To Base
EXISTING AREAS OUTSIDE OF THE PROPOSED LIMIT OF CONSTRUCTION TO REMAIN UNDISTURBED. SEE LIMIT OF CONSTRUCTION AS OUTLINED ON THIS PLAN.

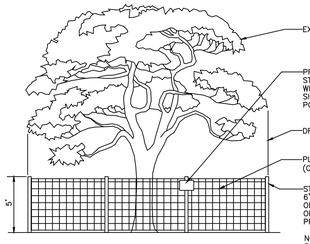


LANDSCAPE NOTES:

1. The landscape contractor shall verify the exact location of all utilities and take necessary precautions to prevent damage to these utilities.
2. The landscape contractor shall coordinate all construction with the appropriate utility company and shall be responsible for and damage to utilities.
3. Plant materials and stumps indicated for removal shall be removed and disposed off-site by the contractor. Backfill holes with topsoil free of roots and rocks.
4. All planting and mulch beds shall be hand weeded or sprayed with round-up (contractor's option) prior to the installation of mulch.
5. The landscape contractor shall be responsible for the fine grading of all planting areas.
6. The landscape contractor shall verify all material quantities. In the event of a discrepancy, the quantities shown on the plan will take precedence.
7. The landscape contractor shall be responsible for completely maintaining the work (including but not limited to: watering, mulching, spraying, fertilizing, etc.) of all planting areas and lawns until total acceptance of the work by the owner.
8. The standards set forth in "American Standard for Nursery Stock" represent general guideline specifications only and will constitute minimum quality requirements for plant material. All plants must meet minimum size noted at the materials schedule. Trees shall be No. 1 grade specimen and shrubs shall be heavy well shaped specimens as well.
9. The landscape contractor shall completely guarantee all work for a period of one year beginning at the date of acceptance. The landscape contractor shall make all replacements promptly (as per direction of owner).
10. The landscape contractor shall provide the owner with written instructions on the proper care of all specified plant materials prior to final payment.
11. Existing trees to remain shall be protected from construction damage. Selectively prune dead wood.
12. All disturbed areas shall be planted with seed and mulched or turf as indicated on the materials schedule.
13. All deciduous trees, existing and proposed shall be pruned to provide 4' minimum clear trunk unless otherwise noted.
14. All Landscape materials to be selected by owner and must be in accordance to the Required Plant Species requirements of the Zoning Ordinance. One tree for each 50 lineal feet of landscaped area required along parking area. Remaining areas to be surfaced with shrubs, ground cover, grass, or other landscape material (excluding rock). (Zoning Ordinance 10.5.5.C&D and 11.1.3.F)
15. Canopy trees shall be a minimum of ten feet in height with a four to five-foot spread and a 2-inch caliper trunk at time of planting. Accent trees shall be a minimum of eight feet in height with a three to four-foot spread and a 1 ½ -inch caliper trunk at time of planting.
16. Ten shrubs shall be planted for every 100 linear feet of building perimeter for nonresidential uses. All required shrubs shall be 20-inches in height in a minimum 3-gallon container. (Zoning Ordinance 11.1.3.F&I)
17. Deciduous trees shall have one dominant trunk with the tip of the leader on the main trunk left intact and the terminal bud on the central leader is at the highest point on the tree.
18. Trees with forked trunks are acceptable if all the following conditions are met:
A. The fork occurs in the upper ½ of the tree.
B. One fork is less than ½ the diameter of the dominant fork.
C. The top ½ of the smaller fork is removed at the time of planting.
19. No branch shall be greater than ⅓ the diameter of the trunk directly above the branch.
20. Several branches shall be larger in diameter and obviously more dominant.
21. Branching habit is to be more horizontal than vertical, and no branches are to be oriented nearly vertical to the trunk.
22. Branches are to be evenly distributed around the trunk with no more than one major branch located directly above another and the crown is to be full of foliage evenly distributed around the tree.
23. Stake all trees as shown in Planting on Slopes details.

ATTENTION OWNER/ INSTALLER
This landscape plan has been designed to meet the minimum requirements of the Columbia, Tennessee zoning ordinance, the approval of the planning commission, and department policy. Relocating, substituting, resizing, reducing or deleting material may cause the site to no longer conform to the requirements. Deviation from the approved landscape plan shall not be made without first obtaining approval from either the planning commission or the planning department.

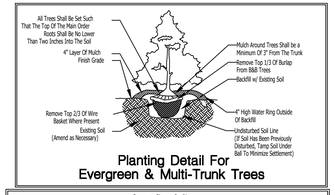
3–28–23 (JRG) Rev. Per City Requirements



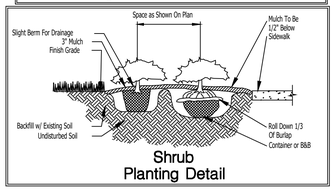
NOTE:
POSTS TO BE PLACED AT DRIP LINE– SEE PLANS FOR FENCE LOCATION.

Tree Protection Fencing Detail

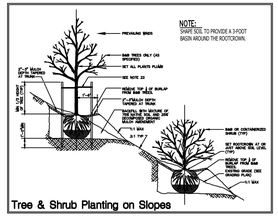
NOTE:
ALL TREE PROTECTION FENCING SHALL BE IN PLACE PRIOR TO BEGINNING DEMOLITION AND SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL ALL CONSTRUCTION ACTIVITY IS COMPLETED. ANY REQUIRED EROSION CONTROL MEASURES SHALL BE PLACED OUTSIDE OF ANY TREE PROTECTION FENCING.



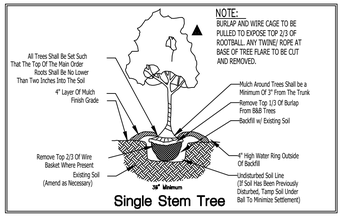
Planting Detail For Evergreen & Multi-Trunk Trees



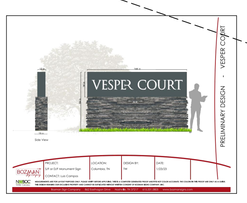
Shrub Planting Detail



Tree & Shrub Planting on Slopes



Single Stem Tree



Monument Sign Example - NTS

CIVIL DESIGN CONSULTANTS, LLC
CIVIL ENGINEERS | LAND PLANNERS
OFFICE: (615) 319-2733 | FAX: (615) 319-2734
EMAIL: CIVILDESIGNCONSULTANTS@COMCAST.NET
PHONE: (615) 319-2733 EMAIL: CIVILDESIGNCONSULTANTS@COMCAST.NET

JARED R. GRAY
REGISTERED
No. 108403
COMMISSIONED
STATE OF TENNESSEE

VESPER COURT

LANDSCAPE PLAN

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

LANDSCAPE PLAN

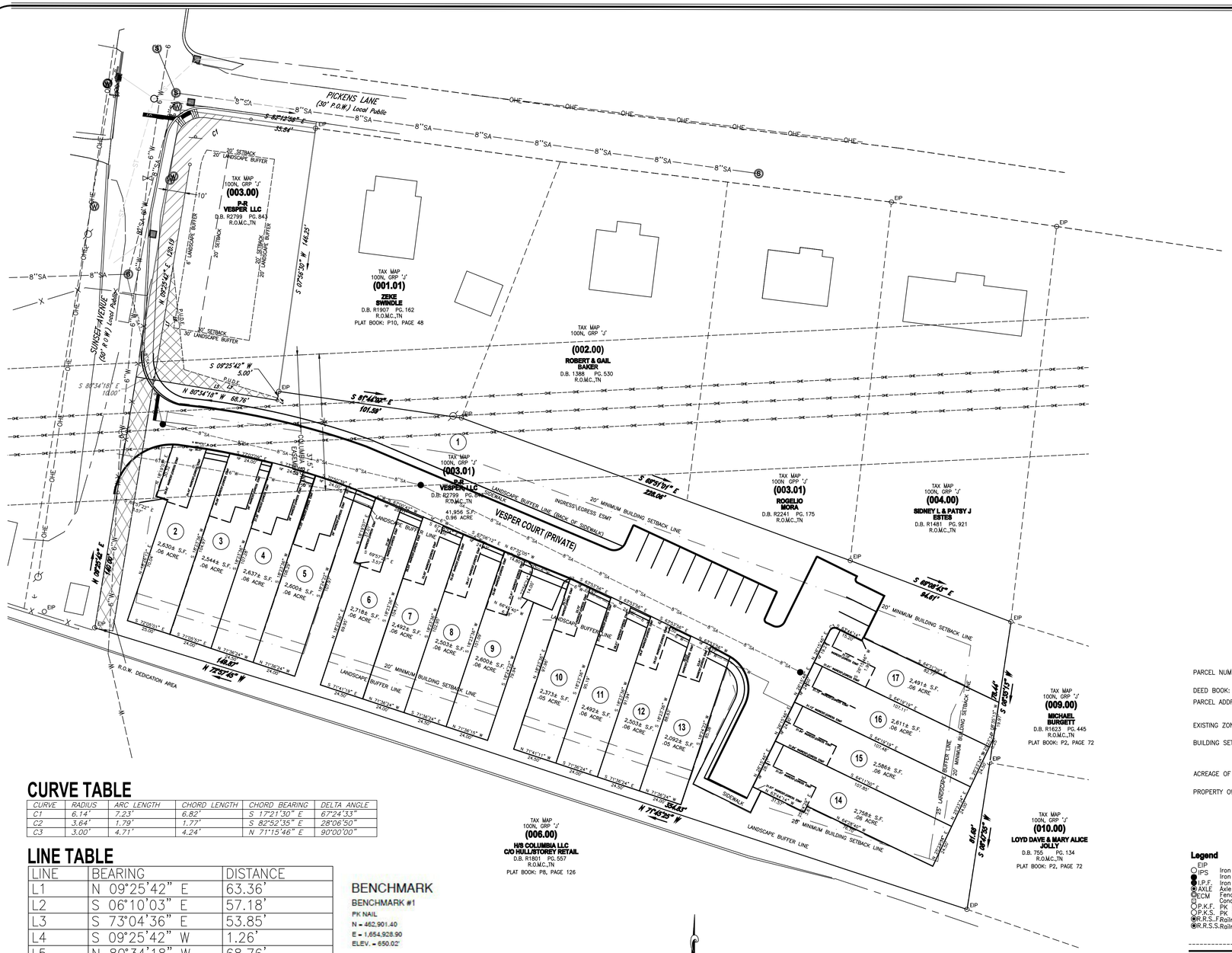
11–28–22 (JRG) Rev. Per City Requirements
3–28–23 (JRG) Rev. Per City Requirements
5–2–23 (JRG) Rev. Per City Requirements

REVISIONS

DESIGNED BY:	J. GRAY
DRAWN BY:	J. GRAY
APPROVED BY:	J. GRAY
SCALE:	AS NOTED
DATE:	AUGUST 16, 2021
JOB NO.	WK. ORDER
19–100	001

SHEET NO.
L1

0 30 60 90



CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	6.14'	7.23'	6.82'	S 17°21'30" E	67°24'33"
C2	3.64'	1.79'	1.77'	S 82°52'35" E	28°06'50"
C3	3.00'	4.71'	4.24'	N 71°15'46" E	90°00'00"

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 09°25'42" E	63.36'
L2	S 06°10'03" E	57.18'
L3	S 73°04'36" E	53.85'
L4	S 09°25'42" W	1.26'
L5	N 80°34'18" W	68.76'

BENCHMARK

BENCHMARK #1
PK NAIL
N = 462,901.40
E = 1,654,928.90
ELEV. = 650.02'

OPEN SPACE NOTE

ALL OPEN SPACE AREA IS TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE, PRIVATE ROADWAYS, AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT.

PURPOSE NOTE:
The purpose of this plat is to create 16 residential lots and 1 common lot.

GENERAL NOTE:
The recording of this plat vacates, voids, and supercedes lot 2 on previous plat of record, P10, Page 48.

GRAPHIC SCALE
30 0 15 30 60 120
1 inch = 30 ft.

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

Date Number

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Vesper Court, Phase 1,Rev 1 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date Columbia Power & Water Systems
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date Director of Wastewater Department
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date Maury County E-911
Columbia, Tennessee

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2799 , Page 843, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date PRINTED NAME/TITLE

SIGNED P-R VESPER, LLC

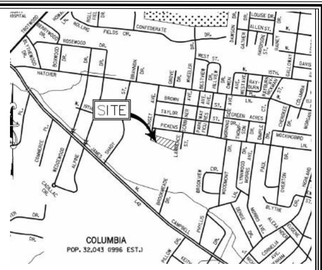
CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register.

Date Secretary, Planning Commission
Columbia, Tennessee

redacted surveyor sealing (digital copy)

Register of Deed Recording Stamp



Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon is ±1.89 Acres.
7. This property currently identified as Tax Map No. 100N, Group 'J', Parcel No. 003.01, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: P10, Page 48
9. Deed reference: Book R2799, Page 843
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0285E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. There exists a P.U.D.E. that is 10' on all property lines parallel to and abutting roads and 5' on all interior lot lines

PARCEL NUMBER: TAX MAP 100N, GROUP 'J', PCL 003.01

DEED BOOK: R2799, PAGE 843

PARCEL ADDRESS:
SUNSET AVENUE
COLUMBIA, TENNESSEE 38401

EXISTING ZONING:
RM-1

BUILDING SETBACKS:
FRONT – 20'(MINOR)
SIDE – 10'
REAR – 20'

ACREAGE OF PARCEL:
±1.89 ACRES (82,328± S.F.) TOTAL

PROPERTY OWNER:
P-R VESPER, LLC
1711 3rd Avenue North, Unit A
Nashville, TN 37208-2209

Legend

EIP Iron Rod Found
IPS Iron Rod Set
I.P.F. Iron Pipe Found
AXLE Axle Found
FENCE Fence Post
Concrete Monument Existing
P.K.F. PK Nail Found
P.K.S. PK Nail Set
R.R.S..F Railroad Spike Found
R.R.S.S Railroad Spike Set
Bench Mark
Stake Found
Fire Hydrant
Water Meter
Water Valve
Water Reducer
Clean Out
Sanitary Sewer Manhole
Storm Sewer Manhole
Catch Basin
Curb Inlet
Storm Pipe
Cable Manhole
Electric Manhole
Telephone Manhole
Water Manhole
Electric Meter
Cable Riser
Electric Riser
Telephone Riser
Telephone Booth
Gas Meter
Gas Valve
Light Pole
Power Pole
Telephone Pole
Guy Pole
Power Pole
Flag Pole
Guy Wire
Mailbox
Parking Block
Satellite Dish
Handicap Parking
Water Spigot
Bollard
Evergreen Tree
Deciduous Tree
Bush
Sign

Adjoining Property Line
Subject Property Line
Easement Line
Building Setback Line
Centerline
Edge of Pavement
Edge of Gravel
Fence Line
Landscape
Woods / Tree line
Edge of Water
Ditch / Creek Centerline
Minor Contour Line
Index Contour Line
G Gas Line
SA Sanitary Sewer Line
W Water Line
ST Storm Sewer Line
OH Overhead Utility Line
OHC Overhead Cable Line
OHE Overhead Electric Line
OHT Overhead Telephone Line
UG Underground Utility Line
UGC Underground Cable Line
UGE Underground Electric Line
UGT Underground Telephone Line
FM Forced Main Line

CIVIL DESIGN CONSULTANTS, LLC
CIVIL • PLANNING • SURVEYING
CIVIL-DESIGN-CONSULTANTS, LLC
1731 CLAY DAVIS RD., MCMINNVILLE, TN. 37201
PHONE: (615) 212-4744 EMAIL: MCDONALD.TED@GMAIL.NET

VESPER COURT

PRELIMINARY PLAT RESUBDIVISON OF LOT 2

CITY OF COLUMBIA, MAURY COUNTY TENNESSEE

REVISIONS

DESIGNED BY:

DRAWN BY:

APPROVED BY:

SCALE: AS NOTED

DATE: DECEMBER 19, 2022

JOB NO. 19–100 WK. ORDER 001

SHEET NO. 1 OF 1

LETTER OF CREDIT RENEWAL NOTIFICATION

Applicant	Beneficiary
P-R Vesper, LLC 6700 Tower Circle, Suite 330 Franklin, TN 37067	City of Columbia 700 North Garden Street Columbia, TN 38401

1/18/2023

Pinnacle Bank's Letter of Credit # 47998086688 in the amount of $18,500.00, issued on your behalf, will automatically renew on 4/18/2023 unless the City of Columbia is notified that the Letter of Credit is being canceled.

According to the terms of the Letter of Credit, the beneficiary must be notified at least 60 days prior to the current expiry date.

Please confirm to us whether you wish to cancel the above referenced Letter of Credit. No action will constitute an automatic renewal. **In case of cancellation, please return a signed copy of this letter in the enclosed envelope before 1/28/2023 in order to allow time to notify the beneficiary.**

Sincerely,

Kevin Roddey
Financial Advisor
Pinnacle Financial Partners

☒ I/We understand that Letter of Credit 47998086688 will automatically renew for an additional year on 4/18/2023 (Current Expiry Date).

☐ I/We wish to notify the beneficiary that we are canceling Letter of Credit # 47998086688.

APPLICANT:

X_____	1/18/2023	X_____	_____
Applicant Signature	Date	Applicant Signature	Date

Pinnacle Bank
Attn. Credit Administration
205 Miller Springs Court
Franklin, TN 37064

Letter of Credit – Fee Invoice

Date Due: 1/18/2023
Amount Due: $ 500.00
Letter of Credit # 47998086688

P-R Vesper, LLC
6700 Tower Circle, Suite 330
Franklin, TN 37067

Pinnacle Bank
Attn. Credit Administration
205 Miller Springs Court
Franklin, TN 37064

CPWS

May 12, 2022

Mr. Curt Harakas
Harakas Construction Inc.
1138 New Hwy 7
Columbia, TN 38401
Sent via email: harakasconst@yahoo.com

RE: Water Availability Letter
Vesper Court Townhomes – 16 Units
1833 Sunset Ave
Tax Map 100, Parcel 1.00, 3.00
Columbia, Maury, TN

Dear Mr. Harakas:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 16 townhome units. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 6-inch water main located on Sunset Avenue.
- Minimum size 6-inch water mains will be required throughout the development.
- Applicant will provide a 10-foot easement centered on the water mains and shown on the plat for the development. CPWS will have unrestricted access to all of its lines, meters, valves, vaults, and other water system facilities within the easements without seeking any further permission. CPWS has the right to disturb or remove any items within the easements that interfere with such access. The

property owner will be responsible for repairing or replacing any such items at the property owner's expense.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached fire hydrant curve for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide construction drawings for all public water infrastructure for the proposed development in both CAD and PDF format for CPWS review.
- When applicant has resolved all comments provided by CPWS for the construction drawings, CPWS will provide an approval letter and flow calculations to support TDEC approval of the construction drawings.
- Applicant then submits drawings to TDEC for approval. Upon approval by TDEC, applicant may schedule a pre-construction meeting with CPWS. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact Mr. Jonathan Hardin or myself at 615-934-7499 or jason.english@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,

Jason E English

Jason English, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Shane Matthews, CPWS
File 22-031

CPWS

Ms. Jennifer Dodd
Director, Division of Water Resources
ATTN: Engineering Services Unit
William R. Snodgrass Tennessee Tower
312 Rosa Parks Avenue, 11th Floor
Nashville, TN 37243

June 1, 2022

RE: Vesper Court Townhomes
Columbia Power and Water Systems, Maury County, Tennessee

Dear Ms. Dodd,

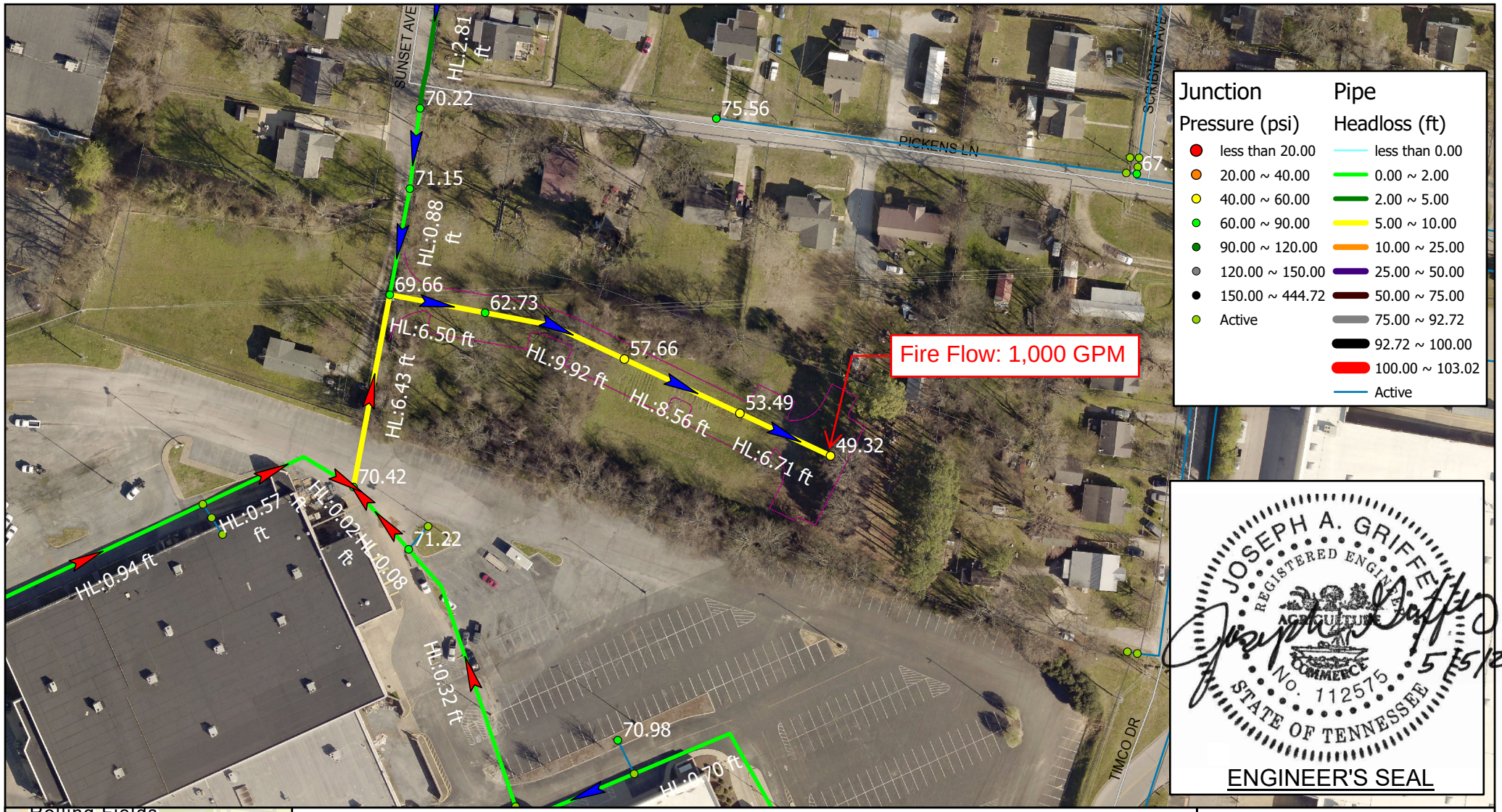
We have approved the design of the above referenced project consisting of approximately 420 LF of 6-inch water main serving 16 units in 4 townhome buildings, and all related appurtenances to provide water service, and agree to own, operate and maintain the proposed project once in operation. We have conducted an analysis and determined the system has adequate flow and pressure for the design flow rate and that the project will not negatively affect existing customers or the water distribution system in general.

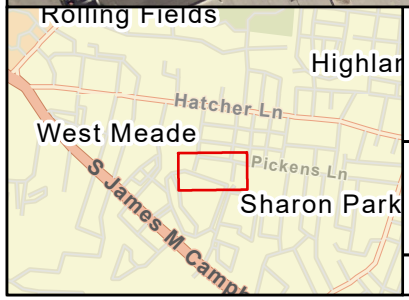
Hydraulic modeling calculations were performed by our consultant, Inflo Design Group, and are included with this submittal. If you have any questions or require any additional information, please contact Jason English at 615-934-7499 or jason.english@inflodesign.com.

Sincerely,

Jonathan Hardin
Vice President of Water Operations

cc: File 22-031





Hydraulic Calculations - Vesper Ct. Townhomes
Pressure and Head Loss @ Fire Flow

Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

2022

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

JOSEPH A. GRIFFEE
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 112575
STATE OF TENNESSEE
5/5/22

ENGINEER'S SEAL

N

0 0.01 0.03 Mi

0 0.03 0.06 Km

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

13th day of June, 2023,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

P-R Vesper, LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the “CMPC”) on the

4th day of January, 2022,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS”); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the “IMPROVEMENTS”); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

N/A Construction has commenced per prior approvals

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register’s Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Vesper Court PROJECT	
Completed by the Developer	*Completed by the City*
P-R Vesper, LLC DEVELOPER NAME	
Blake Seeberger AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
06/13/2023 DATE	DATE
6700 Tower Circle, Suite 330 STREET	
Franklin, TN 37067 CITY, STATE, ZIP	
615-585-7850 PHONE	
blakeseeberger@pentagon-holdings.com EMAIL	
Attest	*Attest*
Luis Campos ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
6/13/2023 DATE	DATE

APPENDIX B: Subdivision Development Agreement

SUBDIVISION DEVELOPMENT AGREEMENT

THIS DEVELOPMENT AGREEMENT is made and entered into on this 10 day of JUNE, 2022, between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and P-R VESPER, LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter called the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "Planning Commission") on the 4 day of JANUARY 2023 pursuant to Tennessee Code Annotated Title 13, Chapters 3 and 4, and the Subdivision Regulations of Columbia, Tennessee (the Subdivision Regulations); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems and public infrastructure to be constructed within and to serve the PROJECT. Public infrastructure shall include, but not be limited to, roads, bridges, sidewalks, storm water conveyance and detention systems, street signs, markings, signals and the like; and,

WHEREAS, in order for said improvements to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct in accordance with the Subdivision Regulations and other rules, regulations and ordinances of the CITY public improvements in said project and extend utilities to the project at his own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities and other improvements subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, in consideration of the premises and mutual covenants of the parties herein contained, it is agreed and understood as follows:

I. GENERAL CONDITIONS

A. Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities and other facilities in accordance with this agreement.

B. Surety

At the time of execution of this agreement, the DEVELOPER agrees that prior to recording a final plat, said DEVELOPER shall give the CITY an Irrevocable Letter-of-Credit, on a bank licensed to do business in Tennessee and insured by the FDIC, irrevocable without conditions, and callable upon a bank doing business in Columbia, Tennessee, in an amount determined by the Engineering Department for utilities and improvements, including roads, sidewalks, drainage, and other improvements specified by the plans and plats of the development approved by the CITY and the Planning Commission. This Letter-of-Credit shall secure performance of all obligations of the DEVELOPER under this agreement pursuant to Planning Commission approved plans and filings. The Letter-of-Credit shall meet all requirements established in Article 3 (ASSURANCE FOR COMPLETION AND MAINTENANCE OF IMPROVEMENTS) of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement, including payment of all amounts payable by the DEVELOPER or DEVELOPER'S obligations hereunder, and its obligations under the warranty and indemnification provisions hereof. The Letter-of-Credit may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the Letter-of-Credit. The Letter-of-Credit will not be released, except and until there has been full compliance with this agreement and upon certification of a licensed engineer that the development has been completed in full compliance with the approved plat and construction plans.

C. Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the facilities are constructed in accordance with the Subdivision Regulations and approved construction plans.

D. Right of Entry

The CITY shall have the right, in case a Letter-of Credit is called for noncompliance, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

E. Acceptance of Facilities

Upon notice by the CITY of acceptance of all or part of the facilities, then those facilities specified in the acceptance shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The parties intend that this agreement shall operate as a conveyance of the facilities when the facilities are accepted. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

F. Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the facilities installed. Should the CITY choose to accept all or a portion of these facilities, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required. The CITY'S election to accept such facilities shall not be construed as an assumption of any obligation related to these facilities such as the obligation to maintain the facilities or to pay for any part of the cost of installing the facilities.

G. Fees Not Refundable

If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees or other amounts paid to the CITY shall be refundable to the DEVELOPER.

H. Legal Expense in Case of Default

In the event the DEVELOPER or its sureties breach this agreement, they shall bear all costs of the CITY'S reasonable expenses, including attorney's fees and other expenses incurred in enforcing or completing this agreement, whether incurred by negotiation, litigation or otherwise.

I. City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations and the Subdivision Regulations adopted by the Planning Commission are made a part of this agreement.
In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans, and specifications approved by the City and made a part, hereof.

J. Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

K. Revocation and Interpretation

This agreement shall bind DEVELOPER when executed by DEVELOPER and may not be revoked by DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

L. No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments or understandings.

M. Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

N. Transferability

The DEVELOPER or Owner agrees that he will not transfer the property on which this proposed subdivision is to be located without first providing the CITY with notice of when the transfer is to occur and who the proposed transferee is, along with appropriate address and telephone numbers. If it is the transferee's intention to develop this subdivision in accordance with the agreement, the DEVELOPER agrees to provide the CITY an Assumption Agreement whereby the transferee agrees to perform the improvements required under this agreement and to provide the security needed to assure such performance. Said agreement will be subject to the approval of the CITY Attorney. The DEVELOPER and Owner understand that if he transfers said property without providing the notice of transfer and Assumption Agreement as required herein, he will be in breach of this agreement and in violation of the subdivision regulations. The DEVELOPER further agrees that he shall remain liable under the terms of this agreement though a subsequent sale of all or part of said property occurs, unless an Assumption Agreement is entered into between the new owners and the CITY and a new agreement and Performance Surety is issued naming the new owners as principal.

O. Covenants, Conditions and Restrictions to Be Filed

In the event a home owners' association is required or will be established, the DEVELOPER will submit a Declaration of Covenants, Conditions and Restrictions to be filed with and recorded with the final plat. The Declaration of Covenants, Conditions and Restrictions shall contain all provisions required by the Zoning Ordinances, of the CITY and shall include provisions for a home owners' association to maintain all detention or retention ponds, common drainage ditches and any and all common areas. The Declaration of Covenants, Conditions and Restrictions shall contain provisions for the CITY, to have the right, but not the obligation, to enforce any restrictions dealing with health, safety, and welfare which could be, otherwise, enforced by any land owner of record in the development. The Declaration of Covenants, Conditions and Restrictions shall also contain provisions for assessments of property for maintenance of common areas and provisions for enforcement of the assessments by liens, removal of voting rights, and enforcement at law and equity. The Declaration of Covenants, Conditions and Restrictions shall make adequate and sufficient provisions for the maintenance of any commonly owned detention ponds or drainage areas to include an amortizing of maintenance costs to be provided to the home owners' association by the DEVELOPER at the time of the establishment of the home owners' association. The Declaration of Covenants, Conditions and Restrictions shall run with the land and must be approved by the Planning Department, prior to recordation, as a part of the final plat.

P. Time Period for Construction

In consideration of the promise by the CITY to accept for maintenance the streets, utilities and other infrastructure covered by this agreement, the DEVELOPER agrees to be bound to complete within two (2) years of commencement of construction all improvements shown on the plat and plans and all things required by this agreement. The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, he shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for his failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the surety (Letter-of-Credit) executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is inadequate to secure the cost of said improvements at the time an extension is sought, he will provide the additional security to bring the surety amount in line with current cost projections as made by the CITY. The CITY agrees that it will not unreasonably withhold approval of extensions where the DEVELOPER has complied with the requirements of notice to the CITY and provided the required additional security, if any is needed. The DEVELOPER understands that his failure to follow this extension procedure constitutes a breach of this agreement and places him in violation of the Subdivision Regulations. The DEVELOPER further understands that should he fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved the CITY shall reserve the right to withhold and withdraw all building permits and sewer service within the subdivision until all items of this Agreement have been fulfilled by the DEVELOPER.

II. DESIGN AND APPROVAL

A. Contents of Plans

The DEVELOPER shall cause to be prepared and submitted to the CITY, plans (the "Plans") describing in reasonable detail all utility systems, all storm water management systems, and all street system improvements necessary to provide adequate services to the Project (hereinafter called the "IMPROVEMENTS"). The plans shall include all information required by Section 2-8 (Construction Plans) of the Subdivision Regulations and any other details as requested by the CITY. It is recognized that the IMPROVEMENTS may be constructed in phases as the Project is developed. The DEVELOPER shall submit the Plans as provided herein for each phase and execute a separate DEVELOPMENT AGREEMENT for each phase.

B. Preparation of Plans

The Plans shall be prepared by an engineer licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date and license number of the engineer preparing the Plans

C. Design Criteria

The design of water and sewer improvements shall follow the State of Tennessee and Columbia Water and Sewerage Systems design criteria. Storm water management and road improvements shall be designed according to the Subdivision Regulations, all other applicable municipal specifications and ordinances and sound engineering judgment. In all cases, the specifications and design details for the Improvements shall be those of the CITY and those as approved by the State of Tennessee Department of Environment and

Conservation. CITY requirements will control if more stringent that State standards. In the event of a disagreement as to compliance with or interpretation of the Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. Five (5) sets of the Plans shall be submitted by the DEVELOPER to the CITY. The CITY Engineering Department agrees to review the Drawings and Plans so submitted in a timely manner. DEVELOPER agrees to make all revisions to the Plans as required by the CITY. Following review and approval of the Plans, or following review and approval of revised Plans if revisions have been required, a representative of the CITY Engineering Department will sign the Plans. The DEVELOPER must then submit the Plans, as approved by the CITY Engineer, to the Tennessee Department of Environment and Conservation for approval.

III. COMMENCEMENT OF CONSTRUCTION

Construction of Improvements may not begin until the following events have occurred:

A. The Plans are approved by the CITY, and all necessary facets of platting and construction plan approval, through the Planning Commission, have been completed.

B. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing.

C. If required, the review fee described in Paragraph XIII (FEES), hereof, has been paid in full.

D. The CITY shall have received an appropriately executed Development Agreement.

E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

IV. CONSTRUCTION

A. Utilities

DEVELOPER agrees to pay the cost of a State approved sewage system complete with necessary stations and force mains and with manholes, outside the boundary of the subdivision as approved by the CITY. The DEVELOPER further agrees to pay the cost of sewer mains, manhole, and sewer service laterals from the sewer main to the front property line of each lot within the subdivision as approved by the CITY upon the subdivision plans and specifications. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory testing costs incidental to the sewer service in or to the subdivision. The DEVELOPER shall be responsible for the cost of any and all relocation, adjustment, modification, installation and removal of utilities brought about as a result of the development of the project, including street cut repair, both on and off site. As a part of constructing the Improvements, the DEVELOPER shall install, in accordance with the Plans and CITY specifications, all water service taps, fire lines, sewer service, and all facilities, equipment and accessories relating, thereto, necessary to provide utility service to the Project.

B. Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work, including ditch stabilization, bank protection, and fencing adjacent to open ditches made necessary by the development of this subdivision.

1. The DEVELOPER shall provide and deliver the formal written opinion of a licensed and bonded professional engineer certifying that he has reviewed the entire water shed wherein the subdivision is located and that upon full development at the greatest allowable use density under existing zoning of all land within that watershed, the proposed subdivision will not increase, alter or affect the flow of surface waters, nor contribute to same, so as to damage, flood or adversely affect any property. Further, the DEVELOPER agrees to hold harmless and defend the CITY from any claim, cause of action or liability, alleged and/or proven, to have arisen directly or indirectly from alteration to the surface water by reason of the DEVELOPER'S design, construction, installation or the development itself, in whole or part.
2. To properly manage storm water runoff during the construction process the DEVELOPER shall provide necessary erosion control in accordance with the storm water management plan for the development as approved by the CITY in conformance with the published design standards and specifications of the CITY. All freshly excavated and embankment areas not covered with satisfactory vegetation shall be fertilized, mulched and seeded and/or sodded as required by the CITY to prevent erosion. In the event the CITY determines that necessary erosion control is not being provided by the DEVELOPER, the proper authority shall officially notify the DEVELOPER of the problem. If the DEVELOPER has not begun to provide satisfactory erosion control within five (5) days after the notice, then the proper authority shall issue a stop work order to be effective until satisfactory erosion control measures have been provided.
3. Any and all unenclosed water courses lying partially or wholly within the bounds of this subdivision shall be constructed to adequate cross section to provide design flow without threat of erosion or flooding of any property within this subdivision, or of any adjoining property.
4. All storm water management structures necessitated by the infrastructure plans for this development that affect any watercourse lying partially or wholly within this subdivision are to be provided by the DEVELOPER.
5. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

C. Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Plans to comply with the construction standards of the CITY and to the satisfaction and approval of the CITY Engineer by grading, draining, subgrade preparation, base preparation, curb and gutter, signage, striping, signalization sidewalk installation and paving with the required amount of material the full required width. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing.

1. It is agreed and understood that all grading within the street right-of-way and public easements shall be completed before the utilities are installed.

2. The DEVELOPER further agrees to furnish and install asphalt base and a final asphalt surface course (wearing surface) in accordance with the Subdivision Regulations. The final surface shall be placed at least one (1) year (twelve (12) consecutive months) after final plat approval, but not more than two (2) years (twenty-four (24) consecutive months) unless a time extension is requested, and approved by the CITY. The DEVELOPER may request to install final surface within the first twelve months of acceptance if building activity is seventy-five (75) percent complete or otherwise specifically approved by the CITY.

3. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas recommended by the CITY Engineer, prior to application of final surface. It is further agreed and understood that if it is not necessary to change the existing grade or disturb the pavement of an existing street or road, the DEVELOPER shall only be required to construct drainage, grade, gravel and pave to match the existing pavement and construct sidewalks and curb and gutter as required. If the existing grade is changed, the DEVELOPER shall be required to grade, gravel and pave the full width of said street.

D. Site Grading

The DEVELOPER, hereby, agrees to construct all site grading as shown on the Development plans to comply with the approved drawings, including the approved Erosion Control Plan for the development and to comply with the Subdivision Regulations, Stormwater Management Regulations, and other rules, regulations and ordinances of the CITY.

V. OFF-SITE IMPROVEMENTS (UTILITIES)

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the Project, not including any additions, improvements and upgrades. Unless specifically noted in the Plans and made a part of this agreement, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site Improvements if additional customers should later use the off-site facilities financed by the DEVELOPER.

VI. INSPECTION AND COMPLIANCE

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to insure that all work is performed and completed in accordance with the Plans, the City's specifications and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

VII. TESTING

The DEVELOPER agrees to pay the cost of all engineering, inspection and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

VIII. SCRAP REMOVAL

The DEVELOPER agrees that he will comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

IX. ACCEPTANCE (ROADS AND UTILITIES)

At such time as the improvements have been constructed and installed, in accordance with the Plans and specifications, required testing has been accomplished and the test results found satisfactory, and all clean-up and cover-up has been done to the satisfaction of an authorized representative of the CITY, a letter of tentative acceptance of construction will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees he shall have no claim, direct or implied, in the title or ownership of the improvements specified in this agreement when the approved phases are completed and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in the subdivision for one (1) year after the date of preliminary acceptance of the subdivision construction. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

X. WARRANTY

The DEVELOPER warrants that all installed facilities are free from defects in design, materials or workmanship for a period of one (1) year from the date of written preliminary acceptance by the CITY. Further, the DEVELOPER shall immediately repair, at its own costs, all defects of any type whatsoever which occur within one (1) year from the date the facilities are accepted in writing by the CITY. The CITY shall have the right to make repairs or have others make the repairs at the expense of the DEVELOPER, if the CITY deems it necessary. The DEVELOPER shall pay for all work, labor, materials and all other expenses of the facilities in a timely manner and this shall include any amounts that exceed the letter- of-credit. If the DEVELOPER does not pay in a timely manner, the DEVELOPER hereby authorizes the CITY to call payable its Letter-of-Credit, without any formal or further action, and to make the payments that are due for the facilities whether the debts are secured by a valid lien.

The DEVELOPER further agrees to execute a maintenance surety (Letter-of-Credit) with good security in the amount of ten (10) percent of the construction cost of the facilities being offered for dedication. Twelve (12) months after preliminary acceptance of the facilities included in the offer of dedication, a follow up inspection will be made by the CITY to determine and list any defects or failures of improvements within the subdivision. All failures

or defects, if any, shall be repaired within thirty (30) days, after which the surety will be released and cancelled by CITY.

XI. EASEMENTS

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER or the Owner further agrees that he will grant the necessary easement and rights-of-way across his properties without expense to the CITY and waive any claim for damages.

XII. AS-BUILT DRAWINGS AND POST-COMPLETION ITEMS

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system and streets within the subdivision before the CITY shall accept the subdivision.

XIII. FEES

Review fees established by the CITY shall be paid prior to any review of the Plans. No construction or grading of any sort shall be begun prior to approval of such plans.

XIV. INDEMNITY

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the Improvements by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

XV. REMEDIES

In the event of a default in the performance by either party of its obligation hereunder, the other party, in addition to any and all remedies set forth herein, shall be entitled to all remedies provided by law or in equity, including the remedy of specific performance or injunction.

XVI. BINDING EFFECT

The covenants and agreements herein contained shall bind and endure to the benefit of the parties hereto, their respective heirs, personal representatives, successors and assigns, as appropriate.

XVII. ATTORNEY'S FEES AND OTHER COSTS

The DEVELOPER shall pay all costs and expenses, including the CITY'S attorneys' fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

XVIII. ENTIRE AGREEMENT

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them, and no variations or alterations of the terms of this

agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

XIX. HEADINGS

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the Agreement and in no way shall define, limit, extend or describe the scope or intent of any provision, hereof.

XX. NOTICES

Any notice or other communication required to be given hereunder shall be in writing and delivered personally or sent by United States Certified Mail, return receipt requested, or sent by Federal Express Delivery Service, addressed to the CITY Engineer at City Hall and addressed to the DEVELOPER at the address set forth on the Addendum, or such other address as either party may hereafter give the other.

XXI. TRAFFIC CONTROL

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

XXII. TEMPORARY FACILITIES

The DEVELOPER shall provide all temporary facilities, including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

OWNER

President
TITLE

ATTEST:

Director of Construction Operations
TITLE

DEVELOPER

President
TITLE

ATTEST:

Director Of Construction Operations
TITLE

CITY OF COLUMBIA

BY:_____ _____
MAYOR DATE

APPROVED AS TO FORM:

BY:_____ _____
CITY ATTORNEY DATE

CPWS
Columbia Power & Water Systems

201 Pickens Lane
P.O. Box 379
Columbia, TN 38402

P 931.388.4833
F 931.388.5287
www.cpws.com

April 20, 2022

Luis Campos
Director of Construction Operations
Q.S.P., C.I.S.E.C., T.D.E.C.1
luiscampos@pentagon-holdings.com

Re: Vesper Court Phase 1 off Sunset Avenue

Dear Sir:

Columbia Power System has an existing power line near your proposed development.

We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

Yours truly,

COLUMBIA POWER SYSTEM

Doug Burgess, P.E.
Vice President of Power Operations

kw

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

17 May 2023

P-R Vesper, LLC
0 Vesper Ct
Columbia, TN 38401

RE: 100N Group J Parcel 003.01

Luis,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Vesper Court/ Sunset Ave		
	TAX MAP: 100N	GROUP: J	PARCEL: 003.01
SUMMARY OF NATURE OF REQUEST AND WORK	Final Plat Re subdivision of Lot 2		

DATE OF PRE-APPLICATION CONFERENCE	5/2/2023	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☒ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Vesper Court Lot 2 ☒ Total Number of Lots 16 ☒ Total acreage 1.89

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	P-R Vesper, LLC	PHONE	760-486-1931
ADDRESS	6700 Tower Circle Suite#330 Franklin, TN 37067	EMAIL	luiscampos@pentagon-holdings.com

PROPERTY OWNER NAME	P-R Vesper, LLC	PHONE	615-585-7850
ADDRESS	6700 Tower Circle Suite#330 Franklin, TN 37067	EMAIL	blakeseeberger@pentagon-holdings.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

P-R Vesper, LLC		5/5/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
P-R Vesper ,LLC		5/5/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Honey Farm Townhomes

Project #:	23-0145	Location:	Tax Map 51 Parcel 58.0
Applicant:	Adam Crunk	Case Type(s):	Preliminary PUD Master Plan
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Townhouses

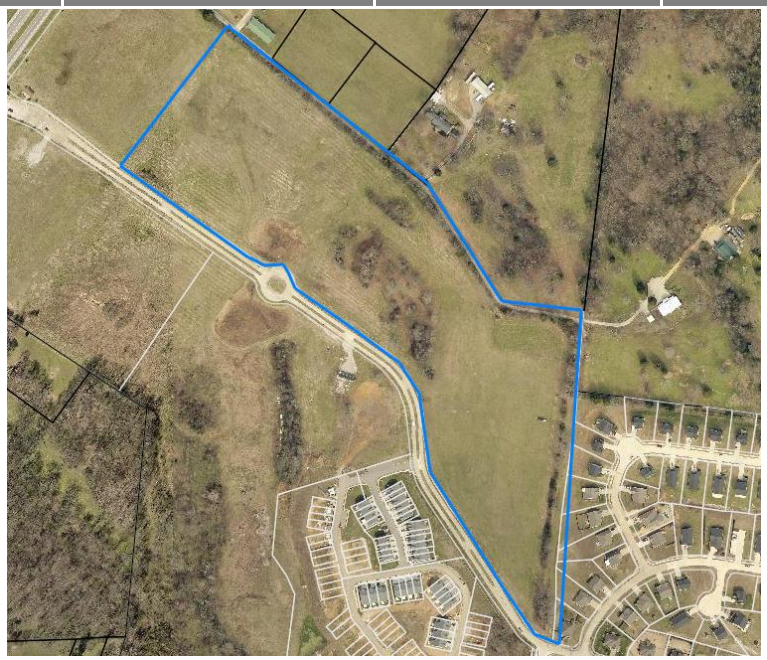
PROJECT SUMMARY

The applicant requests approval of a Preliminary Planned Unit Development (PUD) Master Plan composed of 192 two- and three-story townhomes with accompanying Civic Spaces, roadway infrastructure, and utility extensions.

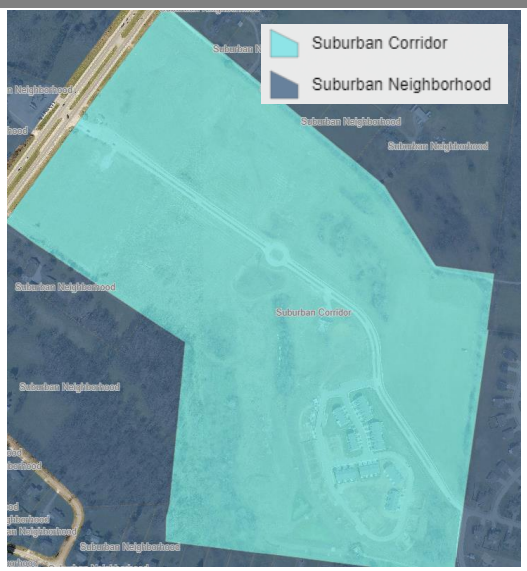
- The subject site is part of the larger Honey Farm area. The developer of the property also controls the commercial parcels enfronting Nashville Highway but is unrelated to the previous and current residential development east and south of the subject site.
- This iteration of the project was reviewed by the Development Review Committee (DRC) in May and June. The City Planner requested the second review to address items of concern related to site design. Planning, Engineering, the Office of the Fire Marshal, and the Wastewater Department have provided additional informal reviews.
- The proposed development is consistent with the future land use element of the comprehensive plan, Connect Columbia.
- The proposed Preliminary PUD Master Plan mostly conforms to the standards of the Zoning Ordinance. The applicant requested several deviations from the PUD-R standards. Staff analysis is provided below under the heading “Conformity with Zoning Ordinance.”
- The Wastewater Department identified localized sewer improvements necessary to serve the development. Staff requests that these off-site improvements by the developer be a condition of approval.
- Key comments from the DRC are listed in this report. Full technical comments, along with the applicant’s responses, are provided in the agenda packet.
- The Planning Commission is a **recommending body** for a Preliminary PUD Master Plan. Section 8.5.21.M of the Zoning Ordinance lists the criteria for Planning Commission action. Should the City Council approve the Preliminary PUD Master Plan, the Planning Commission will the decision-making authority for the Final Master Plan, as well as any subdivision of the property.
- Commentary from professional planning staff is provided below. The commentary identifies recommended conditions of approval.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

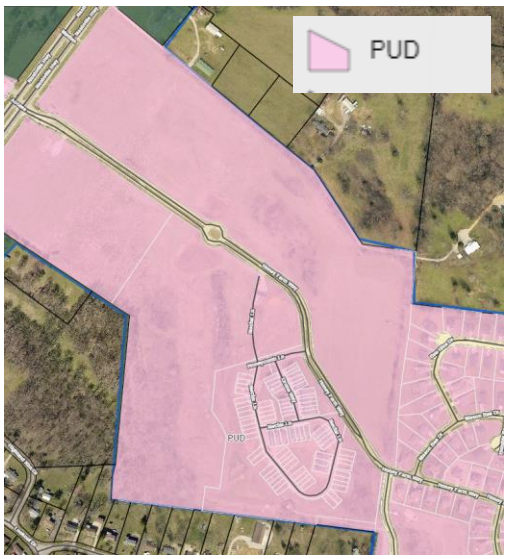
SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
PUD-R	Vacant	Vacant/ OHE Lines	+/- 25.87 acres



FUTURE LAND USE MAP	ZONING MAP





The subject site is part of the larger Honey Farm area which has developed piecemeal fashion under multiple PUD Master Plans since the mid-2000s. The property is bounded on the east and south by other residential PUDs. The property to the west is an undeveloped commercial property which is controlled by the same developer. The properties to the north and northeast are outside of the City of Columbia, but within its Urban Growth Boundary (UGB) and it planning area. Household Living accounts for all adjacent established land uses, in the form of both single-family detached homes and attached townhomes. The northern and eastern portions of the property are crossed by overhead transmission lines, which the applicant proposes to relocate. The property enfronts Honey Farm Way.

SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	PUD-R	Vacant
North	Suburban Neighborhood	County	Single Family Detached
South	Suburban Corridor	PUD-R	Single Family Townhomes
East	Sub. Corridor/Sub. Neighborhood	PUD-R/County	Single Family Detached
West	Suburban Corridor	PUD-MU	Vacant

Staff reviewed a similar proposal for Preliminary PUD Master Plan last year (22-0334). The item was on track for the February 2023 agenda of the Planning Commission; however, the applicant withdrew that request. The Planning Commission approved subdivision of the property in May 2023, separating the subject site from commercial property under a separate PUD Master Plan (23-0097). Planning Commission recommended approval of that Master Plan (22-0204), allowing a self-storage facility and other undetermined commercial uses, in October 2022. The City Council approved the plan in December 2023. The applicant has until December 2025 to submit a Final PUD Master Plan for that development.

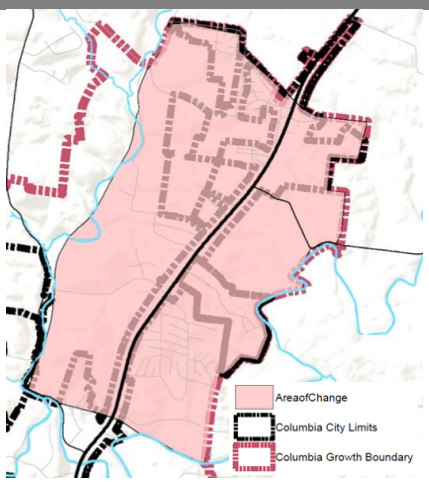
CONSISTENCY WITH CONNECT COLUMBIA

Suburban Corridor: The future land use of the subject site is Suburban Corridor. The Character Area is characterized by a mix of residential and commercial uses with intermixed and compatible civic uses. The Future Land Use Plan indicates that "the general development pattern is largely site specific" (Connect Columbia, p. 26). The specific character of the Corridor relies on the Area of Change determination. Development can take the form of single- and multi-use activity on a variety of lot sizes, depending on the surrounding development pattern (Connect Columbia, p. 26). The Character Area Matrix from page twenty-six of the Future Land Use Plan (excerpted below) is a guide to approving requests for zoning map amendments and Planned Unit Developments. The future land use classification is implemented by the CD-4C character district and PUDs.

CHARACTER AREA MATRIX				
	Development Pattern	**Zoning Category and Uses**	**Infrastructure**	**Design Standard**
SUBURBAN CORRIDOR	**Is the property in an Area of Change?** **No:** The development pattern is established. Changes to overall character of the area should rarely occur. **Yes:** The development pattern is evolving. Changes to area are likely as development occurs. New development should blend with existing, surrounding neighborhood assets.	**Residential Uses:** Low Density Residential, Medium High Residential, and High Residential Districts **Public and Civic Uses:** Religious, Day Care, Government, Medical, and Educational **Commercial Uses:** Hotels, Recreational, Restaurants, Retail, Personal Services, Self-Service Storage, Vehicle Sales and Service, and Wholesale Trade **Office Uses:** All office uses	**Not in an Area of Change:** Limited new services, with mostly in-fill enhancements to existing infrastructure. **Within an Area of Change:** Extensions to transportation, water, sewer, and other services should be expected. New service or extensive redevelopment of existing services should be vetted and reviewed by Planning Commission and City Council as a primary element of approval.	Scale: Buildings should be compatible with the established character of the area. Architecture: New developments should include a mix of architectural styles. Buildings should include quality materials with architectural details and features. Parking: Parking should be contingent on the location of the site along the transect, becoming more subordinate to buildings as urbanity increases.

AREA OF CHANGE

The subject site is located in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was evolving. Changes to the area are likely, but new development should blend with existing neighborhood assets. The designation does not necessarily mean that any particular development proposal is consistent with Connect Columbia. It does mean that the Planning Commission has previously determined that in this area, the development character is not fixed and change is expected over time (Connect Columbia p. 14).



CONFORMITY WITH ZONING ORDINANCE

Land Uses

- **The Zoning Ordinance permits all proposed uses.**
    - The applicant proposes to develop the site entirely under the use of Household Living in Attached Dwelling –Townhouses as well as accessory community amenities.
    - Tables 4.3.9.1-A (p. 223) and 4.3.1-K (p. 161) permit these uses and structure types in a PUD-R development.

Lots, Building Sites & Bulk Standards

- **The proposed Preliminary PUD Master Plan depicts structures and building sites which generally conform to the standards of the PUD-R standards listed in Table 4.3.1-K of the Zoning Ordinance.**

    - The Ordinance requires an 18-foot minimum building site width. For Townhouses with each unit on its own Lot or Building Site, the Ordinance allows widths of 18 - 36 feet for single Townhouse.
    - The proposed Master Plan depicts townhomes with widths of 19 feet and 36 feet.
    - The Ordinance permits a maximum of eight attached Townhouse units.
    - The proposed Master Plan depicts structures with three, four, and six units.
    - Each structure must enfront a vehicular Thoroughfare or Internal Drive except that Up to 20% of lots or building sites may enfront a pedestrian path, passage, or walkway.
    - The proposed Master Plan depicts homes enfronting Thoroughfares with garages facing Alleys. Staff has some concern regarding the arrangement of Alleys which is discussed at the end of this report.
    - Front setbacks may range between a minimum of 15 feet and a maximum of 35 feet. The minimum rear setback is 10 feet.
    - The proposed Master Plan depicts homes with 15-foot front setbacks, 10-foot rear setbacks, and 20 feet of separation between buildings.
    - Townhomes have a maximum height of three stories, provided that any building exceeding 35 feet in height must obtain approval from the Fire Marshal prior to the issuance of a building permit.
    - The proposed Master Plan depicts two and three-story structures. However, the overall height of some of the three-story structures is significant. Staff has concerns about the compatibility of such tall structures on the site. These concerns are discussed in greater detail near the end of this report.

Parking

- **The proposed Preliminary PUD Master Plan depicts a combination of on-street, garage, and driveway parking that meets the requirements of the Ordinance for the principal residential uses.**
    - The proposed Master Plan provides 386 spaces in private garages, driveway parking for 24 additional vehicles, and 182 on-street spaces.
    - The proposed Master Plan includes parking for the amenity center on-street. Revision to the parking plan for the amenities may be necessary as part of subsequent reviews.

Blocks, Thoroughfares & Connectivity

- **The proposed PUD Preliminary Master Plan does not conform to the standard for block formation and size**. **The applicant has requested an exception to the block perimeter standard.**
    - The Zoning Ordinance requires that Thoroughfares on development sites by arranged to form blocks (§ 5.2.2.D, p.308).
    - Block formation allows the creation of lots with front-to-back discipline. This arrangement of public and private space (i.e. "Layers") is the animating principle of the Ordinance.
    - A block perimeter may not exceed 2,000 feet (Table 4.3.1-K, p. 157; Table 5.2.2.D, p. 308).
    - Alleys are not Throughfares and may not be used to circumscribe blocks (See definitions in § 9.3).
    - The term block is defined in § 9.3 (p. 482) to include lots and building sites circumscribed by thoroughfares and alleys.
    - The design of the Alleys as depicted in the network of Alley B, C, F, and G provide general circulation rather than secondary access and therefore do not conform to the definition of Alley at § 9.3 (p.480).

Architecture

- **The Architectural Design Review (ART) has recommended approval of the facades of the proposed townhome buildings. However, the site design has impacted the architecture and the structures will likely require additional review before the project proceeds to a Final PUD Master Plan.**
    - Prior to review by the Planning Commission, the Architectural Design Review Team must review and make a recommendation on the design of all buildings in a Planned Unit Development (§ 8.5.21.L, p. 457).

- The Architectural Design Review Team (ART) recommended approval of the facades of the proposed townhome buildings.
- The review took several months. The ART was challenged to review a complete community under the PUD-R standards, which require variation of facades. In the end, the ART recommended approval of a pattern book with the understanding that the project would likely return for additional review.
- The pattern book depicts four floor plans with variations in façade arrangement and color scheme in order to create balanced and non-repetitious blocks, as required by Table 4.3.1-K of the Zoning Ordinance (p. 159).
- The required façade articulation is achieved primarily through changes in cladding material and trim color. These are detailed in the Elevations & Exterior Color Schemes section of the pattern book.
- The primary façade building materials are brick and cementitious siding, as permitted by Table 4.3.1-K (p. 161).
- In addition to townhome elevations, the pattern book also includes the design of the amenity building.
- The Master Plan appears to alter the design of the amenity center requiring additional review by the Design Review Team. Staff noted this change in technical comments. The applicant acknowledged the requirement.



Pattern Book Excerpt of Townhome Facades



Pattern Book Excerpt of Townhome Facades



Pattern Book Excerpt of Townhome Facades



Pattern Book Excerpt of Amenity Center Design

- Note: The Design Review Team has asked Planning Commission and Council to clarify the scope of design review for structures in residential PUDs. Staff's current interpretation of the Ordinance is that the Design Review team may evaluate and recommend a pattern book of the overall development. The applicant may subsequently return to Design Review for each phase of development with revisions and more detailed designs which conform to the overall aesthetic pattern of the Master Plan as approved by Planning Commission.

Civic Spaces

- **The proposed Preliminary PUD Master Plan provides the required Civic Space in the form of Playgrounds, Greens, and Pocket Parks dispersed throughout the development. Additional details may be required to determine the level of amenity provided to residents.**
    - Section 5.3.1 of Zoning Ordinance requires any development parcel[1] to utilize at least 5% but no more than 20% of its gross acreage as Civic Space conforming to the standards of Table 5.3.3-A.
    - The applicant proposes to dedicate 1.34 acres (5.3%) of the 25.87-acre site to Civic Space.
    - Section 5.3.3 offers eight Civic Space types that include green space, natural areas, pocket parks, etc.
    - Each Civic Space type has its own standards for intent, size, frontage, character, and typical facilities.
    - Section 5.3.3.B further requires civic space designed and equipped as a playground within 800 feet of every lot or building site within a PUD-R development.
    - The applicant proposes to provide eleven Civic Spaces, primarily pocket parks, throughout the development.

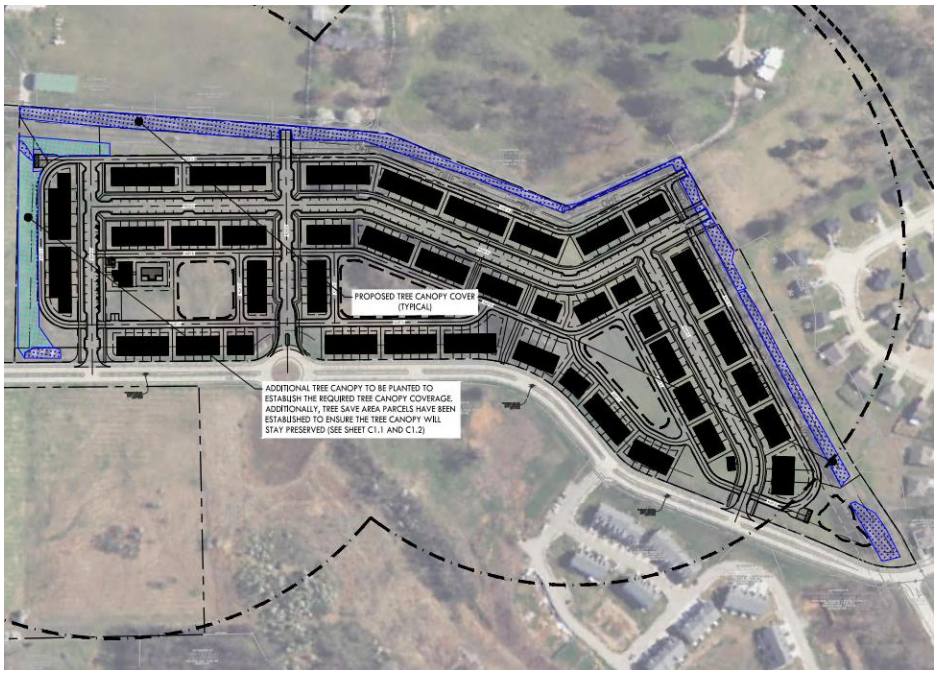
Type	Number	Area
Playground	2	0.13 acres
Green	1	0.50 acres
Community Garden	1	0.23 acres
Pocket Park	7	0.52 acres

    - The applicant has shown some typical facilities including playground equipment and benches. The Planning Commission may determine that there is sufficient detail to establish the preliminary concept of development and require additional information at Final PUD Master Plan. At that time the applicant will need to show sufficient detail to confirm that the design of Civic Spaces conforms to the Ordinance.

[1] Development Parcel: a parcel of land: (1) which, either alone or together with one or more other parcels under a common Development scheme, program or plan, is ten (10) or more gross acres; (2) with respect to the Development of which any new Thoroughfare, Internal Drive, or extension or change of the design of any existing Thoroughfare or Internal Drive is required or will be made or proposed; or (3) with respect to which any District assignment or any Thoroughfare or Internal Drive or alignment thereof is proposed to be made or changed by a Zoning Map or Zoning Map amendment. (§ 9.3, p. 490).

Tree Preservation

- **Section 4.3.16 of the Zoning Ordinance requires a percentage of existing tree cover to be preserved based upon the existing canopy on the development site.**
    - The applicant's tree preservation plan identifies 5.18 acres (20%) of the 25.87-acre site as existing tree canopy.
    - Table 4.3.16.L of the Ordinance requires retention of at least 48% of the existing canopy.
    - The applicant's tree preservation plan proposes to preserve and/or replant 48.3% of the existing tree canopy and identifies 2.5 acres of tree save areas.
    - After the site is developed, the plan provides 1.63 acres of the original existing canopy as well as 0.86 acres of replanted area.
    - Much of the area shown as tree save area is within or adjacent to powerline easements. The applicant proposes to relocate the powerlines. It is unclear how the powerline relocation and the grading of the site for development will affect the proposed tree save areas.
    - Development Services staff will confirm conformity with the standards of § 4.3.16 during subsequent reviews when more is known about conditions impacting potential tree save areas.



Tree Preservation Plan Provided by Applicant

Deviations and Exceptions

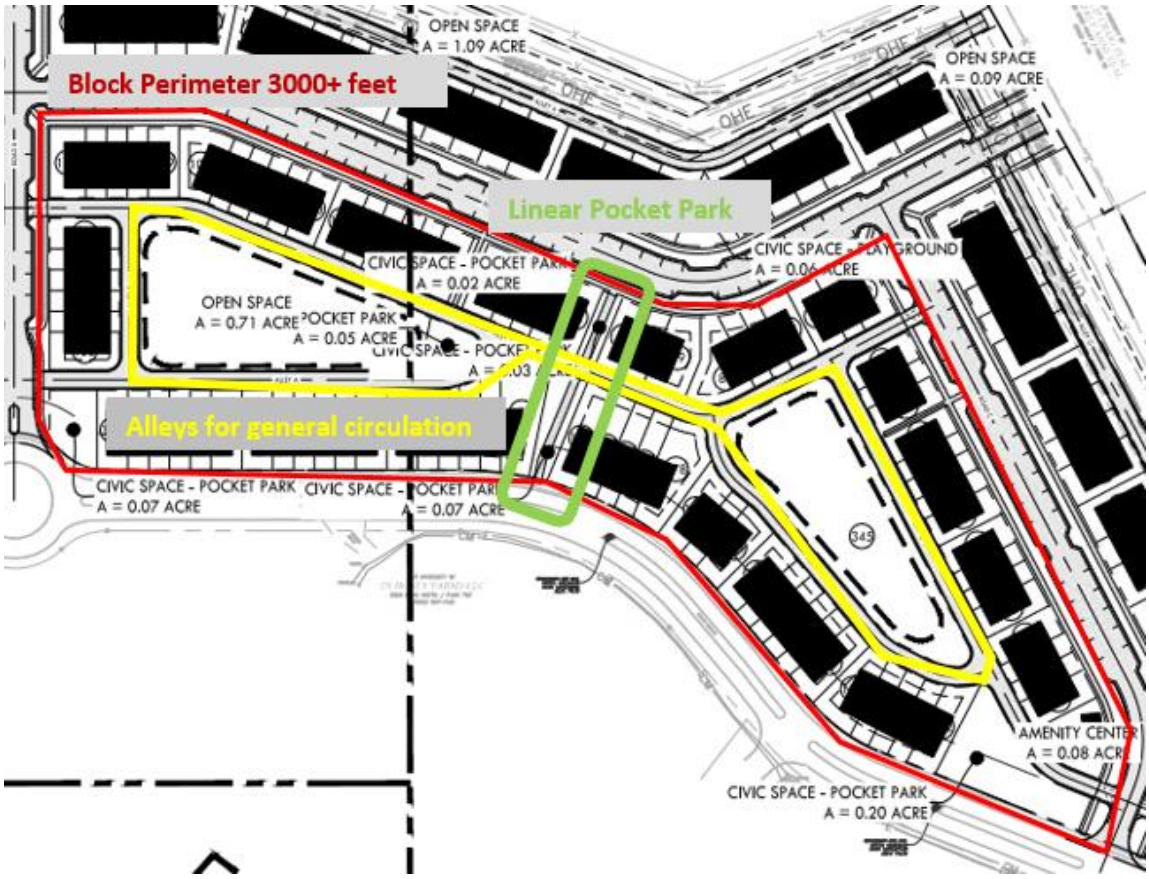
- **The Ordinance requires PUD Master Plans to conform to all PUD-R standards expect where deviations and exemptions are specifically requested.**
    - The applicant has provided a list of requested exceptions form the PUD-R standards with explanations of how the proposed alternative provides an innovative plan that promotes quality design (§ 8.5.21.B.4, p.452).
    - The applicant believes that a Preliminary PUD Master Plan that incorporates the changes listed in the table below presents a superior design suited to the conditions of the site.

Feature	Authority	Standard	Deviation	Planning Staff
Project Buffer	§ 5.8.11	Project Buffers shall not contain any Street, Thoroughfare, Driveway, drive aisle, Internal Drive, or Alley	The applicant proposes to construct a portion of a road within a required buffer.	Supported
Mail Kiosk Detail	ESS MD-03	Two parking stalls plus one per 25 mailboxes.	The applicant has omitted parking for the mail kiosk. Surplus parking is provided on-street.	Partially Supported
Block Perimeter	Table 4.3.1-K, § 5.2.2.D	Thoroughfares and Internal Drives shall be provided and designed to define Blocks not exceeding 2,000 feet.	Block perimeter greater than 3,000 feet bisected by a linear pocket park.	Partially Supported
Alleys	§ 5.2.2.E, § 9.3	An Alley is not intended for general traffic circulation. Alleys afford secondary access to Abutting property.	Utilize alleys b, c, f, and g for general circulation.	Not Supported

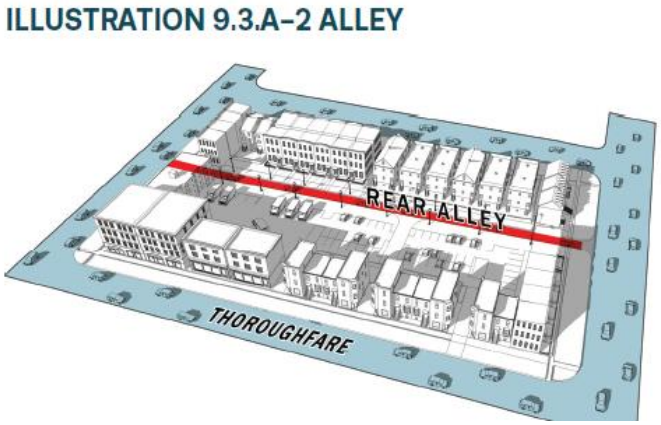
- **Planning staff agrees that most of the requested deviations present a plan of development approporate to the specific site.**
    - The road stub within the project buffer provides for fututre connectivity.
    - The development provides a large amount of on-street parking and a walkable design. Dedicated parking for the mail center is not necessary. However, the plan

should be revised to provide accessible parking spaces near the mail center linked by an accessible path.

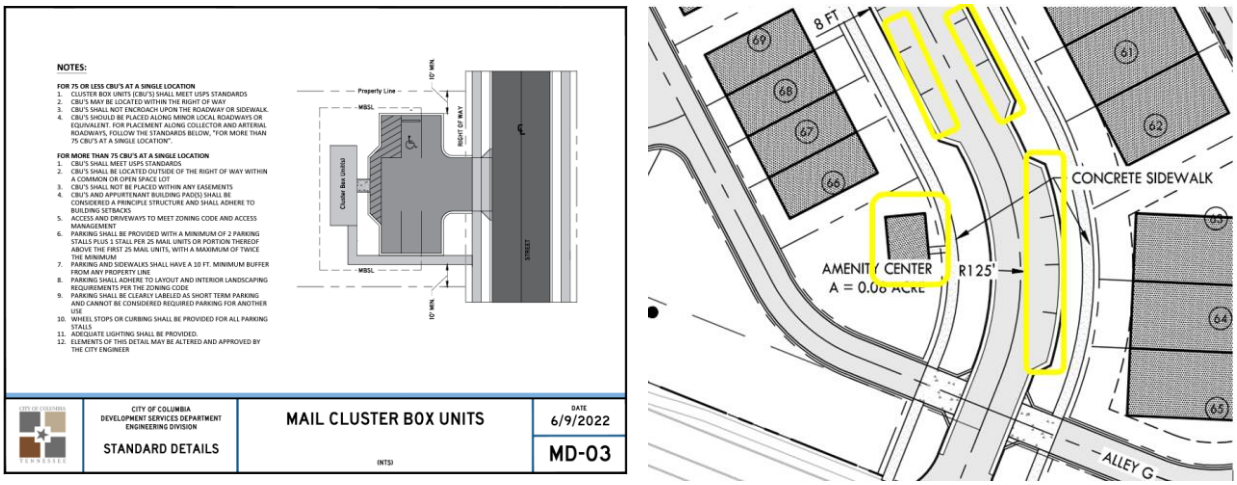
- The large block does not conform to the stanrdard or the intent fo the Ordinance. The linear pocket park does break up the block and provide a pedestrian connection.
- The use of Alleys for general circulation circumvents the standards of the Ordinance and effectively creates a Public Frontage within the Third Layer. The need for this deviation can be elimianted by resdesigning the block.
- The block permitier exception could be viable by widening the linear park to at least 50-feet, eliminating lots 175-178, and enfronting losts 89-91 on the liner park.



Staff Markup of Layout



Zoning Ordinance Illustration of Alley Providing Direct Secondary Access



L- ESS Standard for Mail Kiosk R-Applicant's Proposal with Staff Markup

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its meetings in May and June of 2023. Planning, Engineering, the Office of the Fire Marshal, and the Wastewater Department have provided additional courtesy reviews. A full list of comments, and the applicant's responses, is provided in the agenda packet. Some key comments are noted below.

- **Engineering** noted that any approval is subject to the recommendations of the Traffic Impact Study and Site Construction Plan review.
- Engineering also required adjustments to the plan to revise retaining walls and reduce human-made slopes.
- **Planning** and Columbia Water System's (**CPWS**) consultant (Inflow) noted that the applicant's water availability letter has expired. The applicant responded that a new

letter would be forthcoming. This is a critical item that must be provided before the Planning Commission may recommend approval.

- **Planning** and the **Office of the Fire Marshal** have noted that due to topographic conditions, the true height of some townhome structures may be significant. The Zoning Ordinance defines and measures height differently than the Building and Fire codes.
  - The visual impact of the tall structures is described in Planning Staff Commentary. The applicant has acknowledged this concern and understands that building designs may need to be altered.
  - The 2018 International Building Code (IBC) regulates the height of buildings "above grade plane." In contrast, the Zoning Ordinance is concerned with habitable stories, but defers to the Fire Marshal to regulate the overall height of buildings. The Fire Marshal has noted that any structure of more than four stories above grade plane must utilize sprinklers.
- Columbia Power (**CPWS**) noted that supply chain concerns could affect the timing of any development. This is a standard comment from the utility.
- **Public Works** recommended the use of private trash service. The applicant acknowledged this comment by reference to a comment from Public Works on a previous iteration of the development. At that time Public Works recommended the use of dumpsters or compactors. It is unclear whether a public or private entity will perform solid waste collection.
- **Maury County Schools** noted that the site is currently in the attendance zones of Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. New construction or realignment of school attendance zones may be necessary to accommodate new students.
- **Wastewater** indicated that Honey Farm Pump Station #1 will need to be eliminated in order to ensure Honey Farm Pump Station #2 has the capacity necessary to serve the proposed development. The applicant acknowledged the comment and met with the Wastewater Engineer on June 23rd to discuss the details. The Wastewater Engineer has provided a letter to the Planning Commission describing the project.

REVIEW PROCESS

The Architectural Design Review Team has reviewed the design of proposed structures in the PUD as required by section **8.5.15.B.2** of the Zoning Ordinance.

The Development Review Committee reviewed the proposed Preliminary PUD Master Plan at its meetings in May and June of 2023, as required by section **8.5.21.K.5** of the Zoning Ordinance. Technical comments are provided in the agenda package and are summarized above.

Section **8.3.3.B.7** of the Zoning Ordinance authorizes the Planning Commission to make "recommendations to the City Council on a preliminary Master PUD Development Plan."

Sections **8.5.21.B.3** and **8.5.21.M** of the Zoning Ordinance establish the criteria for Planning Commission review and action on the proposed Preliminary PUD Master Plan.

> ***8.5.21.B Master PUD Development Plan Approval***
>
> *3. [A]pproval of […] a Master PUD Development Plan [is] subject to the Planning Commission's and the City Council's first making formal, written […] that the proposed Development, such applications, and approvals:*
>
> > *a. conforms to all applicable standards and requirements of this Ordinance,*
> >
> > *b. would be compatible with other Development permitted under all applicable provisions of this Ordinance;*
> >
> > *c. will not significantly interfere with the use and enjoyment of other land in the vicinity;*
> >
> > *d. adequately conserve woodland and the protect water courses from erosion and siltation;*
> >
> > *e. maximize safety, convenience, and amenities for the residents and visitors of the Development; and*
> >
> > *f. adequately addresses all such other matters as they may find to have a material bearing upon the stated standards and objectives of this Ordinance.*
>
> *4. Unless specifically exempted, the standards and requirements contained in this Section 8.5.21 shall be in addition to all other applicable standards and requirements established in this Ordinance.*
>
> ***8.5.21.M.1 Planning Commission Action on Preliminary Master PUD Development Plan***
>
> *Before making any recommendation on a Preliminary Master PUD Development Plan or an amendment to an existing approved Preliminary Master PUD Development Plan, the Planning Commission shall consider the […] recommendations from the Zoning Administrator and other City departments, and shall conduct a public hearing.*

Section **8.3.2.B.4** directs the City Council to rend a final decision on the preliminary Master PUD Development Plan of a Planned Unit Development.

If the City Council approves the Preliminary PUD Master Plan, the applicant will have two years to submit a Final PUD Master Plan. The Planning Commission shall determine whether the Final PUD Master Plan complies with the Preliminary Master Plan (§ **8.5.21.U**).

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

Planning staff is concerned that a portion of the development, as proposed, is incompatible with established adjacent land uses. Specifically, the townhomes enfronting Honey Farm Way may overwhelm the visual landscape. Staff recommends the condition that the homes enfronting Honey Farm Way not exceed two stories in order to provide a transition between the road and taller structures within the site.



The applicant provided a visual depiction of the townhomes enfronting Honey Farm Way, as well as a plan view depicting the change in grade between the right-of-way and the building site. The proposed townhomes are a little over forty-five feet tall measured from grade. The change in grade from the street to the building site adds approximately four feet to the visual impact of the structures. Excluding the Maury Regional Hospital complex and the Courthouse cupola, the townhomes will be among the tallest structures in the city. The structures will be as tall as City Hall viewed from Garden Street and almost as tall as the dome of First Presbyterian Church.

The height is permitted by the Ordinance. Tall townhomes are appropriate to some settings, like downtown and as a transition between multifamily and detached dwellings. However, the subject site in not adjacent to other tall structures. It is positioned on a hill above adjacent subdivisions comprised of two-story townhomes and one-story detached houses. If the Planning Commission decides to recommend approval of the Preliminary PUD Master Plan, staff recommends the condition that the homes enfronting Honey Farm Way not exceed two stories in order to provide a transition between the road and taller structures within the site.

Planning staff supports the requested exceptions from the PUD-R standards, subject to modification to lots 174-178 and 89-91.

The large block at the center of the development does not conform to the standards or the intent of the Ordinance. Similarly, the use of Alleys for general circulation circumvents the standards of the Ordinance and effectively creates a Public Frontage within the Third Layer. The linear pocket park does break up the block and provide a pedestrian connection. The requested exceptions to the maximum block perimeter and Alley definition could be resolved by widening the linear park to at least 50-feet, eliminating lots 175-178, and enfronting lots 89-91 on the liner park. This solution would also reduce the number of very tall structures enfronting Honey Farm Way.

The development will require off-site sanitary sewer improvements. Staff recommends that the developer commit to make these off-site improvements as a condition of approval.

Honey Farm Pump Station #2

	Flow (GPM)
Total Capacity	320
Unavailable Capacity	
HF1	-180
~100 units existing	-35
Available Capacity	= 105
~430 units proposed	-150
Over Capacity	= -45

Planning staff has consulted with Wastewater Engineer Ryan Filipkowski regarding the capacity of the pump stations serving Honey Farm. He has provided a letter to the Planning Commission explaining his concerns. The cumulative wastewater flow of the proposed Preliminary PUD Master Plan, along with previously approved homes in Honey Farm, will exceed the capacity of the existing infrastructure.

Due to the concerns expressed by the Wastewater Department, Planning staff requests that approval of the proposed Preliminary PUD Master Plan be conditioned on the developer's agreement to install a gravity sewer main under Rutherford Creek to reroute the sewer shed of the lower portion of Honey Farm. This will eliminate the pump station currently serving the detached single-family homes located below the subject site.

Eliminating the pump station and rerouting the sewershed to gravity will free up capacity of the other pump station (referred to a HF2 in Mr. Filipkowski's letter). The proposed Preliminary PUD Master Plan accounts for 44% of the anticipated additional flow. It includes the incremental increase which will exceed the capacity of existing infrastructure. As noted by Mr. Filipkowski, the City has planned for incremental development to occur concurrent with a rerouting of the sewershed to gravity flow. There is a clear rational nexus between the improvements and the

requested development (but-for the increased number of homes, the existing pump stations could handle the flow). The improvements are roughly proportional to the impact of the development (the increment in excess of the current capacity is attributable to the proposed development).

SAMPE MOTIONS

Approve:

Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section 8.5.21 of the City of Columbia Zoning Ordinance have been satisfied, along with proposed deviations from the base standards which provide an innovative plan of development not achievable under the default PUD-MU standards, and recommend approval of the proposed Planned Unit Development Master Plan as presented [,subject to technical comments and other conditions presented by planning staff].

Approve Subject to Conditions:

Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section 8.5.21 of the City of Columbia Zoning Ordinance have been satisfied, along with proposed deviations from the base standards which provide an innovative plan of development not achievable under the default PUD-MU standards, and recommend approval of the proposed Planned Unit Development Master Plan as presented, subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

Move to deny recommend denial of the requested Planned Unit Development Master Plan having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section 8.5.21 of the City of Columbia Zoning Ordinance are not satisfied, that the proposed Master Plan does not conform to the PUD-MU standards, and does not provide an innovative plan of development [list any other reasons for denial].

Defer:

Move to find that there is insufficient information to make a decision, defer the matter to the next regularly scheduled meeting of the Planning Commission, and request that the [applicant/staff] provide: [list additional information] for review at a future meeting.

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

To the Council Members and Planning Commission:

The Columbia Wastewater Department has determined that the proposed Honey Farm development(s) will overwhelm the Pump Stations in the area, as the TDEC parameters for Sanitary Sewer Design display below:

Table No. 1. Remaining Capacity for Honey Farm Pump Station #2 (HF2)

Honey Farm Pump Station #2	Flow (GPM)
Total Capacity	320
Unavailable Capacity	
HF1	-180
~100 units existing	-35
Available Capacity	= 105
~430 units proposed	-150
Over Capacity	= -45

Table 1. Honey Farm Pump Station #1 (HF1) pumps into Honey Farm Pump Station #2 (HF2), which takes up 180 GPM capacity of HF2, as this is the set flow rate for HF1. This leaves 320 -180 = 140 GPM capacity left at HF2. Currently there are ~100 units already utilizing HF2 directly, in addition to the flow from HF1, which takes up additional capacity. What is left available is ~105 GPM at HF2 which is to gain 430+ units (~190 from the proposed development from Crunk Engineering).

The flow numbers chosen for Table 1 are assumed to be 200 gpd/unit with a 2.5 peaking factor, which are near-minimum numbers in the acceptable range of sanitary sewer design flows listed by TDEC, the maximum being 350 gpd/unit and a 4.0 peaking factor, which is a 2.8 factor difference.

The solution that should be required by Columbia is to eliminate HF1, as this was the original design requirement set forth in the beginning of the Honey Farm Development, and is the most beneficial solution for Columbia. HF1 has been planned to be eliminated in the past by the original Developers and the Wastewater Department, and it would free up more than 55% of the total capacity of HF2. There should be a project initiated by any potential Developer to reroute HF1 and its sewershed flow via a proposed gravity sanitary sewer main under Rutherford Creek and to the Rutherford Creek Sanitary Sewer Trunkline to eliminate HF1 and allow additional flow at HF2.

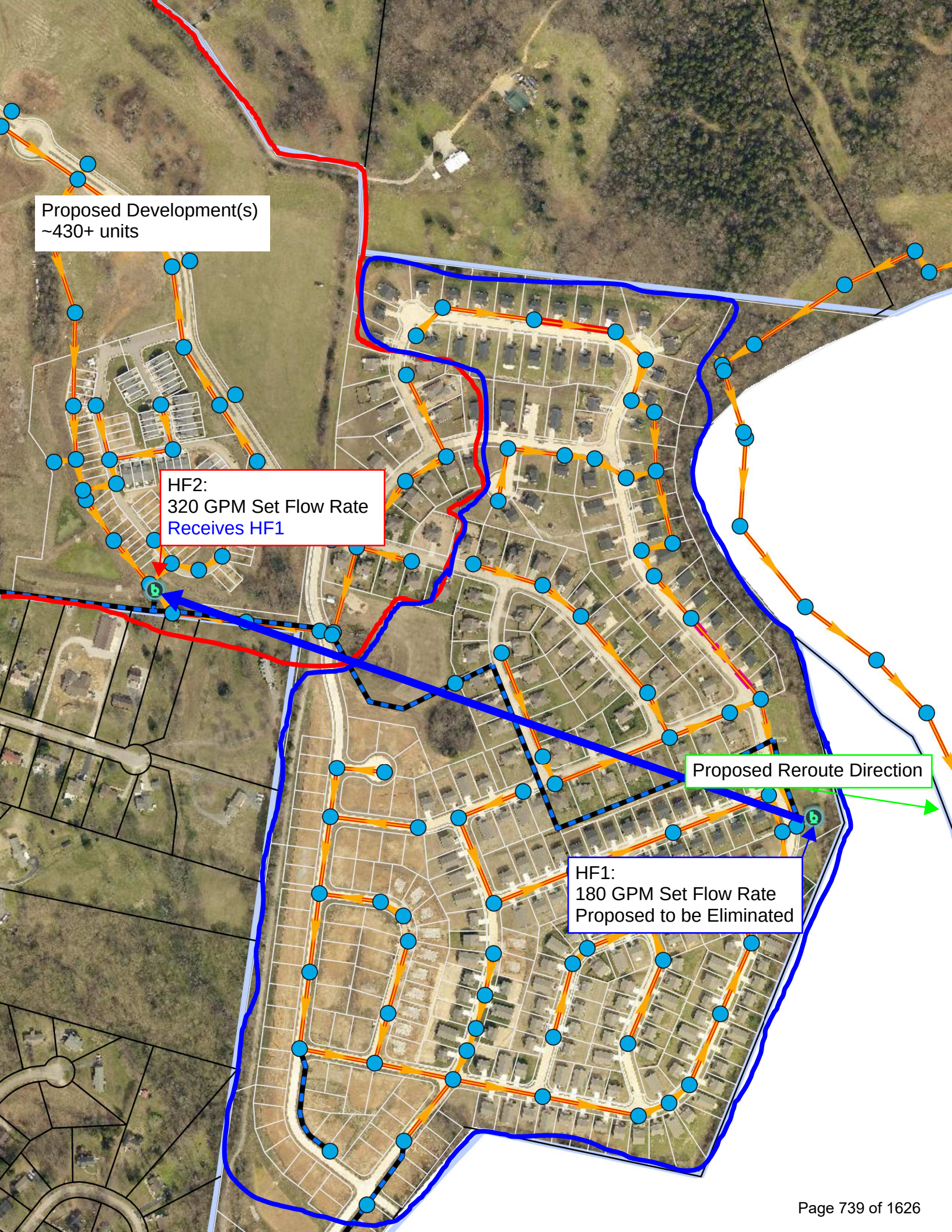
CITY OF COLUMBIA
TENNESSEE

Additional benefits to eliminating the Honey Farm Pump Station #1 and freeing up operation and maintenance costs and time by the maintenance crews would be to shorten up the force main of HF2 in the event of a required project to replace the HF2 force main; instead of having to replace a force main that is about 2.5 miles long, Columbia would potentially only have to lay a new force main that is ~1400 ft long.

Columbia Wastewater recommends this sanitary sewer reroute is constructed and is dedicated simultaneously with the sanitary sewer of the subdivision as an extra item required for Council Acceptance and the issuance of COs. This measure should be taken to make sure it is completed and done correctly according to the Standard Sewer Specifications and in accordance with any additional permits required.

Ryan Filipkowski, P.E.

RYAN FILIPKOWSKI
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 127108
STATE OF TENNESSEE
06/2/23


Proposed Development(s)
~430+ units
HF2:
320 GPM Set Flow Rate
Receives HF1
Proposed Reroute Direction
HF1:
180 GPM Set Flow Rate
Proposed to be Eliminated

HONEY FARM TOWNHOMES

2248 NASHVILLE HIGHWAY, COLUMBIA, TN 38401

PRELIMINARY MASTER DEVELOPMENT PLAN

GENERAL INFORMATION

DEVELOPER

NAME:
ADDRESS:
Contact:
Phone:

OWNER

NAME: EMG HONEY FARM, LLC, A TENNESSEE LIMITED LIABILITY COMPANY
ADDRESS: P.O. BOX 1715 SPRING HILL, TN 37174
CONTACT: DREW SMITH,
DREW.SMITH@EQUITASMG.COM
Phone: 469-585-7913

CIVIL ENGINEER

Crunk Engineering LLC
7112 Crossroads Boulevard, Suite 201
Brentwood, TN 37027
Contact: Adam Crunk, PE
Phone: 615.873.1795
Email: adam@crunkeng.com



LOCATION MAP
NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	OVERALL SITE LAYOUT PLAN
C1.1	SITE LAYOUT PLAN
C1.2	SITE LAYOUT PLAN
C1.3	TREE CANOPY EXHIBIT
C2.0	OVERALL GRADING DRAINAGE & UTILITY PLAN
C2.1	GRADING DRAINAGE & UTILITY PLAN
C2.2	GRADING DRAINAGE & UTILITY PLAN
C3.0	SITE IMPERVIOUS AREA DISTRIBUTION
C4.0	BUILDING LAYOUT EXHIBIT
L1.0	OVERALL LANDSCAPE PLAN
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE PLAN
L2.0	LANDSCAPE DETAILS
L3.0	FOUNDATION PLANTING PLAN
C4.0	BUILDING ELEVATION EXHIBIT

EXCEPTIONS REQUESTING:

DEVELOPMENT IN LANDSCAPE BUFFER. LANDSCAPE BUFFER ADJUSTMENT:
- THE LANDSCAPE BUFFER ADJUSTMENT ALLOWS FOR ROAD C TO STUB OUT FOR FUTURE DEVELOPMENT.

MAIL KIOSK LAYOUT
- THE MAIL KIOSK LAYOUT DOES NOT INCLUDE THE ADDITIONAL PARKING DUE TO THE SURPLUS OF ON-STREET PARKING IN THE SITE PLAN.

BLOCK PERIMETER WITH ALLEYS:
- THIS ALLEY BLOCK PERIMETER ALLOWS FOR EASE OF ACCESS TO EACH TOWNHOME WHILE MAXIMIZING THE EFFICIENCY OF THE SITE.

GENERAL CIRCULATION THROUGH ALLEYS
- THE CIRCULATION OF ALLEYS B, C, F, AND G ALLOWS FOR ACCESS TO EACH TOWNHOME, AND MINOR LOCAL ROADS A, B, C, AND D ACT AS THE MAIN TRANSPORTATION ROADS FOR THE SITE.

SITE DATA TABLE

PROJECT: HONEY FARM TOWNHOMES
ADDRESS: NASHVILLE HWY 2248
PARCEL ID: 051 05800 000
SITE ACREAGE: 25.87 AC
EXISTING ZONING: PUD-R
PROPOSED ZONING: PUD-R
PROPOSED USE: TOWNHOMES

PROPOSED LOTS:

SHALLOWFORD 1A -	37
SHALLOWFORD 1B -	26
MCCALLIE -	127
SHALLOWFORD 2 -	2
TOTAL =	192

BUILDING HEIGHT:	2-3 STORIES
LOT WIDTH:	18 FT MIN/36 FT MAX/180FT MAX
FRONT YARD:	
PRIMARY:	15 FT-35 FT
SECONDARY:	15 FT-35 FT
SIDE SETBACK:	10 FT MIN/24 FT MAX
ATTACHED TOWNHOMES:	0 FT
REAR SETBACK:	10 FT MIN
REQUIRED CIVIC USE SPACE:	5% OF TOTAL AREA 1.29 AC
PROVIDED CIVIC USE SPACE:	5.3% 1.34 AC

CIVIC SPACE LIST:

PLAYGROUND -	0.07 AC
PLAYGROUND -	0.06 AC
GREEN -	0.50 AC
GARDEN -	0.23 AC
POCKET PARK -	0.07 AC
POCKET PARK -	0.05 AC
POCKET PARK -	0.02 AC
POCKET PARK -	0.21 AC
POCKET PARK -	0.07 AC
POCKET PARK -	0.07 AC
POCKET PARK -	0.03 AC
TOTAL:	1.34 AC

REQUIRED PARKING:

DWELLING UNITS:	384 SPACES
CIVIC SPACE:	14 SPACES
ACCESSIBLE:	1 PER 50 REQ. SPACES, 8 SPACES
TOTAL=	398 SPACES, 8 ACCESSIBLE

PROPOSED ON STREET PARKING:

ROAD A -	17, 7 ACCESSIBLE
ROAD B -	16
ROAD C -	41
ROAD D -	106
ALLEY A -	2
ALLEY B -	1 ACCESSIBLE
TOTAL =	182 SPACES, 8 ACCESSIBLE SPACES

PROPOSED OFF STREET PARKING:

GARAGE PARKING -	386
DRIVEWAY PARKING -	24 (LOTS 1, 10, 63, 64, 65, 173-179)
TOTAL =	410 SPACES

TOTAL PROPOSED PARKING:

ON STREET -	182, 8 ACCESSIBLE
OFF STREET -	410
TOTAL =	592 SPACES, 8 ACCESSIBLE SPACES

NOTE:

1. SITE LIGHTING TO BE PROVIDED IN ACCORDANCE WITH PRIVATE LIGHTING STANDARDS AT TABLE 4.3.17.8 OF THE COLUMBIA ZONING ORDINANCE AT SITE CONSTRUCTION PLAN REVIEW.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK



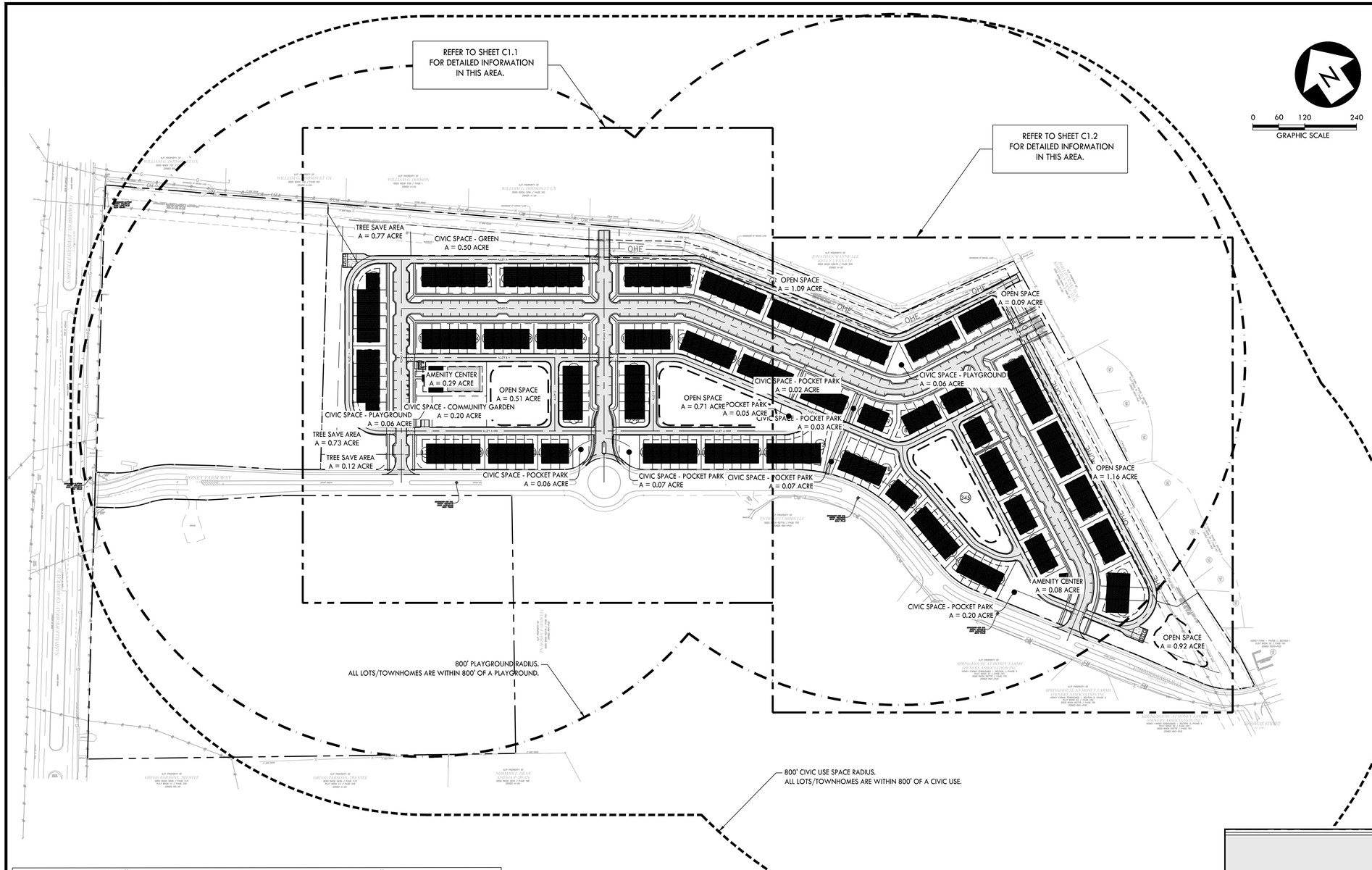
HONEY FARM TOWNHOMES
COLUMBIA, TN

REVISIONS		
No.	DATE	

6/21/2023 22135

C0.0
COVER SHEET

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary pud\C0.0-COV.dwg



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SIDE SETBACK:		10 FT MIN/24 FT MAX
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REAR SETBACK:		10 FT MIN
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PROVIDED CIVIC USE SPACE:		5.3% 1.34 AC
CIVIC SPACE LIST:		
PLAYGROUND -	0.07 AC	
PLAYGROUND -	0.06 AC	
GREEN -	0.50 AC	
GARDEN -	0.23 AC	
POCKET PARK -	0.07 AC	
POCKET PARK -	0.05 AC	
POCKET PARK -	0.02 AC	
POCKET PARK -	0.21 AC	
POCKET PARK -	0.07 AC	
POCKET PARK -	0.07 AC	
POCKET PARK -	0.03 AC	
TOTAL: 1.34 AC		

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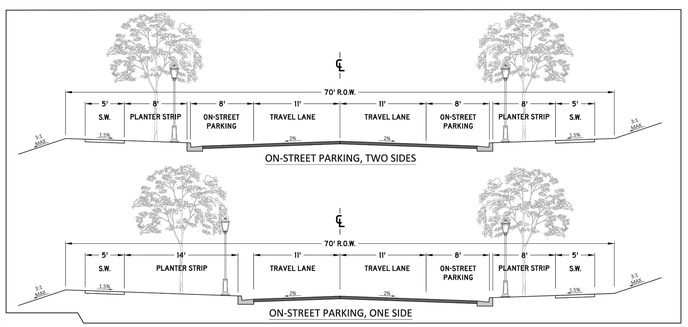
1. SITE LIGHTING TO BE PROVIDED IN ACCORDANCE WITH PRIVATE LIGHTING STANDARDS AT TABLE 4.3.17.B OF THE COLUMBIA ZONING ORDINANCE AT SITE CONSTRUCTION PLAN REVIEW.

NOTE:

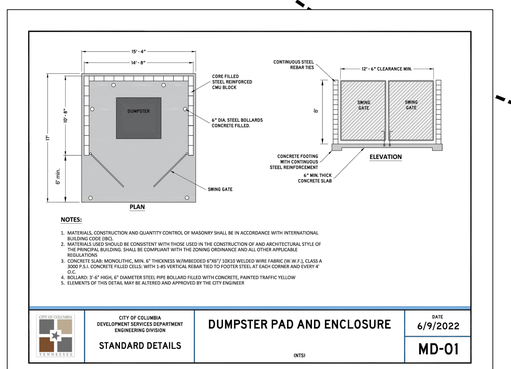
1. FUTURE REMOVAL OF TREES DEPICTED ON THE PLAN WILL REQUIRE APPROVAL BY PLANNING COMMISSION

FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL NO. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/15/2007



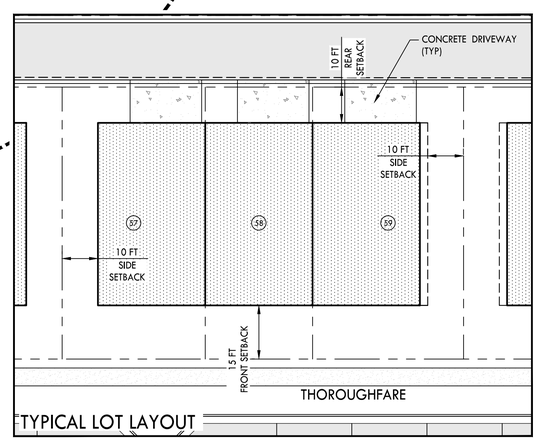
ROADWAY CROSS SECTION
NOT TO SCALE



NOTES:

1. MATERIALS, CONSTRUCTION AND QUANTITY CONTROL OF MASONRY SHALL BE IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE (IBC).
2. MATERIALS USED SHOULD BE CONSISTENT WITH THOSE USED IN THE CONSTRUCTION OF AND ARCHITECTURAL STYLE OF THE PRINCIPAL BUILDING. SHALL BE COMPLIANT WITH THE ZONING ORDINANCE AND ALL OTHER APPLICABLE REGULATIONS
3. CONCRETE SLAB: MONOLITHIC, MIN. 6" THICKNESS W/MIDDEED 6"X6" 10X10 WELDED WIRE FABRIC (W.W.F.), CLASS A 3000 P.S.I. CONCRETE FILLED CELLS WITH 1-#5 VERTICAL REBAR TIED TO FOOTER STEEL AT EACH CORNER AND EVERY 4' O.C.
4. BOLLARD: 3'-6" HIGH, 6" DIAMETER STEEL PIPE BOLLARD FILLED WITH CONCRETE, PAINTED TRAFFIC YELLOW
5. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	DUMPSTER PAD AND ENCLOSURE	DATE	6/9/2022
STANDARD DETAILS	(NTS)		MD-01



TYPICAL LOT LAYOUT

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/21/2023 22135

C1.0

OVERALL SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary.psa\C1.0-LAY.dwg

SEE SHEET C1.2

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

N/F PROPERTY OF
WILLIAM G. DODSON
DEED BOOK P25 / PAGE 1
ZONED A-2A

N/F PROPERTY OF
WILLIAM G. DODSON ET UX
DEED BOOK 1306 / PAGE 301
ZONED A-2A

EXISTING POWER LINE EASEMENT
EXISTING TRANSMISSION POWER LINE
TREE SAVE AREA
A = 0.77 ACRE
CIVIC SPACE - GREEN
A = 0.50 ACRE
MAIN CIVIC SPACE - GREEN SPACE
THREE 8 YD DUMPSTERS
PROPOSED POWER LINE EASEMENT
PROPOSED TRANSMISSION POWER LINE
EXISTING TRANSMISSION POWER LINE TO BE RELOCATED
ASPHALT PAVEMENT
ALLEY A
PUBLIC ALLEY STREET SECTION
CONCRETE CURBS
CONCRETE SIDEWALK
5 FT SIDEWALK
8 FT PARKING
8 FT GRASS STRIP
R25' RIGHT OF WAY
ROAD B
22 FT LANES
21 FT
R125'
CHARACTER DISTRICT STREET URBAN NEIGHBORHOOD STREET SECTION
ROAD A
ROAD D
ROAD E
ALLEY B
ALLEY STREET SECTION
AMENITY CENTER
A = 0.29 ACRE
AMENITY CENTER AND POOL
OPEN SPACE
A = 0.51 ACRE
POND D
ALLEY D
CIVIC SPACE - COMMUNITY GARDEN
A = 0.20 ACRE
CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE
R3'
R70'
OPEN SPACE
A = 0.71 ACRE
POND C
ALLEY E
CIVIC SPACE - POCKET PARK
A = 0.05 ACRE
TREE SAVE AREA
A = 0.73 ACRE
TREE SAVE AREA
A = 0.1
CHARACTER DISTRICT PUBLIC STREET URBAN NEIGHBORHOOD STREET SECTION
R30'
R73'
CIVIC SPACE - POCKET PARK
A = 0.06 ACRE
CIVIC SPACE - POCKET PARK
A = 0.07 ACRE
GRASS MEDIAN
BENCHMARK--60D NAIL
NORTH: 440,809.72
EAST: 1,675,424.06
ELEV: 702.86
MATCH LINE



TYPICAL PLAYGROUND EQUIPMENT

TYPICAL PLAYGROUND EQUIPMENT. PLAYGROUNDS WILL INCLUDE GRASSED AREAS FOR ACTIVITIES ALONG WITH PLAYGROUND EQUIPMENT AND BENCHES.

TYPICAL BENCH. POCKET PARKS AND CIVIC SPACES WILL INCLUDE GRASSED AREA FOR ACTIVITIES, GARDENS, AND BENCHES SPREAD OUT



TYPICAL BENCH

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

DANIEL WILSON CRUNK
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
AMERICA
NO. 1.14.180
STATE OF TENNESSEE
6/23/23

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/21/2023 22135

C1.1

SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\pud\preliminary pud\C1.0-LAY.dwg

SEE SHEET C1.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 235
ZONED A-2A

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK R2670 / PAGE 22
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES - SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES - SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

HONEY FARM - PHASE 1, SECTION 3
PLAT BOOK 21 / PAGE 100
ZONED RS10-PUD

HONEY FARM - PHASE 1, SECTION 2
PLAT BOOK 20 / PAGE 157
ZONED RS10-PUD

OPEN SPACE
A = 1.09 ACRE

ALLEY A

ALLEY STREET SECTION

ASPHALT PAVEMENT
OPEN SPACE
A = 0.09 ACRE

EXISTING POWER LINE EASEMENT

EXISTING TRANSMISSION
POWER LINE TO BE RELOCATED

PROPOSED POWER LINE EASEMENT

CONCRETE SIDEWALK

ROAD D CONCRETE CURB AND GUTTER

ASPHALT PAVEMENT

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CONCRETE CURB AND GUTTER

PROPOSED TRANSMISSION POWER LINE

CIVIC SPACE - POCKET PARK
A = 0.02 ACRE

CHARACTER DISTRICT STREET
URBAN NEIGHBORHOOD
STREET SECTION

R125'

ALLEY B

CIVIC SPACE - POCKET PARK
A = 0.03 ACRE

R70'

16 FT LANE
1 FT CURB

ALLEY G

ROAD C

CHARACTER DISTRICT PUBLIC
STREET URBAN
NEIGHBORHOOD STREET
SECTION

OPEN SPACE
A = 1.16 ACRE

8 FT PARKING
5 FT SIDEWALK
13 FT GRASS STRIP
22 FT 2 LANES
8 FT GRASS STRIP
PARKING
5 FT SIDEWALK

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

PUBLIC ALLEY STREET
SECTION

POND B

ALLEY F

ALLEY G

BENCHMARK--BOD NAIL
NORTH: 685,240.65
EAST: 1,676,165.62
ELEV#: 771.10

8 FT

AMENITY CENTER
A = 0.08 ACRE

R125'

CONCRETE SIDEWALK

ASPHALT PAVEMENT

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

BENCHMARK--BOD NAIL
NORTH: 684,846.19
EAST: 1,676,277.55
ELEV#: 712.32

R70'

R30'

ALLEY G

POND A

OPEN SPACE
A = 0.92 ACRE

EXISTING TRANSMISSION POWER LINE

THREE 8 YD DUMPSTERS

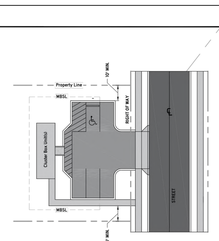
EXISTING POWER LINE EASEMENT

HONEY FARM WAY
(VARIABLE R/W)

NOTES:

FOR 75 OR LESS CBU'S AT A SINGLE LOCATION
1. CLUSTER BOX UNITS (CBU'S) SHALL MEET USPS STANDARDS
2. CBU'S SHALL BE LOCATED OUTSIDE OF THE RIGHT OF WAY
3. CBU'S SHALL NOT ENCROACH UPON THE ROADWAY OR SIDEWALK.
4. CBU'S SHOULD BE PLACED ALONG MINOR LOCAL ROADWAYS OR EQUIVALENT. FOR PLACEMENT ALONG COLLECTOR AND ARTERIAL ROADWAYS, FOLLOW THE STANDARDS BELOW, "FOR MORE THAN 75 CBU'S AT A SINGLE LOCATION".

FOR MORE THAN 75 CBU'S AT A SINGLE LOCATION
1. CLUSTER BOX UNITS (CBU'S) SHALL MEET USPS STANDARDS
2. CBU'S SHALL BE LOCATED OUTSIDE OF THE RIGHT OF WAY WITHIN A COMMON OR OPEN SPACE LOT
3. CBU'S SHALL NOT BE PLACED WITHIN ANY EASEMENTS
4. CBU'S AND APPURTENANT BUILDING PAD(S) SHALL BE CONSIDERED A PERMANENT ACCESSIBLE STRUCTURE AND SHALL ADHERE TO BUILDING SETBACKS
5. ACCESS AND DRIVEWAYS TO MEET ZONING CODE AND ACCESS MANAGEMENT
6. PARKING SHALL BE PROVIDED WITH A MINIMUM OF 3 PARKING SPACES FOR THE FIRST 25 MAIL UNITS OR PORTION THEREOF ABOVE THE FIRST 25 MAIL UNITS, WITH A MAXIMUM OF TWICE THE MINIMUM
7. PEDESTRIAN SIDEWALKS SHALL HAVE A 10 FT. MINIMUM BUFFER FROM ANY PROPERTY LINE
8. PARKING SHALL ADHERE TO LAYOUT AND INTERIOR LANDSCAPING REQUIREMENTS PER THE ZONING CODE
9. PARKING SHALL BE CLEARLY LABELED AS SHORT TERM PARKING AND CANNOT BE CONSIDERED REQUIRED PARKING FOR ANOTHER USE
10. WHEEL STOPS OR CURBING SHALL BE PROVIDED FOR ALL PARKING SPACES
11. ADEQUATE LIGHTING SHALL BE PROVIDED.
12. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION
STANDARD DETAILS

MAIL CLUSTER BOX UNITS
(NTS)

DATE 6/9/2022
MD-03

MAIL CLUSTER BOX UNITS
NOT TO SCALE

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

DANIEL WILSON CRUNK
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
6/21/23
AMERICA
NO. 114180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

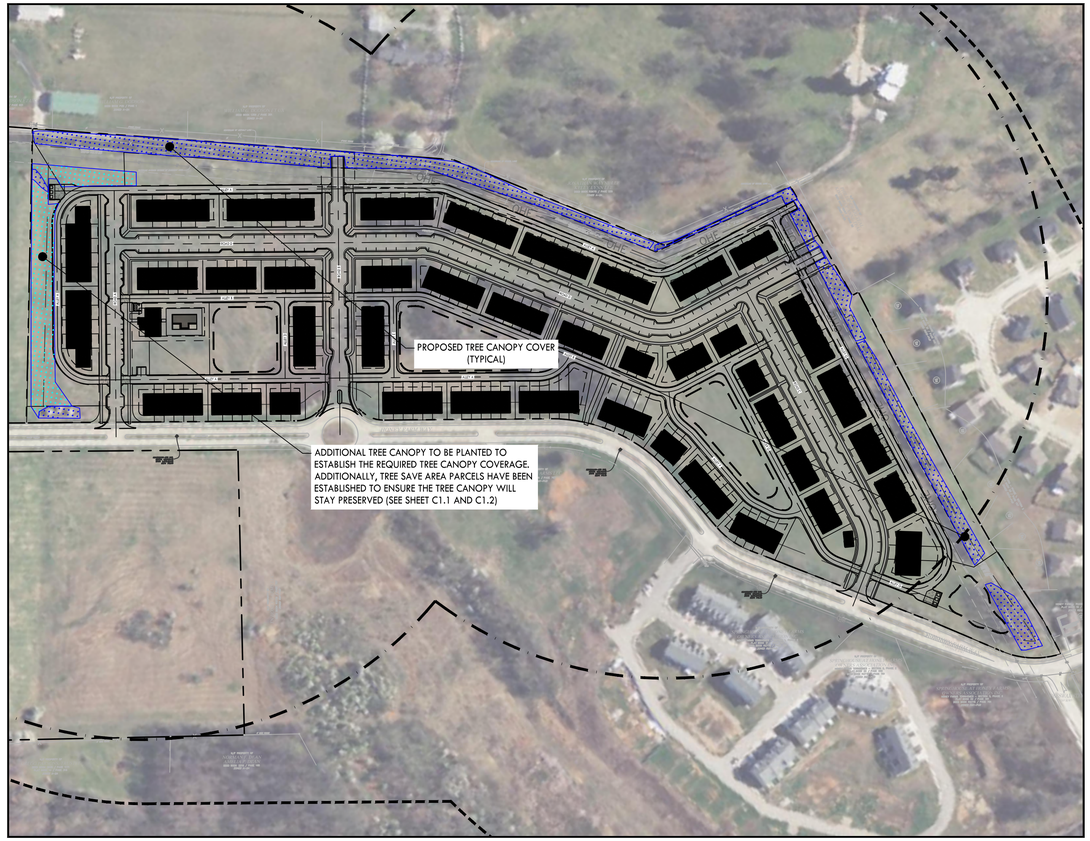
6/21/2023 22135

C1.2

SITE LAYOUT PLAN

Drawing Path: P:\2022\22135 - Honey Farm Townhomes\Dwg\construction\grading\map.dwg\C1.0-LAY.dwg





EXISTING TREE CANOPY EXHIBIT

PROPOSED TREE CANOPY EXHIBIT

0 50 100 150 300
GRAPHIC SCALE

TREE CANOPY REQUIREMENTS:

TOTAL SITE AREA:	25.87 AC
EXISTING TREE CANOPY:	5.18 AC
PERCENTAGE OF TOTAL SITE AREA:	20.0%
REQUIRED TREE CANOPY PERCENTAGE TO REMAIN:	48.0%
	2.49 AC
EXISTING TREE CANOPY TO REMAIN:	1.63 AC
TREE CANOPY TO BE PLANTED:	0.86 AC
TOTAL PROPOSED TREE CANOPY:	2.50 AC
	48.3%

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NEAL WILSON CRUNK
REGISTERED
AGRICULTURE
6/21/23
AMERICA
NO. 114180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

No.	DATE

6/21/2023 22135

C1.3

TREE CANOPY EXHIBIT

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\pre&master plat\C1.3-LAY.dwg

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.

TREE SAVE AREA
A = 0.77 ACRE

CIVIC SPACE - GREEN
A = 0.50 ACRE

AMENITY CENTER
A = 0.29 ACRE

OPEN SPACE
A = 0.21 ACRE

CIVIC SPACE - COMMUNITY GARDEN
A = 0.20 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

TREE SAVE AREA
A = 0.73 ACRE

TREE SAVE AREA
A = 0.12 ACRE

CIVIC SPACE - POCKET PARK
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

OPEN SPACE
A = 1.00 ACRE

OPEN SPACE
A = 0.09 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

CIVIC SPACE - POCKET PARK
A = 0.03 ACRE

OPEN SPACE
= 1.16 ACRE

AMENITY CENTER
A = 0.16 ACRE

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

OPEN SPACE
A = 0.19 ACRE

0 50 100 200
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

NEAL WILSON CLARK
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
6/21/23
NO. 1141180
AMERICA
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/21/2023 22135

C2.0

OVERALL GRADING DRAINAGE & UTILITY PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\pref\emerge.mp\C2.0-GRA.dwg

SEE SHEET C2.2

MATCH LINE

TREE SAVE AREA
A = 0.77 ACRE

CIVIC SPACE - GREEN
A = 0.30 ACRE

TREE SAVE AREA
A = 0.73 ACRE

TREE SAVE AREA
A = 0.12 ACRE

AMENITY
A = 0.29 ACRE

POND D

OPEN SPACE
A = 0.5± ACRE

POND C

OPEN SPACE
A = 0.71 ACRE

CIVIC SPACE - COMMUNITY GARDEN
A = 0.20 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

ROAD C

ALLEY A

ALLEY B

ALLEY C

ALLEY D

ALLEY E

ALLEY F

BENCHMARK - 60D NAIL
NORTH: 1455,909.72
EAST: 1,675,474.08
ELEV: 702.86

N/F PROPERTY OF
WILLIAM G. DODSON
DEED BOOK P25 / PAGE 1
ZONED A-2A

N/F PROPERTY OF
WILLIAM G. DODSON ET UX
DEED BOOK 1306 / PAGE 301
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS
DEED BOOK R2776 / PAGE
ZONED RM1-PUD

0 10 20 30 40 50 100
GRAPHIC SCALE

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7112 CROSSROADS BOULEVARD
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ENGINEERING CRUNK

TENNESSEE WILSON COUNTY
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
6/21/23
NO. LA.0180
AMERICA
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/21/2023 22135

C2.1

GRADING
DRAINAGE & UTILITY
PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary.pud\C2.0-GRA.dwg

SEE SHEET C2.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 255
ZONED A - ZR

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK R2670 / PAGE 22
ZONED A - ZR

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

HONEY FARM – PHASE 1, SECTION 3
PLAT BOOK 21 / PAGE 109
ZONED RS10-PUD

HONEY FARM – PHASE 1, SECTION 2
PLAT BOOK 20 / PAGE 127
ZONED RS10-PUD

OPEN SPACE
A = 1.09 ACRE

OPEN SPACE
A = 0.09 ACRE

OPEN SPACE
A = 1.16 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.09 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

AMENITY CENTER
A = 0.08 ACRE

POND B

POND A
OPEN SPACE
A = 0.98 ACRE

ROAD A

ROAD D

ALLEY F

ALLEY G

HONEY FARM WAY
(VARIABLE WIDTH R/W)

BENCHMARK–60D NAIL
NORTH: 405,740.68
EAST: 1,676,105.82
ELEV: 713.10

BENCHMARK–60D NAIL
NORTH: 404,866.19
EAST: 1,676,277.50
ELEV: 712.32

0 10 20 30 40 50 100
GRAPHIC SCALE

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SUITE 201
BRENTWOOD, TN 37027
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ENGINEERING CRUNK

TENNESSEE WILSON COUNTY REGISTERED AGRICULTURE 6/21/23 AMERICA NO. 114,180 STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

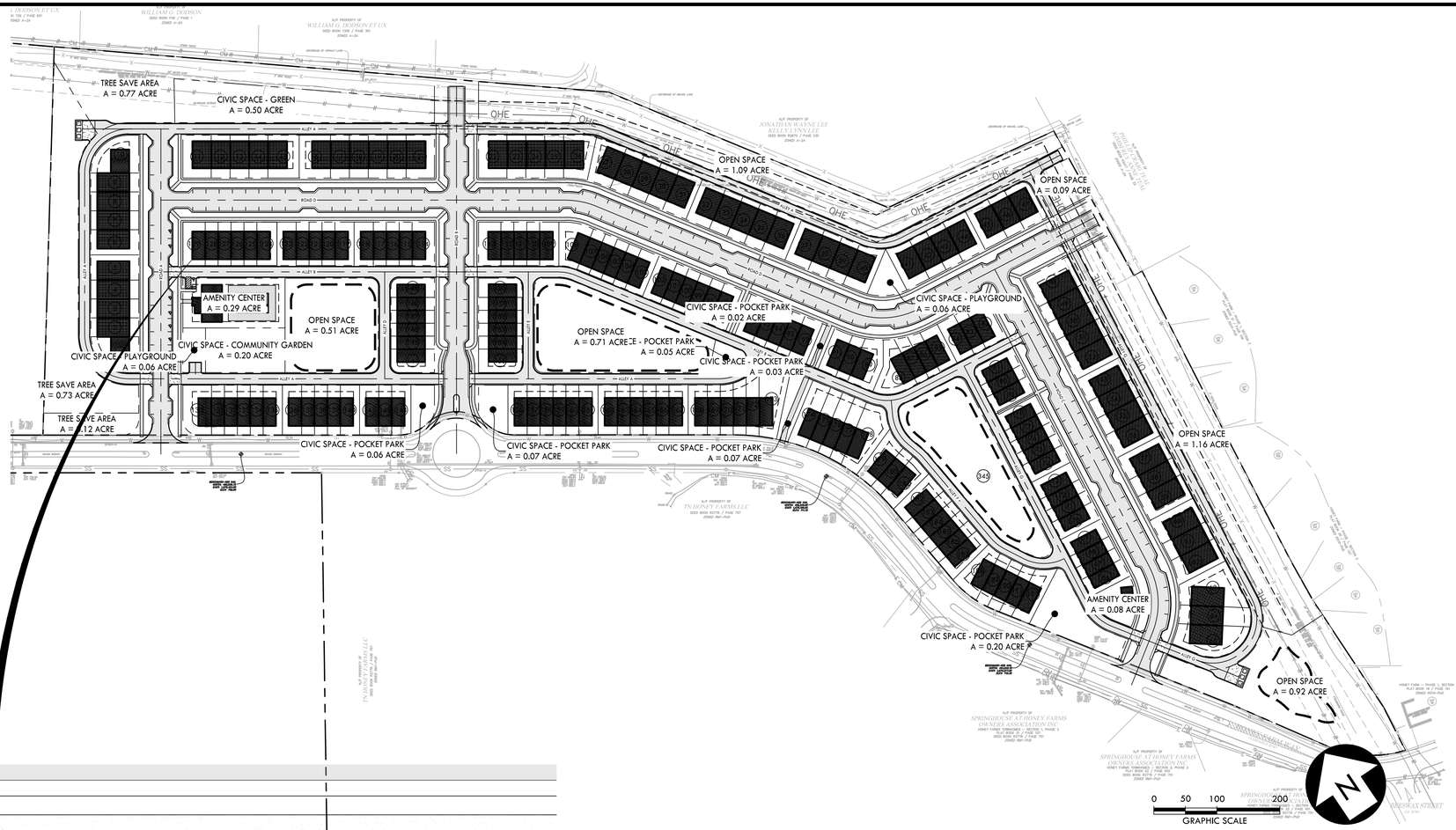
6/21/2023 22135

C2.2

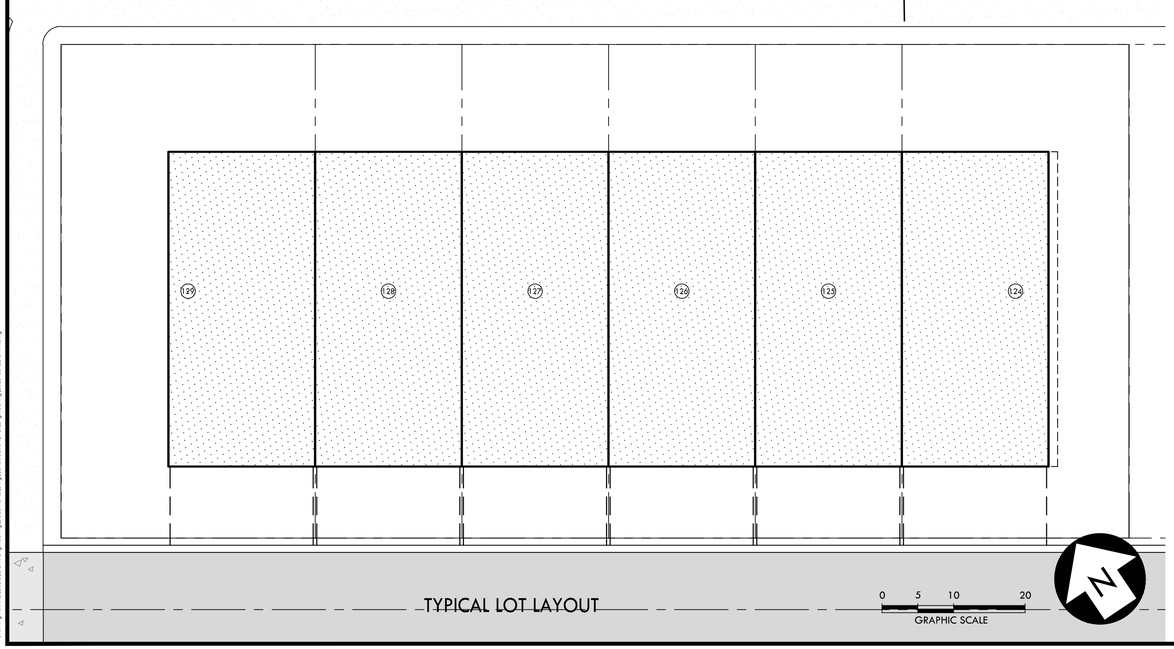
GRADING
DRAINAGE & UTILITY
PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary pud\C2.0-GRA.dwg

OVERALL SITE AREA	
TOTAL AREA:	1,126,724.44 SF / 25.866 AC
PERVIOUS AREA:	589,826.64 SF / 13.60 AC
IMPERVIOUS AREA:	534516.8 SF / 12.27 AC
SIDEWALK AREA:	32,627.3 SF / 0.75 AC
ROAD AREA:	236,974.5 SF / 5.44 AC
DRIVEWAYS:	57,017 SF / 1.31 AC
TOWNHOMES:	207,898 SF / 4.77 AC
IMPERVIOUS AREA RATIO:	12.27/25.866 = 47.4% IMPERVIOUS



TYPICAL LOT AREA	
TOTAL AREA:	9,418 SF / 0.216 AC
PERVIOUS AREA:	2,806 SF / 0.064 AC
IMPERVIOUS AREA:	6,612 SF / 0.151 AC
DRIVEWAYS:	1,200 SF / 0.03 AC
TOWNHOMES:	5,412 SF / 0.124 AC
IMPERVIOUS AREA RATIO:	6,612/9,418 = 70.2% IMPERVIOUS



TYPICAL LOT LAYOUT

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HONEY FARM TOWNHOMES

COLUMBIA, TN

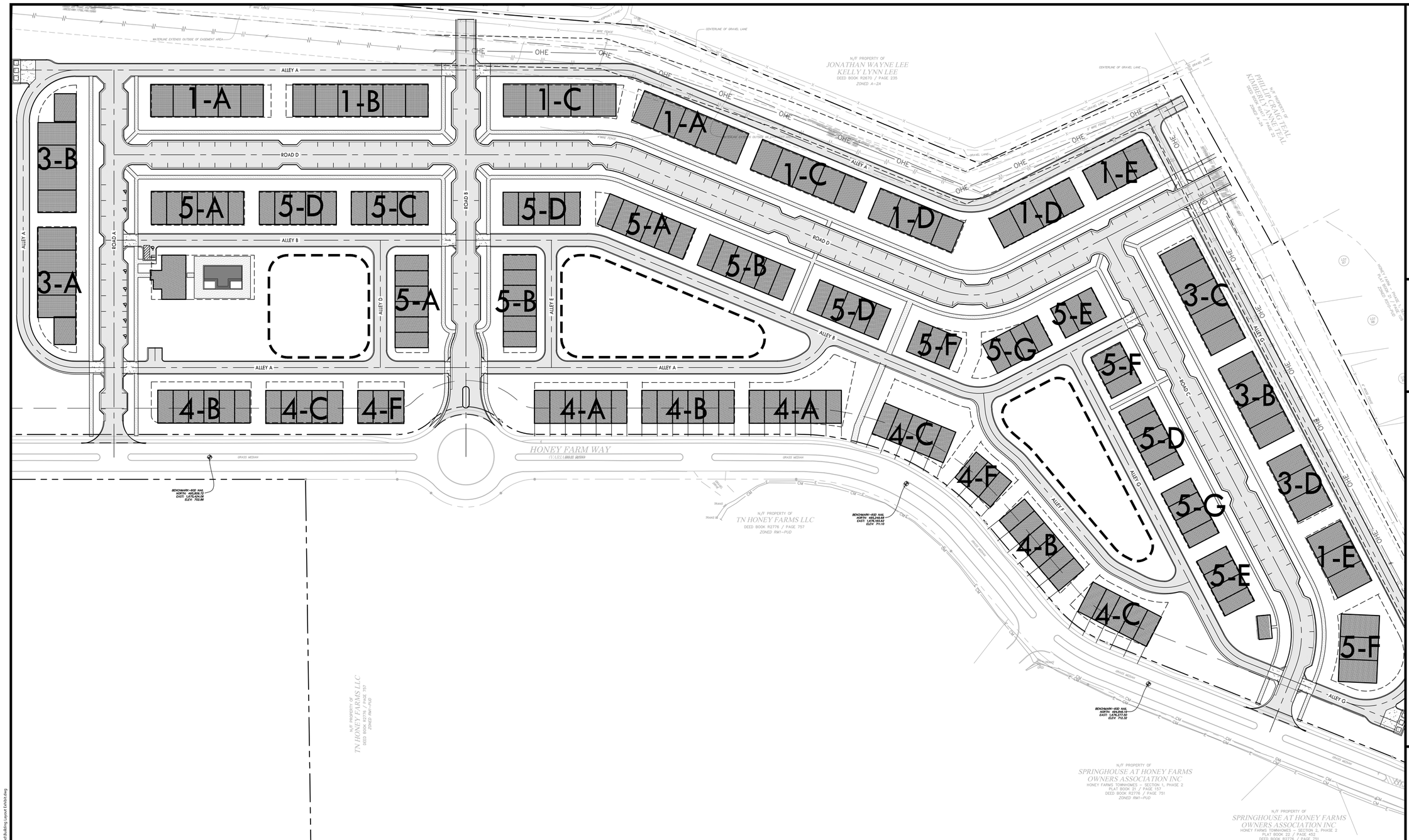
REVISIONS		
No.	DATE	

6/21/2023 22135

C3.0

SITE IMPERVIOUS AREA DISTRIBUTION

Drawing Path: C:\Users\Crunk Engineering\Documents\Clients\Crunk Engineering\2022-05-23 EMM.dwg



CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
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WWW.CRUNKENG.COM

ENGINEERING CRUNK

RICHARD WILSON CRUNK
REGISTERED
AGRICULTURE
6/21/23
NUMBER
114180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

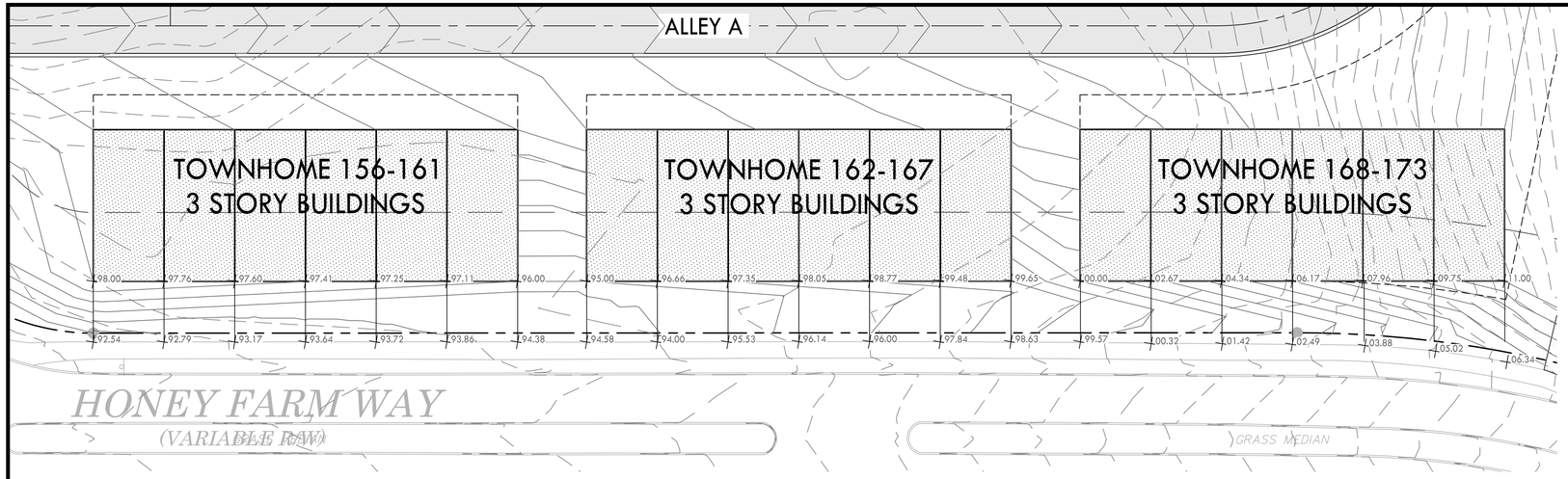
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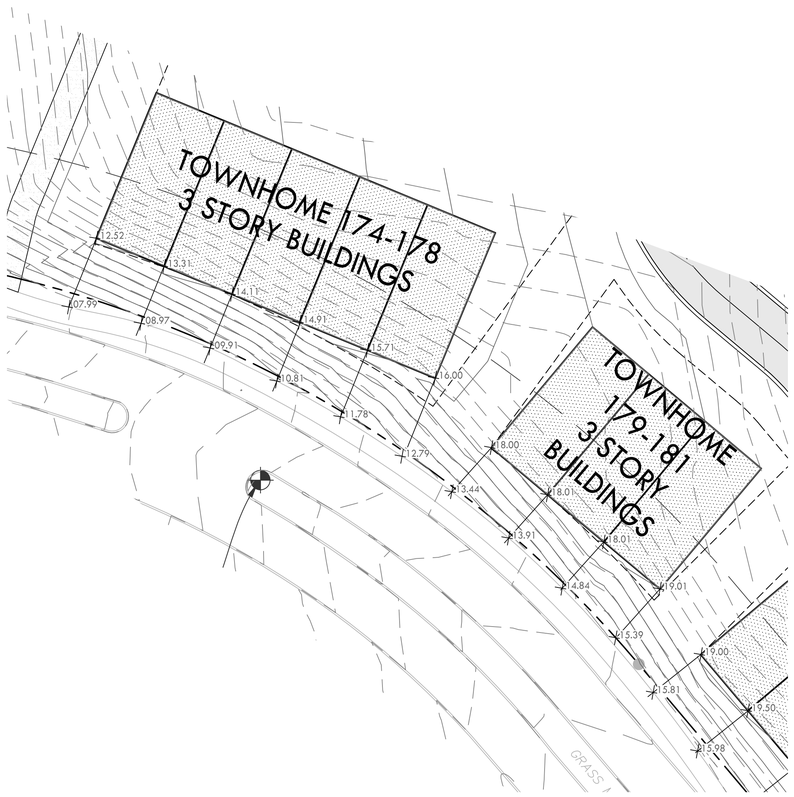
6/21/2023 22135

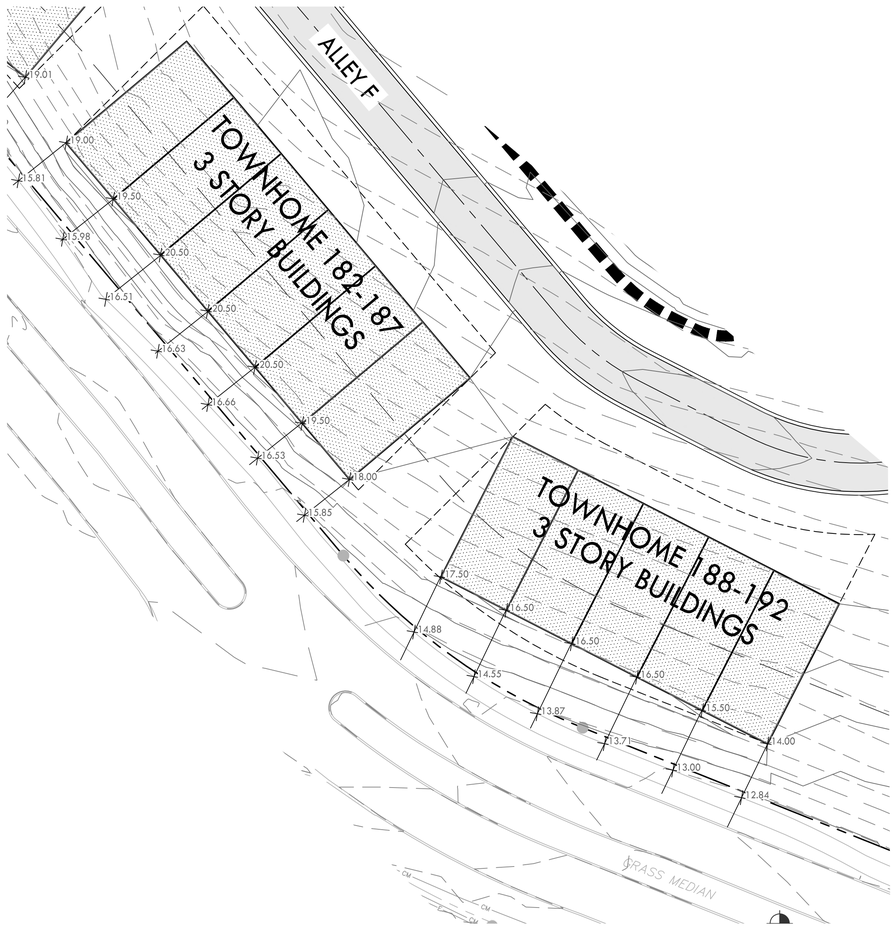
C4.0

BUILDING LAYOUT EXHIBIT

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary pud\Building Layout Exhibit.dwg







NOTES:

TOWNHOMES 156-192 ALL CONSIST OF 3 STORIES.

THE SPOT ELEVATIONS INCLUDED ON THIS SHEET SHOW THE DIFFERENCE IN ELEVATION BETWEEN THE FRONT OF THE TOWNHOMES AND THE EXISITNG SIDEWALK ON HONEY FARM WAY.

0 10 20 40
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

TENNESSEE LICENSED LANDSCAPE ARCHITECT
AGRICULTURE
6/21/23
NO. 1141180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/21/2023 22135

C4.1

BUILDING
ELEVATION EXHIBIT

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary pud\Building Layout Exhibit.dwg



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HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

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C4.2

ROADWAY
ELEVATION
GRAPHICS

Drawing Path: P:\2022\22135 - Honey Farm townhomes\Design\construction\preliminary plan\Building Layout Exhibit.dwg

SEE SHEET L1.1

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 235
ZONED A-2A

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK R2071 / PAGE 22
ZONED A-2A

OPEN SPACE
A = 1.09 ACRE

OPEN SPACE
A = 0.09 ACRE

REDUCED LANDSCAPE BUFFER WIDTH

BUFFER DENSITY TO BE INCREASED IN THIS AREA

MIN. 90% OPACITY 3 FT. FROM GROUND AND UP; EVERGREEN PLANTS > 2.5 IN. CALIPER MEASURED 3 FT FROM GROUND & 8 FT. TALL @ INSTALLATION & 20 FT. TALL @ MATURITY, PLANTED < 10 FT. O.C.

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.02 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

CIVIC SPACE - POCKET PARK
A = 0.03 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

AMENITY CENTER
A = 0.08 ACRE

OPEN SPACE
A = 1.16 ACRE

OPEN SPACE
A = 0.92 ACRE

ALLEY A
ALLEY B
ALLEY C
ALLEY D
ALLEY E
ALLEY F
ALLEY G
ROAD C
ROAD D
HONEY FARM WAY

BENCHMARK--60D NAIL
NORTH: 495,249.68
EAST: 1,676,185.62
ELEV: 711.10

BENCHMARK--60D NAIL
NORTH: 494,846.19
EAST: 1,676,277.50
ELEV: 712.32

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

HONEY FARM – PHASE 1, SECTION 2
PLAT BOOK 21 / PAGE 137
ZONED RSTD-PUD

HONEY FARM – PHASE 1, SECTION 3
PLAT BOOK 21 / PAGE 109
ZONED RSTD-PUD

HONEY FARM – PHASE 1, SECTION 1B
PLAT BOOK 18 / PAGE 191
ZONED RSTD-PUD

MATCH LINE

NOTES:
1. REFER TO SHEET L2.0 FOR ADDITIONAL NOTES AND DETAILS
2. REFER TO SHEET L1.0 FOR PLANT LIST

0 10 20 30 40 50 100
GRAPHIC SCALE

Know what's below. Call before you dig.

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7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

BRADLEY M. LOWRY
REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

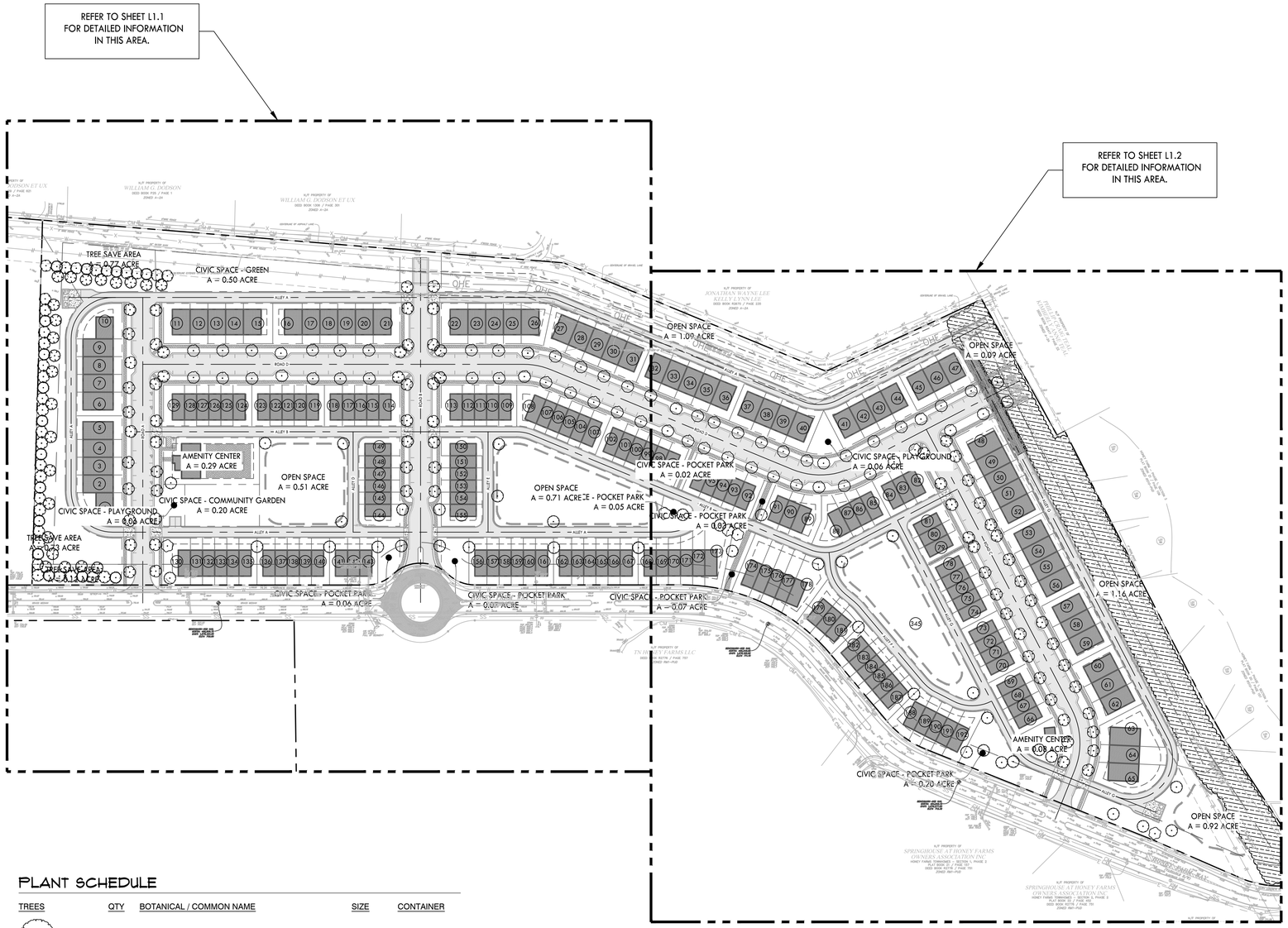
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No.	DATE

6/21/2023 22135

L1.2

LANDSCAPE PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary plat\L1.0 LAYA.dwg



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER
	40	Acer rubrum / October Glory® Red Maple	2" Cal.	B&B
	76	Carpinus caroliniana / American Hornbeam	2.5" Cal.	B&B
	62	Gymnocladus dioica 'Espresso' / Kentucky Coffeetree	2.5" Cal.	B&B
	5	Quercus alba / White Oak	2.5" Cal.	B&B

MITIGATION TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER
	15	Acer saccharum / Sugar Maple	2" Cal.	B&B
	23	Liriodendron tulipifera / Tulip Poplar	2" Cal.	B&B
	15	Pinus strobus / White Pine	2" Cal.	B&B
	16	Quercus shumardii / Shumard Oak	2" Cal.	B&B

0 50 100 200
GRAPHIC SCALE

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AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

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No.	DATE

6/21/2023 22135

L1.0

OVERALL
LANDSCAPE PLAN

Drawing Path: P:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary plat\L1.0-LAN.dwg

NOTES:
1. REFER TO SHEET L2.0 FOR ADDITIONAL NOTES AND DETAILS
2. REFER TO SHEET L1.0 FOR PLANT LIST

SEE SHEET L1.2

N/F PROPERTY OF
WILLIAM G. DODSON
DEED BOOK P25 / PAGE 1
ZONED A-2A

N/F PROPERTY OF
WILLIAM G. DODSON ET UX
DEED BOOK 1306 / PAGE 301
ZONED A-2A

TREE SAVE AREA
A = 0.77 ACRE

CIVIC SPACE - GREEN
A = 0.50 ACRE

ALLEY A

ROAD D

ROAD A

ROAD B

ALLEY B

ALLEY D

ALLEY E

AMENITY CENTER
A = 0.29 ACRE

OPEN SPACE
A = 0.51 ACRE

CIVIC SPACE - COMMUNITY GARDEN
A = 0.20 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

TREE SAVE AREA
A = 0.73 ACRE

TREE SAVE AREA
A = 0.12 ACRE

OPEN SPACE
A = 0.71 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

CIVIC SPACE - POCKET PARK
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

BENCHMARK--600 NAIL
NORTH: 465,809.72
EAST: 1,675,424.06
ELEV: 702.86

N/F PROPERTY OF
TN HONEY FARMS
DEED BOOK R2776 / PAGE
ZONED RM1-PUD

MATCH LINE

0 10 20 30 40 50 100
GRAPHIC SCALE

Know what's below.
Call before you dig.

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(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

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REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

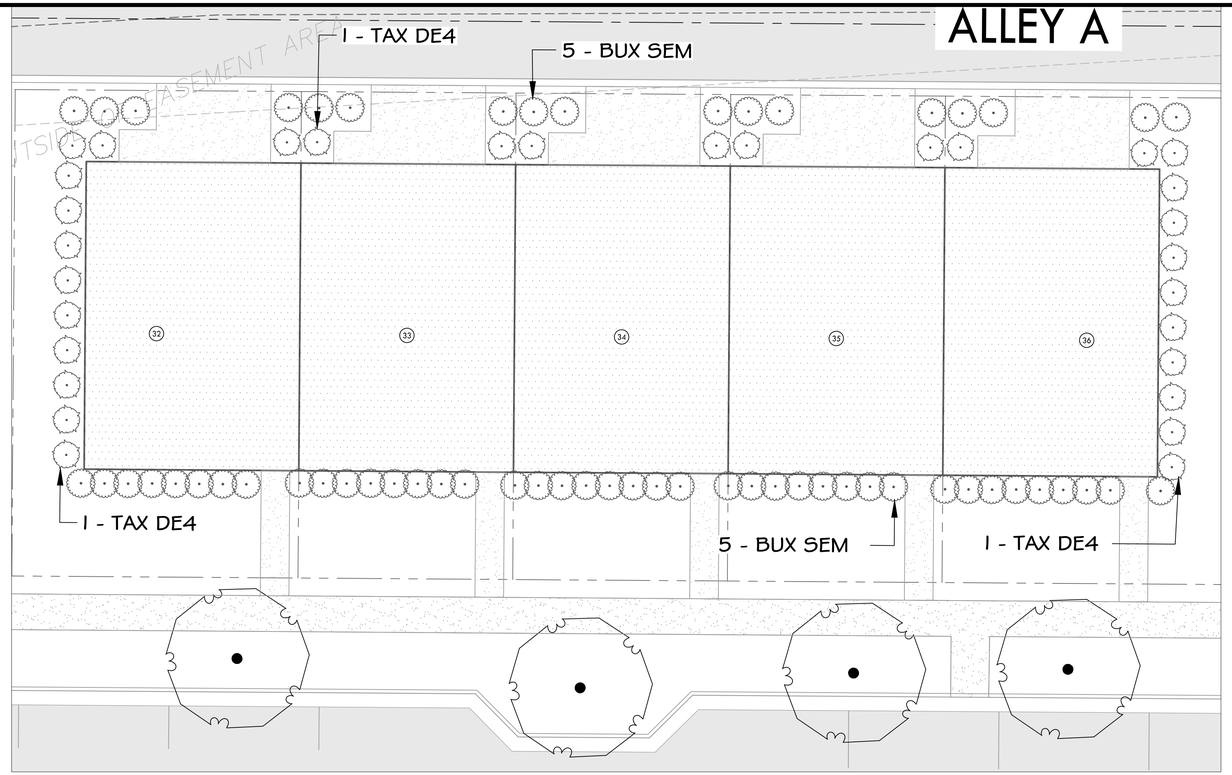
COLUMBIA, TN

REVISIONS
No. DATE

6/21/2023 22135

L1.1
LANDSCAPE PLAN

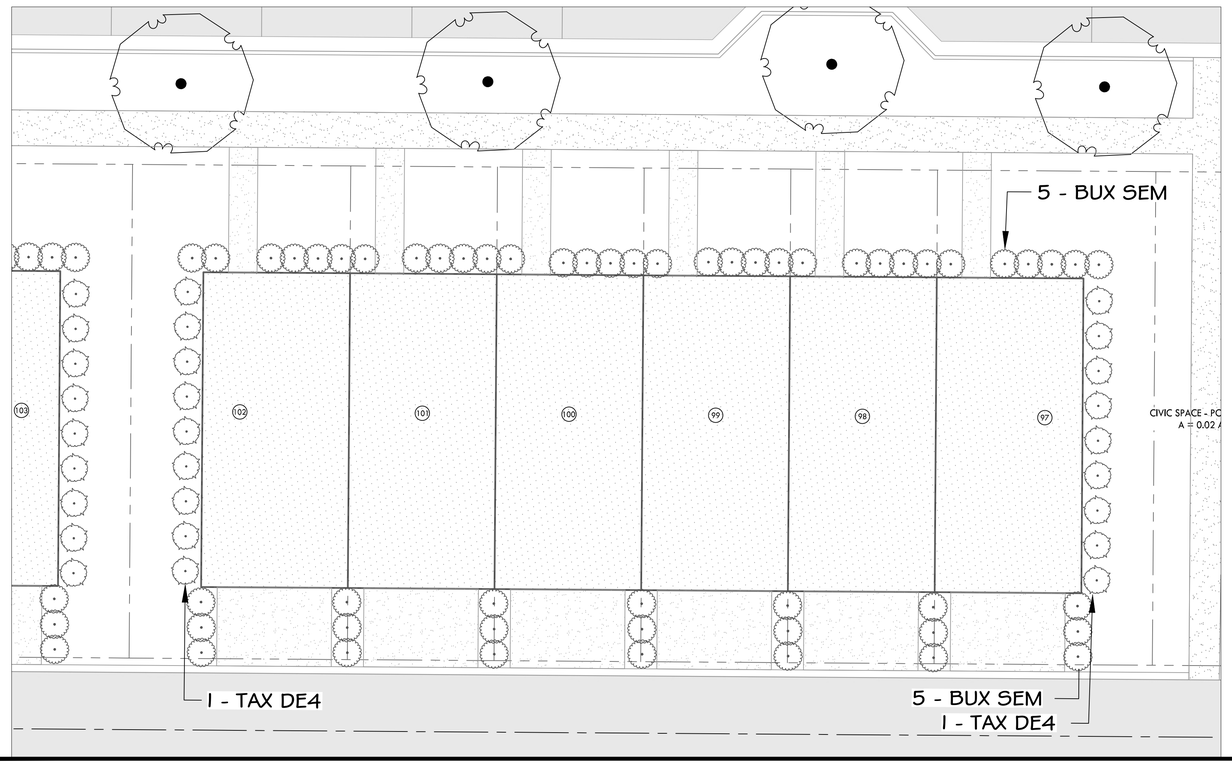
Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary plat\L1.0 LAN.dwg



5 UNIT SHOLLOWFORD TYPICAL FOUNDATION PLANTING

PLANT SCHEDULE

SHRUBS	BOTANICAL / COMMON NAME	SIZE	CONTAINER
BUX SEM	Buxus sempervirens / Common Boxwood	3 gal.	Pot
TAX DE4	Taxus x media / Anglo-Japanese Yew	3 gal.	Pot



6 UNIT MCCALLIE TYPICAL FOUNDATION PLANTING

PLANT SCHEDULE

SHRUBS	BOTANICAL / COMMON NAME	SIZE	CONTAINER
BUX SEM	Buxus sempervirens / Common Boxwood	3 gal.	Pot
TAX DE4	Taxus x media / Anglo-Japanese Yew	3 gal.	Pot

0 10 20 30 40 50 100
GRAPHIC SCALE

Know what's below. Call before you dig.

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ENGINEERING CRUNK

BRADLEY M. LOWRY
REGISTERED
AGRICULTURE
2/1/2023
TENNESSEE
LANDSCAPE ARCHITECT

HONEY FARM TOWNHOMES

COLUMBIA, TN

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No.	DATE

6/21/2023 22135

L3.0

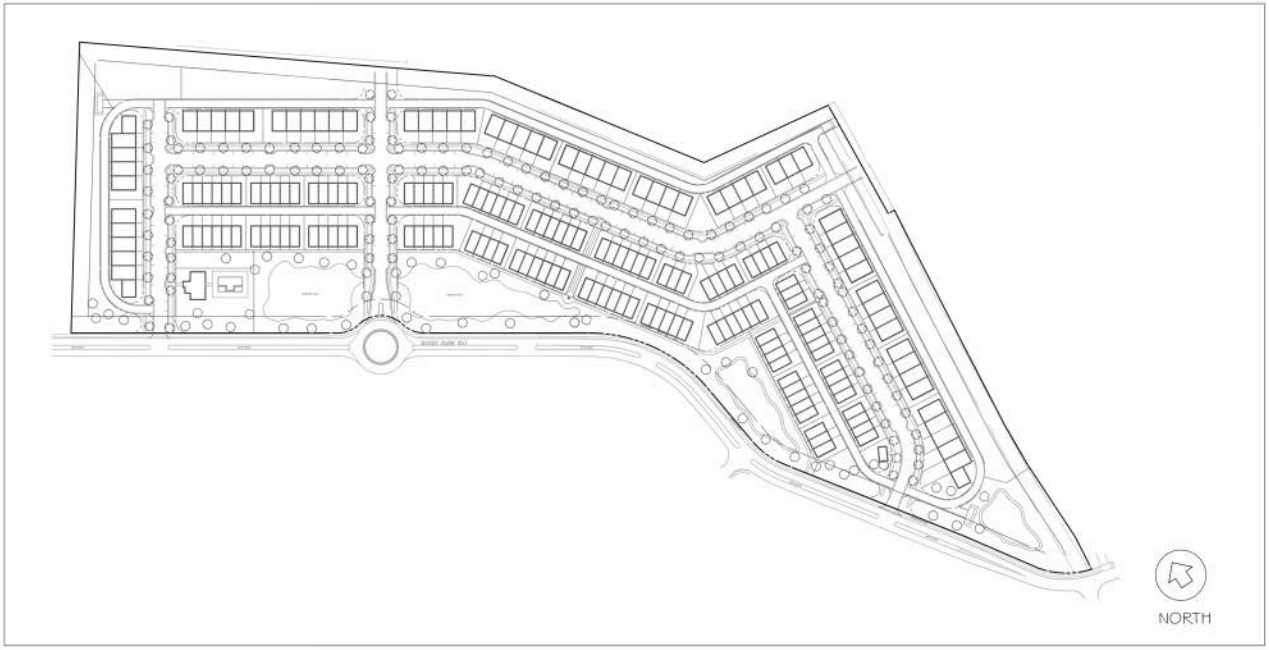
FOUNDATION PLANTING PLAN

Drawing Path: P:\2022\22135 - Honey Farm (townhomes)\Dwg\construction\preliminary pud\L3.0 LAN.dwg

HONEY FARMS TOWNHOMES

2248 NASHVILLE HWY (SEC HWY 31 & HONEY FARM WAY)

COLUMBIA, TENNESSEE 38401



GENERAL NOTES:

1. ALL TOWNHOMES SHALL BE DIFFERENTIATED SO THAT IT APPEARS TO BE COMPRISED OF TWO OR MORE ADJACENT BUILDINGS, BY DIVIDING SUCH FACADE INTO TWO SEGMENTS EACH OF WHICH INCLUDES A SEPARATE ENTRANCE AND (1) DIFFERS FROM EACH OF THE OTHER SEGMENTS WITH RESPECT TO ALL OF THE FOLLOWING: (a) A CHANGE IN SHAPE, SILL AND HEADER HEIGHT, DETAIL, SIZE, SPACING, RHYTHM, AND MUNTIN PATTERN OF WINDOWS. (b) A CHANGE OF BUILDING OR CORNICE HEIGHT, (c) A CHANGE IN CORNICE DETAILS, (d) A CHANGE IN WALL MATERIAL OR COLOR, A CHANGE IN TRIM COURSES AND OTHER HORIZONTAL ELEMENTS, (e) A CHANGE IN DORMER OR BALCONY DESIGN, IF ANY, AND (f) PROVIDING OR CHANGING PILASTERS, COLUMNS, OR OTHER FACADE ELEMENTS AND (2) IS COMPOSED WITH A DEFINED CENTER AND EDGES

2. NO FACADE SHALL EXIST MORE THAN ONCE ON A BLOCK FACE OR WITHIN VIEW OF THE SAME FACADE

3. ALL FINISHED FLOOR LEVELS TO BE A MINIMUM OF 18 INCHES ABOVE FINISHED GRADE AT FACADE

4. VARIANCE: ALL UNITS TO HAVE A FACADE WINDOW SILL HEIGHT AT A MINIMUM OF 36 INCHES ABOVE FINISHED GRADE

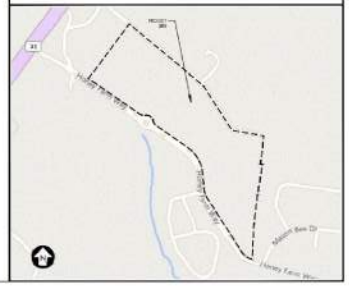
SHEET INDEX

SHT. #	SHEET TITLE
C1.1	COVER SHEET
C1.2	OVERALL SITE PLAN
C1.3	SITE PLAN - ELEVATIONS & COLOR SCHEMES
A1.1	PLAN 1 - FLOORPLAN
A1.2	PLAN 1 - FRONT ELEVATIONS
A1.3	PLAN 1 - FRONT ELEVATIONS (CONT.)
A1.4	PLAN 1 - FULL ELEVATIONS
A1.5	PLAN 1 - BUILDING CONCEPT
A2.1	PLAN 2 - FLOORPLAN
A2.2	PLAN 2 - FRONT ELEVATIONS
A2.3	PLAN 2 - FULL ELEVATIONS
A2.4	PLAN 2 - BUILDING CONCEPT
A3.1	PLAN 3 - FLOORPLAN
A3.2	PLAN 3 - FRONT ELEVATIONS
A3.3	PLAN 3 - FRONT ELEVATIONS (CONT.)
A3.4	PLAN 3 - FULL ELEVATIONS
A3.5	PLAN 3 - BUILDING CONCEPT
A4.1	PLAN 4 - FLOORPLAN
A4.2	PLAN 4 - FRONT ELEVATIONS
A4.3	PLAN 4 - FRONT ELEVATIONS (CONT.)
A4.4	PLAN 4 - FRONT ELEVATIONS (CONT.)
A4.5	PLAN 4 - FRONT ELEVATIONS (CONT.)
A4.6	PLAN 4 - FULL ELEVATIONS
A4.7	PLAN 4 - BUILDING CONCEPT
A5.1	PLAN 5 - FLOORPLAN
A5.2	PLAN 5 - FRONT ELEVATIONS
A5.3	PLAN 5 - FRONT ELEVATIONS (CONT.)
A5.4	PLAN 5 - FRONT ELEVATIONS (CONT.)
A5.5	PLAN 5 - FRONT ELEVATIONS (CONT.)
A5.6	PLAN 5 - FULL ELEVATIONS
A5.7	PLAN 5 - BUILDING CONCEPT
A6.1	CLUBHOUSE - FLOORPLAN
A6.2	CLUBHOUSE - FRONT & BACK ELEVATIONS
A6.3	CLUBHOUSE - LEFT & RIGHT ELEVATIONS
A6.4	CLUBHOUSE - FULL ELEVATIONS
A7.1	WINDOW & DOOR SCHEDULE
A7.2	MATERIAL & TRIM SCHEDULE

PROJECT INFO

# OF UNITS	UNIT TYPE
35	PLAN 1
4	PLAN 2
32	PLAN 3
134	PLAN 4 & 5
205	TOTAL NUMBER OF UNITS
1	CLUBHOUSE & LEASING OFFICE

LOCATION MAP - NOT TO SCALE



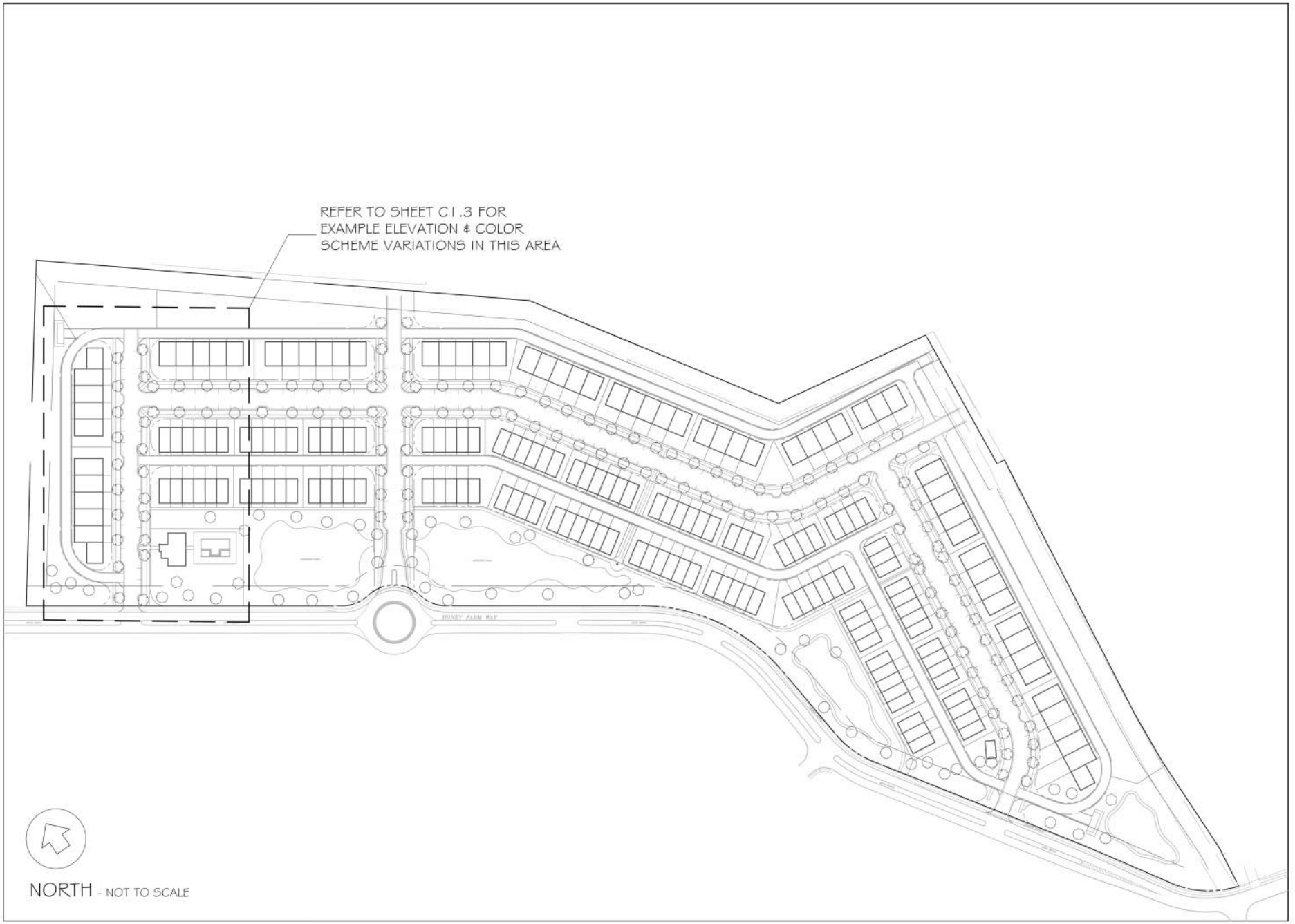
RP HOMES

HONEY FARMS TOWNHOMES:
ARCHITECTURAL REVIEW SUBMITTAL

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

C1.1



RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

OVERALL SITE PLAN

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

C1.2

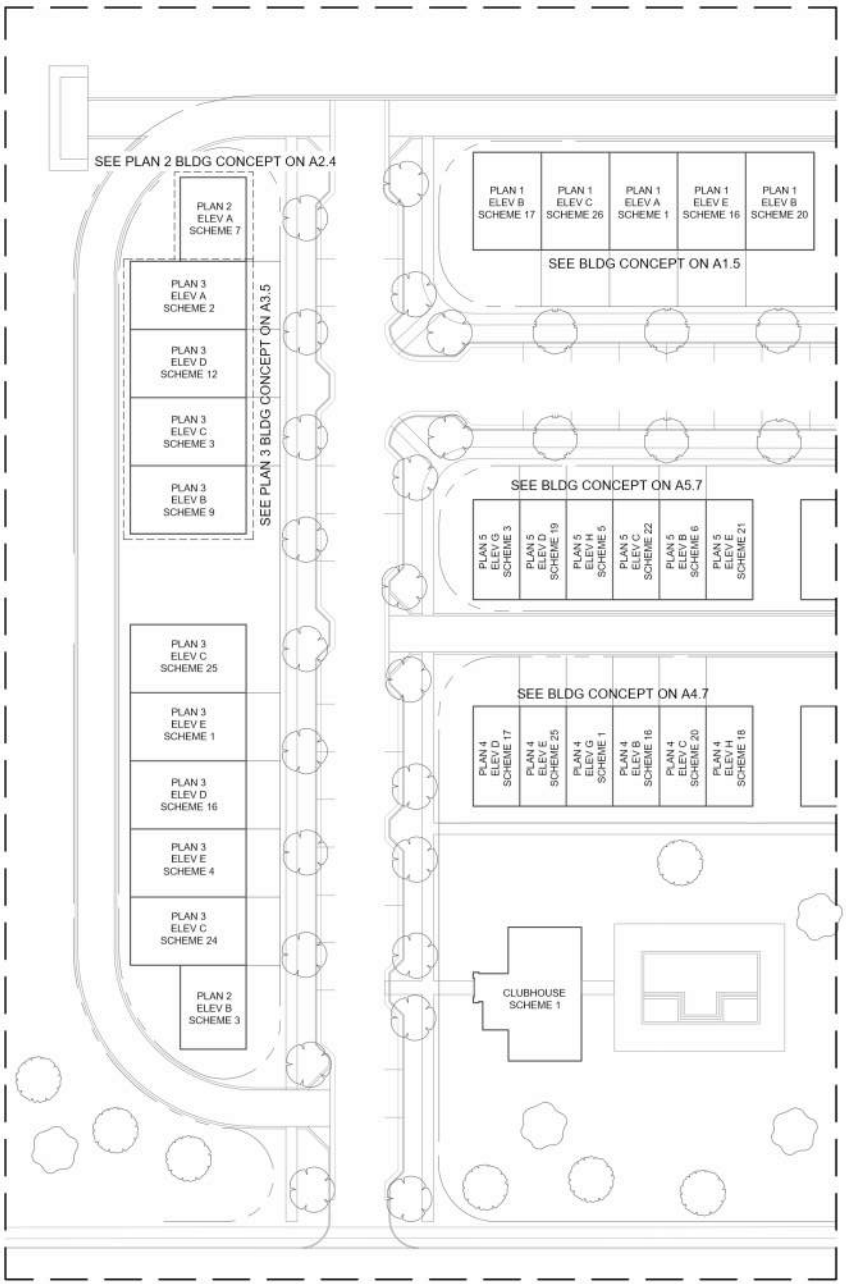
GENERAL ELEVATION & FACADE NOTES:

1. ALL TOWNHOMES SHALL BE DIFFERENTIATED SO THAT IT APPEARS TO BE COMPRISED OF TWO OR MORE ADJACENT BUILDINGS, BY DIVIDING SUCH FACADE INTO TWO SEGMENTS EACH OF WHICH INCLUDES A SEPARATE ENTRANCE AND (1) DIFFERS FROM EACH OF THE OTHER SEGMENTS WITH RESPECT TO ALL OF THE FOLLOWING: (a) A CHANGE IN SHAPE, SILL AND HEADER HEIGHT, DETAIL, SIZE, SPACING, RHYTHM, AND MUNTIN PATTERN OF WINDOWS. (b) A CHANGE OF BUILDING OR CORNICE HEIGHT, (c) A CHANGE IN CORNICE DETAILS, (d) A CHANGE IN WALL MATERIAL OR COLOR, A CHANGE IN TRIM COURSES AND OTHER HORIZONTAL ELEMENTS, (e) A CHANGE IN DORMER OR BALCONY DESIGN, IF ANY, AND (f) PROVIDING OR CHANGING PILASTERS, COLUMNS, OR OTHER FACADE ELEMENTS AND (2) IS COMPOSED WITH A DEFINED CENTER AND EDGES

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3. ALL FINISHED FLOOR LEVELS TO BE A MINIMUM OF 18 INCHES ABOVE FINISHED GRADE AT FACADE

4. VARIANCE: ALL UNITS TO HAVE A FACADE WINDOW SILL HEIGHT AT A MINIMUM OF 36 INCHES ABOVE FINISHED GRADE



NORTH - NOT TO SCALE

RP HOMES

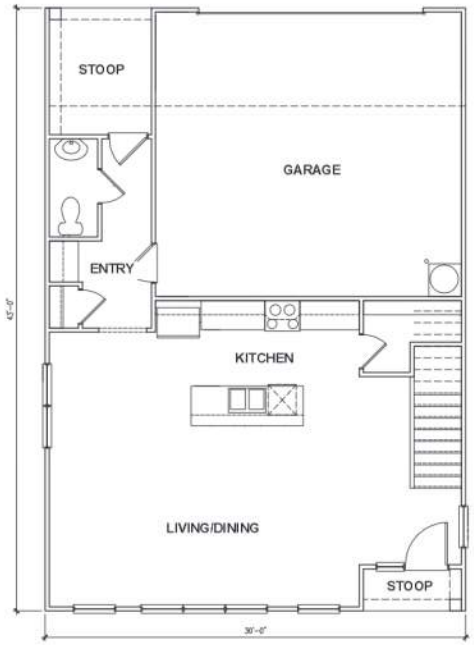
HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

SITE PLAN - ELEV & COLOR VARIATION

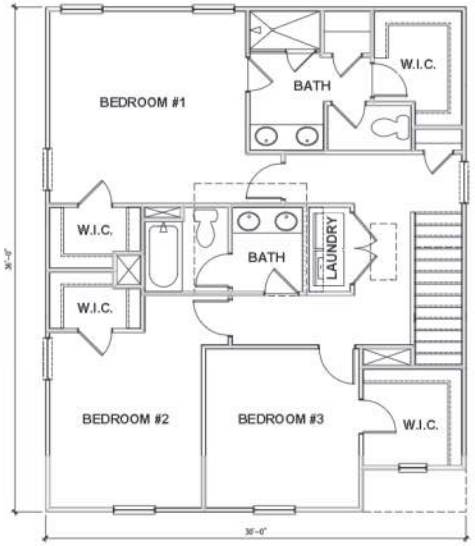
SUBDIVISION: HONEY FARMS

MUNICIPALITY: COLUMBIA, TENNESSEE

C1.3



FIRST FLOOR



SECOND FLOOR

PLAN 1 FLOORPLAN

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 1

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A1.1

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION A
COLOR SCHEME 3



ELEVATION B
COLOR SCHEME 7



ELEVATION C
COLOR SCHEME 11



ELEVATION D
COLOR SCHEME 14



ELEVATION E
COLOR SCHEME 17



ELEVATION F
COLOR SCHEME 18

PLAN 1 FRONT ELEVATIONS
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 1

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A1.2

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION G

COLOR SCHEME 28



ELEVATION H

COLOR SCHEME 25

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 1

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A1.3

PLAN 1 FRONT ELEVATIONS
SCALE: NTS



FRONT
COLOR SCHEME 5



LEFT (END UNIT CONDITION)
COLOR SCHEME 5



BACK
COLOR SCHEME 5



RIGHT (END UNIT CONDITION)
COLOR SCHEME 5

PLAN 1 FULL ELEVATIONS
SCALE: 1/16"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 1

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A1.4



ELEV B
DOOR STYLE 2
4 / CLEAR WINDOW GRID
COLOR SCHEME 17

ELEV C
DOOR STYLE 1
4 / 4 WINDOW GRID
COLOR SCHEME 26

ELEV A
DOOR STYLE 3
CLEAR / CLEAR WINDOW GRID
COLOR SCHEME 1

ELEV E
DOOR STYLE 2
4 / CLEAR WINDOW GRID
COLOR SCHEME 16

ELEV B
DOOR STYLE 1
4 / 4 WINDOW GRID
COLOR SCHEME 20

PLAN 1 BUILDING CONCEPT
SCALE: 1/16

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 1

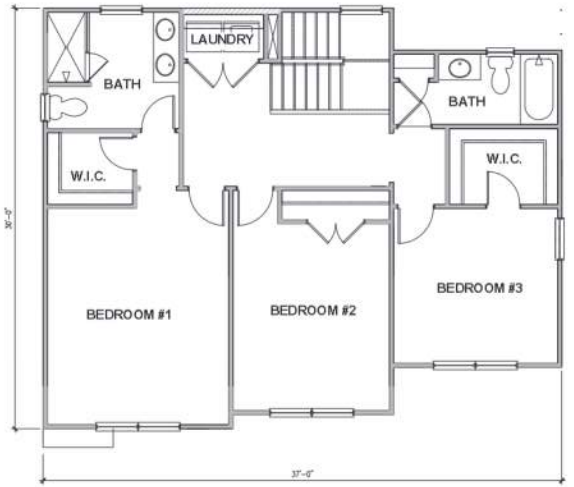
SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A1.5



FIRST FLOOR



SECOND FLOOR

PLAN 2 FLOORPLAN

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 2

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A2.1

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION A

COLOR SCHEME 6



ELEVATION B

COLOR SCHEME 17



ELEVATION C

COLOR SCHEME 23

PLAN 2 FRONT ELEVATIONS

SCALE: 1/8"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 2

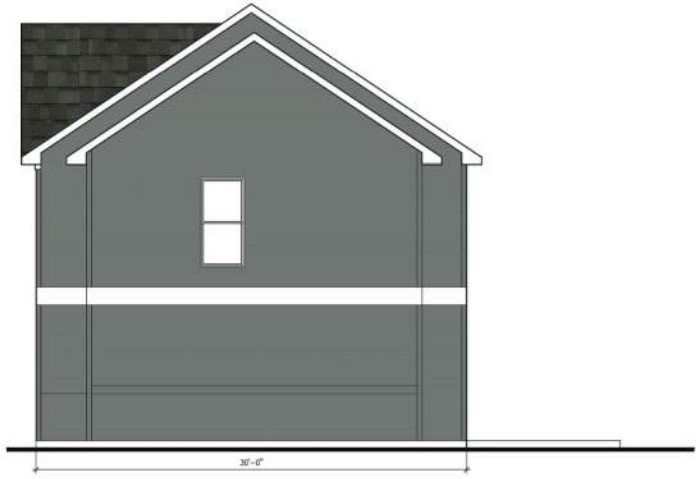
SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A2.2



FRONT
COLOR SCHEME 20



RIGHT
COLOR SCHEME 20



REAR
COLOR SCHEME 20



LEFT
COLOR SCHEME 20

PLAN 2 FULL ELEVATIONS
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 2

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A2.3



PLAN 3 - ELEV B
DOOR STYLE 5
CLEAR / CLEAR WINDOW GRID
COLOR SCHEME 9

PLAN 3 - ELEV C
DOOR STYLE 1
4 / CLEAR WINDOW GRID
COLOR SCHEME 3

PLAN 3 - ELEV D
DOOR STYLE 2
4 / 4 WINDOW GRID
COLOR SCHEME 12

PLAN 3 - ELEV A
DOOR STYLE 5
2 / 2 WINDOW GRID
COLOR SCHEME 2

PLAN 2- ELEV A
DOOR STYLE 4
9 / CLEAR WINDOW
GRID COLOR SCHEME 7

PLAN 2 BUILDING CONCEPT
SCALE: NTS

RP HOMES

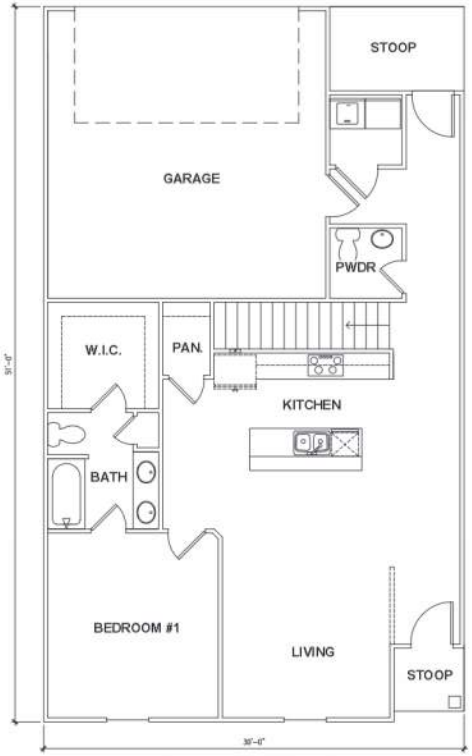
HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 2

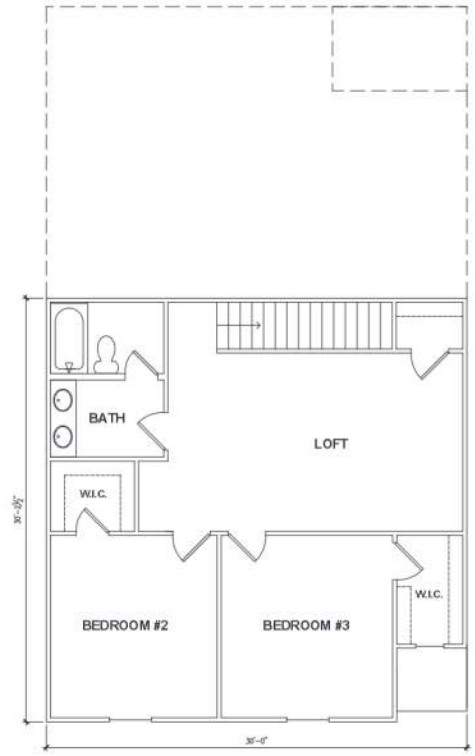
SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A2.4



PLAN 3 - FIRST FLOOR



PLAN 3 - SECOND FLOOR

PLAN 3 FLOORPLAN

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 3

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A3.1



ELEVATION A
COLOR SCHEME 27



ELEVATION B
COLOR SCHEME 18



ELEVATION C
COLOR SCHEME 14



ELEVATION D
COLOR SCHEME 9



ELEVATION E
COLOR SCHEME 6



ELEVATION F
COLOR SCHEME 4

PLAN 3 FRONT ELEVATIONS
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 3

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A3.2

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION G

COLOR SCHEME 17



ELEVATION H

COLOR SCHEME 24

PLAN 3 FRONT ELEVATIONS
SCALE: 1/16"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 3

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A3.3



FRONT
COLOR SCHEME 15



LEFT (END UNIT CONDITION)
COLOR SCHEME 15



BACK
COLOR SCHEME 15



RIGHT (END UNIT CONDITION)
COLOR SCHEME 15

PLAN 3 FULL ELEVATIONS
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 3

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A3.4



PLAN 3 BUILDING CONCEPT
SCALE: 1/8"

RP HOMES

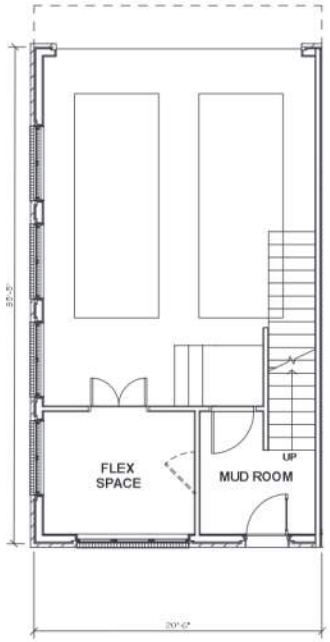
HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 3

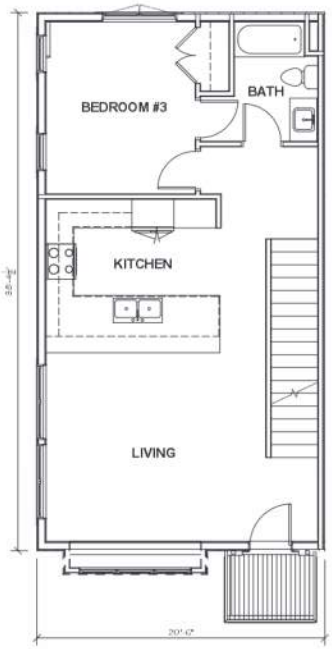
SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A3.5



FIRST FLOOR



SECOND FLOOR



THIRD FLOOR

PLAN 4 FLOOR PLAN

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.1

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION A

COLOR SCHEME 16



ELEVATION B

COLOR SCHEME 7



ELEVATION C

COLOR SCHEME 14



ELEVATION D

COLOR SCHEME 5

PLAN 4 FRONT ELEVATIONS

SCALE: 1/4"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.2

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION A

COLOR SCHEME 22



ELEVATION B

COLOR SCHEME 27



ELEVATION C

COLOR SCHEME 23



ELEVATION D

COLOR SCHEME 25

PLAN 4 FRONT ELEVATIONS

SCALE: 1/4"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.3

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION E

COLOR SCHEME 18



ELEVATION F

COLOR SCHEME 6



ELEVATION G

COLOR SCHEME 12



ELEVATION H

COLOR SCHEME 13

PLAN 4 FRONT ELEVATIONS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.4

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION E

COLOR SCHEME 1



ELEVATION F

COLOR SCHEME 2



ELEVATION G

COLOR SCHEME 3



ELEVATION H

COLOR SCHEME 5

PLAN 4 FRONT ELEVATIONS
SCALE: 1/4"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.5



FRONT
COLOR SCHEME 7



RIGHT
COLOR SCHEME 7



REAR
COLOR SCHEME 7



LEFT
COLOR SCHEME 7

PLAN 4 FULL ELEVATIONS
SCALE: 1/4"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.6



ELEV D
DOOR STYLE 1
4 / 4 WINDOW GRID
COLOR SCHEME 17

ELEV E
DOOR STYLE 3
4 / CLEAR WINDOW GRID
COLOR SCHEME 25

ELEV G
DOOR STYLE 4
CLEAR / CLEAR WINDOW GRID
COLOR SCHEME 1

ELEV B
DOOR STYLE 5
2 / 2 WINDOW GRID
COLOR SCHEME 16

ELEV C
DOOR STYLE 1
9 / 9 WINDOW GRID
COLOR SCHEME 20

ELEV H
DOOR STYLE 2
4 / CLEAR WINDOW GRID
COLOR SCHEME 18

PLAN 4 BUILDING CONCEPT
SCALE: 1/8"

RP HOMES

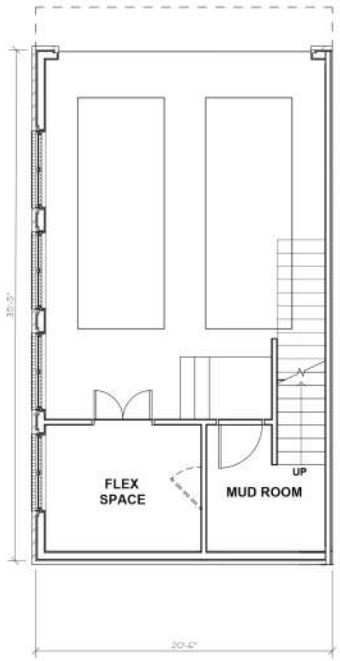
HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 4

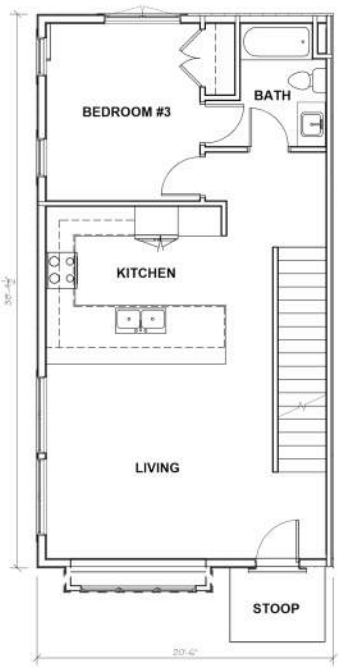
SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A4.7



FIRST FLOOR



SECOND FLOOR



THIRD FLOOR

PLAN 5 FLOOR PLAN
SCALE: 3/16"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A5.1

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION A

COLOR SCHEME 8



ELEVATION B

COLOR SCHEME 13



ELEVATION C

COLOR SCHEME 4



ELEVATION D

COLOR SCHEME 18

PLAN 5 FRONT ELEVATIONS
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A5.2

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION A

COLOR SCHEME 21



ELEVATION B

COLOR SCHEME 23



ELEVATION C

COLOR SCHEME 2



ELEVATION D

COLOR SCHEME 22

PLAN 5 FRONT ELEVATIONS
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A5.3

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION E

COLOR SCHEME 27



ELEVATION F

COLOR SCHEME 5



ELEVATION G

COLOR SCHEME 14



ELEVATION H

COLOR SCHEME 15

PLAN 5 FRONT ELEVATIONS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A5.4

NOTE: TYPICAL FACADE CONFIGURATION SHOWN. WINDOWS, FRONT DOORS, TRIM & COLUMNS VARY PER APPLICATION



ELEVATION E

COLOR SCHEME 25



ELEVATION F

COLOR SCHEME 2



ELEVATION G

COLOR SCHEME 10



ELEVATION H

COLOR SCHEME 6

PLAN 5 FRONT ELEVATIONS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

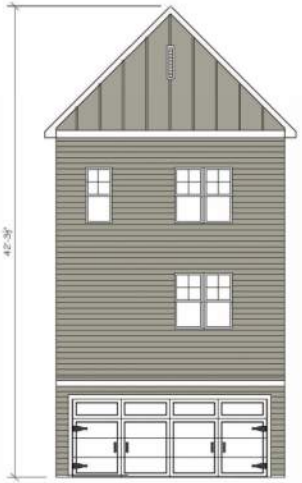
A5.5



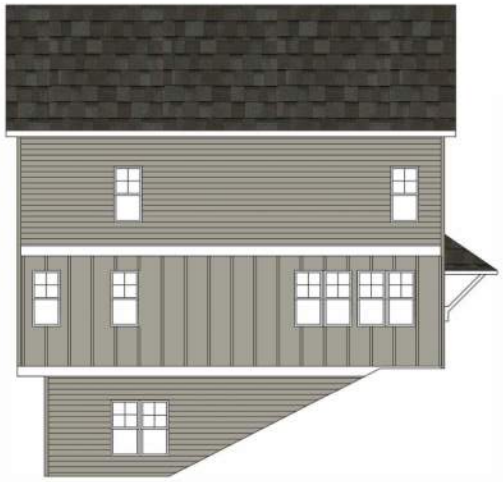
FRONT
COLOR SCHEME 12



RIGHT
COLOR SCHEME 12



REAR
COLOR SCHEME 12



LEFT
COLOR SCHEME 12

PLAN 5 FULL ELEVATIONS
SCALE: 1/8"

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A5.6



ELEV G
DOOR STYLE 3
4 / 4 WINDOW GRID
COLOR SCHEME 3

ELEV D
DOOR STYLE 2
CLEAR / CLEAR WINDOW GRID
COLOR SCHEME 19

ELEV H
DOOR STYLE 1
2 / 2 WINDOW GRID
COLOR SCHEME 5

ELEV C
DOOR STYLE 4
4 / CLEAR WINDOW GRID
COLOR SCHEME 22

ELEV B
DOOR STYLE 5
9 / CLEAR WINDOW GRID
COLOR SCHEME 6

ELEV E
DOOR STYLE 2
CLEAR / CLEAR WINDOW GRID
COLOR SCHEME 21

PLAN 5 BUILDING CONCEPT
SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

PLAN 5

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A5.7

RP HOMES

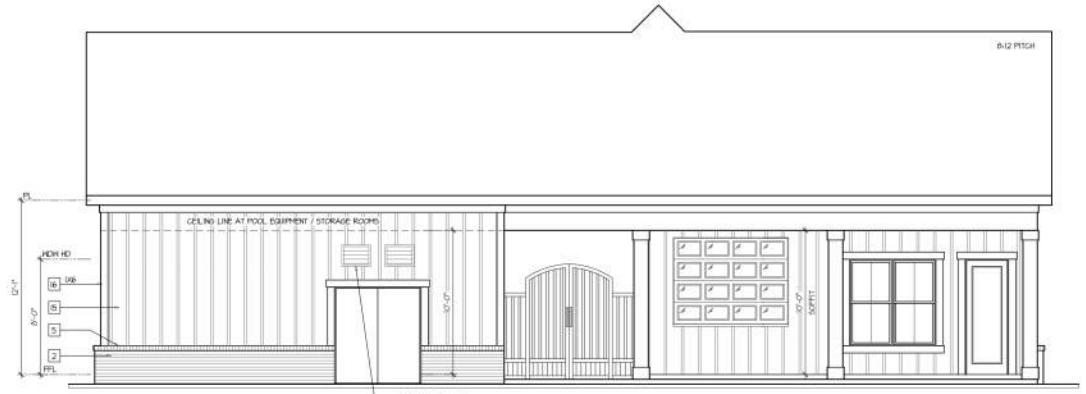
HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

CLUBHOUSE

SUBDIVISION: HONEY FARMS
MUNICIPALITY: COLUMBIA, TENNESSEE

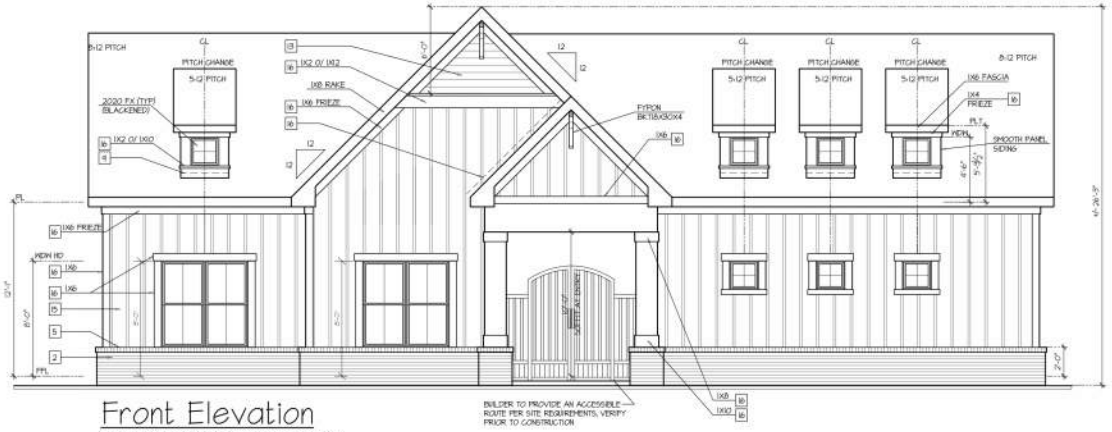
A6.1

CLUBHOUSE FLOORPLAN
SCALE: 1/4"



Rear Elevation

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT



Front Elevation

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

CLUBHOUSE ELEVATIONS (FRONT & BACK)

SCALE: NTS

RP HOMES

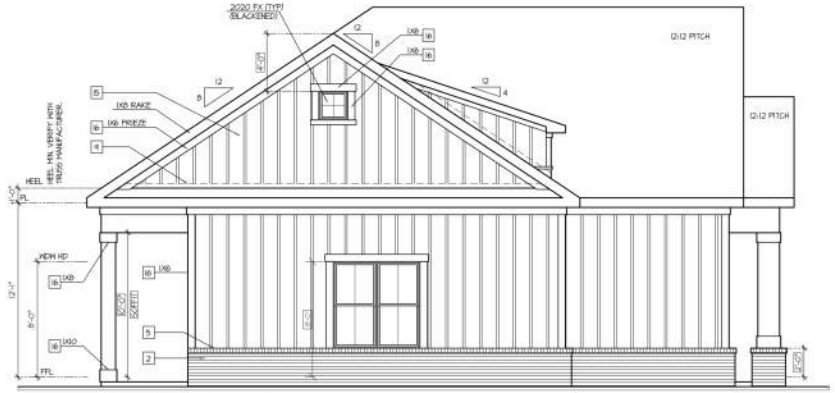
HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

CLUBHOUSE

SUBDIVISION:
HONEY FARMS

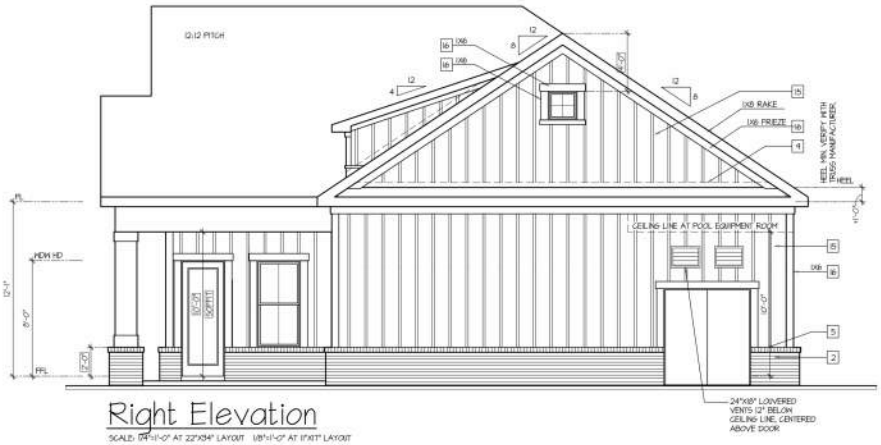
MUNICIPALITY:
COLUMBIA, TENNESSEE

A6.2



Left Elevation

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT



Right Elevation

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

CLUBHOUSE ELEVATIONS (LEFT & RIGHT)

SCALE: NTS

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

CLUBHOUSE

SUBDIVISION:
HONEY FARMS

MUNICIPALITY:
COLUMBIA, TENNESSEE

A6.3

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

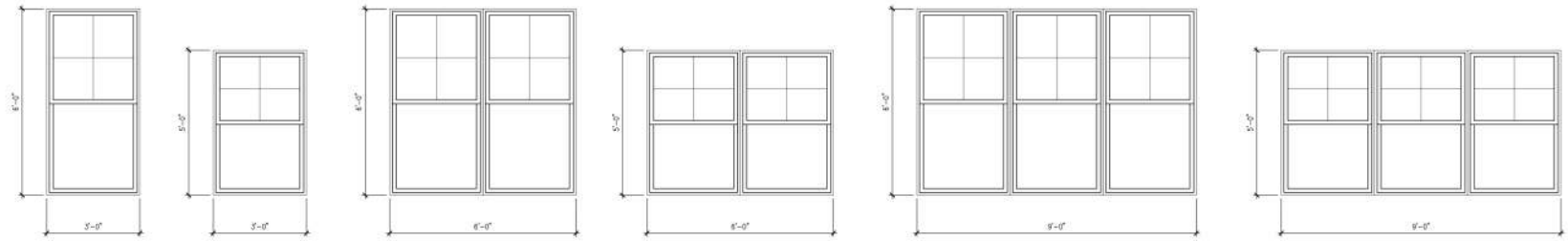
CLUBHOUSE

SUBDIVISION: HONEY FARMS
MUNICIPALITY: COLUMBIA, TENNESSEE

A6.4
Page 56 of 341

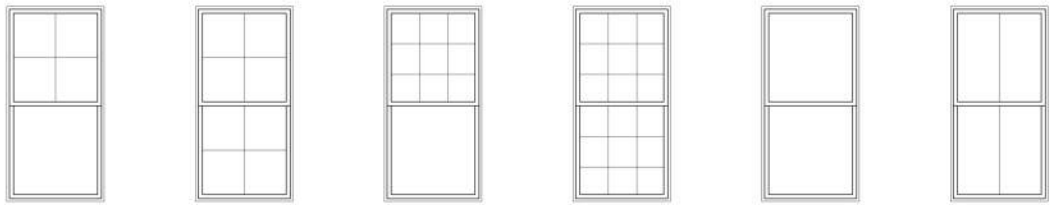
CLUBHOUSE ELEVATIONS
SCALE: 1/8"

WINDOW SCHEDULE: (NO TWO ADJACENT UNITS TO HAVE THE SAME WINDOW RHYTHM OR GRID PATTERN)



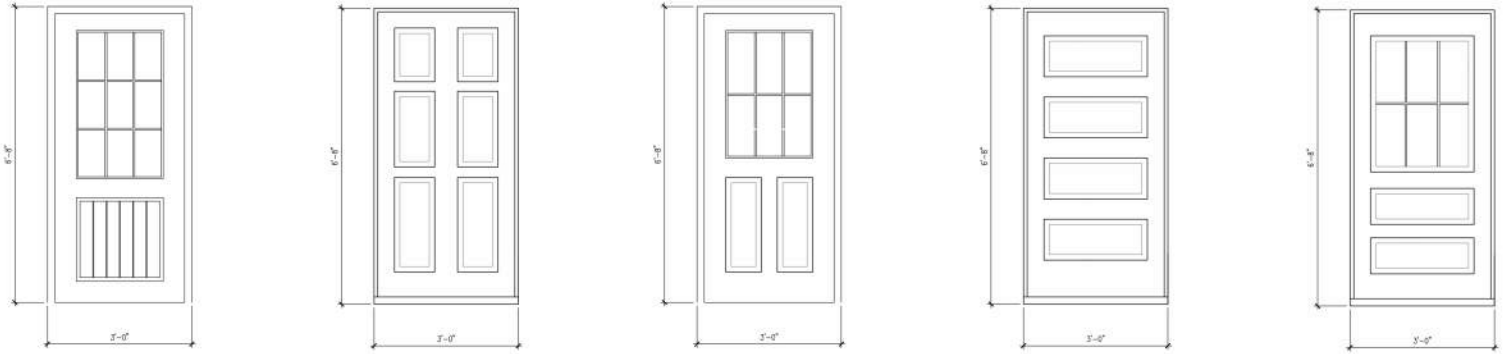
A B C D E F

GRID PATTERNS:



4 / CLEAR | 4 / 4 | 9 / CLEAR | 9 / 9 | CLEAR / CLEAR | 2 / 2

FRONT DOOR SCHEDULE: (NO TWO ADJACENT UNITS TO HAVE THE SAME FRONT DOOR STYLE)



1 2 3 4 5

RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

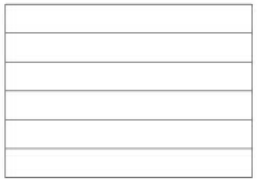
WIN. & DOOR SCHEDULE

SUBDIVISION:
HONEY FARMS

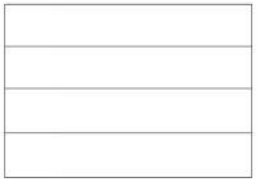
MUNICIPALITY:
COLUMBIA, TENNESSEE

A7.1

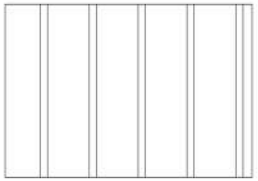
FACADE MATERIALS:



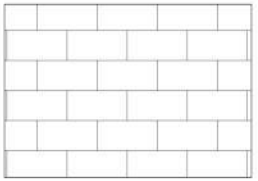
7.25" HARDIE CEDARMILL LAP SIDING



12" HARDIE CEDARMILL LAP SIDING



HARDIE BOARD & BATTEN



PAINTED BRICK



HORIZONTAL TRIM ELEMENTS:

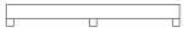
1"x8" HARDIE



1"x8" HARDIE W/ CORBELS



1"x12" HARDIE



1"x12" HARDIE W/ CORBELS



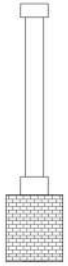
FRONT COLUMNS:



8"x8" HARDIE WRAPPED



8"x8" WHITE PINE



HARDIE COLUMN W/ BRICK BASE



TAPERED COLUMN W/ BRICK BASE



RP HOMES

HONEY FARMS TOWNHOMES:
ARCH. REVIEW SUBMITTAL

MTL & TRIM SCHEDULE

SUBDIVISION:
HONEY FARMS

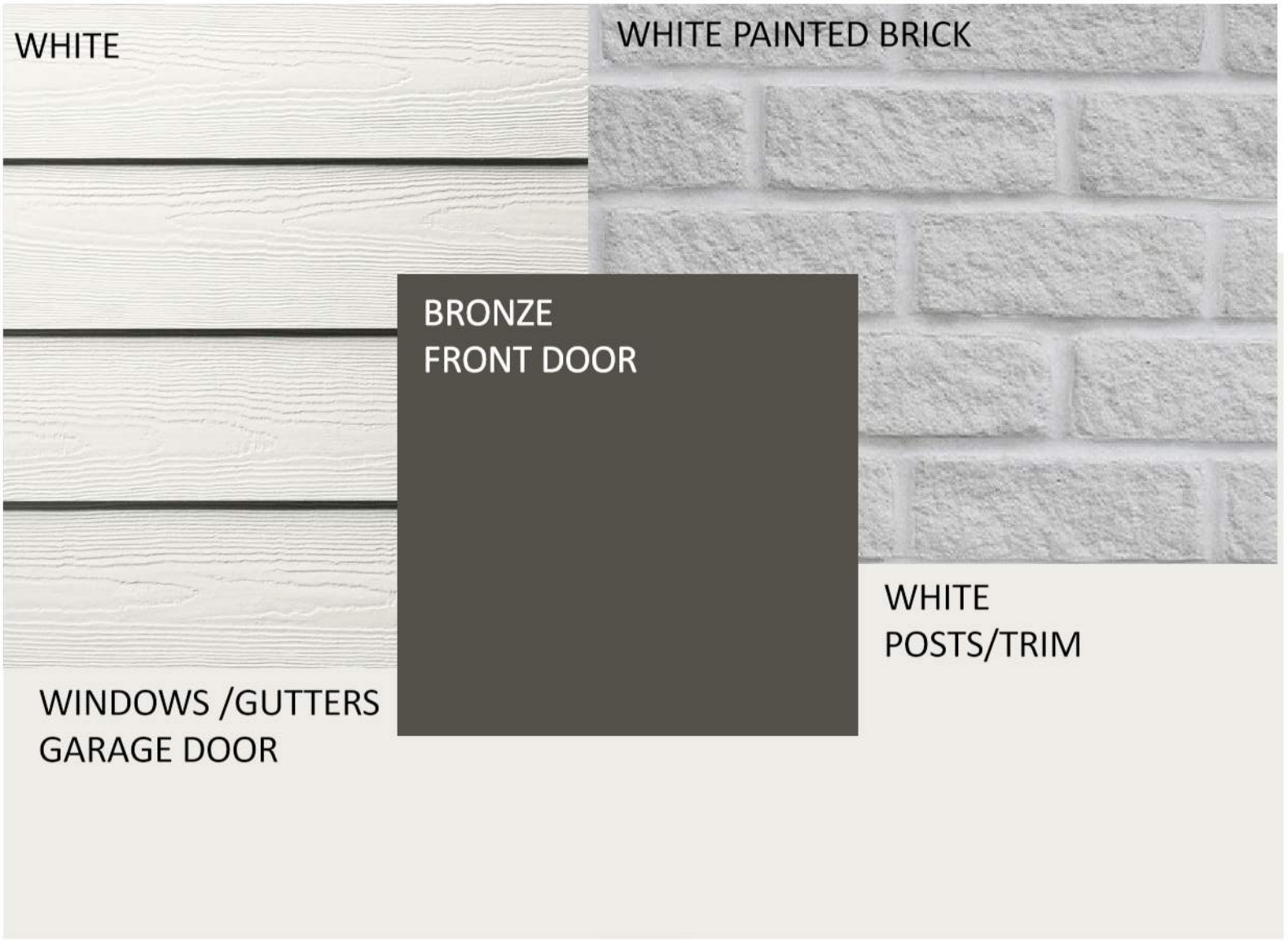
MUNICIPALITY:
COLUMBIA, TENNESSEE

A7.2

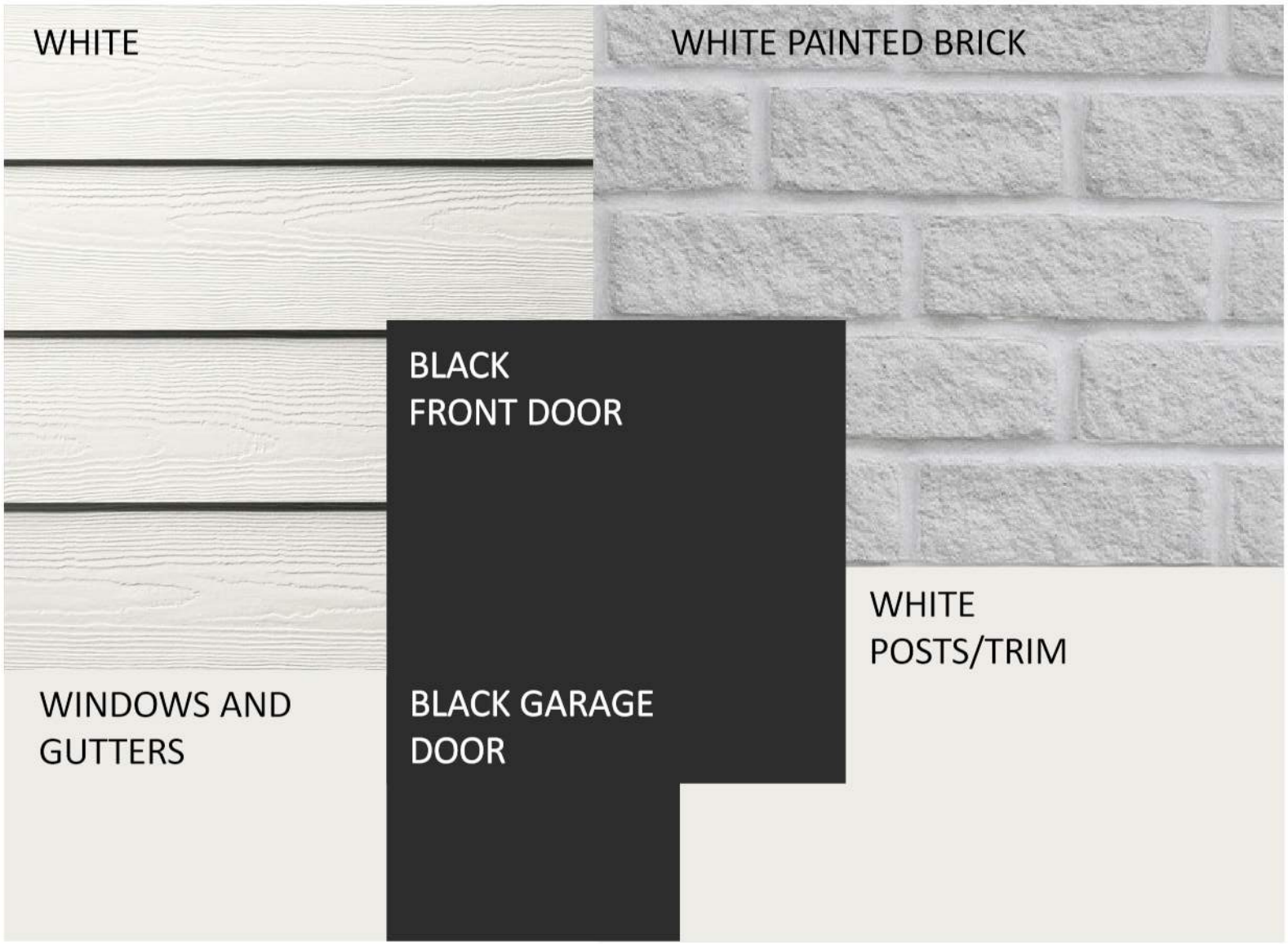
Columbia, TN - Elevations & Exterior Color Schemes

PLAN 1

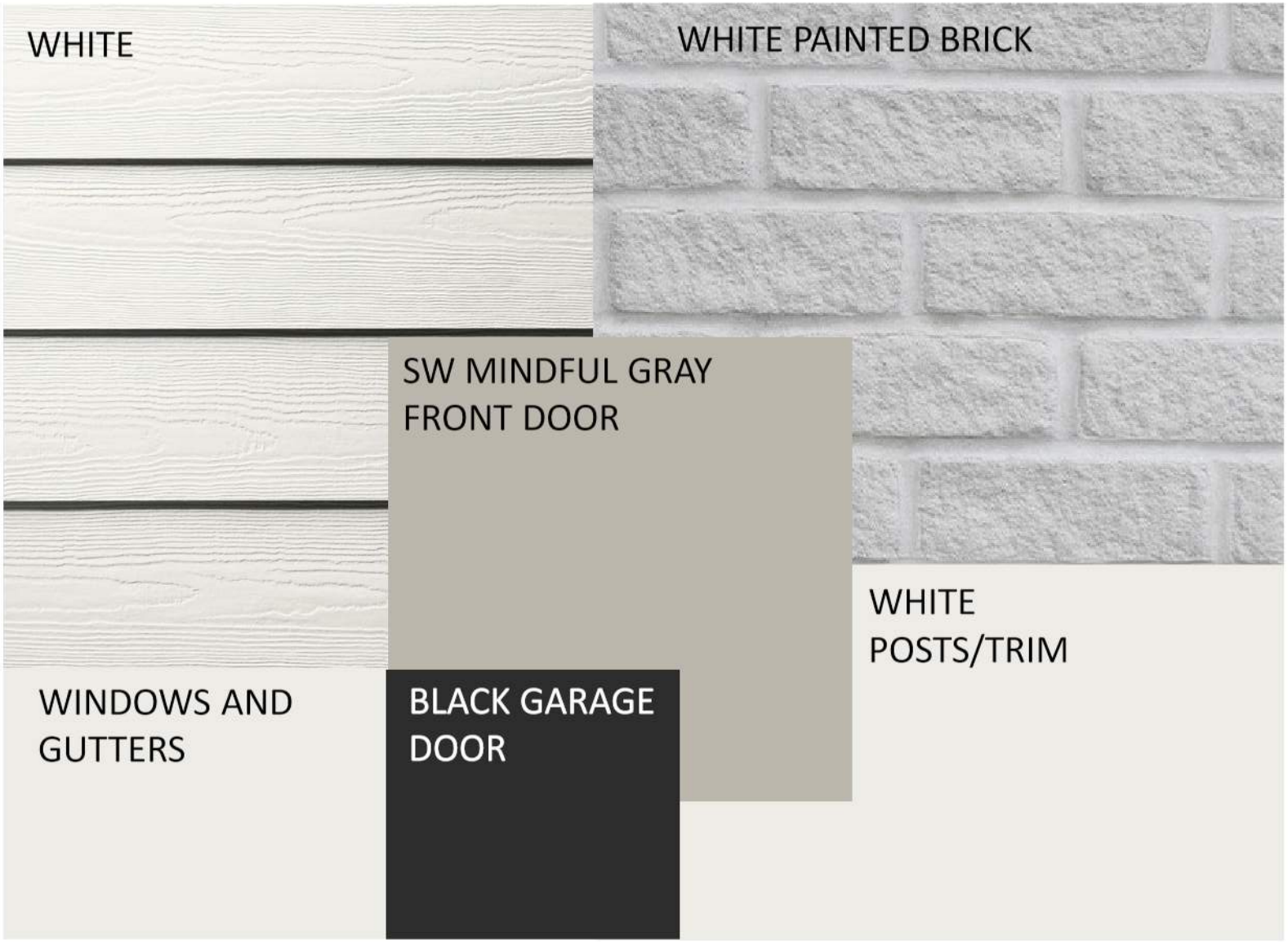
SCHEME 1


WHITE
WHITE PAINTED BRICK
BRONZE
FRONT DOOR
WHITE
POSTS/TRIM
WINDOWS /GUTTERS
GARAGE DOOR

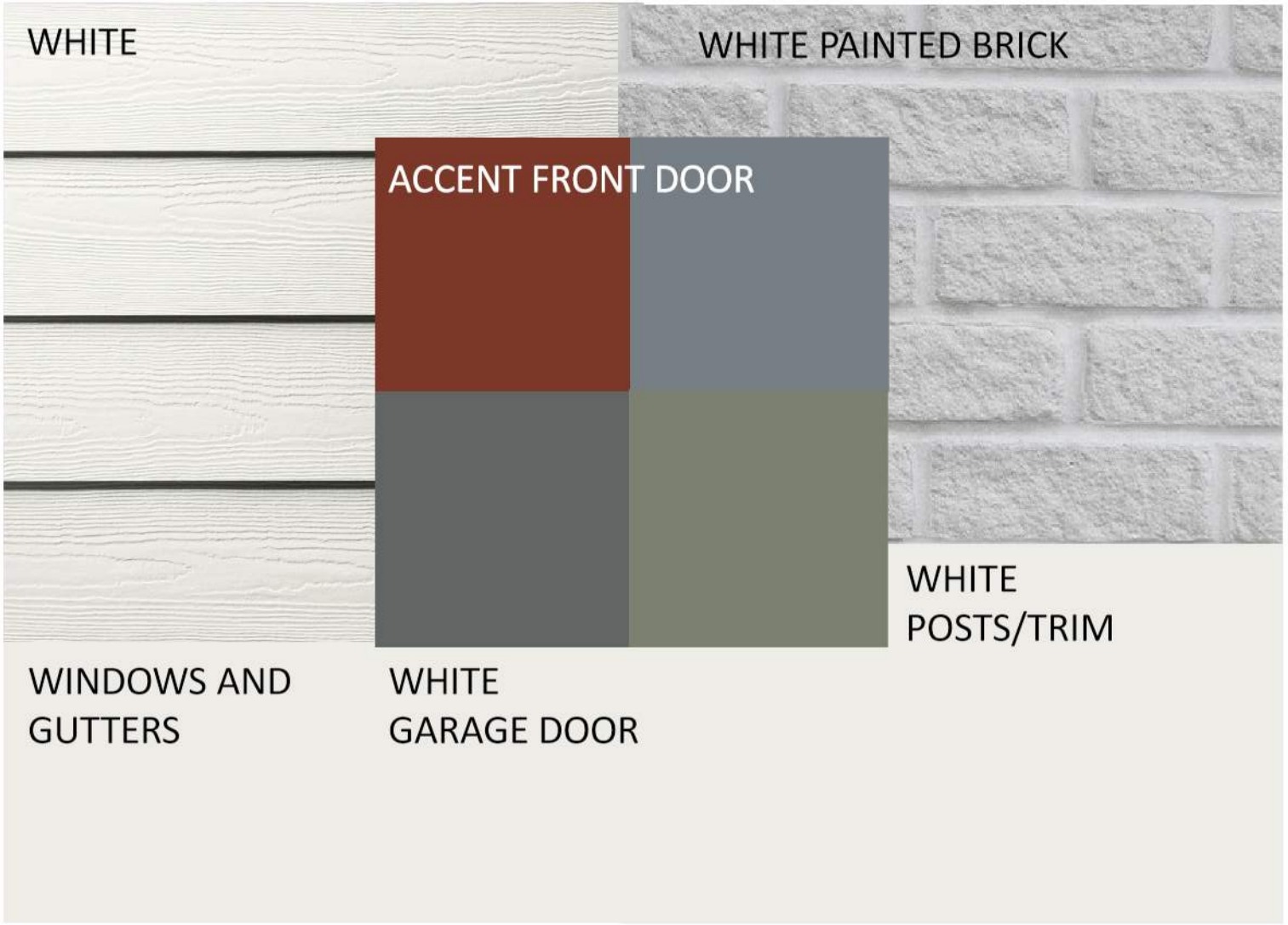
SCHEME 2


WHITE
WHITE PAINTED BRICK
BLACK
FRONT DOOR
WHITE
POSTS/TRIM
WINDOWS AND
GUTTERS
BLACK GARAGE
DOOR

SCHEME 3


WHITE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE
POSTS/TRIM
WINDOWS AND
GUTTERS
BLACK GARAGE
DOOR

SCHEME 4



ACCENT DOOR OPTIONS

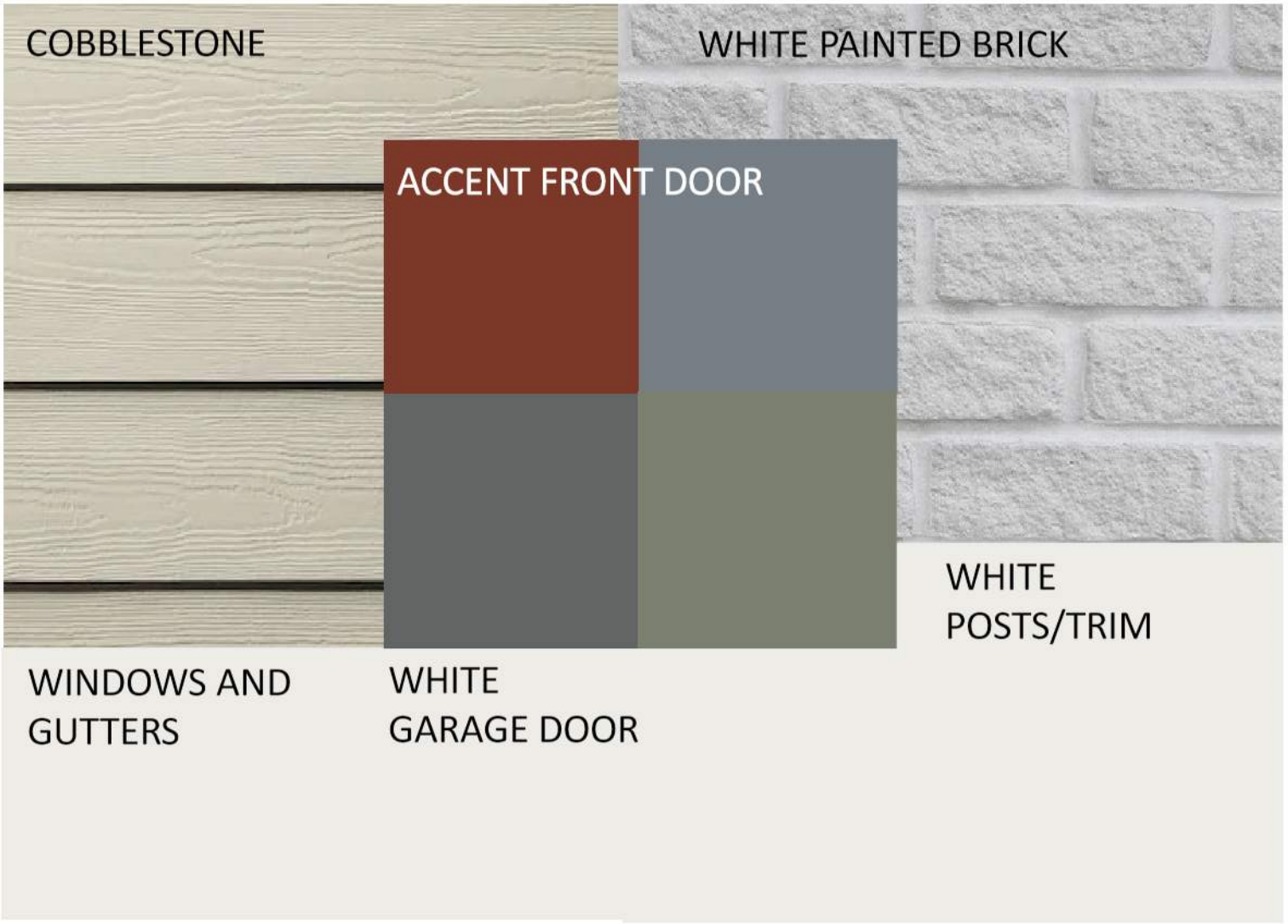
- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

SCHEME 5



*Exterior color package may not be available depending on selections for neighboring lots

SCHEME 6



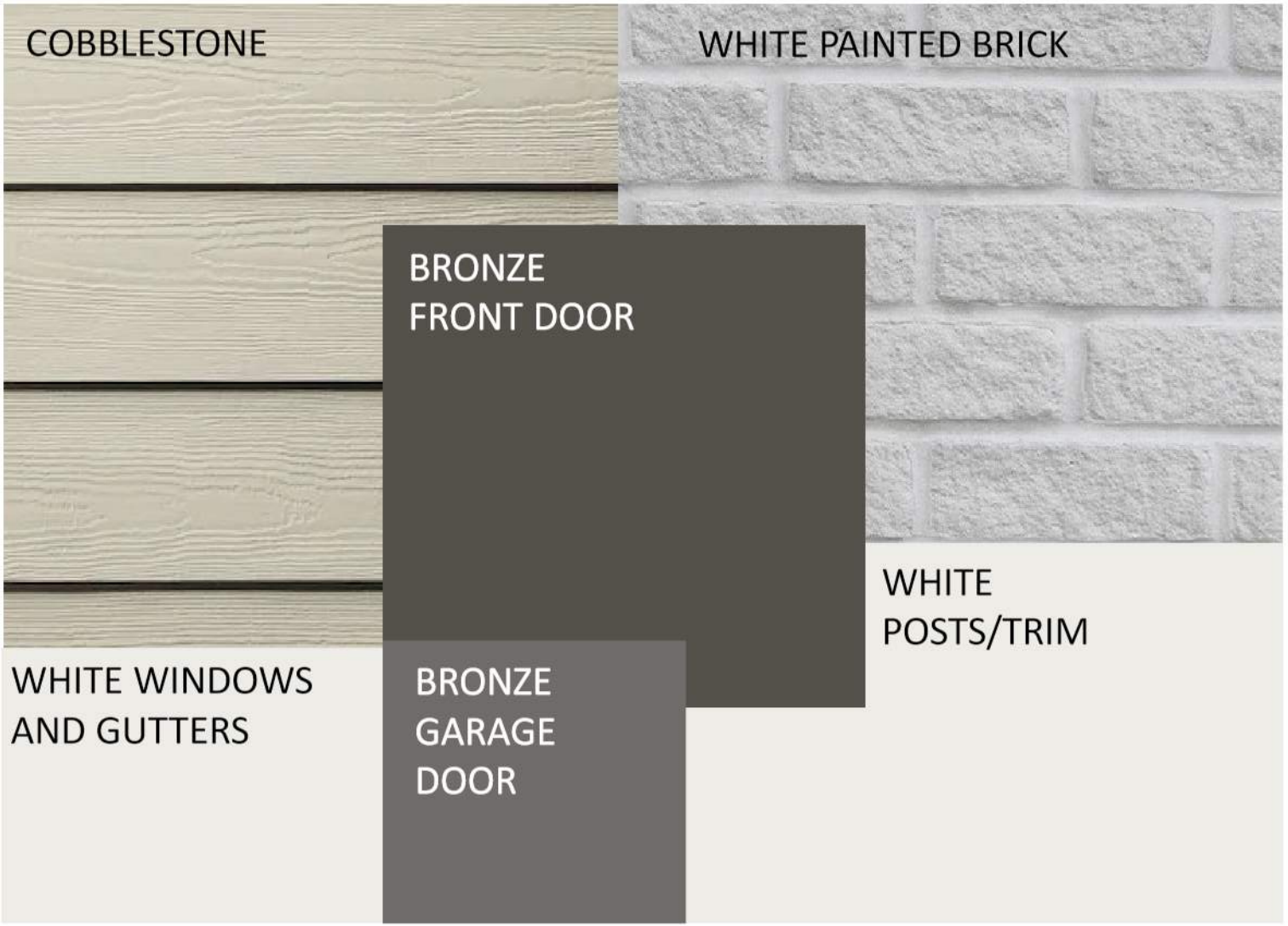
ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

SCHEME 7


COBBLESTONE
WHITE PAINTED BRICK
BRONZE
FRONT DOOR
WHITE
POSTS/TRIM
WHITE WINDOWS
AND GUTTERS
BRONZE
GARAGE
DOOR

SCHEME 8



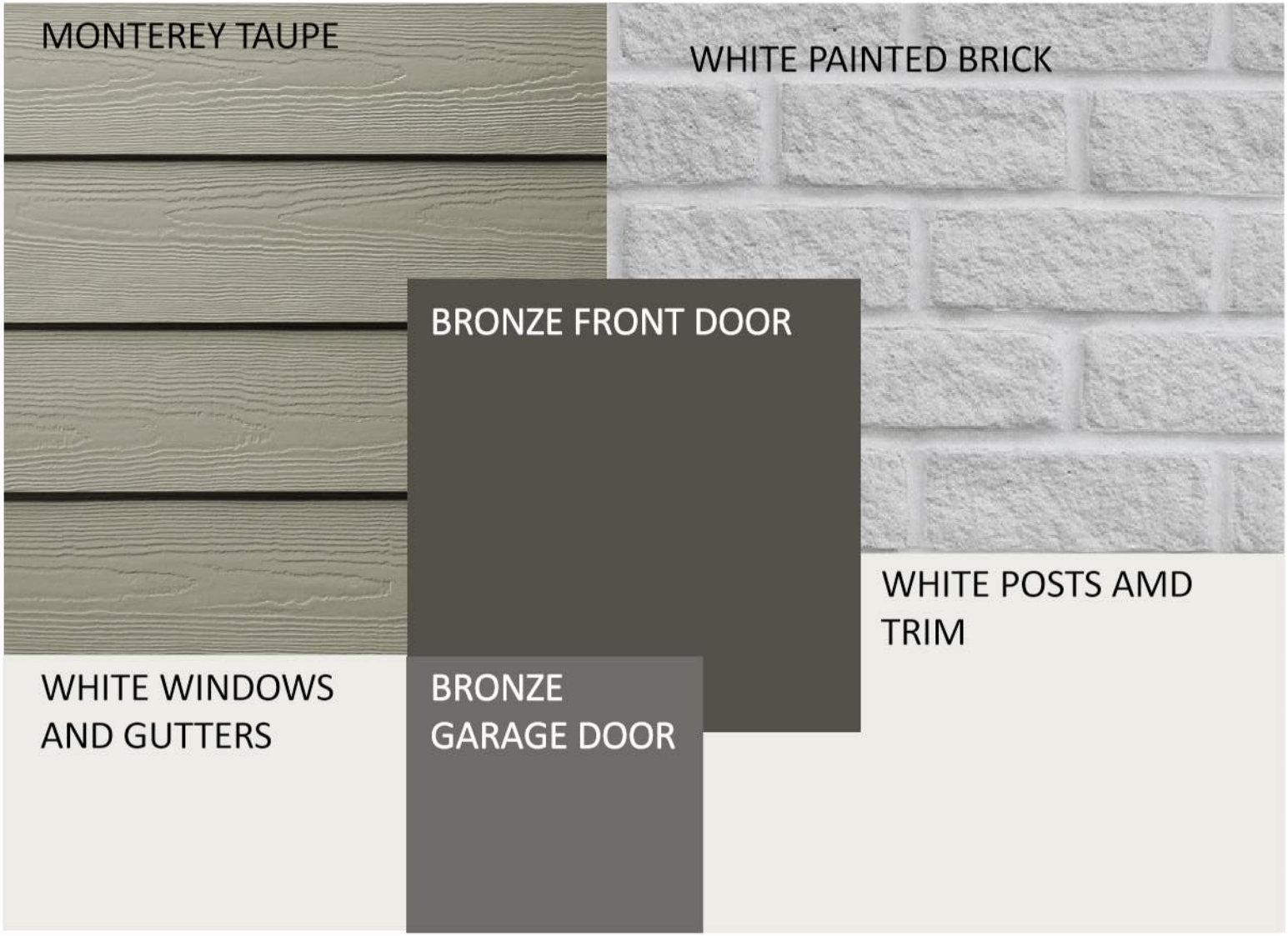
ACCENT FRONT DOOR

- SW DRIED THYME

SCHEME 9


MONTEREY TAUPE
WHITE PAINTED BRICK
BRONZE
FRONT DOOR
WHITE
POSTS/TRIM
WHITE WINDOWS
AND GUTTERS
BRONZE
GARAGE
DOOR

SCHEME 10

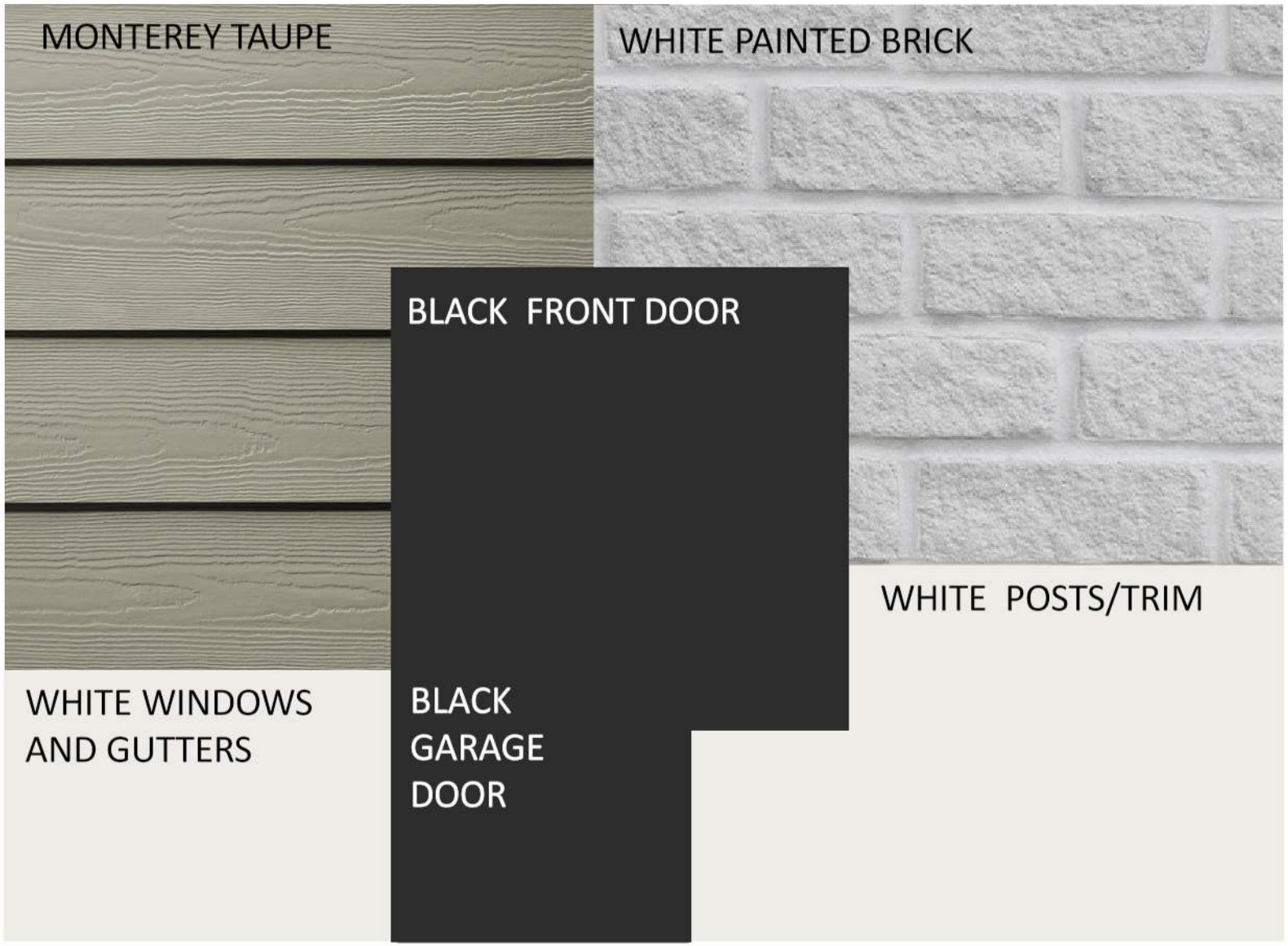


ACCENT DOOR OPTIONS

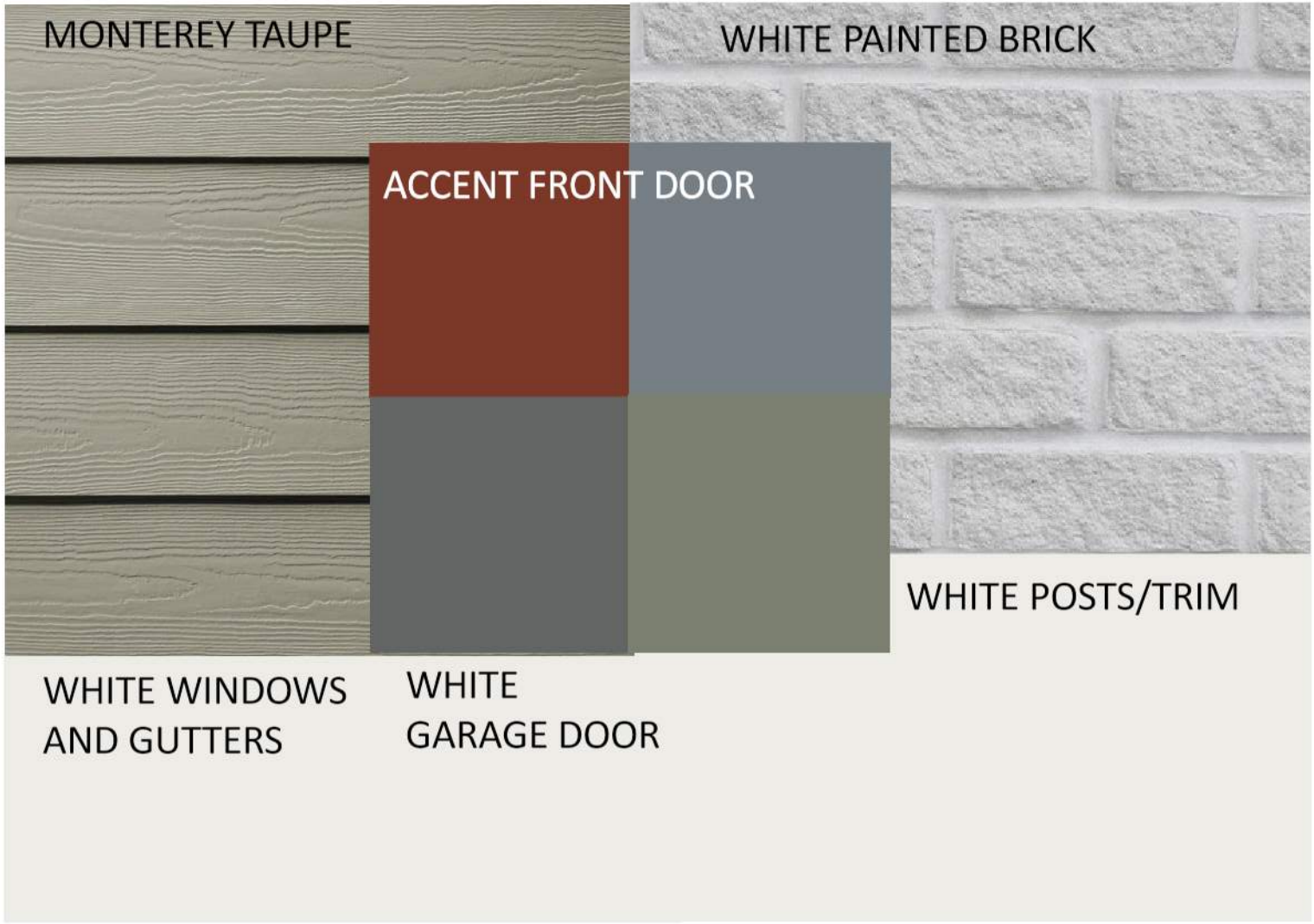
- SW DRIED THYME



SCHEME 11


MONTEREY TAUPE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BLACK GARAGE DOOR

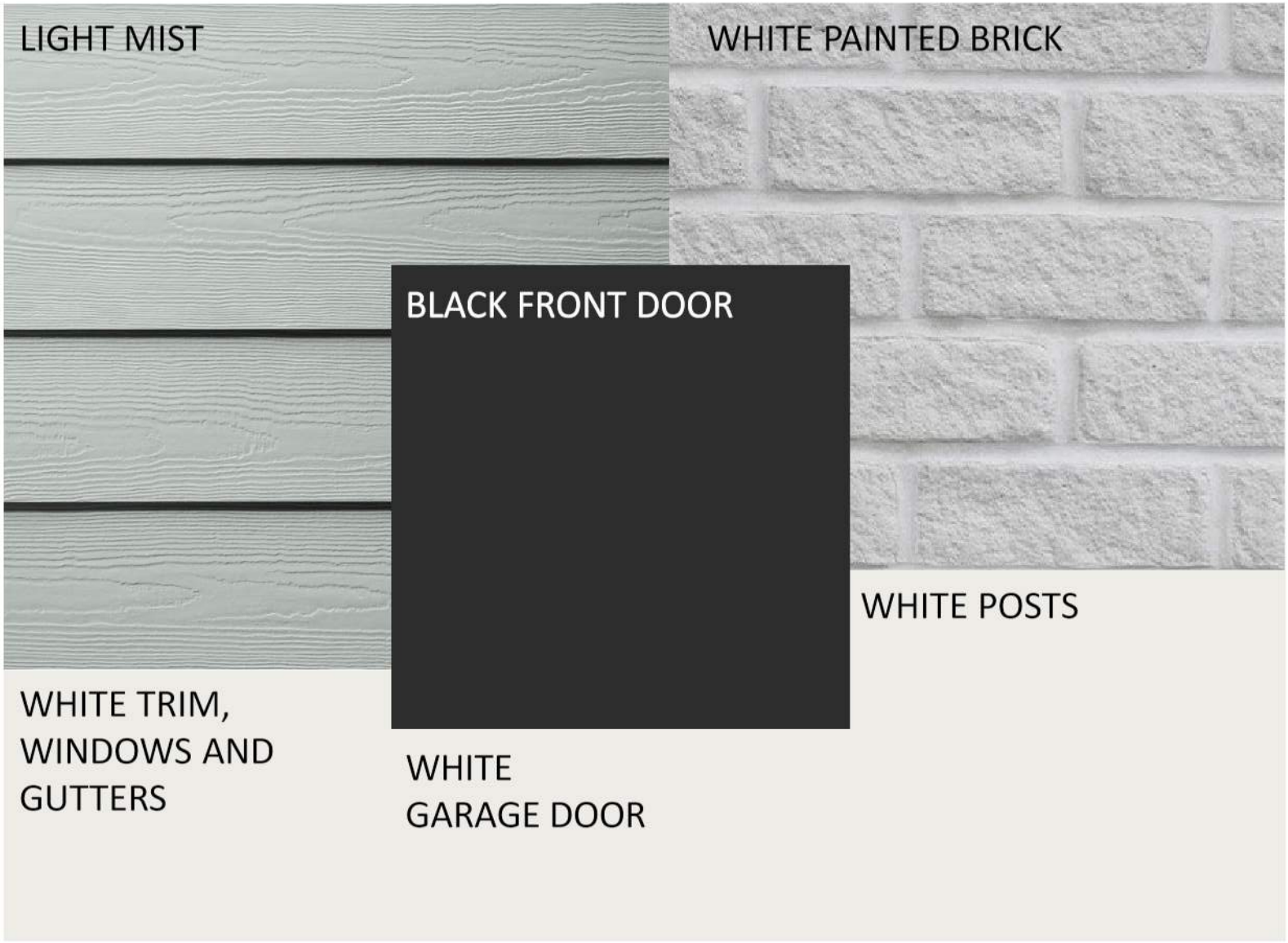
SCHEME 12



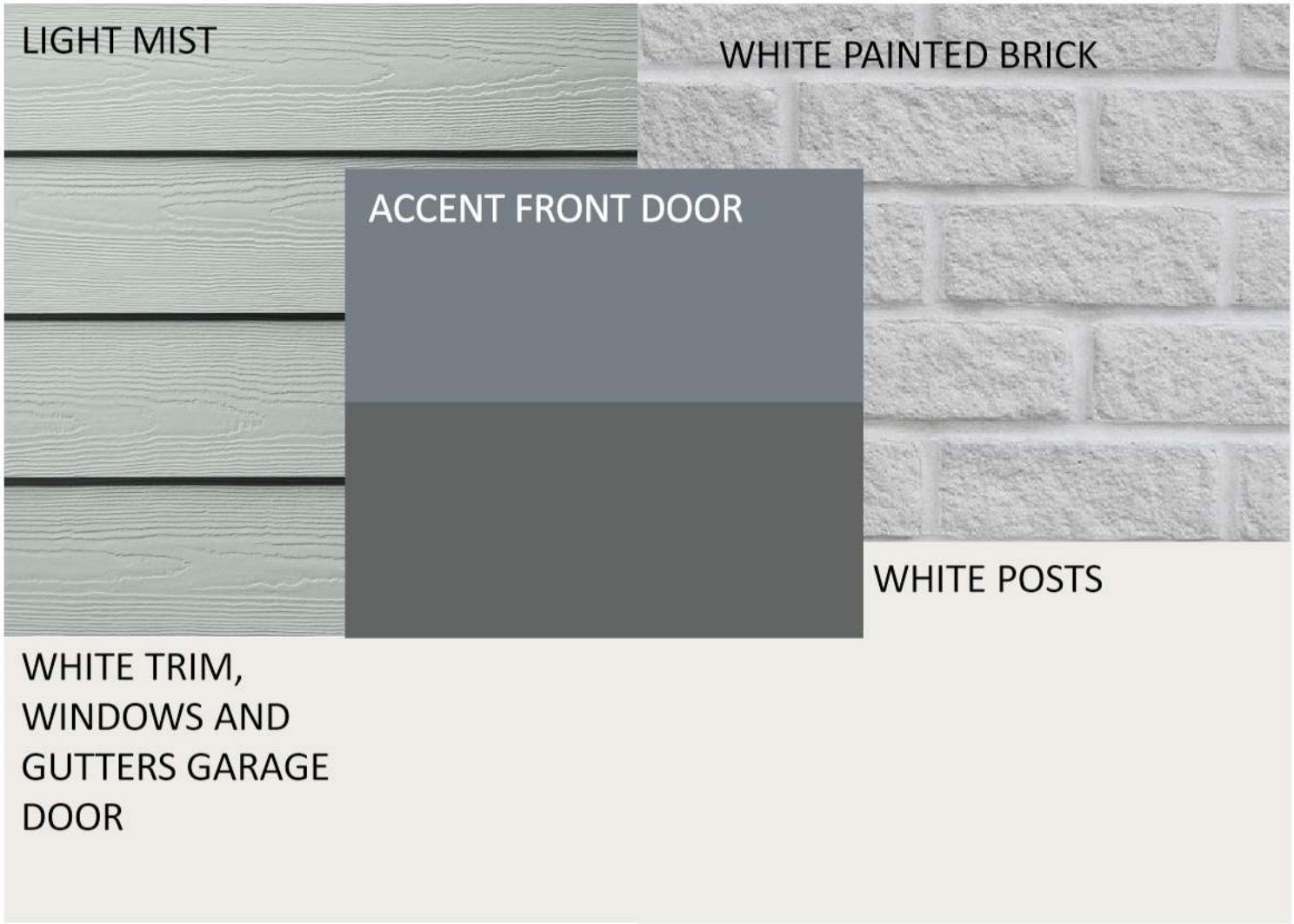
ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

SCHEME 13


LIGHT MIST
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
WHITE GARAGE DOOR

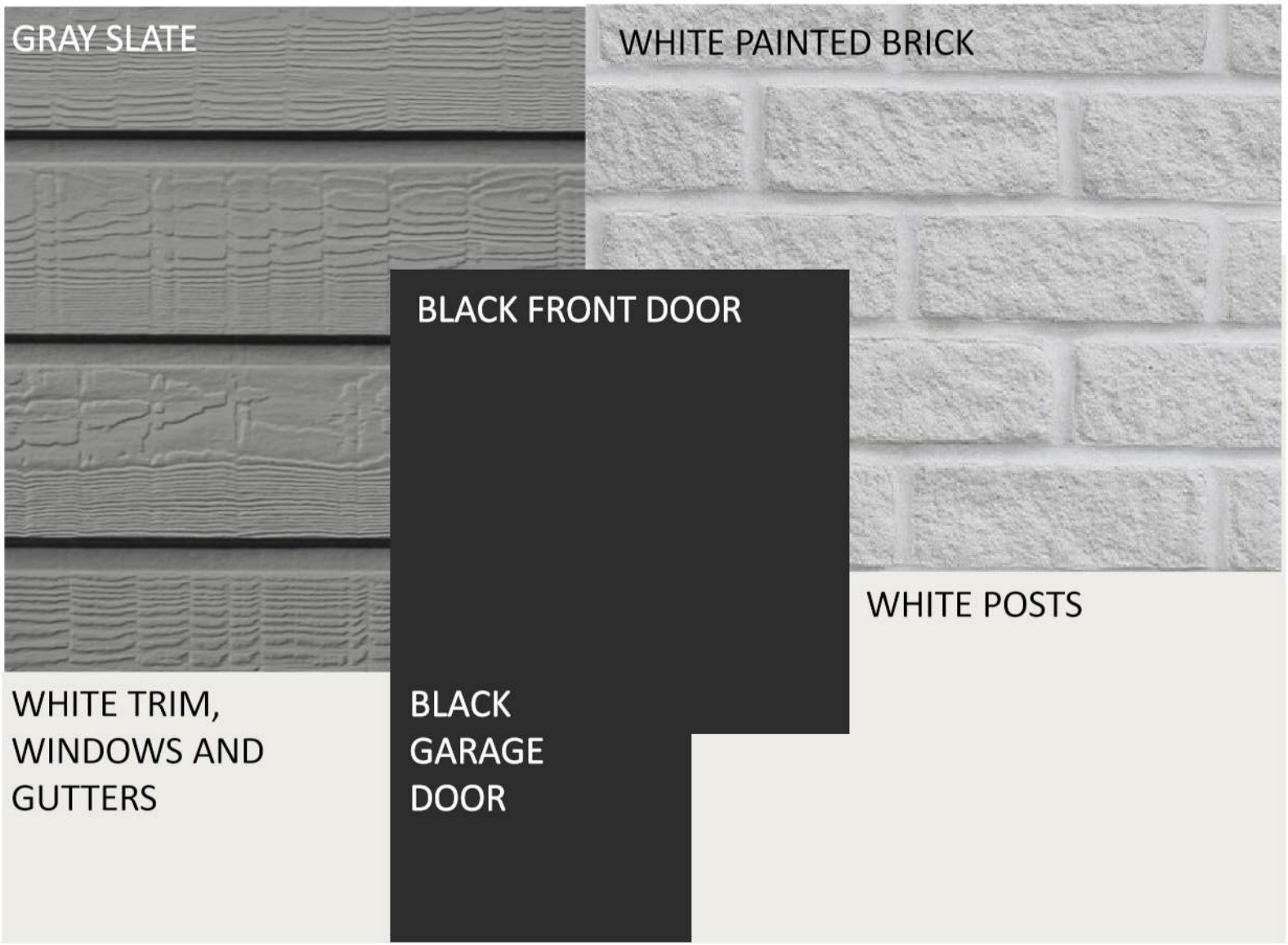
SCHEME 14



ACCENT DOOR OPTIONS

- SW DOWNING SLATE
- SW ROYCROFT PEWTER

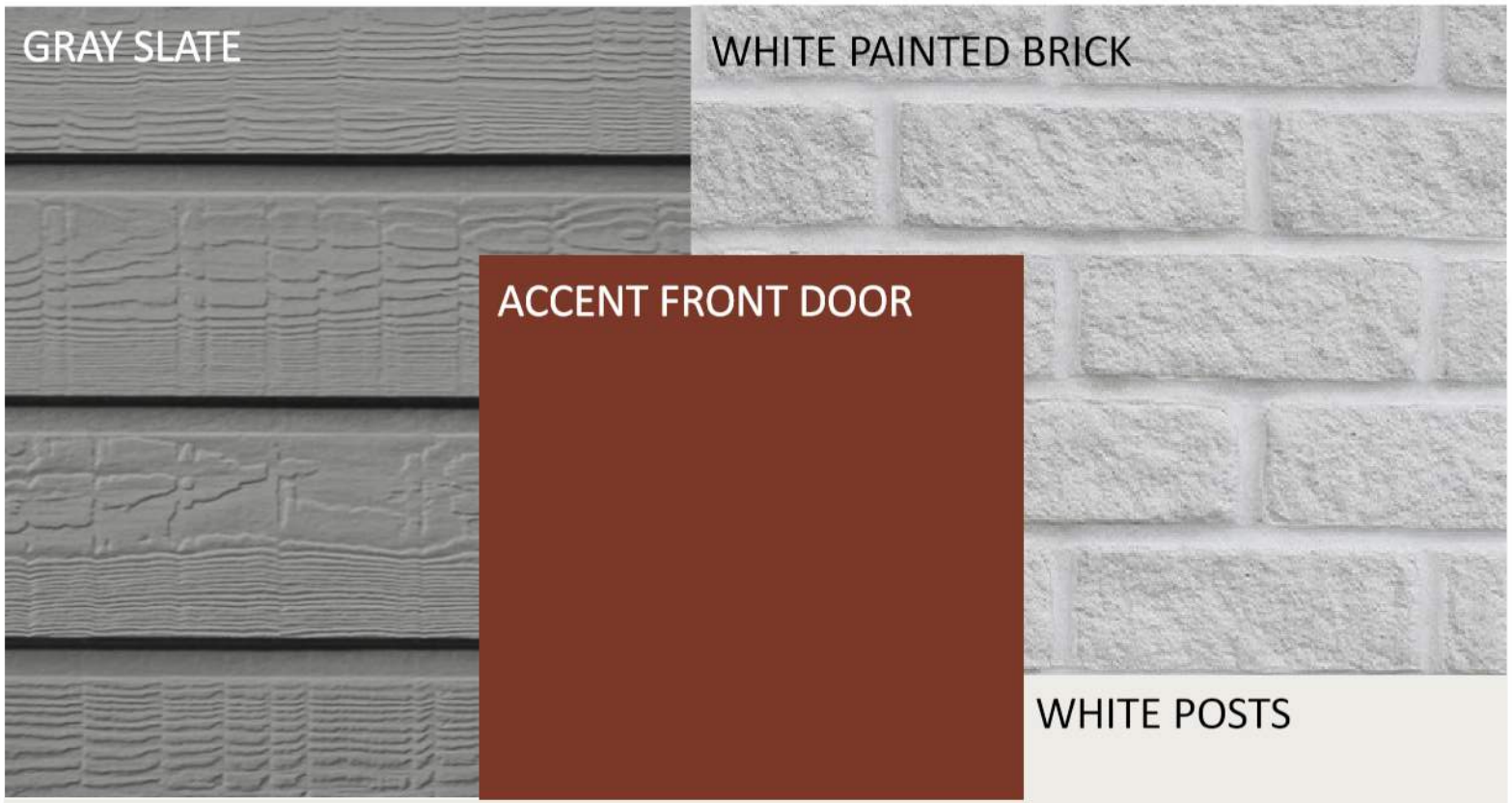
SCHEME 15


GRAY SLATE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 16


GRAY SLATE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 17



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

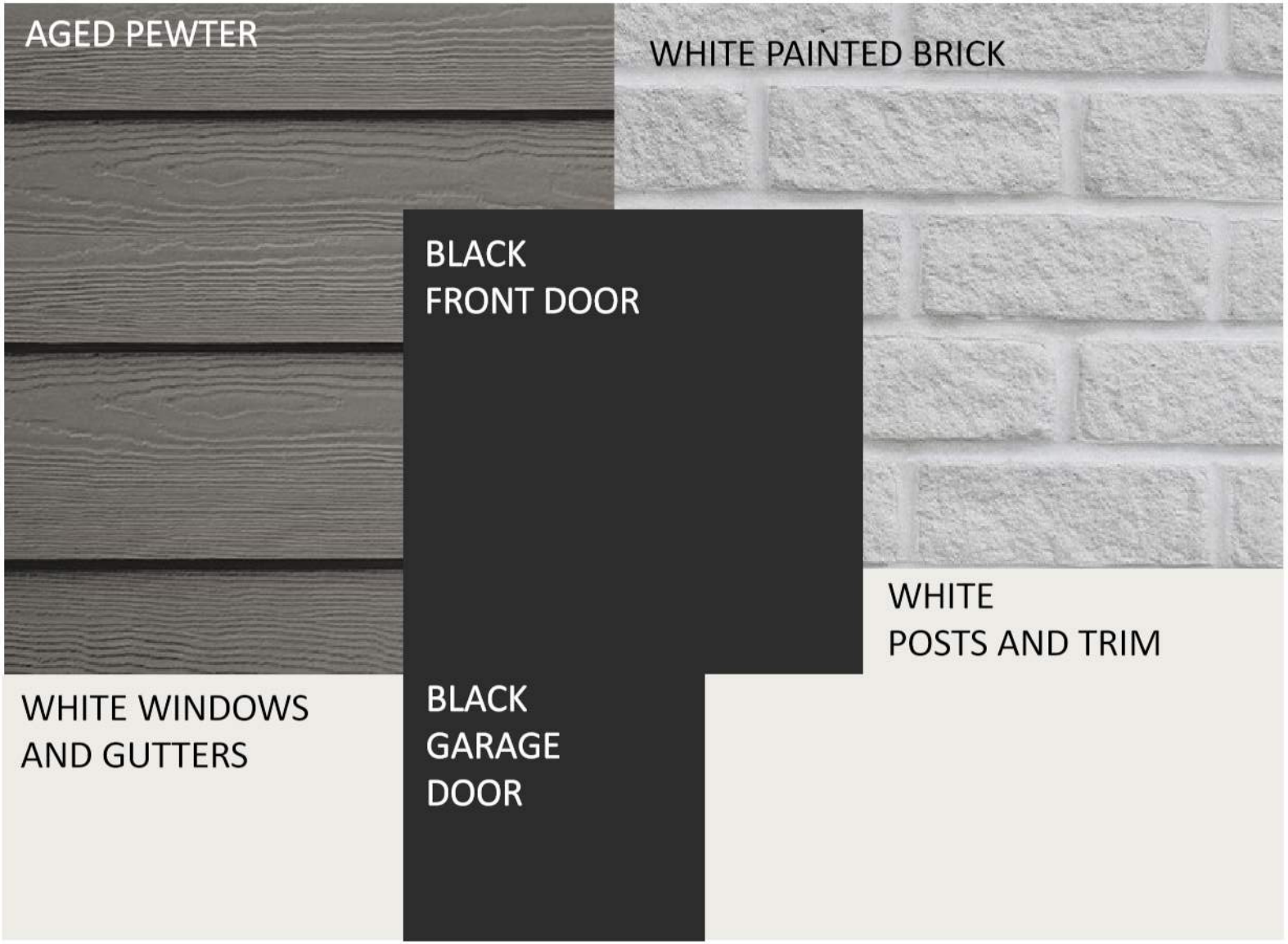
SCHEME 18


IRON GRAY
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS GUTTERS AND
GARAGE DOOR

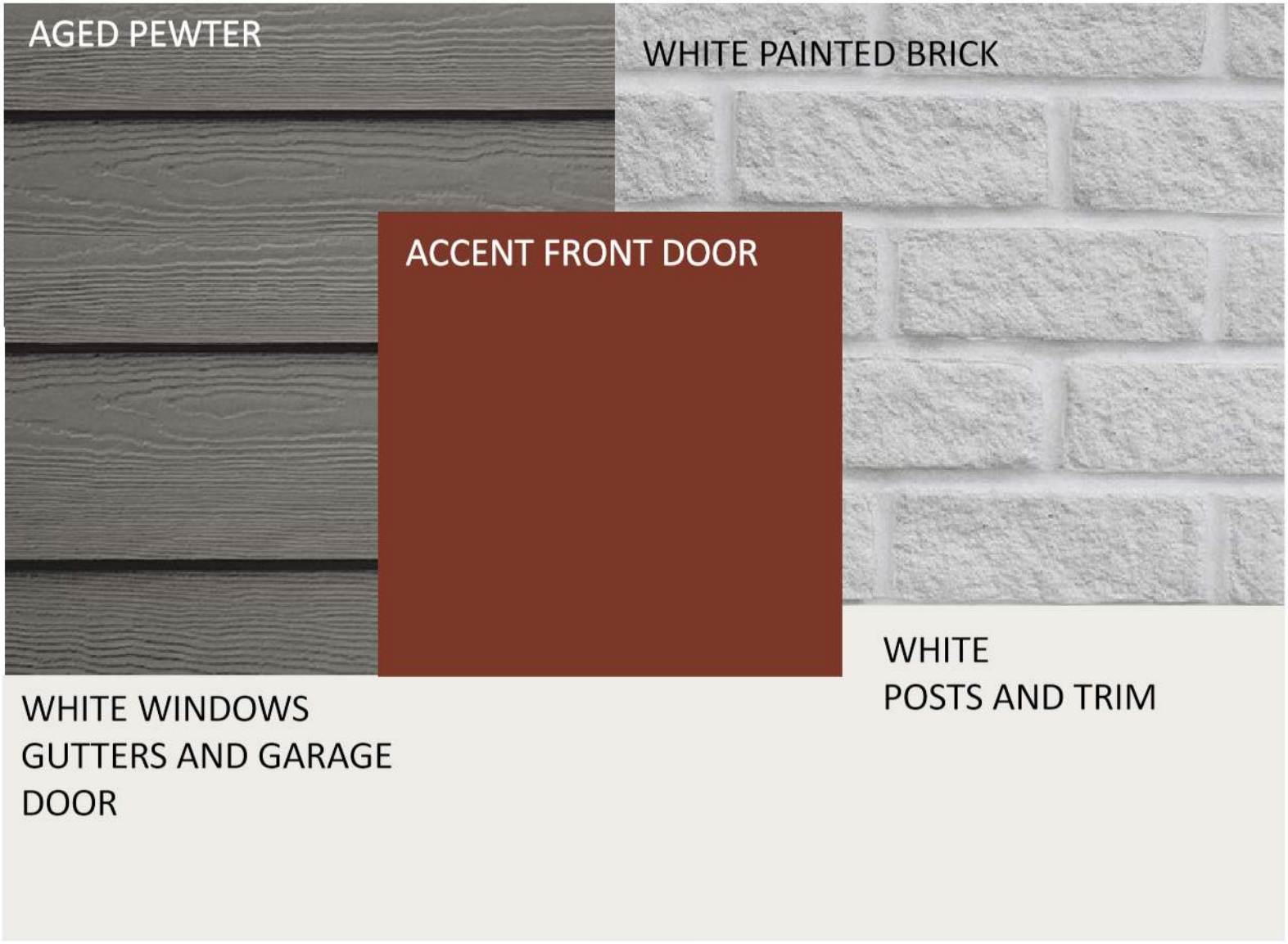
SCHEME 19


AGED PEWTER
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND GARAGE
DOOR

SCHEME 20


AGED PEWTER
WHITE PAINTED BRICK
BLACK
FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
AND GUTTERS
BLACK
GARAGE
DOOR

SCHEME 21



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

SCHEME 22


TIMBER BARK
WHITE PAINTED BRICK
SW PURE WHITE
FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
GUTTERS

SCHEME 23


TIMBER BARK
WHITE PAINTED BRICK
MINDFUL GRAY
FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND
GARAGE DOOR

SCHEME 24


TIMBER BARK
WHITE PAINTED BRICK
BRONZE
FRONT DOOR
WHITE WINDOWS
GUTTERS
BRONZE
GARAGE
DOOR
WHITE
POSTS AND TRIM

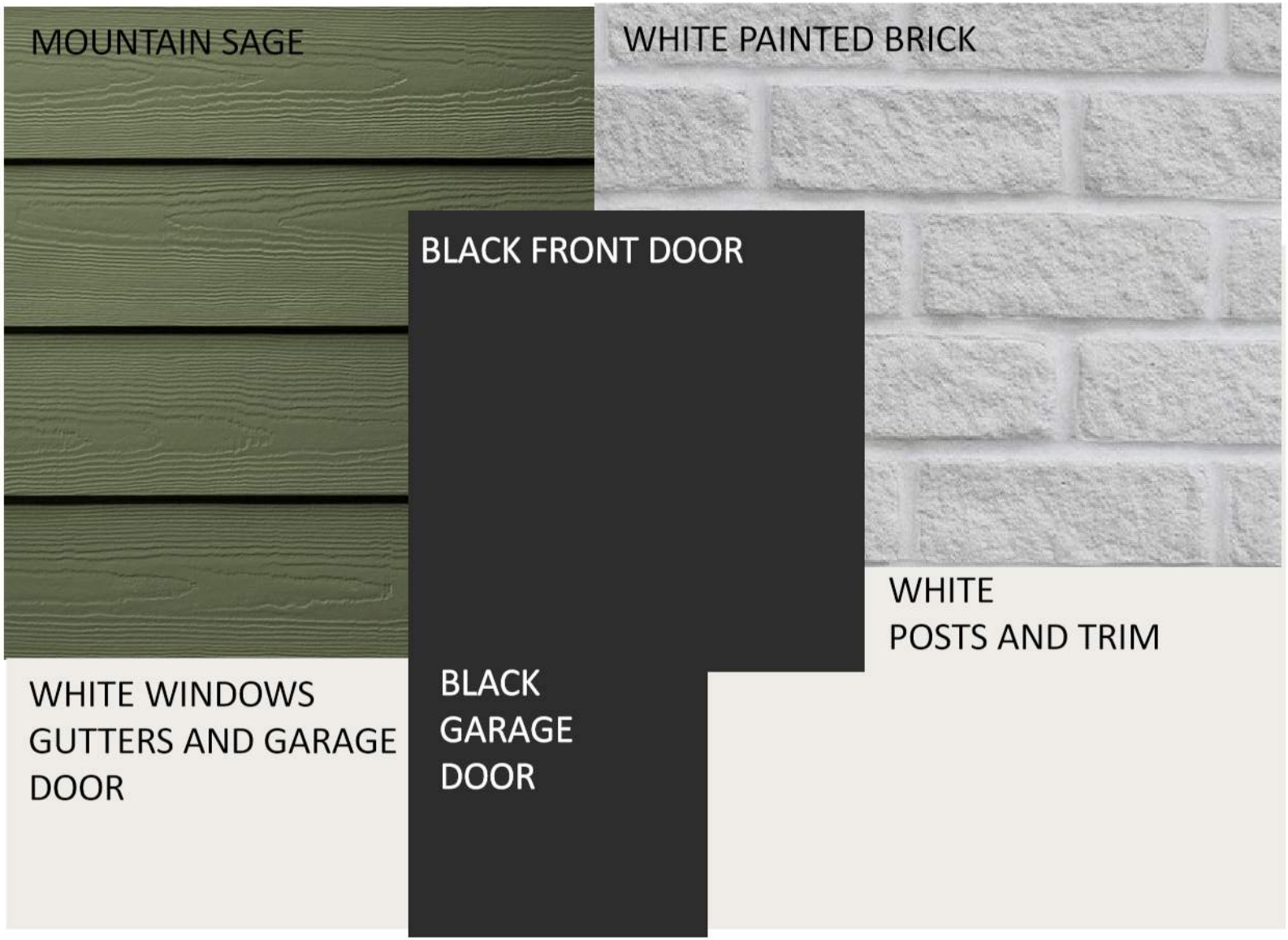
SCHEME 25


HEATHERED MOSS
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
GUTTERS
BLACK
GARAGE
DOOR

SCHEME 26


HEATHERED MOSS
WHITE PAINTED BRICK
WHITE FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
GUTTERS

SCHEME 27


MOUNTAIN SAGE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE
POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND GARAGE
DOOR
BLACK
GARAGE
DOOR

SCHEME 28



WHITE WINDOWS
GUTTERS AND GARAGE
DOOR

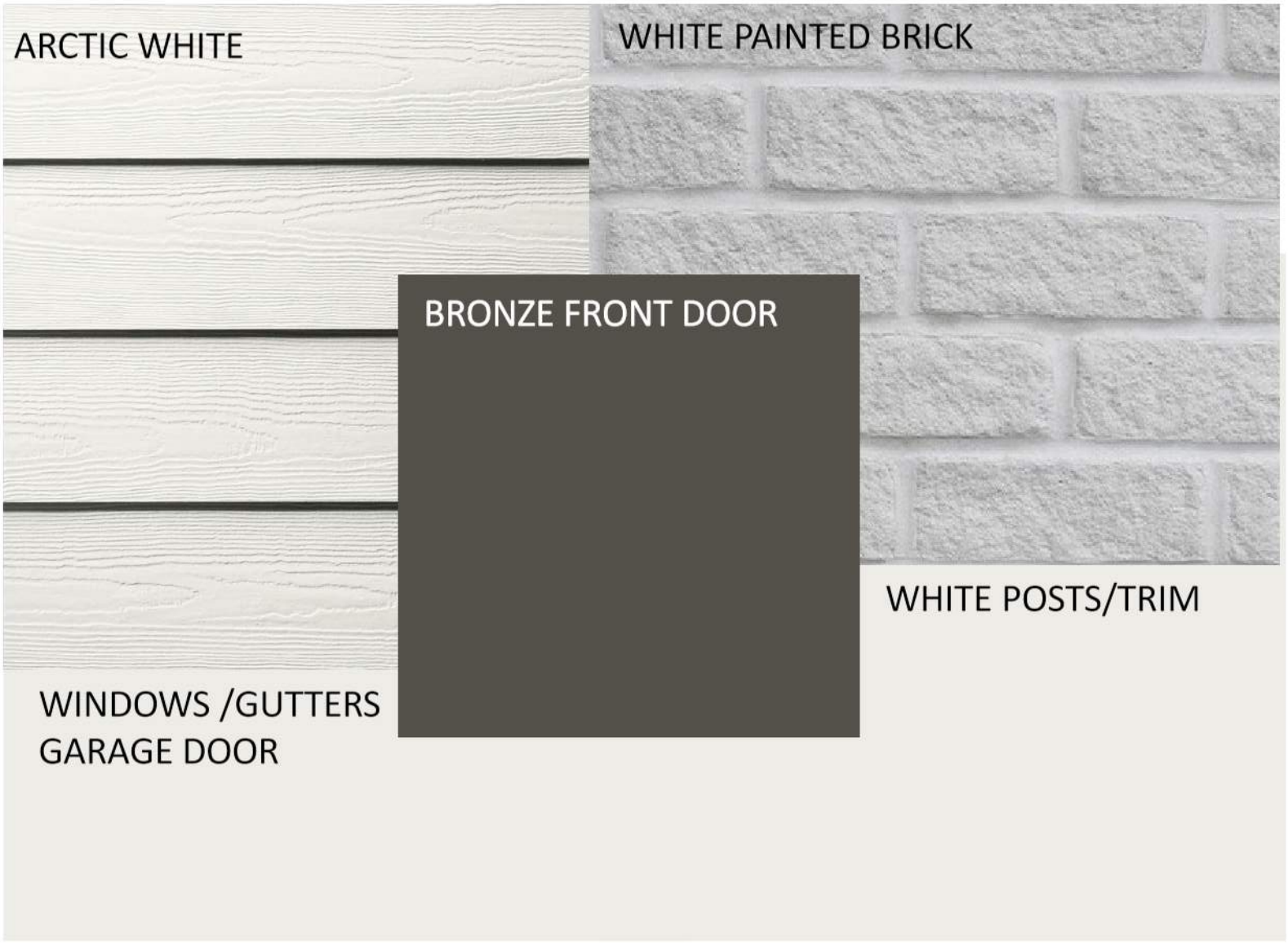
WHITE FRONT DOOR



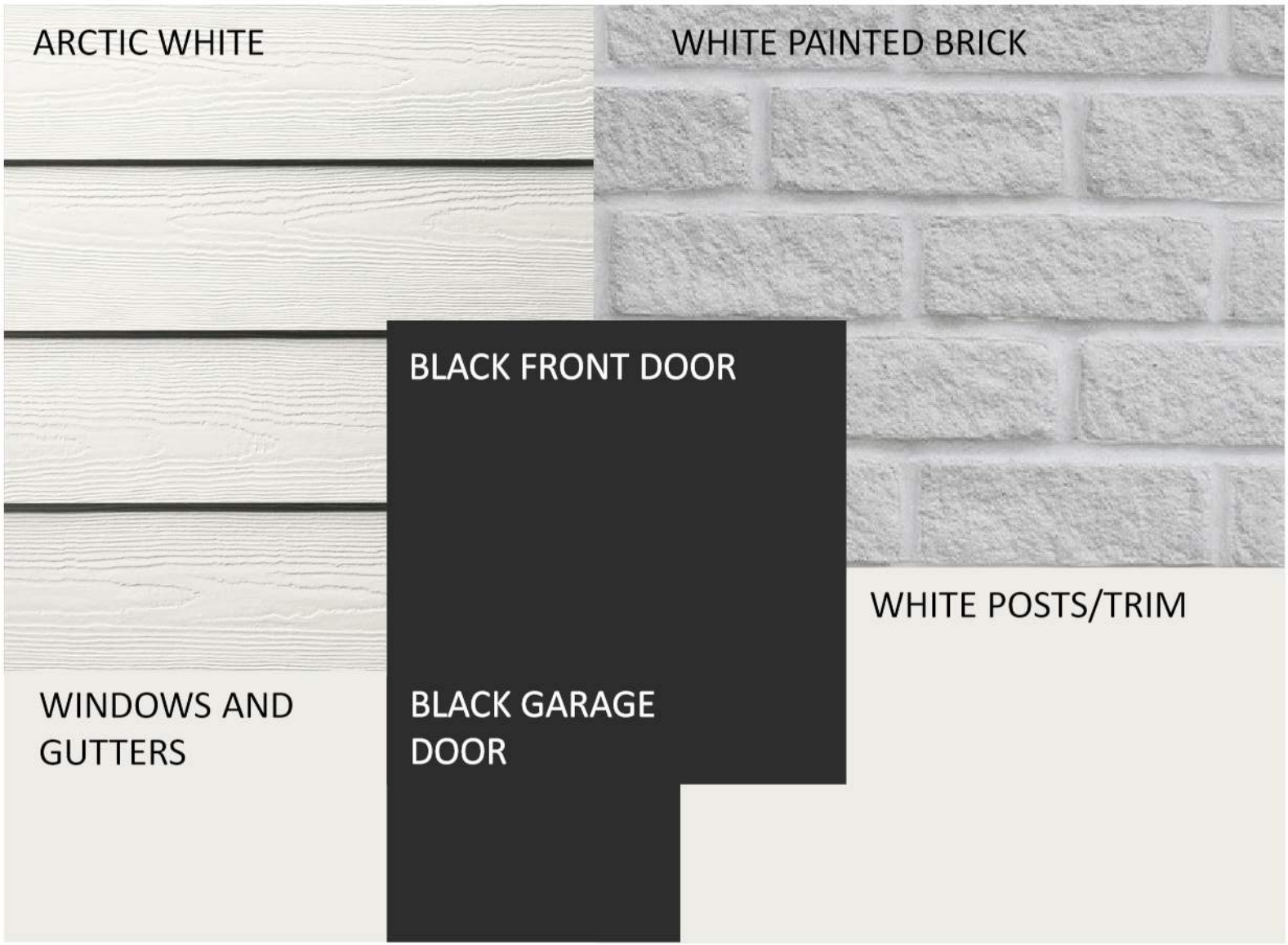
WHITE
POSTS AND TRIM

PLAN 2
(Formerly 2B)

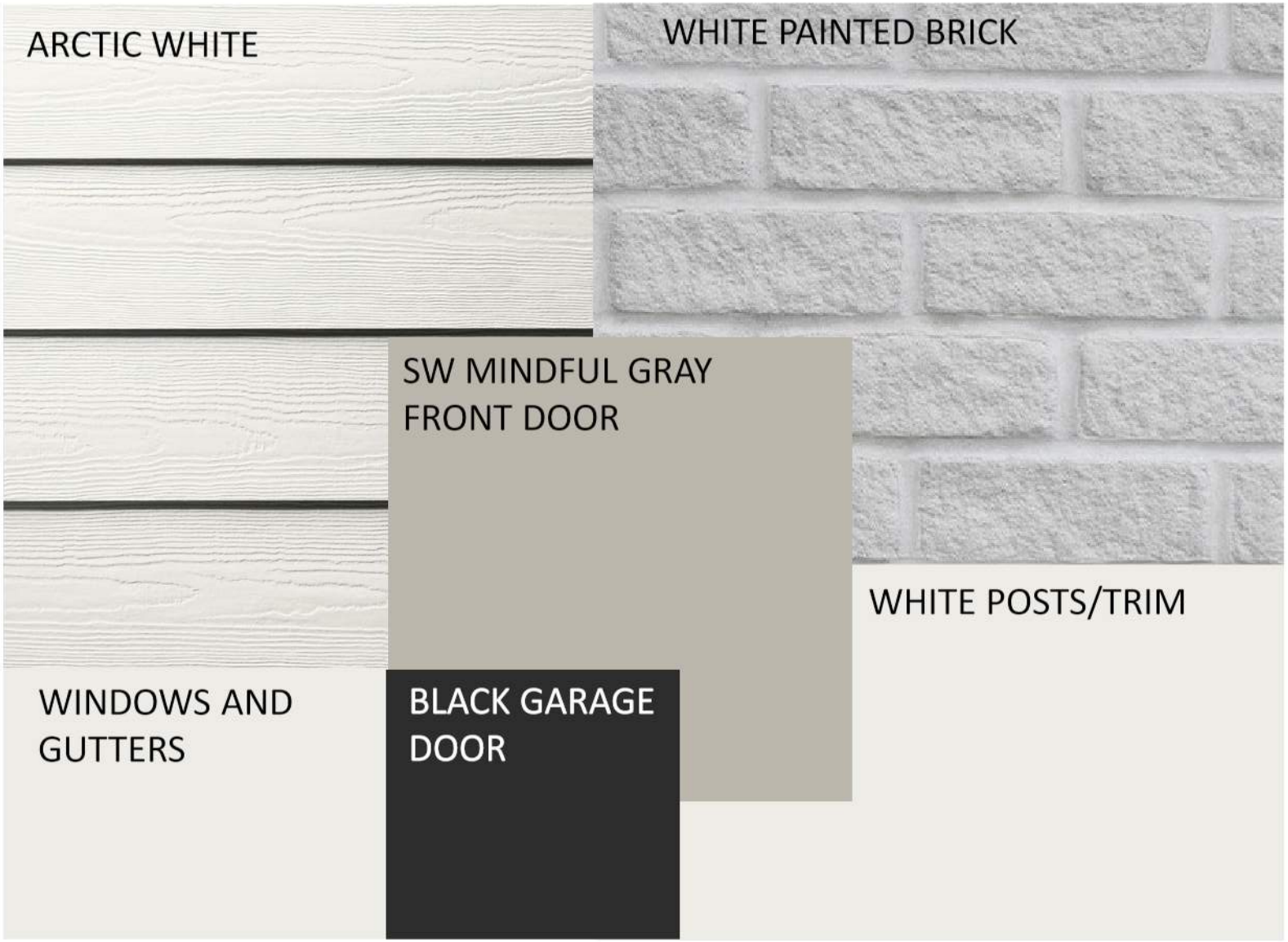
SCHEME 1


ARCTIC WHITE
WHITE PAINTED BRICK
BRONZE FRONT DOOR
WHITE POSTS/TRIM
WINDOWS /GUTTERS
GARAGE DOOR

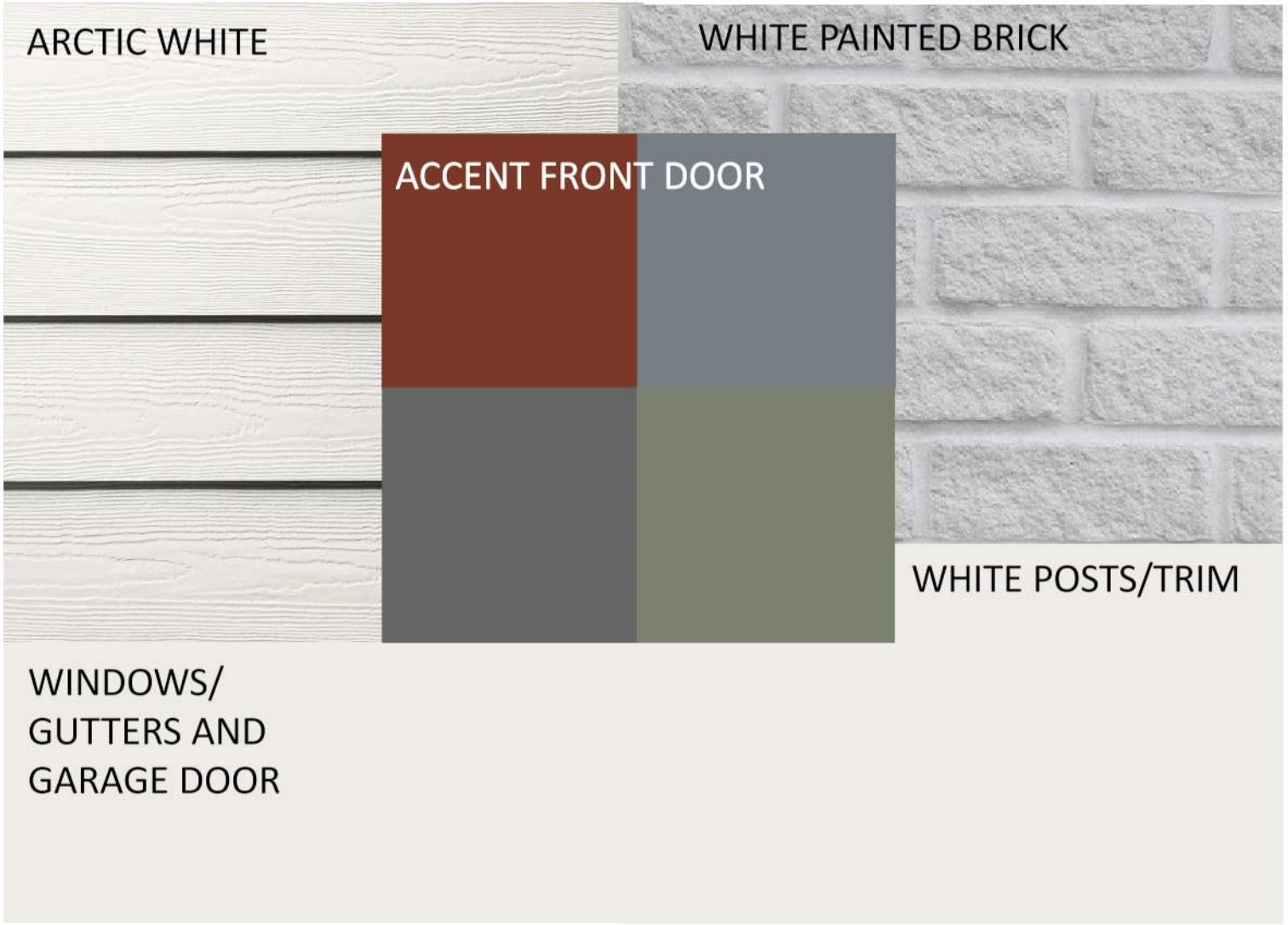
SCHEME 2


ARCTIC WHITE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS/TRIM
WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 3


ARCTIC WHITE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS/TRIM
WINDOWS AND
GUTTERS
BLACK GARAGE
DOOR

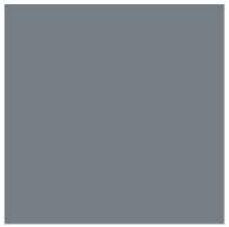
SCHEME 4

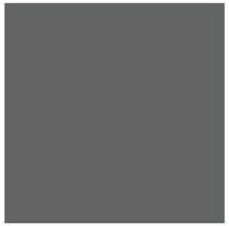


ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

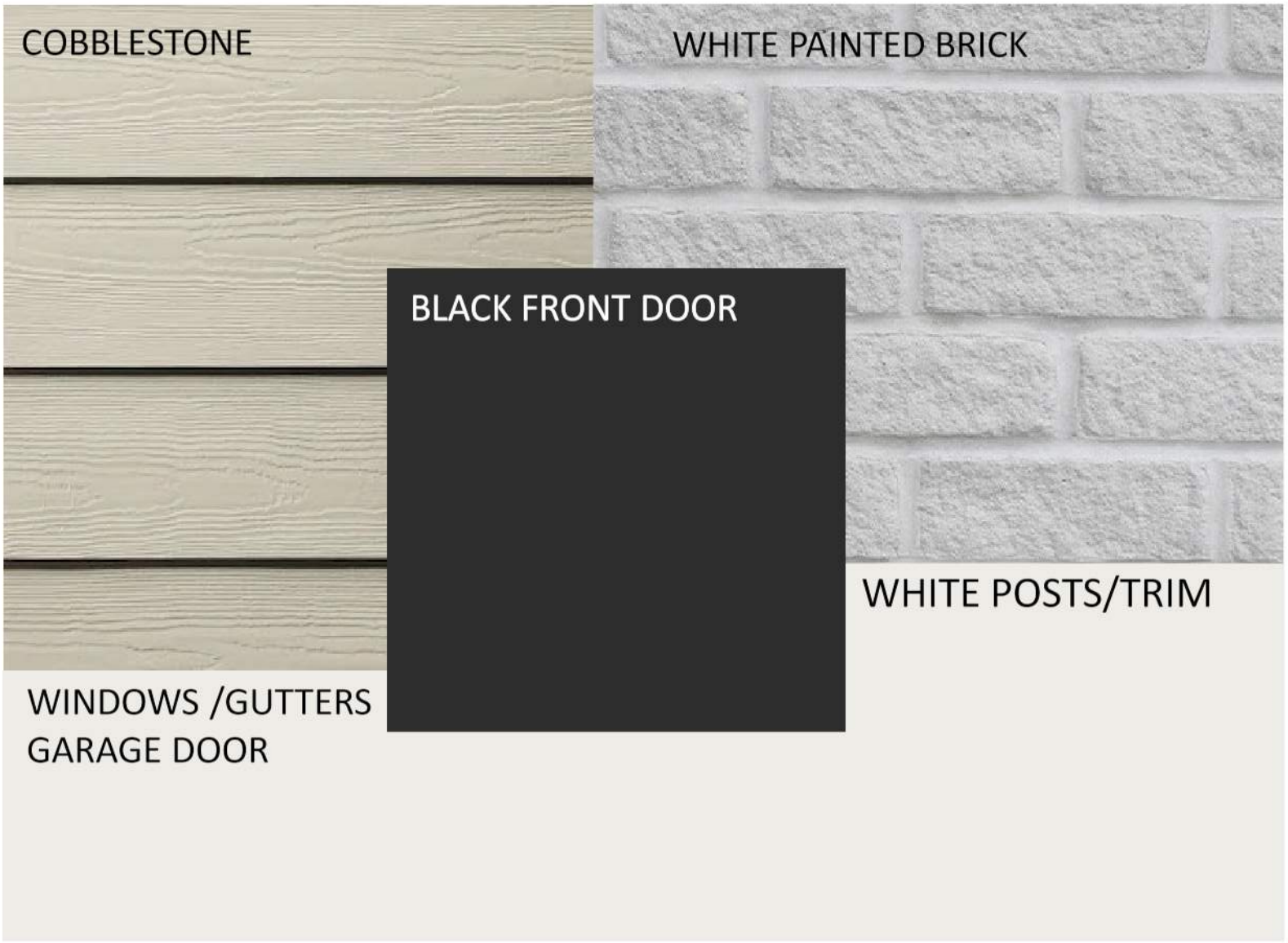




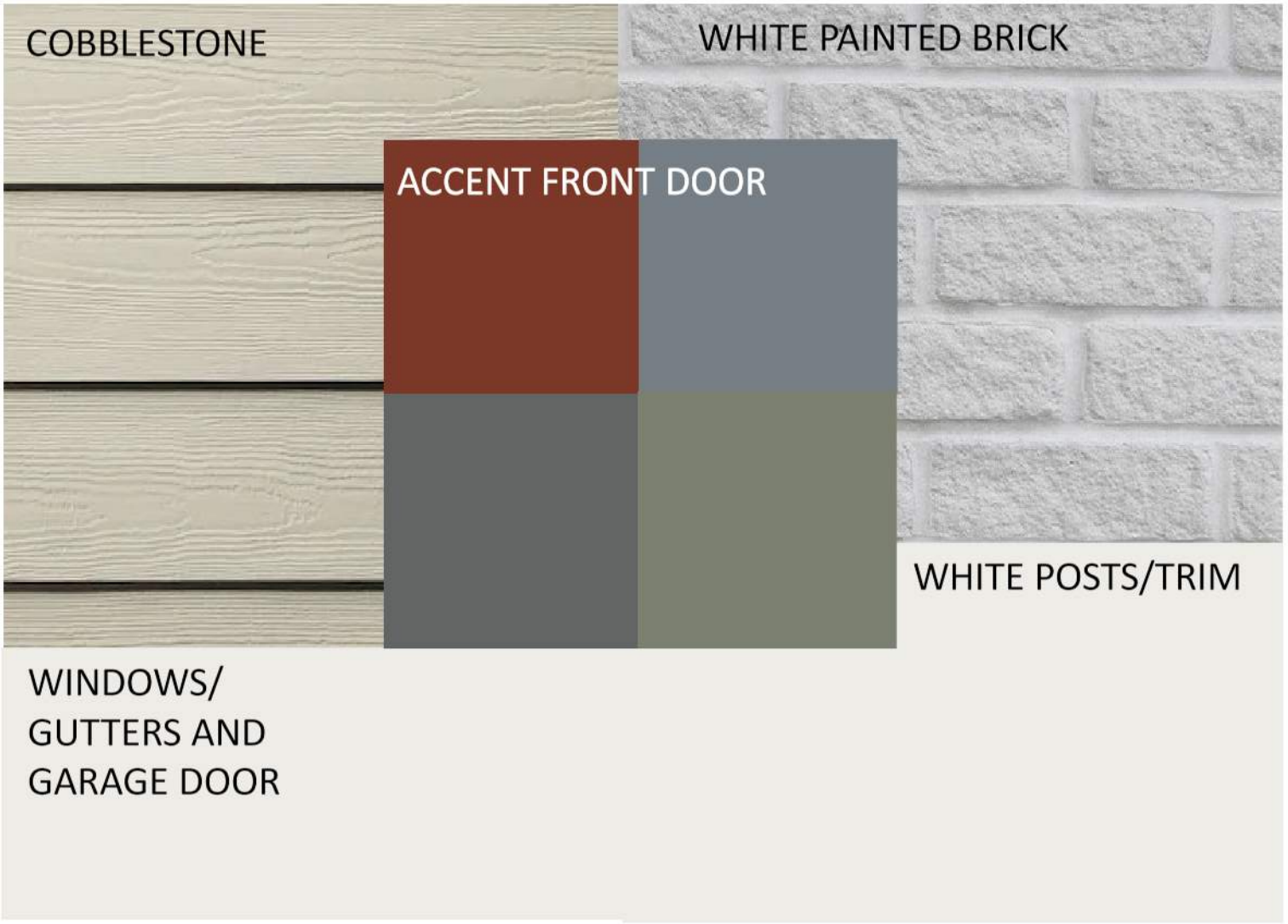




SCHEME 5


COBBLESTONE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS/TRIM
WINDOWS /GUTTERS
GARAGE DOOR

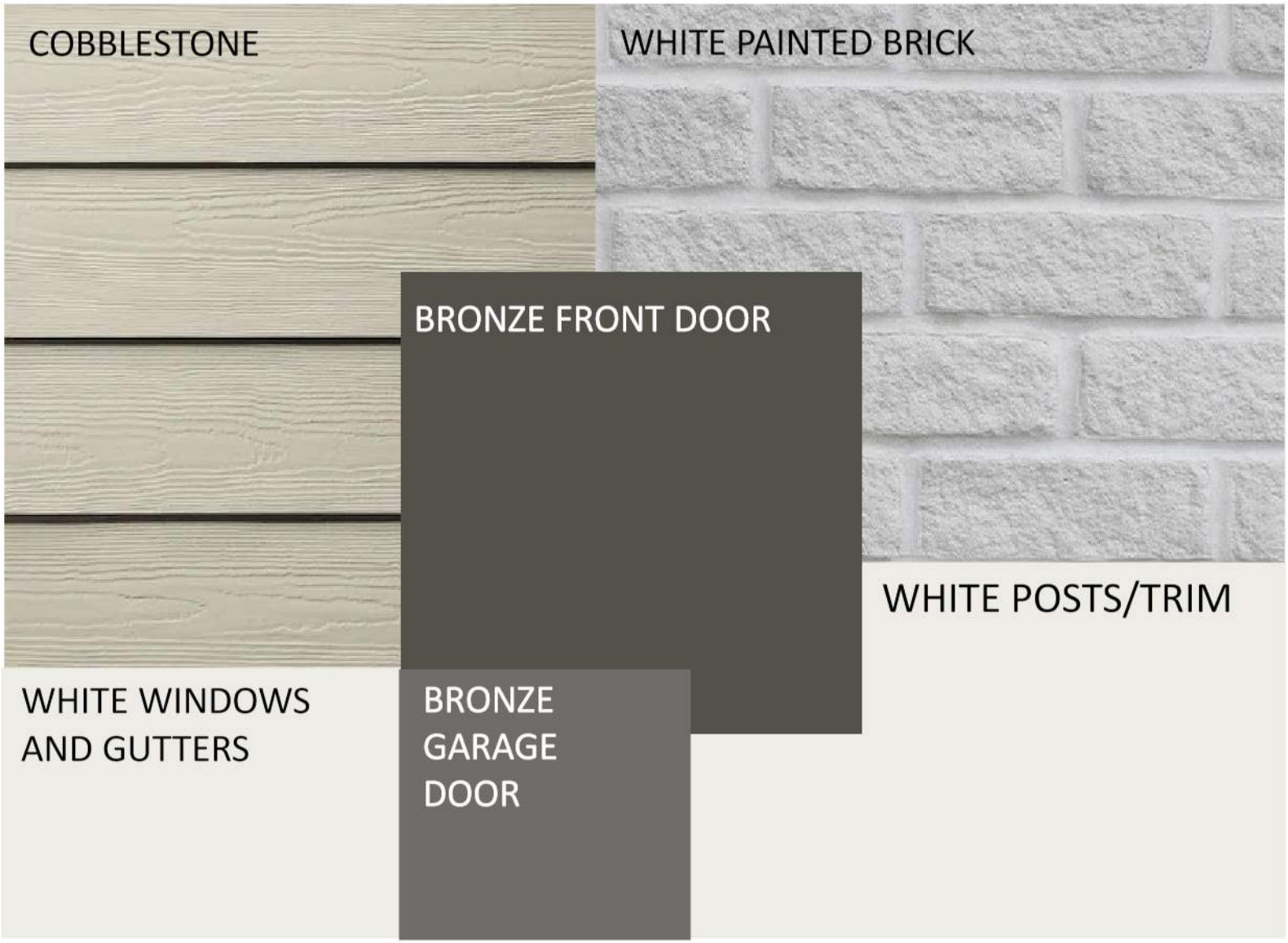
SCHEME 6



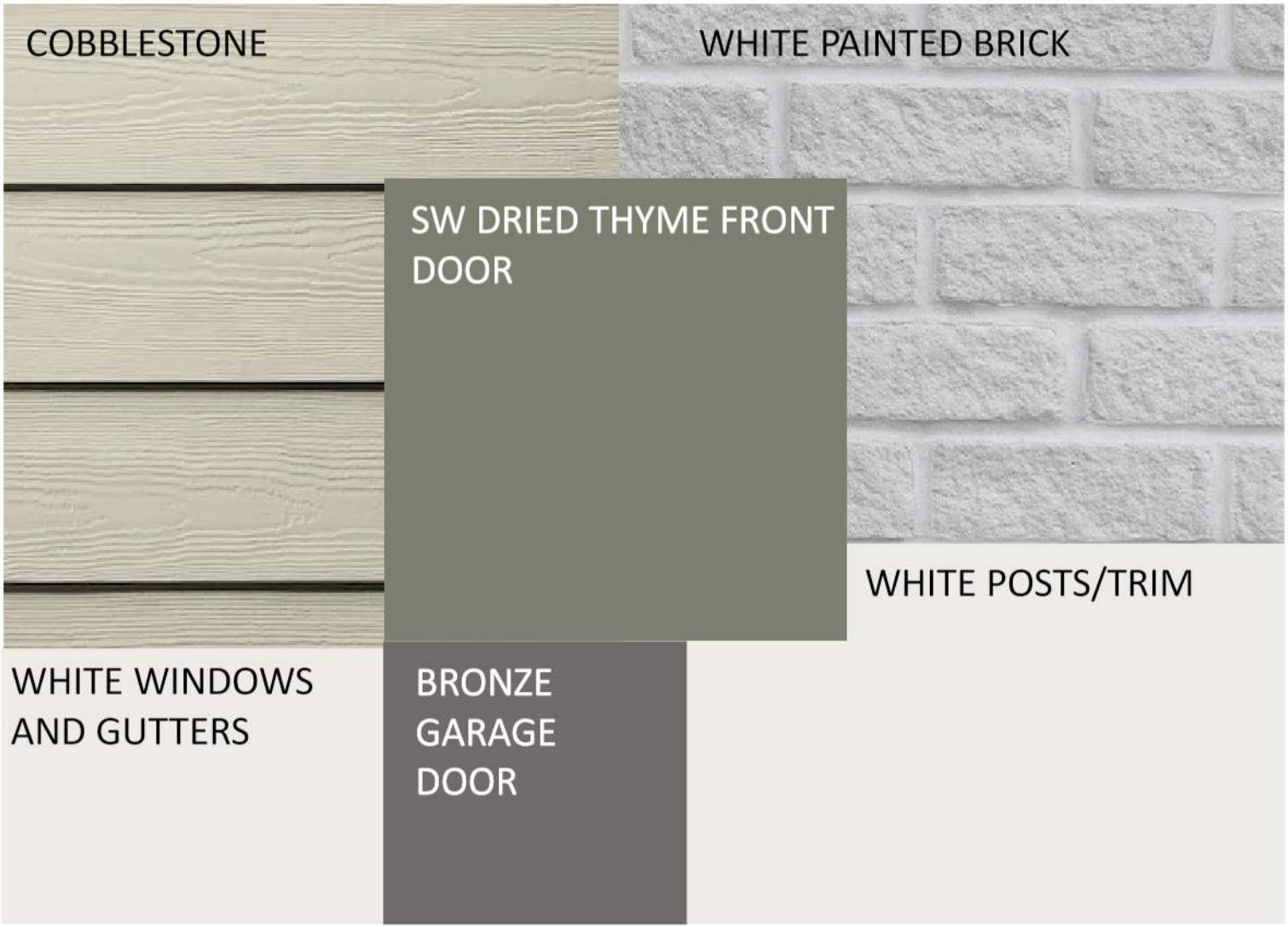
ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

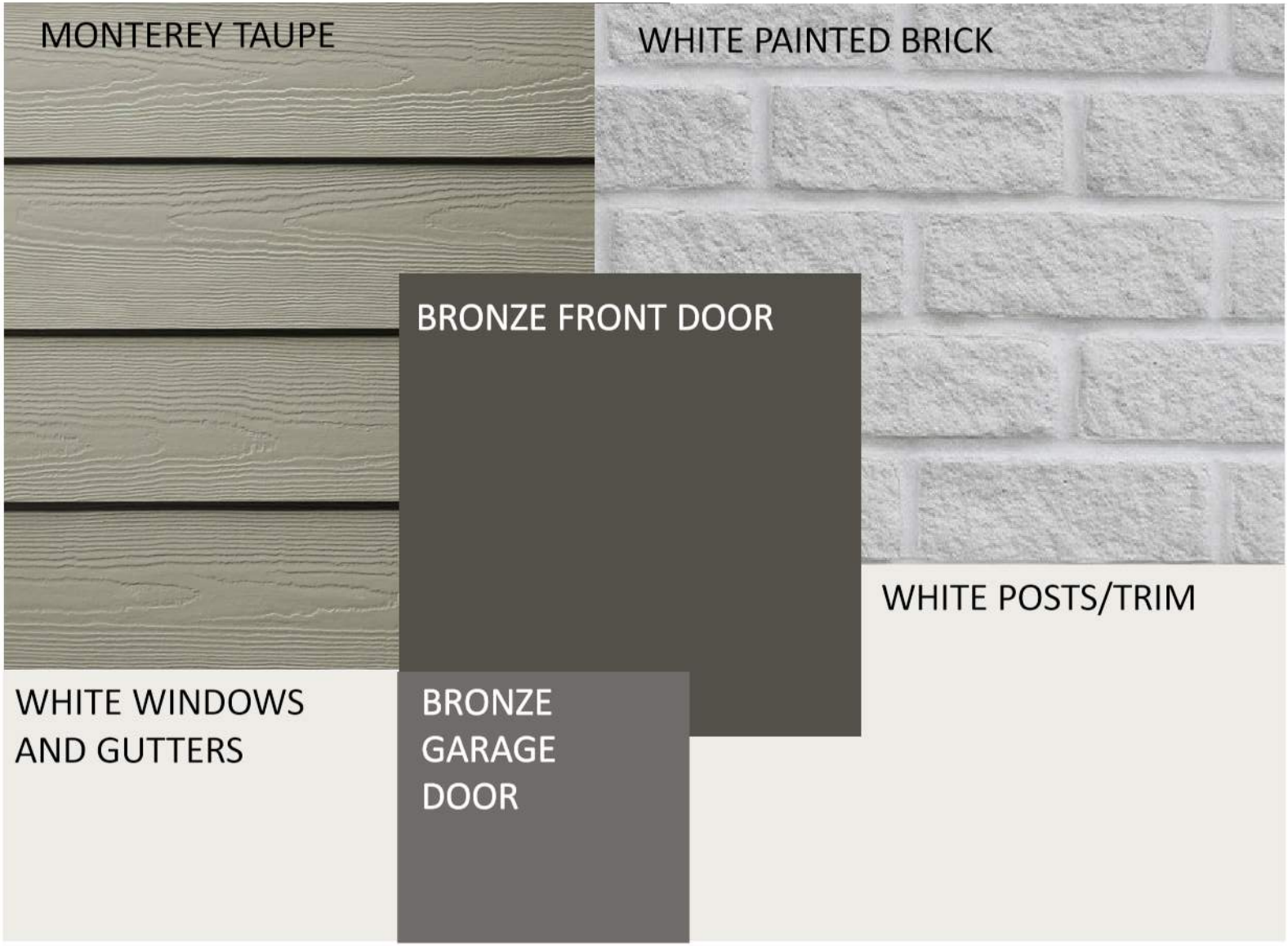
SCHEME 7


COBBLESTONE
WHITE PAINTED BRICK
BRONZE FRONT DOOR
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR

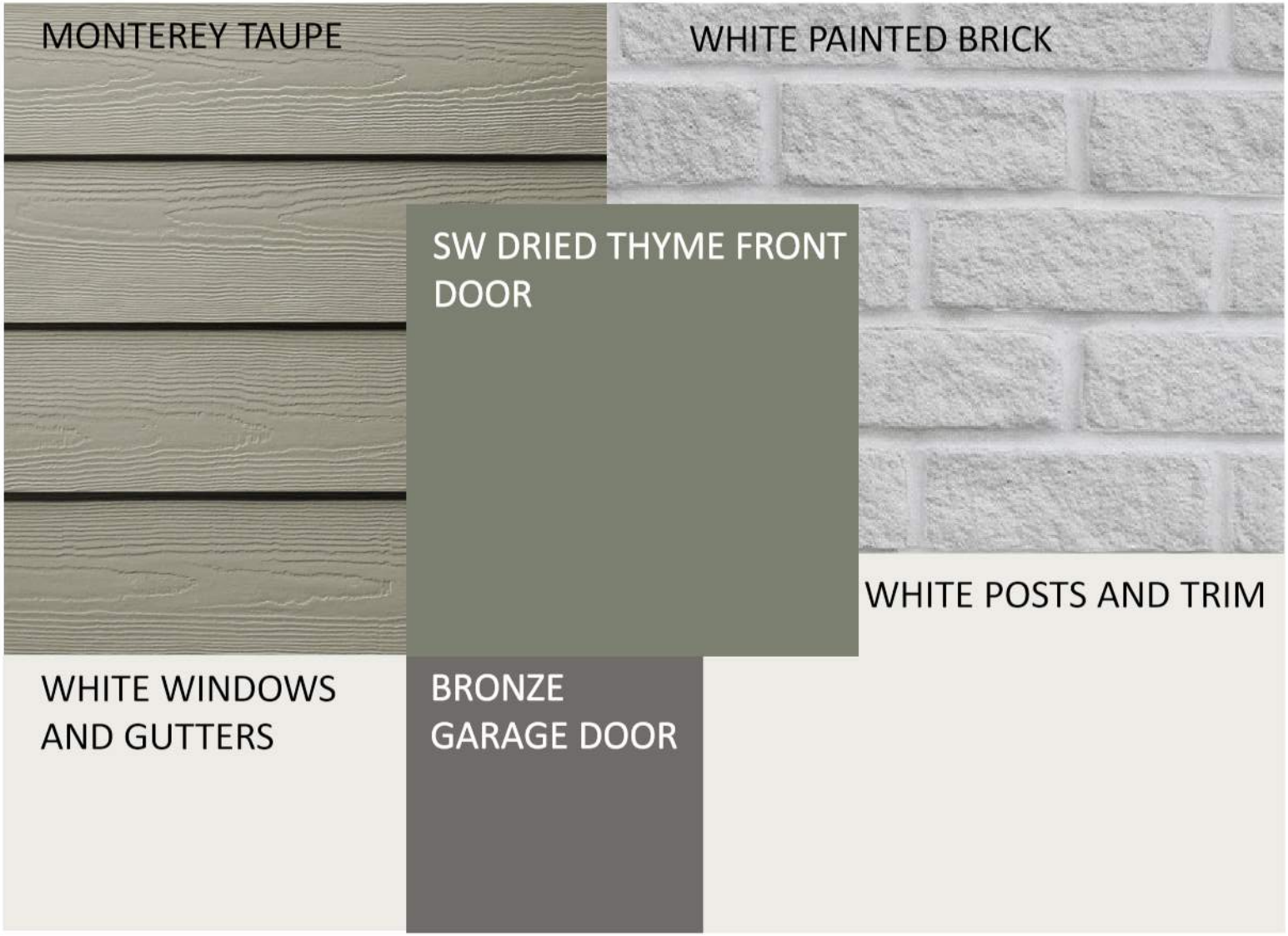
SCHEME 8


COBBLESTONE
WHITE PAINTED BRICK
SW DRIED THYME FRONT DOOR
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR

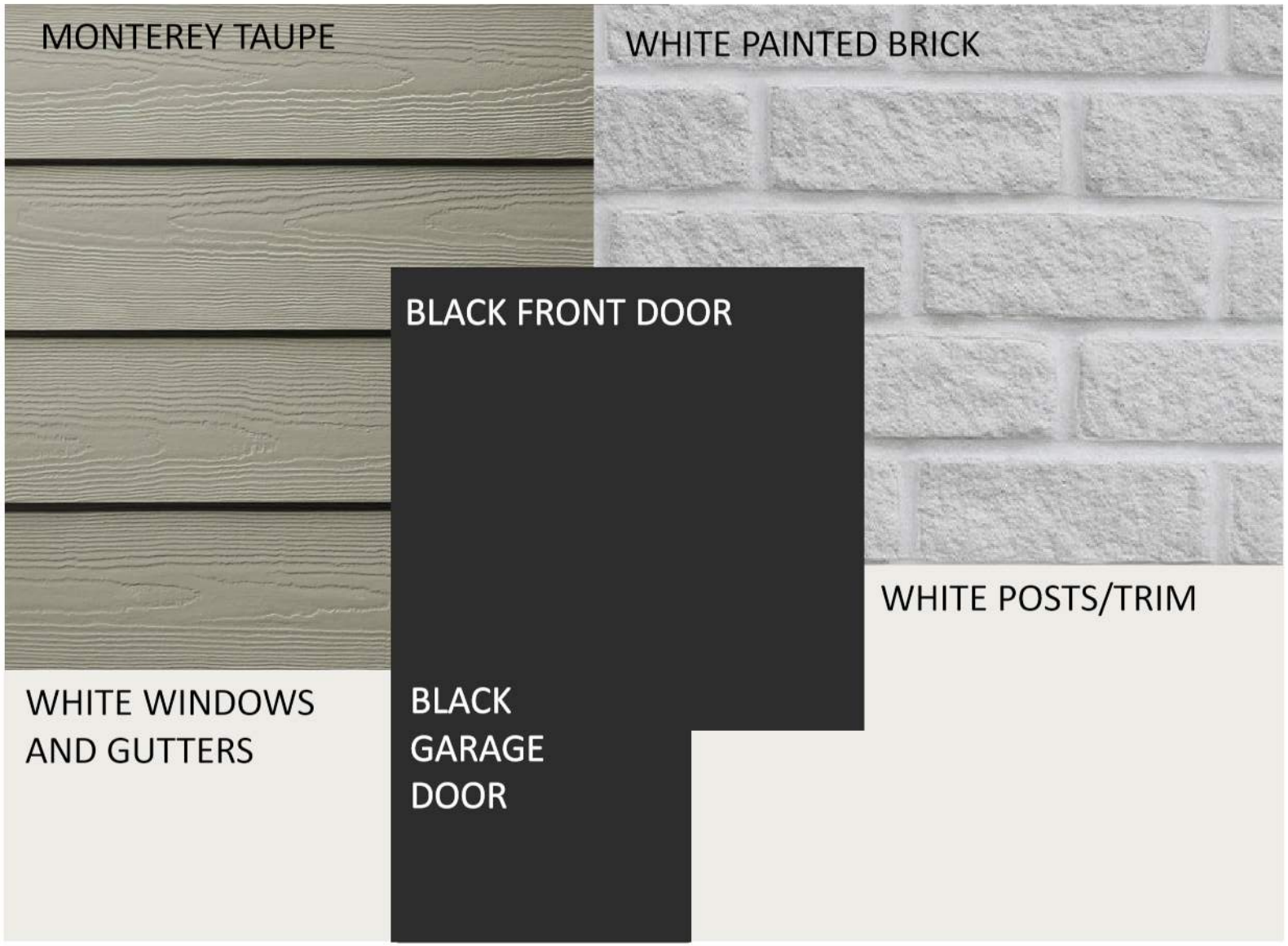
SCHEME 9


MONTEREY TAUPE
WHITE PAINTED BRICK
BRONZE FRONT DOOR
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR

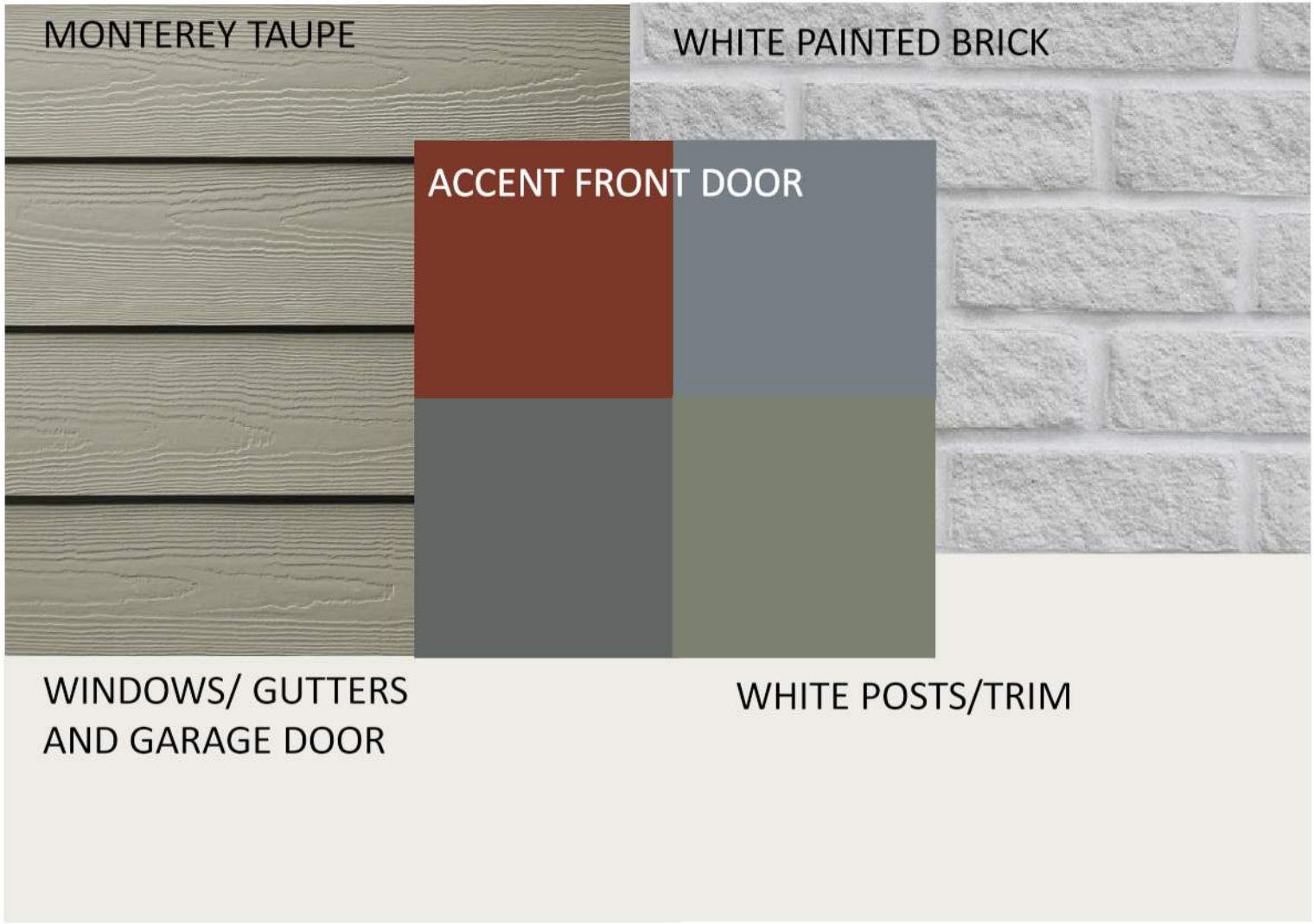
SCHEME 10


MONTEREY TAUPE
WHITE PAINTED BRICK
SW DRIED THYME FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR

SCHEME 11

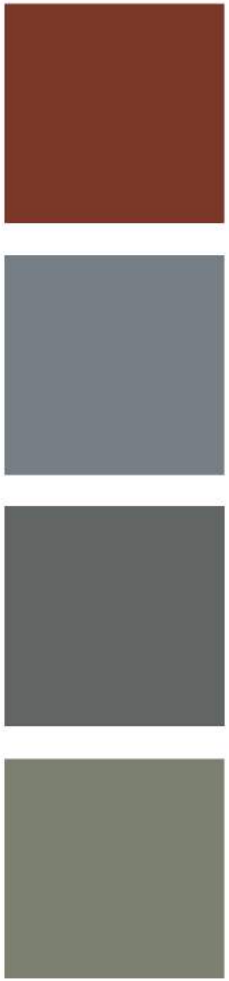

MONTEREY TAUPE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 12

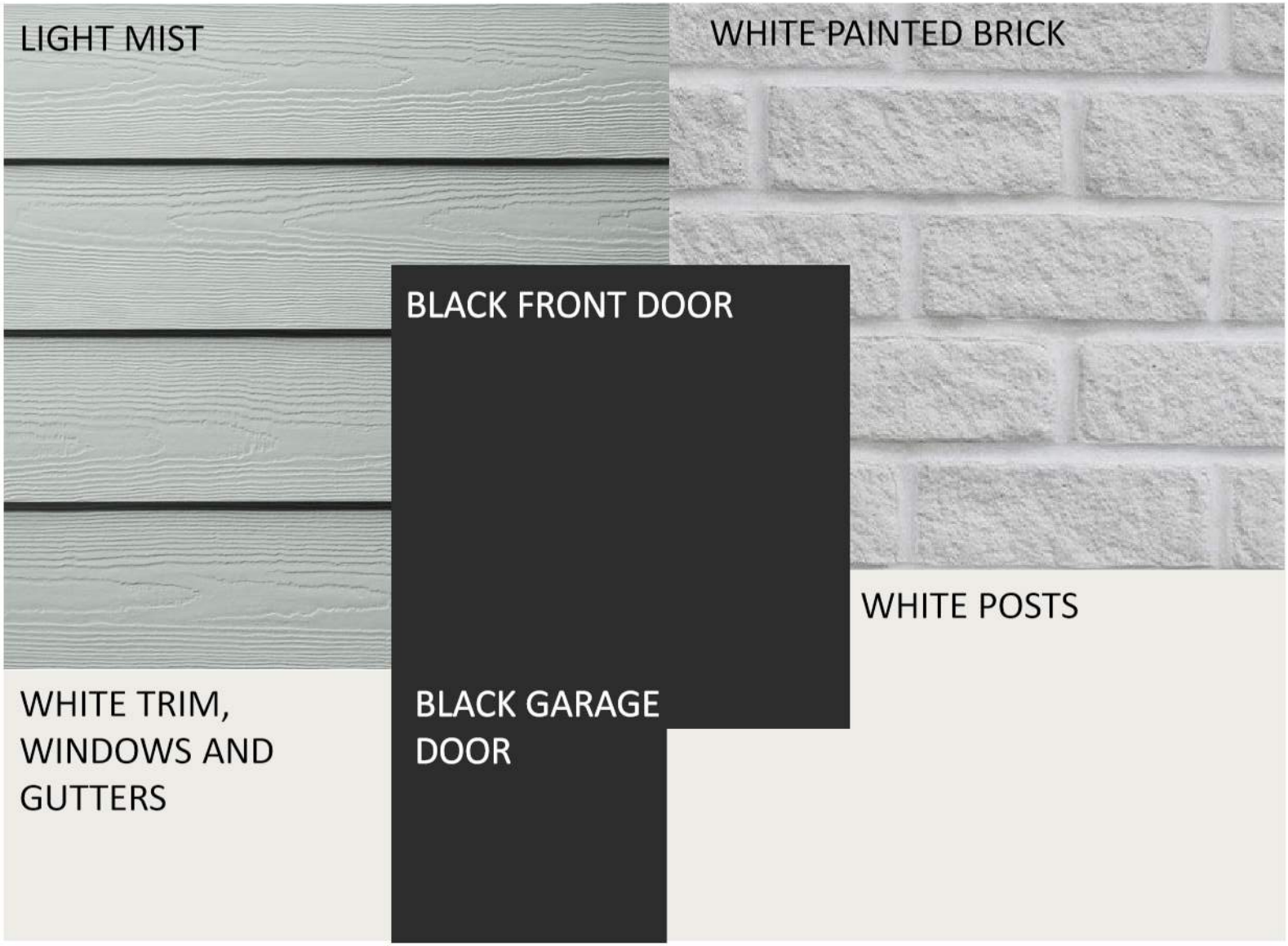


ACCENT DOOR OPTIONS

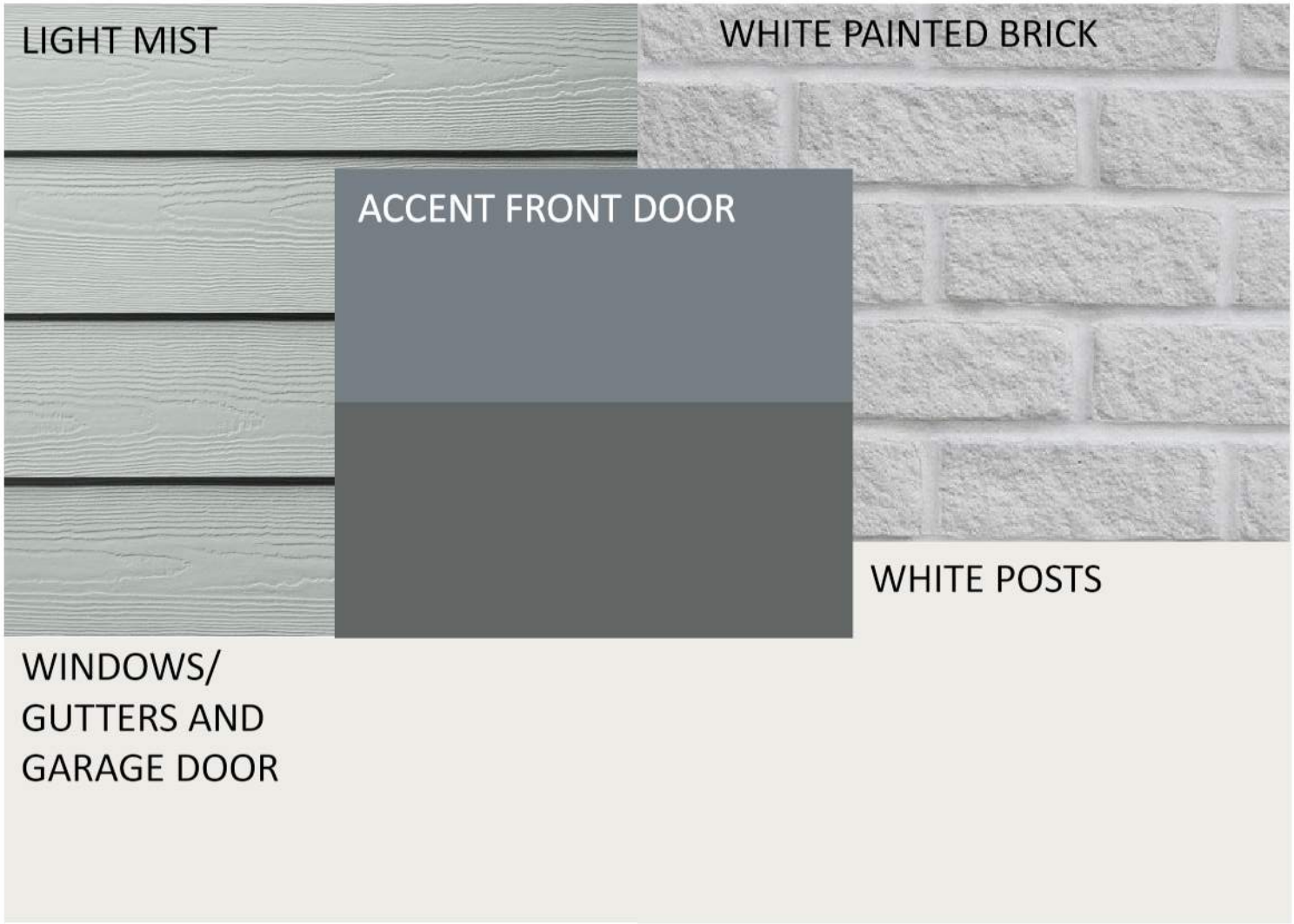
- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME



SCHEME 13


LIGHT MIST
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

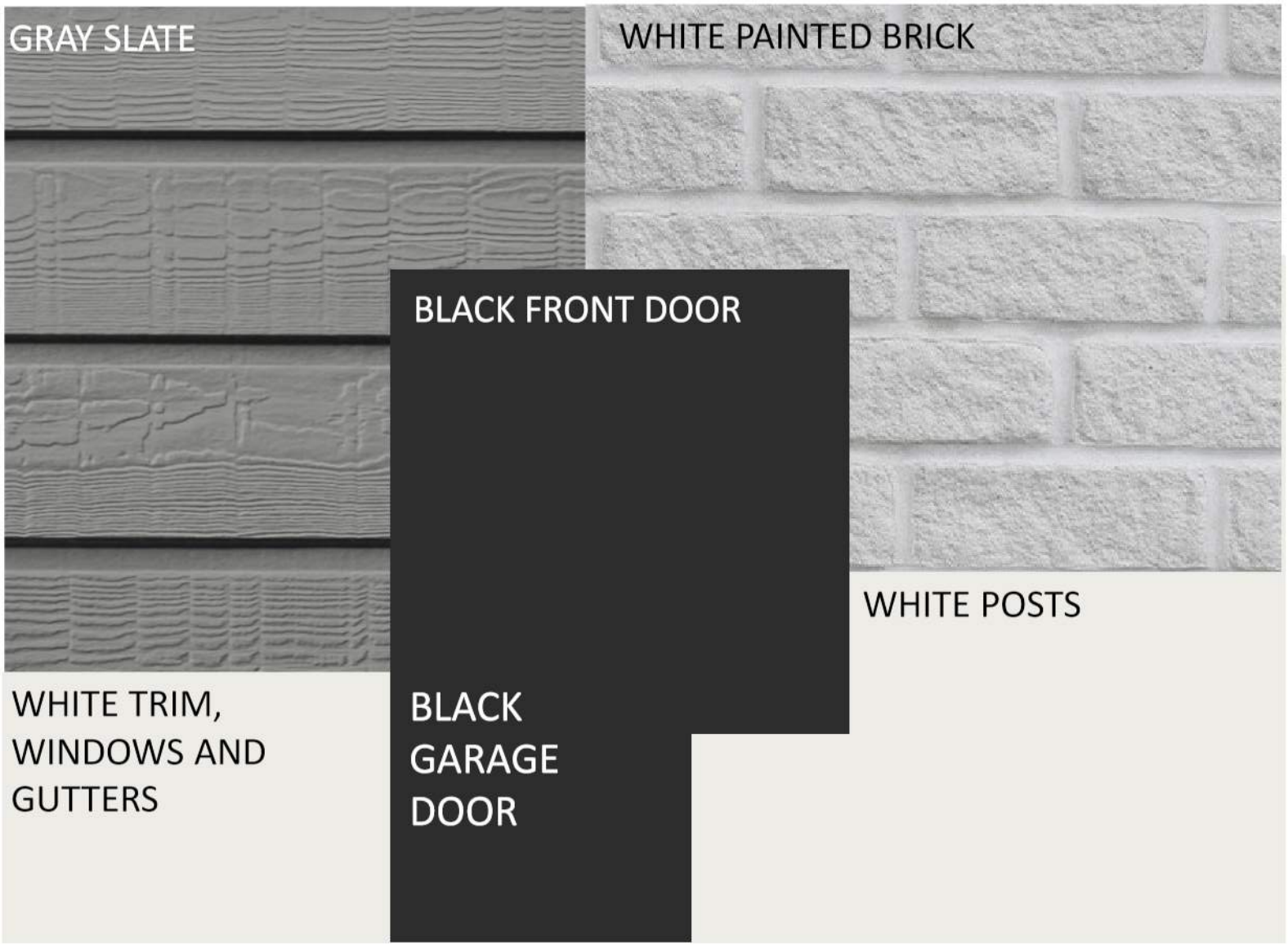
SCHEME 14



ACCENT DOOR OPTIONS

- SW DOWNING SLATE
- SW ROYCROFT PEWTER

SCHEME 15


GRAY SLATE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 16


GRAY SLATE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS
WINDOWS/
GUTTERS AND
GARAGE DOOR

SCHEME 17



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

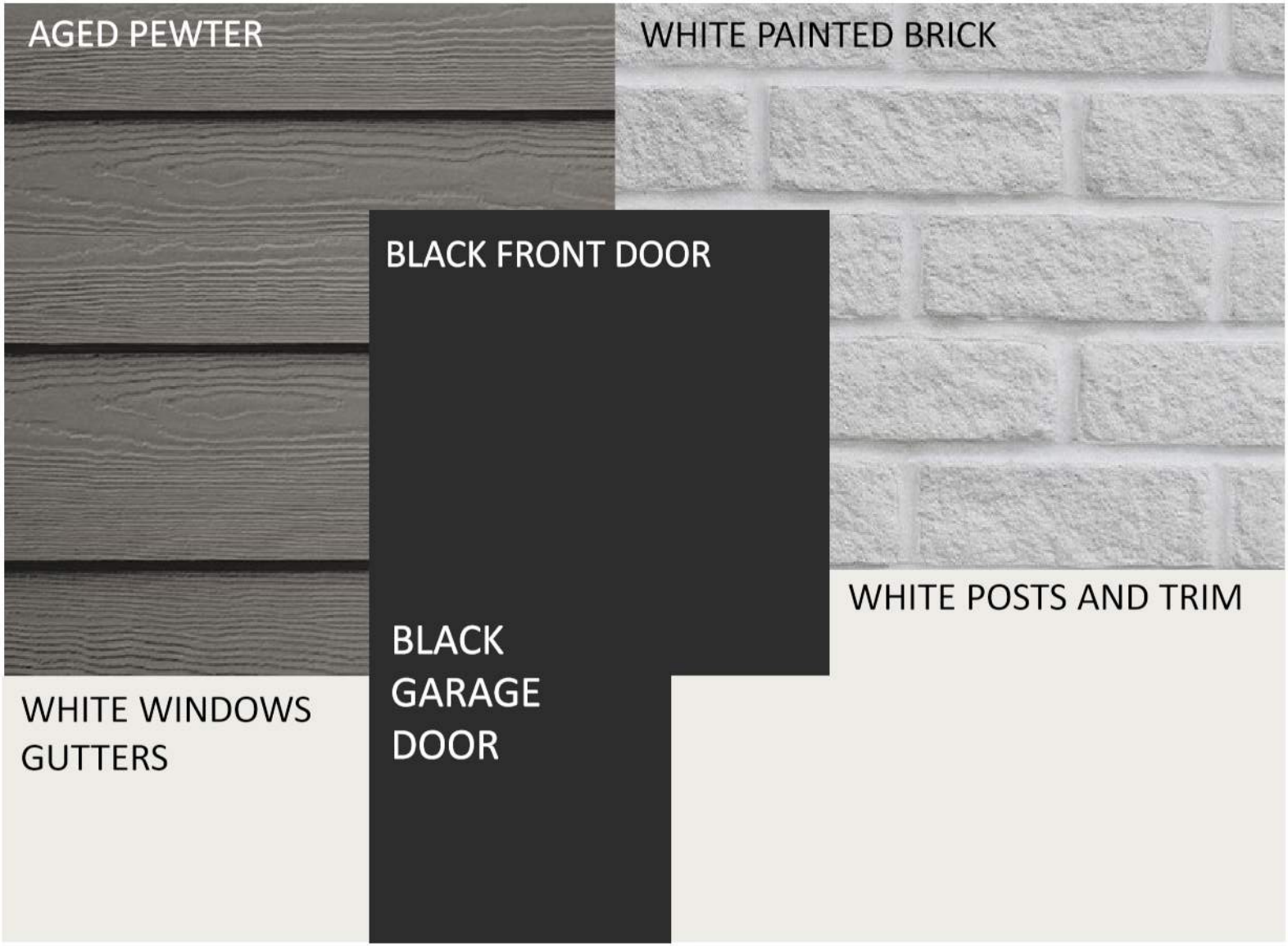
SCHEME 18


IRON GRAY
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS AND TRIM
WINDOWS/
GUTTERS AND
GARAGE DOOR

SCHEME 19


AGED PEWTER
WHITE PAINTED BRICK
SW MINDFUL GRAY FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS AND GARAGE DOOR

SCHEME 20


AGED PEWTER
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS AND TRIM
BLACK
GARAGE
DOOR
WHITE WINDOWS
GUTTERS

SCHEME 21



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

WINDOWS/ GUTTERS AND GARAGE DOOR

WHITE POSTS AND TRIM

SCHEME 22


TIMBER BARK
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND
GARAGE DOOR

SCHEME 23


TIMBER BARK
WHITE PAINTED BRICK
BRONZE FRONT DOOR
WHITE WINDOWS GUTTERS AND GARAGE DOOR
BRONZE GARAGE DOOR
WHITE POSTS AND TRIM

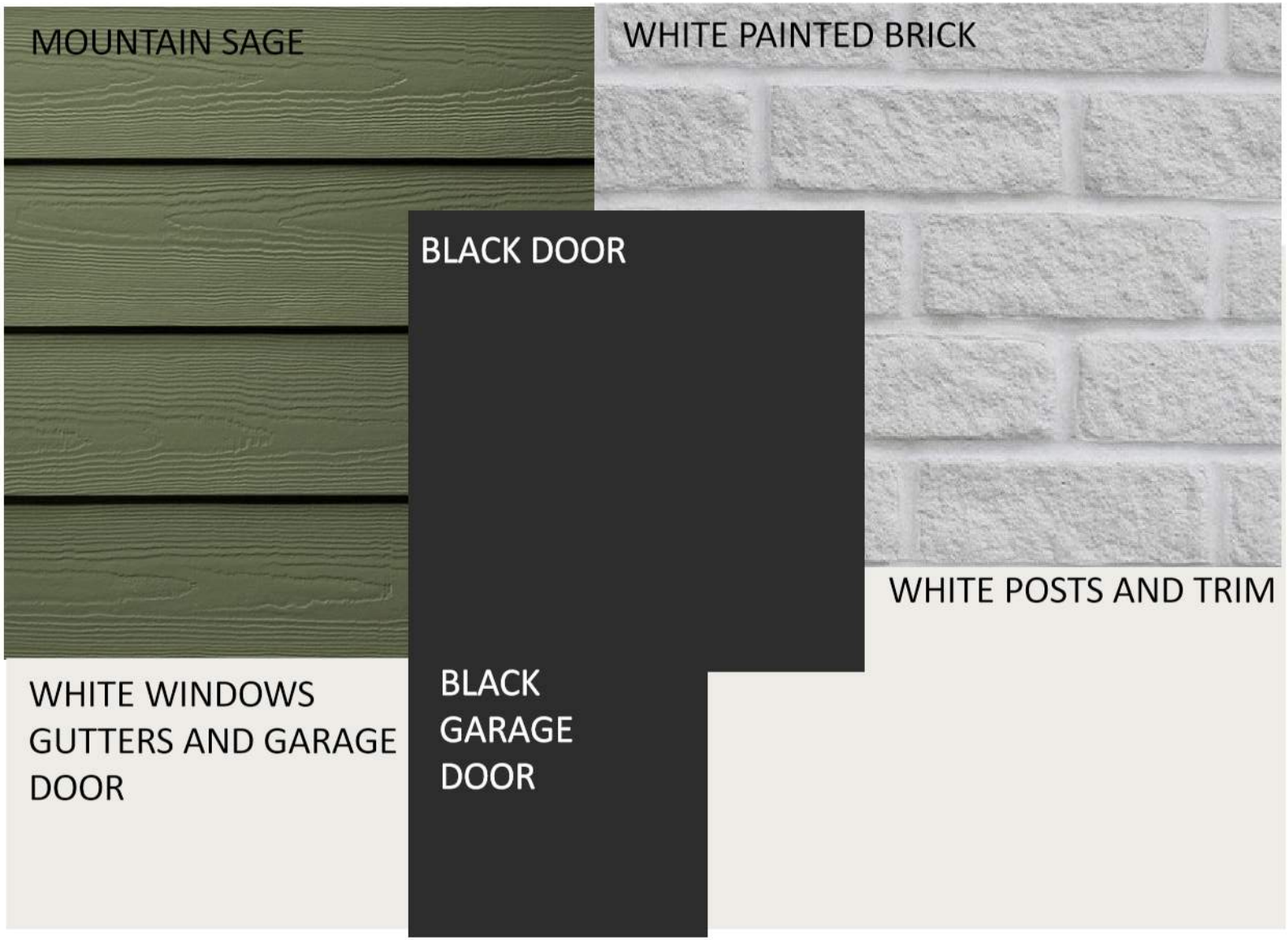
SCHEME 24


HEATHERED MOSS
WHITE PAINTED BRICK
BLACK DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS
BLACK
GARAGE
DOOR

SCHEME 25


HEATHERED MOSS
WHITE PAINTED BRICK
WHITE FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS

SCHEME 26


MOUNTAIN SAGE
WHITE PAINTED BRICK
BLACK DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS AND GARAGE DOOR
BLACK GARAGE DOOR

SCHEME 27



WHITE WINDOWS
GUTTERS AND GARAGE
DOOR

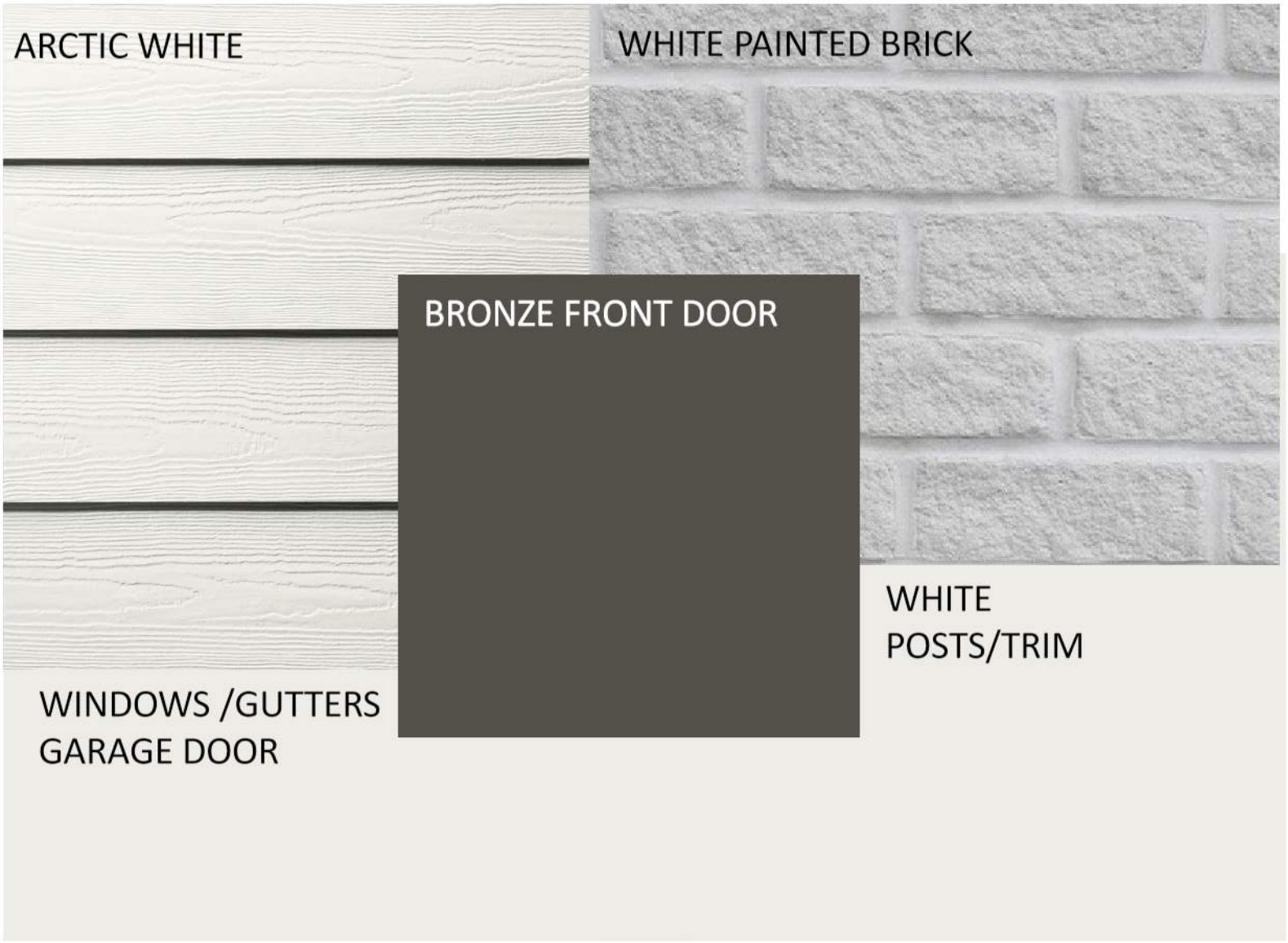
WHITE FRONT DOOR



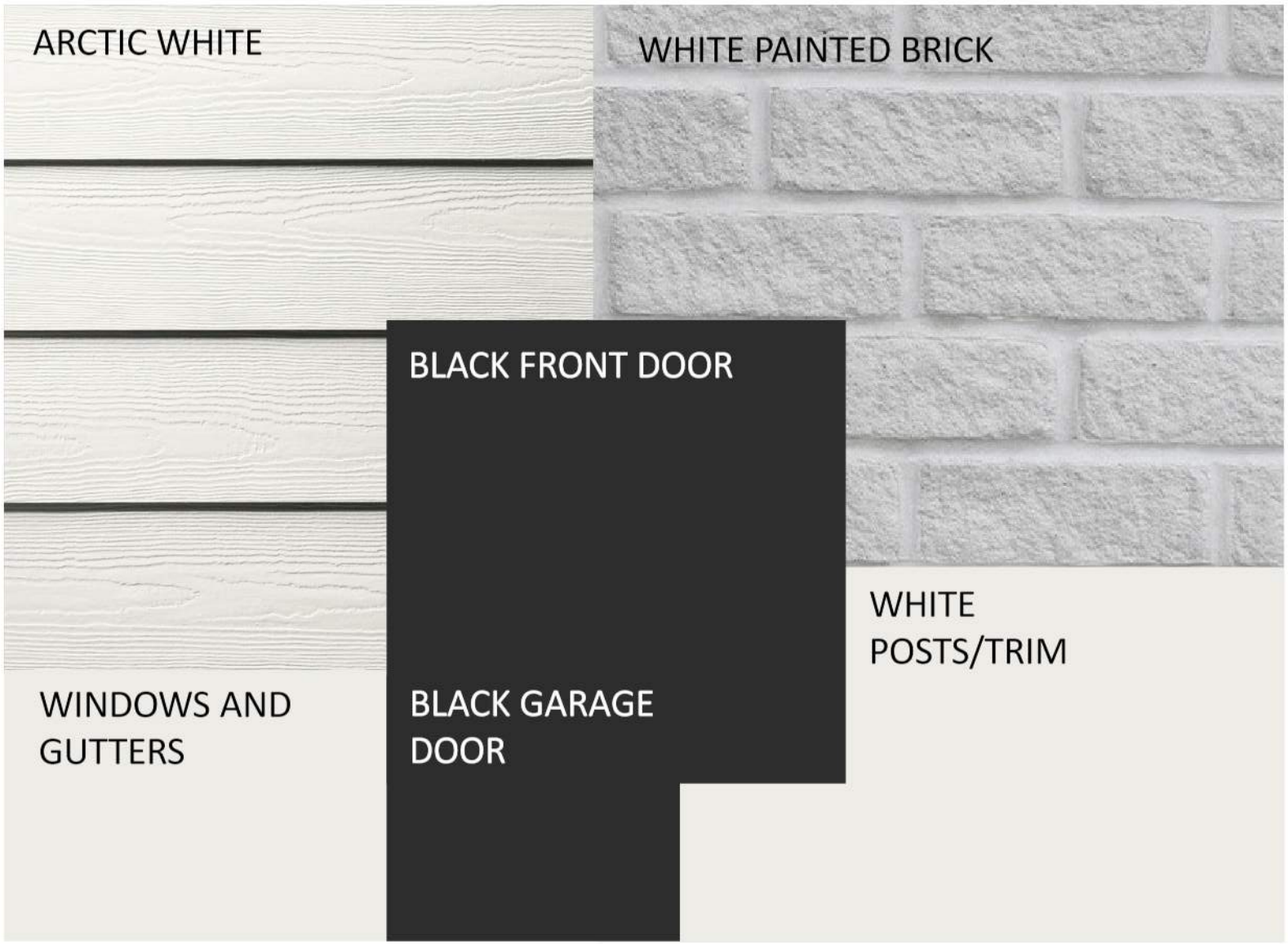
WHITE POSTS AND TRIM

PLAN 3

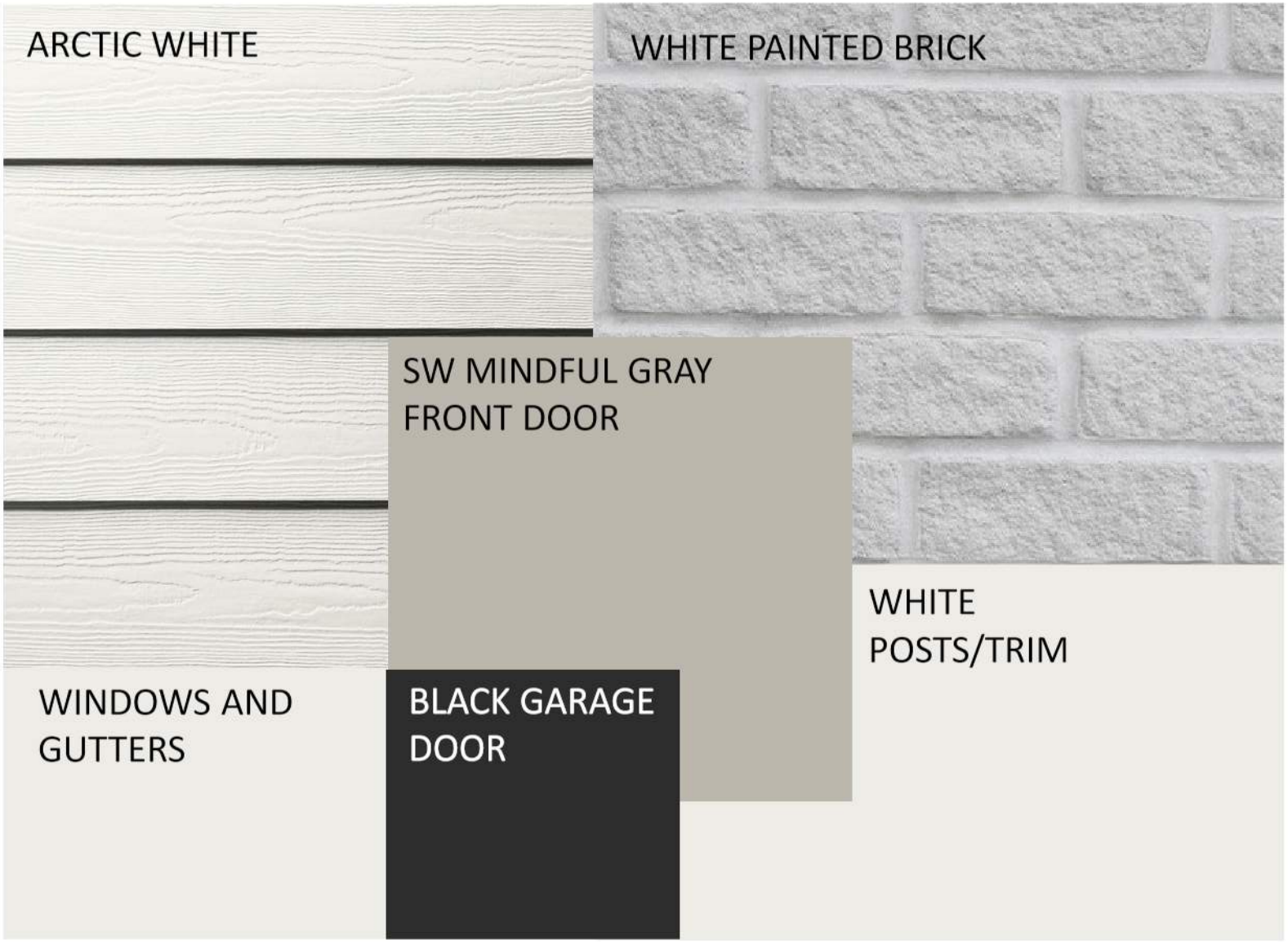
SCHEME 1


ARCTIC WHITE
WHITE PAINTED BRICK
BRONZE FRONT DOOR
WHITE
POSTS/TRIM
WINDOWS /GUTTERS
GARAGE DOOR

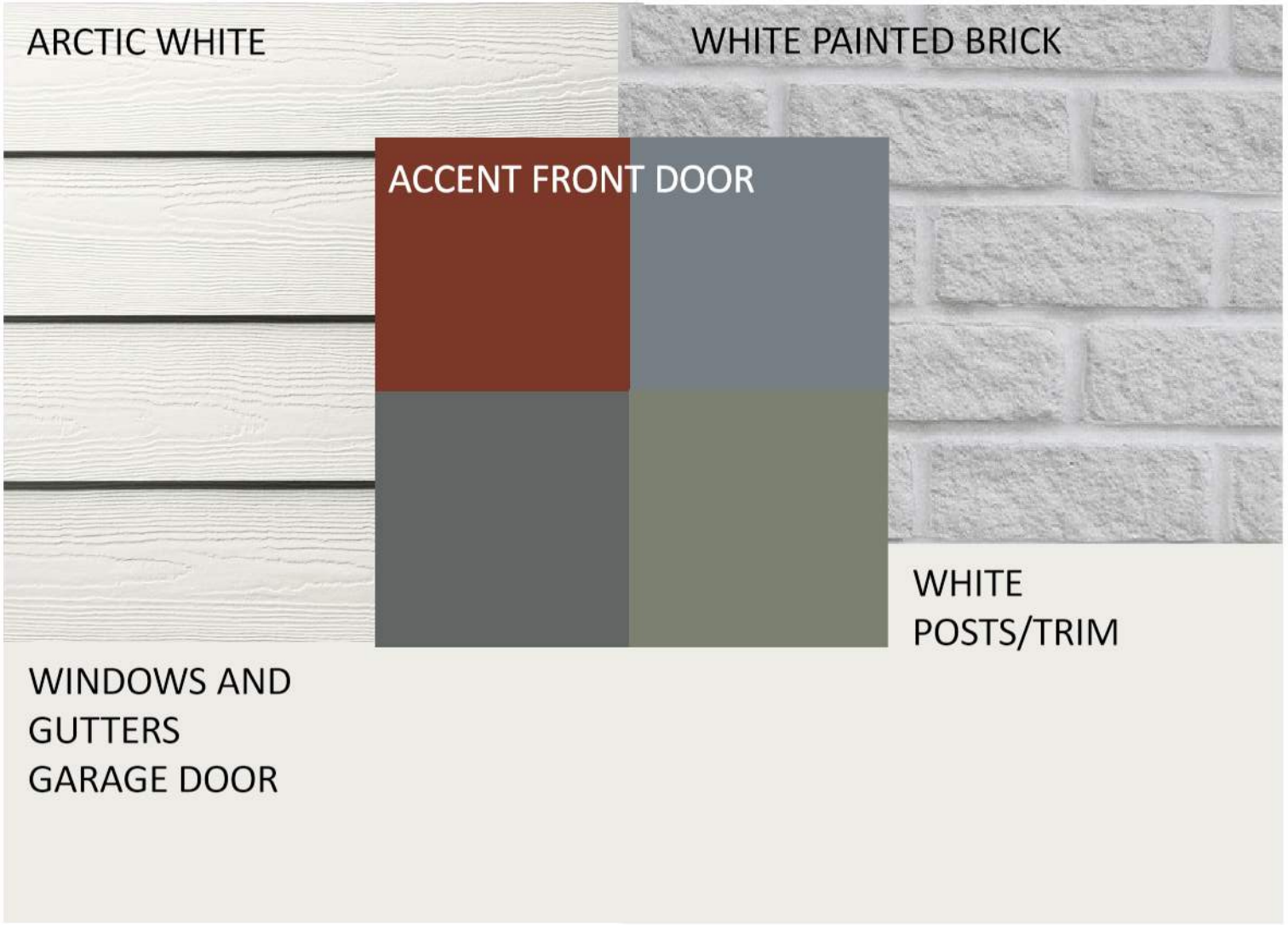
SCHEME 2


ARCTIC WHITE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE
POSTS/TRIM
WINDOWS AND
GUTTERS
BLACK GARAGE
DOOR

SCHEME 3

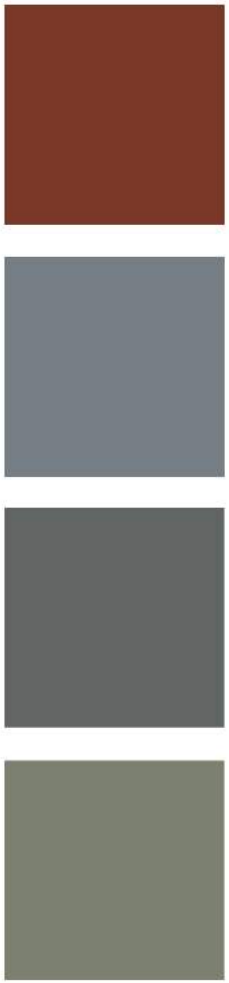

ARCTIC WHITE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE
POSTS/TRIM
WINDOWS AND
GUTTERS
BLACK GARAGE
DOOR

SCHEME 4

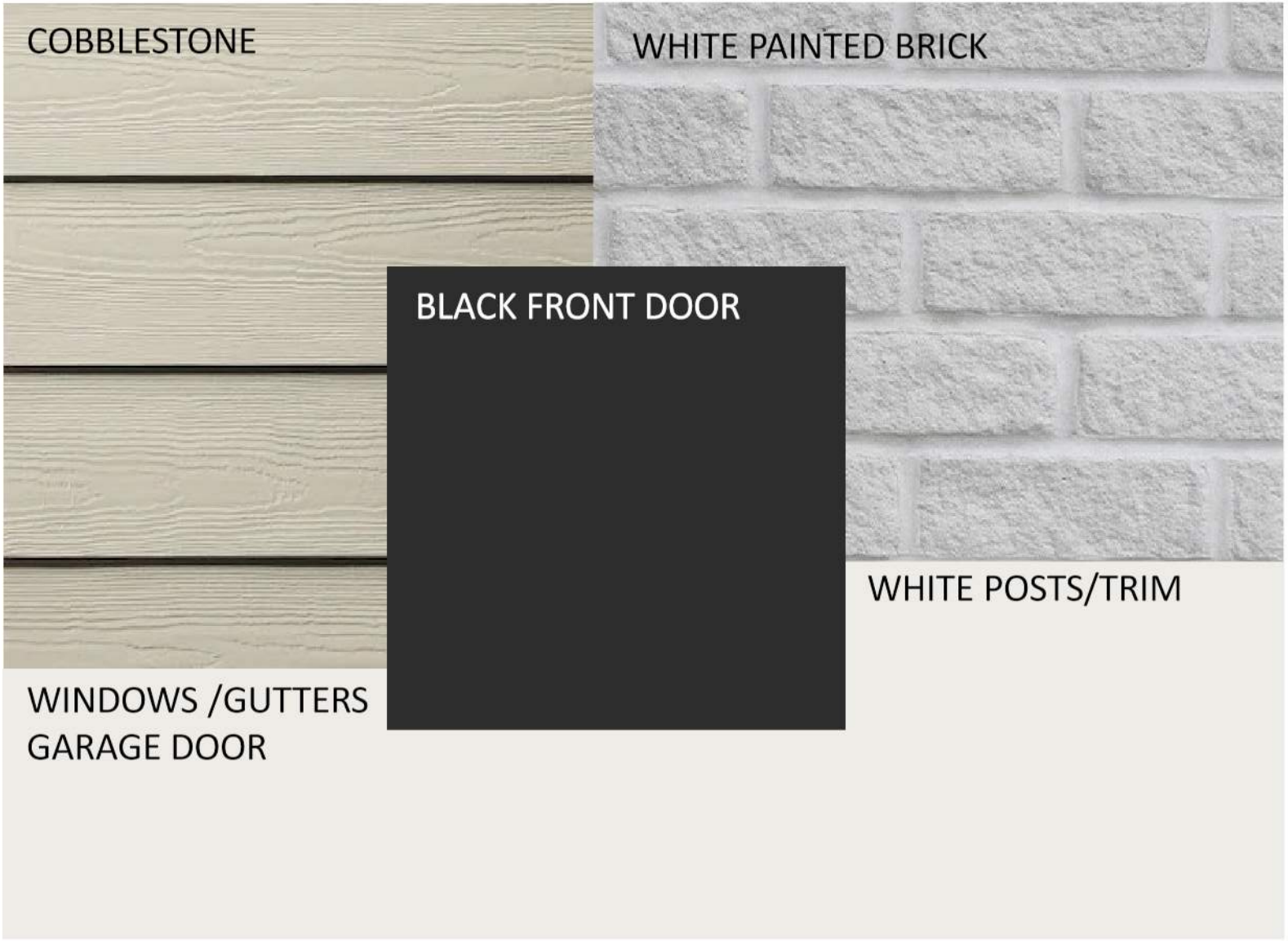


ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

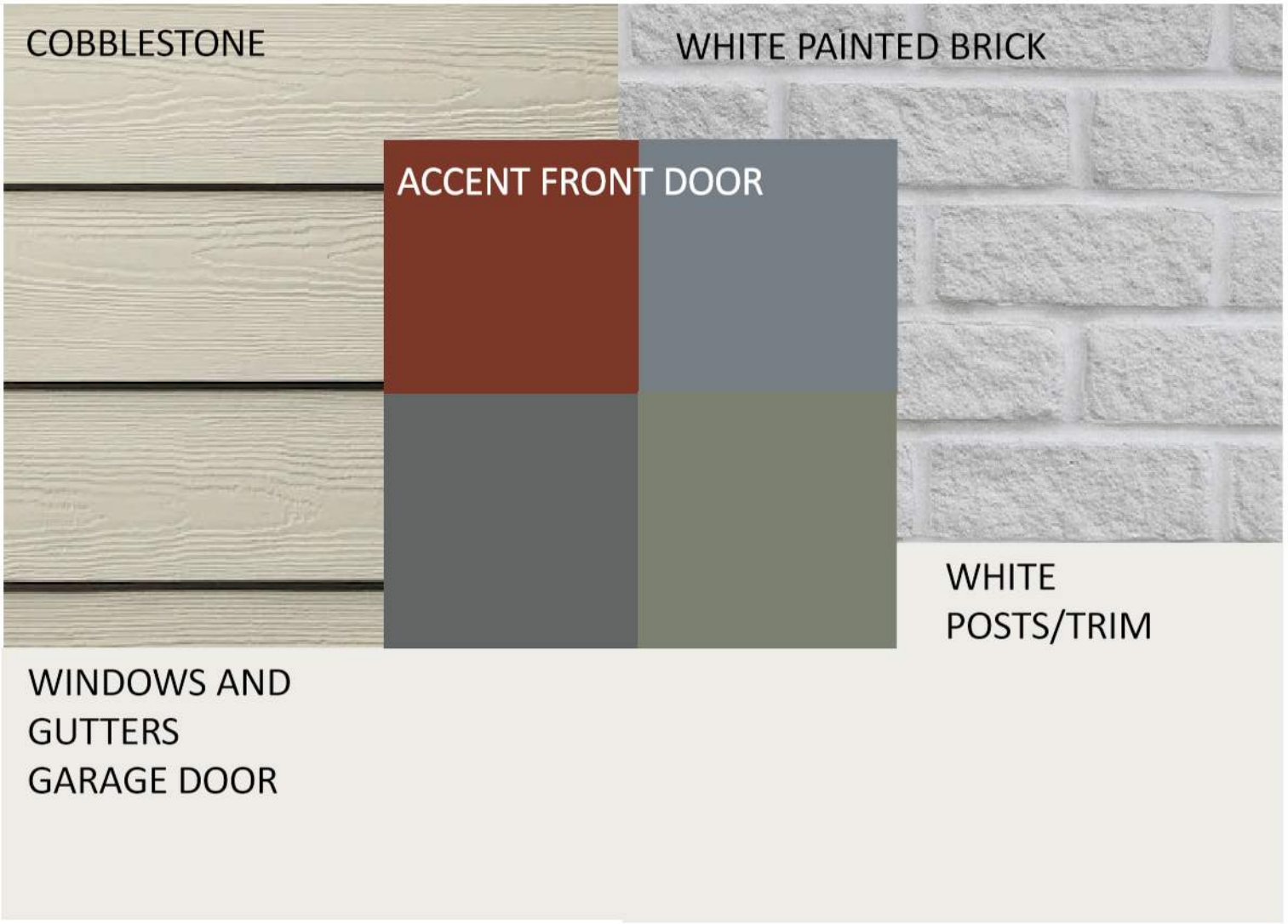


SCHEME 5



*Exterior color package may not be available depending on selections for neighboring lots

SCHEME 6



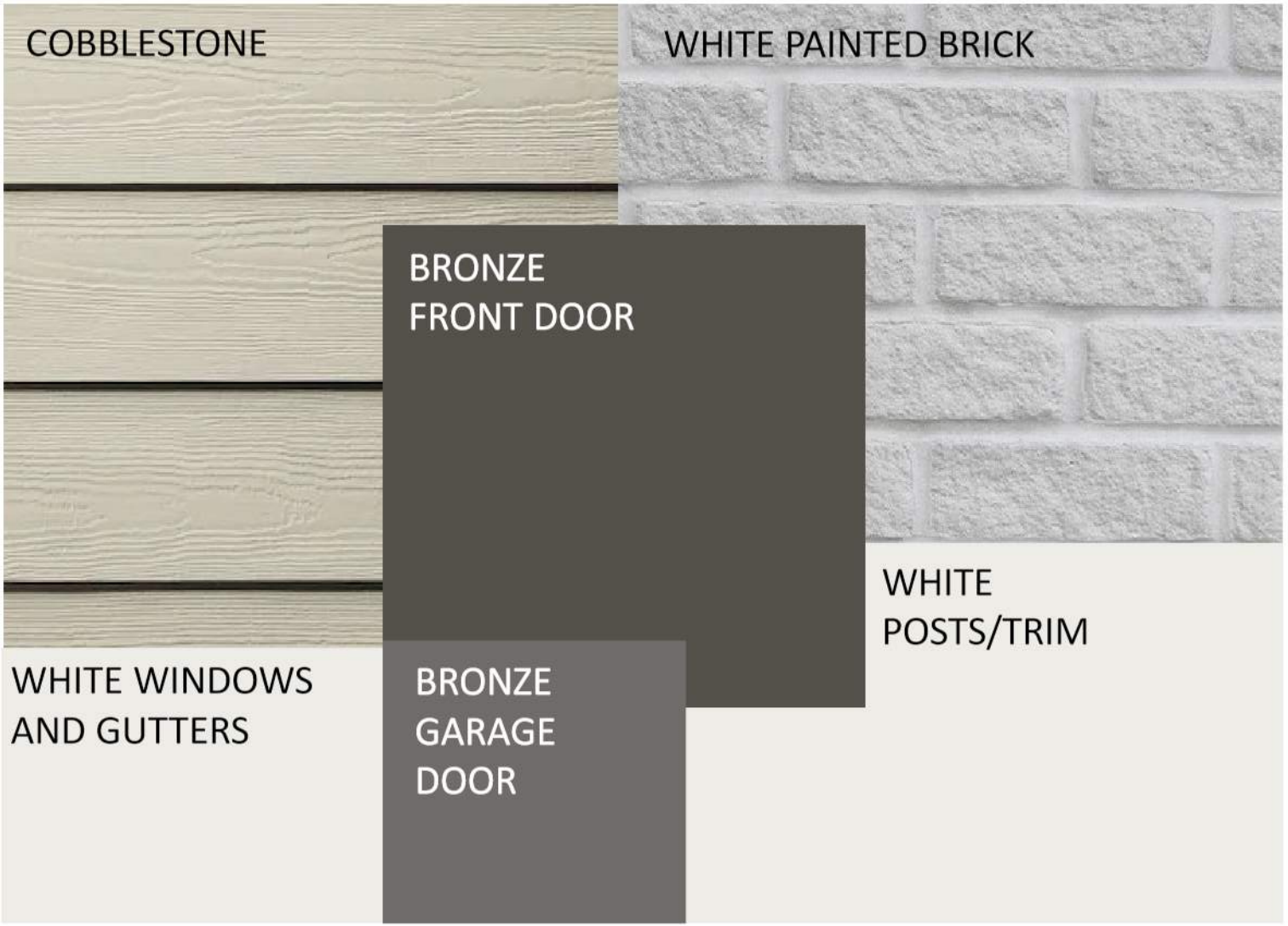
ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

SCHEME 7


COBBLESTONE
WHITE PAINTED BRICK
BRONZE
FRONT DOOR
WHITE POSTS/TRIM
WHITE WINDOWS
AND GUTTERS
BRONZE
GARAGE
DOOR

SCHEME 8



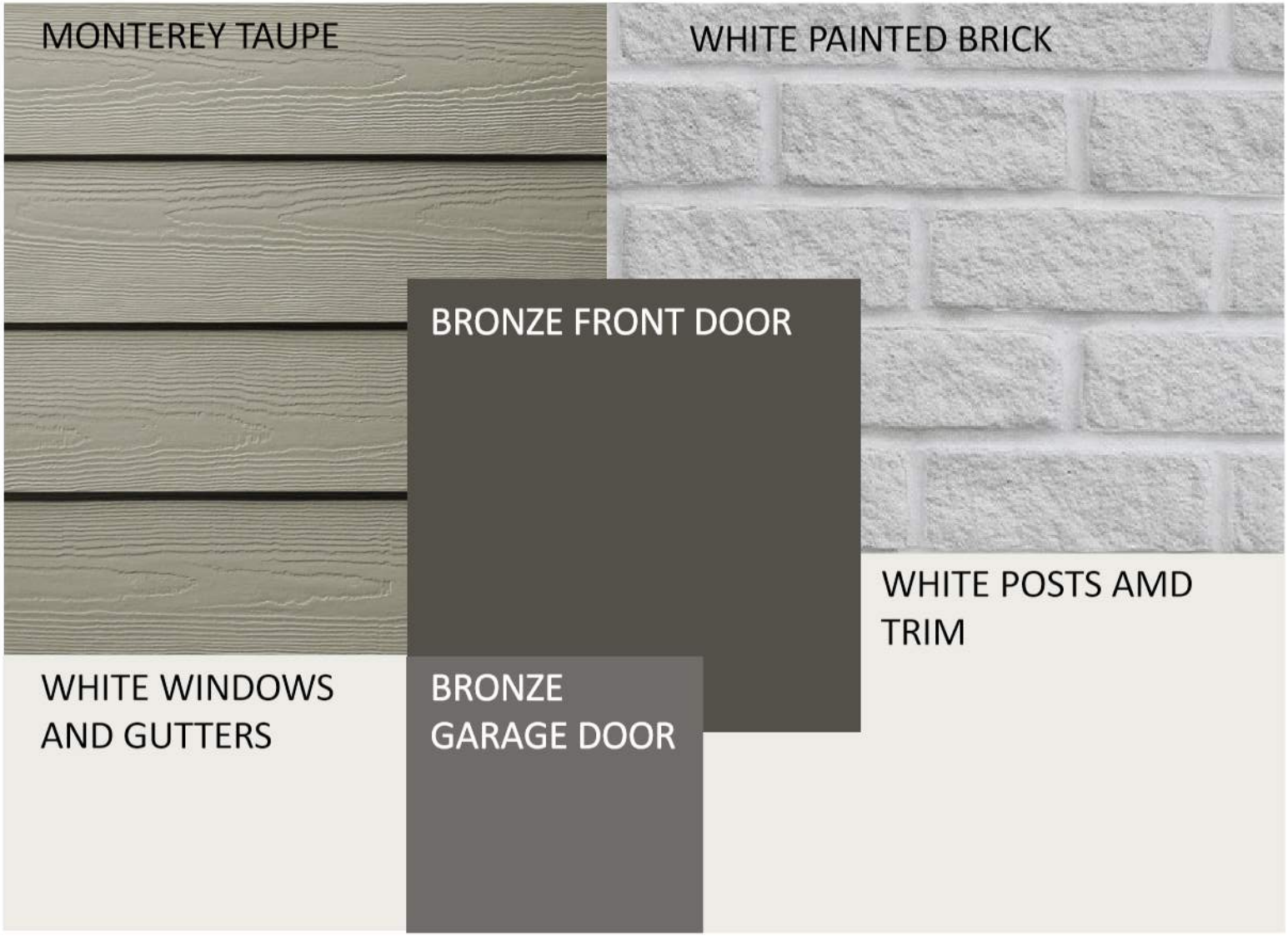
ACCENT FRONT DOOR

- SW DRIED THYME

SCHEME 9


MONTEREY TAUPE
WHITE PAINTED BRICK
BRONZE
FRONT DOOR
WHITE
POSTS/TRIM
WHITE WINDOWS
AND GUTTERS
BRONZE
GARAGE
DOOR

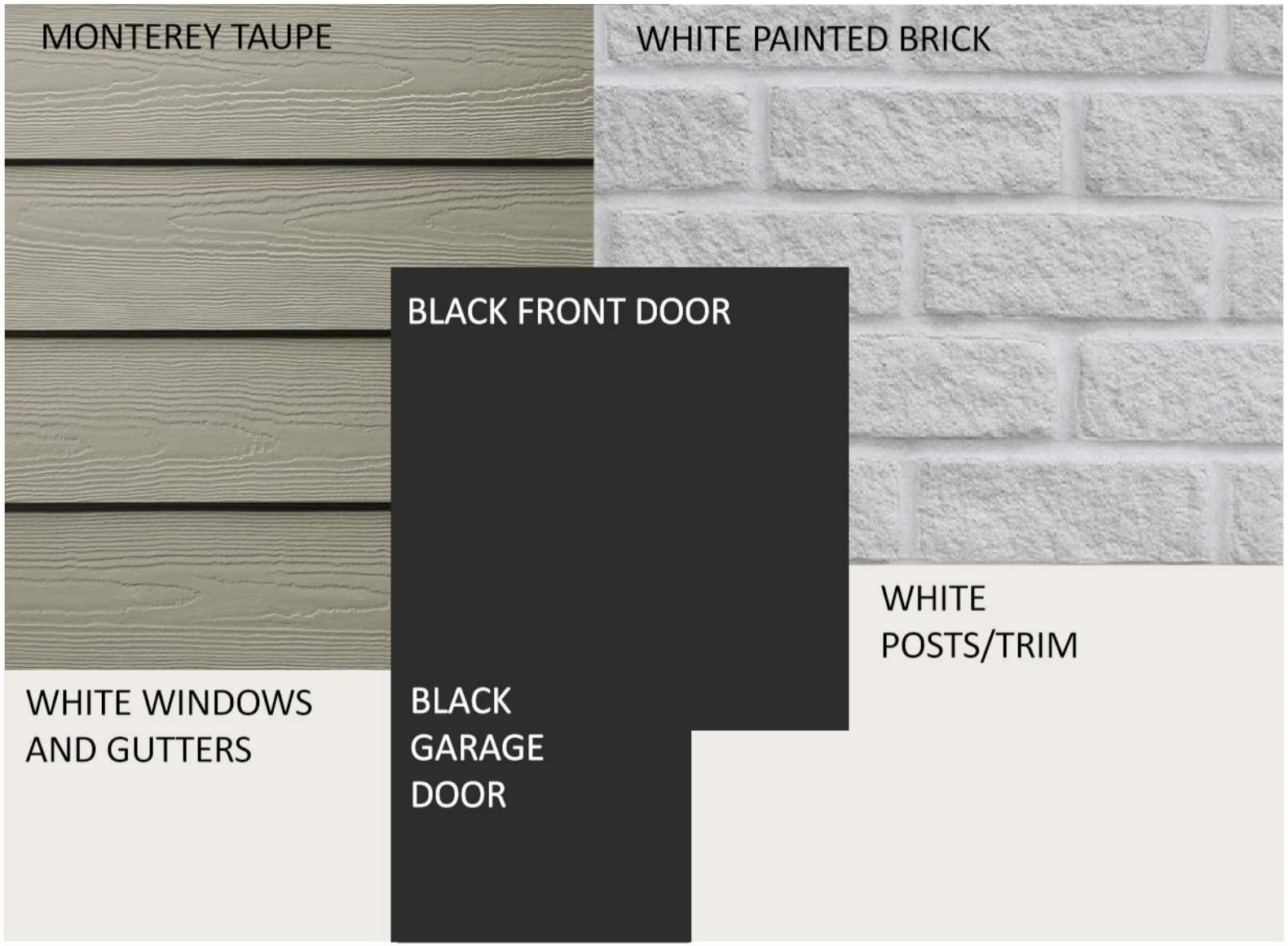
SCHEME 10



ACCENT DOOR OPTIONS

- SW DRIED THYME

SCHEME 11


MONTEREY TAUPE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE
POSTS/TRIM
WHITE WINDOWS
AND GUTTERS
BLACK
GARAGE
DOOR

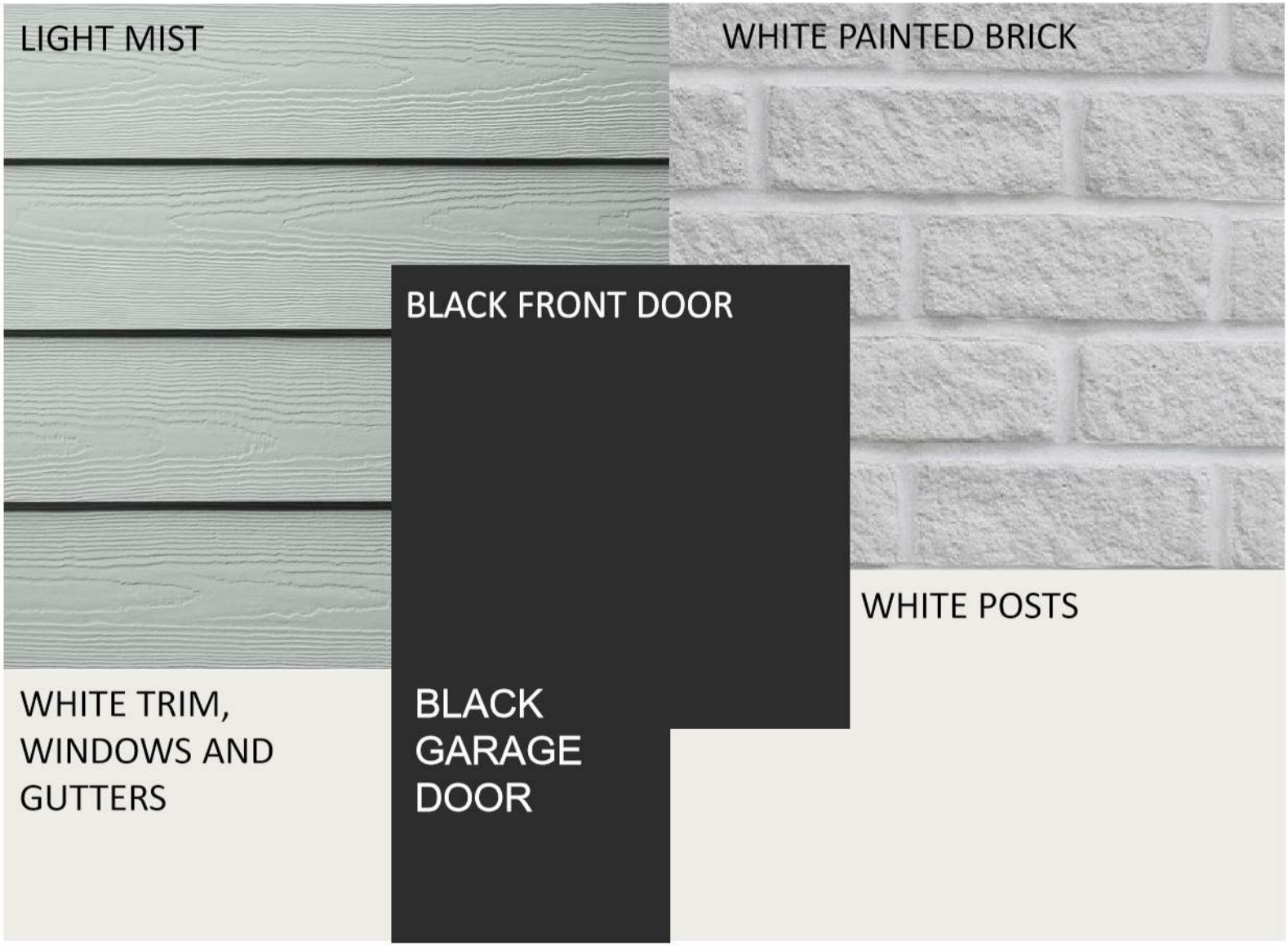
SCHEME 12



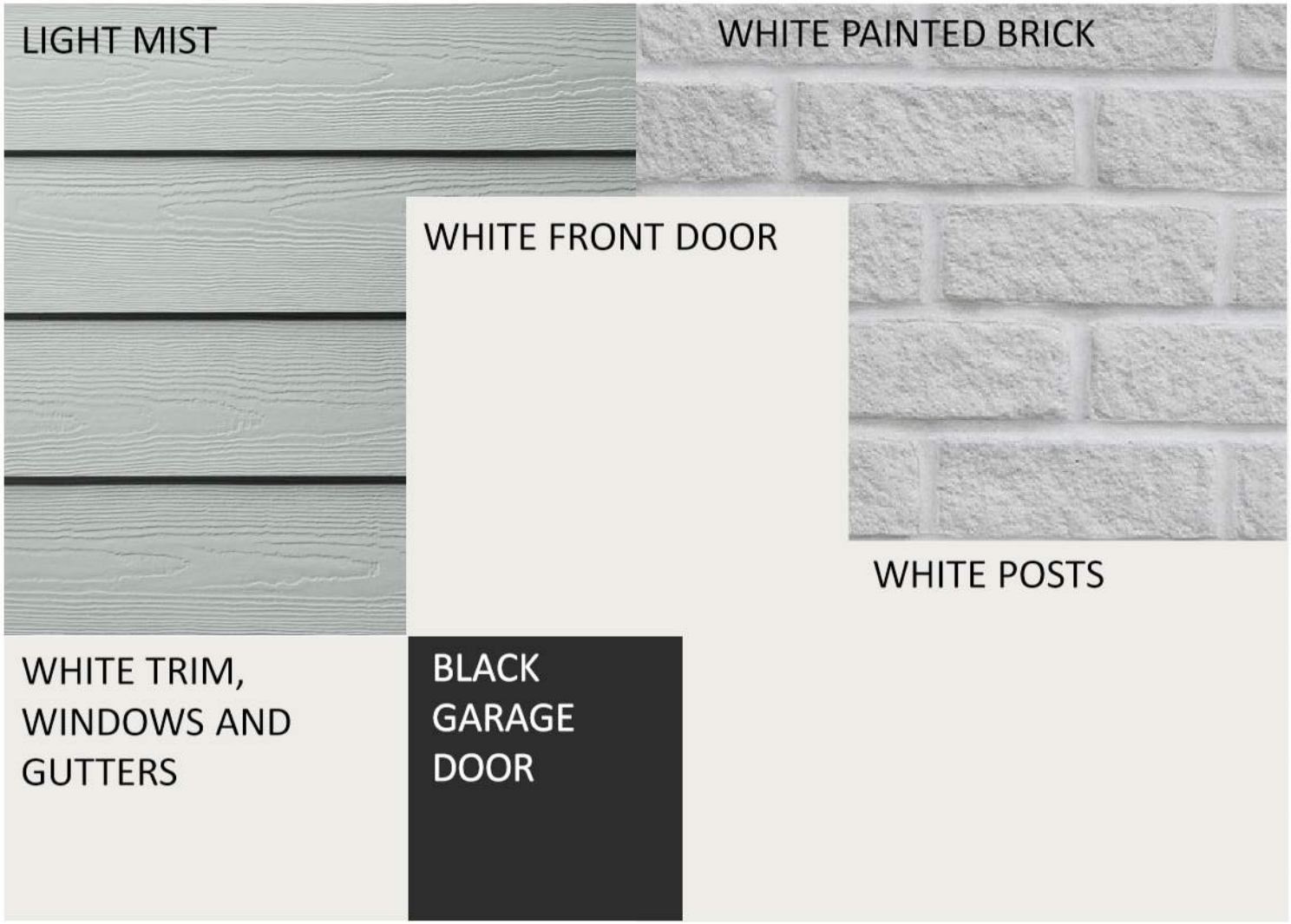
ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

SCHEME 13

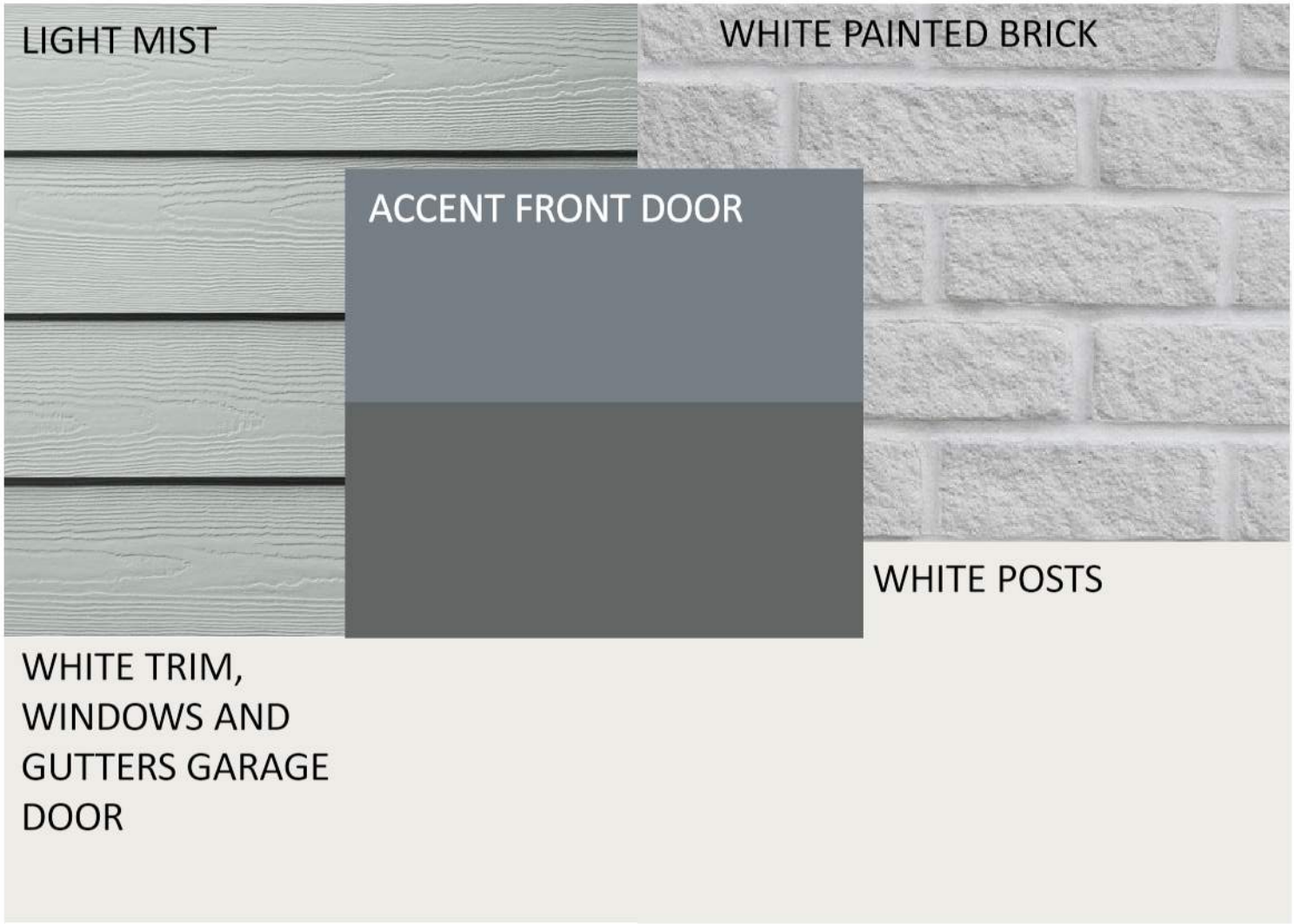

LIGHT MIST
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 14



*LIKELY NOT APPLICABLE IF AROUND DOOR IS PAINTED WHITE BRICK

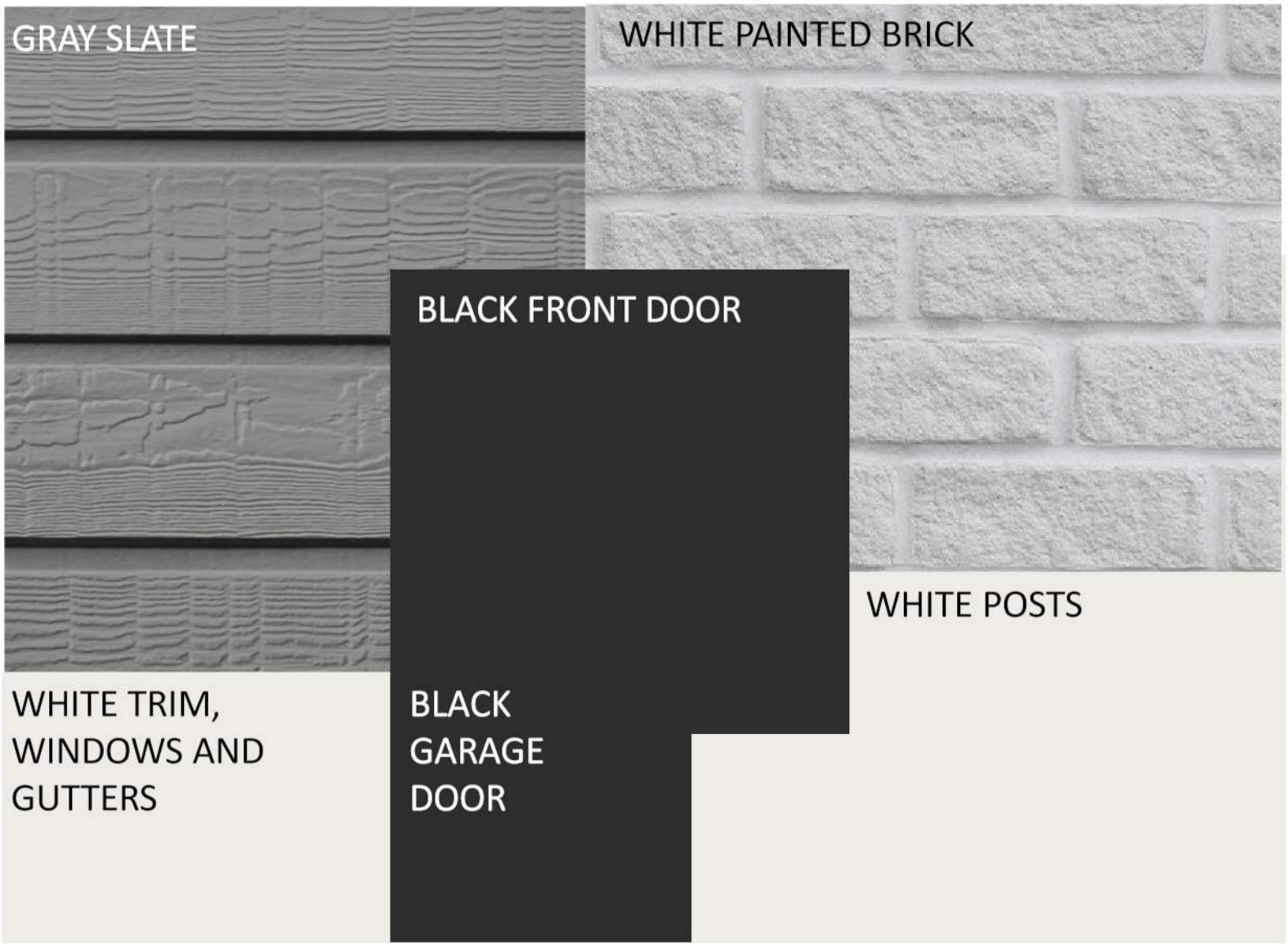
SCHEME 15



ACCENT DOOR OPTIONS

- SW DOWNING SLATE
- SW ROYCROFT PEWTER

SCHEME 16


GRAY SLATE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 17


GRAY SLATE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS
WHITE TRIM,
WINDOWS AND
GUTTERS
GARAGE DOOR

SCHEME 18



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

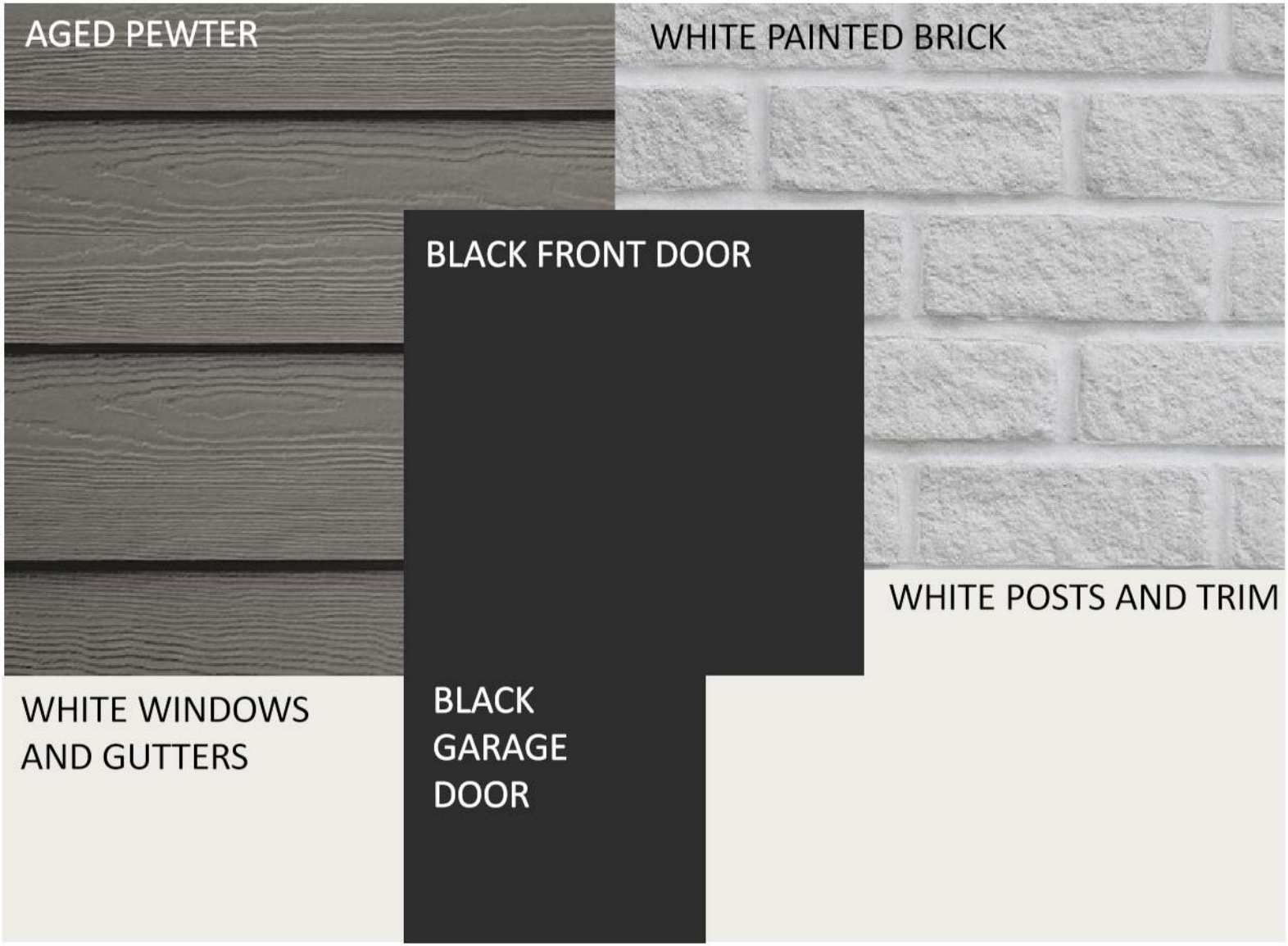
SCHEME 19


IRON GRAY
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS AND
GARAGE DOOR

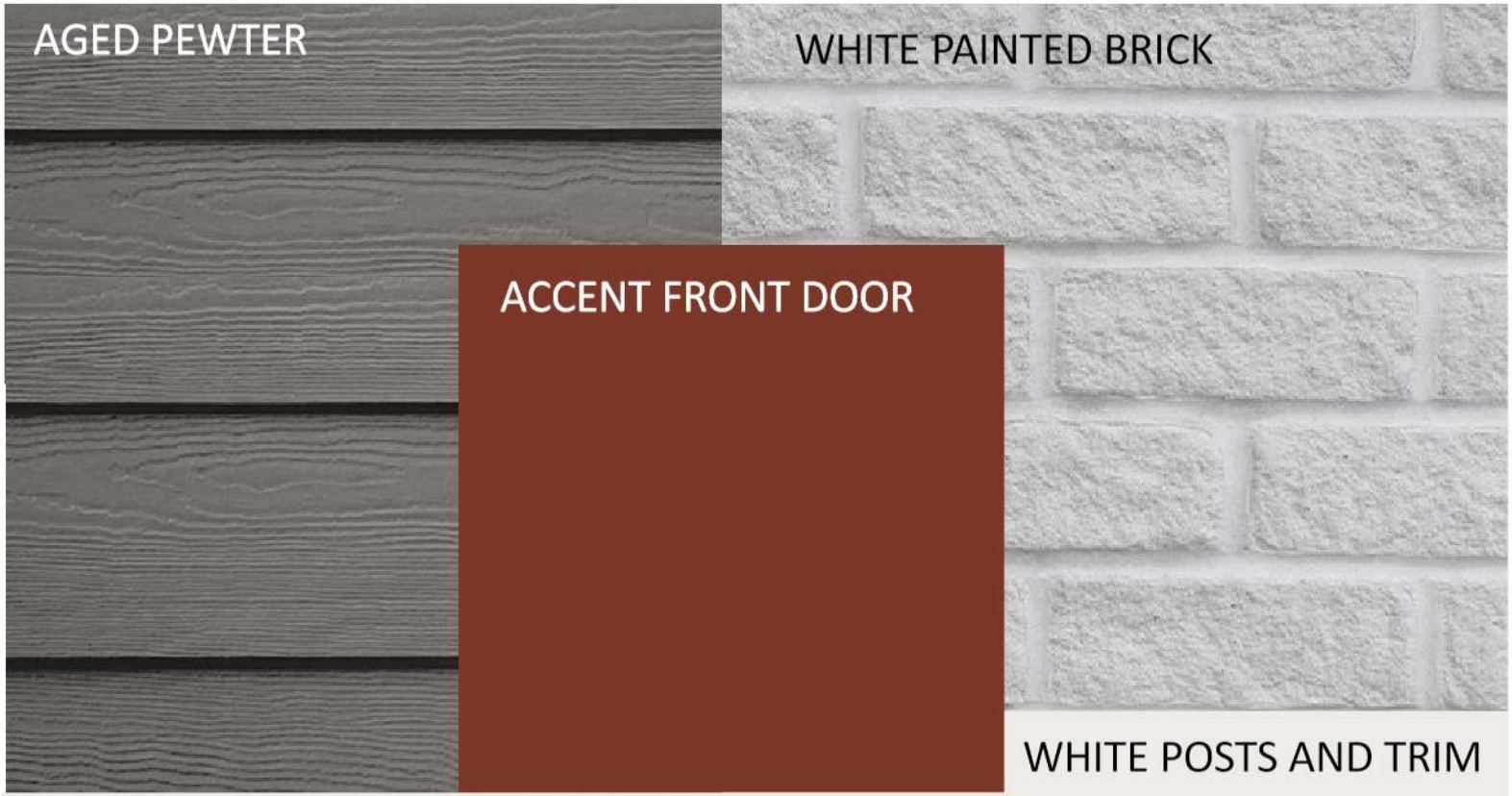
SCHEME 20


AGED PEWTER
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND GARAGE
DOOR

SCHEME 21


AGED PEWTER
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 22



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

SCHEME 23


TIMBER BARK
WHITE PAINTED BRICK
MINDFUL GRAY
FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND
GARAGE DOOR

SCHEME 24


TIMBER BARK
WHITE PAINTED BRICK
BRONZE FRONT DOOR
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR
WHITE POSTS AND TRIM

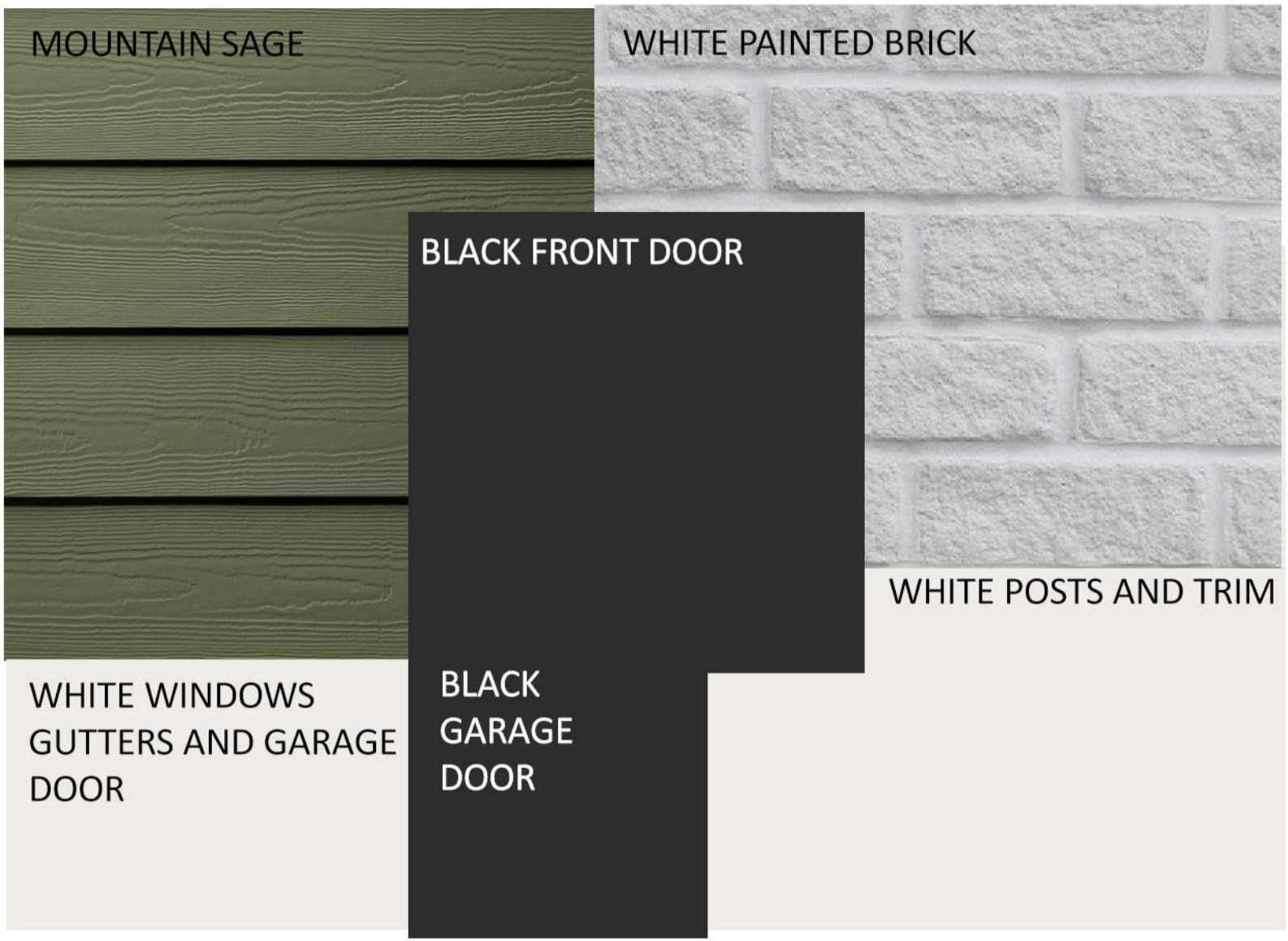
SCHEME 25


HEATHERED MOSS
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS
BLACK
GARAGE
DOOR

SCHEME 26


HEATHERED MOSS
WHITE PAINTED BRICK
WHITE FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS

SCHEME 27

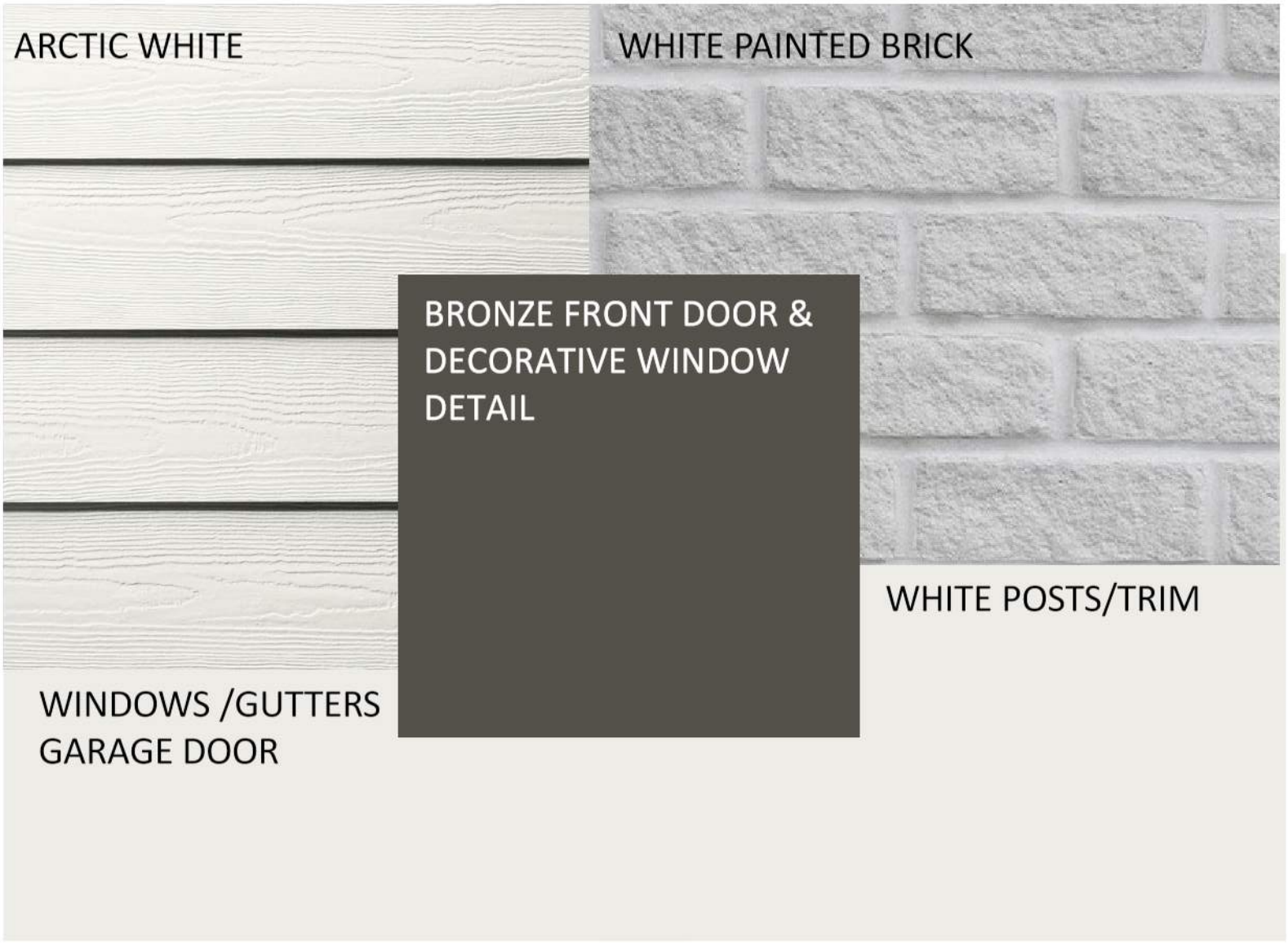

MOUNTAIN SAGE
WHITE PAINTED BRICK
BLACK FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS AND GARAGE DOOR
BLACK GARAGE DOOR

SCHEME 28

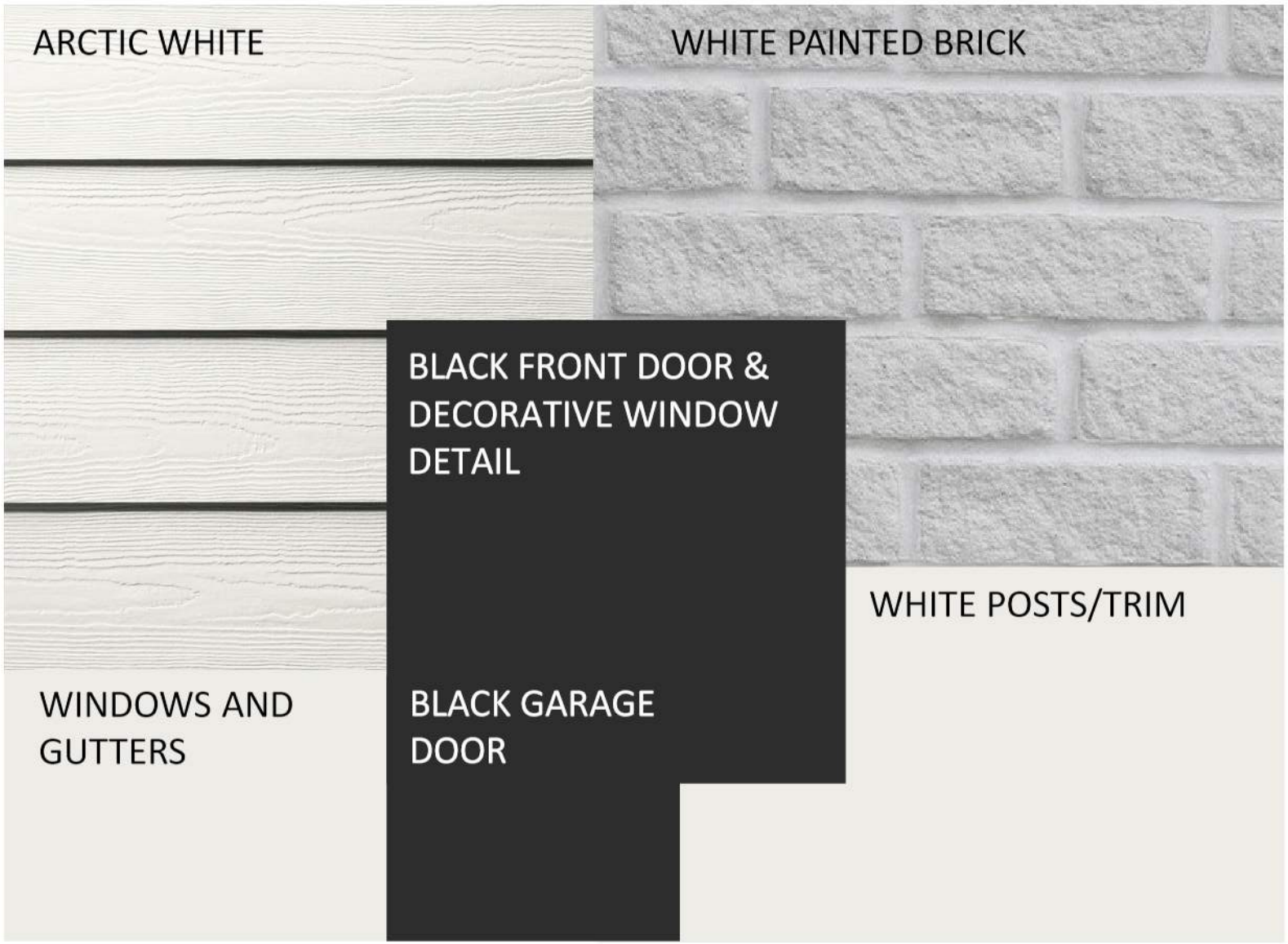

MOUNTAIN SAGE
WHITE PAINTED BRICK
WHITE FRONT DOOR
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND GARAGE
DOOR

MCCALLIE PLAN
(Plans 4 and 5)

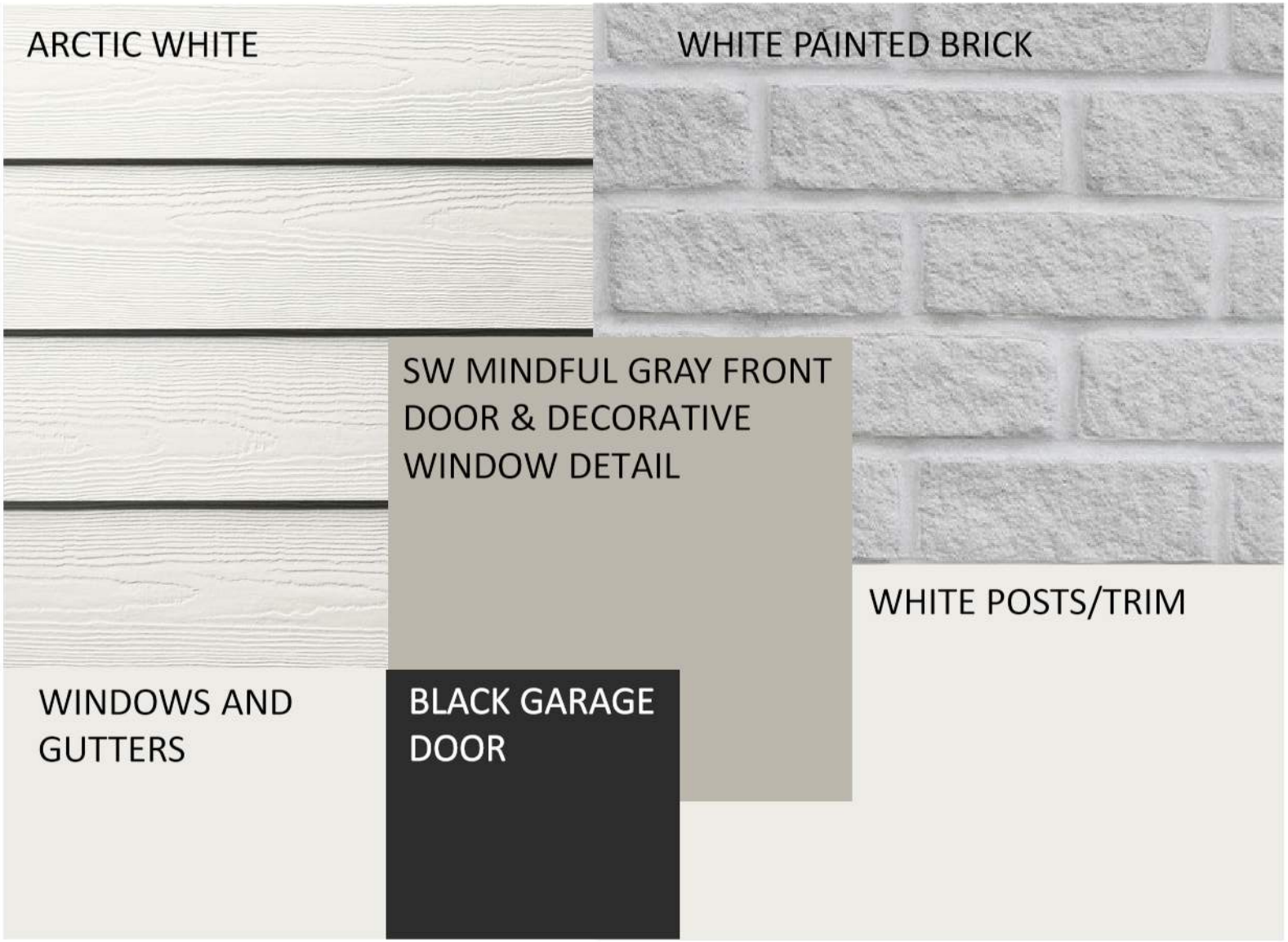
SCHEME 1


ARCTIC WHITE
WHITE PAINTED BRICK
BRONZE FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WINDOWS /GUTTERS
GARAGE DOOR

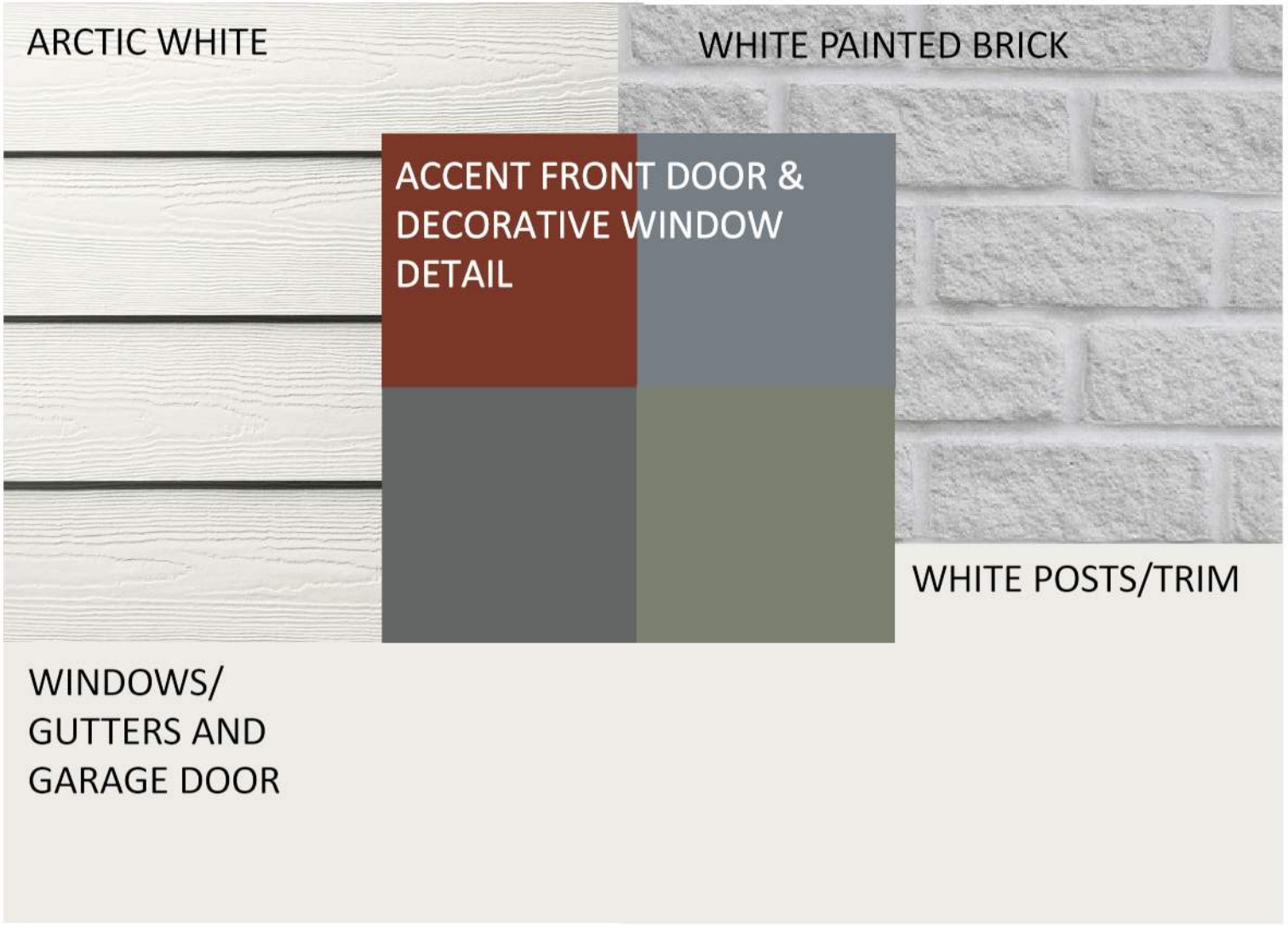
SCHEME 2


ARCTIC WHITE
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 3


ARCTIC WHITE
WHITE PAINTED BRICK
SW MINDFUL GRAY FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WINDOWS AND GUTTERS
BLACK GARAGE DOOR

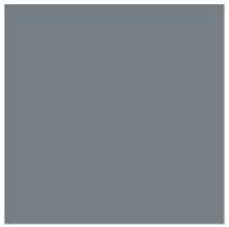
SCHEME 4

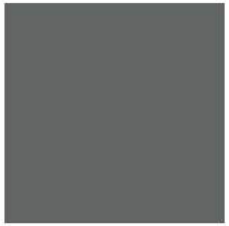


ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME

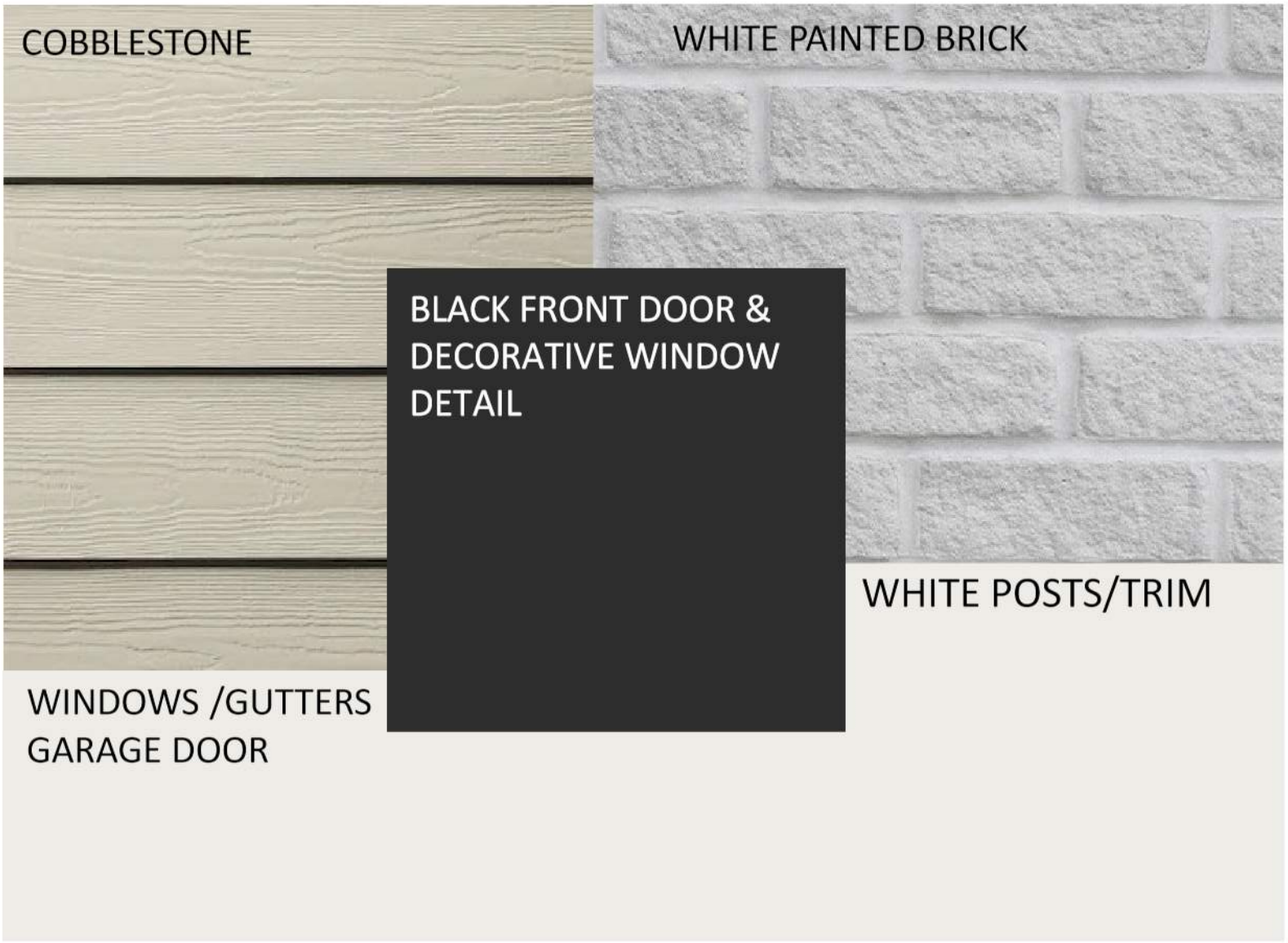




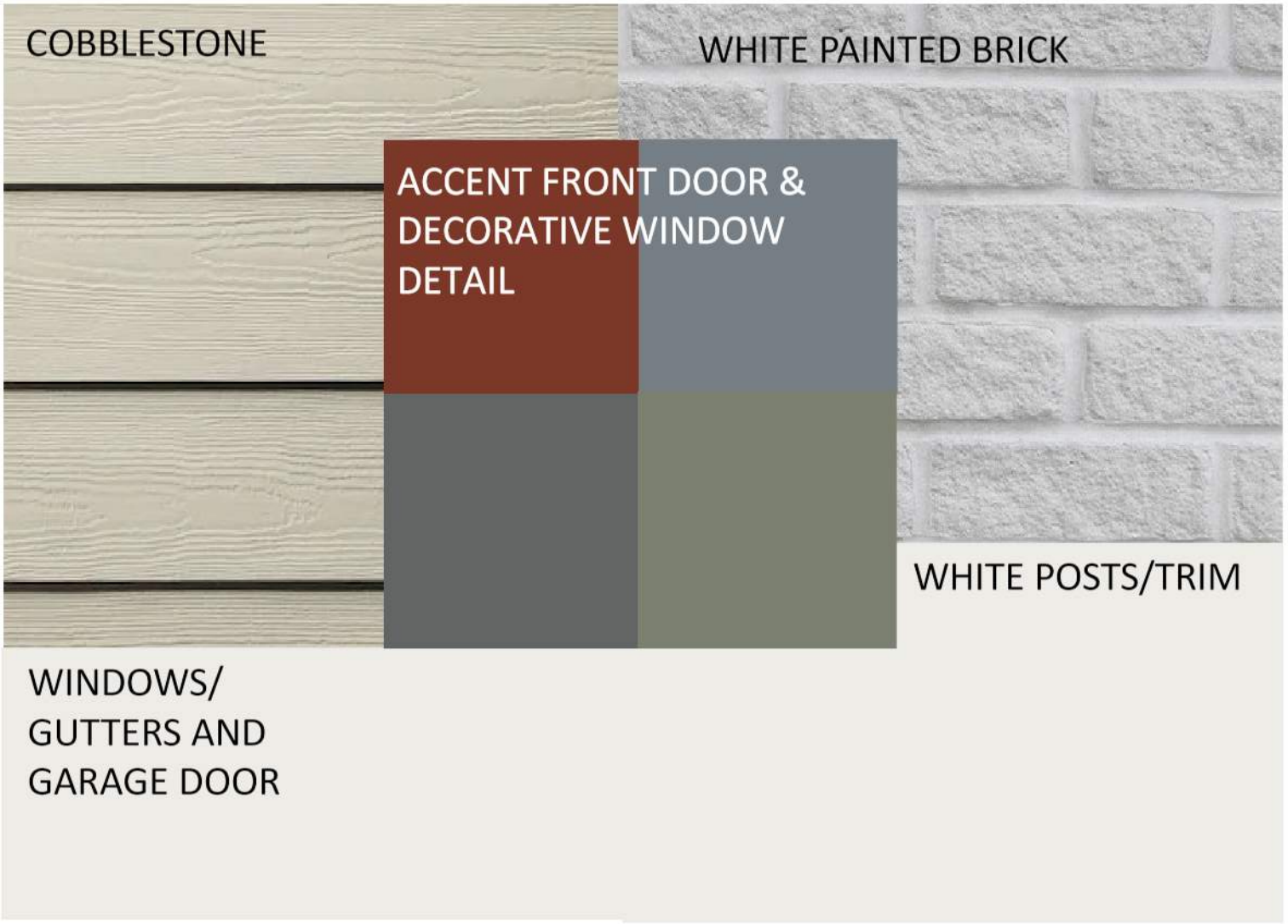




SCHEME 5

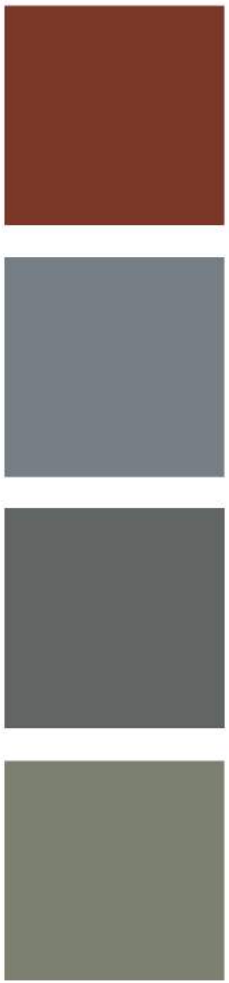

COBBLESTONE
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WINDOWS /GUTTERS
GARAGE DOOR

SCHEME 6



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME



SCHEME 7


COBBLESTONE
WHITE PAINTED BRICK
BRONZE FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR

SCHEME 8


COBBLESTONE
WHITE PAINTED BRICK
SW DRIED THYME
FRONT DOOR &
DECORATIVE WINDOW
DETAIL
WHITE POSTS/TRIM
WHITE WINDOWS
AND GUTTERS
BRONZE
GARAGE
DOOR

SCHEME 9


MONTEREY TAUPE
WHITE PAINTED BRICK
BRONZE FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BRONZE GARAGE DOOR

SCHEME 10


MONTEREY TAUPE
WHITE PAINTED BRICK
SW DRIED THYME
FRONT DOOR &
DECORATIVE WINDOW
DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS
AND GUTTERS
BRONZE
GARAGE DOOR

SCHEME 11

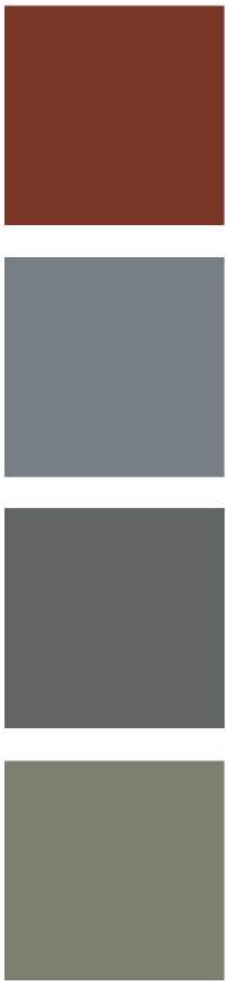

MONTEREY TAUPE
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS/TRIM
WHITE WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 12

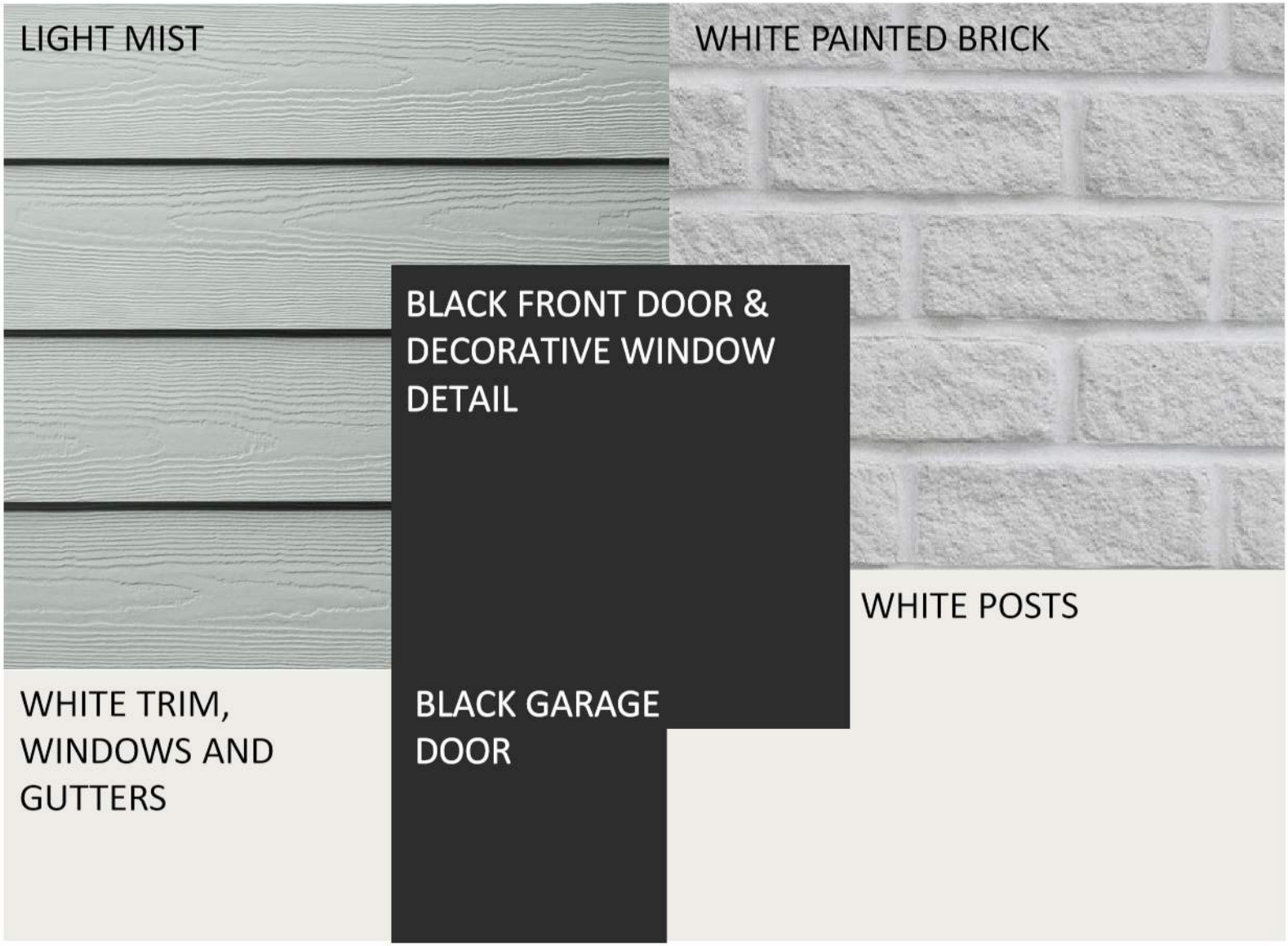


ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED
- SW DOWNING SLATE
- SW ROYCROFT PEWTER
- SW DRIED THYME



SCHEME 13


LIGHT MIST
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

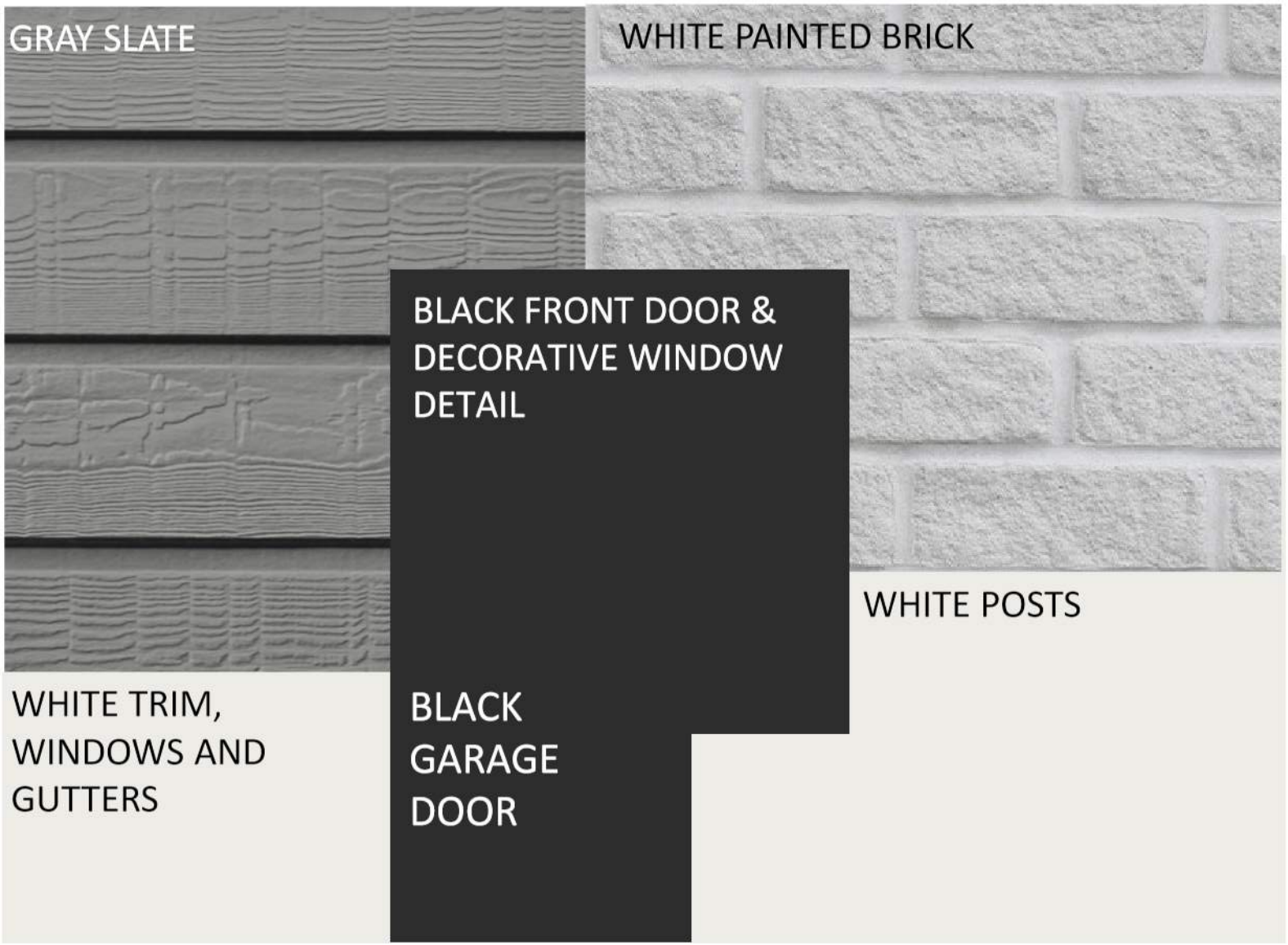
SCHEME 14



ACCENT DOOR OPTIONS

- SW DOWNING SLATE
- SW ROYCROFT PEWTER

SCHEME 15


GRAY SLATE
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS
WHITE TRIM, WINDOWS AND GUTTERS
BLACK GARAGE DOOR

SCHEME 16


GRAY SLATE
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR &
DECORATIVE WINDOW
DETAIL
WHITE POSTS
WHITE TRIM,
WINDOWS AND
GUTTERS
BLACK
GARAGE
DOOR

SCHEME 17



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

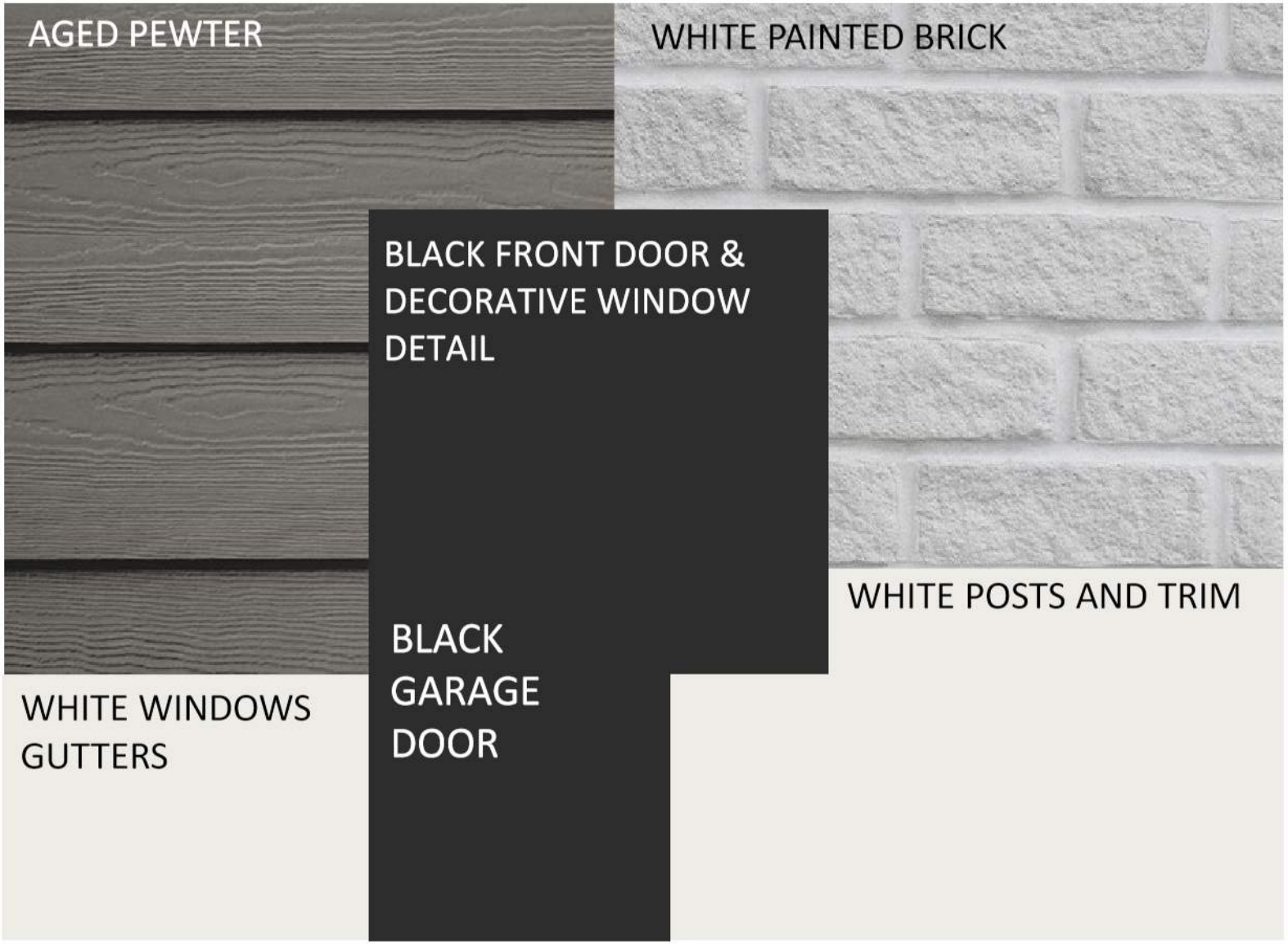
SCHEME 18


IRON GRAY
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR &
DECORATIVE WINDOW
DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS AND
GARAGE DOOR

SCHEME 19


AGED PEWTER
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR &
DECORATIVE WINDOW
DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND
GARAGE DOOR

SCHEME 20


AGED PEWTER
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS AND TRIM
BLACK GARAGE DOOR
WHITE WINDOWS GUTTERS

SCHEME 21



ACCENT DOOR OPTIONS

- SW ROYCROFT COPPER RED

SCHEME 22


TIMBER BARK
WHITE PAINTED BRICK
SW MINDFUL GRAY
FRONT DOOR &
DECORATIVE WINDOW
DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS
GUTTERS AND
GARAGE DOOR

SCHEME 23


TIMBER BARK
WHITE PAINTED BRICK
BRONZE FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE WINDOWS GUTTERS AND GARAGE DOOR
BRONZE GARAGE DOOR
WHITE POSTS AND TRIM

SCHEME 24


HEATHERED MOSS
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS
BLACK GARAGE DOOR

SCHEME 25


HEATHERED MOSS
WHITE PAINTED BRICK
WHITE FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS

SCHEME 26


MOUNTAIN SAGE
WHITE PAINTED BRICK
BLACK FRONT DOOR & DECORATIVE WINDOW DETAIL
WHITE POSTS AND TRIM
WHITE WINDOWS GUTTERS AND GARAGE DOOR
BLACK GARAGE DOOR

SCHEME 27



WHITE WINDOWS
GUTTERS AND GARAGE DOOR



WHITE FRONT DOOR & DECORATIVE WINDOW DETAIL

WHITE POSTS AND TRIM

June 21, 2023

City of Columbia
Technical Review Committee
700 N Garden Street
Columbia, TN 38401

RE: Item No 23-0145
HONEY FARM TOWNHOMES COLUMBIA TENNESSEE

Below are our responses to comments received on TUESDAY, MAY 9, 2023. We believe we have satisfied all comments, but if you have additional concerns or questions, please do not hesitate to contact us. Our responses are as follows:

COMMENTS:

Engineering

1. Subject to Construction Plan Approval and TIS
   Response: Noted and understood.

2. Condition: All roadway geometry to meet requirements as outlined in the ESS
   Response: All roadway geometry meets the requirements outlined in the ESS.

3. Engineering recommends no structure surcharge loading be supported by retaining walls.
   Response: No retaining walls are supporting surcharge locating in the updated layout and grading of site.

4. Max manmade slope shall not exceed 3:1
   Response: All slopes have been adjusted to be less than a 3:1 slope.

Planning

5. Water availability letter expired in January 2023. We should not have accepted this application at submittal. Please provide an updated letter at resubmittal.
   Response: Fire Flow availability has been requested on 6/19/2023. We expect to have the Water Availability Letter prior to Planning Commission. The updated letter will be sent to the City of Columbia as soon as received. Could a conditional approval of the submittal be made if needed?

6. The Design Review Team has made a recommendation on facades for proposed townhome buildings. The Design Review Team has asked Planning Commission and Council to clarify the scope of design review for structures in residential PUDs. Staff's current interpretation of the Ordinance is that the Design Review team may evaluate and recommend a pattern book of the overall development. The applicant may subsequently return to Design Review for each phase of development with revisions and more detailed designs which conform to the overall aesthetic pattern of the Master Plan as approved by Planning Commission.
   Response: Understood and noted.

7. Please provide pattern book elevations recommended by the Design Review Team. Please include explanatory cover sheet that relates buildings depicted in the previous iteration of this Master plan to the new layout.

Response: **The resubmittal documents include the pattern book that was previously approved by the Architectural Design Review Team.**

8. The amenity center building was included in the initial submittal to the Design Review Team but was not the subject of extensive discussion. Any subsequent change in design will require additional review by the Design Review Team.
   Response: **Understood that any change in design will require additional review by the Design Review Team.**

9. *Response to previous review acknowledged. Staff understands that the applicant will request an exception to the block perimeter and will propose that the alternative presented in the Preliminary PUD presents a superior design suited to the conditions of the site.* Block permitter may not exceed 2,000 feet (Table 4.3.1-K, p. 157; Table 5.2.2.D, p. 308). Alleys are not Throughfares and may not be used to circumscribe blocks (See definitions in § 9.3).
   Response: **Noted that previous response has been acknowledged.**

10. *Response to previous review acknowledged. Staff understands that the applicant will request an exception to the use of Alleys and will propose that the alternative presented in the Preliminary PUD presents a superior design suited to the conditions of the site.* Alleys as depicted in the network of Alley B, C, F, and G provide general circulation rather than secondary access and therefore do not conform to the definition of Alley at § 9.3 (p.480).
    Response: **Noted that previous response has been acknowledged.**

11. * Response to previous review acknowledged. The Zoning Ordinance and the ESS prescribes different standards for the dumpster enclosure. If the regulating documents are still in disagreement at the time of Final PUD Master Plan, this can be resolved as an exception to the PUD-R standards.* Please provide dumpster enclosure detail (fully enclosed on 3 sides and enclosed on the 4th side with self-closing gate) See ESS detail MD-01, Table 4.3.1-k and §4.3.15 of the Zoning Ordinance. *(Refuse and Recycling)*
    Response: **Dumpster enclosure detail has been updated to reflect City of Columbia standards.**

12. Confirm that private plantings listed on sheet L1.0 conform to Table 4.3.16.D-1 (p. 290-291) or the TVA publication "Native Plants of the Tennessee Valley." Revise as necessary.
    Response: **The private plantings listed on sheet L1.0 conform to the TVA publication.**

13. Water availability letter is expired. A new letter is required before this item can proceed to Planning Commission.
    Response: **Fire Flow availability has been requested on 6/19/2023. We expect to have the Water Availability Letter prior to Planning Commission. The updated letter will be sent to the City of Columbia as soon as received. Could a conditional approval of the submittal be made if needed?**

14. Two alleys are labeled "Alley G"
    Response: **Alley G wraps around Road C, therefore there are two 'ALLEY G' labels.**

15. Please revise plans to conform to all PUD-R standards expect where exemptions are specifically requested. Provide a full list of requested exceptions form the PUD-R standards with explanations of how the proposed alternative provides an innovative plan that promotes quality design.8.5.21.B.4 (p.452).
    Response: **Plans conforms to all PUD-R standards except where exemptions are being requested. These exemptions can be seen on sheet C0.0 along with their explanations as to why we are requesting them.**

16. Typical playground facilities will be required at the time of Final Master Plan approval. The Planning commission may determines that greater detail is required to establish that the proposed Preliminary PUD Master Plan presents an innovative plan of the proposed development (8.5.21.KL and 8.5.21.M).
Response: Typical playground equipment and description has been provided on sheet C1.1.

17. Please graphically confirm that each residence is within 800 ft of a playground. (5.3.3.B)
Response: Please see sheet C1.0 to find the visual confirmation that each residence is within 800 ft of a playground.

18. 10' rear driveway depth may not be sufficient for parking in driveway.
Response: This is understood. Lots 1, 10, 63, 64, 65, and 173-179 have a driveway 20ft or longer and make up the 24 driveway parking spaces.

19. Please provide greater detail of Civic Space design and amenities, especially the Pocket Parks used to divide the large block on the eastern side of the development. See typical facilities in Table 5.3.3-B.
Response: Typical pocket park and civic space descriptions and equipment can be located on sheet C1.1.

20. Location of accessible parking spaces and total parking available to Amenity Center may need to be revised at Final PUD. 4.3.12
Response: Noted and understood.

21. For units 156 through 192, please provide an estimate of the total height of structures above adjacent Row. A facade elevation depicting the view of the structures may be benefit Planning Commission's review. Please demonstrate that all steps and landings are viable and can conform to the zoning ordinance and engineering standards.
Response: An estimate of the total height of structures about Honey Farm Way can be seen in the building elevation exhibit. This exhibit also shows how the steps and landings area viable and conform to the zoning ordinance and engineering standards.

22. The impact of site planning considerations on the appearance and position of structures is significant. If the project proceeds to Final PUD Master Plan, the Architectural Design Review Team will need to review the proposed architecture and make a recommendation to Planning Commission.
Response: Noted and understood.

23. If the proposal proceeds to Final PUD Master, greater detail may be required on Tree Protection and grading plans.
Response: We understand that greater detail may be required on the Tree Protection areas and the Grading plans once the proposal proceeds to Final PUD Master.

24. The homes enfronting Honey Farm Way (and possibly elsewhere in the development) may have a significant total height above the average adjacent grades and may appear very tall when viewed from the street. Townhomes in a PUD-R may be 2-3 stories in height. The definition of a "story" in 9.3 is limited to habitable space above grade (p. 524). However, the Fire Marshal may stipulate additional limitations and protection measures as a condition of approval (Table 4.3.1-K). The Preliminary PUD Master Plan establishes entitlements, but does not relieve the property from compliance from any regulation of the methods of construction, regulatory limits on the height of structures based on definitions outside the Zoning Ordinance, or requirements for additional life/safety protection measures.

Response: **This is understood and noted. We plan to comply with the Zoning Ordinance and with the Fire Marshal on building regulations.**

Building

25. No comment.

Response: **Noted.**

Police

26. No comments provided.

Response: **Noted**

City Attorney

27. No comments provided.

Response: **Noted**

ATT

28. Plan to serve.

Response: **Noted.**

Maury County Highway Dept.

29. No comment.

Response: **Noted.**

Columbia Power

30. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters of transformers appropriate for your development.

Response: **Noted.**

Columbia Water

31. "A Water Availability Letter was issued September 22, 2022, the letter has since expired. For the project to move forward the availability letter must be current. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Response: **Fire Flow availability has been requested on 6/19/2023. We expect to have the Water Availability Letter prior to Planning Commission. The updated letter will be sent to the City of Columbia as soon as received. Could a conditional approval of the submittal be made if needed?**

Public Works

32. No Comment – Honey Farm Townhomes will utilize private trashcan service.
Response: **Two groups of three 8 yd dumpsters have been added to the site in the Northwestern and Southeastern corners of the site based on the recommendation of 6 8 yd dumpsters made by public works on Tuesday January 10, 2023.**

Maury County E911

33. Contact Maury County 911 for street name request and approvals. Contact information: cgideon@maury911.org

Response: **Noted.**

Atmos Energy

34. No comment.

Response: **Noted.**

Maury County Schools

35. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Response: **Noted.**

Duck River Electric Membership Corp

36. No comment provided.

Response: **Noted.**

Fire

37. Please add a street view of the townhomes that front Honey Farm Way and road A to show the stairs leading up to each unit.
Response: **Street view of the townhomes that front Honey Farm Way to show the stair leading up to units has been provided. The units fronting Road A no longer require steps that lead up to the units based on the adjusted grading. Please see sheet C4.2 to see the street view of Homes fronting Honey Farm Way.**

38. For the homes enfronting Honey Farm Way and road A, please identify stories above grade plane per the 2018 IBC. If they are considered 4 stories above grade plane, they will have to be sprinkled and built per the IBC. The state law that exempts townhomes from being sprinkled is for up to 3 stories in height.

Response: **The homes fronting Honey Farm Way and Road A no longer require a foundation large enough to be considered a story. Three stories is the maximum amount that these units will be. Please see sheet C4.1 to see the elevations and stories for the homes fronting Honey Farm Way.**

Wastewater

39. Columbia Wastewater is looking to eliminate the Honey Farm Pump Station #1 and is looking into setting up a small project to do so. Without this project, Honey Farm Pump Station #2 may be overwhelmed by the density of these proposed subdivisions. Currently pump station #1 takes up the majority of the pump station #2 capacity.
Response: **Understood. A meeting with the city is planned for Friday, June 23rd. Any changes based on this meeting will be made to the plans. We will update the sanitary sewer layout once elimination of Honey Farm Pump Station #1 is a necessity.**

We believe that all comments have been addressed. If you have any questions or need additional information, please do not hesitate to contact me at adam@crunkeng.com or 615-873-1795.

Sincerely,



Adam Crunk, PE
Crunk Engineering LLC

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: HONEY FARM TOWNHOMES

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ■ Name of development
- ■ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ■ Plan sealed by a Design Professional licensed in the State of Tennessee.
- ■ North Arrow, legend, and site vicinity map
- ■ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ■ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ■ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ■ All property boundaries, existing easements, and encumbrances
- ■ Parcel identification, owner, and deed and plat references of adjoining properties
- ❑ Proposed phasing and timetable for all phases of development
- ❑ Traffic Impact Study, as required.
- ■ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ■ The size of total property to be developed in square feet and acres
- ❑ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ❑ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ❑ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ❑ Location and approximate dimensions of all existing and proposed structures.
- ❑ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ❑ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ❑ Location, type, and size of proposed signs
- ❑ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

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Grading, Drainage, and Storm

- ■ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ■ General proposed contours at vertical intervals of not more than two (2) feet
- ❑ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ❑ Location and dimension of aquatic buffer zones
- ■ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ❑ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ■ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ■ Proposed connections to existing and proposed streets (including classification) located outside the development
- ❑ Proposed improvements as identified in the Traffic Impact Study, as required
- ■ Existing and proposed sidewalks, trails, and other pedestrian elements
- ■ Existing and proposed on-street and off-street parking and loading areas
- ❑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ❑ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ■ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ❑ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ■ Any amenity features and structures for private or public benefit.
- ❑ Location, dimension, and materials of fences and walls
- ■ Tree Canopy retention

Utilities

- ■ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ■ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

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PUD Specific Items

- ☒ Legal Description of Property
- ☐ Owner's Affidavit
- ☐ List of all variances requested
- ☐ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ☐ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ☐ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ☐ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Print Name	Signature	Date

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0145

DESCRIPTION: Request from Adam Crunk for Preliminary PUD master plan approval of Honey Farm Townhomes being a portion of Tax Map 51 Parcel 58 off Honey Farm Way and consisting of 197 lots.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Subject to Construction Plan Approval and TIS
2. Condition: All roadway geometry to meet requirements as outlined in the ESS
3. Engineering recommends no structure surcharge loading be supported by retaining walls.
4. Max manmade slope shall not exceed 3:1

Planning

5. Playground in the entrance and off roundabout, would recommend a more appropriate place
6. Provide typical playground facilities and amenity center at road C?
7. Water availability letter expired in January 2023. We should not have accepted this application at submittal. Please provide an updated letter at resubmittal.
8. The Design Review Team has made a recommendation on facades for proposed townhome buildings. The Design Review Team has asked Planning Commission and Council to clarify the scope of design review for structures in residential PUDs. Staff's current interpretation of the Ordinance is that the Design Review team may evaluate and recommend a pattern book of the overall development. The applicant may subsequently return to Design Review for each phase of development with revisions and more detailed designs which conform to the overall aesthetic pattern of the Master Plan as approved by Planning Commission.
9. Please provide pattern book elevations recommended by the Design Review Team. Please include explanatory cover sheet that relates buildings depicted in the previous iteration of this Master plan to the new layout.
10. The amenity center building was included in the initial submittal to the Design Review Team but was not the subject of extensive discussion. Any subsequent change in design will require additional review by the Design Review Team.
11. Please confirm whether the 0.07 ac amenity center a mail kiosk. If so, please provide detail of space conforming to ESS detail MD-03.
12. Amenity space may not count as Civic Space unless identified as one of the eight types in §5.3 of the Zoning Ordinance.

13. Please identify the "Main Civic Space," which must be Green, Square, or Plaza type (§ 5.3.3; p. 335).
14. Please add parking calculations to the Site Data Table indicating the total number of parking spaces provided on-street and off-street. Indicate that on-street spaces are available adjacent to the frontage line on the same side of the Thoroughfare or Internal dive as the Lot or Building Site they serve (see § 4.3.12.B.3). As presented the Master Plan requires a minimum of 394 spaces for dwelling units; 14 for Civic Space; and 1:200 recreational facilities).
15. Please indicate location of parking for amenity center.
16. Please add note to Site Data Table referencing the private lighting standards at Table 4.3.17.B (p. 297) of the Zoning Ordinance with note acknowledging that exterior lighting plans may be required as appropriate at site construction plan review/building permit (§ 8.5.6.G.4.p).
17. Please revise setbacks in Site Data Table to reflect zero side setback for attached townhomes.
18. Please provide typical building layout depicting location and setbacks of in-line and end unit, driveway locations, and other relevant information.
19. Please provide calculation of impervious coverage for site as a whole as well as typical lot or building site by type (i.e., each group of attached Townhouse units, each amenity structure, etc).
20. Block permitter may not exceed 2,000 feet (Table 4.3.1-K, p. 157; Table 5.2.2.D, p. 308). Alleys are not Throughfares and may not be used to circumscribe blocks (See definitions in § 9.3).
21. Alleys as depicted in the network of Alley B, C, F, and G provide general circulation rather than secondary access and therefore do not conform to the definition of Alley at § 9.3 (p.480).
22. Dumpster location on sheet C1.2 must be screened from frontage (Table 4.3.1-k, p. 164). Please show method of screening conforming to Table 4.3.1-k (p.167) & 4.3.11 (references back to PUD-R table). *(Refuse and Recycling)*
23. Please provide dumpster enclosure detail (fully enclosed on 3 sides and enclosed on the 4th side with self-closing gate) See ESS detail MD-01, Table 4.3.1-k and §4.3.15 of the Zoning Ordinance. *(Refuse and Recycling)*
24. Please add note to Site Development Plan acknowledging requirement at 4.3.16.C.1 (p. 290) of the Zoning Ordinance that future removal of trees depicted on the plan will require approval by Planning Commission.
25. A portion of the tree save area appears to be within a power line easement with existing overhead transmission lines. Please revise.
26. Confirm that private plantings listed on sheet L1.0 conform to Table 4.3.16.D-1 (p. 290-291) or the TVA publication "Native Plants of the Tennessee Valley." Revise as necessary.
27. Please provide typical layouts.
28. Water availability letter is expired. A new letter is required before this item can proceed to Planning Commission.

Building

29. No comments.

Police

30. No comments provided.

City Attorney

31. No comments provided.

ATT

32. Plan to serve.

Maury County Highway Dept.

33. No comment.

Columbia Power

34.

Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

- Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

35. "A Water Availability Letter was issued September 22, 2022, the letter has since expired. For the project to move forward the availability letter must be current. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Public Works

36. No comment. Honey Farm Townhomes will utilize private trashcan service.

Maury County E911

37. Contact Maury County 911 for street name application. Cgideon@Maury911.org

Atmos Energy

38. No comment provided.

Maury County Schools

39. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Duck River Electric Membership Corp

40. No comments provided.

Fire

41. No comments

Wastewater

42. Columbia Wastewater is looking to eliminate the Honey Farm Pump Station #1 and is looking into setting up a small project to do so. Without this project, Honey Farm Pump Station #2 may be overwhelmed by the density of these proposed subdivisions. Currently pump station #1 takes up the majority of the pump station #2 capacity.

ATTACHMENTS: Preliminary PUD Master Plan

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	

HONEY FARM TOWNHOMES

2248 NASHVILLE HIGHWAY, COLUMBIA, TN 38401

PRELIMINARY MASTER DEVELOPMENT PLAN

GENERAL INFORMATION

DEVELOPER

NAME:
ADDRESS:
Contact:
Phone:

OWNER

NAME: EMG HONEY FARM, LLC, A TENNESSEE LIMITED LIABILITY COMPANY
ADDRESS: P.O. BOX 1715 SPRING HILL, TN 37174
CONTACT: DREW SMITH,
DREW.SMITH@EQUITASMG.COM
Phone: 469-585-7913

CIVIL ENGINEER

Crunk Engineering LLC
7112 Crossroads Boulevard, Suite 201
Brentwood, TN 37027
Contact: Adam Crunk, PE
Phone: 615.873.1795
Email: adam@crunkeng.com



LOCATION MAP
NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	OVERALL SITE LAYOUT PLAN
C1.1	SITE LAYOUT PLAN
C1.2	SITE LAYOUT PLAN
C1.3	TREE CANOPY EXHIBIT
C2.0	OVERALL GRADING DRAINAGE & UTILITY PLAN
C2.1	GRADING DRAINAGE & UTILITY PLAN
C2.2	GRADING DRAINAGE & UTILITY PLAN
C3.0	SITE IMPERVIOUS AREA DISTRIBUTION
C4.0	BUILDING LAYOUT EXHIBIT
L1.0	OVERALL LANDSCAPE PLAN
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE PLAN
L2.0	LANDSCAPE DETAILS

EXCEPTIONS REQUESTING:

- DEVELOPMENT IN LANDSCAPE BUFFER. LANDSCAPE BUFFER ADJUSTMENT
- MAIL KIOSK LAYOUT
- BLOCK PERIMETER WITH ALLEYS
- GENERAL CIRCULATION THROUGH ALLEYS

SITE DATA TABLE

PROJECT: HONEY FARM TOWNHOMES
ADDRESS: NASHVILLE HWY 2248
PARCEL ID: 051 05800 000
SITE ACREAGE: 25.87 AC
EXISTING ZONING: PUD-R
PROPOSED ZONING: PUD-R
PROPOSED USE: TOWNHOMES

PROPOSED LOTS:
SHALLOWFORD 1A - 37
SHALLOWFORD 1B - 26
MCCALLIE - 127
SHALLOWFORD 2 - 2
TOTAL = 192

BUILDING HEIGHT: 2-3 STORIES
LOT WIDTH: 18 FT MIN/36 FT MAX/180FT MAX
FRONT YARD:
PRIMARY: 15 FT-35 FT
SECONDARY: 15 FT-35 FT
SIDE SETBACK: 10 FT MIN/24 FT MAX
ATTACHED TOWNHOMES: 0 FT
REAR SETBACK: 10 FT MIN

REQUIRED CIVIC USE SPACE: 5% OF TOTAL AREA 1.29 AC
PROVIDED CIVIC USE SPACE: 5.3% 1.34 AC
CIVIC SPACE LIST:
PLAYGROUND - 0.07 AC
PLAYGROUND - 0.06 AC
GREEN - 0.50 AC
GARDEN - 0.23 AC
POCKET PARK - 0.07 AC
POCKET PARK - 0.05 AC
POCKET PARK - 0.02 AC
POCKET PARK - 0.21 AC
POCKET PARK - 0.07 AC
POCKET PARK - 0.07 AC
POCKET PARK - 0.03 AC
TOTAL: 1.34 AC

REQUIRED PARKING:
DWELLING UNITS: 384 SPACES
CIVIC SPACE: 14 SPACES
ACCESSIBLE: 1 PER 50 REQ. SPACES, 8 SPACES
TOTAL= 398 SPACES, 8 ACCESSIBLE

PROPOSED ON STREET PARKING:
ROAD A - 17, 7 ACCESSIBLE
ROAD B - 16
ROAD C - 41
ROAD D - 106
ALLEY A - 2
ALLEY B - 1 ACCESSIBLE
TOTAL = 182 SPACES, 8 ACCESSIBLE SPACES

PROPOSED OFF STREET PARKING:
GARAGE PARKING - 386
DRIVEWAY PARKING - 24 (LOTS 1, 10, 63, 64, 65, 173-179)
TOTAL = 410 SPACES

TOTAL PROPOSED PARKING:
ON STREET - 182, 8 ACCESSIBLE
OFF STREET - 410
TOTAL = 592 SPACES, 8 ACCESSIBLE SPACES

NOTE:

1. SITE LIGHTING TO BE PROVIDED IN ACCORDANCE WITH PRIVATE LIGHTING STANDARDS AT TABLE 4.3.17.8 OF THE COLUMBIA ZONING ORDINANCE AT SITE CONSTRUCTION PLAN REVIEW.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

NEAL WILSON CLARK
REGISTERED
AGRICULTURE
6/8/23
NO. 114180
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TENNESSEE

HONEY FARM TOWNHOMES
COLUMBIA, TN

REVISIONS	
No.	DATE

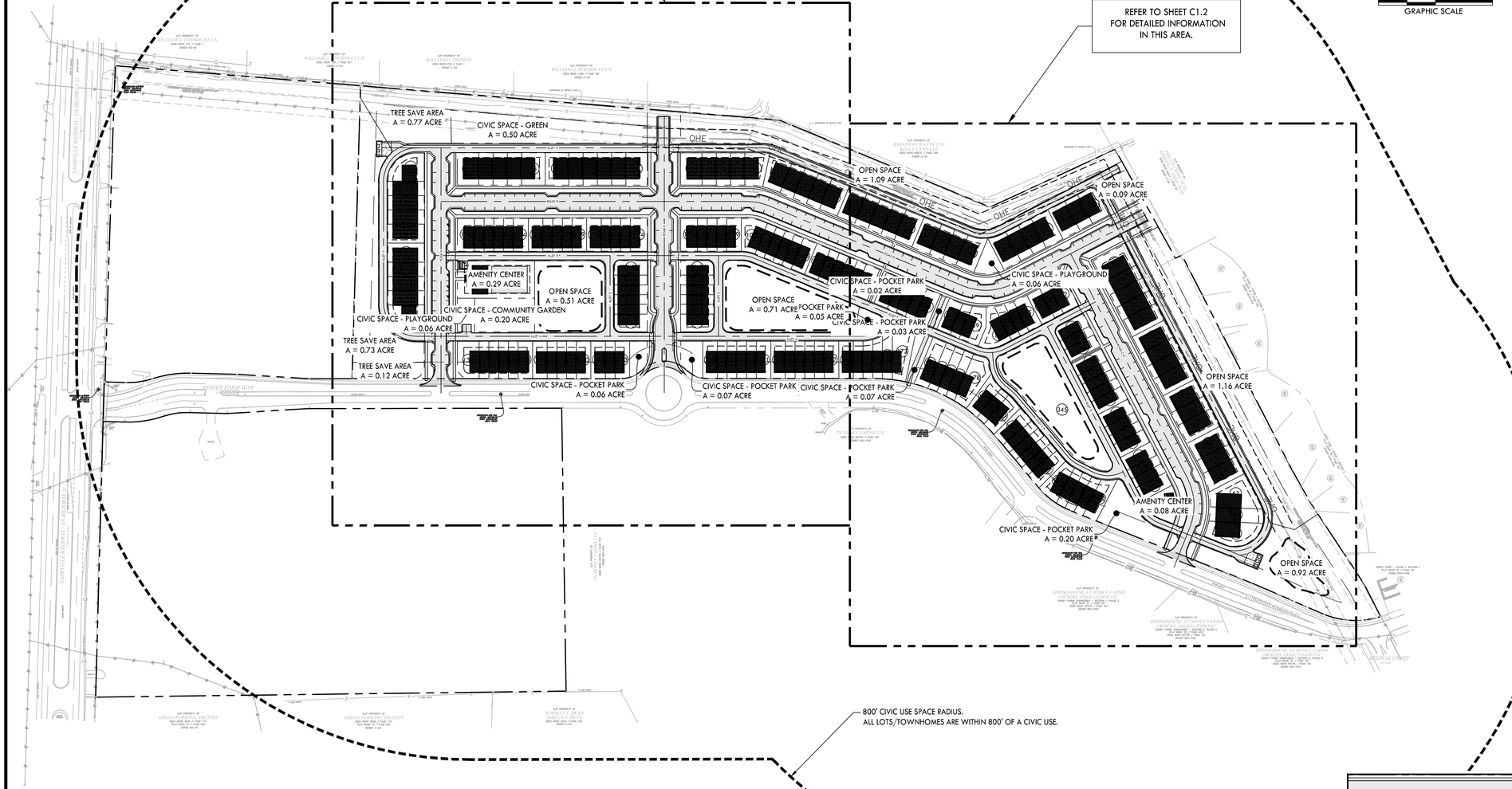
6/08/2023 22135

C0.0
COVER SHEET

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary pud\C0.0-COV.dwg

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.



0 60 120 240
GRAPHIC SCALE

800' CIVIC USE SPACE RADIUS.
ALL LOTS/TOWNHOMES ARE WITHIN 800' OF A CIVIC USE.

SITE DATA TABLE

PROJECT: HONEY FARM TOWNHOMES
ADDRESS: NASHVILLE HWY 2248
PARCEL ID: 051 05800 000
SITE ACREAGE: 25.87 AC
EXISTING ZONING: PUD-R
PROPOSED ZONING: PUD-R
PROPOSED USE: TOWNHOMES

PROPOSED LOTS:		
SHALLOWFORD 1A -	37	
SHALLOWFORD 1B -	26	
MCCALLIE -	127	
SHALLOWFORD 2 -	2	
TOTAL =	192	
BUILDING HEIGHT:		2-3 STORIES
LOT WIDTH:		18 FT MIN/36 FT MAX/180FT MAX
FRONT YARD:		
PRIMARY:		15 FT-35 FT
SECONDARY:		15 FT-35 FT
SIDE SETBACK:		10 FT MIN/24 FT MAX
ATTACHED TOWNHOMES:		0 FT
REAR SETBACK:		10 FT MIN
REQUIRED CIVIC USE SPACE:		5% OF TOTAL AREA 1.29 AC
PROVIDED CIVIC USE SPACE:		5.3% 1.34 AC
CIVIC SPACE LIST:		
PLAYGROUND -	0.07 AC	
PLAYGROUND -	0.06 AC	
GREEN -	0.50 AC	
GARDEN -	0.23 AC	
POCKET PARK -	0.07 AC	
POCKET PARK -	0.05 AC	
POCKET PARK -	0.02 AC	
POCKET PARK -	0.21 AC	
POCKET PARK -	0.07 AC	
POCKET PARK -	0.07 AC	
POCKET PARK -	0.03 AC	
TOTAL: 1.34 AC		
REQUIRED PARKING:		
DWELLING UNITS:		384 SPACES
CIVIC SPACE:		14 SPACES
ACCESSIBLE:		1 PER 50 REQ. SPACES, 8 SPACES
TOTAL=		398 SPACES, 8 ACCESSIBLE
PROPOSED ON STREET PARKING:		
ROAD A -	17, 7 ACCESSIBLE	
ROAD B -	16	
ROAD C -	41	
ROAD D -	106	
ALLEY A -	2	
ALLEY B -	1 ACCESSIBLE	
TOTAL =	182 SPACES, 8 ACCESSIBLE SPACES	
PROPOSED OFF STREET PARKING:		
GARAGE PARKING -	386	
DRIVEWAY PARKING -	24 (LOTS 1, 10, 63, 64, 65, 173-179)	
TOTAL =	410 SPACES	
TOTAL PROPOSED PARKING:		
ON STREET -	182, 8 ACCESSIBLE	
OFF STREET -	410	
TOTAL =	592 SPACES, 8 ACCESSIBLE SPACES	

NOTE:

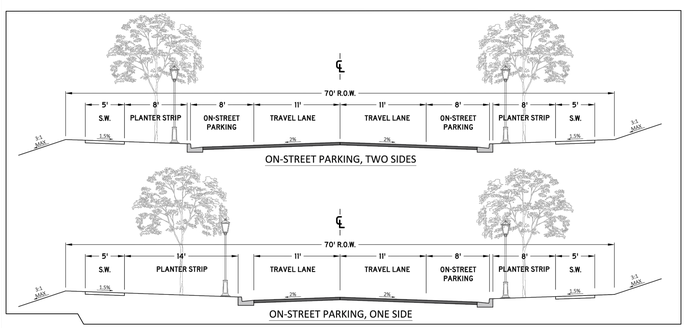
1. SITE LIGHTING TO BE PROVIDED IN ACCORDANCE WITH PRIVATE LIGHTING STANDARDS AT TABLE 4.3.17.B OF THE COLUMBIA ZONING ORDINANCE AT SITE CONSTRUCTION PLAN REVIEW.

NOTE:

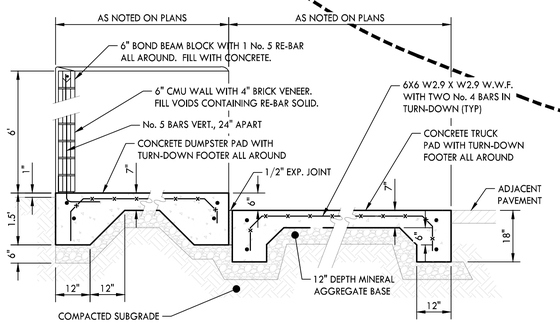
1. FUTURE REMOVAL OF TREES DEPICTED ON THE PLAN WILL REQUIRE APPROVAL BY PLANNING COMMISSION

FLOOD HAZARD NOTE:

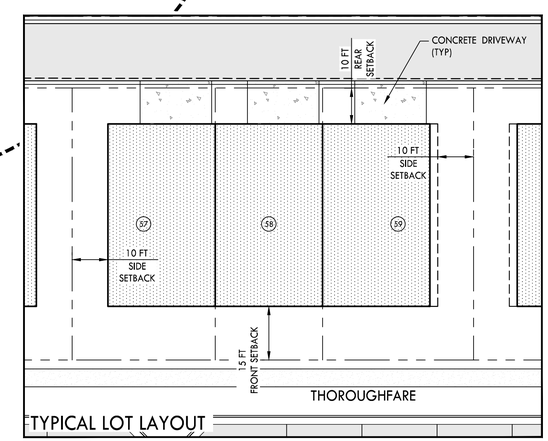
1. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL NO. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/15/2007



ROADWAY CROSS SECTION
NOT TO SCALE



DUMPSTER ENCLOSURE
NOT TO SCALE



TYPICAL LOT LAYOUT

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

HONEY FARM TOWNHOMES

COLUMBIA, TN

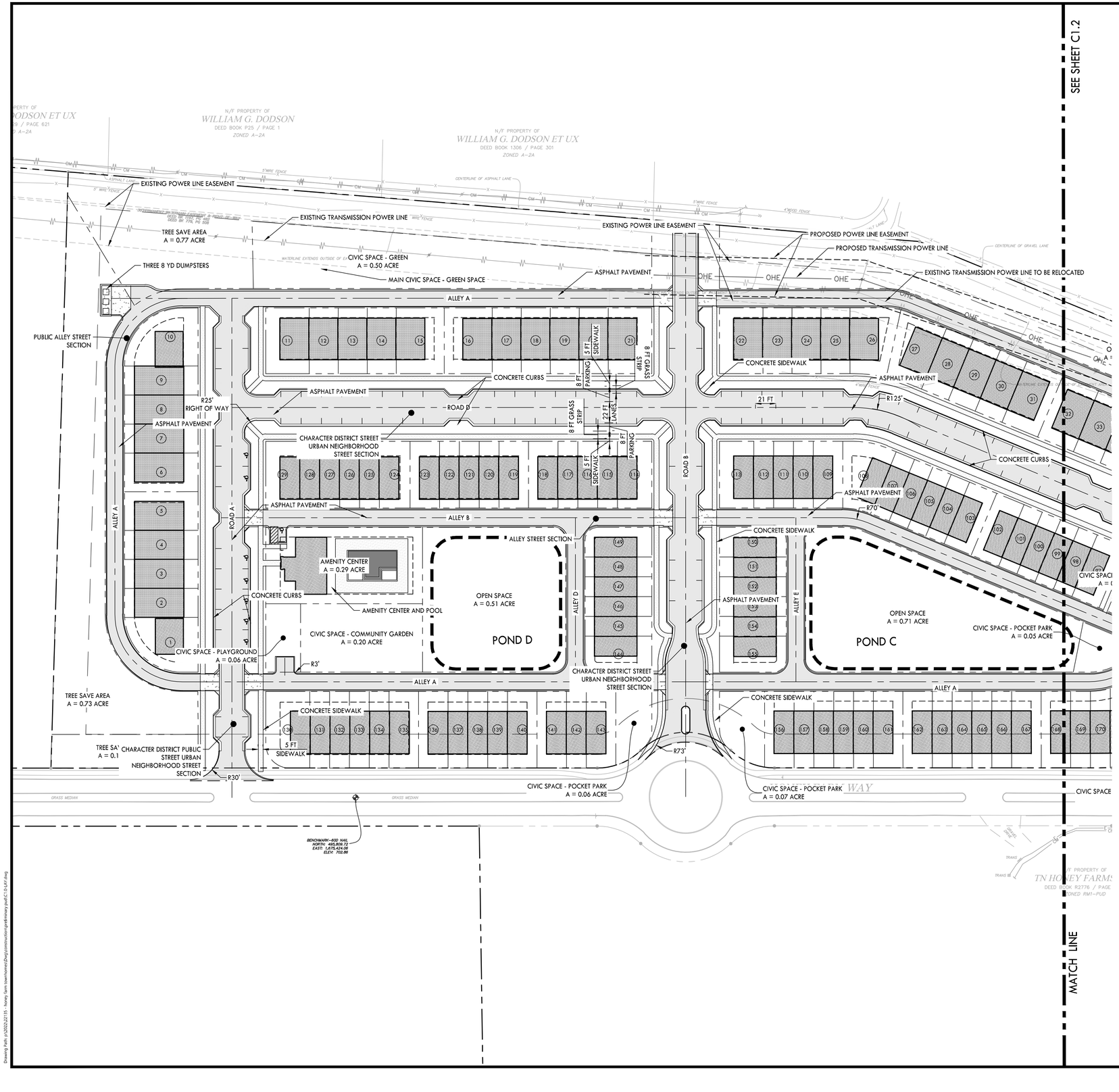
REVISIONS	
No.	DATE

6/08/2023 22135

C1.0

OVERALL SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\plan\Honey Farm.dwg, 6/8/2023 2:13:16 PM, Jeff Wyatt



PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/08/2023 22135

C1.1

SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary plat\C1.0-LAY.dwg

SEE SHEET C1.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 235
ZONED A-2A

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK 6037 / PAGE 22
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES - SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES - SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

HONEY FARM - PHASE 1, SECTION 3
PLAT BOOK 20 / PAGE 100
ZONED RS10-PUD

HONEY FARM - PHASE 1, SECTION 2
PLAT BOOK 20 / PAGE 157
ZONED RS10-PUD

OPEN SPACE
A = 1.09 ACRE

ALLEY STREET SECTION

ALLEY A

ROAD D CONCRETE CURB AND GUTTER

CIVIC SPACE - POCKET PARK
A = 0.02 ACRE

CHARACTER DISTRICT STREET
URBAN NEIGHBORHOOD
STREET SECTION

POCKET PARK
A = 0.05 ACRE

ALLEY B

CIVIC SPACE - POCKET PARK
A = 0.03 ACRE

16 FT
LANE
CURB

R70'

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

PUBLIC ALLEY STREET
SECTION

POND C

POND B

BENCHMARK--60D NAIL
NORTH: 695,240.68
EAST: 1,676,165.82
ELEV: 711.10

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

R125'

ASPHALT PAVEMENT
OPEN SPACE
A = 0.09 ACRE

EXISTING POWER LINE EASEMENT

EXISTING TRANSMISSION
POWER LINE TO BE RELOCATED

CONCRETE SIDEWALK

PROPOSED POWER LINE EASEMENT

ASPHALT PAVEMENT

CONCRETE CURB AND GUTTER

PROPOSED TRANSMISSION POWER LINE

ROAD C

ALLEY G

ALLEY F

CHARACTER DISTRICT PUBLIC
STREET URBAN
NEIGHBORHOOD STREET
SECTION

OPEN SPACE
A = 1.16 ACRE

8 FT PARKING
5 FT SIDEWALK
13 FT GRASS STRIP
22 FT 2 LANES
8 FT GRASS STRIP PARKING
5 FT SIDEWALK
12 FT

AMENITY CENTER
A = 0.08 ACRE

CONCRETE SIDEWALK

ASPHALT PAVEMENT

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

BENCHMARK--60D NAIL
NORTH: 694,846.19
EAST: 1,676,277.50
ELEV: 712.32

R70'

R30'

POND A

OPEN SPACE
A = 0.92 ACRE

THREE 8 YD DUMPSTERS

EXISTING TRANSMISSION POWER LINE

EXISTING POWER LINE EASEMENT

HONEY FARM WAY
(VARIABLE R/W)

GRASS MEDIAN

OHE

CM

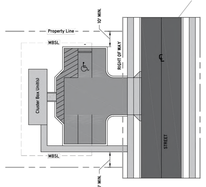
PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

NOTES:

FOR 75 OR LESS CBU'S AT A SINGLE LOCATION
1. CLUSTER BOX UNITS (CBU'S) SHALL MEET USPS STANDARDS
2. CBU'S MAY BE LOCATED WITHIN THE RIGHT OF WAY
3. CBU'S SHALL NOT ENCROACH UPON THE ROADWAY OR SIDEWALK.
4. A MINIMUM OF 5' CLEAR SPACE, OR "WHEELCHAIR TURNING EQUIVALENT", FOR PLACEMENT ALONG COLLECTOR AND ARTERIAL ROADWAYS, FOLLOW THE STANDARDS BELOW, "FOR MORE THAN 75 CBU'S AT A SINGLE LOCATION".

FOR MORE THAN 75 CBU'S AT A SINGLE LOCATION
1. CBU'S SHALL MEET USPS STANDARDS
2. CBU'S SHALL BE LOCATED OUTSIDE OF THE RIGHT OF WAY WITHIN A PUBLIC ACCESS EASEMENT
3. CBU'S SHALL NOT BE PLACED WITHIN ANY EASEMENTS.
4. CBU'S AND APPURTENANT BUILDING PAD(S) SHALL BE CONSIDERED A PRINCIPLE STRUCTURE AND SHALL ADHERE TO BUILDING SETBACKS
5. PROVIDE ADA SIDEWALKS TO MEET ZONING CODE AND ACCESS MANAGEMENT
6. PARKING SHALL BE PROVIDED WITH A MINIMUM OF 2 PARKING STALLS PLUS 1.5 STALL PER 25 MAIL UNITS OR PORTION THEREOF ABOVE THE FIRST 25 MAIL UNITS, WITH A MAXIMUM OF TWICE THE MINIMUM
7. PARKING AND SIDEWALKS SHALL HAVE A 10 FT. MINIMUM BUFFER FROM ANY PROPERTY LINE
8. ALL PARKING SHALL MEET LAYOUT AND INTERIOR LANDSCAPING REQUIREMENTS PER THE ZONING CODE
9. PARKING SHALL BE CLEARLY LABELED AS SHORT TERM PARKING AND CANNOT BE CONSIDERED REQUIRED PARKING FOR ANOTHER USE
10. WHEEL STOPS OR CURBING SHALL BE PROVIDED FOR ALL PARKING STALLS
11. ADEQUATE LIGHTING SHALL BE PROVIDED.
12. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	MAIL CLUSTER BOX UNITS (MTS)	DATE 6/9/2022
STANDARD DETAILS		MD-03

MAIL CLUSTER BOX UNITS
NOT TO SCALE

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

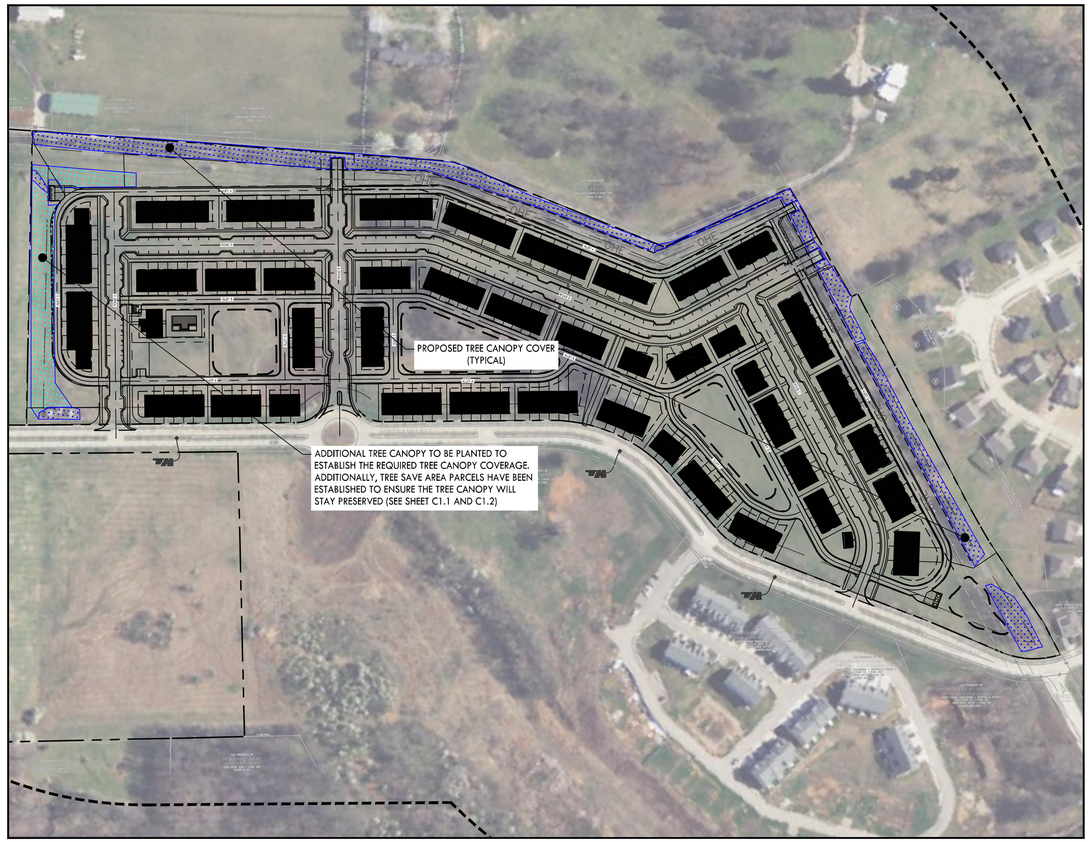
6/08/2023 22135

C1.2

SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\2wp\construction\prelim\honey prelim set C1.0-LAY.dwg





EXISTING TREE CANOPY EXHIBIT

PROPOSED TREE CANOPY EXHIBIT

0 50 100 150 300
GRAPHIC SCALE

TREE CANOPY REQUIREMENTS:

TOTAL SITE AREA:	25.87 AC
EXISTING TREE CANOPY:	5.18 AC
PERCENTAGE OF TOTAL SITE AREA:	20.0%
REQUIRED TREE CANOPY PERCENTAGE TO REMAIN:	48.0%
	2.49 AC
EXISTING TREE CANOPY TO REMAIN:	1.63 AC
TREE CANOPY TO BE PLANTED:	0.86 AC
TOTAL PROPOSED TREE CANOPY:	2.50 AC
	48.3%

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

DANIEL WILSON CRUNK
REGISTERED
AGRICULTURE
AMERICA
NO. 114180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

No.	DATE

6/08/2023 22135

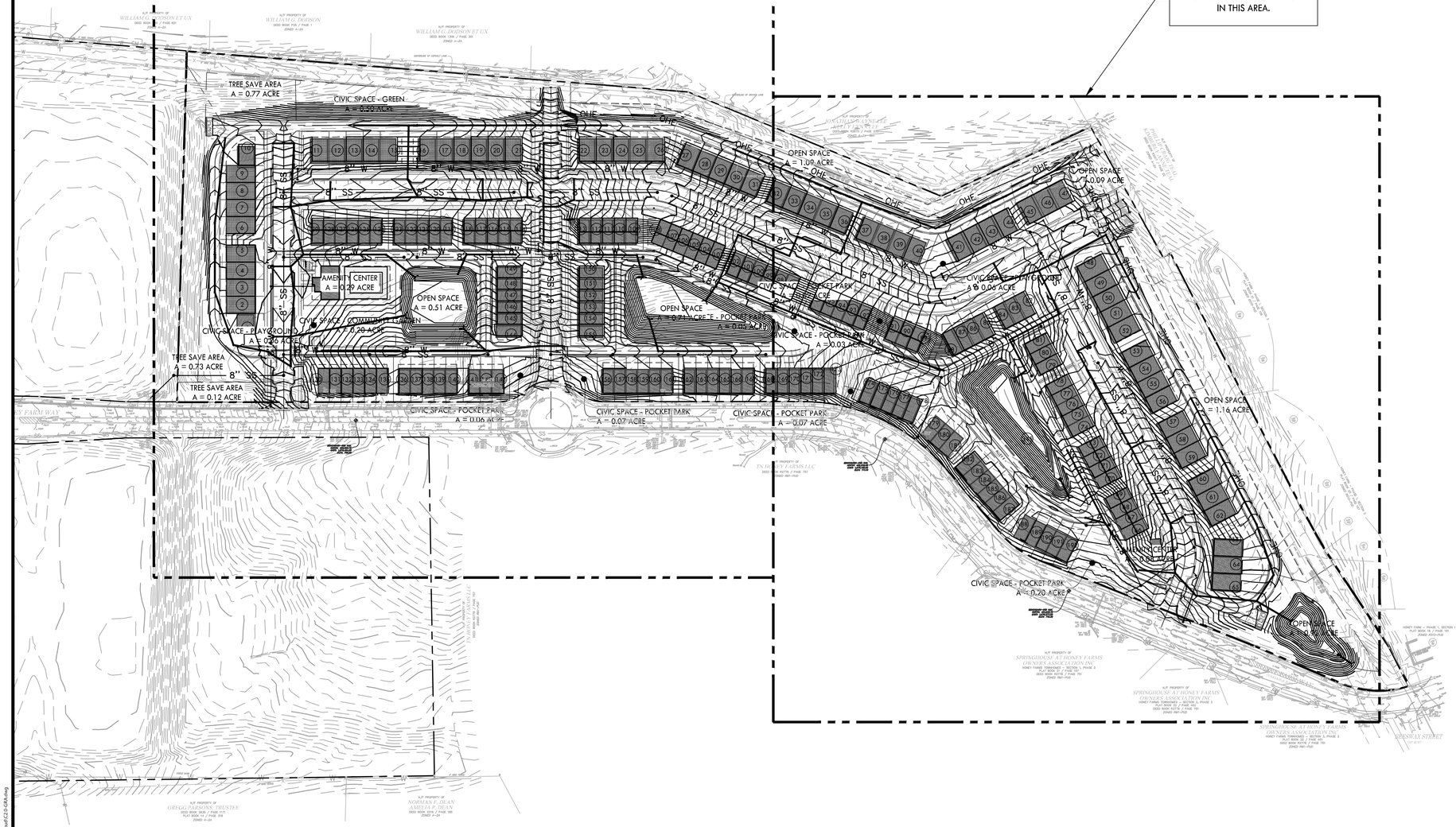
C1.3

TREE CANOPY EXHIBIT

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\grade\honey pud C1.3 EXH.dwg

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.


TREE SAVE AREA
A = 0.77 ACRE
CIVIC SPACE - GREEN
A = 0.55 ACRE
AMENITY CENTER
A = 0.09 ACRE
OPEN SPACE
A = 0.51 ACRE
CIVIC SPACE - PLAYGROUND
A = 0.26 ACRE
CIVIC SPACE - COMMUNITY GARDEN
A = 0.26 ACRE
TREE SAVE AREA
A = 0.73 ACRE
TREE SAVE AREA
A = 0.12 ACRE
CIVIC SPACE - POCKET PARK
A = 0.06 ACRE
CIVIC SPACE - POCKET PARK
A = 0.07 ACRE
CIVIC SPACE - POCKET PARK
A = 0.07 ACRE
OPEN SPACE
A = 1.09 ACRE
CIVIC SPACE - POCKET PARK
A = 0.05 ACRE
CIVIC SPACE - POCKET PARK
A = 0.03 ACRE
OPEN SPACE
A = 0.09 ACRE
CIVIC SPACE - COMMUNITY GARDEN
A = 0.06 ACRE
OPEN SPACE
A = 1.16 ACRE
AMENITY CENTER
A = 0.12 ACRE
CIVIC SPACE - POCKET PARK
A = 0.20 ACRE
OPEN SPACE
A = 0.08 ACRE
OHE
8" W
8" SS
TN PROPERTY OF
WILLIAM G. DODSON ET UX
TN PROPERTY OF
TENNESSEE FARMS LLC
TN PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
TN PROPERTY OF
GREGG PARSONS, TRUSTEE
TN PROPERTY OF
NORMAN F. DEAN
AMELIA P. DEAN
TN PROPERTY OF
CYNTHIA TYLER ET AL
HONEY FARM — PHASE 1, SECTION 1
PLAT BOOK 19 / PAGE 101
ZONED RMD-PUD
HONEY FARM — PHASE 1, SECTION 1
PLAT BOOK 19 / PAGE 101
ZONED RMD-PUD
HONEY FARMS TOWNHOMES — SECTION 3, PHASE 2
DEED BOOK R2778 / PAGE 797
ZONED RMF-PUD
HONEY FARMS TOWNHOMES — SECTION 3, PHASE 3
DEED BOOK R2778 / PAGE 797
ZONED RMF-PUD
HONEY FARMS TOWNHOMES — SECTION 3, PHASE 2
DEED BOOK R2778 / PAGE 797
ZONED RMF-PUD
HONEY FARMS TOWNHOMES — SECTION 3, PHASE 3
DEED BOOK R2778 / PAGE 797
ZONED RMF-PUD
DEED BOOK 3826 / PAGE 771
PLAT BOOK P-59 / PAGE 109
ZONED A-24
DEED BOOK 1019 / PAGE 188
ZONED A-24
DEED BOOK 1886 / PAGE 1
ZONED A-24
DEED BOOK 1886 / PAGE 1
ZONED A-24
DEED BOOK 1886 / PAGE 1

SEE SHEET C2.2

MATCH LINE

TREE SAVE AREA
A = 0.77 ACRE

CIVIC SPACE - GREEN
A = 0.30 ACRE

POND D

OPEN SPACE
A = 0.51 ACRE

AMENITY
A = 0.29 ACRE

CIVIC SPACE - COMMUNITY GARDEN
A = 0.20 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.20 ACRE

TREE SAVE AREA
A = 0.73 ACRE

TREE SAVE AREA
A = 0.12 ACRE

CIVIC SPACE - POCKET PARK
A = 0.06 ACRE

POND C

OPEN SPACE
A = 0.71 ACRE

CIVIC SPACE - POCKET PARK
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

ALLEY A

ALLEY B

ALLEY C

ALLEY D

ALLEY E

ALLEY F

BENCHMARK—60D NAIL
NORTH: 690,808.72
EAST: 1,675,454.06
ELEV: 702.86

N/F PROPERTY OF
WILLIAM G. DODSON
DEED BOOK P25 / PAGE 1
ZONED A-2A

N/F PROPERTY OF
WILLIAM G. DODSON ET UX
DEED BOOK 1306 / PAGE 301
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS
DEED BOOK R2776 / PAGE
ZONED RM1-PUD

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/08/2023 22135

C2.1

GRADING
DRAINAGE & UTILITY
PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\grading\honey farm grading.dwg

SEE SHEET C2.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 255
ZONED A - ZR

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK R2670 / PAGE 22
ZONED A-ZR

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

OPEN SPACE
A = 1.09 ACRE

OPEN SPACE
A = 0.09 ACRE

OPEN SPACE
A = 1.16 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

CIVIC SPACE - POCKET PARK
A = 0.09 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

AMENITY CENTER
A = 0.08 ACRE

POND A
OPEN SPACE
A = 0.70 ACRE

POND B

ALLEY A

ALLEY B

ALLEY F

ALLEY G

HONEY FARMS WAY
(VARIABLE WIDTH PUBLIC ROW)

BENCHMARK–BOD NAIL
NORTH: 495,248.68
EAST: 1,676,165.82
ELEV: 711.10

BENCHMARK–BOD NAIL
NORTH: 494,846.19
EAST: 1,676,277.55
ELEV: 712.32

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
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HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS		
No.	DATE	

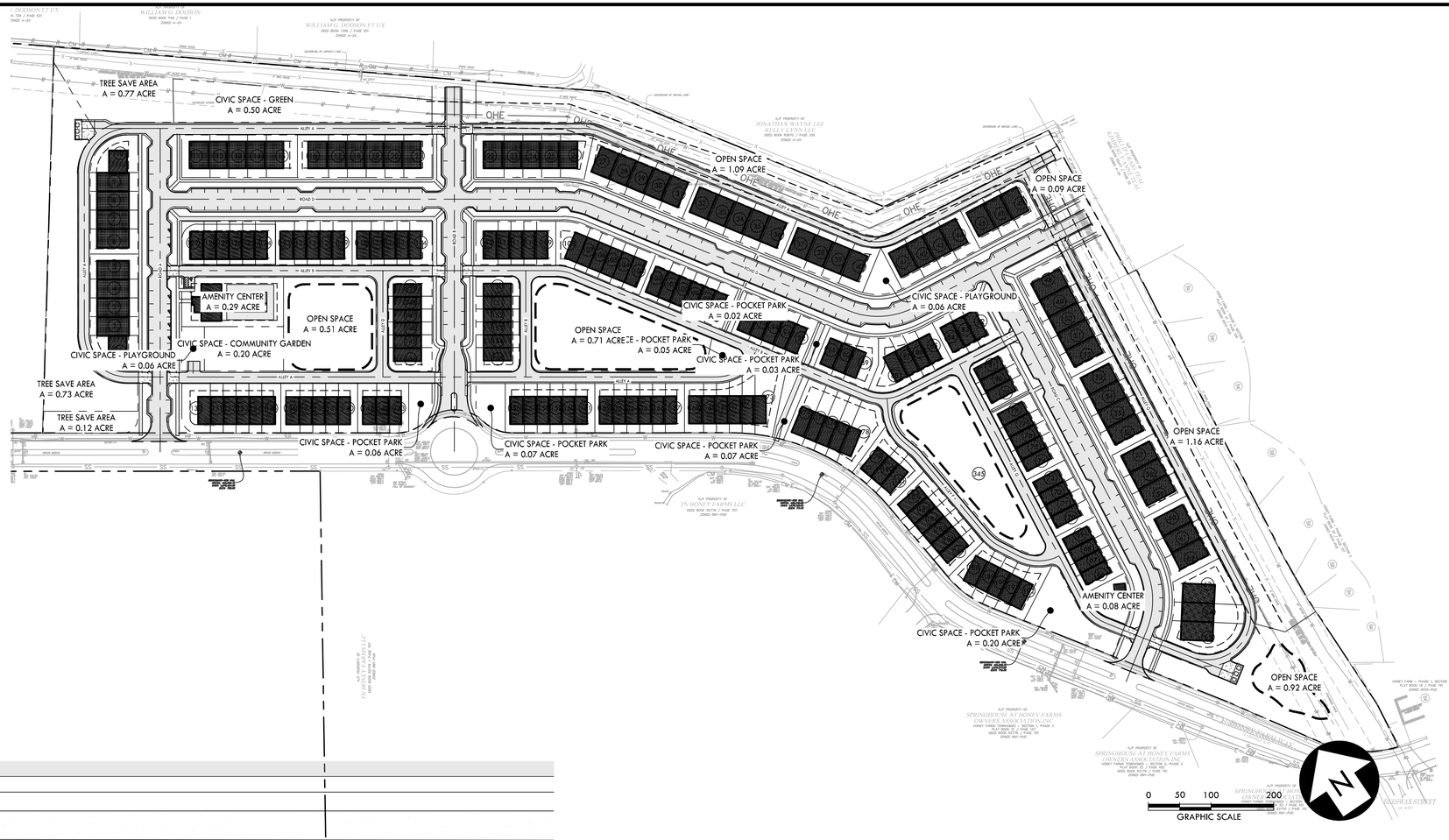
6/08/2023 22135

C2.2

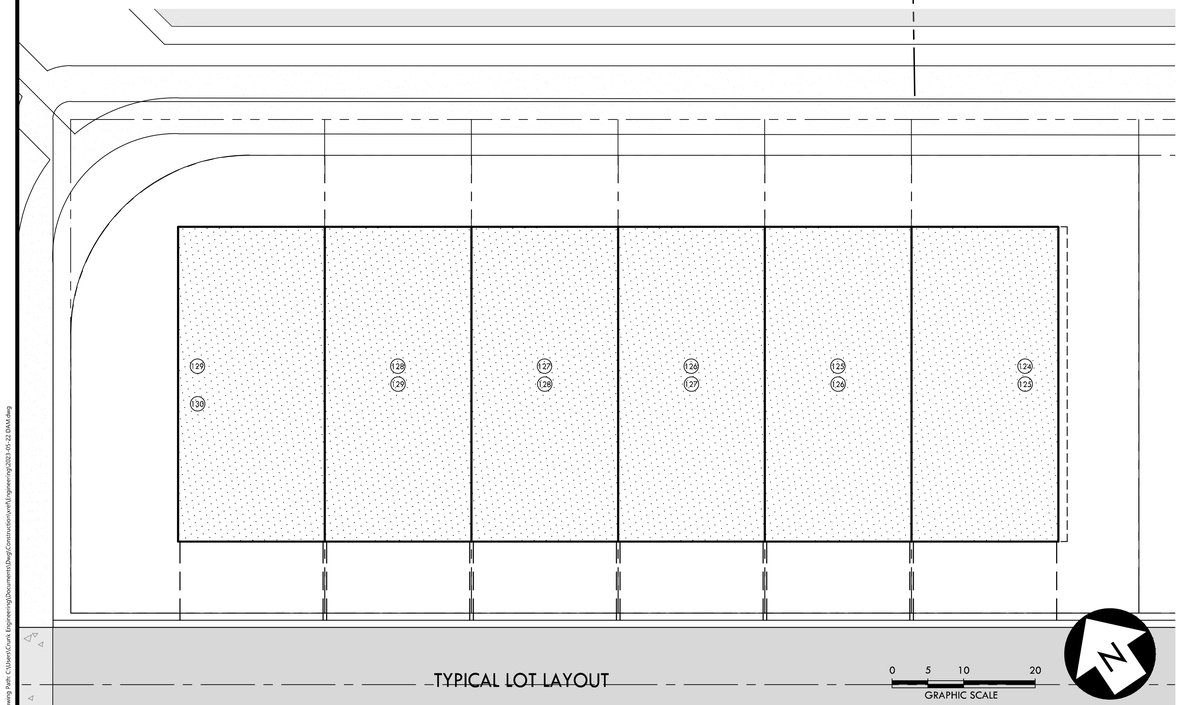
GRADING
DRAINAGE & UTILITY
PLAN

Drawing Path: z:\2022\22135 - honey farm townhomes\Design\construction\grading\honey farm.dwg

OVERALL SITE AREA	
TOTAL AREA:	1,126,724.44 SF / 25.866 AC
PERVIOUS AREA:	589,826.64 SF / 13.60 AC
IMPERVIOUS AREA:	534516.8 SF / 12.27 AC
SIDEWALK AREA:	32,627.3 SF / 0.75 AC
ROAD AREA:	236,974.5 SF / 5.44 AC
DRIVEWAYS:	57,017 SF / 1.31 AC
TOWNHOMES:	207,898 SF / 4.77 AC
IMPERVIOUS AREA RATIO:	12.27/25.866 = 47.4% IMPERVIOUS



TYPICAL LOT AREA	
TOTAL AREA:	9,418 SF / 0.216 AC
PERVIOUS AREA:	2,806 SF / 0.064 AC
IMPERVIOUS AREA:	6,612 SF / 0.151 AC
DRIVEWAYS:	1,200 SF / 0.03 AC
TOWNHOMES:	5,412 SF / 0.124 AC
IMPERVIOUS AREA RATIO:	6,612/9,418 = 70.2% IMPERVIOUS



TYPICAL LOT LAYOUT

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

No.	DATE

6/08/2023 22135

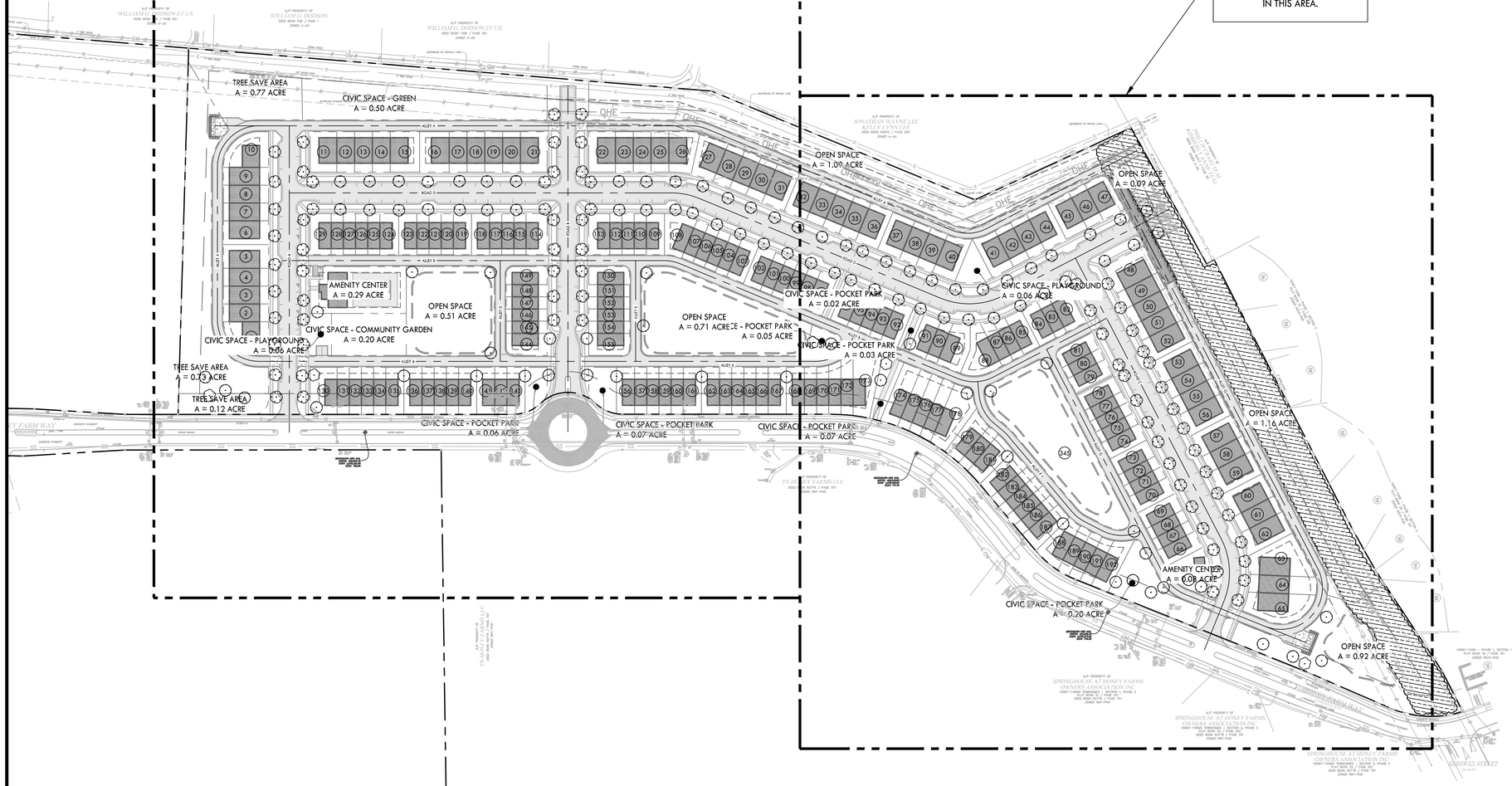
C3.0

SITE IMPERVIOUS AREA DISTRIBUTION

Drawing Path: C:\Users\Ciara.Engineering\Documents\Revit Construction\work\Engineering\2023-05-22 DAM.dwg

REFER TO SHEET L1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET L1.2
FOR DETAILED INFORMATION
IN THIS AREA.



PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	ACE GLO	Acer rubrum 'PNI 0268' / October Glory® Red Maple	2" Cal.	B&B	41
	QUE ALB	Quercus alba / White Oak	2.5" Cal.	B&B	5
	ULM ALL	Ulmus parvifolia 'Allee' / Allee® Lacebark Elm	2" Cal.	B&B	73
	ZEL VIL	Zelkova serrata 'Village Green' / Village Green Japanese Zelkova	2" Cal.	B&B	59
SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**
	BUX SEM	Buxus sempervirens / Common Boxwood	3 gal.	Pot	38

0 50 100 200
GRAPHIC SCALE

Know what's below.
Call before you dig.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

BRADLEY M. LOVING
REGISTERED
AGRICULTURE
AMERICA
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

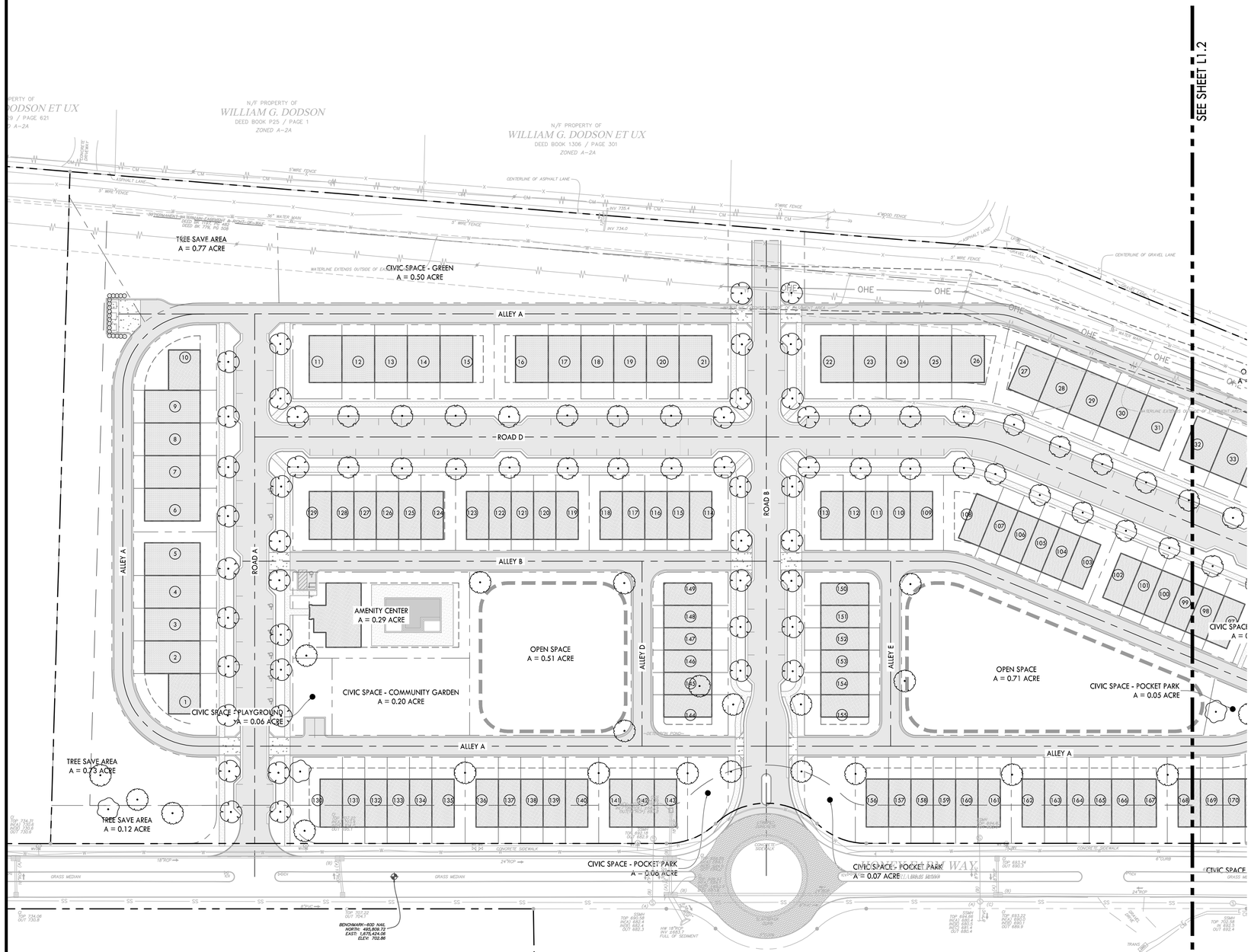
REVISIONS	
No.	DATE

6/08/2023 22135

L1.0

OVERALL
LANDSCAPE PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary plat\L1.0 ALAN.dwg



NOTES:
1. REFER TO SHEET L2.0 FOR ADDITIONAL NOTES AND DETAILS
2. REFER TO SHEET L1.0 FOR PLANT LIST

0 10 20 30 40 50 100
GRAPHIC SCALE

Know what's below.
Call before you dig.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

BRADLEY M. LOVING
REGISTERED
AGRICULTURE
2/1/1982
TENNESSEE
LANDSCAPE ARCHITECT

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/08/2023 22135

L1.1

LANDSCAPE PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary plat\L1.0-LAN.dwg

SEE SHEET L1.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 235
ZONED A-2A

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK 4037 / PAGE 22
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES – SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

OPEN SPACE
A = 1.09 ACRE

OPEN SPACE
A = 2.63 ACRE

OPEN SPACE
A = 1.16 ACRE

OPEN SPACE
A = 0.92 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.02 ACRE

CIVIC SPACE - POCKET PARK
A = 0.05 ACRE

CIVIC SPACE - POCKET PARK
A = 0.03 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.20 ACRE

AMENITY CENTER
A = 0.08 ACRE

ROAD C
ROAD D
ALLEY A
ALLEY B
ALLEY F
ALLEY G

HONEY FARM WAY
(VARIABLE WIDTH PUBLIC ACCESS, UTILITY & DRAINAGE EASEMENT)

REDUCED LANDSCAPE BUFFER WIDTH

BUFFER DENSITY TO BE INCREASED IN THIS AREA

MIN. 90% OPACITY 3 FT. FROM GROUND AND UP; EVERGREEN PLANTS > 2.5 IN. CALIPER MEASURED 3 FT FROM GROUND & 8 FT. TALL @ INSTALLATION & 20 FT. TALL @ MATURITY, PLANTED < 10 FT. O.C.

BENCHMARK--60D NAIL
NORTH: 495,249.68
EAST: 1,676,165.62
ELEV: 711.10

BENCHMARK--60D NAIL
NORTH: 494,846.19
EAST: 1,676,277.50
ELEV: 712.32

NOTES:
1. REFER TO SHEET L2.0 FOR ADDITIONAL NOTES AND DETAILS
2. REFER TO SHEET L1.0 FOR PLANT LIST

0 10 20 30 40 50 100
GRAPHIC SCALE

Know what's below.
Call before you dig.

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7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
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ENGINEERING CRUNK

BRADLEY M. LOWRY
REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/08/2023 22135

L1.2

LANDSCAPE PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\pre\Primary Pud\L1.0 LAYO.dwg

LANDSCAPE NOTES:

SITE PREP

1. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND TAKE PRECAUTIONS TO PREVENT DAMAGE TO THESE UTILITIES.
2. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGES TO UTILITIES.
3. PLANT MATERIALS AND STUMPS INDICATED FOR REMOVAL SHALL BE REMOVED AND DISPOSED OFF-SITE BY THE CONTRACTOR. BACKFILL HOLES WITH QUALITY TOPSOIL FREE OF ROOTS AND ROCKS. SEE TOPSOIL SPECIFICATION.
4. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINE GRADING OF ALL PLANTING AREAS.
5. ALL CONTRACTORS APPLYING CHEMICALS ON SITE SHALL SUBMIT COPIES OF CERTIFICATION(S) AND LICENSES TO THE LANDSCAPE ARCHITECT.
6. PLANTING BEDS SHALL BE CLEARED OF GRASS AND WEEDS PRIOR TO INSTALLATION OF PLANTS.
7. SOD ALL AREAS DISTURBED BY CONSTRUCTION AND NOT DESIGNATED AS GROUND COVER AREAS.

TOPSOIL

1. ALL PLANTED AREAS TO HAVE A MINIMUM OF 6" OF QUALITY TOPSOIL.
2. ALL COMPACTED AREAS TO BE AERATED AND AMENDED AS NEEDED.
3. TOPSOIL IS TO BE NATURAL, FERTILE, FRIABLE, PRODUCTIVE SOIL, NEITHER EXCESSIVELY ACID NOR ALKALINE, AND FREE FROM TOXIC SUBSTANCES, STONES WEEDS, CLAY, CLODS, ROOTS, CINDERS, DEBRIS, AND CONSTRUCTION MATERIAL.

PLANTING

1. ALL PLANTING BEDS OR MULCH BEDS SHALL BE FREE OF WEEDS PRIOR TO THE INSTALLATION OF MULCH..
2. THE OPTIMUM TIME OF PLANTING IS FROM OCTOBER 1 TO APRIL 1. SCHEDULING FOR PLANTING AT OTHER TIMES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
3. UPON SECURING PLANT MATERIAL AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES ARE TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
4. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON-BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
5. AFTER PLANTING, TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE, OR OTHER NON-BIODEGRADABLE MATERIAL.
6. WATERING: ALL TREES AND SHRUBS SHALL BE THOROUGHLY WATERED WITHIN ONE HOUR OF INSTALLATION.

PLANT MATERIALS

1. THE LANDSCAPE CONTRACTORS SHALL VERIFY ALL MATERIAL QUANTITIES. IN THE EVENT OF A DISCREPANCY, THE QUANTITIES SHOWN ON THE PLAN WILL TAKE PRECEDENCE.
2. ALL PLANT MATERIALS TO BE NURSERY GROWN AND TO COMPLY WITH THE AMERICAN STANDARDS FOR NURSERY STOCK: ANSI - LATEST EDITION FOR SIZE AND QUALITY.
3. ONLY GRADE "A" TYPE PLANTS WILL BE ACCEPTED. PLANTS THAT ARE INFERIOR OR DAMAGED WILL NOT BE ACCEPTED.
4. THE PLANTS DELIVERED TO THE PROJECT SITE SHALL BE PLANTED AS SOON AS SITE CONDITIONS PERMIT. TAKE CARE IN SCHEDULING PLANT DELIVERIES AND THE SIZE OF DELIVERIES SO THAT LONG PERIODS OF STORAGE ARE AVOIDED. ADEQUATELY PROTECT PLANTS PLACED IN TEMPORARY STORAGE FROM THE SUN AND WIND; WATER PLANTS SO AS TO MAINTAIN THEIR APPEARANCE AND HEALTH. PLANTS THAT HAVE NOT BEEN PROPERLY MAINTAINED DURING TEMPORARY STORAGE MAY BE REJECTED BY THE LANDSCAPE ARCHITECT.
5. ALL TREES SHALL BE FIRST QUALITY REPRESENTATIVES OF THEIR SPECIES AND SHALL MEET ALL REQUIREMENTS OTHERWISE STIPULATED. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT PLANTED MATERIAL IN THE FIELD, AT THE GROWING SITE OR ON THE JOB SITE.

MULCHING

1. ALL PLANTING BEDS OR MULCH BEDS SHALL HAVE WEEDS REMOVED PRIOR TO THE INSTALLATION OF MULCH.
2. ALL PLANTING BEDS SHALL HAVE A MINIMUM OF 3" DEPTH OF AGED SHREDDED HARDWOOD BARK MULCH OR A MINIMUM OF 4" DEEP PINE STRAW MULCH.
3. CONTRACTORS SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
4. MULCH SHALL NOT CONTACT OUTER BARK AT BASE OF TREES. PULL BACK MULCH 3-4" FROM TRUNK.

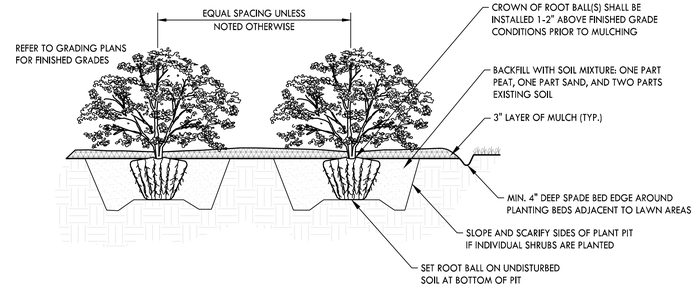
PLANT MAINTENANCE

1. THE LANDSCAPE CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN INSTRUCTIONS ON THE PROPER CARE OF ALL SPECIFIED PLANT MATERIALS PRIOR TO FINAL PAYMENT.
2. CONTRACTOR TO WARRANTY ALL MATERIAL FOR 2 YEARS AFTER DATE OF FINAL ACCEPTANCE.
3. ALL UNHEALTHY OR DEAD PLANT MATERIAL SHALL BE REPLACED WITHIN ONE YEAR, OR BY THE NEXT PLANTING PERIOD, WHICHEVER COMES FIRST. OTHER DEFECTIVE PLANT MATERIAL SHALL BE REPLACED OR REPAIRED WITHIN THREE (3) MONTHS.

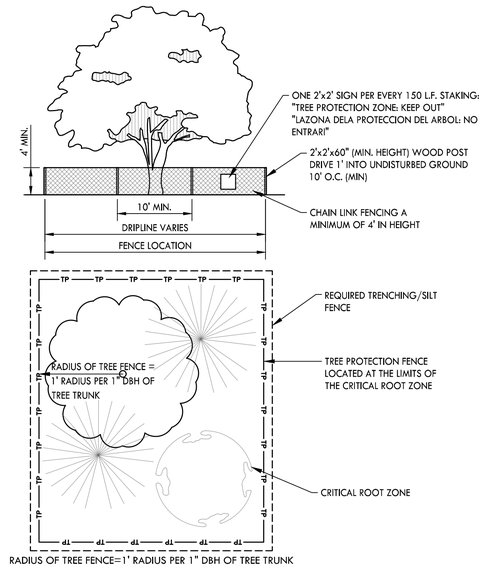
TREE PROTECTION

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION DAMAGE.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT EXISTING TREES THAT ARE TO REMAIN. NO HEAVY EQUIPMENT OR MATERIALS SHALL BE PERMITTED TO OPERATE OR BE STORED WITHIN THE DRIP LINES OF THE TREES, OUTSIDE THE LIMIT OF GRADING.
3. TREE PROTECTION STEPS:
   - A) INSTALL TREE PROTECTION FENCING IN ACCORDANCE WITH METRO CODE 17.24.110 "PROTECTION OF TREES DURING DEVELOPMENT ACTIVITIES".
   - B) PLACE FENCE POST AND FENCING AT TREE DRIP LINE OR 10' FROM TRUNK, WHICHEVER IS GREATER.
   - C) POST SHALL NOT BE SPACED MORE THAN 10' APART.
   - D) POST TEMPORARY SIGNS - TREE ROOT PROTECTION ZONE.
4. FENCING AND SIGNS SHALL REMAIN IN PLACE UNTIL THE SITE HAS BEEN INSPECTED BY URBAN FORESTER FOR USE AND OCCUPANCY PERMIT.

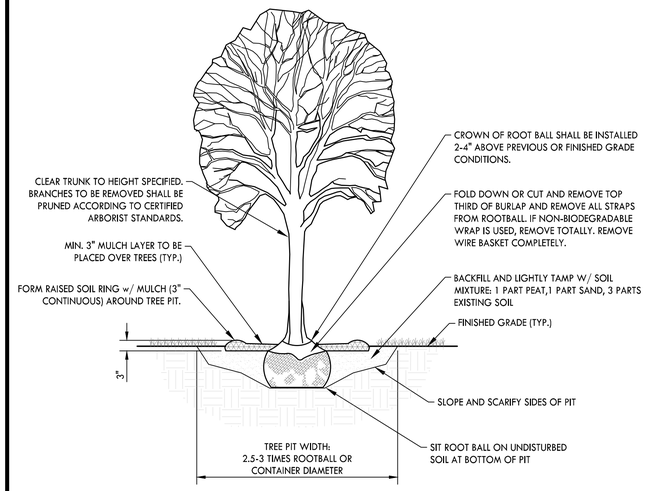
NOTES:
1. WHERE SHRUBS APPEAR IN BED AREA, 3" OF MULCH SHALL BE SPREAD OVER THE ENTIRE AREA WITHIN THE BED AS INDICATED ON THE PLANS.
2. DO NOT PRUNE SHRUBS BEFORE ACCEPTANCE.
3. CAREFULLY REMOVE CONTAINER FROM ROOT BALL USED FOR SHRUB(S). ANY BROKEN OR CRUMBLING ROOT BALL(S) WILL BE REJECTED.
4. IF SHRUB IS B&B, REMOVE BURLAP FROM TOP $\frac{1}{3}$ OF ROOT BALL OR COMPLETELY REMOVE BURLAP IF SOILS ARE POORLY DRAINED.
5. SCARIFY ROOTBALL IF ROOT BOUND IN CONTAINER PER HORTICULTURE STANDARDS.



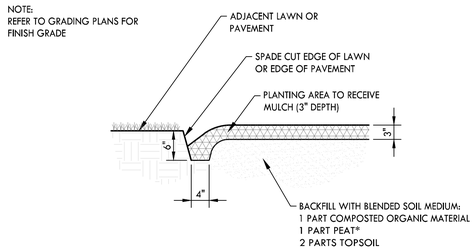
1 SHRUB PLANTING
NOT TO SCALE



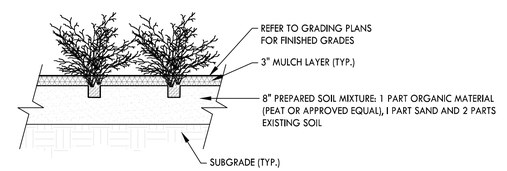
4 TREE PROTECTION
NOT TO SCALE



2 DECIDUOUS TREE PLANTING
NOT TO SCALE



5 SPADE BED EDGE
NOT TO SCALE



3 GROUNDCOVER PLANTING
NOT TO SCALE

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REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/2023

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

6/08/2023 22135

L2.0

LANDSCAPE DETAILS

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\pre&finalplans\ pref L2.0 LAN.dwg

HONEY FARM TOWNHOMES

2248 NASHVILLE HIGHWAY, COLUMBIA, TN 38401

PRELIMINARY MASTER DEVELOPMENT PLAN

GENERAL INFORMATION

DEVELOPER

NAME:
ADDRESS:
Contact:
Phone:

OWNER

NAME: EMG HONEY FARM, LLC, A TENNESSEE LIMITED LIABILITY COMPANY
ADDRESS: P.O. BOX 1715 SPRING HILL, TN 37174
CONTACT: DREW SMITH,
DREW.SMITH@EQUITASMG.COM
Phone: 469-585-7913

CIVIL ENGINEER

Crunk Engineering LLC
7112 Crossroads Boulevard, Suite 201
Brentwood, TN 37027
Contact: Adam Crunk, PE
Phone: 615.873.1795
Email: adam@crunkeng.com



LOCATION MAP
NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	OVERALL SITE LAYOUT PLAN
C1.1	SITE LAYOUT PLAN
C1.2	SITE LAYOUT PLAN
C1.3	TREE CANOPY EXHIBIT
C2.0	OVERALL GRADING DRAINAGE & UTILITY PLAN
C2.1	GRADING DRAINAGE & UTILITY PLAN
C2.2	GRADING DRAINAGE & UTILITY PLAN
C3.0	SITE IMPERVIOUS AREA DISTRIBUTION
C4.0	BUILDING LAYOUT EXHIBIT
L1.0	OVERALL LANDSCAPE PLAN
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE PLAN
L2.0	LANDSCAPE DETAILS

EXCEPTIONS REQUESTING:

- DEVELOPMENT IN LANDSCAPE BUFFER. LANDSCAPE BUFFER ADJUSTMENT
- MAIL KIOSK LAYOUT
- BLOCK PERIMETER WITH ALLEYS
- GENERAL CIRCULATION THROUGH ALLEYS
- TREE SAVE AREA INTERSECTING WITH OVERHEAD TRANSMISSION LINES

SITE DATA TABLE

PROJECT: HONEY FARM TOWNHOMES
ADDRESS: NASHVILLE HWY 2248
PARCEL ID: 051 05800 000
SITE ACREAGE: 25.87 AC
EXISTING ZONING: PUD-R
PROPOSED ZONING: PUD-R
PROPOSED USE: TOWNHOMES

PROPOSED LOTS:

SHALLOWFORD 1A -	37
SHALLOWFORD 1B -	26
MCCALLIE -	128
SHALLOWFORD 2 -	2
TOTAL =	193

BUILDING HEIGHT:	35 FT
LOT WIDTH:	18 FT MIN/180FT MAX
FRONT YARD:	
PRIMARY:	35 FT
SECONDARY:	15 FT
SIDE SETBACK:	10 FT MIN/24 FT MAX
ATTACHED TOWNHOMES:	0 FT
REAR SETBACK:	10 FT MIN
REQUIRED CIVIC USE SPACE:	5% OF TOTAL AREA 1.29 AC
PROVIDED CIVIC USE SPACE:	5.3% 1.38 AC

CIVIC SPACE LIST:

PLAYGROUND -	0.07 AC
PLAYGROUND -	0.06 AC
GREEN -	0.50 AC
GARDEN -	0.23 AC
POCKET PARK -	0.07 AC
POCKET PARK -	0.05 AC
POCKET PARK -	0.02 AC
POCKET PARK -	0.21 AC
POCKET PARK -	0.07 AC
POCKET PARK -	0.07 AC
POCKET PARK -	0.03 AC
TOTAL: 1.34 AC	

REQUIRED PARKING:

DWELLING UNITS:	384 SPACES
CIVIC SPACE:	14 SPACES
ACCESSIBLE:	1 PER 50 REQ. SPACES, 8 SPACES
TOTAL=	398 SPACES, 8 ACCESSIBLE

PROPOSED ON STREET PARKING:

ROAD A -	17, 7 ACCESSIBLE
ROAD B -	16
ROAD C -	41
ROAD D -	98
ALLEY A -	2
ALLEY B -	1 ACCESSIBLE
TOTAL =	174 SPACES, 8 ACCESSIBLE SPACES

PROPOSED OFF STREET PARKING:

GARAGE PARKING -	386
DRIVEWAY PARKING -	24 (LOTS 1, 10, 63, 64, 65, 173-179)
TOTAL =	410 SPACES

TOTAL PROPOSED PARKING:

ON STREET -	174, 8 ACCESSIBLE
OFF STREET -	410
TOTAL =	584 SPACES, 8 ACCESSIBLE SPACES

NOTE:

1. SITE LIGHTING TO BE PROVIDED IN ACCORDANCE WITH PRIVATE LIGHTING STANDARDS AT TABLE 4.3.17.B OF THE COLUMBIA ZONING ORDINANCE AT SITE CONSTRUCTION PLAN REVIEW.

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ENGINEERING CRUNK

NEAL WILSON CRUNK
REGISTERED
AGRICULTURE
5/22/23
NUMBER
134180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES
COLUMBIA, TN

REVISIONS	
No.	DATE

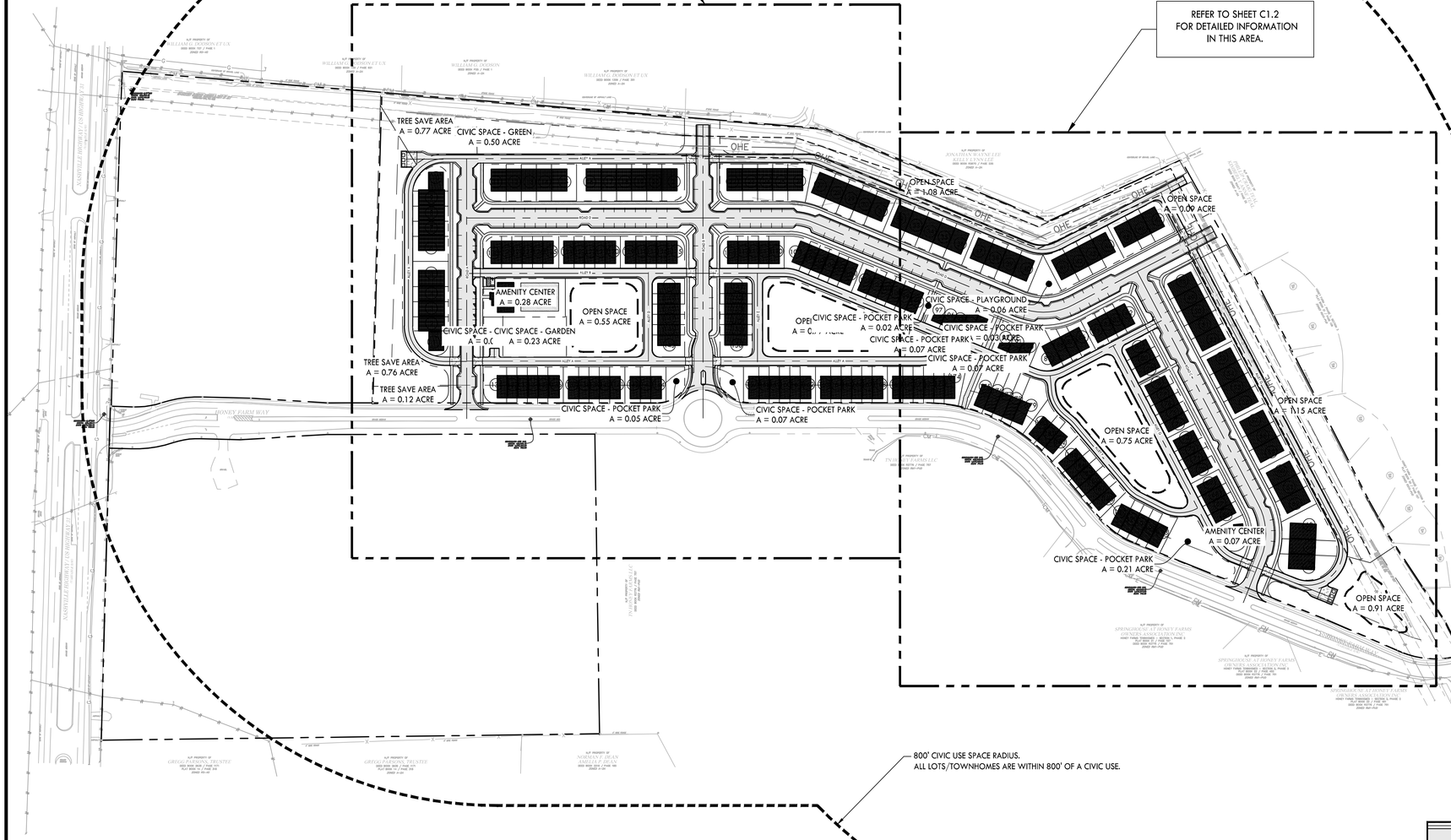
5/22/2023 22135

C0.0
COVER SHEET

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary pud\C0.0-COV.dwg

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.



800' CIVIC USE SPACE RADIUS.
ALL LOTS/TOWNHOMES ARE WITHIN 800' OF A CIVIC USE.

SITE DATA TABLE

PROJECT: HONEY FARM TOWNHOMES
ADDRESS: NASHVILLE HWY 2248
PARCEL ID: 051 05800 000
SITE ACREAGE: 25.87 AC
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BUILDING HEIGHT:	35 FT
LOT WIDTH:	18 FT MIN/180FT MAX
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NOTE:

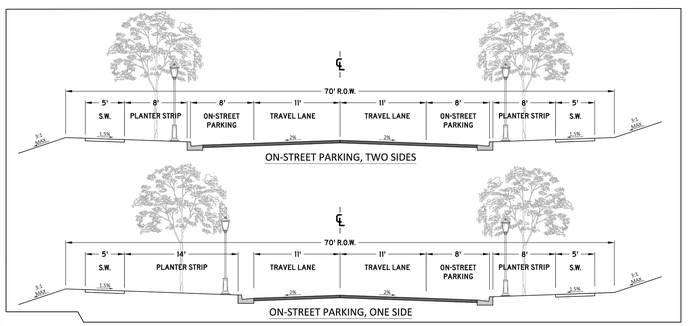
1. SITE LIGHTING TO BE PROVIDED IN ACCORDANCE WITH PRIVATE LIGHTING STANDARDS AT TABLE 4.3.17.B OF THE COLUMBIA ZONING ORDINANCE AT SITE CONSTRUCTION PLAN REVIEW.

NOTE:

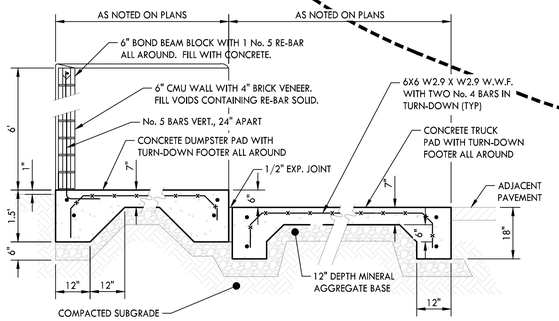
1. FUTURE REMOVAL OF TREES DEPICTED ON THE PLAN WILL REQUIRE APPROVAL BY PLANNING COMMISSION

FLOOD HAZARD NOTE:

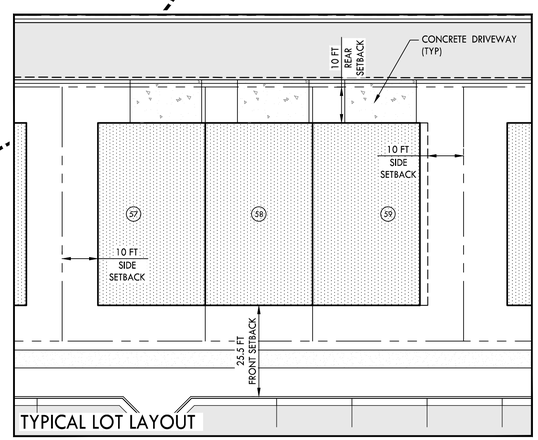
1. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL NO. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/15/2007



ROADWAY CROSS SECTION
NOT TO SCALE



DUMPSTER ENCLOSURE
NOT TO SCALE



TYPICAL LOT LAYOUT

CRUNK ENGINEERING LLC
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SUITE 201
BRENTWOOD, TN 37027
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ENGINEERING CRUNK

TENNESSEE LICENSED LANDSCAPE ARCHITECT
REGISTERED
No. 1341
AGRICULTURE
5/22/23
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

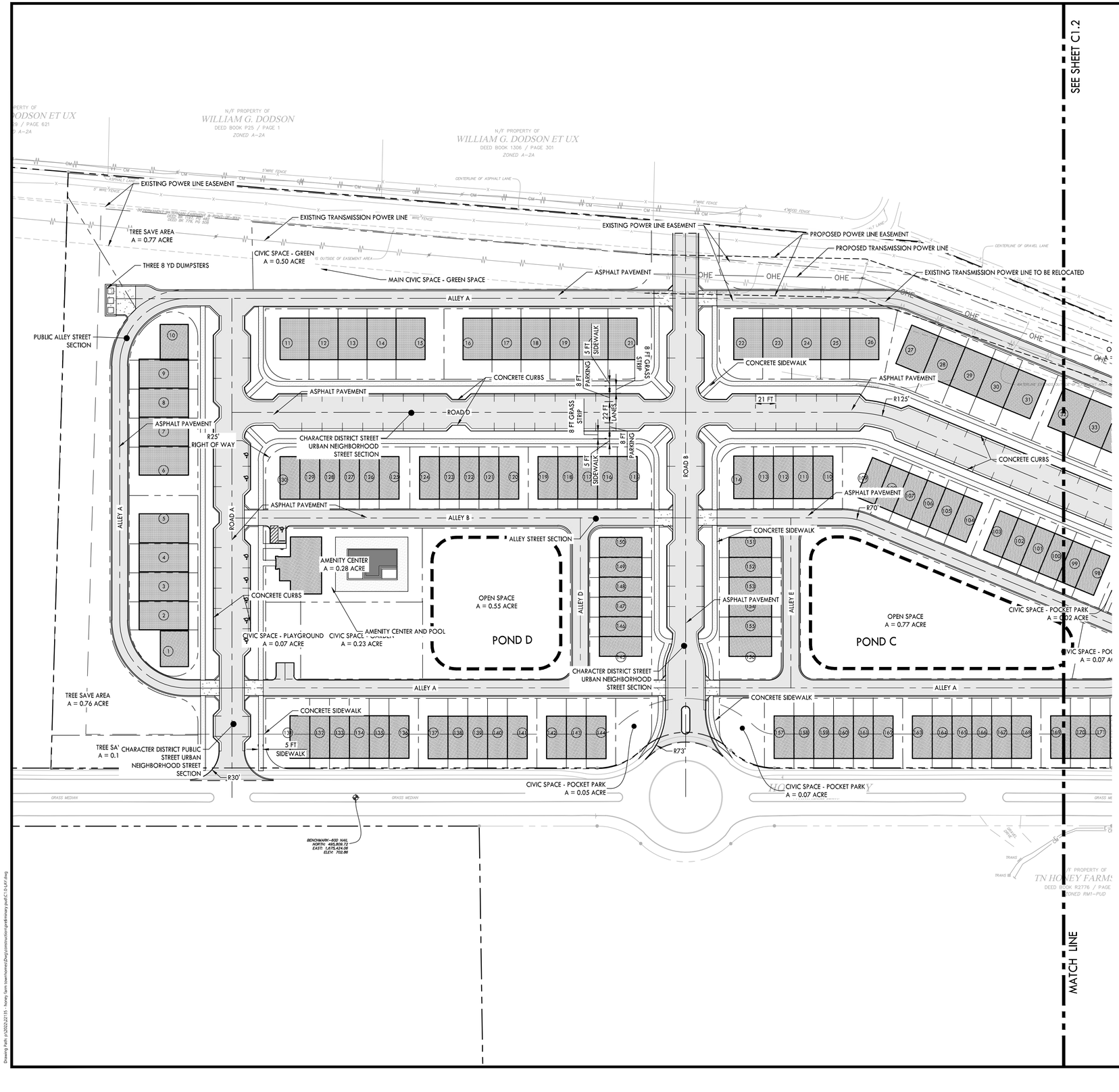
REVISIONS	
No.	DATE

5/22/2023 22135

C1.0

OVERALL SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary.pwf C1.0_LAY.dwg



PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 10 20 30 40 50 100
GRAPHIC SCALE

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7112 CROSSROADS BOULEVARD
SUITE 201
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CRUNK ENGINEERING

NEAL WILSON CLARK
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
5/22/23
AMERICA
No. 1.14.180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

5/22/2023 22135

C1.1

SITE LAYOUT PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary.pwf/C1.0-LAY.dwg

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

SEE SHEET C1.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 235
ZONED A-2A

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK 4039 / PAGE 22
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES - SECTION 1, PHASE 2
PLAT BOOK 21 / PAGE 157
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

N/F PROPERTY OF
SPRINGHOUSE AT HONEY FARMS
OWNERS ASSOCIATION INC
HONEY FARMS TOWNHOMES - SECTION 2, PHASE 2
PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

OPEN SPACE
A = 1.08 ACRE

ALLEY STREET SECTION

ASPHALT PAVEMENT
OPEN SPACE
A = 0.09 ACRE

EXISTING POWER LINE EASEMENT

EXISTING TRANSMISSION
POWER LINE TO BE RELOCATED

CONCRETE SIDEWALK

PROPOSED POWER LINE EASEMENT

ROAD D

CONCRETE CURB AND GUTTER

ASPHALT PAVEMENT

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CONCRETE CURB AND GUTTER

PROPOSED TRANSMISSION POWER LINE

R125'

CIVIC SPACE - POCKET PARK
A = 0.02 ACRE

POND C

CHARACTER DISTRICT STREET
URBAN NEIGHBORHOOD
STREET SECTION

ALLEY B

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

18.4 FT
LANE
CURB

R70'

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

1 FT
CURB

R70'

ROAD C

CHARACTER DISTRICT PUBLIC
STREET URBAN
NEIGHBORHOOD STREET
SECTION

12 FT
LANE

OPEN SPACE
A = 1.15 ACRE

8 FT
PARKING

5 FT
SIDEWALK

8 FT
GRASS STRIP

22 FT
LANES

8 FT
GRASS STRIP

8 FT
PARKING

5 FT
SIDEWALK

PUBLIC ALLEY STREET
SECTION

OPEN SPACE
A = 0.75 ACRE

POND B

ALLEY G

ALLEY F

12 FT
LANE

8 FT

CONCRETE SIDEWALK

ASPHALT PAVEMENT

AMENITY CENTER
A = 0.07 ACRE

R125'

CIVIC SPACE - POCKET PARK
A = 0.21 ACRE

R70'

R30'

R70'

POND A

OPEN SPACE
A = 0.91 ACRE

THREE 8 YD DUMPSTERS

EXISTING TRANSMISSION POWER LINE

EXISTING POWER LINE EASEMENT

HONEY FARM WAY
(VARIABLE R/W)

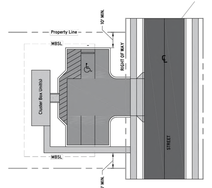
BENCHMARK--600 NAIL
NORTH: 495,245.68
EAST: 1,679,105.50
ELEV: 711.10

BENCHMARK--602 NAIL
NORTH: 494,960.15
EAST: 1,679,277.50
ELEV: 712.52

NOTES:

FOR 75 OR LESS CBU'S AT A SINGLE LOCATION
1. CLUSTER BOX UNITS (CBU'S) SHALL MEET USPS STANDARDS
2. CBU'S MAY BE LOCATED WITHIN THE RIGHT OF WAY
3. CBU'S SHALL NOT ENCROACH UPON THE ROADWAY OR SIDEWALK.
4. CBU'S SHALL NOT BE PLACED ALONG MINOR LOCAL ROADWAYS OR, WHERE POSSIBLE, FOR PLACEMENT ALONG COLLECTOR AND ARTERIAL ROADWAYS, FOLLOW THE STANDARDS BELOW. "FOR MORE THAN 75 CBU'S AT A SINGLE LOCATION"

FOR MORE THAN 75 CBU'S AT A SINGLE LOCATION
1. CBU'S SHALL MEET USPS STANDARDS
2. CBU'S SHALL BE LOCATED OUTSIDE OF THE RIGHT OF WAY WITHIN A COMMON OR OPEN SPACE LOT
3. CBU'S SHALL NOT BE PLACED WITHIN ANY EASEMENTS
4. CBU'S SHALL BE CONSIDERED A STRUCTURE AND SHALL BE CONSIDERED A PRINCIPLE STRUCTURE AND SHALL ADHERE TO BUILDING SETBACKS
5. ADEQUATE SIDEWALKS/WALKWAYS TO MEET ZONING CODE AND ACCESS MANAGEMENT
6. PARKING SHALL BE PROVIDED WITH A MINIMUM OF 2 PARKING STALLS PLUS 1.5 STALL PER 25 MAIL UNITS OR PORTION THEREOF ABOVE THE FIRST 25 MAIL UNITS, WITH A MAXIMUM OF TWICE THE MINIMUM
7. PARKING AND SIDEWALKS SHALL HAVE A 10 FT. MINIMUM BUFFER FROM ANY PROPERTY LINE
8. PARKING SHALL ADHERE TO LAYOUT AND INTERIOR LANDSCAPING REQUIREMENTS PER THE ZONING CODE
9. PARKING SHALL NOT BE CONSIDERED AS SHORT TERM PARKING AND CANNOT BE CONSIDERED REQUIRED PARKING FOR ANOTHER USE
10. CURBED STOPS OR CURBING SHALL BE PROVIDED FOR ALL PARKING STALLS
11. ADEQUATE LIGHTING SHALL BE PROVIDED.
12. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	MAIL CLUSTER BOX UNITS	DATE 6/9/2022
STANDARD DETAILS	(MTS)	MD-03

MAIL CLUSTER BOX UNITS
NOT TO SCALE

0 10 20 30 40 50 100
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

TENNESSEE LICENSED PROFESSIONAL ENGINEER
RUSSELL WILSON CRUNK
REGISTERED
AGRICULTURE
5/22/23
AMERICA
NO. 114180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

No.	DATE

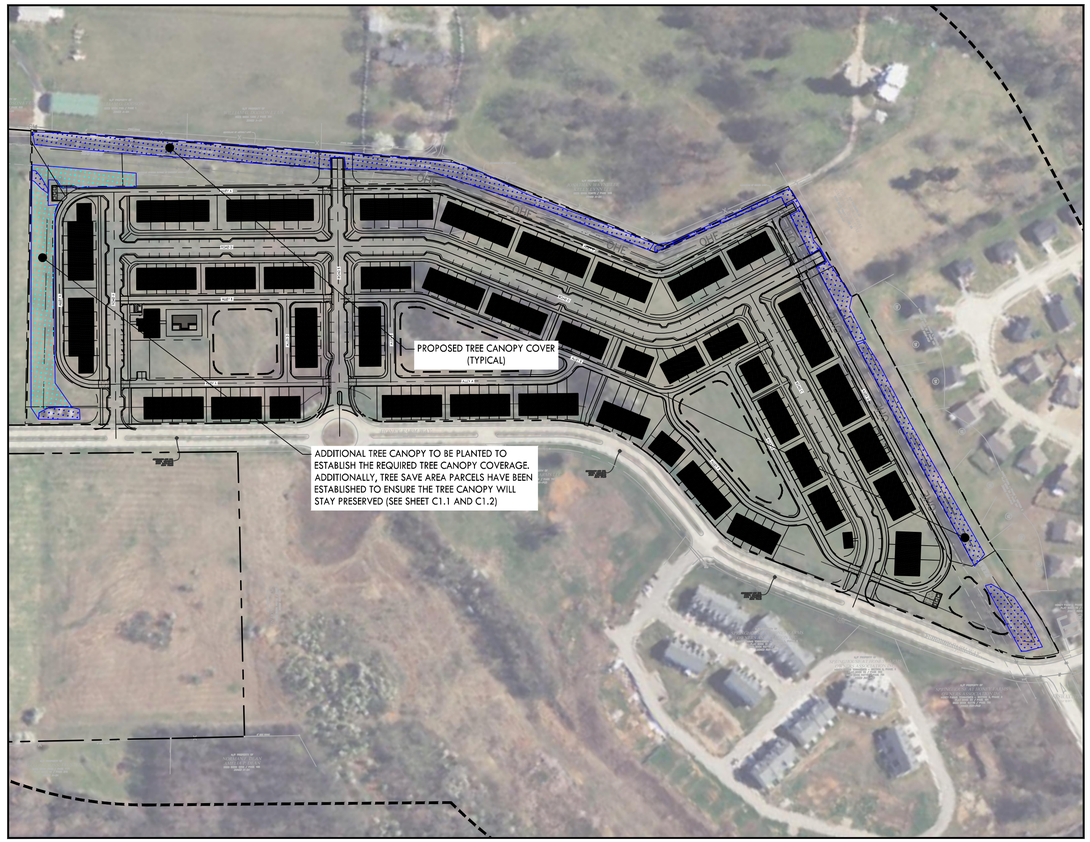
5/22/2023 22135

C1.2

SITE LAYOUT PLAN

Drawing Path: z:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary plat\C1.2 LAY.dwg





EXISTING TREE CANOPY EXHIBIT

PROPOSED TREE CANOPY EXHIBIT

0 50 100 150 300
GRAPHIC SCALE

TREE CANOPY REQUIREMENTS:

TOTAL SITE AREA:	25.87 AC
EXISTING TREE CANOPY:	5.18 AC
PERCENTAGE OF TOTAL SITE AREA:	20.0%
REQUIRED TREE CANOPY PERCENTAGE TO REMAIN:	48.0%
	2.49 AC
EXISTING TREE CANOPY TO REMAIN:	1.63 AC
TREE CANOPY TO BE PLANTED:	0.86 AC
TOTAL PROPOSED TREE CANOPY:	2.50 AC
	48.3%

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NEAL WILSON CLARK
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LANDSCAPE ARCHITECT
AGRICULTURE
5/22/23
NO. 1141180
AMERICA
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

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5/22/2023 22135

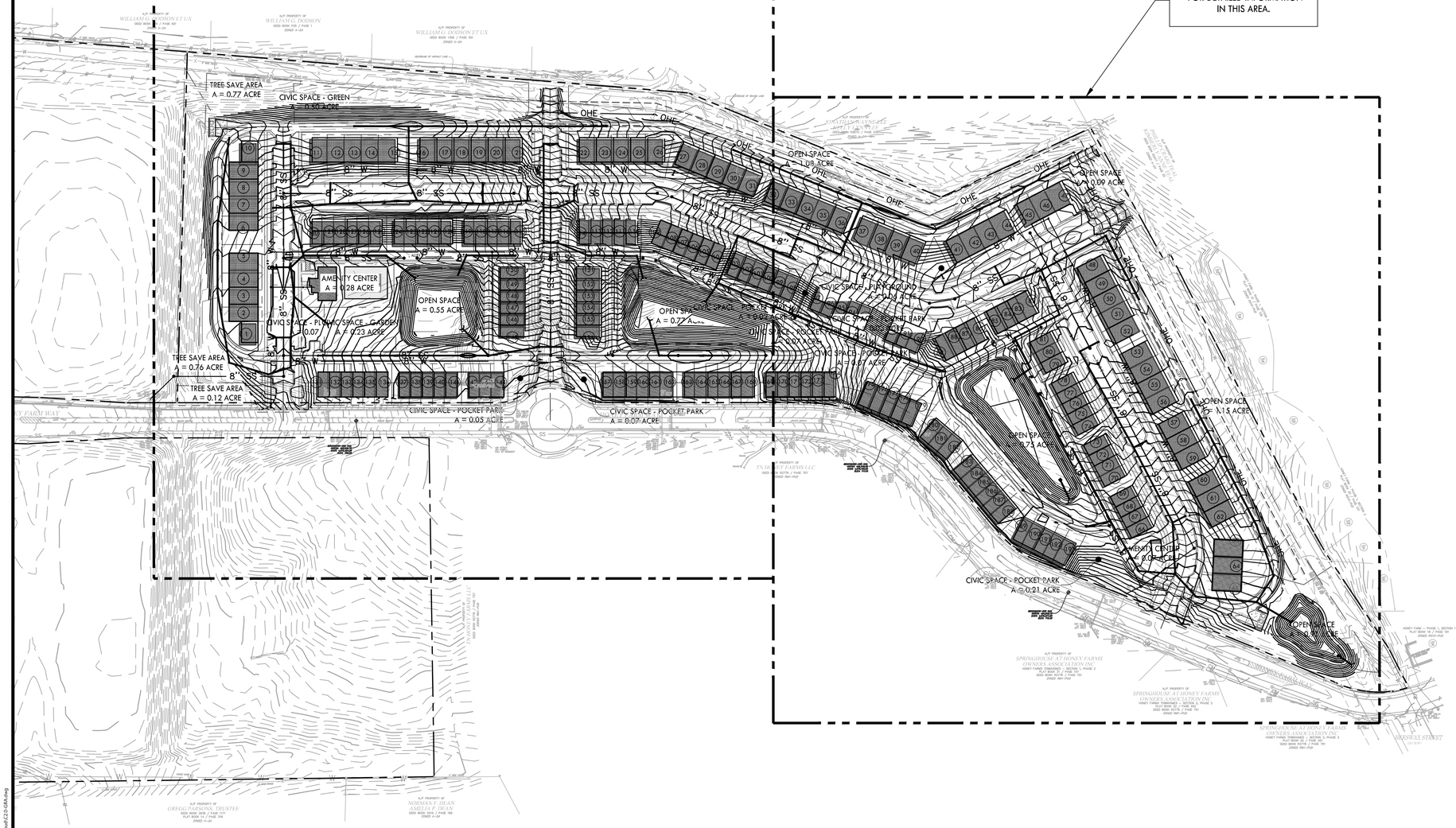
C1.3

TREE CANOPY EXHIBIT

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\pre&mshear plot\C1.3-LAY.dwg

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.



0 50 100 200
GRAPHIC SCALE

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ENGINEERING CRUNK

STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
REGISTERED LANDSCAPE ARCHITECT
CHARLES WILSON CRUNK
No. 1184
5/22/23

HONEY FARM TOWNHOMES

COLUMBIA, TN

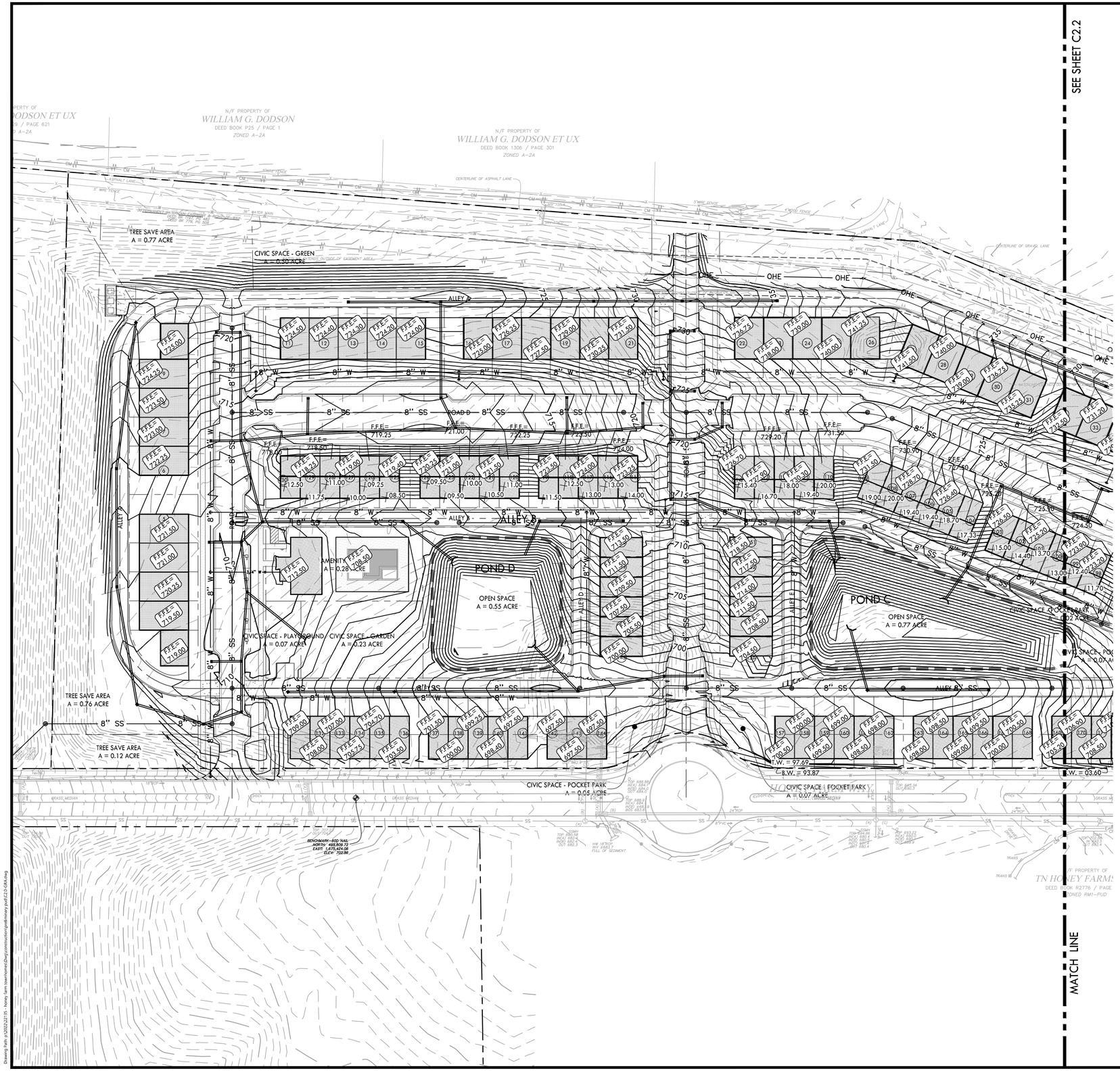
REVISIONS	
No.	DATE

5/22/2023 22135

C2.0

OVERALL GRADING DRAINAGE & UTILITY PLAN

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HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

5/22/2023 22135

C2.1

GRADING
DRAINAGE & UTILITY
PLAN

Drawing Path: o:\2022\22135 - honey farm townhomes\Dwg\construction\grading\honey prod C2.1 GRA.dwg

SEE SHEET C2.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 255
ZONED A - ZR

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK R2670 / PAGE 22
ZONED A-ZR

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
ZONED RM1-PUD

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OPEN SPACE
A = 1.08 ACRE

OPEN SPACE
A = 0.09 ACRE

OPEN SPACE
A = 0.75 ACRE

OPEN SPACE
A = 1.15 ACRE

CIVIC SPACE - PLAYGROUND
A = 0.55 ACRE

CIVIC SPACE - COURTYARD
A = 0.02 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.21 ACRE

AMENITY CENTER
A = 0.07 ACRE

POND A
OPEN SPACE
A = 0.01 ACRE

POND B

ALLEY A

ALLEY B

ALLEY C

ALLEY F

HONEY FARM WAY
(VARIABLE WIDTH)

BENCHMARK--BOD NAIL
NORTH: 685,248.68
EAST: 1,676,165.62
ELEV: 715.10

BENCHMARK--BOD NAIL
NORTH: 684,846.19
EAST: 1,676,277.50
ELEV: 712.32

0 10 20 30 40 50 100
GRAPHIC SCALE

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(615) 873-1795
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HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS		
No.	DATE	

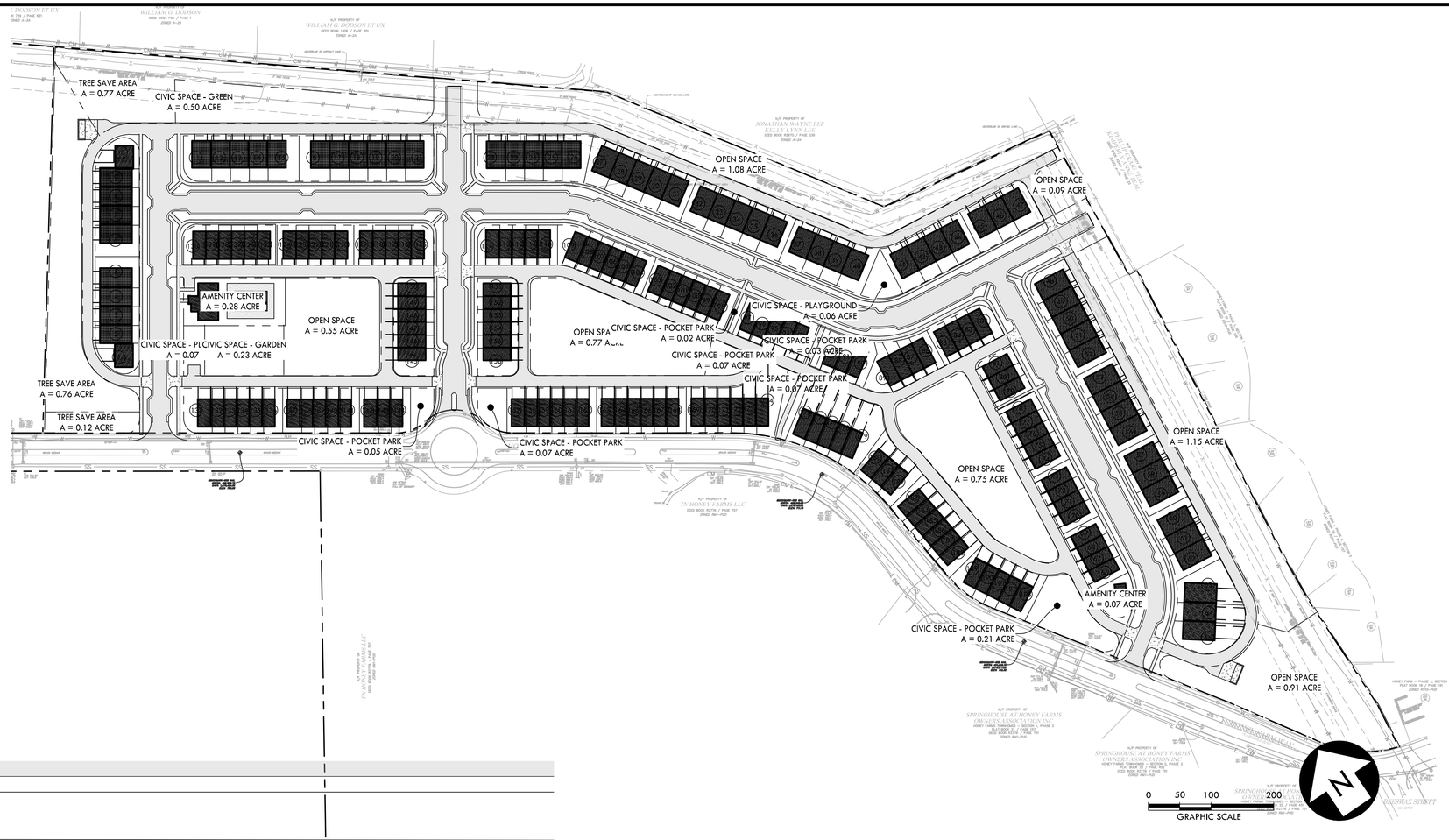
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C2.2

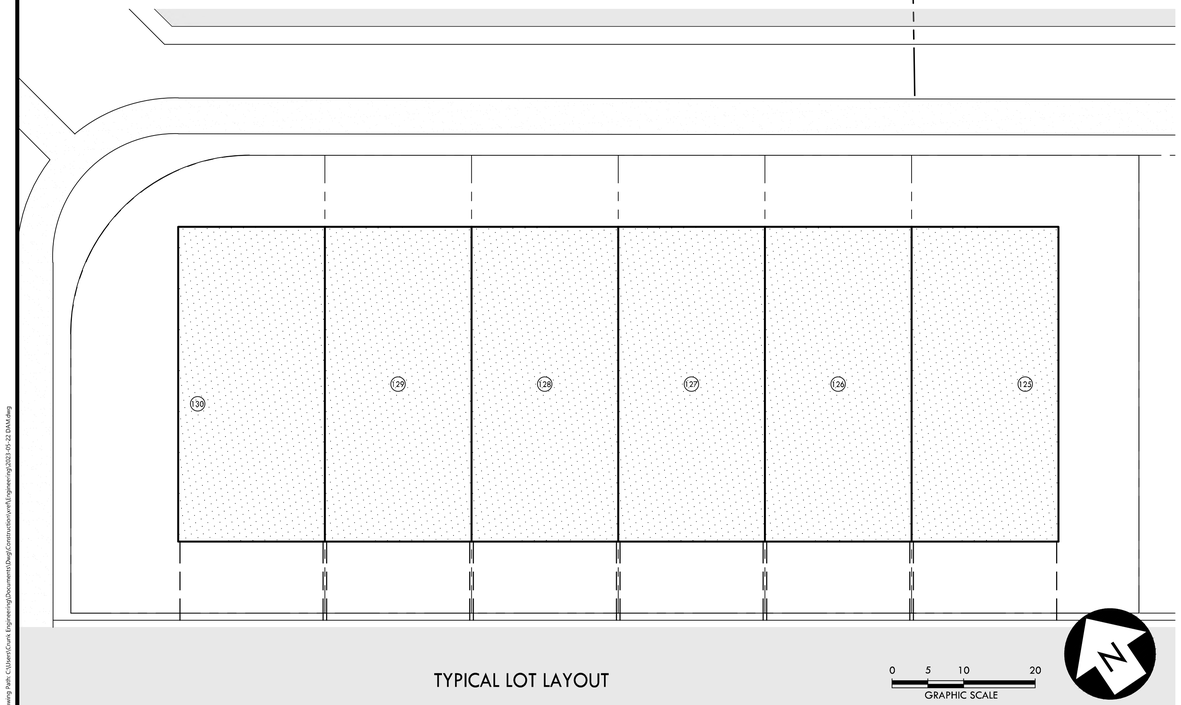
GRADING
DRAINAGE & UTILITY
PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\grading\primary.pwf\C2.0-GRA.dwg

OVERALL SITE AREA	
TOTAL AREA:	1,126,724.44 SF / 25.866 AC
PERVIOUS AREA:	589,826.64 SF / 13.60 AC
IMPERVIOUS AREA:	534516.8 SF / 12.27 AC
SIDEWALK AREA:	32,627.3 SF / 0.75 AC
ROAD AREA:	236,974.5 SF / 5.44 AC
DRIVEWAYS:	57,017 SF / 1.31 AC
TOWNHOMES:	207,898 SF / 4.77 AC
IMPERVIOUS AREA RATIO:	12.27/25.866 = 47.4% IMPERVIOUS



TYPICAL LOT AREA	
TOTAL AREA:	9,418 SF / 0.216 AC
PERVIOUS AREA:	2,806 SF / 0.064 AC
IMPERVIOUS AREA:	6,612 SF / 0.151 AC
DRIVEWAYS:	1,200 SF / 0.03 AC
TOWNHOMES:	5,412 SF / 0.124 AC
IMPERVIOUS AREA RATIO:	6,612/9,418 = 70.2% IMPERVIOUS



TYPICAL LOT LAYOUT

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SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

NEAL WILSON CLARK
REGISTERED
LANDSCAPE
ARCHITECT
AGRICULTURE
5/22/23
AMERICA
NO. 1144180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

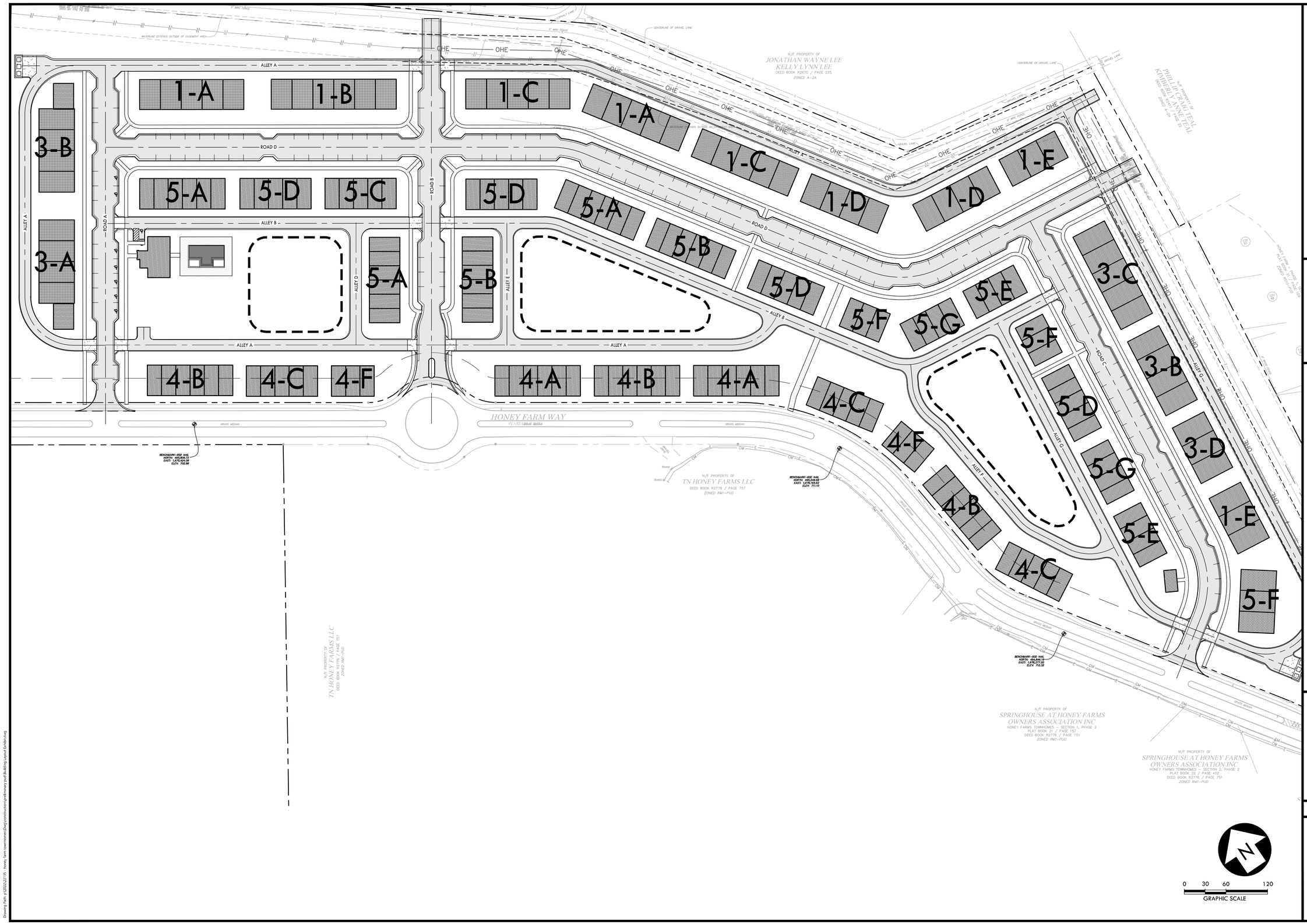
REVISIONS		
No.	DATE	

5/22/2023 22135

C3.0

SITE IMPERVIOUS AREA DISTRIBUTION

Drawing Path: C:\Users\Crunk Engineering\Documents\Deep\Construction\work\Engineering\2023-05-22 DAM.dwg



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ENGINEERING CRUNK

RACHEL WILSON CRUNK
REGISTERED
AGRICULTURE
5/22/23
NUMBER
114180
STATE OF TENNESSEE

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS

No.	DATE

5/22/2023 22135

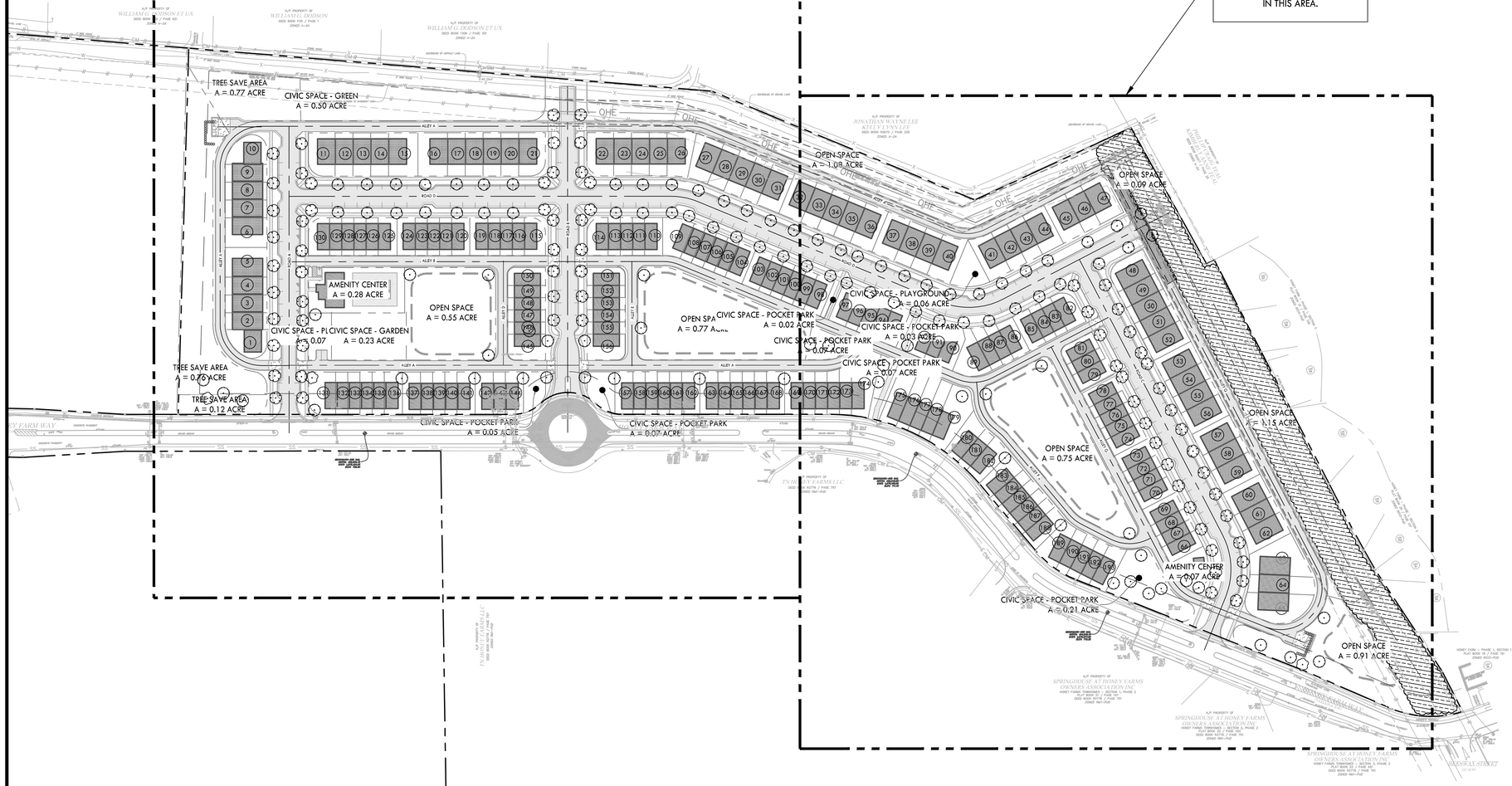
C4.0

BUILDING LAYOUT EXHIBIT

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary plat\Building Layout Exhibit.dwg

REFER TO SHEET L1.1
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET L1.2
FOR DETAILED INFORMATION
IN THIS AREA.



PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	ACE GLO	Acer rubrum 'PNI 0268' / October Glory® Red Maple	2" Cal.	B&B	41
	QUE ALB	Quercus alba / White Oak	2.5" Cal.	B&B	5
	ULM ALL	Ulmus parvifolia 'Allee' / Allee® Lacebark Elm	2" Cal.	B&B	73
	ZEL VIL	Zelkova serrata 'Village Green' / Village Green Japanese Zelkova	2" Cal.	B&B	59
SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**
	BUX SEM	Buxus sempervirens / Common Boxwood	3 gal.	Pot	38

0 50 100 200
GRAPHIC SCALE

Know what's below.
Call before you dig.

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SUITE 201
BRENTWOOD, TN 37027
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ENGINEERING CRUNK

BRADLEY M. LOVE
REGISTERED
AGRICULTURE
No. 2
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

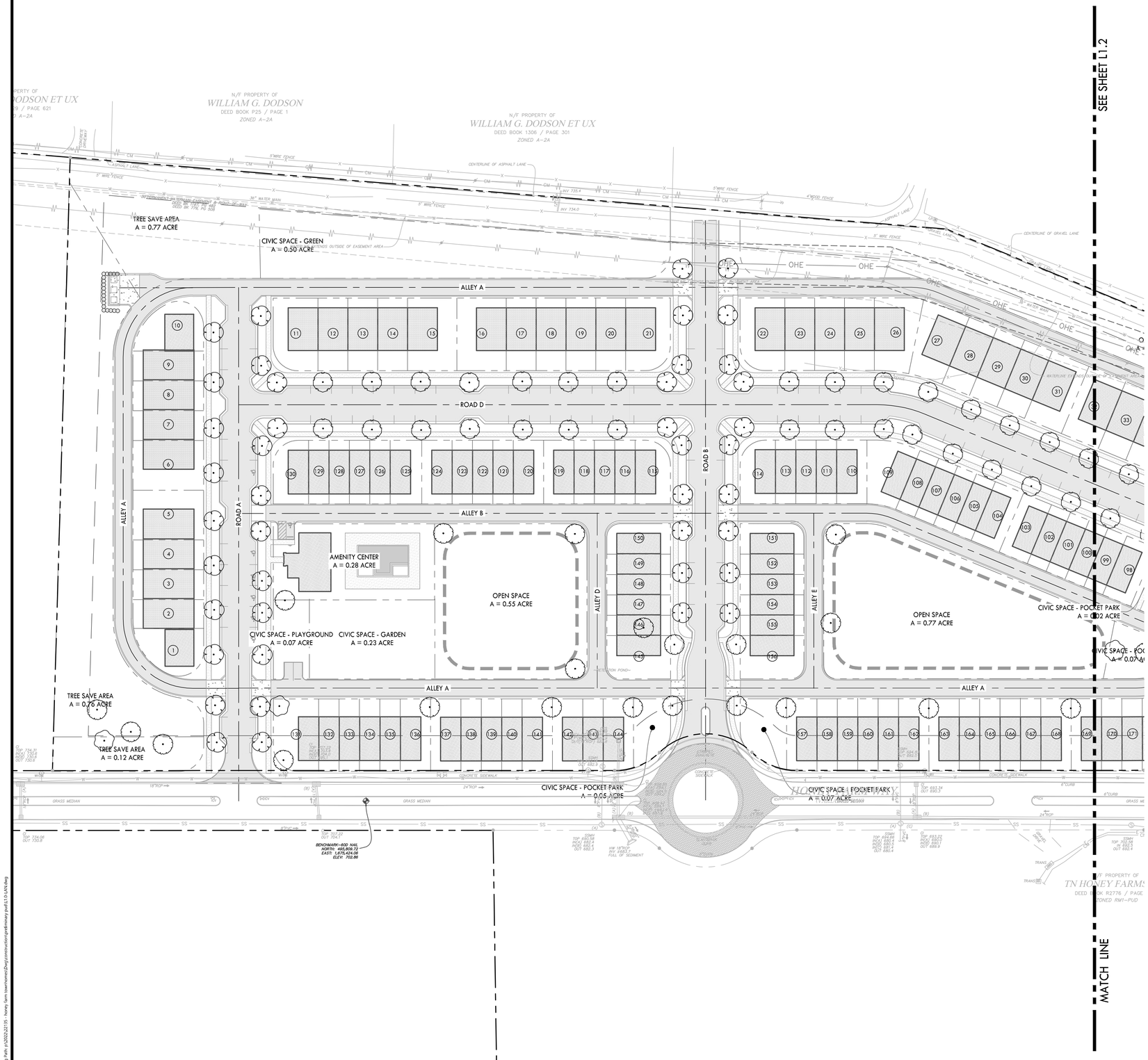
REVISIONS	
No.	DATE

5/22/2023 22135

L1.0

OVERALL
LANDSCAPE PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary plat\L1.0-LAN.dwg



NOTES:
1. REFER TO SHEET L2.0 FOR ADDITIONAL NOTES AND DETAILS
2. REFER TO SHEET L1.0 FOR PLANT LIST

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SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

JOEL M. LANE
REGISTERED
AGRICULTURE
AMERICA
TENNESSEE
LANDSCAPE ARCHITECT
2/17/2023

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

5/22/2023 22135

L1.1

LANDSCAPE PLAN

811 Know what's below. Call before you dig.

0 10 20 30 40 50 100
GRAPHIC SCALE

Drawing Path: p:\2022\22135 - honey farm townhomes\Dwg\construction\preliminary.pwd\L1.0-LAN.dwg

NOTES:
1. REFER TO SHEET L2.0 FOR ADDITIONAL NOTES AND DETAILS
2. REFER TO SHEET L1.0 FOR PLANT LIST

SEE SHEET L1.1

MATCH LINE

N/F PROPERTY OF
JONATHAN WAYNE LEE
KELLY LYNN LEE
DEED BOOK R2670 / PAGE 235
ZONED A-2A

N/F PROPERTY OF
PHILLIP CRAIG TEAL
KIMBERLY ANNE TEAL
DEED BOOK 6029 / PAGE 22
ZONED A-2A

N/F PROPERTY OF
TN HONEY FARMS LLC
DEED BOOK R2776 / PAGE 757
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PLAT BOOK 22 / PAGE 452
DEED BOOK R2776 / PAGE 751
ZONED RM1-PUD

OPEN SPACE
A = 1.08 ACRE

OPEN SPACE
A = 0.05 ACRE

REDUCED LANDSCAPE BUFFER WIDTH

BUFFER DENSITY TO BE INCREASED IN THIS AREA

MIN. 90% OPACITY 3 FT. FROM GROUND UP; EVERGREEN PLANTS > 2.5 IN. CALIPER MEASURED 3 FT FROM GROUND & 8 FT. TALL @ INSTALLATION & 20 FT. TALL @ MATURITY, PLANTED < 10 FT. O.C.

CIVIC SPACE - PLAYGROUND
A = 0.06 ACRE

CIVIC SPACE - POCKET PARK
A = 0.02 ACRE

CIVIC SPACE - POCKET PARK
A = 0.03 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.07 ACRE

OPEN SPACE
A = 0.75 ACRE

OPEN SPACE
A = 1.15 ACRE

AMENITY CENTER
A = 0.07 ACRE

CIVIC SPACE - POCKET PARK
A = 0.21 ACRE

OPEN SPACE
A = 0.91 ACRE

ROAD D
ALLEY A
ALLEY B
ROAD C
ALLEY G
ALLEY F
HONEY FARM WAY

BENCHMARK--60D NAIL
NORTH: 495,248.88
EAST: 1,676,165.62
ELEV: 711.10

BENCHMARK--60D NAIL
NORTH: 494,846.19
EAST: 1,676,277.50
ELEV: 712.32

0 10 20 30 40 50 100
GRAPHIC SCALE

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WWW.CRUNKENG.COM

BRADLEY M. LEWIS
REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

5/22/2023 22135

L1.2

LANDSCAPE PLAN

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\preliminary plat\L1.0-LNA.dwg

LANDSCAPE NOTES:

SITE PREP

1. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND TAKE PRECAUTIONS TO PREVENT DAMAGE TO THESE UTILITIES.
2. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGES TO UTILITIES.
3. PLANT MATERIALS AND STUMPS INDICATED FOR REMOVAL SHALL BE REMOVED AND DISPOSED OFF-SITE BY THE CONTRACTOR. BACKFILL HOLES WITH QUALITY TOPSOIL FREE OF ROOTS AND ROCKS. SEE TOPSOIL SPECIFICATION.
4. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINE GRADING OF ALL PLANTING AREAS.
5. ALL CONTRACTORS APPLYING CHEMICALS ON SITE SHALL SUBMIT COPIES OF CERTIFICATION(S) AND LICENSES TO THE LANDSCAPE ARCHITECT.
6. PLANTING BEDS SHALL BE CLEARED OF GRASS AND WEEDS PRIOR TO INSTALLATION OF PLANTS.
7. SOD ALL AREAS DISTURBED BY CONSTRUCTION AND NOT DESIGNATED AS GROUND COVER AREAS.

TOPSOIL

1. ALL PLANTED AREAS TO HAVE A MINIMUM OF 6" OF QUALITY TOPSOIL.
2. ALL COMPACTED AREAS TO BE AERATED AND AMENDED AS NEEDED.
3. TOPSOIL IS TO BE NATURAL, FERTILE, FRIABLE, PRODUCTIVE SOIL, NEITHER EXCESSIVELY ACID NOR ALKALINE, AND FREE FROM TOXIC SUBSTANCES, STONES WEEDS, CLAY, CLODS, ROOTS, CINDERS, DEBRIS, AND CONSTRUCTION MATERIAL.

PLANTING

1. ALL PLANTING BEDS OR MULCH BEDS SHALL BE FREE OF WEEDS PRIOR TO THE INSTALLATION OF MULCH..
2. THE OPTIMUM TIME OF PLANTING IS FROM OCTOBER 1 TO APRIL 1. SCHEDULING FOR PLANTING AT OTHER TIMES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
3. UPON SECURING PLANT MATERIAL AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES ARE TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
4. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON-BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
5. AFTER PLANTING, TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE, OR OTHER NON-BIODEGRADABLE MATERIAL.
6. WATERING: ALL TREES AND SHRUBS SHALL BE THOROUGHLY WATERED WITHIN ONE HOUR OF INSTALLATION.

PLANT MATERIALS

1. THE LANDSCAPE CONTRACTORS SHALL VERIFY ALL MATERIAL QUANTITIES. IN THE EVENT OF A DISCREPANCY, THE QUANTITIES SHOWN ON THE PLAN WILL TAKE PRECEDENCE.
2. ALL PLANT MATERIALS TO BE NURSERY GROWN AND TO COMPLY WITH THE AMERICAN STANDARDS FOR NURSERY STOCK: ANSI - LATEST EDITION FOR SIZE AND QUALITY.
3. ONLY GRADE "A" TYPE PLANTS WILL BE ACCEPTED. PLANTS THAT ARE INFERIOR OR DAMAGED WILL NOT BE ACCEPTED.
4. THE PLANTS DELIVERED TO THE PROJECT SITE SHALL BE PLANTED AS SOON AS SITE CONDITIONS PERMIT. TAKE CARE IN SCHEDULING PLANT DELIVERIES AND THE SIZE OF DELIVERIES SO THAT LONG PERIODS OF STORAGE ARE AVOIDED. ADEQUATELY PROTECT PLANTS PLACED IN TEMPORARY STORAGE FROM THE SUN AND WIND; WATER PLANTS SO AS TO MAINTAIN THEIR APPEARANCE AND HEALTH. PLANTS THAT HAVE NOT BEEN PROPERLY MAINTAINED DURING TEMPORARY STORAGE MAY BE REJECTED BY THE LANDSCAPE ARCHITECT.
5. ALL TREES SHALL BE FIRST QUALITY REPRESENTATIVES OF THEIR SPECIES AND SHALL MEET ALL REQUIREMENTS OTHERWISE STIPULATED. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT PLANTED MATERIAL IN THE FIELD, AT THE GROWING SITE OR ON THE JOB SITE.

MULCHING

1. ALL PLANTING BEDS OR MULCH BEDS SHALL HAVE WEEDS REMOVED PRIOR TO THE INSTALLATION OF MULCH.
2. ALL PLANTING BEDS SHALL HAVE A MINIMUM OF 3" DEPTH OF AGED SHREDDED HARDWOOD BARK MULCH OR A MINIMUM OF 4" DEEP PINE STRAW MULCH.
3. CONTRACTORS SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
4. MULCH SHALL NOT CONTACT OUTER BARK AT BASE OF TREES. PULL BACK MULCH 3-4" FROM TRUNK.

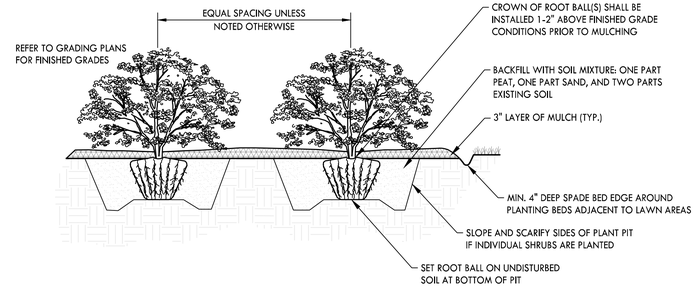
PLANT MAINTENANCE

1. THE LANDSCAPE CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN INSTRUCTIONS ON THE PROPER CARE OF ALL SPECIFIED PLANT MATERIALS PRIOR TO FINAL PAYMENT.
2. CONTRACTOR TO WARRANTY ALL MATERIAL FOR 2 YEARS AFTER DATE OF FINAL ACCEPTANCE.
3. ALL UNHEALTHY OR DEAD PLANT MATERIAL SHALL BE REPLACED WITHIN ONE YEAR, OR BY THE NEXT PLANTING PERIOD, WHICHEVER COMES FIRST. OTHER DEFECTIVE PLANT MATERIAL SHALL BE REPLACED OR REPAIRED WITHIN THREE (3) MONTHS.

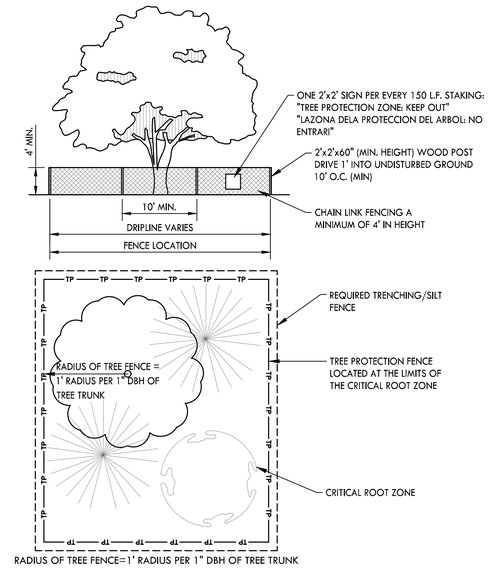
TREE PROTECTION

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION DAMAGE.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT EXISTING TREES THAT ARE TO REMAIN. NO HEAVY EQUIPMENT OR MATERIALS SHALL BE PERMITTED TO OPERATE OR BE STORED WITHIN THE DRIP LINES OF THE TREES, OUTSIDE THE LIMIT OF GRADING.
3. TREE PROTECTION STEPS:
   - A) INSTALL TREE PROTECTION FENCING IN ACCORDANCE WITH METRO CODE 17.24.110 "PROTECTION OF TREES DURING DEVELOPMENT ACTIVITIES".
   - B) PLACE FENCE POST AND FENCING AT TREE DRIP LINE OR 10' FROM TRUNK, WHICHEVER IS GREATER.
   - C) POST SHALL NOT BE SPACED MORE THAN 10' APART.
   - D) POST TEMPORARY SIGNS - TREE ROOT PROTECTION ZONE.
4. FENCING AND SIGNS SHALL REMAIN IN PLACE UNTIL THE SITE HAS BEEN INSPECTED BY URBAN FORESTER FOR USE AND OCCUPANCY PERMIT.

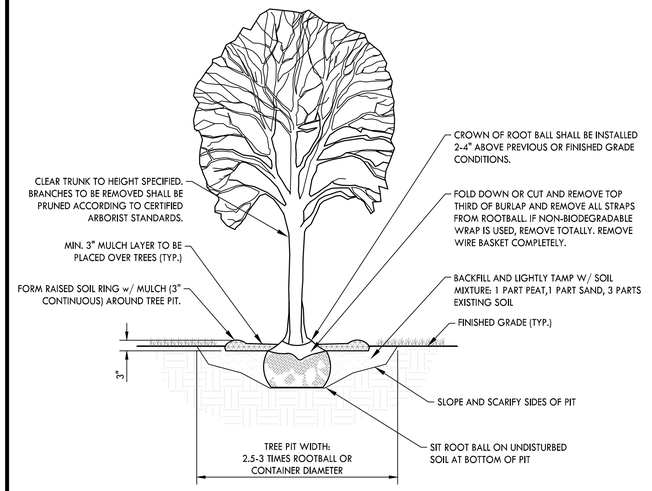
NOTES:
1. WHERE SHRUBS APPEAR IN BED AREA, 3" OF MULCH SHALL BE SPREAD OVER THE ENTIRE AREA WITHIN THE BED AS INDICATED ON THE PLANS.
2. DO NOT PRUNE SHRUBS BEFORE ACCEPTANCE.
3. CAREFULLY REMOVE CONTAINER FROM ROOT BALL USED FOR SHRUB(S). ANY BROKEN OR CRUMBLING ROOT BALL(S) WILL BE REJECTED.
4. IF SHRUB IS B&B, REMOVE BURLAP FROM TOP $\frac{1}{3}$ OF ROOT BALL OR COMPLETELY REMOVE BURLAP IF SOILS ARE POORLY DRAINED.
5. SCARIFY ROOTBALL IF ROOT BOUND IN CONTAINER PER HORTICULTURE STANDARDS.



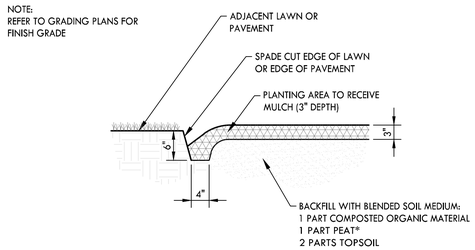
1 SHRUB PLANTING
NOT TO SCALE



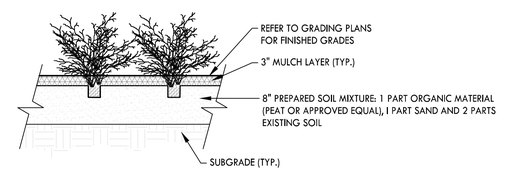
4 TREE PROTECTION
NOT TO SCALE



2 DECIDUOUS TREE PLANTING
NOT TO SCALE



5 SPADE BED EDGE
NOT TO SCALE



3 GROUNDCOVER PLANTING
NOT TO SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

ROBERT M. LEWIS
REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
2/1/1982

HONEY FARM TOWNHOMES

COLUMBIA, TN

REVISIONS	
No.	DATE

5/22/2023 22135

L2.0
LANDSCAPE DETAILS

Drawing Path: p:\2022\22135 - honey farm townhomes\Design\construction\pre&finalsite plan\L2.0 LAN.dwg

May 21, 2023

City of Columbia
Technical Review Committee
700 N Garden Street
Columbia, TN 38401

RE: Item No 23-0145
HONEY FARM TOWNHOMES COLUMBIA TENNESSEE

Below are our responses to comments received on TUESDAY, MAY 9, 2023. We believe we have satisfied all comments, but if you have additional concerns or questions, please do not hesitate to contact us. Our responses are as follows:

COMMENTS:

Engineering

1. Subject to Construction Plan Approval and TIS

Response: Noted.

2. Provide roadway cross section(s) detail

Response: Roadway cross sections have been included in the submittal.

3. Label streets as public or private, or provide note to that effect.

Response: Note indicating the streets being public can be seen on C1.1 and C1.2.

4. Engineering recommends alignment of Alley A and Alley C at intersections with Road A.

Response: Alley A and Alley C have been aligned and are now a continuous Alley A.

5. All roadway geometry to meet requirements as outlined in the ESS

Response: Roadway geometry meets the ESS requirements.

Planning

6. Playground in the entrance and off roundabout, would recommend a more appropriate place

Response: Playground location has been moved to be close to the amenity center, and pool area.

Alley G in the buffer.... PUD exception request?

Response: A PUD exception request is being requested to accommodate Alley G in the buffer.

7. Provide typical playground facilities and amenity center at road C?

Response: Amenity center at road C will be a central mail kiosk, see detail on sheet C1.2. Typical playground facilities are to be determined.

8. Water availability letter expired in January 2023. We should not have accepted this application at submittal. Please provide an updated letter at resubmittal.

Response: Updated water availability letter has been requested on May 12, 2023.

9. The Design Review Team has made a recommendation on facades for proposed townhome buildings. The Design Review Team has asked Planning Commission and Council to clarify the scope of design review for structures in residential PUDs. Staff's current interpretation of the Ordinance is that the Design Review team may evaluate and recommend a pattern book of the overall development. The applicant may subsequently return to Design Review for each phase of development with revisions and more detailed designs which conform to the overall aesthetic pattern of the Master Plan as approved by Planning Commission.

Response: Noted.

10. Please provide pattern book elevations recommended by the Design Review Team. Please include explanatory cover sheet that relates buildings depicted in the previous iteration of this Master plan to the new layout.

Response: Building layout exhibit has been included in this submittal.

11. The amenity center building was included in the initial submittal to the Design Review Team but was not the subject of extensive discussion. Any subsequent change in design will require additional review by the Design Review Team.

Response: Noted.

12. Please confirm whether the 0.07 ac amenity center a mail kiosk. If so, please provide detail of space conforming to ESS detail MD-03.

Response: The 0.07 ac amenity center is a mail kiosk. The mail kiosk detail can been found on sheet C1.2.

13. Amenity space may not count as Civic Space unless identified as one of the eight types in §5.3 of the Zoning Ordinance.

Response: Noted. Additional civic space has been included to meet the 5% civic space requirement.

14. Please identify the "Main Civic Space," which must be Green, Square, or Plaza type (§ 5.3.3; p. 335).

Response: Main civic space, green space, identified on sheet C1.1

15. Please add parking calculations to the Site Data Table indicating the total number of parking spaces provided on-street and off-street. Indicate that on-street spaces are available adjacent to the frontage line on the same side of the Thoroughfare or Internal dive as the Lot or Building Site they serve (see § 4.3.12.B.3). As presented the Master Plan requires a minimum of 394 spaces for dwelling units; 14 for Civic Space; and 1:200 recreational facilities).

Response: Parking calculations have been included in the site data table. The on street and off street parking has been indicated in the table.

16. Please indicate location of parking for amenity center.

Response: Amenity center parking can be seen in the updated site layout.

17. Please add note to Site Data Table referencing the private lighting standards at Table 4.3.17.B (p. 297) of the Zoning Ordinance with note acknowledging that exterior lighting plans may be required as appropriate at site construction plan review/building permit (§ 8.5.6.G.4.p).

Response: Private lighting standards note has been added to the site data table.

18. Please revise setbacks in Site Data Table to reflect zero side setback for attached townhomes.

Response: Setbacks have been revised to reflect zero side setbacks

19. Please provide typical building layout depicting location and setbacks of in-line and end unit, driveway locations, and other relevant information.

Response: typical building layout has been included on sheet C1.0

20. Please provide calculation of impervious coverage for site as a whole as well as typical lot or building site by type (i.e., each group of attached Townhouse units, each amenity structure, etc).

Response: Site impervious area distribution sheet , C3.0, has been added to the submittal.

21. Block permitter may not exceed 2,000 feet (Table 4.3.1-K, p. 157; Table 5.2.2.D, p. 308). Alleys are not Throughfares and may not be used to circumscribe blocks (See definitions in § 9.3).

Response: An exemption is being requested for the block perimeter with alleys instead of throughfares.

22. Alleys as depicted in the network of Alley B, C, F, and G provide general circulation rather than secondary access and therefore do not conform to the definition of Alley at § 9.3 (p.480).

Response: An exemption is being requested for the secondary access roads.

23. Dumpster location on sheet C1.2 must be screened from frontage (Table 4.3.1-k, p. 164). Please show method of screening conforming to Table 4.3.1-k (p.167) & 4.3.11 (references back to PUD-R table). (Refuse and Recycling)

Response: Method of screening has been included in the Landscape sheets

24. Please provide dumpster enclosure detail (fully enclosed on 3 sides and enclosed on the 4th side with self-closing gate) See ESS detail MD-01, Table 4.3.1-k and §4.3.15 of the Zoning Ordinance. (Refuse and Recycling)

Response: Dumpster enclosure detail can be seen on sheet C1.0.

25. Please add note to Site Development Plan acknowledging requirement at 4.3.16.C.1 (p. 290) of the Zoning Ordinance that future removal of trees depicted on the plan will require approval by Planning Commission.

Response: Note indicating that future removal of trees will require approval by the Planning Commission can be seen on sheet C1.0.

26. A portion of the tree save area appears to be within a power line easement with existing overhead transmission lines. Please revise.

Response: All proposed tree save area has been moved to be outside of the existing and proposed power line easement.

27. Confirm that private plantings listed on sheet L1.0 conform to Table 4.3.16.D-1 (p. 290-291) or the TVA publication "Native Plants of the Tennessee Valley." Revise as necessary.

Response: Will comply.

Fire

28. There are a couple units near pond A that cannot be reached within 150' of hose pull.

Response: All buildings are now within 150' from the nearest hydrant. This is through the new configuration of the units near pond A.

Building

29. No comment.

Response: Noted.

Police

30. No comments provided.

Response: Noted

ATT

31. Plan to serve.

Response: Noted.

Maury County Highway Dept.

32. No comment.

Response: Noted.

Columbia Power

33. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

Response: Noted.

34. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters of transformers appropriate for your development.

Response: Noted.

Columbia Water

35. "A water availability letter was issued on 9-15-22, it is now expired. For the project to move forward the availability letter must be current. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements stated in the water availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Response: A new water availability letter was requested on 5/16/2023.

Public Works

36. No Comment – Honey Farm Townhomes will utilize private trashcan service.

Response: Two groups of three 8 yd dumpsters have been added to the site in the Northwestern and Southeastern corners of the site based on the recommendation of 6 8 yd dumpsters made by public works on Tuesday January 10, 2023.

Maury County E911

37. Contact Maury County 911 for street name request and approvals. Contact information: cgideon@maury911.org

Response: Noted.

Atmos Energy

38. No comment.

Response: Noted.

Maury County Schools

39. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Response: Noted.

Duck River Electric Membership Corp

40. No comment provided.

Response: Noted.

We believe that all comments have been addressed. If you have any questions or need additional information, please do not hesitate to contact me at adam@crunkeng.com or 615-873-1795.

Sincerely,

Adam Crunk, PE
Crunk Engineering LLC

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, May 9, 2023

ITEM NO.
23-0145

DESCRIPTION: Request from Adam Crunk for Preliminary PUD master plan approval of Honey Farm Townhomes being a portion of Tax Map 51 Parcel 58 off Honey Farm Way and consisting of 197 lots.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Subject to Construction Plan Approval and TIS
2. Provide roadway cross section(s) detail
3. Label streets as public or private, or provide note to that effect.
4. Engineering recommends alignment of Alley A and Alley C at intersections with Road A.
5. All roadway geometry to meet requirements as outlined in the ESS

Planning

6. Playground in the entrance and off roundabout, would recommend a more appropriate place
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8. Provide typical playground facilities and amenity center at road C?
9. Water availability letter expired in January 2023. We should not have accepted this application at submittal. Please provide an updated letter at resubmittal.
10. The Design Review Team has made a recommendation on facades for proposed townhome buildings. The Design Review Team has asked Planning Commission and Council to clarify the scope of design review for structures in residential PUDs. Staff's current interpretation of the Ordinance is that the Design Review team may evaluate and recommend a pattern book of the overall development. The applicant may subsequently return to Design Review for each phase of development with revisions and more detailed designs which conform to the overall aesthetic pattern of the Master Plan as approved by Planning Commission.
11. Please provide pattern book elevations recommended by the Design Review Team. Please include explanatory cover sheet that relates buildings depicted in the previous iteration of this Master plan to the new layout.
12. The amenity center building was included in the initial submittal to the Design Review Team but was not the subject of extensive discussion. Any subsequent change in design will require additional review by the Design Review Team.

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15. Please identify the "Main Civic Space," which must be Green, Square, or Plaza type (§ 5.3.3; p. 335).
16. Please add parking calculations to the Site Data Table indicating the total number of parking spaces provided on-street and off-street. Indicate that on-street spaces are available adjacent to the frontage line on the same side of the Thoroughfare or Internal dive as the Lot or Building Site they serve (see § 4.3.12.B.3). As presented the Master Plan requires a minimum of 394 spaces for dwelling units; 14 for Civic Space; and 1:200 recreational facilities).
17. Please indicate location of parking for amenity center.
18. Please add note to Site Data Table referencing the private lighting standards at Table 4.3.17.B (p. 297) of the Zoning Ordinance with note acknowledging that exterior lighting plans may be required as appropriate at site construction plan review/building permit (§ 8.5.6.G.4.p).
19. Please revise setbacks in Site Data Table to reflect zero side setback for attached townhomes.
20. Please provide typical building layout depicting location and setbacks of in-line and end unit, driveway locations, and other relevant information.
21. Please provide calculation of impervious coverage for site as a whole as well as typical lot or building site by type (i.e., each group of attached Townhouse units, each amenity structure, etc).
22. Block permitter may not exceed 2,000 feet (Table 4.3.1-K, p. 157; Table 5.2.2.D, p. 308). Alleys are not Throughfares and may not be used to circumscribe blocks (See definitions in § 9.3).
23. Alleys as depicted in the network of Alley B, C, F, and G provide general circulation rather than secondary access and therefore do not conform to the definition of Alley at § 9.3 (p.480).
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26. Please add note to Site Development Plan acknowledging requirement at 4.3.16.C.1 (p. 290) of the Zoning Ordinance that future removal of trees depicted on the plan will require approval by Planning Commission.
27. A portion of the tree save area appears to be within a power line easement with existing overhead transmission lines. Please revise.
28. Confirm that private plantings listed on sheet L1.0 conform to Table 4.3.16.D-1 (p. 290-291) or the TVA publication "Native Plants of the Tennessee Valley." Revise as necessary.

Fire

29. There are a couple units near pond A that cannot be reached within 150' of hose pull

Building

30. No comments.

Police

31. No comments provided.

ATT

32. Plan to serve.

Maury County Highway Dept.

33. No comment.

Columbia Power

34. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
35. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Columbia Water

36. "A water availability letter was issued on 9-15-22, it is now expired. For the project to move forward the availability letter must be current. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements stated in the water availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Public Works

37. No Comment - Honey Farm Townhomes will utilize private trashcan service.

Maury County E911

38. Contact Maury County 911 for street name requests. Cgideon@maury911.0rg

Atmos Energy

39. No comment provided.

Maury County Schools

40. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached capacity Numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Duck River Electric Membership Corp

41. No comments provided.

ATTACHMENTS: Preliminary PUD Master Plan

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

CPWS

September 15, 2022

Ms. Bridgette Ganter
Bowman
950 North Point Pkwy Suite 200
Alpharetta, GA 30005
Sent via email: bganter@bowman.com

RE: Water Availability Letter
Honey Comb Farm Townhomes – 250 Units
Nashville Hwy @ Honey Farm Way
Tax Map 51, Parcel 58
Columbia, Maury, TN

Dear Ms. Ganter:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 250 townhome units. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,500 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connections will be made to the existing 12-inch water main located on Honey Farm Way.
- Minimum size 8-inch water mains will be required throughout the development.

CPWS

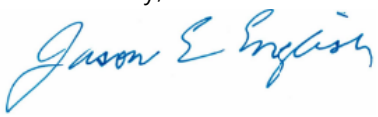
All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached fire hydrant curve for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide construction drawings for all public water infrastructure for the proposed development in both CAD and PDF format for CPWS review.
- When applicant has resolved all comments provided by CPWS for the construction drawings, CPWS will provide an approval letter and flow calculations to support TDEC approval of the construction drawings.
- Applicant then submits drawings to TDEC for approval. Upon approval by TDEC, applicant may schedule a pre-construction meeting with CPWS. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact Mr. Jonathan Hardin or myself at 615-934-7499 or jason.english@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Jason English, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-085

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

16 September 2022

Drew Smith
Equitas Management Group
5525 N MacArthur Blvd, Suite 400
Irving, TX 75038

RE: Honey Farms Parcel ID 051 058.00

Drew,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Major or minor improvements to existing infrastructure may or may not be necessary to satisfactorily convey the additional sanitary sewer flow from the above-referenced proposed development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

Equitas

September 15, 2022

Mr. Paul Keltner
Director of Development Services
City of Columbia
700 N Garden Street
Columbia, TN 38401

RE: Honey Farm PUD
2248 Nashville Highway

Dear Mr. Keltner:

As requested by the Development Services staff of the City of Columbia, the letter confirms our commitment to the City of Columbia to pay for the design and installation of a traffic signal and all required turn lanes and road modifications associated with the traffic signal at the intersection of Nashville Highway and Honey Farm Way.

The installation of the traffic signal will be completed prior to the completion of Phase II of the Honey Farm townhome development.

Sincerely,

Drew Smith
Senior Vice President

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: HONEY FARM TOWNHOMES

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ■ Name of development
- ■ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ■ Plan sealed by a Design Professional licensed in the State of Tennessee.
- ■ North Arrow, legend, and site vicinity map
- ■ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ■ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ■ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ■ All property boundaries, existing easements, and encumbrances
- ■ Parcel identification, owner, and deed and plat references of adjoining properties
- ❑ Proposed phasing and timetable for all phases of development
- ❑ Traffic Impact Study, as required.
- ■ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ■ The size of total property to be developed in square feet and acres
- ❑ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ❑ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ❑ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ❑ Location and approximate dimensions of all existing and proposed structures.
- ❑ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ❑ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ❑ Location, type, and size of proposed signs
- ❑ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ■ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ■ General proposed contours at vertical intervals of not more than two (2) feet
- ❑ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ❑ Location and dimension of aquatic buffer zones
- ■ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ❑ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ■ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ■ Proposed connections to existing and proposed streets (including classification) located outside the development
- ❑ Proposed improvements as identified in the Traffic Impact Study, as required
- ■ Existing and proposed sidewalks, trails, and other pedestrian elements
- ■ Existing and proposed on-street and off-street parking and loading areas
- ❑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ❑ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ■ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ❑ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ■ Any amenity features and structures for private or public benefit.
- ❑ Location, dimension, and materials of fences and walls
- ■ Tree Canopy retention

Utilities

- ■ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ■ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

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PUD Specific Items

- ☒ Legal Description of Property
- ☐ Owner's Affidavit
- ☐ List of all variances requested
- ☐ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ☐ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ☐ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ☐ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Print Name	Signature	Date

DocuSign Envelope ID: 564AA523-24D2-4BFD-A0C1-7288E301C315

STATEMENT TO ACCOMPANY PUD APPLICATION

The undersigned, Charles Raines and the Estate of J.D. Eatherly ("**Owners**"), are the fee simple owners of certain property located at 2248 Nashville Highway, Columbia, Maury County, Tennessee, known as tax parcel no. 051 058.00 (the "**Property**"). By their signatures below, Owners concur with the application to amend the Planned Unit Development affecting the Property.

Owners have entered into a purchase agreement with Equitas Management Group, LLC ("**Purchaser**") regarding Property, and by its signature below, Purchaser also concurs with the application to amend the Planned Unit Development affecting the Property.

OWNERS:

DocuSigned by:
EE7D350B4FB1405...
Charles Raines

DocuSigned by:
199BBE6595DC433...
Sandra Cantrell, Executor of the Estate of J.D. Eatherly

PURCHASER:

Equitas Management Group, LLC

By: DocuSigned by:
Drew Smith
B2FFACD5161E458...
Drew Smith
Senior Vice President

Property Line Description

Honey Farm Residential Tract

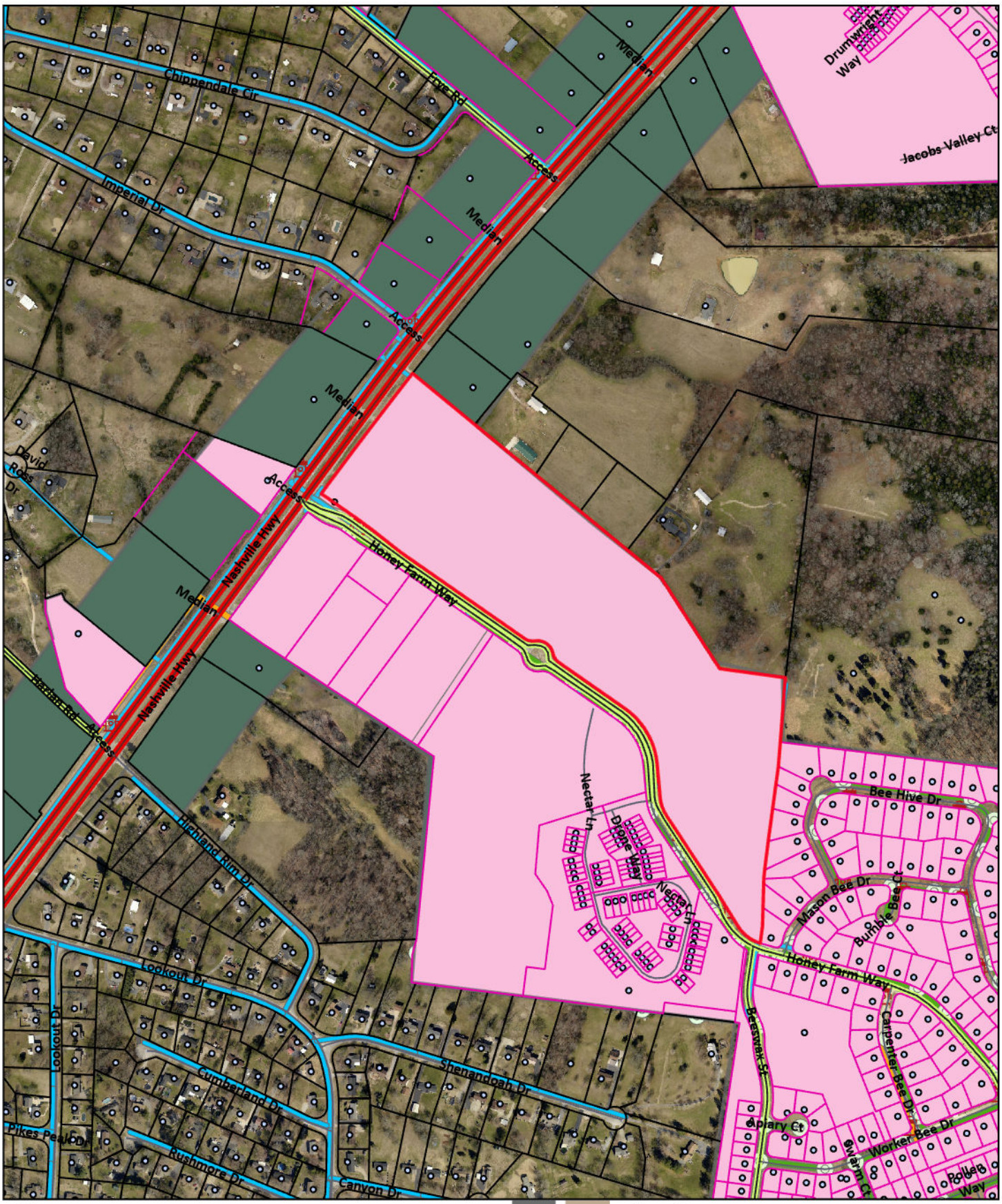
Maury County, Tennessee

All that tract or parcel of land lying and being in the Third Civil District of Maury County, Tennessee, and being more particularly described as follows:

COMMENCING at a 1/2-inch rebar found at the intersection of the southeasterly right-of-way line of Nashville Highway (variable right-of-way) with the northeasterly right-of-way line of Honey Farm Way (variable right-of-way); Thence along said northeasterly right-of-way line of Honey Farm Way South 53 degrees 26 minutes 48 seconds East for a distance of 44.38 feet to a 1/2-inch rebar found; Thence along the arc of a curve to the left an arc length of 55.71 feet, said curve having a radius of 160.00 feet and being subtended by a chord of 55.43 feet bearing South 63 degrees 22 minutes 30 seconds East to a 1/2-inch rebar found; Thence along the arc of a curve to the right an arc length of 83.46 feet, said curve having a radius of 240.00 feet and being subtended by a chord of 83.04 feet bearing South 63 degrees 11 minutes 32 seconds East to a 1/2-inch rebar found; Thence South 53 degrees 39 minutes 04 seconds East for a distance of 95.90 feet to a 5/8-inch rebar set; Thence South 51 degrees 43 minutes 09 seconds East for a distance of 152.63 feet to a nail set; Thence South 55 degrees 07 minutes 01 seconds East for a distance of 89.78 feet to a 5/8-inch rebar set, said point being the **TRUE POINT OF BEGINNING**; Thence departing said right-of-way line North 36 degrees 32 minutes 46 seconds East for a distance of 616.84 feet to a nail set in the center of a paved lane; Thence with the centerline of said lane South 50 degrees 26 minutes 06 seconds East for a distance of 883.23 feet to a 1/2-inch rebar found to the center of a gravel lane; Thence with the centerline of said lane South 32 degrees 39 minutes 21 seconds East for a distance of 479.97 feet to a 1/2-inch rebar found; Thence South 79 degrees 57 minutes 38 seconds East for a distance of 289.61 feet to a 1/2-inch rebar found; Thence departing said lane South 05 degrees 52 minutes 43 seconds West for a distance of 262.24 feet to a 1/2-inch rebar found; Thence South 82 degrees 33 minutes 59 seconds East for a distance of 14.84 feet to a 5/8-inch rebar set; Thence South 07 degrees 54 minutes 24 seconds West, a distance of 96.17 feet to a 1/2-inch rebar found; Thence South 07 degrees 48 minutes 35 seconds West, a distance of 77.44 feet to a 1/2-inch rebar found; Thence South 07 degrees 42 minutes 38 seconds West for a distance of 107.03 feet to a 1/2-inch rebar found; Thence South 07 degrees 37 minutes 27 seconds West for a distance of 143.40 feet to a 1/2-inch rebar found; Thence South 07 degrees 42 minutes 47 seconds West for a distance of 84.92 feet to a 1/2-inch rebar found; Thence South 05 degrees 44 minutes 16 seconds West for a distance of 41.21 feet to a 1/2-inch rebar found; Thence South 05 degrees 30 minutes 25 seconds West for a distance of 38.38 feet to a 1/2-inch rebar found; Thence South 01 degrees 38 minutes 24 seconds West for a distance of 19.09 feet to a 1/2-inch rebar found; Thence South 01 degrees 27 minutes 54 seconds West for a distance of 105.85 feet to a 5/8-inch rebar set; Thence South 01 degrees 44 minutes 21 seconds West, a distance of 79.62 feet to a 5/8-inch rebar set; Thence South 07 degrees 52 minutes 42 seconds West, a distance of 75.86 feet to a 1/2-inch rebar found on the northeasterly right-of-way line of Honey Farm Way; Thence continuing with said right-of-

way line along the arc of a curve to the right an arc length of 31.03 feet, with a radius of 175.00 feet, being subtended by a chord bearing of North 67 degrees 31 minutes 58 seconds West, for a distance of 30.99 feet to a 1/2-inch rebar found; Thence along the arc of a curve to the right an arc length of 89.74 feet, with a radius of 175.00 feet, being subtended by a chord bearing of North 47 degrees 59 minutes 16 seconds West, for a distance of 88.76 feet to a 1/2-inch rebar found; Thence North 31 degrees 37 minutes 15 seconds West, a distance of 166.27 feet to a 5/8-inch rebar set; Thence North 33 degrees 22 minutes 49 seconds West, a distance of 409.64 feet to a 1/2-inch rebar found; Thence along a curve to the right having an arc length of 83.44 feet, with a radius of 170.00 feet, being subtended by a chord bearing of North 19 degrees 16 minutes 18 seconds West, for a distance of 82.60 feet to a 1/2-inch rebar found; Thence North 05 degrees 12 minutes 29 seconds West, a distance of 147.31 feet to a 5/8-inch rebar set; Thence along a curve to the left having an arc length of 287.52 feet, with a radius of 330.00 feet, being subtended by a chord bearing of North 30 degrees 10 minutes 23 seconds West, for a distance of 278.51 feet to a 1/2-inch rebar found; Thence North 55 degrees 08 minutes 10 seconds West for a distance of 348.87 feet to a 1/2-inch rebar found; Thence along the arc of a curve to the right an arc length of 49.90 feet, said curve having a radius of 65.00 feet and being subtended by a chord of 48.69 feet bearing North 33 degrees 10 minutes 56 seconds West to a 1/2-inch rebar found; Thence along the arc of a curve to the left an arc length of 102.73 feet, said curve having a radius of 67.00 feet and being subtended by a chord of 92.96 feet bearing North 55 degrees 10 minutes 25 seconds West to a 1/2-inch rebar found; Thence along the arc of a curve to the right an arc length of 49.83 feet, said curve having a radius of 65.00 feet and being subtended by a chord of 48.62 feet bearing North 77 degrees 07 minutes 31 seconds West to a 1/2-inch rebar found; Thence North 55 degrees 07 minutes 01 seconds West for a distance of 564.95 feet to a 5/8-inch rebar set, said point being the **TRUE POINT OF BEGINNING**.

Said tract of land contains 25.867 Acres



Case #23-0145
Honey Farm PUD Townhomes
2248 Nashville Highway

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
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PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	2248 Nashville Highway, Columbia, TN 38401		
	TAX MAP: 051	GROUP:	PARCEL: 051 05800 000
SUMMARY OF NATURE OF REQUEST AND WORK	PUD Plan for development of 3 story townhomes with accompanying infrastructure improvements such as road work, amenities, and utility work.		

DATE OF PRE-APPLICATION CONFERENCE	12-07-2022	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ❑ Final Plat ■ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ■ Requested Zone Listed ■ Compliance with Comprehensive Plan ❑ Annexation Permission Form ■ Plans and/or Plats conforming to City standards with check list completed ■ Columbia Water System Availability Letter **Plats/PUDs:** ■ Project Name (include Sections & Phases) Honey Farm Residential Townhomes ■ Total Number of Lots 1 Lot ■ Total acreage Gross Acreage - 25.87 acres

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Adam Crunk	PHONE	615-873-1795
ADDRESS	7112 Crossroads BLVD Suite 201 Brentwood, TN 37027	EMAIL	adam@crunkeng.com

PROPERTY OWNER NAME	EMG HONEY FARM, LLC, a Tennessee limited liability company	PHONE	469-585-7913
ADDRESS	6148 Lee Highway, Suite 300, Chattanooga, TN 37421	EMAIL	drew.smith@equitasmg.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Adam Crunk		04-13-2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
EMG HONEY FARM, LLC, a Tennessee limited liability company		4.13.2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Heritage Bank (Future Carwash) Exception Request

The applicant requests an appeal to the City Engineer's ruling of an exception to the Access Management Ordinance. The proposal is for a carwash on the southeast corner of the Nashville Highway and Greens Mill Road intersection. Nashville Highway is a principal arterial classification and Greens Mill Road is a collector classification.

The proposal is not compliant with the following regulations of the Access Management Ordinance:

Driveway Spacing
The proposed driveway does not meet the requirements for driveway spacing in the Access Management Ordinance. Driveway spacing on Greens Mill Road is required to be two-hundred-twenty (220). The driveway spacing for the proposal is roughly 90 ft from the existing Drumwright Way.

Corner Clearance
The proposed driveway does not meet the requirements for corner clearance in the Access Management Ordinance, which requires the access along Greens Mill Road to be 220 ft from Drumwright Way . The corner clearance for the proposal is roughly 90 ft from the existing Drumwright Way.

Access of Lesser Classified Street
When a development abuts more than one public street, access shall be provided from the lesser (lowest classification) street. Access to each abutting street may be allowed only if the following criteria are met:
1. It is demonstrated that such access is required to adequately serve driveway volumes and will not be detrimental or unsafe to traffic operations on public streets. The City Engineer may require the submittal of a traffic study which demonstrates that such access is required; and
2. The minimum requirements for the corner clearance are met.

City Engineer's Ruling
The response to the requests for exceptions to the Access Management Ordinance are as follows:
Thank you for providing the required documentation to request this exception to the Access Management Ordinance. When a tract of land has access to multiple streets; the access shall be provided from the street with the lesser functional classification. In this case the proposed site has three street frontages; which are Nashville Highway (arterial), Greens Mill Road (collector), and Drumwright Way (local). Drumwright Way is the lesser classified street of these frontages and would be the prescribed access location for compliance with the Access Management Ordinance. Further an access point along Nashville Highway or Greens Mill Road could not meet *Corner Clearance Requirements* or *Access and Driveway Spacing Requirements* of the Access Management Ordinance. As you are aware, there are several traffic improvements along Greens Mill Road at the intersection of Nashville Highway. These improvements are tied to multiple developments and are designed to create a safer intersection while minimizing traffic congestion.

I am unable to support this request due to noncompliance with multiple sections of the access management ordinance as noted above, increased number conflict points at an intersection with numerous turning movements, and decreased safety for motorist. This site would be allowed to have an access location along Drumwright Way with the centerline of that access being located a minimum 100' from the right-of-way (or projected) line of Greens Mill Road.

Review Criteria

Each item listed below shall be considered and deemed satisfied by the Planning Commission prior to the approval of an Exception:

1. The strict application of this Ordinance would result in practical difficulties to or undue hardship on the owner of the property.
2. The situation is not self-created.
3. The Exception may be granted without substantial detriment to the public good and without sustainably impairing the intent and purpose of this Ordinance.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0198

DESCRIPTION: Access Management Exception

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Engineering recommends against the proposed access. See City Engineer's ruling on exception request. Acknowledged.

Public Works

2. No comments.

Police

3. No comments provided.

Building

4. No comments.

Maury County Schools

5. No Comment.

Maury County E911

6. No comment.

Wastewater

7. Wastewater has no concerns.

Columbia Power

8. Columbia Power System has an existing power line near your proposed commercial development.
   Upon annexation, we are willing to serve this commercial development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
   • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
   Acknowledged.

Maury County Highway Dept.

9. No comment.

Columbia Water

10. "No comments. Water availability request must be submitted if the exception is approved and/or the project moves forward."
    Acknowledged.

Atmos Energy

11. No comments provided.

Duck River Electric Membership Corp

12. No comments.

Planning

13. Please confirm that temporary sign is not in the RoW. Remove all nonconforming signs from the property.

Acknowledged. I have brought this up to their attention.

Fire

14. No comments.

ATT

15. No comments provided.

ATTACHMENTS: Access Exception

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

DEVELOPMENT REVEW COMMITTEE MEETING
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ATTACHMENTS: Access Exception

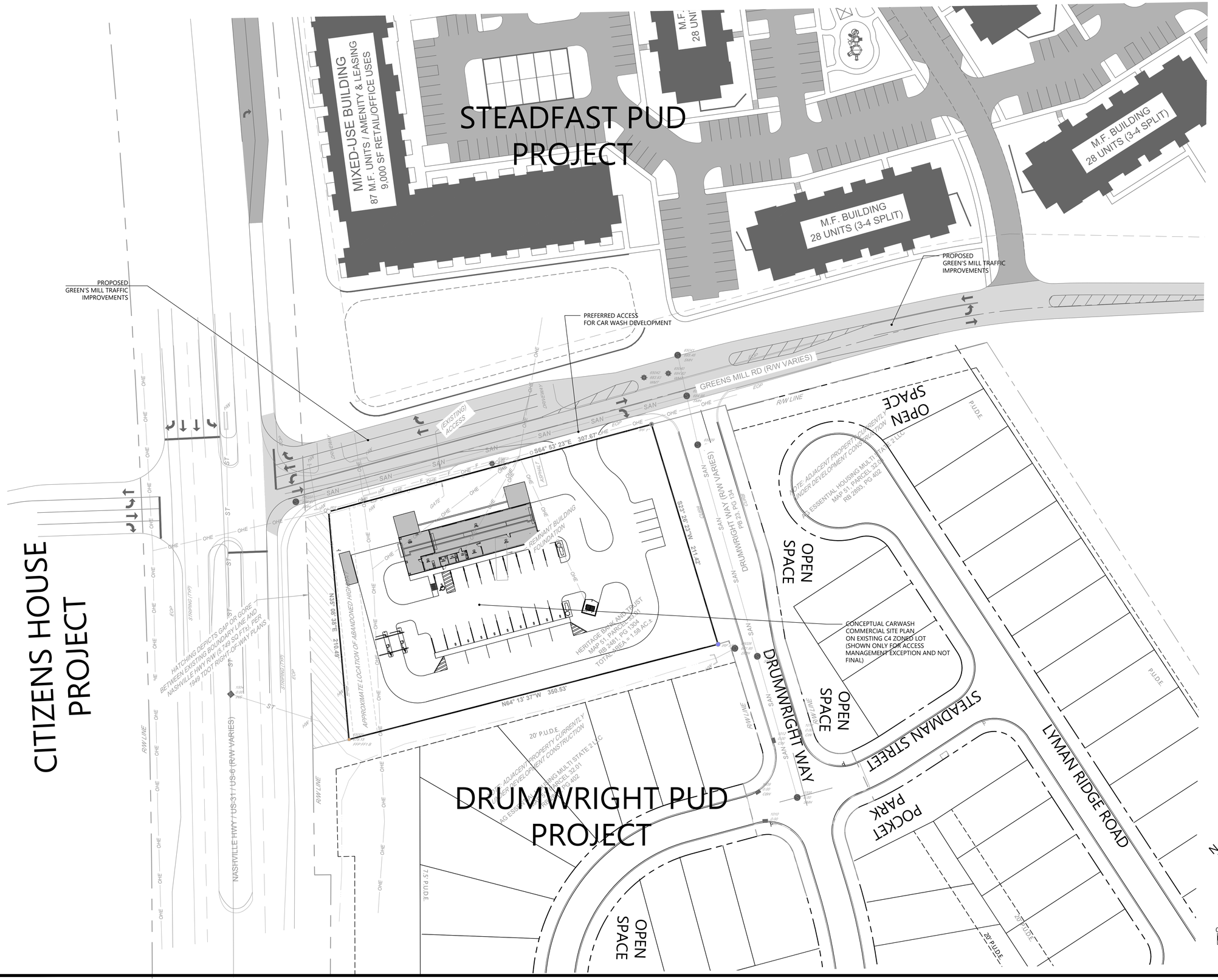
NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		209	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	

Current Enrollment / Capacity

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			2,509,930	**550.27**	**15555**	**13044**	



McNeely Civil Engineering, LLC
254 Belgian Road
Nolensville, TN 37135

Permit-Seal:

Client/Project:

HERITAGE BANK AND TRUST AND CARWASH PARTNERS

2408 NASHVILLE HWY
HERITAGE BANK AND TRUST PROPERTY

Revisions:

Item:	Date:

Project No. : MCE 230001

Designed By:
Drawn By:
Checked By: E. MCNEELY
Date:

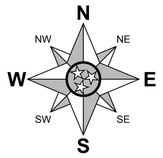
Scale:

Title:

ACCESS MANAGEMENT EXEPTION EXHIBIT

Drawing No.

C1.0



GPS SURVEY DATA INFORMATION:

- TYPE OF GPS SURVEY: RTK
- POSITIONAL ACCURACY: 0.05 FEET
- DATUM/EPOCH: NAD83 (2011) EPOCH 2010.00
- PUBLISHED/FIXED CONTROL USED: TGRN
- GEOID MODEL: GEOID 18
- COMBINED GRID SCALE FACTOR: 0.99992291
- UNITS: US SURVEY FEET (GRID)

FIDELITY NATIONAL TITLE INSURANCE COMPANY
TITLE POLICY NO: 2730600-213573236
POLICY DATE: FEBRUARY 26, 2018 AT 2:45 PM
LAST REVISED DATE: N/A
SCHEDULE B EXCEPTIONS

4.) ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCES AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND.

- NO ENCROACHMENTS WERE FOUND DURING THE COURSE OF FIELD SURVEY. A GAP BETWEEN THE EXISTING PROPERTY BOUNDARY AND PLAN RIGHT-OF-WAY LOCATION FOR NASHVILLE HIGHWAY IS SHOWN HEREON.

5.) EASEMENTS OR CLAIMS OF EASEMENTS NOT SHOWN BY THE PUBLIC RECORDS.

- NONE OBSERVED DURING THE COURSE OF FIELD SURVEY.

10.) ALL MATTERS SHOWN ON SURVEY OF JOHN E. CLEGHORN, TN RLS#1440, DATED DECEMBER 13, 2017, JOB NO. 2017-076; CLEGHORN LAND SURVEYING, LLC, P.O. BOX 216, LAWRENCEBURG, TN 38464.

- THE SURVEYOR WAS NOT PROVIDED A COPY OF THIS SURVEY.

LEGAL DESCRIPTION (PER TITLE INSURANCE POLICY)

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF MAURY, STATE OF TENNESSEE, AND IS DESCRIBED AS FOLLOWS:

A TRACT OF LAND IN THE THIRD CIVIL DISTRICT OF MAURY COUNTY IN THE CITY OF COLUMBIA, TENNESSEE, LYING ON THE EAST SIDE OF NASHVILLE HIGHWAY, STATE ROUTE 6 OR U.S. HIGHWAY 31 AND ON THE SOUTH SIDE OF GREENS MILL ROAD AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

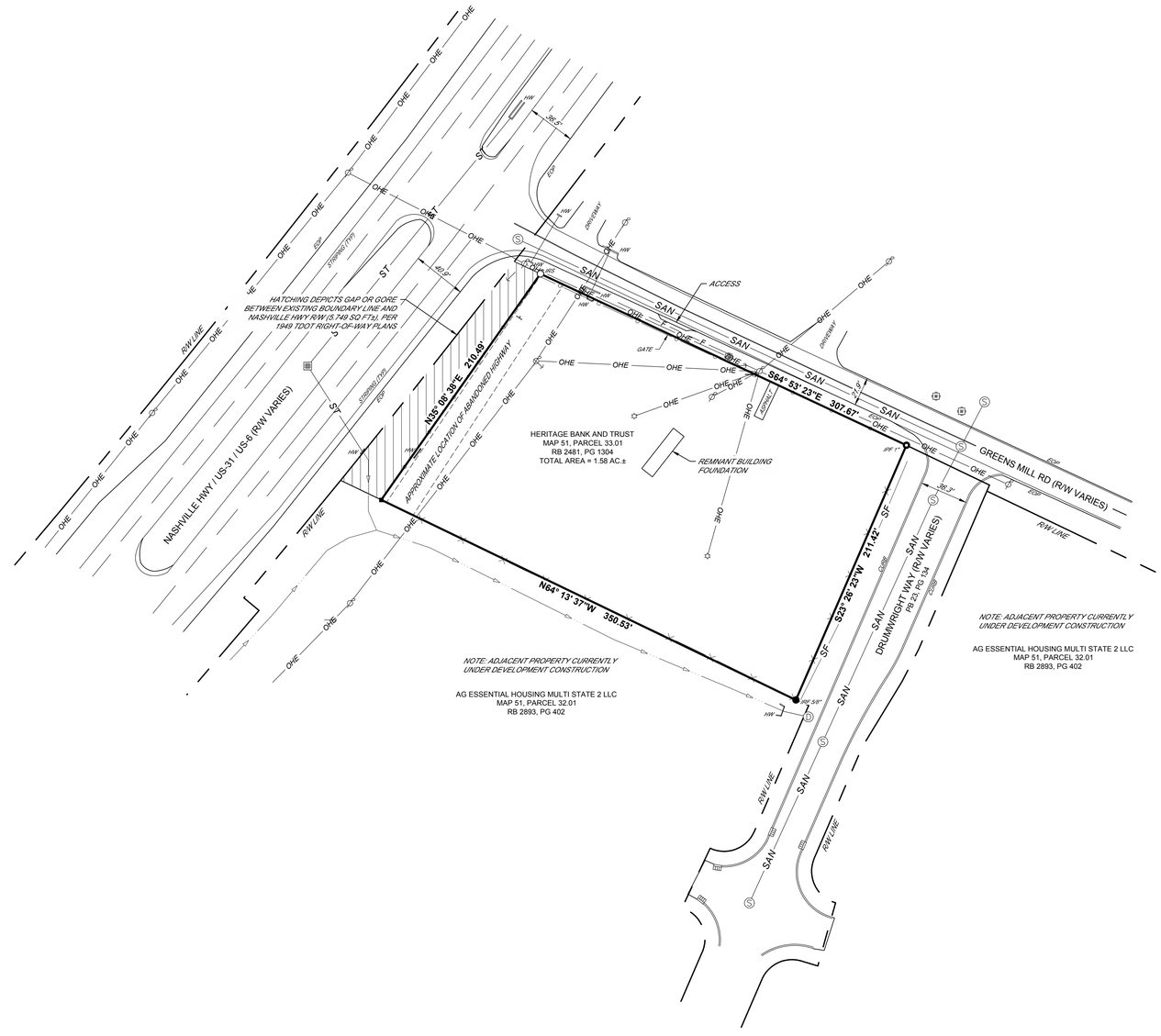
BEGINNING AT AN IRON ROD SET AT THE INTERSECTION OF THE EAST RIGHT-OF-WAY LINE OF NASHVILLE HIGHWAY AND ON THE SOUTH RIGHT-OF-WAY LINE OF GREENS MILL ROAD (40' R.O.W.); THENCE, WITH THE SOUTH RIGHT-OF-WAY LINE OF GREENS MILL ROAD S 64°51'37" E A DISTANCE OF 307.67' TO AN EXISTING IRON PIPE; THENCE, WITH A FENCE, THE NORTHERLY BOUNDARY LINE OF THE PROPERTY OF KURT DRUMRIG HT AND KIM DRUMRIGHT AS RECORDED IN DEED BOOK R2232, PAGE 489, R.O.M.C., TENNESSEE S23°28'09" W A DISTANCE OF 211.42' TO AN EXISTING IRON ROD; THENCE, N 64°11'51" W A DISTANCE OF 350 53 TO A WOOD POST; THENCE, WITH THE EAST RIGHT-OF-WAY LINE OF NASHVILLE HIGHWAY N 35°10'25" E A DISTANCE OF 210.49' TO THE POINT OF BEGINNING AND CONTAINING 68908.7 SQUARE FEET OR 1.58 ACRES, MORE OR LESS, ACCORDING TO A SURVEY BY CLEGHORN LAND SURVEYING, LLC DATED DECEMBER 13, 2017, JOB NO 2017-076.

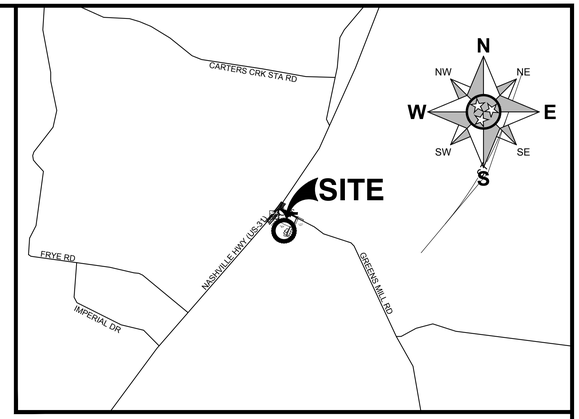
BEING THE SAME PROPERTY CONVEYED TO JERALD SCHOEBERL JR. AND WIFE, EDITH GRACE SCHOEBERL, BY GENERAL WARRAN TY DEED FROM MICHAEL B. D OD SON AND DIANNE D. SH RODER (SAME PERSON AS DIANE D. SHROE DER), OF RECORD IN BOOK R1516, PAGE 900, REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE, DATED JANUARY 05, 2001 AND RECORDED ON JANUARY 05, 2001. JERALD SCHOEBERL, JR. DIED ON MARCH 25, 2006, LEAVING HIS WIFE, EDITH GRACE SCHOEBERL, AS SOLE OWNER OF THE ABOVE DESCRIBED PROPERTY AS THE SURVIVING TENANT BY THE ENTIRETY.

NEW SOURCE OF TITLE: BEING THE SAME PROPERTY CONVEYED TO HERITAGE BANK & TRUST, BY WARRANTY DEED OF RECORD IN BOOK R2481, PAGE 1304, REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE.

GENERAL NOTES:

1. BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD83, 2011).
2. THE FIELD SURVEY WAS COMPLETED ON MARCH 07, 2023.
3. THIS SURVEY WAS PREPARED USING THE CURRENT DEEDS AND PLATS OF RECORD, TOGETHER WITH AN OWNERS TITLE INSURANCE POLICY (POLICY NUMBER 2730600-213573236), ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, DATED FEBRUARY 26, 2018.
4. ALL DEED BOOK AND PLAT REFERENCES PERTAIN TO THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
5. ADJOINING PROPERTY LINES SHOWN WERE PLOTTED FROM INFORMATION TAKEN FROM EITHER DEED DESCRIPTION, RECORD PLATS, OR TAX MAPS.
6. PROPERTY CORNERS SET THIS SURVEY ARE 18" #4 REBAR WITH ORANGE PLASTIC CAP STAMPED "M2 GROUP", 18" #5 REBAR WITH YELLOW PLASTIC CAP STAMPED "M2 GROUP, LLC", OR PK NAIL WITH STAINLESS STEEL WASHER STAMPED "M2 GROUP, LLC", UNLESS NOTED OTHERWISE.
7. UTILITIES SHOWN HEREON WERE COMPILED FROM VISIBLE STRUCTURES AT THE SITE, INFORMATION FROM PLANS, AND PHYSICAL MARKINGS AND COMBINED TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THIS SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. VERIFICATION OF EXISTENCE, LOCATIONS, AND DEPTH SHOULD BE MADE BEFORE CONDUCTING ANY EXCAVATION IN THE VICINITY OF THE UTILITY.
8. THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 180 OF 440, MAP NUMBER 47119C0180E, EFFECTIVE APRIL 16, 2007.
9. A CURRENT ZONING REPORT WAS NOT PROVIDED TO THE SURVEYOR.
10. THE PROPERTY SHOWN HEREON IS THE SAME PROPERTY AS REFERENCED IN THE TITLE POLICY, FROM WHICH THIS SURVEY IS BASED.
11. THERE WAS NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK, ON THE SUBJECT PROPERTY. HOWEVER, THE ADJACENT PROPERTY IS CURRENTLY UNDER CONSTRUCTION FOR A RESIDENTIAL DEVELOPMENT.





VICINITY MAP
N.T.S.

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT
- EXISTING FARM FENCE
- EXISTING CHAIN-LINK FENCE
- SF — EXISTING SILT FENCE
- SAN — EXISTING SANITARY SEWER LINE
- F — F — EXISTING FIBER OPTIC LINE
- OHE — EXISTING OVERHEAD ELECTRIC
- EXISTING DITCH FLOW LINE
- IRON REBAR FOUND (IRF)
- IRON PIPE FOUND (IPF)
- IRON REBAR SET W/CAP (IRS)
- FENCE POST FOUND
- SIGN
- LIGHT STANDARD
- STORM MANHOLE
- CURB INLET
- INLET SQUARE
- SANITARY MANHOLE
- WATER METER
- POWER POLE
- GUY WIRE
- EOP — EDGE OF PAVEMENT
- HW — HEADWALL



SURVEYOR'S CERTIFICATE

TO: HERITAGE BANK AND TRUST;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE AND THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 8, 11(a), 13, 16, 17, AND 18 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MARCH 7, 2023.

DATE OF PLAT OR MAP: MARCH 31, 2023

50 0 50 100
GRAPHIC SCALE

REVISION #	DATE	DESCRIPTION

ALTA/NSPS LAND TITLE SURVEY
MAP 51, PARCEL 33.01
2408 NASHVILLE HWY
CITY OF COLUMBIA
3RD CIVIL DISTRICT
MAURY COUNTY, TENNESSEE

DATE :	**APRIL 31, 2023**	**DRAWN BY :**	**SVH**
PROJECT NUMBER :	**23-018**	**CHECKED BY :**	**SVH**

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
M2GROUPLLC.COM

SHEET NUMBER: SV-01

23-018_2408 OLD NASHVILLE HWY DWG / Wednesday, April 5, 2023 12:06:50 PM

GENERAL AFFIDAVIT

State of Tennessee
County of Maury

I, Craig Harris, personally appeared before the Undersigned Notary Public, and under affirmation make the following statement(s):

Regarding my letter dated May 17th, 2023, to the City of Columbia, 2408 Nashville Highway- Appeal City Engineer Decision for Access Management Exception Request Tax Map 51; Parcel 33.01.

This affidavit is to affirm that the information provided in the Access Management Exception Request is true and correct.

Dated this 17th day of May 2023

Date this: 17th Day of May, Year 2023
State of Tennessee, Maury County

EVP

Craig ~~Harris~~
Executive Vice President
Heritage Bank and Trust

Subscribed and sworn to before me this: 17 day of May, Year 2023, by Craig Harris, known to me to be the above named signator, who personally appeared before me and acknowledged that the forgoing instrument was freely and voluntarily executed for the uses and purposes and on behalf of the person therein mentioned.

Notary Public My commission expires 11/29/2026

TRACY RINKS
STATE OF TENNESSEE
NOTARY PUBLIC
MAURY COUNTY

RECEIVED
MAY 22 2023
23-0198

City of Columbia Tennessee
Attn: Glenn Harper
700 North Garden Street
Columbia, TN 38401

May 17, 2023

RE: 2408 Nashville Highway-Appeal City Engineer Decision for Access Management Exception Request
Tax Map 51; Parcel 33.01

Dear Mr. Harper,

Upon receipt of your email on May 11th, 2023, denying the request for access management exception, Heritage Bank and Trust desires to appeal the City's decision and requests to appear before the City of Columbia, Tennessee Planning Commission on July 12th, 2023, to ask for an appeal. An application to appear before the planning commission will be submitted on Monday, May 22nd, 2023.

Heritage Bank and Trust desires to contract with a potential buyer for the vacant lot located at the corner of Green's Mill Road and Nashville Hwy. The vacant lot currently has an existing curb cut for access directly onto Green's Mill Road. We desire to keep the existing access for future commercial development and the flexibility of future placement of access that would allow a commercial development to be planned under the new City of Columbia zoning regulations.

The Drumwright PUD development is currently under construction with a new road named Drumwright Way that ties directly to Green's Mill Road. We would prefer our ingress/egress to our property be provided directly to Green's Mill Road as it exists today rather than utilize the Drumwright Way as the principal access to our property.

The sketch plan being submitted with this application shows a layout of a future carwash. The carwash developers are reviewing this property for commercial development that provides access to Green's Mill Road. The sketch plan shows the placement of future buildings and parking areas. The placement of the principal access in the concept plan is the best option for the carwash development and the future improvements being proposed at Green's Mill Road that are tied to the ongoing Drumwright PUD development, Preserve at Drumwright development, Safe Harbor Green's Mill PUD development, Citizens House development and Steadfast PUD project.

The Heritage Bank and Trust purchased this property prior to the adoption of the current access management ordinance and has always valued the ability to access the property directly from Green's Mill Road as it exists today.

We are asking the City of Columbia Planning Commission to consider appealing the City Engineer's denial of the access management exception request as we are currently working with a potential buyer for a commercial development on this property.

Thank you for your consideration of this request.

Sincerely,

EVP

Craig Harris, EVP
Heritage Bank and Trust

GENERAL AFFIDAVIT

State of Tennessee
County of Maury

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Mary P. My commission expires 11/29/2026
Notary Public

TRACY RINKS
STATE OF TENNESSEE
NOTARY PUBLIC
MAURY COUNTY

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Eric McNeely	PHONE	615-335-3172
ADDRESS	254 Belgian Road Nolensville, TN 37135	EMAIL	eric@mcneelycivil.com

PROPERTY OWNER NAME	Heritage Bank and Trust	PHONE	
ADDRESS	217 S. James Campbell Boulevard Columbia, TN 38401	EMAIL	

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

APPLICANT NAME	APPLICANT SIGNATURE	DATE

PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE
Heritage Bank & Trust	EVP	5/17/2023

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	2408 NASHVILLE HWY Columbia, TN 38401		
	TAX MAP: 51	GROUP:	PARCEL: 33.01
SUMMARY OF NATURE OF REQUEST AND WORK	REQUEST FOR APPEAL TO CITY OF COLUMBIA'S DECISION TO DENY EXCEPTION TO THE CITY OF COLUMBIA'S ACCESS MANAGEMENT ORDINANCE TO RETAIN ACCESS FROM GREEN'S MILL ROAD TO SERVE COMMERCIAL DEVELOPMENT LOT		

DATE OF PRE-APPLICATION CONFERENCE	3-8-2023	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ☒ Other: ACCESS MANAGEMENT EXCEPTION **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ❑ Project Name (include Sections & Phases) _____ ❑ Total Number of Lots _____ ❑ Total acreage _____

Rev. 4/14/2022

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
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PHONE: (931) 560-1560
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PLANNING COMMISSION
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☐ Annexation ☐ Rezoning ☐ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☒ Other: ACCESS MANAGEMENT EXCEPTION **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☐ Project Name (include Sections & Phases) _____ ☐ Total Number of Lots _____ ☐ Total acreage _____

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Eric McNeely	PHONE	615-335-3172
ADDRESS	254 Belgian Road Nolensville, TN 37135	EMAIL	eric@mcneelycivil.com

PROPERTY OWNER NAME	Heritage Bank and Trust	PHONE	
ADDRESS	217 S. James Campbell Boulevard Columbia, TN 38401	EMAIL	

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

McNeely Civil Engineering — APPLICANT NAME

E. M. [signature] — APPLICANT SIGNATURE

5.17.2023 — DATE

Heritage Bank & Trust — PROPERTY OWNER NAME

[signature] EVP — PROPERTY OWNER SIGNATURE

5/17/2023 — DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

McClure Farms

Project #:	23-0201	Location:	Tax Map 51 Parcel 6.0
Applicant:	Travis Bonar	Case Type(s):	Prelim. Plat/PUD Revision
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Townhouses & Detached Houses

PROJECT SUMMARY

The applicant requests approval of 1) a Preliminary Plat; and 2) a revised Final Planned Unit Development (PUD) Master Plan to develop 430 homes on a 95.29-acre site. The development includes 116 detached single family homes and 314 townhomes with accompanying open space, roadway infrastructure, and utility extensions.

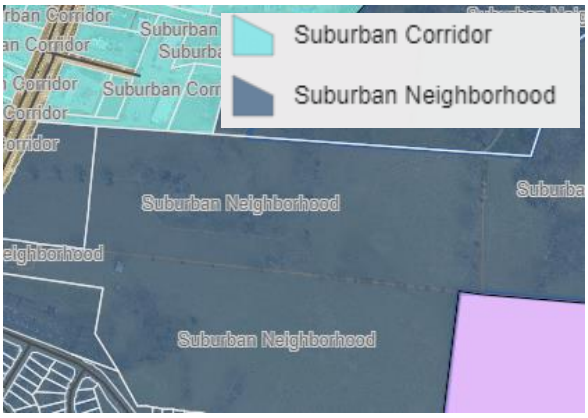
- The development was approved under Ordinance 3638, in effect between 2006 and 2022. The approvals created a vested right to develop under the standards in effect at the time.
- The Preliminary Plat supersedes and replaces a July 2022 Preliminary Plat approval for one phase of the development.
- The property is subject to a Final PUD Master Plan based on the RM-1 and RS-6 standards of the previous Zoning Ordinance. The applicant is requesting to revise the Master Plan.
- At the request of Development Services staff, the applicant proposes to relocate a roadway connection with a neighboring property. The modification effects the layout of one phase of development.
- The applicant has added retaining walls to the plan. Engineering has expressed concern over the location and design of some of the walls.
- The plan impacts ponds and wetlands. The appropriate state agency has approved this activity and is reviewing additional requests from the applicant.
- The Wastewater Department has helped the applicant minimize the use of pump stations.
- The as-approved plans should depict all required landscape buffers.
- The Planning Commission is the **Decision-Making Authority** for the PUD Master Plan and the Preliminary Plat. The PUD Master Plan establishes the entitlements to lawfully use the land at a density and intensity established by Ordinance. The Preliminary Plat initiates the process of dividing and developing the property in accordance with the Master Plan. The Preliminary Plat establishes a coordinated layout of lots, vehicular and pedestrian connectivity, drainage, water, sewer and other facilities.
- Professional planning staff commentary identifies recommended conditions of approval.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

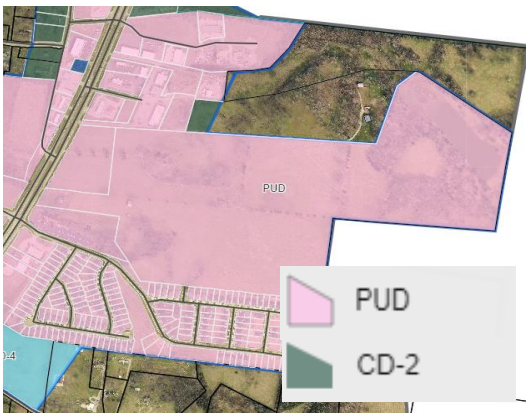
SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
PUD-R	Vacant	Single Family Homes /Acc. Structures	+/- 95.29



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Neighborhood	PUD-R[1]	Vacant
North	Suburban Neighborhood	CD-2/County	Single Family
Northwest	Suburban Corridor	Other PUD	Retail
South	Suburban Neighborhood	PUD-R	Single Family Detached
Southwest	Suburban Neighborhood	Other PUD	Religious Institution
East	N/A	County	Vacant
West	Suburban Corridor	PUD-MU	Retail/Vacant

CONSISTENCY WITH CONNECT COLUMBIA

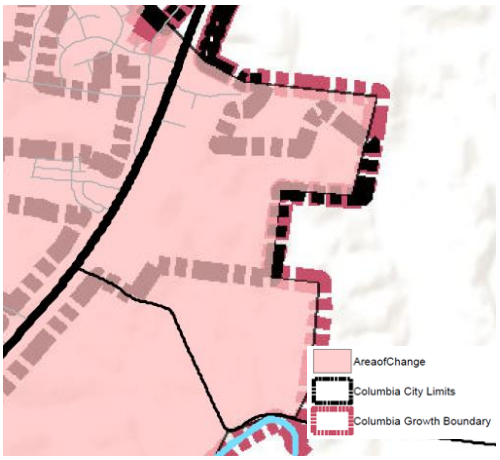
Suburban Neighborhood: The future land use of the subject site is Suburban Neighborhood. The Character Area is characterized by a residential development and neighborhoods, with limited, intermixed and compatible civic uses (Connect Columbia, p. 22). The Future Land Use Plan indicates that "the general development pattern is defined by a single use activity on individual lots" (Connect Columbia, p. 22). Green space is largely incorporated on individual lots; neighborhood and community parks should be located within neighborhoods to enhance the quality of life. Development should emphasize connectivity and housing diversity (Connect Columbia, p. 23). The Character Area Matrix from page twenty-two of the Future Land Use Plan (excerpted below) is a guide to approving requests for zoning map amendments and Planned Unit Developments. The future land use classification is implemented by the CD-3L and CD-3 character districts, as well as PUDs.

[1] Residential PUD designations authorized under Ordinance 3638 and previous ordinance are listed here a PUD-R for convenience. They are identified in ordinance 4400 as "Other PUDs" subject to their applicable master plans. These standards remain in effect until the PUDs are revised under the current standards. Commercial PUDs are listed here as "Other PUDs". Some have no effective master plan, meaning they will eventually develop under PUD-MU standards. Others are regulated by their respective Master Plan approvals

CHARACTER AREA MATRIX				
	Development Pattern	**Zoning Category and Uses**	**Infrastructure**	**Design Standard**
SUBURBAN NEIGHBORHOOD	**Is the property in an Area of Change?** **No:** The development pattern is established. Changes to overall character of the area should rarely occur. **Yes:** The development pattern is evolving. Changes to the area are likely as development occurs. New development should respect both the natural environment and blend with existing, surrounding neighborhood assets.	**Residential Uses Zoning Category:** Low Density Residential District and Medium Residential. **Public and Civic Uses Zoning Category:** Religious Facilities, Government Facilities (low impact), and Educational Facilities.	**Not in an Area of Change:** Limited new services, with mostly in-fill enhancements to existing infrastructure. **Within an Area of Change:** Extensions to transportation, water, sewer, and other services should be expected. New service or extensive redevelopment of existing services should be vetted and reviewed by Planning Commission and City Council as a primary element of approval.	Scale: New dwellings and structures should be compatible with the established character of the area. Architecture: New developments should include a mix of architectural styles. Residential garages, if front-facing, should be recessed from the front façade of the structure. Civic use should respect the residential character, while providing architectural interest.

AREA OF CHANGE

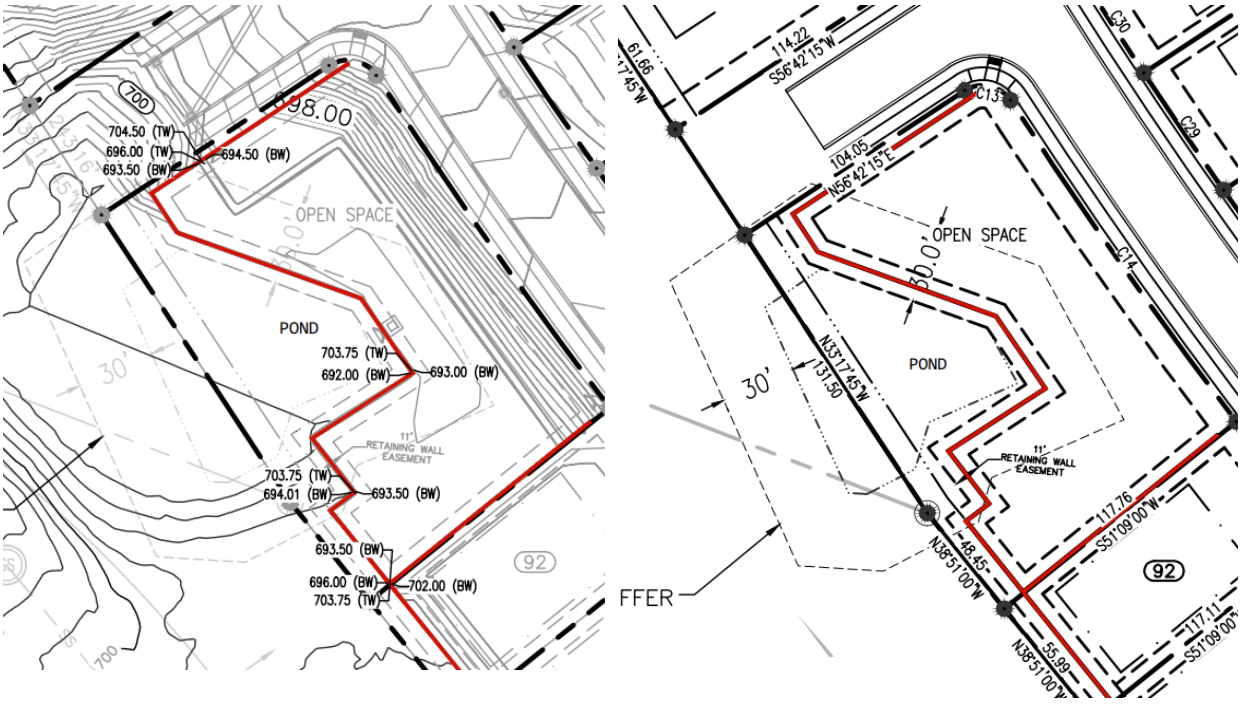
The subject site is located in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was evolving. Changes to the area are likely, but new development should blend with existing neighborhood assets. The designation does not necessarily mean that any particular development proposal is consistent with Connect Columbia. It does mean that the Planning Commission has previously determined that in this area, the development character is not fixed and change is expected over time (Connect Columbia p. 14).



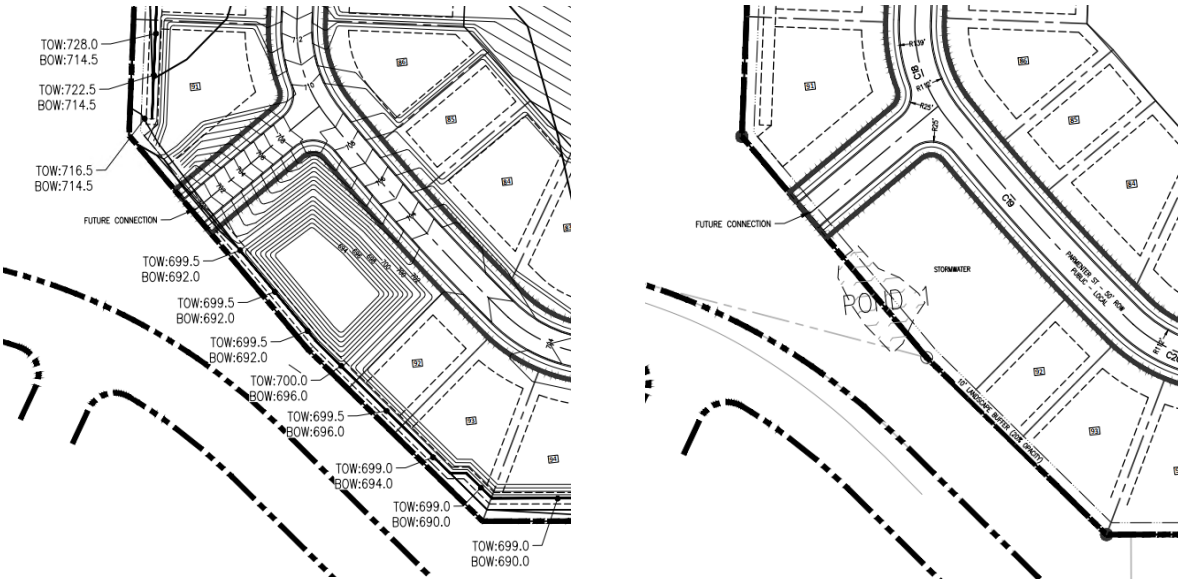
CONFORMITY WITH ZONING ORDINANCE

The Revised Final PUD Master Plan conforms to the RM-1 and R-6 standards of applicable zoning ordinance (3638), as modified by previous PUD approvals.

- **The Revised Final PUD Master Plan reduces the total number of units from 431 to 430.**
- **The Revised Final PUD Master Plan adds retaining walls.**
  - The applicant has identified the retaining walls on the plans in red with a line weight similar to the parcel boundaries.
  - Some of the walls are within landscape buffers.
  - An 11-foot retaining wall is used within a stormwater detention facility above an existing pond near the southwest portion of Phase 2 (see comments from Engineering in the DRC summary later in this report).
  - Most of the walls are placed within easements.

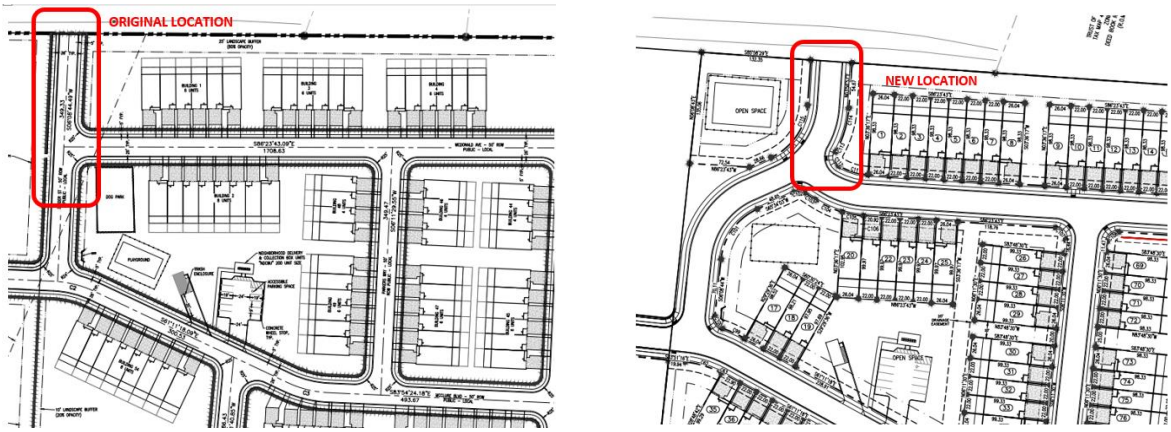


Grading & General Layout Showing Retaining Wall above Pond within Stormwater Detention



Grading & General Layout of same are on 2022 Final PUD Master Plan

- **The revised Final PUD Master Plan alters the layout of Phase One**
  - Each iteration of the PUD Master Plan has depicted a roadway connection with the abutting property to the north.
  - The Final PUD Master Plan approved in 2022 showed the connection along the western boundary line of Phase One.
  - At the request of Development Services staff, the applicant relocated the connection further east. The shift provides a better functioning alignment with the adjacent property.
  - The change resulted in the relocation of the dog park and playground as well as several townhome units.



Relocation of Roadway Connection (Note Associated Changes to Layout)

The Preliminary Plat conforms to the RM-1 and R-6 standards of applicable zoning ordinance (3638), as modified by the Final PUD Master Plan. The plan makes extensive use of retaining walls. The Preliminary Plat provides a public right-of-way connection to Nashville Highway.

- The proposed structures conform to the setbacks and other bulk standards of § 6.3.8 of Ordinance 3638. The Preliminary Plat conforms to the Final PUD Master Plan, provided Planning Commission approves the requested revisions and landscape buffers are maintained.
- The Preliminary Plat provides open space for stormwater facilities, wetland protection, and resident recreation.
- The Preliminary Plat provides for the improvement and dedication of a 50-foot wide public right-of-way to be called McClure Boulevard. The right of way will provide access to the development and the commercial parcels enfroning Nashville Highway.
- The Preliminary Plat also establishes a connection to the abutting property near the northeast corner of Phase One.
- The landscape buffers conform to the requirements of Article 11 of Ordinance § 3638, except that the location of retaining walls is modified by PUD. The plan utilizes retaining wall in the landscape buffers and throughout the development. The walls are shown in red on the Preliminary Plat.
- The plat complies with the limited use standards for Townhomes at § 8.3.2 of Ordinance 3638.

REVIEW PROCESS

The Development Review Committee reviewed the proposed Preliminary Plat at its June 2023 meeting, as directed by § **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above. Among the Technical Comments, staff requested that the applicant update the request to include a revision to the Final PUD Master Plan.

As required by § **8.5.21.Z** the Zoning Ordinance, staff posted signs on the subject property, mailed letters to adjacent property owners, and published notice of the Planning Commission's meeting in newspapers of general circulation.

Section **8.5.21.Z** of the Zoning Ordinance authorizes the Planning Commission to approve minor modifications to a Final PUD Master Plan during the period of actual Development.[2] Approvable

[2] Section 9.3 of the Zoning Ordinance defines "Development" includes "making or planning for [hu]man-made changes to land" (p. 490). Although no "Actual Construction" has commenced, the applicant's ongoing activities are within the meaning of the term Development. The Planning Commission may approve minor revisions to a

changes include modification in the location "of Buildings and Structures if required by engineering or other circumstances not foreseen at the time the of Final Master PUD Development Plan" (p.465).

The Planning Commission is the Decision-Making Authority for all Preliminary Plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§ 2.2** of the Subdivision Regulations.

Section **8.5.21.Z.3** also establish the criteria for Planning Commission review and action on revisions to a Final PUD Master Plan. The applicant's proposed changes meet these criteria.

> *Collectively, all such modifications approved by the Planning Commission shall not in the aggregate result in:*
>
> *(1) Any increase in the number of Dwelling Units from that approved in the Final Master PUD Development Plan or amendment to Final Master PUD Development Plan; or*
>
> *(2) An increase of more than 3% in the floor area for Commercial Uses from that approved in the Final Master PUD Development Plan or amendment to Final Master PUD Development Plan[.]*

Section **2.2.6** of the Subdivision Regulations establishes the review criteria for approval of Preliminary Plats.

> *A. Recommendations and final action on a Final Plat shall be based on consideration of the following criteria:*
>
> *1. Whether the proposed Preliminary Plat complies with the applicable zoning district and overlay districts;*
>
> *2. Whether the proposed Preliminary Plat is consistent with all standards of these Subdivision Regulations and other related codes and ordinances enforced by the City; and*
>
> *3. Whether the CMPC determines that the particular site is suitable for the type of platting and development proposed.*

In the event of a denial, **§ 2.2.5** of the Subdivision Regulations requires the Planning Commission to identify the specific parts of applicable plans and regulations with which the plat does not comply.

Master Plan during development without additional approval by City Council. The Zoning Administrator may not authorize changes administrative adjustments until after the development is complete.

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its June 2023 meeting. A full list of comments, and the applicant's responses, is provided in the agenda packet. Some key comments are noted below.

- **Planning** identified numerous changes to the plan of development which did not conform to the Final PUD Master Plan. Staff directed the applicant to request a revision to the Final PUD Master Plan for concurrent review with the submitted Preliminary Plat**.**
- **Engineering** requested a list of all traffic improvements. The applicant provided a letter dated June 20, 2023 identifying six specific improvements recommended by the Traffic Impact Study (TIS). The developer also proposed a timeline for completion of each improvement.
- The City Engineer also requested the extension of right turn lanes on Nashville Highway and Grove Park Way. The applicant added these items to the commitment letter.
- Engineering identified the alteration of two ponds, two wetland areas, and one stream on the site, especially in the southwestern portion of Phase 2 of the development. The City Engineer noted that alterations require permitting by the Tennessee Department of Environmental Conservation (TDEC). The applicant responded that TDEC has issued an Aquatic Resource Alteration Permit (ARAP) for the site. [3] The applicant has also applied for a permit to alter Wetland 1 near the southwest corner of Phase 4; that permit is pending TDEC review.[4] [Clarification: the issuance of a permit by an executive agency does not preempt the authority of a local government to regulate land use. If the developer cannot comply with the ARAP **and** the PUD Master Plan, it must request a revision of the PUD Master Plan, or not develop the site].
- Engineering noted the addition of retaining walls not depicted on the previously approved Final PUD Master Plan. The City Engineer also cautioned against the use of retaining walls within stormwater detention facilities. The applicant acknowledged the risks associated with the structures and committed to working with Engineering to on a design solution.

[3] The permit can be viewed online at https://dataviewers.tdec.tn.gov/dataviewers/f?p=2005:34051:7828714935487:::34051:P34051_PERMIT_NUMBER:NR2208.3559.
[4] Documents related to the permit can be viewed https://dataviewers.tdec.tn.gov/dataviewers/f?p=2005:34051:7828714935487:::34051:P34051_PERMIT_NUMBER:NRS23.118.

- Columbia Water System's (**CPWS**) consultant (Inflow) noted that the applicant's water availability letter was dated March 7, 2023 and would expire before the date of the Planning Commission meeting. The applicant responded that a new letter would be forthcoming.
- **Public Works** indicated that the townhomes will utilize a private trash compactor; the City will provide trash pickup for single-family detached homes.
- Columbia Power (**CPWS**) noted that supply chain concerns could affect the timing of any development. This is a standard comment from the utility.
- **Maury County Schools** noted that the site is currently in the attendance zones of Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. New construction or realignment of school attendance zones may be necessary to accommodate new students. This is a standard comment from the school system.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

Landscape Buffers must be provided as depicted in the Preliminary PUD Master Plan and the previously approve Final PUD Master Plan. The Master Plan includes landscape buffers as required by the applicable ordinance (3638). The original submittal reviewed by the DRC depicted the buffers with some ambiguity about specific depths and opacities. The Preliminary Plat/revised Final PUD Master Plan provided at resubmittal does not identify the buffers. Inclusion of all buffers as depicted in previous approval should be part of any revised Final PUD Master Plan. The as-approved plan set should indicate the location, depth, and opacity of the buffers.

Staff is concerned about the advisability of using retaining walls to detain stormwater. Engineering strongly recommends against the practice. Staff provided a technical comment expressing concern that failure of these walls could create risks for downstream property and infrastructure. The Planning Commission does not have to approve this revision to the Final PUD Master Plan. Planning staff advises that the Planning Commission consult with the City Engineer to better understand the risks associated with these revisions to the Final PUD Master Plan.

The Wastewater Department has worked with the applicant to identify through multiple iterations of the plan. Wastewater indicated in technical comments that the sewerage plan presented in the Preliminary Plat is satisfactory. Conditional approval subject to technical comments should specifically require development of the site in compliance with Standard Sewer Specifications, no sanitary sewer depths greater than twenty feet, utilization of a single pump station, and no allowance for grinder pumps.

The water availability letter has expired. The water availability letter expired on July 5th. The applicant indicated that a new letter would be forthcoming. Staff had not received an updated letter as of July 8th. It is a poor practice to approve requests which cannot document water availability for domestic use and fire protection. However, the property owner has an existing entitlement to develop the site at the requested density.

SAMPE MOTIONS

Approve:

Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section 8.5.21.Z of the City of Columbia Zoning Ordinance have been satisfied, along with section 2.2.6 of the Subdivision Regulations, and approve the revision to the Final Planned Unit Development Master Plan, and approve the Preliminary Plat as presented *[,subject to technical comments and other conditions presented by planning staff*].

Approve Subject to Conditions:

Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section 8.5.21.Z of the City of Columbia Zoning Ordinance have been satisfied, along with section 2.2.6 of the Subdivision Regulations, and approve the revision to the Final Planned Unit Development Master Plan, and approve the Preliminary Plat, subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

Move to deny the requested revisions to the Final Planned Unit Development Master Plan and Preliminary Plat having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section 8.5.21 of the City of Columbia Zoning Ordinance, and section 2.2.6 of the Subdivision Regulations are not satisfied [*list specific reasons for denial*].

Defer:

Move to find that there is insufficient information to make a decision, defer the matter to the next regularly scheduled meeting of the Planning Commission, and request that the [*applicant/staff*] provide: [*list additional information*] for review at a future meeting.

W&A Engineering

CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • TRAFFIC ENGINEERING
SURVEYING • SOIL AND ENVIRONMENTAL CONSULTING • ECONOMIC DEVELOPMENT

June 20, 2023

To: City of Columbia Development Services

Re: McClure Farms Preliminary Plat Phase 1 thru Phase 4

2504 Nashville Hwy – Columbia, Maury County, TN 38401

To whom it may concern:

As part of the request for Preliminary Plat approval for Phase 1 thru Phase 4, we are making the following submittal:

- Planning Commission Preliminary Plat Application
- Preliminary Plat Checklist

- Master PUD Minor Revision Letter
- Master PUD Minor Revision Exhibit
- Traffic Improvement Commitment Letter (updated)
- Technical Comment Response Document
- 1 copy – Preliminary Plat Phases 1-4
- 1 copy – Nashville Highway Improvement Plans
- Digital copy of all aforementioned documents (USB Drive)

If you have any questions or need additional information, please feel free to contact us at the number below.

Sincerely,

Travis Bonar, PE
tbonar@waengineering.com
615-610-1023

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JUN 20 2023
By: 23-0201

TECHNICAL
22-0319
Page 1 of 1

W&A Engineering

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SURVEYING • SOIL AND ENVIRONMENTAL CONSULTING • ECONOMIC DEVELOPMENT

June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

Re: McClure Farms Development request for Minor PUD revision

Per Zoning ordinance 8.5.21.Z.3 (p. 465-466):

Per the request of the city of Columbia, the access connector on the northern portion of the PUD was relocated to better align with an adjacent development, also known as the Wynnsong property.

This revision facilitated some shifting of townhomes, roads, and amenities from the original approved Master PUD. These revisions are highlighted in the attached exhibit. These revisions did not change the amenity types or sizes, or significantly impacted utilities in any way. However, with these revisions, the number of multi family townhome units was reduced from 315 to 314, bringing the total unit count down from 431 units to 430 units.

If you have any questions or need additional information please feel free to contact Travis Bonar at tbonar@waengineering.com or 615-610-1023.

Sincerely,

Travis Bonar PE
Senior Project Manager | W&A Engineering
4101 Charlotte Avenue, Suite E215
Nashville, Tn. 37209

RECEIVED
JUN 20 2023
By: .....

W&A Engineering

CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • TRAFFIC ENGINEERING
SURVEYING • SOIL AND ENVIRONMENTAL CONSULTING • ECONOMIC DEVELOPMENT

June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

ITEM NO.
23-0201

DESCRIPTION: Response to comments on Preliminary Plat submittal for McClure Farms residential subdivision for phase 1, phase 2, phase 3, and phase 4.

COMMENTS:

Planning

1. All owners of all property which is part of the request must sign the application for PC review. – This application has been signed by the adjoining commercial plat stakeholder in addition to the residential plat owner.

2. The location of buildings, amenities, and open spaces does not conform to the PUD Master Plan. The changes are significant. Lots 17, 18, and 19 are depicted where the PUD Master Plan shows a playground. Six-unit buildings are now depicted as eight-unit buildings. The location of an access easement has shifted. – Please see attached exhibit depicting changes between approved Master PUD and revisions facilitated by the request to change roadway access in the northern portion of this site. No amenities were added or removed. The unit count was reduced from 431 to 430 from the previously approved PUD. A PUD revision has been requested per §8.5.21.Z.3 (p.465-466)

3. Note: The properties on the Nashville Highway are part of the PUD Master Plan and are subject to 100' setbacks. – noted

4. At resubmittal please identify all changes to easement locations et. – please see attached exhibit depicting changes to easements

RECEIVED
JUN 20 2023
By: 23-0201

4101 Charlotte Avenue Suite E215, Nashville, TN 37209 • waengineering.com • (615) 610-1023

5. At resubmittal, please update request to include a revision of the Final PUD Master Plan under §8.5.21.Z.3 (p.465-466) of the Zoning Ordinance. Please provide a separate document titled PUD Master Plan which depicts the changes in road alignment, structure location, number of units in structure, amenity location, access easement, and any other changes made as a result of staff recommendations. Please see attached exhibit depicting changes between approved Master PUD and revisions facilitated by the request to change roadway access in the northern portion of this site. No units or amenities were added or removed from the previously approved PUD.

6. Please verify the total number of dwelling units (various documents reference 430, 429, 431). – Total number of dwelling units shown is 430 (314 multi family units and 116 single family lots). The previously approved PUD had 431 units (315 multi family units and 116 single family lots).

7. Verify that the location, depth, and opacity of all buffers conform to the PUD Master Plan. Please verify that all notes are consistent across all sheets. – Noted and verified. Per previous comments, wall easements have been added and utility easements conform to local regulations. These buffers can be see on sheets 4-8.

Engineering

8. Subject to TIS and Construction Plans - Noted
9. Provide figure showing all traffic improvements to supplement the commitment letter. – please see attached plans for roadway improvements on Nashville Highway.
10. Add to commitment #2 (Grove Park Way). Extend existing right turn lane on NB approach of Nashville Hwy to a minimum 300 feet storage + taper length and SB left turn lane to a minimum 300 feet storage + taper. Existing right turn lane on the WB approach of Grove Park Way extend to a minimum of 250 feet storage + taper. – Added to commitment. These changes have been reflected in the attached Nashville Highway improvement plans.
11. Show and label all aquatic buffers. – noted and shown in sheets 4-8.
12. Grading, retaining walls, and utilization of wetland and pond will require an ARAP through TDEC. The City of Columbia does not have the authority to grant exemptions to the requirements of the MS4 permit and the adopted aquatic buffer and stormwater ordinances beyond the authority granted within. All requirements dictated by State of TN will supercede the authority of the PUD Master Plan and subsequent approvals. – Noted. ARAP permit from TDEC has been obtained – ARAP #NR2208.3559
13. Additional retaining walls that were not shown in Final PUD Master Plan have been added. Additionally, they are supporting the right-of-way, which will not be permitted. – Walls

below the roadway just outside of the Right-of-way have been removed. See attached sheets 4-8.

14. Engineering strongly recommends against the usage of retaining walls above grade for the use of stormwater detention facilities. Failure of these walls can result in a high risk situation for downstream property and infrastructure. – Noted. Developer is diligently pursuing adjacent property stakeholders to address these issues with possible off-site improvements to mitigate the need for walls. Ponds requiring need for walls have been reviewed and it is understood that they will require specialized engineering design if walls are needed. Developer will continue to work with the City of Columbia engineering department to address all concerns and review all high-risk situations.
15. Divider street will require a horizontal curve. Realignment was requested by engineering and planning staff to better align with existing and planned improvements to the "Wynnsong" property to the north. – noted and revised per sheet 5 attached.
16. Engineering recommends no structure surcharge loading be supported by retaining walls. – All walls are in compliance with the International Building Code (IBC) regulations with regard to location of walls and foundation surcharge loading.
17. Paramenter Street culdesac shall be encompassed by right-of-way, not a temporary PUDE. – Noted and revised.

Fire

18. No comments- Noted

Public Works

19. No comment - McClure Farms Townhomes will utilize private trash compactor service. McClure Farms single family homes will receive City trashcan service. - Noted

Police

20. No comments provided. - Noted

Building

21. No comment. - Noted

Maury County Schools

22. Battle Creek Elementary, Battle Creek Middle, Spring Hill High School. See Attached capacity numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students. – Noted.

Maury County E911

23. Contact Maury County 911 for street name application. cgideon@maury911.org – Noted. Street names have been applied for 6/19/2023.

Columbia Power

24. Columbia Power System has an existing power line near your proposed residential development.
    We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development. – Noted. An update to the water availability letter is currently underway.

Maury County Highway Dept.

25. No comment. - Noted

Duck River Electric Membership Corp

26. No comment. - Noted

Wastewater

27. Columbia approves of this plat given that it satisfies the Standard Sewer Specifications, and specifically given that it does not have 20+ ft deep sanitary sewer and only 1 planned pump station and no grinder pumps. - Noted

Columbia Water

28. "A water availability letter was issued on 3-7-23 and is valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements stated in the water availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements." - Noted

Atmos Energy

29. No comments provided. - Noted

ATT

30. No comment provided. - Noted

ATTACHMENTS: Preliminary Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until su

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0201

DESCRIPTION: Preliminary Plat submittal for McClure Farms residential subdivision for phase 1, phase 2, phase 3, and phase 4.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. All owners of all property which is part of the request must sign the application for PC review.
2. The location of buildings, amenities, and open spaces does not conform to the PUD Master Plan. The changes are significant. Lots 17, 18, and 19 are depicted where the PUD Master Plan shows a playground. Six-unit buildings are now depicted as eight-unit buildings. The location of an access easement has shifted.
3. Note: The properties on the Nashville Highway are part of the PUD Master Plan and are subject to 100' setbacks.
4. At resubmittal please identify all changes to easement locations et.
5. At resubmittal, please update request to include a revision of the Final PUD Master Plan under §8.5.21.Z.3 (p.465-466) of the Zoning Ordinance. Please provide a separate document titled PUD Master Plan which depicts the changes in road alignment, structure location, number of units in structure, amenity location, access easement, and any other changes made as a result of staff recommendations.
6. Please verify the total number of dwelling units (various documents reference 430, 429, 431).
7. Verify that the location, depth, and opacity of all buffers conform to the PUD Master Plan. Pleas verify that all notes are consistent across all sheets.

Engineering

8. Subject to TIS and Construction Plans
9. Provide figure showing all traffic improvements to supplement the commitment letter.
10. Add to commitment #2 (Grove Park Way). Extend existing right turn lane on NB approach of Nashville Hwy to a minimum 300 feet storage + taper length and SB left turn lane to a minimum 300 feet storage + taper. Existing right turn lane on the WB approach of Grove Park Way extend to a minimum of 250 feet storage + taper.
11. Show and label all aquatic buffers.
12. Grading, retaining walls, and utilization of wetland and pond will require an ARAP through TDEC. The City of Columbia does not have the authority to grant exemptions to the requirements of the MS4 permit and the adopted aquatic buffer and stormwater ordinances beyond the

authority granted within. All requirements dictated by State of TN will supercede the authority of the PUD Master Plan and subsequent approvals.

13. Additional retaining walls that were not shown in Final PUD Master Plan have been added. Additionally, they are supporting the right-of-way, which will not be permitted.
14. Engineering strongly recommends against the usage of retaining walls above grade for the use of stormwater detention facilities. Failure of these walls can result in a high risk situation for downstream property and infrastructure.
15. Divider street will require a horizontal curve. Realignment was requested by engineering and planning staff to better align with existing and planned improvements to the "Wynnsong" property to the north.
16. Engineering recommends no structure surcharge loading be supported by retaining walls.
17. Paramenter Street culdesac shall be encompassed by right-of-way, not a temporary PUDE.

Fire

18. No comments

Public Works

19. No comment - McClure Farms Townhomes will utilize private trash compactor service. McClure Farms single family homes will receive City trashcan service.

Police

20. No comments provided.

Building

21. No comment.

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    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Highway Dept.

25. No comment.

Duck River Electric Membership Corp

26. No comment.

Wastewater

27. Columbia approves of this plat given that it satisfies the Standard Sewer Specifications, and specifically given that it does not have 20+ ft deep sanitary sewer and only 1 planned pump station and no grinder pumps.

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Atmos Energy

29. No comments provided.

ATT

30. No comment provided.

ATTACHMENTS: Preliminary Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	



23-0201
McClure Farms PUD

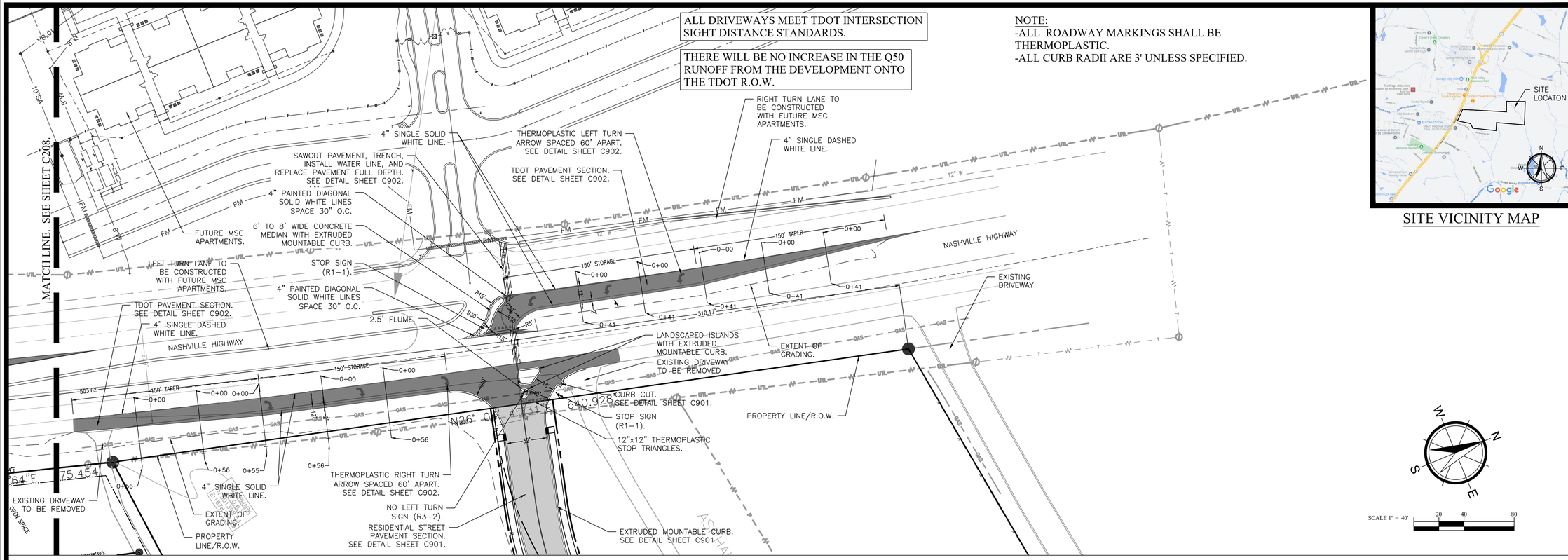
CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

ALL DRIVEWAYS MEET TDOT INTERSECTION SIGHT DISTANCE STANDARDS.

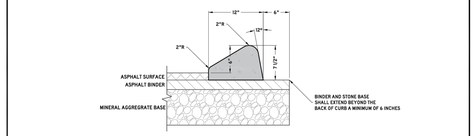
THERE WILL BE NO INCREASE IN THE Q50 RUNOFF FROM THE DEVELOPMENT ONTO THE TDOT R.O.W.

NOTE:
-ALL ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
-ALL CURB RADII ARE 3' UNLESS SPECIFIED.



SITE VICINITY MAP

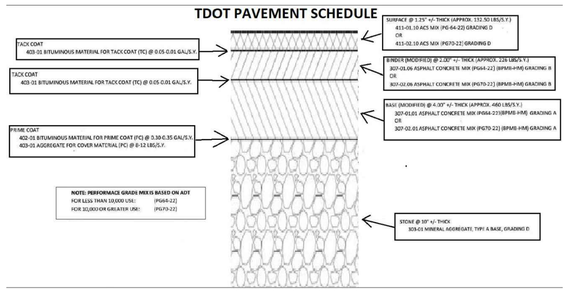
SCALE 1" = 40'
20 40 80



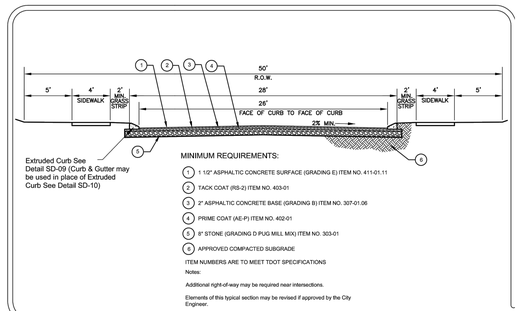
NOTES:
1. BASED ON TDOT STANDARD DRAWING RP-SC-1
2. ONLY PERMITTED IN APPLICABLE ROADWAY SECTIONS
3. CLASS A 3000 PSI CONCRETE
4. CONTRACTION JOINTS SHALL BE AS FOLLOWS:
   4.1. 1/4 INCH DEPTH, EITHER SAWCUT OR HAND GROOVED;
   4.2. A MINIMUM SPACING OF 5 FEET.
   4.3. 1/4 INCH DEPTH, EITHER SAWCUT OR HAND GROOVED;
5. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	EXTRUDED MOUNTABLE CURB	DATE 6/9/2022
STANDARD DETAILS	(NTS)	SD-02

TDOT PAVEMENT SCHEDULE



NOTE: PERFORMANCE GRADE MIXES BASED ON ADT
FOR LESS THAN 10,000 USE: (PG64-22)
FOR 10,000 OR GREATER USE: (PG70-22)



MINIMUM REQUIREMENTS:
1. 1 1/2" ASPHALTIC CONCRETE SURFACE (GRADING E) ITEM NO. 411-01.11
2. TACK COAT (RS-2) ITEM NO. 403-01
3. 2" ASPHALTIC CONCRETE BASE (GRADING B) ITEM NO. 307-01.06
4. PRIME COAT (AE-P) ITEM NO. 402-01
5. 8" STONE (GRADING D PUG MILL MIX) ITEM NO. 303-01
6. APPROVED COMPACTED SUBGRADE

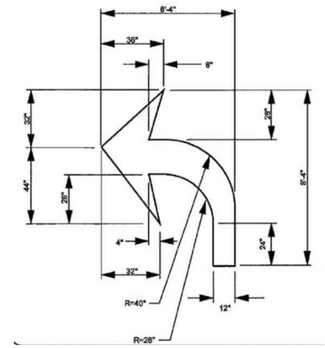
ITEM NUMBERS ARE TO MEET TDOT SPECIFICATIONS

Notes:

Additional right-of-way may be required near intersections.

Elements of this typical section may be revised if approved by the City Engineer.

CITY OF COLUMBIA TENNESSEE	RESIDENTIAL LOCAL STREET (NTS)	DATE 9-10-2014
		DWG. NO. SD-04



THERMOPLASTIC TURN ARROW

W&A Engineering
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TRAFFIC ENGINEERING · SURVEYING
ECONOMIC DEVELOPMENT
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Nashville, TN 37209
P: (615) 610-1023
waengineering.com

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McCLURE FARMS
CONSTRUCTION PLANS

COLUMBIA, MAURY COUNTY, TN 38401

2504 & 2524 NASHVILLE HIGHWAY -101.07 ACRES

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT
02-24-23	CITY OF COLUMBIA ENGINEERING & SEWER COMMENTS
05-03-23	PLANNING COMMISSION COMMENTS
_	_
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_	_
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_	_

CONSTRUCTION DOCUMENTS

ISSUANCE DATE: 08-10-22



W&A PROJECT #: 220047

TDOT SITE PLAN

C630

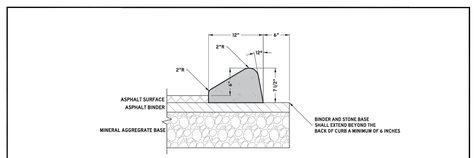
X:\Projects\2022\220047- McClure Farms\Design\Construction\3-SHEETS\C630-C633 TDOT-220047.dwg 6-20-23 09:20:32 AM jlogan



SITE VICINITY MAP

NOTE:
-ALL ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
-ALL CURB RADII ARE 3' UNLESS SPECIFIED.

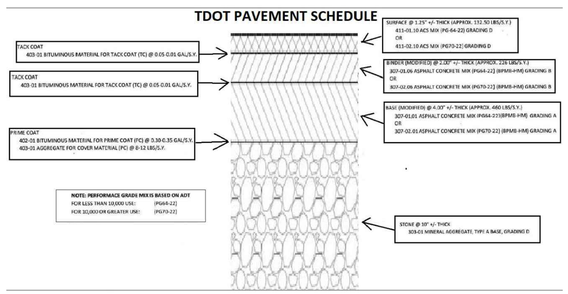
SCALE 1" = 40'
20 40 80

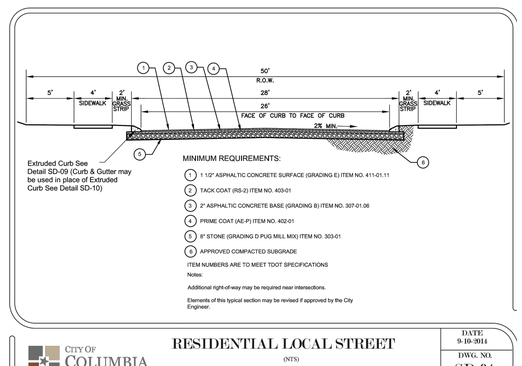


NOTES:

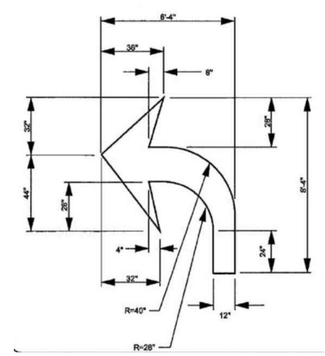
1. BASED ON TDOT STANDARD DRAWING RP-SC-1
2. ONLY PERMITTED IN APPLICABLE ROADWAY SECTIONS
3. CLASS A 3000 PSI CONCRETE
4. CONTRACTION JOINTS SHALL BE AS FOLLOWS:
   4.1. TRANSVERSE SPACING OF 10 FEET
   4.2. A MINIMUM SPACING OF 4 FEET
   4.3. 1/4 INCH DEPTH, EITHER SAWCUT OR HAND GROOVED.
5. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA TENNESSEE	CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	EXTRUDED MOUNTABLE CURB	DATE 6/9/2022
	STANDARD DETAILS	(NTS)	SD-02





CITY OF COLUMBIA TENNESSEE	RESIDENTIAL LOCAL STREET (NTS)	DATE 9-10-2014
		DWG. NO. SD-04



THERMOPLASTIC TURN ARROW

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McCLURE FARMS
CONSTRUCTION PLANS

COLUMBIA, MAURY COUNTY, TN 38401

2504 & 2524 NASHVILLE HIGHWAY -101.07 ACRES

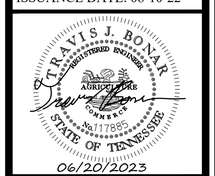
Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT
02-24-23	CITY OF COLUMBIA ENGINEERING & SEWER COMMENTS
05-03-23	PLANNING COMMISSION COMMENTS
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CONSTRUCTION DOCUMENTS

ISSUANCE DATE: 08-10-22



W&A PROJECT #: 220047

TDOT SITE PLAN

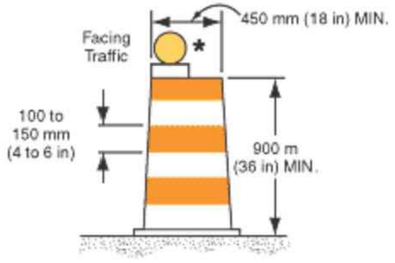
C631

X:\Projects\2022\220047- McClure Farms\Design\Construction\3-SHEETS\C630-C633 TDOT-220047.dwg 6-30-23 09:20:50 AM jlogan



SITE VICINITY MAP

MATCH LINE. SEE SHEET C212.



TRAFFIC BARREL



TEMPORARY TRAFFIC CONTROL SIGNAGE

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TRAFFIC ENGINEERING · SURVEYING
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McCLURE FARMS CONSTRUCTION PLANS

COLUMBIA, MAURY COUNTY, TN 38401

2504 & 2524 NASHVILLE HIGHWAY -101.07 ACRES

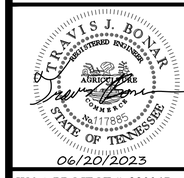
Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT
02-24-23	CITY OF COLUMBIA ENGINEERING & SEWER COMMENTS
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CONSTRUCTION DOCUMENTS

ISSUANCE DATE: 08-10-22



W&A PROJECT #: 220047

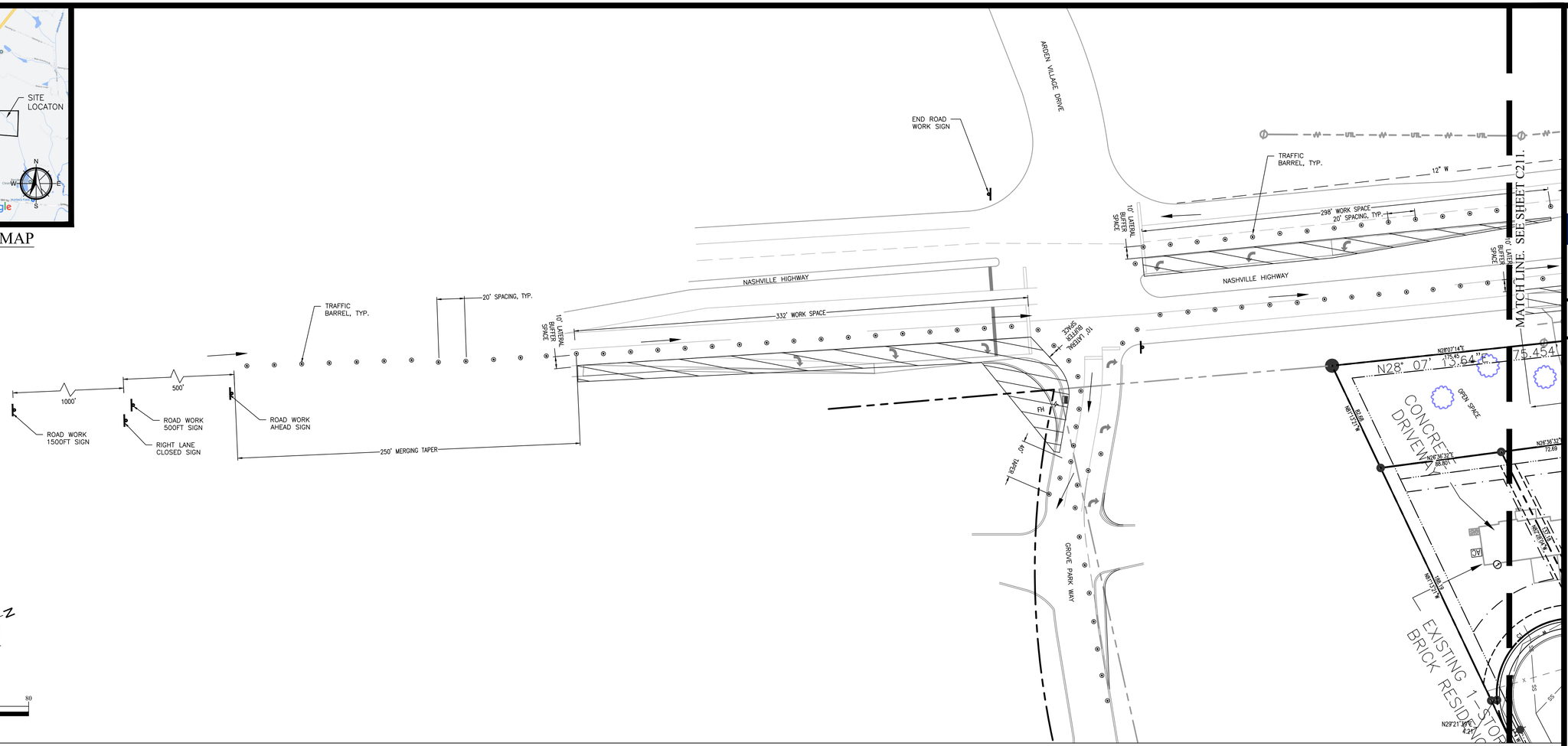
TDOT TEMPORY TRAFFIC CONTROL PLAN

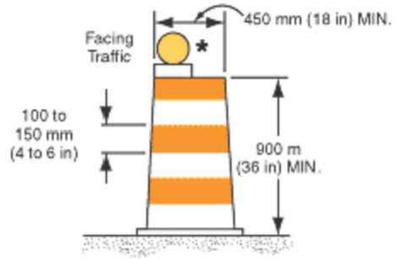
C634

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SITE VICINITY MAP





TRAFFIC BARREL



W20-1



W20-1

TEMPORARY TRAFFIC CONTROL SIGNAGE



W20-1



W20-1

OTHER SIGNS WITH:
–500FT
–1500FT



G20-2

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McCLURE FARMS
CONSTRUCTION PLANS

COLUMBIA, MAURY COUNTY, TN 38401

2504 & 2524 NASHVILLE HIGHWAY -101.07 ACRES

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REVISIONS

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02-24-23	CITY OF COLUMBIA ENGINEERING & SEWER COMMENTS
05-03-23	PLANNING COMMISSION COMMENTS
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CONSTRUCTION DOCUMENTS

ISSUANCE DATE: 08-10-22



W&A PROJECT #: 220047

TDOT TEMPORY TRAFFIC CONTROL PLAN

C635

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Brightland HOMES

June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

Re: McClure Farms Development
Traffic Improvements

Glenn,

As part of the ongoing review by Columbia Development Services of the proposed McClure Farms Development, a traffic impact study (TIS) was conducted and approved by the City. The McClure Farms Development consists of 315 PUD units and 116 single family lots.

Several traffic improvements were recommended by the TIS. The developer Brightland Homes is providing commitment to the installation of certain traffic improvements related to the McClure Farms Development and are as follows.

1. **Nashville Highway (US-31) and Old Highway 31/Site Access 1**
   The developer will construct site access 1 along Nashville Highway with a left-in/right-in/right-out configuration to be aligned with Old Highway 31 with one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards. Additionally, the developer will construct one (1) exclusive right-turn lane on the northbound approach of Nashville Highway (US-31) and one (1) exclusive left-turn lane on the southbound approach of Nashville highway (US-31) at its intersection with Old Highway 31/ Site Access 1. Both the left and right turn lanes shall provide 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards. The developer proposed this work to be completed during Phase 1, prior to the completion of Phase 2 final plat.

2. **Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**
   The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer will extend the existing right turn lane on the northbound approach to a minimum of 300 feet of storage and taper length, as well as extending the southbound left turn lane to have a minimum of 300 feet of storage and taper. Additionally, the developer will improve the radius of right turning traffic at Grove Park Way and add a right turn lane on the west bound approach of Grove Park Way to have a minimum of 250 feet of storage and taper. The developer proposes this work to be completed during Phase 1, prior to the completion of the Phase 2 Final Plat.

Barton Creek Plaza III | 3815 South Capital of Texas Highway, Suite 210 | Austin, Texas 78704 | p. 512.330.9366 | f. 512.330.9755
brightlandhomes.com

RECEIVED
JUN 20 2023
By: 23-0201

3. **Persimmon Street and Site Access 2**
   The developer will construct Site Access 2 along Persimmon street. Consisting of one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards. The developer proposes this work to be completed during Phase 1, prior to the completion of Phase 2 final plat.

4. **Nashville Highway (US-31) and Spring Meade Boulevard**
   The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer proposes to purchase the required components during Phase 1, and prior to the completion of the Phase 4 Final Plat these will be installed by the City of Columbia.

5. **Nashville Highway (US-31) and Greens Mill Road**
   The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer proposes to purchase the required components during Phase 1, and prior to the completion of the Phase 4 Final Plat these will be installed by the City of Columbia.

6. **Nashville Highway (US-31) and Hidden Creek Way**
   The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer proposes to purchase the required components during Phase 1, and prior to the completion of the Phase 4 Final Plat these will be installed by the City of Columbia.

The developer proposes to purchase all recommended equipment necessary for these improvements as outlined below.

Loop Detectors

EDI LMD 222	(6 total)

CCTV Cameras

Axis 6075E	(3 total)

Applied Information Unit

AI500-085-02	(1 total)

Linux Upgrade to Controller

2070-1C CPU	(2 total)
2070-E+ IO	(2 total)

Back plates for Eagle Signals Mast Arm Mount

3 section back plate w/ reflective tape	(8 total)
4 section back plate w/ reflective tape	(2 total)

Conflict Monitor

EDI 2010 ECL-IP

If you have any questions or need additional information please feel free to contact Travis Bonar at tbonar@waengineering.com or 615-610-1023.

Sincerely,

BRIGHTLAND HOMES OF TENNESSEE, LLC,
a Delaware limited liability company

By: Brightland Homes, Ltd.,
a Texas limited partnership, sole Member

By: Brightland Homes I, Inc.,
a Texas corporation, General Partner

By: _____
Chris Lynch,
President of Land Operations

McClure Farms – Preliminary Plat Phases 1-4

With this submittal of the preliminary plats for phases 1-4, please note the following updates and consideration given based upon previous feedback for the project on 4/3/2023.

1. Sanitary Sewer: Adjustment to sanitary sewer to provide a maximum depth of twenty (20) feet from bottom of pipe. The deepest portion would run along segments A-C and A-E beneath Parmenter Street as shown on sheets C511 and C512. Additionally, a single lift station is deployed for the entirety of the project, most specifically in phase 4 of this project per the original Master PUD.
2. Retaining walls: A majority of retaining walls have been removed with the re-designed site grading. All retaining walls are eight (8) feet or less with the noted exceptions listed below:
    a. Wall for Pond 2.1 – exceeds eight (8) feet and set back from landscape buffer – see sheet C302. Additionally, the wall for Pond 2.1 has been relocated outside of the boundary of the wetland feature, Pond-1, to reduce environmental impacts.
3. ROW Walls: Preliminarily approved by City Engineering. The city will provide details for wall construction.
4. Nashville Highway improvements –
    a. Left turn/J-turn lanes and dividing line added and entrance has been shifted. See sheets C207, C208, and C601
    b. Right turn lane radius improvement has been added at Grove Park – See sheets C207, C208, and C601
    c. Right-of-way through commercial parcel to be platted – submitted 5/19
    d. Commitment letter has been added to reflect updates
5. All four (4) Preliminary Plats for residential development and the commercial plat (revised for ROW access) are submitted for review under this cycle.
6. Plans have been divided into phase sheets to expedite reviewing process. Phases 1 and 2 can be found on sheets ending in 00, 01, and 02.

PRELIMINARY PLAT - PHASE 1 - 4

FOR

McCLURE FARMS

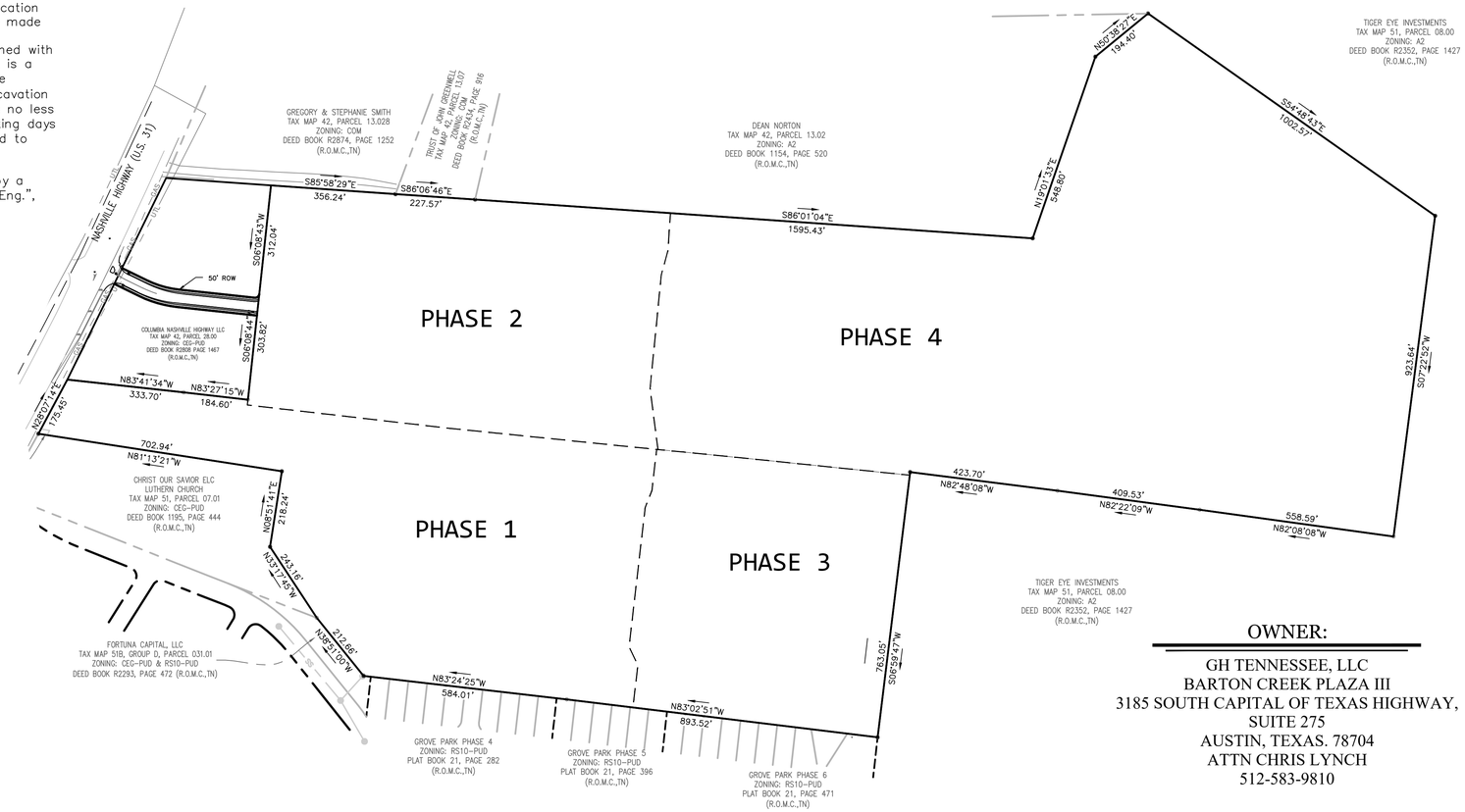
2504 NASHVILLE HWY

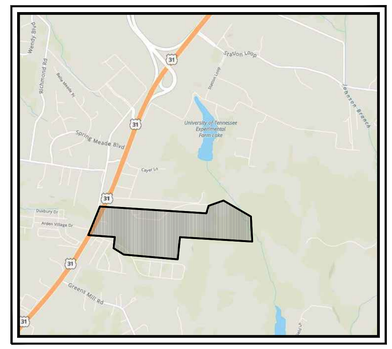
COLUMBIA, MAURY COUNTY, #38401

95.29-ACRE SITE
ISSUED 6-20-2023
W&A PROJECT # 220047

NOTES:

1. The purpose of this preliminary plat is to create 116 lots and 314 Town-Home Units.
2. Property is identified as a portion of parcel 6.00 on Maury County, Tennessee Property Map: 51 in the civil district. Property is located in the city of Columbia and accessed from Nashville Highway.
3. Subject properties are currently zoned RS6-PUD per the City of Columbia GIS Mapping.
4. All distances shown are in feet and decimals thereof.
5. This property is NOT located in an area designated as a "Special Flood Hazard Area" as per the Federal Emergency Management Agency "National Flood Insurance Program" Rate Map No. 47119C0180E. (Zone X), (Map Revised APRIL 16, 2007).
6. This surveyor has not physically located the underground utilities. Above grade and underground utilities shown were taken from visible appurtenances at the site; public records and/or maps prepared by others. Special attention has been taken to indicate the approximate nature of the utilities, shown hereon. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities are in the exact location indicated. Therefore, reliance upon the type, size, and location of utilities shown must be done so with this circumstance considered. Detailed verification of existence, location, and depth should also be made prior to any decision relative thereto is made. Availability and cost of service should be confirmed with the appropriate utility company. In Tennessee, it is a requirement per "The Underground Utility Damage Prevention Act" that anyone who engages in excavation must notify all known underground utility owners no less than three (3), nor no more than ten (10) working days prior to the date of their intent to excavate and to avoid any possible hazard or conflict.
8. All property corners that were set are marked by a 1/2" Rebar with a yellow cap that reads "W&A Eng.", unless otherwise noted.





VICINITY MAP
SCALE: NTS

N
W E
S

SCALE 1" = 200' 0 100 200 400

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	EXISTING CONDITIONS
3	OVERALL LAYOUT
4	PLAT – PHASE 1
5	PLAT – PHASE 2
6	PLAT – PHASE 3
7	PLAT – PHASE 4
8	PLAT – PHASE 4
9	UTILITY – PHASE 1
10	UTILITY – PHASE 2
11	UTILITY – PHASE 3
12	UTILITY – PHASE 4
13	GRADING – PHASE 1
14	GRADING – PHASE 2
15	GRADING – PHASE 3
16	GRADING – PHASE 4
17	SLOPE ANALYSIS
18	DETAIL SHEET

PHASING TIMELINE:
PHASE 1: AUGUST 2023 – AUGUST 2024
PHASE 2: AUGUST 2025 – FEBRUARY 2025
PHASE 3: AUGUST 2025 – MAY 2026
PHASE 4: AUGUST 2025 – MAY 2027

EXISTING TREE CANOPY: 23.15 ACRES
TREE CANOPY RETAINED: 6.98 ACRES

CURRENT SCHOOL ZONES:
- BATTLE CREEK ELEMENTARY SCHOOL
- BATTLE CREEK MIDDLE SCHOOL
- SPRING HILL HIGH SCHOOL

1) NO RESIDENCE IS GUARANTEED ZONE TO A SPECIFIC SCHOOL.
2) ALL ZONES ARE SUBJECT TO CHANGE YEARLY.

ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT.

ARAP #NR2208.3559

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

OWNER:

GH TENNESSEE, LLC
BARTON CREEK PLAZA III
3185 SOUTH CAPITAL OF TEXAS HIGHWAY,
SUITE 275
AUSTIN, TEXAS. 78704
ATTN CHRIS LYNCH
512-583-9810

DEVELOPER:

GH TENNESSEE, LLC
BARTON CREEK PLAZA III
3185 SOUTH CAPITAL OF TEXAS HIGHWAY,
SUITE 275
AUSTIN, TEXAS. 78704
ATTN CHRIS LYNCH
512-583-9810

ENGINEER:

W & A ENGINEERING
4101 CHARLOTTE AVE. E215
NASHVILLE, TN. 37209
ATTN: TRAVIS BONAR, PE
615-610-1023

SURVEYOR:

W & A ENGINEERING
4101 CHARLOTTE AVE. E215
NASHVILLE, TN. 37209
ATTN: ADAM BLEDSOE, PLS
615-610-1023

W&A Engineering
CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

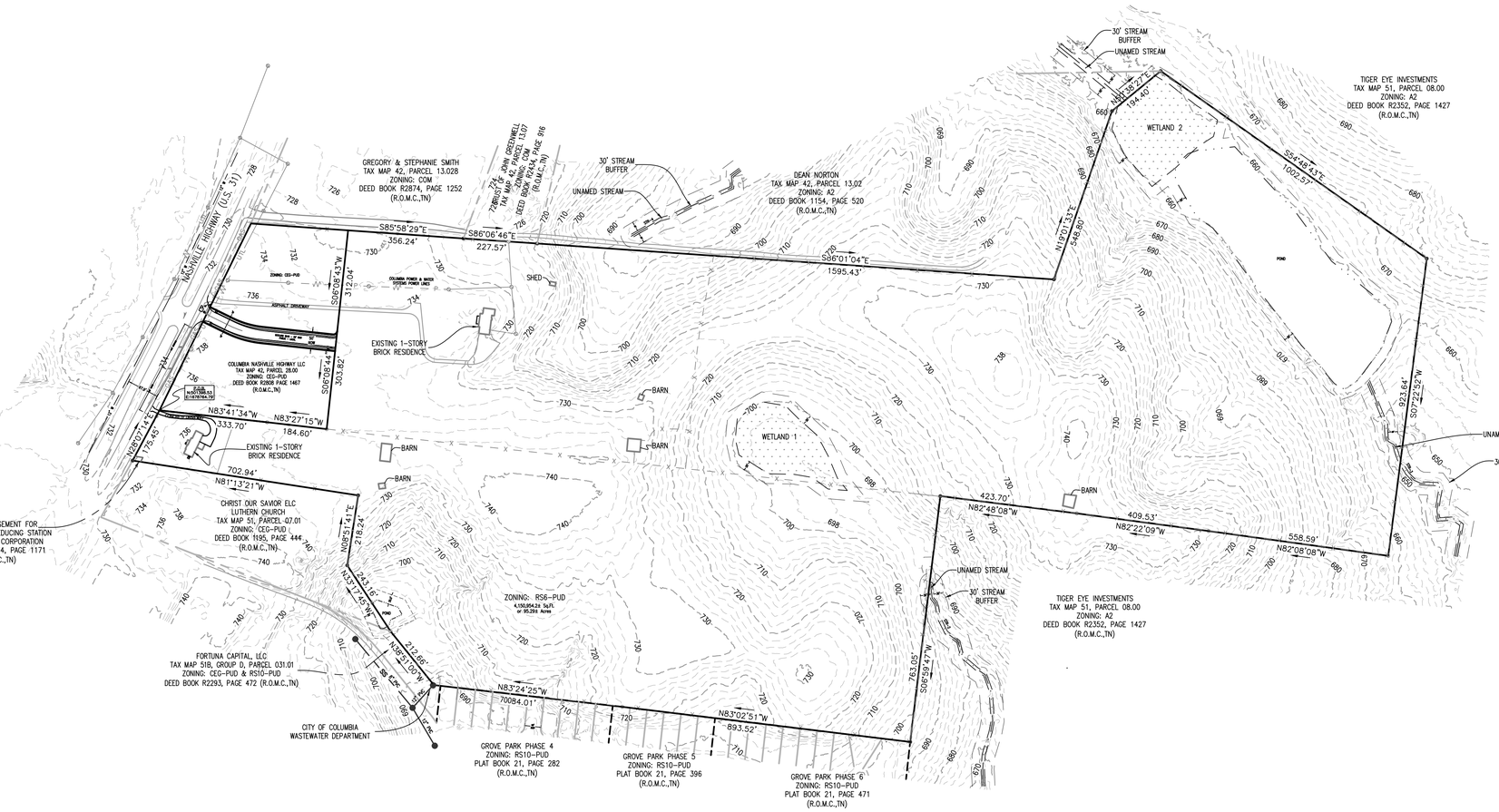
ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
STATE OF TENNESSEE
AGRICULTURE
COMMERCE
TENNESSEE NO. 3089
6/20/2023

W&A PROJECT #: 220047

COVER

SHEET 1 OF 18

X:\Projects\2022\22047- McClure Farms\Design Construction\PLAT\2-Sheets - CAD\PP - PHASE 1 - 220047.dwg 6-20-23 10:50:40 AM epcm



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TRAFFIC ENGINEERING . SURVEYING
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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC

Know what's **below.** **Call** before you dig.

REVISIONS

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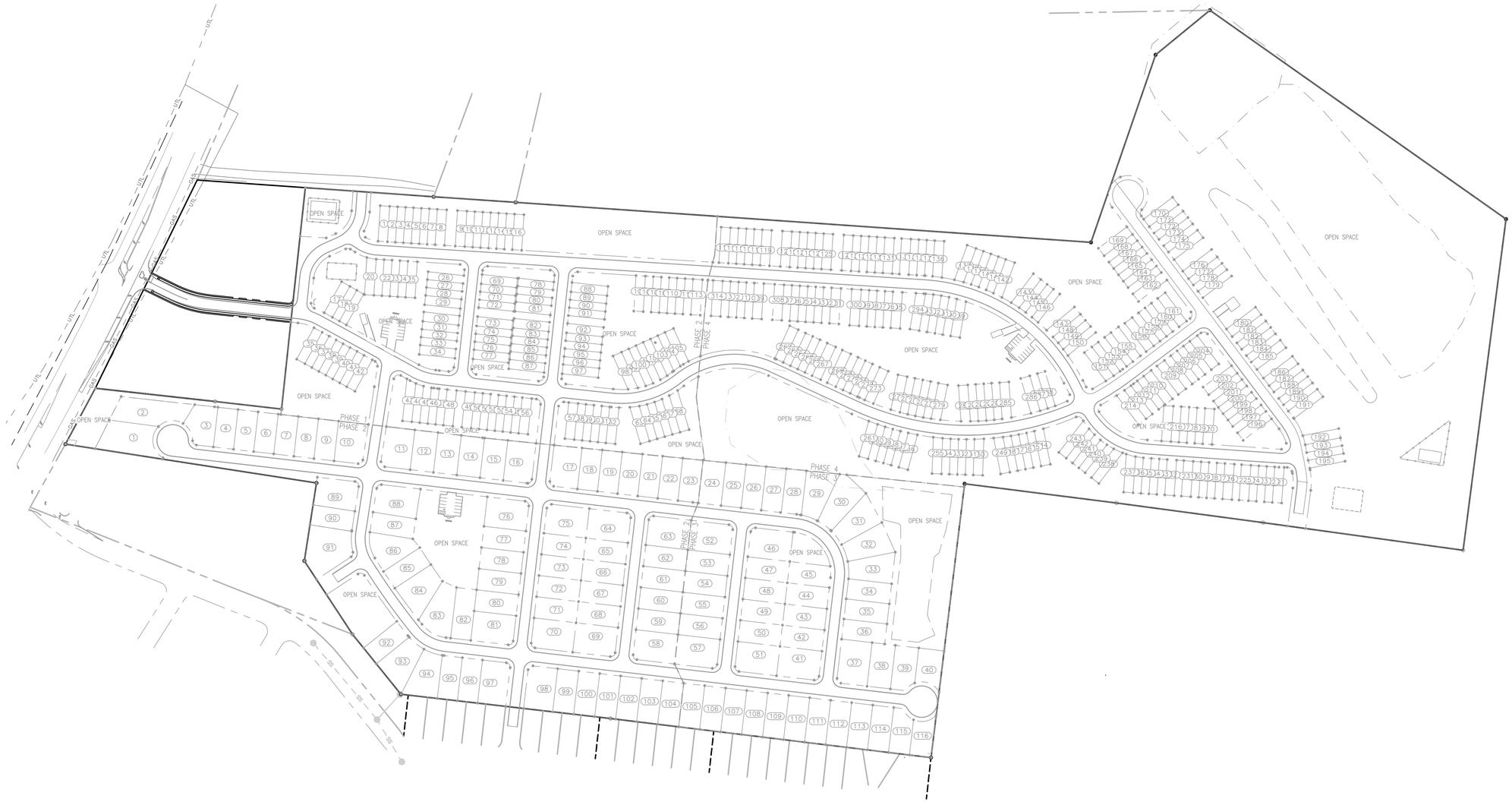
DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
TENNESSEE NO. 3069
6/20/2023

W&A PROJECT #: 22004

EXISTING CONDITI

SHEET 2 OF 1



W&A Engineering

CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
TRAFFIC ENGINEERING · SURVEYING
ECONOMIC DEVELOPMENT

4101 CHARLOTTE AVE. SUITE E215
Nashville, TN 37209
P: (615) 610-1023
waengineering.com

ALL DRAWINGS SHALL REMAIN THE PROPERTY OF W&A ENGINEERING. THESE INSTRUMENTS OF SERVICE ARE TO BE USED SOLELY FOR THIS SPECIFIC PROJECT. W&A ENGINEERING SHALL RETAIN ALL LEGAL RIGHTS TO THE USE OF THE INSTRUMENTS OF SERVICE AND SHALL RETAIN FULL PROTECTION UNDER UNITED STATES COPYRIGHT LAW.

PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
STATE OF TENNESSEE
AGRICULTURE
COMMERCE
TENNESSEE NO. 2009
6/20/2023

W&A PROJECT #: 220047

PHASE 1 - 4

OVERALL LAYOUT

SHEET 3 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\PLATS\Sheets - CAD.PP - SLOPE - 220047.dwg 6-20-23 10:27:26 AM dpenn

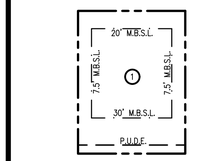
ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT.

N
W E
S

SCALE 1" = 60'
30 60 120

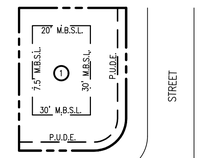
SURVEY LEGEND
P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER

INTERIOR LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

CORNER LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

SITE DATA	
PHASE 1	
LOTS	70
OPEN SPACE	83121.57 SF
	1.91 AC

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

PHASE 2
PHASE 2
PHASE 3
PHASE 3
MCCLURE BLVD – 50' ROW
PUBLIC – LOCAL
50' ROW
NASHVILLE HIGHWAY (U.S. 31)
150' STORAGE
150' TAPER
COLUMBIA NASHVILLE HIGHWAY LLC
TAX MAP 42, PARCEL 28.00
ZONING: CEG-PUD
DEED BOOK R2808 PAGE 1467
(R.O.M.C., TN)
OPEN SPACE
OPEN SPACE
OPEN SPACE
OPEN SPACE
OPEN SPACE
POND
30' BUFFER
S06°08'44"W 15.00
S83°27'15"E 7.31
S83°27'15"E 9.36
S83°41'34"E 333.70
S83°41'34"E 204.85
N29°21'39"E 4.21
S08°51'41"W 16.41
S83°24'49"E 12.73
N83°02'51"W 14.56
N83°25'25"W 101.02
N83°24'25"W 58.50
N83°24'49"W 105.00
N83°24'49"W 105.01
N83°24'49"W 108.97
N83°24'49"W 186.09
N83°24'49"W 104.81
N83°24'49"W 51.22
N83°24'49"W 68.50
N83°24'49"W 69.00
N83°24'49"W 58.50
N83°24'49"W 59.41
N83°24'49"W 64.75
N83°24'49"W 64.77
N83°24'49"W 64.76
N83°24'49"W 78.51
N83°24'49"W 78.00
N83°24'49"W 56.33
N83°24'49"W 41.52
N83°24'49"W 15.00
N83°24'49"W 66.50
N83°24'49"W 64.50
N83°24'49"W 64.25
N83°24'49"W 71.08
N83°24'49"W 42.36
N83°24'49"W 56.00
N83°24'49"W 57.03
N83°24'49"W 83.05
N83°24'49"W 56.00
N83°24'49"W 56.00
N83°24'49"W 56.00

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
1	0.06	2560.77'
2	0.05	2163.33'
3	0.05	2163.33'
4	0.05	2163.33'
5	0.05	2163.33'
6	0.05	2163.33'
7	0.05	2163.33'
8	0.06	2560.77'
9	0.06	2560.77'
10	0.05	2163.33'
11	0.05	2163.33'
12	0.05	2163.33'
13	0.05	2163.33'
14	0.05	2163.33'
15	0.05	2163.33'
16	0.06	2560.77'
17	0.06	2561.60'
18	0.05	2157.75'
19	0.05	2151.99'
26	0.05	2185.33'
27	0.05	2185.33'
28	0.05	2185.33'
29	0.06	2586.81'
30	0.06	2586.81'
31	0.05	2185.33'
32	0.05	2185.33'
33	0.05	2185.33'
34	0.06	2586.81'
35	0.06	2586.77'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
36	0.05	2185.33'
37	0.05	2185.33'
38	0.05	2185.33'
39	0.05	2185.33'
40	0.05	2185.33'
41	0.05	2185.33'
42	0.06	2586.81'
43	0.07	2905.18'
44	0.05	2289.11'
45	0.05	2207.95'
46	0.05	2185.65'
47	0.05	2185.35'
48	0.06	2586.82'
49	0.06	2586.82'
50	0.05	2185.34'
51	0.05	2185.34'
52	0.05	2185.34'
53	0.05	2185.34'
54	0.05	2185.34'
55	0.05	2185.33'
56	0.06	2586.81'
57	0.06	2612.85'
58	0.05	2207.33'
59	0.05	2207.33'
60	0.05	2207.33'
61	0.05	2207.33'
62	0.06	2619.05'
63	0.06	2678.24'
64	0.05	2203.40'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
65	0.05	2190.71'
66	0.05	2216.85'
67	0.05	2282.32'
68	0.07	2842.14'
69	0.06	2560.77'
70	0.05	2163.33'
71	0.05	2163.33'
72	0.05	2163.33'
73	0.06	2560.77'
74	0.05	2163.33'
75	0.05	2163.33'
76	0.05	2163.33'
77	0.06	2560.77'
78	0.05	2163.33'
79	0.05	2163.33'
80	0.05	2163.33'
81	0.06	2560.77'
82	0.06	2560.77'
83	0.05	2163.33'
84	0.05	2163.33'
85	0.05	2163.33'
86	0.05	2163.33'
87	0.06	2560.77'
88	0.06	2612.85'
89	0.05	2207.33'
90	0.05	2207.33'
91	0.05	2207.33'
92	0.06	2612.85'
93	0.05	2207.33'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
94	0.05	2207.33'
95	0.05	2207.33'
96	0.05	2207.33'
97	0.06	2612.85'
98	0.06	2738.73'
99	0.06	2440.57'
100	0.06	2503.69'
101	0.06	2518.85'
102	0.06	2486.48'
103	0.06	2405.74'
104	0.05	2300.01'
105	0.06	2631.06'
106	0.06	2560.77'
107	0.05	2163.33'
108	0.05	2163.33'
109	0.05	2163.33'
110	0.05	2163.33'
111	0.05	2163.33'
112	0.05	2163.33'
113	0.06	2560.77'

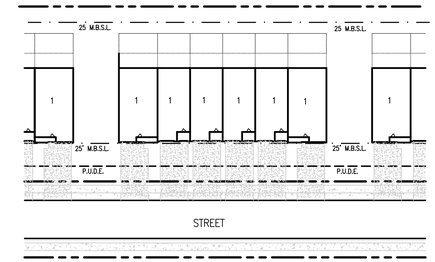
CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C62	N73°14'28"W	46.31'	125.00
C63	N61°54'29"W	3.14'	125.00
C64	N26°09'49"W	15.89'	13.00
C65	N63°50'11"E	24.95'	13.00
C66	S64°06'21"E	17.82'	175.00
C67	S70°43'29"E	22.61'	175.00
C68	S78°02'56"E	22.13'	175.00
C69	S82°47'21"E	6.83'	175.00
C70	S38°39'14"E	20.54'	13.00
C71	S51°20'46"W	20.31'	13.00
C75	S77°34'37"W	22.05'	275.00
C76	S72°59'13"W	22.01'	275.00
C77	S68°23'30"W	22.10'	275.00
C78	S63°45'40"W	22.35'	275.00
C79	S58°37'16"W	26.99'	275.00
C80	S53°36'22"W	21.15'	275.00
C81	S57°29'17"W	47.79'	225.00
C82	N66°08'49"E	35.99'	275.00
C83	N60°41'30"E	16.38'	275.00
C84	N57°57'49"E	9.81'	275.00
C85	N54°36'24"E	22.41'	275.00
C86	N51°50'14"E	4.17'	275.00
C87	N53°44'15"E	18.34'	225.00

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C88	N58°53'37"E	22.16'	225.00
C89	N64°31'03"E	22.01'	225.00
C90	N70°07'53"E	22.08'	225.00
C91	N75°47'26"E	22.37'	225.00
C92	N82°06'00"E	27.19'	225.00
C93	S89°10'22"E	41.36'	225.00
C94	S38°52'50"E	20.43'	13.00
C95	N51°07'10"E	20.41'	13.00
C96	S38°51'27"E	20.44'	13.00
C97	N51°08'33"E	20.40'	13.00
C98	S72°32'51"E	49.56'	125.00
C99	S65°54'02"E	28.79'	175.00
C100	S32°14'01"E	17.42'	13.00
C101	S36°00'01"W	78.16'	75.00
C102	N87°30'25"W	13.71'	13.04
C103	N57°17'15"W	15.24'	334.57
C104	N65°34'25"W	36.16'	125.00
C105	N80°07'29"W	27.34'	125.00
C106	N80°07'29"W	27.34'	125.00
C107	N40°06'07"W	21.01'	13.00
C108	S49°53'53"W	19.83'	13.00
C109	N40°07'29"W	21.00'	13.00
C110	S49°52'31"W	19.84'	13.00

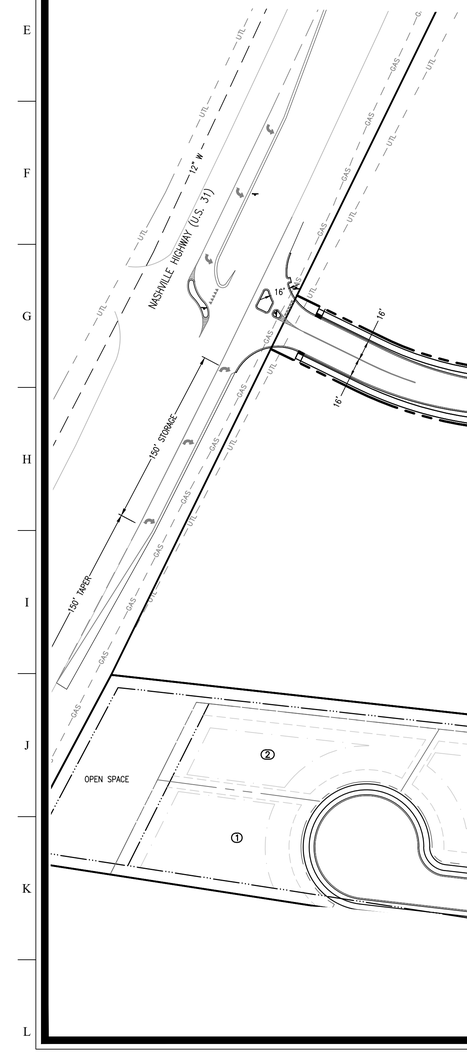
CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C111	S72°34'40"E	36.17'	75.00
C112	S12°18'55"E	18.94'	13.00
C113	S16°41'29"W	55.51'	125.00
C114	S16°41'29"W	55.51'	125.00
C115	N34°54'46"E	80.73'	77.47

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	0.40	17221.99
1	0.43	18940.27
1	0.66	28788.39
1	1.25	54255.35
1	1.11	48220.86
1	2.06	89563.17
1	0.38	16671.27
1	0.85	36929.32

SITE DATA	
PHASE 2	
LOTS	113
OPEN SPACE	310590.62 SF
	7.13 AC



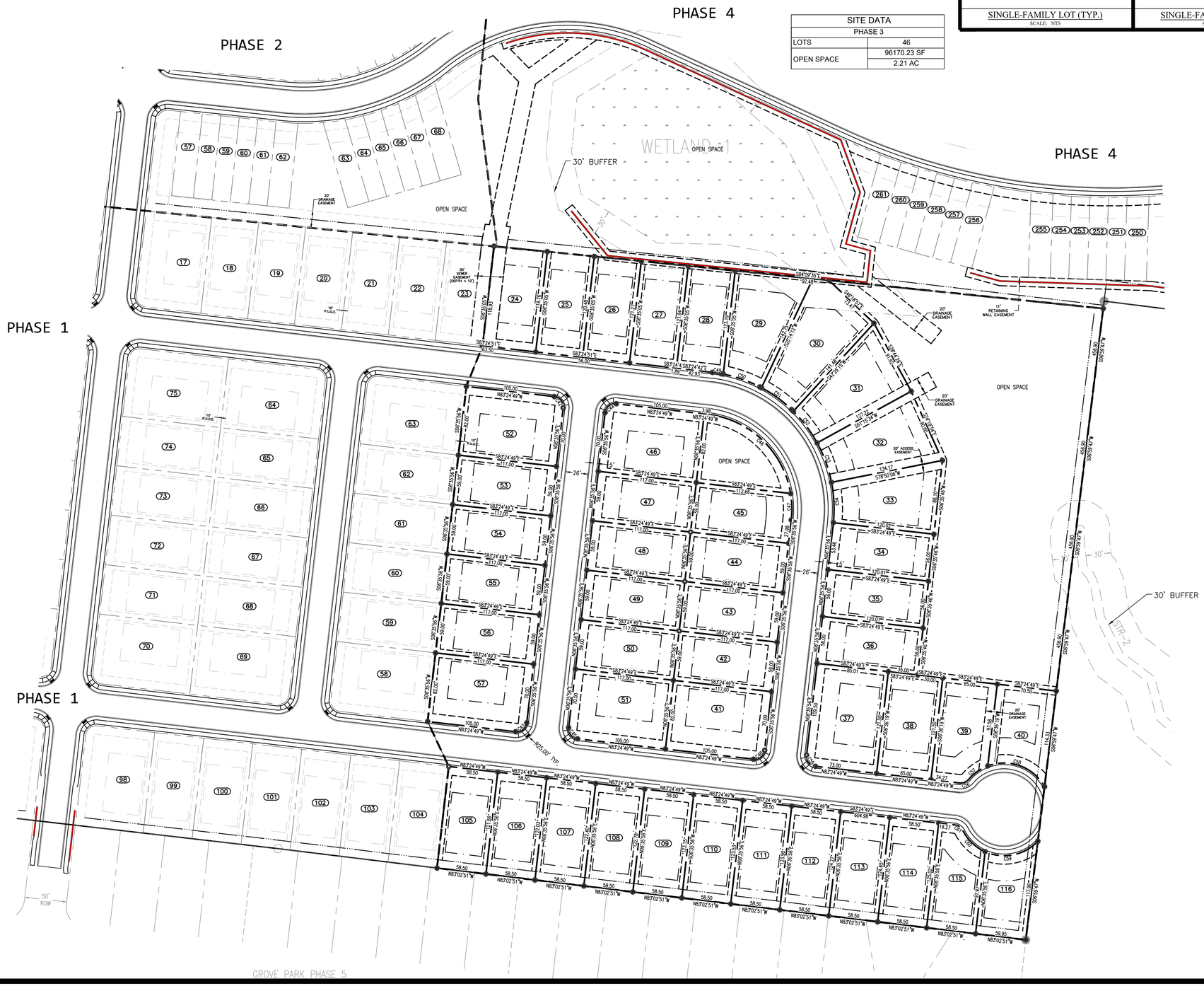
TOWNHOME (TYP.)
SCALE: NTS


NASHVILLE HIGHWAY (U.S. 31)
12' W
150' SWPBP
150' STORAGE
16'
16'
MCCLURE BLVD - 50' ROW
PUBLIC - LOCAL
50' ROW
COLUMBIA NASHVILLE HIGHWAY LLC
TAX MAP 42, PARCEL 28.00
ZONING: CG-PUD
DEED BOOK R2808 PAGE 1467
(R.O.M.C.,TN)
GREGORY & STEPHANIE SMITH
TAX MAP 42, PARCEL 13.028
ZONING: COM
DEED BOOK R2874, PAGE 1252
(R.O.M.C.,TN)
TRUST OF JOHN GREENWELL
TM MAP 42, PARCEL 13.07
ZONING: COM
DEED BOOK 1644, PAGE 916
(R.O.M.C.,TN)
OPEN SPACE
S80°58'29"E 132.35
N80°58'29"W 132.35
S89°23'43"E 529.84
N89°23'43"W 72.54
S89°23'43"E 118.76
S87°48'30"E 118.76
S87°51'16"E 161.96
S89°23'43"E 161.96
S87°51'16"E 139.96
S87°54'24"E 173.71
S87°54'24"E 131.88
S87°54'24"E 302.01
S87°54'24"E 116.19
S87°10'05"E 116.53
S87°51'16"E 139.96
N87°51'16"W 139.96
N87°54'24"W 131.88
N87°54'24"W 173.71
N87°48'30"W 118.76
N89°23'43"W 118.76
N89°23'43"W 529.84
N87°54'24"W 302.01
S87°54'24"E 116.19
S87°10'05"E 116.53
N87°51'16"W 139.96
S87°51'16"E 139.96
N87°54'24"W 131.88
S87°54'24"E 131.88
N87°54'24"W 173.71
S87°54'24"E 173.71
N87°48'30"W 118.76
S87°48'30"E 118.76
N89°23'43"W 118.76
S89°23'43"E 118.76
N89°23'43"W 529.84
S89°23'43"E 529.84
N87°54'24"W 302.01
S87°54'24"E 302.01
N87°54'24"W 116.19
S87°54'24"E 116.19
N87°10'05"W 116.53

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
24	0.17	7578.23'
25	0.15	6726.70'
26	0.16	6767.51'
27	0.16	6808.32'
28	0.16	6851.71'
29	0.21	9052.34'
30	0.23	9976.49'
31	0.21	9055.04'
32	0.21	8945.98'
33	0.19	8404.72'
34	0.15	6720.33'
35	0.15	6720.46'
36	0.15	6720.62'
37	0.24	10297.25'
38	0.18	7897.50'
39	0.17	7544.68'
40	0.16	6778.97'
41	0.22	9563.13'
42	0.16	6903.00'
43	0.16	6903.00'
44	0.16	6903.00'
45	0.16	6858.44'
46	0.22	9563.13'
47	0.16	6903.00'
48	0.16	6903.00'
49	0.16	6903.00'
50	0.16	6903.00'
51	0.22	9563.07'
52	0.22	9563.14'
53	0.16	6903.00'
54	0.16	6903.00'
55	0.16	6903.00'
56	0.16	6903.00'
57	0.22	9563.11'
105	0.16	7106.00'
106	0.16	7127.87'
107	0.16	7149.75'
108	0.16	7171.62'
109	0.17	7193.50'
110	0.17	7215.38'
111	0.17	7237.25'
112	0.17	7259.13'
113	0.17	7281.00'
114	0.17	7302.88'
115	0.16	6752.52'
116	0.14	6068.51'

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	2.05	89273.33
1	0.16	6896.90

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C42	N38°24'27"W	18.86'	11.99
C43	N51°35'33"E	18.85'	12.00
C44	S51°35'33"W	18.85'	12.00
C45	S38°24'27"E	18.85'	12.00
C46	N46°22'30"W	146.10'	113.00
C47	N01°22'07"W	31.43'	113.00
C48	N51°35'33"E	18.85'	12.00
C49	S81°37'14"E	10.20'	300.19
C50	S70°42'27"E	46.09'	159.62
C51	S54°03'33"E	44.25'	151.29
C52	S37°00'32"E	47.05'	163.00
C53	S19°57'10"E	50.00'	163.00
C54	S02°43'44"E	48.00'	163.00
C55	S38°24'27"E	18.85'	12.00
C56	S68°22'46"W	11.82'	12.00
C57	N54°46'03"E	28.13'	55.00
C58	S69°54'22"E	78.09'	55.00
C59	S78°42'31"W	68.13'	55.00
C60	N46°23'24"W	37.28'	55.00
C61	N55°10'13"W	11.83'	12.00



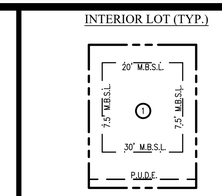


SCALE 1" = 60' 30 60 120

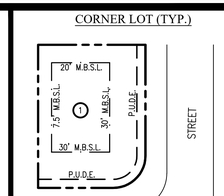
SURVEY LEGEND

- P.O.B. – POINT OF BEGINNING
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SSMH (SANITARY SEWER MANHOLE)
- UTILITY POLE
- PROPERTY LINE
- EASEMENT
- BUILDING SETBACK
- BUFFER
- PROP. MAJ CONTOURS
- EX. MAJ CONTOURS
- STORM SYSTEM
- SANITARY SEWER — SS
- WATER LINE

SITE DATA	
PHASE 3	
LOTS	46
OPEN SPACE	96170.23 SF
	2.21 AC



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

W&A Engineering

CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
TRAFFIC ENGINEERING · SURVEYING
ECONOMIC DEVELOPMENT

4101 CHARLOTTE AVE, SUITE E215
Nashville, TN 37209
P: (615) 610-1023
waengineering.com

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEESE
REGISTERED LAND SURVEYOR XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 3005
6/20/2023

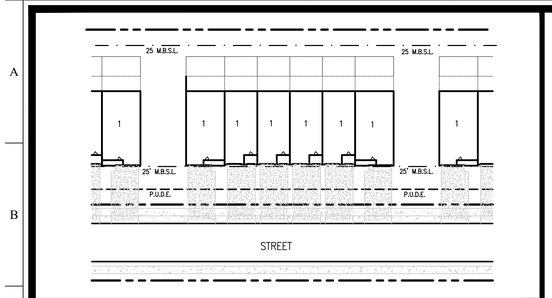
W&A PROJECT #: 220047

PHASE 3

PRELIMINARY PLAT

SHEET 6 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\PP - PHASE 3 - 220047.dwg 6-20-23 09:58:39 AM openin



TOWNHOME (TYP.)
SCALE: NTS

DEAN NORTON
TAX MAP 42, PARCEL 13.02
ZONING: A2
DEED BOOK 1154, PAGE 520
(0.00AC.±M)

SITE DATA	
PHASE 4	
LOTS	201
OPEN SPACE	1326562.46 SF
	30.45 AC

SURVEY LEGEND
P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER — SS —
WATER LINE

N
W
E
S

SCALE 1" = 60'
30 60 120

S86°01'04"E
1595.43'

N19°01'14"E
548.85'

N82°48'08"W
423.70'

N82°22'09"W
409.53'

30' BUFFER

OPEN SPACE

WETLAND 1

UNAMED STREAM

SHEET 8
SHEET 7

W&A Engineering
CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
TRAFFIC ENGINEERING · SURVEYING
ECONOMIC DEVELOPMENT
4101 CHARLOTTE AVE, SUITE E215
Nashville, TN 37209
P: (615) 610-1023
waengineering.com

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEESE
REGISTERED LAND SURVEYOR
XVI
TENNESSEE NO. 3005
6/20/2023

W&A PROJECT #: 220047

PHASE 4

PRELIMINARY PLAT

SHEET 7 OF 18

X:\Projects\2022\220047-McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\PP - PHASE 4 - 220047.dwg 6-20-23 10:10:19 AM epeun

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
114	0.06	2560.77'
115	0.05	2163.33'
116	0.05	2163.33'
117	0.05	2163.33'
118	0.05	2163.33'
119	0.06	2560.77'
120	0.06	2560.77'
121	0.05	2163.33'
122	0.05	2163.33'
123	0.05	2163.33'
124	0.05	2163.33'
125	0.06	2560.77'
126	0.06	2560.77'
127	0.05	2163.33'
128	0.05	2163.33'
129	0.05	2163.33'
130	0.05	2163.33'
131	0.06	2560.77'
132	0.06	2560.77'
133	0.05	2163.33'
134	0.05	2163.33'
135	0.05	2166.29'
136	0.06	2590.97'
137	0.06	2617.36'
138	0.05	2166.36'
139	0.05	2147.01'
140	0.05	2147.97'
141	0.05	2169.24'
142	0.06	2623.28'
143	0.06	2590.32'
144	0.05	2155.05'
145	0.05	2146.18'
146	0.05	2157.61'
147	0.06	2586.13'
148	0.05	2158.12'
149	0.05	2155.28'
150	0.05	2172.74'
151	0.06	2585.85'
152	0.05	2208.36'
153	0.05	2214.87'
154	0.05	2215.03'
155	0.06	2621.96'
156	0.06	2560.77'
157	0.05	2163.33'
158	0.05	2163.33'
159	0.05	2163.33'
160	0.05	2163.33'
161	0.06	2560.77'
162	0.06	2560.77'
163	0.05	2163.33'
164	0.05	2163.33'
165	0.05	2163.33'
166	0.05	2163.33'
167	0.05	2163.33'
168	0.05	2163.33'
169	0.06	2560.77'
170	0.06	2612.85'
171	0.05	2207.33'
172	0.05	2207.33'
173	0.05	2207.33'
174	0.05	2207.33'
175	0.06	2612.85'
176	0.06	2591.15'
177	0.05	2189.00'
178	0.05	2189.00'
179	0.05	2189.00'
180	0.06	2612.85'
181	0.05	2207.33'
182	0.05	2207.33'
183	0.05	2207.33'
184	0.05	2207.33'
185	0.06	2612.85'
186	0.06	2612.50'
187	0.05	2207.04'
188	0.05	2207.04'
189	0.05	2207.04'
190	0.05	2207.04'
191	0.06	2612.52'
192	0.06	2603.82'
193	0.05	2189.00'
194	0.05	2189.00'
195	0.05	2189.00'
196	0.06	2563.28'
197	0.05	2165.46'
198	0.05	2165.46'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
199	0.05	2165.46'
200	0.05	2165.46'
201	0.05	2165.46'
202	0.05	2165.46'
203	0.06	2563.28'
204	0.06	2560.77'
205	0.05	2163.33'
206	0.05	2163.33'
207	0.05	2163.33'
208	0.05	2163.33'
209	0.06	2560.77'
210	0.06	2560.77'
211	0.05	2163.33'
212	0.05	2163.50'
213	0.05	2169.73'
214	0.06	2594.95'
215	0.06	2561.32'
216	0.05	2163.80'
217	0.05	2163.80'
218	0.05	2163.80'
219	0.05	2163.80'
220	0.06	2561.32'
221	0.06	2562.91'
222	0.05	2163.33'
223	0.05	2163.33'
224	0.05	2163.33'
225	0.06	2560.77'
226	0.06	2560.77'
227	0.05	2163.33'
228	0.05	2163.33'
229	0.05	2163.33'
230	0.05	2163.33'
231	0.06	2560.77'
232	0.06	2560.77'
233	0.05	2163.33'
234	0.05	2163.33'
235	0.05	2163.65'
236	0.05	2182.14'
237	0.06	2669.95'
238	0.06	2702.47'
239	0.05	2186.19'
240	0.05	2149.22'
241	0.05	2159.80'
242	0.05	2218.25'
243	0.06	2769.56'
244	0.06	2586.66'
245	0.05	2157.07'
246	0.05	2146.13'
247	0.05	2149.14'
248	0.05	2166.09'
249	0.06	2605.14'
250	0.06	2597.08'
251	0.05	2162.03'
252	0.05	2147.58'
253	0.05	2147.07'
254	0.05	2160.51'
255	0.06	2593.98'
256	0.06	2588.24'
257	0.05	2157.81'
258	0.05	2146.33'
259	0.05	2148.79'
260	0.05	2165.20'
261	0.06	2603.38'
262	0.06	2594.36'
263	0.05	2191.67'
264	0.05	2191.67'
265	0.05	2191.67'
266	0.05	2191.67'
267	0.06	2594.30'
268	0.06	2594.30'
269	0.05	2191.67'
270	0.05	2191.67'
271	0.05	2191.67'
272	0.05	2190.70'
273	0.06	2577.84'
274	0.06	2593.33'
275	0.05	2224.54'
276	0.05	2239.51'
277	0.05	2239.56'
278	0.05	2224.68'
279	0.06	2593.63'
280	0.06	2598.25'
281	0.05	2228.19'
282	0.05	2242.71'
283	0.06	2242.30'

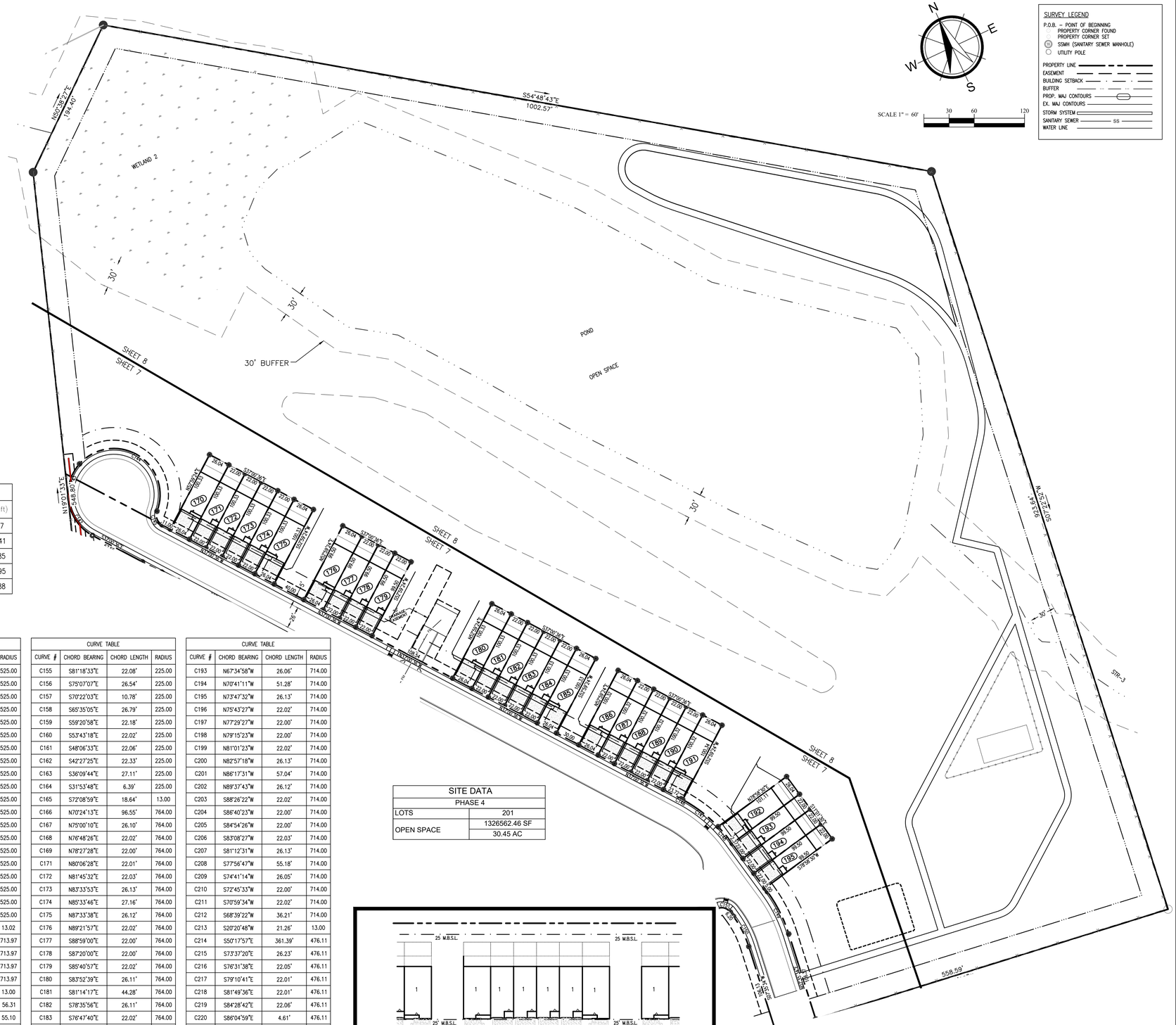
Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
284	0.05	2226.97'
285	0.06	2595.75'
286	0.06	2622.05'
287	0.05	2216.69'
288	0.05	2202.31'
289	0.06	2663.98'
290	0.05	2299.83'
291	0.05	2321.05'
292	0.05	2319.88'
293	0.05	2296.30'
294	0.06	2660.12'
295	0.06	2612.85'
296	0.05	2207.33'
297	0.05	2207.33'
298	0.05	2207.33'
299	0.05	2207.33'
300	0.06	2612.85'
301	0.06	2560.77'
302	0.05	2163.33'
303	0.05	2163.33'
304	0.05	2163.33'
305	0.05	2163.33'
306	0.05	2163.33'
307	0.05	2163.33'
308	0.06	2560.77'
309	0.06	2560.77'
310	0.05	2163.33'
311	0.05	2163.33'
312	0.05	2163.33'
313	0.05	2163.33'
314	0.06	2560.77'

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	0.83	36161.37
1	3.08	134142.41
1	4.30	187499.85
1	19.49	849146.95
1	2.75	119611.88

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C116	N85°14'50"W	21.04'	525.00
C117	N82°40'29"W	26.10'	525.00
C118	N79°19'19"W	35.34'	525.00
C119	N75°57'51"W	26.19'	525.00
C120	N73°19'56"W	22.04'	525.00
C121	N70°55'43"W	22.01'	525.00
C122	N68°31'37"W	22.01'	525.00
C123	N66°07'22"W	22.05'	525.00
C124	N63°29'23"W	26.21'	525.00
C125	N60°26'40"W	29.60'	525.00
C126	N57°24'11"W	26.14'	525.00
C127	N54°46'30"W	22.02'	525.00
C128	N52°22'23"W	22.00'	525.00
C129	N49°58'14"W	22.02'	525.00
C130	N47°01'50"W	31.86'	525.00
C131	N43°52'03"W	26.11'	525.00
C132	N41°14'29"W	22.01'	525.00
C133	N38°50'23"W	22.00'	525.00
C134	N36°26'12"W	22.04'	525.00
C135	N30°52'19"W	79.94'	525.00
C136	N74°07'09"W	20.40'	13.02
C137	S59°16'21"W	42.75'	713.97
C138	S56°30'37"W	26.09'	713.97
C139	S54°34'49"W	22.01'	713.97
C140	S53°20'36"W	8.81'	713.97
C141	S07°59'24"W	20.42'	13.00
C142	S09°19'11"E	52.32'	56.31
C143	S43°30'05"W	44.20'	55.10
C144	N33°24'34"W	152.90'	55.00
C145	N04°36'43"E	18.89'	13.00
C146	N36°37'50"W	2.32'	175.00
C147	N27°31'31"W	53.30'	175.00
C148	N14°54'44"W	23.75'	175.00
C149	N01°42'58"W	56.86'	175.00
C150	S01°42'58"E	40.62'	125.00
C151	S51°25'52"E	18.34'	13.00
C154	S85°04'47"E	7.53'	225.00

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C155	S81°18'33"E	22.08'	225.00
C156	S75°07'07"E	26.54'	225.00
C157	S70°22'03"E	10.78'	225.00
C158	S65°35'05"E	26.79'	225.00
C159	S59°20'58"E	22.18'	225.00
C160	S53°43'18"E	22.02'	225.00
C161	S48°06'33"E	22.06'	225.00
C162	S42°27'25"E	22.33'	225.00
C163	S36°09'44"E	27.11'	225.00
C164	S31°53'48"E	6.39'	225.00
C165	S72°08'59"E	18.64'	13.00
C166	N70°24'13"E	96.55'	764.00
C167	N75°00'10"E	26.10'	764.00
C168	N76°48'26"E	22.02'	764.00
C169	N78°27'28"E	22.00'	764.00
C171	N80°06'28"E	22.01'	764.00
C172	N81°45'32"E	22.03'	764.00
C173	N83°33'53"E	26.13'	764.00
C174	N85°33'46"E	27.16'	764.00
C175	N87°33'38"E	26.12'	764.00
C176	N89°21'57"E	22.02'	764.00
C177	S88°59'00"E	22.00'	764.00
C178	S87°20'00"E	22.00'	764.00
C179	S85°40'57"E	22.02'	764.00
C180	S83°52'39"E	26.11'	764.00
C181	S81°14'17"E	44.28'	764.00
C182	S78°35'56"E	26.11'	764.00
C183	S76°47'40"E	22.02'	764.00
C184	S75°08'38"E	22.00'	764.00
C185	S73°29'37"E	22.00'	764.00
C186	S71°50'34"E	22.03'	764.00
C187	S70°02'13"E	26.13'	764.00
C188	S67°09'09"E	50.80'	764.00
C189	N89°09'46"E	200.98'	225.00
C190	N88°08'27"W	210.83'	275.00
C191	N65°42'46"W	4.46'	275.00
C192	N65°53'33"W	16.07'	714.00

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C193	N67°34'58"W	26.06'	714.00
C194	N70°41'11"W	51.28'	714.00
C195	N73°47'32"W	26.13'	714.00
C196	N75°43'27"W	22.02'	714.00
C197	N77°29'27"W	22.00'	714.00
C198	N79°15'23"W	22.00'	714.00
C199	N81°01'23"W	22.02'	714.00
C200	N82°57'18"W	26.13'	714.00
C201	N86°17'31"W	57.04'	714.00
C202	N89°37'43"W	26.12'	714.00
C203	S88°26'22"W	22.02'	714.00
C204	S86°40'23"W	22.00'	714.00
C205	S84°54'26"W	22.00'	714.00
C206	S83°08'27"W	22.03'	714.00
C207	S81°12'31"W	26.13'	714.00
C208	S77°56'47"W	55.18'	714.00
C209	S74°41'14"W	26.05'	714.00
C210	S72°45'33"W	22.00'	714.00
C211	S70°59'34"W	22.02'	714.00
C212	S68°39'22"W	36.21'	714.00
C213	S20°20'48"W	21.26'	13.00
C214	S50°17'57"E	361.39'	476.11
C215	S73°37'20"E	26.23'	476.11
C216	S76°31'38"E	22.05'	476.11
C217	S79°10'41"E	22.01'	476.11
C218	S81°49'36"E	22.01'	476.11
C219	S84°28'42"E	22.06'	476.11
C220	S86°04'59"E	4.61'	476.11
C222	N59°45'01"W	160.59'	175.00
C223	S38°48'36"W	25.03'	13.00
C224	S26°40'33"E	45.09'	125.00
C225	S82°00'36"E	20.42'	13.00
C226	N53°19'53"E	9.10'	764.00
C227	N54°29'53"E	22.01'	764.00
C228	N56°18'05"E	26.09'	764.00
C229	N59°12'44"E	51.54'	764.00



SITE DATA	
PHASE 4	
LOTS	201
OPEN SPACE	1326562.46 SF
	30.45 AC

TOWNHOME (TYP.)
SCALE: NTS

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
STATE OF TENNESSEE
AGRICULTURE
COMMERCE
TENNESSEE NO. 3003
6/20/2023

W&A PROJECT #: 220047

PHASE 4

PRELIMINARY PLAT

SHEET 8 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\PP - PHASE-4 - 220047.dwg 6-20-23 10:13:37 AM openin

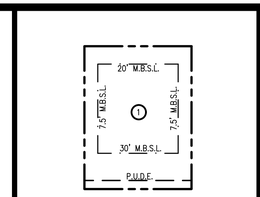
ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT.

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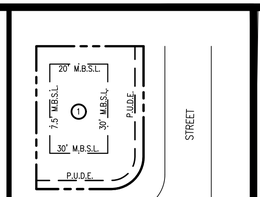
SCALE 1" = 60' 30 60 120

SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS 710
EX. MAJ CONTOURS 710
STORM SYSTEM
SANITARY SEWER SS
WATER LINE W



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

SITE DATA	
PHASE 1	
LOTS	70
OPEN SPACE	83121.57 SF
	1.91 AC

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

PHASE 2

PHASE 2

PHASE 3

PHASE 3

OPEN SPACE

POND

30' BUFFER

PROPOSED SEWER (TYP.)

PROPOSED WATER LINE (TYP.)

FIRE HYDRANT (TYP.)

W&A Engineering

CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
TRAFFIC ENGINEERING · SURVEYING
ECONOMIC DEVELOPMENT

4101 CHARLOTTE AVE. SUITE E215
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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
AGRICULTURE
RESIDENTIAL
COMMERCIAL
TENNESSEE NO. 3039
6/20/2023

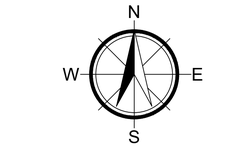
W&A PROJECT #: 220047

PHASE 1

UTILITIES

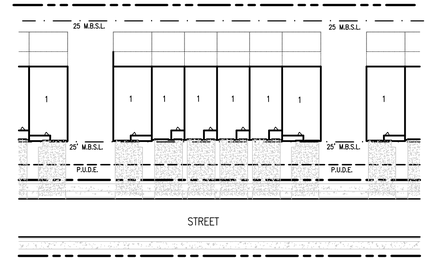
SHEET 9 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\PP - PHASE 1 - 220047.dwg 6-20-23 09:34:40 AM opesm



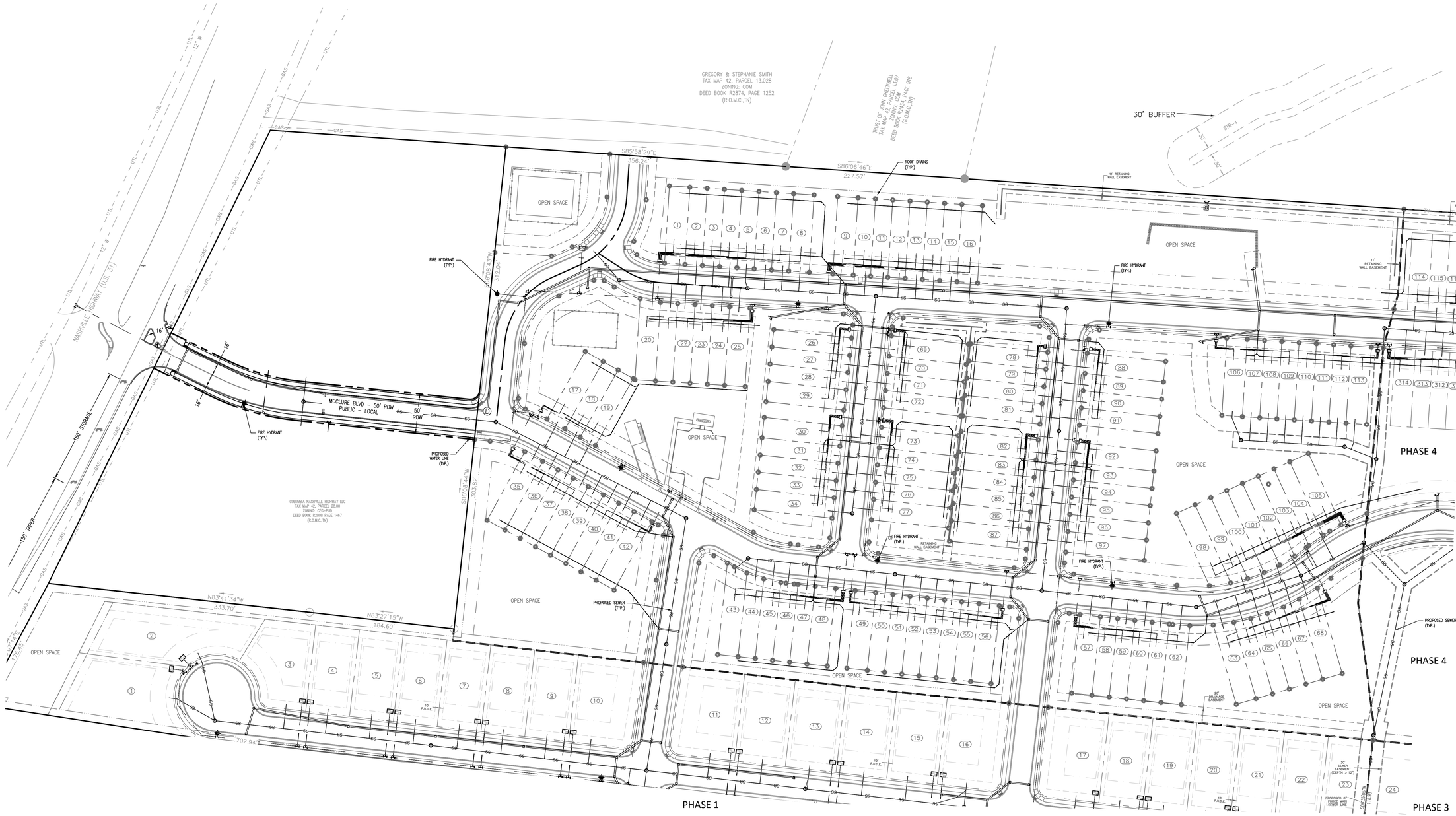
SCALE 1" = 60' 30 60 120

SURVEY LEGEND
P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER SS
WATER LINE



TOWNHOME (TYP.)
SCALE: NTS

SITE DATA	
PHASE 2	
LOTS	113
OPEN SPACE	310590.62 SF
	7.13 AC



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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
No. 2509
STATE OF TENNESSEE
AGRICULTURE
SURVEYOR
TENNESSEE NO. 2509
6/20/2023

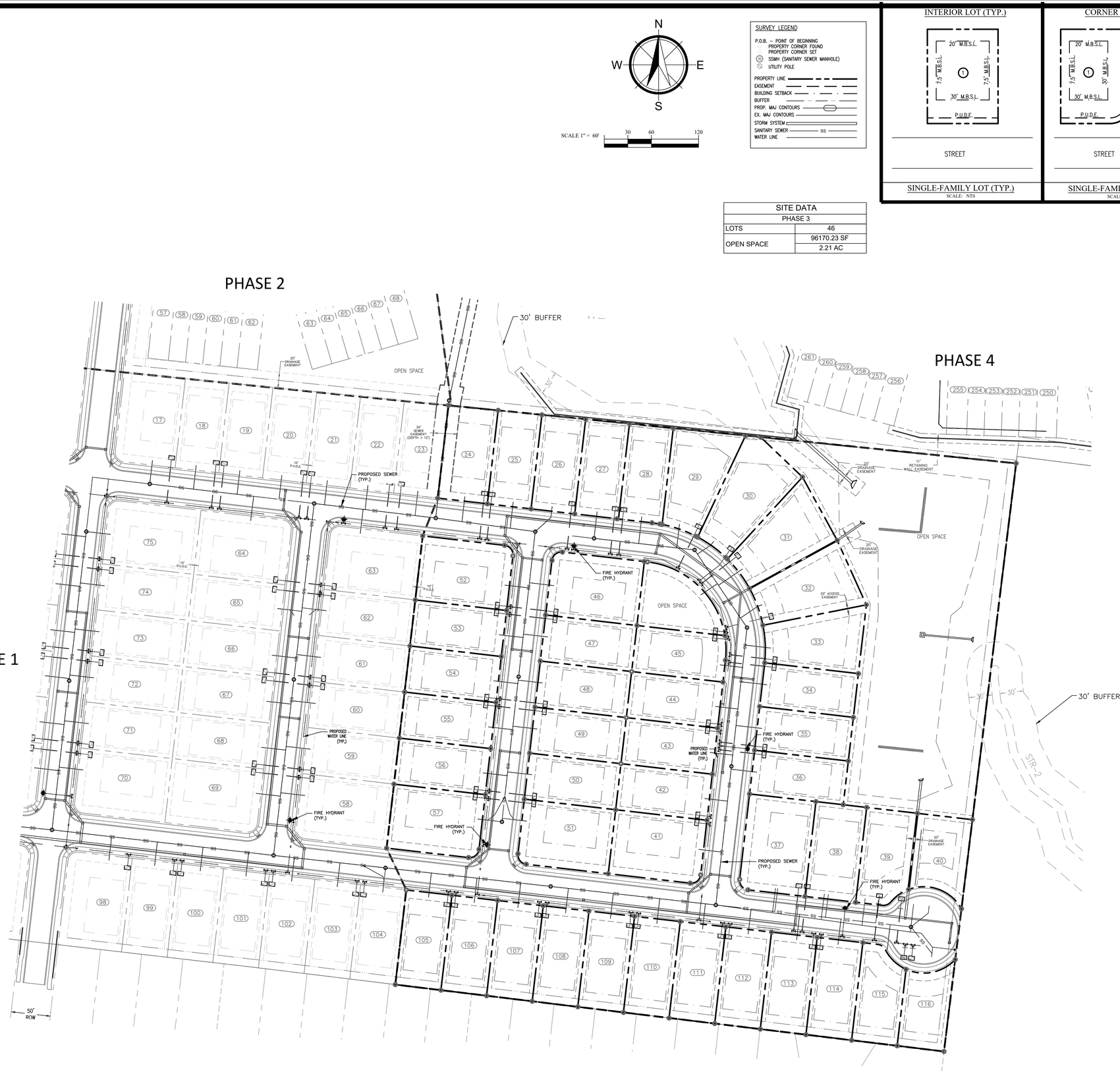
W&A PROJECT #: 220047

PHASE 2

UTILITIES

SHEET 10 OF 18

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N
W E
S

SCALE 1" = 60' 30 60 120

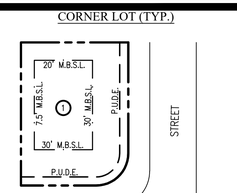
SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER — SS —
WATER LINE

INTERIOR LOT (TYP.)

SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

CORNER LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

SITE DATA	
PHASE 3	
LOTS	46
OPEN SPACE	96170.23 SF
	2.21 AC

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
OWNER
TENNESSEE NO. 3009
6/20/2023

W&A PROJECT #: 220047

PHASE 3

UTILITIES

SHEET 11 OF 18

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SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE

PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS 710
EX. MAJ CONTOURS 710
STORM SYSTEM
SANITARY SEWER SS
WATER LINE W

N W E S

SCALE 1" = 60' 30 60 120

SITE DATA	
PHASE 4	
LOTS	201
OPEN SPACE	1326562.46 SF
	30.45 AC

NOTE
REMAINING AREA OF PHASE 4 TO BE USED AS OPEN SPACE/STORMWATER DETENTION. SEE CONSTRUCTION PLANS FOR DETAILS.

DEAN NORTON
TAX MAP 42, PARCEL 13.02
ZONING: A2
DEED BOOK 1154, PAGE 520
(R.O.M.C.,TN)

S86°01'04"E
1595.43'

N19°01'57"E
548.60'

423.70'
N82°48'08"W

409.53'
N82°22'09"W

30' BUFFER

WETLAND 1

OPEN SPACE

20' DRAINAGE EASEMENT

11' RETAINING WALL EASEMENT

20' SEWER EASEMENT

PROPOSED WATER LINE (TYP.)

PROPOSED SEWER (TYP.)

FIRE HYDRANT (TYP.)

STORM DRAIN (TYP.)

BARN

UNAMED STREAM

PHASE 3

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
AND COMMERCE
TENNESSEE NO. 3089
6/20/2023

W&A PROJECT #: 220047

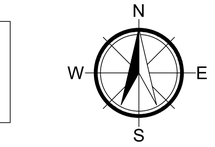
PHASE 4

UTILITIES

SHEET 12 OF 18

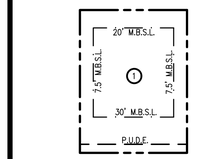
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ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT.

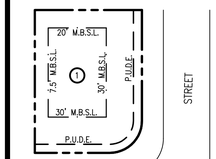


SURVEY LEGEND

- P.O.B. – POINT OF BEGINNING
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SSMH (SANITARY SEWER MANHOLE)
- UTILITY POLE
- PROPERTY LINE
- EASEMENT
- BUILDING SETBACK
- BUFFER
- PROP. MAJ CONTOURS (710)
- EX. MAJ CONTOURS (710)
- STORM SYSTEM
- SANITARY SEWER SS
- WATER LINE W



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

SITE DATA	
PHASE 1	
LOTS	70
OPEN SPACE	83121.57 SF
	1.91 AC

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

PHASE 2

PHASE 2

PHASE 3

PHASE 3

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 3099
6/20/2023

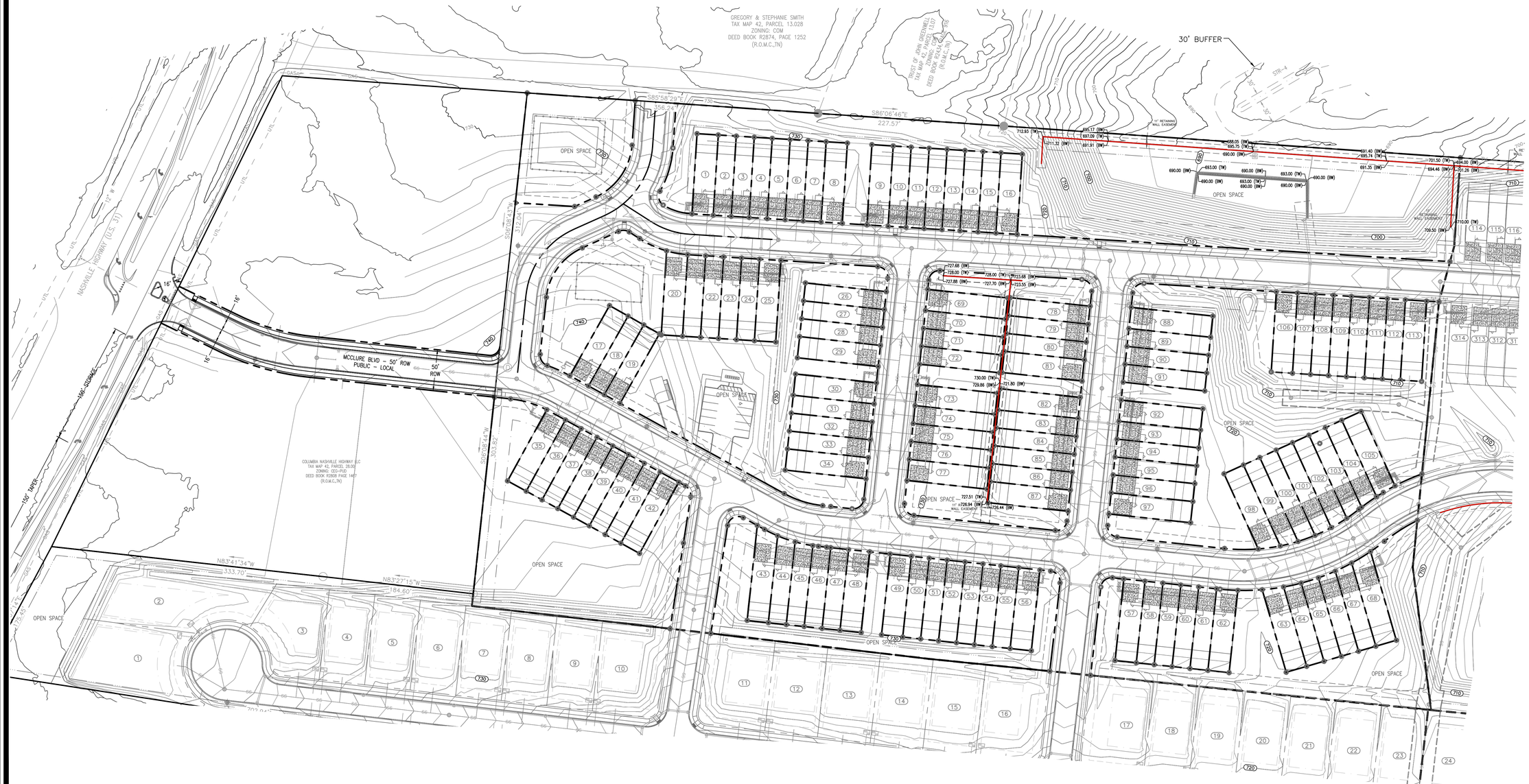
W&A PROJECT #: 220047

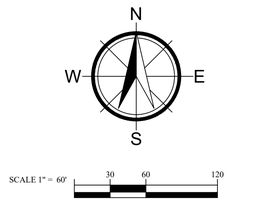
PHASE 1

GRADING

SHEET 13 OF 18

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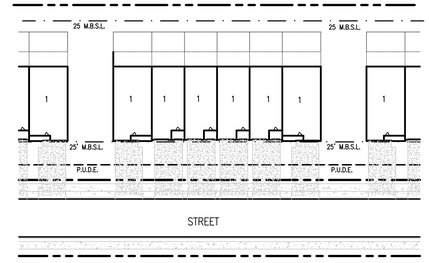
SCALE 1" = 60'

30 60 120

SURVEY LEGEND

- P.O.B. – POINT OF BEGINNING
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SSMH (SANITARY SEWER MANHOLE)
- UTILITY POLE
- PROPERTY LINE
- EASEMENT
- BUILDING SETBACK
- BUFFER
- PROP. MAJ CONTOURS
- EX. MAJ CONTOURS
- STORM SYSTEM
- SANITARY SEWER — SS
- WATER LINE

SITE DATA	
PHASE 2	
LOTS	113
OPEN SPACE	310590.62 SF
	7.13 AC



TOWNHOME (TYP.)
SCALE: NTS

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MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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	-
	-
	-
	-

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
TENNESSEE NO. 3009
6/20/2023

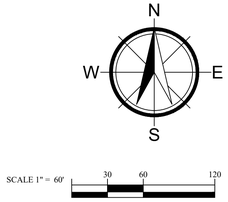
W&A PROJECT #: 220047

PHASE 2

GRADING

SHEET 14 OF 18

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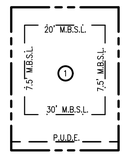
SCALE 1" = 60'

30 60 120

SURVEY LEGEND

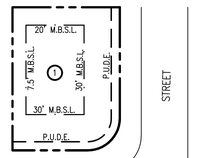
P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER — SS
WATER LINE

INTERIOR LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

CORNER LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

SITE DATA	
PHASE 3	
LOTS	46
OPEN SPACE	96170.23 SF
	2.21 AC

PHASE 2

PHASE 1

PHASE 4



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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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DATE: 5/18/2023



6/20/2023

W&A PROJECT #: 220047

PHASE 3

GRADING

SHEET 15 OF 18

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SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE

PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER
WATER LINE

SCALE 1" = 60'

SITE DATA	
PHASE 4	
LOTS	201
OPEN SPACE	1326562.46 SF
	30.45 AC

NOTE
REMAINING AREA OF PHASE 4 TO BE USED AS OPEN SPACE/STORMWATER DETENTION. SEE CONSTRUCTION PLANS FOR DETAILS.

TAX MAP 42, PARCEL 12.02
ZONING: AG
DEED BOOK/1154, PAGE 520
(R.O.M.C.,TN)

S86°01'04"E
1595.43'

N19°01'17"E
548.69'

N82°48'08"W
423.70'

N82°22'09"W
409.53'

30' BUFFER

OPEN SPACE

WETLAND 1

UNAMED STREAM

BARN

PHASE 3

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT
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	-
	-
	-
	-
	-
	-

DATE: 5/18/2023

ADAM C. BLEESE
REGISTERED LANDSCAPE ARCHITECT
STATE OF TENNESSEE
AGRICULTURE
RESIDENTIAL
COMMERCIAL
TENNESSEE NO. 3089
6/20/2023

W&A PROJECT #: 220047

PHASE 4

GRADING

SHEET 16 OF 18

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HATCHED AREAS REPRESENT AREAS WITH EXISTING SLOPES GREATER THAN TEN PERCENT (>10%)

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
No. XVI
AGRICULTURE
STATE OF TENNESSEE
TENNESSEE NO. 2009

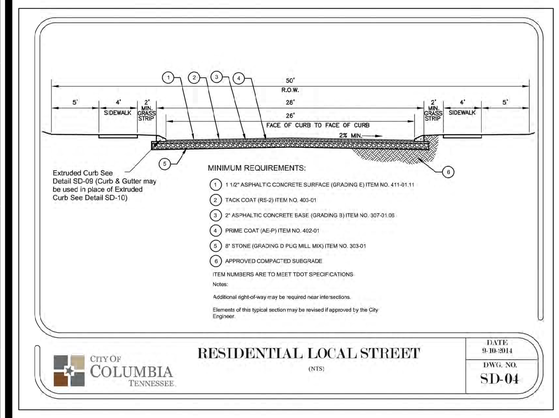
6/20/2023

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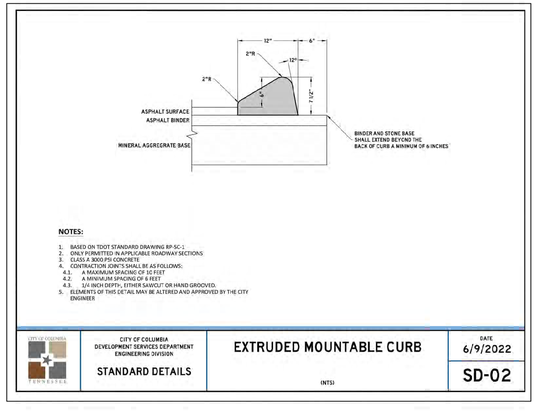
EXISTING SLOPE ANALYSIS

SHEET 17 OF 18

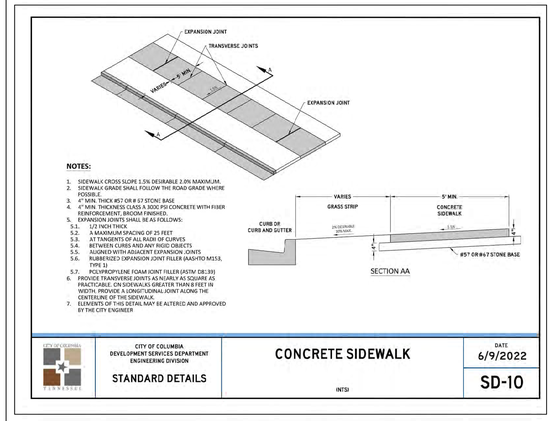
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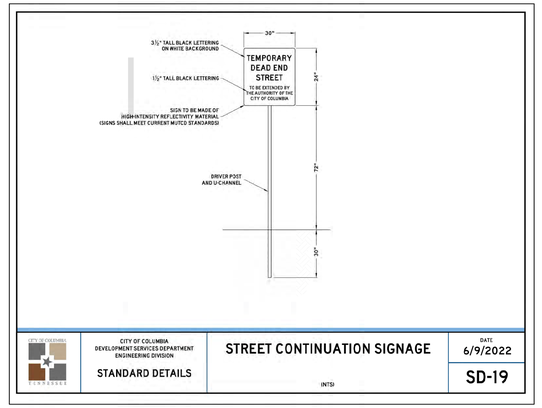
RESIDENTIAL LOCAL STREET SECTION



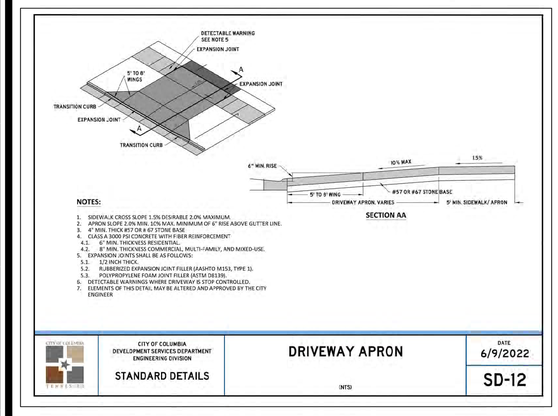
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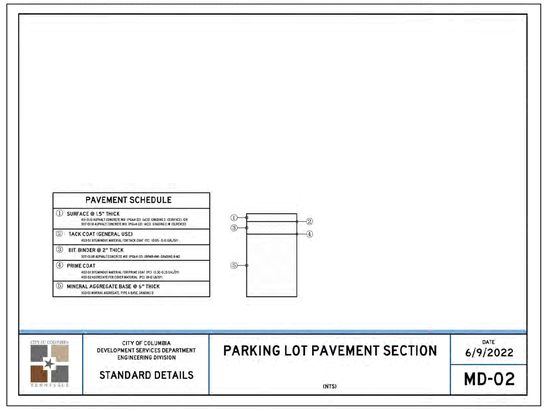
CONCRETE SIDEWALK



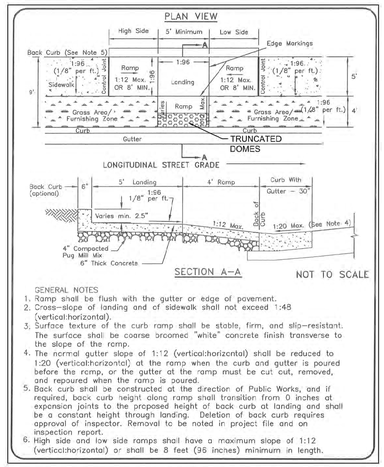
TEMPORARY DEAD END SIGN



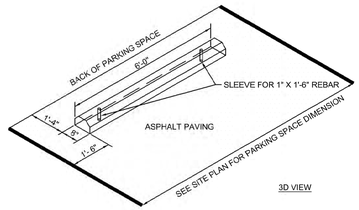
DRIVEWAY APRON

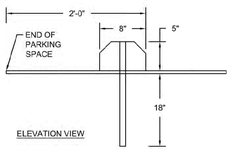


PARKING LOT PAVEMENT SECTION

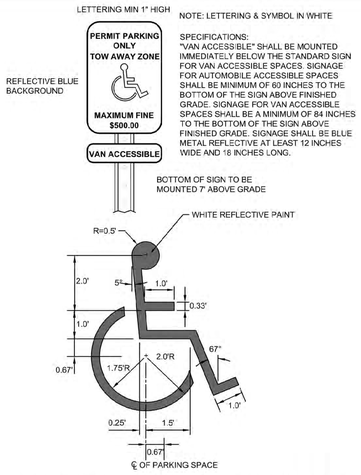


SIDEWALK RAMP

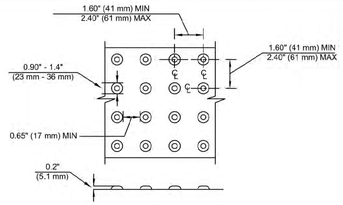




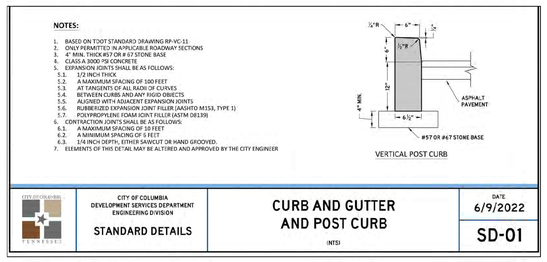
WHEEL STOP



HANDICAP PARKING SIGN AND PAINTED SYMBOL



TRUNCATED DOMES



POST CURB

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Nashville, TN 37209
P: (615) 610-1023
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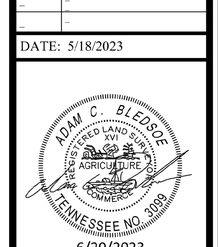
PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023



W&A PROJECT #: 220047

PHASE 1 - 4

DETAILS

SHEET 18 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\3-SHEETS\18 PLAT DETAILS-220047.dwg 6-19-23 04:34:12 PM ogcsm

PRELIMINARY PLAT - PHASE 1 - 4

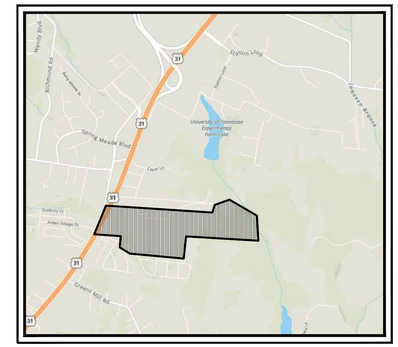
FOR

McCLURE FARMS

2504 NASHVILLE HWY

COLUMBIA, MAURY COUNTY, #38401

95.29-ACRE SITE
ISSUED 5-18-2023
W&A PROJECT # 220047



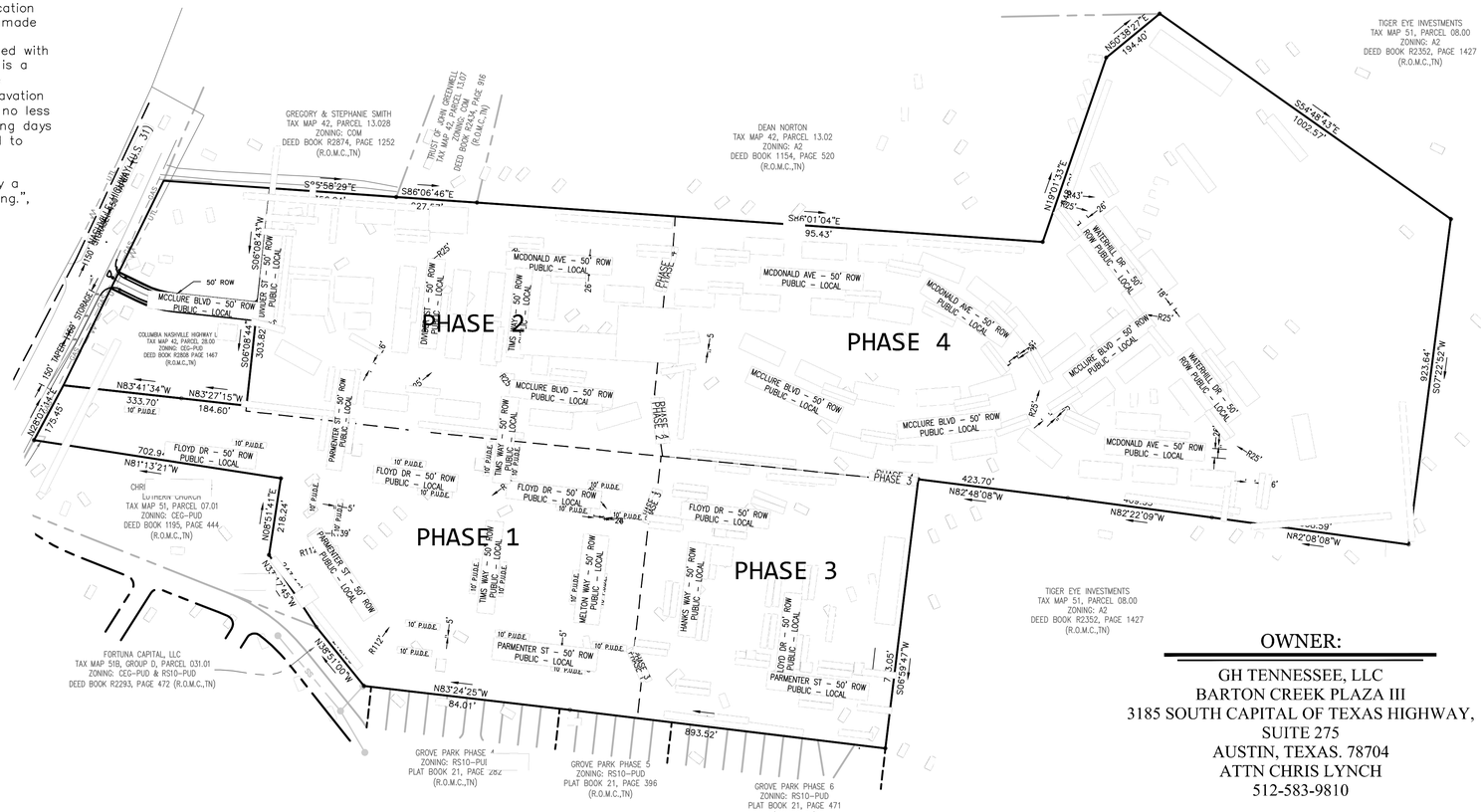
VICINITY MAP
SCALE: NTS

N
W E
S

SCALE 1" = 200' 0 100 200 400

NOTES:

1. The purpose of this preliminary plat is to create 116 lots and 314 Town-Home Units.
2. Property is identified as a portion of parcel 6.00 on Maury County, Tennessee Property Map: 51 in the civil district. Property is located in the city of Columbia and accessed from Nashville Highway.
3. Subject properties are currently zoned RS6-PUD per the City of Columbia GIS Mapping.
4. All distances shown are in feet and decimals thereof.
5. This property is NOT located in an area designated as a "Special Flood Hazard Area" as per the Federal Emergency Management Agency "National Flood Insurance Program" Rate Map No. 47119C0180E. (Zone X), (Map Revised APRIL 16, 2007).
6. This surveyor has not physically located the underground utilities. Above grade and underground utilities shown were taken from visible appurtenances at the site; public records and/or maps prepared by others. Special attention has been taken to indicate the approximate nature of the utilities, shown hereon. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities are in the exact location indicated. Therefore, reliance upon the type, size, and location of utilities shown must be done so with this circumstance considered. Detailed verification of existence, location, and depth should also be made prior to any decision relative thereto is made. Availability and cost of service should be confirmed with the appropriate utility company. In Tennessee, it is a requirement per "The Underground Utility Damage Prevention Act" that anyone who engages in excavation must notify all known underground utility owners no less than three (3), nor no more than ten (10) working days prior to the date of their intent to excavate and to avoid any possible hazard or conflict.
8. All property corners that were set are marked by a 1/2" Rebar with a yellow cap that reads "W&A Eng.", unless otherwise noted.



Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	EXISTING CONDITIONS
3	OVERALL LAYOUT
4	PLAT – PHASE 1
5	PLAT – PHASE 2
6	PLAT – PHASE 3
7	PLAT – PHASE 4
8	PLAT – PHASE 4
9	UTILITY – PHASE 1
10	UTILITY – PHASE 2
11	UTILITY – PHASE 3
12	UTILITY – PHASE 4
13	GRADING – PHASE 1
14	GRADING – PHASE 2
15	GRADING – PHASE 3
16	GRADING – PHASE 4
17	SLOPE ANALYSIS
18	DETAIL SHEET

PHASING TIMELINE:
PHASE 1: AUGUST 2023 – AUGUST 2024
PHASE 2: AUGUST 2025 – FEBRUARY 2025
PHASE 3: AUGUST 2025 – MAY 2026
PHASE 4: AUGUST 2025 – MAY 2027

EXISTING TREE CANOPY: 23.15 ACRES
TREE CANOPY RETAINED: 6.98 ACRES

CURRENT SCHOOL ZONES:
- BATTLE CREEK ELEMENTARY SCHOOL
- BATTLE CREEK MIDDLE SCHOOL
- SPRING HILL HIGH SCHOOL

1) NO RESIDENCE IS GUARANTEED ZONE TO A SPECIFIC SCHOOL.
2) ALL ZONES ARE SUBJECT TO CHANGE YEARLY.

ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT.

OWNER:

GH TENNESSEE, LLC
BARTON CREEK PLAZA III
3185 SOUTH CAPITAL OF TEXAS HIGHWAY,
SUITE 275
AUSTIN, TEXAS. 78704
ATTN CHRIS LYNCH
512-583-9810

ENGINEER:

W & A ENGINEERING
4101 CHARLOTTE AVE. E215
NASHVILLE, TN. 37209
ATTN: TRAVIS BONAR, PE
615-610-1023

DEVELOPER:

GH TENNESSEE, LLC
BARTON CREEK PLAZA III
3185 SOUTH CAPITAL OF TEXAS HIGHWAY,
SUITE 275
AUSTIN, TEXAS. 78704
ATTN CHRIS LYNCH
512-583-9810

SURVEYOR:

W & A ENGINEERING
4101 CHARLOTTE AVE. E215
NASHVILLE, TN. 37209
ATTN: ADAM BLEDSOE, PLS
615-610-1023

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

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TRAFFIC ENGINEERING · SURVEYING
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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

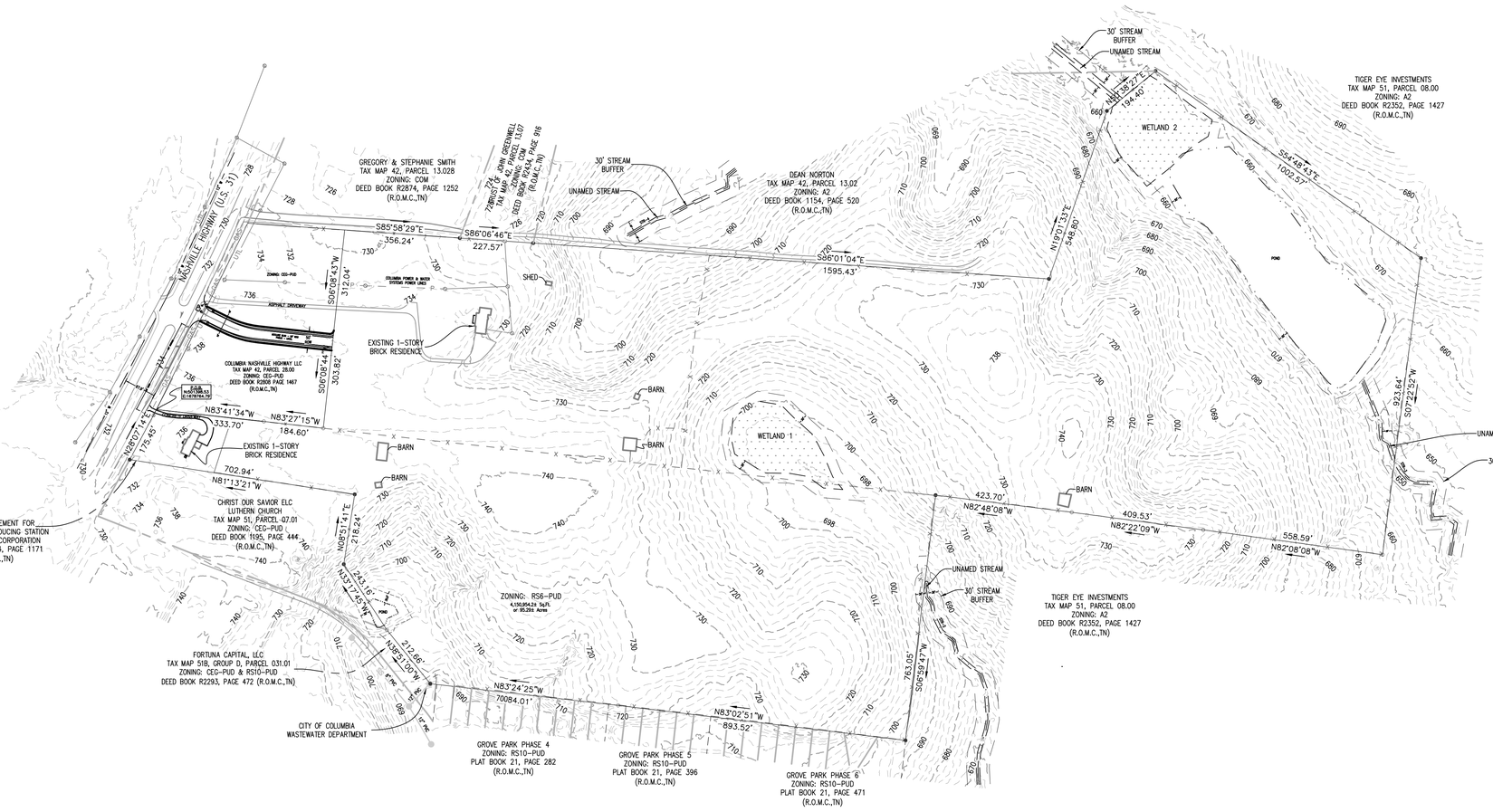
ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
TENNESSEE NO. 2099
5/18/2023

W&A PROJECT #: 220047

COVER

SHEET 1 OF 18

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

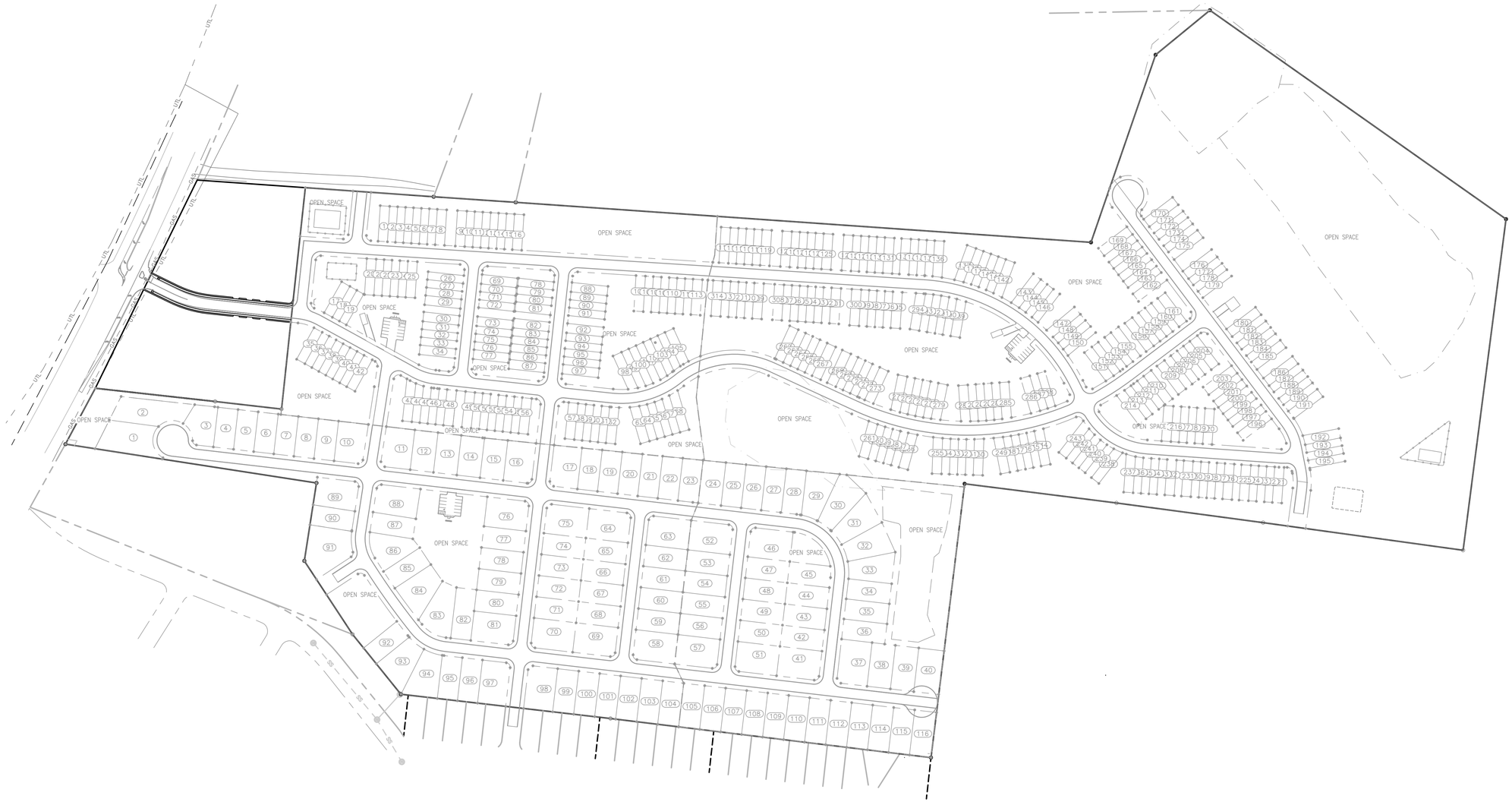
ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
DEPARTMENT OF AGRICULTURE
COMMERCE
TENNESSEE NO. 3099
5/18/2023

W&A PROJECT #: 220047

EXISTING CONDITIONS

SHEET 2 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\ECND-PLAT-220047.dwg, 5-17-23 09:16:37 PM, jdye


N
W
E
S
SCALE 1" = 150'
0
75
150
300
OPEN SPACE
OPEN SPACE
OPEN SPACE

ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT.

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

N

W E

S

SCALE 1" = 60'

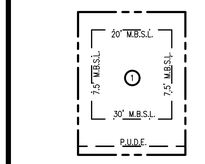
30 60 120

SURVEY LEGEND

P.O.B. - POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE

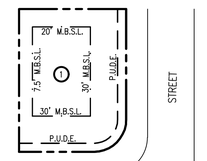
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER

INTERIOR LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

CORNER LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

PHASE 2

PHASE 3

PHASE 4

MCCLURE BLVD - 50' ROW PUBLIC - LOCAL

FLOYD DR - 50' ROW PUBLIC - LOCAL

PARMENTER ST - 50' ROW PUBLIC - LOCAL

TIMS WAY - 50' ROW PUBLIC - LOCAL

MEDTON WAY - 50' ROW PUBLIC - LOCAL

NASHVILLE HIGHWAY (U.S. 31)

150' STORM

150' SWPER

COLUMBIA NASHVILLE HIGHWAY LLC
TAX MAP 42, PARCEL 28.00
ZONING: CEG-PUD
DEED BOOK R2808 PAGE 1467
(R.O.M.C., TN)

OPEN SPACE

POND

FUTURE CONNECTION

SIGN

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	0.46	20048.90
1	0.98	42576.52
1	0.47	20496.15

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
1	0.29	12787.72'
2	0.30	13074.98'
3	0.18	7975.32'
4	0.14	6194.81'
5	0.14	6197.03'
6	0.14	6199.25'
7	0.14	6201.47'
8	0.14	6203.69'
9	0.14	6205.91'
10	0.21	8930.45'
11	0.21	8993.64'
12	0.16	7171.23'
13	0.16	7174.55'
14	0.16	7159.77'
15	0.17	7190.55'
16	0.20	8763.60'
17	0.20	8845.43'
18	0.15	6422.99'
19	0.15	6465.92'
20	0.15	6508.85'
21	0.15	6551.78'
22	0.15	6594.72'
23	0.15	6701.01'
58	0.22	9563.08'
59	0.16	6903.00'
60	0.16	6903.00'
61	0.16	6903.00'
62	0.16	6903.00'
63	0.22	9563.13'
64	0.22	9563.10'
65	0.16	6903.00'
66	0.16	6903.00'
67	0.16	6903.00'
68	0.16	6903.00'
69	0.22	9563.10'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
70	0.22	9563.07'
71	0.16	6903.00'
72	0.16	6903.00'
73	0.16	6903.00'
74	0.16	6903.00'
75	0.22	9563.13'
76	0.22	9563.24'
77	0.16	6903.00'
78	0.16	6903.00'
79	0.16	6903.00'
80	0.16	6903.00'
81	0.22	9563.13'
82	0.18	7896.00'
83	0.23	10151.72'
84	0.23	9803.15'
85	0.15	6699.59'
86	0.20	8891.08'
87	0.15	6720.00'
88	0.22	9685.30'
89	0.21	9278.88'
90	0.15	6552.01'
91	0.32	14076.40'
92	0.15	6565.64'
93	0.23	9874.77'
94	0.22	9697.60'
95	0.15	6720.92'
96	0.15	6721.17'
97	0.22	9391.35'
98	0.22	9692.70'
99	0.16	7023.07'
100	0.16	7023.48'
101	0.16	7024.55'
102	0.16	7040.37'
103	0.16	7062.24'
104	0.16	7084.12'

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C1	N08°05'11"W	100.89'	55.00
C2	N83°02'16"E	74.05'	55.00
C3	S28°54'10"E	56.61'	55.00
C4	S41°24'51"E	17.59'	12.00
C5	N52°43'26"E	18.37'	12.00
C6	N37°16'34"W	19.33'	12.00
C7	N08°24'44"E	2.35'	150.00
C8	N03°08'44"W	58.16'	150.00
C9	N21°13'30"E	14.86'	12.00
C10	N78°05'26"W	20.51'	13.00
C11	N35°04'59"W	155.34'	2025.00
C12	N37°59'25"W	50.15'	2025.00
C13	N39°49'03"W	5.85'	150.00
C14	N50°57'37"W	52.49'	150.00
C15	N71°17'13"W	53.94'	150.00
C16	N8Z°30'03"W	4.78'	150.00
C17	N38°24'27"W	18.85'	12.00
C18	S51°35'33"W	18.85'	12.00
C19	S38°24'27"E	18.85'	12.00
C20	S51°35'33"W	18.85'	12.00
C21	N38°24'27"W	18.85'	12.00
C22	N51°35'33"E	18.85'	12.00
C23	S61°03'24"E	78.04'	100.00
C24	S38°28'30"E	15.49'	1975.00
C25	S36°39'50"E	109.38'	1975.00
C26	S34°15'53"E	56.01'	1975.00
C27	S3Z°48'46"E	44.10'	1975.00
C28	S11°39'21"E	71.62'	100.00
C29	S51°43'58"W	17.97'	12.01
C30	S37°16'34"E	19.33'	12.00
C31	N51°35'33"E	18.85'	12.00
C33	N38°24'27"W	18.83'	11.97
C34	N51°35'33"E	18.85'	12.00
C35	S38°24'27"E	18.85'	12.00
C36	S51°35'33"W	18.85'	12.00

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
LICENSED LAND SURVEYOR
No. XVI
STATE OF TENNESSEE
AGRICULTURE
TENNESSEE NO. 2009
5/18/2023

W&A PROJECT #: 220047

PHASE 1

PRELIMINARY PLAT

SHEET 4 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\PP - PHASE 1 - 220047.dwg 5-22-23 08:47:26 AM Jogan

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
1	0.06	2560.77'
2	0.05	2163.33'
3	0.05	2163.33'
4	0.05	2163.33'
5	0.05	2163.33'
6	0.05	2163.33'
7	0.05	2163.33'
8	0.06	2560.77'
9	0.06	2560.77'
10	0.05	2163.33'
11	0.05	2163.33'
12	0.05	2163.33'
13	0.05	2163.33'
14	0.05	2163.33'
15	0.05	2163.33'
16	0.06	2560.77'
17	0.06	2561.60'
18	0.05	2157.75'
19	0.05	2151.99'
20	0.06	2603.35'
21	0.05	2199.31'
22	0.05	2199.31'
23	0.05	2199.31'
24	0.05	2199.31'
25	0.06	2603.35'
26	0.05	2185.33'
27	0.05	2185.33'
28	0.05	2185.33'
29	0.06	2586.81'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
30	0.06	2586.81'
31	0.05	2185.33'
32	0.05	2185.33'
33	0.05	2185.33'
34	0.06	2586.81'
35	0.06	2586.77'
36	0.05	2185.33'
37	0.05	2185.33'
38	0.05	2185.33'
39	0.05	2185.33'
40	0.05	2185.33'
41	0.05	2185.33'
42	0.06	2586.81'
43	0.07	2905.18'
44	0.05	2289.11'
45	0.05	2207.95'
46	0.05	2185.65'
47	0.05	2185.35'
48	0.06	2586.82'
49	0.06	2586.82'
50	0.05	2185.34'
51	0.05	2185.34'
52	0.05	2185.34'
53	0.05	2185.34'
54	0.05	2185.34'
55	0.05	2185.33'
56	0.06	2586.81'
57	0.06	2612.85'
58	0.05	2207.33'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
59	0.05	2207.33'
60	0.05	2207.33'
61	0.05	2207.33'
62	0.06	2619.05'
63	0.06	2678.24'
64	0.05	2203.40'
65	0.05	2190.71'
66	0.05	2216.85'
67	0.05	2282.32'
68	0.07	2842.14'
69	0.06	2560.77'
70	0.05	2163.33'
71	0.05	2163.33'
72	0.05	2163.33'
73	0.06	2560.77'
74	0.05	2163.33'
75	0.05	2163.33'
76	0.05	2163.33'
77	0.06	2560.77'
78	0.05	2163.33'
79	0.05	2163.33'
80	0.05	2163.33'
81	0.06	2560.77'
82	0.06	2560.77'
83	0.05	2163.33'
84	0.05	2163.33'
85	0.05	2163.33'
86	0.05	2163.33'
87	0.06	2560.77'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
88	0.06	2612.85'
89	0.05	2207.33'
90	0.05	2207.33'
91	0.05	2207.33'
92	0.06	2612.85'
93	0.05	2207.33'
94	0.05	2207.33'
95	0.05	2207.33'
96	0.05	2207.33'
97	0.06	2612.85'
98	0.06	2738.73'
99	0.06	2440.57'
100	0.06	2503.69'
101	0.06	2518.85'
102	0.06	2486.48'
103	0.06	2405.74'
104	0.05	2300.01'
105	0.06	2631.06'
106	0.06	2560.77'
107	0.05	2163.33'
108	0.05	2163.33'
109	0.05	2163.33'
110	0.05	2163.33'
111	0.05	2163.33'
112	0.05	2163.33'
113	0.06	2560.77'

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C1	N73°14'28"W	46.31'	125.00
C2	N61°54'29"W	3.14'	125.00
C3	N26°09'49"W	15.89'	13.00
C4	N63°50'11"E	24.95'	13.00
C5	S64°06'21"E	17.82'	175.00
C6	S70°43'29"E	22.61'	175.00
C7	S78°02'56"E	22.13'	175.00
C8	S82°47'21"E	6.83'	175.00
C9	S38°39'14"E	20.54'	13.00
C10	S51°20'46"W	20.31'	13.00
C11	N86°10'14"W	21.73'	275.00
C12	S88°28'00"W	29.75'	275.00
C13	S82°37'16"W	26.36'	275.00
C14	S77°34'37"W	22.05'	275.00
C15	S72°59'13"W	22.01'	275.00
C16	S68°23'30"W	22.10'	275.00
C17	S63°45'40"W	22.35'	275.00
C18	S58°37'16"W	26.99'	275.00
C19	S53°36'22"W	21.15'	275.00
C20	S57°29'17"W	47.79'	225.00
C21	N66°08'49"E	35.99'	275.00
C22	N60°41'30"E	16.38'	275.00
C23	N57°57'49"E	9.81'	275.00

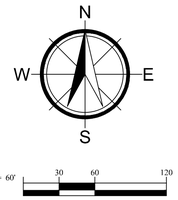
CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C24	N54°36'24"E	22.41'	275.00
C25	N51°50'14"E	4.17'	275.00
C26	N53°44'15"E	18.34'	225.00
C27	N58°53'37"E	22.16'	225.00
C28	N64°31'03"E	22.01'	225.00
C29	N75°47'26"E	22.37'	225.00
C30	N82°06'00"E	27.19'	225.00
C31	S89°10'22"E	41.36'	225.00
C32	S38°52'50"E	20.43'	13.00
C33	N51°07'10"E	20.41'	13.00
C34	S38°51'27"E	20.44'	13.00
C35	N51°08'33"E	20.40'	13.00
C36	S72°32'51"E	49.56'	125.00
C37	S65°54'02"E	28.79'	175.00
C38	S32°14'01"E	17.42'	13.00
C39	S49°52'31"W	19.84'	13.00
C40	N49°52'30"E	19.84'	13.00
C41	S40°07'30"E	21.00'	13.00
C42	N40°06'07"W	21.01'	13.00
C43	S49°53'53"W	19.83'	13.00
C44	N40°07'29"W	21.00'	13.00
C45	S49°52'31"W	19.84'	13.00
C58	N70°07'53"E	22.08'	225.00

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	0.85	36929.32
1	0.41	17763.22
1	1.11	48220.86
1	2.05	89483.09
1	0.66	28788.39
1	1.23	53535.02
1	0.40	17221.99
1	0.43	18940.27

SITE DATA	
PHASE 2	
Lots	113
Open Space	310,882.16 sq ft
	7.137 ac

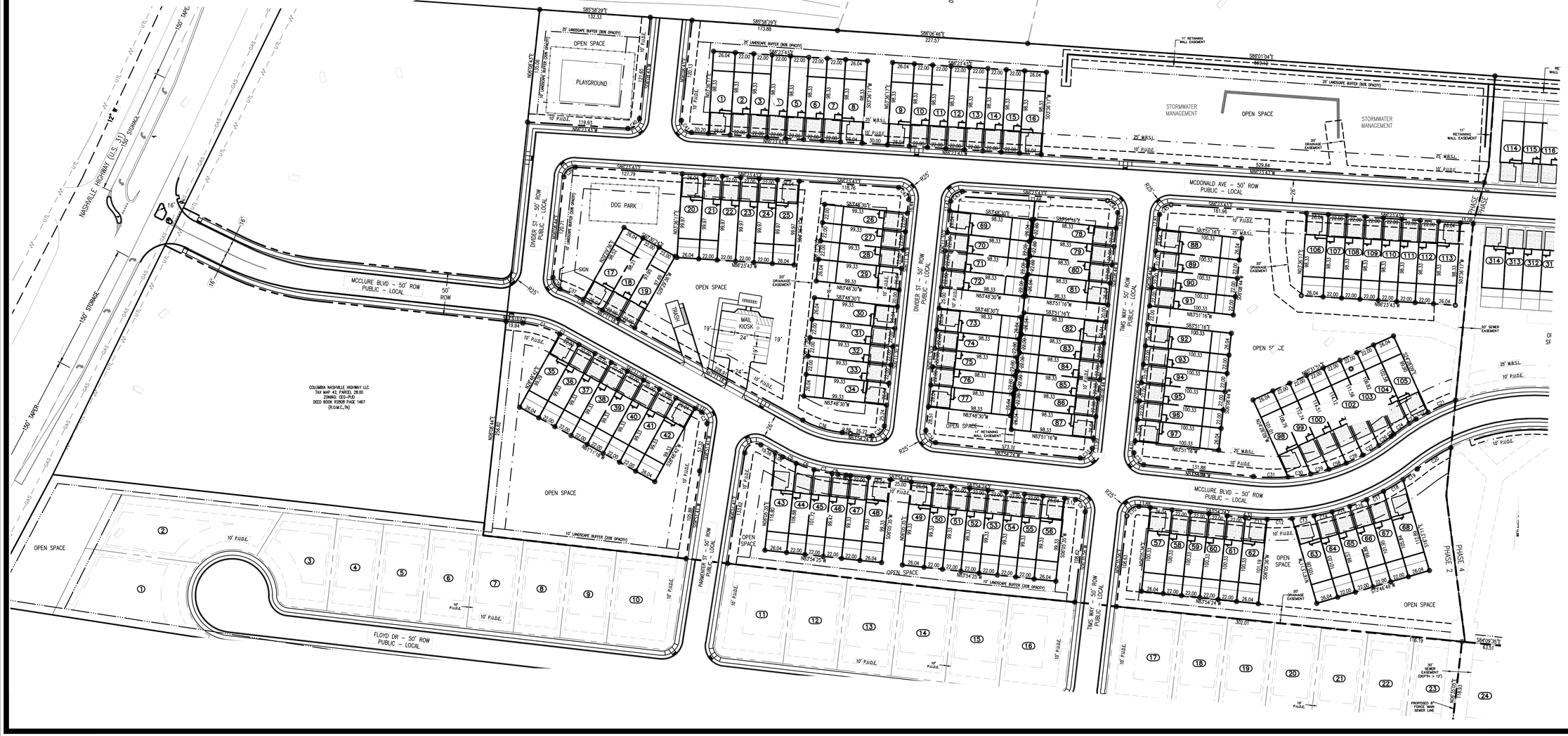


TOWNHOME (TYP.)
SCALE: NTS



SCALE 1" = 60' 30 60 120

SURVEY LEGEND
- P.O.B. – POINT OF BEGINNING
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SSMH (SANITARY SEWER MANHOLE)
- UTILITY POLE
- PROPERTY LINE
- EASEMENT
- BUILDING SETBACK
- BUFFER
- PROP. MAJ CONTOURS
- EX. MAJ CONTOURS
- STORM SYSTEM
- SANITARY SEWER — SS —
- WATER LINE



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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEESE
REGISTERED LAND SURVEYOR
AGRICULTURE
COMMERCE
TENNESSEE NO. 30693
5/18/2023

W&A PROJECT #: 220047

PHASE 2

PRELIMINARY PLAT

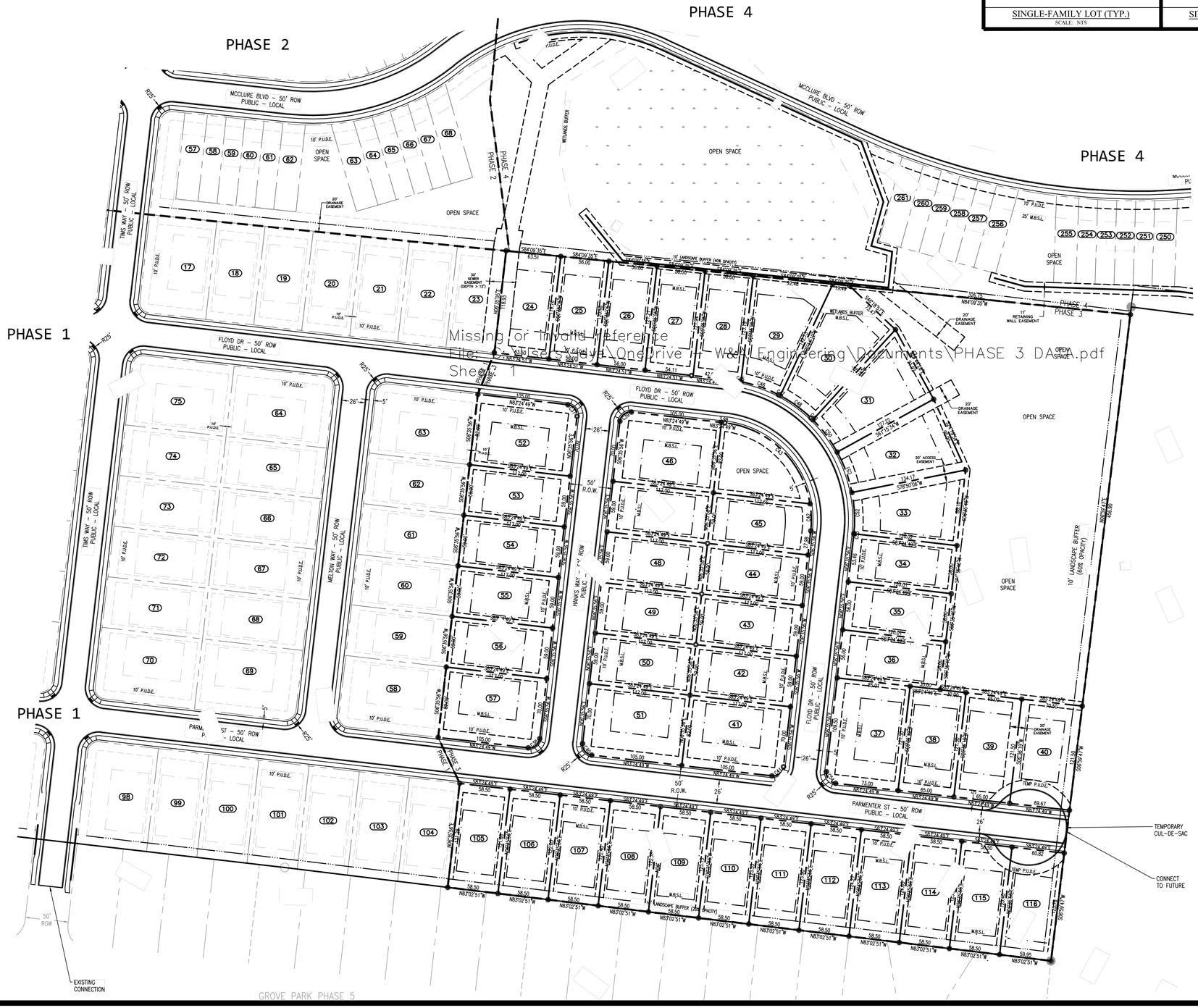
SHEET 5 OF 18

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Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
24	0.17	7578.23'
25	0.15	6726.70'
26	0.16	6767.51'
27	0.16	6808.32'
28	0.16	6851.71'
29	0.21	9052.34'
30	0.23	9976.49'
31	0.21	9055.04'
32	0.21	8945.98'
33	0.19	8404.72'
34	0.15	6720.33'
35	0.15	6720.46'
36	0.15	6720.62'
37	0.24	10297.25'
38	0.18	7897.50'
39	0.18	7897.50'
40	0.20	8515.10'
41	0.22	9563.13'
42	0.16	6903.00'
43	0.16	6903.00'
44	0.16	6903.00'
45	0.16	6858.44'
46	0.22	9563.13'
47	0.16	6903.00'
48	0.16	6903.00'
49	0.16	6903.00'
50	0.16	6903.00'
51	0.22	9563.07'
52	0.22	9563.14'
53	0.16	6903.00'
54	0.16	6903.00'
55	0.16	6903.00'
56	0.16	6903.00'
57	0.22	9563.11'
105	0.16	7106.00'
106	0.16	7127.87'
107	0.16	7149.75'
108	0.16	7171.62'
109	0.17	7193.50'
110	0.17	7215.38'
111	0.17	7237.25'
112	0.17	7259.13'
113	0.17	7281.00'
114	0.17	7302.88'
115	0.17	7324.76'
116	0.17	7583.56'

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	2.05	89273.33
1	0.16	6896.90

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C37	N38°24'27"W	18.86'	11.99
C38	N51°35'33"E	18.85'	12.00
C39	S51°35'33"W	18.85'	12.00
C40	S38°24'27"E	18.85'	12.00
C41	N51°35'33"E	18.85'	12.00
C42	N01°22'07"W	31.43'	113.00
C43	N46°22'30"W	146.10'	113.00
C44	S81°37'14"E	10.20'	300.19
C45	S79°29'43"E	2.88'	159.62
C46	S70°42'27"E	46.09'	159.62
C47	S62°50'49"E	2.16'	151.29
C48	S54°03'33"E	44.25'	151.29
C49	S45°47'48"E	2.95'	163.00
C50	S37°00'32"E	47.05'	163.00
C51	S19°57'10"E	50.00'	163.00
C52	S02°43'44"E	48.00'	163.00
C53	S06°09'12"W	2.54'	163.00
C54	S38°24'27"E	18.85'	12.00



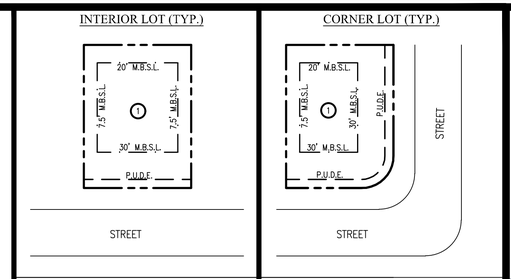
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SCALE 1" = 60' 30 60 120

SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER SS
WATER LINE



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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 2109
5/18/2023

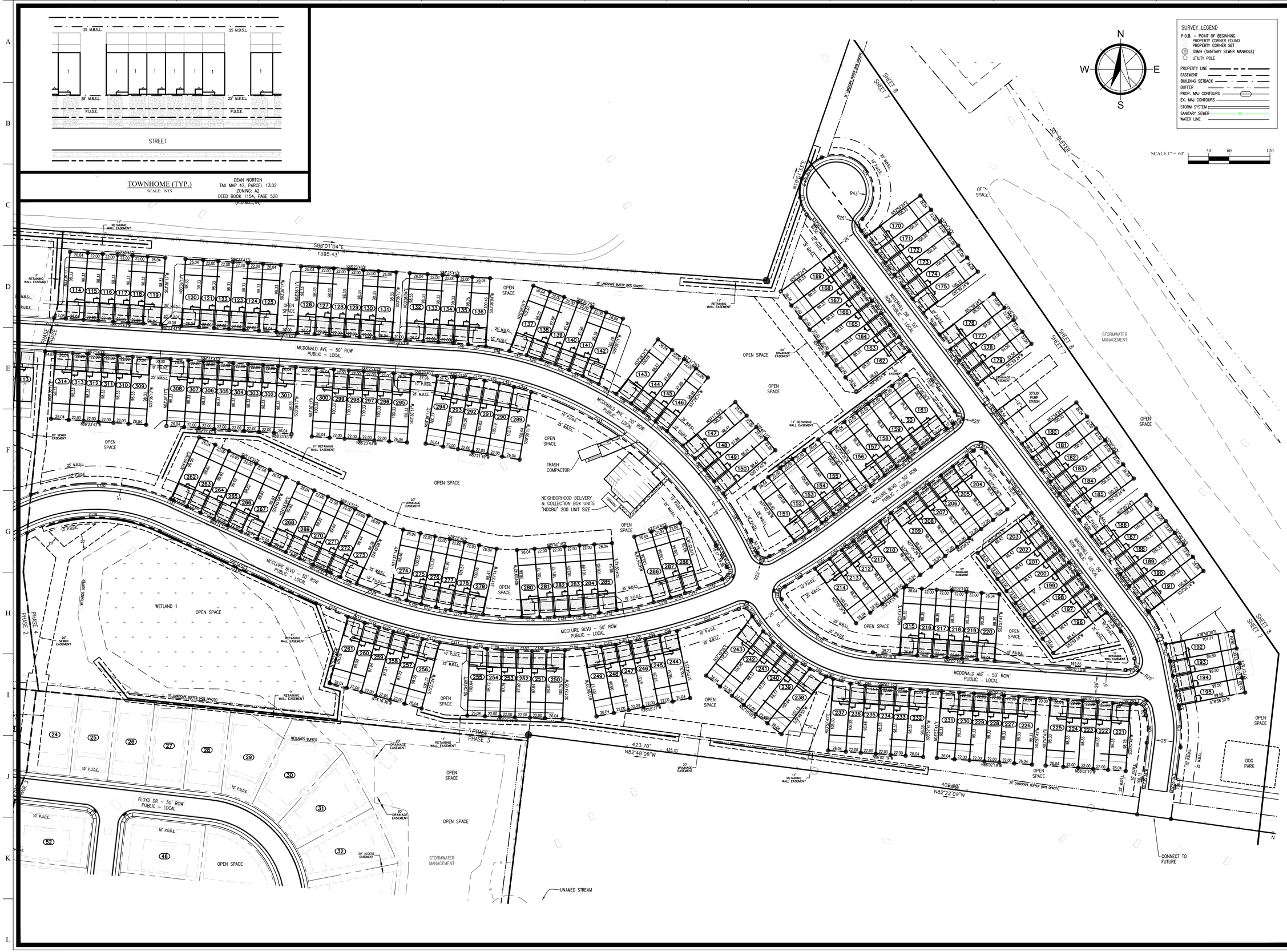
W&A PROJECT #: 220047

PHASE 3

PRELIMINARY PLAT

SHEET 6 OF 18

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEESE
REGISTERED LAND SURVEYOR
AGRICULTURE
ENGINEERING
COMMERCE
TENNESSEE NO. 2069
5/18/2023

W&A PROJECT #: 220047

PHASE 4

PRELIMINARY PLAT

SHEET 7 OF 18

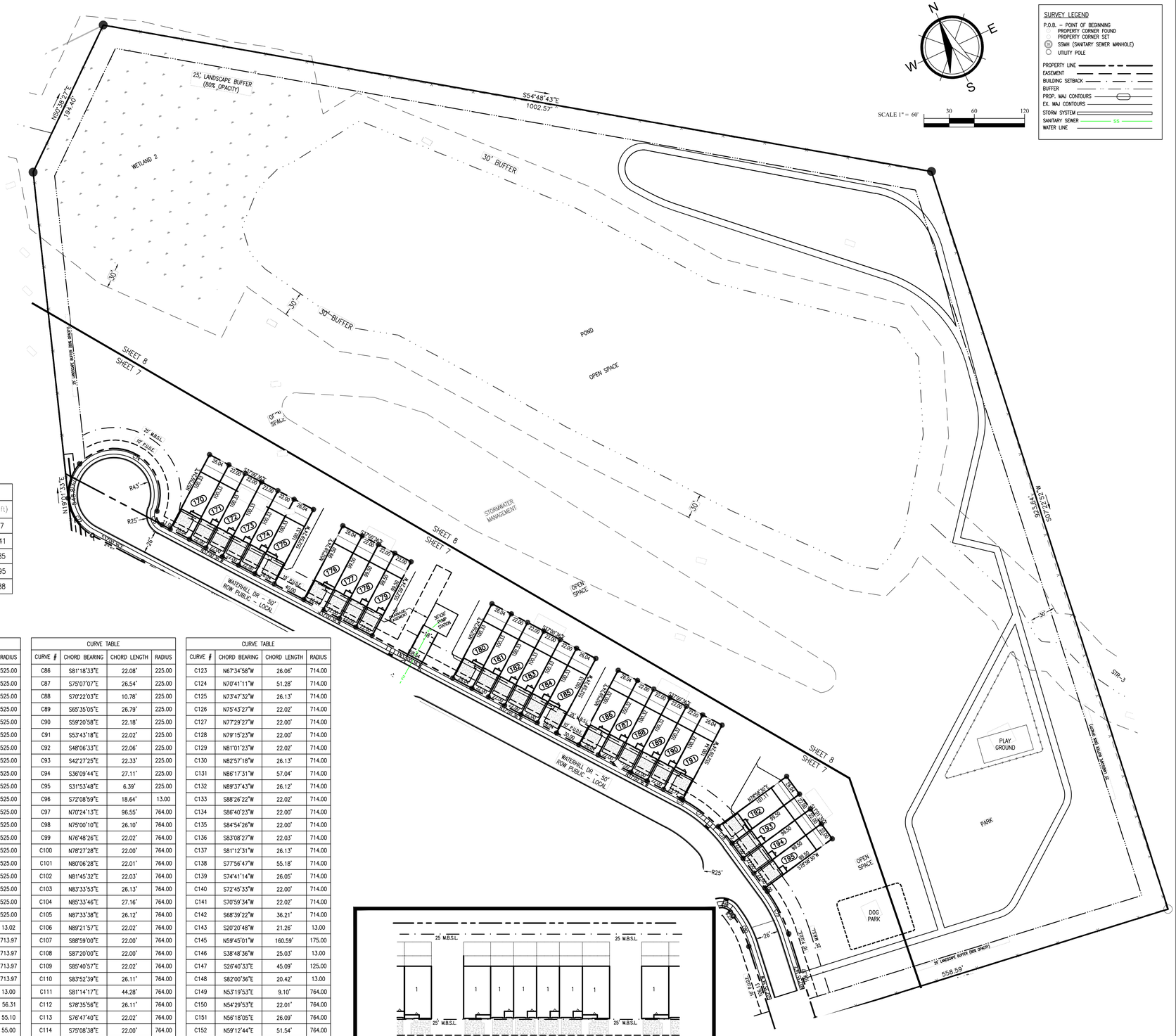
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Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
114	0.06	2560.77'
115	0.05	2163.33'
116	0.05	2163.33'
117	0.05	2163.33'
118	0.05	2163.33'
119	0.06	2560.77'
120	0.06	2560.77'
121	0.05	2163.33'
122	0.05	2163.33'
123	0.05	2163.33'
124	0.05	2163.33'
125	0.06	2560.77'
126	0.06	2560.77'
127	0.05	2163.33'
128	0.05	2163.33'
129	0.05	2163.33'
130	0.05	2163.33'
131	0.06	2560.77'
132	0.06	2560.77'
133	0.05	2163.33'
134	0.05	2163.33'
135	0.05	2166.29'
136	0.06	2590.97'
137	0.06	2617.36'
138	0.05	2166.36'
139	0.05	2147.01'
140	0.05	2147.97'
141	0.05	2169.24'
142	0.06	2623.28'
143	0.06	2590.32'
144	0.05	2155.05'
145	0.05	2146.18'
146	0.05	2157.61'
147	0.06	2586.13'
148	0.05	2158.12'
149	0.05	2155.28'
150	0.05	2172.74'
151	0.06	2585.85'
152	0.05	2208.36'
153	0.05	2214.87'
154	0.05	2215.03'
155	0.06	2621.96'
156	0.06	2560.77'
157	0.05	2163.33'
158	0.05	2163.33'
159	0.05	2163.33'
160	0.05	2163.33'
161	0.06	2560.77'
162	0.06	2560.77'
163	0.05	2163.33'
164	0.05	2163.33'
165	0.05	2163.33'
166	0.05	2163.33'
167	0.05	2163.33'
168	0.05	2163.33'
169	0.06	2560.77'
170	0.06	2612.85'
171	0.05	2207.33'
172	0.05	2207.33'
173	0.05	2207.33'
174	0.05	2207.33'
175	0.06	2612.85'
176	0.06	2591.15'
177	0.05	2189.00'
178	0.05	2189.00'
179	0.05	2189.00'
180	0.06	2612.85'
181	0.05	2207.33'
182	0.05	2207.33'
183	0.05	2207.33'
184	0.05	2207.33'
185	0.06	2612.85'
186	0.06	2612.50'
187	0.05	2207.04'
188	0.05	2207.04'
189	0.05	2207.04'
190	0.05	2207.04'
191	0.06	2612.52'
192	0.06	2603.82'
193	0.05	2189.00'
194	0.05	2189.00'
195	0.05	2189.00'
196	0.06	2563.28'
197	0.05	2165.46'
198	0.05	2165.46'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
199	0.05	2165.46'
200	0.05	2165.46'
201	0.05	2165.46'
202	0.05	2165.46'
203	0.06	2563.28'
204	0.06	2560.77'
205	0.05	2163.33'
206	0.05	2163.33'
207	0.05	2163.33'
208	0.05	2163.33'
209	0.06	2560.77'
210	0.06	2560.77'
211	0.05	2163.33'
212	0.05	2163.50'
213	0.05	2169.73'
214	0.06	2594.95'
215	0.06	2561.32'
216	0.05	2163.80'
217	0.05	2163.80'
218	0.05	2163.80'
219	0.05	2163.80'
220	0.06	2561.32'
221	0.06	2562.91'
222	0.05	2163.33'
223	0.05	2163.33'
224	0.05	2163.33'
225	0.06	2560.77'
226	0.06	2560.77'
227	0.05	2163.33'
228	0.05	2163.33'
229	0.05	2163.33'
230	0.05	2163.33'
231	0.06	2560.77'
232	0.06	2560.77'
233	0.05	2163.33'
234	0.05	2163.33'
235	0.05	2163.65'
236	0.05	2182.14'
237	0.06	2669.95'
238	0.06	2702.47'
239	0.05	2186.19'
240	0.05	2149.22'
241	0.05	2159.80'
242	0.05	2218.25'
243	0.06	2769.56'
244	0.06	2586.66'
245	0.05	2157.07'
246	0.05	2146.13'
247	0.05	2149.14'
248	0.05	2166.09'
249	0.06	2605.14'
250	0.06	2597.08'
251	0.05	2162.03'
252	0.05	2147.58'
253	0.05	2147.07'
254	0.05	2160.51'
255	0.06	2593.98'
256	0.06	2588.24'
257	0.05	2157.81'
258	0.05	2146.33'
259	0.05	2148.79'
260	0.05	2165.20'
261	0.06	2603.38'
262	0.06	2594.36'
263	0.05	2191.67'
264	0.05	2191.67'
265	0.05	2191.67'
266	0.05	2191.67'
267	0.06	2594.30'
268	0.06	2594.30'
269	0.05	2191.67'
270	0.05	2191.67'
271	0.05	2191.67'
272	0.05	2190.70'
273	0.06	2577.84'
274	0.06	2593.33'
275	0.05	2224.54'
276	0.05	2239.51'
277	0.05	2239.56'
278	0.05	2224.68'
279	0.06	2593.63'
280	0.06	2598.25'
281	0.05	2228.19'
282	0.05	2242.71'
283	0.05	2242.30'

Lot Area Table		
Lot #	Area (acre)	Area (sq.ft)
284	0.05	2226.97'
285	0.06	2595.75'
286	0.06	2622.05'
287	0.05	2216.69'
288	0.05	2202.31'
289	0.06	2663.98'
290	0.05	2299.83'
291	0.05	2321.05'
292	0.05	2319.88'
293	0.05	2296.30'
294	0.06	2660.12'
295	0.06	2612.85'
296	0.05	2207.33'
297	0.05	2207.33'
298	0.05	2207.33'
299	0.05	2207.33'
300	0.06	2612.85'
301	0.06	2560.77'
302	0.05	2163.33'
303	0.05	2163.33'
304	0.05	2163.33'
305	0.05	2163.33'
306	0.05	2163.33'
307	0.05	2163.33'
308	0.06	2560.77'
309	0.06	2560.77'
310	0.05	2163.33'
311	0.05	2163.33'
312	0.05	2163.33'
313	0.05	2163.33'
314	0.06	2560.77'

Open Space Table		
Open Space	Area (acre)	Area (sq.ft)
1	0.83	36161.37
1	3.08	134142.41
1	4.30	187499.85
1	19.49	849146.95
1	2.75	119611.88



CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C46	N85°14'50"W	21.04'	525.00
C47	N82°40'29"W	26.10'	525.00
C48	N79°19'19"W	35.34'	525.00
C49	N75°57'51"W	26.19'	525.00
C50	N73°19'56"W	22.04'	525.00
C51	N70°55'43"W	22.01'	525.00
C52	N68°31'37"W	22.01'	525.00
C53	N66°07'22"W	22.05'	525.00
C54	N63°29'23"W	26.21'	525.00
C55	N60°26'40"W	29.60'	525.00
C56	N57°24'11"W	26.14'	525.00
C57	N54°46'30"W	22.02'	525.00
C58	N52°22'23"W	22.00'	525.00
C59	N49°58'14"W	22.02'	525.00
C60	N47°01'50"W	31.86'	525.00
C61	N43°52'03"W	26.11'	525.00
C62	N41°14'29"W	22.01'	525.00
C63	N38°50'23"W	22.00'	525.00
C64	N36°26'12"W	22.04'	525.00
C65	N30°52'19"W	79.94'	525.00
C66	N74°07'09"W	20.40'	13.02
C67	S59°16'21"W	42.75'	713.97
C68	S56°30'37"W	26.09'	713.97
C69	S54°34'49"W	22.01'	713.97
C70	S53°20'36"W	8.81'	713.97
C71	S07°59'24"W	20.42'	13.00
C72	S09°19'11"E	52.32'	56.31
C73	S43°30'05"W	44.20'	55.10
C74	N33°24'34"W	152.90'	55.00
C75	N04°36'43"E	18.89'	13.00
C76	N36°37'50"W	2.32'	175.00
C77	N27°31'31"W	53.30'	175.00
C78	N14°54'44"W	23.75'	175.00
C79	N01°42'58"W	56.86'	175.00
C80	S01°42'58"E	40.62'	125.00
C81	S51°25'52"E	18.34'	13.00
C85	S85°04'47"E	7.53'	225.00

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C86	S81°18'33"E	22.08'	225.00
C87	S75°07'07"E	26.54'	225.00
C88	S70°22'03"E	10.78'	225.00
C89	S65°35'05"E	26.79'	225.00
C90	S59°20'58"E	22.18'	225.00
C91	S53°43'18"E	22.02'	225.00
C92	S48°06'33"E	22.06'	225.00
C93	S42°27'25"E	22.33'	225.00
C94	S36°09'44"E	27.11'	225.00
C95	S31°53'48"E	6.39'	225.00
C96	S72°08'59"E	18.64'	13.00
C97	N70°24'13"E	96.55'	764.00
C98	N75°00'10"E	26.10'	764.00
C99	N76°48'26"E	22.02'	764.00
C100	N78°27'28"E	22.00'	764.00
C101	N80°06'28"E	22.01'	764.00
C102	N81°45'32"E	22.03'	764.00
C103	N83°33'53"E	26.13'	764.00
C104	N85°33'46"E	27.16'	764.00
C105	N87°33'38"E	26.12'	764.00
C106	N89°21'57"E	22.02'	764.00
C107	S88°59'00"E	22.00'	764.00
C108	S87°20'00"E	22.00'	764.00
C109	S85°40'57"E	22.02'	764.00
C110	S83°52'39"E	26.11'	764.00
C111	S81°14'17"E	44.28'	764.00
C112	S78°35'56"E	26.11'	764.00
C113	S76°47'40"E	22.02'	764.00
C114	S75°08'38"E	22.00'	764.00
C115	S73°29'37"E	22.00'	764.00
C116	S71°50'34"E	22.03'	764.00
C117	S70°02'13"E	26.13'	764.00
C118	S67°09'09"E	50.80'	764.00
C119	N89°09'46"E	200.98'	225.00
C120	N88°08'27"W	210.83'	275.00
C121	N65°42'46"W	4.46'	275.00
C122	N65°53'33"W	16.07'	714.00

CURVE TABLE			
CURVE #	CHORD BEARING	CHORD LENGTH	RADIUS
C123	N67°34'58"W	26.06'	714.00
C124	N70°41'11"W	51.28'	714.00
C125	N73°47'32"W	26.13'	714.00
C126	N75°43'27"W	22.02'	714.00
C127	N77°29'27"W	22.00'	714.00
C128	N79°15'23"W	22.00'	714.00
C129	N81°01'23"W	22.02'	714.00
C130	N82°57'18"W	26.13'	714.00
C131	N86°17'31"W	57.04'	714.00
C132	N89°37'43"W	26.12'	714.00
C133	S88°26'22"W	22.02'	714.00
C134	S86°40'23"W	22.00'	714.00
C135	S84°54'26"W	22.00'	714.00
C136	S83°08'27"W	22.03'	714.00
C137	S81°12'31"W	26.13'	714.00
C138	S77°56'47"W	55.18'	714.00
C139	S74°41'14"W	26.05'	714.00
C140	S72°45'33"W	22.00'	714.00
C141	S70°59'34"W	22.02'	714.00
C142	S68°39'22"W	36.21'	714.00
C143	S20°20'48"W	21.26'	13.00
C145	N59°45'01"W	160.59'	175.00
C146	S38°48'36"W	25.03'	13.00
C147	S26°40'33"E	45.09'	125.00
C148	S82°00'36"E	20.42'	13.00
C149	N53°19'53"E	9.10'	764.00
C150	N54°29'53"E	22.01'	764.00
C151	N56°18'05"E	26.09'	764.00
C152	N59°12'44"E	51.54'	764.00
C153	S50°17'57"E	361.39'	476.11
C154	S73°37'20"E	26.23'	476.11
C155	S76°31'38"E	22.05'	476.11
C156	S79°10'41"E	22.01'	476.11
C157	S81°49'36"E	22.01'	476.11
C159	S84°28'42"E	22.06'	476.11
C160	S86°04'59"E	4.61'	476.11

TOWNHOME (TYP.)
SCALE: NTS

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEESE
REGISTERED LAND SURVEYOR
No. XVI
AGRICULTURE
RESIDENTIAL
COMMERCIAL
TENNESSEE NO. 3093
5/18/2023

W&A PROJECT #: 220047

PHASE 4

PRELIMINARY PLAT

SHEET 8 OF 18

X:\Projects\2022\220047 - McClure Farms\Design\Construction\PLAT\2-Sheets - CAD\PP - PHASE 4 - 220047.dwg 5-23-23 09:50:15 AM jhogan

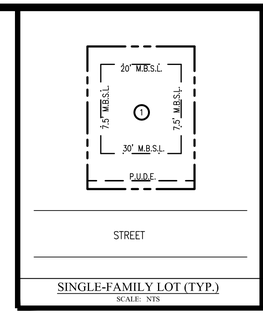
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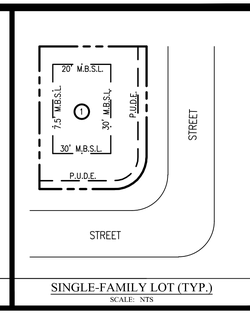
SCALE 1" = 60'
30 60 120

SURVEY LEGEND

- P.O.B. – POINT OF BEGINNING
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SSMH (SANITARY SEWER MANHOLE)
- UTILITY POLE
- PROPERTY LINE
- EASEMENT
- BUILDING SETBACK
- BUFFER
- PROP. MAJ CONTOURS (710)
- EX. MAJ CONTOURS
- STORM SYSTEM
- SANITARY SEWER (SS)
- WATER LINE (W)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22-0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
AGRICULTURE
COMMERCE
TENNESSEE NO. 3099
5/18/2023

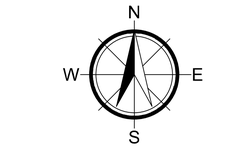
W&A PROJECT #: 220047

PHASE 1

UTILITIES

SHEET 9 OF 18

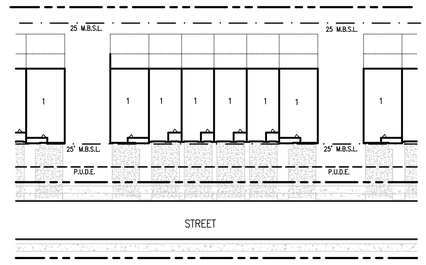
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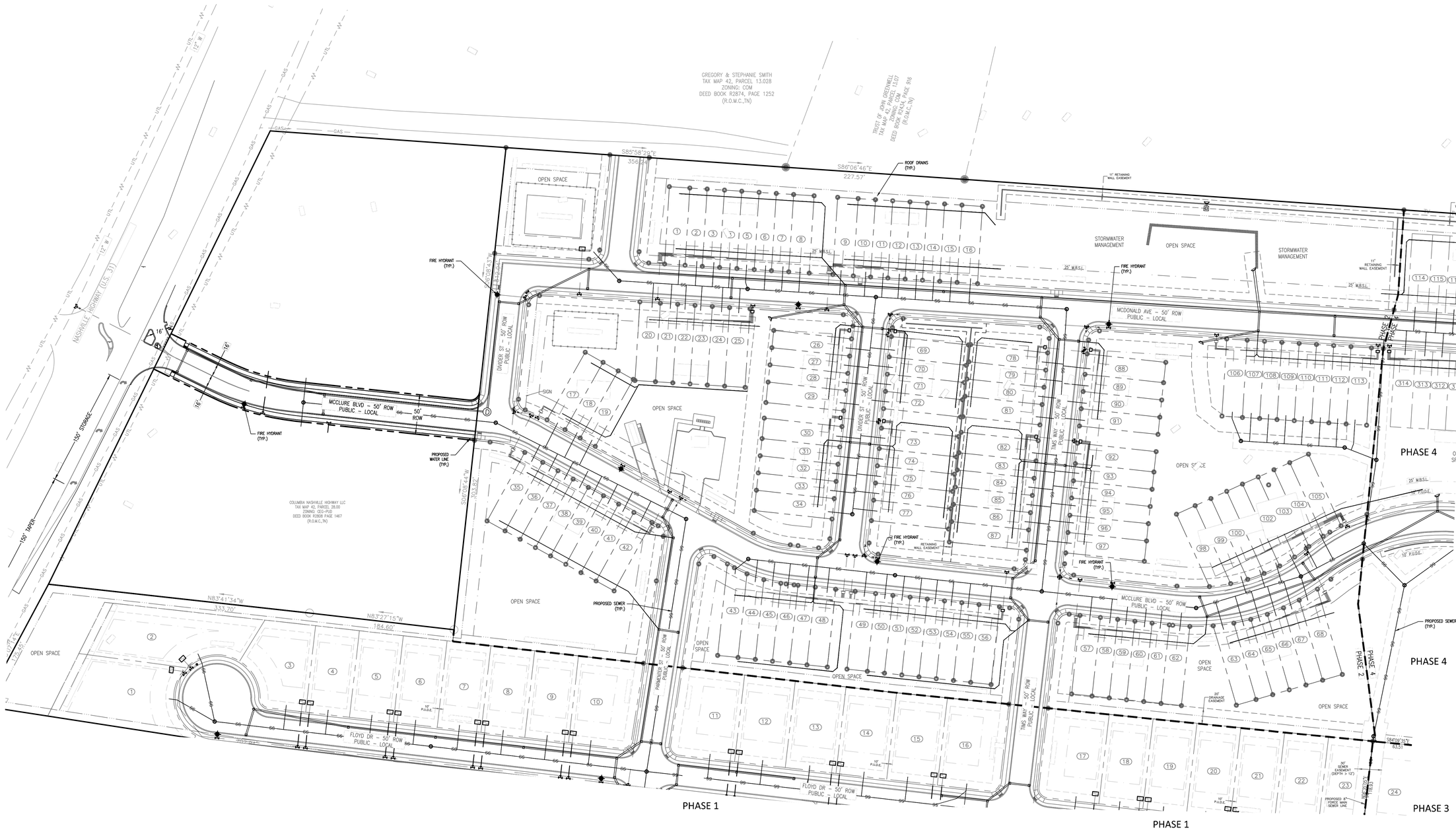
SURVEY LEGEND

- P.O.B. – POINT OF BEGINNING
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SSMH (SANITARY SEWER MANHOLE)
- UTILITY POLE
- PROPERTY LINE
- EASEMENT
- BUILDING SETBACK
- BUFFER
- PROP. MAJ CONTOURS
- EX. MAJ CONTOURS
- STORM SYSTEM
- SANITARY SEWER — SS —
- WATER LINE

SITE DATA	
PHASE 2	
Lots	113
Open Space	310,882.16 sq ft
	7.137 ac



TOWNHOME (TYP.)
SCALE: NTS



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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
No. XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 2109
5/18/2023

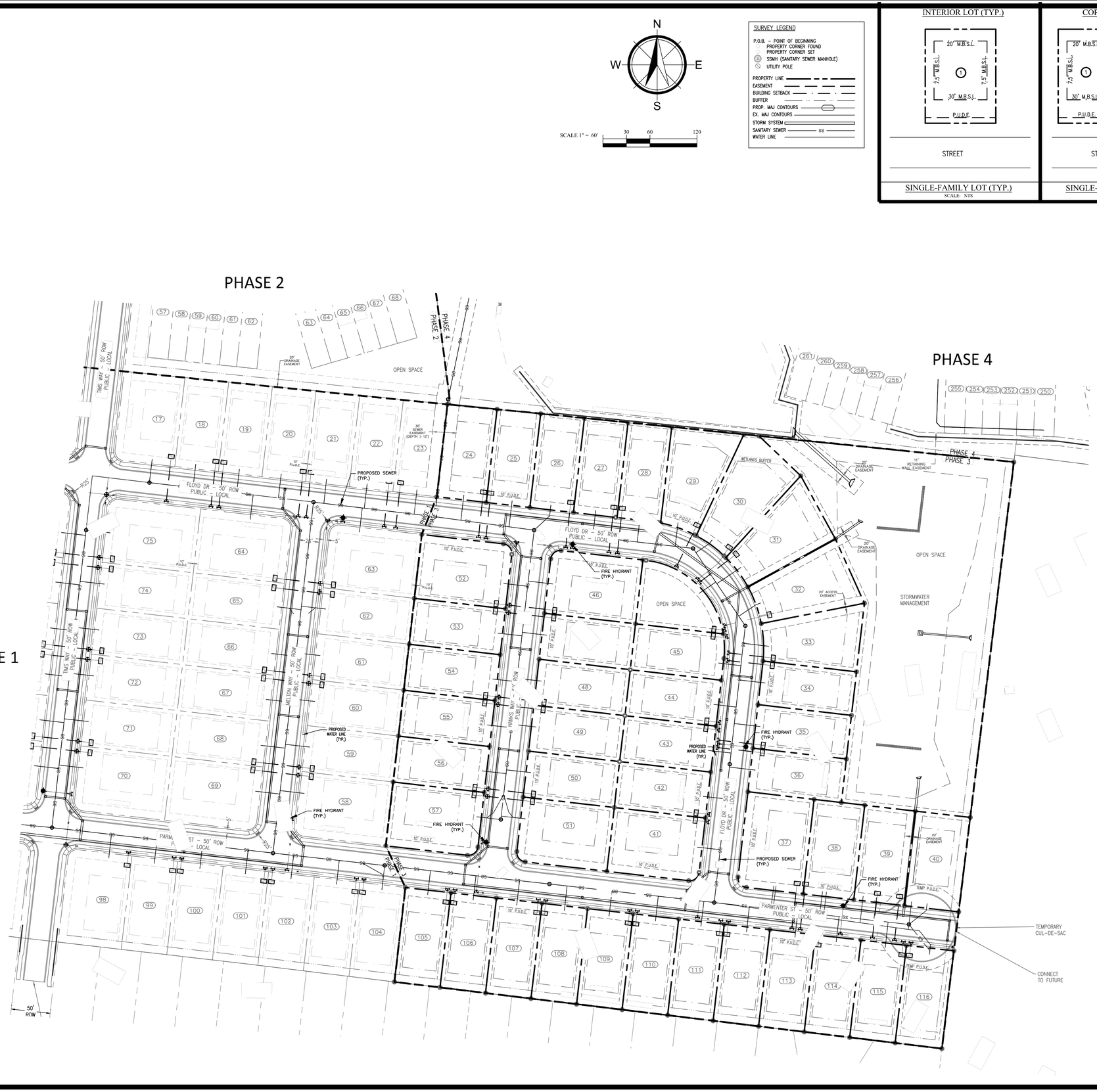
W&A PROJECT #: 220047

PHASE 2

UTILITIES

SHEET 10 OF 18

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
AGRICULTURE
TENNESSEE NO. 2029
5/18/2023

W&A PROJECT #: 220047

PHASE 3

UTILITIES

SHEET 11 OF 18

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SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE

PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS 710
EX. MAJ CONTOURS 710
STORM SYSTEM
SANITARY SEWER SS
WATER LINE W

N
W E
S

SCALE 1" = 60' 30 60 120

DEAN NORTON
TAX MAP 42, PARCEL 13.02
ZONING: A2
DEED BOOK 1154, PAGE 520
(R.O.M.C.,TN)

NOTE
REMAINING AREA OF PHASE 4 TO BE USED AS OPEN SPACE/STORMWATER DETENTION. SEE CONSTRUCTION PLANS FOR DETAILS.

S86°01'04"E 1595.43'
N19°01'51"E 648.86'
N82°48'08"W 423.70'
N82°22'09"W 409.53'

MCDONALD AVE – 50' ROW PUBLIC – LOCAL
MCCLURE BLVD – 50' ROW PUBLIC – LOCAL
FLOYD DR – 50' ROW PUBLIC – LOCAL
MATTHEWS DR – 50' ROW PUBLIC – LOCAL

PHASE 1
PHASE 2
PHASE 3
PHASE 4

OPEN SPACE
STORMWATER MANAGEMENT
DOG PARK
TRASH COMPACTOR
NEIGHBORHOOD DELIVERY & COLLECTION BOX UNITS "NDCBU" 200 UNIT SIZE
WETLAND 1
WETLANDS BUFFER
UNAMED STREAM
BARN
CONNECT TO FUTURE

25' LANDSCAPE BUFFER (80% OPACITY)
50' BUFFER
11' RETAINING WALL EASEMENT
20' DRAINAGE EASEMENT
20' SEWER EASEMENT
25' M.B.S.L.
10' P.U.D.E.
FIRE HYDRANT (TYP.)
PROPOSED WATER LINE (TYP.)
PROPOSED SEWER (TYP.)
STORM DRAIN (TYP.)

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLESCE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
RESIDENTIAL
COMMERCIAL
TENNESSEE NO. 3083
5/18/2023

W&A PROJECT #: 220047

PHASE 4

UTILITIES

SHEET 12 OF 18

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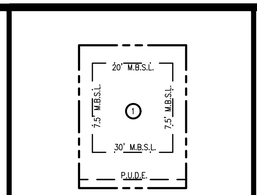
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SCALE 1" = 60'
30 60 120

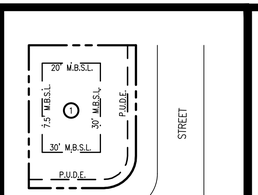
SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE

PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS (710)
EX. MAJ CONTOURS (710)
STORM SYSTEM
SANITARY SEWER SS
WATER LINE W



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

THIS PROPOSED PRELIMINARY PLAT FOR PHASE 1. SUPERCEDES THE PRELIMINARY PLAT (22–0107) APPROVED BY PLANNING COMMISSION IN JULY 2022.

PHASE 2

PHASE 2

PHASE 3

PHASE 3

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 3009
5/18/2023

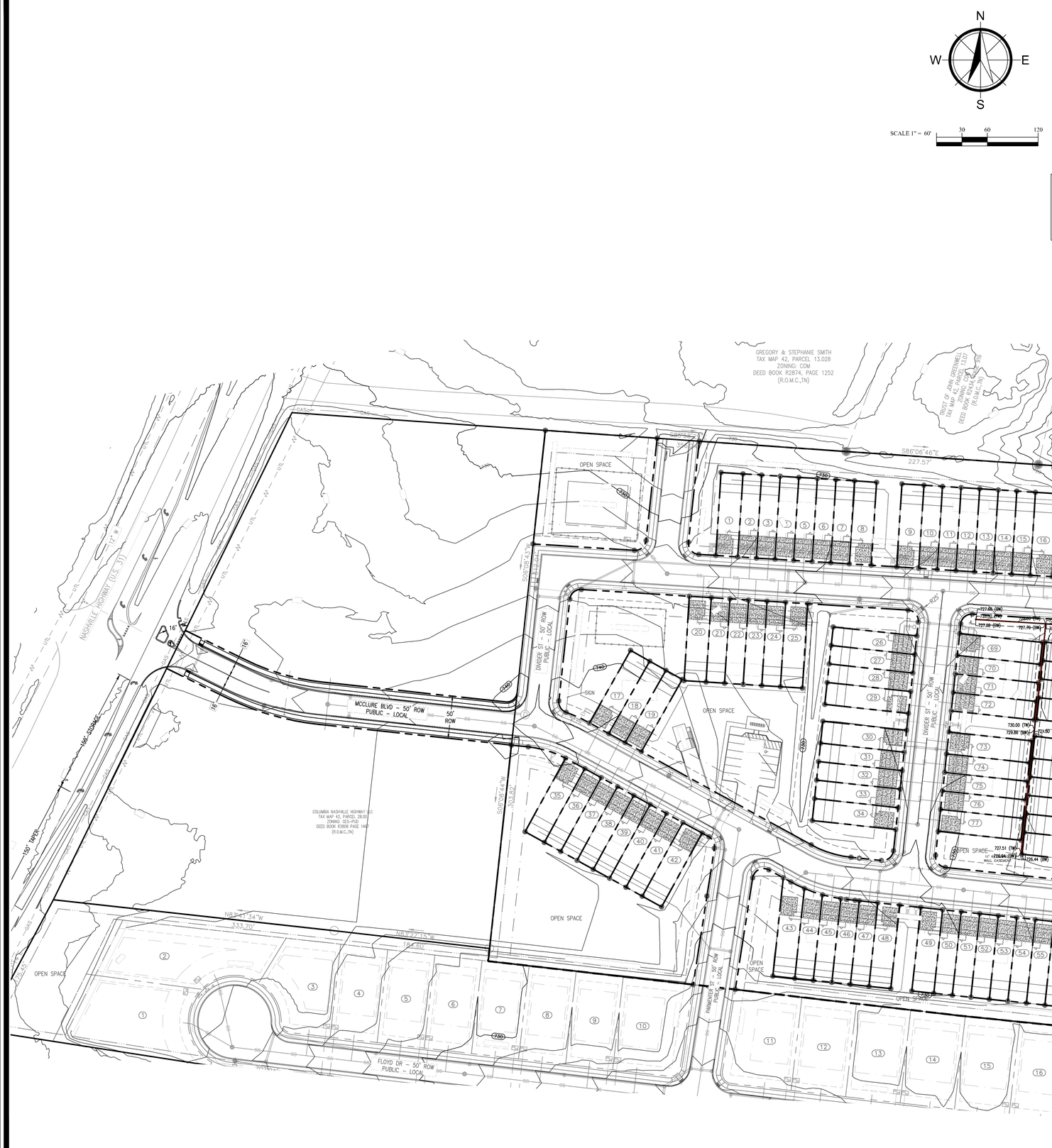
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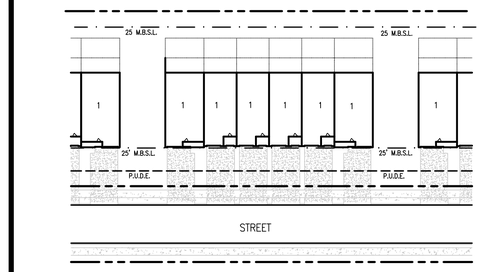
PHASE 1

GRADING

SHEET 13 OF 18

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TOWNHOME (TYP.)
SCALE: NTS

SITE DATA	
PHASE 2	
Lots	113
Open Space	310,882.16 sq ft
	7.137 ac

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
SUMNER
TENNESSEE NO. 3029
5/18/2023

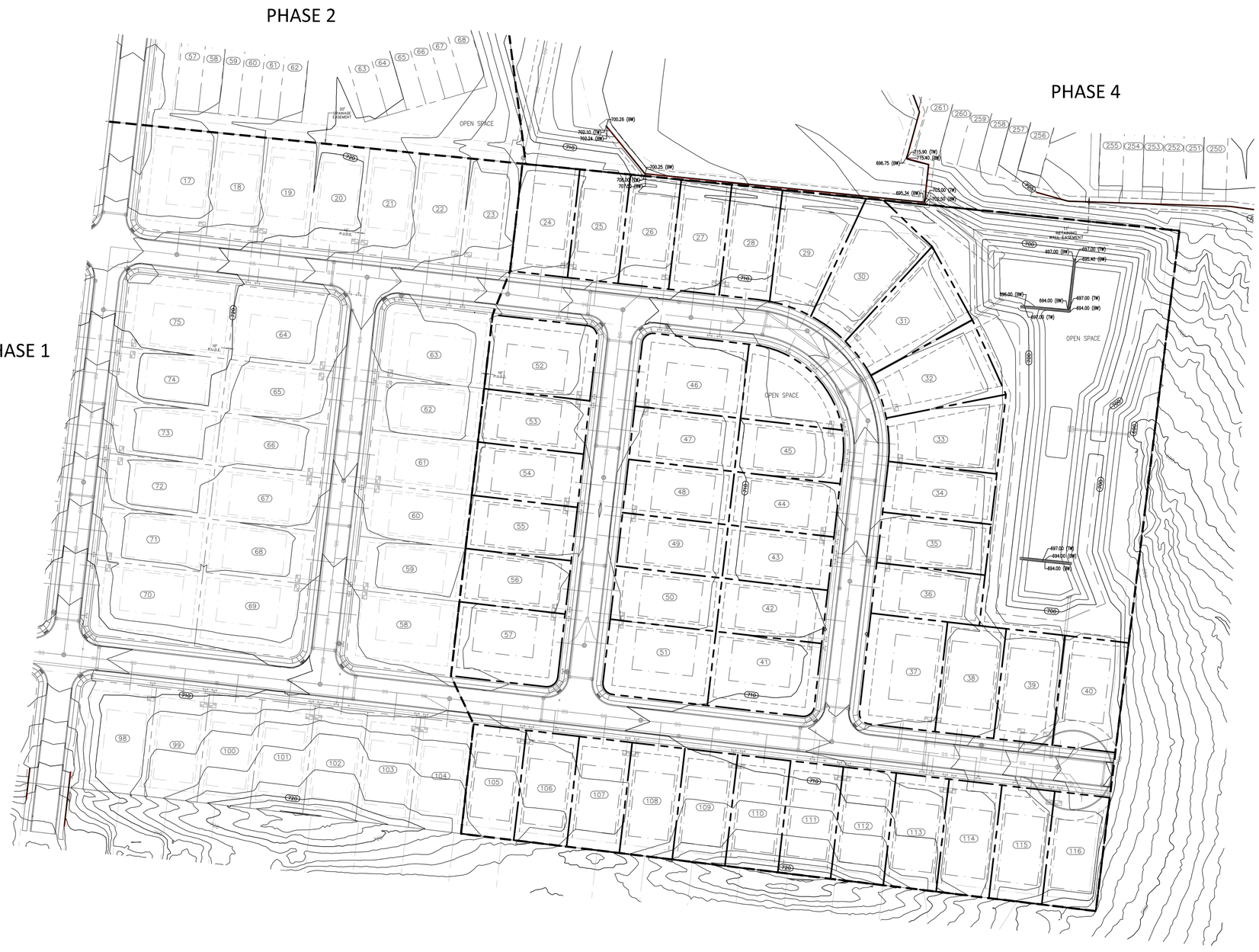
W&A PROJECT #: 220047

PHASE 2

GRADING

SHEET 14 OF 18

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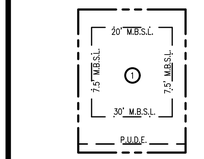
N
W
E
S

SCALE 1" = 60' 30 60 120

SURVEY LEGEND

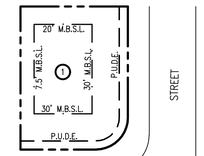
P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE
PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER SS
WATER LINE

INTERIOR LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

CORNER LOT (TYP.)



SINGLE-FAMILY LOT (TYP.)
SCALE: NTS

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 3099
5/18/2023

W&A PROJECT #: 220047

PHASE 3

GRADING

SHEET 15 OF 18

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SURVEY LEGEND

P.O.B. – POINT OF BEGINNING
PROPERTY CORNER FOUND
PROPERTY CORNER SET
SSMH (SANITARY SEWER MANHOLE)
UTILITY POLE

PROPERTY LINE
EASEMENT
BUILDING SETBACK
BUFFER
PROP. MAJ CONTOURS
EX. MAJ CONTOURS
STORM SYSTEM
SANITARY SEWER
WATER LINE

N
W
E
S

SCALE 1" = 60' 30 60 120

TAX MAP 42, PARCEL 12.02
ZONING: AZ
DEED BOOK/1154, PAGE 520
(R.O.M.C.,TN)

S86°01'04"E
1595.43'

N13°01'14"E
548.90'

NOTE
REMAINING AREA OF PHASE 4 TO BE USED AS OPEN SPACE/STORMWATER DETENTION. SEE CONSTRUCTION PLANS FOR DETAILS.

MCDONALD AVE – 50' ROW
PUBLIC – LOCAL

MCCLURE BLVD – 50' ROW
PUBLIC – LOCAL

FLOYD DR – 50' ROW
PUBLIC – LOCAL

WATERWALL DR – 50' ROW
PUBLIC – LOCAL

PHASE 2
PHASE 3
PHASE 4

WETLAND 1
WETLANDS BUFFER
30' LANDSCAPE BUFFER (NON SPACIOUS)
OPEN SPACE
TRASH COMPACTOR
NEIGHBORHOOD DELIVERY & COLLECTION BOX UNITS "NDCBU" 200 UNIT SIZE
STORMWATER MANAGEMENT
DOG PARK
BARN
UNAMED STREAM
CONNECT TO FUTURE

423.70'
N82°48'08"W

409.53'
N82°22'09"W

PHASE 3

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PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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DATE: 5/18/2023

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
ENGINEERING
COMMERCE
TENNESSEE NO. 3069
5/18/2023

W&A PROJECT #: 220047

PHASE 4

GRADING

SHEET 16 OF 18

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HATCHED AREAS REPRESENT AREAS WITH EXISTING SLOPES GREATER THAN TEN PERCENT (>10%)

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PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

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REVISIONS

DATE	COMMENT
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DATE: 5/18/2023

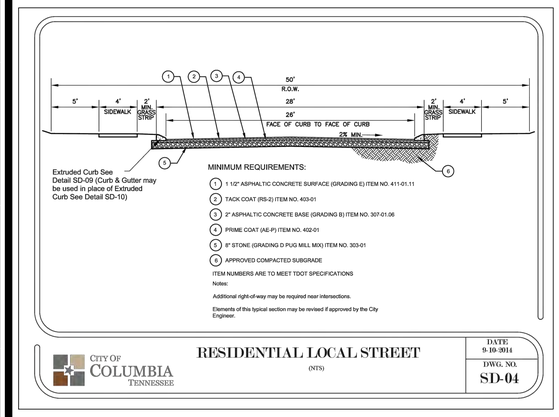
ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
No. XVI
STATE OF TENNESSEE
AGRICULTURE
ENGINEERING
TENNESSEE NO. 2009
5/18/2023

W&A PROJECT #: 220047

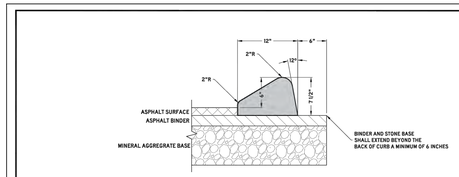
EXISTING SLOPE ANALYSIS

SHEET 17 OF 18

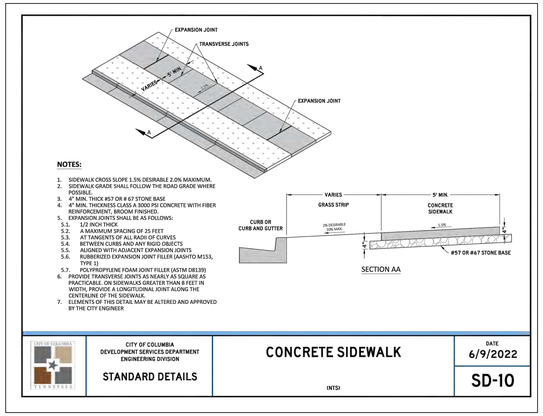
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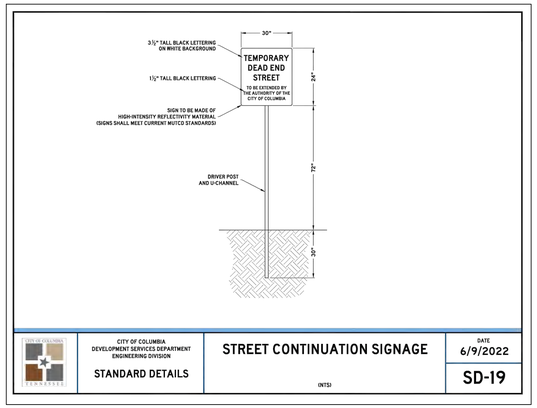
RESIDENTIAL LOCAL STREET SECTION



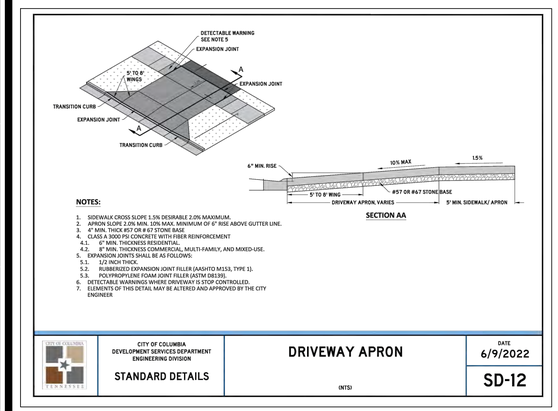
EXTRUDED CURB



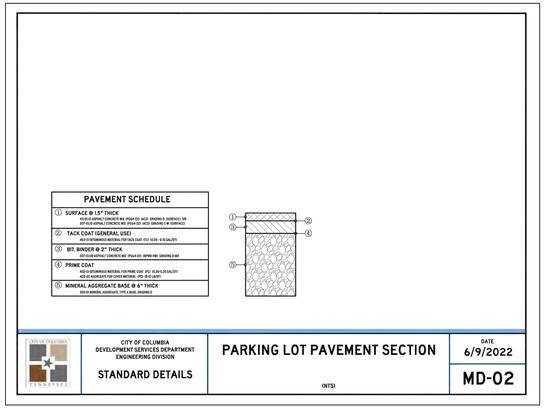
CONCRETE SIDEWALK



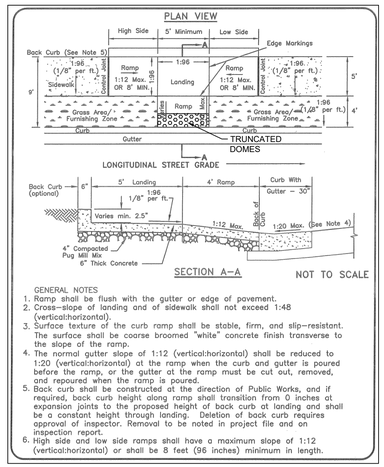
TEMPORARY DEAD END SIGN



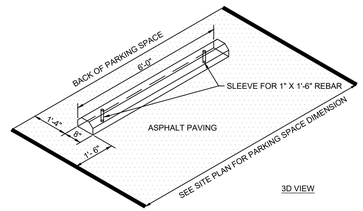
DRIVEWAY APRON

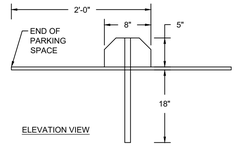


PARKING LOT PAVEMENT SECTION

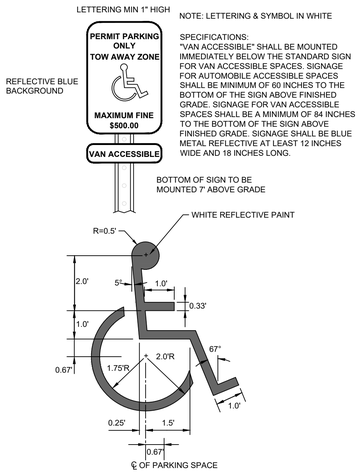


SIDEWALK RAMP

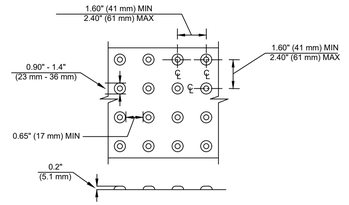




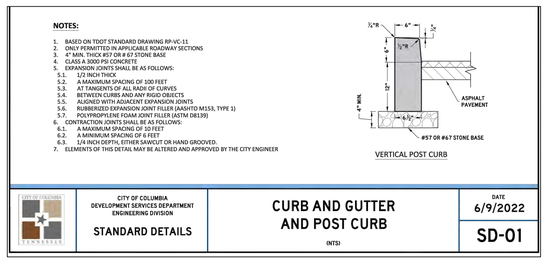
WHEEL STOP



HANDICAP PARKING SIGN AND PAINTED SYMBOL



TRUNCATED DOMES



POST CURB

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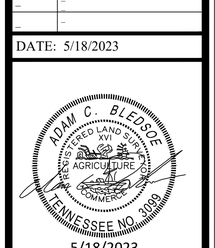
PRELIMINARY PLAT
PHASE 1 - 4
MCCLURE FARMS
2504 NASHVILLE HIGHWAY - 95.29 AC
COLUMBIA, MAURY COUNTY, TN. 38401

Know what's below. Call before you dig. 811

REVISIONS

DATE	COMMENT

DATE: 5/18/2023



W&A PROJECT #: 220047

PHASE 1 - 4

DETAILS

SHEET 18 OF 18

X:\Projects\2022\220047- McClure Farms\Design\Construction\3-SHEETS\S1 PLAT DETAILS-220047.dwg 5-17-23 08:41:41 PM jdyc

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June 20, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

Re: McClure Farms Development request for Minor PUD revision

Per Zoning ordinance 8.5.21.Z.3 (p. 465-466):

Per the request of the city of Columbia, the access connector on the northern portion of the PUD was relocated to better align with an adjacent development, also known as the Wynnsong property.

This revision facilitated some shifting of townhomes, roads, and amenities from the original approved Master PUD. These revisions are highlighted in the attached exhibit. These revisions did not change the amenity types or sizes, or significantly impacted utilities in any way. However, with these revisions, the number of multi family townhome units was reduced from 315 to 314, bringing the total unit count down from 431 units to 430 units.

If you have any questions or need additional information please feel free to contact Travis Bonar at tbonar@waengineering.com or 615-610-1023.

Sincerely,

Travis Bonar PE
Senior Project Manager | W&A Engineering
4101 Charlotte Avenue, Suite E215
Nashville, Tn. 37209

City of Columbia, TN Development Review Committee

Reference: McClure Farms, Comments No. 01

Technical Review Comments dated January 11, 2023 for the above referenced project.

ITEM NO.
22-0319

DESCRIPTION: Preliminary Plat Phases (1_4). All associated roads, utilities, storm water, etc.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Subject to Construction Plan approval and TIS requirements

2. Remove verbage stating "if feasible" regarding traffic improvements on the commitment letter and figure.

3. Add roadway cross section(s)

4. Provide preliminary grading.

5. Provide overall site layout sheet

6. Paramenter St Culdesac shall be located within a Public Utility Drainage and Access Easement (PUDAE)."Culdesac to be removed and driveways and appurtenances extended upon future roadway connection." Adjust drain location to be in future curb line.

7. Provide T.O.W. and B.O.W. elevations for all retaining walls.

8. Waterhill Drive culdesac: project the right-of-way to the adjoining property line to allow for future road extension. Provide note "Culdesac to be removed and appurtenances extended upon future roadway connection."

9. Remove certificates on Preliminary Plat cover sheets.

10. Provide 16 ft. lanes at Nashville Hwy access where divided. Provide right-of-way where roadway section widens. Provide detail showing proposed improvements and MSC apartments improvements to verify alignments.

11. Show curb ramp locations and stop bars for any stop-controlled intersections.

12. Phase 3: provide access easement to stormwater pond.

13. Label Force Mains on utility sheets with distinguishing annotation from gravity sewer mains.

14. Retaining wall between Phase 3 and Phase 4 shall be offset from property line

15. Connection to Nashville Hwy (through Phase 2) is required with Phase 1.

Planning

16. Pump station, lot 83, building setbacks?

17. Setbacks are not matching the master plan.

18. Landscape opacity between Single Family and Townhome has 40% on master plan, plat is showing 20%

19. Landscape opacity south of McDonald Ave is 80%

20. Townhome setback is min. 25'

21. Please indicate that the proposed Preliminary Plat for Ph. 1 supersedes the Preliminary Plat (22-0107) approved by Planning Commission in July 2022.

22. Please confirm exact size of Ph. 1. There is a minor discrepancy (0.19 ac) between the description on the PH 1 cover sheet and previous approvals. Discrepancy appears to be limited to notes on open space.

23. On Ph 2 Preliminary Plat, the landscape buffer along the boundary of Ph 1 is listed as 25' wide with a 20% opacity. On the Final Master Plan, this buffer is 10' wide with a 20% opacity.

24. Location of pump station in Ph. 3 does not conform to PUD Final Master Plan approved by planning commission.

25. Dimensions and location of lots 84 and 93 in Ph. 3 (lots 39 and 40 in PUD Master Plan) do not appear to conform to the Master Plan. Ph. 3 Preliminary Plat appears to relocate access and PUDE to eastern boundary of the property. These and other changes may require a revision of the Master Plan. Under 1.3.2.C of the zoning Ordinance, the PUD revision would require conformity with the standards of current ordinance.

26. As a condition of Final Master Plan approval (July 13, 2022) Planning Commission required a 0.60 opacity buffer along the western boundary of lots 1 and 2 in Ph. 1. Submitted Preliminary Plat shows a buffer opacity of 0.20. Please revise.

Public Works

27. No comment on single family lots. Phase 2 114 townhomes - will need at least three (3) 8 yd. dumpsters serviced 3x/week or trash compactor. Phase 4: 201 townhomes - will need at least five (5) 8 yd dumpsters serviced 3x/week or trash compactor. ***Are those trash compactors in the phase 2 & 4 prelim plats?

Building

28. No comments.

Police

29. No comments provided.

Maury County Schools

30. Current Zones: Battle Creek Elementary School, Battle Creek Middle School, Spring Hill High School. 1) No residence is guaranteed zone to a specific school. 2) All zones are subject to change yearly.

Fire

31. Check with CPWS to see if updated water availability letter is needed

32. Do roads between Phase 2 and 4 deadend, if so, if they are over 150ft they will need a temporary turnaround during construction

Columbia Power

33. Columbia Power System has an existing power line near your proposed residential development. We are willing to serve this residential development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

Wastewater

34. Columbia Wastewater has no concerns until further review after plan submittal.

Maury County E911

35. Contact Maury County 911, to request approval for subdivision and street names. Cgideon@maury911.org

Columbia Water

36. "The project is within Columbia Power and Water's service area and a Water Availability was previously issued, but is now expired. A review of the availability should be requested and if there have been changes that impact capacity requirements a new application and associated documents will be required. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Should adequate facilities not currently exist the study will determine any off-site improvements necessary to serve the development. Off-site

improvements are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

An availability letter has been requested from CPWS. This will be provided once received.

Atmos Energy

37. Gas is available contact Bradie Armstrong @ 615-485-6377.

Duck River Electric Membership Corp

38. No comments provided.

Collier Engineering Company, inc. on behalf of Maury County Highway Department.

39. Any future county roadway and ROW connections, impacts, and annexations are subject to further evaluation by the Maury County Highway Department. Applicant shall add the following note to the Preliminary Plat.

    "All connections to existing county roads and ROW are subject to the applicable permits, fees, approvals, and standards/ specifications set forth by the Maury County Highway Department."

March 7, 2023

Mr. Travis Bonar
W&A Engineering
4101 Charlotte Ave. E215
Nashville, TN 37209
Sent via email: tbonar@waengineering.com

RE: Water Availability Letter
McClure Farms – 429 Units
2504 Nashville Hwy
Tax Map 51,42, Parcel 6.00,28.00
Columbia, Maury County, TN

Dear Mr. Bonar:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 429 single-family units in detached and townhome configurations. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- This water letter represents a planning-only approval for the support of 429 single family units.
- Each Phase of the development will be considered individually to ensure water infrastructure including all related CPWS furnished equipment and appurtenances are available to support additional homes at the time application is made to proceed to construction for that Phase.
- System capacity for individual Phases of the development is reserved when CPWS has provided approval to proceed to construction and appropriate Impact Fees are paid.
- Based on State requirements, project phases will be delivered and activated as whole units. CPWS will not accept ownership of or activate portions of the water system that are smaller than the entirety of the infrastructure approved by the State on a single set of drawings. Phase boundaries should be defined with this is mind, as no water connections in the Phase will be activated until the entire Phase of construction is complete.
- Domestic waterline connection will be made to the existing 12-inch water main located on Nashville Highway.
- Minimum size 10-inch water main will be required along the main stem road, with looped 8-inch mains throughout the remainder of the development.
- A secondary connection will be made to the existing 8-inch main on Persimmon Street on the south side of the development.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide a development phasing drawing indicating boundaries of each phase and the number of each type of dwelling in each phase.
- Provide a proforma schedule or similar document indicating the timeline for delivery of homes, which aligns with the phases and boundaries in the phasing drawing.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.

- Prior to expiration of this water availability letter in 120 days, remit to CPWS new water service fees for Phase 1 (estimated based on preliminary information) as follows:

New Water Service Fee: $1,500 + $370 per SFU (71 SFUs)	$27,770.00

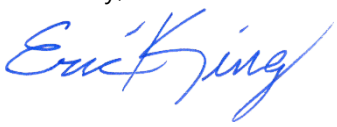
- CPWS will then develop water construction drawings for Phase 1 and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid in full. Meter and Impact Fees for Phase 1 are as follows:

Meter Fee: $540 per 3/4" meter (71 meters)	$38,340.00
Impact Fee: $4,500 per 3/4" meter (71 meters)	$319,500.00
Total Meter and Impact Fees Due =	**$357,840.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.
- Subsequent Phases will require individual applications and associated fees. Should this letter expire prior to payment of the New Water Service Fee for Phase 1 of the development, a new application will be required to evaluate current conditions before proceeding.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-034

TRAFFIC IMPACT STUDY

2504 Nashville Highway
Mixed-Use Development

2504 & 2524 Nashville Highway
Columbia, TN

T2-Eng.com

T-SQUARE ENGINEERING

TRAFFIC IMPACT STUDY

2504 Nashville Highway Mixed-Use Development
2504 & 2524 Nashville Highway
Columbia, TN

Prepared for:

W&A Engineering

807 2nd Avenue South
Nashville, TN 37210

T-SQUARE ENGINEERING

1329 West Main Street
Franklin, TN 37064
615.678.8212
www.T2-eng.com

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-Eng.com

Certification

I certify that this Traffic Impact Study has been prepared by me and under my immediate supervision and that I have the experience and training in the field of traffic and transportation engineering.



4/16/21

Blake A. Turner, P.E.
T-Square Engineering, Inc.
Principal – Vice President

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Introduction

The purpose of this study is to analyze the traffic impacts on the surrounding roadway network associated with the proposed 2504 Nashville Highway Mixed-Use Development along Nashville Highway in Columbia, TN. The proposed mixed-use development will consist of approximately 147 single-family homes, approximately 471 multi-family (low-rise) housing units, a coffee shop with drive-through of approximately 3,725 SF, a shopping center of approximately 3,500 SF, and a day care center of approximately 13,000 SF.

As shown on the Location Map and Preliminary Site Plan on Figures 1 and 2, respectively, the proposed development is located along the east side of Nashville Highway in Columbia, TN. The development is proposing two (2) site access points: one (1) site access with a left-in/right-in/right-out configuration on the east side of Nashville Highway to be aligned with the intersection of Nashville Highway and Old Highway 31 and one (1) site access to be connected to the existing stub-out located along Persimmon Street, east of Grove Park Way within the Grove Park Subdivision. The surrounding area is predominantly residential.

This study analyzes the existing and projected traffic operations of the roadway networks and intersections surrounding the proposed development. To evaluate the projected traffic operations, existing traffic volumes were grown (background traffic volumes) to a 2023 design year based on average traffic growth rates and combined with the generated traffic volumes from nearby background developments and estimated trips generated from the proposed development. Lastly, improvement recommendations were presented to alleviate the anticipated traffic volumes' effect on the existing roadway network near the site.

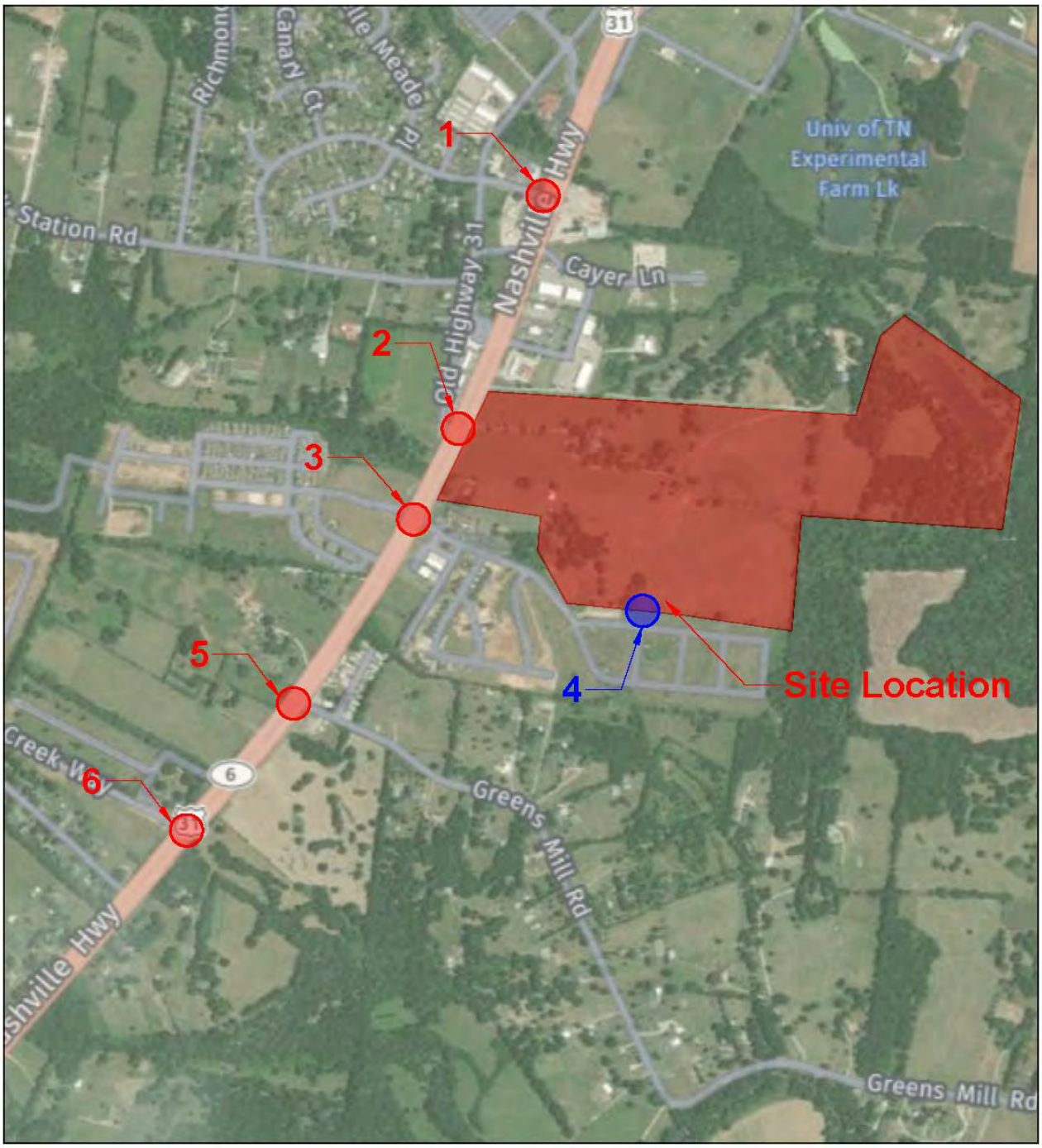


Figure 1
Location Map

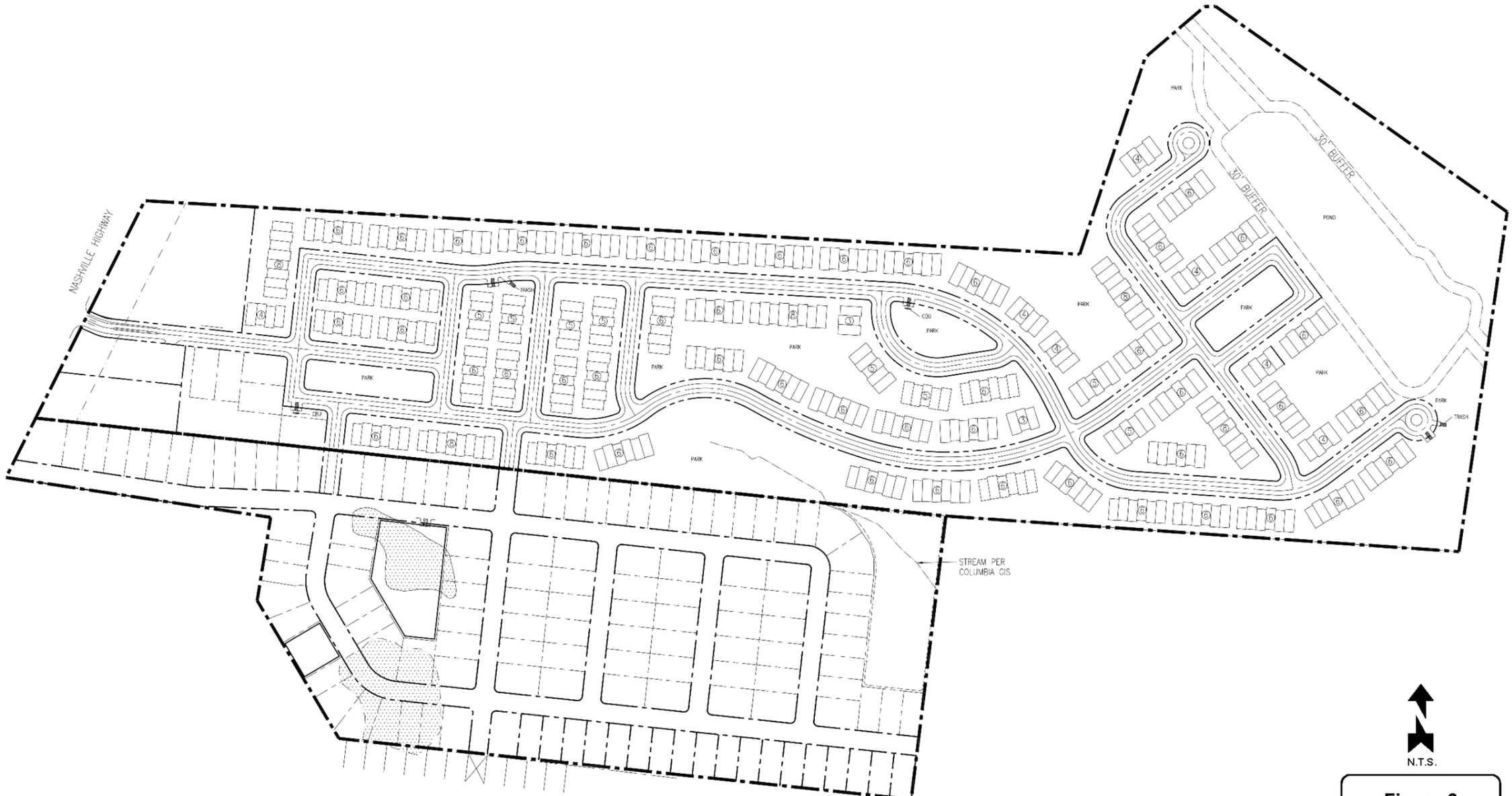


Figure 2
Preliminary Site Plan

Existing Study Area

Existing Roadway Network

The existing roadway network surrounding the proposed 2504 Nashville Highway Mixed-Use Development includes Nashville Highway (US-31), Spring Meade Boulevard, Old Highway 31N, Arden Village Drive, Grove Park Way, Greens Mill Road, and Hidden Creek Way. Below is a description of each roadway serving the proposed development:

Nashville Highway (US-31)

Nashville Highway (US-31) is functionally classified by the City of Columbia as an arterial roadway. Nashville Highway (US-31) is oriented in a north-south direction and provides a connection from the City of Columbia to the south and the City of Spring Hill to the north. Near the project site, Nashville Highway (US-31) is a four (4) lane divided roadway with two (2) twelve (12) foot travel lanes in each direction (northbound and southbound) and eight (8) foot shoulders. The posted speed limit along Nashville Highway (US-31) is 55 MPH.



Looking south along Nashville Highway (US-31)

Spring Meade Boulevard

Spring Meade Boulevard is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Spring Meade Boulevard is oriented in an east-west direction and provides a connection between Carters Creek Station Road to the west and Nashville Highway (US-31) to the east. Near the project site, Spring Meade Boulevard is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound) in each direction. Curb and gutter exist on either side of Spring Meade Boulevard. There is no posted speed limit along Spring Meade Boulevard. The assumed speed limit is 25 MPH.



Looking west along Spring Meade Boulevard

Old Highway 31N

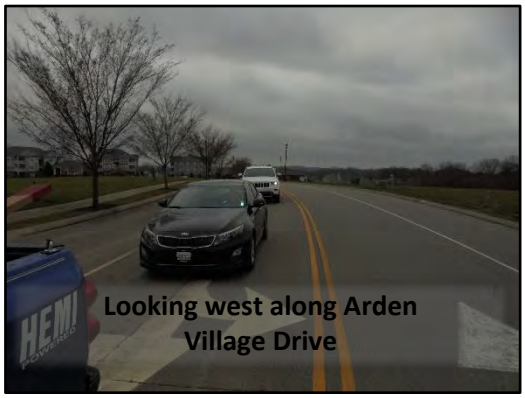
Old Highway 31N is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Old Highway 31N is oriented in a north-south direction and provides a connection to Spring Hill High School to the north and Nashville Highway (US-31) to the south. Near the project site, Old Highway 31N is a two (2) lane roadway with one (1) ten (10) foot travel lane in each direction (northbound and southbound) and two (2) foot shoulders. The posted speed limit along Old Highway 31 ranges from 25 to 35 MPH.



Looking east along Old Highway 31N

Arden Village Drive

Arden Village Drive is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Arden Village Drive is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the east and the proposed site to the west. Near the project site, Arden Village Drive is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound). Curb and gutter exist on either side of Arden Village Drive. There is no posted speed limit along Arden Village Drive. The assumed speed limit is 25 MPH.



Looking west along Arden Village Drive

Grove Park Way

Grove Park Way is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Grove Park Way is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the west and terminates to the east. Near the project site, Grove Park Way is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound). Curb and gutter exist on either side of Grove Park Way. There is no posted speed limit along Grove Park Way. The assumed speed limit is 25 MPH.



Looking east along Grove Park Way

Greens Mill Road

Greens Mill Road is functionally classified by the City of Columbia as a collector roadway. Near the project site, Greens Mill Road is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the west and Kedron Road to the east. Near the project site, Greens Mill Road is a two (2) lane roadway with one (1) ten (10) foot travel lane in each direction (eastbound and westbound) and two (2) foot shoulders. The posted speed limit along Greens Mill Road is 45 MPH.



Looking east along Greens Mill Road

Hidden Creek Way

Hidden Creek Way is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Hidden Creek Way is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the east and the proposed site to the west. Near the project site, Hidden Creek Way is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound). Curb and gutter exist on either side of Hidden Creek Way. No shoulders exist along Hidden Creek Way. There is no posted speed limit along Hidden Creek Way. The assumed speed is 25 MPH.



Looking west along Hidden Creek Way

Existing Intersections

This study analyzed five (5) existing intersections within the vicinity of the project site. The intersections analyzed are listed below with a brief description of each, and Figure 3 shows the existing lane geometry at the intersections.

Nashville Highway (US-31) and Spring Meade Boulevard

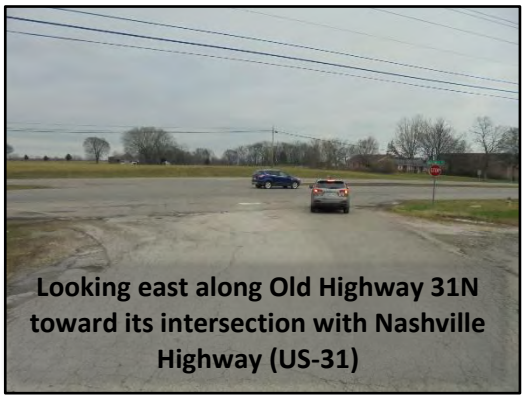
The existing intersection of Nashville Highway (US-31) and Spring Meade Boulevard is a signalized intersection with four (4) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 250 feet of storage, one (1) exclusive lane for through movements, and one (1) shared lane for through and right-turn movements. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 220 feet of storage, one (1) exclusive lane for through movements, and one (1) shared lane for through and right-turn movements. The eastbound approach of Spring Meade Boulevard has one (1) exclusive lane for left-turn movements with approximately 400 feet of storage and one (1) shared lane for through and right-turn movements. The westbound approach Driveway has one (1) shared lane for left-turn, through, and right-turn movements.



Looking north along Nashville Highway (US-31) toward its intersection with Spring Meade Boulevard

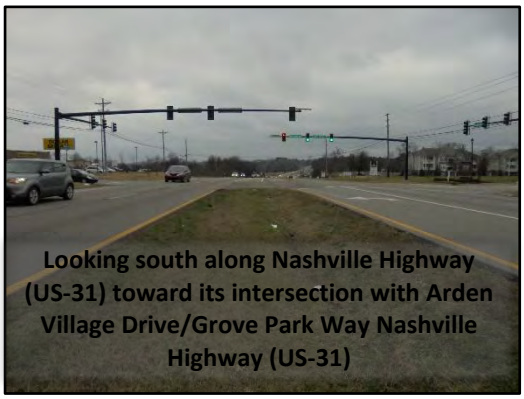
Nashville Highway (US-31) and Old Highway 31N

The existing intersection of Nashville Highway (US-31) and Old Highway 31N is an unsignalized intersection with three (3) approaches. The northbound approach of Nashville Highway (US-31) has one (1) shared lane for left-turn and through movements and one (1) exclusive lane for through movements operating under a free flow condition. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for through movements and one (1) shared lane for through and right-turn movements operating under a free flow condition. The eastbound approach of Old Highway 31N has one (1) shared lane for left-turn and right-turn movements operating under a stop condition.



Looking east along Old Highway 31N toward its intersection with Nashville Highway (US-31)

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way


Looking south along Nashville Highway (US-31) toward its intersection with Arden Village Drive/Grove Park Way Nashville Highway (US-31)

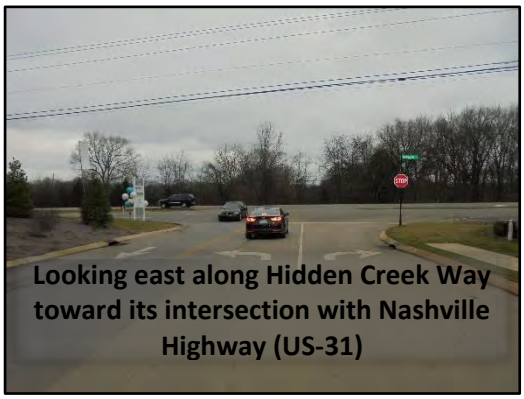
The existing intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way is a signalized intersection with four (4) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 330 feet of storage, two (2) exclusive lanes for through movements, and one (1) exclusive lane for right-turn movements with approximately 125 feet of storage. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 330 feet of storage, two (2) exclusive lanes for through movements, and one (1) exclusive lane for right-turn movements with approximately 125 feet of storage. The eastbound approach of Arden Village Drive has one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements with approximately 150 feet of storage. The westbound approach of Grove Park Way has one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements with approximately 100 feet of storage.

Nashville Highway (US-31) and Greens Mill Road


Looking west along Greens Mill Road toward its intersection with Nashville Highway (US-31)

The existing intersection of Greens Mill Road and Nashville Highway (US-31) is an unsignalized intersection with three (3) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for through movements and one (1) shared lane for through and right-turn movements operating under a free flow condition. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 480 feet of storage and two (2) exclusive lanes for through movements operating under a free flow condition. The westbound approach of Greens Mill Road has one (1) shared lane for left-turn and right-turn movements operating under a stop condition.

Nashville Highway (US-31) and Hidden Creek Way



Looking east along Hidden Creek Way toward its intersection with Nashville Highway (US-31)

The existing intersection of Hidden Creek Way and Nashville Highway (US-31) is an unsignalized intersection with three (3) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 260 feet of storage and two (2) exclusive lanes for through movements operating under a free flow condition. The southbound approach of Nashville Highway (US-31) has two (2) exclusive lanes for through movements and one (1) exclusive lane for right-turn movements with approximately 270 feet of storage operating under a free flow condition. The eastbound approach of Hidden Creek Way has one (1) exclusive lane for left-turn movements and one (1) exclusive lane for right-turn movements operating under a stop condition.

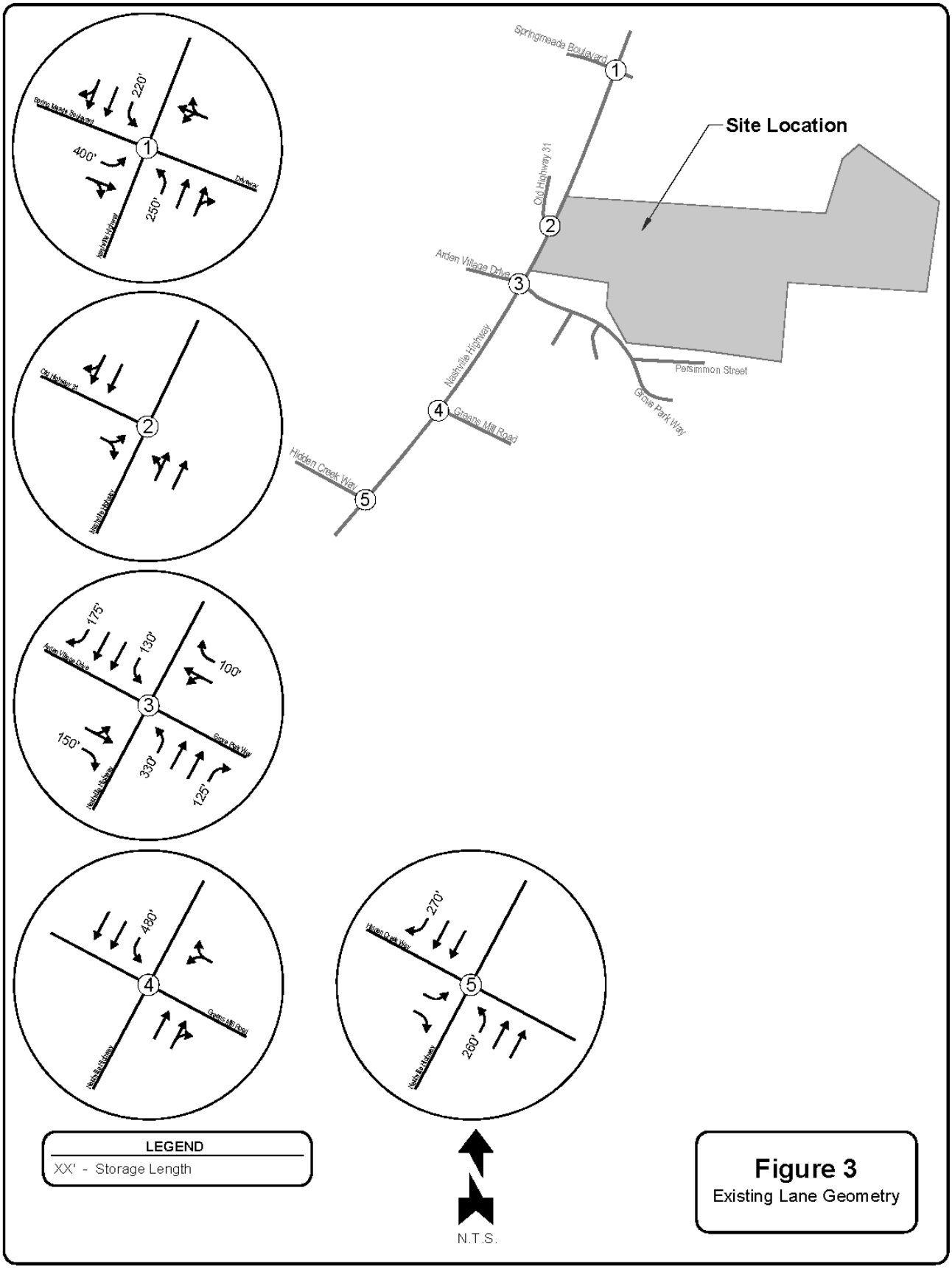


Figure 3
Existing Lane Geometry

Existing Traffic Volumes

To establish existing traffic volumes within the study area (as requested and provided by the City of Columbia), T-Square Engineering utilized the turning movement counts conducted by RG Phillips Consulting as part of the MSC Apartments Traffic Impact Study (TIS) in March 2020 for the following intersections:

- Nashville Highway (US-31) & Spring Meade Boulevard
- Nashville Highway (US-31) & Old Highway 31
- Nashville Highway (US-31) & Arden Village Drive/Grove Park Way

To establish existing (2021) traffic volumes, it should be noted that the traffic count volumes for the above intersections were grown for one (1) year by a factor 3.76% determined by the calculated average growth rate within the surrounding area, shown within Figure 5 below.

In addition, as requested by the City of Columbia, T-Square Engineering utilized the turning movement counts conducted by T-Square Engineering as part of the Carters Station Master Plan Traffic Impact Study (TIS) in May 2019 for the following intersections:

- Nashville Highway (US-31) & Greens Mill Road
- Nashville Highway (US-31) & Hidden Creek Way

To establish existing (2021) traffic volumes, it should be noted that the traffic count volumes at for the above intersections were grown for two (2) years by a factor 3.76% determined by the calculated average growth rate within the surrounding area, shown within Figure 5 below.

In addition, T-Square Engineering also conducted turning movement counts at the intersection of Grove Park Way and Persimmon Street on a typical weekday in January 2021 while schools were in session. The turning movement count was conducted over a total of twelve (12) hours from 6:00 AM – 6:00 PM.

For this analysis, the AM and PM peak hour traffic volumes were established and determined to occur between 7:15 AM – 8:15 AM and 4:45 PM – 5:45 PM, respectively. Figure 4 shows the existing peak hour totals at the study intersections for the AM and PM peak hour periods. Appendix A contains the original peak hour turning movement counts and the adjusted peak hour turning movement counts.

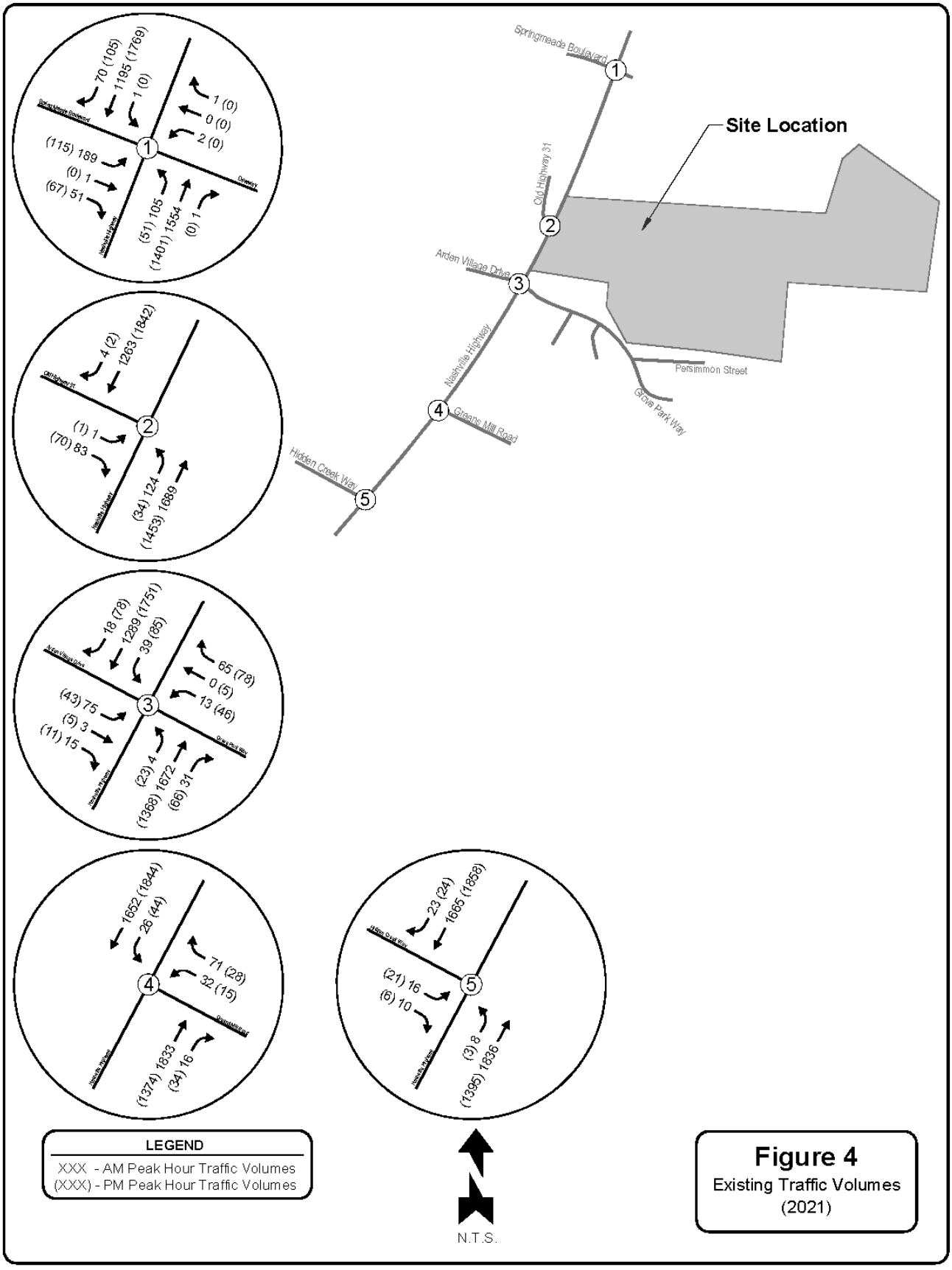


Figure 4
Existing Traffic Volumes
(2021)

Existing Capacity Analysis

To evaluate the existing traffic operations at the study intersections within the vicinity of the project site, AM and PM peak hour capacity analyses were performed per the calculations outlined in the Highway Capacity Manual[1](HCM). Levels of service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement. An LOS is a qualitative measure or grade used to distinguish how traffic is serviced at an intersection or along a roadway. The range of LOS is A to F, with A being the highest and F the lowest. The 95th percentile queue is the queue length (in vehicles) that has only a five (5) percent probability of being exceeded during the analysis period. The 95th percentile queue is not typical of what an average driver would experience, and driver experiences would be better characterized by the mean queue length. The table below details each LOS for signalized and unsignalized intersections, as specified within the HCM.

Table 1. Level of Service (LOS) Details

Level of Service*	Average Control Delay (seconds per vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50
Source: HCM 2010, Exhibits 18-4 and 19-1		

To determine the effectiveness of traffic operations within the study area a minimum LOS or baseline needs to be established. Any LOS below the established baseline will be considered unsatisfactory. LOS C is generally acceptable for typical roadway function while LOS D is typically considered to be the minimum acceptable LOS. According to the City of Columbia's *Transportation Master Plan (2018)*, "In urban areas, LOS D is typically considered to be the minimum acceptable level of service." The following conditions shall be considered unsatisfactory for the purposes of this study:

1. Overall intersections with an LOS E or F.
2. Individual traffic movements with an LOS E or F.

The existing intersections within the study area were analyzed with existing traffic volumes under existing roadway conditions/geometries. It should be noted that existing traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Spring Meade Boulevard and Nashville Highway (US-31) and Arden Village Drive/Grove Park Way for this analysis. The existing capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

[1] Transportation Research Board (TRB). Highway Capacity Manual, 5th Edition (2010). Washington, DC: 2010

Table 2. Existing Capacity Analyses

Study Intersection	Control	Approach	2021 Existing Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Nashville Highway (US-31) and Spring Meade Boulevard**	Signal	NB Left	D	39.2	105	F	82.6	83
		NB Thru	B	14.6	175	A	4.4	126
		NB Thru/Right	B	14.5	193	A	0.0	135
		SB Left	F	112.4	9	A	0.0	0
		SB Thru	B	16.1	253	B	13.8	334
		SB Thru/Right	B	16.1	260	B	14.2	355
		EB Left	C	29.0	161	E	65.4	159
		EB Thru/Right	C	24.7	50	E	64.0	103
		WB Left	C	25.3	0	A	0.0	0
		WB Thru/Right	C	23.5	9	A	0.0	0
		Overall	**B**	**17.0**	--	**B**	**13.8**	--
2. **Nashville Highway (US-31) and Old Highway 31N**	TWSC	NB Left	B	15.0	50	C	19.7	25
		EB Left/Right	C	20.6	50	D	26.8	50
3. **Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**	Signal	NB Left	E	65.6	8	F	81.8	48
		NB Thru	C	20.2	365	B	17.1	373
		NB Right	A	8.7	111	A	9.7	89
		SB Left	E	75.6	63	F	93.7	153
		SB Thru	B	15.0	313	B	18.6	584
		SB Right	A	8.5	92	A	8.0	170
		EB Left/Thru	E	74.8	152	F	87.5	89
		EB Right	E	62.9	36	E	75.4	29
		WB Left/Thru	E	63.2	63	E	74.4	103
		WB Right	E	78.2	88	F	85.7	86
		Overall	**C**	**21.5**	--	**C**	**23.2**	--
4. **Nashville Highway (US-31) and Greens Mill Road**	TWSC	SB Left	C	19.2	25	B	14.4	25
		WB Left/Right	F	78.3	125	D	25.7	25
5. **Nashville Highway (US-31) and Hidden Creek Way**	TWSC	NB Left	C	16.3	25	C	18.4	0
		EB Left	E	48.4	25	F	65.0	25
		EB Right	C	18.4	25	C	20.6	25

The following assessments are based on the results of the Existing Capacity Analyses as shown in Table 2:

- At the intersection of Nashville Highway (US-31) and Springmeade Boulevard/Private Drive, the northbound left-turn movement currently operates at LOS F during the PM peak hour period. The southbound left-turn movement currently operates at LOS F during the AM peak hour period. The eastbound left-turn movement currently operates at a LOS E during the PM peak hour. The eastbound shared through/right-turn movement currently operates at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS B during both the AM and PM peak hours, with existing traffic volumes.
- At the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, the northbound left-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively. The southbound left-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively. The eastbound shared left-turn/through movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively. The eastbound right-turn movement currently operates at LOS E during both the AM and PM peak hour periods. The westbound shared left-turn/through movement currently operates at LOS E during both the AM and PM peak hour periods. The westbound right-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively.
    - The overall intersection will operate at LOS C during both the AM and PM peak hours, respectively, with existing traffic volumes.
- At the intersection of Nashville Highway (US-31) and Greens Mill Road, the westbound shared left-turn/right-turn movement currently operates at LOS F during the AM peak hour period.
- At the intersection of Nashville Highway (US-31) and Hidden Creek Way, the eastbound left-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively.
- All other critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours of operation with existing traffic volumes.

Background Traffic Volumes

To account for traffic growth within the vicinity of the project site prior to the completion of the proposed 2504 Nashville Highway Mixed-Use Development, background traffic volumes were established. Average annual daily traffic (AADT) volumes were obtained from Tennessee Department of Transportation (TDOT) count stations, and an average growth trend per year was established. This growth trend was used as a multiplication factor to grow the existing traffic volumes to the 2022 design year (development completion). Figure 5 displays the locations of the TDOT Count Stations within the surrounding area.

As shown in Figure 5, the average yearly percent change in traffic over a six (6) year period from 2013 - 2018 was 3.76%. However, to conform to the recently conducted traffic impact studies within the area, the existing traffic volumes as shown on Figure 4 were grown by +2.00% per year for two (2) years. Figure D1 in Appendix D shows the background peak hour totals at the study intersections for the AM and PM peak hour periods.

To account for the additional traffic growth within the vicinity of the project site, the generated traffic volumes from previously conducted Traffic Studies near the project site were added to the grown background traffic volumes. These developments are listed below as outlined within the Greens Mill Master Plan Traffic Impact Study conducted by KCI Technologies.

- Grove Park (Single-Family Residential)
- Homestead (Single-Family Residential)
- Villages at Carters Station (Single-Family Residential)
- Drumright Property (Single-Family and Multifamily Residential)
- Arden Village (Retail Space)
- MSC Apartments (Multifamily Residential)
- The Ridge at Carters Village (Single Family Residential)
- Greens Mill Development (Single Family Residential)

The total generated background development volumes can be found on Figure D2 in Appendix D. The generated traffic volumes from each development above are shown on Figures D3-D11 in Appendix D. The background traffic volumes as shown in Figure D1 were added to the total generated background development volumes as shown in Figure D2, resulting in the total combined background peak hour traffic volumes for the study intersections, as shown on Figure 6.



TDOT Count Station:	Maury 000091		Maury 000019		Average % Growth
Year	AADT	% Change	AADT	% Change	
2018	36,823	--	1,251	--	--
2017	35,063	5.02%	1,202	4.08%	4.55%
2016	33,930	4.26%	1,131	5.31%	4.76%
2015	34,875	1.86%	1,195	1.56%	1.71%
2014	34,235	1.89%	1,072	4.17%	3.03%
2013	30,975	3.78%	973	5.71%	4.75%
Average % Change	**3.36%**		**4.17%**		**3.76%**
				Applied % Growth*	**2.00%***

*Applied Growth matches Background Growth utilized within the MSC Apartments Traffic Impact Study (May 2020)

N.T.S.

Figure 5
TDOT Count Locations & Background Traffic Growth Trends

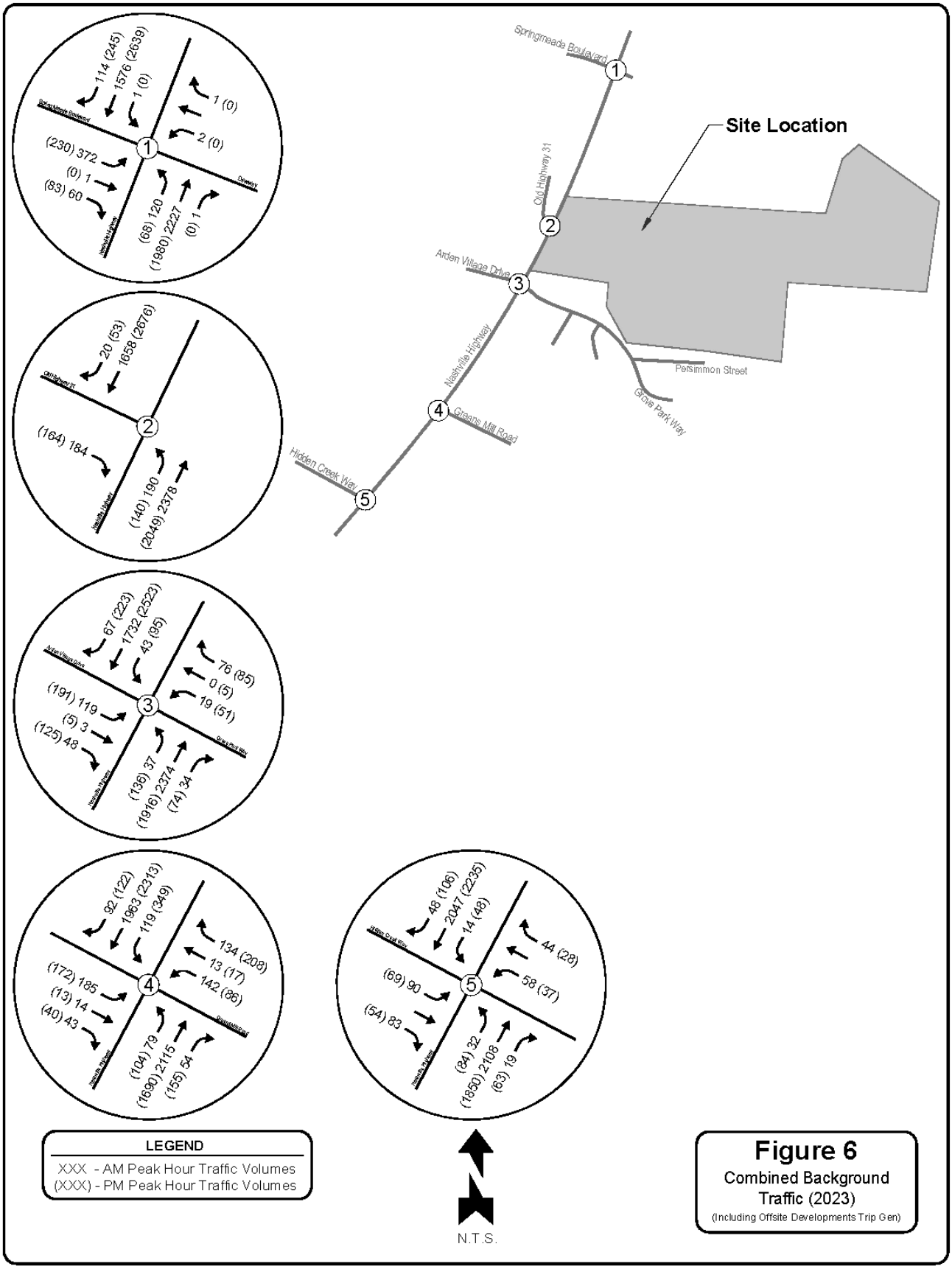


Figure 6
Combined Background Traffic (2023)
(Including Offsite Developments Trip Gen)

Background Capacity Analyses

To evaluate the background traffic operations at the study intersections within the vicinity of the project site, the AM and PM peak hour capacity analyses were performed based on calculations outlined in the Highway Capacity Manual (HCM). Levels of service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement.

The previously conducted Traffic Studies for the background developments resulted in multiple recommended roadway improvements to study intersections. These recommended improvements will be utilized as part of the background roadway conditions and have been included in the background capacity analyses. The improvements are listed below by intersection. Figure 7 shows a summary of the off-site improvements from previously conducted traffic studies for background developments.

Nashville Highway (US-31) and Spring Meade Boulevard

- Configure the eastbound approach to include one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) exclusive right-turn lane (Ridge at Carters Station)

Nashville Highway (US-31) and Old Highway 31N

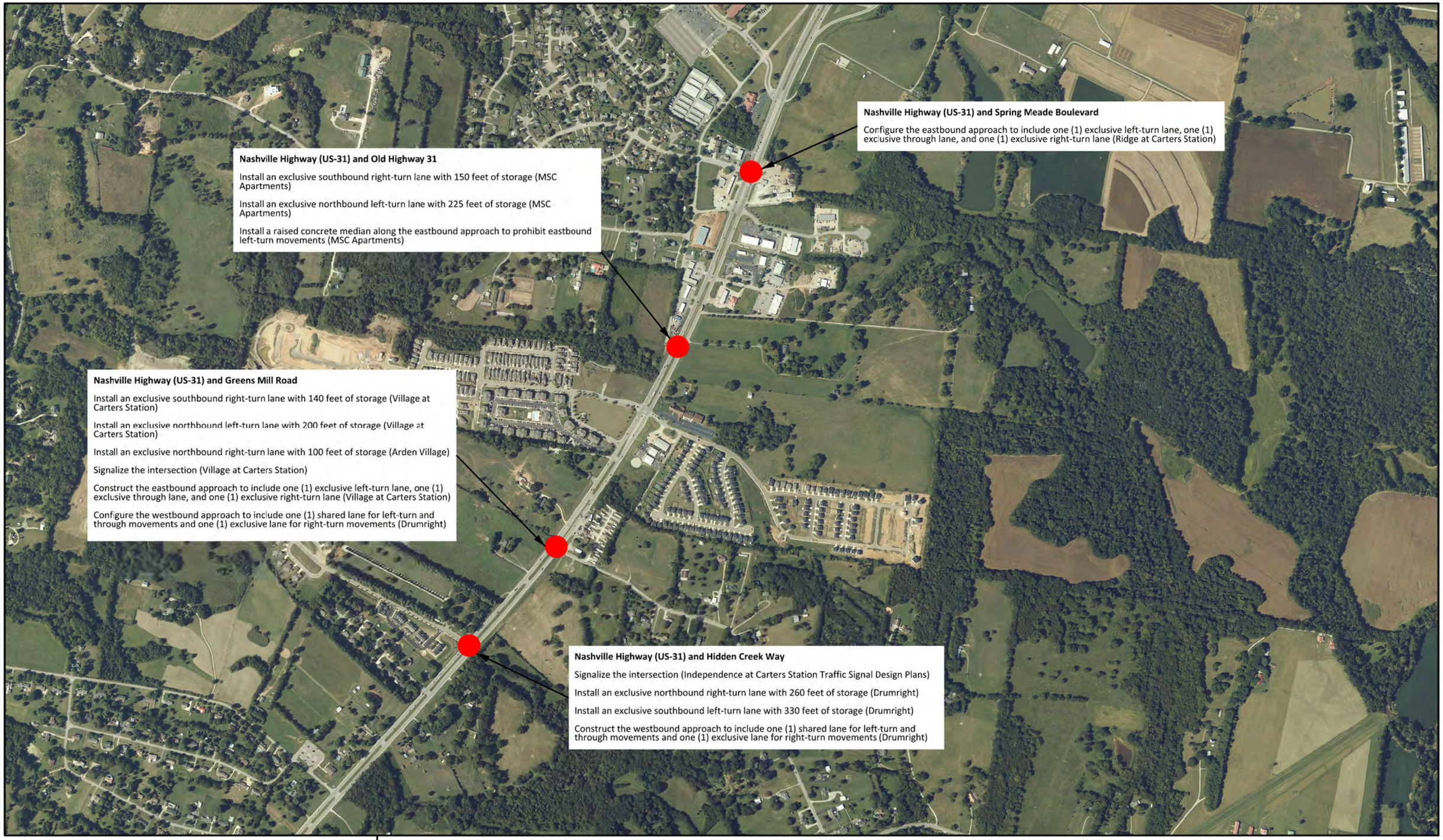
- Install an exclusive southbound right-turn lane with 150 feet of storage (MSC Apartments)
- Install an exclusive northbound left-turn lane with 225 feet of storage (MSC Apartments)
- Install a raised concrete median along the eastbound approach to prohibit eastbound left-turn movements (MSC Apartments)

Nashville Highway (US-31) and Greens Mill Road

- Install an exclusive southbound right-turn lane with 140 feet of storage (Village at Carters Station)
- Install an exclusive northbound left-turn lane with 200 feet of storage (Village at Carters Station)
- Install an exclusive northbound right-turn lane with 100 feet of storage (Arden Village)
- Signalize the intersection (Village at Carters Station)
- Construct the eastbound approach to include one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) exclusive right-turn lane (Village at Carters Station)
- Configure the westbound approach to include one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements (Drumright)

Nashville Highway (US-31) and Hidden Creek Way

- Signalize the intersection (Independence at Carters Station Traffic Signal Design Plans)
- Install an exclusive northbound right-turn lane with 260 feet of storage (Drumright)
- Install an exclusive southbound left-turn lane with 330 feet of storage (Drumright)
- Construct the westbound approach to include one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements (Drumright)



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Figure 7 - Off-Site Improvements for Background Developments

2504 Nashville Highway Mixed-Use Development • Columbia, TN • Approximate Scale: 1" = 800'

Prepared by T-Square Engineering, Inc.

1329 West Main Street • Franklin, TN 37064 • www.T2-Eng.com

800' 400' 0' 800'

1 inch = 800 feet

The intersections were analyzed based on background roadway conditions and lane geometries as outlined in the Background Traffic Volumes section above. It should be noted that existing traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Spring Meade Boulevard and Nashville Highway (US-31) and Arden Village Drive/Grove Park Way for this analysis. However, optimized traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Greens Mill Road and Nashville Highway (US-31) and Hidden Creek Way for this analysis. The background capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

Table 3. Background Capacity Analyses

Study Intersection	Control	Approach	2023 Background Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Nashville Highway (US-31) and Spring Meade Boulevard**	Signal	NB Left	E	58.6	176	E	66.0	90
		NB Thru	F	109.9	330	B	12.8	292
		NB Thru/Right	F	109.5	353	A	0.0	323
		SB Left	F	139.8	0	A	0.0	0
		SB Thru	F	73.7	1067	F	187.3	2500+
		SB Thru/Right	F	79.6	1066	F	204.6	2500+
		EB Left	E	61.2	303	D	49.6	215
		EB Thru	C	29.1	11	A	0.0	0
		EB Right	C	30.5	62	D	43.5	93
		WB Left	C	29.1	0	A	0.0	0
		WB Thru/Right	C	29.1	23	A	0.0	0
		Overall	**F**	**90.7**	--	**F**	**116.4**	--
2. **Nashville Highway (US-31) and Old Highway 31N**	TWSC	NB Left	D	32.1	100	F	253.7	275
		EB Right	E	44.1	125	F	328.8	325
3. **Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**	Signal	NB Left	D	50.4	343	F	97.3	541
		NB Thru	F	209.0	1499	F	89.8	1314
		NB Right	B	12.0	214	B	16.5	242
		SB Left	D	51.9	154	F	83.4	176
		SB Thru	F	51.6	489	F	275.3	557
		SB Right	B	12.3	217	C	20.7	364
		EB Left/Thru	D	50.7	137	F	82.3	248
		EB Right	D	43.7	71	E	61.7	123
		WB Left/Thru	D	44.9	43	E	65.8	121
		WB Right	E	55.8	96	E	75.9	112
		Overall	**F**	**132.7**	--	**F**	**170.9**	--
4. **Nashville Highway (US-31) and Greens Mill Road**	Signal	NB Left	D	52.4	368	F	117.5	339
		NB Thru	F	58.8	1076	D	48.6	1121
		NB Right	B	10.4	221	B	17.5	267
		SB Left	F	166.0	372	F	111.8	262
		SB Thru	D	37.7	641	F	63.4	608
		SB Right	B	10.7	225	A	8.6	192
		EB Left	F	258.1	338	F	245.3	431
		EB Thru	D	45.2	127	D	50.3	651
		EB Right	D	46.4	60	D	51.5	60
		WB Left/Thru	D	53.4	213	E	55.5	207
		WB Right	D	50.4	184	F	90.2	215
		Overall	**E**	**58.4**	--	**E**	**67.0**	--
5. **Nashville Highway (US-31) and Hidden Creek Way**	Signal	NB Left	C	31.0	282	E	60.7	493
		NB Thru	C	29.9	2500+	B	17.7	2500+
		NB Right	A	6.5	249	A	6.8	463
		SB Left	C	30.0	27	C	21.6	44
		SB Thru	C	28.8	313	D	41.9	296
		SB Right	A	7.2	14	A	7.3	16
		EB Left/Thru	F	401.1	139	F	308.0	104
		EB Right	D	45.3	115	D	50.4	78
		WB Left/Thru	F	189.1	87	F	102.4	70
		WB Right	D	43.6	80	D	49.2	82
		Overall	**D**	**39.0**	--	**D**	**35.6**	--

The following assessments are based on the results of the Background Capacity Analyses as shown in Table 3:

- At the intersection of Nashville Highway (US-31) and Springmeade Boulevard/Private Drive, the northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods. The northbound through movement will operate at LOS F during the AM peak hour period. The northbound through/right-turn movement will operate at LOS F during the AM peak hour period. the southbound left-turn movement will operate at LOS F during the AM peak hour period. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound through/right-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound left-turn movement will operate at a LOS E during the AM peak hour.
    - The overall intersection will operate at LOS F during both the AM and PM peak hours, with background traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Old Highway 31, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The eastbound right-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively.
- At the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The northbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound left-turn movement will operate at LOS F during the PM peak hour period. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound shared left-turn/through movement will operate at LOS F during the PM peak hour period. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS E during the PM peak hour period. The westbound right-turn movement will operate at LOS E during both the AM and PM peak hour periods.
    - The overall intersection will operate at LOS F during both the AM and PM peak hours, respectively, with background traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Greens Mill Road, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The northbound through movement will operate at LOS F during the AM peak hour period. The southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The southbound through movement will operate at LOS F during the PM peak hour period. The eastbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The westbound shared left-turn/through movement will operate at LOS E during the PM peak hour period. The westbound right turn movement will operate at LOS F during the PM peak hour period.
    - The overall intersection will operate at LOS E during both the AM and PM peak hours, respectively, with background traffic volumes and optimized signal timings.

- At the intersection of Nashville Highway (US-31) and Hidden Creek Way, the northbound left-turn movement will operate at LOS E during the PM peak hour period. The eastbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods. The westbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods.
    - The overall intersection will operate at LOS D during both the AM and PM peak hours, respectively, with background traffic volumes and optimized signal timings.
- All other critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours of operation with background traffic volumes.

Impacts

Traffic Generation

Trips were generated to establish projected traffic volumes for the proposed 2504 Nashville Highway Mixed-Use Development. Daily and peak hour trips were generated by formulas presented in the Trip Generation Manual[2] based on the land uses proposed by the development. As previously stated, the proposed development will consist of approximately 147 single-family homes, approximately 471 multi-family (low-rise) housing units, a coffee shop with drive-through of approximately 3,725 SF, a shopping center of approximately 3,500 SF, and a day care center of approximately 13,000 SF.

Internal Trips

As described in the *Trip Generation Handbook*, developments containing multiple land uses will commonly have internal trips, or trips from land use to land use without leaving the development site. Based on the NCHRP Report 684, "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments," and assumptions made by T-Square Engineering for this study, an estimated 9% internal capture rate was calculated for daily and PM peak hour trips.

Pass-By Trips

Studies have shown that new retail and restaurant developments generate relatively low "new" traffic. Traffic entering or exiting the new development are considered pass-by or captured trips. Pass-by or captured trips are vehicles that would have already been on the roadway regardless of the new development being constructed. The *Trip Generation Handbook* provides typical weekday pass-by percentages for various land uses based on the size of each land use. Based on the *Trip Generation Handbook* and assumptions made by T-Square Engineering for this study, 20% and 50% pass-by was used for the shopping center and coffee shop land uses, respectively.

The Table below provides a summary of the internal, pass-by and new trips generated for the proposed development.

[2] Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. Washington, DC: ITE, 2020

Table 4. 2504 Nashville Highway Mixed-Use Development Trip Generation Summary

Land Use (ITE Code)	Size	Generated Traffic Volumes[3]				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single-Family Housing (210)	147 DU	1,482	27	82	93	54
Internal Trips		133	0	0	8	5
External Trips (Raw – Internal)		1,349	27	82	85	49
Pass-By Trips		0	0	0	0	0
New Trips (External – Pass-By)		**1,349**	**27**	**82**	**85**	**49**
Multi-Family (Low-Rise) Housing (220)	471 DU	3,520	48	160	148	87
Internal Trips		317	0	0	13	8
External Trips		3,203	48	160	135	79
Pass-By Trips		0	0	0	0	0
New Trips		**3,203**	**48**	**160**	**135**	**79**
Coffee/Donut Shop w/ Drive Thru (937)	3,725 SF	3,060	169	163	81	81
Internal Trips		275	0	0	7	7
External Trips		2,785	169	163	74	74
Pass-By Trips (50%)		1,393	85	82	37	37
New Trips		**1,392**	**84**	**81**	**37**	**37**
Shopping Center (820)	3,500 SF	615	95	58	22	24
Internal Trips		55	0	0	2	2
External Trips		560	95	58	20	22
Pass-By Trips (20%)		112	19	12	4	4
New Trips		**448**	**76**	**46**	**16**	**18**
Day Care Center (565)	13,000 SF	619	76	67	68	77
Internal Trips		56	0	0	6	7
External Trips		563	76	67	62	70
Pass-By Trips		0	0	0	0	0
New Trips		**563**	**76**	**67**	**62**	**70**
TOTAL GENERATED TRIPS		9,296	415	530	412	323
TOTAL GENERATED INTERNAL TRIPS		836	0	0	36	29
TOTAL GENERATED EXTERNAL TRIPS		8,460	415	530	376	294
TOTAL GENERATED PASS-BY TRIPS		**1,505**	**104**	**94**	**41**	**41**
TOTAL GENERATED NEW TRIPS		**6,955**	**311**	**436**	**335**	**253**

[3] Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. Washington, DC: ITE, 2020

Projected Traffic Distribution and Assignments

For the purposes of this study, the estimated directional distributions shown on Figures 8A and 8B were made for the proposed development's primary and pass-by generated trips, respectively. These directional distributions were established based on the following:

- Conducted hourly turning movement counts.
- Existing land use characteristics.
- Existing roadway network.
- Existing lane geometry of surrounding intersections.
- The developments proposed access location.
- Locations of populations centers within the surrounding area.
- Comments provided by the City of Columbia's Traffic Engineer.

Figure D12 in Appendix D shows the primary generated trips which were assigned to the existing roadway network per the distributions shown on Figure 8A. Figure D13 in Appendix D shows the pass-by generated trips which were assigned to the existing roadway network per the distributions shown on Figure 8B. Figure 9 shows the total (primary and pass-by) generated trips which were assigned to the roadway network. The generated peak hour traffic volumes (primary and pass-by) as shown on Figure 9 were added to the combined background volumes as shown on Figure 6, resulting in the total projected peak hour traffic volumes as shown on Figure 10.

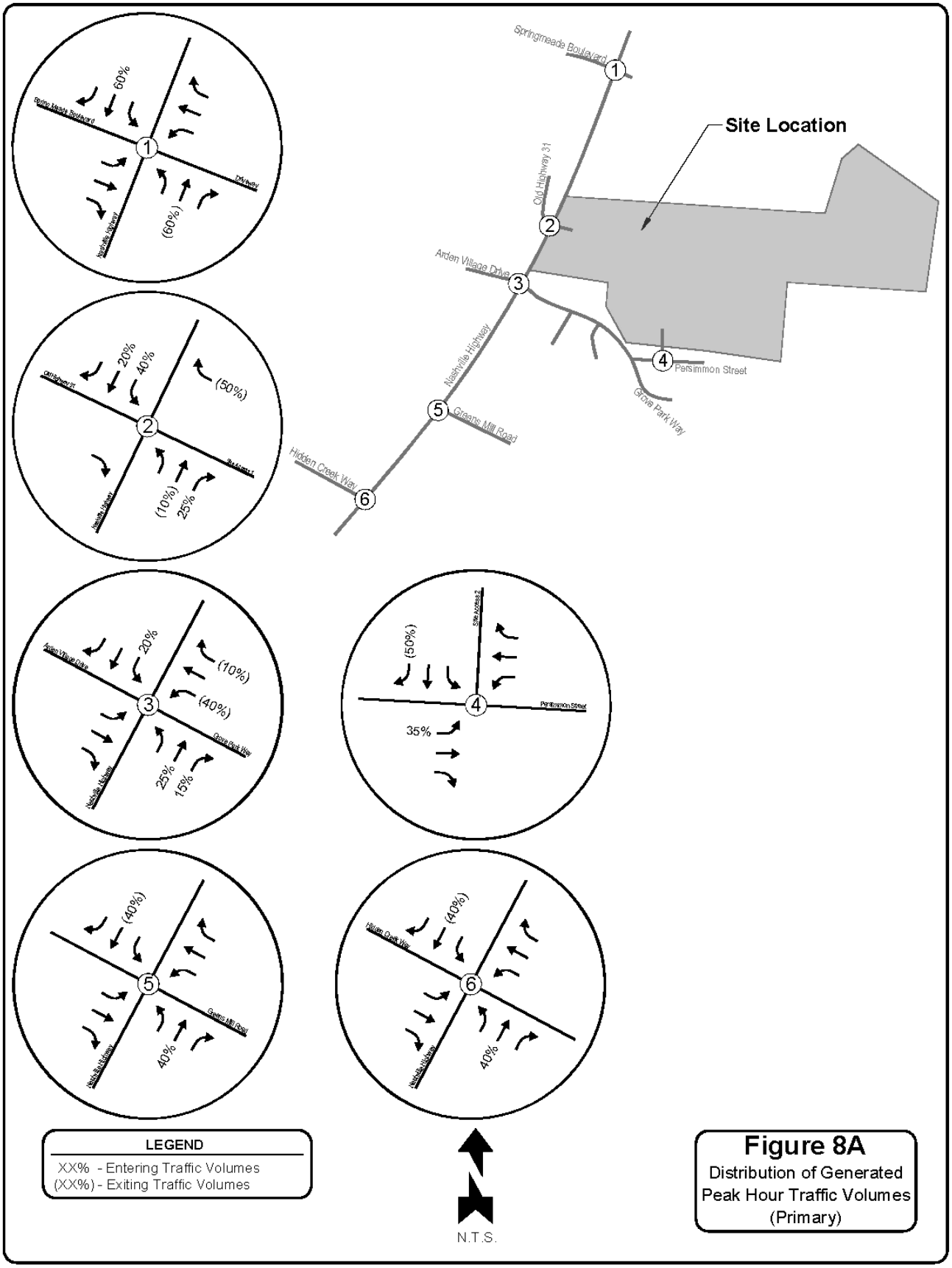


Figure 8A
Distribution of Generated Peak Hour Traffic Volumes (Primary)

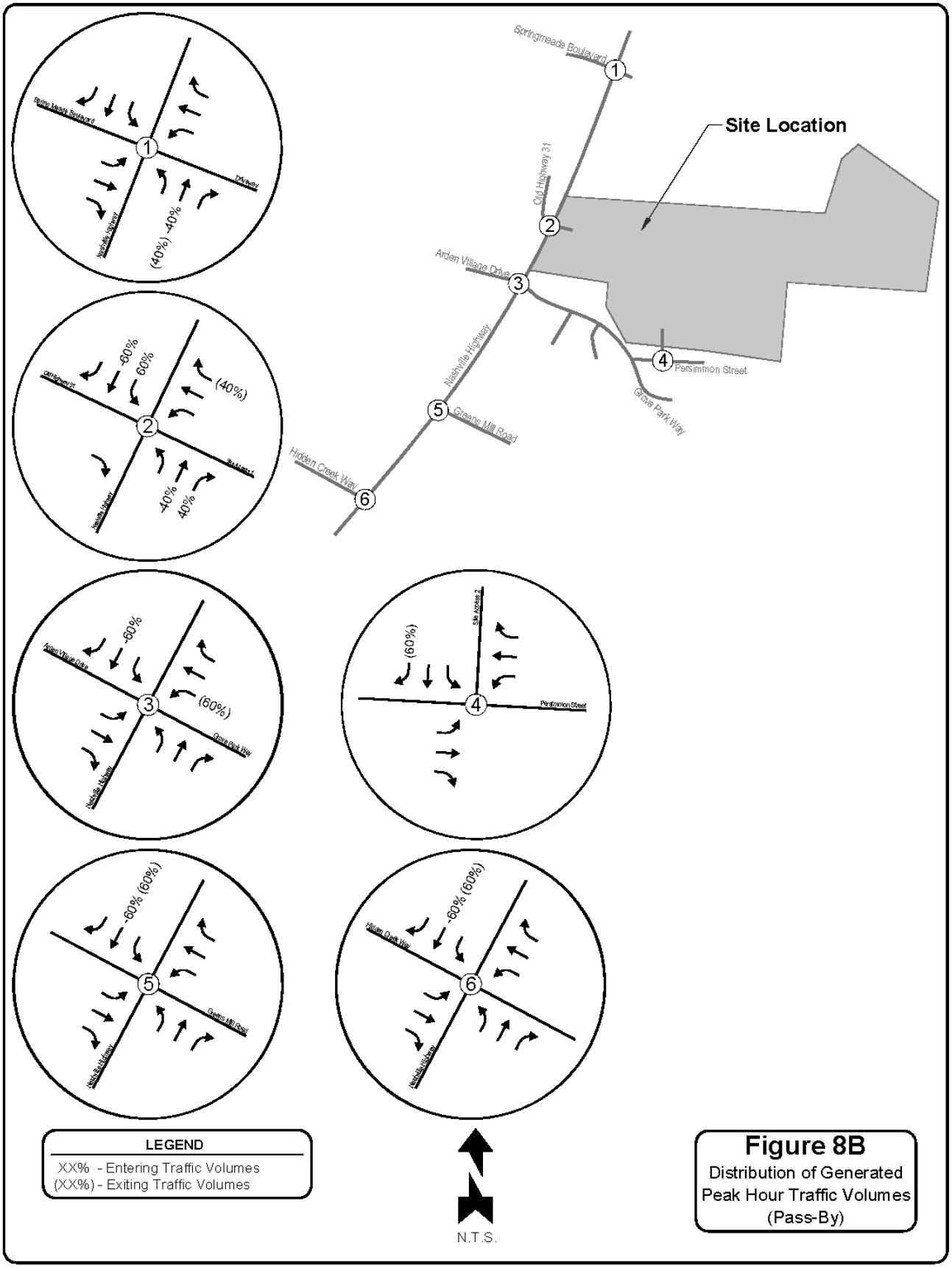


Figure 8B
Distribution of Generated Peak Hour Traffic Volumes (Pass-By)

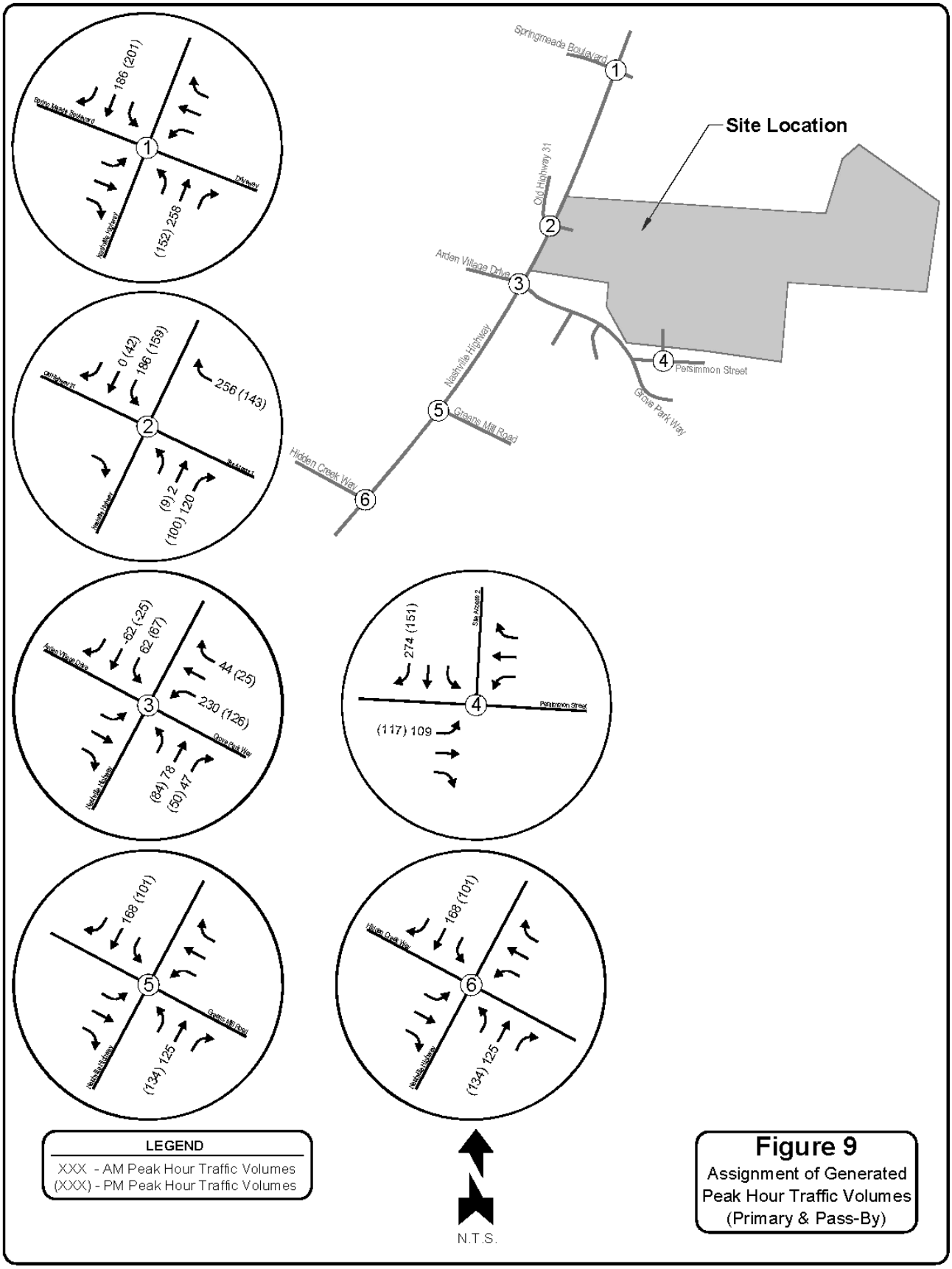
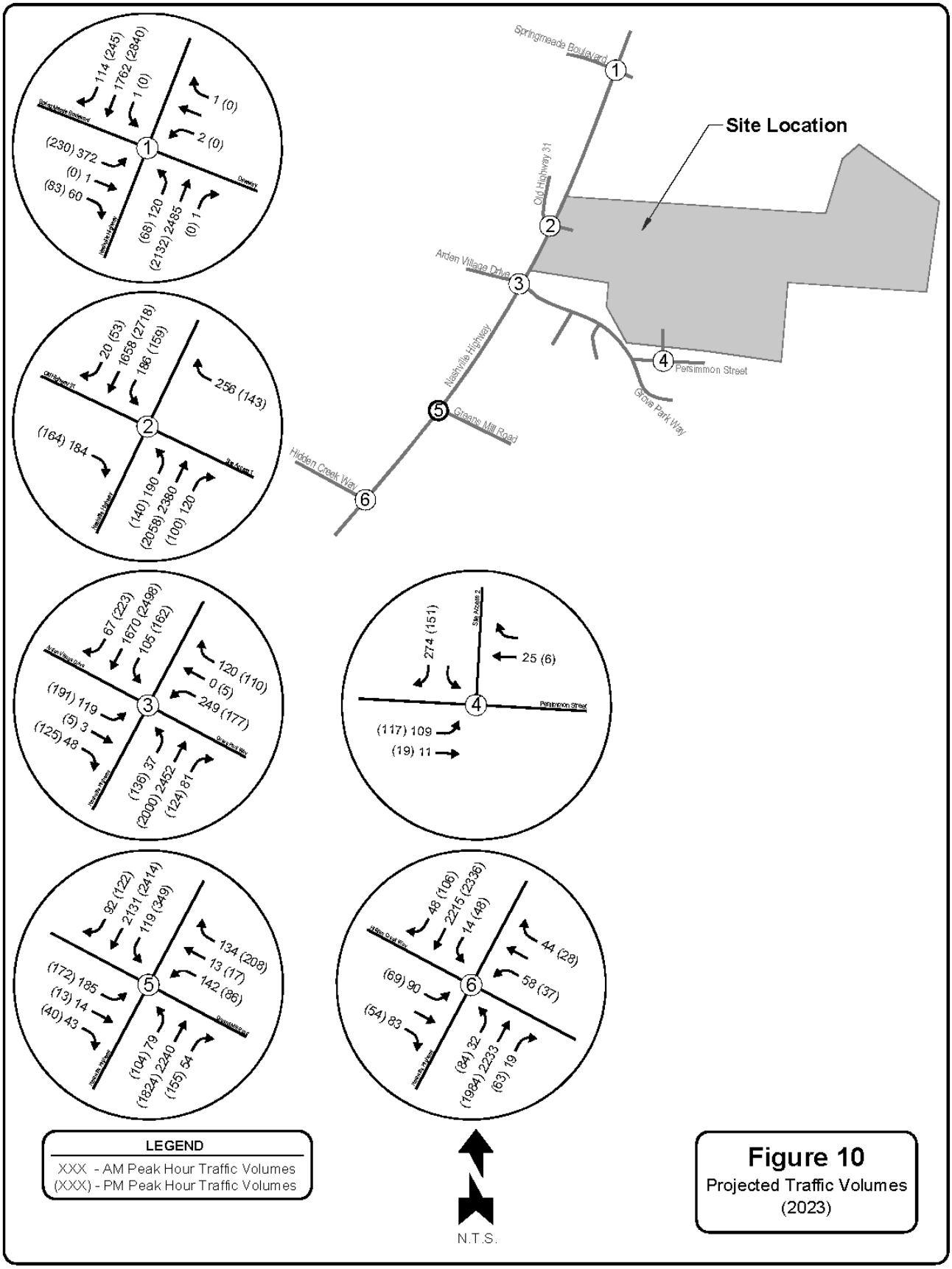


Figure 9
Assignment of Generated Peak Hour Traffic Volumes (Primary & Pass-By)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
1
2
3
4
5
6
114 (245)
1762 (2840)
1 (0)
1 (0)
2 (0)
(230) 372
(0) 1
(83) 60
(68) 120
(2132) 2465
(0) 1
20 (53)
1658 (2718)
186 (159)
256 (143)
(164) 184
(140) 190
(2058) 2380
(100) 120
67 (223)
1670 (2498)
105 (162)
120 (110)
0 (5)
249 (177)
(191) 119
(5) 3
(125) 48
(136) 37
(2000) 2452
(124) 81
274 (151)
25 (6)
(117) 109
(19) 11
92 (122)
2131 (2414)
119 (349)
134 (208)
13 (17)
142 (86)
(172) 185
(13) 14
(40) 43
(104) 79
(1824) 2240
(155) 54
48 (106)
2215 (2336)
14 (48)
44 (28)
58 (37)
(69) 90
(54) 83
(84) 32
(1984) 2233
(63) 19
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure 10
Projected Traffic Volumes
(2023)

Projected Capacity Analysis

To evaluate the projected traffic operations at the study intersections within the vicinity of the project site, AM and PM peak hour capacity analyses were performed. The capacity analyses include the total projected traffic volumes generated from the proposed development in addition to background traffic volumes. Levels-of-service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement. The intersections were analyzed based on background roadway conditions and lane geometries as outlined previously with projected traffic volumes.

The intersections were analyzed based on background roadway conditions and lane geometries as outlined in the Background Traffic Volumes section above. It should be noted that existing traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Spring Meade Boulevard and Nashville Highway (US-31) and Arden Village Drive/Grove Park Way for this analysis. However, optimized traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Greens Mill Road and Nashville Highway (US-31) and Hidden Creek Way for this analysis. The projected capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

Table 5. Projected Capacity Analyses

	Study Intersection	Control	Approach	2023 Projected Conditions					
				AM Peak Hour			PM Peak Hour		
				LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1.	**Nashville Highway (US-31) and Spring Meade Boulevard**	Signal	NB Left	E	58.6	116	E	66.0	100
			NB Thru	F	167.1	303	B	16.2	222
			NB Thru/Right	F	166.8	303	A	0.0	238
			SB Left	F	139.8	0	A	0.0	0
			SB Thru	F	115.1	2500+	F	229.1	2500+
			SB Thru/Right	F	124.6	2500+	F	246.6	2500+
			EB Left	E	61.2	320	D	49.6	263
			EB Thru	C	29.1	0	A	0.0	0
			EB Right	C	30.5	68	D	43.5	103
			WB Left	C	29.1	0	A	0.0	0
			WB Right	C	29.1	12	A	0.0	0
			Overall	**F**	**136.6**	--	**F**	**140.9**	--
2.	**Nashville Highway (US-31) and Old Highway 31N**	TWSC	NB Left	D	32.1	100	F	279.6	275
			SB Left	F	263.2	325	F	74.2	175
			EB Right	E	44.1	125	F	352.8	325
			WB Right	F	500.0+	575	F	81.5	150
3.	**Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**	Signal	NB Left	E	63.0	305	F	114.6	555
			NB Thru	F	367.6	1417	F	178.0	1402
			NB Right	C	20.6	162	C	23.2	185
			SB Left	E	67.9	257	F	164.3	239
			SB Thru	F	80.4	524	F	321.3	608
			SB Right	B	17.7	193	C	25.2	336
			EB Left/Thru	E	61.4	112	F	91.2	520
			EB Right	D	52.6	53	E	67.1	124
			WB Left/Thru	E	70.9	349	F	88.5	284
			WB Right	D	46.5	213	E	66.0	204
			Overall	**F**	**218.4**	--	**F**	**218.7**	--
4.	**Persimmon Street and Site Access 2**	TWSC	SB L/T/R	A	9.8	50	A	9.0	25
			EB Left	A	7.5	25	A	7.4	25
5.	**Nashville Highway (US-31) and Greens Mill Road**	Signal	NB Left	E	63.2	405	F	148.8	402
			NB Thru	F	73.7	1081	F	57.0	1079
			NB Right	A	9.9	269	B	16.9	288
			SB Left	F	166.7	239	F	151.9	267
			SB Thru	F	53.8	537	F	72.7	318
			SB Right	B	10.1	207	A	8.5	34
			EB Left	F	323.5	356	F	281.5	387
			EB Thru	D	46.4	939	D	54.4	1159
			EB Right	D	47.7	83	E	55.7	64
			WB Left/Thru	E	55.4	257	E	60.2	513
			WB Right	D	51.9	212	E	98.9	341
			Overall	**E**	**73.2**	--	**E**	**78.1**	--
6.	**Nashville Highway (US-31) and Hidden Creek Way**	Signal	NB Left	D	37.4	398	F	92.8	501
			NB Thru	C	33.2	2500+	B	17.3	2500+
			NB Right	A	6.0	281	A	6.0	524
			SB Left	D	36.2	30	C	25.7	32
			SB Thru	D	36.4	398	D	37.4	233
			SB Right	A	6.6	12	A	6.4	7
			EB Left/Thru	F	468.3	203	F	410.0	151
			EB Right	D	51.3	120	E	61.0	71
			WB Left/Thru	F	225.9	84	F	147.4	69
			WB Right	D	49.3	138	E	59.4	76
			Overall	**D**	**45.2**	--	**D**	**35.4**	--

The following assessments are based on the results of the Projected Capacity Analyses as shown in Table 5:

- At the intersection of Nashville Highway (US-31) and Springmeade Boulevard/Private Drive, the northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods. The northbound through movement will operate at LOS F during the AM peak hour period. The northbound through/right-turn movement will operate at LOS F during the AM peak hour period. The southbound left-turn movement will operate at LOS F during the AM peak hour period. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound shared through/right-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound left-turn movement will operate at a LOS E during the AM peak hour.
    - The overall intersection will operate at LOS F during both the AM and PM peak hours, with projected traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Old Highway 31, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound right-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The westbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods.
- At the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, the northbound left-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The northbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound left-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound shared left-turn/through movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS E and F during the AM and PM peak hour periods. The westbound right-turn movement will operate at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS F during both the AM and PM peak hours, respectively, with projected traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Greens Mill Road, the northbound left-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The northbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS E during both the

AM and PM peak hour periods. The westbound right turn movement will operate at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS E during both the AM and PM peak hours, with projected traffic volumes and optimized signal timings.
- At the intersection of Nashville Highway (US-31) and Hidden Creek Way, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The eastbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods. The westbound right-turn movement will operate at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS D during both the AM and PM peak hours, respectively, with projected traffic volumes and optimized signal timings.
- All other critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours of operation with projected traffic volumes.

Intersection Assessments (Projected Conditions)

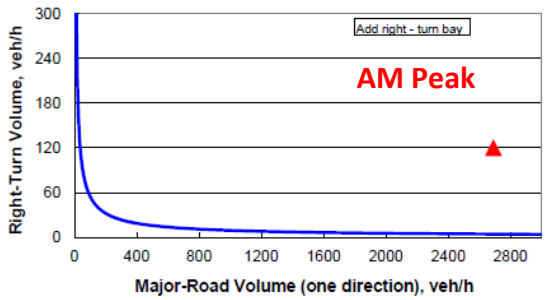
Engineering assessments were performed on the intersections within the study area to identify underlying inefficiencies and solutions to alleviate any concerns associated with intersection geometries and traffic volumes along the roadway network.

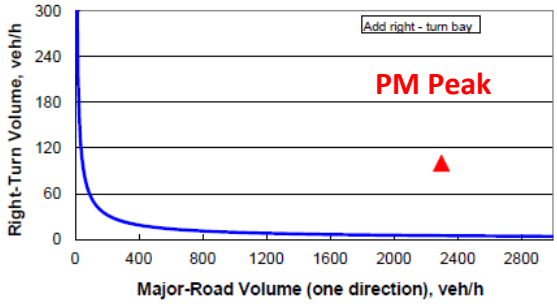
Major Road Approach Geometry Warrants - Projected

Major-road approach left-turn lane warrants were performed based on Figures 2-5 and 2-6 in the *NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide*[4] and projected traffic volumes.

Table 6. Major-Road Approach Geometry, NBR Nashville Highway (US-31) at Old Highway 31/SA1

Variable	AM Peak	PM Peak
Major-road speed, mph:	55	55
Major-road volume (one direction), veh/h:	2690	2298
Major-road right-turn volume, veh/h:	120	100
Limiting right-turn volume, veh/h:	4	5
Right-turn bay warranted:	**YES**	**YES**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		



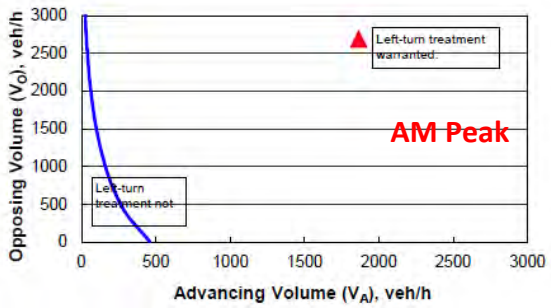


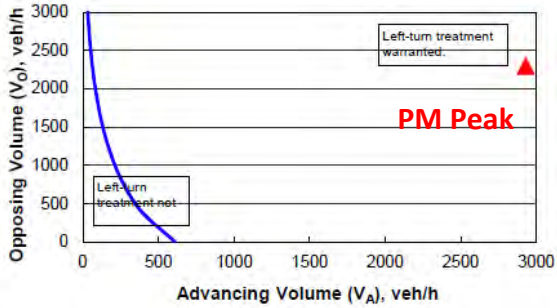
As shown in Table 6 and the corresponding graphs, it was determined that a northbound right-turn lane is warranted along Nashville Highway at its intersection with Old Highway 31/Site Access 1 during both peak hour periods with projected traffic volumes.

[4] Transportation Research Board (TRB). Evaluating Intersection Improvements: An Engineering Study Guide. Washington, DC: 2001

Table 7. Major-Road Approach Geometry, SBL Nashville Highway at Old Highway 31/SA1

Variable	AM Peak	PM Peak
85th percentile speed, mph:	55	55
Percent of left-turns in advancing volume (V_A), %:	10%	5%
Advancing volume (V_A), veh/h:	1864	2930
Opposing volume (V_O), veh/h:	2690	2298
Limiting advancing volume (V_A), veh/h:	32	62
Left-turn bay warranted:	**YES**	**YES**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		





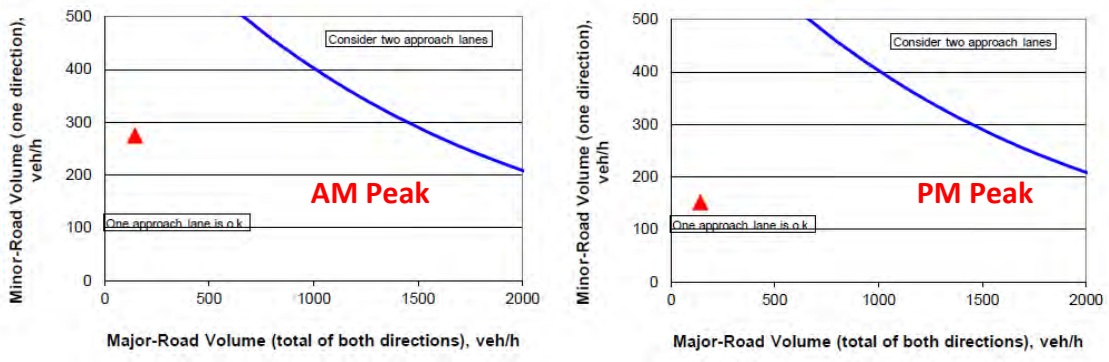
As shown in Table 7 and the corresponding graphs, it was determined that a southbound left-turn lane is warranted along Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1 during both peak hour periods with projected traffic volumes.

Minor Road Approach Geometry Warrants – Projected

Minor-road approach geometric warrants were performed based on Figure 2-4 in the *NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide*[5]. The results of the warrants are shown below.

Table 8. Minor-Road Approach Geometry, SBR Site Access 2 at Persimmon Street

Variable	AM Peak	PM Peak
Major-road volume (total both directions), veh/h:	145	142
Percentage of right-turns on minor road, %:	100%	100%
Minor-road volume (one direction), veh/h:	274	151
Limiting minor-road volume (one direction), veh/h:	697	698
Right-turn bay warranted:	**One (1) approach lane is sufficient**	**One (1) approach lane is sufficient**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		



As shown in Table 8 and the corresponding graphs, it was determined that one (1) shared lane for left-turn, through, and right-turn movements on the southbound approach Site Access 2 at its intersection with Persimmon Street is sufficient with projected traffic volumes.

[5] Transportation Research Board (TRB). Evaluating Intersection Improvements: An Engineering Study Guide. Washington, DC: 2001

Conclusions

Existing Conditions

Intersection Capacity Analyses

- At the intersection of Nashville Highway (US-31) and Springmeade Boulevard/Private Drive, the northbound left-turn movement currently operates at LOS F during the PM peak hour period. The southbound left-turn movement currently operates at LOS F during the AM peak hour period. The eastbound left-turn movement currently operates at a LOS E during the PM peak hour. The eastbound shared through/right-turn movement currently operates at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS B during both the AM and PM peak hours, with existing traffic volumes.
- At the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, the northbound left-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively. The southbound left-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively. The eastbound shared left-turn/through movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively. The eastbound right-turn movement currently operates at LOS E during both the AM and PM peak hour periods. The westbound shared left-turn/through movement currently operates at LOS E during both the AM and PM peak hour periods. The westbound right-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively.
    - The overall intersection will operate at LOS C during both the AM and PM peak hours, respectively, with existing traffic volumes.
- At the intersection of Nashville Highway (US-31) and Greens Mill Road, the westbound shared left-turn/right-turn movement currently operates at LOS F during the AM peak hour period.
- At the intersection of Nashville Highway (US-31) and Hidden Creek Way, the eastbound left-turn movement currently operates at LOS E and F during the AM and PM peak hour periods, respectively.
- All other critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours of operation with existing traffic volumes.

Background Conditions

Intersection Capacity Analyses

- At the intersection of Nashville Highway (US-31) and Springmeade Boulevard/Private Drive, the northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods. The northbound through movement will operate at LOS F during the AM peak hour period. The northbound through/right-turn movement will operate at

LOS F during the AM peak hour period. the southbound left-turn movement will operate at LOS F during the AM peak hour period. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound through/right-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound left-turn movement will operate at a LOS E during the AM peak hour.

  - The overall intersection will operate at LOS F during both the AM and PM peak hours, with background traffic volumes and existing signal timings.

- At the intersection of Nashville Highway (US-31) and Old Highway 31, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The eastbound right-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively.
- At the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The northbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound left-turn movement will operate at LOS F during the PM peak hour period. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound shared left-turn/through movement will operate at LOS F during the PM peak hour period. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS E during the PM peak hour period. The westbound right-turn movement will operate at LOS E during both the AM and PM peak hour periods.
  - The overall intersection will operate at LOS F during both the AM and PM peak hours, respectively, with background traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Greens Mill Road, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The northbound through movement will operate at LOS F during the AM peak hour period. The southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The southbound through movement will operate at LOS F during the PM peak hour period. The eastbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The westbound shared left-turn/through movement will operate at LOS E during the PM peak hour period. The westbound right turn movement will operate at LOS F during the PM peak hour period.
  - The overall intersection will operate at LOS E during both the AM and PM peak hours, respectively, with background traffic volumes and optimized signal timings.

- At the intersection of Nashville Highway (US-31) and Hidden Creek Way, the northbound left-turn movement will operate at LOS E during the PM peak hour period. The eastbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods. The westbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods.
  - The overall intersection will operate at LOS D during both the AM and PM peak hours, respectively, with background traffic volumes and optimized signal timings.

- All other critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours of operation with background traffic volumes.

Projected Conditions

Intersection Capacity Analyses

- At the intersection of Nashville Highway (US-31) and Springmeade Boulevard/Private Drive, the northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods. The northbound through movement will operate at LOS F during the AM peak hour period. The northbound through/right-turn movement will operate at LOS F during the AM peak hour period. The southbound left-turn movement will operate at LOS F during the AM peak hour period. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound shared through/right-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound left-turn movement will operate at a LOS E during the AM peak hour.
    - The overall intersection will operate at LOS F during both the AM and PM peak hours, with projected traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Old Highway 31, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound right-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The westbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods.
- At the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, the northbound left-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The northbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound left-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The southbound through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound shared left-turn/through movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS E and F during the AM and PM peak hour periods. The westbound right-turn movement will operate at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS F during both the AM and PM peak hours, respectively, with projected traffic volumes and existing signal timings.
- At the intersection of Nashville Highway (US-31) and Greens Mill Road, the northbound left-turn movement will operate at LOS E and F during the AM and PM peak hour periods, respectively. The northbound through movement will operate at LOS F during both the AM and PM peak hour periods. The southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The southbound through movement

will operate at LOS F during both the AM and PM peak hour periods. The eastbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS E during both the AM and PM peak hour periods. The westbound right turn movement will operate at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS E during both the AM and PM peak hours, with projected traffic volumes and optimized signal timings.
- At the intersection of Nashville Highway (US-31) and Hidden Creek Way, the northbound left-turn movement will operate at LOS F during the PM peak hour period. The eastbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods. The eastbound right-turn movement will operate at LOS E during the PM peak hour period. The westbound shared left-turn/through movement will operate at LOS F during both the AM and PM peak hour periods. The westbound right-turn movement will operate at LOS E during the PM peak hour period.
    - The overall intersection will operate at LOS D during both the AM and PM peak hours, respectively, with projected traffic volumes and optimized signal timings.
- All other critical movements to the study intersections surrounding the proposed development currently operate at a minimum of LOS D during the AM and PM peak hours of operation with projected traffic volumes.

Queue Length Analyses

- Based on the capacity analyses and existing/proposed turn lane lengths at the study intersections, the following turn lanes should be extended to manage the queue lengths for these movements based on projected traffic volumes. The proposed lane extensions are solely related to the turn lane movements directly impacted by construction of the development.
    - If feasible, extend the storage length of the southbound left-turn lane at the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way from 130 feet to approximately 300 feet.
    - If feasible, extend the storage length of the northbound right-turn lane at the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way from 125 feet to approximately 200 feet.
    - If feasible, extend the storage length of the westbound right-turn lane at the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way from 100 feet to approximately 250 feet.

Turn Lane Analyses

- It was determined that the northbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1 will warrant one (1) exclusive lane for right-turning movements with projected traffic volumes.
- It was determined that the southbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1 will warrant one (1) exclusive lane for left-turning movements with projected traffic volumes.
- It was determined that the southbound approach of Site Access 2 at its intersection with Persimmon Street will be sufficient with one (1) shared lane for left-turn/through/right-turn movements with projected traffic volumes.

Recommendations

Based on the analyses within this study, and a review of the proposed development's access plan, the recommendations below have been presented to be implemented as part of the proposed 2504 Nashville Highway Mixed-Use Development in Columbia, TN. These recommendations will be constructed in addition to the various improvements at the study intersections outlined in previously conducted traffic studies within the area. Figure 11 shows a summary of the recommended improvements for this development.

Improvement Recommendations for the 2504 Nashville Highway Mixed-Use Development

Nashville Highway (US-31) and Spring Meade Boulevard

- Interconnect and optimize the existing and proposed traffic signals along Nashville Highway (US-31) within the study area to operate as a coordinated system.

Nashville Highway (US-31) and Old Highway 31/Site Access 1

- Construct Site Access 1 along Nashville Highway with a left-in/right-in/right-out configuration to be aligned with Old Highway 31 with one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Construct one (1) exclusive right-turn lane on the northbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1. The right-turn lane shall provide a minimum of 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Construct one (1) exclusive left-turn lane on the southbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1. The left-turn lane shall provide a minimum of 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- Interconnect and optimize the existing and proposed traffic signals along Nashville Highway (US-31) within the study area to operate as a coordinated system.
- If feasible, extend the existing right-turn lane on the northbound approach of Nashville Highway (US-31) at its intersection with Arden Village Drive/Grove Park Way. The right-turn lane shall be extended to a minimum of 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- If feasible, extend the existing left-turn lane on the southbound approach of Nashville Highway (US-31) at its intersection with Arden Village Drive/Grove Park Way. The left-turn lane shall be extended to a minimum of 200 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- If feasible, extend the existing right-turn lane on the westbound approach of Grove Park Way at its intersection with Nashville Highway (US-31). The right-turn lane shall be

extended to a minimum of 250 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.

Persimmon Street and Site Access 2

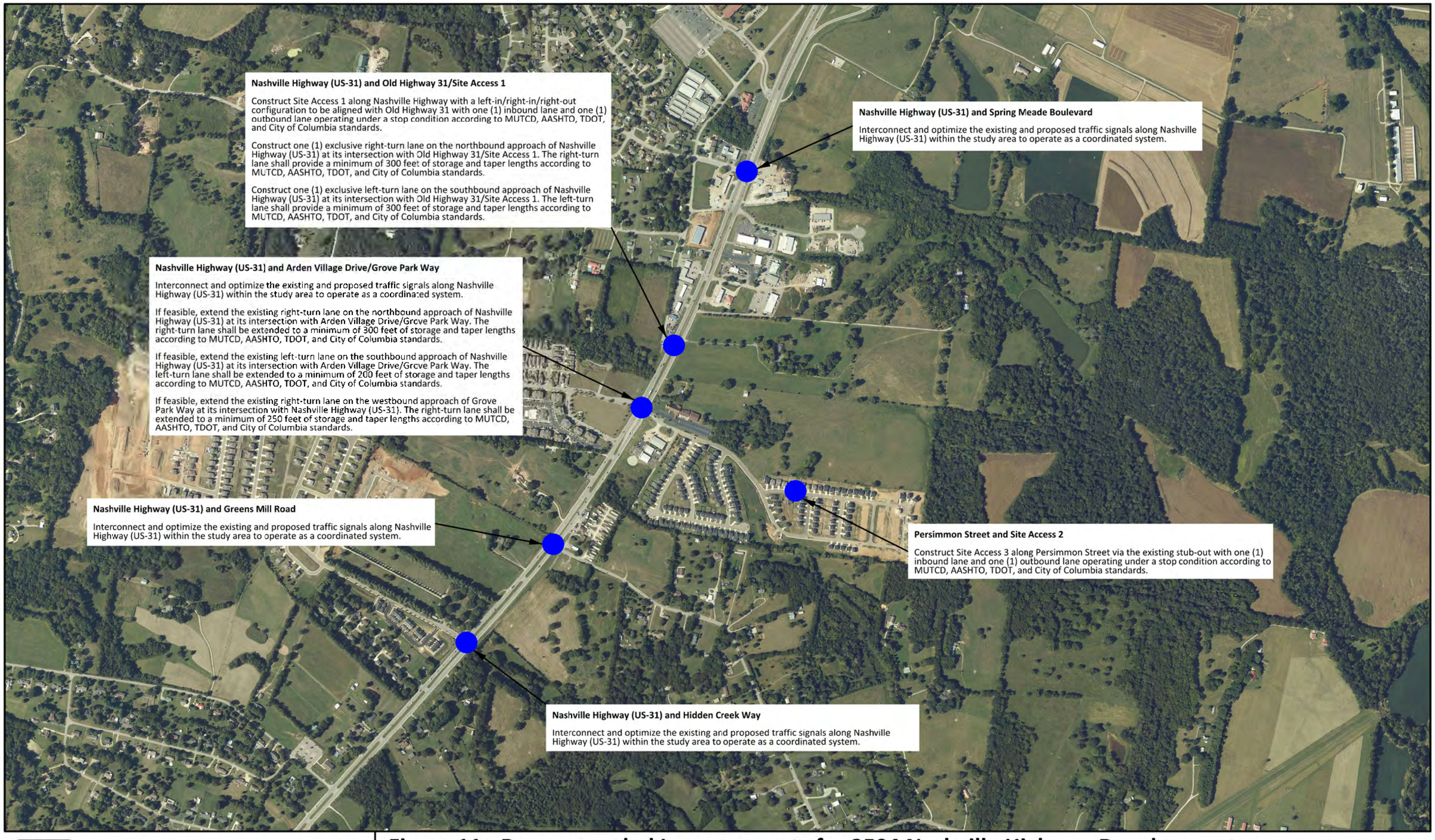
- Construct Site Access 2 along Persimmon Street via the existing stub-out with one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards.

Nashville Highway (US-31) and Greens Mill Road

- Interconnect and optimize the existing and proposed traffic signals along Nashville Highway (US-31) within the study area to operate as a coordinated system.

Nashville Highway (US-31) and Hidden Creek Way

- Interconnect and optimize the existing and proposed traffic signals along Nashville Highway (US-31) within the study area to operate as a coordinated system.



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Figure 11 - Recommended Improvements for 2504 Nashville Highway Development

2504 Nashville Highway Mixed-Use Development ● Columbia, TN ● Approximate Scale: 1" = 800'

Prepared by T-Square Engineering, Inc.

1329 West Main Street ● Franklin, TN 37064 ● www.T2-Eng.com

800' 400' 0' 800'

1 inch = 800 feet

APPENDIX

APPENDIX A – DETAILED TURNING MOVEMENT COUNTS AND SIGNAL TIMINGS

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEV

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 3/10/2020

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

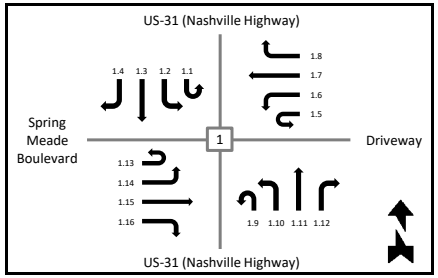
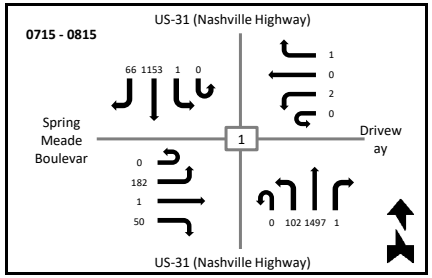


Figure 2 - AM Peak Hour TMC



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	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
0630 - 0645	0	0	285	11	0	296	0	0	0	0	0	0	0	12	299	0	0	311	0	21	0	22	0	43
0645 - 0700	0	0	214	15	0	229	0	0	0	0	0	0	0	13	360	1	0	374	0	20	0	10	0	30
0700 - 0715	0	0	230	10	0	240	0	1	0	0	0	1	0	18	313	0	0	331	0	43	0	12	0	55
0715 - 0730	0	0	276	21	0	297	0	0	0	0	0	0	0	39	399	0	0	438	0	49	0	12	0	61
0730 - 0745	0	0	325	14	0	339	0	1	0	0	0	1	0	31	363	1	0	395	0	64	0	20	0	84
0745 - 0800	0	0	276	15	0	291	0	0	0	0	0	0	0	21	419	0	0	440	0	40	0	13	0	53
0800 - 0815	0	1	276	16	0	293	0	1	0	1	0	2	0	11	316	0	0	327	0	29	1	5	0	35
0815 - 0830	0	0	255	15	0	270	0	0	0	0	0	0	0	4	356	0	0	360	0	29	0	5	0	34
Grand Total	**0**	**1**	**2137**	**117**	**0**	**2255**	**0**	**3**	**0**	**1**	**0**	**4**	**0**	**149**	**2825**	**2**	**0**	**2976**	**0**	**295**	**1**	**99**	**0**	**395**
Peak Hour Total																								
0715 - 0815	**0**	**1**	**1153**	**66**	**0**	**1220**	**0**	**2**	**0**	**1**	**0**	**3**	**0**	**102**	**1497**	**1**	**0**	**1600**	**0**	**182**	**1**	**50**	**0**	**233**
App %	0.00%	0.04%	94.77%	5.19%			0.00%	75.00%	0.00%	25.00%			0.00%	5.01%	94.93%	0.07%			0.00%	74.68%	0.25%	25.06%		
Int %	0.00%	0.02%	37.96%	2.08%		40.05%	0.00%	0.05%	0.00%	0.02%		0.07%	0.00%	2.65%	50.18%	0.04%		52.86%	0.00%	5.24%	0.02%	1.76%		7.02%
Cars Total	0	1	2137	117			0	3	0	1			0	149	2825	2			0	295	1	99		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEVAR

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 3/10/2020

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

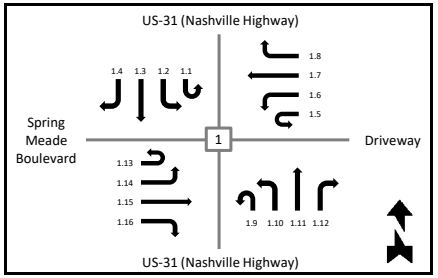
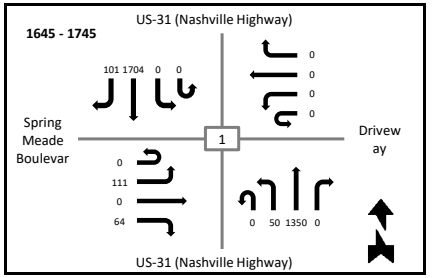


Figure 2 - PM Peak Hour TMC



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	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
1600 - 1615	0	0	384	24	0	408	0	2	0	0	0	2	0	7	297	0	0	304	0	24	0	17	0	41
1615 - 1630	0	0	423	24	0	447	0	0	0	0	0	0	0	13	325	0	0	338	0	30	0	10	0	40
1630 - 1645	0	0	446	23	0	469	0	0	0	0	0	0	0	6	290	0	0	296	0	27	0	18	0	45
1645 - 1700	0	0	392	26	0	418	0	0	0	0	0	0	0	9	334	0	0	343	0	39	0	19	0	58
1700 - 1715	0	0	455	26	0	481	0	0	0	0	0	0	0	13	319	0	0	332	0	26	0	19	0	45
1715 - 1730	0	0	417	23	0	440	0	0	0	0	0	0	0	20	340	0	0	360	0	23	0	14	0	37
1730 - 1745	0	0	440	26	0	466	0	0	0	0	0	0	0	8	357	0	0	365	0	23	0	12	0	35
1745 - 1800	0	0	388	31	0	419	0	0	0	0	0	0	0	6	264	0	0	270	0	27	0	15	0	42
Grand Total	**0**	**0**	**3345**	**203**	**0**	**3548**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**82**	**2526**	**0**	**0**	**2608**	**0**	**219**	**0**	**124**	**0**	**343**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1704**	**101**	**0**	**1805**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	**1350**	**0**	**0**	**1400**	**0**	**111**	**0**	**64**	**0**	**175**
App %	0.00%	0.00%	94.28%	5.72%			0.00%	100.00%	0.00%	0.00%			0.00%	3.14%	96.86%	0.00%			0.00%	63.85%	0.00%	36.15%		
Int %	0.00%	0.00%	51.45%	3.12%		54.58%	0.00%	0.03%	0.00%	0.00%		0.03%	0.00%	1.26%	38.86%	0.00%		40.12%	0.00%	3.37%	0.00%	1.91%		5.28%
Cars Total	0	0	3345	203			0	2	0	0			0	82	2526	0			0	219	0	124		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 2
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 3/10/2020

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

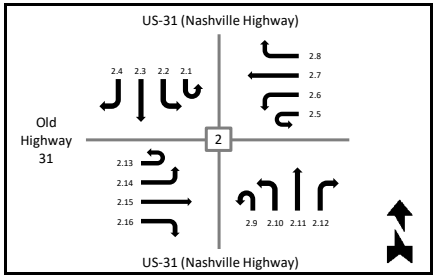
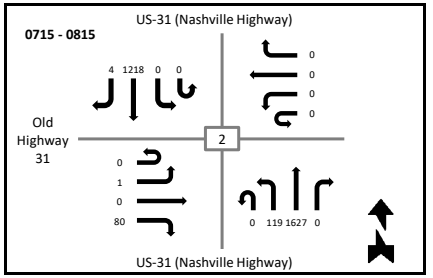


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
0630 - 0645	0	0	316	0	0	316	0	0	0	0	0	0	0	16	315	0	0	331	0	0	0	21	0	21
0645 - 0700	0	0	242	0	0	242	0	0	0	0	0	0	0	26	358	0	0	384	0	0	0	11	0	11
0700 - 0715	0	0	246	0	0	246	0	0	0	0	0	0	0	41	385	0	0	426	0	0	0	8	0	8
0715 - 0730	0	0	303	0	0	303	0	0	0	0	0	0	0	37	453	0	0	490	0	0	0	20	0	20
0730 - 0745	0	0	351	2	0	353	0	0	0	0	0	0	0	50	439	0	0	489	0	1	0	26	0	27
0745 - 0800	0	0	286	1	0	287	0	0	0	0	0	0	0	17	398	0	0	415	0	0	0	28	0	28
0800 - 0815	0	0	278	1	0	279	0	0	0	0	0	0	0	15	337	0	0	352	0	0	0	6	0	6
0815 - 0830	0	0	258	0	0	258	0	0	0	0	0	0	0	15	381	0	0	396	0	1	0	11	0	12
Grand Total	**0**	**0**	**2280**	**4**	**0**	**2284**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**217**	**3066**	**0**	**0**	**3283**	**0**	**2**	**0**	**131**	**0**	**133**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1218**	**4**	**0**	**1222**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**119**	**1627**	**0**	**0**	**1746**	**0**	**1**	**0**	**80**	**0**	**81**
App %	0.00%	0.00%	99.82%	0.18%			0.00%	0.00%	0.00%	0.00%			0.00%	6.61%	93.39%	0.00%			0.00%	1.50%	0.00%	98.50%		
Int %	0.00%	0.00%	40.00%	0.07%		40.07%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	3.81%	53.79%	0.00%		57.60%	0.00%	0.04%	0.00%	2.30%		2.33%
Cars Total	0	0	2280	4			0	0	0	0			0	217	3066	0			0	2	0	131		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 2
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 3/10/2020

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

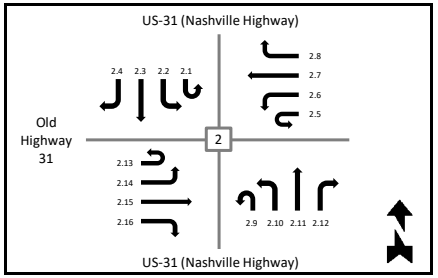
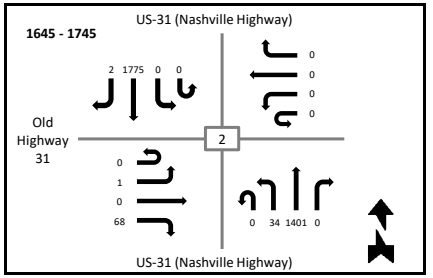


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
1600 - 1615	0	0	435	1	0	436	0	0	0	0	0	0	0	4	304	0	0	308	0	1	0	18	0	19
1615 - 1630	0	0	431	2	0	433	0	0	0	0	0	0	0	8	351	0	0	359	0	0	0	20	0	20
1630 - 1645	0	0	444	0	0	444	0	0	0	0	0	0	0	12	292	0	0	304	0	0	0	21	0	21
1645 - 1700	0	0	442	0	0	442	0	0	0	0	0	0	0	10	356	0	0	366	0	0	0	24	0	24
1700 - 1715	0	0	436	0	0	436	0	0	0	0	0	0	0	13	302	0	0	315	0	0	0	20	0	20
1715 - 1730	0	0	451	1	0	452	0	0	0	0	0	0	0	6	378	0	0	384	0	0	0	13	0	13
1730 - 1745	0	0	446	1	0	447	0	0	0	0	0	0	0	5	365	0	0	370	0	1	0	11	0	12
1745 - 1800	0	0	406	0	0	406	0	0	0	0	0	0	0	7	286	0	0	293	0	0	0	13	0	13
Grand Total	**0**	**0**	**3491**	**5**	**0**	**3496**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**65**	**2634**	**0**	**0**	**2699**	**0**	**2**	**0**	**140**	**0**	**142**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1775**	**2**	**0**	**1777**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	**1401**	**0**	**0**	**1435**	**0**	**1**	**0**	**68**	**0**	**69**
App %	0.00%	0.00%	99.86%	0.14%			0.00%	0.00%	0.00%	0.00%			0.00%	2.41%	97.59%	0.00%			0.00%	1.41%	0.00%	98.59%		
Int %	0.00%	0.00%	55.09%	0.08%		55.17%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	1.03%	41.57%	0.00%		42.59%	0.00%	0.03%	0.00%	2.21%		2.24%
Cars Total	0	0	3491	5			0	0	0	0			0	65	2634	0			0	2	0	140		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**100.00%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**100.00%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 3/10/2020

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

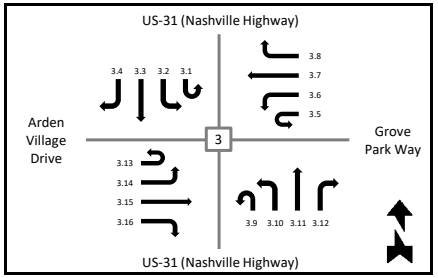
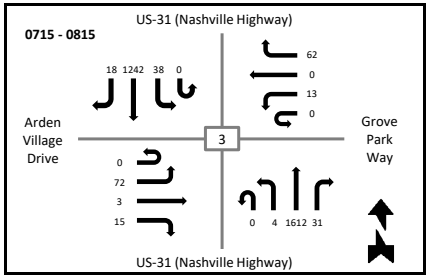


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
0630 - 0645	0	2	334	1	0	337	0	2	0	9	0	11	0	1	309	1	0	311	0	13	0	4	0	17
0645 - 0700	0	1	250	2	0	253	0	3	0	11	0	14	0	0	359	4	0	363	0	14	0	0	0	14
0700 - 0715	0	3	247	4	0	254	0	5	0	10	0	15	0	1	398	2	0	401	0	18	0	3	0	21
0715 - 0730	0	6	314	3	0	323	0	1	0	13	0	14	0	0	456	10	0	466	0	21	1	4	0	26
0730 - 0745	0	5	368	4	0	377	0	4	0	16	0	20	0	2	460	8	0	470	0	13	1	4	0	18
0745 - 0800	0	12	298	4	0	314	0	1	0	16	0	17	0	1	378	3	0	382	0	21	1	5	0	27
0800 - 0815	0	15	262	7	0	284	0	7	0	17	0	24	0	1	318	10	0	329	0	17	0	2	0	19
0815 - 0830	0	11	255	3	0	269	0	5	1	19	0	25	0	6	357	17	0	380	0	20	0	2	0	22
Grand Total	**0**	**55**	**2328**	**28**	**0**	**2411**	**0**	**28**	**1**	**111**	**0**	**140**	**0**	**12**	**3035**	**55**	**0**	**3102**	**0**	**137**	**3**	**24**	**0**	**164**
Peak Hour Total																								
0715 - 0815	**0**	**38**	**1242**	**18**	**0**	**1298**	**0**	**13**	**0**	**62**	**0**	**75**	**0**	**4**	**1612**	**31**	**0**	**1647**	**0**	**72**	**3**	**15**	**0**	**90**
App %	0.00%	2.28%	96.56%	1.16%			0.00%	20.00%	0.71%	79.29%			0.00%	0.39%	97.84%	1.77%			0.00%	83.54%	1.83%	14.63%		
Int %	0.00%	0.95%	40.02%	0.48%		41.45%	0.00%	0.48%	0.02%	1.91%		2.41%	0.00%	0.21%	52.17%	0.95%		53.33%	0.00%	2.36%	0.05%	0.41%		2.82%
Cars Total	0	55	2328	28			0	28	1	111			0	12	3035	55			0	137	3	24		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
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Count Sites: 5
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

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Lat/Long: 35.706079, -86.976717

Count Date: 3/10/2020

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

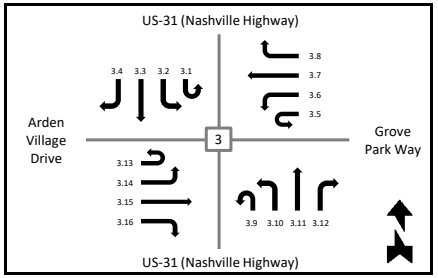
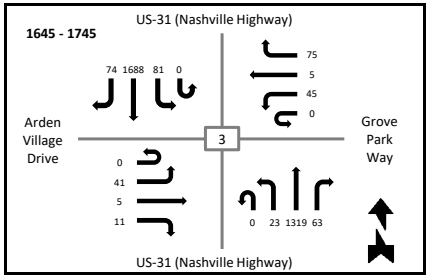


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
1600 - 1615	0	16	426	11	0	453	0	3	2	15	0	20	0	1	282	11	0	294	0	11	1	3	0	15
1615 - 1630	0	10	419	22	0	451	0	4	2	11	0	17	0	4	341	11	0	356	0	7	0	5	0	12
1630 - 1645	0	16	429	20	0	465	0	9	3	11	0	23	0	7	282	7	0	296	0	11	0	2	0	13
1645 - 1700	0	18	432	16	0	466	0	9	1	12	0	22	0	6	347	11	0	364	0	7	1	2	0	10
1700 - 1715	0	25	415	16	0	456	0	11	1	24	0	36	0	8	276	20	0	304	0	15	1	5	0	21
1715 - 1730	0	17	430	17	0	464	0	17	2	20	0	39	0	4	359	17	0	380	0	5	1	1	0	7
1730 - 1745	0	21	411	25	0	457	0	8	1	19	0	28	0	5	337	15	0	357	0	14	2	3	0	19
1745 - 1800	0	17	387	15	0	419	0	9	1	18	0	28	0	5	271	9	0	285	0	4	2	1	0	7
Grand Total	**0**	**140**	**3349**	**142**	**0**	**3631**	**0**	**70**	**13**	**130**	**0**	**213**	**0**	**40**	**2495**	**101**	**0**	**2636**	**0**	**74**	**8**	**22**	**0**	**104**
Peak Hour Total																								
1645 - 1745	**0**	**81**	**1688**	**74**	**0**	**1843**	**0**	**45**	**5**	**75**	**0**	**125**	**0**	**23**	**1319**	**63**	**0**	**1405**	**0**	**41**	**5**	**11**	**0**	**57**
App %	0.00%	3.86%	92.23%	3.91%			0.00%	32.86%	6.10%	61.03%			0.00%	1.52%	94.65%	3.83%			0.00%	71.15%	7.69%	21.15%		
Int %	0.00%	2.13%	50.87%	2.16%		55.15%	0.00%	1.06%	0.20%	1.97%		3.24%	0.00%	0.61%	37.89%	1.53%		40.04%	0.00%	1.12%	0.12%	0.33%		1.58%
Cars Total	0	140	3349	142			0	70	13	130			0	40	2495	101			0	74	8	22		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 4
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

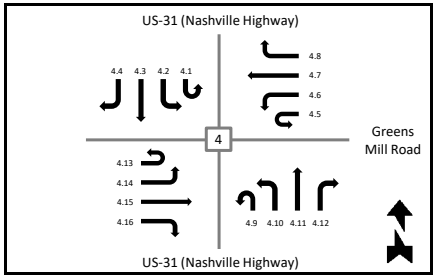
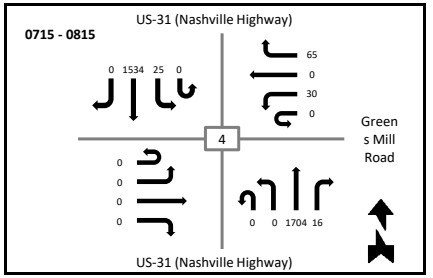


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
0600 - 0615	0	3	183	0	0	186	0	3	0	3	0	6	0	0	327	3	0	330	0	0	0	0	0	0
0615 - 0630	0	3	448	0	0	451	0	2	0	8	0	10	0	0	306	1	0	307	0	0	0	0	0	0
0630 - 0645	0	4	328	0	0	332	0	3	0	2	0	5	0	0	368	4	0	372	0	0	0	0	0	0
0645 - 0700	0	2	266	0	0	268	0	7	0	16	0	23	0	0	382	1	0	383	0	0	0	0	0	0
0700 - 0715	0	4	283	0	0	287	0	6	0	25	0	31	0	0	378	1	0	379	0	0	0	0	0	0
0715 - 0730	0	4	362	0	0	366	0	10	0	25	0	35	0	0	462	6	0	468	0	0	0	0	0	0
0730 - 0745	0	11	450	0	0	461	0	9	0	21	0	30	0	0	459	3	0	462	0	0	0	0	0	0
0745 - 0800	0	6	439	0	0	445	0	6	0	12	0	18	0	0	398	4	0	402	0	0	0	0	0	0
0800 - 0815	0	4	283	0	0	287	0	5	0	7	0	12	0	0	385	3	0	388	0	0	0	0	0	0
0815 - 0830	0	6	224	0	0	230	0	6	0	6	0	12	0	0	363	5	0	368	0	0	0	0	0	0
0830 - 0845	0	3	248	0	0	251	0	6	0	11	0	17	0	0	295	6	0	301	0	0	0	0	0	0
0845 - 0900	0	6	246	0	0	252	0	3	0	7	0	10	0	0	274	2	0	276	0	0	0	0	0	0
Grand Total	**0**	**56**	**3760**	**0**	**0**	**3816**	**0**	**66**	**0**	**143**	**0**	**209**	**0**	**0**	**4397**	**39**	**0**	**4436**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
0715 - 0815	**0**	**25**	**1534**	**0**	**0**	**1559**	**0**	**30**	**0**	**65**	**0**	**95**	**0**	**0**	**1704**	**16**	**0**	**1720**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	1.47%	98.53%	0.00%			0.00%	31.58%	0.00%	68.42%			0.00%	0.00%	99.12%	0.88%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	0.66%	44.44%	0.00%		45.10%	0.00%	0.78%	0.00%	1.69%		2.47%	0.00%	0.00%	51.97%	0.46%		52.43%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	56	3570	0			0	66	0	140			0	0	4223	37			0	0	0	0		
Heavy Total	0	0	190	0			0	0	0	3			0	0	174	2			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**94.95%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**97.90%**			**0.00%**	**0.00%**	**96.04%**	**94.87%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**5.05%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**2.10%**			**0.00%**	**0.00%**	**3.96%**	**5.13%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 4
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

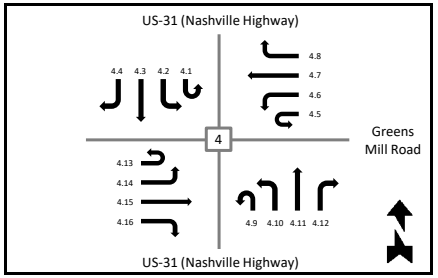
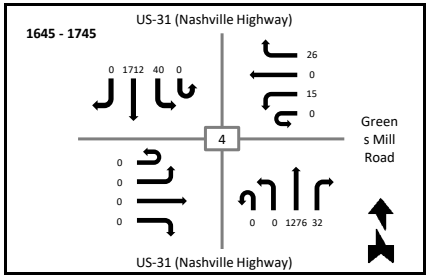


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
1500 - 1515	0	27	424	0	0	451	0	5	0	4	0	9	0	0	256	6	0	262	0	0	0	0	0	0
1515 - 1530	0	12	408	0	0	420	0	2	0	6	0	8	0	0	347	8	0	355	0	0	0	0	0	0
1530 - 1545	0	12	480	0	0	492	0	2	0	10	0	12	0	0	326	4	0	330	0	0	0	0	0	0
1545 - 1600	0	13	424	0	0	437	0	7	0	9	0	16	0	0	346	6	0	352	0	0	0	0	0	0
1600 - 1615	0	7	370	0	0	377	0	5	0	8	0	13	0	0	271	10	0	281	0	0	0	0	0	0
1615 - 1630	0	15	439	0	0	454	0	8	0	6	0	14	0	0	314	8	0	322	0	0	0	0	0	0
1630 - 1645	0	14	455	0	0	469	0	6	0	10	0	16	0	0	353	9	0	362	0	0	0	0	0	0
1645 - 1700	0	13	453	0	0	466	0	2	0	9	0	11	0	0	320	6	0	326	0	0	0	0	0	0
1700 - 1715	0	10	427	0	0	437	0	6	0	8	0	14	0	0	325	10	0	335	0	0	0	0	0	0
1715 - 1730	0	10	416	0	0	426	0	5	0	6	0	11	0	0	319	6	0	325	0	0	0	0	0	0
1730 - 1745	0	7	416	0	0	423	0	2	0	3	0	5	0	0	312	10	0	322	0	0	0	0	0	0
1745 - 1800	0	1	371	0	0	372	0	3	0	5	0	8	0	0	284	2	0	286	0	0	0	0	0	0
Grand Total	**0**	**141**	**5083**	**0**	**0**	**5224**	**0**	**53**	**0**	**84**	**0**	**137**	**0**	**0**	**3773**	**85**	**0**	**3858**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
1645 - 1745	**0**	**40**	**1712**	**0**	**0**	**1752**	**0**	**15**	**0**	**26**	**0**	**41**	**0**	**0**	**1276**	**32**	**0**	**1308**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	2.70%	97.30%	0.00%			0.00%	38.69%	0.00%	61.31%			0.00%	0.00%	97.80%	2.20%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	1.53%	55.14%	0.00%		56.67%	0.00%	0.57%	0.00%	0.91%		1.49%	0.00%	0.00%	40.93%	0.92%		41.85%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	140	4953	0			0	51	0	83			0	0	3648	82			0	0	0	0		
Heavy Total	0	1	130	0			0	2	0	1			0	0	125	3			0	0	0	0		
% Cars	**0.00%**	**99.29%**	**97.44%**	**0.00%**			**0.00%**	**96.23%**	**0.00%**	**98.81%**			**0.00%**	**0.00%**	**96.69%**	**96.47%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.71%**	**2.56%**	**0.00%**			**0.00%**	**3.77%**	**0.00%**	**1.19%**			**0.00%**	**0.00%**	**3.31%**	**3.53%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 5
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

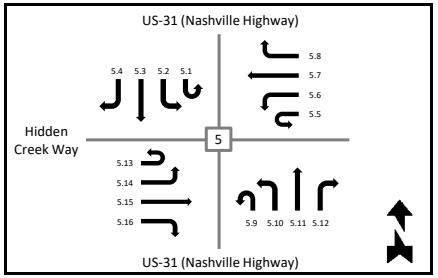
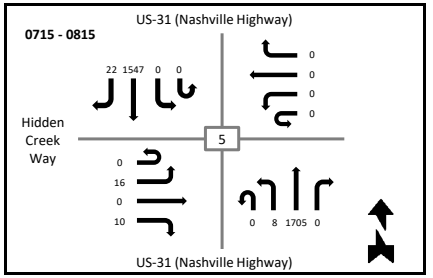


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
Time	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds X-Walk	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds X-Walk	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds X-Walk	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds X-Walk	App Total
0600 - 0615	0	0	196	2	0	198	0	0	0	0	0	0	0	0	346	0	0	346	0	5	0	0	0	5
0615 - 0630	0	0	440	1	0	441	0	0	0	0	0	0	0	2	294	0	0	296	0	4	0	1	0	5
0630 - 0645	0	0	344	5	0	349	0	0	0	0	0	0	1	1	377	0	0	379	0	7	0	1	0	8
0645 - 0700	0	0	249	4	0	253	0	0	0	0	0	0	0	4	388	0	0	392	0	1	0	3	0	4
0700 - 0715	0	0	295	4	0	299	0	0	0	0	0	0	0	2	366	0	0	368	0	6	0	3	0	9
0715 - 0730	0	0	378	6	0	384	0	0	0	0	0	0	0	3	493	0	0	496	0	3	0	3	0	6
0730 - 0745	0	0	460	5	0	465	0	0	0	0	0	0	0	1	437	0	0	438	0	5	0	2	0	7
0745 - 0800	0	0	419	8	0	427	0	0	0	0	0	0	0	2	400	0	0	402	0	5	0	3	0	8
0800 - 0815	0	0	290	3	0	293	0	0	0	0	0	0	0	2	375	0	0	377	0	3	0	2	0	5
0815 - 0830	0	0	227	6	0	233	0	0	0	0	0	0	0	1	363	0	0	364	0	4	0	0	0	4
0830 - 0845	0	0	249	5	0	254	0	0	0	0	0	0	0	3	298	0	0	301	0	5	0	2	0	7
0845 - 0900	0	0	246	4	0	250	0	0	0	0	0	0	0	0	262	0	0	262	0	8	0	1	0	9
Grand Total	**0**	**0**	**3793**	**53**	**0**	**3846**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**21**	**4399**	**0**	**0**	**4421**	**0**	**56**	**0**	**21**	**0**	**77**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1547**	**22**	**0**	**1569**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1705**	**0**	**0**	**1713**	**0**	**16**	**0**	**10**	**0**	**26**
App %	0.00%	0.00%	98.62%	1.38%			0.00%	0.00%	0.00%	0.00%			0.02%	0.48%	99.50%	0.00%			0.00%	72.73%	0.00%	27.27%		
Int %	0.00%	0.00%	45.46%	0.64%		46.09%	0.00%	0.00%	0.00%	0.00%		0.00%	0.01%	0.25%	52.72%	0.00%		52.98%	0.00%	0.67%	0.00%	0.25%		0.92%
Cars Total	0	0	3610	49			0	0	0	0			1	20	4208	0			0	55	0	19		
Heavy Total	0	0	183	4			0	0	0	0			0	1	191	0			0	1	0	2		
% Cars	**0.00%**	**0.00%**	**95.18%**	**92.45%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**95.24%**	**95.66%**	**0.00%**			**0.00%**	**98.21%**	**0.00%**	**90.48%**		
% Heavy	**0.00%**	**0.00%**	**4.82%**	**7.55%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**4.76%**	**4.34%**	**0.00%**			**0.00%**	**1.79%**	**0.00%**	**9.52%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 5
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
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Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

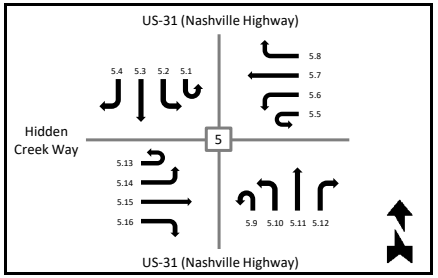
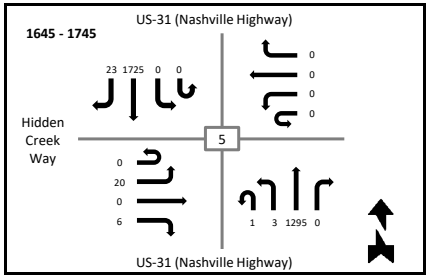


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	5.1	5.2	5.3	5.4	X-Walk	Total	5.5	5.6	5.7	5.8	X-Walk	Total	5.9	5.10	5.11	5.12	X-Walk	Total	5.13	5.14	5.15	5.16	X-Walk	Total
1500 - 1515	0	0	414	11	0	425	0	0	0	0	0	0	0	2	277	0	0	279	0	3	0	5	0	8
1515 - 1530	0	0	391	4	0	395	0	0	0	0	0	0	0	0	331	0	0	331	0	5	0	2	0	7
1530 - 1545	0	0	463	6	0	469	0	0	0	0	0	0	0	0	329	0	0	329	0	2	0	0	0	2
1545 - 1600	0	0	438	1	0	439	0	0	0	0	0	0	1	3	348	0	0	352	0	5	0	1	0	6
1600 - 1615	0	0	385	5	0	390	0	0	0	0	0	0	0	1	273	0	0	274	0	5	0	3	0	8
1615 - 1630	0	0	444	4	0	448	0	0	0	0	0	0	0	0	323	0	0	323	0	5	0	1	0	6
1630 - 1645	0	0	449	6	0	455	0	0	0	0	0	0	0	3	361	0	0	364	0	3	0	0	0	3
1645 - 1700	0	0	465	6	0	471	0	0	0	0	0	0	0	1	323	0	0	324	0	7	0	0	0	7
1700 - 1715	0	0	425	7	0	432	0	0	0	0	0	0	1	1	325	0	0	327	0	6	0	0	0	6
1715 - 1730	0	0	425	5	0	430	0	0	0	0	0	0	0	0	327	0	0	327	0	3	0	4	0	7
1730 - 1745	0	0	410	5	0	415	0	0	0	0	0	0	0	1	320	0	0	321	0	4	0	2	0	6
1745 - 1800	0	0	362	6	0	368	0	0	0	0	0	0	1	2	267	0	0	270	0	5	0	1	0	6
Grand Total	**0**	**0**	**5071**	**66**	**0**	**5137**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**14**	**3804**	**0**	**0**	**3821**	**0**	**53**	**0**	**19**	**0**	**72**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1725**	**23**	**0**	**1748**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**1295**	**0**	**0**	**1299**	**0**	**20**	**0**	**6**	**0**	**26**
App %	0.00%	0.00%	98.72%	1.28%			0.00%	0.00%	0.00%	0.00%			0.08%	0.37%	99.56%	0.00%			0.00%	73.61%	0.00%	26.39%		
Int %	0.00%	0.00%	56.16%	0.73%		56.89%	0.00%	0.00%	0.00%	0.00%		0.00%	0.03%	0.16%	42.13%	0.00%		42.31%	0.00%	0.59%	0.00%	0.21%		0.80%
Cars Total	0	0	4935	61			0	0	0	0			3	14	3680	0			0	48	0	17		
Heavy Total	0	0	136	5			0	0	0	0			0	0	124	0			0	5	0	2		
% Cars	**0.00%**	**0.00%**	**97.32%**	**92.42%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**100.00%**	**96.74%**	**0.00%**			**0.00%**	**90.57%**	**0.00%**	**89.47%**		
% Heavy	**0.00%**	**0.00%**	**2.68%**	**7.58%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**3.26%**	**0.00%**			**0.00%**	**9.43%**	**0.00%**	**10.53%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEV

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

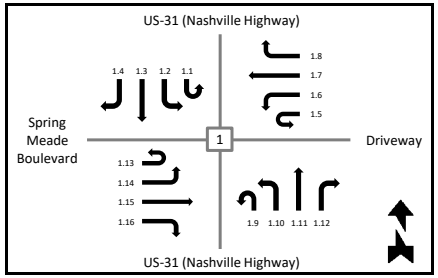
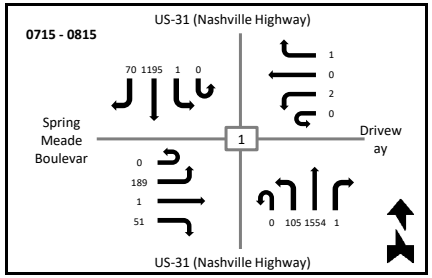


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
0630 - 0645	0	0	296	11	0	307	0	0	0	0	0	0	0	12	310	0	0	322	0	22	0	23	0	45
0645 - 0700	0	0	222	16	0	238	0	0	0	0	0	0	0	13	374	1	0	388	0	21	0	10	0	31
0700 - 0715	0	0	239	10	0	249	0	1	0	0	0	1	0	19	325	0	0	344	0	45	0	12	0	57
0715 - 0730	0	0	286	22	0	308	0	0	0	0	0	0	0	40	414	0	0	454	0	51	0	12	0	63
0730 - 0745	0	0	337	15	0	352	0	1	0	0	0	1	0	32	377	1	0	410	0	66	0	21	0	87
0745 - 0800	0	0	286	16	0	302	0	0	0	0	0	0	0	22	435	0	0	457	0	42	0	13	0	55
0800 - 0815	0	1	286	17	0	304	0	1	0	1	0	2	0	11	328	0	0	339	0	30	1	5	0	36
0815 - 0830	0	0	265	16	0	281	0	0	0	0	0	0	0	4	369	0	0	373	0	30	0	5	0	35
Grand Total	**0**	**1**	**2217**	**123**	**0**	**2341**	**0**	**3**	**0**	**1**	**0**	**4**	**0**	**153**	**2932**	**2**	**0**	**3087**	**0**	**307**	**1**	**101**	**0**	**409**
Peak Hour Total																								
0715 - 0815	**0**	**1**	**1195**	**70**	**0**	**1266**	**0**	**2**	**0**	**1**	**0**	**3**	**0**	**105**	**1554**	**1**	**0**	**1660**	**0**	**189**	**1**	**51**	**0**	**241**
App %	0.00%	0.04%	94.70%	5.25%			0.00%	75.00%	0.00%	25.00%			0.00%	4.96%	94.98%	0.06%			0.00%	75.06%	0.24%	24.69%		
Int %	0.00%	0.02%	37.96%	2.11%		40.08%	0.00%	0.05%	0.00%	0.02%		0.07%	0.00%	2.62%	50.20%	0.03%		52.85%	0.00%	5.26%	0.02%	1.73%		7.00%
Cars Total	0	1	2137	117			0	3	0	1			0	149	2825	2			0	295	1	99		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**96.39%**	**95.12%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**97.39%**	**96.35%**	**100.00%**			**0.00%**	**96.09%**	**100.00%**	**98.02%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEVAR

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

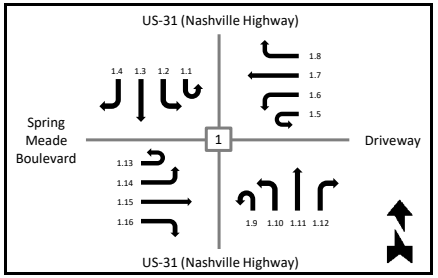
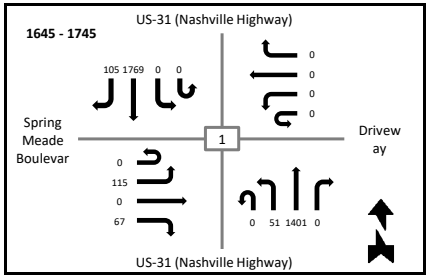


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
1600 - 1615	0	0	398	25	0	423	0	2	0	0	0	2	0	7	308	0	0	315	0	25	0	18	0	43
1615 - 1630	0	0	439	25	0	464	0	0	0	0	0	0	0	13	337	0	0	350	0	31	0	10	0	41
1630 - 1645	0	0	463	24	0	487	0	0	0	0	0	0	0	6	301	0	0	307	0	28	0	19	0	47
1645 - 1700	0	0	407	27	0	434	0	0	0	0	0	0	0	9	347	0	0	356	0	40	0	20	0	60
1700 - 1715	0	0	472	27	0	499	0	0	0	0	0	0	0	13	331	0	0	344	0	27	0	20	0	47
1715 - 1730	0	0	433	24	0	457	0	0	0	0	0	0	0	21	353	0	0	374	0	24	0	15	0	39
1730 - 1745	0	0	457	27	0	484	0	0	0	0	0	0	0	8	370	0	0	378	0	24	0	12	0	36
1745 - 1800	0	0	403	32	0	435	0	0	0	0	0	0	0	6	274	0	0	280	0	28	0	16	0	44
Grand Total	**0**	**0**	**3472**	**211**	**0**	**3683**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**83**	**2621**	**0**	**0**	**2704**	**0**	**227**	**0**	**130**	**0**	**357**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1769**	**105**	**0**	**1874**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**51**	**1401**	**0**	**0**	**1452**	**0**	**115**	**0**	**67**	**0**	**182**
App %	0.00%	0.00%	94.27%	5.73%			0.00%	100.00%	0.00%	0.00%			0.00%	3.07%	96.93%	0.00%			0.00%	63.59%	0.00%	36.41%		
Int %	0.00%	0.00%	51.47%	3.13%		54.60%	0.00%	0.03%	0.00%	0.00%		0.03%	0.00%	1.23%	38.85%	0.00%		40.08%	0.00%	3.36%	0.00%	1.93%		5.29%
Cars Total	0	0	3345	203			0	2	0	0			0	82	2526	0			0	219	0	124		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**96.34%**	**96.21%**			**0.00%**	**100.00%**	**0.00%**	**0.00%**			**0.00%**	**98.80%**	**96.38%**	**0.00%**			**0.00%**	**96.48%**	**0.00%**	**95.38%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 2
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

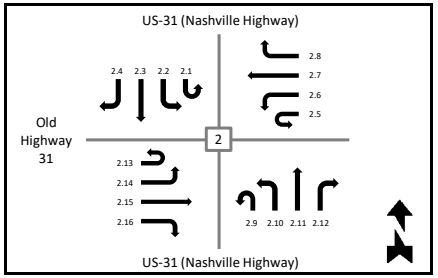
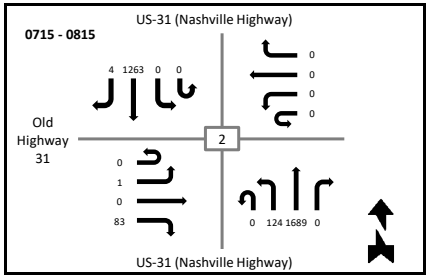


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
0630 - 0645	0	0	328	0	0	328	0	0	0	0	0	0	0	17	327	0	0	344	0	0	0	22	0	22
0645 - 0700	0	0	251	0	0	251	0	0	0	0	0	0	0	27	371	0	0	398	0	0	0	11	0	11
0700 - 0715	0	0	255	0	0	255	0	0	0	0	0	0	0	43	399	0	0	442	0	0	0	8	0	8
0715 - 0730	0	0	314	0	0	314	0	0	0	0	0	0	0	38	470	0	0	508	0	0	0	21	0	21
0730 - 0745	0	0	364	2	0	366	0	0	0	0	0	0	0	52	456	0	0	508	0	1	0	27	0	28
0745 - 0800	0	0	297	1	0	298	0	0	0	0	0	0	0	18	413	0	0	431	0	0	0	29	0	29
0800 - 0815	0	0	288	1	0	289	0	0	0	0	0	0	0	16	350	0	0	366	0	0	0	6	0	6
0815 - 0830	0	0	268	0	0	268	0	0	0	0	0	0	0	16	395	0	0	411	0	1	0	11	0	12
Grand Total	**0**	**0**	**2365**	**4**	**0**	**2369**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**227**	**3181**	**0**	**0**	**3408**	**0**	**2**	**0**	**135**	**0**	**137**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1263**	**4**	**0**	**1267**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**124**	**1689**	**0**	**0**	**1813**	**0**	**1**	**0**	**83**	**0**	**84**
App %	0.00%	0.00%	99.83%	0.17%			0.00%	0.00%	0.00%	0.00%			0.00%	6.66%	93.34%	0.00%			0.00%	1.46%	0.00%	98.54%		
Int %	0.00%	0.00%	39.99%	0.07%		40.06%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	3.84%	53.79%	0.00%		57.63%	0.00%	0.03%	0.00%	2.28%		2.32%
Cars Total	0	0	2280	4			0	0	0	0			0	217	3066	0			0	2	0	131		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**96.41%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**95.59%**	**96.38%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**97.04%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 2
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

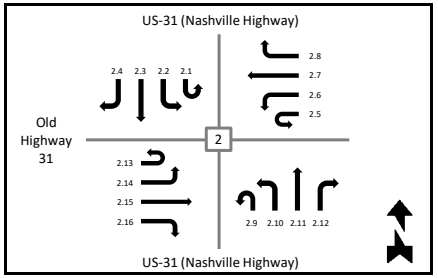
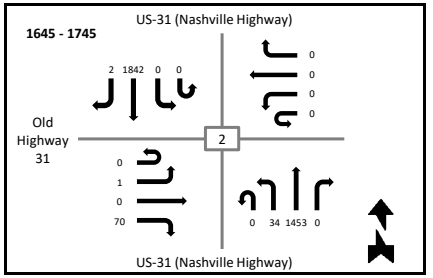


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
1600 - 1615	0	0	451	1	0	452	0	0	0	0	0	0	0	4	315	0	0	319	0	1	0	19	0	20
1615 - 1630	0	0	447	2	0	449	0	0	0	0	0	0	0	8	364	0	0	372	0	0	0	21	0	21
1630 - 1645	0	0	461	0	0	461	0	0	0	0	0	0	0	12	303	0	0	315	0	0	0	22	0	22
1645 - 1700	0	0	459	0	0	459	0	0	0	0	0	0	0	10	369	0	0	379	0	0	0	25	0	25
1700 - 1715	0	0	452	0	0	452	0	0	0	0	0	0	0	13	313	0	0	326	0	0	0	21	0	21
1715 - 1730	0	0	468	1	0	469	0	0	0	0	0	0	0	6	392	0	0	398	0	0	0	13	0	13
1730 - 1745	0	0	463	1	0	464	0	0	0	0	0	0	0	5	379	0	0	384	0	1	0	11	0	12
1745 - 1800	0	0	421	0	0	421	0	0	0	0	0	0	0	7	297	0	0	304	0	0	0	13	0	13
Grand Total	**0**	**0**	**3622**	**5**	**0**	**3627**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**65**	**2732**	**0**	**0**	**2797**	**0**	**2**	**0**	**145**	**0**	**147**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1842**	**2**	**0**	**1844**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	**1453**	**0**	**0**	**1487**	**0**	**1**	**0**	**70**	**0**	**71**
App %	0.00%	0.00%	99.86%	0.14%			0.00%	0.00%	0.00%	0.00%			0.00%	2.32%	97.68%	0.00%			0.00%	1.36%	0.00%	98.64%		
Int %	0.00%	0.00%	55.12%	0.08%		55.20%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.99%	41.58%	0.00%		42.57%	0.00%	0.03%	0.00%	2.21%		2.24%
Cars Total	0	0	3491	5			0	0	0	0			0	65	2634	0			0	2	0	140		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**96.38%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**96.41%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**96.55%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

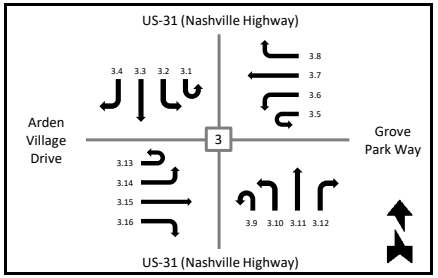
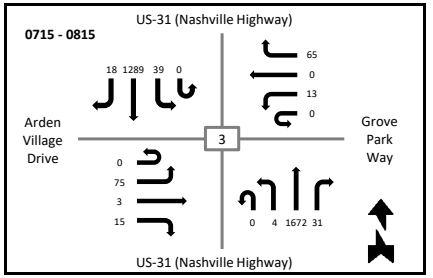


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
0630 - 0645	0	2	347	1	0	350	0	2	0	9	0	11	0	1	321	1	0	323	0	13	0	4	0	17
0645 - 0700	0	1	259	2	0	262	0	3	0	11	0	14	0	0	372	4	0	376	0	15	0	0	0	15
0700 - 0715	0	3	256	4	0	263	0	5	0	10	0	15	0	1	413	2	0	416	0	19	0	3	0	22
0715 - 0730	0	6	326	3	0	335	0	1	0	13	0	14	0	0	473	10	0	483	0	22	1	4	0	27
0730 - 0745	0	5	382	4	0	391	0	4	0	17	0	21	0	2	477	8	0	487	0	13	1	4	0	18
0745 - 0800	0	12	309	4	0	325	0	1	0	17	0	18	0	1	392	3	0	396	0	22	1	5	0	28
0800 - 0815	0	16	272	7	0	295	0	7	0	18	0	25	0	1	330	10	0	341	0	18	0	2	0	20
0815 - 0830	0	11	265	3	0	279	0	5	1	20	0	26	0	6	370	18	0	394	0	21	0	2	0	23
Grand Total	**0**	**56**	**2416**	**28**	**0**	**2500**	**0**	**28**	**1**	**115**	**0**	**144**	**0**	**12**	**3148**	**56**	**0**	**3216**	**0**	**143**	**3**	**24**	**0**	**170**
Peak Hour Total																								
0715 - 0815	**0**	**39**	**1289**	**18**	**0**	**1346**	**0**	**13**	**0**	**65**	**0**	**78**	**0**	**4**	**1672**	**31**	**0**	**1707**	**0**	**75**	**3**	**15**	**0**	**93**
App %	0.00%	2.24%	96.64%	1.12%			0.00%	19.44%	0.69%	79.86%			0.00%	0.37%	97.89%	1.74%			0.00%	84.12%	1.76%	14.12%		
Int %	0.00%	0.93%	40.07%	0.46%		41.46%	0.00%	0.46%	0.02%	1.91%		2.39%	0.00%	0.20%	52.21%	0.93%		53.33%	0.00%	2.37%	0.05%	0.40%		2.82%
Cars Total	0	55	2328	28			0	28	1	111			0	12	3035	55			0	137	3	24		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**98.21%**	**96.36%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**96.52%**			**0.00%**	**100.00%**	**96.41%**	**98.21%**			**0.00%**	**95.80%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

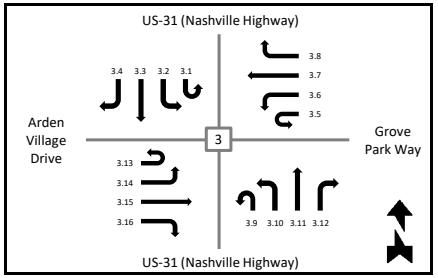
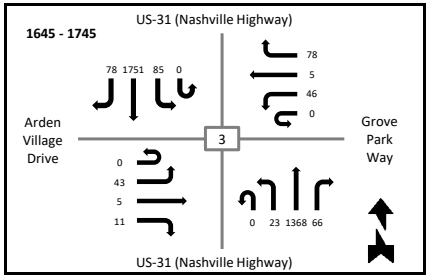


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
1600 - 1615	0	17	442	11	0	470	0	3	2	16	0	21	0	1	293	11	0	305	0	11	1	3	0	15
1615 - 1630	0	10	435	23	0	468	0	4	2	11	0	17	0	4	354	11	0	369	0	7	0	5	0	12
1630 - 1645	0	17	445	21	0	483	0	9	3	11	0	23	0	7	293	7	0	307	0	11	0	2	0	13
1645 - 1700	0	19	448	17	0	484	0	9	1	12	0	22	0	6	360	11	0	377	0	7	1	2	0	10
1700 - 1715	0	26	431	17	0	474	0	11	1	25	0	37	0	8	286	21	0	315	0	16	1	5	0	22
1715 - 1730	0	18	446	18	0	482	0	18	2	21	0	41	0	4	372	18	0	394	0	5	1	1	0	7
1730 - 1745	0	22	426	26	0	474	0	8	1	20	0	29	0	5	350	16	0	371	0	15	2	3	0	20
1745 - 1800	0	18	402	16	0	436	0	9	1	19	0	29	0	5	281	9	0	295	0	4	2	1	0	7
Grand Total	**0**	**147**	**3475**	**149**	**0**	**3771**	**0**	**71**	**13**	**135**	**0**	**219**	**0**	**40**	**2589**	**104**	**0**	**2733**	**0**	**76**	**8**	**22**	**0**	**106**
Peak Hour Total																								
1645 - 1745	**0**	**85**	**1751**	**78**	**0**	**1914**	**0**	**46**	**5**	**78**	**0**	**129**	**0**	**23**	**1368**	**66**	**0**	**1457**	**0**	**43**	**5**	**11**	**0**	**59**
App %	0.00%	3.90%	92.15%	3.95%			0.00%	32.42%	5.94%	61.64%			0.00%	1.46%	94.73%	3.81%			0.00%	71.70%	7.55%	20.75%		
Int %	0.00%	2.15%	50.89%	2.18%		55.22%	0.00%	1.04%	0.19%	1.98%		3.21%	0.00%	0.59%	37.91%	1.52%		40.02%	0.00%	1.11%	0.12%	0.32%		1.55%
Cars Total	0	140	3349	142			0	70	13	130			0	40	2495	101			0	74	8	22		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**95.24%**	**96.37%**	**95.30%**			**0.00%**	**98.59%**	**100.00%**	**96.30%**			**0.00%**	**100.00%**	**96.37%**	**97.12%**			**0.00%**	**97.37%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 4
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

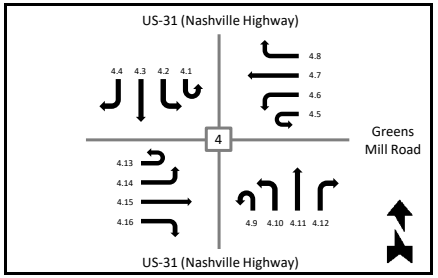
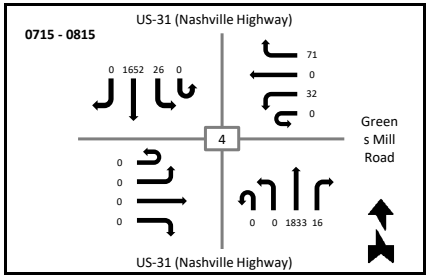


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
0600 - 0615	0	3	197	0	0	200	0	3	0	3	0	6	0	0	352	3	0	355	0	0	0	0	0	0
0615 - 0630	0	3	482	0	0	485	0	2	0	9	0	11	0	0	329	1	0	330	0	0	0	0	0	0
0630 - 0645	0	4	353	0	0	357	0	3	0	2	0	5	0	0	396	4	0	400	0	0	0	0	0	0
0645 - 0700	0	2	286	0	0	288	0	8	0	17	0	25	0	0	411	1	0	412	0	0	0	0	0	0
0700 - 0715	0	4	305	0	0	309	0	6	0	27	0	33	0	0	407	1	0	408	0	0	0	0	0	0
0715 - 0730	0	4	390	0	0	394	0	11	0	27	0	38	0	0	497	6	0	503	0	0	0	0	0	0
0730 - 0745	0	12	484	0	0	496	0	10	0	23	0	33	0	0	494	3	0	497	0	0	0	0	0	0
0745 - 0800	0	6	473	0	0	479	0	6	0	13	0	19	0	0	428	4	0	432	0	0	0	0	0	0
0800 - 0815	0	4	305	0	0	309	0	5	0	8	0	13	0	0	414	3	0	417	0	0	0	0	0	0
0815 - 0830	0	6	241	0	0	247	0	6	0	6	0	12	0	0	391	5	0	396	0	0	0	0	0	0
0830 - 0845	0	3	267	0	0	270	0	6	0	12	0	18	0	0	318	6	0	324	0	0	0	0	0	0
0845 - 0900	0	6	265	0	0	271	0	3	0	8	0	11	0	0	295	2	0	297	0	0	0	0	0	0
Grand Total	**0**	**57**	**4048**	**0**	**0**	**4105**	**0**	**69**	**0**	**155**	**0**	**224**	**0**	**0**	**4732**	**39**	**0**	**4771**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
0715 - 0815	**0**	**26**	**1652**	**0**	**0**	**1678**	**0**	**32**	**0**	**71**	**0**	**103**	**0**	**0**	**1833**	**16**	**0**	**1849**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	1.39%	98.61%	0.00%			0.00%	30.80%	0.00%	69.20%			0.00%	0.00%	99.18%	0.82%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	0.63%	44.48%	0.00%		45.11%	0.00%	0.76%	0.00%	1.70%		2.46%	0.00%	0.00%	52.00%	0.43%		52.43%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	56	3570	0			0	66	0	140			0	0	4223	37			0	0	0	0		
Heavy Total	0	0	190	0			0	0	0	3			0	0	174	2			0	0	0	0		
% Cars	**0.00%**	**98.25%**	**88.19%**	**0.00%**			**0.00%**	**95.65%**	**0.00%**	**90.32%**			**0.00%**	**0.00%**	**89.24%**	**94.87%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**4.69%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**1.94%**			**0.00%**	**0.00%**	**3.68%**	**5.13%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 4
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

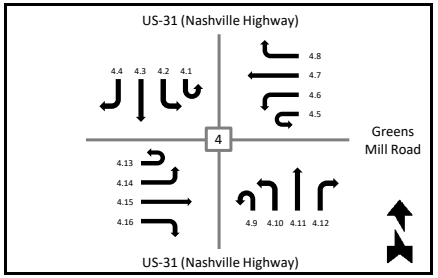
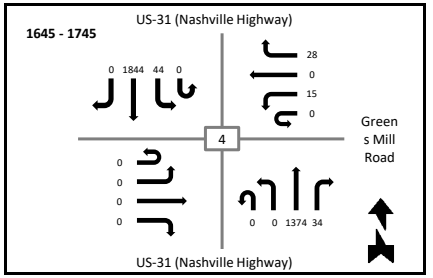


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
1500 - 1515	0	29	456	0	0	485	0	5	0	4	0	9	0	0	276	6	0	282	0	0	0	0	0	0
1515 - 1530	0	13	439	0	0	452	0	2	0	6	0	8	0	0	374	9	0	383	0	0	0	0	0	0
1530 - 1545	0	13	517	0	0	530	0	2	0	11	0	13	0	0	351	4	0	355	0	0	0	0	0	0
1545 - 1600	0	14	456	0	0	470	0	8	0	10	0	18	0	0	373	6	0	379	0	0	0	0	0	0
1600 - 1615	0	8	398	0	0	406	0	5	0	9	0	14	0	0	292	11	0	303	0	0	0	0	0	0
1615 - 1630	0	16	473	0	0	489	0	9	0	6	0	15	0	0	338	9	0	347	0	0	0	0	0	0
1630 - 1645	0	15	490	0	0	505	0	6	0	11	0	17	0	0	380	10	0	390	0	0	0	0	0	0
1645 - 1700	0	14	488	0	0	502	0	2	0	10	0	12	0	0	345	6	0	351	0	0	0	0	0	0
1700 - 1715	0	11	460	0	0	471	0	6	0	9	0	15	0	0	350	11	0	361	0	0	0	0	0	0
1715 - 1730	0	11	448	0	0	459	0	5	0	6	0	11	0	0	343	6	0	349	0	0	0	0	0	0
1730 - 1745	0	8	448	0	0	456	0	2	0	3	0	5	0	0	336	11	0	347	0	0	0	0	0	0
1745 - 1800	0	1	399	0	0	400	0	3	0	5	0	8	0	0	306	2	0	308	0	0	0	0	0	0
Grand Total	**0**	**153**	**5472**	**0**	**0**	**5625**	**0**	**55**	**0**	**90**	**0**	**145**	**0**	**0**	**4064**	**91**	**0**	**4155**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
1645 - 1745	**0**	**44**	**1844**	**0**	**0**	**1888**	**0**	**15**	**0**	**28**	**0**	**43**	**0**	**0**	**1374**	**34**	**0**	**1408**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	2.72%	97.28%	0.00%			0.00%	37.93%	0.00%	62.07%			0.00%	0.00%	97.81%	2.19%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	1.54%	55.13%	0.00%		56.68%	0.00%	0.55%	0.00%	0.91%		1.46%	0.00%	0.00%	40.95%	0.92%		41.86%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	140	4953	0			0	51	0	83			0	0	3648	82			0	0	0	0		
Heavy Total	0	1	130	0			0	2	0	1			0	0	125	3			0	0	0	0		
% Cars	**0.00%**	**91.50%**	**90.52%**	**0.00%**			**0.00%**	**92.73%**	**0.00%**	**92.22%**			**0.00%**	**0.00%**	**89.76%**	**90.11%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.65%**	**2.38%**	**0.00%**			**0.00%**	**3.64%**	**0.00%**	**1.11%**			**0.00%**	**0.00%**	**3.08%**	**3.30%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 5
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

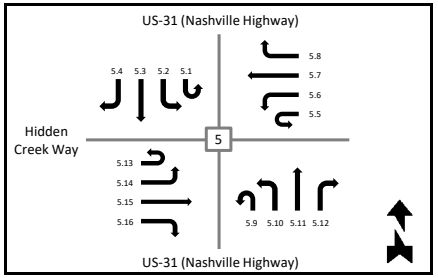
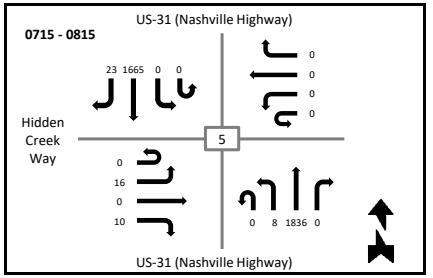


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	5.1	5.2	5.3	5.4	X-Walk	Total	5.5	5.6	5.7	5.8	X-Walk	Total	5.9	5.10	5.11	5.12	X-Walk	Total	5.13	5.14	5.15	5.16	X-Walk	Total
0600 - 0615	0	0	211	2	0	213	0	0	0	0	0	0	0	0	373	0	0	373	0	5	0	0	0	5
0615 - 0630	0	0	474	1	0	475	0	0	0	0	0	0	0	2	317	0	0	319	0	4	0	1	0	5
0630 - 0645	0	0	370	5	0	375	0	0	0	0	0	0	1	1	406	0	0	408	0	8	0	1	0	9
0645 - 0700	0	0	268	4	0	272	0	0	0	0	0	0	0	4	418	0	0	422	0	1	0	3	0	4
0700 - 0715	0	0	318	4	0	322	0	0	0	0	0	0	0	2	394	0	0	396	0	6	0	3	0	9
0715 - 0730	0	0	407	6	0	413	0	0	0	0	0	0	0	3	531	0	0	534	0	3	0	3	0	6
0730 - 0745	0	0	495	5	0	500	0	0	0	0	0	0	0	1	470	0	0	471	0	5	0	2	0	7
0745 - 0800	0	0	451	9	0	460	0	0	0	0	0	0	0	2	431	0	0	433	0	5	0	3	0	8
0800 - 0815	0	0	312	3	0	315	0	0	0	0	0	0	0	2	404	0	0	406	0	3	0	2	0	5
0815 - 0830	0	0	244	6	0	250	0	0	0	0	0	0	0	1	391	0	0	392	0	4	0	0	0	4
0830 - 0845	0	0	268	5	0	273	0	0	0	0	0	0	0	3	321	0	0	324	0	5	0	2	0	7
0845 - 0900	0	0	265	4	0	269	0	0	0	0	0	0	0	0	282	0	0	282	0	9	0	1	0	10
Grand Total	**0**	**0**	**4083**	**54**	**0**	**4137**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**21**	**4738**	**0**	**0**	**4760**	**0**	**58**	**0**	**21**	**0**	**79**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1665**	**23**	**0**	**1688**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1836**	**0**	**0**	**1844**	**0**	**16**	**0**	**10**	**0**	**26**
App %	0.00%	0.00%	98.69%	1.31%			0.00%	0.00%	0.00%	0.00%			0.02%	0.44%	99.54%	0.00%			0.00%	73.42%	0.00%	26.58%		
Int %	0.00%	0.00%	45.49%	0.60%		46.09%	0.00%	0.00%	0.00%	0.00%		0.00%	0.01%	0.23%	52.79%	0.00%		53.03%	0.00%	0.65%	0.00%	0.23%		0.88%
Cars Total	0	0	3610	49			0	0	0	0			1	20	4208	0			0	55	0	19		
Heavy Total	0	0	183	4			0	0	0	0			0	1	191	0			0	1	0	2		
% Cars	**0.00%**	**0.00%**	**88.42%**	**90.74%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**95.24%**	**88.81%**	**0.00%**			**0.00%**	**94.83%**	**0.00%**	**90.48%**		
% Heavy	**0.00%**	**0.00%**	**4.48%**	**7.41%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**4.76%**	**4.03%**	**0.00%**			**0.00%**	**1.72%**	**0.00%**	**9.52%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 5
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

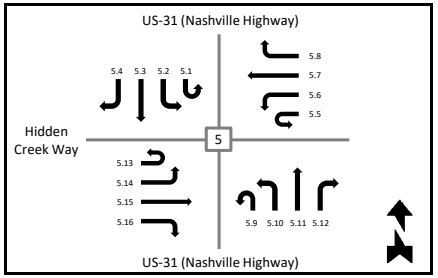
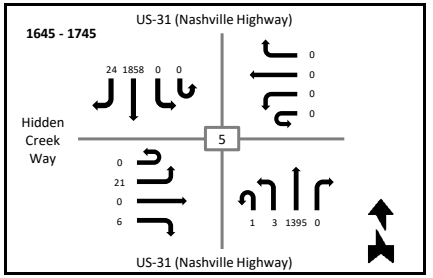


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
Time	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds X-Walk	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds X-Walk	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds X-Walk	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds X-Walk	App Total
1500 - 1515	0	0	446	12	0	458	0	0	0	0	0	0	0	2	298	0	0	300	0	3	0	5	0	8
1515 - 1530	0	0	421	4	0	425	0	0	0	0	0	0	0	0	356	0	0	356	0	5	0	2	0	7
1530 - 1545	0	0	498	6	0	504	0	0	0	0	0	0	0	0	354	0	0	354	0	2	0	0	0	2
1545 - 1600	0	0	472	1	0	473	0	0	0	0	0	0	1	3	375	0	0	379	0	5	0	1	0	6
1600 - 1615	0	0	414	5	0	419	0	0	0	0	0	0	0	1	294	0	0	295	0	5	0	3	0	8
1615 - 1630	0	0	478	4	0	482	0	0	0	0	0	0	0	0	348	0	0	348	0	5	0	1	0	6
1630 - 1645	0	0	483	6	0	489	0	0	0	0	0	0	0	3	389	0	0	392	0	3	0	0	0	3
1645 - 1700	0	0	501	6	0	507	0	0	0	0	0	0	0	1	348	0	0	349	0	8	0	0	0	8
1700 - 1715	0	0	458	8	0	466	0	0	0	0	0	0	1	1	350	0	0	352	0	6	0	0	0	6
1715 - 1730	0	0	458	5	0	463	0	0	0	0	0	0	0	0	352	0	0	352	0	3	0	4	0	7
1730 - 1745	0	0	441	5	0	446	0	0	0	0	0	0	0	1	345	0	0	346	0	4	0	2	0	6
1745 - 1800	0	0	390	6	0	396	0	0	0	0	0	0	1	2	287	0	0	290	0	5	0	1	0	6
Grand Total	**0**	**0**	**5460**	**68**	**0**	**5528**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**14**	**4096**	**0**	**0**	**4113**	**0**	**54**	**0**	**19**	**0**	**73**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1858**	**24**	**0**	**1882**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**1395**	**0**	**0**	**1399**	**0**	**21**	**0**	**6**	**0**	**27**
App %	0.00%	0.00%	98.77%	1.23%			0.00%	0.00%	0.00%	0.00%			0.07%	0.34%	99.59%	0.00%			0.00%	73.97%	0.00%	26.03%		
Int %	0.00%	0.00%	56.21%	0.70%		56.91%	0.00%	0.00%	0.00%	0.00%		0.00%	0.03%	0.14%	42.17%	0.00%		42.34%	0.00%	0.56%	0.00%	0.20%		0.75%
Cars Total	0	0	4935	61			0	0	0	0			3	14	3680	0			0	48	0	17		
Heavy Total	0	0	136	5			0	0	0	0			0	0	124	0			0	5	0	2		
% Cars	**0.00%**	**0.00%**	**90.38%**	**89.71%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**100.00%**	**89.84%**	**0.00%**			**0.00%**	**88.89%**	**0.00%**	**89.47%**		
% Heavy	**0.00%**	**0.00%**	**2.49%**	**7.35%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**3.03%**	**0.00%**			**0.00%**	**9.26%**	**0.00%**	**10.53%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 7
Intersection: GROVE PARK WAY & PERSIMMON STREET

Southbound: Grove Park Way
Westbound: Persimmon Street
Northbound: Grove Park Way
Eastbound:

Lat/Long: 35.70401755633158, -86.97303814253952

Count Date: 1/20/2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

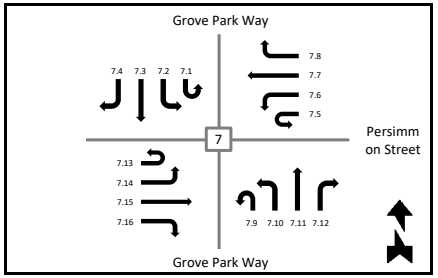
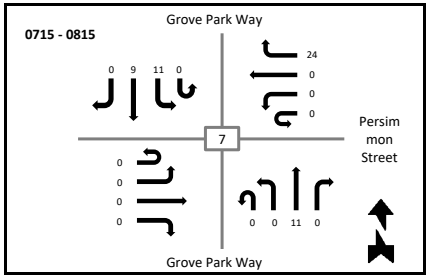


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Grove Park Way						Persimmon Street						Grove Park Way											
Time	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds X-Walk	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds X-Walk	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds X-Walk	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds X-Walk	App Total
0600 - 0615	0	0	1	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	8	0	8	0	0	3	0	0	3	0	0	0	0	0	0
0645 - 0700	0	2	0	0	0	2	0	0	0	4	0	4	0	0	4	0	0	4	0	0	0	0	0	0
0700 - 0715	0	3	0	0	0	3	0	0	0	4	0	4	0	0	5	0	0	5	0	0	0	0	0	0
0715 - 0730	0	1	1	0	0	2	0	0	0	3	0	3	0	0	6	0	0	6	0	0	0	0	0	0
0730 - 0745	0	3	3	0	0	6	0	0	0	5	0	5	0	0	2	0	0	2	0	0	0	0	0	0
0745 - 0800	0	2	1	0	0	3	0	0	0	9	0	9	0	0	2	0	0	2	0	0	0	0	0	0
0800 - 0815	0	5	4	0	0	9	0	0	0	7	0	7	0	0	1	0	0	1	0	0	0	0	0	0
0815 - 0830	0	2	2	0	0	4	0	0	0	2	0	2	0	0	6	0	0	6	0	0	0	0	0	0
0830 - 0845	0	2	1	0	0	3	0	0	0	4	0	4	0	0	2	0	0	2	0	0	0	0	0	0
0845 - 0900	0	1	0	0	0	1	0	0	0	3	0	3	0	0	1	0	0	1	0	0	0	0	0	0
Grand Total	**0**	**21**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**0**	**56**	**0**	**0**	**33**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
0715 - 0815	**0**	**11**	**9**	**0**	**0**	**20**	**0**	**0**	**0**	**24**	**0**	**24**	**0**	**0**	**11**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	0.00%	0.00%	0.00%			0.00%	0.00%	0.00%	100.00%			0.00%	0.00%	100.00%	0.00%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	1.90%	54.29%	0.00%		56.19%	0.00%	1.90%	0.00%	0.00%		1.90%	0.00%	0.00%	40.00%	1.90%		41.90%
Cars Total	0	20	12	0			0	0	0	54			0	0	32	0			0	0	0	0		
Heavy Total	0	1	1	0			0	0	0	2			0	0	1	0			0	0	0	0		
% Cars	**0.00%**	**95.24%**	**92.31%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**96.43%**			**0.00%**	**0.00%**	**96.97%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**4.76%**	**7.69%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**3.57%**			**0.00%**	**0.00%**	**3.03%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 7
Intersection: GROVE PARK WAY & PERSIMMON STREET

Southbound: Grove Park Way
Westbound: Persimmon Street
Northbound: Grove Park Way
Eastbound:

Lat/Long: 35.70401755633158, -86.97303814253952

Count Date: 1/20/2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

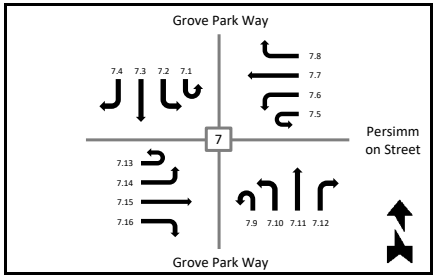
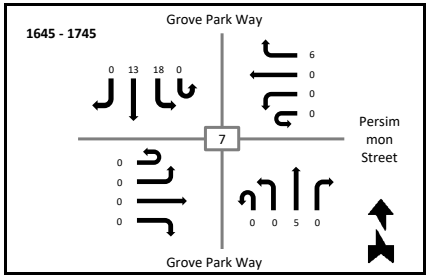


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Grove Park Way						Persimmon Street						Grove Park Way											
Time	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds X-Walk	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds X-Walk	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds X-Walk	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds X-Walk	App Total
1500 - 1515	2	9	4	0	0	15	0	0	0	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0
1515 - 1530	0	5	2	0	0	7	0	0	0	3	0	3	0	0	3	0	0	3	0	0	0	0	0	0
1530 - 1545	0	2	3	0	0	5	0	0	0	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0
1545 - 1600	0	4	8	0	0	12	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1615	0	7	5	0	0	12	0	0	0	1	0	1	0	0	4	0	0	4	0	0	0	0	0	0
1615 - 1630	0	0	2	0	0	2	0	0	0	4	0	4	0	0	1	0	1	1	0	0	0	0	0	0
1630 - 1645	0	4	2	0	0	6	0	0	0	4	0	4	0	0	2	0	0	2	0	0	0	0	0	0
1645 - 1700	0	6	4	0	0	10	0	0	0	2	0	2	0	0	2	0	0	2	0	0	0	0	0	0
1700 - 1715	0	3	3	0	0	6	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
1715 - 1730	0	6	3	0	0	9	0	0	0	2	0	2	0	0	2	0	0	2	0	0	0	0	0	0
1730 - 1745	0	3	3	0	0	6	0	0	0	2	0	2	0	0	0	0	1	0	0	0	0	0	0	0
1745 - 1800	0	9	1	0	0	10	0	0	0	1	0	1	0	0	2	0	0	2	0	0	0	0	0	0
Grand Total	**2**	**58**	**40**	**0**	**0**	**100**	**0**	**0**	**0**	**27**	**0**	**27**	**0**	**0**	**19**	**0**	**2**	**19**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
1645 - 1745	**0**	**18**	**13**	**0**	**0**	**31**	**0**	**0**	**0**	**6**	**0**	**6**	**0**	**0**	**5**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**
App %	2.00%	58.00%	40.00%	0.00%			0.00%	0.00%	0.00%	100.00%			0.00%	0.00%	100.00%	0.00%			0.00%	0.00%	0.00%	0.00%		
Int %	1.37%	39.73%	27.40%	0.00%		68.49%	0.00%	0.00%	0.00%	18.49%		18.49%	0.00%	0.00%	13.01%	0.00%		13.01%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	2	58	37	0			0	0	0	25			0	0	19	0			0	0	0	0		
Heavy Total	0	0	3	0			0	0	0	2			0	0	0	0			0	0	0	0		
% Cars	**100.00%**	**100.00%**	**92.50%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**92.59%**			**0.00%**	**0.00%**	**100.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**7.50%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**7.41%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

TR

Sepac 3.34g Timings Data

Location:	Nashville Hwy
and	Arden Village

TS #	28
Date:	9-2-20

key 3-1 Vehicle times

Phase	1	2	3	4	5	6	7	8
min green	5	25	7	7	5	25	10	15
pass/10	20	50	30	30	20	50	40	50
max # 1	20	100	30	30	20	60	25	35
max # 2	30	80	30	50	30	80	30	50
yellow/10	45	45	45	45	45	45	40	40
red/10	15	30	20	20	15	30	10	10

key 3-2 Density Times

Phase	1	2	3	4	5	6	7	8
aini/10								
max int								
Tb4								
carsb4								
Time to								
Min gap								

key 3-3 Pedestrian Times

Phase	1	2	3	4	5	6	7	8
Walk		7		7		7		7
Ped clear		8		8		8		8
fl wk								
ext pcl								
act riw								
		1 = yes 0 = no						

key 3-7 Sequence control

phase	1	2	3	4	5	6	7	8
ph. Omit								
ph. Yell								
Codes	0		01-08 # - phase					
	none		phase is omitted by # on					
	none phase yellow is omitted by # yellow							

key 3-5 V.& P. recalls

Phases	1	2	3	4	5	6	7	8
veh.recall		2				2		
ped recall								
delay								

Codes	0	1	2	3	4
	none	Inactive	red	yellow	gree
	none	to na 1	to na II	to both	
	none	1 call	minimum	maximum	soft
	none	1 call	ped	na	na+

key 3-6 N. lock & misc

Phase	1	2	3	4	5	6	7	8
non lock	1	0	1	1	1	0	0	0
2 entry								
lc pass								
con. Ser.								
no sgap								
		1 = yes 0 = no						

key 3-4 Init. Na response

phase	1	2	3	4	5	6	7	8
initial	1	4	1	1	1	4	0	0
na resp		1		2		1		2

Codes	0	1	2	3	4
Init	none	inact	red	yel	grn
na resp	none	to 1	to 2	both	

key 4-4

OVL TRAILING GREENS, YELLOWS AND REDS

	GREEN	YELLOW	RED
OLA	0	40	20
OLB	0	40	20
OLC	0	40	20
OLD	0	40	20

key 3-8-1	Det. Controls											
detector	1	2	3	4	5	6	7	8				
assign phase	1	0	2	2	2	2	2	0				
oper mode												
switch												

key 3-8-2								
9	10	11	12	13	14	15	16	
3	0	4	4	4	4	4	0	

key 3-8-1	Det. Timings "Change From Controls to Timings"											
extend time												
delay time					0							

key 3-8-2								
			0					

key 3-8-3	Det. Controls											
detector	17	18	19	20	21	22	23	24				
assign phase	1	3	5	0	6	6	6	6				
oper mode												
switch												

key 3-8-4								
25	26	27	28	29	30	31	32	
6	0	0	0	7	0	8	8	

key 3-8- 3	Det. Timings "Change From Controls to Timings"											
extend time												
delay time					0							

key 3-8-4								
		0						

codes	0			1			2		3		4	
	norm veh			norm ped			one call		st bar a		st bar b	
	none											
	none											

key3-8-9	Ped. Dets.							
Ped Det Control	1	2	3	4	5	6	7	8
Assigned phase	1	2	3	4	0	6	0	8
Operation Mode	1	1	1	1	0	1	0	1
Switch Phase								

Mode	0-veh	1-ped	2-0ne	3-sba
	4-sbb	5-ppl	6-ppt	7-and

Coordination data and set up	key 5-1						
Coord. Setup	0	1	2	3	4	5	
Oper	0	fre	aut	man			
mode	0	prm	yld	pyl	pom	som	fac
max	2	inh	mx1	mx2			
corr	0	dwl	ndw	swy	sw+	sw2	
ofst	0	beg	end of green				
frce	0	pln cycle time					
mx dwell	0						
yield period	0						

Startup & misc.		key 4-1
Startup time	0	time in sec.
Startup state	0	0-fl 1-red
red rev/10	40	time in tenths
auto ped clear	0	o-no 1- yes
Stop t reset	0	0-no 1-yes
Alt. sequence	0	0-18
I'NAT'L SEQ	0	0-no 1-yes

key 4-3	Overlap Standard use up/down to swtich between overlaps
	0-no 1-yes

Overlap A

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap B

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap C

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap D

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

key 5-3	Input Dial1 split1 Phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
mode:	0-actuated 1-coord ph 2-min rec 3-max rec 4-ped rec 5-mx+p 6-ph omit 7-dual coord phase							

key 5-3	Input Dial 2 split 1 phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
Mode:	0-actuatec 1-coord ph 2-min rec 3-max rec 4-ped rec 5-mx+p rec 6-ph omit 7-dual coord phase							

key 5-3						
Input Dial1 Split 1 Param. Level 1						
offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						
mode 0-6 nrm/prm/yld/pyl/pom/som/fac						

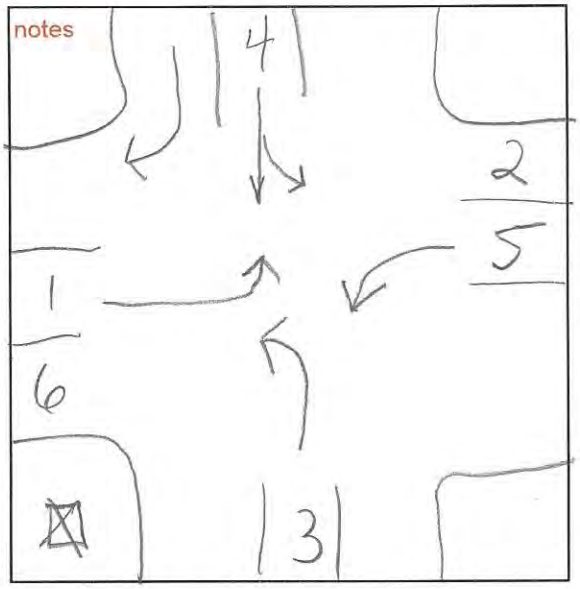
key 5-3	Input Dial 2 split 1 Param. Level 1						
Offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						

key 6-2	Time And Date Settings

BEG-DST-END
3 2 & 11 1

CYC ZERO	24

notes



Max -2

key 6-3-E	Traffic Events						
	DD	HH	MM	DL	SP	OF	
	2	15					2 6
	2	18	30				
	3	15					2 6
	3	18	30				
	4	15					2 6
	4	18	30				
	5	15					2 6
	5	18	30				
	6	15					2 6
	6	18	30				

TR

Sepac 3.34g Timings Data

Location:	Nashville Hwy
and	Spring meade

TS #	27
Date:	9-2-20

key 3-1 Vehicle times

Phase	1	2	3	4	5	6	7	8
min green	5	25	7	5	5	25	10	15
pass/10	15	40	30	20	15	40	40	50
max # 1	25	60	20	35	20	60	25	35
max # 2	30	80	30	50	30	80	30	50
yellow/10	40	40	40	40	40	40	40	40
red/10	10	30	10	10	10	30	10	10

key 3-2 Density Times

Phase	1	2	3	4	5	6	7	8
aini/10								
max int								
Tb4								
carsb4								
Time to								
Min gap								

key 3-3 Pedestrian Times

Phase	1	2	3	4	5	6	7	8
Walk		7		7		7		7
Ped clear		8		8		8		8
fl wk								
ext pcl								
act riw								
		1 = yes 0 = no						

key 3-7 Sequence control

phase	1	2	3	4	5	6	7	8
ph. Omit								
ph. Yell								
Codes	0		01-08 # - phase					
	none		phase is omitted by # on					
	none phase yellow is omitted by # yellow							

key 3-5 V.& P. recalls

Phases	1	2	3	4	5	6	7	8
veh.recall		2				2		
ped recall								
delay								

Codes	0	1	2	3	4
	none	Inactive	red	yellow	gree
	none	to na 1	to na II	to both	
	none	1 call	minimum	maximum	soft
	none	1 call	ped	na	na+

key 3-6 N. lock & misc

Phase	1	2	3	4	5	6	7	8
non lock	1	0	1	1	1	0	0	0
2 entry								
lc pass								
con. Ser.								
no sgap								
		1 = yes 0 = no						

key 3-4 Init. Na response

phase	1	2	3	4	5	6	7	8
initial	1	4	1	1	1	4	0	0
na resp		1		1		1		

Codes	0	1	2	3	4
Init	none	inact	red	yel	grn
na resp	none	to 1	to 2	both	

key 4-4

OVL TRAILING GREENS, YELLOWS AND REDS

	GREEN	YELLOW	RED
OLA	0	40	20
OLB	0	40	20
OLC	0	40	20
OLD	0	40	20

key 3-8-1	Det. Controls											key 3-8-2							
detector	1	2	3	4	5	6	7	8				9	10	11	12	13	14	15	16
assign phase	1	0	2	2	2	2	2	0				3	0	4	4	4	4	4	0
oper mode																			
switch																			

key 3-8-1	Det. Timings "Change From Controls to Timings"	key 3-8-2
extend time		
delay time	0	0

key 3-8-3	Det. Controls											key 3-8-4							
detector	17	18	19	20	21	22	23	24				25	26	27	28	29	30	31	32
assign phase	1	3	5	0	6	6	6	6				6	0	0	0	7	0	8	8
oper mode																			
switch																			

key 3-8- 3	Det. Timings "Change From Controls to Timings"	key 3-8-4
extend time		
delay time	0	0

codes	0	1	2	3	4
	norm veh	norm ped	one call	st bar a	st bar b
	none				
	none				

key3-8-9	Ped. Dets.							
Ped Det Control	1	2	3	4	5	6	7	8
Assigned phase	1	2	3	4	0	6	0	8
Operation Mode	1	1	1	1	0	1	0	1
Switch Phase								

Mode	0-veh	1-ped	2-0ne	3-sba
	4-sbb	5-ppl	6-ppt	7-and

Startup & misc.		key 4-1
Startup time	0	time in sec.
Startup state	0	0-fl 1-red
red rev/10	40	time in tenths
auto ped clear	0	o-no 1- yes
Stop t reset	0	0-no 1-yes
Alt. sequence	0	0-18
I'NAT'L SEQ	0	0-no 1-yes

Coordination data and set up	key 5-1						
Coord. Setup		0	1	2	3	4	5
Oper	0	fre	aut	man			
mode	0	prm	yld	pyl	pom	som	fac
max	2	inh	mx1	mx2			
corr	0	dwl	ndw	swy	sw+	sw2	
ofst	0	beg	end of green				
frce	0	pln cycle time					
mx dwell	0						
yield period	0						

key 4-3	Overlap Standard use up/down to swtich between overlaps
	0-no 1-yes

Overlap A

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap B

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap C

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap D

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

key 5-3	Input Dial1 split1 Phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
mode:	0-actuated 1-coord ph 2-min rec 3-max rec 4-ped rec 5-mx+p 6-ph omit 7-dual coord phase							

key 5-3	Input Dial 2 split 1 phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
Mode:	0-actuatec 1-coord ph 2-min rec 3-max rec 4-ped rec 5-mx+p rec 6-ph omit 7-dual coord phase							

key 5-3						
Input Dial1 Split 1 Param. Level 1						
offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						
mode 0-6 nrm/prm/yld/pyl/pom/som/fac						

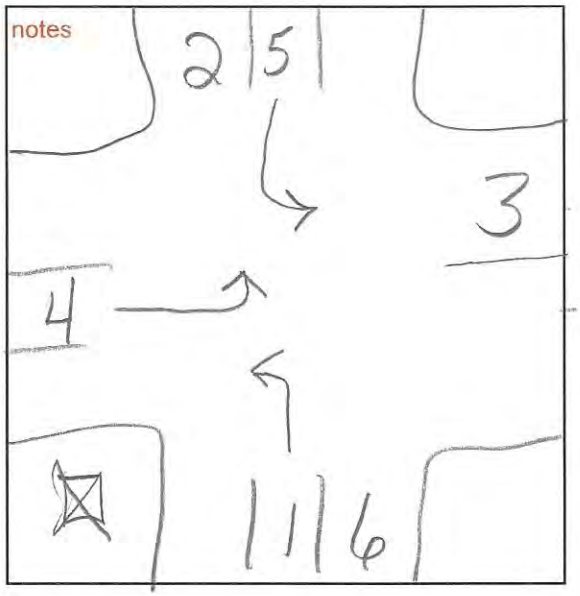
key 5-3	Input Dial 2 split 1 Param. Level 1						
Offset	time	alt	patn	r2	r3	r4	
#	sec	seq	mode	lag	lag	lag	
1							
2							
3							

key 6-2	Time And Date Settings
	BEG-DST-END
	3 2 & 11 1
CYC ZERO	24

Max-2

key 6-3-E	Traffic Events						
	DD	HH	MM	DL	SP	OF	
	2	15					2 6
	2	18	30				
	3	15					2 6
	3	18	30				
	4	15					2 6
	4	18	30				
	5	15					2 6
	5	18	30				
	6	15					2 6
	6	18	30				

notes



APPENDIX B – DETAILED TRIP GENERATION CALCULATIONS

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-Eng.com

TRIP GENERATION

Project:	2504 Nashville Highway Master Development – Columbia, TN
ITE Land Use:	Single-Family Housing, Multi-Family Housing (Low-Rise), Coffee/Donut Shop with Drive-Thru, Shopping Center, and Day Care Center
ITE Code:	210, 220, 937, 820, & 565
Trip Ends vs:	**ITE 210** – 147 DU; **ITE 220** – 471 DU; **ITE 937** – 3,725 SF; **ITE 820** – 3,500 SF and **ITE 565** – 13,000 SF
Daily Equation:	Weekday – Varies by Land Use
AM Equation:	Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 AM – Varies by Land Use
PM Equation:	Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 PM – Varies by Land Use

Total Site Generated Traffic (Includes Internal and Pass-By Trips)

Land Use	Size	Generated Traffic Volumes				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single-Family Housing (210)	147 DU	1,482	27	82	93	54
Multi-Family Housing (Low-Rise) (220)	471 DU	3,520	48	160	148	87
Coffee/Donut Shop with Drive-Thru (937)	3,725 SF	3,060	169	163	81	81
Shopping Center (820)	3,500 SF	615	95	58	22	24
Day Care Center (565)	13,000 SF	619	76	67	68	77
TOTAL		**9,296**	**415**	**530**	**412**	**323**

New Site Generated Traffic (Excludes Internal and Pass-By Trips)

Land Use	Size	Generated Traffic Volumes				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single-Family Housing (210)	147 DU	1,349	27	82	85	49
Multi-Family Housing (Low-Rise) (220)	471 DU	3,203	48	160	135	79
Coffee/Donut Shop with Drive-Thru (937)	3,725 SF	1,392	84	81	37	37
Shopping Center (820)	3,500 SF	448	76	46	16	18
Day Care Center (565)	13,000 SF	563	76	67	62	70
TOTAL		**6,955**	**311**	**436**	**335**	**253**

Internal and Pass-By Trip Calculations

Internal Trips

As described in the *Trip Generation Handbook*, developments containing multiple land uses will commonly have internal trips, or trips from land use to land use without leaving the development site. Based on the NCHRP Report 684, "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments," and assumptions made by T-Square Engineering for this study, an estimated **9% internal capture rate** was calculated for daily and PM peak hour trips.

Pass-By Trips

Studies have shown that new retail and restaurant developments generate relatively low "new" traffic. Traffic entering or exiting the new development are considered pass-by or captured trips. Pass-by or captured trips are vehicles that would have already been on the roadway regardless of the new development being constructed. The *Trip Generation Handbook* provides typical weekday pass-by percentages for various land uses based on the size of each land use. Based on the *Trip Generation Handbook* and assumptions made by T-Square Engineering for this study, **20% and 50% pass-by** were used for the shopping center and coffee shop land uses, respectively. The Table below provides a summary of the internal, pass-by and new trips generated for the proposed development.

Internal and Pass-By Trips

Land Use (ITE Code)	Size	Generated Traffic Volumes[1]				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single-Family Housing (210)	147 DU	1,482	27	82	93	54
Internal Trips		133	0	0	8	5
External Trips (Raw – Internal)		1,349	27	82	85	49
Pass-By Trips		0	0	0	0	0
New Trips (External – Pass-By)		**1,349**	**27**	**82**	**85**	**49**
Multi-Family (Low-Rise) Housing (220)	471 DU	3,520	48	160	148	87
Internal Trips		317	0	0	13	8
External Trips		3,203	48	160	135	79
Pass-By Trips		0	0	0	0	0
New Trips		**3,203**	**48**	**160**	**135**	**79**
Coffee/Donut Shop w/ Drive Thru (937)	3,725 SF	3,060	169	163	81	81
Internal Trips		275	0	0	7	7
External Trips		2,785	169	163	74	74
Pass-By Trips (50%)		1,393	85	82	37	37
New Trips		**1,392**	**84**	**81**	**37**	**37**
Shopping Center (820)	3,500 SF	615	95	58	22	24
Internal Trips		55	0	0	2	2
External Trips		560	95	58	20	22
Pass-By Trips (20%)		112	19	12	4	4
New Trips		**448**	**76**	**46**	**16**	**18**
Day Care Center (565)	13,000 SF	619	76	67	68	77
Internal Trips		56	0	0	6	7
External Trips		563	76	67	62	70
Pass-By Trips		0	0	0	0	0
New Trips		**563**	**76**	**67**	**62**	**70**
TOTAL GENERATED TRIPS		**9,296**	**415**	**530**	**412**	**323**
TOTAL GENERATED INTERNAL TRIPS		**836**	**0**	**0**	**36**	**29**
TOTAL GENERATED EXTERNAL TRIPS		**8,460**	**415**	**530**	**376**	**294**
TOTAL GENERATED PASS-BY TRIPS		**1,505**	**104**	**94**	**41**	**41**
TOTAL GENERATED NEW TRIPS		**6,955**	**311**	**436**	**335**	**253**

[1] Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. Washington, DC: ITE, 2020

TRIP GENERATION CALCULATIONS

Single-Family Homes (210) – 147 Dwelling Units

Time Period	Formula[2]	Calculation[2]	Trips
Daily	$Ln(T) = 0.92Ln(X) + 2.71$	$Ln(T) = 0.92Ln(147) + 2.71$	1,482
AM Peak (Total)	$T = 0.71(X) + 4.80$	$T = 0.71(147) + 4.80$	109
AM Peak (Entering)	$T = 0.25(Total\ AM\ Trips)$	$T = 0.25(109)$	27
AM Peak (Exiting)	$T = 0.75(Total\ AM\ Trips)$	$T = 0.75(109)$	82
PM Peak (Total)	$Ln(T) = 0.96Ln(X) + 0.20$	$Ln(T) = 0.96Ln(147) + 0.20$	147
PM Peak (Entering)	$T = 0.63(Total\ PM\ Trips)$	$T = 0.63(147)$	93
PM Peak (Exiting)	$T = 0.37(Total\ PM\ Trips)$	$T = 0.37(147)$	54

Multi-Family (Low-Rise) Homes (220) – 471 Dwelling Units

Time Period	Formula	Calculation[2]	Trips
Daily	$T = 7.56(X) - 40.86$	$T = 7.56(471) - 40.86$	3,520
AM Peak (Total)	$Ln(T) = 0.95Ln(X) - 0.51$	$Ln(T) = 0.95Ln(471) - 0.51$	208
AM Peak (Entering)	$T = 0.23(Total\ AM\ Trips)$	$T = 0.23(208)$	48
AM Peak (Exiting)	$T = 0.77(Total\ AM\ Trips)$	$T = 0.77(208)$	160
PM Peak (Total)	$Ln(T) = 0.89Ln(X) - 0.02$	$Ln(T) = 0.89Ln(471) - 0.02$	235
PM Peak (Entering)	$T = 0.63(Total\ PM\ Trips)$	$T = 0.63(235)$	148
PM Peak (Exiting)	$T = 0.37(Total\ PM\ Trips)$	$T = 0.37(235)$	87

[2] Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. Washington, DC: ITE, 2020

Coffee/Donut Shop with Drive-Thru (937) – 3,725 SF

Time Period	Formula	Calculation[2]	Trips
Daily	$T = 820.38(X)$	$T = 820.38(3.73)$	3,060
AM Peak (Total)	$T = 88.99(X)$	$T = 88.99(3.73)$	332
AM Peak (Entering)	$T = 0.51(Total\ AM\ Trips)$	$T = 0.51(332)$	169
AM Peak (Exiting)	$T = 0.49(Total\ AM\ Trips)$	$T = 0.49(332)$	163
PM Peak (Total)	$T = 43.38(X)$	$T = 43.38(3.73)$	162
PM Peak (Entering)	$T = 0.50(Total\ PM\ Trips)$	$T = 0.50(162)$	81
PM Peak (Exiting)	$T = 0.50(Total\ PM\ Trips)$	$T = 0.50(162)$	81

Day Care Center (565) – 13,000 SF

Time Period	Formula	Calculation	Trips
Daily	$T = 47.62(X)$	$T = 47.62(13)$	619
AM Peak (Total)	$T = 11.00(X)$	$T = 11.00(13)$	143
AM Peak (Entering)	$T = 0.53(Total\ AM\ Trips)$	$T = 0.53(143)$	76
AM Peak (Exiting)	$T = 0.47(Total\ AM\ Trips)$	$T = 0.47(143)$	67
PM Peak (Total)	$T = 11.12(X)$	$T = 11.12(13)$	145
PM Peak (Entering)	$T = 0.47(Total\ PM\ Trips)$	$T = 0.47(145)$	68
PM Peak (Exiting)	$T = 0.53(Total\ PM\ Trips)$	$T = 0.53(145)$	77

Shopping Center (820) – 3,500 SF

Time Period	Formula	Calculation	Trips
Daily	$Ln(T) = 0.68Ln(X) + 5.57$	$Ln(T) = 0.68Ln(3.5) + 5.57$	615
AM Peak (Total)	$T = 0.50(X) + 151.78$	$T = 0.50(3.5) + 151.78$	153
AM Peak (Entering)	$T = 0.62(Total\ AM\ Trips)$	$T = 0.62(153)$	95
AM Peak (Exiting)	$T = 0.38(Total\ AM\ Trips)$	$T = 0.38(153)$	58
PM Peak (Total)	$Ln(T) = 0.74Ln(X) + 2.89$	$Ln(T) = 0.74Ln(3.5) + 2.89$	46
PM Peak (Entering)	$T = 0.48(Total\ PM\ Trips)$	$T = 0.48(46)$	22
PM Peak (Exiting)	$T = 0.52(Total\ PM\ Trips)$	$T = 0.52(46)$	24

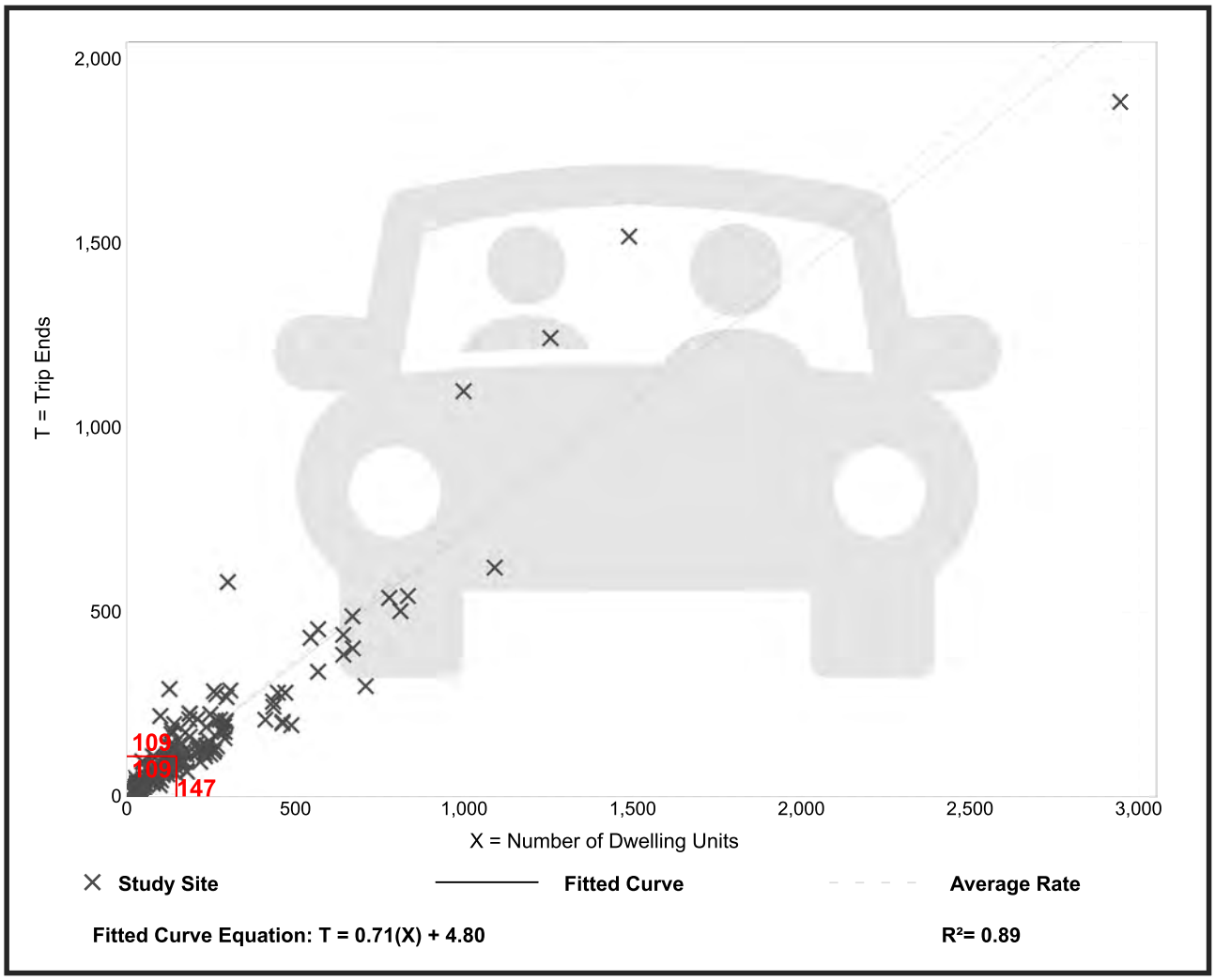
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 173
Avg. Num. of Dwelling Units: 219
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

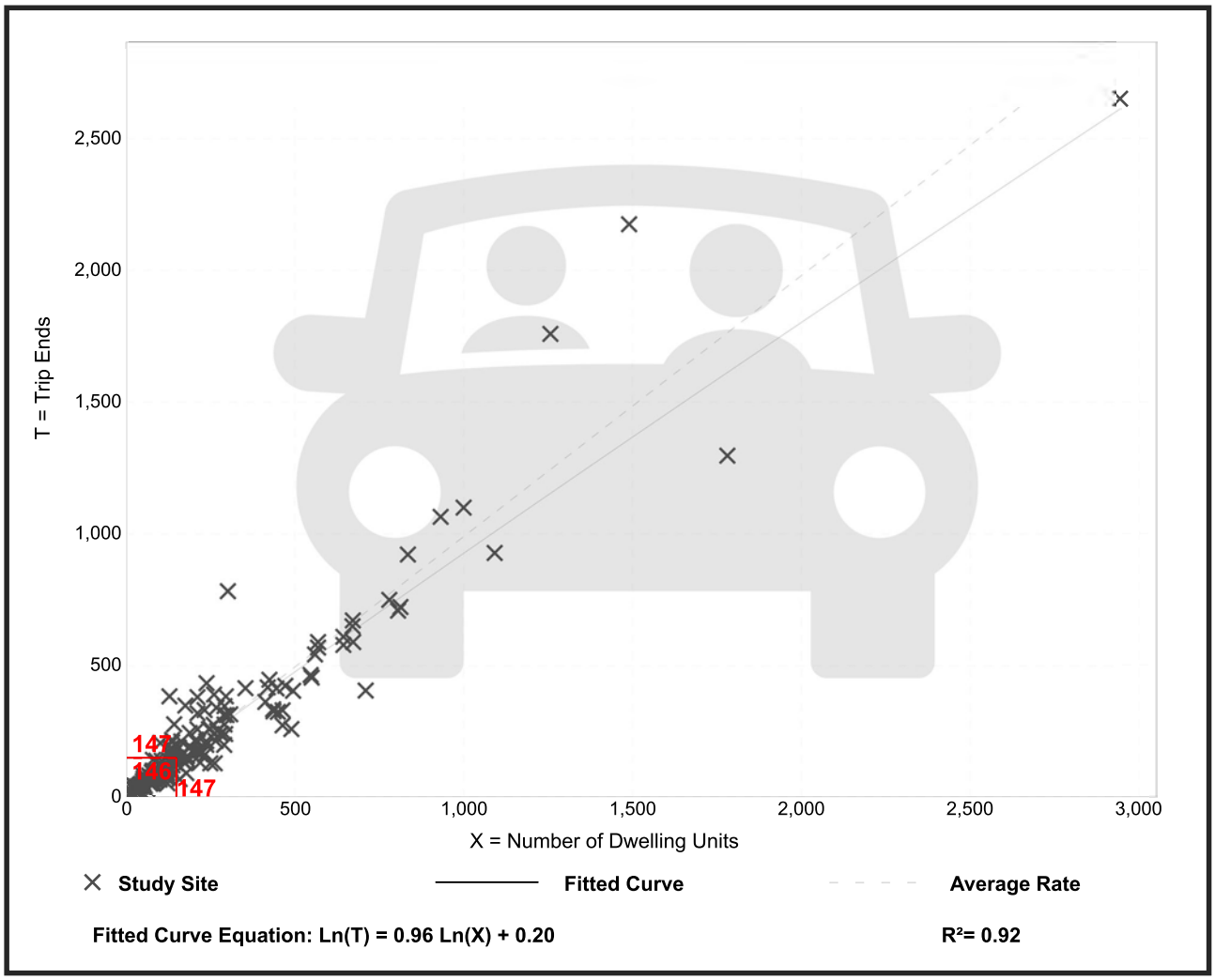
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

Single-Family Detached Housing
(210)

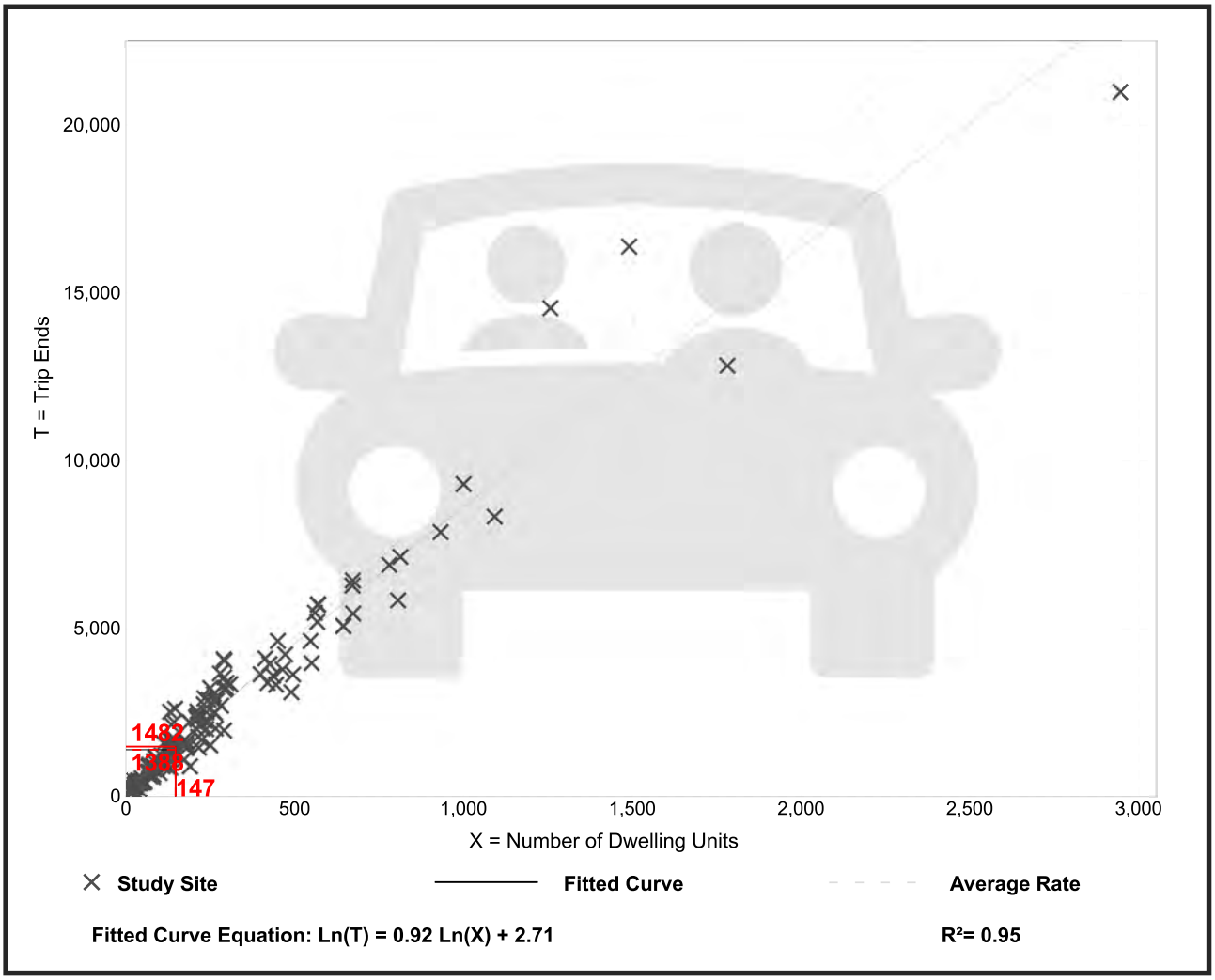
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



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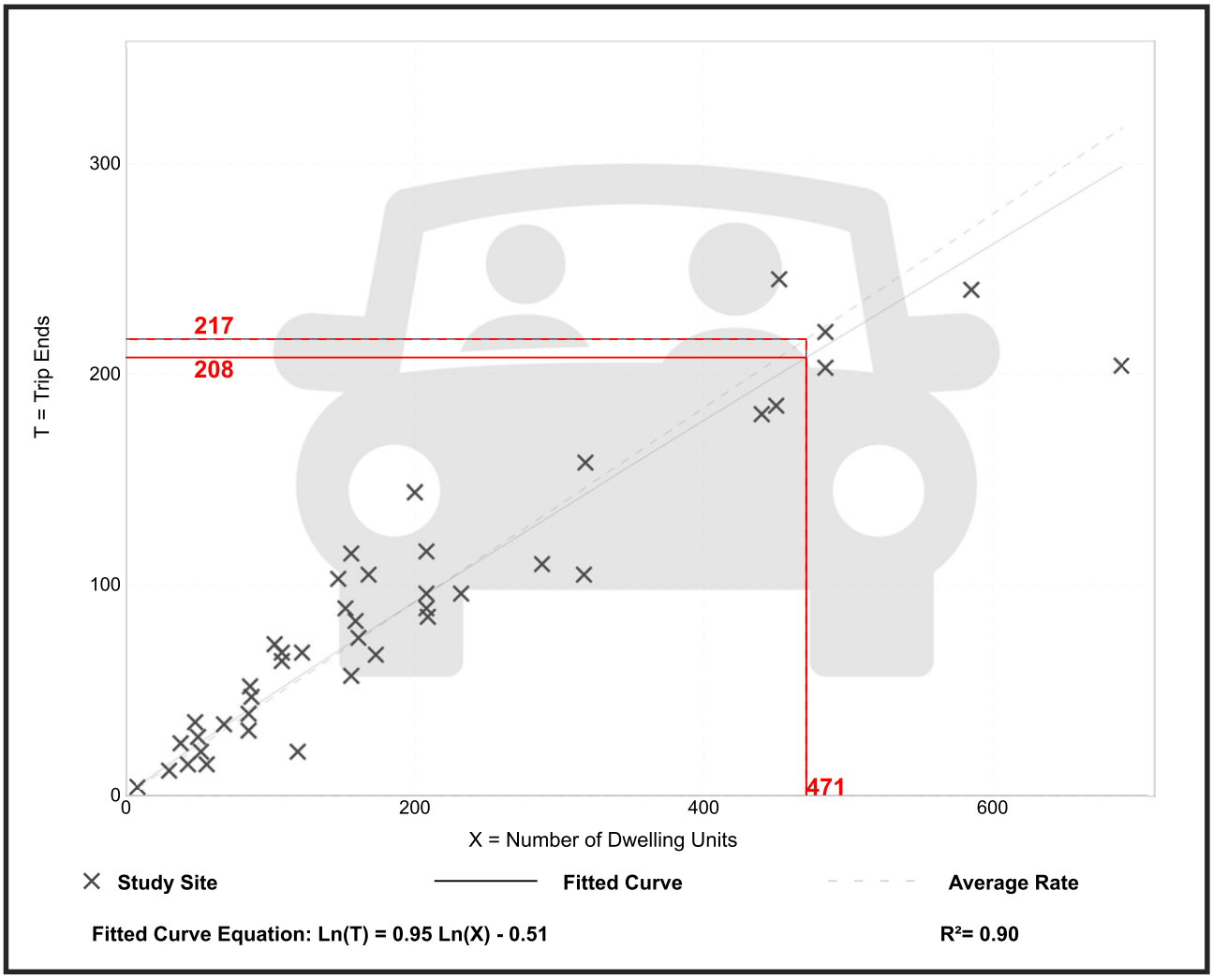
Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 42
Avg. Num. of Dwelling Units: 199
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



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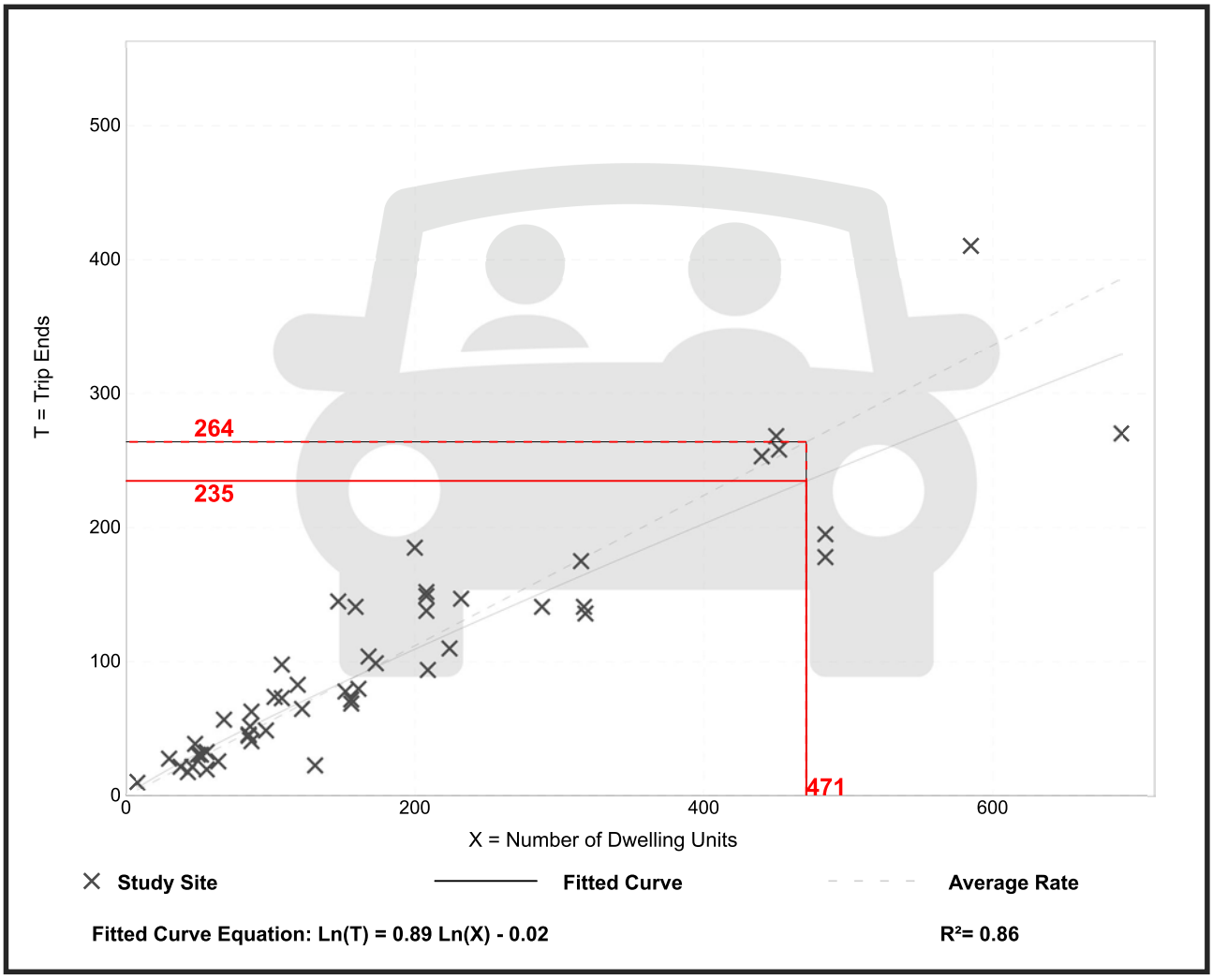
Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 50
Avg. Num. of Dwelling Units: 187
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation



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Multifamily Housing (Low-Rise)
(220)

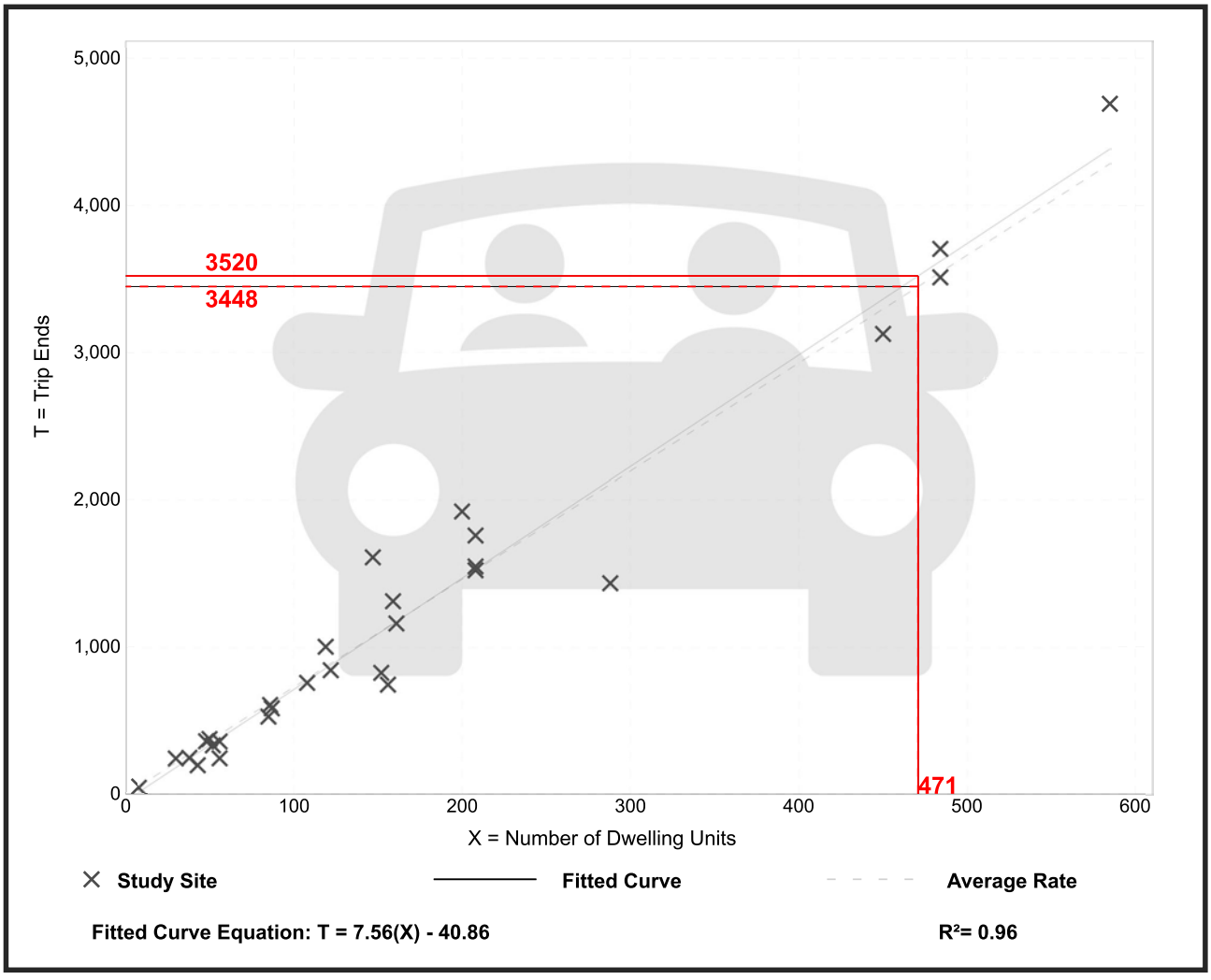
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 29
Avg. Num. of Dwelling Units: 168
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.32	4.45 - 10.97	1.31

Data Plot and Equation



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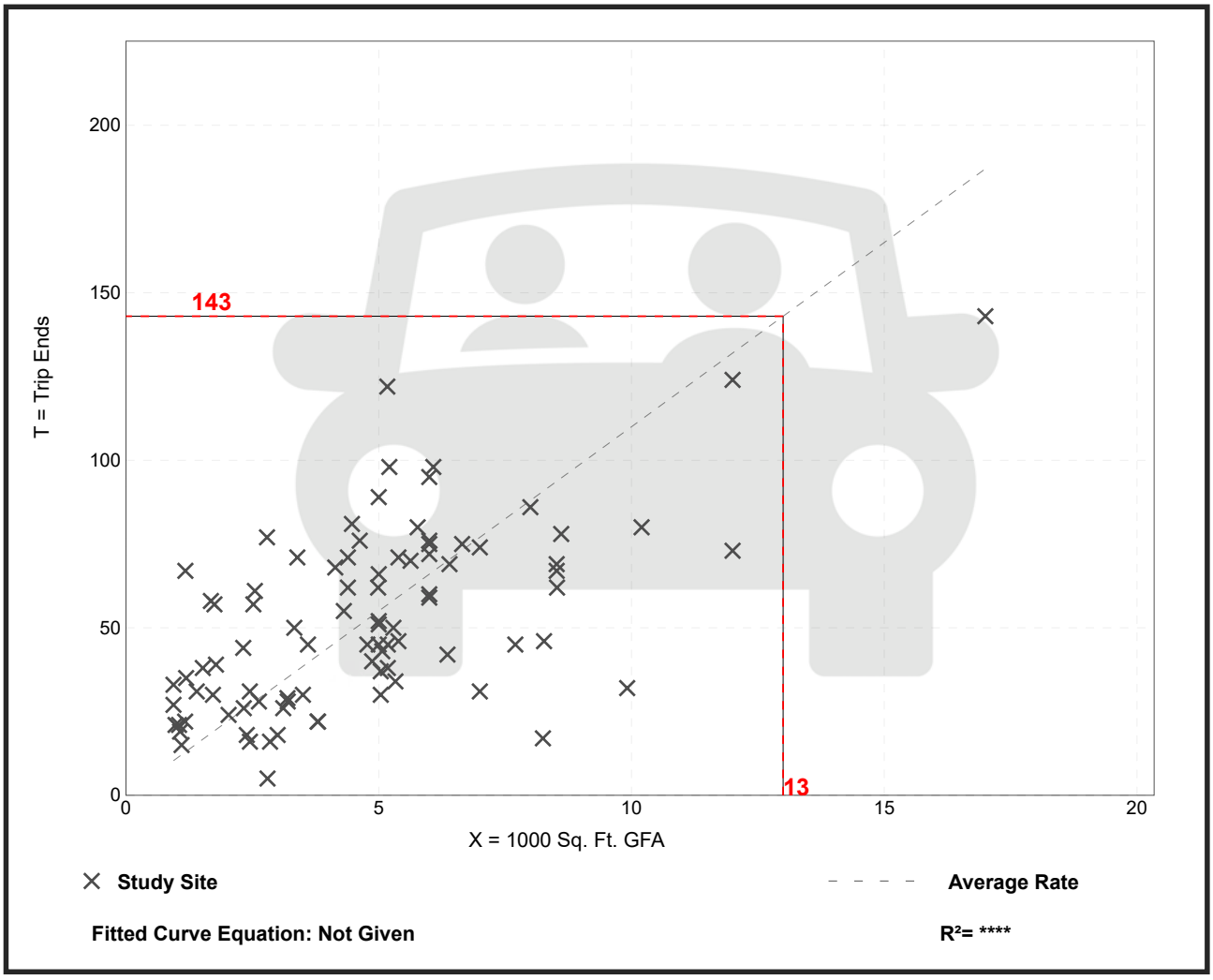
Day Care Center
(565)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 89
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.00	1.79 - 57.02	6.08

Data Plot and Equation



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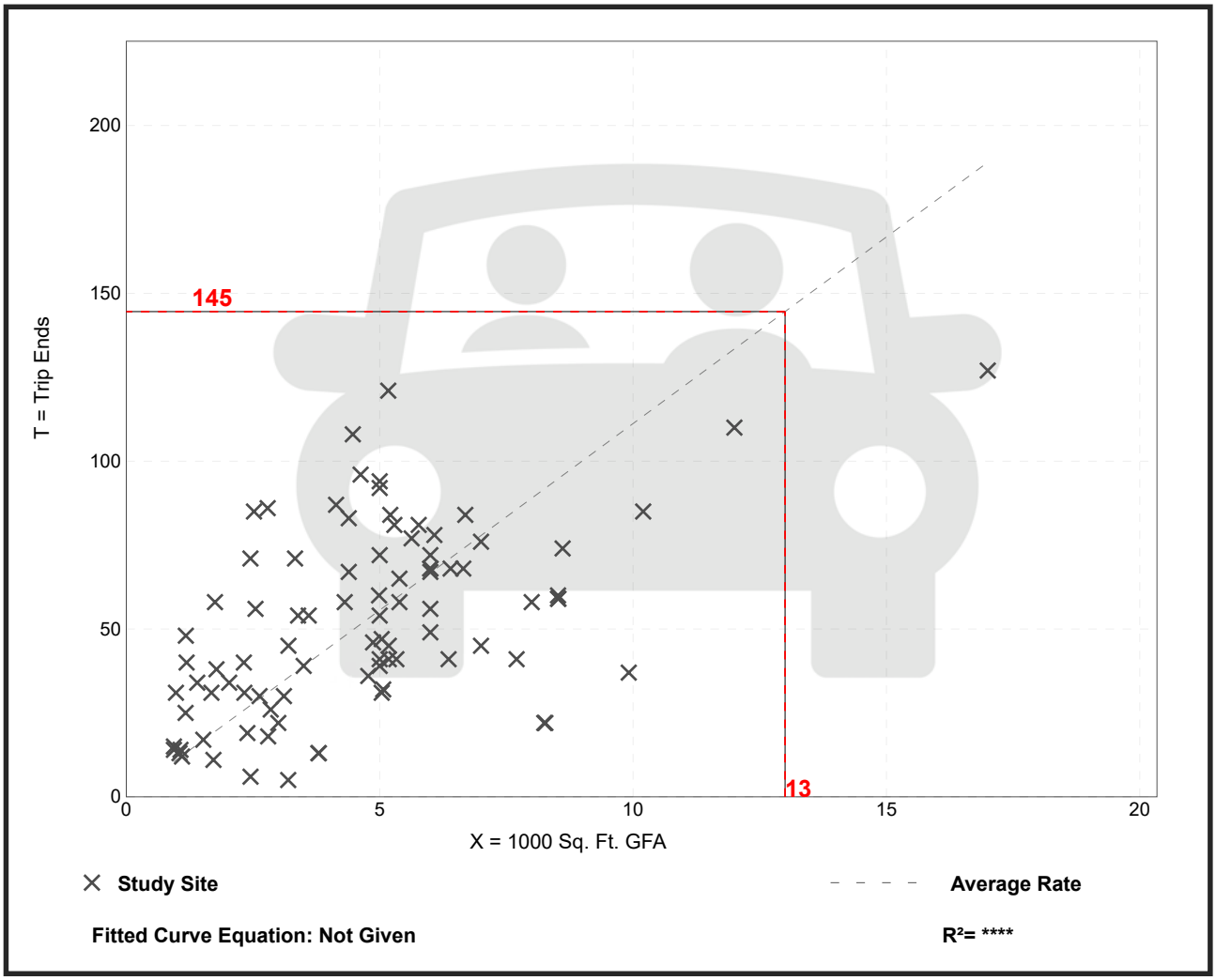
Day Care Center
(565)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 90
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.12	1.56 - 40.85	6.28

Data Plot and Equation



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Day Care Center
(565)

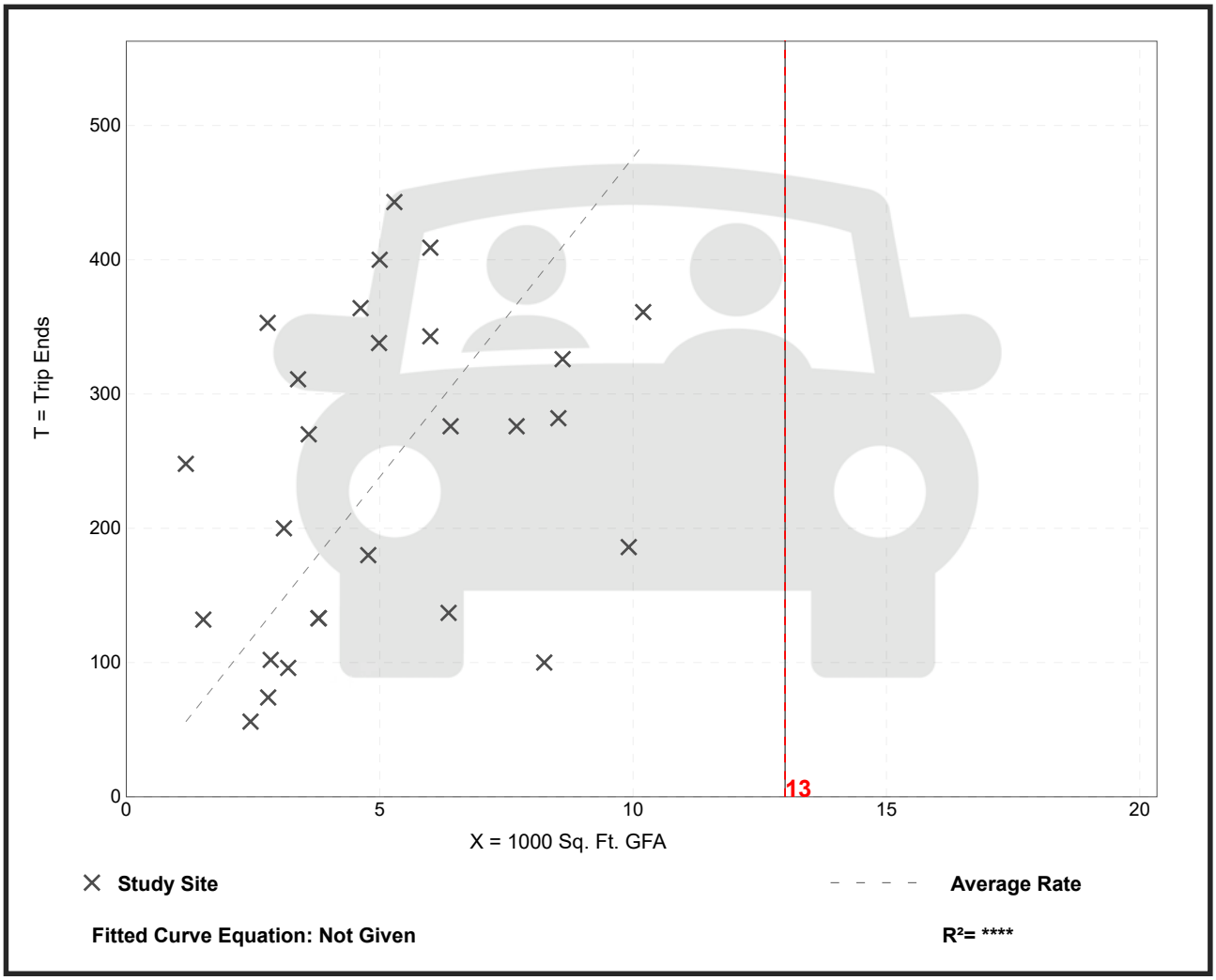
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 27
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
47.62	12.12 - 211.06	29.78

Data Plot and Equation



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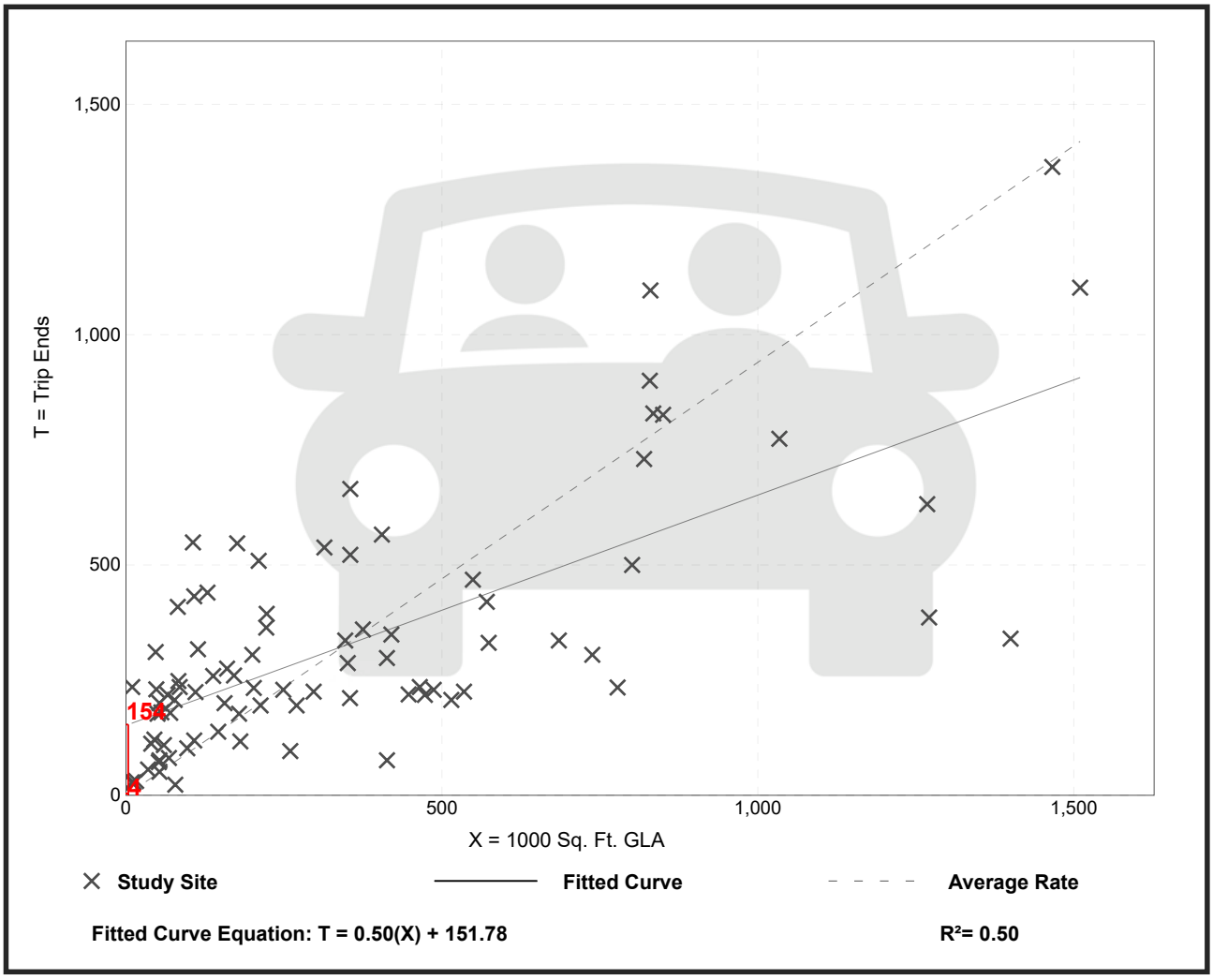
Shopping Center
(820)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 84
Avg. 1000 Sq. Ft. GLA: 351
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

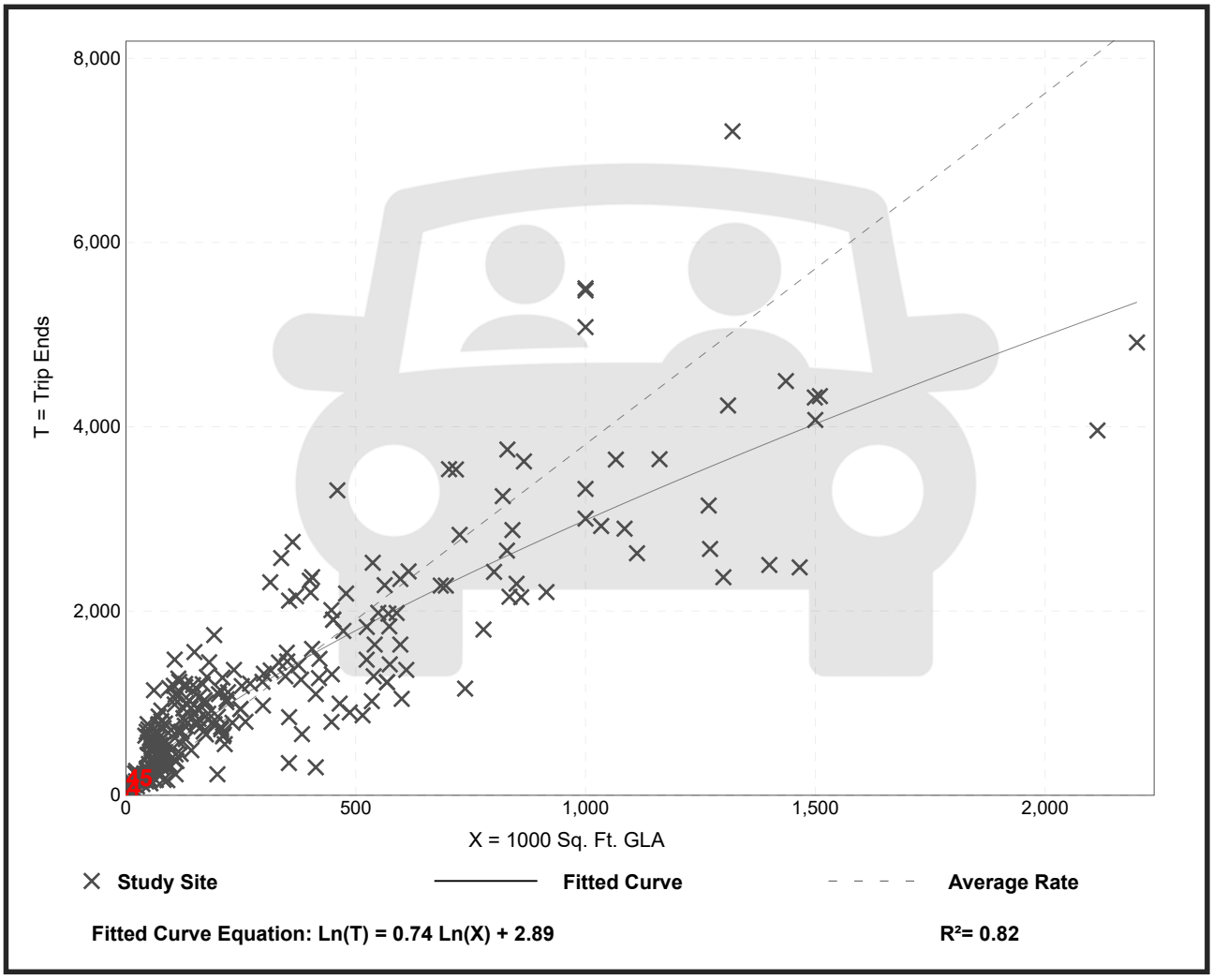
Shopping Center
(820)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 261
Avg. 1000 Sq. Ft. GLA: 327
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



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Shopping Center
(820)

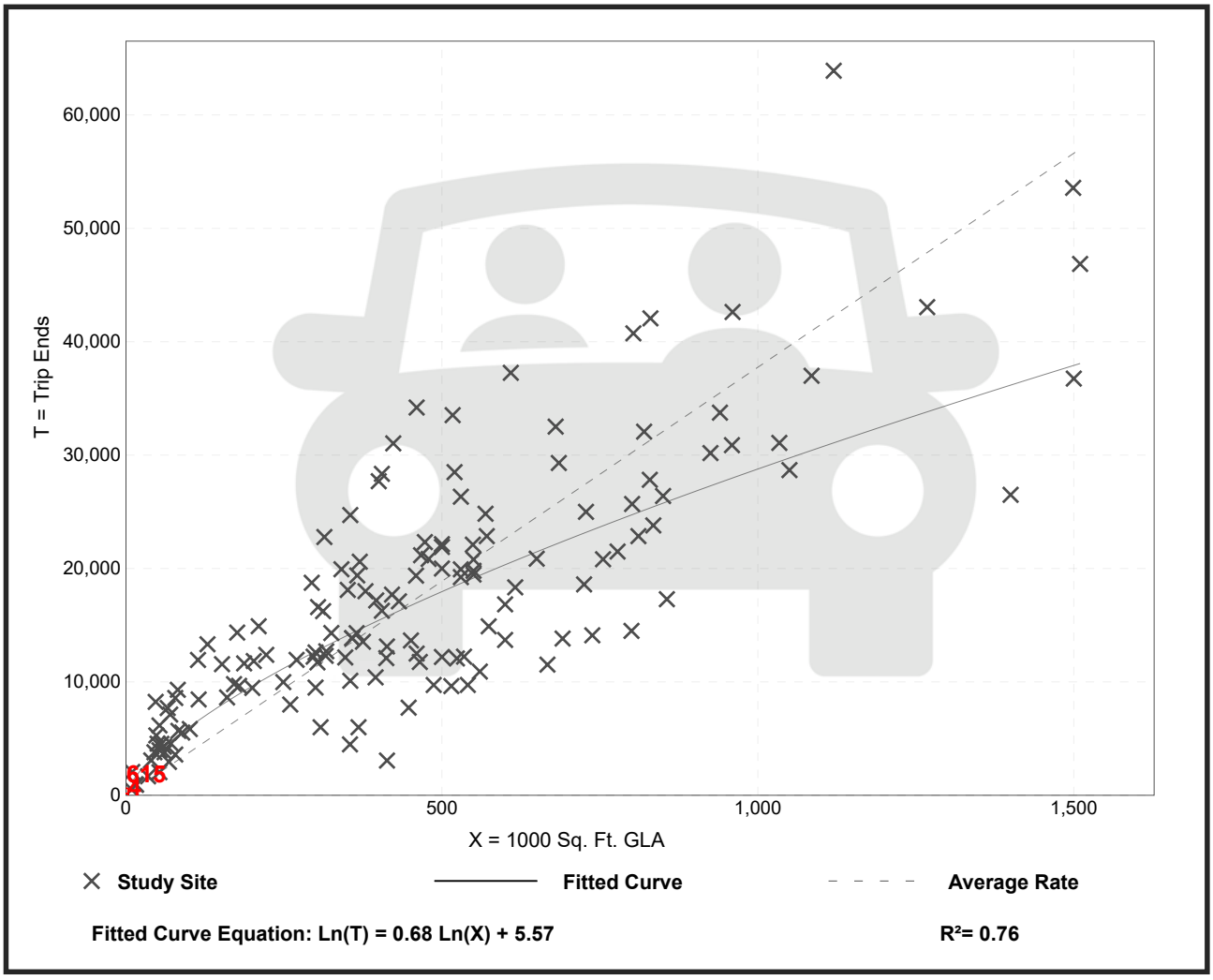
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 147
Avg. 1000 Sq. Ft. GLA: 453
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

Data Plot and Equation



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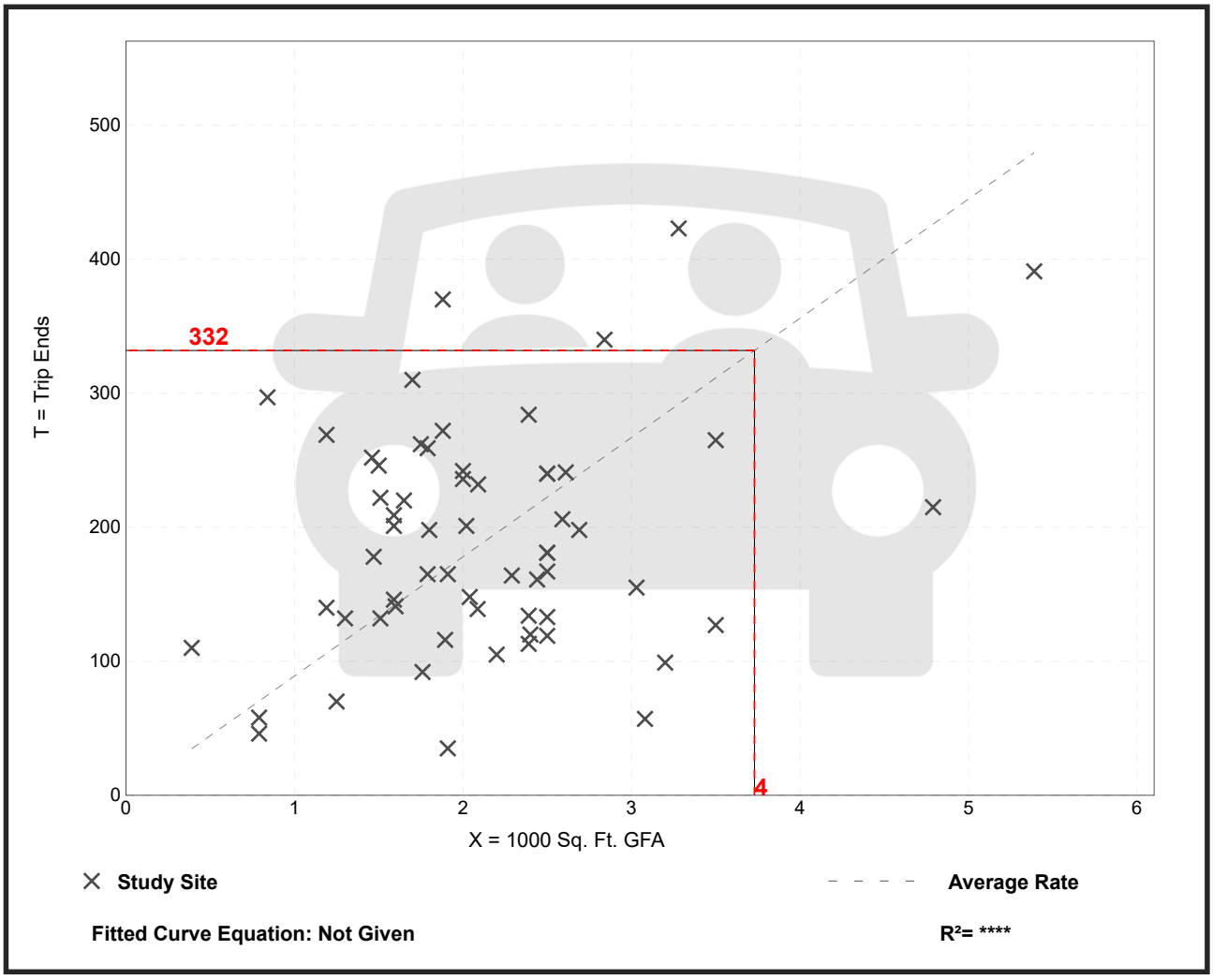
Coffee/Donut Shop with Drive-Through Window
(937)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 61
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
88.99	18.32 - 353.57	48.19

Data Plot and Equation



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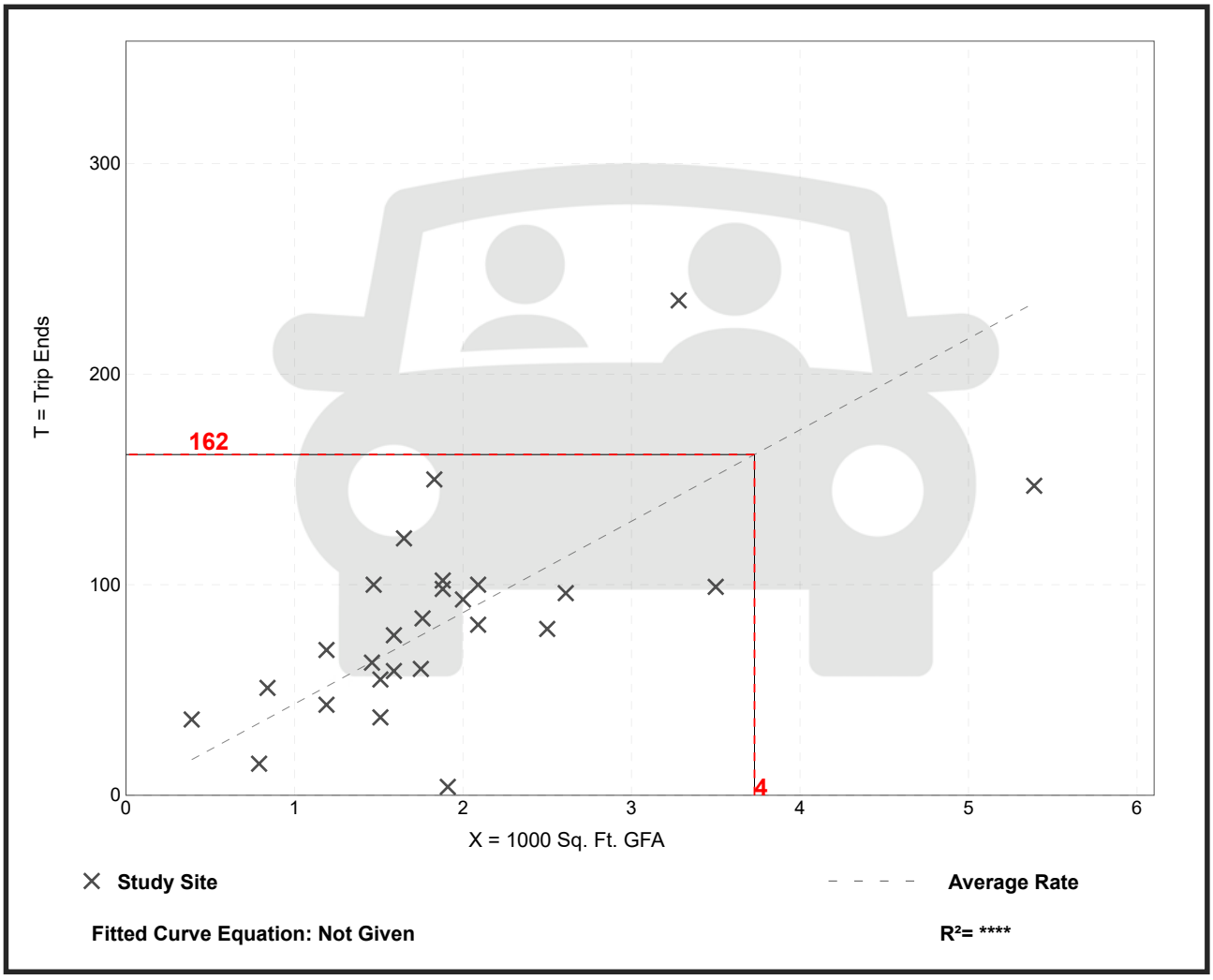
Coffee/Donut Shop with Drive-Through Window
(937)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 26
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
43.38	2.09 - 92.31	18.88

Data Plot and Equation



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Coffee/Donut Shop with Drive-Through Window
(937)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

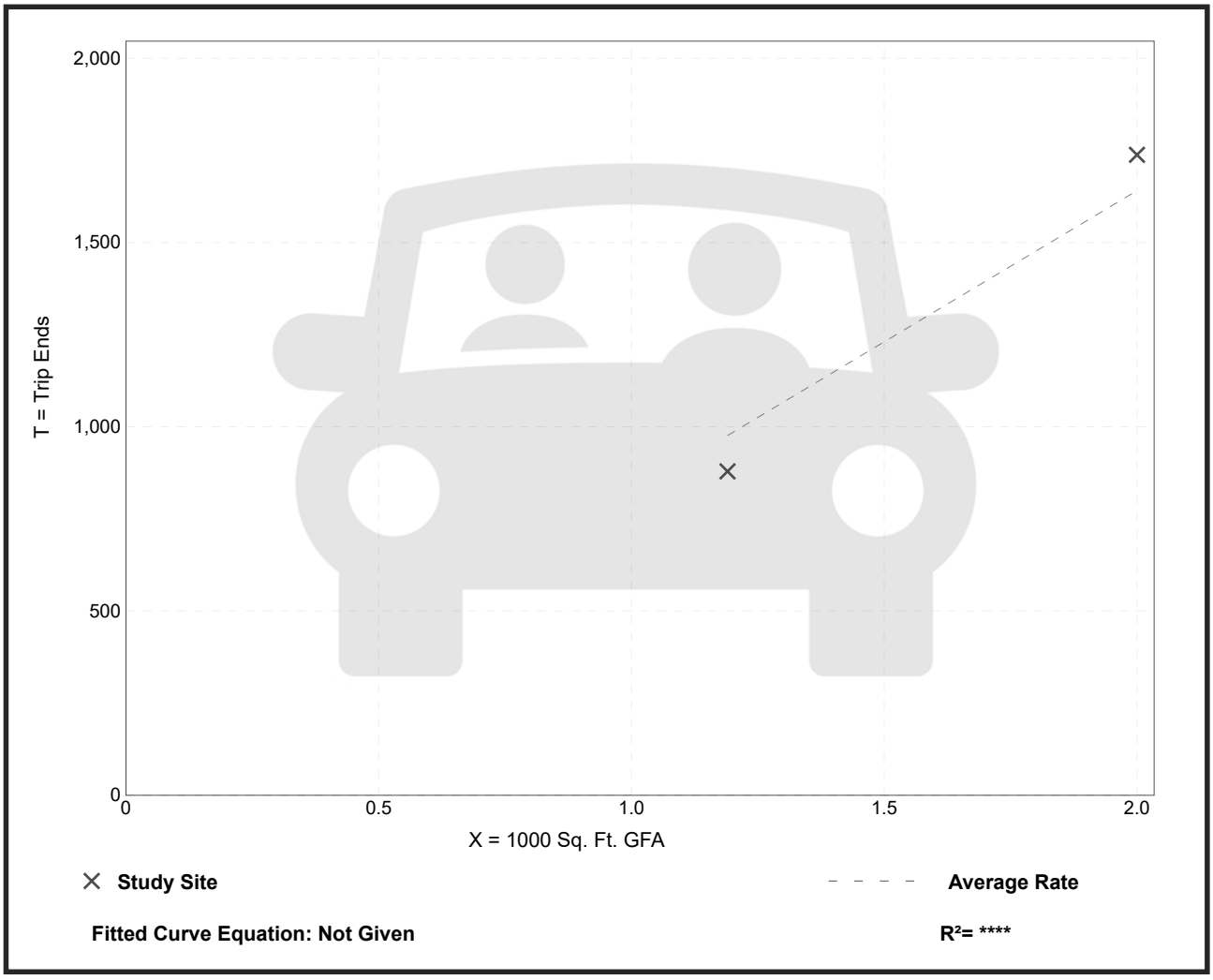
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
820.38	738.66 - 869.00	*

Data Plot and Equation

Caution – Small Sample Size



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APPENDIX C – CAPACITY ANALYSES

EXISTING CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	1	51	2	0	1	105	1554	1	1	1195	70
Future Volume (veh/h)	189	1	51	2	0	1	105	1554	1	1	1195	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	205	1	55	2	0	1	114	1689	1	1	1299	76
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	5	280	304	0	285	149	2089	1	3	1676	98
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.08	0.58	0.58	0.00	0.49	0.49
Sat Flow, veh/h	1410	28	1559	1342	0	1583	1774	3630	2	1774	3399	199
Grp Volume(v), veh/h	205	0	56	2	0	1	114	823	867	1	675	700
Grp Sat Flow(s),veh/h/ln	1410	0	1588	1342	0	1583	1774	1770	1862	1774	1770	1828
Q Serve(g_s), s	9.8	0.0	2.1	0.1	0.0	0.0	4.4	25.8	25.8	0.0	21.9	22.0
Cycle Q Clear(g_c), s	9.8	0.0	2.1	2.2	0.0	0.0	4.4	25.8	25.8	0.0	21.9	22.0
Prop In Lane	1.00		0.98	1.00		1.00	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	356	0	285	304	0	285	149	1019	1072	3	872	901
V/C Ratio(X)	0.58	0.00	0.20	0.01	0.00	0.00	0.77	0.81	0.81	0.39	0.77	0.78
Avail Cap(c_a), veh/h	708	0	681	639	0	680	508	1342	1412	508	1342	1386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	24.4	25.3	0.0	23.5	31.3	11.8	11.8	34.9	14.5	14.6
Incr Delay (d2), s/veh	1.5	0.0	0.3	0.0	0.0	0.0	7.9	2.8	2.7	77.5	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.9	0.0	0.0	0.0	2.5	13.2	13.8	0.1	10.9	11.3
LnGrp Delay(d),s/veh	29.0	0.0	24.7	25.3	0.0	23.5	39.2	14.6	14.5	112.4	16.1	16.1
LnGrp LOS	C		C	C		C	D	B	B	F	B	B
Approach Vol, veh/h		261			3			1804			1376	
Approach Delay, s/veh		28.1			24.7			16.1			16.1	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	47.2		17.6	10.9	41.5		17.6
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	53.0		30.0	20.0	53.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	27.8		11.8	6.4	24.0		4.2
Green Ext Time (p_c), s	0.0	12.4		0.8	0.2	9.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

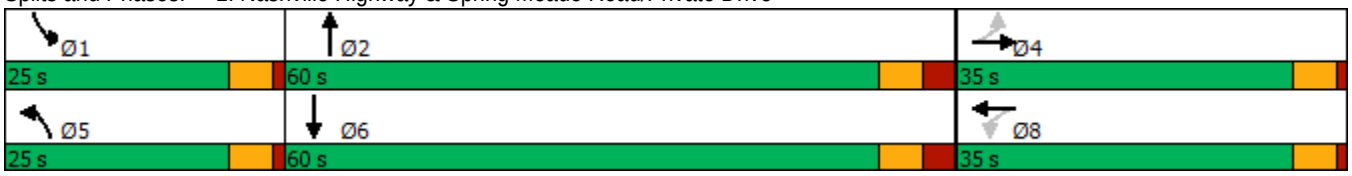
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	180	53	28	155	209	235	29	333	330
Average Queue (ft)	106	25	1	56	95	109	1	152	157
95th Queue (ft)	161	50	9	105	175	193	9	253	260
Link Distance (ft)	417	417	233		1664	1664		1260	1260
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				255			220		
Storage Blk Time (%)								2	
Queuing Penalty (veh)								0	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	189	1	2	0	105	1554	1	1195
Future Volume (vph)	189	1	2	0	105	1554	1	1195
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	7.0	7.0	5.0	25.0	5.0	25.0
Minimum Split (s)	23.0	23.0	12.0	12.0	10.0	32.0	10.0	32.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	60.0	25.0	60.0
Total Split (%)	29.2%	29.2%	29.2%	29.2%	20.8%	50.0%	20.8%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	7.0	5.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	19.6	19.6	19.6	19.6	11.9	61.7	5.8	46.5
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.12	0.65	0.06	0.49
v/c Ratio	0.71	0.15	0.01	0.00	0.52	0.74	0.01	0.80
Control Delay	50.6	10.6	32.5	0.0	50.7	15.8	51.0	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	10.6	32.5	0.0	50.7	15.8	51.0	26.4
LOS	D	B	C	A	D	B	D	C
Approach Delay		42.0		21.7		18.0		26.5
Approach LOS		D		C		B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	83	124	1689	1263	4
Future Vol, veh/h	1	83	124	1689	1263	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	90	135	1836	1373	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2563	689	1377	0	-	0
Stage 1	1375	-	-	-	-	-
Stage 2	1188	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	21	388	494	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	21	388	494	-	-	-
Mov Cap-2 Maneuver	21	-	-	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	252	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	494	-	321	-	-
HCM Lane V/C Ratio	0.273	-	0.284	-	-
HCM Control Delay (s)	15	0	20.6	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	1.1	-	1.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	3	15	13	0	65	4	1672	31	39	1289	18
Future Volume (veh/h)	75	3	15	13	0	65	4	1672	31	39	1289	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	82	3	16	14	0	71	4	1817	34	42	1401	20
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	4	99	102	0	91	63	2309	1033	67	2317	1036
Arrive On Green	0.06	0.06	0.06	0.06	0.00	0.06	0.04	0.65	0.65	0.04	0.65	0.65
Sat Flow, veh/h	1714	63	1583	1774	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	85	0	16	14	0	71	4	1817	34	42	1401	20
Grp Sat Flow(s),veh/h/ln	1777	0	1583	1774	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.6	0.0	1.3	1.0	0.0	6.2	0.3	51.3	1.1	3.3	31.7	0.6
Cycle Q Clear(g_c), s	6.6	0.0	1.3	1.0	0.0	6.2	0.3	51.3	1.1	3.3	31.7	0.6
Prop In Lane	0.96		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	99	102	0	91	63	2309	1033	67	2317	1036
V/C Ratio(X)	0.76	0.00	0.16	0.14	0.00	0.78	0.06	0.79	0.03	0.63	0.60	0.02
Avail Cap(c_a), veh/h	298	0	266	298	0	266	177	2309	1033	177	2317	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.6	0.0	62.1	62.6	0.0	65.1	65.2	17.4	8.6	66.4	13.8	8.5
Incr Delay (d2), s/veh	10.2	0.0	0.8	0.6	0.0	13.1	0.4	2.8	0.1	9.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.6	0.5	0.0	3.1	0.2	25.9	0.5	1.8	15.8	0.3
LnGrp Delay(d),s/veh	74.8	0.0	62.9	63.2	0.0	78.2	65.6	20.2	8.7	75.6	15.0	8.5
LnGrp LOS	E		E	E		E	E	C	A	E	B	A
Approach Vol, veh/h		101			85			1855			1463	
Approach Delay, s/veh		72.9			75.7			20.1			16.7	
Approach LOS		E			E			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	98.8		15.3	11.0	99.1		14.6
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	52.5		23.5	14.0	52.5		23.5
Max Q Clear Time (g_c+I1), s	5.3	53.3		8.6	2.3	33.7		8.2
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	9.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.5
HCM 2010 LOS	C

Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	216	47	153	143	21	424	446	229	79	367	404	275
Average Queue (ft)	72	12	14	43	1	203	207	17	32	78	147	11
95th Queue (ft)	152	36	63	88	8	354	365	111	63	229	313	92
Link Distance (ft)	574	574	457			1402	1402			532	532	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)				2		1	14			1	4	
Queuing Penalty (veh)				0		0	4			1	1	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	3	15	0	65	4	1672	31	39	1289	18
Future Volume (vph)	3	15	0	65	4	1672	31	39	1289	18
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	14.3%	42.9%	42.9%	14.3%	42.9%	42.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	12.0	12.0	7.3	7.3	5.9	90.4	90.4	8.7	100.3	100.3
Actuated g/C Ratio	0.09	0.09	0.05	0.05	0.04	0.65	0.65	0.06	0.72	0.72
v/c Ratio	0.56	0.06	0.15	0.34	0.05	0.80	0.03	0.38	0.55	0.02
Control Delay	74.6	0.5	66.8	4.4	65.5	24.5	0.1	72.1	12.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.5	66.8	4.4	65.5	24.5	0.1	72.1	12.3	0.0
LOS	E	A	E	A	E	C	A	E	B	A
Approach Delay	62.9		14.7			24.2			13.8	
Approach LOS	E		B			C			B	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 3.5 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	20	3	0	35	12	0
Future Vol, veh/h	20	3	0	35	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	3	0	38	13	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	25	0	62	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1589	-	944	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1589	-	944	1052
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	984	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	944	-	-	1589	-
HCM Lane V/C Ratio	0.014	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	71	1833	16	26	1652
Future Vol, veh/h	32	71	1833	16	26	1652
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	77	1992	17	28	1796

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2955	1005	0	0	2009	0
Stage 1	2001	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 11	240	-	-	281	-
Stage 1	91	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 10	240	-	-	281	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	91	-	-	-	-	-
Stage 2	302	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	78.3	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	281	-
HCM Lane V/C Ratio	-	-	0.746	0.101	-
HCM Control Delay (s)	-	-	78.3	19.2	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	4.5	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	10	8	1836	1665	23
Future Vol, veh/h	16	10	8	1836	1665	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	260	-	-	265
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	11	9	1996	1810	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2826	905	1835	0	-	0
Stage 1	1810	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 14	279	328	-	-	-
Stage 1	116	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 14	279	328	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	113	-	-	-	-	-
Stage 2	310	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.9	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	328	-	100	279	-	-
HCM Lane V/C Ratio	0.027	-	0.174	0.039	-	-
HCM Control Delay (s)	16.3	-	48.4	18.4	-	-
HCM Lane LOS	C	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	0	67	0	0	0	51	1401	0	0	1769	105
Future Volume (veh/h)	115	0	67	0	0	0	51	1401	0	0	1769	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	0	73	0	0	0	55	1523	0	0	1923	114
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	0	140	51	164	0	71	2923	0	1	2549	150
Arrive On Green	0.09	0.00	0.09	0.00	0.00	0.00	0.04	0.83	0.00	0.00	0.75	0.75
Sat Flow, veh/h	1774	0	1583	1322	1863	0	1774	3632	0	1774	3398	199
Grp Volume(v), veh/h	125	0	73	0	0	0	55	1523	0	0	992	1045
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1322	1863	0	1774	1770	0	1774	1770	1828
Q Serve(g_s), s	9.7	0.0	6.2	0.0	0.0	0.0	4.3	18.4	0.0	0.0	44.7	46.7
Cycle Q Clear(g_c), s	9.7	0.0	6.2	0.0	0.0	0.0	4.3	18.4	0.0	0.0	44.7	46.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	208	0	140	51	164	0	71	2923	0	1	1327	1371
V/C Ratio(X)	0.60	0.00	0.52	0.00	0.00	0.00	0.77	0.52	0.00	0.00	0.75	0.76
Avail Cap(c_a), veh/h	432	0	339	218	399	0	253	2923	0	253	1327	1371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	62.6	0.0	61.0	0.0	0.0	0.0	66.6	3.7	0.0	0.0	9.9	10.2
Incr Delay (d2), s/veh	2.8	0.0	3.0	0.0	0.0	0.0	16.0	0.7	0.0	0.0	3.9	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	2.8	0.0	0.0	0.0	2.4	9.2	0.0	0.0	22.9	24.8
LnGrp Delay(d),s/veh	65.4	0.0	64.0	0.0	0.0	0.0	82.6	4.4	0.0	0.0	13.8	14.2
LnGrp LOS	E		E				F	A			B	B
Approach Vol, veh/h		198			0			1578			2037	
Approach Delay, s/veh		64.9			0.0			7.1			14.0	
Approach LOS		E						A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	122.6		17.4	10.6	112.0		17.4
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	73.0		30.0	20.0	73.0		30.0
Max Q Clear Time (g_c+I1), s	0.0	20.4		11.7	6.3	48.7		0.0
Green Ext Time (p_c), s	0.0	14.8		0.7	0.1	16.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

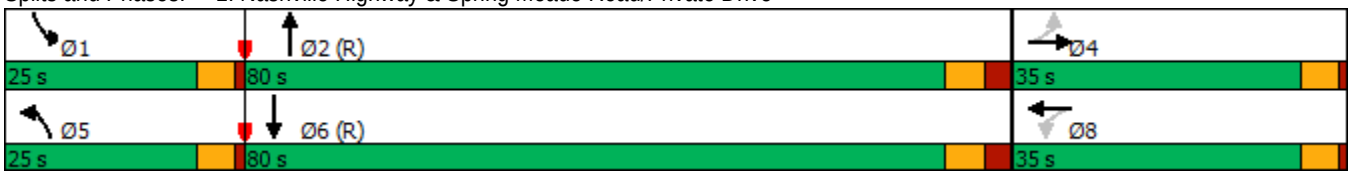
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	T	TR
Maximum Queue (ft)	181	182	90	158	178	386	400
Average Queue (ft)	96	42	35	49	67	183	201
95th Queue (ft)	159	103	83	126	138	334	355
Link Distance (ft)	417	417		1664	1664	1260	1260
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			255				
Storage Blk Time (%)						5	
Queuing Penalty (veh)						0	

Lane Group	EBL	EBT	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	115	0	51	1401	1769		
Future Volume (vph)	115	0	51	1401	1769		
Turn Type	Perm	NA	Prot	NA	NA		
Protected Phases		4	5	2	6	1	8
Permitted Phases	4						
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	25.0	25.0	5.0	7.0
Minimum Split (s)	23.0	23.0	10.0	32.0	32.0	10.0	12.0
Total Split (s)	35.0	35.0	25.0	80.0	80.0	25.0	35.0
Total Split (%)	25.0%	25.0%	17.9%	57.1%	57.1%	18%	25%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	3.0	3.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.0	5.0	5.0	7.0	7.0		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	None
Act Effct Green (s)	17.7	17.7	9.7	110.3	97.8		
Actuated g/C Ratio	0.13	0.13	0.07	0.79	0.70		
v/c Ratio	0.70	0.18	0.45	0.55	0.83		
Control Delay	78.4	1.0	73.2	6.9	21.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	78.4	1.0	73.2	6.9	21.4		
LOS	E	A	E	A	C		
Approach Delay		49.8		9.2	21.4		
Approach LOS		D		A	C		

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 129.5 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 17.8	Intersection LOS: B
Intersection Capacity Utilization 68.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	70	34	1453	1842	2
Future Vol, veh/h	1	70	34	1453	1842	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	76	37	1579	2002	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2867	1002	2004	0	-	0
Stage 1	2003	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	13	241	282	-	-	-
Stage 1	90	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	241	282	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	373	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.8	9.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	282	-	241	-	-
HCM Lane V/C Ratio	0.131	-	0.32	-	-
HCM Control Delay (s)	19.7	9.4	26.8	-	-
HCM Lane LOS	C	A	D	-	-
HCM 95th %tile Q(veh)	0.4	-	1.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	5	11	46	5	78	23	1368	66	85	1751	78
Future Volume (veh/h)	43	5	11	46	5	78	23	1368	66	85	1751	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	47	5	12	50	5	85	25	1487	72	92	1903	85
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	7	65	110	11	107	55	2341	1047	114	2457	1099
Arrive On Green	0.04	0.04	0.04	0.07	0.07	0.07	0.03	0.66	0.66	0.06	0.69	0.69
Sat Flow, veh/h	1611	171	1583	1620	162	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	52	0	12	55	0	85	25	1487	72	92	1903	85
Grp Sat Flow(s),veh/h/ln	1782	0	1583	1782	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.6	0.0	1.2	4.8	0.0	8.5	2.2	39.3	2.6	8.2	56.9	2.8
Cycle Q Clear(g_c), s	4.6	0.0	1.2	4.8	0.0	8.5	2.2	39.3	2.6	8.2	56.9	2.8
Prop In Lane	0.90		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	65	121	0	107	55	2341	1047	114	2457	1099
V/C Ratio(X)	0.71	0.00	0.18	0.46	0.00	0.79	0.45	0.64	0.07	0.81	0.77	0.08
Avail Cap(c_a), veh/h	262	0	233	262	0	233	155	2341	1047	155	2457	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.8	0.0	74.1	71.7	0.0	73.5	76.2	15.8	9.6	73.9	16.2	7.9
Incr Delay (d2), s/veh	11.8	0.0	1.3	2.7	0.0	12.2	5.6	1.3	0.1	19.8	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.5	2.4	0.0	4.1	1.2	19.4	1.2	4.6	28.3	1.2
LnGrp Delay(d),s/veh	87.5	0.0	75.4	74.4	0.0	85.7	81.8	17.1	9.7	93.7	18.6	8.0
LnGrp LOS	F		E	E		F	F	B	A	F	B	A
Approach Vol, veh/h		64			140			1584			2080	
Approach Delay, s/veh		85.3			81.3			17.8			21.5	
Approach LOS		F			F			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.2	113.3		13.1	11.0	118.6		17.3
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	72.5		23.5	14.0	72.5		23.5
Max Q Clear Time (g_c+I1), s	10.2	41.3		6.6	4.2	58.9		10.5
Green Ext Time (p_c), s	0.1	12.6		0.2	0.0	10.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

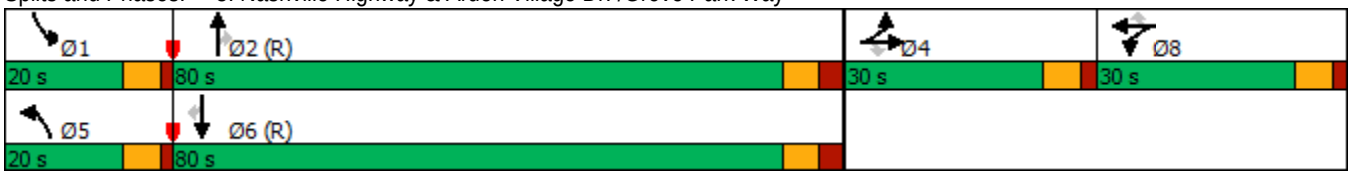
Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	97	28	152	114	68	408	407	229	224	536	536	275
Average Queue (ft)	43	8	43	43	18	212	217	18	87	258	317	37
95th Queue (ft)	89	29	103	86	48	359	373	89	153	526	584	170
Link Distance (ft)	574	574	457			1402	1402			532	532	
Upstream Blk Time (%)										0	0	
Queuing Penalty (veh)										1	3	
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)			3	0		1	17		7	9	15	
Queuing Penalty (veh)			2	0		0	11		62	7	12	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	5	11	5	78	23	1368	66	85	1751	78
Future Volume (vph)	5	11	5	78	23	1368	66	85	1751	78
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	12.5%	50.0%	50.0%	12.5%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	10.2	10.2	10.4	10.4	7.8	102.0	102.0	13.6	112.6	112.6
Actuated g/C Ratio	0.06	0.06	0.06	0.06	0.05	0.64	0.64	0.08	0.70	0.70
v/c Ratio	0.46	0.06	0.47	0.40	0.29	0.66	0.07	0.61	0.76	0.07
Control Delay	84.5	0.5	84.8	9.6	81.4	22.2	0.8	87.2	21.3	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	0.5	84.8	9.6	81.4	22.2	0.8	87.2	21.3	1.1
LOS	F	A	F	A	F	C	A	F	C	A
Approach Delay	68.8		39.1			22.1			23.4	
Approach LOS	E		D			C			C	

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 3.5 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 24.2	Intersection LOS: C
Intersection Capacity Utilization 78.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	31	6	0	11	8	0
Future Vol, veh/h	31	6	0	11	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	7	0	12	9	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	50	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1568	-	959	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1568	-	959	1034
Mov Cap-2 Maneuver	-	-	-	-	959	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1011	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1568	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	28	1374	34	44	1844
Future Vol, veh/h	15	28	1374	34	44	1844
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	30	1493	37	48	2004

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2610	765	0	0	1530	0
Stage 1	1512	-	-	-	-	-
Stage 2	1098	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	20	346	-	-	431	-
Stage 1	169	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	18	346	-	-	431	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	169	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.7	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	220	431	-
HCM Lane V/C Ratio	-	-	0.212	0.111	-
HCM Control Delay (s)	-	-	25.7	14.4	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.4	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	6	3	1395	1858	24
Future Vol, veh/h	21	6	3	1395	1858	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	260	-	-	265
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	7	3	1516	2020	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2784	1010	2046	0	-	0
Stage 1	2020	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 15	238	271	-	-	-
Stage 1	89	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 15	238	271	-	-	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	88	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	55.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	271	-	82	238	-	-
HCM Lane V/C Ratio	0.012	-	0.278	0.027	-	-
HCM Control Delay (s)	18.4	-	65	20.6	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0	-	1	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

BACKGROUND CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	372	1	60	2	0	1	120	2227	1	1	1576	114
Future Volume (veh/h)	372	1	60	2	0	1	120	2227	1	1	1576	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	404	1	65	2	0	1	130	2421	1	1	1713	124
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	508	432	428	0	432	160	2073	1	2	1615	116
Arrive On Green	0.27	0.27	0.27	0.27	0.00	0.27	0.09	0.57	0.57	0.00	0.48	0.48
Sat Flow, veh/h	1410	1863	1583	1330	0	1583	1774	3631	1	1774	3350	240
Grp Volume(v), veh/h	404	1	65	2	0	1	130	1180	1242	1	897	940
Grp Sat Flow(s),veh/h/ln	1410	1863	1583	1330	0	1583	1774	1770	1862	1774	1770	1820
Q Serve(g_s), s	29.9	0.0	3.4	0.1	0.0	0.1	7.9	62.8	62.8	0.1	53.0	53.0
Cycle Q Clear(g_c), s	30.0	0.0	3.4	0.2	0.0	0.1	7.9	62.8	62.8	0.1	53.0	53.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.13
Lane Grp Cap(c), veh/h	450	508	432	428	0	432	160	1010	1063	2	853	878
V/C Ratio(X)	0.90	0.00	0.15	0.00	0.00	0.00	0.81	1.17	1.17	0.41	1.05	1.07
Avail Cap(c_a), veh/h	450	508	432	428	0	432	323	1010	1063	323	853	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	29.1	30.3	29.1	0.0	29.1	49.1	23.6	23.6	54.8	28.5	28.5
Incr Delay (d2), s/veh	20.5	0.0	0.2	0.0	0.0	0.0	9.5	86.3	85.9	85.0	45.2	51.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.0	1.5	0.0	0.0	0.0	4.3	54.5	57.3	0.1	36.6	39.0
LnGrp Delay(d),s/veh	61.2	29.1	30.5	29.1	0.0	29.1	58.6	109.9	109.5	139.8	73.7	79.6
LnGrp LOS	E	C	C	C		C	E	F	F	F	F	F
Approach Vol, veh/h		470			3			2552			1838	
Approach Delay, s/veh		56.9			29.1			107.1			76.7	
Approach LOS		E			C			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	69.8		35.0	14.9	60.0		35.0
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	53.0		30.0	20.0	53.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	64.8		32.0	9.9	55.0		2.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.2	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	90.7
HCM 2010 LOS	F

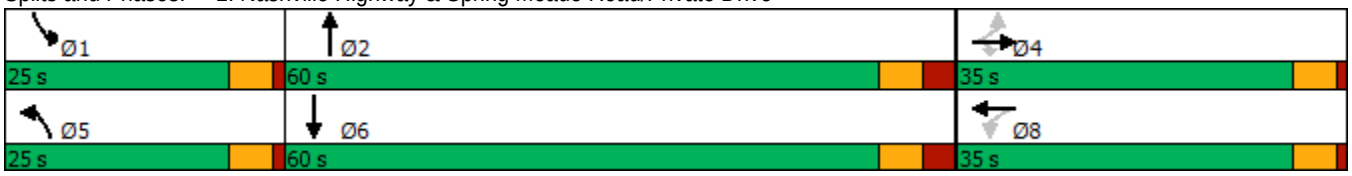
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	TR	L	T	TR	T	TR
Maximum Queue (ft)	311	30	76	52	354	377	382	1086	1075
Average Queue (ft)	212	1	30	4	72	218	235	635	641
95th Queue (ft)	303	11	62	23	176	330	353	1067	1066
Link Distance (ft)	416	416	416	233		1658	1658	2647	2647
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)					255				
Storage Blk Time (%)						2		43	
Queuing Penalty (veh)						3		0	

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	372	1	60	2	0	120	2227	1	1576
Future Volume (vph)	372	1	60	2	0	120	2227	1	1576
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	5.0	25.0	5.0	25.0
Minimum Split (s)	23.0	23.0	23.0	12.0	12.0	10.0	32.0	10.0	32.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0	25.0	60.0	25.0	60.0
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%	20.8%	50.0%	20.8%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	5.0	7.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	30.0	13.6	69.5	5.6	53.1
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.12	0.61	0.05	0.47
v/c Ratio	1.09	0.00	0.14	0.01	0.00	0.62	1.12	0.01	1.12
Control Delay	112.2	33.0	5.5	33.0	0.0	60.3	83.8	54.0	92.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.2	33.0	5.5	33.0	0.0	60.3	83.8	54.0	92.9
LOS	F	C	A	C	A	E	F	D	F
Approach Delay		97.3			22.0		82.6		92.9
Approach LOS		F			C		F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 87.9	Intersection LOS: F
Intersection Capacity Utilization 107.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	184	190	2378	1658	20
Future Vol, veh/h	0	184	190	2378	1658	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	200	207	2585	1802	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	901	1824	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	281	332	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	281	332	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	44.1	2.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	332	-	281	-	-
HCM Lane V/C Ratio	0.622	-	0.712	-	-
HCM Control Delay (s)	32.1	-	44.1	-	-
HCM Lane LOS	D	-	E	-	-
HCM 95th %tile Q(veh)	3.9	-	5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	3	48	19	0	76	37	2374	34	43	1732	67
Future Volume (veh/h)	119	3	48	19	0	76	37	2374	34	43	1732	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	129	3	52	21	0	83	40	2580	37	47	1883	73
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	4	156	124	0	111	88	1839	823	88	1839	823
Arrive On Green	0.10	0.10	0.10	0.07	0.00	0.07	0.05	0.52	0.52	0.05	0.52	0.52
Sat Flow, veh/h	1736	40	1583	1774	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	132	0	52	21	0	83	40	2580	37	47	1883	73
Grp Sat Flow(s),veh/h/ln	1776	0	1583	1774	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.3	0.0	3.1	1.1	0.0	5.2	2.2	52.5	1.2	2.6	52.5	2.3
Cycle Q Clear(g_c), s	7.3	0.0	3.1	1.1	0.0	5.2	2.2	52.5	1.2	2.6	52.5	2.3
Prop In Lane	0.98		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	0	156	124	0	111	88	1839	823	88	1839	823
V/C Ratio(X)	0.75	0.00	0.33	0.17	0.00	0.75	0.46	1.40	0.04	0.54	1.02	0.09
Avail Cap(c_a), veh/h	413	0	368	413	0	368	246	1839	823	246	1839	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	0.0	42.4	44.2	0.0	46.1	46.7	24.3	11.9	46.9	24.3	12.2
Incr Delay (d2), s/veh	6.4	0.0	1.2	0.6	0.0	9.7	3.7	184.7	0.0	5.0	27.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	1.4	0.6	0.0	2.6	1.2	72.7	0.5	1.4	32.5	1.0
LnGrp Delay(d),s/veh	50.7	0.0	43.7	44.9	0.0	55.8	50.4	209.0	12.0	51.9	51.6	12.3
LnGrp LOS	D		D	D		E	D	F	B	D	F	B
Approach Vol, veh/h		184			104			2657			2003	
Approach Delay, s/veh		48.7			53.6			203.9			50.2	
Approach LOS		D			D			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	60.0		16.5	11.0	60.0		13.6
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	52.5		23.5	14.0	52.5		23.5
Max Q Clear Time (g_c+I1), s	4.6	54.5		9.3	4.2	54.5		7.2
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	0.0		0.3

Intersection Summary			
HCM 2010 Ctrl Delay		132.7	
HCM 2010 LOS		F	

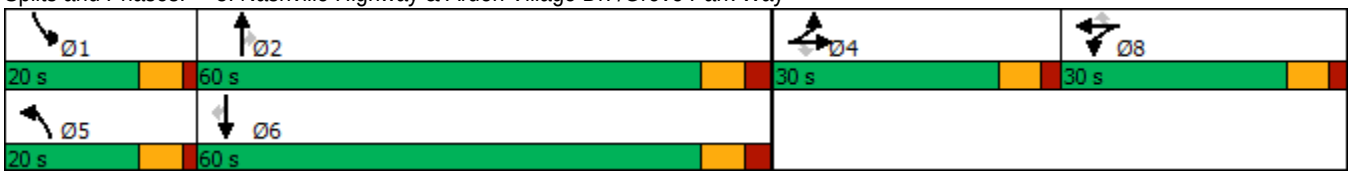
Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	150	124	52	125	429	1396	1425	230	225	521	527	275
Average Queue (ft)	73	21	13	52	94	1273	1279	60	52	278	296	57
95th Queue (ft)	137	71	43	96	343	1499	1482	214	154	476	489	217
Link Distance (ft)	1451	1451	457			1377	1377			527	527	
Upstream Blk Time (%)						2	2			0	0	
Queuing Penalty (veh)						23	27			1	1	
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)				1		45	44			26	25	
Queuing Penalty (veh)				0		17	15			11	17	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	3	48	0	76	37	2374	34	43	1732	67
Future Volume (vph)	3	48	0	76	37	2374	34	43	1732	67
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	14.3%	42.9%	42.9%	14.3%	42.9%	42.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.2	13.2	7.6	7.6	8.0	53.9	53.9	8.3	56.8	56.8
Actuated g/C Ratio	0.13	0.13	0.07	0.07	0.08	0.52	0.52	0.08	0.55	0.55
v/c Ratio	0.58	0.16	0.16	0.35	0.29	1.40	0.04	0.33	0.97	0.08
Control Delay	55.5	1.1	52.8	5.9	54.7	207.5	0.1	55.1	40.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	1.1	52.8	5.9	54.7	207.5	0.1	55.1	40.6	0.6
LOS	E	A	D	A	D	F	A	E	D	A
Approach Delay	40.1		15.4			202.3			39.5	
Approach LOS	D		B			F			D	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 103.3	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 126.5	Intersection LOS: F
Intersection Capacity Utilization 95.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	7	0	36	26	0
Future Vol, veh/h	21	7	0	36	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	8	0	39	28	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	31	0	66	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	39	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1582	-	939	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1582	-	939	1048
Mov Cap-2 Maneuver	-	-	-	-	939	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	983	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	939	-	-	1582	-
HCM Lane V/C Ratio	0.03	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	142	13	134	79	2115	54	119	1963	92
Future Volume (veh/h)	185	14	43	142	13	134	79	2115	54	119	1963	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	201	15	47	154	14	146	86	2299	59	129	2134	100
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	373	317	292	22	317	121	2199	984	115	2204	986
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.03	0.62	0.62	0.04	0.62	0.62
Sat Flow, veh/h	1221	1863	1583	1212	110	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	201	15	47	168	0	146	86	2299	59	129	2134	100
Grp Sat Flow(s),veh/h/ln	1221	1863	1583	1323	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	11.3	0.9	3.4	15.8	0.0	11.4	2.5	87.0	2.1	5.0	80.2	3.6
Cycle Q Clear(g_c), s	28.0	0.9	3.4	16.7	0.0	11.4	2.5	87.0	2.1	5.0	80.2	3.6
Prop In Lane	1.00		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	373	317	314	0	317	121	2199	984	115	2204	986
V/C Ratio(X)	1.34	0.04	0.15	0.54	0.00	0.46	0.71	1.05	0.06	1.12	0.97	0.10
Avail Cap(c_a), veh/h	150	373	317	328	0	334	123	2199	984	115	2204	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.3	45.2	46.2	51.9	0.0	49.4	35.4	26.5	10.4	44.9	25.1	10.6
Incr Delay (d2), s/veh	191.8	0.0	0.2	1.5	0.0	1.0	17.0	32.3	0.0	121.2	12.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	0.5	1.5	6.1	0.0	5.1	2.6	52.0	0.9	8.3	42.7	1.6
LnGrp Delay(d),s/veh	258.1	45.2	46.4	53.4	0.0	50.4	52.4	58.8	10.4	166.0	37.7	10.7
LnGrp LOS	F	D	D	D		D	D	F	B	F	D	B
Approach Vol, veh/h		263			314			2444			2363	
Approach Delay, s/veh		208.1			52.0			57.4			43.6	
Approach LOS		F			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	94.5		34.5	10.8	94.7		34.5
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		* 6.5
Max Green Setting (Gmax), s	5.0	87.0		28.0	5.0	87.0		* 30
Max Q Clear Time (g_c+I1), s	7.0	89.0		30.0	4.5	82.2		18.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	4.3		1.0

Intersection Summary		
HCM 2010 Ctrl Delay		58.4
HCM 2010 LOS		E

Notes

Intersection: 5: Nashville Highway & Green Mills

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	346	355	72	230	206	300	1077	1079	200	579	644	711
Average Queue (ft)	195	23	25	139	110	151	1062	1062	66	111	373	389
95th Queue (ft)	338	127	60	213	184	368	1075	1076	221	372	616	641
Link Distance (ft)		1732	1732	3856			1056	1056			1377	1377
Upstream Blk Time (%)							15	17				
Queuing Penalty (veh)							170	189				
Storage Bay Dist (ft)	250				220	200			100	480		
Storage Blk Time (%)	12			0	0		59	62			4	22
Queuing Penalty (veh)	2			0	0		46	34			5	21

Intersection: 5: Nashville Highway & Green Mills

Movement	SB
Directions Served	R
Maximum Queue (ft)	240
Average Queue (ft)	63
95th Queue (ft)	225
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	140
Storage Blk Time (%)	
Queuing Penalty (veh)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	142	13	134	79	2115	54	119	1963	92
Future Volume (vph)	185	14	43	142	13	134	79	2115	54	119	1963	92
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	24.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	34.5	34.5	34.5	34.5	34.5	34.5	11.0	94.5	94.5	11.0	94.5	94.5
Total Split (%)	24.6%	24.6%	24.6%	24.6%	24.6%	24.6%	7.9%	67.5%	67.5%	7.9%	67.5%	67.5%
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	28.0	28.0	28.0		29.5	29.5	93.5	87.0	87.0	93.5	87.0	87.0
Actuated g/C Ratio	0.20	0.20	0.20		0.21	0.21	0.67	0.62	0.62	0.67	0.62	0.62
v/c Ratio	1.07	0.04	0.12		0.59	0.37	0.74	1.05	0.06	1.10	0.97	0.10
Control Delay	139.0	45.7	2.6		59.1	24.1	54.8	59.1	1.5	141.7	39.0	3.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.0	45.7	2.6		59.1	24.1	54.8	59.1	1.5	141.7	39.0	3.8
LOS	F	D	A		E	C	D	E	A	F	D	A
Approach Delay		109.3			42.8			57.5			43.1	
Approach LOS		F			D			E			D	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 52.9	Intersection LOS: D
Intersection Capacity Utilization 98.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1	83	58	1	44	32	2108	19	14	2047	48
Future Volume (veh/h)	90	1	83	58	1	44	32	2108	19	14	2047	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	98	1	90	63	1	48	35	2291	21	15	2225	52
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	0	248	61	1	248	125	2370	1060	100	2326	1041
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.67	0.67	0.02	0.66	0.66
Sat Flow, veh/h	0	2	1583	0	3	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	99	0	90	64	0	48	35	2291	21	15	2225	52
Grp Sat Flow(s),veh/h/ln	2	0	1583	3	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	6.0	0.0	0.0	3.1	0.7	71.5	0.5	0.3	68.4	1.4
Cycle Q Clear(g_c), s	18.5	0.0	6.0	18.5	0.0	3.1	0.7	71.5	0.5	0.3	68.4	1.4
Prop In Lane	0.99		1.00	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	0	248	61	0	248	125	2370	1060	100	2326	1041
V/C Ratio(X)	1.62	0.00	0.36	1.05	0.00	0.19	0.28	0.97	0.02	0.15	0.96	0.05
Avail Cap(c_a), veh/h	61	0	248	61	0	248	149	2370	1060	146	2356	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	0.0	44.4	58.8	0.0	43.2	29.8	18.2	6.5	29.3	18.6	7.2
Incr Delay (d2), s/veh	342.3	0.0	0.9	129.1	0.0	0.4	1.2	11.7	0.0	0.7	10.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	2.7	4.2	0.0	1.4	0.8	38.2	0.2	0.3	36.4	0.6
LnGrp Delay(d),s/veh	401.1	0.0	45.3	189.1	0.0	43.6	31.0	29.9	6.5	30.0	28.8	7.2
LnGrp LOS	F		D	F		D	C	C	A	C	C	A
Approach Vol, veh/h		189			112			2347			2292	
Approach Delay, s/veh		231.7			126.7			29.7			28.4	
Approach LOS		F			F			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	86.5		23.5	9.4	85.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	78.5		* 19	5.0	78.5		18.0
Max Q Clear Time (g_c+I1), s	2.3	73.5		20.5	2.7	70.4		20.5
Green Ext Time (p_c), s	0.0	4.6		0.0	0.0	7.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D

Notes

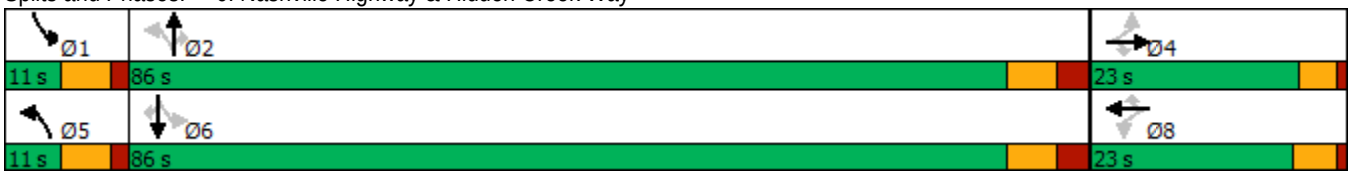
Intersection: 6: Nashville Highway & Hidden Creek Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	164	136	96	117	360	4958	4969	360	41	288	392	32
Average Queue (ft)	70	58	40	35	63	4927	4934	49	8	163	169	3
95th Queue (ft)	139	115	87	80	282	4945	4958	249	27	291	313	14
Link Distance (ft)	2047	2047	2206	2206		4906	4906			1056	1056	
Upstream Blk Time (%)						96	93					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)					260			260	330			265
Storage Blk Time (%)						67	66				1	
Queuing Penalty (veh)						22	13				0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1	83	58	1	44	32	2108	19	14	2047	48
Future Volume (vph)	90	1	83	58	1	44	32	2108	19	14	2047	48
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	22.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	11.0	86.0	86.0	11.0	86.0	86.0
Total Split (%)	19.2%	19.2%	19.2%	19.2%	19.2%	19.2%	9.2%	71.7%	71.7%	9.2%	71.7%	71.7%
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.4	16.4		15.9	15.9	85.1	81.7	81.7	84.0	79.6	79.6
Actuated g/C Ratio		0.14	0.14		0.14	0.14	0.74	0.71	0.71	0.73	0.70	0.70
v/c Ratio		0.54	0.29		0.41	0.16	0.25	0.91	0.02	0.11	0.90	0.05
Control Delay		58.4	10.8		54.8	1.5	8.1	21.2	0.1	5.1	22.3	0.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		58.4	10.8		54.8	1.5	8.1	21.2	0.1	5.1	22.3	0.9
LOS		E	B		D	A	A	C	A	A	C	A
Approach Delay		35.8			32.0			20.9			21.7	
Approach LOS		D			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 90.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Hidden Creek Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	0	83	0	0	0	68	1980	0	0	2639	245
Future Volume (veh/h)	230	0	83	0	0	0	68	1980	0	0	2639	245
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	250	0	90	0	0	0	74	2152	0	0	2868	266
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	302	257	63	302	0	96	2596	0	2	2086	190
Arrive On Green	0.16	0.00	0.16	0.00	0.00	0.00	0.05	0.73	0.00	0.00	0.64	0.64
Sat Flow, veh/h	1774	1863	1583	1301	1863	0	1774	3632	0	1774	3280	300
Grp Volume(v), veh/h	250	0	90	0	0	0	74	2152	0	0	1527	1607
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1301	1863	0	1774	1770	0	1774	1770	1810
Q Serve(g_s), s	15.8	0.0	5.8	0.0	0.0	0.0	4.7	47.5	0.0	0.0	73.0	73.0
Cycle Q Clear(g_c), s	15.8	0.0	5.8	0.0	0.0	0.0	4.7	47.5	0.0	0.0	73.0	73.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.17
Lane Grp Cap(c), veh/h	350	302	257	63	302	0	96	2596	0	2	1125	1151
V/C Ratio(X)	0.71	0.00	0.35	0.00	0.00	0.00	0.77	0.83	0.00	0.00	1.36	1.40
Avail Cap(c_a), veh/h	526	487	414	192	487	0	309	2596	0	309	1125	1151
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	0.0	42.7	0.0	0.0	0.0	53.6	10.4	0.0	0.0	20.9	20.9
Incr Delay (d2), s/veh	2.7	0.0	0.8	0.0	0.0	0.0	12.4	2.4	0.0	0.0	166.4	183.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	2.6	0.0	0.0	0.0	2.7	23.6	0.0	0.0	87.3	94.9
LnGrp Delay(d),s/veh	49.6	0.0	43.5	0.0	0.0	0.0	66.0	12.8	0.0	0.0	187.3	204.6
LnGrp LOS	D		D				E	B			F	F
Approach Vol, veh/h		340			0			2226			3134	
Approach Delay, s/veh		48.0			0.0			14.6			196.2	
Approach LOS		D						B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	91.2		23.6	11.2	80.0		23.6
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	73.0		30.0	20.0	73.0		30.0
Max Q Clear Time (g_c+I1), s	0.0	49.5		17.8	6.7	75.0		0.0
Green Ext Time (p_c), s	0.0	17.0		0.8	0.1	0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		116.4
HCM 2010 LOS		F

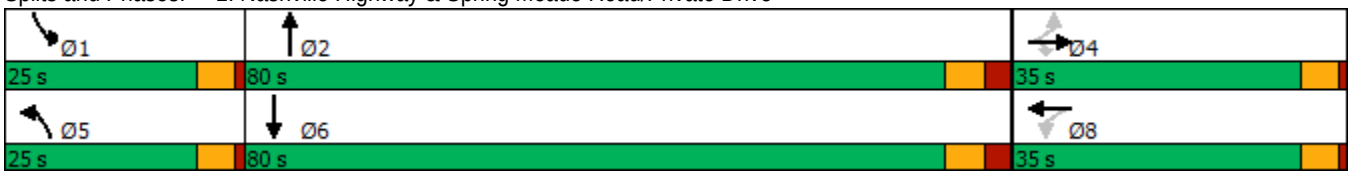
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	TR	T	TR
Maximum Queue (ft)	267	114	100	296	329	2710	2710
Average Queue (ft)	138	49	45	156	175	2675	2672
95th Queue (ft)	215	93	90	292	323	2702	2695
Link Distance (ft)	416	416		1658	1658	2647	2647
Upstream Blk Time (%)						67	75
Queuing Penalty (veh)						0	0
Storage Bay Dist (ft)			255				
Storage Blk Time (%)				1		39	
Queuing Penalty (veh)				1		0	

Lane Group	EBL	EBR	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	230	83	68	1980	2639		
Future Volume (vph)	230	83	68	1980	2639		
Turn Type	Perm	Perm	Prot	NA	NA		
Protected Phases			5	2	6	1	8
Permitted Phases	4	4					
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	25.0	25.0	5.0	7.0
Minimum Split (s)	23.0	23.0	10.0	32.0	32.0	10.0	12.0
Total Split (s)	35.0	35.0	25.0	80.0	80.0	25.0	35.0
Total Split (%)	25.0%	25.0%	17.9%	57.1%	57.1%	18%	25%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	3.0	3.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.0	5.0	5.0	7.0	7.0		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None
Act Effct Green (s)	25.9	25.9	10.6	86.6	73.7		
Actuated g/C Ratio	0.21	0.21	0.09	0.69	0.59		
v/c Ratio	0.85	0.17	0.49	0.88	1.51		
Control Delay	74.4	0.7	67.8	20.8	258.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	74.4	0.7	67.8	20.8	258.4		
LOS	E	A	E	C	F		
Approach Delay				22.3	258.4		
Approach LOS				C	F		

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 124.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.51	
Intersection Signal Delay: 154.1	Intersection LOS: F
Intersection Capacity Utilization 103.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	17.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	164	140	2049	2676	53
Future Vol, veh/h	0	164	140	2049	2676	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	178	152	2227	2909	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1455	2967	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	~ 119	~ 117	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	~ 119	~ 117	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 328.8	16.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 117	-	119	-	-
HCM Lane V/C Ratio	1.301	-	1.498	-	-
HCM Control Delay (s)	253.7	-	$ 328.8	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	10.1	-	12.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	5	125	51	5	85	136	1916	74	95	2523	223
Future Volume (veh/h)	191	5	125	51	5	85	136	1916	74	95	2523	223
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	208	5	136	55	5	92	148	2083	80	103	2742	242
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	6	217	121	11	117	171	1883	842	127	1796	803
Arrive On Green	0.14	0.14	0.14	0.07	0.07	0.07	0.10	0.53	0.53	0.07	0.51	0.51
Sat Flow, veh/h	1734	42	1583	1633	148	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	213	0	136	60	0	92	148	2083	80	103	2742	242
Grp Sat Flow(s),veh/h/ln	1776	0	1583	1781	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	16.8	0.0	11.6	4.6	0.0	8.2	11.8	76.0	3.6	8.2	72.5	12.7
Cycle Q Clear(g_c), s	16.8	0.0	11.6	4.6	0.0	8.2	11.8	76.0	3.6	8.2	72.5	12.7
Prop In Lane	0.98		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	217	132	0	117	171	1883	842	127	1796	803
V/C Ratio(X)	0.88	0.00	0.63	0.45	0.00	0.78	0.87	1.11	0.09	0.81	1.53	0.30
Avail Cap(c_a), veh/h	292	0	260	293	0	260	174	1883	842	174	1796	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.5	0.0	58.2	63.4	0.0	65.0	63.7	33.4	16.5	65.4	35.2	20.5
Incr Delay (d2), s/veh	21.8	0.0	3.4	2.4	0.0	10.8	33.6	56.3	0.0	18.0	240.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.0	5.3	2.4	0.0	3.9	7.4	51.6	1.6	4.6	95.3	5.6
LnGrp Delay(d),s/veh	82.3	0.0	61.7	65.8	0.0	75.9	97.3	89.8	16.5	83.4	275.3	20.7
LnGrp LOS	F		E	E		E	F	F	B	F	F	C
Approach Vol, veh/h		349			152			2311			3087	
Approach Delay, s/veh		74.2			71.9			87.7			248.9	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.2	83.5		26.1	19.8	80.0		17.1
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	72.5		23.5	14.0	72.5		23.5
Max Q Clear Time (g_c+I1), s	10.2	78.0		18.8	13.8	74.5		10.2
Green Ext Time (p_c), s	0.1	0.0		0.7	0.0	0.0		0.5

Intersection Summary			
HCM 2010 Ctrl Delay		170.9	
HCM 2010 LOS		F	

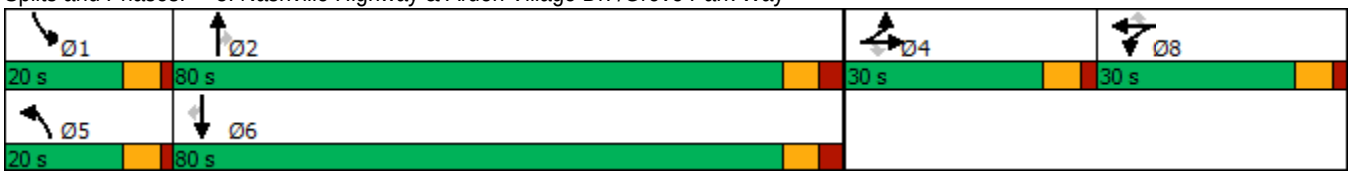
Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	256	148	191	158	430	1366	1352	230	224	556	572	275
Average Queue (ft)	163	65	57	54	290	1058	1074	72	74	535	538	159
95th Queue (ft)	248	123	121	112	541	1312	1314	242	176	548	557	364
Link Distance (ft)	1451	1451	457			1377	1377			527	527	
Upstream Blk Time (%)						0				25	27	
Queuing Penalty (veh)						0				359	380	
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)			3	3		42	44		3	47	46	
Queuing Penalty (veh)			3	2		58	33		44	44	103	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	5	125	5	85	136	1916	74	95	2523	223
Future Volume (vph)	5	125	5	85	136	1916	74	95	2523	223
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	12.5%	50.0%	50.0%	12.5%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.2	21.2	10.4	10.4	14.0	74.1	74.1	12.5	72.6	72.6
Actuated g/C Ratio	0.15	0.15	0.07	0.07	0.10	0.51	0.51	0.09	0.50	0.50
v/c Ratio	0.82	0.39	0.47	0.42	0.87	1.15	0.09	0.68	1.55	0.29
Control Delay	84.5	11.8	77.5	10.8	105.3	107.5	1.6	86.9	277.0	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	11.8	77.5	10.8	105.3	107.5	1.6	86.9	277.0	12.7
LOS	F	B	E	B	F	F	A	F	F	B
Approach Delay	56.2		37.2			103.7			249.9	
Approach LOS	E		D			F			F	

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 144.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.55	
Intersection Signal Delay: 175.7	Intersection LOS: F
Intersection Capacity Utilization 111.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	18	0	11	15	0
Future Vol, veh/h	32	18	0	11	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	20	0	12	16	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	55	0	57	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1550	-	950	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1550	-	950	1025
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1011	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	950	-	-	1550	-
HCM Lane V/C Ratio	0.017	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	13	40	86	17	208	104	1690	155	349	2313	122
Future Volume (veh/h)	172	13	40	86	17	208	104	1690	155	349	2313	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	14	43	93	18	226	113	1837	168	379	2514	133
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	291	248	224	39	248	115	1873	838	360	2353	1053
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.53	0.53	0.17	0.66	0.66
Sat Flow, veh/h	1131	1863	1583	1129	251	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	187	14	43	111	0	226	113	1837	168	379	2514	133
Grp Sat Flow(s),veh/h/ln	1131	1863	1583	1380	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	11.4	0.9	3.3	9.7	0.0	19.7	4.8	71.1	7.8	24.0	93.1	4.3
Cycle Q Clear(g_c), s	21.9	0.9	3.3	10.5	0.0	19.7	4.8	71.1	7.8	24.0	93.1	4.3
Prop In Lane	1.00		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	291	248	263	0	248	115	1873	838	360	2353	1053
V/C Ratio(X)	1.31	0.05	0.17	0.42	0.00	0.91	0.98	0.98	0.20	1.05	1.07	0.13
Avail Cap(c_a), veh/h	143	291	248	278	0	265	115	1873	838	360	2353	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.4	50.2	51.2	54.4	0.0	58.1	38.6	32.3	17.4	49.9	23.5	8.6
Incr Delay (d2), s/veh	178.9	0.1	0.3	1.1	0.0	32.1	78.9	16.4	0.1	61.9	39.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	0.5	1.5	4.0	0.0	10.8	6.9	39.0	3.4	20.1	58.2	1.9
LnGrp Delay(d),s/veh	245.3	50.3	51.5	55.5	0.0	90.2	117.5	48.6	17.5	111.8	63.4	8.6
LnGrp LOS	F	D	D	E		F	F	D	B	F	F	A
Approach Vol, veh/h		244			337			2118			3026	
Approach Delay, s/veh		199.9			78.8			49.8			67.0	
Approach LOS		F			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	81.6		28.4	11.0	100.6		28.4
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		* 6.5
Max Green Setting (Gmax), s	24.0	74.1		21.9	5.0	93.1		* 23
Max Q Clear Time (g_c+I1), s	26.0	73.1		23.9	6.8	95.1		21.7
Green Ext Time (p_c), s	0.0	0.9		0.0	0.0	0.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	67.0
HCM 2010 LOS	E

Notes

Intersection: 5: Nashville Highway & Green Mills

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	350	636	70	344	286	300	1078	1068	200	347	1339	465
Average Queue (ft)	273	225	28	85	116	147	1042	1042	122	165	221	193
95th Queue (ft)	431	651	60	207	215	339	1121	1112	267	262	608	378
Link Distance (ft)		1732	1732	3856			1056	1056			1377	1377
Upstream Blk Time (%)							8	8				
Queuing Penalty (veh)							75	79				
Storage Bay Dist (ft)	250				220	200			100	480		
Storage Blk Time (%)	54			0	3		48	50				13
Queuing Penalty (veh)	7			1	3		50	77				16

Intersection: 5: Nashville Highway & Green Mills

Movement	SB
Directions Served	R
Maximum Queue (ft)	240
Average Queue (ft)	51
95th Queue (ft)	192
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	140
Storage Blk Time (%)	
Queuing Penalty (veh)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	86	17	208	104	1690	155	349	2313	122
Future Volume (vph)	172	13	40	86	17	208	104	1690	155	349	2313	122
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	24.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	28.4	28.4	28.4	28.4	28.4	28.4	11.0	81.6	81.6	30.0	100.6	100.6
Total Split (%)	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	7.9%	58.3%	58.3%	21.4%	71.9%	71.9%
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.9	21.9	21.9		23.4	23.4	80.6	74.1	74.1	105.6	93.1	93.1
Actuated g/C Ratio	0.16	0.16	0.16		0.17	0.17	0.58	0.53	0.53	0.75	0.66	0.66
v/c Ratio	1.07	0.05	0.12		0.48	0.50	0.97	0.98	0.19	1.06	1.07	0.12
Control Delay	142.2	50.8	0.7		60.4	11.0	107.2	49.1	5.8	107.4	64.1	4.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	142.2	50.8	0.7		60.4	11.0	107.2	49.1	5.8	107.4	64.1	4.2
LOS	F	D	A		E	B	F	D	A	F	E	A
Approach Delay		112.0			27.3			48.7			66.9	
Approach LOS		F			C			D			E	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 59.8	Intersection LOS: E
Intersection Capacity Utilization 102.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 5: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	0	54	37	0	28	84	1850	63	48	2235	106
Future Volume (veh/h)	69	0	54	37	0	28	84	1850	63	48	2235	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	75	0	59	40	0	30	91	2011	68	52	2429	115
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	0	225	55	0	225	121	2419	1082	166	2404	1075
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.04	0.68	0.68	0.03	0.68	0.68
Sat Flow, veh/h	0	0	1583	0	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	75	0	59	40	0	30	91	2011	68	52	2429	115
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	4.3	0.0	0.0	2.2	2.5	54.3	1.9	1.1	88.5	3.3
Cycle Q Clear(g_c), s	18.5	0.0	4.3	18.5	0.0	2.2	2.5	54.3	1.9	1.1	88.5	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	55	0	225	55	0	225	121	2419	1082	166	2404	1075
V/C Ratio(X)	1.36	0.00	0.26	0.72	0.00	0.13	0.75	0.83	0.06	0.31	1.01	0.11
Avail Cap(c_a), veh/h	55	0	225	55	0	225	123	2419	1082	176	2404	1075
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.2	0.0	49.8	65.2	0.0	48.9	38.4	15.1	6.8	20.6	20.9	7.2
Incr Delay (d2), s/veh	242.8	0.0	0.6	37.3	0.0	0.3	22.3	2.6	0.0	1.1	21.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	1.9	2.0	0.0	1.0	4.0	27.1	0.8	1.1	49.7	1.5
LnGrp Delay(d),s/veh	308.0	0.0	50.4	102.4	0.0	49.2	60.7	17.7	6.8	21.6	41.9	7.3
LnGrp LOS	F		D	F		D	E	B	A	C	F	A
Approach Vol, veh/h		134			70			2170			2596	
Approach Delay, s/veh		194.6			79.6			19.2			40.0	
Approach LOS		F			E			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	96.6		23.5	10.8	96.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	88.5		* 19	5.0	88.5		18.0
Max Q Clear Time (g_c+I1), s	3.1	56.3		20.5	4.5	90.5		20.5
Green Ext Time (p_c), s	0.0	19.8		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Notes

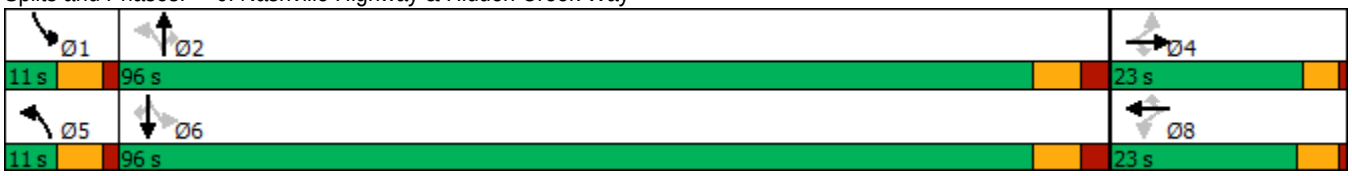
Intersection: 6: Nashville Highway & Hidden Creek Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	114	94	92	128	360	2525	2509	360	58	305	347	35
Average Queue (ft)	59	40	29	32	229	1406	1393	170	17	121	134	5
95th Queue (ft)	104	78	70	82	493	2595	2573	463	44	277	296	16
Link Distance (ft)	2047	2047	2206	2206		4906	4906			1056	1056	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260			260	330			265
Storage Blk Time (%)						51	53				1	
Queuing Penalty (veh)						43	34				1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	0	54	37	0	28	84	1850	63	48	2235	106
Future Volume (vph)	69	0	54	37	0	28	84	1850	63	48	2235	106
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	22.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	11.0	96.0	96.0	11.0	96.0	96.0
Total Split (%)	17.7%	17.7%	17.7%	17.7%	17.7%	17.7%	8.5%	73.8%	73.8%	8.5%	73.8%	73.8%
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.0	16.0		15.5	15.5	96.2	90.7	90.7	95.0	88.5	88.5
Actuated g/C Ratio		0.13	0.13		0.12	0.12	0.75	0.71	0.71	0.75	0.69	0.69
v/c Ratio		0.44	0.21		0.26	0.11	0.72	0.80	0.06	0.39	0.99	0.10
Control Delay		60.4	5.6		55.4	0.9	50.2	16.2	1.7	15.2	35.1	2.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay		60.4	5.6		55.4	0.9	50.2	16.2	1.7	15.2	35.6	2.2
LOS		E	A		E	A	D	B	A	B	D	A
Approach Delay		36.3			32.0			17.1			33.7	
Approach LOS		D			C			B			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 127.5	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 26.5	Intersection LOS: C
Intersection Capacity Utilization 92.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Hidden Creek Way



PROJECTED CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	372	1	60	2	0	1	120	2485	1	1	1762	114
Future Volume (veh/h)	372	1	60	2	0	1	120	2485	1	1	1762	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	404	1	65	2	0	1	130	2701	1	1	1915	124
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	508	432	428	0	432	160	2073	1	2	1629	104
Arrive On Green	0.27	0.27	0.27	0.27	0.00	0.27	0.09	0.57	0.57	0.00	0.48	0.48
Sat Flow, veh/h	1410	1863	1583	1330	0	1583	1774	3631	1	1774	3378	216
Grp Volume(v), veh/h	404	1	65	2	0	1	130	1316	1386	1	993	1046
Grp Sat Flow(s),veh/h/ln	1410	1863	1583	1330	0	1583	1774	1770	1863	1774	1770	1825
Q Serve(g_s), s	29.9	0.0	3.4	0.1	0.0	0.1	7.9	62.8	62.8	0.1	53.0	53.0
Cycle Q Clear(g_c), s	30.0	0.0	3.4	0.2	0.0	0.1	7.9	62.8	62.8	0.1	53.0	53.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h	450	508	432	428	0	432	160	1010	1064	2	853	880
V/C Ratio(X)	0.90	0.00	0.15	0.00	0.00	0.00	0.81	1.30	1.30	0.41	1.16	1.19
Avail Cap(c_a), veh/h	450	508	432	428	0	432	323	1010	1064	323	853	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	29.1	30.3	29.1	0.0	29.1	49.1	23.6	23.6	54.8	28.5	28.5
Incr Delay (d2), s/veh	20.5	0.0	0.2	0.0	0.0	0.0	9.5	143.5	143.2	85.0	86.6	96.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.0	1.5	0.0	0.0	0.0	4.3	70.6	74.2	0.1	46.4	50.1
LnGrp Delay(d),s/veh	61.2	29.1	30.5	29.1	0.0	29.1	58.6	167.1	166.8	139.8	115.1	124.6
LnGrp LOS	E	C	C	C		C	E	F	F	F	F	F
Approach Vol, veh/h		470			3			2832			2040	
Approach Delay, s/veh		56.9			29.1			162.0			120.0	
Approach LOS		E			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	69.8		35.0	14.9	60.0		35.0
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	53.0		30.0	20.0	53.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	64.8		32.0	9.9	55.0		2.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.2	0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		136.6
HCM 2010 LOS		F

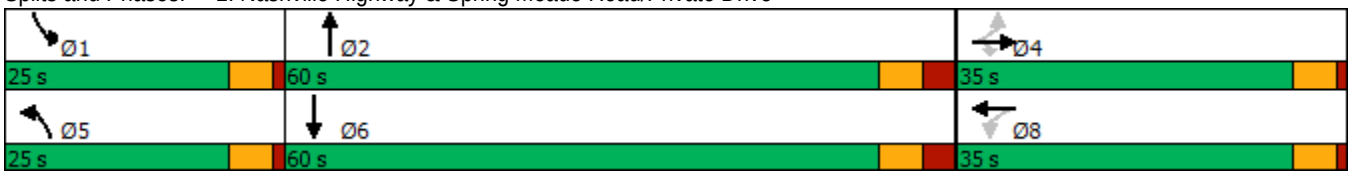
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	TR	L	T	TR	T	TR
Maximum Queue (ft)	334	96	30	109	343	332	2699	2699
Average Queue (ft)	216	30	2	65	161	169	2290	2293
95th Queue (ft)	320	68	12	116	303	303	3197	3193
Link Distance (ft)	416	416	233		1656	1656	2647	2647
Upstream Blk Time (%)							51	49
Queuing Penalty (veh)							0	0
Storage Bay Dist (ft)				255				
Storage Blk Time (%)					2		53	
Queuing Penalty (veh)					2		1	

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	372	1	60	2	0	120	2485	1	1762
Future Volume (vph)	372	1	60	2	0	120	2485	1	1762
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	5.0	25.0	5.0	25.0
Minimum Split (s)	23.0	23.0	23.0	12.0	12.0	10.0	32.0	10.0	32.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0	25.0	60.0	25.0	60.0
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%	20.8%	50.0%	20.8%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	5.0	7.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	30.0	13.6	69.5	5.6	53.1
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.12	0.61	0.05	0.47
v/c Ratio	1.09	0.00	0.14	0.01	0.00	0.62	1.25	0.01	1.24
Control Delay	112.2	33.0	5.5	33.0	0.0	60.3	139.5	54.0	143.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.2	33.0	5.5	33.0	0.0	60.3	139.5	54.0	143.7
LOS	F	C	A	C	A	E	F	D	F
Approach Delay		97.3			22.0		135.8		143.7
Approach LOS		F			C		F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 135.4	Intersection LOS: F
Intersection Capacity Utilization 114.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	75.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	184	0	0	256	190	2380	120	186	1658	20
Future Vol, veh/h	0	0	184	0	0	256	190	2380	120	186	1658	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	200	0	0	278	207	2587	130	202	1802	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	901	-	-	1359	1824	0	0	2717	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	281	0	0	~ 139	332	-	-	~ 147	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	281	-	-	~ 139	332	-	-	~ 147	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	44.1	$ 528.6	2.3	121.9
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	332	-	-	281	139	~ 147	-	-
HCM Lane V/C Ratio	0.622	-	-	0.712	2.002	1.375	-	-
HCM Control Delay (s)	32.1	-	-	44.1	$ 528.6	263.2	107.5	-
HCM Lane LOS	D	-	-	E	F	F	F	-
HCM 95th %tile Q(veh)	3.9	-	-	5	22.1	12.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	3	48	249	0	120	37	2452	81	105	1670	67
Future Volume (veh/h)	119	3	48	249	0	120	37	2452	81	105	1670	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	129	3	52	271	0	130	40	2665	88	114	1815	73
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	4	150	305	0	272	73	1536	687	143	1675	749
Arrive On Green	0.09	0.09	0.09	0.17	0.00	0.17	0.04	0.43	0.43	0.08	0.47	0.47
Sat Flow, veh/h	1736	40	1583	1774	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	132	0	52	271	0	130	40	2665	88	114	1815	73
Grp Sat Flow(s),veh/h/ln	1776	0	1583	1774	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	8.8	0.0	3.7	18.1	0.0	9.0	2.7	52.5	4.0	7.6	57.2	3.1
Cycle Q Clear(g_c), s	8.8	0.0	3.7	18.1	0.0	9.0	2.7	52.5	4.0	7.6	57.2	3.1
Prop In Lane	0.98		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	0	150	305	0	272	73	1536	687	143	1675	749
V/C Ratio(X)	0.79	0.00	0.35	0.89	0.00	0.48	0.55	1.73	0.13	0.80	1.08	0.10
Avail Cap(c_a), veh/h	345	0	308	345	0	308	205	1536	687	205	1675	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	51.2	49.0	0.0	45.2	56.9	34.2	20.5	54.7	31.9	17.6
Incr Delay (d2), s/veh	7.8	0.0	1.4	21.9	0.0	1.3	6.2	333.3	0.1	13.3	48.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	1.7	10.7	0.0	4.0	1.4	96.7	1.8	4.3	39.2	1.3
LnGrp Delay(d),s/veh	61.4	0.0	52.6	70.9	0.0	46.5	63.0	367.6	20.6	67.9	80.4	17.7
LnGrp LOS	E		D	E		D	E	F	C	E	F	B
Approach Vol, veh/h		184			401			2793			2002	
Approach Delay, s/veh		58.9			63.0			352.3			77.4	
Approach LOS		E			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	60.0		18.0	11.0	64.7		27.3
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	52.5		23.5	14.0	52.5		23.5
Max Q Clear Time (g_c+I1), s	9.6	54.5		10.8	4.7	59.2		20.1
Green Ext Time (p_c), s	0.1	0.0		0.7	0.0	0.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	218.4
HCM 2010 LOS	F

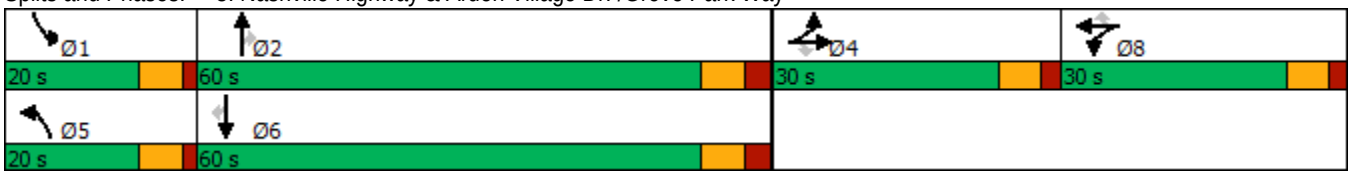
Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	128	64	401	200	430	1433	1421	230	225	519	531	274
Average Queue (ft)	68	24	212	101	74	1383	1380	36	129	334	351	48
95th Queue (ft)	112	53	349	213	305	1416	1417	162	257	497	524	193
Link Distance (ft)	1451	1451				1377	1377			527	527	
Upstream Blk Time (%)						13	14			0	0	
Queuing Penalty (veh)						164	179			0	3	
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)			43	4		58	57		3	29	26	
Queuing Penalty (veh)			52	9		21	46		27	30	18	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	3	48	0	120	37	2452	81	105	1670	67
Future Volume (vph)	3	48	0	120	37	2452	81	105	1670	67
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	14.3%	42.9%	42.9%	14.3%	42.9%	42.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.9	14.9	22.5	22.5	8.4	52.7	52.7	12.3	59.2	59.2
Actuated g/C Ratio	0.12	0.12	0.17	0.17	0.07	0.41	0.41	0.10	0.46	0.46
v/c Ratio	0.65	0.17	0.88	0.34	0.35	1.84	0.12	0.68	1.12	0.09
Control Delay	69.9	1.3	80.7	10.1	67.7	408.4	1.8	77.8	96.1	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	1.3	80.7	10.1	67.7	408.4	1.8	77.8	96.1	0.5
LOS	E	A	F	B	E	F	A	E	F	A
Approach Delay	50.5		57.8			390.8			91.6	
Approach LOS	D		E			F			F	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 129	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.84	
Intersection Signal Delay: 243.0	Intersection LOS: F
Intersection Capacity Utilization 110.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	109	11	25	0	0	274
Future Vol, veh/h	109	11	25	0	0	274
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	12	27	0	0	298

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	275	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	248	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1587	-	-	-	715	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1587	-	-	-	661	1048
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1587	-	-	-	1048
HCM Lane V/C Ratio	0.075	-	-	-	0.284
HCM Control Delay (s)	7.5	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	142	13	134	79	2240	54	119	2131	92
Future Volume (veh/h)	185	14	43	142	13	134	79	2240	54	119	2131	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	201	15	47	154	14	146	86	2435	59	129	2316	100
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	353	300	278	21	300	113	2237	1001	115	2242	1003
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.03	0.63	0.63	0.04	0.63	0.63
Sat Flow, veh/h	1221	1863	1583	1210	110	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	201	15	47	168	0	146	86	2435	59	129	2316	100
Grp Sat Flow(s),veh/h/ln	1221	1863	1583	1320	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.5	0.9	3.5	16.0	0.0	11.5	2.6	88.5	2.0	5.0	88.7	3.5
Cycle Q Clear(g_c), s	26.5	0.9	3.5	17.0	0.0	11.5	2.6	88.5	2.0	5.0	88.7	3.5
Prop In Lane	1.00		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	353	300	299	0	300	113	2237	1001	115	2242	1003
V/C Ratio(X)	1.49	0.04	0.16	0.56	0.00	0.49	0.76	1.09	0.06	1.12	1.03	0.10
Avail Cap(c_a), veh/h	135	353	300	314	0	317	115	2237	1001	115	2242	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.0	46.4	47.4	53.3	0.0	50.7	37.8	25.8	9.8	45.5	25.7	10.0
Incr Delay (d2), s/veh	256.4	0.0	0.2	2.1	0.0	1.2	25.4	48.0	0.0	121.2	28.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.5	1.5	6.2	0.0	5.1	4.1	57.8	0.9	8.3	51.7	1.5
LnGrp Delay(d),s/veh	323.5	46.4	47.7	55.4	0.0	51.9	63.2	73.7	9.9	166.7	53.8	10.1
LnGrp LOS	F	D	D	E		D	E	F	A	F	F	B
Approach Vol, veh/h		263			314			2580			2545	
Approach Delay, s/veh		258.4			53.8			71.9			57.8	
Approach LOS		F			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	96.0		33.0	10.8	96.2		33.0
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		* 6.5
Max Green Setting (Gmax), s	5.0	88.5		26.5	5.0	88.5		* 28
Max Q Clear Time (g_c+I1), s	7.0	90.5		28.5	4.6	90.7		19.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	73.2
HCM 2010 LOS	E

Notes

Intersection: 6: Nashville Highway & Green Mills

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	350	1003	133	353	252	300	1086	1088	200	579	628	614
Average Queue (ft)	348	628	29	135	109	181	1067	1066	106	76	310	311
95th Queue (ft)	356	939	83	257	212	405	1081	1080	269	239	536	537
Link Distance (ft)		1732	1732	3856			1056	1056			1377	1377
Upstream Blk Time (%)							29	28				
Queuing Penalty (veh)							344	328				
Storage Bay Dist (ft)	250				220	200			100	480		
Storage Blk Time (%)	95			3	3		74	78			2	18
Queuing Penalty (veh)	13			4	5		59	42			3	17

Intersection: 6: Nashville Highway & Green Mills

Movement	SB
Directions Served	R
Maximum Queue (ft)	240
Average Queue (ft)	54
95th Queue (ft)	207
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	140
Storage Blk Time (%)	
Queuing Penalty (veh)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	142	13	134	79	2240	54	119	2131	92
Future Volume (vph)	185	14	43	142	13	134	79	2240	54	119	2131	92
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	24.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	11.0	96.0	96.0	11.0	96.0	96.0
Total Split (%)	23.6%	23.6%	23.6%	23.6%	23.6%	23.6%	7.9%	68.6%	68.6%	7.9%	68.6%	68.6%
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	26.5	26.5	26.5		28.0	28.0	95.0	88.5	88.5	95.0	88.5	88.5
Actuated g/C Ratio	0.19	0.19	0.19		0.20	0.20	0.68	0.63	0.63	0.68	0.63	0.63
v/c Ratio	1.16	0.04	0.13		0.62	0.38	0.74	1.09	0.06	1.10	1.04	0.10
Control Delay	167.6	46.9	2.7		62.0	25.0	55.2	74.2	1.4	142.1	54.8	3.6
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Total Delay	167.6	46.9	2.7		62.0	25.0	55.2	75.7	1.4	142.1	54.8	3.6
LOS	F	D	A		E	C	E	E	A	F	D	A
Approach Delay		131.2			44.8			73.3			57.3	
Approach LOS		F			D			E			E	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 67.2	Intersection LOS: E
Intersection Capacity Utilization 102.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	83	58	0	44	32	2233	19	14	2215	48
Future Volume (veh/h)	90	0	83	58	0	44	32	2233	19	14	2215	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	98	0	90	63	0	48	35	2427	21	15	2408	52
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	0	227	56	0	227	107	2468	1104	89	2427	1086
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.03	0.70	0.70	0.02	0.69	0.69
Sat Flow, veh/h	0	0	1583	0	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	98	0	90	63	0	48	35	2427	21	15	2408	52
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	6.7	0.0	0.0	3.5	0.7	85.3	0.5	0.3	86.4	1.4
Cycle Q Clear(g_c), s	18.5	0.0	6.7	18.5	0.0	3.5	0.7	85.3	0.5	0.3	86.4	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	0	227	56	0	227	107	2468	1104	89	2427	1086
V/C Ratio(X)	1.76	0.00	0.40	1.13	0.00	0.21	0.33	0.98	0.02	0.17	0.99	0.05
Avail Cap(c_a), veh/h	56	0	227	56	0	227	127	2468	1104	130	2427	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	0.0	50.2	64.5	0.0	48.8	35.7	18.8	6.0	35.3	20.0	6.6
Incr Delay (d2), s/veh	403.7	0.0	1.1	160.4	0.0	0.5	1.8	14.4	0.0	0.9	16.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	3.0	4.5	0.0	1.5	0.9	46.1	0.2	0.4	47.0	0.6
LnGrp Delay(d),s/veh	468.3	0.0	51.3	225.9	0.0	49.3	37.4	33.2	6.0	36.2	36.4	6.6
LnGrp LOS	F		D	F		D	D	C	A	D	D	A
Approach Vol, veh/h		188			111			2483			2475	
Approach Delay, s/veh		268.7			149.6			33.1			35.8	
Approach LOS		F			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	97.5		23.5	9.6	96.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	88.5		* 19	5.0	88.5		18.0
Max Q Clear Time (g_c+I1), s	2.3	87.3		20.5	2.7	88.4		20.5
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	0.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.2
HCM 2010 LOS	D

Notes

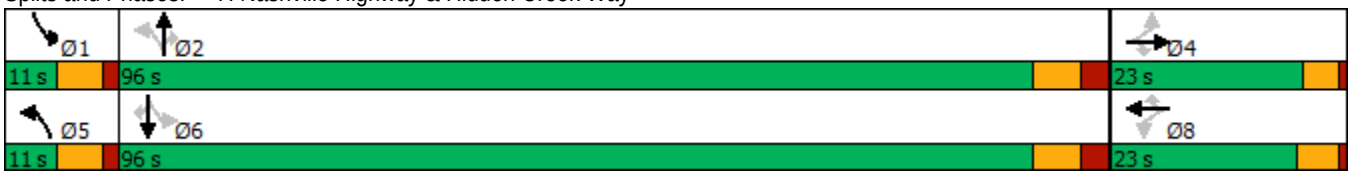
Intersection: 7: Nashville Highway & Hidden Creek Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	243	138	75	180	359	4958	4945	360	82	409	467	30
Average Queue (ft)	102	64	44	53	123	4929	4925	60	5	195	210	2
95th Queue (ft)	203	120	84	138	398	4948	4940	281	30	382	398	12
Link Distance (ft)	2047	2047	2206	2206		4906	4906			1056	1056	
Upstream Blk Time (%)						99	99					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)					260			260	330			265
Storage Blk Time (%)						83	86			1	3	
Queuing Penalty (veh)						27	16			0	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	0	83	58	0	44	32	2233	19	14	2215	48
Future Volume (vph)	90	0	83	58	0	44	32	2233	19	14	2215	48
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	22.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	11.0	96.0	96.0	11.0	96.0	96.0
Total Split (%)	17.7%	17.7%	17.7%	17.7%	17.7%	17.7%	8.5%	73.8%	73.8%	8.5%	73.8%	73.8%
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.4	16.4		15.9	15.9	95.0	91.6	91.6	93.9	89.5	89.5
Actuated g/C Ratio		0.13	0.13		0.13	0.13	0.76	0.74	0.74	0.76	0.72	0.72
v/c Ratio		0.56	0.32		0.43	0.17	0.27	0.93	0.02	0.12	0.95	0.04
Control Delay		64.3	13.6		61.1	2.8	8.9	22.9	0.1	5.1	26.0	1.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay		64.3	13.6		61.1	2.8	8.9	22.9	0.1	5.1	26.2	1.1
LOS		E	B		E	A	A	C	A	A	C	A
Approach Delay		40.0			35.9			22.6			25.6	
Approach LOS		D			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 124.3	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 93.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: Nashville Highway & Hidden Creek Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	0	83	0	0	0	68	2132	0	0	2840	245
Future Volume (veh/h)	230	0	83	0	0	0	68	2132	0	0	2840	245
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	250	0	90	0	0	0	74	2317	0	0	3087	266
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	302	257	63	302	0	96	2596	0	2	2100	178
Arrive On Green	0.16	0.00	0.16	0.00	0.00	0.00	0.05	0.73	0.00	0.00	0.64	0.64
Sat Flow, veh/h	1774	1863	1583	1301	1863	0	1774	3632	0	1774	3302	281
Grp Volume(v), veh/h	250	0	90	0	0	0	74	2317	0	0	1634	1719
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1301	1863	0	1774	1770	0	1774	1770	1813
Q Serve(g_s), s	15.8	0.0	5.8	0.0	0.0	0.0	4.7	58.0	0.0	0.0	73.0	73.0
Cycle Q Clear(g_c), s	15.8	0.0	5.8	0.0	0.0	0.0	4.7	58.0	0.0	0.0	73.0	73.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.15
Lane Grp Cap(c), veh/h	350	302	257	63	302	0	96	2596	0	2	1125	1153
V/C Ratio(X)	0.71	0.00	0.35	0.00	0.00	0.00	0.77	0.89	0.00	0.00	1.45	1.49
Avail Cap(c_a), veh/h	526	487	414	192	487	0	309	2596	0	309	1125	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	0.0	42.7	0.0	0.0	0.0	53.6	11.8	0.0	0.0	20.9	20.9
Incr Delay (d2), s/veh	2.7	0.0	0.8	0.0	0.0	0.0	12.4	4.4	0.0	0.0	208.2	225.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	2.6	0.0	0.0	0.0	2.7	29.6	0.0	0.0	100.4	108.5
LnGrp Delay(d),s/veh	49.6	0.0	43.5	0.0	0.0	0.0	66.0	16.2	0.0	0.0	229.1	246.6
LnGrp LOS	D		D				E	B			F	F
Approach Vol, veh/h		340			0			2391			3353	
Approach Delay, s/veh		48.0			0.0			17.8			238.1	
Approach LOS		D						B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	91.2		23.6	11.2	80.0		23.6
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	73.0		30.0	20.0	73.0		30.0
Max Q Clear Time (g_c+I1), s	0.0	60.0		17.8	6.7	75.0		0.0
Green Ext Time (p_c), s	0.0	11.1		0.8	0.1	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	140.9
HCM 2010 LOS	F

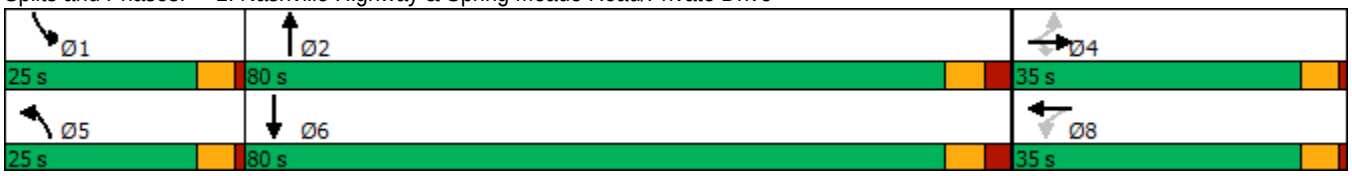
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	TR	T	TR
Maximum Queue (ft)	263	132	109	251	275	2710	2710
Average Queue (ft)	176	56	43	122	132	2672	2675
95th Queue (ft)	263	103	100	222	238	2695	2697
Link Distance (ft)	416	416		1656	1656	2647	2647
Upstream Blk Time (%)						85	86
Queuing Penalty (veh)						0	0
Storage Bay Dist (ft)			255				
Storage Blk Time (%)				0		51	
Queuing Penalty (veh)				0		0	

Lane Group	EBL	EBR	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	230	83	68	2132	2840		
Future Volume (vph)	230	83	68	2132	2840		
Turn Type	Perm	Perm	Prot	NA	NA		
Protected Phases			5	2	6	1	8
Permitted Phases	4	4					
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	25.0	25.0	5.0	7.0
Minimum Split (s)	23.0	23.0	10.0	32.0	32.0	10.0	12.0
Total Split (s)	35.0	35.0	25.0	80.0	80.0	25.0	35.0
Total Split (%)	25.0%	25.0%	17.9%	57.1%	57.1%	18%	25%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	3.0	3.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.0	5.0	5.0	7.0	7.0		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None
Act Effct Green (s)	25.9	25.9	10.6	86.6	73.7		
Actuated g/C Ratio	0.21	0.21	0.09	0.69	0.59		
v/c Ratio	0.85	0.17	0.49	0.94	1.62		
Control Delay	74.4	0.7	67.8	27.0	304.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	74.4	0.7	67.8	27.0	304.3		
LOS	E	A	E	C	F		
Approach Delay				28.3	304.3		
Approach LOS				C	F		

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 124.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.62	
Intersection Signal Delay: 181.9	Intersection LOS: F
Intersection Capacity Utilization 109.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	21.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	164	0	0	143	140	2058	100	159	2718	53
Future Vol, veh/h	0	0	164	0	0	143	140	2058	100	159	2718	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	178	0	0	155	152	2237	109	173	2954	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1477	-	-	1173	3012	0	0	2346	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	~ 115	0	0	185	~ 112	-	-	207	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	~ 115	-	-	185	~ 112	-	-	207	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 352.8	81.5	17	4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	~ 112	-	-	115	185	207	-	-
HCM Lane V/C Ratio	1.359	-	-	1.55	0.84	0.835	-	-
HCM Control Delay (s)	279.6	-	-	$ 352.8	81.5	74.2	0	-
HCM Lane LOS	F	-	-	F	F	F	A	-
HCM 95th %tile Q(veh)	10.5	-	-	13	6	6.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	5	125	177	5	110	136	2000	124	162	2498	223
Future Volume (veh/h)	191	5	125	177	5	110	136	2000	124	162	2498	223
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	208	5	136	192	5	120	148	2174	135	176	2715	242
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	6	213	219	6	200	162	1678	750	162	1678	750
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.09	0.47	0.47	0.09	0.47	0.47
Sat Flow, veh/h	1734	42	1583	1731	45	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	213	0	136	197	0	120	148	2174	135	176	2715	242
Grp Sat Flow(s),veh/h/ln	1776	0	1583	1776	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	18.0	0.0	12.4	16.7	0.0	11.0	12.6	72.5	7.5	14.0	72.5	14.5
Cycle Q Clear(g_c), s	18.0	0.0	12.4	16.7	0.0	11.0	12.6	72.5	7.5	14.0	72.5	14.5
Prop In Lane	0.98		1.00	0.97		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	0	213	225	0	200	162	1678	750	162	1678	750
V/C Ratio(X)	0.89	0.00	0.64	0.88	0.00	0.60	0.91	1.30	0.18	1.08	1.62	0.32
Avail Cap(c_a), veh/h	273	0	243	273	0	243	162	1678	750	162	1678	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.1	0.0	62.6	65.6	0.0	63.1	68.9	40.2	23.1	69.5	40.2	25.0
Incr Delay (d2), s/veh	26.1	0.0	4.5	22.8	0.0	2.9	45.8	137.7	0.1	94.8	281.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	0.0	5.7	9.6	0.0	5.0	8.3	67.5	3.3	11.1	100.9	6.4
LnGrp Delay(d),s/veh	91.2	0.0	67.1	88.5	0.0	66.0	114.6	178.0	23.2	164.3	321.3	25.2
LnGrp LOS	F		E	F		E	F	F	C	F	F	C
Approach Vol, veh/h		349			317			2457			3133	
Approach Delay, s/veh		81.8			80.0			165.6			289.6	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.0	80.0		27.1	20.0	80.0		25.8
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	72.5		23.5	14.0	72.5		23.5
Max Q Clear Time (g_c+I1), s	16.0	74.5		20.0	14.6	74.5		18.7
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	0.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	218.7
HCM 2010 LOS	F

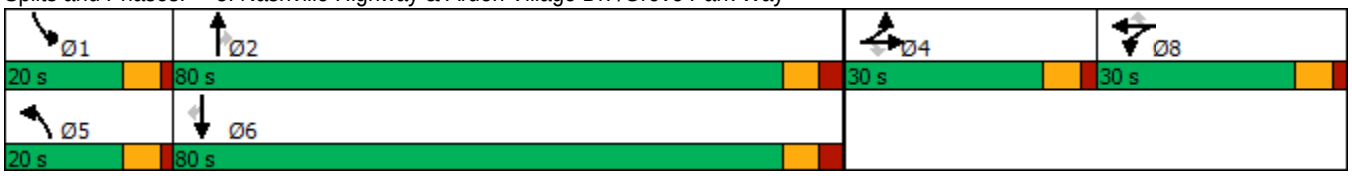
Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	549	186	353	200	430	1401	1398	230	224	553	546	275
Average Queue (ft)	272	58	181	98	271	1378	1381	51	135	499	486	136
95th Queue (ft)	520	124	284	204	555	1402	1400	185	239	601	608	336
Link Distance (ft)	1451	1451				1377	1377			527	527	
Upstream Blk Time (%)						12	13			5	5	
Queuing Penalty (veh)						129	142			76	75	
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)			39	6	0	60	59		23	39	38	
Queuing Penalty (veh)			42	12	0	82	74		293	63	85	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	5	125	5	110	136	2000	124	162	2498	223
Future Volume (vph)	5	125	5	110	136	2000	124	162	2498	223
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	12.5%	50.0%	50.0%	12.5%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.6	21.6	20.9	20.9	14.0	72.6	72.6	14.0	72.6	72.6
Actuated g/C Ratio	0.14	0.14	0.13	0.13	0.09	0.47	0.47	0.09	0.47	0.47
v/c Ratio	0.87	0.40	0.83	0.38	0.93	1.32	0.17	1.11	1.65	0.30
Control Delay	97.1	12.6	92.8	14.3	124.7	182.0	7.1	165.3	322.6	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	12.6	92.8	14.3	124.7	182.0	7.1	165.3	322.6	15.4
LOS	F	B	F	B	F	F	A	F	F	B
Approach Delay	64.2		63.1			168.9			290.1	
Approach LOS	E		E			F			F	

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 155.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.65	
Intersection Signal Delay: 218.4	Intersection LOS: F
Intersection Capacity Utilization 110.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	117	19	6	0	0	151
Future Vol, veh/h	117	19	6	0	0	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	21	7	0	0	164

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	7	0	-	0	282	7
Stage 1	-	-	-	-	7	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1614	-	-	-	708	1075
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1614	-	-	-	651	1075
Mov Cap-2 Maneuver	-	-	-	-	651	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	SB
HCM Control Delay, s	6.4	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1614	-	-	-	1075
HCM Lane V/C Ratio	0.079	-	-	-	0.153
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	13	40	86	17	208	104	1824	155	349	2414	122
Future Volume (veh/h)	172	13	40	86	17	208	104	1824	155	349	2414	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	14	43	93	18	226	113	1983	168	379	2624	133
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	288	245	218	37	245	107	1959	876	330	2405	1076
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.55	0.55	0.16	0.68	0.68
Sat Flow, veh/h	1131	1863	1583	1128	238	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	187	14	43	111	0	226	113	1983	168	379	2624	133
Grp Sat Flow(s),veh/h/ln	1131	1863	1583	1367	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	11.7	1.0	3.6	10.7	0.0	21.2	5.0	83.5	8.0	24.0	102.5	4.4
Cycle Q Clear(g_c), s	23.3	1.0	3.6	11.6	0.0	21.2	5.0	83.5	8.0	24.0	102.5	4.4
Prop In Lane	1.00		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	136	288	245	255	0	245	107	1959	876	330	2405	1076
V/C Ratio(X)	1.38	0.05	0.18	0.43	0.00	0.92	1.06	1.01	0.19	1.15	1.09	0.12
Avail Cap(c_a), veh/h	136	288	245	261	0	252	107	1959	876	330	2405	1076
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.6	54.3	55.4	59.1	0.0	62.9	43.9	33.7	16.8	55.7	24.2	8.5
Incr Delay (d2), s/veh	209.8	0.1	0.3	1.2	0.0	36.0	104.5	23.4	0.1	96.1	48.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	0.5	1.6	4.4	0.0	11.7	7.5	46.9	3.5	22.6	65.7	1.9
LnGrp Delay(d),s/veh	281.5	54.4	55.7	60.2	0.0	98.9	148.8	57.0	16.9	151.9	72.7	8.5
LnGrp LOS	F	D	E	E		F	F	F	B	F	F	A
Approach Vol, veh/h		244			337			2264			3136	
Approach Delay, s/veh		228.6			86.2			58.7			79.6	
Approach LOS		F			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	91.0		29.8	11.0	110.0		29.8
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		* 6.5
Max Green Setting (Gmax), s	24.0	83.5		22.5	5.0	102.5		* 24
Max Q Clear Time (g_c+I1), s	26.0	85.5		25.3	7.0	104.5		23.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	78.1
HCM 2010 LOS	E

Notes

Intersection: 6: Nashville Highway & Green Mills

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	LT	R	L	T	T	R	L	T	T
Maximum Queue (ft)	350	1210	86	654	320	300	1081	1090	200	286	320	336
Average Queue (ft)	338	640	29	206	195	187	1064	1066	140	158	163	167
95th Queue (ft)	387	1159	64	513	341	402	1075	1079	288	267	315	318
Link Distance (ft)		1732	1732	3856			1056	1056			1377	1377
Upstream Blk Time (%)							27	31				
Queuing Penalty (veh)							279	324				
Storage Bay Dist (ft)	250				220	200			100	480		
Storage Blk Time (%)	88			2	23		72	73				9
Queuing Penalty (veh)	11			5	24		75	112				11

Intersection: 6: Nashville Highway & Green Mills

Movement	SB
Directions Served	R
Maximum Queue (ft)	40
Average Queue (ft)	12
95th Queue (ft)	34
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	140
Storage Blk Time (%)	
Queuing Penalty (veh)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	86	17	208	104	1824	155	349	2414	122
Future Volume (vph)	172	13	40	86	17	208	104	1824	155	349	2414	122
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	24.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	11.0	91.0	91.0	30.0	110.0	110.0
Total Split (%)	19.3%	19.3%	19.3%	19.3%	19.3%	19.3%	7.3%	60.7%	60.7%	20.0%	73.3%	73.3%
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	22.5	22.5	22.5		24.0	24.0	90.0	83.5	83.5	115.0	102.5	102.5
Actuated g/C Ratio	0.15	0.15	0.15		0.16	0.16	0.60	0.56	0.56	0.77	0.68	0.68
v/c Ratio	1.15	0.05	0.13		0.50	0.54	1.04	1.01	0.18	1.13	1.09	0.12
Control Delay	169.9	55.3	0.8		66.1	15.4	131.4	54.9	6.1	134.7	70.6	4.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	169.9	55.3	0.8		66.1	15.4	131.4	54.9	6.1	134.7	70.6	4.2
LOS	F	E	A		E	B	F	D	A	F	E	A
Approach Delay		133.5			32.1			55.1			75.6	
Approach LOS		F			C			E			E	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 150	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 67.7	Intersection LOS: E
Intersection Capacity Utilization 105.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	0	54	37	0	28	84	1984	63	48	2336	106
Future Volume (veh/h)	69	0	54	37	0	28	84	1984	63	48	2336	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	75	0	59	40	0	30	91	2157	68	52	2539	115
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	0	195	48	0	195	108	2565	1147	151	2552	1141
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12	0.03	0.72	0.72	0.03	0.72	0.72
Sat Flow, veh/h	0	0	1583	0	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	75	0	59	40	0	30	91	2157	68	52	2539	115
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	5.1	0.0	0.0	2.5	3.5	64.7	1.9	1.1	106.6	3.3
Cycle Q Clear(g_c), s	18.5	0.0	5.1	18.5	0.0	2.5	3.5	64.7	1.9	1.1	106.6	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	0	195	48	0	195	108	2565	1147	151	2552	1141
V/C Ratio(X)	1.57	0.00	0.30	0.84	0.00	0.15	0.84	0.84	0.06	0.34	1.00	0.10
Avail Cap(c_a), veh/h	48	0	195	48	0	195	108	2565	1147	157	2552	1141
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.3	0.0	60.1	75.3	0.0	59.0	51.0	14.6	6.0	24.4	20.7	6.3
Incr Delay (d2), s/veh	334.8	0.0	0.9	72.1	0.0	0.4	41.8	2.7	0.0	1.4	16.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	2.3	2.6	0.0	1.1	5.0	32.1	0.8	1.4	57.4	1.4
LnGrp Delay(d),s/veh	410.0	0.0	61.0	147.4	0.0	59.4	92.8	17.3	6.0	25.7	37.4	6.4
LnGrp LOS	F		E	F		E	F	B	A	C	D	A
Approach Vol, veh/h		134			70			2316			2706	
Approach Delay, s/veh		256.3			109.7			19.9			35.8	
Approach LOS		F			F			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	116.6		23.5	11.0	116.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	108.5		* 19	5.0	108.5		18.0
Max Q Clear Time (g_c+I1), s	3.1	66.7		20.5	5.5	108.6		20.5
Green Ext Time (p_c), s	0.0	25.6		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Notes

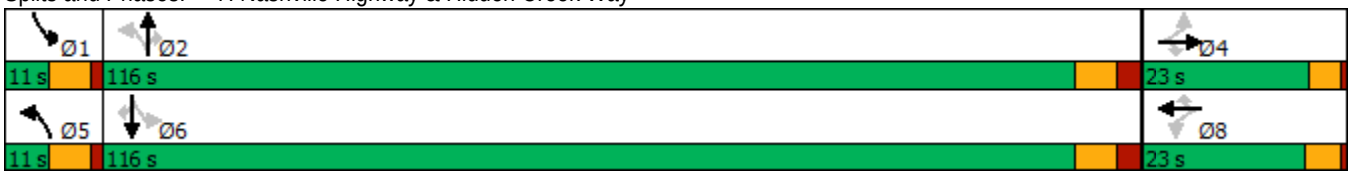
Intersection: 7: Nashville Highway & Hidden Creek Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	219	88	93	73	360	4969	4969	360	41	345	335	10
Average Queue (ft)	75	37	31	37	221	4926	4929	263	10	90	98	2
95th Queue (ft)	151	71	69	76	501	4944	4952	524	32	227	233	7
Link Distance (ft)	2047	2047	2206	2206		4906	4906			1056	1056	
Upstream Blk Time (%)						94	93					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)					260			260	330			265
Storage Blk Time (%)						78	78			0	1	
Queuing Penalty (veh)						65	49			0	1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	0	54	37	0	28	84	1984	63	48	2336	106
Future Volume (vph)	69	0	54	37	0	28	84	1984	63	48	2336	106
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	22.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	11.0	116.0	116.0	11.0	116.0	116.0
Total Split (%)	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	7.3%	77.3%	77.3%	7.3%	77.3%	77.3%
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.1	16.1		15.6	15.6	116.2	110.7	110.7	115.0	108.5	108.5
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.79	0.75	0.75	0.78	0.74	0.74
v/c Ratio		0.51	0.25		0.31	0.13	0.83	0.81	0.06	0.44	0.98	0.10
Control Delay		74.5	9.2		68.0	1.1	76.5	15.9	1.8	20.5	31.7	1.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0
Total Delay		74.5	9.2		68.0	1.1	76.5	15.9	1.8	20.5	43.6	1.9
LOS		E	A		E	A	E	B	A	C	D	A
Approach Delay		45.8			39.3			17.8			41.4	
Approach LOS		D			D			B			D	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 147.6	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 31.1	Intersection LOS: C
Intersection Capacity Utilization 95.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: Nashville Highway & Hidden Creek Way



APPENDIX D – ADDITIONAL FIGURES

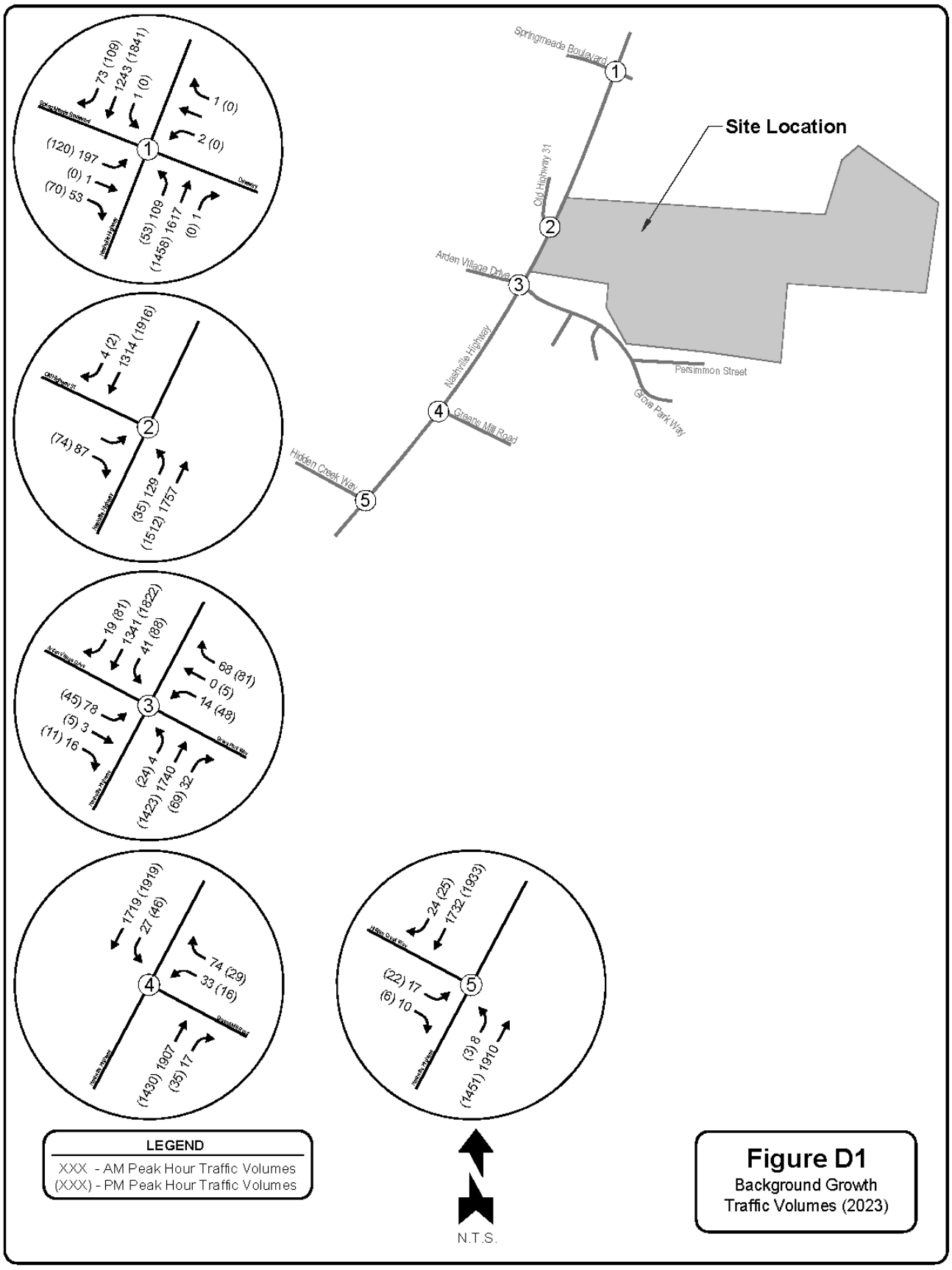
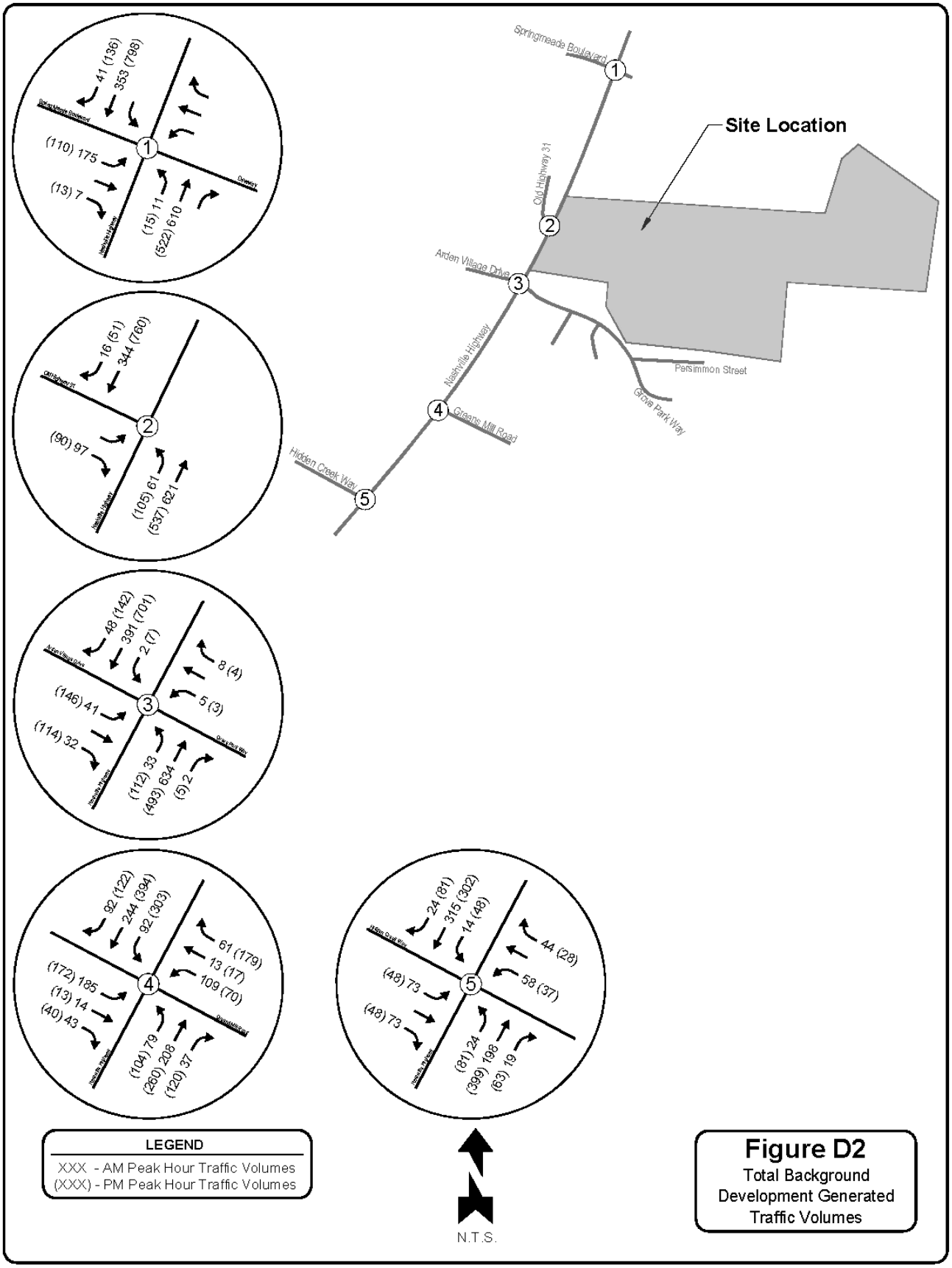


Figure D1
Background Growth
Traffic Volumes (2023)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
1
2
3
4
5
41 (136)
353 (798)
(110) 175
(13) 7
(15) 11
(522) 610
16 (51)
344 (760)
(90) 97
(105) 61
(537) 621
48 (142)
391 (701)
2 (7)
8 (4)
(146) 41
5 (3)
(114) 32
(112) 33
(493) 634
(5) 2
92 (122)
244 (394)
92 (303)
61 (179)
13 (17)
109 (70)
(172) 185
(13) 14
(40) 43
(104) 79
(260) 208
(120) 37
24 (81)
315 (302)
14 (48)
44 (28)
58 (37)
(48) 73
(48) 73
(81) 24
(399) 198
(63) 19
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D2
Total Background
Development Generated
Traffic Volumes

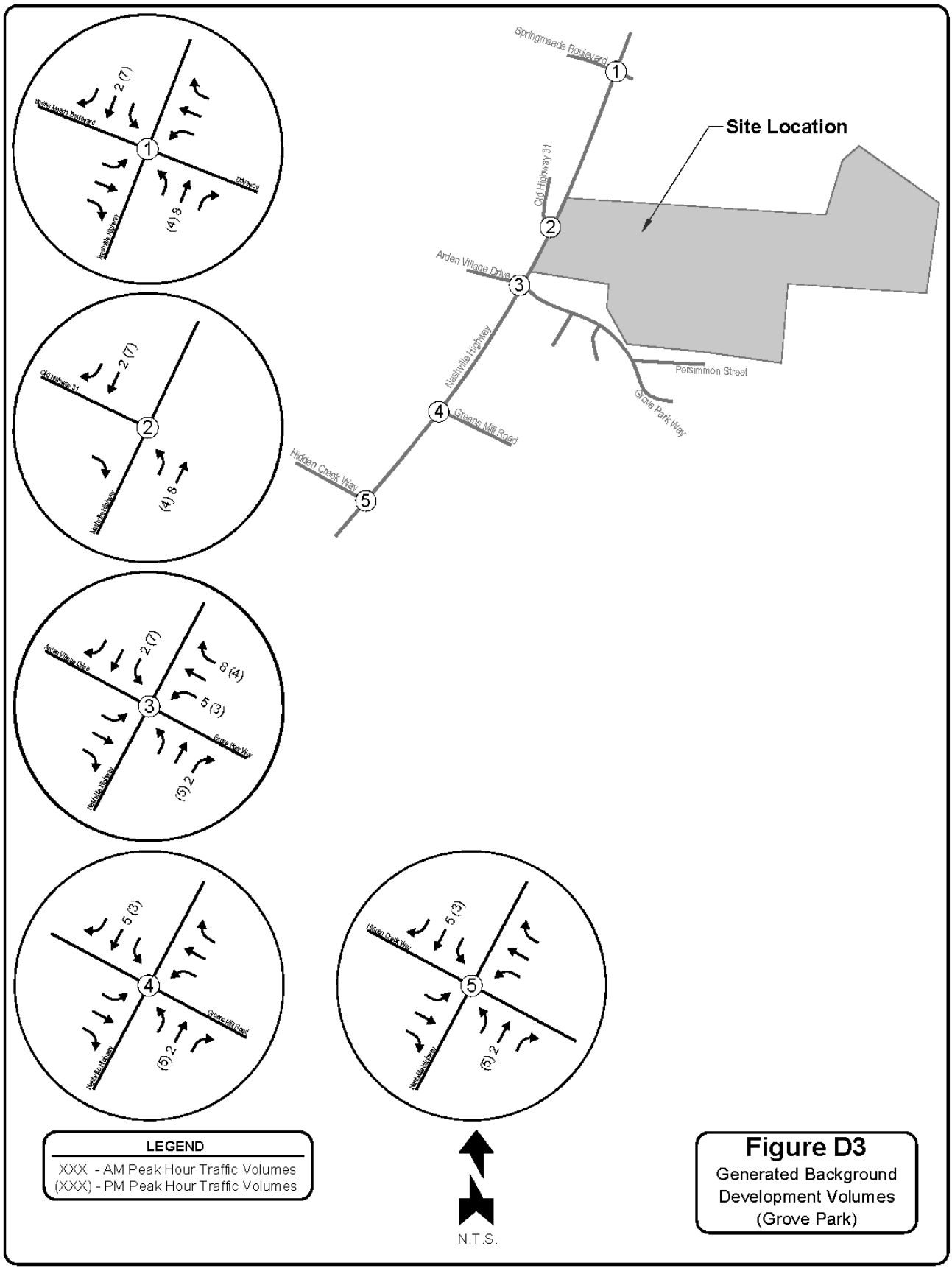


Figure D3
Generated Background Development Volumes (Grove Park)

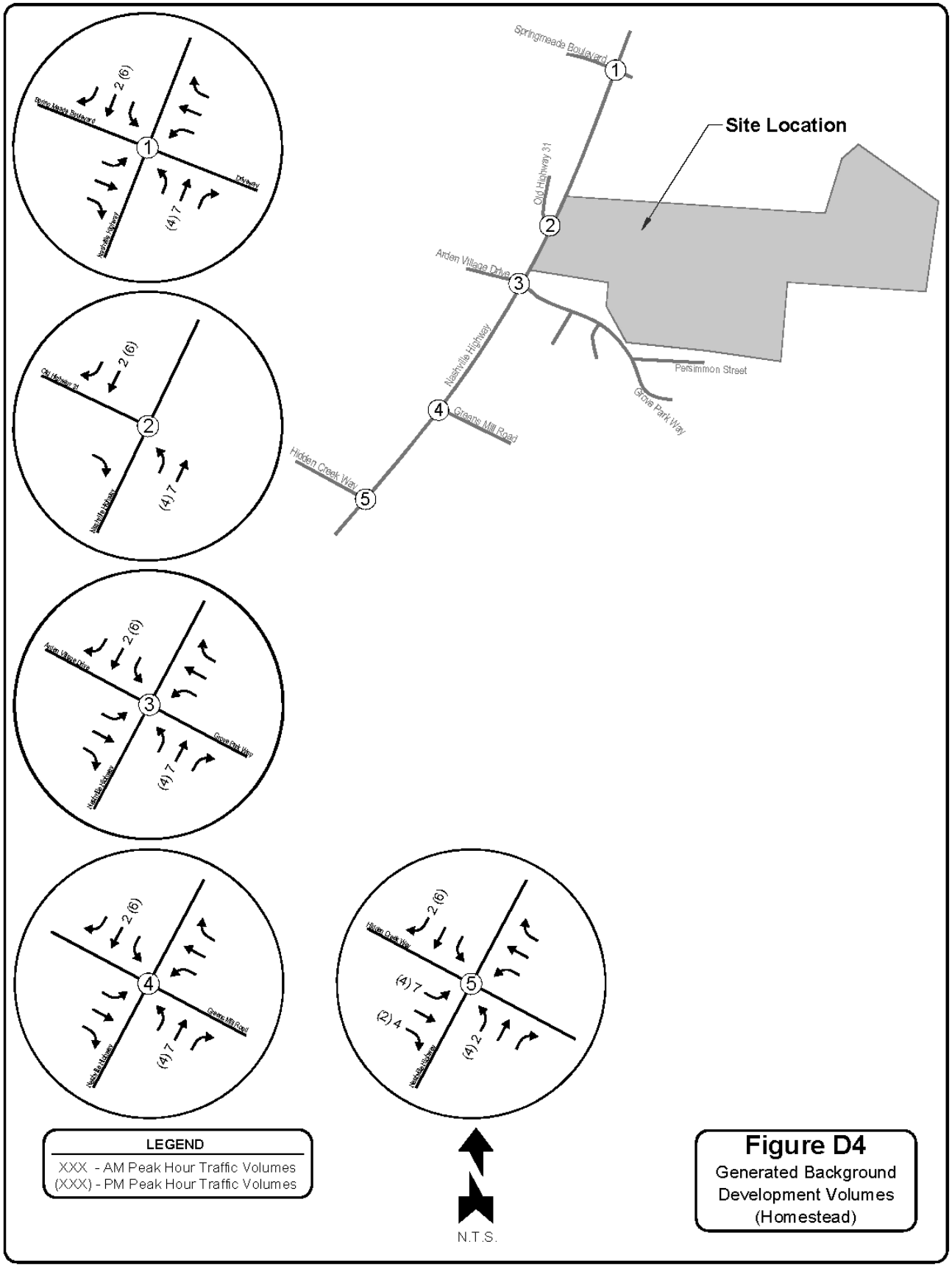
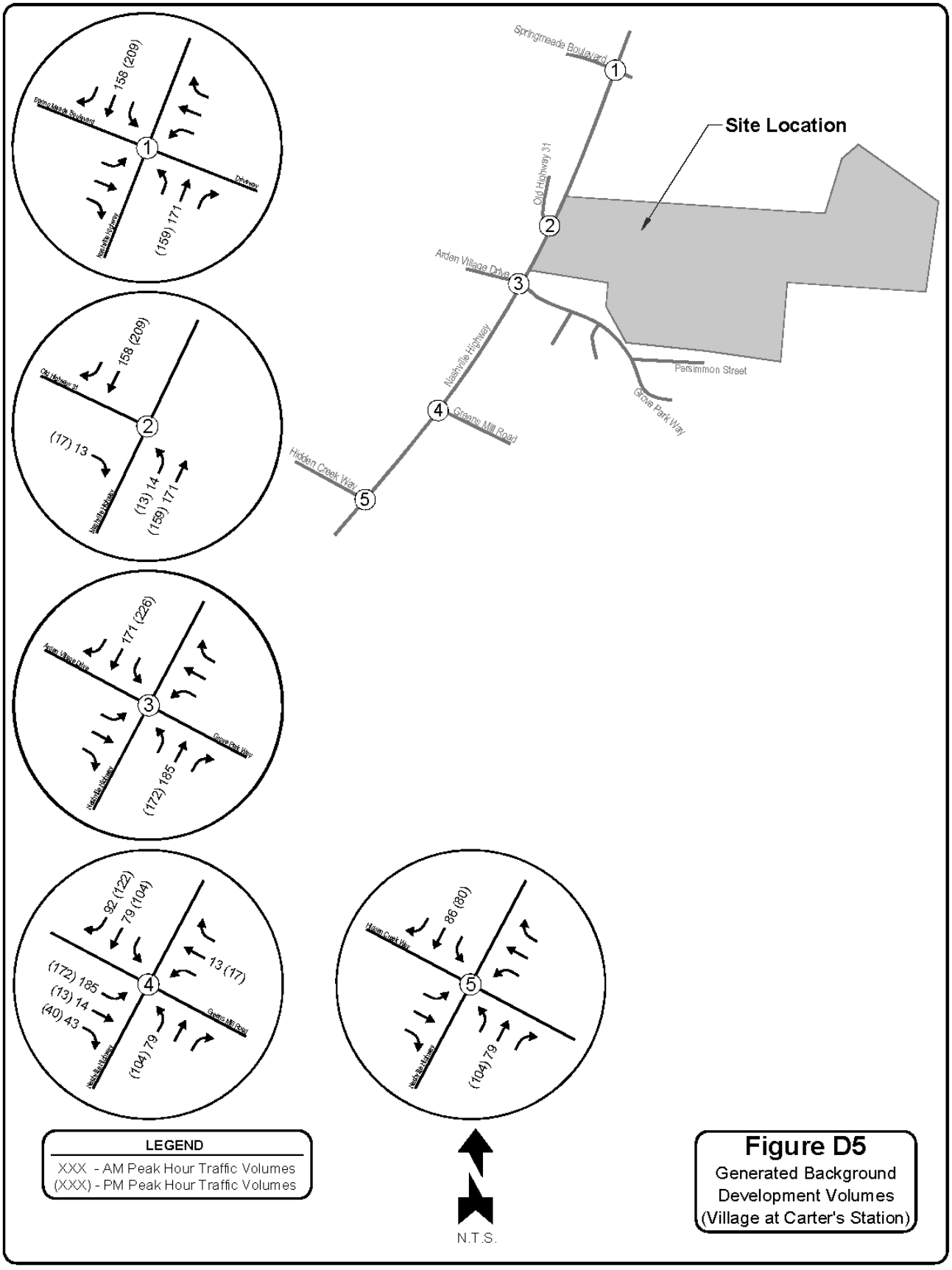
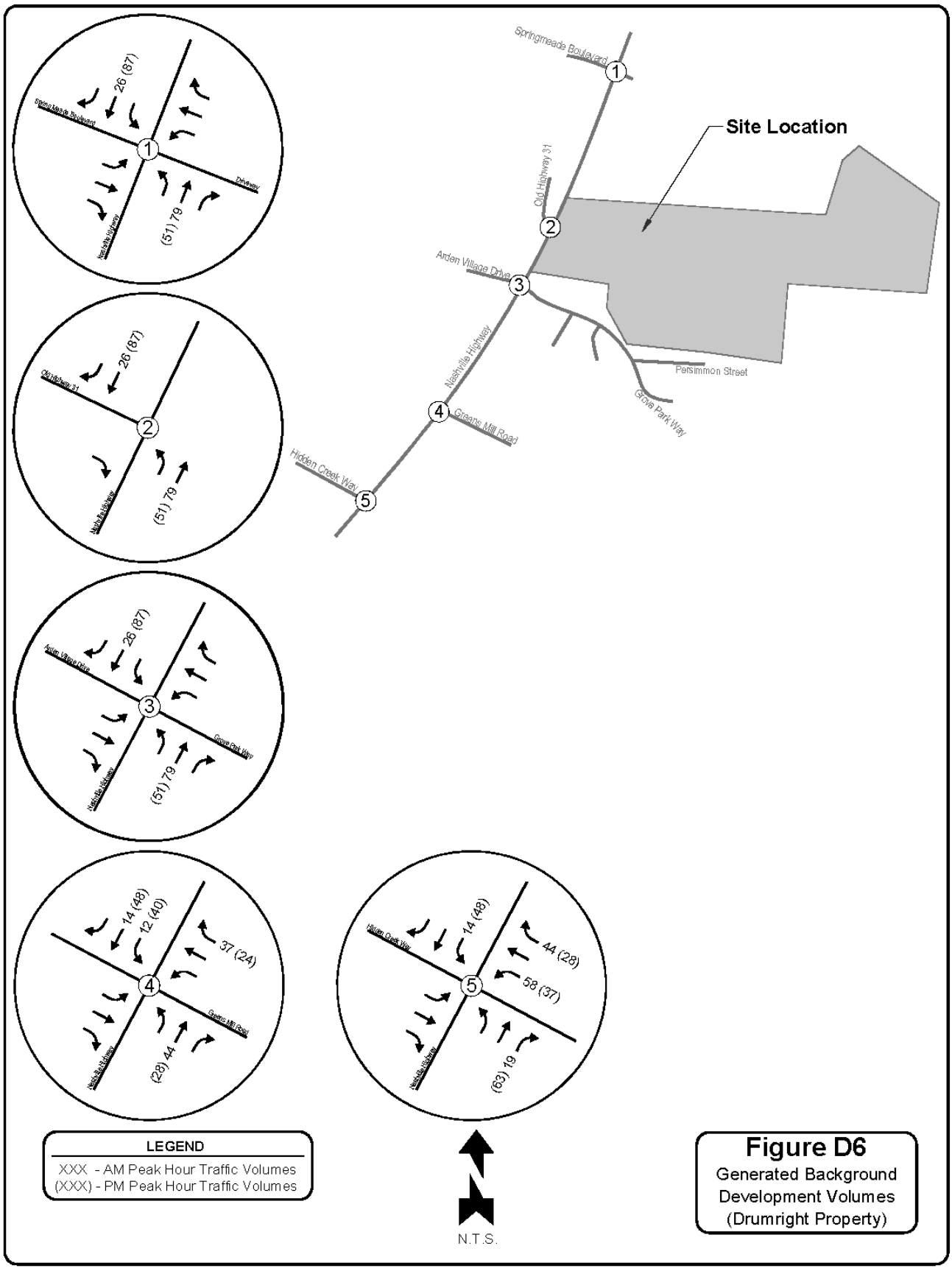
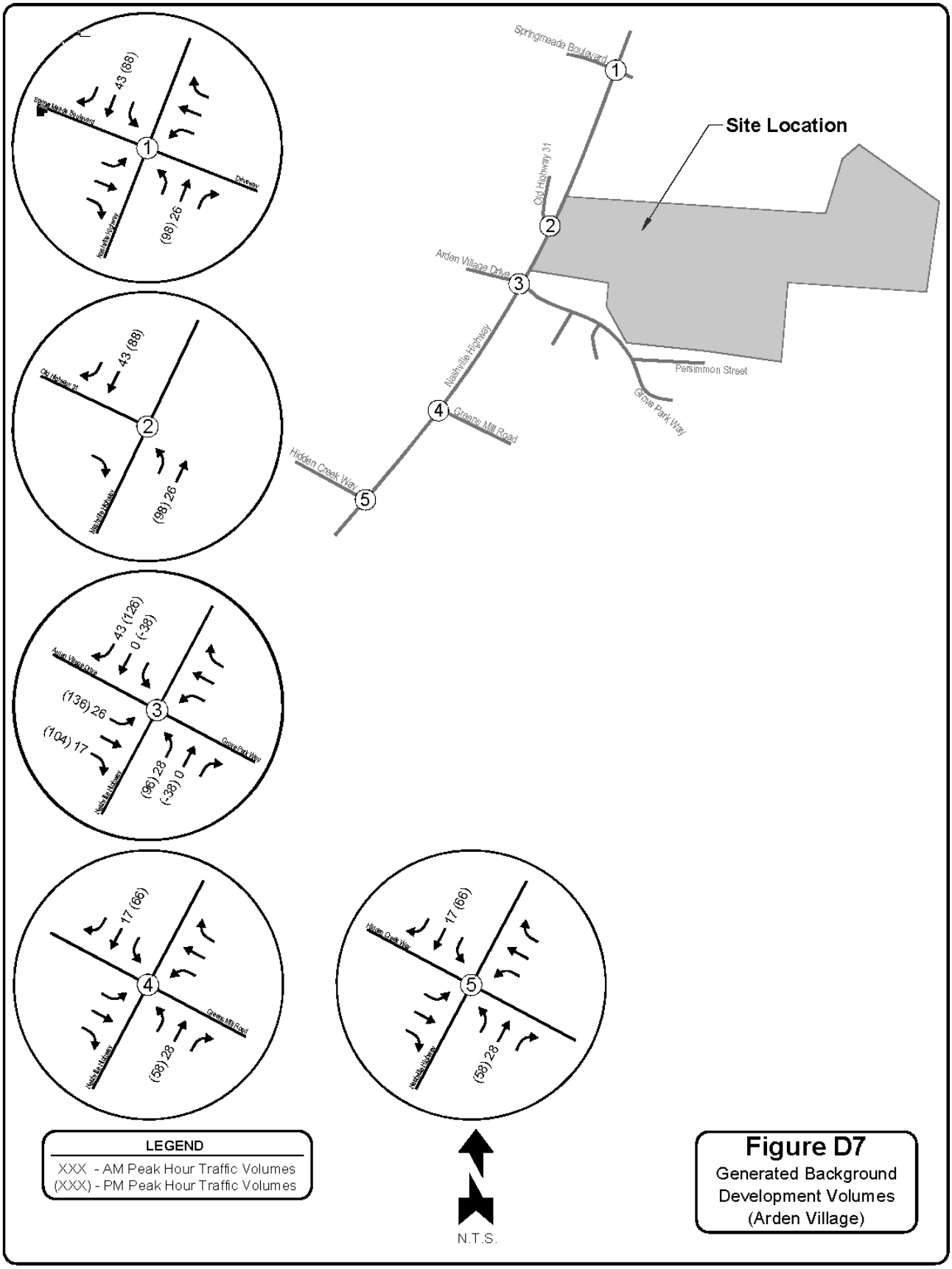
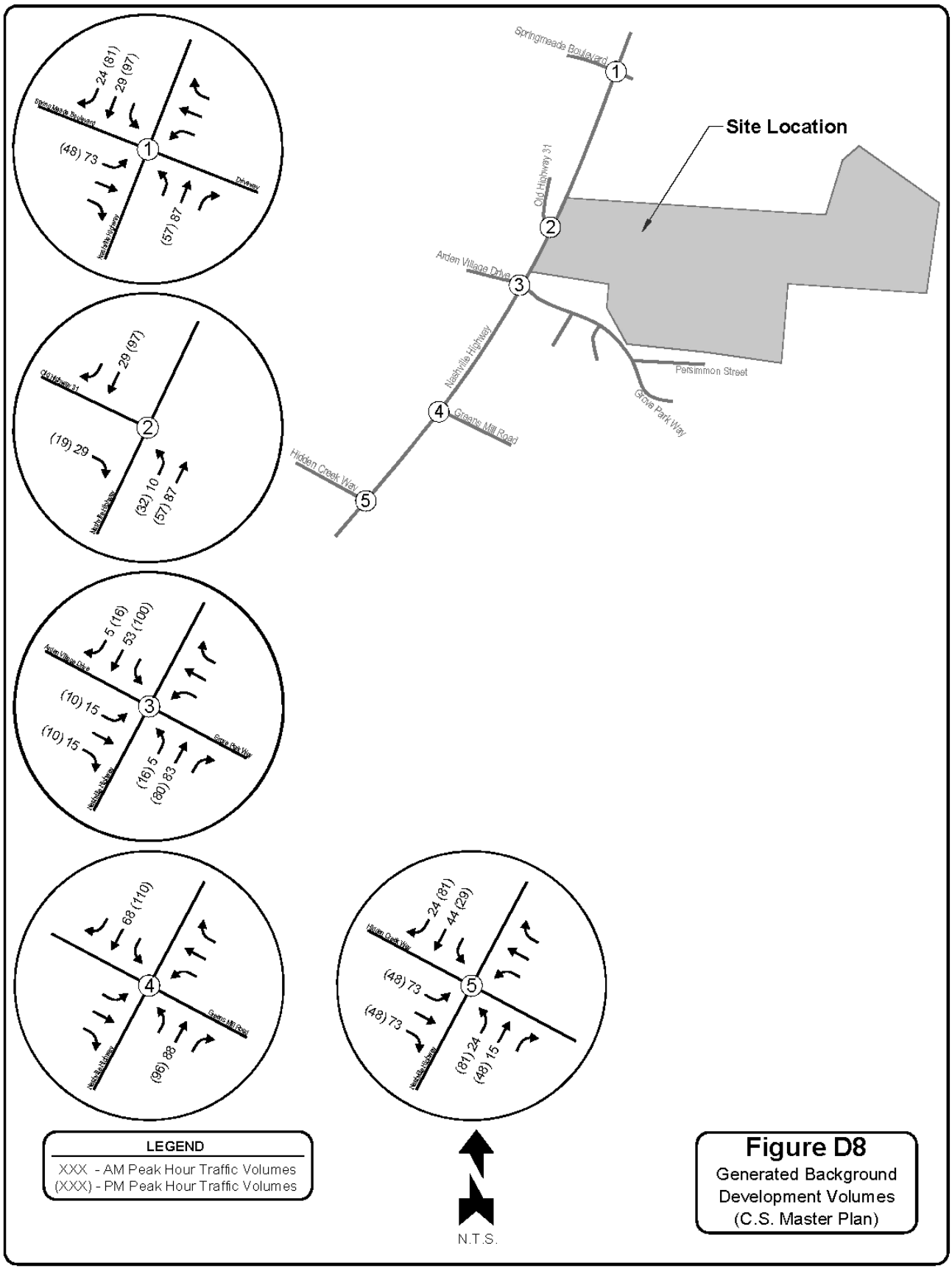


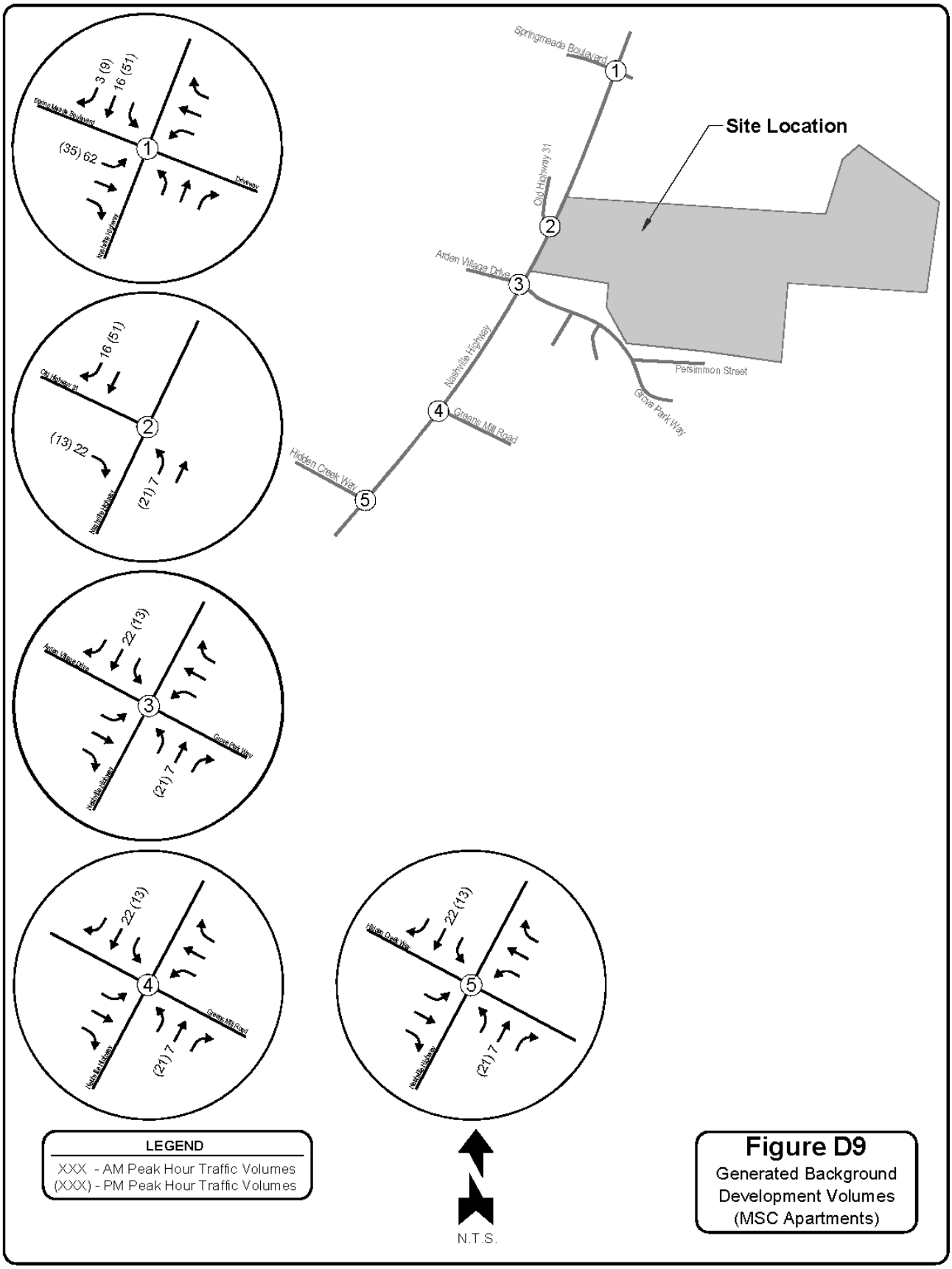
Figure D4
Generated Background Development Volumes (Homestead)

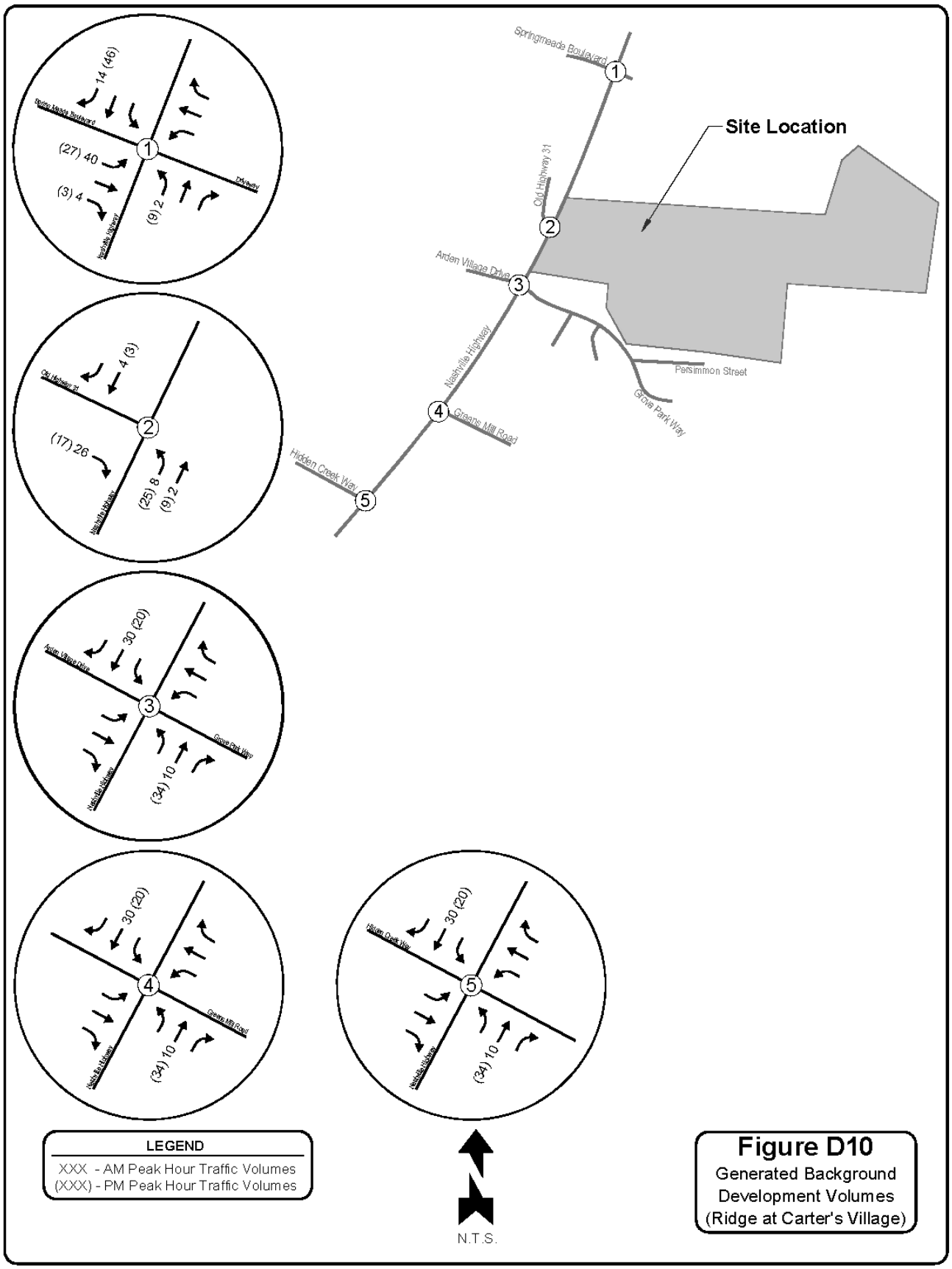

Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
158 (209)
(159) 171
(17) 13
(13) 14
171 (226)
(172) 185
92 (122)
79 (104)
13 (17)
(40) 43
86 (80)
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D5
Generated Background Development Volumes
(Village at Carter's Station)

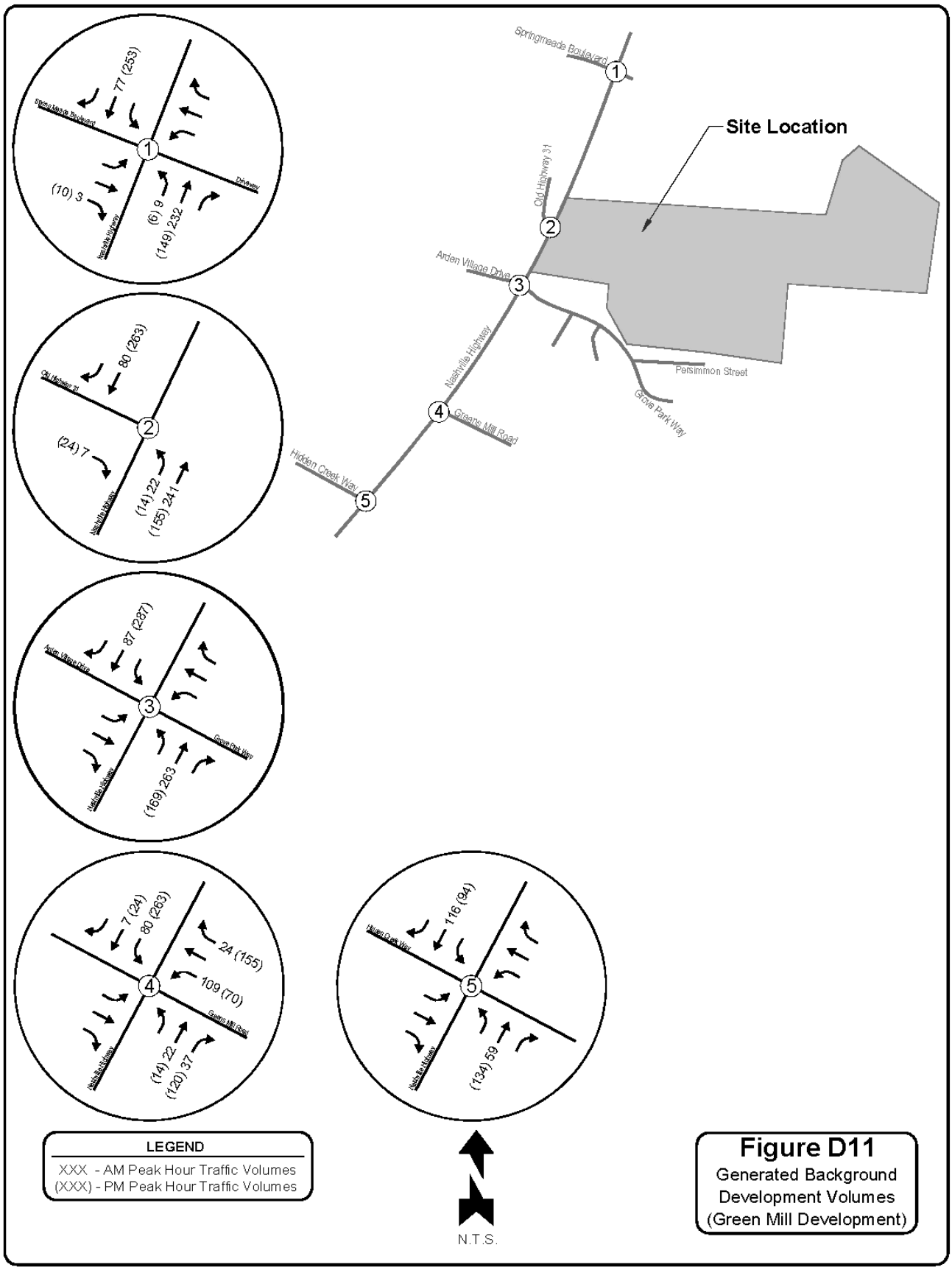

Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
26 (87)
(51) 79
14 (48)
12 (40)
37 (24)
(28) 44
44 (28)
58 (37)
(63) 19
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D6
Generated Background Development Volumes (Drumright Property)

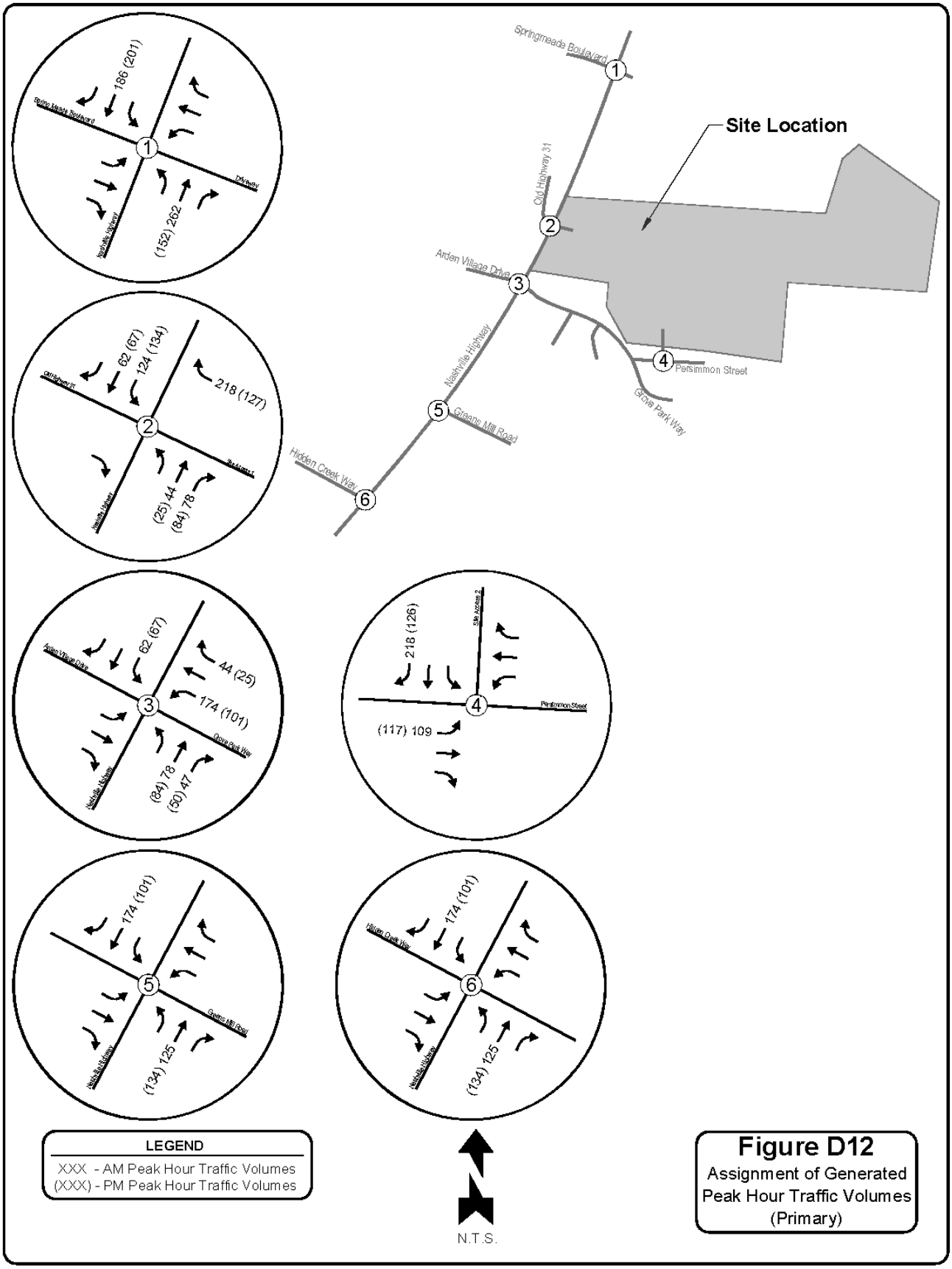

Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
43 (88)
(98) 26
43 (126)
0 (-38)
(136) 26
(104) 17
(96) 28
(-38) 0
17 (66)
(58) 28
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D7
Generated Background Development Volumes (Arden Village)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
1
2
3
4
5
24 (81)
29 (97)
(48) 73
(57) 87
29 (97)
(19) 29
(32) 10
(57) 87
5 (16)
53 (100)
(10) 15
(10) 15
(16) 5
(80) 83
68 (110)
(96) 88
24 (81)
44 (29)
(48) 73
(48) 73
(81) 24
(48) 15
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D8
Generated Background
Development Volumes
(C.S. Master Plan)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
3 (9)
16 (51)
(35) 62
16 (51)
(13) 22
(21) 7
22 (13)
(21) 7
22 (13)
(21) 7
22 (13)
(21) 7
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D9
Generated Background Development Volumes (MSC Apartments)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
14 (46)
(27) 40
(3) 4
(9) 2
4 (3)
(17) 26
(25) 8
(9) 2
30 (20)
(34) 10
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D10
Generated Background Development Volumes
(Ridge at Carter's Village)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
77 (253)
(10) 3
(6) 9
(149) 232
80 (263)
(24) 7
(14) 22
(155) 241
87 (287)
(169) 263
7 (24)
80 (263)
24 (155)
109 (70)
(14) 22
(120) 37
116 (94)
(134) 59
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D11
Generated Background Development Volumes (Green Mill Development)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
1
2
3
4
5
6
186 (201)
(152) 262
62 (67)
124 (134)
218 (127)
(25) 44
(84) 78
62 (67)
44 (25)
174 (101)
(84) 78
(50) 47
218 (126)
(117) 109
174 (101)
(134) 125
174 (101)
(134) 125
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D12
Assignment of Generated Peak Hour Traffic Volumes (Primary)

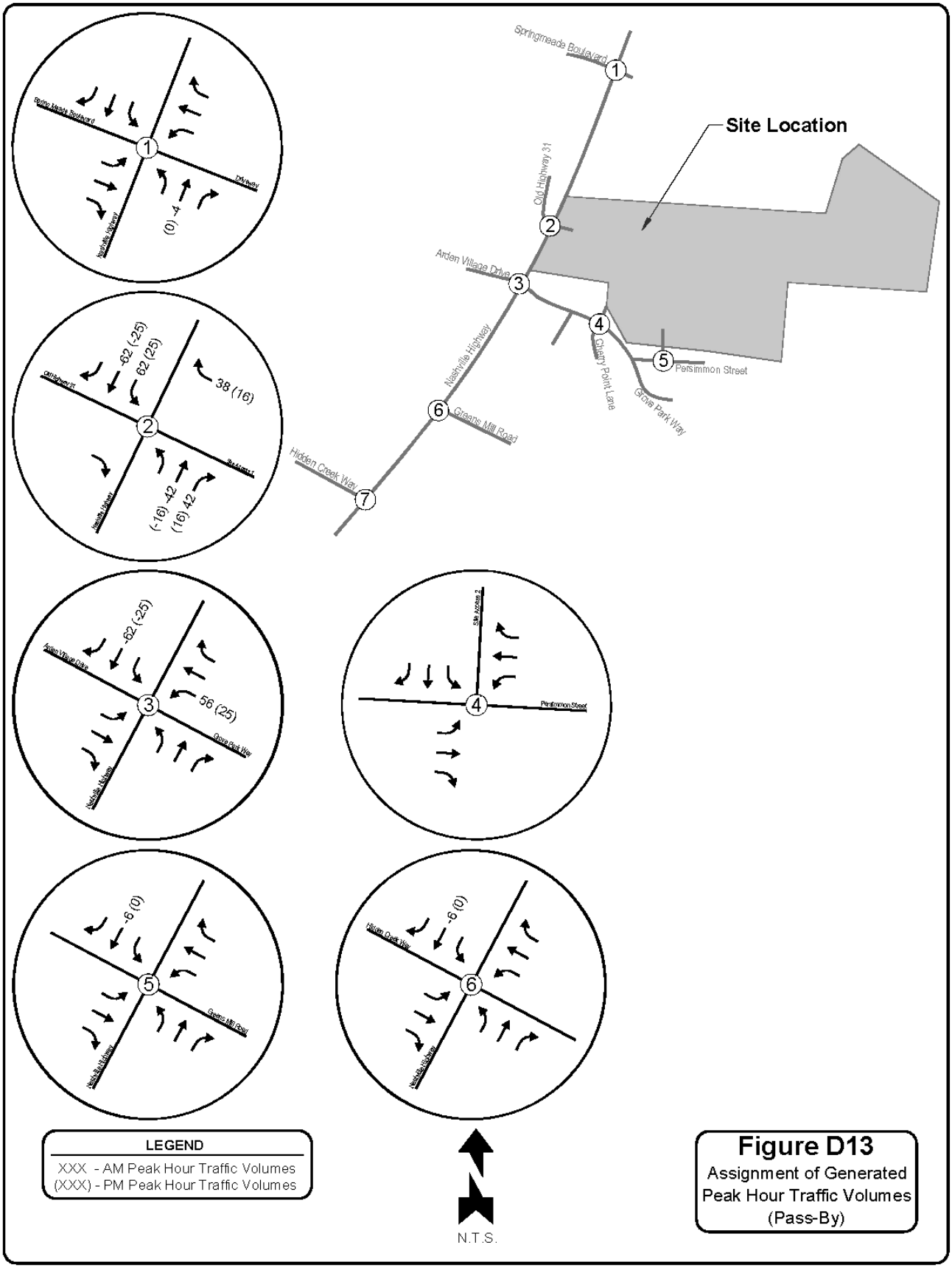


Figure D13
Assignment of Generated Peak Hour Traffic Volumes (Pass-By)

Brightland HOMES

May 19, 2023

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

Re: McClure Farms Development
Traffic Improvements

Glenn,

As part of the ongoing review by Columbia Development Services of the proposed McClure Farms Development, a traffic impact study (TIS) was conducted and approved by the City. The McClure Farms Development consists of 315 PUD units and 116 single family lots.

Several traffic improvements were recommended by the TIS. The developer Brightland Homes of Tennessee, LLC (formerly GH Tennessee, LLC.) is providing commitment to the installation of certain traffic improvements related to the McClure Farms Development and are as follows.

1. **Nashville Highway (US-31) and Old Highway 31/Site Access 1**
   The developer will construct site access 1 along Nashville Highway with a left-in/right-in/right-out configuration to be aligned with Old Highway 31 with one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards. Additionally, the developer will construct one (1) exclusive right-turn lane on the northbound approach of Nashville Highway (US-31) and one (1) exclusive left-turn lane on the southbound approach of Nashville highway (US-31) at its intersection with Old Highway 31/ Site Access 1. Both the left and right turn lanes shall provide 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards. The developer proposed this work to be completed during Phase 1, prior to the completion of Phase 2 final plat.

2. **Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**
   The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31), as well as improving the radius and right turn lane conditions for northbound traffic at Grove Park Way. The developer proposes this work to be completed during Phase 1, prior to the completion of the Phase 2 Final Plat.

Barton Creek Plaza III | 3815 South Capital of Texas Highway, Suite 210 | Austin, Texas 78704 | p. 512.330.9366 | f. 512.330.9755
brightlandhomes.com

3. Persimmon Street and Site Access 2

The developer will construct Site Access 2 along Persimmon street. Consisting of one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards. The developer proposes this work to be completed during Phase 1, prior to the completion of Phase 2 final plat.

4. Nashville Highway (US-31) and Spring Meade Boulevard

The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer proposes to purchase the required components during Phase 1, and prior to the completion of the Phase 4 Final Plat these will be installed by the City of Columbia.

5. Nashville Highway (US-31) and Greens Mill Road

The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer proposes to purchase the required components during Phase 1, and prior to the completion of the Phase 4 Final Plat these will be installed by the City of Columbia.

6. Nashville Highway (US-31) and Hidden Creek Way

The developer will interconnect and optimize the existing and proposed traffic signals along Nashville highway (US-31). The developer proposes to purchase the required components during Phase 1, and prior to the completion of the Phase 4 Final Plat these will be installed by the City of Columbia.

The developer proposes to purchase all recommended equipment necessary for these improvements as outlined below.

Loop Detectors

EDI LMD 222	(6 total)

CCTV Cameras

Axis 6075E	(3 total)

Applied Information Unit

AI500-085-02	(1 total)

Linux Upgrade to Controller

2070-1C CPU	(2 total)
2070-E+ IO	(2 total)

Back plates for Eagle Signals Mast Arm Mount

3 section back plate w/ reflective tape (8 total)
4 section back plate w/ reflective tape (2 total)

Conflict Monitor

EDI 2010 ECL-IP

If you have any questions or need additional information, please feel free to contact Travis Bonar at tbonar@waengineering.com or 615-610-1023.

Sincerely,

BRIGHTLAND HOMES OF TENNESSEE, LLC,
a Delaware limited liability company

By: Brightland Homes, Ltd.,
a Texas limited partnership, sole Member

By: Brightland Homes I, Inc.,
a Texas corporation, General Partner

By:_____
Chris Lynch,
President of Land Operations

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: McClure Farms

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☒ Name of development
- ☒ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☒ Plan sealed by a Design Professional licensed in the State of Tennessee.
- ☒ North Arrow, legend, and site vicinity map
- ☒ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☒ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☒ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☒ All property boundaries, existing easements, and encumbrances
- ☒ Parcel identification, owner, and deed and plat references of adjoining properties
- ☒ Proposed phasing and timetable for all phases of development
- ☒ Traffic Impact Study, as required.
- ☒ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☒ The size of total property to be developed in square feet and acres
- ☒ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☒ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☒ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☒ Location and approximate dimensions of all existing and proposed structures.
- ☒ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☒ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☒ Location, type, and size of proposed signs
- ☒ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
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FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☒ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☒ General proposed contours at vertical intervals of not more than two (2) feet
- ☒ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☒ Location and dimension of aquatic buffer zones
- ☒ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☒ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☒ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☒ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☒ Proposed improvements as identified in the Traffic Impact Study, as required
- ☒ Existing and proposed sidewalks, trails, and other pedestrian elements
- N/A ❑ Existing and proposed on-street and off-street parking and loading areas
- N/A ❑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☒ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☒ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☒ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☒ Any amenity features and structures for private or public benefit.
- N/A ❑ Location, dimension, and materials of fences and walls
- ☒ Tree Canopy retention

Utilities

- ☒ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☒ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PUD Specific Items

- ❑ Legal Description of Property
- ❑ Owner's Affidavit
- ❑ List of all variances requested
- ❑ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ❑ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ❑ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ❑ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Travis Bonar	Travis Bonar	5/22/2023
Print Name	Signature	Date

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
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Preliminary Plat, Site Development Plan, and PUD Checklist

Development: McClure Farms

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- ☒ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☒ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☒ All property boundaries, existing easements, and encumbrances
- ☒ Parcel identification, owner, and deed and plat references of adjoining properties
- ☒ Proposed phasing and timetable for all phases of development
- ☒ Traffic Impact Study, as required.
- ☒ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☒ The size of total property to be developed in square feet and acres
- ☒ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☒ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☒ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☒ Location and approximate dimensions of all existing and proposed structures.
- ☒ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☒ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☒ Location, type, and size of proposed signs
- ☒ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

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CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☒ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☒ General proposed contours at vertical intervals of not more than two (2) feet
- ☒ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☒ Location and dimension of aquatic buffer zones
- ☒ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☒ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☒ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☒ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☒ Proposed improvements as identified in the Traffic Impact Study, as required
- ☒ Existing and proposed sidewalks, trails, and other pedestrian elements
- N/A ☐ Existing and proposed on-street and off-street parking and loading areas
- N/A ☐ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☒ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☒ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☒ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☒ Any amenity features and structures for private or public benefit.
- N/A ☐ Location, dimension, and materials of fences and walls
- ☒ Tree Canopy retention

Utilities

- ☒ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☒ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

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PUD Specific Items

- ❑ Legal Description of Property
- ❑ Owner's Affidavit
- ❑ List of all variances requested
- ❑ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ❑ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ❑ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ❑ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Travis Bonar	Travis Bonar	5/22/2023
Print Name	Signature	Date

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy of submittal on USB thumb drive or CD*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	2504 Nashville Highway, Columbia, TN 38401		
	TAX MAP: 51	GROUP:	PARCEL: 6.00
SUMMARY OF NATURE OF REQUEST AND WORK	Preliminary Plat for Phase(s) 1-4. McClure Farms. All associated roads, utilities, storm sewer, etc...		

REQUEST DATE FOR PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☐ Sketch Plat – *Must be submitted at least two weeks prior to Preliminary Plat submittal* ☒ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan + Checklist ☐ PUD Final Site Plan + Checklist ☐ Multi-Family Site Plan ☐ Other: _____ **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat* *Freedom Point Elevations*	Annexations/Rezoning: ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards Plats/PUDs: • Project Name (include Sections & Phases) McClure Farms • Total Number of Lots 431 • Total acreage 95.29

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Travis Bonar	PHONE	(615)-610-1023
ADDRESS	4101 Charlotte Ave, Suite E215, Nashville, TN 37209	EMAIL	tbonar@waengineering.com

PROPERTY OWNER NAME	Brightland Homes of Tennessee, LLC	PHONE	(512)-330-9366 ext: 4233
ADDRESS	3815 S Capital Texas Hwy, Austin, TX 78704	EMAIL	sbarksdale@brightlandhomes.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Travis Bonar	Travis Bonar	5/19/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE

Brightland Homes - Shannon Barksdale		5/19/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

Mark McDonnell 6/16/23

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
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PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy of submittal on USB thumb drive or CD*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	2504 Nashville Highway, Columbia, TN 38401		
	TAX MAP: 51	GROUP:	PARCEL: 6.00
SUMMARY OF NATURE OF REQUEST AND WORK	Preliminary Plat for Phase(s) 1-4. McClure Farms. All associated roads, utilities, storm sewer, etc...		

REQUEST DATE FOR PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☐ Sketch Plat – *Must be submitted at least two weeks prior to Preliminary Plat submittal* ☒ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan + Checklist ☐ PUD Final Site Plan + Checklist ☐ Multi-Family Site Plan ☐ Other: _____ **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat* *Freedom Point Elevations*	Annexations/Rezoning: ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards Plats/PUDs: • Project Name (include Sections & Phases) McClure Farms • Total Number of Lots 431 • Total acreage 95.29

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

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By: 23-020!

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Travis Bonar	PHONE	(615)-610-1023
ADDRESS	4101 Charlotte Ave, Suite E215, Nashville, TN 37209	EMAIL	tbonar@waengineering.com

PROPERTY OWNER NAME	Brightland Homes of Tennessee, LLC	PHONE	(512)-330-9366 ext: 4233
ADDRESS	3815 S Capital Texas Hwy, Austin, TX 78704	EMAIL	sbarksdale@brightlandhomes.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Travis Bonar	Travis Bonar	5/19/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE

Brightland Homes - Shannon Barksdale		5/19/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

Mark McDonnell 6/16/23

STAFF USE ONLY

DOCKET NO.	23-0201	FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

Mackenzie Place

Project #:	23-0193	Location:	Map 90N Grp B Parcel 47.0
Applicant:	M2 Group, LLC	Case Type(s):	Site Development Plan
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Townhouses

PROJECT SUMMARY

The applicant requests approval of a Site Development Plan to develop thirty-four townhomes with accompanying Civic Space and infrastructure.

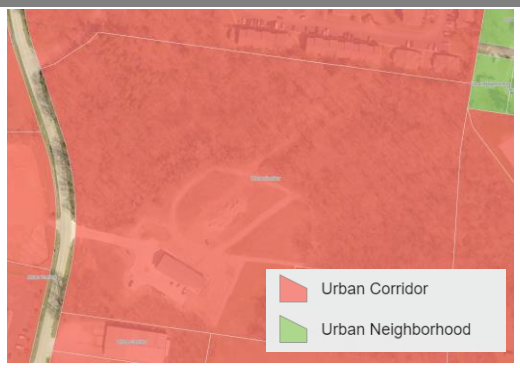
- Depending on the intended form of ownership (single owner, HPR or Fee Simple lots), the widths of the Townhomes may not conform. The nonconformity can be corrected by either 1) revising the site design; or 2) subdividing the property into individual lots.
- The applicant has requested a waiver to allow a cul-de-sac based on the topography of the subject site and adjacent sites.
- The Site Development Plan does not provide adequate parking.
- The Planning Commission is the **decision-making authority** for the Site Development Plan.
- Commentary from professional planning staff identifies recommended conditions of approval.
- Approval should be conditioned on timely submittal of "as-approved" plans which, in the determination of the Zoning Administrator and the City Engineer, reflect the substance of the plans approved by the Planning Commission.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-4	Vacant	Vacant/Powerlines	+ /- 3.59 acres



FUTURE LAND USE MAP



ZONING MAP



SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Corridor	CD-4	Vacant
North	Urban Corridor	CD-4	Multifamily
South	Urban Corridor	CD-4	Indoor Recreation
East	Urban Neighborhood	CD-3	Single-Family
West	Urban Corridor	CD-4C/PUD	Single-Family

CONSISTENCY WITH CONNECT COLUMBIA

Urban Neighborhood: The future land use of the subject site is Urban Corridor. The Character Area is characterized by wide-ranging mix of uses with intermixed and compatible civic uses. The Future Land Use Plan indicates that the general development pattern is urban with "single- and multi-use activity on small to medium lot sizes (Connect Columbia, p. 28). The specific character of the Corridor relies on the Area of Change determination. Future development should create a pedestrian-friendly environment and should focus on context-responsive development that emphasizes connectivity and access control. (Connect Columbia, p. 29). The future land use classification is implemented by the CD-4 and CD-5 character districts.

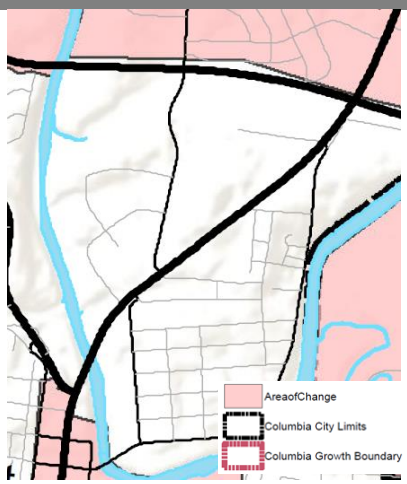
Urban Corridor

CHARACTER AREA MATRIX

	Development Pattern	Zoning Category and Uses	Infrastructure	Design Standard
URBAN CORRIDOR	**Is the property in an Area of Change?** **No:** The development pattern is established. Changes to overall character of the area should rarely occur. **Yes:** The development pattern is evolving. Changes to area are likely as development occurs. New development should blend with existing, surrounding neighborhood assets.	**Residential Uses:** Low Density Residential, Medium High Residential, and High Residential Districts **Public and Civic Uses:** Religious, Day Care, Government, Medical, and Educational **Commercial Uses:** Hotels, Recreational, Restaurants, Retail, Personal Services, Vehicle Sales and Service, and Wholesale Trade **Office Uses:** All office uses	**Not in an Area of Change:** Limited new services, with mostly in-fill enhancements to existing infrastructure. **Within an Area of Change:** Extensions to transportation, water, sewer, and other services should be expected. New service or extensive redevelopment of existing services should be vetted and reviewed by Planning Commission and City Council as a primary element of approval.	Scale: Buildings should be compatible with the established character of the area. Architecture: New developments should include a mix of architectural styles. Buildings should include quality materials with architectural details and features. Parking: Parking should be contingent on the location of the site along the transect, becoming more subordinate to buildings as urbanity increases.

AREA OF CHANGE

The subject site is located in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was evolving. Changes to the area are likely, but new development should blend with existing neighborhood assets. The designation does not necessarily mean that any particular development proposal is consistent with Connect Columbia. It does mean that the Planning Commission has previously determined that in this area, the development character is not fixed and change is expected over time (Connect Columbia p. 14).



CONFORMITY WITH ZONING ORDINANCE

The CD-4 General Urban Character District consists primarily of a medium density area that has a mix of building types and uses; there are medium, narrow or no front setbacks and narrow to medium side setbacks. Its Thoroughfares form medium blocks (Table 3.7.1 p. 36; Table 4.3.1-D, p. 76).

Land Uses

- **The Zoning Ordinance permits all proposed uses.**
  - The applicant proposes to develop the site entirely under the use of Household Living in Attached Dwelling–Townhouses.
  - Tables 4.3.9.1-A (p. 223) and 4.3.1-D (p. 82) permit these uses and structure types in a CD-4 development.

Lots, Building Sites & Bulk Standards

- **The proposed Site Development Plan depicts structures and building sites which generally conform to the standards of the CD-4 standards listed in Table 4.3.1-D of the Zoning Ordinance. However, depending on the intended form of ownership (HPR v Fee Simple), the widths of the Townhomes may not conform. The nonconformity can be corrected by either 1) revising the site design; or 2) subdividing the property into individual lots.**
  - The Ordinance permits a townhome width of 18 - 20 feet for multiple homes on a single Lot or Building Site; widths of 18-36 feet are permitted for townhomes with

each unit on its own lot or Building Site (Table 4.3.1-D, p.79). The Ordinance permits a maximum of eight attached Townhouse units.

- The applicant's Site Development Plan depicts 120-foot-wide building sites with between four and five attached dwellings. Each dwelling is 23 feet wide. This width exceeds the maximum width for multiple units on a single lot.
- The developer intends to create a Horizontal Property Regime (HPR) on the site whereby individual owners will own the interior of their units with all owners sharing the common elements of the development. This alternative to subdivision of the property into individual fee simple lots is a common practice. However, the Zoning Ordinance only allows townhomes of this width on individual lots with zero setbacks. The applicant will need to either 1) redesign the homes to conform to the Ordinance; or 2) submit an application for Preliminary Plat.
- Front setbacks may range between a minimum of 6 feet and maximum 20 feet. A three-foot rear yard setback is required. The Ordinance allows a zero side yard setback between townhome units; structures must be setback a minimum of six feet from side building site lines.
- The applicant's Site Development Plan depicts multiunit buildings with twelve feet of separation between structures.

Parking

- **The Site Development Plan depicts parking in garages and driveways to provide only the bare minimum required by the Ordinance for the residences. No parking is provided for Civic Space. The design of the garages may limit their usability for parking. Planning Staff has serious concerns about the adequacy of parking on the site.**
  - Article 4.3.12 of the Zoning Ordinance requires two parking spaces for each attached dwelling unit; 68 spaces are required for the proposed development.
  - Table 4.3.1-D of the Ordinance allows parking in garages, driveways, on-street, and in the Third Layer of the property.
  - The applicant proposed to meet the minimum parking requirement by double-parking vehicles in garages and driveways.
  - The applicant's plan provides exactly 68 spaces. Half of these spaces are located in garages, the others are driveway spots.
  - The ordinance requires additional spaces for the Civic Space. Staff failed to make this comment during technical review. Nonetheless, Table 4.3.12.B-1 requires at least two parking spaces to serve the 0.32 acres of Civic Space.

Architecture

- **Staff will determine Conformity with the prescriptive design standards of the Ordinance at the time of building permit. However, the design of the garages which are counted toward the minimum parking standard, needs revision.**
    - The applicant has acknowledged that all structures must conform to the prescriptive design standards in Table 4.3.1-D of the Ordinance.
    - The Ordinance requires garages to maintain minimum interior dimensions of 10 feet by 20 feet. The Ordinance also requires a minimum garage door width of nine feet.
    - The applicant has provided floorplans for the townhome units which indicate a second-floor stairwell may limit the vertical clear space in the garage making difficult to effectively park a full-size vehicle.
    - The floorplans show an 8-foot-wide door.

Civic Spaces

- **The proposed Preliminary Site Development Plan provides the required Civic Space in the form of a large Greens and a Community Garden dispersed throughout the development.**
    - Section 5.3.1 of Zoning Ordinance requires any development parcel[1] to utilize at least 5% but no more than 20% of its gross acreage as Civic Space conforming to the standards of Table 5.3.3-A.
    - The applicant proposes to dedicate 0.32 acres (9.0%) of the 3.59-acre site to Civic Space.
    - Each Civic Space type has its own standards for intent, size, frontage, character, and typical facilities.
    - The applicant's landscape plan depicts civic space details which include path and trails for passive recreation as well as a community garden with individual garden plots.

Type	Number	Area
Green with Community Garden	1	0.32 acres

[1] Development Parcel: a parcel of land: (1) which, either alone or together with one or more other parcels under a common Development scheme, program or plan, is ten (10) or more gross acres; (2) with respect to the Development of which any new Thoroughfare, Internal Drive, or extension or change of the design of any existing Thoroughfare or Internal Drive is required or will be made or proposed; or (3) with respect to which any District assignment or any Thoroughfare or Internal Drive or alignment thereof is proposed to be made or changed by a Zoning Map or Zoning Map amendment. (§ 9.3, p. 490).

Network Connectivity

- Section 5.2.2.E prohibits cul-de-sacs except where approved by Waiver of the Zoning Administrator to accommodate specific site conditions.
    - The applicant has requested a waiver to allow a cul-de-sac based on the topography of the subject site and adjacent sites.
    - The Zoning Administrator agrees that a future connection to an adjacent parcel is impractical due to topography, however, the Site Development Plan as presented does not provide a reasonable design to accommodate the site conditions.
    - The narrow site does not accommodate the number of homes proposed by the applicant. The roadway with a cul-de-sac turnaround meeting the Engineering Standards and Specification (ESS) barely leaves room for stormwater facilities and Civic Space. The utilization of every remaining square foot of the site for homesites does not afford space for the parking required by the Ordinance or practical necessity.

REVIEW PROCESS

The Development Review Committee reviewed the proposed Final Plat at its June 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

The Planning Commission is the Decision-Making Authority for all Site Development Plans that include one or more Development Parcels under **§ 8.5.6.D.3**.[2]

Sections **8.5.6.N** and **O** establish the criteria for review of a Site Development Plan.

N. Review Criteria.

1. The criteria to be applied by the Zoning Administrator in reviewing a Development Plan and application shall be whether such Plan and application comply with the applicable conditions, standards, and requirements of this Ordinance, all applicable previously approved Plans, such as earlier Development Plans, the Comprehensive Plan and all other applicable Land Use Plans.

2. With respect to a Development Plan the Planning Commission shall rely on all conditions, standards, and requirements of Articles 1-5 and Article 7 of this

[2] [2] Development Parcel: a parcel of land: (1) which, either alone or together with one or more other parcels under a common Development scheme, program or plan, is ten (10) or more gross acres; (2) with respect to the Development of which any new Thoroughfare, Internal Drive, or extension or change of the design of any existing Thoroughfare or Internal Drive is required or will be made or proposed; or (3) with respect to which any District assignment or any Thoroughfare or Internal Drive or alignment thereof is proposed to be made or changed by a Zoning Map or Zoning Map amendment. (§ 9.3, p. 490).

Ordinance and the Planning Commission shall review the Plan and application for compliance with all other conditions, standards, and requirements of this Ordinance, including without limitation those of Article 6 (Supplemental Standards) , and compliance with all applicable previously approved Plans, such as earlier Development Plans, the Comprehensive Plan and all other applicable Land Use Plans. Additionally, in the case of Development in a Special District, the Planning Commission shall determine:

a. Whether the Development design and Development intensity are appropriate for and tailored to the unique characteristics of the site, such as significant wooded areas, specimen trees, wetlands, steep slopes, floodplains, and zoning of or existing Development on Adjacent property;

b. Whether the proposed access and circulation are adequate with respect to traffic patterns, traffic control measures, and street pavement areas, with provisions for maintaining traffic flows and reducing any negative effects of traffic on nearby properties;

c. Compliance with site construction requirements;

d. Adequacy of stormwater facilities, water supply, sanitary sewer service, fire protection, street signs, and street lighting as evidenced by conformance with City standards, specifications and guidelines; and

e. Compliance with requirements for Easements or dedications.

O. Development Plan Procedures Decision-Making Authority's Action.

1. Within 62 days for a Development Plan and application for which the Zoning Administrator is the Decision-Making Authority, or within 62 days after the hearing on a Development Plan and application for which the Planning Commission is the Decision-Making Authority, the Development Plan and application shall be approved or disapproved by the Decision-Making Authority in accordance with the review criteria of Section 8.5.6.N and Sections 8.5.6.O.2-.5 below:

2. A Development Plan and application shall be approved by the Decision-Making Authority, upon a finding that the Development Plan and application are in compliance with the review criteria set forth in Section 8.5.6.N.

3. If a Development Plan and Application are approved, the Development Plan as approved shall become part of the record of approval, and subsequent actions relating to the authorized Development must be consistent with approved items.

4. A Development Plan and application shall be disapproved if the Decision-Making Authority determines that the Plan and application do not comply with any one or more of the review criteria set forth in Section 8.5.6.N.

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its meetings in May and June of 2023. A full list of comments, and the applicant's responses, is provided in the agenda packet. Some key comments are noted below.

- **Engineering** requested a Geotech Report which was provide by the applicant.
- Engineering also recommended instillation of yard drain system. This will allow the option for future residents to add a back patio. The applicant acknowledged the comment and agreed to evaluate the possibility of a yard drain system during review of site construction plans.
- Engineering expressed concern that the sight distance triangle was obscured. Staff recommended additional off-site grading to allow safer egress from the site. The applicant acknowledged this comment and will work with staff during subsequent administrative reviews.
- **Planning** noted that the minimum parking requirement is met by double-parking vehicles in garages and driveways. Additional on-street parking is impractical due to the dense number of driveways. The plan meets the minimum parking ratio but the design is likely to invite use of the cul-de-sac as a parking area, limiting its functionality as a turnaround. In response to comments the applicant the applicant offered to provide "no parking" signage in the cul-de-sac, but did not offer a realistic solution for guest parking/additional vehicles.
- Planning expressed concern that because required parking is provided in garages designed to meet the minimum dimensional requirements of 10 x 20', the spaces may not accommodate typical passenger vehicles. The floor plans provided at resubmittal depict partial obstruction of part of the garage, meaning the design does not conform to the minimum standard. In addition, the garage door widths do not conform to the standards of the Ordinance. Although the precise design on the garages will be reviewed at the time of building permit, Planning prefers to establish a realistic plan for parking at the time of Site Development Plan approval.
- Columbia Power (**CPWS**) noted that supply chain concerns could affect the timing of any development. This is a standard comment from the utility.
- **Maury County Schools** noted that the site is currently in the attendance zones of Howell Elementary, Cox Middle School, Central High School. New construction or

realignment of school attendance zones may be necessary to accommodate new students. This is a standard comment from the school system.

- **Wastewater** indicated that all sewer main easements must be located within the public right of way and designed to city standards. The applicant only partially acknowledged these comments. The design of the wastewater system will be confirmed during subsequent administrative reviews. The design of a wastewater system deemed adequate by the Wastewater Engineer should be a condition of approval.

COMMENTS FROM PROFESSIONAL PLANNING STAFF

Planning staff does not believe the design and intensity of development are appropriate for and tailored to the unique characteristics of the site.

The design invites parking in the cul-de-sac. The Zoning Administrator does not support the creation of a cul-de-sac which results in a dead-end public right-of-way that will function as an ill-designed parking lot. The number of units on the site does not allow for adequate parking. The parking which is provided is impractical. The design will lead to inevitable neighbor conflicts and could obstruct emergency services' access to the site. It will also make the City responsible for the maintenance of a non-functional roadway. The plan meets the minimum parking ratio for the residences but does not provide parking for the Civic Space. A community Parking Area is necessary to accommodate Civic Space and overflow parking. This will likely result in a reduction of units.

The applicant may need to either 1) revise the site design; or 2) subdivide the property into individual lots.

As discussed in the zoning conformity section above, the proposed building site widths do not conform to the Ordinance if the property is to remain a single parcel with one owner, or under a HPR. The solutions to this issue are straightforward.

Approval should be conditioned on timely submittal of "as-approved" documents which, in the determination of the Zoning Administrator and the City Engineer, reflect the substance of the plans approved by the Planning Commission.

SAMPE MOTIONS

Approve:

Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in sections 8.5.6.N and O of the City of Columbia Zoning Ordinance have been satisfied, and approve the Site Development Plan as presented *[,subject to technical comments and other conditions presented by planning staff*].

Approve Subject to Conditions:

Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in sections 8.5.6.N and O of the City of Columbia Zoning Ordinance have been satisfied, and approve Site Development Plan, subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

Move to deny the Site Development Plan having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in sections 8.5.6.N and O of the City of Columbia Zoning Ordinance are not satisfied [*list specific reasons for denial*].

Defer:

Move to find that there is insufficient information to make a decision, defer the matter to the next regularly scheduled meeting of the Planning Commission, and request that the [*applicant/staff*] provide: [*list additional information*] for review at that future meeting.

SITE PLAN FOR:

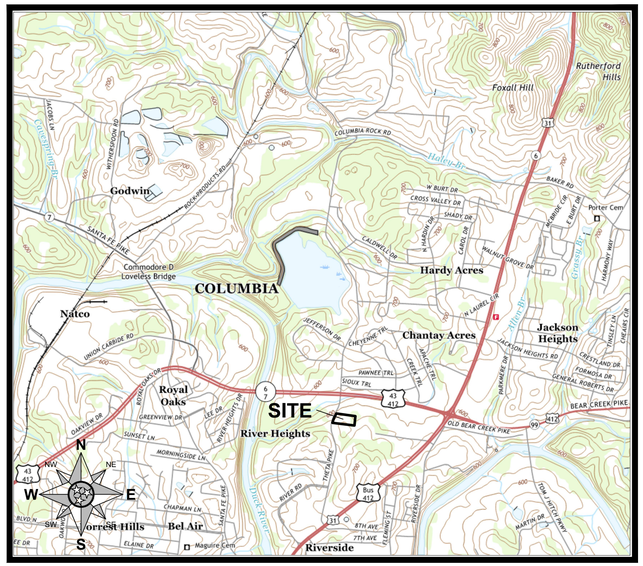
MACKENZIE PLACE

TAX MAP 90B, GROUP B, PARCEL 47.00

220 THETA PIKE

MAURY COUNTY, TENNESSEE

MAY 22, 2023



VICINITY MAP

SCALE: 1" = 2,000'

SOURCE: USGS

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A3.1	ARCHITECTURAL RENDERING
A3.2	ARCHITECTURAL RENDERING
A3.3	ARCHITECTURAL RENDERING
A3.4	ARCHITECTURAL RENDERING

PROJECT NOTES:

1. WATER FOR THIS DEVELOPMENT IS TO BE PROVIDED BY COLUMBIA POWER & WATER SYSTEMS.
2. SANITARY SEWER PROVIDER FOR THIS DEVELOPMENT IS TO BE COLUMBIA POWER & WATER SYSTEMS.
3. TOPOGRAPHIC AND BOUNDARY SURVEY PREPARED BY M2 GROUP, LLC DATED MAY, 2022.
4. ELECTRIC SERVICE TO BE PROVIDED BY COLUMBIA POWER & WATER SYSTEMS.
5. GAS SERVICE TO BE PROVIDED BY ATMOS ENERGY.

FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.

CONTACT LIST

OWNER/DEVELOPER

WAITS DEVELOPMENT GROUP, LLC
ADDRESS: PO BOX 111285
NASHVILLE, TENNESSEE 37222
PHONE NO.:615-498-4190
CONTACT NAME: JOHN WAITS

CIVIL ENGINEER

M2 GROUP, LLC
P.O. BOX 848
FRANKLIN, TN 37065
PHONE: (615) 406-3415
CONTACT: MATT W. BRYANT, P.E.
E-MAIL: matt@m2groupllc.com

UTILITY CONTACTS:

WATER SUPPLY:
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TN 38401
(931) 388-4833

SANITARY SEWER
COLUMBIA WASTEWATER DEPARTMENT
1244 Treatment Plant Road
COLUMBIA, TN 38401
(931) 560-1001

ELECTRIC SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TN 38401
(931) 388-4833

GAS SERVICE
ATMOS ENERGY CORPORATION
810 NASHVILLE HWY
COLUMBIA, TN 38401
(931) 388-9136

811 Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION
1	08-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN — REGISTERED ENGINEER — AGRICULTURE — COMMERCE & TECHNOLOGY — CERTIFICATE NO. 120168 — STATE OF TENNESSEE — 08/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

COVER SHEET

DRAWN BY: M2G
CHECKED BY: MWB
DATE: MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C000

MPA - COVER SHEET.DWG / Monday, June 19, 2023 3:50:42 PM

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS. INFORM ENGINEER OF ANY CONFLICTS DETRIMENTAL TO THE DESIGN INTENT.
2. 72 HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES: TENNESSEE 811 AND ALL OTHER AGENCIES THAT MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF TENNESSEE 811.
3. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
4. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES AND PERFORM SAID ACTIVITIES IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL & OSHA REGULATIONS.
6. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, PAY ALL REQUIRED FEES AND ATTEND REQUIRED PRE-CONSTRUCTION MEETINGS WITH CITY AND UTILITY COMPANIES PRIOR TO BEGINNING WORK.
7. ANY WORK PERFORMED IN THE LOCAL RIGHT OF WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT OF WAYS.
8. THE CONTRACTOR IS TO PERFORM ALL INSPECTIONS AS REQUIRED BY THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS. OWNER WILL SUBMIT THE NOTICE OF INTENT (NOI) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ORDER TO OBTAIN A NOTICE OF COVERAGE (NOC) UNDER THE STATE OF TENNESSEE NPDES PERMIT. THE CONTRACTOR WILL BE REQUIRED TO SIGN THE NOI AND SUBMIT UPDATED NOI TO THE STATE OF TENNESSEE UPON SELECTION TO COMPLETE THE CONSTRUCTION AND BE A PERMITTEE LISTED ON THE NOC.
9. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL, PRACTICES REQUIRED BY CITY OF COLUMBIA AND TDEC.
10. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS.
11. ALL WORK SHALL COMPLY WITH THE TENNESSEE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF CITY OF COLUMBIA SUBDIVISION REGULATIONS.
12. ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
13. CONTRACTOR SHALL REFER TO OTHER PLAN SHEETS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
14. BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THEY ARE NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.
15. WHERE CURB IS PRESENT, DIMENSIONS ARE SHOWN TO THE FACE OF CURB, OTHERWISE DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT OR AS NOTED.
16. SITE SIGNAGE AND STRIPING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
17. CONCRETE WALKS SHALL BE 4" THICK OVER 4" COMPACTED GRAVEL WITH CONTROL JOINTS EQUALLY SPACED AT IN ACCORDANCE WITH ACI 330R-01 AND ACI 325R 9-91, ISOLATION JOINTS AT ALL FIXED STRUCTURES (MANHOLES, INLETS, WALLS, BUILDING, ETC.). ALL SIDEWALKS ARE TO BE BROOM FINISHED.
18. CONSTRUCTION OF ALL ROADWAYS AND SIDEWALKS SHALL MEET THE REQUIREMENTS OF CITY OF COLUMBIA ROADWAY CONSTRUCTION CRITERIA AND STANDARD DETAILS.
19. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
20. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH ALL FEDERAL OSHA REGULATIONS. CONTRACTOR TO PAY PARTICULAR ATTENTION TO 29 CFR PART 1926, SUBPARTS M AND P.

DEMOLITION NOTES

1. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD BY THE CONTRACTOR.
2. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
3. TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH CITY OF COLUMBIA STANDARDS AND DETAILED DRAWINGS. DO NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
4. PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
5. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS, OTHER THAN TOPSOIL, SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
6. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
7. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
8. EROSION & SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
9. HAZARDOUS MATERIALS ARE NOT EXPECTED, IF FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
10. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
11. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
13. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.
14. ANY UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO WELLS, ASBESTOS, UNDER GROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO PHASE I ESA, PHASE II ESA, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.

LAYOUT NOTES

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
3. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL UTILITIES; INCLUDING, BUT NOT LIMITED TO, ALL UTILITIES AND CROSSINGS PRIOR TO PAVEMENT INSTALLATION.
4. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN, WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
5. SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT/RECORD DRAWINGS ON-SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
7. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH CITY OF COLUMBIA REQUIREMENTS. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION / DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.
8. CONTRACTOR SHALL PERFORM A PROOF ROLL PER CITY OF COLUMBIA REQUIREMENTS PRIOR TO STONE AND PAVEMENT INSTALLATION.
9. ALL PAVEMENT MARKINGS SHALL BE INSTALLED USING WHITE OR YELLOW, REFLECTIVE TRAFFIC MATERIALS (SEE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
10. THE CITY WILL MEASURE THE CROSS SLOPE OF FINAL CONSTRUCTED ROADWAYS WITHIN THE SUBDIVISION. THE CROSS SLOPE OF THE FINAL CONSTRUCTED ROADWAYS SHALL BE PER THE ROADWAY SECTION SHOWN ON THE CONSTRUCTION PLANS OR IT SHALL BE REPAIRED AT NO COST TO THE CITY OR OWNER.
11. OWNER SHALL PROVIDE STAKING OF THE FRONT PROPERTY LINES OF EACH LOT AND WILL SET FINAL PROPERTY CORNERS. ALL OTHER STAKING/SURVEYING THAT IS REQUIRED TO CONSTRUCT THE IMPROVEMENTS SHOWN IN THESE CONSTRUCTION PLANS IS THE RESPONSIBILITY OF THE CONTRACTOR.
12. THE ENGINEER SHALL PROVIDE FILES IN COMPUTER-AIDED-DRAFTING (CAD) FORMAT TO THE CONTRACTOR. THE CONTRACTOR WILL BE BOUND BY THE TERMS IN THE ENGINEER'S "CAD FILES DISCLAIMER, WAIVER AND LIMITATION OF LIABILITY" AGREEMENT.

GRADING NOTES

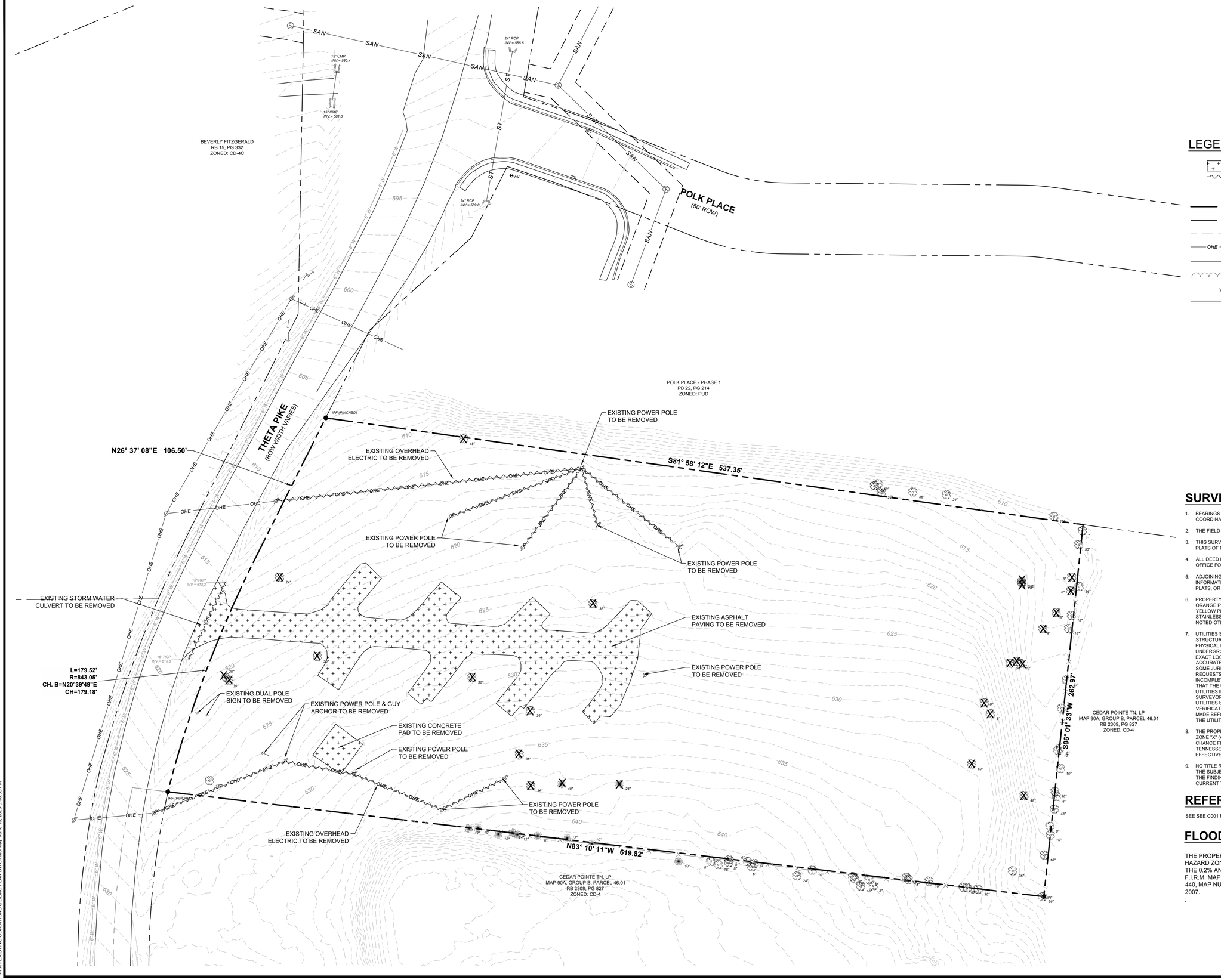
1. THE CONTRACTOR SHALL CHECK ALL EXISTING AND FINISHED GRADES, DIMENSIONS, ETC. PRIOR TO BEGINNING NOTIFY THE OWNERS REPRESENTATIVE OF ANY DISCREPANCIES AND/OR ERRORS IN THE PLANS PRIOR TO COMMENCING WORK.
2. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.
4. CONTRACTOR SHALL ADHERE TO THE EROSION & SEDIMENT CONTROL PLAN PREPARED FOR THIS PROJECT.
5. EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
6. CONTRACTOR TO REFILL UNDERCUT AREAS (IF REQUIRED) WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
7. EXCAVATED SUBGRADES AND EACH LAYER OF FILL SHALL BE OF A QUALITY ACCEPTABLE TO THE OWNERS REPRESENTATIVE AND SHALL NOT INCLUDE ORGANIC MATERIAL, BOULDERS, DEBRIS, WET MATERIAL, ETC. CUT OR STRIPPED AREAS SHALL BE PROOF ROLLED PRIOR TO ANY FILLING. ALL GRADING ACTIVITY AND PLACEMENT OF MATERIAL SHALL BE MONITORED BY A QUALIFIED GEOTECHNICAL ENGINEER (OR THEIR REPRESENTATIVE), OR AS DIRECTED BY THE OWNERS REPRESENTATIVE. MATERIAL SHALL MEET OR EXCEED COMPACTION REQUIREMENTS SPECIFIED IN THE SPECIFICATIONS PUBLISHED BY CITY OF COLUMBIA.
8. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A MINIMUM DEPTH OF 6". TOPSOIL SHALL BE FREE OF ROCK AND DEBRIS.
9. ALL SLOPES IN NON-PAVED AREAS SHALL BE 3:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
10. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL PLAN, UNLESS NOTED OTHERWISE.
11. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
12. ALL EXCESS SOIL MATERIALS, OTHER THAN TOPSOIL, SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE (INCLUDING ALL CHARTER COMMERCIAL, LLC PROPERTY OR FUTURE PHASES OF HIGH PARK HILL SUBDIVISION) AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE SITE EARTHWORK BY IMPORTING OR EXPORTING AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.
14. THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING CONSTRUCTION. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO ADJACENT PROPERTIES OCCURRING DURING CONSTRUCTION OF THIS PROJECT. NO WORK SHALL BE PERFORMED OUTSIDE THE PROJECT BOUNDARY WITHOUT PROPER AGREEMENTS WITH THE AFFECTED PROPERTY OWNERS.
15. THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON ARE BASED ON UTILITY COMPANY RECORDS, AND WHERE POSSIBLE, FIELD MEASUREMENTS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 3 DAYS BUT NOT MORE THAN 10 DAYS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES TO REMAIN. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED UTILITIES ACCORDING TO LOCAL CODES AT THE CONTRACTORS EXPENSE.
16. THE GENERAL CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING CONSTRUCTION. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.
17. MATERIALS NOT SUITABLE FOR FILL OR REUSE SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF COLUMBIA AND AS DIRECTED BY THE OWNER OR THEIR REPRESENTATIVE.
18. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT T.O.S.H.A. PROVISIONS AND THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION, ISSUED BY THE AGC OF AMERICA, INCORPORATED, AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.
19. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE THROUGH THE SITE DURING ALL PHASES OF CONSTRUCTION.
20. CONTRACTOR SHALL REMOVE FROM THE LIMITS OF DISTURBANCE ALL UNSUITABLE MATERIAL, DEBRIS, LARGER BOULDERS, DELETERIOUS MATERIAL, ETC. STOCKPILING OF ANY MATERIAL IN FUTURE PHASES OF THIS SUBDIVISION IS PROHIBITED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE DEVELOPER AND THE ENGINEER OF RECORD. CONSENT TO PLACE ANY MATERIAL IN FUTURE PHASES OF THIS SUBDIVISION SHALL ONLY BE GRANTED UNDER THE FOLLOWING PROVISIONS:
    - IF THE AREA IS CLEARED, MAINTAINED AND PROPER EROSION CONTROL MEASURES INSTALLED TO PREVENT EROSION OR SEDIMENT DEPOSITION.
    - MATERIAL IS PLACED AND GRADED IN A PERMANENT LOCATION THAT WILL NOT BE REQUIRED TO BE MOVED IN A FUTURE PHASE OF THIS SUBDIVISION DEVELOPMENT AND PERMANENTLY STABILIZED IN ACCORDANCE WITH TDEC AND CITY REGULATIONS.
21. ALL SOILS, REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED, ARE CONSIDERED TO BE UNCLASSIFIED. THE CONTRACTOR RECOGNIZES THAT THIS PROJECT IS LOCATED IN AN AREA WHERE ROCK ENCOUNTER IS LIKELY. THE CONTRACTOR IS RESPONSIBLE TO VISIT THE SITE, MAKE ANY TESTS, BORES, TEST PITS, SURVEYS, ETC. NECESSARY TO FAMILIARIZE HIMSELF WITH ALL SPECIFIC SITE CONDITIONS RELATED TO THIS PROJECT. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ANY ROCK ENCOUNTER, THE EXCAVATION/REMOVAL THEREOF, OR DISPOSAL OF ROCK/SOIL MIX AND/OR UNSUITABLE SOIL

STORM DRAINAGE NOTES

1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES, SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
4. THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, PIPING, ETC. AS REQUIRED TO CONVEY THE LANDSCAPED & PAVED SURFACE DRAINAGE THROUGH THE SITE.
5. STORM SEWER PIPE LABELED "RCP" SHALL BE REINFORCED CONCRETE PIPE. ALL STORM IS TO BE INSTALLED PER CITY OF COLUMBIA REQUIREMENTS AND SPECIFICATIONS.
6. STORM SEWER IS TO BE BEDDED WITH CLEAN GRANULAR MATERIAL (AGGREGATE) CONSISTING OF AASHTO #57 OR #67 STONE. BEDDING TO BE MINIMUM OF 6" BELOW & 12" ABOVE AND ON THE SIDES OF THE PIPE OR AS REQUIRED BY CITY OF COLUMBIA INSPECTOR.
7. ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
8. CONTRACTOR SHALL INCLUDE A LINE ITEM IN THEIR CONTRACT TO THE OWNER FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROL MEASURES AT THE END OF THE BOND PERIOD WITH CITY OF COLUMBIA.

EROSION AND SEDIMENT CONTROL NOTES

1. THE ISSUED NOTICE OF COVERAGE (NOC) OF THE PERMIT TO DISCHARGE CONSTRUCTION ACTIVITY STORMWATER SHALL BE POSTED NEAR THE SITE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL HAVE THE SWPPP AND A SET OF APPROVED EPSC PLANS ON SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO SIGN THE NOTICE OF INTENT (NOI) AND SUBMIT UPDATED NOI TO THE STATE OF TENNESSEE UPON SELECTION TO COMPLETE THE CONSTRUCTION AND BE A PERMITTEE LISTED ON THE NOC.
2. PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES OR INITIATION OF EARTH DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CLEARLY DELINEATE THE PROPOSED LIMITS OF DISTURBANCE IN THE FIELD UTILIZING FLAGGING, STAKES, AND/OR CONSTRUCTION FENCE. NO DISTURBANCE BEYOND THESE LIMITS SHALL BE PERMITTED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE ENGINEER, THE AFFECTED PROPERTY OWNER AND ANY APPLICABLE REGULATORY AGENCIES.
3. THE CONSTRUCTION ACTIVITIES ANTICIPATED FOR THIS PROJECT INCLUDES GRADING, PAVING, AND UTILITY INSTALLATION.
4. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY TDEC PRIOR TO ADDITIONAL DISTURBANCE.
5. CONSTRUCTION SHALL BE SEQUENCED BY THE CONTRACTOR AS TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREAS. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS.
6. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE PERSON(S) RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE JOB SITE TRAILER, OR AT THE SITE CONSTRUCTION SIGN.
7. PRE-CONSTRUCTION VEGETATIVE GROUNDCOVER SHALL NOT BE REMOVED MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATTING. STEEP SLOPES (GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 DAYS OF THE ESTABLISHMENT OF FINAL GRADES.
8. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION AND SEDIMENT CONTROL FOR A PERIOD OF THREE YEARS AFTER COMPLETION OF CONSTRUCTION OR AS REQUIRED BY GOVERNING AUTHORITIES.
9. TEMPORARY SEEDING FOR THIS PROJECT SHALL UTILIZE TDOT, TDEC OR LOCAL STANDARDS UNLESS OTHERWISE INDICATED HEREON.
10. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH MUST BE CRIMPED INTO THE SOIL BY MECHANICAL MEANS. BROADCAST SPREADING OF MULCH IS NOT ACCEPTABLE.
11. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION. ALL STOCKPILES SHALL BE COVERED WITH TEMPORARY SEEDING AND PROTECTED WITH SILT FENCING.
12. FOR PERMANENT STABILIZATION OF ALL SLOPES 3:1 OR STEEPER, INSTALL TEMPORARY EROSION CONTROL BLANKET (TENSAR NORTH AMERICAN GREEN TCP-10 OR APPROVED EQUAL) INSTALLED PER MANUFACTURERS' RECOMMENDATIONS SHALL BE USED IN PLACE OF STRAW MULCH.
13. FOR PERMANENT STABILIZATION OF DRAINAGE SWALES, INSTALL TURF REINFORCEMENT MATTING (TENSAR NORTH AMERICAN GREEN SC250 OR APPROVED EQUAL) PER MANUFACTURERS' RECOMMENDATIONS.
14. FOR PERMANENT STABILIZATION OF PERMANENT DETENTION POND, INSTALL SOD PER MANUFACTURERS' RECOMMENDATIONS. SOD SHALL BE AS FOLLOWS: SOD SHALL BE HIGH-QUALITY TURF TYPE TALL FESCUE OF KNOWN GENETIC ORIGIN. FREE OF NOXIOUS WEEDS, DISEASE, AND INSECT PROBLEMS. SOD SHALL APPEAR HEALTHY AND VIGOROUS, AND CONFORM TO ALL SPECIFICATIONS IN THE TDEC SEDIMENT AND EROSION CONTROL HANDBOOK, LATEST EDITION.
15. THE LOCATION OF SOME OF THE EROSION CONTROL MEASURES MAY NEED TO BE ALTERED DUE TO CHANGING SITE CONDITIONS COMMENSURATE WITH PROGRESS OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION AND SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
16. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.
17. CONTRACTOR SHALL PREPARE, IMPLEMENT, AND MAINTAIN A SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN, AS A SEPARATE DOCUMENT OR AS A COMPONENT OF THE SWPPP, FOR ALL TANKS/CONTAINERS STORING ONSITE FUEL, CHEMICALS, OR OTHER POLLUTANTS CONSISTENT WITH THE REQUIREMENTS OF STATE NPDES RULES. EFFECTIVE MEASURES NECESSARY TO PREVENT SPILLS AND TO CLEAN UP SPILLS OF ANY TOXIC POLLUTANT, AS DOCUMENTED IN THE FACILITY'S SPCC PLAN, SHALL BE FULLY IMPLEMENTED. SOIL CONTAMINATED BY HAZARDOUS SUBSTANCES, PAINTS, FUEL, OR CHEMICAL SPILLS, SHALL BE IMMEDIATELY CLEANED UP, MANAGED, AND DISPOSED OF IN AN APPROVED MANNER. WHERE POTENTIAL SPILLS CAN OCCUR, MATERIALS HANDLING PROCEDURES SHALL BE SPECIFIED AND PROCEDURES FOR IMMEDIATE CLEANUP/REMEDIATION OF SPILLS SHALL BE DESCRIBED IN THE SPCC PLAN OR EMPLOYEE TRAINING PLANS. THE EQUIPMENT NECESSARY TO IMPLEMENT A CLEANUP SHALL BE MADE AVAILABLE TO FACILITY PERSONNEL. THE OPERATOR SHALL IMMEDIATELY NOTIFY THE DESIGNATED STATE AND LOCAL GOVERNMENT AGEN



LEGEND

- ASPHALT REMOVAL
- UTILITY REMOVAL
- TREE REMOVAL
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPEF
- EXISTING INDEX CONTOUR
- EXISTING OVERHEAD ELECTI
- EXISTING SANITARY SEWER I
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- EXISTING STORM SEWER LIN
- FIRE HYDRANT
- WATER METER
- TREE, DECIDUOUS
- TREE, CONIFER
- IRON PIPE FOUND (IPF)
- SANITARY MANHOLE
- WATER BOX (WATER VALVE)
- POWER POLE
- CURB INLET

SURVEYOR'S NOTES

1. BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD83, 2011).
2. THE FIELD SURVEY WAS COMPLETED ON MAY, 2022.
3. THIS SURVEY WAS PREPARED USING THE CURRENT DEEDS AND PLATS OF RECORD.
4. ALL DEED BOOK AND PLAT REFERENCES PERTAIN TO THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
5. ADJOINING PROPERTY LINES SHOWN WERE PLOTTED FROM INFORMATION TAKEN FROM EITHER DEED DESCRIPTION, RECORD PLATS, OR TAX MAPS.
6. PROPERTY CORNERS SET THIS SURVEY ARE 18" #4 REBAR WITH ORANGE PLASTIC CAP STAMPED "M2 GROUP". 18" #5 REBAR WITH YELLOW PLASTIC CAP STAMPED "M2 GROUP, LLC", OR PK NAIL WITH STAINLESS STEEL WASHER STAMPED "M2 GROUP, LLC", UNLESS NOTED OTHERWISE.
7. UTILITIES SHOWN HEREON WERE COMPILED FROM VISIBLE STRUCTURES AT THE SITE, INFORMATION FROM PLANS, AND PHYSICAL MARKINGS AND COMBINED TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THIS SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. VERIFICATION OF EXISTENCE, LOCATIONS, AND DEPTH SHOULD BE MADE BEFORE CONDUCTING ANY EXCAVATION IN THE VICINITY OF THE UTILITY.
8. THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.
9. NO TITLE REPORT WAS PROVIDED TO THIS SURVEYOR REGARDING THE SUBJECT PROPERTIES, THEREFORE, THIS SURVEY IS SUBJECT TO THE FINDINGS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH AND REPORT MAY DISCLOSE.

REFERENCE

SEE SEE C001 FOR GENERAL AND DEMOLITION NOTES.

FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
REGISTERED LAND SURVEYOR
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

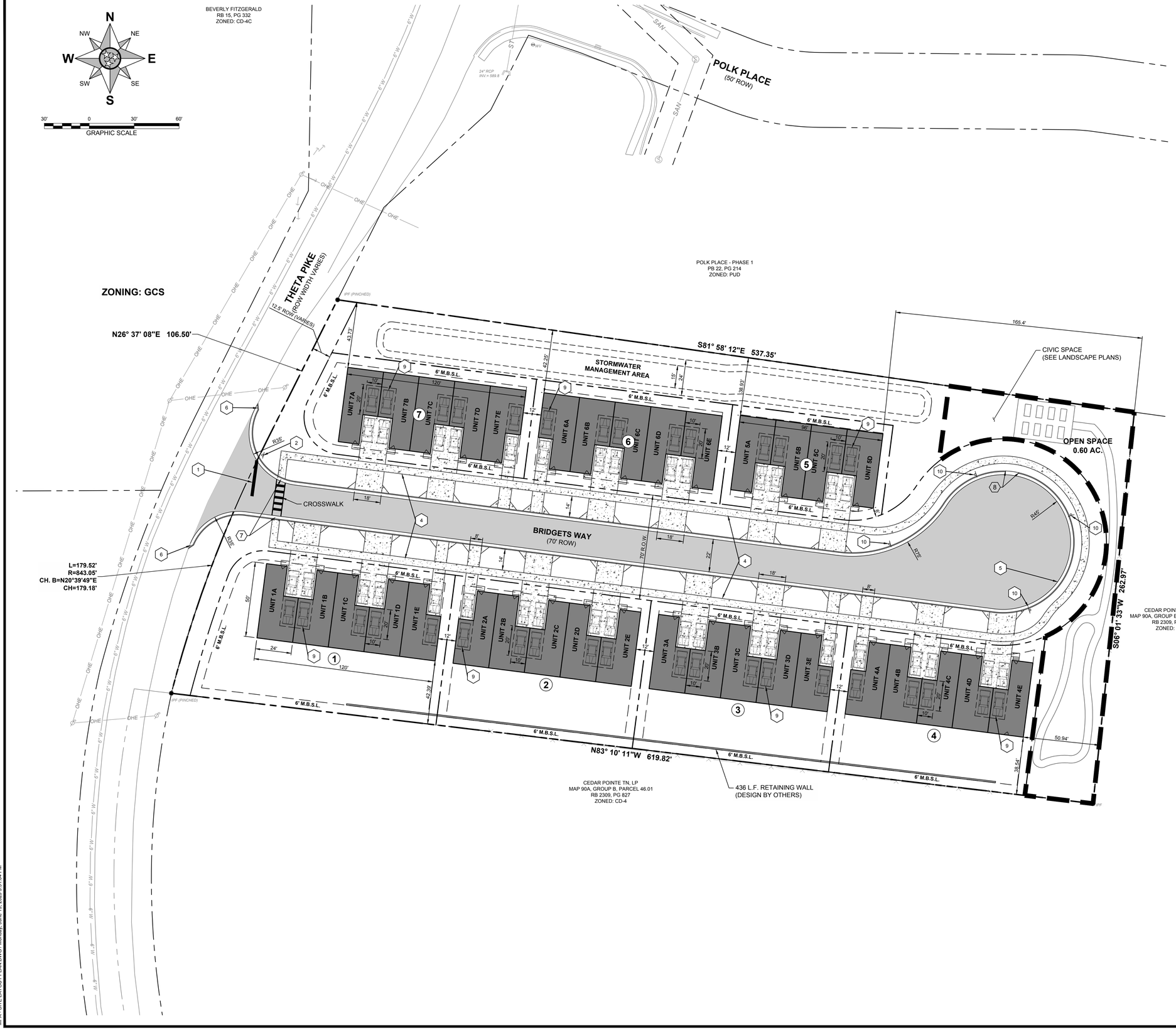
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

EXISTING CONDITIONS & DEMOLITION PLAN

DRAWN BY : M2G
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C100

MPA - EXISTING CONDITIONS & DEMO PLAN.DWG / Monday, June 19, 2023 3:50:55 PM



SITE PLAN KEY NOTES

1. 2' WIDE x 18' LONG THERMOPLASTIC STOP BAR
2. STOP / STREET SIGN (REF. SHEET C600)
3. PROPOSED LIGHT POLE/FIXTURE, SEE SITE PHOTOMETRICS PLAN
4. 5' CONCRETE SIDEWALK (REF SHEET C600)
5. CURB AND GUTTER (TYP.) (REF. SHEET C600)
6. CURB TAPER (REF. SHEET C6.0)
7. ADA RAMP (REF. SHEET C6.0)
8. 2' WIDE CURB CUT
9. UNIT PARKING (2 SPACES PER UNIT)
10. NO PARKING SIGN

LOCAL NOTE:

1. PROJECT IS INTENDED TO BE PLATTED AND RECORDED UNDER THE HORIZONTAL PROPERTY REGIME STANDARDS OF THE STATE OF TENNESSEE. THEREFORE A PRELIMINARY PLAT AND FINAL PLAT ARE NOT REQUIRED.
2. DURING FINAL ARCHITECTURAL / BUILDING PERMIT PHASE, PLAN WILL DEMONSTRATE MINIMUM INTERIOR DIMENSION TO MEET CITY STANDARDS.

SITE DATA TABLE		
ZONING	CD-4	
TOTAL LOT AREA	3.59	AC.
TOTAL NUMBER OF UNITS	34	EA.
DENSITY	9.47	UNITS / AC.
PARKING SPACES REQUIRED	68	EA.
PARKING SPACES PROVIDED	68*	EA.
FRONT YARD SETBACK	6' - 20'	L.F.
SIDE YARD SETBACK	6	L.F.
REAR YARD SETBACK	6	L.F.

* THE PROVIDED 68 PARKING SPACES MEET CITY REQUIREMENTS. HOWEVER, EACH UNIT CAN ACCOMMODATE 1 ADDITIONAL SPACE FOR GUEST PARKING BETWEEN SIDEWALK AND FACE OF BUILDNG.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED
ARCHITECT
COMMERCIAL
CERTIFICATE NO.
AR-0107
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2G GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

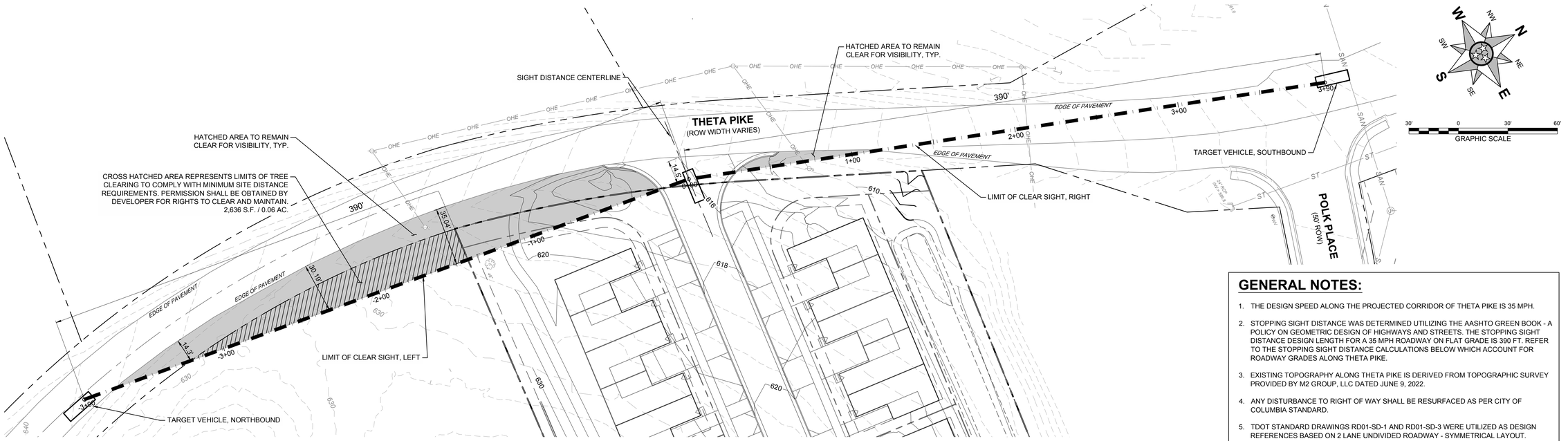
SITE LAYOUT PLAN

DATE :	MAY 22, 2023
PROJECT NO. :	22-085
DRAWN BY :	M2G
CHECKED BY :	MWB

SHEET NUMBER:
C200

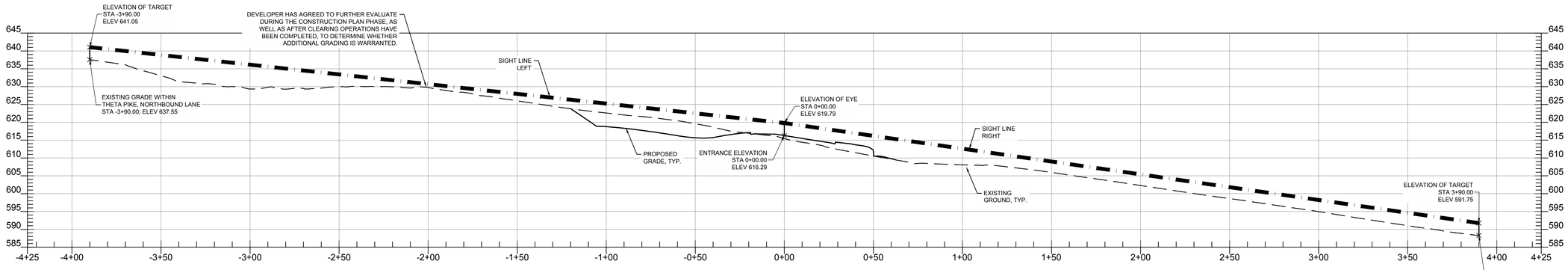
811 Know what's below. Call before you dig.

MPA - SITE LAYOUT PLAN.DWG / Monday, June 19, 2023 3:51:04 PM



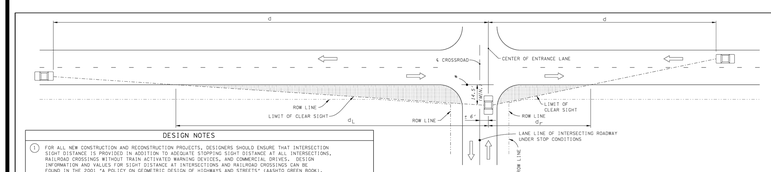
GENERAL NOTES:

1. THE DESIGN SPEED ALONG THE PROJECTED CORRIDOR OF THETA PIKE IS 35 MPH.
2. STOPPING SIGHT DISTANCE WAS DETERMINED UTILIZING THE AASHTO GREEN BOOK - A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS. THE STOPPING SIGHT DISTANCE DESIGN LENGTH FOR A 35 MPH ROADWAY ON FLAT GRADE IS 390 FT. REFER TO THE STOPPING SIGHT DISTANCE CALCULATIONS BELOW WHICH ACCOUNT FOR ROADWAY GRADES ALONG THETA PIKE.
3. EXISTING TOPOGRAPHY ALONG THETA PIKE IS DERIVED FROM TOPOGRAPHIC SURVEY PROVIDED BY M2 GROUP, LLC DATED JUNE 9, 2022.
4. ANY DISTURBANCE TO RIGHT OF WAY SHALL BE RESURFACED AS PER CITY OF COLUMBIA STANDARD.
5. TDOT STANDARD DRAWINGS RD01-SD-1 AND RD01-SD-3 WERE UTILIZED AS DESIGN REFERENCES BASED ON 2 LANE UNDIVIDED ROADWAY - SYMMETRICAL LAYOUT.



SIGHT DISTANCE PROFILE

SCALE H:1"=30'; V:1"=15'



ORIGIN OF CLEAR SIGHT LINE ON MINOR ROAD, STOP CONDITIONS

DEFINITIONS

d =CLEAR LINE SIGHT DISTANCE

d_R= CLEAR LINE OF SIGHT DISTANCE TO THE RIGHT

d_L= CLEAR LINE OF SIGHT DISTANCE TO THE LEFT

d_M DISTANCE MEASURED FROM THE CENTERLINE OF THE ENTRANCE LANE OF THE MINOR ROADWAY TO A POINT ON THE MEDIAN CLEAR ZONE LIMIT OR HORIZONTAL CLEARANCE LIMIT FOR THE FAR SIDE ROADWAY OF THE MAJOR ROADWAY (SEE SHEET RD01-SD-3)

EDGE OF MAJOR ROAD TRAVELED WAY, THE TRAVELED WAY IS THE PORTION OF THE ROADWAY FOR THE MOVEMENT OF VEHICLES, EXCLUSIVE OF SHOULDERS, PARKING SPACES AND MARKED BICYCLE LANES.

GENERAL NOTES

A. DETAILS APPLY TO BOTH RURAL AND URBAN INTERSECTIONS UNDER STOP SIGN CONTROL OR FLASHING BEACON CONTROL. FOR FULL SIGNAL CONTROLLED INTERSECTIONS SEE DESIGN NOTE NO 7.

B. INTERSECTION SIGHT DISTANCE (d) APPLIES TO NORMAL AND SKEWED INTERSECTIONS INTERSECTING ANGLES BETWEEN 60° AND 120°. WHERE SKEW EXCEEDS 30° OR WHERE SPEEDS EXCEED THOSE PRESENT, SIGHT DISTANCE (d) IS MEASURED ALONG THE MAJOR ROADWAY FROM THE CENTER OF THE ENTRANCE LANE OF THE MINOR ROADWAY TO THE CENTER OF THE NEAR APPROACH LANE (RIGHT OR LEFT) OF THE MAJOR ROADWAY. DISTANCES d_L AND d_R ARE MEASURED FROM THE CENTERLINE OF THE ENTRANCE LANE (CROSS ROAD) OF THE MINOR ROADWAY TO A POINT ON THE EDGE OF THE NEAR SIDE OUTER TRAFFIC LANE ON THE MAJOR ROADWAY. DISTANCE d_M IS MEASURED FROM THE CENTERLINE OF THE ENTRANCE LANE OF THE MINOR ROADWAY TO A POINT ON THE MEDIAN CLEAR ZONE LIMIT OR HORIZONTAL CLEARANCE LIMIT FOR THE FAR SIDE ROADWAY OF THE MAJOR ROADWAY.

C. 1. THE LIMITS OF CLEAR SIGHT DEFINE A CORRIDOR THROUGHOUT WHICH A CLEAR LINE OF SIGHT MUST BE PRESERVED. SEE VERTICAL LIMITS OF CLEAR SIGHT DETAIL ON SHEET RD01-SD-2.
2. PROVIDE CLEAR LINE OF SIGHT FOR DRIVERS OF VEHICLES AT INTERSECTION STOP LOCATIONS AND VEHICLES ON THE MAJOR ROADWAY WITHIN DIMENSION "d".
3. SINCE OBSERVATIONS ARE MADE IN BOTH DIRECTIONS ALONG THE LINE OF SIGHT, THE REFERENCE DATUM BETWEEN ROADWAYS IS 3'-6" ABOVE RESPECTIVE PAVEMENTS.

D. BARRIER SYSTEMS WITHIN INTERSECTION SIGHT CORRIDORS, WHERE PENETRATION INTO THE CLEAR LINE OF SIGHT MIGHT OCCUR, SHALL BE LOCATED TO PROVIDE THE LEAST ADVERSE AFFECT PRACTICAL.

E. ALL PROPERTY NEEDED TO ACHIEVE SIGHT DISTANCE AT INTERSECTIONS SHOULD BE ACQUIRED AS RIGHT-OF-WAY.

F. SIGHT DISTANCE VALUES IN THESE STANDARD DRAWINGS ARE APPROXIMATE FOR GENERALLY FLAT AREAS WHERE THE ROADWAY GRADES ARE IN THE APPROXIMATE RANGE OF 10 TO 6%. FOR LOCATIONS WHERE ROADWAYS ARE CURVED OR WITH GRADES OUTSIDE THE 10 TO 6% RANGE, SIGHT DISTANCES SHOULD BE CALCULATED TO ENSURE THAT THEY COMPLY WITH AASHTO "A POLICY FOR GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AS CURRENTLY ADOPTED BY TDOT.

LEGEND

AREAS FREE OF SIGHT OBSTRUCTIONS

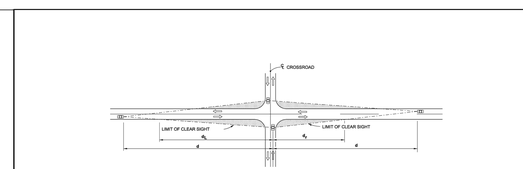
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES

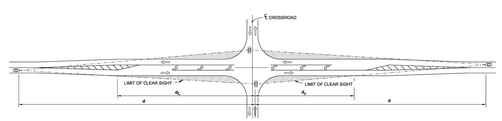
10-1-08 | RD01-SD-1 | NOT TO SCALE

DESIGN NOTES

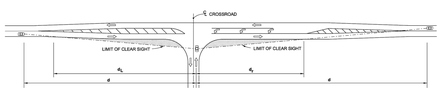
1. FOR ALL NEW CONSTRUCTION AND RECONSTRUCTION PROJECTS, DESIGNERS SHOULD ENSURE THAT INTERSECTION SIGHT DISTANCE IS PROVIDED IN ADDITION TO STOPPING SIGHT DISTANCE AT ALL INTERSECTIONS, RAILROAD CROSSINGS WITHOUT TRAIN ACTUATED WARNING DEVICES, AND COMMERCIAL DRIVES. DESIGN INFORMATION AND VALUES FOR SIGHT DISTANCE AT INTERSECTIONS AND RAILROAD CROSSINGS CAN BE FOUND IN THE 2001 "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS " (AASHTO GREEN BOOK), CHAPTER 9, INTERSECTIONS.
2. INTERSECTION SIGHT DISTANCE SHOULD ALSO BE PROVIDED AT ALL PRIVATE DRIVES AND FIELD ENTRANCES WHEN FEASIBLE. IN THE EVENT THAT INTERSECTION SIGHT DISTANCE CANNOT BE ACHIEVED, THE DESIGNER SHALL VERIFY THAT STOPPING SIGHT DISTANCE IS PROVIDED. INTERSECTION SIGHT DISTANCE SHOULD ALWAYS BE PROVIDED FOR A LEFT TURN MOVEMENT FROM THE MAJOR ROAD INTO A PRIVATE DRIVE OR FIELD ENTRANCE.
3. DESIGNERS SHOULD CONSIDER ALL FEATURES THAT COULD LIMIT ADEQUATE SIGHT DISTANCE INCLUDING BUILDINGS, PARKED VEHICLES, HIGHWAY STRUCTURES, ROADSIDE HARDWARE, HEDGES, TREES, BUSHES, UNMOWED GRASS, TALL CROPS, WALLS, FENCES, SLOPES, AND THE TERRAIN ITSELF. THE DETERMINATION OF WHETHER AN OBJECT CONSTITUTES A SIGHT OBSTRUCTION SHOULD CONSIDER THE HORIZONTAL AND VERTICAL ALIGNMENT OF BOTH INTERSECTING ROADWAYS, AS WELL AS THE WEIGHT AND POSITION OF THE OBJECT. IN MAKING THIS DETERMINATION, THE ASSUMED DRIVER'S EYE SHOULD BE 3.5 FT. ABOVE THE SURFACE OF THE INTERSECTING ROAD FOR PASSENGER CARS. FOR LANDSCAPING, THE MATURE SIZE OF THE ITEM SHALL BE USED.
4. IN AREAS OF LIMITED RIGHT-OF-WAY ACQUISITION SUCH AS A CURB AND GUTTER SECTION, ADDITIONAL RIGHT-OF-WAY MAY NEED TO BE ACQUIRED TO ENSURE THAT INTERSECTION SIGHT DISTANCE CAN BE ACHIEVED AND MAINTAINED. IN THE EVENT THAT IT IS NOT FEASIBLE TO OBTAIN MINIMUM INTERSECTION SIGHT DISTANCE, THE DESIGNER SHALL VERIFY THAT STOPPING SIGHT DISTANCE IS PROVIDED. IF THIS OCCURS, THE PROJECT DESIGN MANAGER WILL DOCUMENT IN THE PROJECT FILE THE REASON AND STEPS TAKEN TO MITIGATE. INTERSECTION SIGHT DISTANCE IS NOT ONE OF THE THIRTEEN CONTROLLING ELEMENTS OF DESIGN AS DETAILED IN SECTION 3-110.00 OF THE ROADWAY DESIGN GUIDELINES. THEREFORE, DESIGN EXCEPTIONS NEED NOT BE SUBMITTED.
5. DESIGNERS SHALL SHOW SIGHT LINES FOR ALL INTERSECTIONS IN THE DESIGN CADD FILE. SIGHT LINES SHALL ONLY BE SHOWN ON THE PRESENT AND PROPOSED LAYOUT SHEETS WHEN RIGHT-OF-WAY IS REQUIRED FOR THE PURPOSE OF ESTABLISHING OR MAINTAINING INTERSECTION SIGHT DISTANCE. SIGHT LINES SHOULD ALSO BE SHOWN FOR ALL INTERSECTIONS AND DRIVES ON ALL LANDSCAPING PLANS.
6. THE MINIMUM DRIVER EYE SETBACK OF 14.5' FROM THE EDGE OF THE TRAVELED WAY MAY BE ADJUSTED ON ANY INTERSECTION LEG ONLY WHEN JUSTIFIED BY A SITE SPECIFIC FIELD STUDY OF VEHICLE STOPPING POSITION AND DRIVER EYE POSITION.
7. FOR SIGNALIZED INTERSECTIONS SIGHT DISTANCES SHOULD BE DEVELOPED BASED ON AASHTO "CASE D- INTERSECTIONS WITH TRAFFIC SIGNAL CONTROL", AT SIGNALIZED INTERSECTIONS, THE FIRST VEHICLE STOPPED ON ONE APPROACH SHOULD BE VISIBLE TO THE DRIVER OF THE FIRST VEHICLE STOPPED ON EACH OF THE OTHER APPROACHES. THIS WILL ENSURE THAT DRIVERS HAVE A CLEAR VIEW OF GAPS IN THE ONCOMING TRAFFIC AND COMPLETE LEFT TURNS. APART FROM THESE SIGHT CONDITIONS, THERE ARE GENERALLY NO OTHER APPROACH OR DEPARTURE SIGHT TRIANGLES NEEDED FOR SIGNALIZED INTERSECTIONS. HOWEVER, IF THE TRAFFIC SIGNAL IS TO BE PLACED ON TWO-WAY FLASHING OPERATION (I.E. FLASHING YELLOW ON THE MAJOR ROAD APPROACHES AND FLASHING RED ON THE MINOR-ROAD APPROACHES) UNDER OFF-PEAK OR NIGHTTIME CONDITIONS, THE SIGHT DISTANCE FOR THE MINOR-ROAD APPROACHES SHOULD BE AS SHOWN IN TABLE 9-7 AND SHOULD BE PROVIDED FOR THE MINOR-ROAD APPROACHES. IN ADDITION, IF RIGHT TURNS ON A RED SIGNAL ARE TO BE PERMITTED FROM ANY APPROACH, THEN THE APPROPRIATE DEPARTURE SIGHT TRIANGLE TO THE LEFT FOR CASE B2 SHOULD BE PROVIDED TO ACCOMMODATE RIGHT TURNS FROM THAT APPROACH.
8. WHERE CURVATURE, SUPERELEVATION, ADVERSE SPLIT PROFILES OR OTHER CONDITIONS PRECLUDE THE USE OF STANDARD TREE SIZES AND SPACING, PROOF OF VIEW AND SIGHT DISTANCE RESTRAINTS SHOULD BE DETAILED IN THE PLANS.
9. INTERSECTION SIGHT DISTANCE VALUES ARE PROVIDED FOR PASSENGER VEHICLES, SINGLE UNIT (SU) VEHICLES AND COMBINATION VEHICLES. INTERSECTION SIGHT DISTANCE BASED ON THE PASSENGER VEHICLE IS SUITABLE FOR MOST INTERSECTIONS. WHERE SUBSTANTIAL VOLUMES OF HEAVY VEHICLES ENTER THE MAJOR-ROAD, SUCH AS FROM RAMP TERMINALS WITH STOP CONTROL OR ROADWAYS SERVING TRUCK TERMINALS, THE USE OF TABULATED VALUES FOR I SU1 VEHICLES OR COMBINATION VEHICLES SHOULD BE CONSIDERED.
10. THE INFORMATION SHOWN IS INTENDED SOLELY FOR THE PURPOSE OF CLEAR SIGHT DEVELOPMENT AND MAINTENANCE AT INTERSECTING HIGHWAYS, ROADS AND STREETS, AND IS NOT INTENDED TO BE USED TO ESTABLISH ROADWAY AND ROADSIDE SAFETY EXCEPT AS RELATED TO INTERSECTION SIGHT CORRIDORS.
11. THE INTERSECTION SIGHT DISTANCE TABLES DO NOT SUPERCEDE AASHTO STOPPING SIGHT DISTANCE REQUIREMENTS. THE DESIGNER MUST ENSURE THAT STOPPING SIGHT DISTANCES ARE MET.
12. DETAILS ARE BASED ON THE AASHTO "A POLICY ON GEMETRIC DESIGN OF HIGHWAYS AND STREETS, 2001", CHAPTER 9, INTERSECTION SIGHT DISTANCE, CASES B AND F, AND THE DEPARTMENT PRACTICES FOR CHANNELIZED MEDIAN OPENINGS (LEFT TURNS ON MAJOR ROADWAYS.)



2 LANE UNDIVIDED ROADWAY - SYMMETRICAL



FLARED FOR OPPOSING LEFT TURN CENTERED ON ALIGNMENT - 2 LANE 2 WAY



FLARED FOR SINGLE SIDE LEFT TURN CENTERED ON ALIGNMENT - 2 LANE 2 WAY

LEGEND

AREAS FREE OF SIGHT OBSTRUCTIONS

NOTE: SEE RD11-SD-1 FOR INTERSECTING ROADWAY ORIGIN OF CLEAR SIGHT AND QUADRANT CORNER CLIPS.

REV: w-recess TEXT

THETA PIKE PROPOSED ENTRANCE DESIGN CRITERIA

2 LANE UNDIVIDED SIGHT DISTANCE (d) AND RELATED DISTANCES (d_R, d_L) (FEET)												
	PASSENGER VEHICLE			SU VEHICLE			COMBINATION VEHICLE					
DESIGN SPEED (MPH)	d (FT)	d_L (FT)	d_R (FT)	d (FT)	d_L (FT)	d_R (FT)	d (FT)	d_L (FT)	d_R (FT)			
15	170	105	75	170	155	95	170	215	105			
20	225	160	105	20	280	250	125	20	340	240	155	
25	280	195	135	25	350	355	185	25	425	360	190	
30	335	245	170	30	420	395	190	30	510	385	225	
35	390	310	205	35	490	445	205	35	595	465	260	
40	445	410	240	40	560	505	205	40	680	560	295	
45	500	500	275	45	630	645	280	45	765	640	340	
50	555	590	310	50	700	695	310	50	850	800	380	
55	610	690	375	55	770	845	345	55	930	960	415	
60	665	810	405	60	840	990	375	60	1015	720	450	
65	720	910	505	65	910	845	405	65	1100	780	490	
70	775	990	600	70	980	895	445	70	1185	840	530	

PASSENGER VEHICLE | SU VEHICLE | COMBINATION VEHICLE

2 LANE UNDIVIDED
SIGHT DISTANCE (d) AND RELATED DISTANCES (d_R, d_L) (FEET)

2 LANE 2 WAY - FLARED FOR LEFT TURNS SIGHT DISTANCE (d) AND RELATED DISTANCES (d_R, d_L) (FEET)												
	PASSENGER VEHICLE			SU VEHICLE			COMBINATION VEHICLE					
DESIGN SPEED (MPH)	d (FT)	d_L (FT)	d_R (FT)	d (FT)	d_L (FT)	d_R (FT)	d (FT)	d_L (FT)	d_R (FT)			
15	190	105	75	15	225	120	85	15	270	150	105	
20	235	130	80	20	300	165	115	20	360	200	140	
25	280	165	115	25	375	205	145	25	450	250	175	
30	350	195	135	30	450	250	170	30	540	295	205	
35	410	235	155	35	525	290	200	35	630	345	240	
40	475	280	180	40	600	330	225	40	720	395	270	
45	530	290	205	45	675	370	255	45	810	445	305	
50	590	325	225	50	750	410	285	50	900	495	340	
55	650	355	245	55	825	450	310	55	990	540	375	
60	710	390	265	60	900	490	340	60	1080	590	405	
65	765	420	290	65	975	535	370	65	1170	640	440	
70	825	455	315	70	1050	575	400	70	1260	690	475	

PASSENGER VEHICLE | SU VEHICLE | COMBINATION VEHICLE

2 LANE 2 WAY - FLARED FOR LEFT TURNS
SIGHT DISTANCE (d) AND RELATED DISTANCES (d_R, d_L) (FEET)

SPECIAL NOTES

1. INTERSECTION SIGHT DISTANCE VALUES ARE PROVIDED FOR PASSENGER VEHICLES, SINGLE UNIT (SU) VEHICLES AND COMBINATION VEHICLES. INTERSECTION SIGHT DISTANCE BASED ON THE PASSENGER VEHICLE IS SUITABLE FOR MOST INTERSECTIONS. WHERE SUBSTANTIAL VOLUMES OF HEAVY VEHICLES ENTER THE MAJOR-ROAD, SUCH AS FROM RAMP TERMINALS WITH STOP CONTROL OR ROADWAYS SERVING TRUCK TERMINALS, THE USE OF TABULATED VALUES FOR I SU1 VEHICLES OR COMBINATION VEHICLES SHOULD BE CONSIDERED.
2. ALL PROPERTY NEEDED TO ACHIEVE SIGHT DISTANCE AT INTERSECTIONS SHOULD BE ACQUIRED AS RIGHT-OF-WAY. SEE STD DWG RD11-SD-1 FOR RIGHT-OF-WAY LINE PLACEMENT.

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS

01-01-2019 | RD11-SD-3

NORTHBOUND STOPPING SIGHT DISTANCE ANALYSIS:

DESIGN SPEED, V: 35 MPH
GRADE, G: -6% (AVERAGE)

STOPPING SIGHT DISTANCE, S: $S = 1.47 * V * 2.5 + [V^2 / (30 * (0.347826 \pm (G / 100)))]$
$S = 1.47 * 40 * 2.5 + [35^2 / (30 * (0.347826 + (-6 / 100)))]$
$S = 270.49$ FT. = 271 FT.

SOUTHBOUND STOPPING SIGHT DISTANCE ANALYSIS:

DESIGN SPEED, V: 35 MPH
GRADE, G: +7% (AVERAGE)

STOPPING SIGHT DISTANCE, S: $S = 1.47 * V * 2.5 + [V^2 / (30 * (0.347826 \pm (G / 100)))]$
$S = 1.47 * 35 * 2.5 + [35^2 / (30 * (0.347826 + (7 / 100)))]$
$S = 226.35$ FT. = 227.00 FT.

811 Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
COMMERCIAL
CERTIFICATE NO. 124611
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

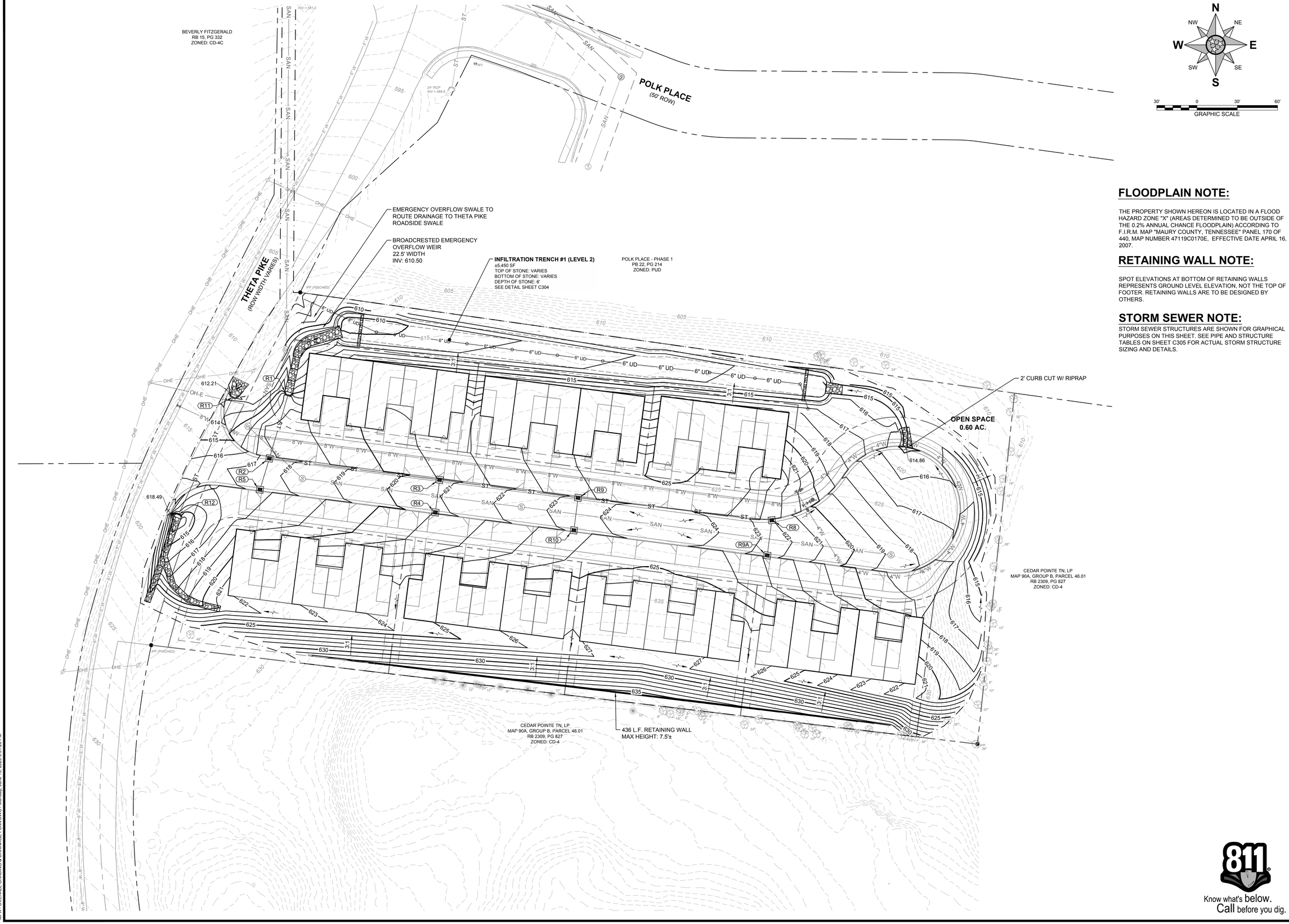
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

INTERSECTION SIGHT DISTANCE PLAN

DATE: MAY 22, 2023 | DRAWN BY : M2G
PROJECT NO. : 22-085 | CHECKED BY : MWB

SHEET NUMBER:
C201

MPA - INTERSECTION SIGHT DISTANCE.DWG / Monday, June 19, 2023 3:51:15 PM



FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.

RETAINING WALL NOTE:

SPOT ELEVATIONS AT BOTTOM OF RETAINING WALLS REPRESENTS GROUND LEVEL ELEVATION, NOT THE TOP OF FOOTER. RETAINING WALLS ARE TO BE DESIGNED BY OTHERS.

STORM SEWER NOTE:

STORM SEWER STRUCTURES ARE SHOWN FOR GRAPHICAL PURPOSES ON THIS SHEET. SEE PIPE AND STRUCTURE TABLES ON SHEET C305 FOR ACTUAL STORM STRUCTURE SIZING AND DETAILS.

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED LANDSCAPE ARCHITECT
COMMERCIAL
CERTIFICATE NO. 328
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

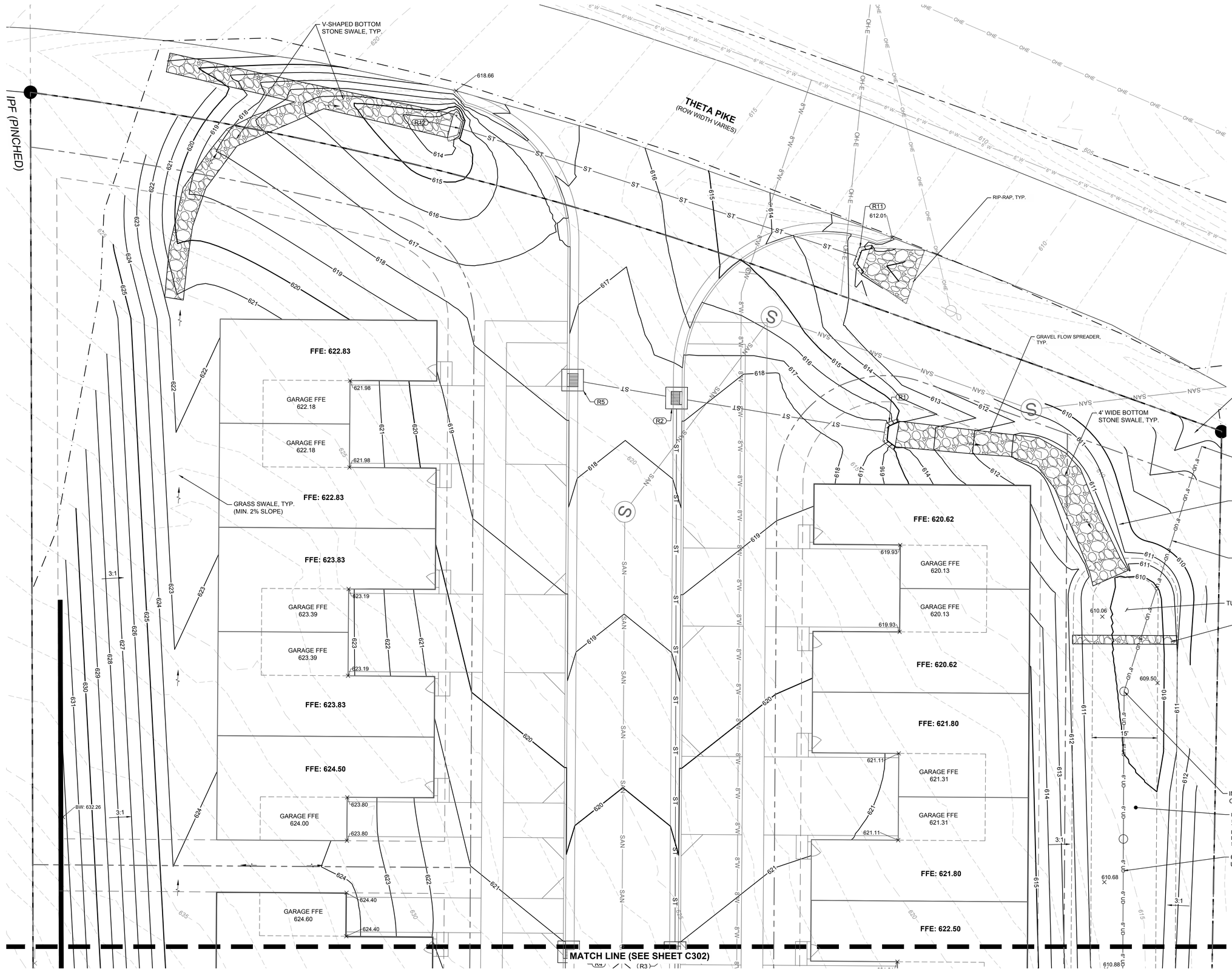
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

OVERALL GRADING & DRAINAGE PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C300

MPA - OVERALL GRADING & DRAINAGE PLAN.DWG | Monday, June 19, 2023 3:51:26 PM



REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED LANDSCAPE ARCHITECT
COMMERCIAL
CORPORATE SEAL
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

ENLARGED GRADING & DRAINAGE PLAN

DRAWN BY :	M2G
CHECKED BY :	MWB
DATE :	MAY 22, 2023
PROJECT NO. :	22-086

SHEET NUMBER:
C301

811 Know what's below. Call before you dig.

MPA - ENLARGED GRADING & DRAINAGE PLAN.DWG | Monday, June 19, 2023 3:51:43 PM

MATCH LINE (SEE SHEET C301)

MATCH LINE (SEE SHEET C303)

FFE: 625.10
FFE: 626.00
GARAGE FFE 625.30
GARAGE FFE 625.30
625.10
625.10
GRASS SWALE, TYP. (MIN. 2% SLOPE)
FFE: 626.00
FFE: 627.00
GARAGE FFE 626.50
GARAGE FFE 626.50
626.30
626.30
FFE: 627.00
FFE: 628.50
GARAGE FFE 628.02
GARAGE FFE 628.02
627.82
627.82
FFE: 628.50
FFE: 628.50
GARAGE FFE 628.02
GARAGE FFE 628.02
627.82
627.82
FFE: 628.50
FFE: 622.50
GARAGE FFE 622.01
621.81
621.81
GARAGE FFE 622.81
622.61
622.61
FFE: 623.30
FFE: 624.50
GARAGE FFE 624.03
GARAGE FFE 624.03
623.83
623.83
FFE: 624.50
FFE: 625.68
GARAGE FFE 625.20
GARAGE FFE 625.20
625.00
625.00
FFE: 625.68
FFE: 626.00
GARAGE FFE 625.57
GARAGE FFE 625.57
625.37
625.37
FFE: 626.00
FFE: 625.40
HP: 627.72
GRADE BREAK
HP: 624.52
GRADE BREAK
BW: 633.09
BW: 633.93
BW: 634.77
BW: 635.56
3:1
3:1
3:1
3:1
3:1
R4
R3
R10
R9
S
SAN
ST
W-8
610.88
611.19
611.59
611.56
612.31
612.50
612.88
OBSERVATION WELL, TYP.
INFILTRATION TRENCH #1 (LEVEL 2)
±5,450 SF
TOP OF STONE: VARIES
BOTTOM OF STONE: VARIES
DEPTH OF STONE: 6'
SEE DETAIL SHEET C304
6" CORRUGATED HDPE UNDERDRAIN AT 0.5% MIN. SLOPE
15'
10' 0 10' 20'
GRAPHIC SCALE
N
NW
NE
W
E
SW
SE
S

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
COMMERCIAL
CERTIFICATE NO. 120,XXX
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MZG GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MZGROUPLLC.COM

ENLARGED GRADING & DRAINAGE PLAN

DATE:	MAY 22, 2023	DRAWN BY:	MZG
PROJECT NO.:	22-085	CHECKED BY:	MWB

SHEET NUMBER:
C302

811 Know what's below. Call before you dig.

MPA - ENLARGED GRADING & DRAINAGE PLAN.DWG | Monday, June 19, 2023 3:51:45 PM

MATCH LINE (SEE SHEET C302)

FFE: 628.50

FFE: 627.00

GARAGE FFE
626.52

626.32

626.32

FFE: 626.50

GARAGE FFE
625.85

625.65

625.65

FFE: 625.50

GARAGE FFE
623.81

623.61

GARAGE FFE
622.81

623.61

GRASS SWALE, TYP.
(MIN. 2% SLOPE)

FFE: 625.50

FFE: 623.75

GARAGE FFE
622.33

622.13

GARAGE FFE
622.33

622.13

FFE: 623.75

FFE: 625.40

624.70

GARAGE FFE
624.90

GARAGE FFE
624.90

624.70

FFE: 625.40

R9A

R8

INFILTRATION TRENCH
UNDERDRAIN CLEANOUT

2' CURB CUT W/ RIPRAP

614.86

OPEN SPACE
0.60 AC.

BW: 634.51

BW: 633.51

BW: 632.51

3:1

3:1

3:1

GRAPHIC SCALE
10' 0 10' 20'

6" CORRUGATED HDPE
UNDERDRAIN AT 0.5% MIN. SLOPE

15'

INFILTRATION TRENCH
OBSERVATION WELL

PERMEABLE PRETREATMENT BERM
12" TALL
1:1 SIDE SLOPES

TURF OR STONE PRETREATMENT AREA

TRAPEZOIDAL SWALE
2' BOTTOM WIDTH
3:1 SIDE SLOPES

IPF

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

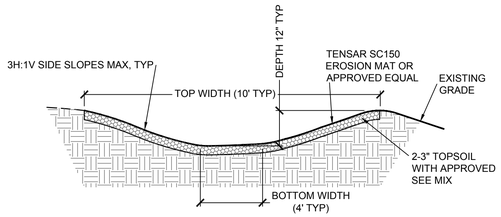
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

ENLARGED GRADING & DRAINAGE PLAN

DATE :	MAY 22, 2023
PROJECT NO. :	22-085
DRAWN BY :	M2G
CHECKED BY :	MWB

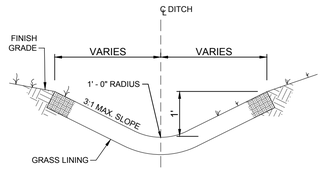
SHEET NUMBER:
C303

MPA - ENLARGED GRADING & DRAINAGE PLAN.DWG / Monday, June 19, 2023 3:51:46 PM



NORTH GRASS SWALE SECTION

N.T.S.

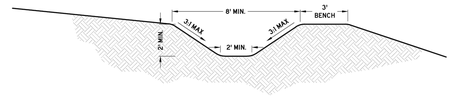


SOUTH GRASS SWALE SECTION

N.T.S.

TYPE	TDOT STANDARD DRAWING OR CASTING MODEL
CURB INLET CATCH BASINS	TDOT CB SERIES NOS. 10, 11, 12, 13, 14, 16, 17
CURB AND GUTTER INLET CASTINGS	JB&S 3080
EXTRUDED CURB INLET CASTINGS	JB&S 3103
AREA DRAIN CATCH BASINS	TDOT CB SERIES NOS. 38, 39, 40, 42, 43
AREA DRAIN CASTINGS	TDOT CBB-42
JUNCTION BOXES	TDOT JBS SERIES NOS. 1, 2, 3, 4, AND 5
MANHOLES	TDOT MH SERIES NOS. 2, 3, 4, 5, 6, 7 AND TDOT RF-1
TRENCH DRAINS	TDOT TD-1
CONCRETE PIPE INSTALLATION	TDOT PB-1
FLEXIBLE PIPE INSTALLATION	TDOT PB-2
OVAL AND ARCH PIPES	TDOT PO-1
SAFETY CROSS DRAIN ENDWALLS	TDOT PE SERIES
SAFETY SIDE DRAIN ENDWALLS	TDOT SEW SERIES AND TDOT MSE-1
PROTECTED ENDWALLS	TDOT PE, PEW SERIES
FLUMES	TDOT FLU-1

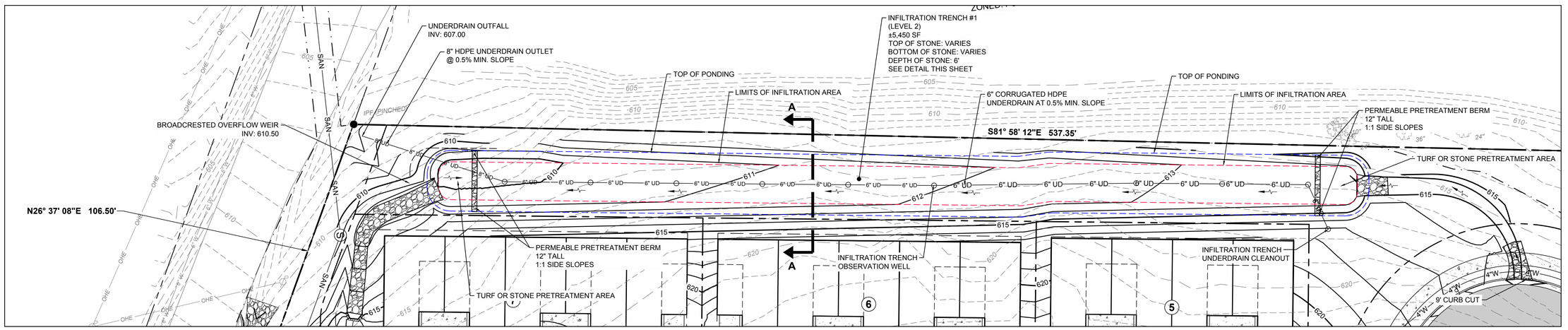
CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	INLETS, CASTINGS, STRUCTURES, AND PIPES	DATE 6/9/2022
STANDARD DETAILS	(NTS)	DD-01



NOTES:

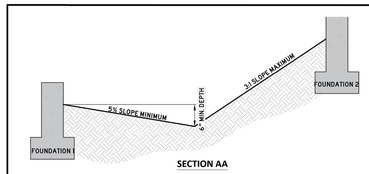
1. DITCHES SHALL BE STABILIZED WITH APPROPRIATELY DESIGNED SOFT ARMORING.
2. RIP-RAP OR OTHER HARD ARMORING TECHNIQUES ARE DISCOURAGED AND SHALL ONLY BE APPROVED WHEN ALL OTHER MEANS OF STABILIZATION ARE EXHAUSTED.
3. FLOW LINE GRADE SHALL NOT BE LESS THAN 1.0%
4. FLOW LINE GRADE SHALL NOT BE MORE THAN 7.5%
5. WHERE PLACED ON A SLOPE, A BENCH OF MINIMUM WIDTH OF 3 FEET SHALL BE PROVIDED.
6. A MINIMUM OF 6 INCHES OF FREEBOARD ABOVE THE DESIGN FLOW DEPTH SHALL BE PROVIDED.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	TRAPEZOIDAL DITCH	DATE 6/9/2022
STANDARD DETAILS	(NTS)	DD-03

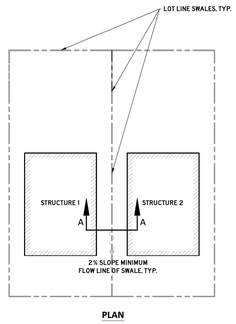


INFILTRATION TRENCH #1

SCALE: 1"=20'



SECTION AA

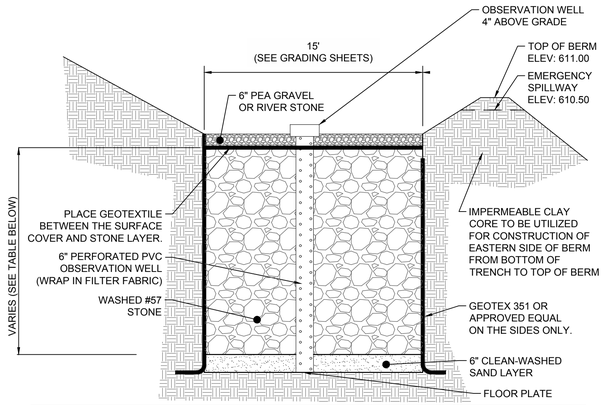


PLAN

NOTES:

1. SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE. ALL AREAS WITHIN A LOT SHALL BE GRADED TO DRAIN TO AN APPROVED STORMWATER CONVEYANCE.
2. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATIONS.
   2.1. LOTS SHALL BE GRADED TO PROVIDE A MINIMUM OF 6 INCHES OF FALL WITHIN THE FIRST 10 FEET OF THE STRUCTURE ALONG THE DIRECTION OF FLOW.
   2.2. LOTS SHALL BE GRADED TO PROVIDE A MINIMUM OF 1V:20H OF FALL PERPENDICULAR TO THE FACE OF THE FOUNDATION WALL WITHIN THE FIRST 5 FEET.
   2.3. IMPERVIOUS SURFACES SHALL BE SLOPED AT A MINIMUM OF 2% AWAY FROM THE STRUCTURE.
3. SWALES SHALL BE LOCATED ALONG LOT LINES TO REDUCE LOT TO LOT DRAINAGE, AND DIRECT STORMWATER RUNOFF TOWARDS APPROVED STORMWATER CONVEYANCES.
4. SWALES SHALL HAVE A MINIMUM SLOPE OF 2%.
5. FOUNDATIONS SHALL BE AT MINIMUM 12 INCHES ABOVE ANY THE RIM ELEVATION OR HIGHEST FLOW LINE OF ANY PUBLIC STORMWATER INFRASTRUCTURE THAT SURFACE DRAINAGE FROM THE LOT IS DIRECTED TO.
6. NON-PUBLIC STORMWATER INFRASTRUCTURE SHALL NOT SUCH AS YARD DRAINS SHALL NOT ALLEVIATE THE REQUIREMENTS OF NOTES 2 AND 3.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION	RESIDENTIAL LOT GRADING AND DRAINAGE	DATE 6/9/2022
STANDARD DETAILS	(NTS)	DD-04



INFILTRATION TRENCH SUMMARY				
INFILTRATION TRENCH	INFILTRATION AREA (SF)	TOP OF STONE	STONE DEPTH (FT)	BOTTOM OF STONE
IT#1	5,450	609.5 (VARIES)	6	603.5 (VARIES)

INFILTRATION TRENCH
SECTION A - A

N.T.S.

REVISION #	DATE	DESCRIPTION
1	08-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRIAN
REGISTERED ENGINEER
COMMERCIAL
CERTIFICATE No. 129999
STATE OF TENNESSEE
08/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

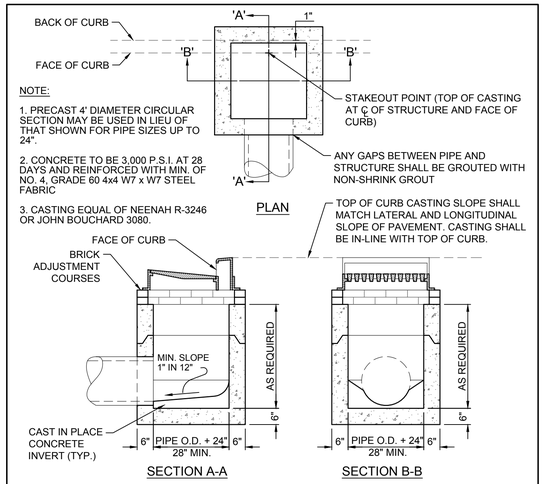
GRADING DETAILS

DRAWN BY : M2G
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

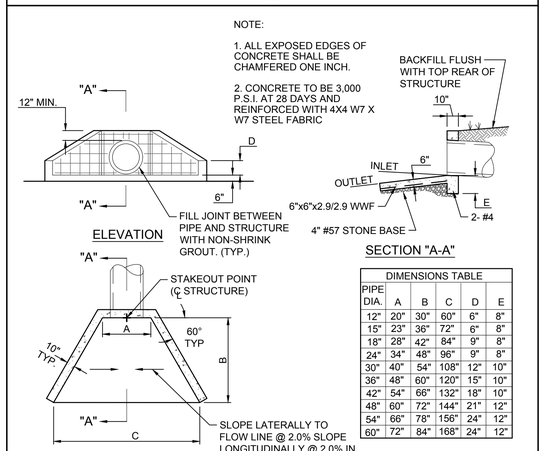
SHEET NUMBER:
C304

STRUCTURE TABLE		
NAME	INLET TYPE	DETAILS
R1	Headwall	INV IN = 613.965
R2	Single Curb Inlet	RIM = 617.470 INV IN = 614.210 INV IN = 614.208 INV OUT = 614.210
R3	Single Curb Inlet	RIM = 620.621 INV IN = 617.000 INV IN = 617.000 INV OUT = 617.000
R4	Single Curb Inlet	RIM = 620.622 INV OUT = 617.000
R5	Single Curb Inlet	RIM = 617.330 INV OUT = 614.330
R8	Single Curb Inlet	RIM = 622.006 INV IN = 619.235 INV OUT = 619.280
R9	Single Curb Inlet	RIM = 623.221 INV IN = 618.500 INV IN = 618.000 INV OUT = 618.000
R9A	Single Curb Inlet	RIM = 622.413 INV OUT = 619.557
R10	Single Curb Inlet	RIM = 623.220 INV OUT = 620.200
R11	Headwall	INV IN = 610.500
R12	Headwall	INV OUT = 613.050

PIPE TABLE				
NAME	MATERIAL	DIA.	APPROX. LENGTH	SLOPE
R1-R2	RCP	24"	49'	0.50%
R2-R3	RCP	18"	128'	2.18%
R2-R5	RCP	18"	24'	0.50%
R3-R4	RCP	18"	24'	0.00%
R3-R9	RCP	18"	104'	0.96%
R8-R9A	RCP	15"	26'	1.22%
R9-R8	RCP	18"	145'	0.88%
R9-R10	RCP	18"	25'	6.93%
R12-R11	RCP	18"	96'	2.66%

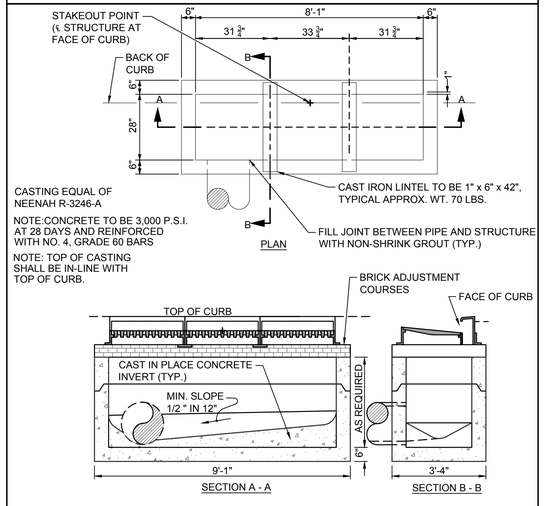


SINGLE PRECAST CURB INLET
N.T.S.



DIMENSIONS TABLE					
PIPE DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

CONCRETE WINGED HEADWALL/ENDWALL
N.T.S.



TRIPLE PRECAST CURB INLET
N.T.S.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN — REGISTERED ENGINEER — AGRICULTURAL & BIOSYSTEMS COMMERCIAL — CERTIFICATE NO. — STATE OF TENNESSEE — 06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

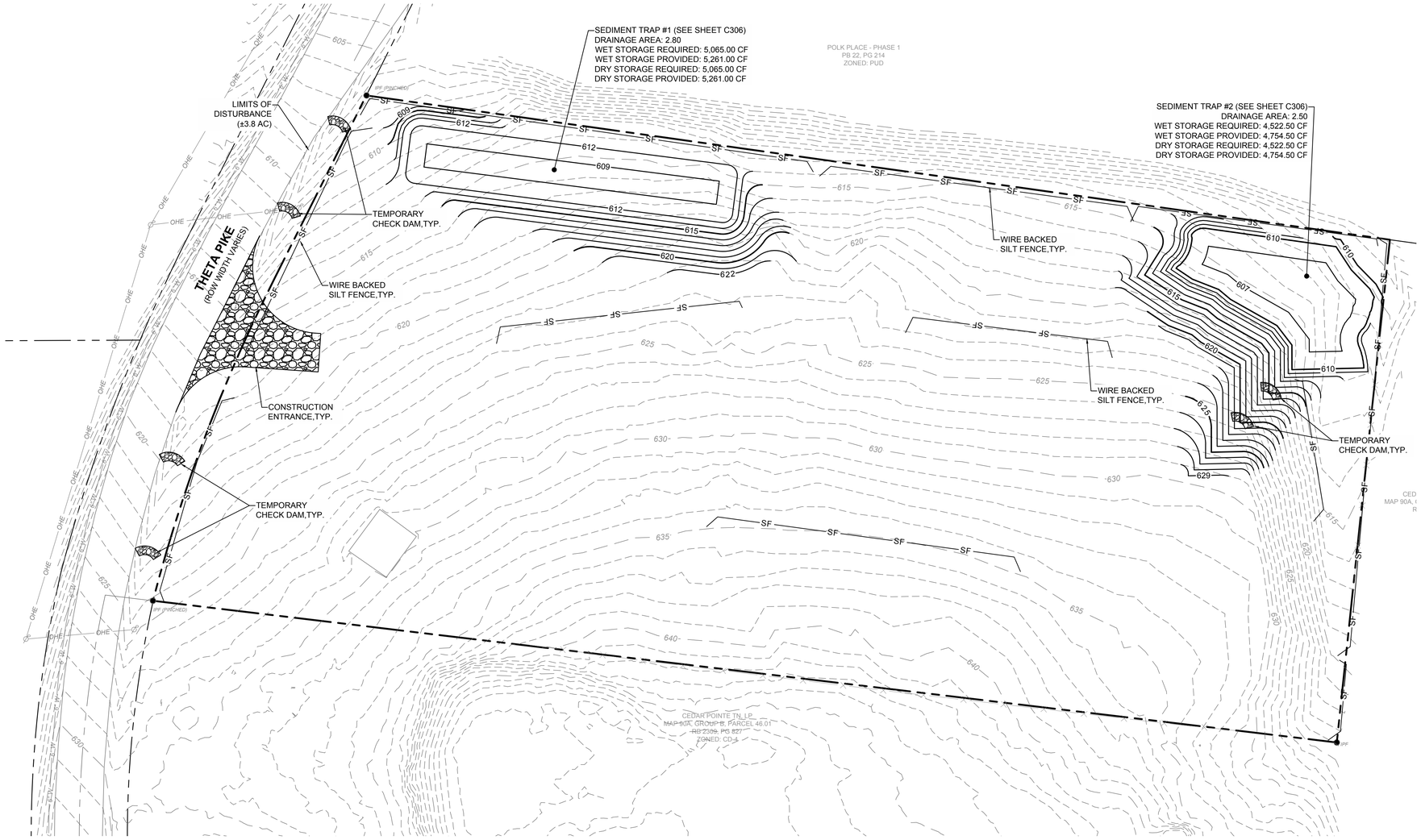
STORM SEWER DETAILS

DRAWN BY :	M2G
CHECKED BY :	MWB
DATE :	MAY 22, 2023
PROJECT NO. :	22-085

SHEET NUMBER:
C305

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

MPA - SITE DETAILS.DWG | Monday, June 19, 2023 3:52:05 PM



SEDIMENT TRAP DESIGN		
	ST-1	ST-2
DRAINAGE AREA (AC.)	2.80	2.50
TOTAL VOL. REQUIRED (CF)	10,130.00	9,045.00
WET VOL. REQUIRED (CF)	5,065.00	4,522.50
DRY VOL. REQUIRED (CF)	5,065.00	4,522.50
WET STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TRAP BOTTOM ELEV. (FT)	607.00	607.00
TOP WET STORAGE ELEV. (FT)	608.50	608.50
SPILLWAY CREST ELEV. (FT)**	610.00	610.00
TOP EMBANKMENT ELEV. (FT)	610.00	610.00
SPILLWAY CREST LENGTH (FT)	15.00	15.00
SPILLWAY CREST WIDTH (FT)	5.00	5.00
EMBANKMENT TOP WIDTH (FT)	5.00	5.00
DRY STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TOTAL VOL. PROVIDED (CF)	**10,522.00**	**9,509.00**

* RUNOFF COEFFICIENT ASSUMED TO BE BARE SOIL CONDITION

** SPILLWAY CREST ELEVATION IS ALSO TOP OF DRY STORAGE ELEVATION

TDEC - NPDES NOC NOTE:

THE PROJECT ASSOCIATED WITH THESE PLANS IS REQUIRED TO BE COVERED UNDER TENNESSEE GENERAL STORM WATER PERMIT TNR100000 BECAUSE THE LIMITS OF DISTURBANCE IS OVER 1 ACRE. THE LIMITS OF DISTURBANCE IS APPROXIMATELY 3.8 ACs.

EPSC GENERAL NOTES

1. SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE; SEDIMENT SHALL BE REMOVED FROM ALL OTHER EPSC MEASURES AND CONTROL AS RECOMMENDED IN THE TNEPSC HANDBOOK, AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
2. EPSC SHALL BE IMPLEMENTED BEFORE EARTH- MOVING BEGINS.
3. AREAS WHERE CONSTRUCTION HAS TEMPORARILY/PERMANENTLY CEASED SHALL BE STABILIZED NO LATER THAN 14 DAYS (7 DAYS FOR ≥35% SLOPES).
4. INSPECTIONS OF OUTFALLS/EPSC MEASURES SHALL BE CONDUCTED AT LEAST TWICE WEEKLY AND AT LEAST 72 HOURS APART.
5. VEGETATION, EPSCS & OTHER PROTECTIVE MEASURES SHALL BE REPAIRED, REPLACED, OR MODIFIED AFTER BEING NOTIFIED OF AN ISSUE WITHIN 7 DAYS OR BY THE NEXT SIGNIFICANT RAIN CHANCE OF 50% OR GREATER. ISSUES WITH IMMEDIATE THREATS TO WATER QUALITY SHALL BE REPAIRED IMMEDIATELY AS PER FMC 23-106(2)(g).
6. CONSTRUCTION SHALL BE PHASED FOR ACTIVITIES THAT WILL DISTURB >50 ACRES.
7. EPSCS SHALL BE DESIGNED TO CONTROL THE RAINFALL AND RUNOFF FROM A 5-YEAR, 24-HOUR RETURN INTERVAL STORM.
8. TEMPORARY SEDIMENT BASIN(S) SHALL BE PROVIDED FOR ON-SITE OUTFALLS THAT RECEIVE DRAINAGE FROM ≥10 ACRES; ≥5 ACRES FOR SITES THAT DISCHARGE TO IMPAIRED OR EXCEPTIONAL TN WATERS.
9. GREEN INFRASTRUCTURE BMPS SHALL BE PROTECTED DURING SITE WORK, WITH SILT FENCE, TO PREVENT SEDIMENTATION AND COMPACTION.
10. IF DEEMED APPROPRIATE, THE CITY MAY REQUIRE THE ADDITION, REMOVAL OR MODIFICATION OF EPSC MEASURES AND/OR EPSC LOCATIONS AT ANY TIME DURING THE CONSTRUCTION PROCESS TO ENSURE PROPER EPSC PERFORMANCE.

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES OR INITIATION OF EARTH DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CLEARLY DELINEATE THE PROPOSED LIMITS OF DISTURBANCE IN THE FIELD UTILIZING FLAGGING, STAKES, AND/OR CONSTRUCTION FENCE. NO DISTURBANCE BEYOND THESE LIMITS SHALL BE PERMITTED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE ENGINEER, THE AFFECTED PROPERTY OWNER AND ANY APPLICABLE REGULATORY AGENCIES.
2. THE CONSTRUCTION ACTIVITIES ANTICIPATED FOR THIS PROJECT INCLUDES GRADING, PAVING, AND UTILITY INSTALLATION.
3. THE APPROXIMATE TOTAL DISTURBED AREA OF THIS SITE IS 6.60 ACRES. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY THE CITY OF COLUMBIA PRIOR TO ADDITIONAL DISTURBANCE.
4. CONSTRUCTION SHALL BE SEQUENCED BY THE CONTRACTOR AS TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREAS. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS.
5. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE PERSON(S) RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE JOB SITE TRAILER, OR AT THE SITE CONSTRUCTION SIGN.
6. PRE-CONSTRUCTION VEGETATIVE GROUNDCOVER SHALL NOT BE REMOVED MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATTING. STEEP SLOPES (GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 DAYS OF THE ESTABLISHMENT OF FINAL GRADES.
7. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION AND SEDIMENT CONTROL FOR A PERIOD OF THREE YEARS AFTER COMPLETION OF CONSTRUCTION OR AS REQUIRED BY GOVERNING AUTHORITIES.
8. TEMPORARY SEEDING FOR THIS PROJECT SHALL UTILIZE TDOT, TDEC OR LOCAL STANDARDS UNLESS OTHERWISE INDICATED HEREON.
9. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH MUST BE CRIMPED INTO THE SOIL BY MECHANICAL MEANS. BROADCAST SPREADING OF MULCH IS NOT ACCEPTABLE.
10. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION. ALL STOCKPILES SHALL BE COVERED WITH TEMPORARY SEEDING AND PROTECTED WITH SILT FENCING.
11. FOR PERMANENT STABILIZATION OF ALL SLOPES 3:1 OR STEEPER, INSTALL TEMPORARY EROSION CONTROL BLANKET (TENSAR NORTH AMERICAN GREEN S150 OR APPROVED EQUAL) INSTALLED PER MANUFACTURERS' RECOMMENDATIONS SHALL BE USED IN PLACE OF STRAW MULCH.
12. THE LOCATION OF SOME OF THE EROSION CONTROL MEASURES MAY NEED TO BE ALTERED DUE TO CHANGING SITE CONDITIONS COMMENSURATE WITH PROGRESS OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION AND SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
13. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.
14. CONTRACTOR SHALL PREPARE, IMPLEMENT, AND MAINTAIN A SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN, AS A SEPARATE DOCUMENT OR AS A COMPONENT OF THE SWPPP, FOR ALL TANKS/CONTAINERS STORING ONSITE FUEL, CHEMICALS, OR OTHER POLLUTANTS CONSISTENT WITH THE REQUIREMENTS OF STATE NPDES RULES. EFFECTIVE MEASURES NECESSARY TO PREVENT SPILLS AND TO CLEAN UP SPILLS OF ANY TOXIC POLLUTANT, AS DOCUMENTED IN THE FACILITY'S SPCC PLAN, SHALL BE FULLY IMPLEMENTED. SOIL CONTAMINATED BY HAZARDOUS SUBSTANCES, PAINTS, FUEL, OR CHEMICAL SPILLS, SHALL BE IMMEDIATELY CLEANED UP, MANAGED, AND DISPOSED OF IN AN APPROVED MANNER. WHERE POTENTIAL SPILLS CAN OCCUR, MATERIALS HANDLING PROCEDURES SHALL BE SPECIFIED AND PROCEDURES FOR IMMEDIATE CLEANUP/REMEDIATION OF SPILLS SHALL BE DESCRIBED IN THE SPCC PLAN OR EMPLOYEE TRAINING EXACT LOCATION OF THE SPILL, COMPANY NAME AND LOCATION, THE MATERIAL SPILLED, THE ESTIMATED QUANTITY, THE SOURCE OF THE SPILL, THE CAUSE OF THE SPILL, THE NEAREST DOWNSTREAM WATER WITH THE POTENTIAL TO RECEIVE THE SPILL, AND THE ACTIONS BEING TAKEN FOR CONTAINMENT AND CLEANUP.
15. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE SELECTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDEC SEDIMENT AND EROSION CONTROL HANDBOOK, LATEST EDITION.
16. WATER QUALITY BMPs SHALL NOT BE INSTALLED UNTIL BUILD IS NEAR COMPLETION TO PREVENT CONSTRUCTION SEDIMENT FROM ENTERING WATER QUALITY BMPs. WATER QUALITY AREAS SHALL NOT BE USED AS SEDIMENT BASINS DURING CONSTRUCTION. INSTALLER'S OF WATER QUALITY BMPs SHOULD FOLLOW ALL INSTALLATION GUIDELINES SET FORTH IN THE CITY OF COLUMBIA BMP MANUAL LOCATED ON THE CITY'S WEBSITE.
17. WATER QUALITY SIGNS SHALL BE PLACED WITHIN THE WATER QUALITY AREAS. THE SIGNS, MATERIALS, AND LABOR TO INSTALL WILL BE PROVIDED BY THE CITY STAFF.

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES
3. INSTALL SEDIMENT BASIN, IF REQUIRED
4. INSTALL WATER QUALITY BUFFER SIGNS, IF REQUIRED
5. INSTALL TREE PROTECTION FENCING
6. CONTACT CITY OF COLUMBIA FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
7. CLEAR, GRUB, AND GRADE THE SITE
8. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
9. UPON PERMANENT STABILIZATION OF THE SITE, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES (SEE FINAL EPSC PLAN FOR POST CONSTRUCTION CLOSEOUT PROCESS.

EPSC DATA CHART:

BMP DESIGN RAIN EVENT: 5 YEAR, 24 HR STORM

Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRIAN — LICENSED LANDSCAPE ARCHITECT — COMMERCIAL — CERTIFICATE No. — STATE OF TENNESSEE — 06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

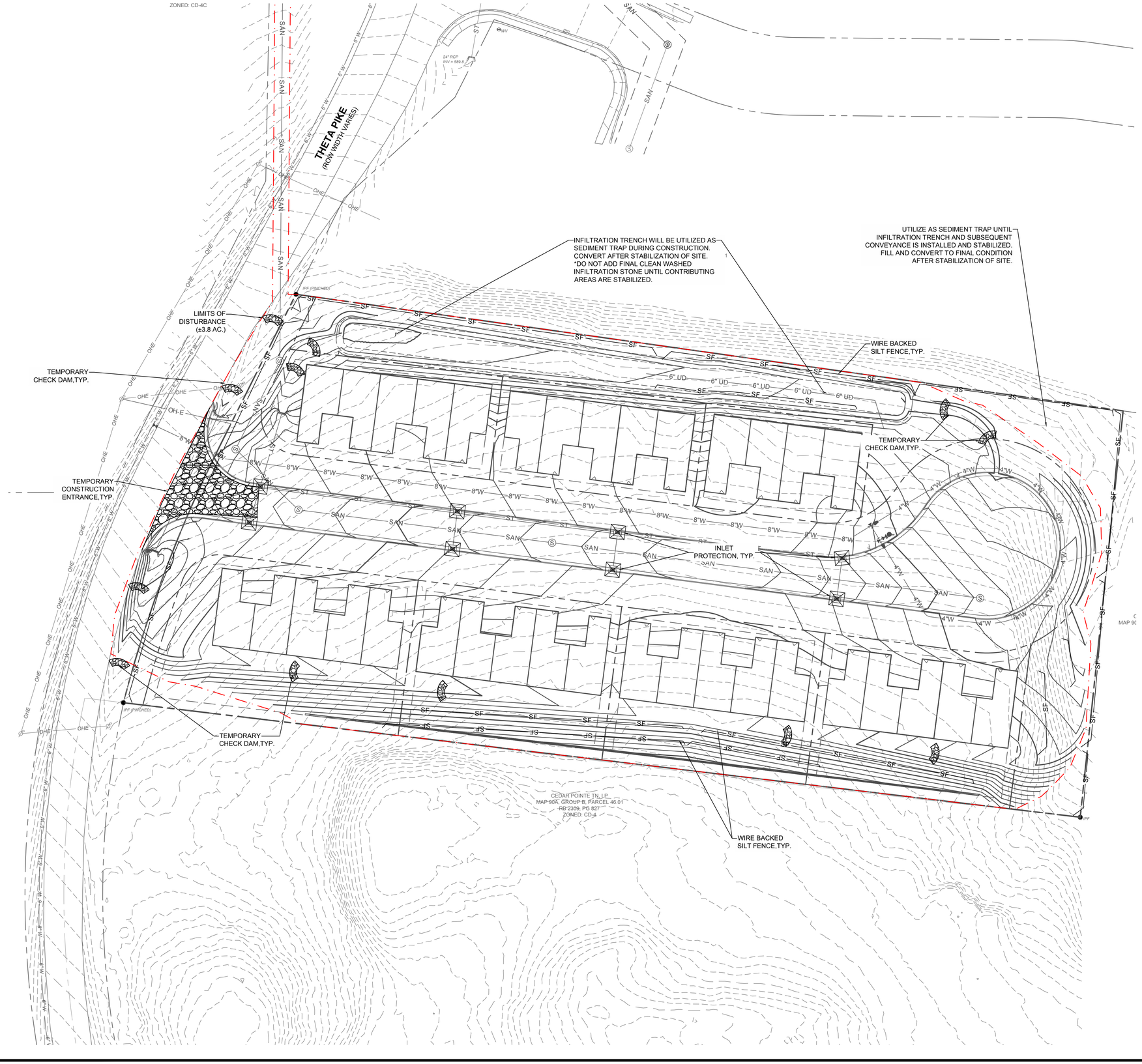
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

INITIAL EPSC PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C401

MPA - INITIAL EPSC PLAN.DWG | Monday, June 19, 2023 3:52:12 PM



TDEC - NPDES NOC NOTE:

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CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES
3. INSTALL SEDIMENT TRAPS, IF REQUIRED
4. INSTALL TREE PROTECTION FENCING
5. CONTACT CITY OF COLUMBIA FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
6. CLEAR, GRUB, AND GRADE THE SITE
7. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
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EPSC DATA CHART:

BMP DESIGN RAIN EVENT: 5 YEAR, 24 HR STORM

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
REGISTERED ENGINEER
AGRICULTURAL
COMMERCIAL
RESIDENTIAL
CORPORATE SEAL
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
220 THETA PIKE
TAX MAP 90B, GROUP B, PARCEL 47.00
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

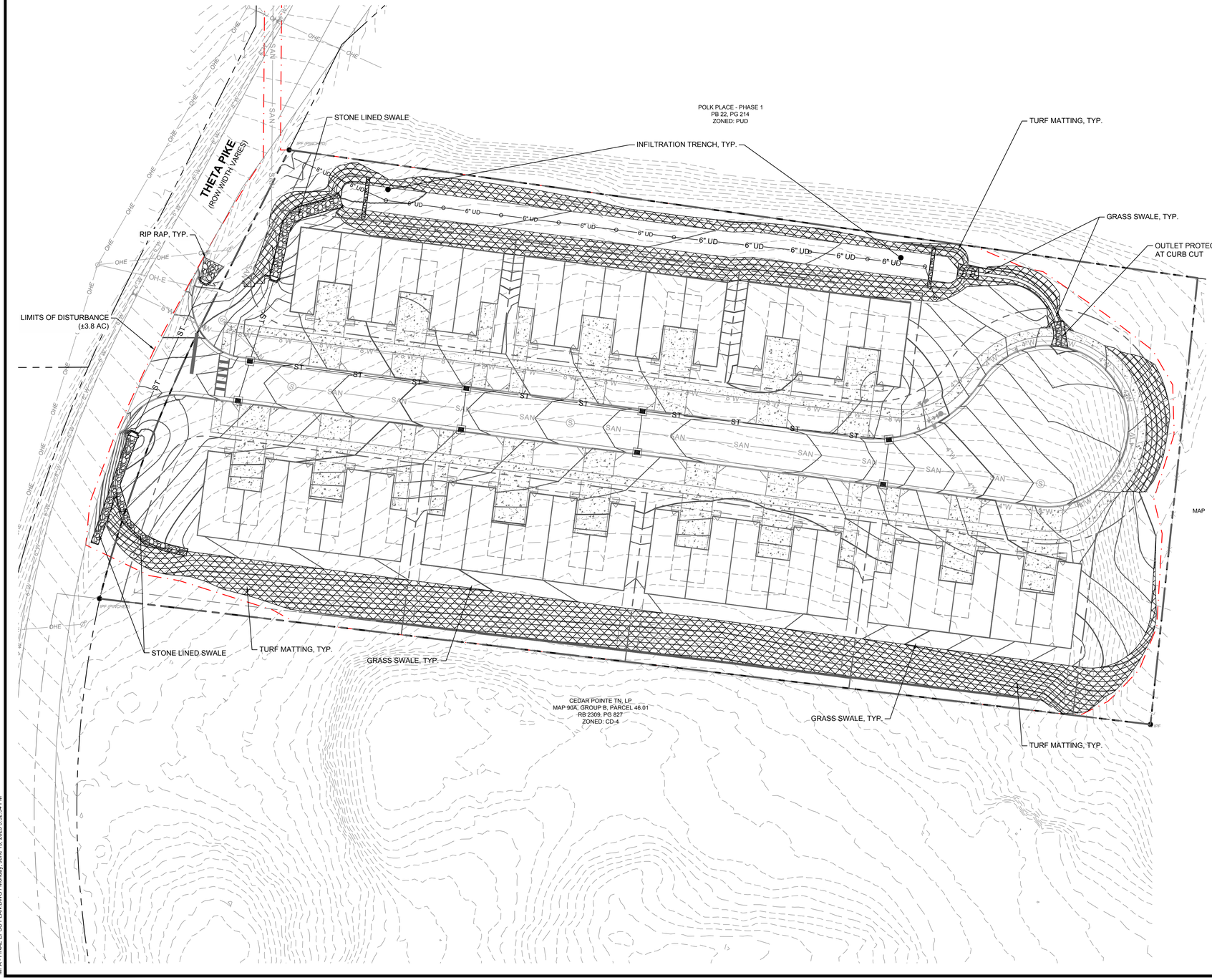
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

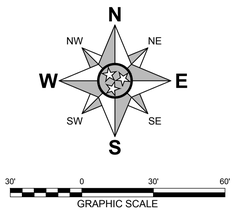
INTERMEDIATE EPSC PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C402

MPA - INTERMEDIATE EPSC PLAN.DWG / Monday, June 19, 2023 3:52:24 PM





TDEC - NPDES NOC NOTE:

THE PROJECT ASSOCIATED WITH THESE PLANS IS REQUIRED TO BE COVERED UNDER TENNESSEE GENERAL STORM WATER PERMIT TNR100000 BECAUSE THE LIMITS OF DISTURBANCE IS OVER 1 ACRE. THE LIMITS OF DISTURBANCE IS APPROXIMATELY 3.8 ACs.

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2. EPSC SHALL BE IMPLEMENTED BEFORE EARTH- MOVING BEGINS.
3. AREAS WHERE CONSTRUCTION HAS TEMPORARILY/PERMANENTLY CEASED SHALL BE STABILIZED NO LATER THAN 14 DAYS (7 DAYS FOR ≥35% SLOPES).
4. INSPECTIONS OF OUTFALLS/EPSC MEASURES SHALL BE CONDUCTED AT LEAST TWICE WEEKLY AND AT LEAST 72 HOURS APART.
5. VEGETATION, EPSCS & OTHER PROTECTIVE MEASURES SHALL BE REPAIRED, REPLACED, OR MODIFIED AFTER BEING NOTIFIED OF AN ISSUE WITHIN 7 DAYS OR BY THE NEXT SIGNIFICANT RAIN CHANCE OF 50% OR GREATER. ISSUES WITH IMMEDIATE THREATS TO WATER QUALITY SHALL BE REPAIRED IMMEDIATELY AS PER FMC 23-106(2)(g).
6. CONSTRUCTION SHALL BE PHASED FOR ACTIVITIES THAT WILL DISTURB >50 ACRES.
7. EPSCS SHALL BE DESIGNED TO CONTROL THE RAINFALL AND RUNOFF FROM A 5-YEAR, 24-HOUR RETURN INTERVAL STORM.
8. TEMPORARY SEDIMENT BASIN(S) SHALL BE PROVIDED FOR ON-SITE OUTFALLS THAT RECEIVE DRAINAGE FROM ≥10 ACRES; ≥5 ACRES FOR SITES THAT DISCHARGE TO IMPAIRED OR EXCEPTIONAL TN WATERS.
9. GREEN INFRASTRUCTURE BMPS SHALL BE PROTECTED DURING SITE WORK, WITH SILT FENCE, TO PREVENT SEDIMENTATION AND COMPACTION.
10. IF DEEMED APPROPRIATE, THE CITY MAY REQUIRE THE ADDITION, REMOVAL OR MODIFICATION OF EPSC MEASURES AND/OR EPSC LOCATIONS AT ANY TIME DURING THE CONSTRUCTION PROCESS TO ENSURE PROPER EPSC PERFORMANCE.

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES OR INITIATION OF EARTH DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CLEARLY DELINEATE THE PROPOSED LIMITS OF DISTURBANCE IN THE FIELD UTILIZING FLAGGING, STAKES, AND/OR CONSTRUCTION FENCE. NO DISTURBANCE BEYOND THESE LIMITS SHALL BE PERMITTED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE ENGINEER, THE AFFECTED PROPERTY OWNER AND ANY APPLICABLE REGULATORY AGENCIES.
2. THE CONSTRUCTION ACTIVITIES ANTICIPATED FOR THIS PROJECT INCLUDES GRADING, PAVING, AND UTILITY INSTALLATION.
3. THE APPROXIMATE TOTAL DISTURBED AREA OF THIS SITE IS 6.60 ACRES. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY THE CITY OF COLUMBIA PRIOR TO ADDITIONAL DISTURBANCE.
4. CONSTRUCTION SHALL BE SEQUENCED BY THE CONTRACTOR AS TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREAS. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS.
5. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE PERSON(S) RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE JOB SITE TRAILER, OR AT THE SITE CONSTRUCTION SIGN.
6. PRE-CONSTRUCTION VEGETATIVE GROUNDCOVER SHALL NOT BE REMOVED MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATTING. STEEP SLOPES (GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 DAYS OF THE ESTABLISHMENT OF FINAL GRADES.
7. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION AND SEDIMENT CONTROL FOR A PERIOD OF THREE YEARS AFTER COMPLETION OF CONSTRUCTION OR AS REQUIRED BY GOVERNING AUTHORITIES.
8. TEMPORARY SEEDING FOR THIS PROJECT SHALL UTILIZE TDOT, TDEC OR LOCAL STANDARDS UNLESS OTHERWISE INDICATED HEREON.
9. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH MUST BE CRIMPED INTO THE SOIL BY MECHANICAL MEANS. BROADCAST SPREADING OF MULCH IS NOT ACCEPTABLE.
10. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION. ALL STOCKPILES SHALL BE COVERED WITH TEMPORARY SEEDING AND PROTECTED WITH SILT FENCING.
11. FOR PERMANENT STABILIZATION OF ALL SLOPES 3:1 OR STEEPER, INSTALL TEMPORARY EROSION CONTROL BLANKET (TENSAR NORTH AMERICAN GREEN S150 OR APPROVED EQUAL) INSTALLED PER MANUFACTURERS' RECOMMENDATIONS SHALL BE USED IN PLACE OF STRAW MULCH.
12. THE LOCATION OF SOME OF THE EROSION CONTROL MEASURES MAY NEED TO BE ALTERED DUE TO CHANGING SITE CONDITIONS COMMENSURATE WITH PROGRESS OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION AND SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
13. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.
14. CONTRACTOR SHALL PREPARE, IMPLEMENT, AND MAINTAIN A SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN, AS A SEPARATE DOCUMENT OR AS A COMPONENT OF THE SWPPP, FOR ALL TANKS/CONTAINERS STORING ONSITE FUEL, CHEMICALS, OR OTHER POLLUTANTS CONSISTENT WITH THE REQUIREMENTS OF STATE NPDES RULES. EFFECTIVE MEASURES NECESSARY TO PREVENT SPILLS AND TO CLEAN UP SPILLS OF ANY TOXIC POLLUTANT, AS DOCUMENTED IN THE FACILITY'S SPCC PLAN, SHALL BE FULLY IMPLEMENTED. SOIL CONTAMINATED BY HAZARDOUS SUBSTANCES, PAINTS, FUEL OR CHEMICAL SPILLS, SHALL BE IMMEDIATELY CLEANED UP, MANAGED, AND DISPOSED OF IN AN APPROVED MANNER. WHERE POTENTIAL SPILLS CAN OCCUR, MATERIALS HANDLING PROCEDURES SHALL BE SPECIFIED AND PROCEDURES FOR IMMEDIATE CLEANUP/REMEDIATION OF SPILLS SHALL BE DESCRIBED IN THE SPCC PLAN OR EMPLOYEE TRAINING EXACT LOCATION OF THE SPILL, COMPANY NAME AND LOCATION, THE MATERIAL SPILLED, THE ESTIMATED QUANTITY, THE SOURCE OF THE SPILL, THE CAUSE OF THE SPILL, THE NEAREST DOWNSTREAM WATER WITH THE POTENTIAL TO RECEIVE THE SPILL, AND THE ACTIONS BEING TAKEN FOR CONTAINMENT AND CLEANUP.
15. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE SELECTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDEC SEDIMENT AND EROSION CONTROL HANDBOOK, LATEST EDITION.
16. WATER QUALITY BMPs SHALL NOT BE INSTALLED UNTIL BUILD IS NEAR COMPLETION TO PREVENT CONSTRUCTION SEDIMENT FROM ENTERING WATER QUALITY BMPs. WATER QUALITY AREAS SHALL NOT BE USED AS SEDIMENT BASINS DURING CONSTRUCTION. INSTALLER'S OF WATER QUALITY BMPs SHOULD FOLLOW ALL INSTALLATION GUIDELINES SET FORTH IN THE CITY OF COLUMBIA BMP MANUAL LOCATED ON THE CITY'S WEBSITE.
17. WATER QUALITY SIGNS SHALL BE PLACED WITHIN THE WATER QUALITY AREAS. THE SIGNS, MATERIALS, AND LABOR TO INSTALL WILL BE PROVIDED BY THE CITY STAFF.

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES
3. INSTALL SEDIMENT TRAPS
4. INSTALL TREE PROTECTION FENCING
5. CONTACT CITY OF COLUMBIA FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
6. CLEAR, GRUB, AND GRADE THE SITE
7. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
8. UPON PERMANENT STABILIZATION OF THE SITE, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES (SEE FINAL EPSC PLAN FOR POST CONSTRUCTION CLOSEOUT PROCESS.

EPSC DATA CHART:

BMP DESIGN RAIN EVENT: 5 YEAR, 24 HR STORM

811 Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN — LICENSED ENGINEER — COMMERCIAL — STATE OF TENNESSEE — 06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
220 THETA PIKE
TAX MAP 90B, GROUP B, PARCEL 47.00
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

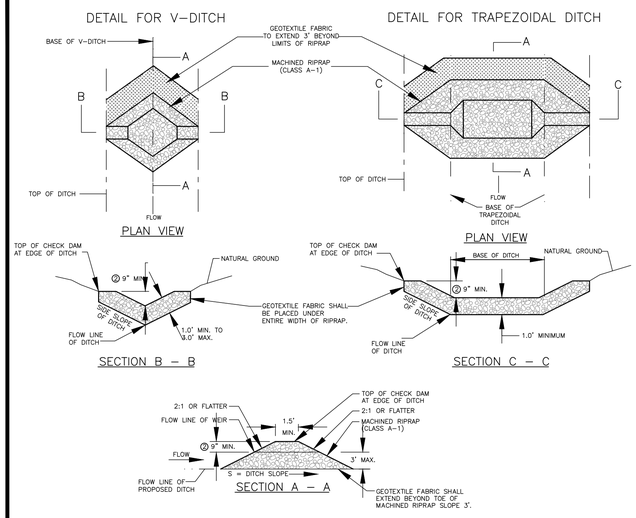
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
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FINAL EPSC PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

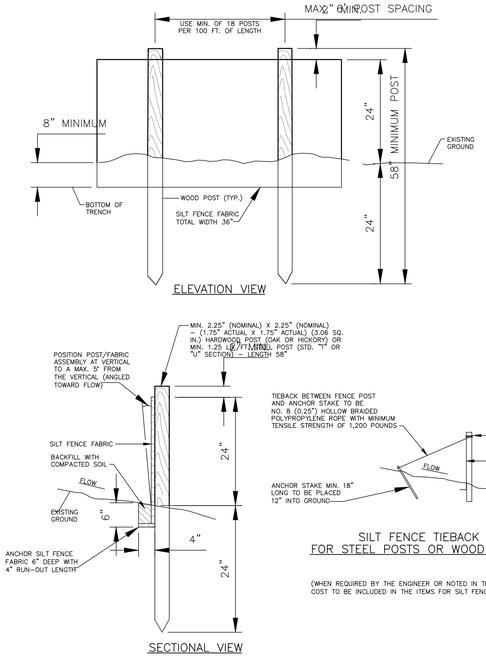
SHEET NUMBER:
C403

MPA - FINAL EPSC PLAN.DWG | Monday, June 19, 2023 3:52:34 PM



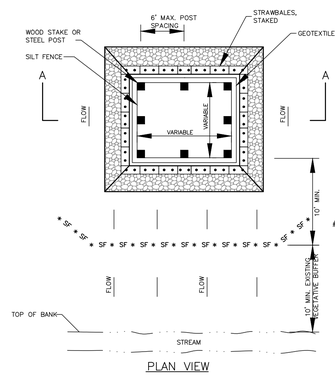
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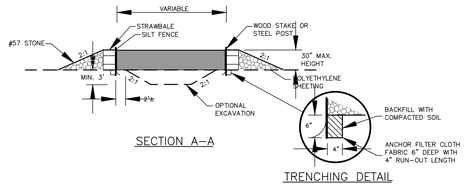
SILT FENCE

SCALE: N.T.S.



DEWATERING STRUCTURE VOLUMES AND DIMENSIONS			
PUMP DIAMETER (INCHES)	PUMP RATE (GALLONS PER MINUTE)	STORAGE VOLUME REQD (CUBIC YARDS)	INTERIOR DIMENSIONS
2	140	83	30' X 30'
3	260	154	41' X 41'
4	500	296	57' X 57'
6	1,100	652	85' X 85'

1. DIMENSIONS BASED ON THE MAXIMUM STRUCTURE HEIGHT OF 30" AND THE LENGTH BEING EQUAL TO THE WIDTH. OPTIONAL EXCAVATION IS NOT INCLUDED.
2. ADJUSTMENTS SHOULD BE MADE TO THE DIMENSIONS TO OBTAIN THE BEST CONFIGURATION FOR THE PROJECT SITE. DIMENSIONS ARE BASED ON THE DEWATERING STRUCTURE BEING HORIZONTAL.



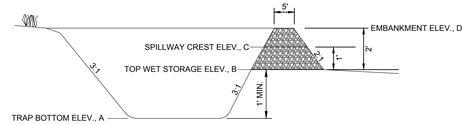
SILT FENCE & STRAW DEWATERING PIT

SCALE: N.T.S.

SEDIMENT TRAP ELEVATIONS, SEE DETAIL FOR REFERENCE → A, B, C, D

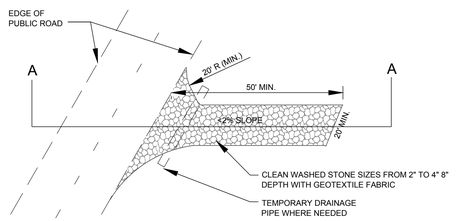
SEDIMENT TRAP DESIGN		
	ST-1	ST-2
DRAINAGE AREA (AC.)	2.80	2.50
TOTAL VOL. REQUIRED (CF)	10,130.00	9,045.00
WET VOL. REQUIRED (CF)	5,065.00	4,522.50
DRY VOL. REQUIRED (CF)	5,065.00	4,522.50
WET STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TRAP BOTTOM ELEV. (FT)	607.00	607.00
TOP WET STORAGE ELEV. (FT)	608.50	608.50
SPILLWAY CREST ELEV. (FT)**	610.00	610.00
TOP EMBANKMENT ELEV. (FT)	610.00	610.00
SPILLWAY CREST LENGTH (FT)	15.00	15.00
SPILLWAY CREST WIDTH (FT)	5.00	5.00
EMBANKMENT TOP WIDTH (FT)	5.00	5.00
DRY STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TOTAL VOL. PROVIDED (CF)	**10,522.00**	**9,509.00**

* RUNOFF COEFFICIENT ASSUMED TO BE BARE SOIL CONDITION
** SPILLWAY CREST ELEVATION IS ALSO TOP OF DRY STORAGE ELEVATION

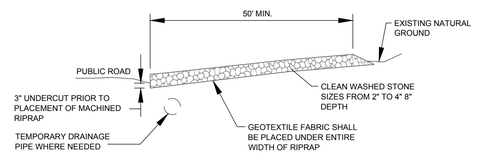


TEMPORARY SEDIMENT TRAP

N.T.S.



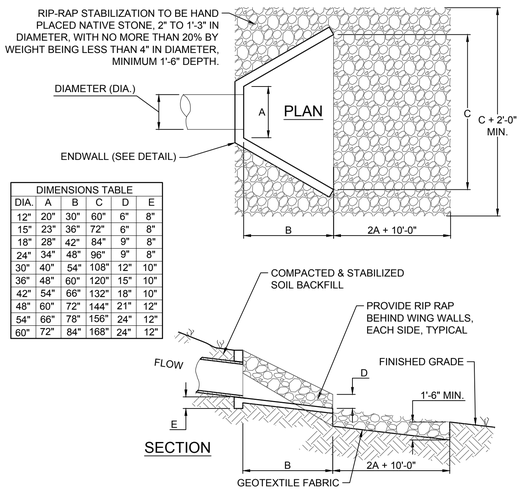
PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



SECTION A-A

CONSTRUCTION EXIT

SCALE: N.T.S.



DIMENSIONS TABLE					
DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

RIP RAP AT ENDWALL

N.T.S.

ACTIVITY: Geotextiles	PESC – 02

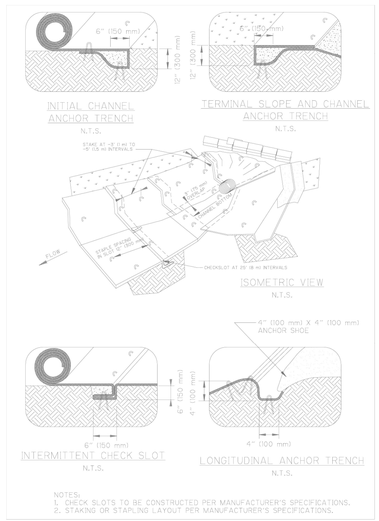


Figure PESC-02-1
Anchoring Geotextiles in Channels

Stormwater Best Management Practices – Permanent EP&SC | PESC-02-3 | January 2014

ACTIVITY: Geotextiles	PESC – 02

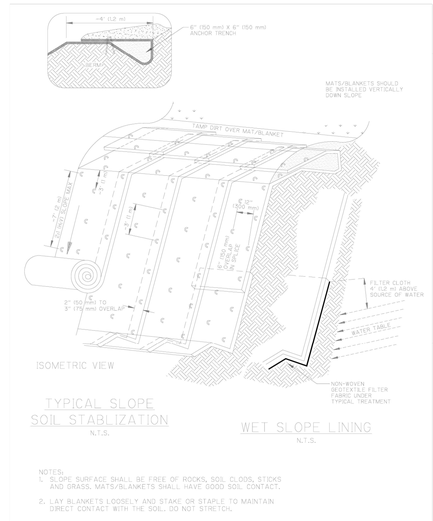


Figure PESC-02-2
Anchoring Geotextiles on Embankments

Stormwater Best Management Practices – Permanent EP&SC | PESC-02-4 | January 2014

TURF REINFORCEMENT MATTING DETAILS

SCALE: N.T.S.

REVISION #	DATE	DESCRIPTION
1	08-18-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS



SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

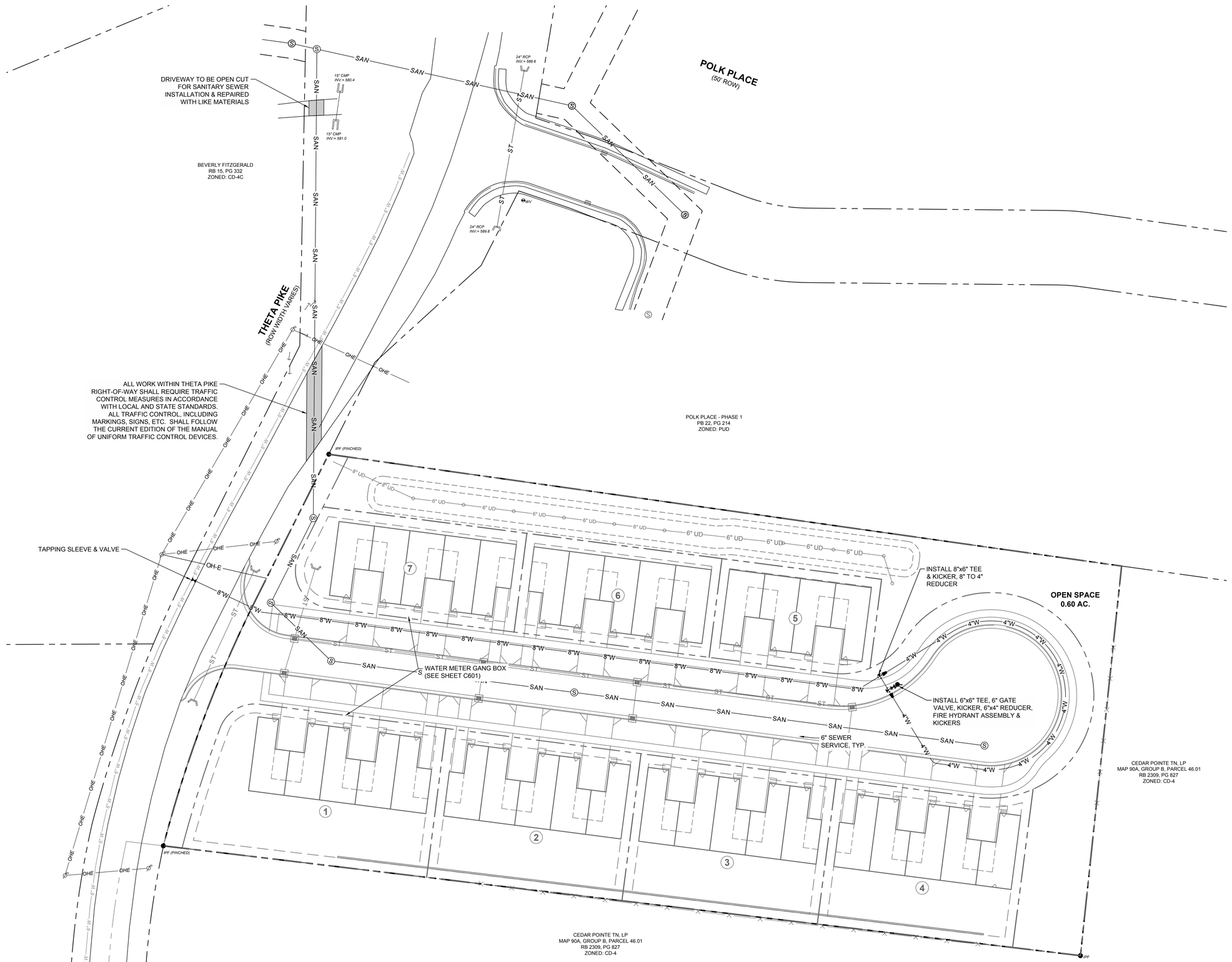
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

EPSC DETAILS

DRAWN BY :	M2G
CHECKED BY :	MWB
DATE:	MAY 22, 2023
PROJECT NO. :	22-085

SHEET NUMBER:
C404

MPA - SITE DETAILS.DWG / Monday, June 19, 2023 3:52:47 PM



LEGEND

SAN	SANITARY SEWER
OHE	OVERHEAD ELECTRIC
UG-E	UNDERGROUND ELECTRIC
8"W	8" WATERLINE
G	NATURAL GAS
ST	STORMWATER DRAINAGE PIPE
W	WATER SERVICE

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
COMMERCE
CERTIFICATE No.
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

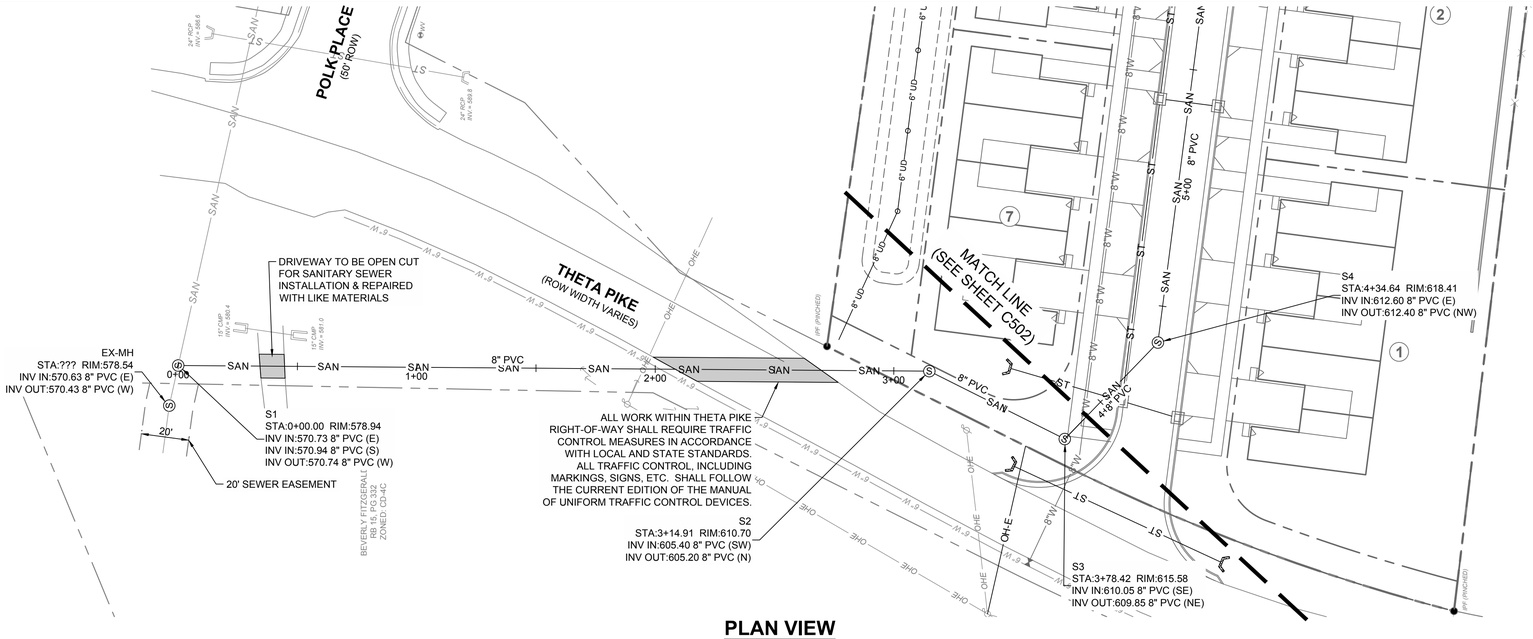
UTILITY PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C500

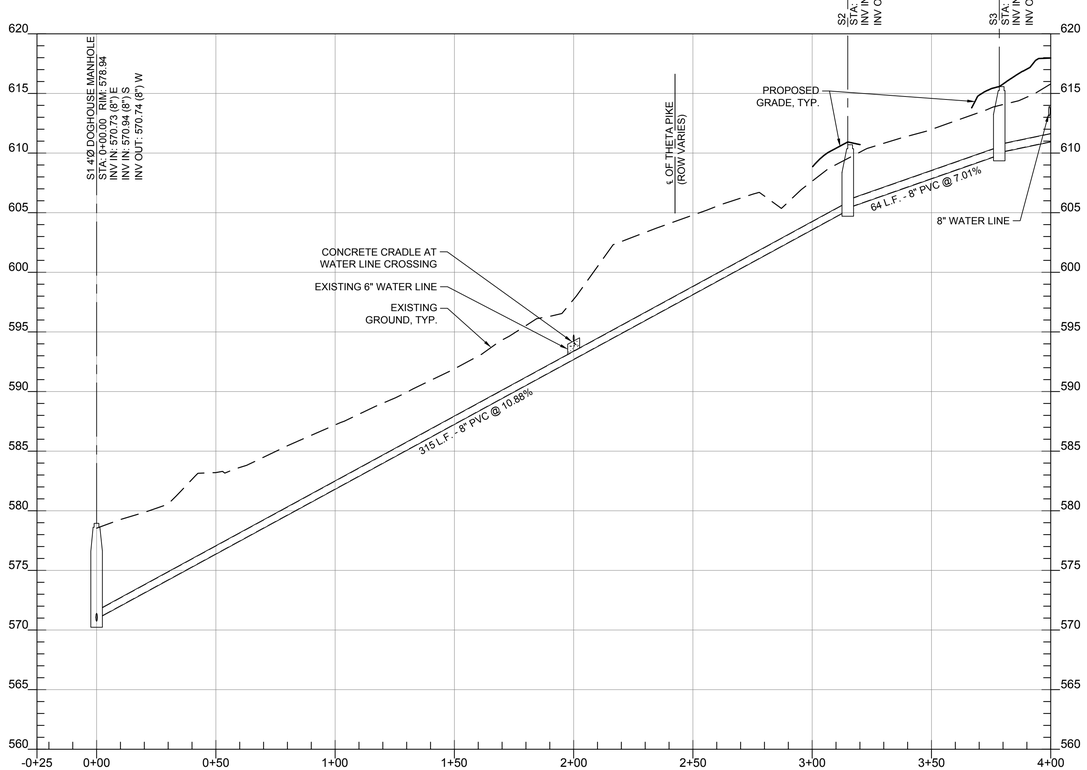
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MPA - UTILITY PLAN.DWG | Monday, June 19, 2023 3:52:59 PM



PLAN VIEW

SCALE: 1" = 30'



PROPOSED OFFSITE SANITARY SEWER PROFILE

SCALE H:1"=30'; V:1"=6'

Know what's below.
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REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
REGISTERED
LICENSED PROFESSIONAL ENGINEER
CERTIFICATE NO. 130777
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

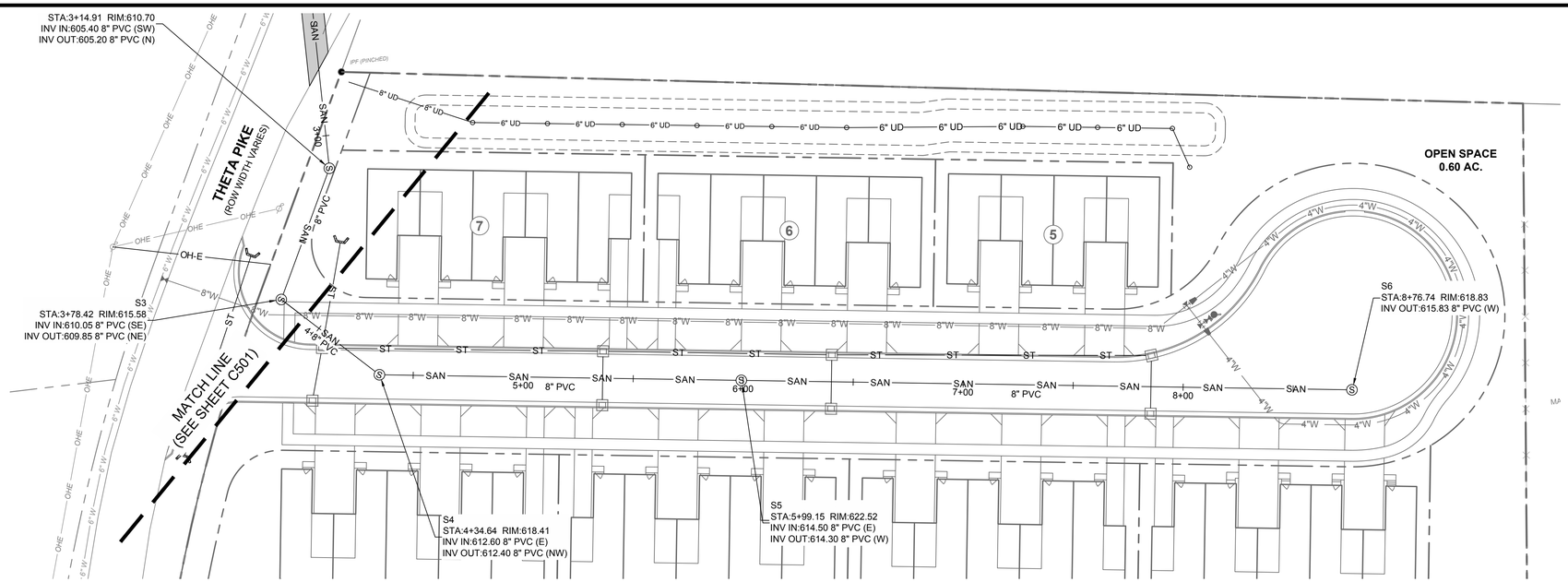
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P.O. BOX 848
FRANKLIN, TN 37065
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OFFSITE SANITARY SEWER PLAN & PROFILE

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

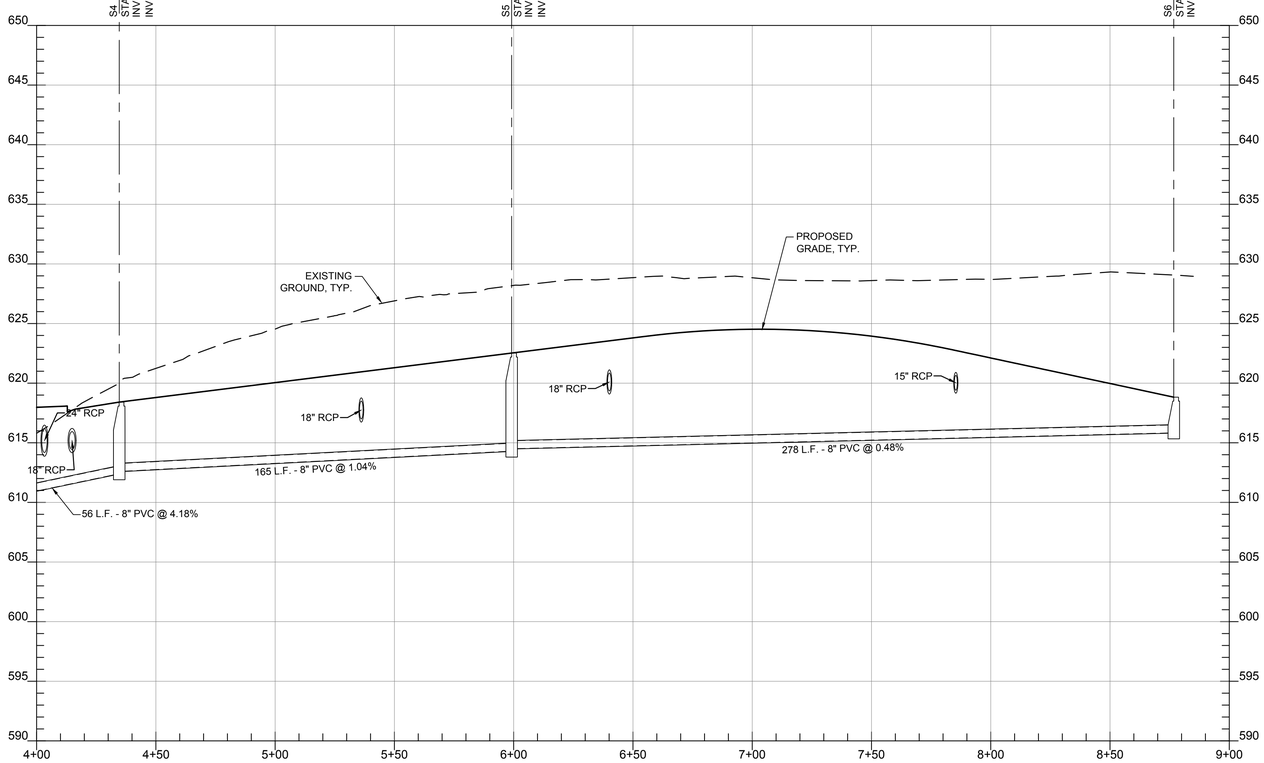
SHEET NUMBER:
C501

MPA - SANITARY SEWER PLAN & PROFILE.DWG | Monday, June 19, 2023 3:53:09 PM



PLAN VIEW

SCALE: 1" = 30'



PROPOSED SANITARY SEWER PROFILE

SCALE H:1"=30'; V:1"=6'

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
NUMBER 121116
COMMERCIAL
CERTIFICATE NO.
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
220 THETA PIKE
TAX MAP 90B, GROUP B, PARCEL 47.00
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MZ GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MZGROUPLLC.COM

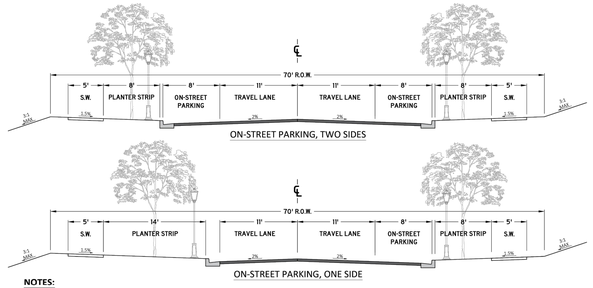
SANITARY SEWER PLAN & PROFILE

DATE:	MAY 22, 2023	DRAWN BY:	M2G
PROJECT NO.:	22-085	CHECKED BY:	MWB

SHEET NUMBER:
C502

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MPA - SANITARY SEWER PLAN & PROFILE.DWG / Monday, June 19, 2023 3:53:11 PM



NOTES:

1. ONLY PERMITTED WITHIN THE APPLICABLE ZONING DISTRICTS.
2. ONLY PERMITTED ON MINOR LOCAL AND MAJOR LOCAL ROADWAY CLASSIFICATIONS.
3. PAVEMENT SECTION SHALL FOLLOW APPLICABLE ROADWAY CLASSIFICATION.
4. CURB AND GUTTER, SEE SD-01
5. TREES SHALL BE CENTERED WITHIN THE PLANTING STRIP, OFFSET A MINIMUM OF 20 FEET ALONG THE CENTERLINE OF THE ROAD FROM ANY STREET LIGHTING.
6. DECORATIVE LIGHT BASES SHALL BE BETWEEN 18" AND 24" BEHIND THE BACK OF CURB.
7. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED.
8. DIMENSIONS REFLECT A MINIMUM STANDARD.
9. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

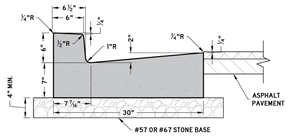
STANDARD DETAILS

CHARACTER DISTRICT STREET URBAN NEIGHBORHOOD

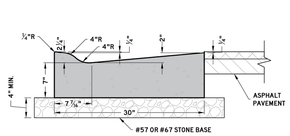
(NTS)

DATE 6/9/2022

DS-03



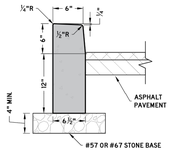
6-30 CONCRETE CURB AND GUTTER



LOWERED CONCRETE CURB AND GUTTER

NOTES:

1. BASED ON TDOT STANDARD DRAWING RP-VC-11
2. ONLY PERMITTED IN APPLICABLE ROADWAY SECTIONS
3. 4" MIN. THICK #57 OR # 67 STONE BASE
4. CLASS A 3000 PSI CONCRETE
5. EXPANSION JOINTS SHALL BE AS FOLLOWS:
   - 5.1. 1/2 INCH THICK
   - 5.2. A MAXIMUM SPACING OF 100 FEET
   - 5.3. AT TANGENTS OF ALL RADII OF CURVES
   - 5.4. BETWEEN CURBS AND ANY RIGID OBJECTS
   - 5.5. ALIGNED WITH ADJACENT EXPANSION JOINTS
   - 5.6. RUBBERIZED EXPANSION JOINT FILLER (AASHTO M153, TYPE 1)
   - 5.7. POLYPROPYLENE FOAM JOINT FILLER (ASTM D8139)
6. CONTRACTION JOINTS SHALL BE AS FOLLOWS:
   - 6.1. A MAXIMUM SPACING OF 10 FEET
   - 6.2. A MINIMUM SPACING OF 6 FEET
   - 6.3. 1/4 INCH DEPTH, EITHER SAWCUT OR HAND GROOVED.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



VERTICAL POST CURB

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

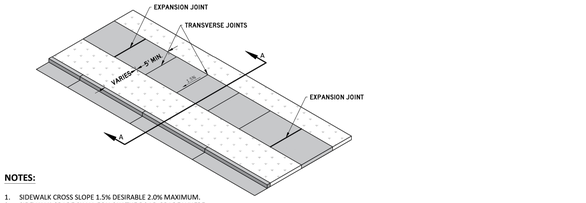
STANDARD DETAILS

CURB AND GUTTER AND POST CURB

(NTS)

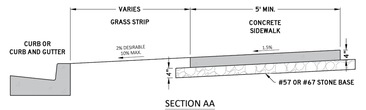
DATE 6/9/2022

SD-01



NOTES:

1. SIDEWALK CROSS SLOPE 1.5% DESIRABLE 2.0% MAXIMUM.
2. SIDEWALK GRADE SHALL FOLLOW THE ROAD GRADE WHERE POSSIBLE.
3. 4" MIN. THICK #57 OR # 67 STONE BASE
4. 4" MIN. THICKNESS CLASS A 3000 PSI CONCRETE WITH FIBER REINFORCEMENT, BROOM FINISHED.
5. EXPANSION JOINTS SHALL BE AS FOLLOWS:
   - 5.1. 1/2 INCH THICK
   - 5.2. A MAXIMUM SPACING OF 25 FEET
   - 5.3. AT TANGENTS OF ALL RADII OF CURVES
   - 5.4. BETWEEN CURBS AND ANY RIGID OBJECTS
   - 5.5. ALIGNED WITH ADJACENT EXPANSION JOINTS
   - 5.6. RUBBERIZED EXPANSION JOINT FILLER (AASHTO M153, TYPE 1)
   - 5.7. POLYPROPYLENE FOAM JOINT FILLER (ASTM D8139)
6. PROVIDE TRANSVERSE JOINTS AS NEARLY AS SQUARE AS PRACTICABLE. ON SIDEWALKS GREATER THAN 8 FEET IN WIDTH, PROVIDE A LONGITUDINAL JOINT ALONG THE CENTERLINE OF THE SIDEWALK.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



SECTION AA

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

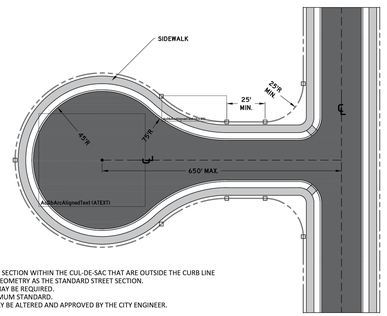
STANDARD DETAILS

CONCRETE SIDEWALK

(NTS)

DATE 6/9/2022

SD-10



NOTES:

1. ALL ELEMENTS OF THE STREET SECTION WITHIN THE CUL-DE-SAC THAT ARE OUTSIDE THE CURB LINE SHALL MAINTAIN THE SAME GEOMETRY AS THE STANDARD STREET SECTION.
2. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED.
3. DIMENSIONS REFLECT A MINIMUM STANDARD.
4. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

STANDARD DETAILS

CUL-DE-SAC

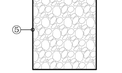
(NTS)

DATE 6/9/2022

SD-15

PAVEMENT SCHEDULE

①	**SURFACE @ 1.5" THICK** 411-12.5 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING D (SURFACE), OR 411-12.5 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING C ⊕ (SURFACE)
②	**TACK COAT (GENERAL USE)** 403-01 BITUMINOUS MATERIAL FOR TACK COAT (CT) (0.05 - 0.10 GAL/SY)
③	**BIT. BINDER @ 2" THICK** 307-01.08 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2
④	**PRIME COAT** 402-10 BITUMINOUS MATERIAL FOR PRIME COAT (PC) (0.30-0.35 GAL/SY) 402-02 AGGREGATE FOR COVER MATERIAL (PC) (8-12 LB/SY)
⑤	**MINERAL AGGREGATE BASE @ 6" THICK** 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D



CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

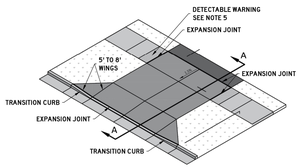
STANDARD DETAILS

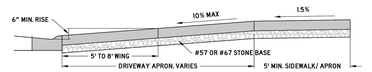
PARKING LOT PAVEMENT SECTION

(NTS)

DATE 6/9/2022

MD-02





SECTION AA

NOTES:

1. SIDEWALK CROSS SLOPE 1.5% DESIRABLE 2.0% MAXIMUM.
2. APRON SLOPE 2.0% MIN. 10% MAX. MINIMUM OF 6" RISE ABOVE GUTTER LINE.
3. 4" MIN. THICK #57 OR # 67 STONE BASE
4. CLASS A 3000 PSI CONCRETE WITH FIBER REINFORCEMENT
   - 4.1. 6" MIN. THICKNESS RESIDENTIAL.
   - 4.2. 8" MIN. THICKNESS COMMERCIAL, MULTI-FAMILY, AND MIXED-USE.
5. EXPANSION JOINTS SHALL BE AS FOLLOWS:
   - 5.1. 1/2 INCH THICK.
   - 5.2. RUBBERIZED EXPANSION JOINT FILLER (AASHTO M153, TYPE 1).
   - 5.3. POLYPROPYLENE FOAM JOINT FILLER (ASTM D8139).
6. DETECTABLE WARNINGS WHERE DRIVEWAY IS STOP CONTROLLED.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

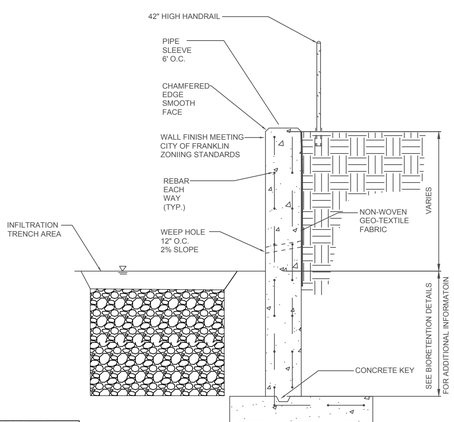
STANDARD DETAILS

DRIVEWAY APRON

(NTS)

DATE 6/9/2022

SD-12



NOTE: A FORMAL WALL SUBMITTAL PREPARED BY A LICENSED PROFESSIONAL WILL BE SUBMITTED WITH GUARDRAIL DETAILS PRIOR TO OBTAINING A BUILDING PERMIT.

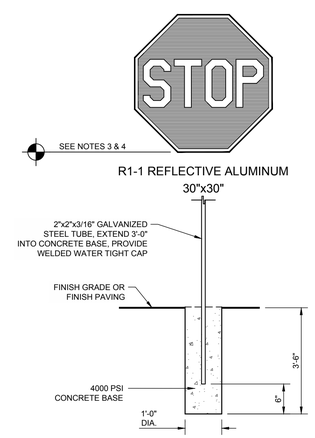
NOTE: RETAINING WALLS ADJACENT TO INFILTRATION TRENCH AREAS SHALL NOT RELY ON STONE DRAINAGE MEDIA FOR STABILITY OR LATERAL RESISTANCE. BOTTOM OF WALL/TOP OF FOOTING ELEVATION SHALL BE LOCATED AT OR BELOW BOTTOM OF LOWERMOST STONE DRAINAGE MEDIA.

RETAINING WALL ILLUSTRATIVE CROSS-SECTION

ADJACENT TO INFILTRATION TRENCH

FOR ILLUSTRATIVE PURPOSES ONLY, NOT TO BE USED FOR CONSTRUCTION

NO SCALE



R1-1 REFLECTIVE ALUMINUM
30"x30"

STOP SIGN/SPEED LIMIT SIGN

N.T.S.

NOTES:

1. SET POSTS IN CONCRETE TO A MINIMUM DEPTH OF 36". SIGN PANELS SHALL BE 0.100 ALUMINUM WITH RAISED OR SILKSCREEN COPY.
2. FOR POST MOUNTING, USE NON-CORROSIVE 3/8" MACHINE BOLTS W/ WASHERS, 2 PER SIGN; OR IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. ALL SIGNAGE IS TO BE INSTALLED WITH THE BOTTOM EDGE OF THE LOWEST SIGN AT LEAST 60" ABOVE FINISHED GRADE, WHERE NO PEDESTRIAN TRAFFIC IS POSSIBLE.
4. ALL SIGNAGE IS TO BE INSTALLED WITH THE BOTTOM EDGE OF THE LOWEST SIGN AT LEAST 84", WHERE PEDESTRIAN TRAFFIC IS POSSIBLE.
5. STOP SIGN TO BE HIGH INTENSITY GRADE.

REVISION #	DATE	DESCRIPTION
1	08-18-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRIAN
REGISTERED
CERTIFICATE No. 120
LICENSED PROFESSIONAL ENGINEER
STATE OF TENNESSEE
08/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

SITE DETAILS

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C600

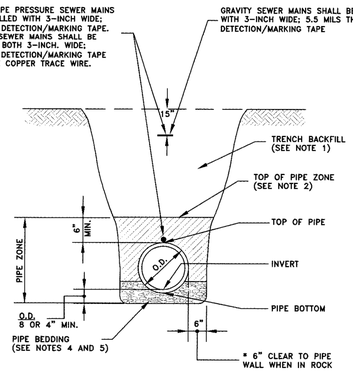
MPA - SITE DETAILS.DWG | Monday, June 19, 2023 3:53:24 PM

NOTES:

1. SEE PROJECT SPECIFICATIONS FOR BACKFILL REQUIREMENTS.
2. "PIPE ZONE" EXTENDS TO 6" ABOVE TOP OF PIPE AND BACKFILL IN TO BE CRUSHED STONE, GRAVEL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER.
3. LIMIT TRENCH WIDTH AT TOP OF PIPE ZONE TO O.D. + 16", UNLESS PERMITTED OTHERWISE BY ENGINEER.
4. PIPE BEDDING IS TO BE CRUSHED GRAVEL OR OTHER GRANULAR MATERIAL AS APPROVED BY ENGINEER. DEPTH UNDER BOTTOM OF PIPE IS TO BE 1/8 OUTER DIAMETER (O.D.) OF PIPE OR 4", WHICHEVER IS GREATER.*
5. PIPE TO BE CONTINUOUSLY SUPPORTED ALONG LENGTH OF PIPE BARREL EXCEPT AT BELLS. BELL HOLES ARE REQUIRED SUCH THAT NO BEARING LOAD IS TAKEN BY THE BELL.

DUCTILE IRON PIPE PRESSURE SEWER MAINS SHALL BE INSTALLED WITH 3-INCH WIDE; 5.5 MILS THICK DETECTION/MARKING TAPE. PVC PRESSURE SEWER MAINS SHALL BE INSTALLED WITH BOTH 3-INCH WIDE; 5.5 MILS THICK DETECTION/MARKING TAPE AND #14 GAUGE COPPER TRACE WIRE.

GRAVITY SEWER MAINS SHALL BE INSTALLED WITH 3-INCH WIDE; 5.5 MILS THICK DETECTION/MARKING TAPE

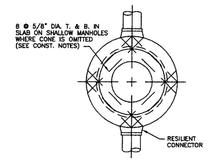


TYPICAL SEWER INSTALLATION

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S1

NOTE: ALL MANHOLES SHALL BE MANUFACTURED WITH XYPEX ADMIX C-1000/C-2000 IN CONCRETE FOR WATERPROOFING AND PROTECTION AGAINST HYDROGEN SULFIDE DETERIORATION. XYPEX ADMIX SHALL BE AS SUPPLIED BY TOM WILLIAMS; 1231 ANTIOCH PIKE, NASHVILLE. PRECAST MANHOLES SHALL BE AS SUPPLIED BY CLOUD CONCRETE PRODUCTS OR ENGINEER APPROVED EQUAL.

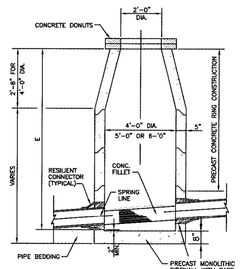


PLAN

CONSTRUCTION NOTES

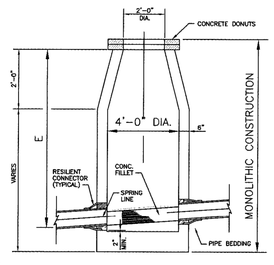
CYLINDRICAL AND CONICAL SECTIONS OF ALL MANHOLES SHALL BE CONSTRUCTED OF EITHER MONOLITHIC CONCRETE OR PRECAST CONCRETE RINGS AS DESIGNED IN THE PROJECT SPECIFICATIONS OF THE CONTRACT DOCUMENT.
CONCENTRIC CONES SHALL BE USED ON PRECAST CONCRETE AND MONOLITHIC CONCRETE UNITS.
DIMENSION "E" VARIES. WHEN LESS THAN 5-FEET OMIT CONE AND EXTEND CYLINDRICAL MANHOLE SIDEWALL SECTION TO AN ELEVATION 8-INCHES BELOW BOTTOM OF ADJUSTING BRICK. CONSTRUCT 8-INCH THICK CONCRETE SLAB ON TOP OF CYLINDRICAL SECTION REINFORCED WITH 5/8-INCH DIA. BARS AS SHOWN. PROVIDE 24-INCH DIAMETER OPENING IN SLAB FOR MANHOLE'S FRAME AND BRICK ADJUSTMENT RINGS AS ON CONED MANHOLE.
BENCH WALLS IN MANHOLE AT SEWERS 18-INCHES IN DIAMETER AND SMALLER TO BE BUILT UP TO THE LEVEL OF THE CROWN OF THE PIPE. FOR SEWERS 21-INCHES TO 30-INCHES IN DIAMETER, A 7-INCH MINIMUM WIDTH ABOVE SEWERS TO SPRING LINE OF PIPE WALLS REQUIRED IN DEAD END MANHOLES, ALTHOUGH BOTTOM TO BE PROPERLY BENCHED.

NOTE: GRANULAR BACKFILL MATERIAL SHALL BE PLACED ADJACENT TO MANHOLE IN AREAS WHERE SWELLING CLAY EXIST.



SECTION

FOR SEWERS 36" DIAMETER & SMALLER
NOT TO SCALE

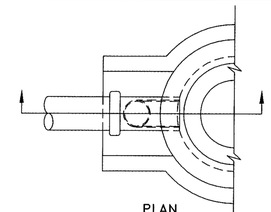


POURED IN PLACE MANHOLE
NOT TO SCALE

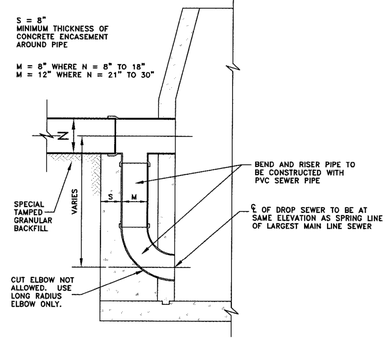
STANDARD MANHOLES

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S2



PLAN



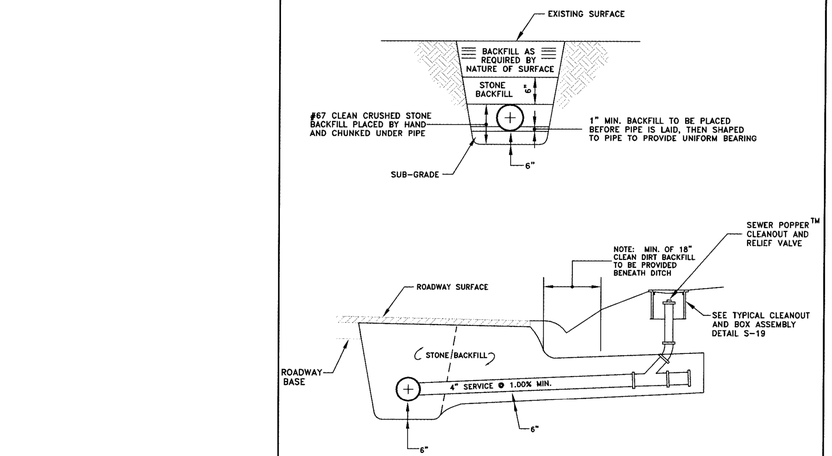
SECTION

DROP PIPE FOR STANDARD MANHOLES

NOT TO SCALE

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S3

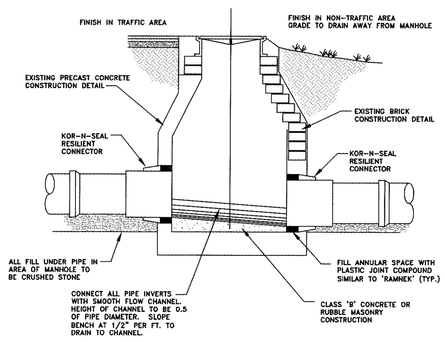


SERVICE LINE

NOT TO SCALE

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S4



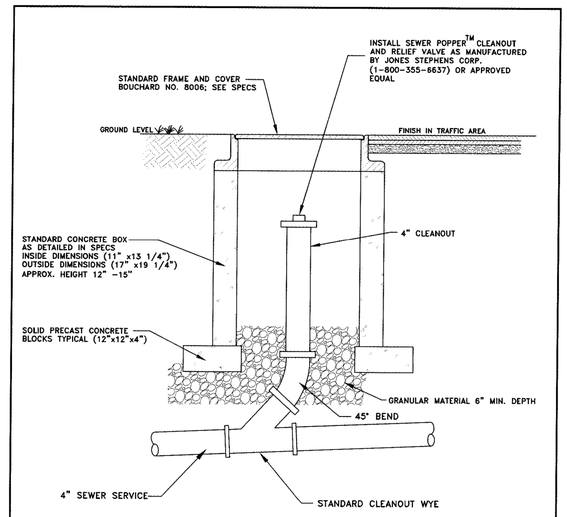
CONNECTION TO EXISTING MANHOLE

NOT TO SCALE

NOTE: THE CONTRACTOR SHALL NOT CONNECT TO EXISTING MANHOLE UNTIL ALL NEW SEWAGE FACILITIES HAVE BEEN INSTALLED, TESTED AND RELEASED FOR SERVICE.

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S5



TYPICAL CLEANOUT ASSEMBLY

NOT TO SCALE

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S19

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

MATTHEW W. BRYAN — REGISTERED ENGINEER — STATE OF TENNESSEE — 06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

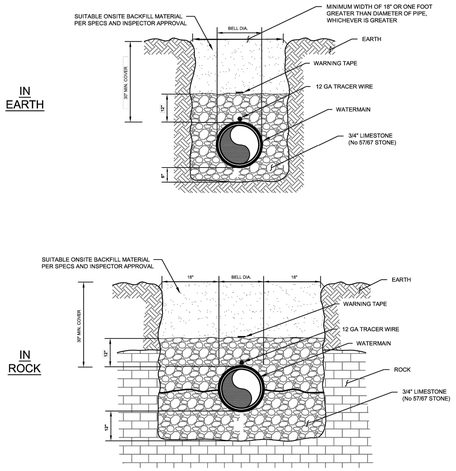
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MPAGROUPLLC.COM

UTILITY DETAILS

DATE:	MAY 22, 2023	DRAWN BY:	MZG
PROJECT NO.:	22-085	CHECKED BY:	MWB

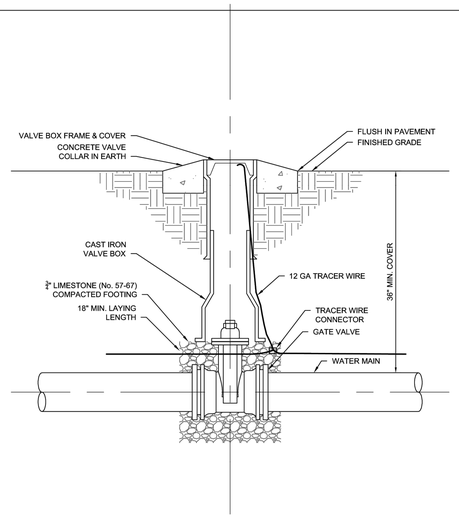
SHEET NUMBER:
C602

MPA - SITE DETAILS.DWG / Monday, June 19, 2023 3:53:28 PM



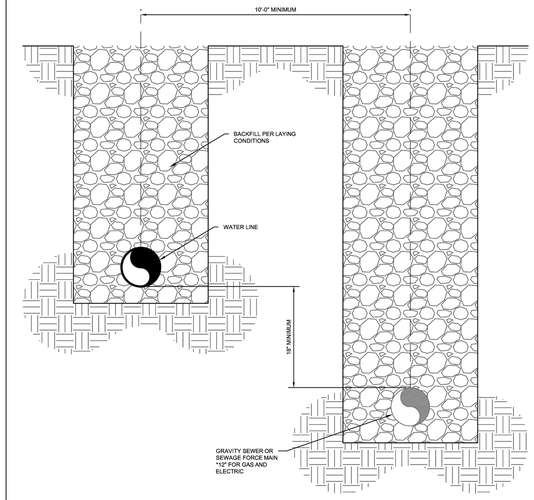
NOTES:
1. **30" MINIMUM COVER IN TRAFFIC AREAS.**
2. **UNSUITABLE EARTH MATERIALS MAY REQUIRE OVER-EXCAVATION AND GRAVEL BEDDING AND HAUNCHING.**

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | WATER LINE LAYING CONDITIONS IN ROCK OR EARTH | FIGURE NO.: CWS-1



NOTES:
1. ALL VALVE BOXES SHALL BE SET TO BE FLUSH WITH FINAL GRADES AND SHALL NOT BE COVERED WITH ANY PAVING, DIRT, SOD, GRASSING, AND/OR LANDSCAPING.
2. THIS DETAIL IS VALID FOR 16" AND SMALLER VALVE SIZES. FOR LARGER SIZES, SEE CONTRACT SPECS. OR CONFIRM WITH CPWS.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | LINE VALVE SETTING | FIGURE NO.: CWS-2



CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | UTILITY SEPARATION | FIGURE NO.: CWS-3

LENGTH TO BE RESTRAINED (L)							
PIPE SIZE	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS		VALVES OR DEAD ENDS
	11.25°	22.5°	45°	90°	UPPER	LOWER	
6"	3 FT	6 FT	13 FT	30 FT	23 FT	4 FT	66 FT
8"	4 FT	8 FT	16 FT	38 FT	30 FT	6 FT	86 FT
10"	5 FT	9 FT	19 FT	45 FT	36 FT	7 FT	103 FT
12"	6 FT	11 FT	22 FT	53 FT	43 FT	8 FT	121 FT
16"	7 FT	14 FT	28 FT	66 FT	55 FT	10 FT	154 FT
20"	8 FT	16 FT	33 FT	79 FT	66 FT	12 FT	185 FT
24"	8 FT	16 FT	33 FT	79 FT	77 FT	15 FT	204 FT

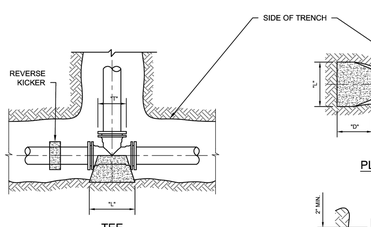
REDUCERS	
SIZE	L
6x4	34'
8x6	36'
8x4	62'
10x8	35'
10x6	63'
12x10	36'
12x8	64'
16x12	66'
16x10	92'
20x18	35'
20x16	66'
20x12	117'
24x20	56'
24x18	80'
24x16	101'

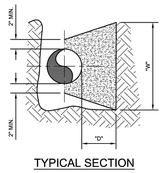
TEES		
RUN	BRANCH	L
4"	4"	F.O.
4"	6"	10'
	<6"	F.O.
8"	8"	29'
	<8"	F.O.
10"	10"	45'
	8"	13'
	<8"	F.O.
12"	12"	62'
	10"	32'
	<8"	F.O.
16"	16"	94'
	12"	39'
	10"	5'
	<10"	F.O.
20"	20"	125'
	16"	76'
	12"	14'
	<12"	F.O.
24"	24"	124'
	20"	84'
	16"	36'
	<16"	F.O.

F.O. = FITTING ONLY

NOTES:
1. PIPE TO BE INSTALLED IN TRENCH AS PER LINE LAYING CONDITION DETAIL.
2. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED AND SHALL BE PROVIDED WITH MECHANICAL JOINT THRUST RESTRAINTS AT ALL DIRECTION CHANGES, SIZE CHANGES, AND DEAD ENDS. ALL CONNECTIONS TO EXISTING PIPE SHALL BE MADE WITH RETAINER GLANDS.
3. MECHANICAL JOINT RESTRAINTS SHALL BE DUCTILE IRON IN ACCORDANCE WITH ASTM A536 - STANDARD SPECIFICATION FOR DUCTILE IRON CASTINGS.
4. CONTRACTOR SHALL FURNISH AND INSTALL MECHANICAL JOINT RESTRAINTS WITH ALL HARDWARE AND ACCESSORIES AS REQUIRED BY THE MANUFACTURER FOR PROPER INSTALLATION.
5. CONTRACTOR SHALL PROVIDE THE SERIES/MODEL OF JOINT RESTRAINT AS REQUIRED FOR THE PIPE SIZE, MATERIAL, AND FLANGED FITTING SHOWN ON THE PLANS.
6. RESTRAINT LENGTH CALCULATIONS WERE PERFORMED UNDER THE FOLLOWING CONDITIONS: PVC PIPE MATERIAL, GM SOIL TYPE, 1.5 SAFETY FACTOR, TYPE 3 TRENCH, 2.5 FT BURY DEPTH, 150 PSI TEST PRESSURE.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | PIPE JOINT RESTRAINT SCHEDULE | FIGURE NO.: CWS-4



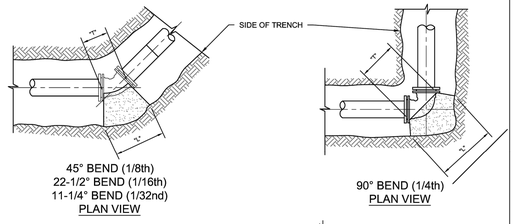


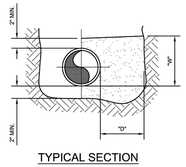
TEE							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	24"	24"	30"	36"
"L"	19"	25"	31"	38"	50"	75"	93"
"W"	19"	25"	31"	38"	50"	75"	93"
"T"	16"	16"	18"	18"	24"	36"	36"

PLUG							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	24"	24"	30"	36"
"L"	19"	25"	31"	38"	50"	75"	93"
"W"	19"	25"	31"	38"	50"	75"	93"
"T"	12"	12"	12"	12"	18"	30"	36"

NOTES:
1. DEPTH "D" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE AGAINST UNDISTURBED EARTH.
2. ALL BOLTS AND FITTINGS MUST BE WRAPPED IN MINIMUM THREE (3) MIL. PLASTIC.
3. LEAVE APPROXIMATELY 12" SEPARATION BETWEEN CONCRETE AND FITTING BELLS
4. THRUST BLOCK DIMENSIONS BASED ON 150 PSI OPERATING PRESSURE AND 50% ADDITIONAL SURGE PRESSURE
5. SOIL BEARING PRESSURE USED FOR THRUST BLOCK DIMENSIONS SHOWN IS 4,000 PSF. IF SOIL SURROUNDING THRUST BLOCK DOES NOT HAVE THIS CAPACITY, ADDITIONAL THRUST BLOCK VOLUME MAY BE REQUIRED.
6. CONCRETE TO BE USED FOR THRUST BLOCKS TO BE 3,500PSI CONCRETE.
7. LENGTH (L) AND WIDTH (W) DIMENSIONS CAN BE MODIFIED SLIGHTLY AS LONG AS TOTAL AREA DOES NOT CHANGE, BY WRITTEN DIRECTION OF CPWS ONLY TO MEET SITE SPECIFIC CONCERNS.
8. ELEVATION OF GROUNDWATER IS ASSUMED TO BE BELOW BOTTOM OF THRUST BLOCK.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | CONCRETE BLOCKING DETAILS (TEES AND PLUGS) | FIGURE NO.: CWS-5





90° BEND (1/4th)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	24"	24"	30"	36"
"L"	32"	42"	52"	63"	84"	125"	156"
"W"	16"	21"	26"	32"	42"	63"	78"
"T"	16"	16"	18"	18"	24"	36"	36"

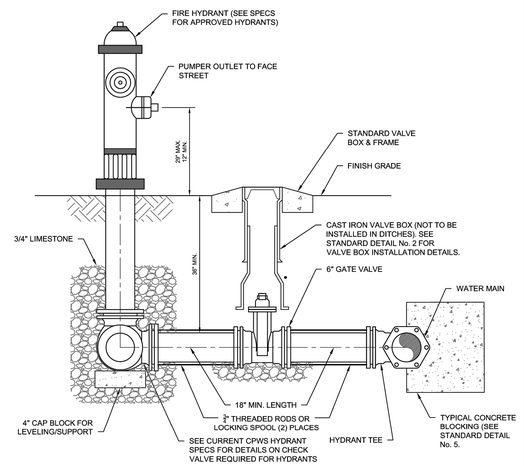
45° BEND (1/8th)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	18"	24"	30"	36"
"L"	24"	31"	39"	46"	62"	92"	115"
"W"	12"	16"	20"	23"	31"	46"	58"
"T"	16"	16"	18"	18"	18"	24"	24"

22.5° BEND (1/16th)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	12"	12"	18"	18"	24"	24"	24"
"L"	17"	23"	28"	33"	44"	66"	82"
"W"	9"	12"	14"	17"	22"	33"	41"
"T"	16"	16"	18"	18"	18"	24"	24"

11.25° BEND (1/32nd)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	12"	12"	18"	18"	24"	24"	24"
"L"	12"	16"	20"	24"	32"	47"	59"
"W"	6"	8"	10"	12"	16"	24"	30"
"T"	16"	16"	18"	18"	18"	24"	24"

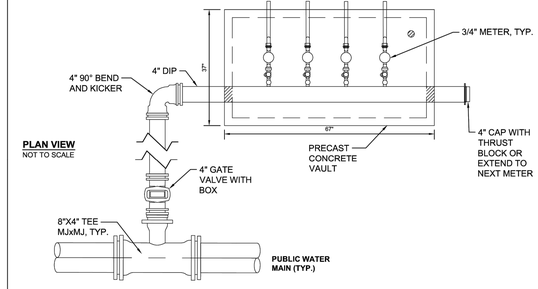
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2. ALL BOLTS AND FITTINGS MUST BE WRAPPED IN MINIMUM THREE (3) MIL. PLASTIC.
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5. SOIL BEARING PRESSURE USED FOR THRUST BLOCK DIMENSIONS SHOWN IS 4,000 PSF. IF SOIL SURROUNDING THRUST BLOCK DOES NOT HAVE THIS CAPACITY, ADDITIONAL THRUST BLOCK VOLUME MAY BE REQUIRED.
6. CONCRETE TO BE USED FOR THRUST BLOCKS TO BE 3,500PSI CONCRETE.
7. LENGTH (L) AND WIDTH (W) DIMENSIONS CAN BE MODIFIED SLIGHTLY AS LONG AS TOTAL AREA DOES NOT CHANGE, BY WRITTEN DIRECTION OF CPWS ONLY TO MEET SITE SPECIFIC CONCERNS.
8. ELEVATION OF GROUNDWATER IS ASSUMED TO BE BELOW BOTTOM OF THRUST BLOCK.

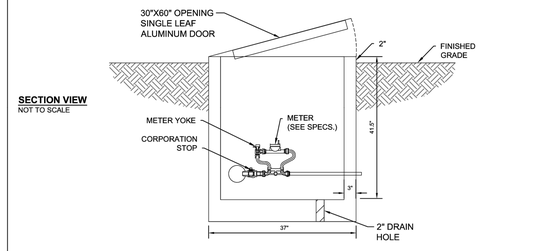
CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | CONCRETE BLOCKING (BENDS) | FIGURE NO.: CWS-6



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED SO THE PUMPER NOZZLE IS POINTED TOWARD THE STREET.
2. ALL M.J. FITTINGS TO INCLUDE WEDGE STYLE THRUST RESTRAINT.
3. FIRE HYDRANTS TO BE SAFETY YELLOW.
4. TRACER WIRE TO EXTEND TO VALVE AND HYDRANT.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | FIRE HYDRANT ASSEMBLY | FIGURE NO.: CWS-11





NOTES:
1. THE GANG VAULT MAY VARY FROM 3 TO 6 METERS DEPENDING ON CONDITIONS. VAULT SIZE WILL VARY ACCORDINGLY.
2. PRECAST VAULT TO COMPLY WITH ASTM C-857 & C-858.
3. TRACER WIRE TO EXTEND TO METER VAULT.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL | GANG METER VAULT | FIGURE NO.: CWS-22

REVISION #	DATE	DESCRIPTION
1	06-19-23	REVISED BASED ON TECHNICAL REVIEW COMMENTS

I HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TENNESSEE, THAT I AM RESPONSIBLE FOR THE ATTACHED DOCUMENTS, AND THAT THEY WERE PREPARED UNDER MY SUPERVISION AND DIRECTION.
MATTHEW W. BRYAN
REGISTERED ENGINEER
COMMERCIAL
CERTIFICATE No. 120,xxx
STATE OF TENNESSEE
06/19/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MPAGROUPLLC.COM

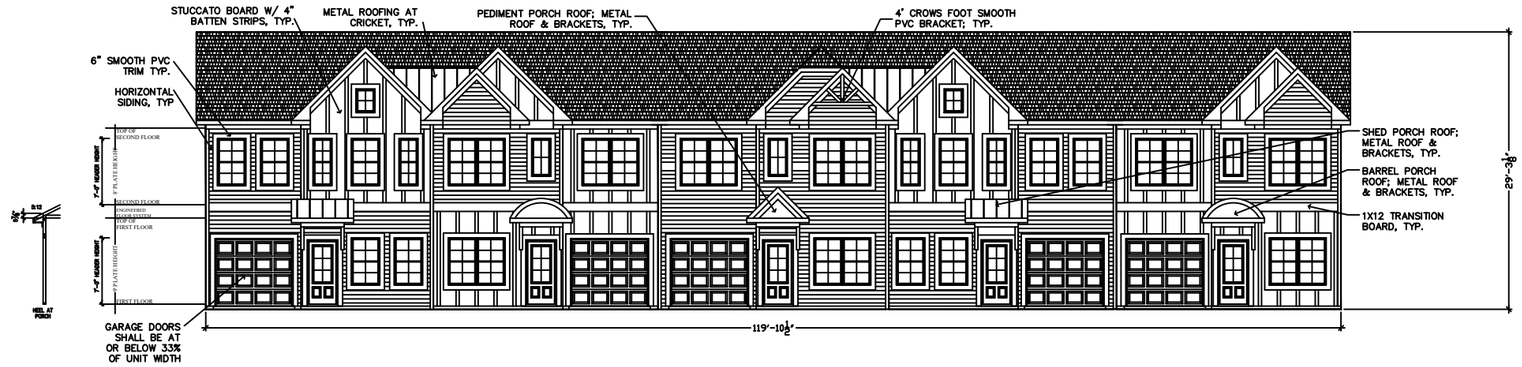
UTILITY DETAILS

DRAWN BY : M2G
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C601

MPA - SITE DETAILS.DWG / Monday, June 19, 2023 3:53:36 PM

NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.



FRONT ELEVATION: OPTION A



FRONT ELEVATION: OPTION B

ELEMENTS CHANGED PER INDIVIDUAL UNITS: PORCH ROOF STYLE, COLUMNS/ BRACKETS, EXTERIOR FINISHES: HORIZONTAL & VERTICAL SIDING, STUCATTO BOARD & BATTENS, VENTS, BRACKETS, ETC.

FRONT ELEVATIONS 1/16"=1'-0"

Project
TOWNHOME
Spec. Revision Date:
Lot # / Market Home or Home Owner
/ Name:
Plan Name:
PROPOSED
Sheet Name:
STANDARD FLOORPLANS

THE JONES COMPANY of Tennessee, LLC
LIVE LARGER >> LIVEJONES.COM

Drawn By: BSR

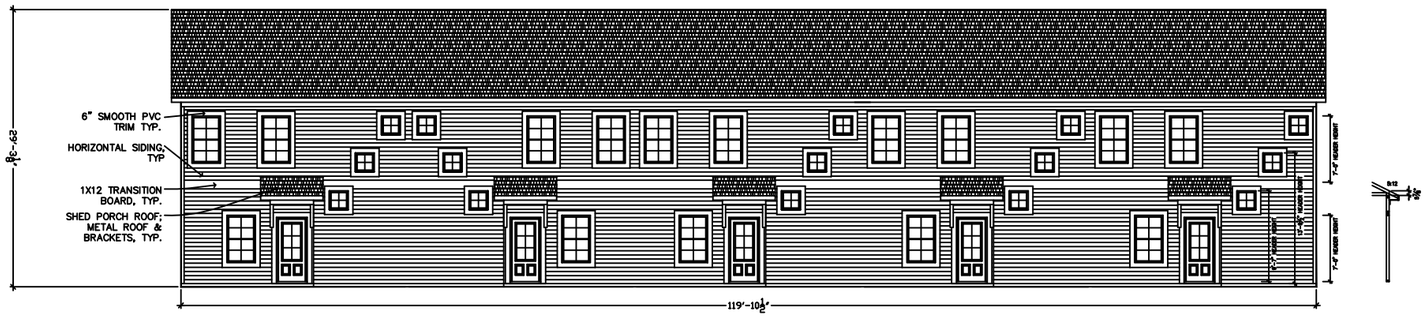
Scale: 1/16"=1'-0"

Date: XX/XX/XX

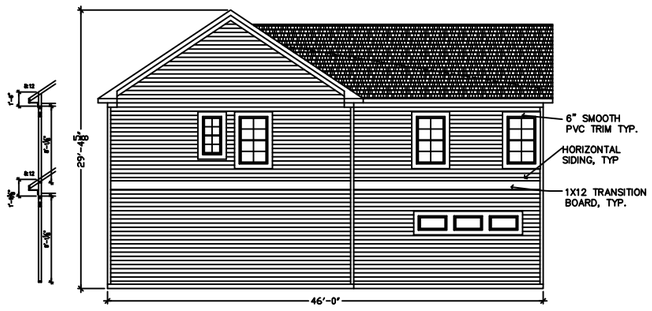
Revision Dates:

A0.0

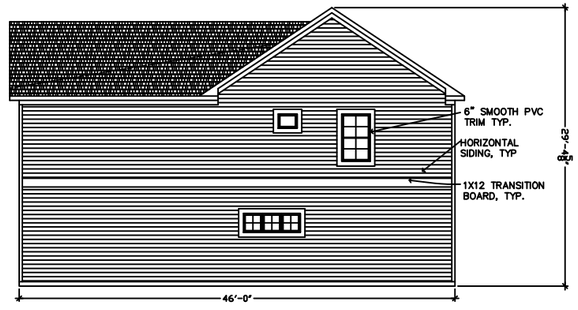
NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.



REAR ELEVATION 1/16"=1'-0"



LEFT ELEVATION 1/16"=1'-0"



RIGHT ELEVATION 1/16"=1'-0"

Project

TOWNHOME

Spec. Revision Date:

Lot #	Market Home or Home Owner
#	Name:

Plan Name:

PROPOSED

Sheet Name:

STANDARD FLOORPLANS

THE JONES COMPANY of Tennessee, LLC
LIVE LARGER >> LIVEJONES.COM

Drawn By: BSR

Scale: 1/16"=1'-0"

Date: XX/XX/XX

Revision Dates:

A0.1

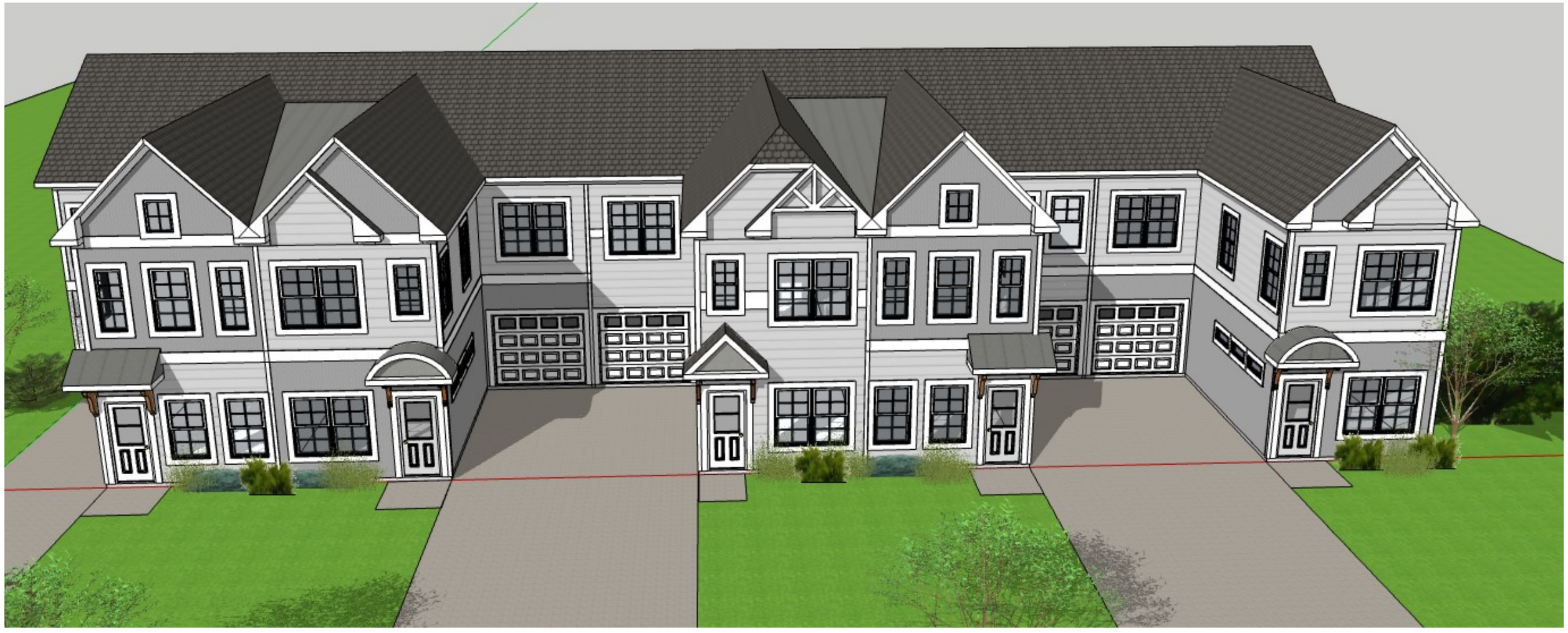
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NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.



June 19, 2023

City of Columbia, Tennessee
700 North Garden Street
Columbia, Tennessee 38401

RE: Agency Comment Responses
Site Plan Submittal
Item Number 23-0193
MacKenzie Place Townhomes - 220 Theta Pike

M2 Group, LLC (M2) has received the comments regarding the MacKenzie Place Townhomes Project per the Development Review Committee meeting on June 13, 2023. Please allow this letter to serve as a response to the review comments. A digital copy of the revised Site Plan has been included in this resubmittal.

Review Comments

Engineering

1. *Subject to construction plans.*
   So noted and acknowledged.
2. *Preliminary plat and final plat required for the infrastructure.*
   So noted and acknowledged.
3. *Geotechnical report will be required for evaluation of suitability of existing soils, slopes, and surcharge loading.*
   A geotechnical report has been provided for your review as requested.
4. *Engineering recommends instillation of yard drain system to allow for potential patios on the rear of the units.*
   A yard drain system will be evaluated during the construction plan phase and can be accommodated based on the final design parameters.
5. *Engineering is not approving stormwater calculations with this submittal. Though the inclusion, in this case, is appreciated.*
   So noted and acknowledged.
6. *Engineering would recommend some off-site grading work to allow for a minimum of 2.5 feet of clear visibility through the site distance triangle.*
   The site distance meets minimum requirements, and the developer has agreed to further evaluate this during the construction plan phase, as well as after clearing operations have been completed, to determine whether additional grading is warranted.
7. *Emergency spillway shall be directed and designed to discharge to roadside ditch of Theta Pike.*
   Emergency spillway is designed to flow directly to the roadside ditch of Theta Pike as requested, with additional details and label being provided on sheet C301.

Planning

12. *Please adjust lot/building site lines to show stormwater management area in common space rather than crossing multiple building sites. We understand that this community will utilize a horizontal property rights regime. However, bulk standards are applied to "building sites." The stormwater management area should be outside of the MBLS for any structure.*

    Lot lines have been adjusted as requested.

13. *All parking is provided by double parking vehicles in garage and driveway. Additional on-street parking is impractical due to the driveways. This meets the minimum parking ratio but is likely to invite use of the cul-de-sac as a parking area, limiting its functionality as a turnaround. In response to comments, please describe the plan for guest parking/additional vehicles.*

    The plan submitted meets the minimum parking requirements in the City Code. No Parking signage will be added in the cul-de-sac. There is room for additional guest parking in the driveway of each unit if it becomes necessary, but this is not shown on the plan.

14. *Please verify that all garage parking spaces conform to the minimum interior garage dimensions (10 ft. x 20 ft. per vehicle). Again, the staff is concerned that parking provided on the site meets only the minimum code requirement for number and dimensions. Please be ready to explain to the Planning Commission how the development will accommodate the real anticipated demand for parking and dimensions of typical passenger vehicles.*

    Sheet C200 of the plans indicates that each garage dimension is 10' x 20' per minimum requirements. Final architectural plans will confirm that this garage dimension meets City standards.

15. *Please provide a survey stamped by a State of Tennessee Licensed Professional Land Surveyor (see application checklist).*

    Stamped survey provided as requested.

16. *Retaining wall is noted as 7.5'. If the wall ends up supporting greater than 8', it must be setback at least 10' from the property line.*

    So noted and acknowledged.

17. *Note: As noted on elevations submitted, conformity with design standards of the Ordinance will be confirmed at the time of building permit.*

    So noted and acknowledged.

Maury County Schools

18. *Howell Elementary, Cox Middle School, Central High School. See attached capacity numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.*

    So noted and acknowledged.

Columbia Power

20. *Columbia Power System has an existing power line near your proposed development to be located near 194 Theta Pike. We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.*

    So noted and acknowledged.

21. *Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.*

    So noted and acknowledged.

Wastewater

24. *The last proposed manhole and 8" main (plus a 10-ft offset) encroaches upon the neighboring property. There may have to be a proposed doghouse manhole set on the existing main. In this case, Columbia Wastewater requires all sewer main easements to abide within the public right of way. Easement width depends on depth of sanitary sewer. We need to make certain that the nearby property (231 Theta Pike) will not be affected, and no easements will be required.*

    So noted and acknowledged. A doghouse manhole has been shown on the revised plans.

Columbia Water

25. *"A water availability letter was issued on 5-19-23 and is valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements stated in the water availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."*

    So noted and acknowledged.

If you have any questions, please feel free to contact me at 615.406.3415 or matt@m2groupllc.com.

Sincerely,

M2 Group, LLC
Matthew W. Bryant, P.E.

Enclosures
cc: John Waits, John Phillips

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, June 13, 2023

ITEM NO.
23-0193

DESCRIPTION: Proposed multi-family townhome development consisting of 34 units, roadway with cul-de-sac, retaining wall, sanitary sewer extension, utilities, and storm water management area.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. Subject to construction plans.
2. Preliminary plat and final plat required for the instrastructure.
3. Geotechnical report will be required for evaluation of suitability of existing soils, slopes, and surcharge loading.
4. Engineering recommends instillation of yard drain system to allow for potential patios on the rear of the units.
5. Engineering is not approving stormwater calculations with this submittal. Though the inclusion, in this case, is appreciated.
6. Engineering would recommend some off-site grading work to allow for a minimum of 2.5 feet of clear visibility through the site distance triangle.
7. Emergency spillway shall be directed and designed to discharge to roadside ditch of Theta Pike.

Fire

8. No comments

Public Works

9. No comment Mackenzie Place will utilize private trashcan service.

Building

10. No comment.

Police

11. No comments provided.

Planning

12. Please adjust lot/building site lines to show stormwater management area in common space rather than crossing multiple building sites. We understand that this community will utilize a horizontal property rights regime. However, bulk standards are applied to "building sites." The stormwater management area should be outside of the MBLS for any structure.
13. All parking in provided by double parking vehicles in garage and driveway. Additional on street parking is impractical due to the driveways. This meets the minimum parking ratio but is likely to invite use of the cul-de-sac as a parking area, limiting its functionality as a turnaround. In response to comments, please describe the plan for guest parking/additional vehicles.
14. Please verify that all garage parking spaces conform to the minimum interior garage dimensions (10 ft. x 20 ft. per vehicle). Again, staff is concerned that parking provided on the site meets only the minimum code requirement for number and dimensions. Please be ready to explain to Planning Commission how the development will accommodate the real anticipated demand for parking and dimensions of typical passenger vehicles.
15. Please provide a survey stamped by a State of Tennessee Licensed Professional Land Surveyor (see application checklist).
16. Retaining wall is noted as 7.5'. If the wall ends up supporting greater than 8', it must be setback at least 10' from the property line.
17. Note: As noted on elevations submitted, conformity with design standards of the Ordinance will be confirmed at the time of building permit.

Maury County Schools

18. Howell Elementary, Cox Middle School, Central High School. See attached capacity numbers. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Maury County E911

19. Bridgets Way has been reserved. Any changes contact: cgideon@maury911.org

Columbia Power

20. Columbia Power System has an existing power line near your proposed development to be located near 194 Theta Pike. We are willing to serve this new development subject to all

Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
• Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Highway Dept.

21. No comment. '

Atmos Energy

22. No comments provided.

Duck River Electric Membership Corp

23. No comments.

Wastewater

24. The last proposed manhole and 8" main (plus a 10-ft offset) encroaches upon the neighboring property. There may have to be a proposed doghouse manhole set on the existing main. In this case, Columbia Wastewater requires all sewer main easements to abide within the public right of way. Easement width depends on depth of sanitary sewer. We need to make certain that the nearby property (231 Theta Pike) will not be affected and no easements will be required.

Columbia Water

25. "A water availability letter was issued on 5-19-23 and is valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements stated in the water availability letter are the responsibility of the developer/owner. All water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

ATT

26. No comments provided.

ATTACHMENTS: Site Development Plan

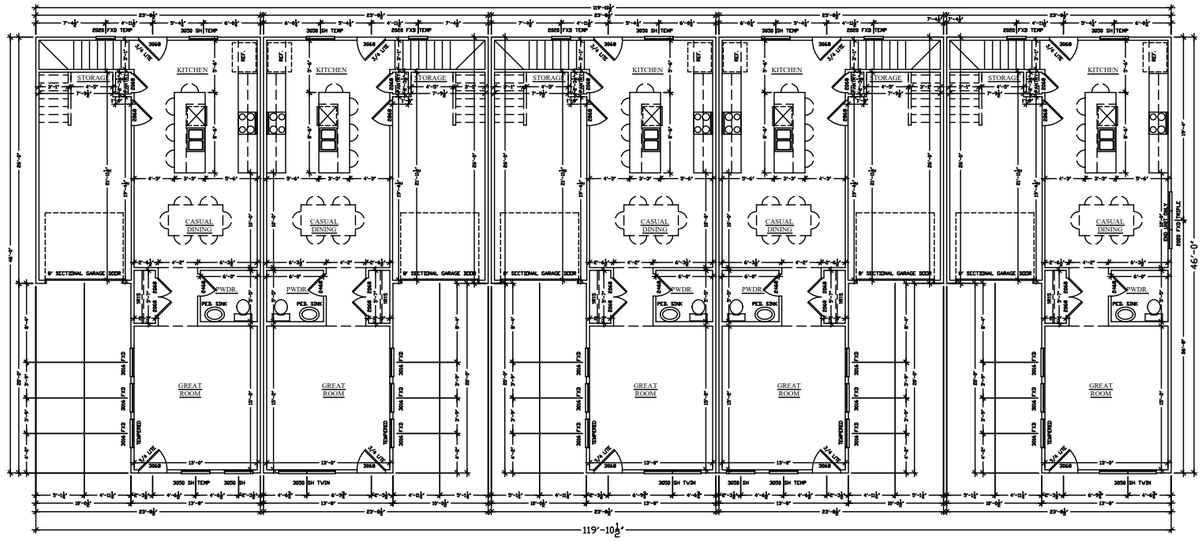
NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	348	85.9%
	Highland	1986	47,800	4.5	380	304	80.0%
	Howell	1999	81,600	17.5	700	644	92.0%
	Mt. Pleasant	1978	80,021	22	630	566	89.8%
	Riverside	1984	71,150	14	500	413	82.6%
	Spring Hill	1984	69,000	10	540	439	81.3%
	Woodard	1990	76,200	17	600	567	94.5%
	Wright	2005	97,765	18	740	631	85.3%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	646	71.8%
	Mt. Pleasant	2001	113,938	29.2	550	414	75.3%
	Spring Hill	2010	158,106	39.49	950	524	55.2%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1402	82.5%
	Mt. Pleasant	1969	110,759	31	600	391	65.2%
	Spring Hill	1993	181,800	57	1200	1165	97.1%
					3500	***2958***	***84.5%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	407	81.4%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1842***	***84.9%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26			
	Maintenance	1987	9,400	4.7		209	
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13044**	

NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.

DURING FINAL ARCHITECTURAL / BUILDING PERMIT PHASE, PLAN WILL DEMONSTRATE MINIMUM INTERIOR DIMENSION TO MEET CITY STANDARDS.



STANDARD FIRST FLOORPLAN

1/16"=1'-0"

Project

TOWNHOME

Spec. Revision Date:

Lot #	Market Home or Home Owner
#	Name:

Plan Name:

PROPOSED

Sheet Name:

STANDARD FLOORPLANS

THE JONES COMPANY of Tennessee, LLC
LIVE LARGER >> LIVEJONES.COM

Drawn By: BSR

Scale: 1/16"=1'-0"

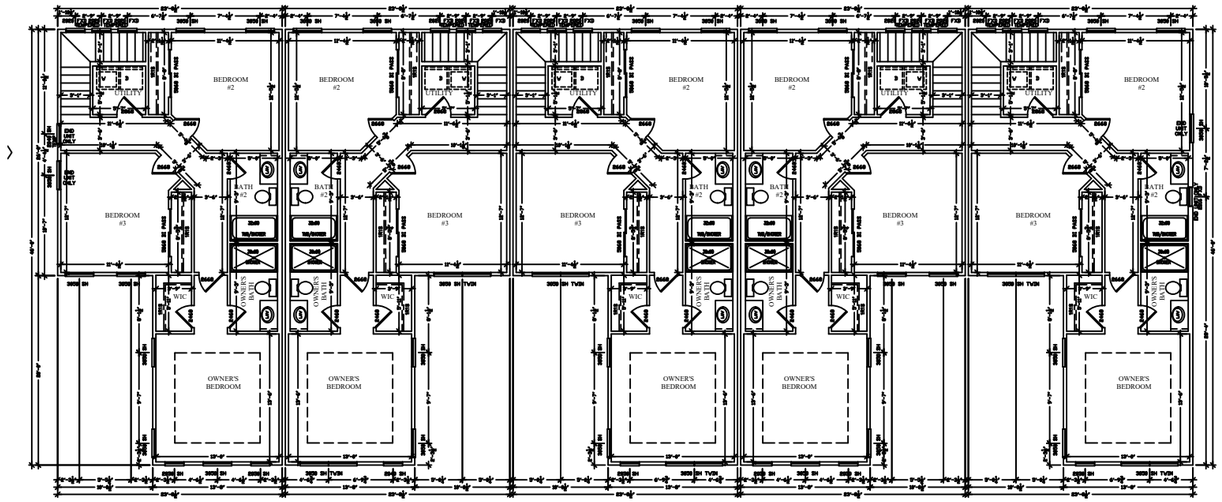
Date: XX/XX/XX

Revision Dates:

A1.0

NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.

DURING FINAL ARCHITECTURAL / BUILDING PERMIT PHASE, PLAN WILL DEMONSTRATE MINIMUM INTERIOR DIMENSION TO MEET CITY STANDARDS.



STANDARD SECOND FLOORPLAN 1/16"=1'-0"

Project
TOWNHOME
Spec. Revision Date:
Lot # / Market Home or Home Owner
/ Name:
Plan Name:
PROPOSED
Sheet Name:
STANDARD FLOORPLANS

THE JONES COMPANY of Tennessee, LLC
LIVE LARGER >> LIVEJONES.COM

Drawn By: BSR

Scale: 1/16"=1'-0"

Date: XX/XX/XX

Revision Dates:

A2.0

GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

February 23, 2023

Waits Development
PO Box 111285
Nashville, TN 37222

Attention: Mr. John Waits
john.waits1@icloud.com

Subject: **REPORT FOR GEOTECHNICAL EXPLORATION**
Proposed Mackenzie Place Townhomes
220 Theta Pike
Columbia, Tennessee
GEOServices Project No. 31-231084

Dear Mr. Waits:

We are submitting the results of the geotechnical exploration performed for the proposed Mackenzie Place townhomes development in Columbia, Tennessee. The geotechnical exploration was performed in accordance with GEOServices Proposal No. 13-231101 dated February 2, 2023 and authorized by you.

The following report presents our findings and recommendations for the proposed development. Should you have any questions regarding this report, or if we can be of any further assistance, please contact us at your convenience.

Sincerely,

GEOServices, LLC



S. Scott Williams, E.I.
Staff Professional

Jerry W. Gammon, P.E.
V.P., Nashville Area Branch Manager
TN 111633



REPORT OF

GEOTECHNICAL EXPLORATION

Proposed Mackenzie Place Townhomes
Columbia, Tennessee

GEOServices Project No. 31-231084

Submitted to:

Waits Development
PO Box 111285
Nashville, Tennessee 37222

Submitted by:

GEOServices, LLC
91 South Eastgate Court
Lebanon, Tennessee 37090

Phone (615) 547-9314
Fax (615) 547-9451

GEOServices, LLC, Geotechnical and Materials Engineers

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this geotechnical exploration was to characterize the subsurface conditions for the design and construction of the proposed Mackenzie Place townhomes development in Columbia, Tennessee. This report provides recommendations for general site preparation, excavation and fill requirements, foundation design recommendations, and pavement design recommendations.

1.2 PROJECT INFORMATION AND SITE DESCRIPTION

Initial project information was provided in a February 2, 2023, email from Mr. Brian Holcombe (M2 Group) to Mr. Jerry Gammon with GEOServices, LLC (GEOS). A link was attached to a set of plans titled "Mackenzie Place" developed by M2 Group and dated 1/16/23. Based on the plans provided in the email, we understand that townhomes with associated roadway infrastructure are planned to be developed at 220 Theta Pike in Columbia, Tennessee. We understand the buildings will be multi-story wood framed with a concrete slab-on-grade supported by shallow foundations. At this time, structural loading information has not been provided. From experience with similar projects, we assume maximum column and wall loadings will be about 100 kips, and 3 to 5 kip per linear foot (klf), respectively.

At the time of site reconnaissance, the site was observed to be occupied by construction debris scattered through the site at the ground surface and an existing mobile residential home in the eastern portion. Based on site observations and publicly available historical aerial imagery, we note the majority of the site was previously occupied by several mobile-residential homes, which

have since been demolished, and the construction debris remains onsite. An existing asphalt drive was observed leading into the site from Theta Pike. The existing ground surface was observed to be generally grass covered, with sparse areas of trees and grassy overgrowth. Existing utilities from the previous development were also observed onsite. Areas of rock outcroppings were observed onsite, as shown in Site Photo 10 of Appendix C. The existing site conditions at the time of site reconnaissance are depicted in Appendix C of the Appendices. The site was observed to be generally rolling with the majority of the site sloping from the south/southeastern areas down toward the northern areas of the site.

Based on the proposed grading plan provided by M2 Group as produced by M2 Group, the subject site has a maximum elevation of approximately 643 feet at the southern-central portion of the site and a minimum elevation of approximately 606 feet at the most northwest portion of the site. Additionally, the proposed structure footprints have a maximum elevation of approximately 639 feet at the southern-central portion of the area and a minimum elevation of approximately 612 feet at the northwestern portion of the area. Finish floor elevations (FFE) ranging from 621.75 to 629.40 feet were also provided for the proposed structures. Based on the provided existing site grades and provided planned finish floor elevations, the structure footprints will require cut depths on the order of about 12 feet or less and fill thicknesses on the order of about 10 feet or less to establish subgrade elevations within the building footprints. The remainder of the site will require similar cut depths and fill thicknesses to establish subgrade elevations based on the provided proposed grading plan.

1.3 SCOPE OF STUDY

This geotechnical exploration involved a site reconnaissance, field exploration, and engineering analysis. The following sections of this report present discussions of the field exploration, site

conditions, and general recommendations. Following the text of this report, figures, observation trench logs, and laboratory results are provided in the appendices. Appendix A provides figures and observation trench logs. Appendix B provides the results of laboratory testing. Appendix C provides representative photographs of the site.

The scope of services did not include an environmental assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, subsurface water, or air, on, or below, or around this site. Any statements in this report or on the observation trench summary regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

2.0 EXPLORATION

2.1 FIELD EXPLORATION

The site subsurface conditions were explored on February 13, 2022 with a total of fifteen (15) observation trenches at the approximate locations shown by Figure 3 in Appendix A. The observation trench locations were located by GEOServices personnel in the field by measuring off known site reference points and utilizing GPS coordinates extrapolated from Google Earth. The depths reference the ground surface elevations at the site that existed at the time of the exploration. Testing of overburden soils was accomplished using a dynamic cone penetrometer (DCP) at select observation trenches. In dynamic cone penetrometer (DCP) testing, a 1.5-inch diameter cone (45° vertex angle) is driven into the subgrade soil with a 15-pound steel mass falling 20 inches. The blows required to drive the embedded cone a depth of 1-3/4 inch have been correlated to N-values derived from the Standard Penetration Test (SPT). These DCP-values

are indicated on the summary of observation trench logs at the testing depth, and provide an indication of the relative density of granular materials and strength of cohesive materials.

Upon completion, the excavations were observed for the presence of groundwater and then backfilled with the excavated material. Minor settlement of the backfill should be expected over time. Detailed observation trench records are presented in Appendix A.

2.2 LABORATORY TEST PROGRAM

Soil samples collected during excavation were transported to our laboratory for visual classification and laboratory testing. The following laboratory testing will be performed on select samples to determine various properties of the soil:

- Natural Moisture Content (ASTM D 2216): Moisture content determinations were performed. The natural moisture content is defined as the ratio of the weight of water present in the soil to the dry weight of soil.

- Atterberg Limits (ASTM D 4318): Atterberg Limits tests were performed. These tests help us to confirm our visual classifications according to the AASHTO Classification System and the Unified Soil Classification System (USCS). The plastic limit and liquid limit represent the moisture content at which a cohesive soil changes from a semi-solid to a plastic state and from a plastic state to liquid state, respectively.

The test results are presented in the Soil Data Summary enclosed in Appendix B.

3.0 SUBSURFACE CONDITIONS

3.1 GEOLOGIC CONDITIONS

The subject site is located within the Central Basin Physiographic Province of Middle Tennessee. The Central Basin is an elliptical basin surrounded by the Highland Rim. The Basin is subdivided into inner and outer sections. The inner section is generally smooth and gently rolling in contrast to the higher and more deeply dissected outer Basin. Bedrock is primarily Ordovician limestone, shale and dolomite in the outer Basin. The inner basin is generally covered with limestone with patches of bare platy rock and thin topsoil with glade areas supporting red cedar trees. The region is moderate in karst development with many sinkholes and some large caves present, notably in the glade areas.

The Geologic Map of the Godwin Quadrangle, Tennessee (Tennessee Division of Geology, 1964) shows the site is underlain by the Carters Limestone formation. The Carters Limestone formation is typically a hard, light gray to brown, cryptocrystalline (i.e., microscopically crystalline), medium- to thick-bedded, brittle limestone with occasional thin chert lenses. The limestone weathers to produce a 5- to 10-foot thick layer of native soil (residuum) which is typically an orange to brown silty clay. The soil/rock interface may be irregular due to a layer of rounded boulders at the base of the soil zone.

The limestone bedrock of the Carters Limestone formation is susceptible to solution weathering and the creation of karst features, such as sinkholes. In general, because of the shallow overburden soils, karst features are relatively small in horizontal extent, but can extend into the bedrock several feet. Review of the USGS Godwin Quadrangle, Tennessee, Topographic Quadrangle Map (1964) did not indicate the presence of any closed depressions on-site.

However, the topographic mapping did indicate the presence of multiple closed depressions within a 1-mile radius of the site within each direction of the site. We note the scale of the map often precludes mapping of smaller depressions.

Since the bedrock underlying the site mainly consists of carbonate rock, the site is susceptible to the typical carbonate hazards of irregular weathering, cave and cavern conditions, and overburden sinkholes. Carbonate rock, while appearing very hard and resistant, is soluble in slightly acidic water. This characteristic, plus differential weathering of the bedrock mass, is responsible for the hazards. Of these hazards, the occurrence of sinkholes is potentially the most damaging to overlying soil-supported structures. In Middle Tennessee, sinkholes occur primarily due to differential weathering of the bedrock and "flushing" or "raveling" of overburden soils into the cavities in the bedrock. The loss of solids creates a cavity or "dome" in the overburden. Growth of the dome over time or excavation over the dome can create a condition in which rapid, local subsidence or collapse of the roof of the dome occurs.

3.2 SUBSURFACE CONDITIONS

A surficial layer of topsoil was encountered in 14 of the 15 observation trenches to depths ranging from about 2 to 18 inches below the existing ground surface elevation. No surficial layer was encountered at observation trench OT-12 due to fill soils at the surface. Beneath the surficial layers or at the surface of each of the observation trenches, fill and/or residual soils were encountered to excavator refusal or termination depths ranging from about 1 to 8 feet below the existing ground surface elevation.

3.2.1 Fill Soils

Existing fill was encountered within 11 of the 15 observation trenches (OT-1, OT-3, OT-5, OT-7, OT-8, and OT-10 through OT-15) to depths ranging from about 1 to 5 feet below the existing

ground surface elevation. The fill material retrieved from the observation trenches generally consisted of brown, reddish brown, dark brown, and dark gray clays with varying amounts of gravel, limestone fragments and boulders, chert fragments, abandoned underground utilities, trace construction debris, and trace asphalt debris. A dynamic cone penetrometer (DCP) is used to evaluate the consistency or density of the subsurface soils encountered in the observation trenches. The DCP N-values of the fill soil tested ranged from 1 blows per increment (bpi) to 9 bpi, indicating a consistency of very soft to stiff. The consistency of the fill soil was most generally soft to firm. The natural moisture content of the fill soil samples retrieved from the observation trenches ranged from 16.5 to 26.8 percent. Atterberg limits testing on one selected fill sample retrieved from observation trench OT-1 yielded a liquid limit (LL) of 29 percent and a plasticity index (PI) of 10 percent. This sample is classified as lean clay (CL) in accordance with the Unified Soil Classification System (USCS).

3.2.2 Residual Soils

Beneath the surficial layers and/or existing fill soils in 14 of the 15 observation trenches (OT-2 through OT-15), residual soil was encountered to excavator refusal or termination depths. Residual soils are generally defined as soils which have weathered in place from the underlying bedrock. The residual soil generally consisted of brown, light brown, and reddish brown clay with varying amounts of sand, chert fragments, limestone fragments and boulders, and black oxide nodules. The DCP N-values of the residual soil ranged from 2 bpi to 8 bpi, indicating a consistency of very soft to firm. The consistency of the residual soil was most generally firm. The natural moisture content of the residual soil samples retrieved from the observation trenches ranged from 16.7 to 33.3 percent. Atterberg limits testing on three selected residual samples retrieved from observation trenches OT-10, OT-11, and OT-13 yielded liquid limits (LL) ranging from 33 to 58 percent and plasticity indices (PI) ranging from 14 to 29 percent. These samples are classified as lean clay (CL) and fat clay (CH) in accordance with the Unified Soil Classification System (USCS).

3.2.3 Subsurface Water

Subsurface water was not observed in any of the observation trenches during or at the completion of excavation activities. However, discontinuous zones of perched water may exist within the overburden and/or at the contact with bedrock. Subsurface water levels may fluctuate due to seasonal change in precipitation amounts or due to construction activities in the area. The groundwater presented in this report is the information that was collected at the time of our field activities. We recommend that the contractor determine the actual groundwater level at the site at the time of the construction activities.

3.2.4 Observation Trench Refusal Conditions

Observation trench refusal materials were encountered in five of the 15 observation trenches at depths ranging from about 1 to 7 feet below existing ground surface elevation. Refusal is a designation applied to any material that cannot be penetrated by the bucket of the excavator. Observation trench refusal may indicate dense gravel or cobble layers, boulders, rock ledges or pinnacles, or the top of continuous bedrock. The following table presents the observation trench refusal depths at each observation trench location:

OBSERVATION TRENCH REFUSAL DEPTHS					
Location	**Refusal Depth (feet)**	**Location**	**Refusal Depth (feet)**	**Location**	**Refusal Depth (feet)**
OT-1	3 to 4	OT-6	>7.5	OT-11	>8
OT-2	4 to 7	OT-7	>8	OT-12	1 to 6
OT-3	3	OT-8	>8	OT-13	>8
OT-4	1 to 4	OT-9	>8	OT-14	>8
OT-5	>8	OT-10	>8	OT-15	>8

Note: Refusal depths are taken from the ground surface elevation at the time of exploration and rounded to the nearest ½ foot interval.

3.2.5 General

The above subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The observation trench record included in Appendix A should be reviewed for specific information at individual test locations. The depth and thickness of the subsurface strata indicated on the observation trench records were generalized from and interpolated between test locations. The transition between materials will be more or less gradual than indicated and may be abrupt. Information on actual subsurface conditions exists only at the specific observation trench locations and is relevant to the time the exploration was performed. Variations may occur and should be expected between observation trench locations. The stratification lines were used for our analytical purposes and, unless specifically stated otherwise, should not be used as the basis for design or construction cost estimates.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 SITE ASSESSMENT

Based on the results of our subsurface exploration, this site is adaptable for the proposed development. However, as with most sites, some inherent geotechnical issues should be considered during the construction phases. These issues include the existing fill materials, soft soil conditions, moisture sensitive soils, shallow refusal conditions, differential bearing concerns, and the underlying karst geology.

4.1.1 Existing Fill Materials

Existing fill was encountered within 11 of the 15 observation trenches (OT-1, OT-3, OT-5, OT-7, OT-8, and OT-10 through OT-15) to depths ranging from about 1 to 5 feet below the existing ground surface elevation. We are not aware nor have we been provided testing records of the fill. Accordingly, there are certain risks associated with construction on these types of fill. The risk primarily consists of excessive and/or non-uniform settlement caused by extensive zones or pockets or soft, loose, or uncompacted material.

Based on the fill depths and the planned development, we anticipate that a portion, if not majority, of the fill may be removed during mass grading activities within the building footprints. However, the possibility exists that deeper fill depths may be encountered between our observation trench locations. Recommendations for dealing with the in-place fill material is included in later sections of the report.

4.1.2 Soft Soil Conditions

Soft soil conditions were encountered in six of the 15 observation trenches (OT-5, OT-7, OT-10, and OT-13 through OT-15) to depths ranging from approximately 1 to 5.5 feet below the existing ground surface elevation. These soft zones encountered within the observation trenches can potentially impact the performance of the proposed structures and/or pavements depending on final grades. The possibility exists that some of the soft soils will be removed during mass grading activities. However, if these soft soils are not removed during mass grading activities, these soft soils will perform unsatisfactorily during initial proofroll activities. Therefore, we recommend that the owner carry a contingency budget to remediate these soils during mass grading activities.

4.1.3 Moisture Sensitive Soils

The subgrade soils at this site, as with most sites in middle Tennessee, consist of clayey soils. These materials will be sensitive to changes in moisture contents. As such, it will be advantageous to perform grading activities during periods of warm and/or dry weather. Areas that are wet or become unstable can possibly be repaired by scarification and re-compaction if grading occurs during warm, dry weather. If grading occurs during wet, cool weather, we expect that additional soft soil at or near the surface soils across the site will have to be undercut and replaced. A contingency budget should be established for subgrade stabilization consistent with the time of year that grading will take place.

4.1.4 Shallow Refusal Conditions

Observation trench refusal materials were encountered in five of the 15 observation trenches at depths ranging from about 1 to 7 feet below existing ground surface elevation. The refusal materials encountered were generally hard and could not be penetrated by the excavator bucket. We anticipated these refusal materials will be encountered in utility areas and portions of the building foundations. As such, we anticipate excavation of the refusal materials will require blasting and/or hoe-ramming for removal.

4.1.5 Differential Bearing Concerns

Based on the results of our subsurface exploration and the anticipated cut and fill requirements to develop the site, the possibility exists that a portion of the building foundations may bear in residual soil material or structural fill, while a portion could be bearing on boulders or other refusal materials. This condition will result in a differential bearing condition which could result in excessive differential settlement across the buildings. As a result, recommendations are provided in later sections that will help alleviate the risk of adverse differential settlement.

4.1.6 Karst Geology

A certain degree of risk with respect to sinkhole formation and subsidence should be considered with any site located within geologic areas underlain by potentially soluble rock units. While a detailed effort to assess the potential for sinkhole formation on this site was beyond the scope of this evaluation, our observation trenches did not encounter obvious indications of sinkhole development. Additionally, review of the USGS topographic map did not indicate the presence of any closed depressions on-site. However, the topographic mapping did indicate the presence of multiple closed depressions within a 1-mile radius of the site within each direction of the site. Based on these findings and our experience with this formation at other sites, we consider that this site has no greater risk for sinkhole activity than other sites in the immediate vicinity of this site.

4.2 SITE PREPARATION

4.2.1 Subgrade

Vegetation, topsoil, organic soils, existing utilities, existing foundations, loose rock fragments greater than 6 inches and other debris should be removed from the proposed construction area. A portion of the site has tree foliage. Therefore, thicker topsoil depths or deep root zones may be encountered which will also require removal. Information pertaining to the age, placement and compaction of the fill materials encountered within our observation trenches were not available. Based on the observed existing fill materials encountered and the inconsistencies of these fill soil materials, any existing fill encountered after mass grading activities within the building footprint plus 5 feet beyond the most outer foundation limit should be undercut to stiff residual soil materials or bedrock and replaced with suitable fill materials. In the roadway areas, if the owner is willing to accept the risk of potential poor pavement performance with leaving the existing fill soils in place, we would recommend these fill materials be thoroughly evaluated during mass grading activities to determine if any fill materials should be remediated. If unsuitable soil conditions are

encountered, these unsuitable materials should be remediated at the geotechnical engineer's recommendations. It is recommended that a contingency budget be reserved for undercutting and replacement for the development of this project. The actual depth of removal should be determined by a representative of the geotechnical engineer at the time of construction.

After completion of stripping operations and any required excavations to reach planned subgrade elevation, we recommend that the subgrade be proofrolled with a fully loaded, tandem-axle dump truck or other pneumatic-tired construction equipment of similar weight. The geotechnical engineer or his representative should observe proofrolling. Weak or unstable areas should be remediated at the geotechnical engineer's recommendation. Areas to receive structural soil fill should also be proofrolled prior to the placement of any fill. Due to the consistency of the soils encountered during this geotechnical exploration, most generally in the area of observation trench locations OT-5, OT-7, OT-10, and OT-13 through OT-15, it should be anticipated that remediation of soft soils will be required in order to complete the development of this project.

4.2.2 Structural Soil Fill

Material considered suitable for use as structural fill should be clean soil free of organics, trash, and other deleterious material, containing no rock fragments greater than 6 inches in any one dimension. Preferably, structural soil fill material should have a standard Proctor (ASTM D698) maximum dry density of 90 pcf or greater and a plasticity index (PI) of 35 percent or less. Materials with a PI greater that 35 percent are susceptible to volume changes with changes in moisture content. Volume changes in the foundation subgrade can cause structural distress in buildings, floor slabs, and pavements. Material to be used as structural fill should be tested by the geotechnical engineer to confirm that it meets the project requirements before being placed. The standard proctor testing typically requires at least 3 to 4 days to complete. To avoid delays

during grading, samples of proposed fill materials (both on-site and off-site) should be collected during site preparation activities.

Structural fill should be placed in loose, horizontal lifts not exceeding 8 inches in thickness. Each lift should be compacted to at least 95 percent of the soil's maximum dry density per the standard Proctor method (ASTM D698) and within the range of minus (-) 2 percent to plus (+) 2 percent of the optimum moisture content. Each lift should be tested by geotechnical personnel to confirm that the contractors' method is capable of achieving the project requirements before placing any subsequent lifts. Any areas, which have become soft or frozen, should be removed before additional structural fill is placed. Structural soil fill placement should be accomplished under the full-time or near full-time observation of a representative of the geotechnical engineer.

4.2.3 Shotrock Fill Materials

Shotrock fill, with acceptable gradation, can be used as structural fill. Shotrock utilized as structural fill should be well graded with a maximum rock size of 12 inches and be placed in lifts not to exceed 18 inches thick. Shotrock of this size should be placed at depths deeper than 4 feet below planned subgrade levels in the building area. The rock or stone should have a maximum particle size of 8-inches in the largest dimension up to proposed subgrade (from minus 4 feet below subgrade up to subgrade) when mixed with satisfactory material.

Shotrock fill should have adequate fines to effectively "choke" the larger rock pieces, adequately filling voids or open spaces. The larger rock pieces should lie flat and not overlap each other. The percentage of soil in the fill should be limited to a maximum of 10 percent. Shotrock fill should be compacted using complete passes of a D-8 class crawler tractor, or equivalent. A pass is defined as a complete coverage of the surface with the D-8 track overlapping 50 percent. Half of the passes

should be in each perpendicular direction. Shotrock fill placement should be accomplished under the full-time observation of a representative of the geotechnical engineer.

4.2.4 Compacted Crushed Stone Fill

Compacted crushed stone fill should be Type A, Class A, and Grading D in accordance with Section 903.05 of the Tennessee Department of Transportation specifications. The crushed stone fill should be placed in loose, horizontal lifts not exceeding 10 inches in loose thickness. Each lift should be compacted to at least 95 percent of maximum dry density per the standard Proctor method (ASTM D698). Each lift should be compacted and tested by geotechnical personnel to confirm that the contractor's method is capable of achieving the project requirements before placing any subsequent lifts.

4.3 FOUNDATIONS

4.3.1 Option #1: Soil Bearing Foundations

Foundations for the proposed townhome construction can be supported on stiff or better residual soil or properly compacted structural fill materials. The recommended allowable bearing capacity for design of soil bearing foundations is 2,000 pounds per square foot (psf). We recommend that continuous foundations be a minimum of 18 inches wide and isolated spread footings be a minimum of 24 inches wide to reduce the possibility of a localized punching shear failure. Exterior footings should be designed to bear at least 18 inches below finished exterior grade to protect against frost.

As mentioned previously, observation trench refusal was encountered at depths ranging from about 1 to 7 feet below the existing ground surface elevation. Due to the anticipated cut and fill depths, it should be anticipated that competent bedrock may be encountered during foundation and/or utility excavations. If rock is encountered at the foundation bearing elevation over small portions of the

building footprint, we recommend the rock be removed to a minimum depth of 18 inches below planned bearing elevation. The area can then be backfilled with properly compacted crushed stone or open-graded #57-sized stone. The crushed stone will help act as a "cushion" to prevent point loading of the foundation. If desired, the foundation designer may also elect to include additional reinforcing steel into the foundations at these transition points to help resist negative moment forces.

Foundation excavations should be opened, the subgrade evaluated, remedial work performed, and concrete placed in an expeditious manner. Exposure to weather often reduces foundation support capabilities, thus necessitating remedial measures prior to concrete placement. It is also important that proper surface drainage be maintained both during construction (especially in terms of maintaining dry footing trenches) and after construction.

4.3.2 Option #2: Rock Bearing Foundations

If bedrock is encountered over the majority of the townhome building foundation, the remaining isolated foundation areas underlain by soil can be over-excavated to bedrock, cleaned of remaining soil particles, and backfilled with lean concrete and/or flowable fill back to bottom of foundation elevation. The recommended allowable bearing capacity for design of the foundations bearing on bedrock, concrete fill, or rock fill is 4,000 pounds per square foot (psf). The above minimum foundation sizes will still apply.

Foundation excavations should be opened, the subgrade evaluated, remedial work performed, and concrete placed in an expeditious manner. Exposure to weather often reduces foundation support capabilities, thus necessitating remedial measures prior to concrete placement. It is also important that proper surface drainage be maintained both during construction (especially in terms of maintaining dry footing trenches) and after construction.

4.3.3 Slab-on-Grade

For slab-on-grade construction, the site should be prepared as previously described. We recommend that the subgrade be topped with a minimum 4-inch layer of crushed stone to act as a capillary moisture block. The subgrade should be proofrolled and approved prior to the placement of the crushed stone. Based on the conditions encountered on this site, we recommend that the floor slabs be designed using a subgrade modulus of 100 pounds per cubic inch (pci). This modulus is appropriate for small diameter loads (i.e. a 1ft x 1ft plate) and should be adjusted for wider loads.

4.4 LATERAL EARTH PRESSURES

Based on the proposed design, we anticipate the development will have retaining walls to help development the site. Therefore, we are providing equivalent fluid pressures for three backfill conditions for cantilever-type walls. These are 1) active earth pressure for granular backfill (clean sand or gravel), 2) at-rest earth pressure for granular backfill, and 3) at-rest earth pressure for fine-grained (silt or clay) backfill.

Condition 1 - The active earth pressure for granular backfill will result in an equivalent fluid pressure of 40 pounds per cubic foot (pcf). If the granular backfill is to develop active earth pressure conditions, walls must be flexible and/or free to rotate or translate at the top approximately one inch laterally for every 20 feet of wall height.

Condition 2 - The at-rest earth pressure for granular backfill will result in an equivalent fluid pressure of 50 pcf. For retaining walls that will not rotate or translate, such as building walls or other walls rigidly connected to structures, at-rest conditions will develop.

Condition 3 - Walls backfilled with fine-grained material (silt or clay) should be designed using the at-rest earth pressure whether restrained at the top, or not. Fine-grained soils typically creep over

time which produces additional lateral stresses to the wall. The equivalent fluid pressure for this case is 70 pcf.

For rigid, cast-in-place concrete walls, a friction factor of 0.35 between foundation concrete and clayey soil may be used when evaluating friction. If a stone leveling course is utilized beneath the foundation, a friction factor of 0.50 between foundation concrete and the dense grade aggregate base may be used when evaluating friction. Also, an ultimate passive earth pressure resistance of well-compacted soil fill can be approximated by a uniformly acting resistance of 750 psf. However, to limit deformation when relying on passive strength, we recommend using a minimum safety factor of 3.0 applied to the ultimate passive resistance value.

4.5 PAVEMENT RECOMMENDATIONS

4.5.1 Flexible Pavement Design

AASHTO flexible pavement design methods have been utilized for pavement recommendations. Our recommendations are based on the assumptions that the subgrade consists of residual soil or properly compacted soil fill that has been properly prepared as described previously. Traffic intensities were not available at the time this report was prepared. Based on our experience with similar projects and estimated traffic intensities, we recommend the following light duty and heavy duty flexible pavement section:

	Recommended Thickness (Inches)	
Pavement Materials	Light Duty	Heavy Duty
Bituminous Asphalt Surface Mix	1.5	1.5
Bituminous Asphalt Base Mix	2.0	2.5
Compacted Crushed Aggregate Base	6.0	8.0

Note: Section thicknesses are based on estimated traffic intensities. Once known, we should be provided with anticipated intensities to determine if the provided pavement section thicknesses are appropriate.

We recommend a base stone equivalent to a Type A, Class A and Grading D in accordance with Section 903.05 of the Tennessee Department of Transportation specifications. The bituminous asphalt pavement should be Grading "E" as per Section 411 for the surface mix and Grading “B” as per section 307 for the binder mix. Compaction requirements for the crushed aggregate base and the bituminous asphalt pavement should generally follow Tennessee Department of Transportation specifications.

4.5.2 Rigid Pavement Design

Areas of the project site with anticipated heavy vehicle loads should utilize the use of rigid pavement. We recommend the following rigid pavement section:

Pavement Materials	Recommended Thickness (Inches)
4,000 psi Type I Concrete	6.0
Compacted Crushed Aggregate Base	6.0

Concrete should be reinforced with welded wire fabric or reinforcing bars to assist in controlling cracking from drying shrinkage and thermal changes. Sawed or formed control joints should be

included for each 225 sq. ft of area or less (15 ft by 15 ft). Saw cuts should not cut through the welded wire fabric or reinforcing steel and dowels should be utilized at formed and/or cold joints.

If rigid pavement is used for dumpster pads, the rigid pavement should, at a minimum, be extended so that at least the front wheels of the dumpster truck are sitting on the rigid pavement during lifting and dumping of the trash container into the dumpster truck.

4.5.3 General

Our recommendations are based upon the assumption that the subgrade has been properly prepared (as per previous sections) and that any off-site soil borrow to be used to backfill to the final subgrade meets the requirements of structural soil fill section for off-site borrow. Site grading is generally accomplished early in the construction phase. As construction proceeds, the subgrade may be disturbed or degraded due to utility construction, construction traffic, or wetting or drying. As a result, the pavement subgrade may not be suitable for pavement construction and remedial repair may be required prior to pavement construction. The subgrade should be evaluated immediately prior to pavement construction by proof-rolling, as discussed earlier in this report. Particular attention should be given to check for weak materials in anticipated high traffic areas, areas that were degraded by construction traffic, or where backfilled trenches are located. Weak materials identified should be repaired by undercutting the weak materials and backfilling the undercut with compacted fill. We also recommend the moisture content of the subgrade materials be checked immediately prior to pavement construction. If the soil moisture content is not within the ranges recommended in this report, the upper 8 inches should be scarified, moisture conditioned to the recommended moisture content range and recompacted. Stability should then be evaluated by proof-rolling.

Paved areas should be constructed with positive drainage to direct water off-site and to minimize surface water seeping into the pavement subgrade. The subgrade should have a minimum slope of 1 percent. In down grade areas, the basestone should extend through the slope to allow any water entering the basestone a path to exit.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 EXCAVATIONS

Excavator refusal conditions were encountered in five of the 15 observation trenches at depths ranging from about 1 to 7 feet below existing ground surface elevation. Typically, soils excavated by the excavator can be removed with conventional earthmoving equipment. It is our experience that in this geology the weathering process is erratic and variations in the rock profile can occur in small lateral distances. Therefore, it is likely that some large boulders, partially weathered rock, and/or rock pinnacles/ledges requiring difficult excavation techniques may be encountered in site areas between our observation trench locations, or in deeper utility excavations.

Overblasting Concerns

If required, we caution against extensive overblasting in building areas during the site grading operations. Overblasting typically damages below grade bedrock by fracturing or heaving the rock from its original position. This often creates difficulties for foundations and floor slabs supported on these materials by creating voids in the rock unit and greatly reducing the support capacity. Any areas damaged by overblasting should be evaluated by the geotechnical engineer to determine appropriate corrective measures.

Excavation Safety

Excavations should be sloped or shored in accordance with local, state, and federal regulations, including OSHA (29 CFR Part 1926) excavation trench safety standards. The contractor is usually solely responsible for site safety. This information is provided only as a service and under no circumstances should GEOServices be assumed to be responsible for construction site safety.

5.2 FOUNDATION CONSTRUCTION

Foundation excavations should be opened, the subgrade evaluated, remedial work performed, and concrete placed in an expeditious manner. Exposure to weather often reduces foundation support capabilities, thus necessitating remedial measures prior to concrete placement. It is also important that proper surface drainage be maintained both during construction (especially in terms of maintaining dry footing trenches) and after construction. Soil backfill for footings should be placed in accordance with the recommendations for structural fill presented herein.

Foundation subgrade observations should be performed by a GEOServices geotechnical engineer, or his qualified representative, so that the recommendations provided in this report are consistent with the site conditions encountered. A dynamic cone penetrometer (DCP) is commonly utilized to provide information that is compared to the data obtained in the geotechnical report. Where unacceptable materials are encountered, the material should be excavated to stiff, suitable soils or remediated at the geotechnical engineer's direction. Typical remedial measures consist of undercutting, over excavation, or combinations thereof.

5.3 MOISTURE SENSITIVE SOILS

The fine-grained soils encountered at this site will be sensitive to disturbances caused by construction traffic and changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support

capabilities. Construction traffic patterns should be varied to prevent the degradation of previously stable subgrade. In addition, plastic soils which become wet may be slow to dry and thus significantly retard the progress of grading and compaction activities. We caution if site grading is performed during the wet weather season, methods such as discing and allowing the material to dry will be required to meet the required compaction recommendations. It will, therefore, be advantageous to perform earthwork and foundation construction activities during dry weather.

5.4 DRAINAGE AND SURFACE WATER CONCERNS

To reduce the potential for undercut and construction induced dropouts, water should not be allowed to collect in the foundation excavations, on floor slab areas, or on prepared subgrades of the construction area either during or after construction. Undercut or excavated areas should be sloped to facilitate removal of any collected rainwater, subsurface water, or surface runoff. Positive site surface drainage should be provided to reduce infiltration of surface water around the perimeter of the building structures. The grades should be sloped away from the building structures and surface drainage should be collected and discharged such that water is not permitted to infiltrate the backfill.

5.5 SINKHOLE CORRECTIVE ACTIONS AND CONSIDERATIONS

While no evidence of karst activity or sinkhole development was observed onsite or in our test locations, we have included the below section to help prevent future development of features at the site. Based on our experience, corrective actions can be performed to reduce the potential for sinkhole development at this site. These corrective actions, such as proper grade selection and positive site drainage, would decrease but not eliminate the potential for sinkhole development.

In general, the portions of a site that are excavated to achieve the desired grades will have a higher risk of sinkhole development than the areas that are filled, because of the exposure of relic fractures in the soil to rainfall and runoff. On the other hand, those portions of a site that receive a modest amount of fill (or that have been filled in the past) will have a decreased risk of sinkhole development caused by rainfall because that placement of a cohesive soil fill over these areas effectively caps the area with a relatively impervious "blanket" of remolded soil. Therefore, the recommendations that follow incorporate a modest remedial treatment program designed to make the surface of the soil in excavated areas less permeable.

Although it is our opinion that the risk of ground subsidence associated with sinkhole formation cannot be eliminated, we have found that several measures are useful in site design and development to reduce this potential risk. These measures include:

- Maintaining positive site drainage to route surface waters well away from structural areas both during construction and for the life of the structure.
- The scarification and re-compaction of the upper 6 to 10 inches of soil in earthwork cut areas.
- Verifying that subsurface piping beneath structures is carefully constructed and pressure tested prior to its placement in service.
- The use of pavement or lined ditches, particularly in cut areas, to collect and transport surface water to areas away from structures.

Considerations when building within a sinkhole prone area are to provide positive surface drainage away from any proposed building or parking area both during and after construction. Backfill in utility trenches of other excavations should consist of compacted, well-graded material such as dense graded aggregate or compacted on site soils. The use of an open graded stone such as No. 57 stone is not recommended unless the stone backfill is provided an exit path and not allowed to pond. If sinkhole conditions are observed, the type of corrective action is most appropriately determined by GEOServices on a case-by-case basis.

5.6 SLOPES

Analysis of proposed slopes for stability was not included in the authorized scope of services. If the client would like this service completed for proposed slopes, GEOS can perform these services for an additional fee, upon request. When requested, GEOS will issue an additional services proposal for review and authorization.

6.0 LIMITATIONS

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. This report is for our geotechnical work only. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

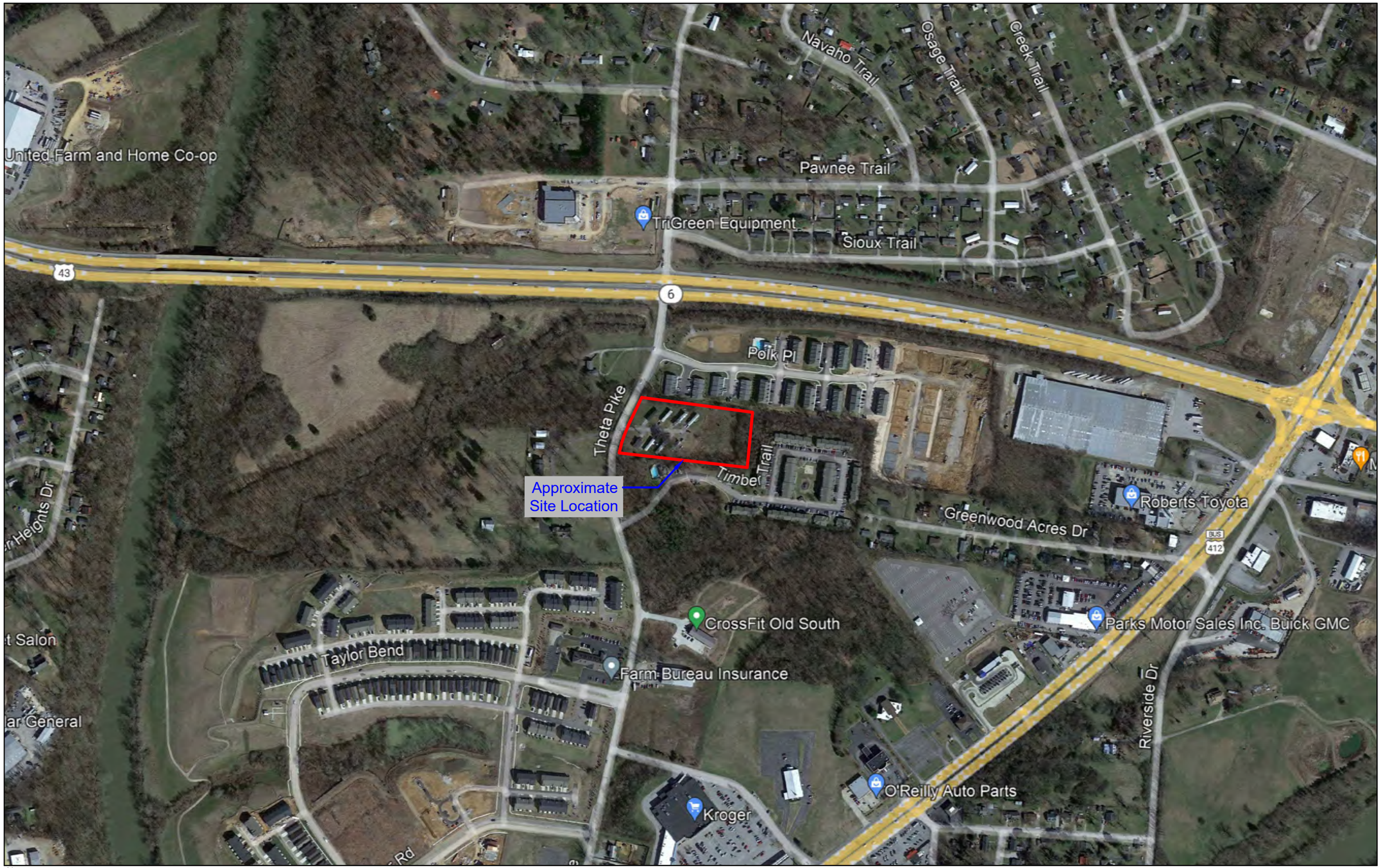
The analyses and recommendations submitted herein are based, in part, upon the data obtained from the exploration. The nature and extent of variations between the observation trenches will not become evident until construction. We recommend that GEOServices be retained to observe the project construction in the field. GEOServices cannot accept responsibility for conditions which deviate from those described in this report if not retained to perform construction observation and testing. If variations appear evident, then we will re-evaluate the recommendations of this report. In the event that any changes in the nature, design, or location of the structures are planned, the conclusions and recommendations contained in this report will not be considered valid unless the changes are reviewed, and conclusions modified or verified in writing. Also, if the scope of the project should change significantly from that described herein, these recommendations may have to be re-evaluated.

GEOServices, LLC, Geotechnical and Materials Engineers

APPENDICES

GEOServices, LLC, Geotechnical and Materials Engineers

APPENDIX A



Notes:

1) Aerial Provided by: Google Earth Pro, (2021)

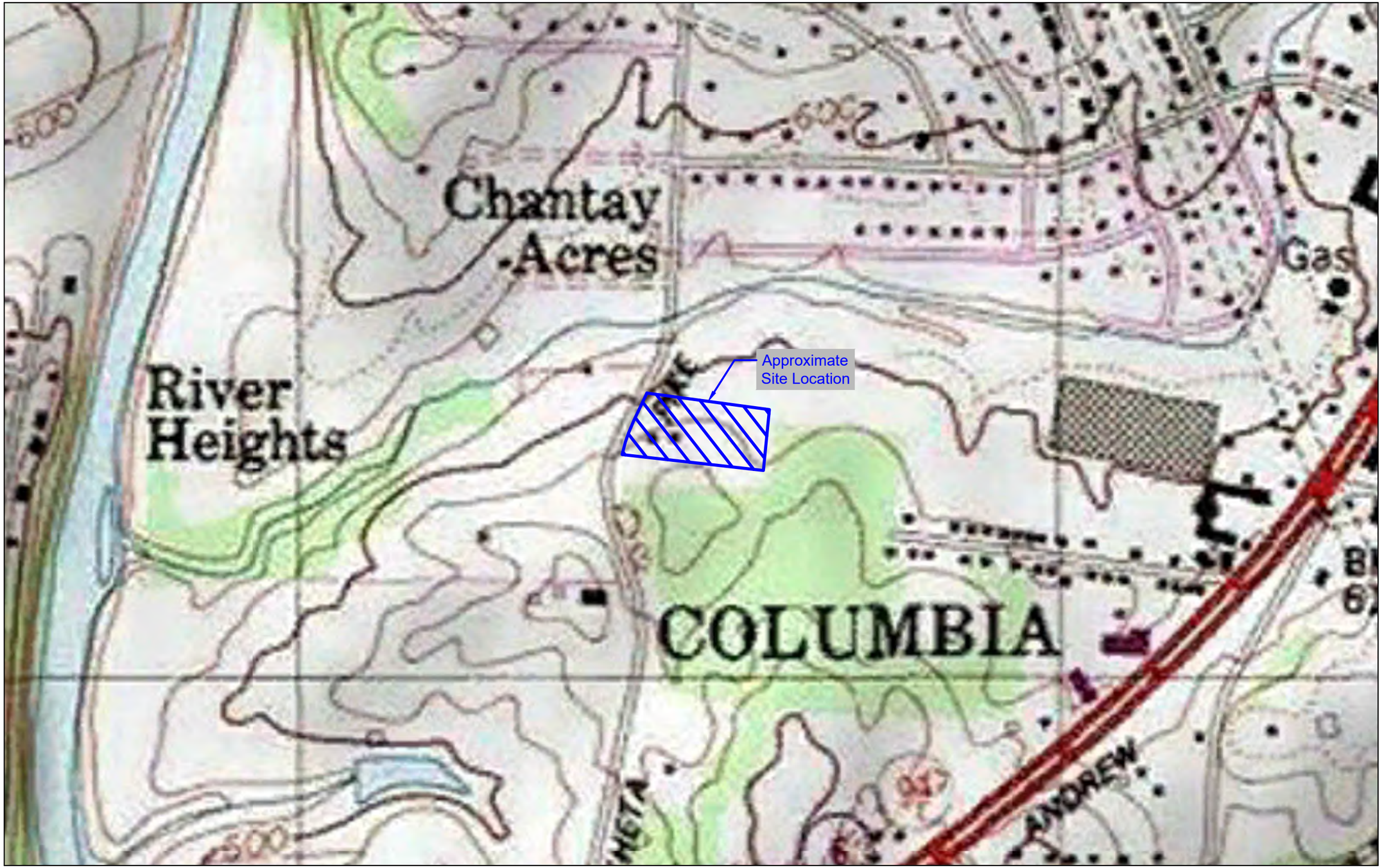
GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

Site Vicinity Plan
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023

GEOS Project No. 31-231084

FIGURE: 1



Source Provided by: MYTOPO

GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

USGS Topographic Map
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023

GEOS Project No. 31-231084

FIGURE: 2

N

OT-1
OT-2
OT-3
OT-4
OT-5
OT-6
OT-7
OT-8
OT-9
OT-10
OT-11
OT-12
OT-13
OT-14
OT-15

Notes:

1) Site Source Provided by: Client
2) Aerial Provided by: Google Earth Pro, (2022)
3) Observation Trench Locations are shown in general arrangement only
4) Do Not use Observation Trench Locations for determinations of Distance or Quantities

Observation Trench Location & Identifier

GEOS
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A Universal Engineering Sciences Company

Observation Trench Location Plan
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023
GEOS Project No. 31-231084
FIGURE: 3

GENERAL NOTES

FINE AND COARSE GRAINED SOIL PROPERTIES

PARTICLE SIZE

BOULDERS:	GREATER THAN 300 mm
COBBLES:	75 mm to 300 mm
GRAVEL:	4.74 mm to 75 mm
COARSE SAND:	2 mm to 4.74 mm
MEDIUM SAND:	0.425 mm to 2 mm
FINE SAND:	0.075 mm to 0.425 mm
SILTS & CLAYS:	LESS THAN 0.075 mm

COARSE GRAINED SOILS (SANDS & GRAVELS)

N-VALUE	RELATIVE DENSITY
0 - 4	VERY LOOSE
5 - 10	LOOSE
11 - 30	MEDIUM DENSE
31 - 50	DENSE
OVER 50	VERY DENSE

FINE GRAINED SOILS (SILTS & CLAYS)

N-VALUE	CONSISTENCY	Qu, PSF
0 - 2	VERY SOFT	0 - 500
3 - 4	SOFT	500 - 1000
5 - 8	FIRM	1000 - 2000
9 - 15	STIFF	2000 - 4000
16 - 30	VERY STIFF	4000 - 8000
OVER 31	HARD	8000 +

STANDARD PENETRATION TEST (ASTM D1586)

THE STANDARD PENETRATION TEST AS DEFINED BY ASTM D1586 IS A METHOD TO OBTAIN A DISTURBED SOIL SAMPLE FOR EXAMINATION AND TESTING AND TO OBTAIN RELATIVE DENSITY AND CONSISTENCY INFORMATON. THE 1.4 INCH I.D./2.0 INCH O.D. SAMPLER IS DRIVEN 3-SIX INCH INCREMENTS WITH A 140 LB. HAMMER FALLING 30 INCHES. THE BLOW COUNTS REQUIRED TO DRIVE THE SAMPLER THE FINAL 2 INCREMENTS ARE ADDED TOGETHER AND DESIGNATED THE N-VALUE. AT TIMES, THE SAMPLER CAN NOT BE DRIVEN THE FULL 18 INCHES. THE FOLLOWING REPRESENTS OUR INTERPRETATION OF THE STANDARD PENETRATION TEST WITH VARIATIONS.

BLOWS/FOOT (N-VALUE)	DESCRIPTION
25	25 BLOWS DROVE SAMPLER 12" AFTER INITIAL 6" SEATING
75/10"	75 BLOWS DROVE SAMPLER 10" AFTER INITIAL 6" SEATING
50/PR	PENETRATION REFUSAL OF SAMPLER AFTER INITIAL 6" SEATING

SAMPLING SYMBOLS

ST:	UNDISTURBED SAMPLE
SS:	SPLIT SPOON SAMPLE
CORE:	ROCK CORE SAMPLE
AU:	AUGER OR BAG SAMPLE

SOIL PROPERTY SYMBOLS

N:	STANDARD PENETRATION, BPF
M:	MOISTURE CONTENT %
LL:	LIQUID LIMIT %
PI:	PLASTICITY INDEX %
Qp:	POCKET PENETROMETER VALUE, TSF
Qu:	UNCONFINED COMPRESSIVE STRENGTH, TSF
DUW:	DRY UNIT WEIGHT, PCF

ROCK PROPERTIES

ROCK QUALITY DESIGNATION (RQD)

PERCENT	QUALITY
90 TO 100	EXCELLENT
75 TO 90	GOOD
50 TO 75	FAIR
25 TO 50	POOR
0 TO 25	VERY POOR

ROCK HARDNESS

VERY SOFT:	ROCK DISINTEGRATES OR EASILY COMPRESSES TO TOUCH: CAN BE HARD TO VERY HARD SOIL.
SOFT:	ROCK IS COHERANT BUT BREAKS EASILY TO THUMB PRESSURE AT SHARP EDGES AND CRUMBLES WITH FIRM HAND PRESSURE.
MODERATELY HARD:	SMALL PIECES CAN BE BROKEN OFF ALONG SHARP EDGES BY CONSIDERABLE HARD THUMB PRESSURE: CAN BE BROKEN BY LIGHT HAMMER BLOWS.
HARD:	ROCK CAN NOT BE BROKEN BY THUMB PRESSURE, BUT CAN BE BROKEN BY MODERATE HAMMER BLOWS.
VERY HARD:	ROCK CAN BE BROKEN BY HEAVY HAMMER BLOWS.

GEOServices, LLC-Geotechnical and Meterials Engineers

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-1	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (2 inches)					
1.0	Lean CLAY (CL) with gravel and abandoned underground utilities - brown; moist; (FILL)	TNP @ 1'	29	19	10	26.8
2.0						
3.0		TNP @ 3'				
4.0	Observation Trench Refusal ranging from 3 to 4 Feet					
5.0						
6.0						
7.0						
8.0						
9.0						



Excavated test pit



Excavated material

Comments: _____

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-2	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (4 inches)					
1.0	Lean CLAY (CL) - brown; firm; moist; (RESIDUUM)	3-5-5 @ 1'				20.4
2.0						
3.0		TNP @ 3'				20.7
4.0						
5.0	Fat CLAY (CH) with trace weathered limestone - brown and light brown; moist; (RESIDUUM)	TNP @ 5'				
6.0						
7.0	Observation Trench Refusal ranging from 4 to 7 Feet					
8.0						
9.0						



Excavated test pit



Excavated material

Comments:

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-3	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (3 inches)					
1.0	Lean CLAY (CL) with gravel - brown; moist; (FILL)					
	Lean CLAY (CL) with trace sand and weathered limestone slabs at depth - brown; moist; (RESIDUUM)	TNP @ 1'				19.1
2.0						
3.0	Observation Trench Refusal at 3 Feet					
4.0						
5.0						
6.0						
7.0						
8.0						
9.0						



Excavated test pit



Excavated material

Comments:

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-4	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (3 inches)					
1.0	Fat CLAY (CH) with sand - brown; firm; moist; (RESIDUUM)	3-5-5 @ 1'				16.7
2.0						
3.0		TNP @ 3'				
4.0	Observation Trench Refusal ranging from 1 to 4 Feet					
5.0						
6.0						
7.0						
8.0						
9.0						



Excavated test pit



Excavated material

Comments:

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-5	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By: Jacob Barber**	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (3 inches)					
1.0	Fat CLAY (CH) with trace gravel, trace asphalt debris, and trace construction debris - brown; soft; moist; (FILL)	3-3-3 @ 1'				18.6
2.0						
3.0		TNP @ 3'				17.7
4.0	Lean CLAY (CL) with trace sand and trace black oxide nodules - brown and light brown; firm; moist; (RESIDUUM)					
5.0		7-6-7 @ 5'				20.6
6.0						
7.0	Fat CLAY (CH) with trace sand and trace black oxide nodules - brown and light brown; moist; (RESIDUUM)					
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments:

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-6	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (12 inches)					
1.0	Lean CLAY (CL) with sand - brown; firm; moist; (RESIDUUM)	5-5-6 @ 1'				21.9
2.0						
3.0		TNP @ 3'				21.5
4.0	Fat CLAY (CH) with sand - brown; moist; (RESIDUUM)					
5.0		TNP @ 5'				33.3
6.0						
7.0						
8.0	Observation Trench Terminated at 7.5 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 3 feet below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-7	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (3 inches)					
1.0	Lean CLAY (CL) with abundance of chert fragments - reddish brown; soft; moist; (FILL)					
		5-5-4 @ 1'				23.2
2.0	Lean CLAY (CL) with trace sand and trace black oxide nodules - brown and light brown; firm; moist; (RESIDUUM)					
3.0						
		5-7-7 @ 3'				21.2
4.0						
5.0						
		7-8-7 @ 5'				
6.0						
	Fat CLAY (CH) with trace sand and trace black oxide nodules - brown and light brown; firm; moist; (RESIDUUM)					
7.0						
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 6.5 feet below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-8	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (6 inches)					
1.0	Lean CLAY (CL) with abundance of chert and limestone fragments and abandoned undergound utilities - reddish brown; moist; (FILL)	TNP @ 1'				21.6
2.0						
3.0		TNP @ 3'				20.6
4.0	Lean CLAY (CL) with sand - brown; moist; (RESIDUUM)					
5.0		TNP @ 5'				21.5
6.0						
7.0						
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 2 feet below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-9	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
1.0	Topsoil with gravel (18 inches)	TNP @ 1'				25.2
2.0	Lean CLAY (CL) with sand and chert fragments - brown and light brown; moist; (RESIDUUM)					
3.0		TNP @ 3'				24.9
4.0						
5.0		TNP @ 5'				
6.0						
7.0						
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 1 foot below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-10	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (2 inches)					
1.0	Fat CLAY (CH) with trace limestone fragments - brown and dark brown; very soft; very moist; (FILL)	1-1-1 @ 1'				22.4
2.0						
3.0		1-2-2 @ 3'	58	29	29	30.8
4.0						
5.0	Fat CLAY (CH) with black oxide nodules and trace chert fragments and boulders - light brown and brown; very soft to firm; moist; (RESIDUUM)	4-5-6 @ 5'				23.5
6.0						
7.0						
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 4 feet below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-11	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By: Jacob Barber**	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (4 inches)					
1.0	Lean CLAY (CL) - brown and dark brown; firm; moist; (FILL)					
		5-5-5 @ 1'				17.6
2.0						
3.0						
		6-6-7 @ 3'	33	19	14	20.2
4.0						
	Lean CLAY (CL) with trace black oxide nodules and sand at depth - brown and reddish brown; firm; moist; (RESIDUUM)					
5.0		8-8-9 @ 5'				19.6
6.0						
7.0						
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: _____

Proposed Mackenzie Place Townhomes Columbia, Tennessee GEOServices Project No. 31-231084	TEST PIT OBSERVATION RECORD Test Pit No.: OT-12	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
1.0	Lean CLAY (CL) with limestone fragments and boulders and abandoned underground utilities - brown; moist; (FILL)	TNP @ 1'				22.2
2.0						
3.0		TNP @ 3'				20.3
4.0						
5.0		TNP @ 5'				
6.0	Fat CLAY (CH) - brown; moist; (RESIDUUM) Observation Trench Refusal ranging from 1 to 6 Feet					
7.0						
8.0						
9.0						



Excavated test pit



Excavated material

Comments:

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-13	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (10 inches)					
1.0						
	Lean CLAY (CL) with limestone fragments - brown and dark brown; moist; (FILL)	TNP @ 1'				18.3
2.0						
3.0						
		3-4-4 @ 3'	55	29	26	32.9
4.0						
5.0	Fat CLAY (CH) with limestone fragments, black oxide nodules, and trace sand - brown; soft to firm; moist; (RESIDUUM)					
		6-8-8 @ 5'				26.9
6.0						
7.0						
8.0						
	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 3.5 feet below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-14	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (2 inches)					
1.0	Lean CLAY (CL) with gravel - reddish brown and dark brown; firm; moist; (FILL)	4-5-5 @ 1'				22.8
2.0						
3.0	Lean CLAY (CL) with sand - brown and light brown; soft to firm; moist; (RESIDUUM)	4-4-4 @ 3'				18.2
4.0						
5.0		5-6-6 @ 5'				19.6
6.0						
7.0						
8.0						
	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments: A rock ledge was encountered approximately 2 feet below the existing ground surface elevation.

Proposed Mackenzie Place Townhomes Columbia, Tennessee	TEST PIT OBSERVATION RECORD Test Pit No.: OT-15	GEOServices, LLC-Geotechnical and Materials Engineers A Universal Engineering Sciences Company
GEOServices Project No. 31-231084		
Date Excavated: February 13, 2023	**Observed By:** Jacob Barber	

Depth (feet)	Material Description	DCP Values	LL	PL	PI	%M
	Topsoil (2 inches)					
1.0	Lean CLAY (CL) with chert fragments and gravel - reddish brown and dark brown; stiff; moist; (FILL)	9-9-10 @ 1'				26.4
2.0						
3.0	Lean CLAY (CL) - dark brown and dark gray; firm; moist; (FILL)	5-5-5 @ 3'				16.5
4.0						
5.0	Lean CLAY (CL) with sand and black oxide nodules and trace chert fragments at depth - brown; soft; moist; (RESIDUUM)	4-4-5 @ 5'				20.6
6.0						
7.0						
8.0	Observation Trench Terminated at 8 Feet					
9.0						



Excavated test pit



Excavated material

Comments:

GEOServices, LLC, Geotechnical and Materials Engineers

APPENDIX B

SOIL DATA SUMMARY
Proposed Mackenzie Place Townhomes - Columbia, Tennessee
GEOServices Project No. 31-231084
February 20, 2023

OT Number	Sample Number	Depth (feet)	Natural Moisture Content	Atterberg Limits			Soil Type
				LL	PL	PI	
OT-1	1	1	26.8%	29	19	10	CL
OT-2	1	1	20.4%				
	2	3	20.7%				
OT-3	1	1	19.1%				
OT-4	1	1	16.7%				
OT-5	1	1	18.6%				
	2	3	17.7%				
	3	5	20.6%				
OT-6	1	1	21.9%				
	2	3	21.5%				
	3	5	33.3%				
OT-7	1	1	23.2%				
	2	3	21.2%				
OT-8	1	1	21.6%				
	2	3	20.6%				
	3	5	21.5%				
OT-9	1	1	25.2%				
	2	3	24.9%				
OT-10	1	1	22.4%				
	2	3	30.8%	58	29	29	CH
	3	5	23.5%				
OT-11	1	1	17.6%				
	2	3	20.2%	33	19	14	CL
	3	5	19.6%				
OT-12	1	1	22.2%				
	2	3	20.3%				
OT-13	1	1	18.3%				
	2	3	32.9%	55	29	26	CH
	3	5	26.9%				
OT-14	1	1	22.8%				
	2	3	18.2%				
	3	5	19.6%				

SOIL DATA SUMMARY
Proposed Mackenzie Place Townhomes - Columbia, Tennessee
GEOServices Project No. 31-231084
February 20, 2023

OT Number	Sample Number	Depth (feet)	Natural Moisture Content	Atterberg Limits			Soil Type
				LL	PL	PI	
OT-15	1	1	26.4%				
	2	3	16.5%				
	3	5	20.6%				

GEOServices, LLC, Geotechnical and Materials Engineers

APPENDIX C

N



Photo: 6



Photo: 5



Photo: 1



Photo: 2



Photo: 3



Photo: 4



Notes:

1) Site Source Provided by: Client
2) Aerial Provided by: Google Earth Pro, (2022)

GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

Representative Photos
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023

GEOS Project No. 31-231084

FIGURE: 4

N



Photo: 12



Photo: 11



Photo: 7



Photo: 8



Photo: 9



Photo: 10



Notes:

1) Site Source Provided by: Client
2) Aerial Provided by: Google Earth Pro, (2022)

GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

Representative Photos
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023

GEOS Project No. 31-231084

FIGURE: 5

N



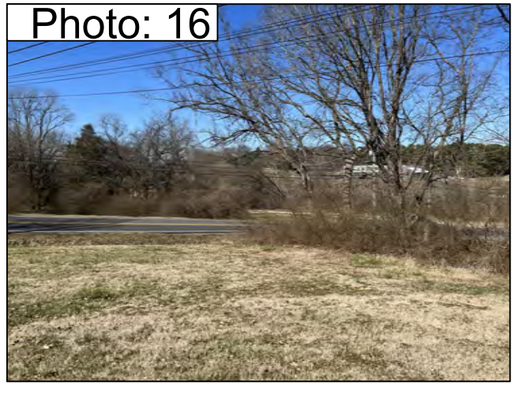












Notes:

1) Site Source Provided by: Client
2) Aerial Provided by: Google Earth Pro, (2022)

GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

Representative Photos
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023
GEOS Project No. 31-231084
FIGURE: 6

N



Photo: 24



Photo: 23



Photo: 19



Photo: 20



Photo: 21



Photo: 22



Notes:

1) Site Source Provided by: Client
2) Aerial Provided by: Google Earth Pro, (2022)

GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

Representative Photos
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023

GEOS Project No. 31-231084

FIGURE: 7

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 11/14/22
Name: Brian Holcombe
Phone: 615-925-0851
Email: brian@m2groupllc.com
Address/Parcel ID: 220 Theta pike / 90B, 47.00
Property Type: (•) Residential ( ) Commercial ( ) Industrial
Construction Type: V-B
Enclosed Area (ft^2): 1,000

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: NFPA 13D

Water System Demand without Sprinkler Credit

Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: 1,000 gpm Duration: 1 hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: 1

Average spacing between hydrants: 500 ft.

Maximum distance from frontage to hydrant: 250 ft.

Water System Demand with Sprinkler Credit

Fire flow requirements (International Fire Code Appendix B)

Fire Flow: 500 gpm Duration: 1/2 hours

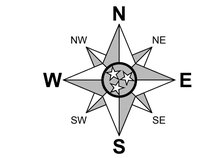
Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: 1

Average spacing between hydrants: 500 ft.

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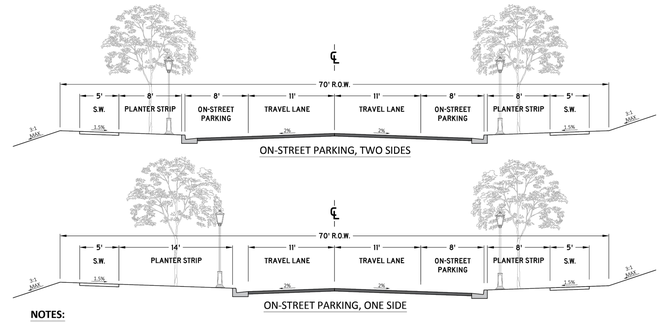
Fire Plan Reviewer: Brad Massey Date: 11/15/22



30' 0 30' 60'

GRAPHIC SCALE

SITE DATA TABLE		
ZONING	CD-4	
TOTAL LOT AREA	3.59	AC.
TOTAL NUMBER OF UNITS	34	EA.
DENSITY	9.47	UNITS / AC.
PARKING SPACES REQUIRED	68	EA.
PARKING SPACES PROVIDED	68	EA.
FRONT YARD SETBACK	6' - 20'	L.F.
SIDE YARD SETBACK	6	L.F.
REAR YARD SETBACK	6	L.F.



NOTES:

1. ONLY PERMITTED WITHIN THE APPLICABLE ZONING DISTRICTS.
2. ONLY PERMITTED ON MINOR LOCAL AND MAJOR LOCAL ROADWAY CLASSIFICATIONS.
3. PAVEMENT SECTION SHALL FOLLOW APPLICABLE ROADWAY CLASSIFICATION.
4. CURB AND GUTTER, SEE SD-01
5. TREES SHALL BE CENTERED WITHIN THE PLANTING STRIP, OFFSET A MINIMUM OF 20 FEET ALONG THE CENTERLINE OF THE ROAD FROM ANY STREET LIGHTING.
6. DECORATIVE LIGHT BASES SHALL BE BETWEEN 18" AND 24" BEHIND THE BACK OF CURB.
7. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED.
8. DIMENSIONS REFLECT A MINIMUM STANDARD.
9. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA TENNESSEE	CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION STANDARD DETAILS	CHARACTER DISTRICT STREET URBAN NEIGHBORHOOD (NTS)	DATE 6/9/2022 DS-03

ZONING: RM-1 PUD
POLK PLACE - PHASE 1
PB 22, PG 214

ZONING: GCS



ZONING: RM-1
CEDAR POINTE TN, LP
MAP 90A, GROUP B, PARCEL 46.01
RB 2309, PG 827

ZONING: RM-1
CEDAR POINTE TN, LP
MAP 90A, GROUP B, PARCEL 46.01
RB 2309, PG 827

DESCRIPTION | DATE | REVISION #

DRAFT

SITE PLANS FOR:
MACKENZIE PLACE TOWNHOMES
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

SITE LAYOUT PLAN
TOWNHOUSES WITH GARAGES

DATE : --
DRAWN BY : M2G
PROJECT NO. : --
CHECKED BY : MWB

SHEET NUMBER:
1

MPA - CONCEPT PLAN - TOWNHOMES - OPTION 7.DWG / Thursday, October 13, 2022 9:26:55 AM

CPWS

May 19, 2023

Mr. Brian Holcombe
M2 Group, LLC
P.O. Box 848
Franklin, TN 37065
Sent via email: brian@m2groupllc.com

RE: Water Availability Letter
Mackenzie Place Townhomes – 34 Units
220 Theta Pike
Tax Map 90B, Parcel 47.00
Columbia, Maury County, TN

Dear Mr. Holcombe:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 34 townhome units in 7 buildings. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 6-inch water main located on Theta Pike.
- Minimum size 8-inch water mains will be required throughout the development.

- Townhomes will be served via gang-meter vaults.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (34 SFUs)	$14,080.00

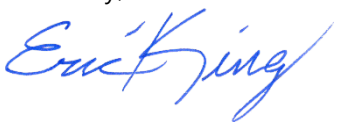
- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: $540 per 3/4" meter (34 meters)	$18,360.00
Impact Fee: $875 per 3/4" meter (34 meters)	$29,750.00
Total Meter and Impact Fees Due =	**$48,110.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact Mr. Jonathan Hardin or myself at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-005

HYDRANT FLOW ANALYSIS

HYDRANT # & LOCATION: Proposed DATE:

MODEL BY: Inflo Design Group, LLC SYS. DEMAND Max Day DURATION: 2 hrs.

WATER SUPPLIED BY: Columbia Power and Water Systems

PURPOSE OF TEST: Mackenzie Place

MODEL DATA

FLOW HYDRANT(S)	0	n/a	n/a
GPM:	**850**	0	0

TOTAL FLOW DURING SIMULATION: **850** GPM

GAUGE HYDRANT

HYDRANT # & LOCATION: J-25996

CONDITION 1

STATIC 107 PSI RESIDUAL: 85 PSI

CONDITION 2

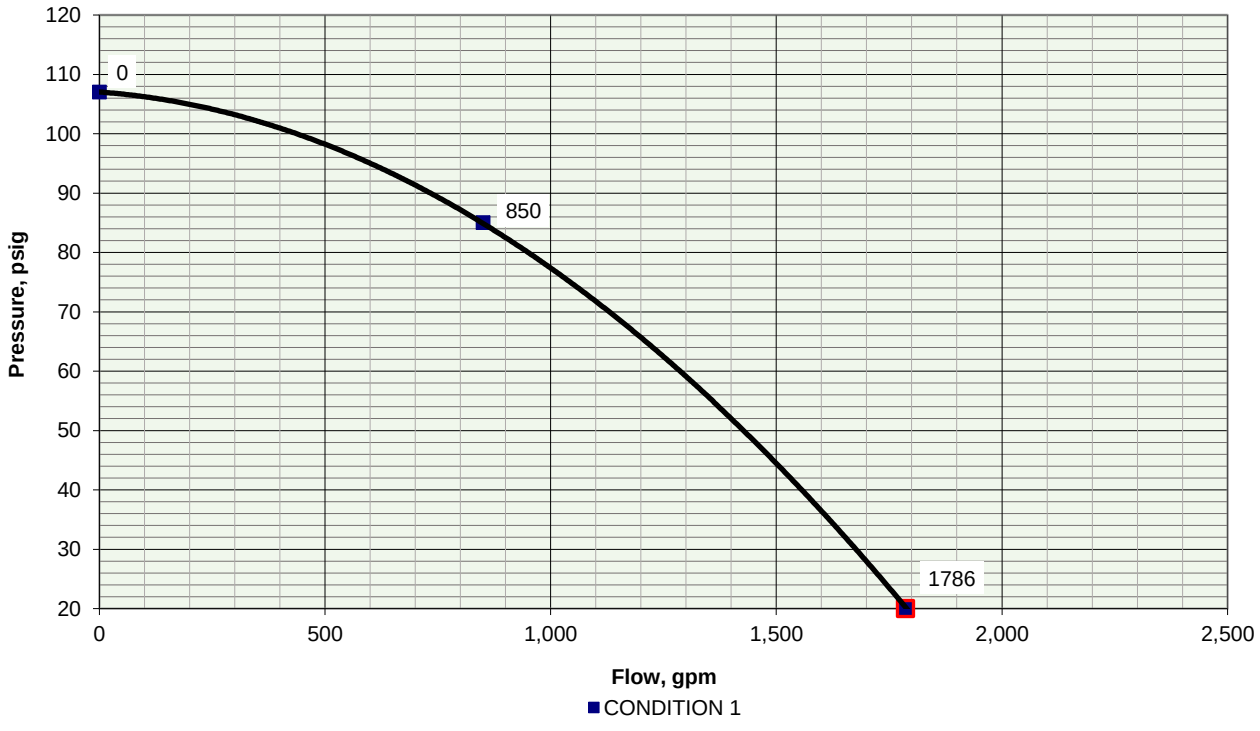
STATIC _____ PSI RESIDUAL: _____ PSI

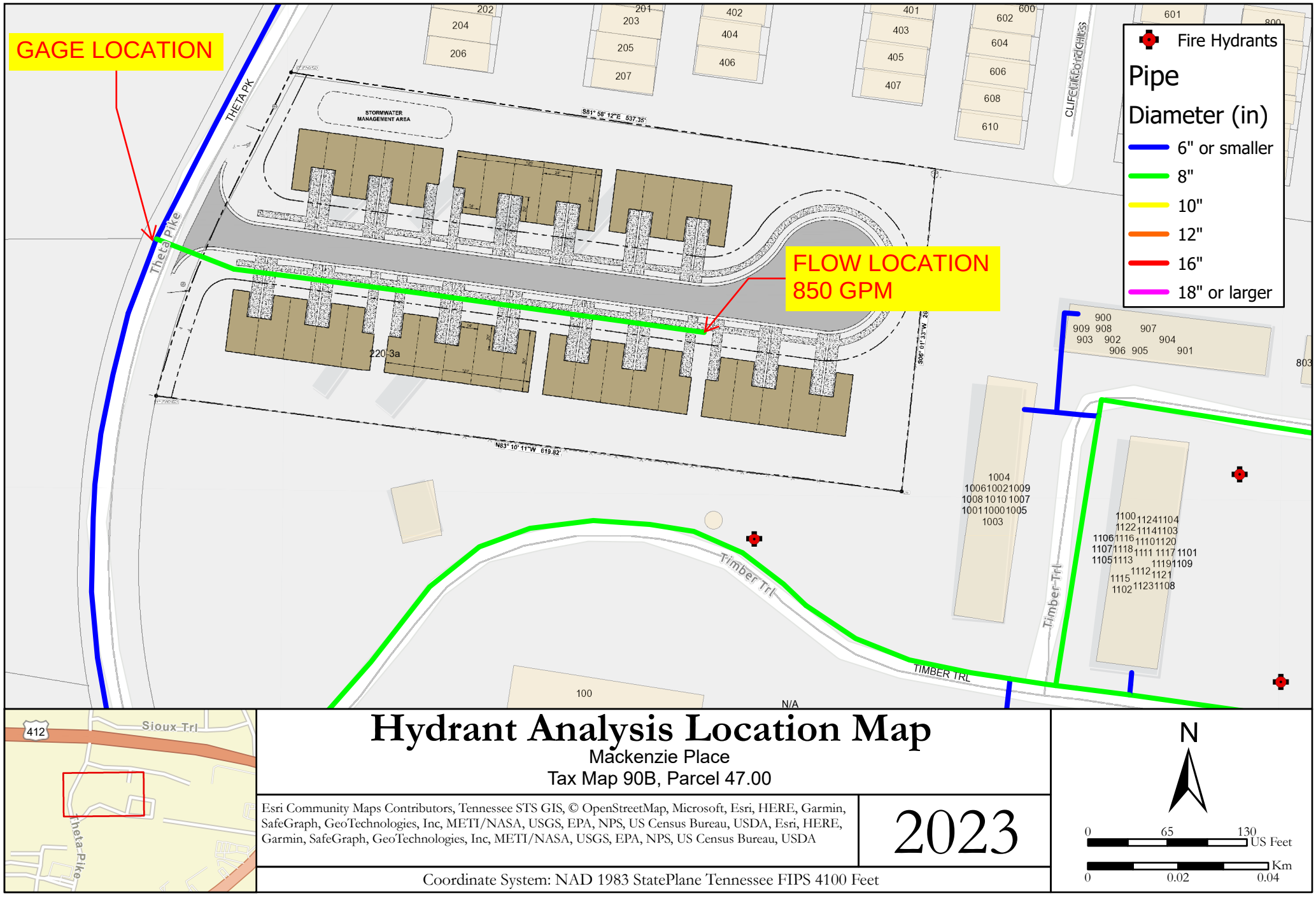
RESULTS: AT 20 PSI RESIDUAL

CONDITION 1 **1786** GPM

CONDITION 2 **---** GPM

REMARKS: Performance based on service elevation of 617' and current CPWS water infrastructure and does not account for additional losses associated with development piping.





Hydrant Analysis Location Map

Mackenzie Place

Tax Map 90B, Parcel 47.00

Esri Community Maps Contributors, Tennessee STS GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

2023

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 65 130 US Feet

0 0.02 0.04 Km

May 22, 2023

City of Columbia, Tennessee
700 North Garden Street
Columbia, Tennessee 38401

RE: Agency Comment Responses
Site Plan Submittal
MacKenzie Place Townhomes
220 Theta Pike

M2 Group, LLC (M2) has received the previous review comments of the MacKenzie Place Townhomes project. Please allow this letter to serve as a response to the review comments. A digital copy of the revised Site Plan has been included in this resubmittal.

Per comments received via a virtual meeting with City Staff, on April 5, 2023, we offer the following comment responses;

Review Comments

1. *Sidewalks need to be provided around the entire cul-de-sac.*
   Sidewalk has been added as requested to provide a loop for pedestrian circulation.

2. *Architecturals*
   a. *Needs to vary*
   b. *Comply with Building standards*
   c. *Difference in FFE – step from garage to first floor with require Foundation Cladding*
   d. **ADD NOTE* Element requirements of CD-4 Article 4 must be met*

   Updated architectural information has been provided with a specific note requiring the adherence to City standards. Detailed conversations with the Owner/Developer have been had and they fully understand this requirement.

3. *Tree Preservation*
   a. *Replacement requirement is 80 trees per acre*
   b. *31 new trees required (street trees don't count)*
   c. *Fix legend to clarify what is happening*
   d. *Street Trees required 50' o/c*
   e. *Street section requires standard spacing*
   f. *Planting interval does not meet code*
   g. *Separate tree count for street trees vs. canopy retention*

   Updated landscape plans have been provided that show compliance with the review comments received.

4. *Intersection Sight Distance *may be a problem**
   a. *390' vs. 290' distance*
   b. *Need vertical profile*
   c. *Review vertical curve*
   d. *Plan & profile*
   e. *14.5' off edge of pavement for stop bar*
   f. *3.5' height of object / 3.5' may need additional topo*
   g. *Intersection sight distance/currently showing stopping sight distance*

   The intersection sight distance plan has been revised to provide requested items. Additional topographic information was obtained and analyzed for obstructions. The existing grade along the line of sight does not impair the decision point. However, clearing of vegetation will be required within the sight triangle which has been shown. A letter of permission has been included from the adjacent neighbor granting permission to clear vegetation for the required site triangles.

5. *Concerns with infiltration trench*
   a. *Need EoF*
   b. *City does not like*
   c. *Wants something more traditional*
   d. *Peak runoff control*

   A drainage report has been provided to demonstrate the design intent and effectiveness of infiltration trench that was proposed. The infiltration trench methodology is proposed because it can provide compliance with both the water quality requirements as well as attenuate the post development peak runoffs from the proposed site. The report demonstrates compliance with both of these items. Infiltration testing was also performed to demonstrate there will be some infiltration from this trench, however, there is also an underdrain and emergency overflow spillway that direct any excess runoff to the roadside ditch along Theta Pike.

6. *Preliminary plat for road only since it's a multifamily site*

   Acknowledged.

7. *Sanitary Easement*
   a. *Show R/W on C500*
   b. *Theta Pike was just repaved*

   Right of way for Theta Pike is now shown.

8. *Guest Parking?*
   c. *PC will have concerns about parking on street*

   Acknowledged. The development meets parking requirements.

9. *Architectural – compatibility with neighborhood?*
   Note has been added to architectural plans as requested.

10. *Trash collection?*
    No dumpster is proposed. Trash will be collected by private trash hauling service which will utilize roller cans at each residence.

If you have any questions, please feel free to contact me at 615.406.3415 or matt@m2groupllc.com.

Sincerely,
M2 Group, LLC
Matthew W. Bryant, P.E.

Enclosures

cc: John Waits, John Phillips

SITE PLAN FOR:

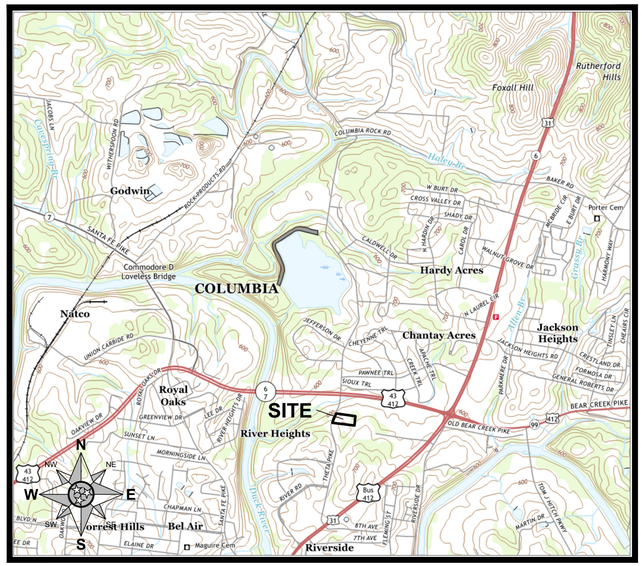
MACKENZIE PLACE

TAX MAP 90B, GROUP B, PARCEL 47.00

220 THETA PIKE

MAURY COUNTY, TENNESSEE

MAY 22, 2023



VICINITY MAP

SCALE: 1" = 2,000'

SOURCE: USGS

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C000	COVER SHEET
C001	GENERAL NOTES
C100	EXISTING CONDITIONS & DEMOLITION PLAN
C200	SITE LAYOUT PLAN
C201	INTERSECTION SIGHT DISTANCE PLAN
C300	OVERALL GRADING & DRAINAGE PLAN
C301	ENLARGED GRADING & DRAINAGE PLAN
C302	ENLARGED GRADING & DRAINAGE PLAN
C303	ENLARGED GRADING & DRAINAGE PLAN
C304	GRADING DETAILS
C305	STORM SEWER DETAILS
C401	INITIAL EPSC PLAN
C402	INTERMEDIATE EPSC PLAN
C403	FINAL EPSC PLAN
C404	EPSC DETAILS
C500	UTILITY PLAN
C501	OFFSITE SANITARY SEWER PLAN & PROFILE
C502	SANITARY SEWER PLAN & PROFILE
C600	SITE DETAILS
C601	UTILITY DETAILS
C602	UTILITY DETAILS
LP1.0	TREE PRESERVATION PLAN
LP2.0	LANDSCAPE PLAN
A0.0	ARCHITECTURAL ELEVATIONS
A0.1	ARCHITECTURAL ELEVATIONS
A1.0	ARCHITECTURAL FIRST FLOOR PLAN
A2.0	ARCHITECTURAL SECOND FLOOR PLAN
A3.0	ARCHITECTURAL RENDERING
A3.1	ARCHITECTURAL RENDERING
A3.2	ARCHITECTURAL RENDERING
A3.3	ARCHITECTURAL RENDERING
A3.4	ARCHITECTURAL RENDERING

PROJECT NOTES:

1. WATER FOR THIS DEVELOPMENT IS TO BE PROVIDED BY COLUMBIA POWER & WATER SYSTEMS.
2. SANITARY SEWER PROVIDER FOR THIS DEVELOPMENT IS TO BE COLUMBIA POWER & WATER SYSTEMS.
3. TOPOGRAPHIC AND BOUNDARY SURVEY PREPARED BY M2 GROUP, LLC DATED MAY, 2022.
4. ELECTRIC SERVICE TO BE PROVIDED BY COLUMBIA POWER & WATER SYSTEMS.
5. GAS SERVICE TO BE PROVIDED BY ATMOS ENERGY.

FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.

CONTACT LIST

OWNER/DEVELOPER

WAITS DEVELOPMENT GROUP, LLC
ADDRESS: PO BOX 111285
NASHVILLE, TENNESSEE 37222
PHONE NO.:615-498-4190
CONTACT NAME: JOHN WAITS

CIVIL ENGINEER

M2 GROUP, LLC
P.O. BOX 848
FRANKLIN, TN 37065
PHONE: (615) 406-3415
CONTACT: MATT W. BRYANT, P.E.
E-MAIL: matt@m2groupllc.com

UTILITY CONTACTS:

WATER SUPPLY:
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TN 38401
(931) 388-4833

SANITARY SEWER
COLUMBIA WASTEWATER DEPARTMENT
1244 Treatment Plant Road
COLUMBIA, TN 38401
(931) 560-1001

ELECTRIC SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TN 38401
(931) 388-4833

GAS SERVICE
ATMOS ENERGY CORPORATION
810 NASHVILLE HWY
COLUMBIA, TN 38401
(931) 388-9136

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DESCRIPTION | DATE | REVISION #

MATTHEW W. BRYANT — REGISTERED ENGINEER — COMMERCIAL — CERTIFICATE No. — STATE OF TENNESSEE — 05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

COVER SHEET

DRAWN BY : M2G
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C000

MPA - COVER SHEET.DWG / Monday, May 22, 2023 2:10:37 PM

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS. INFORM ENGINEER OF ANY CONFLICTS DETRIMENTAL TO THE DESIGN INTENT.
2. 72 HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES: TENNESSEE 811 AND ALL OTHER AGENCIES THAT MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF TENNESSEE 811.
3. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
4. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES AND PERFORM SAID ACTIVITIES IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL & OSHA REGULATIONS.
6. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, PAY ALL REQUIRED FEES AND ATTEND REQUIRED PRE-CONSTRUCTION MEETINGS WITH CITY AND UTILITY COMPANIES PRIOR TO BEGINNING WORK.
7. ANY WORK PERFORMED IN THE LOCAL RIGHT OF WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT OF WAYS.
8. THE CONTRACTOR IS TO PERFORM ALL INSPECTIONS AS REQUIRED BY THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS. OWNER WILL SUBMIT THE NOTICE OF INTENT (NOI) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ORDER TO OBTAIN A NOTICE OF COVERAGE (NOC) UNDER THE STATE OF TENNESSEE NPDES PERMIT. THE CONTRACTOR WILL BE REQUIRED TO SIGN THE NOI AND SUBMIT UPDATED NOI TO THE STATE OF TENNESSEE UPON SELECTION TO COMPLETE THE CONSTRUCTION AND BE A PERMITTEE LISTED ON THE NOC.
9. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL, PRACTICES REQUIRED BY CITY OF COLUMBIA AND TDEC.
10. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS.
11. ALL WORK SHALL COMPLY WITH THE TENNESSEE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF CITY OF COLUMBIA SUBDIVISION REGULATIONS.
12. ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
13. CONTRACTOR SHALL REFER TO OTHER PLAN SHEETS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
14. BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THEY ARE NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.
15. WHERE CURB IS PRESENT, DIMENSIONS ARE SHOWN TO THE FACE OF CURB, OTHERWISE DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT OR AS NOTED.
16. SITE SIGNAGE AND STRIPING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
17. CONCRETE WALKS SHALL BE 4" THICK OVER 4" COMPACTED GRAVEL WITH CONTROL JOINTS EQUALLY SPACED AT IN ACCORDANCE WITH ACI 330R-01 AND ACI 325R 9-91, ISOLATION JOINTS AT ALL FIXED STRUCTURES (MANHOLES, INLETS, WALLS, BUILDING, ETC.). ALL SIDEWALKS ARE TO BE BROOM FINISHED.
18. CONSTRUCTION OF ALL ROADWAYS AND SIDEWALKS SHALL MEET THE REQUIREMENTS OF CITY OF COLUMBIA ROADWAY CONSTRUCTION CRITERIA AND STANDARD DETAILS.
19. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
20. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH ALL FEDERAL OSHA REGULATIONS. CONTRACTOR TO PAY PARTICULAR ATTENTION TO 29 CFR PART 1926, SUBPARTS M AND P.

DEMOLITION NOTES

1. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD BY THE CONTRACTOR.
2. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
3. TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH CITY OF COLUMBIA STANDARDS AND DETAILED DRAWINGS. DO NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
4. PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
5. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS, OTHER THAN TOPSOIL, SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
6. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
7. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
8. EROSION & SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
9. HAZARDOUS MATERIALS ARE NOT EXPECTED, IF FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
10. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
11. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
13. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.
14. ANY UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO WELLS, ASBESTOS, UNDER GROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO PHASE I ESA, PHASE II ESA, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.

LAYOUT NOTES

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
3. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL UTILITIES; INCLUDING, BUT NOT LIMITED TO, ALL UTILITIES AND CROSSINGS PRIOR TO PAVEMENT INSTALLATION.
4. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN, WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
5. SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT/RECORD DRAWINGS ON-SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
7. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH CITY OF COLUMBIA REQUIREMENTS. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION / DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.
8. CONTRACTOR SHALL PERFORM A PROOF ROLL PER CITY OF COLUMBIA REQUIREMENTS PRIOR TO STONE AND PAVEMENT INSTALLATION.
9. ALL PAVEMENT MARKINGS SHALL BE INSTALLED USING WHITE OR YELLOW, REFLECTIVE TRAFFIC MATERIALS (SEE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
10. THE CITY WILL MEASURE THE CROSS SLOPE OF FINAL CONSTRUCTED ROADWAYS WITHIN THE SUBDIVISION. THE CROSS SLOPE OF THE FINAL CONSTRUCTED ROADWAYS SHALL BE PER THE ROADWAY SECTION SHOWN ON THE CONSTRUCTION PLANS OR IT SHALL BE REPAIRED AT NO COST TO THE CITY OR OWNER.
11. OWNER SHALL PROVIDE STAKING OF THE FRONT PROPERTY LINES OF EACH LOT AND WILL SET FINAL PROPERTY CORNERS. ALL OTHER STAKING/SURVEYING THAT IS REQUIRED TO CONSTRUCT THE IMPROVEMENTS SHOWN IN THESE CONSTRUCTION PLANS IS THE RESPONSIBILITY OF THE CONTRACTOR.
12. THE ENGINEER SHALL PROVIDE FILES IN COMPUTER-AIDED-DRAFTING (CAD) FORMAT TO THE CONTRACTOR. THE CONTRACTOR WILL BE BOUND BY THE TERMS IN THE ENGINEER'S "CAD FILES DISCLAIMER, WAIVER AND LIMITATION OF LIABILITY" AGREEMENT.

GRADING NOTES

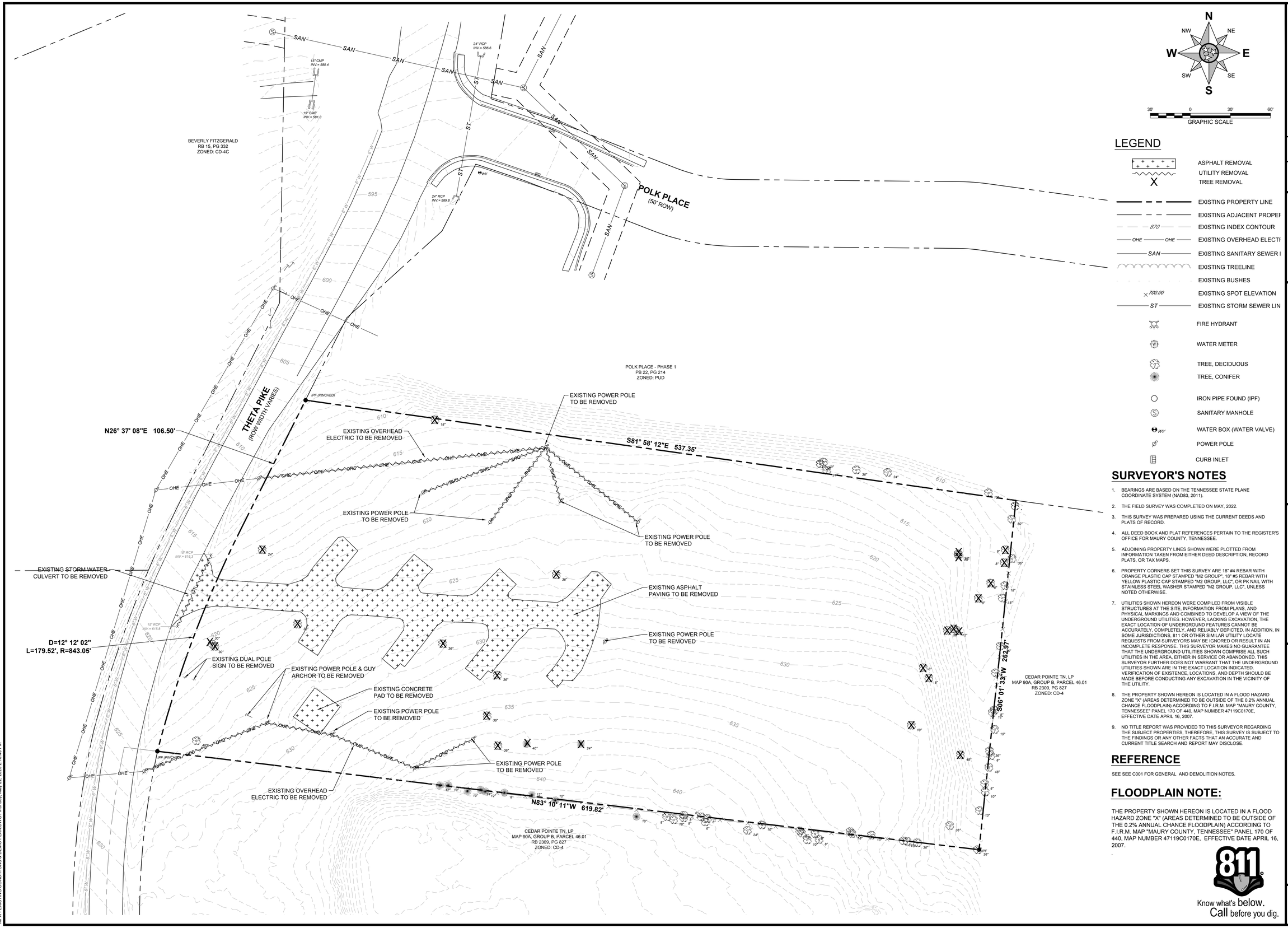
1. THE CONTRACTOR SHALL CHECK ALL EXISTING AND FINISHED GRADES, DIMENSIONS, ETC. PRIOR TO BEGINNING NOTIFY THE OWNERS REPRESENTATIVE OF ANY DISCREPANCIES AND/OR ERRORS IN THE PLANS PRIOR TO COMMENCING WORK.
2. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.
4. CONTRACTOR SHALL ADHERE TO THE EROSION & SEDIMENT CONTROL PLAN PREPARED FOR THIS PROJECT.
5. EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
6. CONTRACTOR TO REFILL UNDERCUT AREAS (IF REQUIRED) WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
7. EXCAVATED SUBGRADES AND EACH LAYER OF FILL SHALL BE OF A QUALITY ACCEPTABLE TO THE OWNERS REPRESENTATIVE AND SHALL NOT INCLUDE ORGANIC MATERIAL, BOULDERS, DEBRIS, WET MATERIAL, ETC. CUT OR STRIPPED AREAS SHALL BE PROOF ROLLED PRIOR TO ANY FILLING. ALL GRADING ACTIVITY AND PLACEMENT OF MATERIAL SHALL BE MONITORED BY A QUALIFIED GEOTECHNICAL ENGINEER (OR THEIR REPRESENTATIVE), OR AS DIRECTED BY THE OWNERS REPRESENTATIVE. MATERIAL SHALL MEET OR EXCEED COMPACTION REQUIREMENTS SPECIFIED IN THE SPECIFICATIONS PUBLISHED BY CITY OF COLUMBIA.
8. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A MINIMUM DEPTH OF 6". TOPSOIL SHALL BE FREE OF ROCK AND DEBRIS.
9. ALL SLOPES IN NON-PAVED AREAS SHALL BE 3:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
10. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL PLAN, UNLESS NOTED OTHERWISE.
11. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
12. ALL EXCESS SOIL MATERIALS, OTHER THAN TOPSOIL, SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE (INCLUDING ALL CHARTER COMMERCIAL, LLC PROPERTY OR FUTURE PHASES OF HIGH PARK HILL SUBDIVISION) AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE SITE EARTHWORK BY IMPORTING OR EXPORTING AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.
14. THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING CONSTRUCTION. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO ADJACENT PROPERTIES OCCURRING DURING CONSTRUCTION OF THIS PROJECT. NO WORK SHALL BE PERFORMED OUTSIDE THE PROJECT BOUNDARY WITHOUT PROPER AGREEMENTS WITH THE AFFECTED PROPERTY OWNERS.
15. THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON ARE BASED ON UTILITY COMPANY RECORDS, AND WHERE POSSIBLE, FIELD MEASUREMENTS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 3 DAYS BUT NOT MORE THAN 10 DAYS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES TO REMAIN. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED UTILITIES ACCORDING TO LOCAL CODES AT THE CONTRACTORS EXPENSE.
16. THE GENERAL CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING CONSTRUCTION. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.
17. MATERIALS NOT SUITABLE FOR FILL OR REUSE SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF COLUMBIA AND AS DIRECTED BY THE OWNER OR THEIR REPRESENTATIVE.
18. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT T.O.S.H.A. PROVISIONS AND THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION, ISSUED BY THE AGC OF AMERICA, INCORPORATED, AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.
19. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE THROUGH THE SITE DURING ALL PHASES OF CONSTRUCTION.
20. CONTRACTOR SHALL REMOVE FROM THE LIMITS OF DISTURBANCE ALL UNSUITABLE MATERIAL, DEBRIS, LARGER BOULDERS, DELETERIOUS MATERIAL, ETC. STOCKPILING OF ANY MATERIAL IN FUTURE PHASES OF THIS SUBDIVISION IS PROHIBITED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE DEVELOPER AND THE ENGINEER OF RECORD. CONSENT TO PLACE ANY MATERIAL IN FUTURE PHASES OF THIS SUBDIVISION SHALL ONLY BE GRANTED UNDER THE FOLLOWING PROVISIONS:
    - IF THE AREA IS CLEARED, MAINTAINED AND PROPER EROSION CONTROL MEASURES INSTALLED TO PREVENT EROSION OR SEDIMENT DEPOSITION.
    - MATERIAL IS PLACED AND GRADED IN A PERMANENT LOCATION THAT WILL NOT BE REQUIRED TO BE MOVED IN A FUTURE PHASE OF THIS SUBDIVISION DEVELOPMENT AND PERMANENTLY STABILIZED IN ACCORDANCE WITH TDEC AND CITY REGULATIONS.
21. ALL SOILS, REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED, ARE CONSIDERED TO BE UNCLASSIFIED. THE CONTRACTOR RECOGNIZES THAT THIS PROJECT IS LOCATED IN AN AREA WHERE ROCK ENCOUNTER IS LIKELY. THE CONTRACTOR IS RESPONSIBLE TO VISIT THE SITE, MAKE ANY TESTS, BORES, TEST PITS, SURVEYS, ETC. NECESSARY TO FAMILIARIZE HIMSELF WITH ALL SPECIFIC SITE CONDITIONS RELATED TO THIS PROJECT. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ANY ROCK ENCOUNTER, THE EXCAVATION/REMOVAL THEREOF, OR DISPOSAL OF ROCK/SOIL MIX AND/OR UNSUITABLE SOIL

STORM DRAINAGE NOTES

1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES, SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
4. THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, PIPING, ETC. AS REQUIRED TO CONVEY THE LANDSCAPED & PAVED SURFACE DRAINAGE THROUGH THE SITE.
5. STORM SEWER PIPE LABELED "RCP" SHALL BE REINFORCED CONCRETE PIPE. ALL STORM IS TO BE INSTALLED PER CITY OF COLUMBIA REQUIREMENTS AND SPECIFICATIONS.
6. STORM SEWER IS TO BE BEDDED WITH CLEAN GRANULAR MATERIAL (AGGREGATE) CONSISTING OF AASHTO #57 OR #67 STONE. BEDDING TO BE MINIMUM OF 6" BELOW & 12" ABOVE AND ON THE SIDES OF THE PIPE OR AS REQUIRED BY CITY OF COLUMBIA INSPECTOR.
7. ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
8. CONTRACTOR SHALL INCLUDE A LINE ITEM IN THEIR CONTRACT TO THE OWNER FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROL MEASURES AT THE END OF THE BOND PERIOD WITH CITY OF COLUMBIA.

EROSION AND SEDIMENT CONTROL NOTES

1. THE ISSUED NOTICE OF COVERAGE (NOC) OF THE PERMIT TO DISCHARGE CONSTRUCTION ACTIVITY STORMWATER SHALL BE POSTED NEAR THE SITE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL HAVE THE SWPPP AND A SET OF APPROVED EPSC PLANS ON SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO SIGN THE NOTICE OF INTENT (NOI) AND SUBMIT UPDATED NOI TO THE STATE OF TENNESSEE UPON SELECTION TO COMPLETE THE CONSTRUCTION AND BE A PERMITTEE LISTED ON THE NOC.
2. PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES OR INITIATION OF EARTH DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CLEARLY DELINEATE THE PROPOSED LIMITS OF DISTURBANCE IN THE FIELD UTILIZING FLAGGING, STAKES, AND/OR CONSTRUCTION FENCE. NO DISTURBANCE BEYOND THESE LIMITS SHALL BE PERMITTED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE ENGINEER, THE AFFECTED PROPERTY OWNER AND ANY APPLICABLE REGULATORY AGENCIES.
3. THE CONSTRUCTION ACTIVITIES ANTICIPATED FOR THIS PROJECT INCLUDES GRADING, PAVING, AND UTILITY INSTALLATION.
4. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY TDEC PRIOR TO ADDITIONAL DISTURBANCE.
5. CONSTRUCTION SHALL BE SEQUENCED BY THE CONTRACTOR AS TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREAS. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS.
6. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE PERSON(S) RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE JOB SITE TRAILER, OR AT THE SITE CONSTRUCTION SIGN.
7. PRE-CONSTRUCTION VEGETATIVE GROUNDCOVER SHALL NOT BE REMOVED MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATTING. STEEP SLOPES (GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 DAYS OF THE ESTABLISHMENT OF FINAL GRADES.
8. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION AND SEDIMENT CONTROL FOR A PERIOD OF THREE YEARS AFTER COMPLETION OF CONSTRUCTION OR AS REQUIRED BY GOVERNING AUTHORITIES.
9. TEMPORARY SEEDING FOR THIS PROJECT SHALL UTILIZE TDOT, TDEC OR LOCAL STANDARDS UNLESS OTHERWISE INDICATED HEREON.
10. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH MUST BE CRIMPED INTO THE SOIL BY MECHANICAL MEANS. BROADCAST SPREADING OF MULCH IS NOT ACCEPTABLE.
11. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION. ALL STOCKPILES SHALL BE COVERED WITH TEMPORARY SEEDING AND PROTECTED WITH SILT FENCING.
12. FOR PERMANENT STABILIZATION OF ALL SLOPES 3:1 OR STEEPER, INSTALL TEMPORARY EROSION CONTROL BLANKET (TENSAR NORTH AMERICAN GREEN TCP-10 OR APPROVED EQUAL) INSTALLED PER MANUFACTURERS' RECOMMENDATIONS SHALL BE USED IN PLACE OF STRAW MULCH.
13. FOR PERMANENT STABILIZATION OF DRAINAGE SWALES, INSTALL TURF REINFORCEMENT MATTING (TENSAR NORTH AMERICAN GREEN SC250 OR APPROVED EQUAL) PER MANUFACTURERS' RECOMMENDATIONS.
14. FOR PERMANENT STABILIZATION OF PERMANENT DETENTION POND, INSTALL SOD PER MANUFACTURERS' RECOMMENDATIONS. SOD SHALL BE AS FOLLOWS: SOD SHALL BE HIGH-QUALITY TURF TYPE TALL FESCUE OF KNOWN GENETIC ORIGIN. FREE OF NOXIOUS WEEDS, DISEASE, AND INSECT PROBLEMS. SOD SHALL APPEAR HEALTHY AND VIGOROUS, AND CONFORM TO ALL SPECIFICATIONS IN THE TDEC SEDIMENT AND EROSION CONTROL HANDBOOK, LATEST EDITION.
15. THE LOCATION OF SOME OF THE EROSION CONTROL MEASURES MAY NEED TO BE ALTERED DUE TO CHANGING SITE CONDITIONS COMMENSURATE WITH PROGRESS OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION AND SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
16. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.
17. CONTRACTOR SHALL PREPARE, IMPLEMENT, AND MAINTAIN A SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN, AS A SEPARATE DOCUMENT OR AS A COMPONENT OF THE SWPPP, FOR ALL TANKS/CONTAINERS STORING ONSITE FUEL, CHEMICALS, OR OTHER POLLUTANTS CONSISTENT WITH THE REQUIREMENTS OF STATE NPDES RULES. EFFECTIVE MEASURES NECESSARY TO PREVENT SPILLS AND TO CLEAN UP SPILLS OF ANY TOXIC POLLUTANT, AS DOCUMENTED IN THE FACILITY'S SPCC PLAN, SHALL BE FULLY IMPLEMENTED. SOIL CONTAMINATED BY HAZARDOUS SUBSTANCES, PAINTS, FUEL, OR CHEMICAL SPILLS, SHALL BE IMMEDIATELY CLEANED UP, MANAGED, AND DISPOSED OF IN AN APPROVED MANNER. WHERE POTENTIAL SPILLS CAN OCCUR, MATERIALS HANDLING PROCEDURES SHALL BE SPECIFIED AND PROCEDURES FOR IMMEDIATE CLEANUP/REMEDIATION OF SPILLS SHALL BE DESCRIBED IN THE SPCC PLAN OR EMPLOYEE TRAINING PLANS. THE EQUIPMENT NECESSARY TO IMPLEMENT A CLEANUP SHALL BE MADE AVAILABLE TO FACILITY PERSONNEL. THE OPERATOR SHALL IMMEDIATELY NOTIFY THE DESIGNATED STATE AND LOCAL GOVERNMENT AGEN



N
NW NE
W E
SW SE
S

30' 0 30' 60'
GRAPHIC SCALE

LEGEND

- ASPHALT REMOVAL
- UTILITY REMOVAL
- TREE REMOVAL
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPEF
- EXISTING INDEX CONTOUR
- EXISTING OVERHEAD ELECTI
- EXISTING SANITARY SEWER I
- EXISTING TREELINE
- EXISTING BUSHES
- EXISTING SPOT ELEVATION
- EXISTING STORM SEWER LIN
- FIRE HYDRANT
- WATER METER
- TREE, DECIDUOUS
- TREE, CONIFER
- IRON PIPE FOUND (IPF)
- SANITARY MANHOLE
- WATER BOX (WATER VALVE)
- POWER POLE
- CURB INLET

SURVEYOR'S NOTES

1. BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD83, 2011).
2. THE FIELD SURVEY WAS COMPLETED ON MAY, 2022.
3. THIS SURVEY WAS PREPARED USING THE CURRENT DEEDS AND PLATS OF RECORD.
4. ALL DEED BOOK AND PLAT REFERENCES PERTAIN TO THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
5. ADJOINING PROPERTY LINES SHOWN WERE PLOTTED FROM INFORMATION TAKEN FROM EITHER DEED DESCRIPTION, RECORD PLATS, OR TAX MAPS.
6. PROPERTY CORNERS SET THIS SURVEY ARE 18" #4 REBAR WITH ORANGE PLASTIC CAP STAMPED "M2 GROUP", 18" #5 REBAR WITH YELLOW PLASTIC CAP STAMPED "M2 GROUP, LLC", OR PK NAIL WITH STAINLESS STEEL WASHER STAMPED "M2 GROUP, LLC", UNLESS NOTED OTHERWISE.
7. UTILITIES SHOWN HEREON WERE COMPILED FROM VISIBLE STRUCTURES AT THE SITE, INFORMATION FROM PLANS, AND PHYSICAL MARKINGS AND COMBINED TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THIS SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. VERIFICATION OF EXISTENCE, LOCATIONS, AND DEPTH SHOULD BE MADE BEFORE CONDUCTING ANY EXCAVATION IN THE VICINITY OF THE UTILITY.
8. THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.
9. NO TITLE REPORT WAS PROVIDED TO THIS SURVEYOR REGARDING THE SUBJECT PROPERTIES, THEREFORE, THIS SURVEY IS SUBJECT TO THE FINDINGS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH AND REPORT MAY DISCLOSE.

REFERENCE

SEE SEE C001 FOR GENERAL AND DEMOLITION NOTES.

FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN
REGISTERED LAND SURVEYOR
NUMBER 2609
COMMERCIAL
CERTIFICATE NO.
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

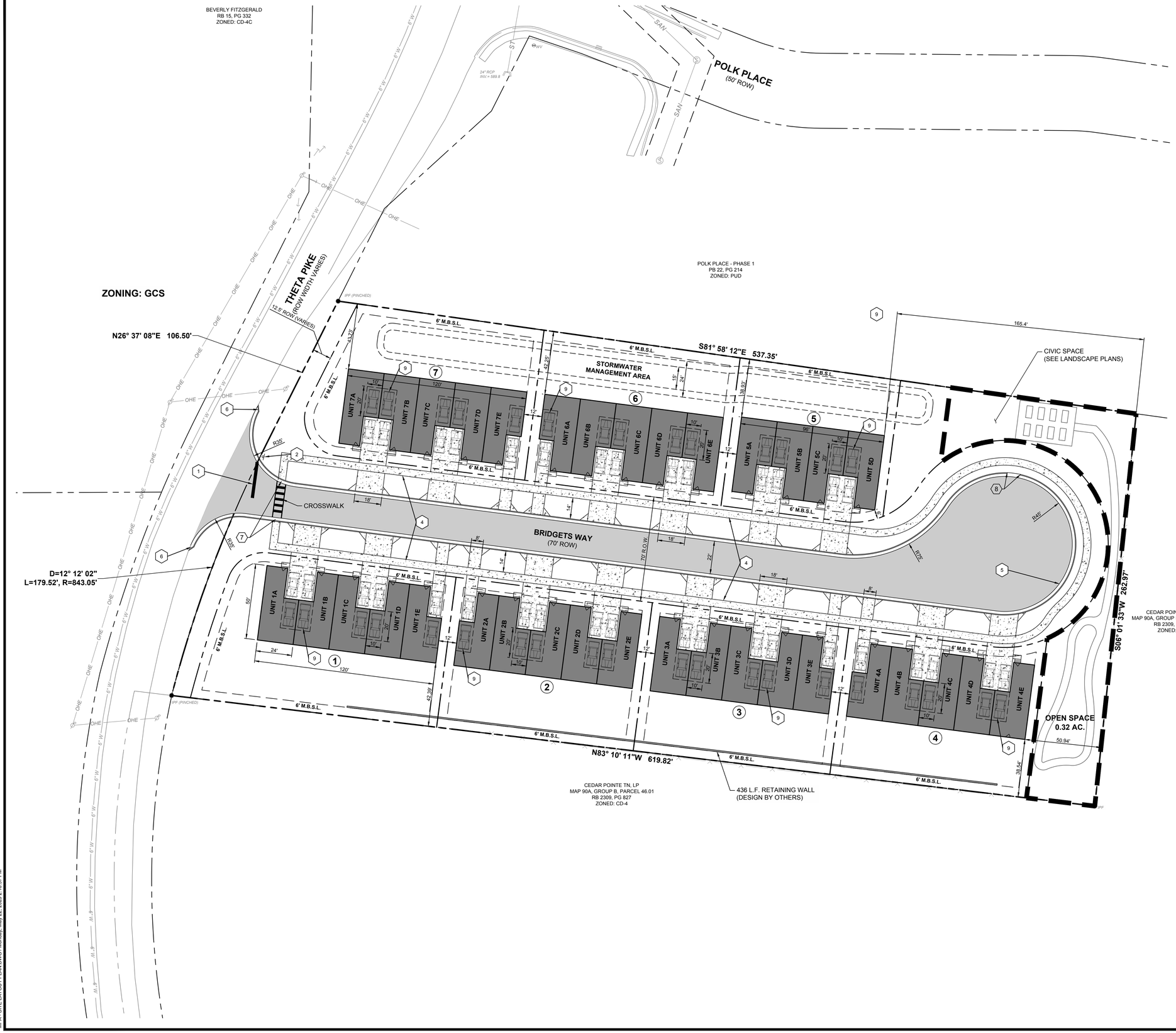
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

EXISTING CONDITIONS & DEMOLITION PLAN

DATE :	PROJECT NO. :	DRAWN BY :	CHECKED BY :
MAY 22, 2023	22-085	M2G	MWB

SHEET NUMBER:
C100

MPA - EXISTING CONDITIONS & DEMO PLAN.DWG / Monday, May 22, 2023 2:10:49 PM



N
NW NE
W E
SW SE
S

30' 0 30' 60'
GRAPHIC SCALE

SITE PLAN KEY NOTES

1. 2' WIDE x 18' LONG THERMOPLASTIC STOP BAR
2. STOP / STREET SIGN (REF. SHEET C600)
3. PROPOSED LIGHT POLE/FIXTURE, SEE SITE PHOTOMETRICS PLAN
4. 5' CONCRETE SIDEWALK (REF SHEET C600)
5. CURB AND GUTTER (TYP.) (REF. SHEET C600)
6. CURB TAPER (REF. SHEET C6.0)
7. ADA RAMP (REF. SHEET C6.0)
8. 2' WIDE CURB CUT
9. UNIT PARKING (2 SPACES PER UNIT)

LOCAL NOTE:

PROJECT IS INTENDED TO BE PLATTED AND RECORDED UNDER THE HORIZONTAL PROPERTY REGIME STANDARDS OF THE STATE OF TENNESSEE. THEREFORE A PRELIMINARY PLAT AND FINAL PLAT ARE NOT REQUIRED.

SITE DATA TABLE		
ZONING	CD-4	
TOTAL LOT AREA	3.59	AC.
TOTAL NUMBER OF UNITS	34	EA.
DENSITY	9.47	UNITS / AC.
PARKING SPACES REQUIRED	68	EA.
PARKING SPACES PROVIDED	68	EA.
FRONT YARD SETBACK	6' - 20'	L.F.
SIDE YARD SETBACK	6	L.F.
REAR YARD SETBACK	6	L.F.

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
COMMERCIAL
RESIDENTIAL
INSTITUTIONAL
STATE OF TENNESSEE
05/22/23

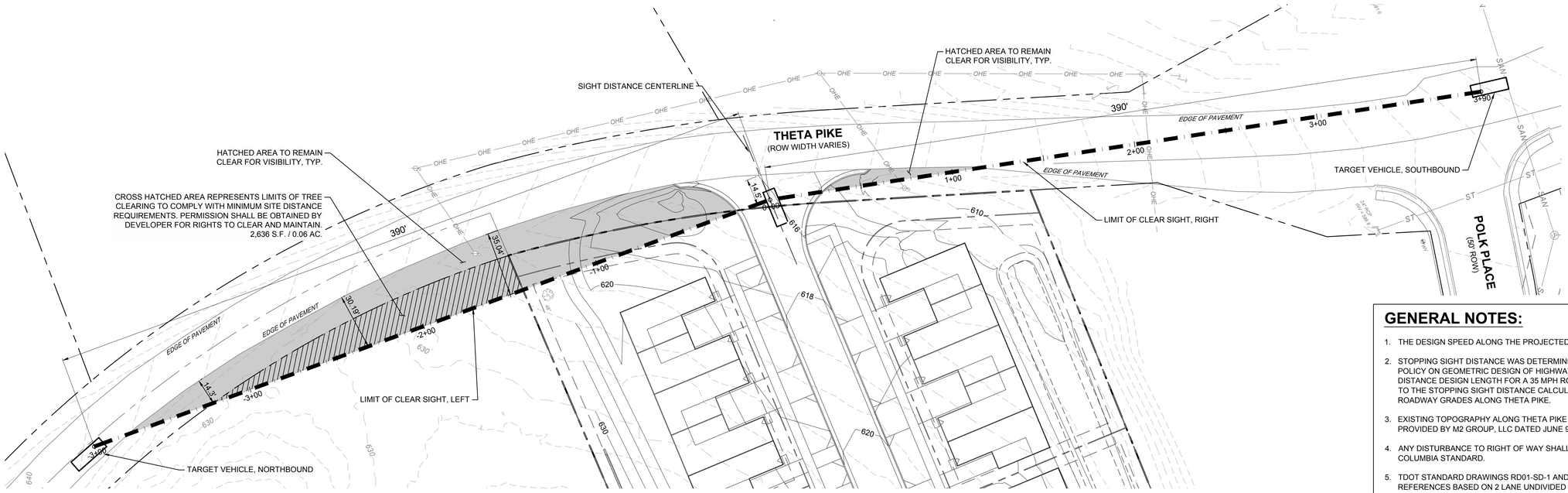
SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2G GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

SITE LAYOUT PLAN

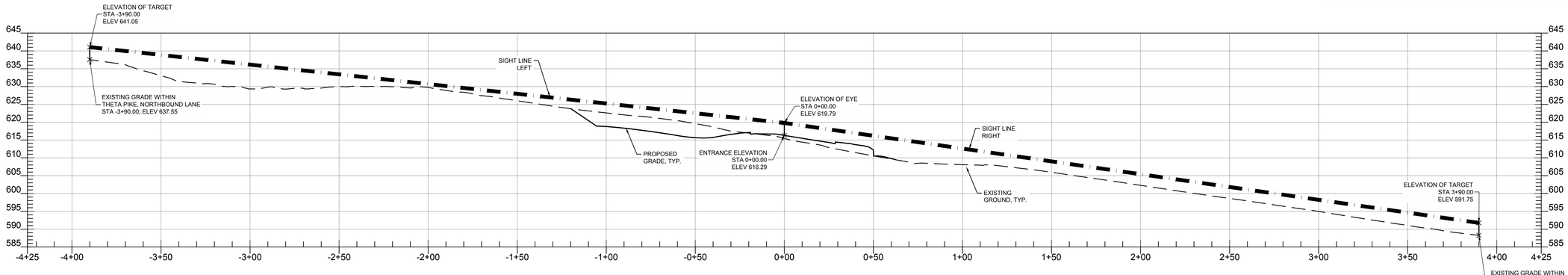
DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C200



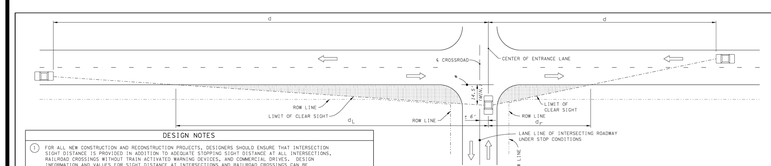
GENERAL NOTES:

1. THE DESIGN SPEED ALONG THE PROJECTED CORRIDOR OF THETA PIKE IS 35 MPH.
2. STOPPING SIGHT DISTANCE WAS DETERMINED UTILIZING THE AASHTO GREEN BOOK - A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS. THE STOPPING SIGHT DISTANCE DESIGN LENGTH FOR A 35 MPH ROADWAY ON FLAT GRADE IS 390 FT. REFER TO THE STOPPING SIGHT DISTANCE CALCULATIONS BELOW WHICH ACCOUNT FOR ROADWAY GRADES ALONG THETA PIKE.
3. EXISTING TOPOGRAPHY ALONG THETA PIKE IS DERIVED FROM TOPOGRAPHIC SURVEY PROVIDED BY M2 GROUP, LLC DATED JUNE 9, 2022.
4. ANY DISTURBANCE TO RIGHT OF WAY SHALL BE RESURFACED AS PER CITY OF COLUMBIA STANDARD.
5. TDOT STANDARD DRAWINGS RD01-SD-1 AND RD01-SD-3 WERE UTILIZED AS DESIGN REFERENCES BASED ON 2 LANE UNDIVIDED ROADWAY - SYMMETRICAL LAYOUT.



SIGHT DISTANCE PROFILE

SCALE H:1"=30'; V:1"=15'



ORIGIN OF CLEAR SIGHT LINE ON MINOR ROAD, STOP CONDITIONS

\# EDGE OF MAJOR ROAD TRAVELED WAY, THE TRAVELED WAY IS THE PORTION OF THE ROADWAY FOR THE MOVEMENT OF VEHICLES, EXCLUSIVE OF SHOULDERS, PARKING SPACES AND MARKED BICYCLE LANES.

DEFINITIONS

d =CLEAR LINE SIGHT DISTANCE

d_R= CLEAR LINE OF SIGHT DISTANCE TO THE RIGHT

d_L= CLEAR LINE OF SIGHT DISTANCE TO THE LEFT

d_M DISTANCE MEASURED FROM THE CENTERLINE OF THE ENTRANCE LANE OF THE MINOR ROADWAY TO A POINT ON THE MEDIAN CLEAR ZONE LIMIT OR HORIZONTAL CLEARANCE LIMIT FOR THE FAR SIDE ROADWAY OF THE MAJOR ROADWAY (SEE SHEET RD01-SD-3)

DESIGN NOTES

1. FOR ALL NEW CONSTRUCTION AND RECONSTRUCTION PROJECTS, DESIGNERS SHOULD ENSURE THAT INTERSECTION SIGHT DISTANCE IS PROVIDED IN ADDITION TO STOPPING SIGHT DISTANCE AT ALL INTERSECTIONS, RAILROAD CROSSINGS WITHOUT TRAIN ACTUATED WARNING DEVICES, AND COMMERCIAL DRIVES. DESIGN INFORMATION AND VALUES FOR SIGHT DISTANCE AT INTERSECTIONS AND RAILROAD CROSSINGS CAN BE FOUND IN THE 2001 "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS " (AASHTO GREEN BOOK), CHAPTER 9, INTERSECTIONS.
2. INTERSECTION SIGHT DISTANCE SHOULD ALSO BE PROVIDED AT ALL PRIVATE DRIVES AND FIELD ENTRANCES WHEN FEASIBLE. IN THE EVENT THAT INTERSECTION SIGHT DISTANCE CANNOT BE ACHIEVED, THE DESIGNER SHALL VERIFY THAT STOPPING SIGHT DISTANCE IS PROVIDED. INTERSECTION SIGHT DISTANCE SHOULD ALWAYS BE PROVIDED FOR A LEFT TURN MOVEMENT FROM THE MAJOR ROAD INTO A PRIVATE DRIVE OR FIELD ENTRANCE.
3. DESIGNERS SHOULD CONSIDER ALL FEATURES THAT COULD LIMIT ADEQUATE SIGHT DISTANCE INCLUDING BUILDINGS, PARKED VEHICLES, HIGHWAY STRUCTURES, ROADSIDE HARDWARE, HEDGES, TREES, BUSHES, UNMOWED GRASS, TALL CROPS, WALLS, FENCES, SLOPES, AND THE TERRAIN ITSELF. THE DETERMINATION OF WHETHER AN OBJECT CONSTITUTES A SIGHT OBSTRUCTION SHOULD CONSIDER THE HORIZONTAL AND VERTICAL ALIGNMENT OF BOTH INTERSECTING ROADWAYS, AS WELL AS THE HEIGHT AND POSITION OF THE OBJECT. IN MAKING THIS DETERMINATION, THE ASSUMED DRIVER'S EYE SHOULD BE 3.5 FT. ABOVE THE SURFACE OF THE INTERSECTING ROAD FOR PASSENGER CARS. FOR LANDSCAPING, THE MATURE SIZE OF THE ITEM SHALL BE USED.
4. IN AREAS OF LIMITED RIGHT-OF-WAY ACQUISITION SUCH AS A CURB AND GUTTER SECTION, ADDITIONAL RIGHT-OF-WAY MAY NEED TO BE ACQUIRED TO ENSURE THAT INTERSECTION SIGHT DISTANCE CAN BE ACHIEVED AND MAINTAINED. IN THE EVENT THAT IT IS NOT FEASIBLE TO OBTAIN MINIMUM INTERSECTION SIGHT DISTANCE, THE DESIGNER SHALL VERIFY THAT STOPPING SIGHT DISTANCE IS PROVIDED. IN THIS EVENT, THE PROJECT DESIGN MANAGER WILL DOCUMENT IN THE PROJECT FILE THE REASON AND STEPS TAKEN TO MITIGATE. INTERSECTION SIGHT DISTANCE IS NOT ONE OF THE THIRTEEN CONTROLLING ELEMENTS OF DESIGN AS DETAILED IN SECTION 3-110.00 OF THE ROADWAY DESIGN GUIDELINES. THEREFORE, DESIGN EXCEPTIONS NEED NOT BE SUBMITTED.
5. DESIGNERS SHALL SHOW SIGHT LINES FOR ALL INTERSECTIONS IN THE DESIGN CADD FILE. SIGHT LINES SHALL ONLY BE SHOWN ON THE PRESENT AND PROPOSED LAYOUT SHEETS WHEN RIGHT-OF-WAY IS REQUIRED FOR THE PURPOSE OF ESTABLISHING OR MAINTAINING INTERSECTION SIGHT DISTANCE. SIGHT LINES SHOULD ALSO BE SHOWN FOR ALL INTERSECTIONS AND DRIVES ON ALL LANDSCAPING PLANS.
6. THE MINIMUM DRIVER EYE SETBACK OF 14.5' FROM THE EDGE OF THE TRAVELED WAY MAY BE ADJUSTED ON ANY INTERSECTION LEG ONLY WHEN JUSTIFIED BY A SITE SPECIFIC FIELD STUDY OF VEHICLE STOPPING POSITION AND DRIVER EYE POSITION.
7. FOR SIGNALIZED INTERSECTIONS SIGHT DISTANCES SHOULD BE DEVELOPED BASED ON AASHTO "CASE D- INTERSECTIONS WITH TRAFFIC SIGNAL CONTROL", AT SIGNALIZED INTERSECTIONS, THE FIRST VEHICLE STOPPED ON ONE APPROACH SHOULD BE VISIBLE TO THE DRIVER OF THE FIRST VEHICLE STOPPED ON EACH OF THE OTHER APPROACHES. THIS ALLOWS A DRIVER TO SEE ANY GAPS IN TRAFFIC THAT EXIST AND ANY GAPS IN ONCOMING TRAFFIC AND COMPLETE LEFT TURNS. APART FROM THESE SIGHT CONDITIONS, THERE ARE GENERALLY NO OTHER APPROACH OR DEPARTURE SIGHT TRIANGLES NEEDED FOR SIGNALIZED INTERSECTIONS. HOWEVER, IF THE TRAFFIC SIGNAL IS TO BE PLACED ON TWO-WAY FLASHING OPERATION (I.E. FLASHING YELLOW ON THE MAJOR ROAD APPROACHES AND FLASHING RED ON THE MINOR-ROAD APPROACHES) UNDER OFF-PEAK OR NIGHTTIME CONDITIONS, THE SIGHT TRIANGLES FOR STOP CONTROL SHOULD BE PROVIDED FOR THE MINOR ROAD. THE SIGHT TRIANGLES SHOULD BE PROVIDED FOR THE MINOR-ROAD APPROACHES. IN ADDITION, IF RIGHT TURNS ON A RED SIGNAL ARE TO BE PERMITTED FROM ANY APPROACH, THEN THE APPROPRIATE DEPARTURE SIGHT TRIANGLE TO THE LEFT FOR CASE B2 SHOULD BE PROVIDED TO ACCOMMODATE RIGHT TURNS FROM THAT APPROACH.
8. WHERE CURVATURE, SUPERELEVATION, ADVERSE SPLIT PROFILES OR OTHER CONDITIONS PRECLUDE THE USE OF STANDARD TREE SIZES AND SPACING, PROOF OF VIEW AND SIGHT DISTANCE RESTRAINTS SHOULD BE DETAILED IN THE PLANS.
9. INTERSECTION SIGHT DISTANCE VALUES ARE PROVIDED FOR PASSENGER VEHICLES, SINGLE UNIT (SU) VEHICLES AND COMBINATION VEHICLES. INTERSECTION SIGHT DISTANCE BASED ON THE PASSENGER VEHICLE IS SUITABLE FOR MOST INTERSECTIONS. WHERE SUBSTANTIAL VOLUMES OF HEAVY VEHICLES ENTER THE MAJOR-ROAD, SUCH AS FROM RAMP TERMINALS WITH STOP CONTROL OR ROADWAYS SERVING TRUCK TERMINALS, THE USE OF TABULATED VALUES FOR I SU1 VEHICLES OR COMBINATION VEHICLES SHOULD BE CONSIDERED.
10. THE INFORMATION SHOWN IS INTENDED SOLELY FOR THE PURPOSE OF CLEAR SIGHT DEVELOPMENT AND MAINTENANCE AT INTERSECTING HIGHWAYS, ROADS AND STREETS, AND IS NOT INTENDED TO BE USED TO ESTABLISH ROADWAY AND ROADSIDE SAFETY EXCEPT AS RELATED TO INTERSECTION SIGHT CORRIDORS.
11. THE INTERSECTION SIGHT DISTANCE TABLES DO NOT SUPERCEDE AASHTO STOPPING SIGHT DISTANCE REQUIREMENTS. THE DESIGNER MUST ENSURE THAT STOPPING SIGHT DISTANCES ARE MET.
12. DETAILS ARE BASED ON THE AASHTO "A POLICY ON GEMETRIC DESIGN OF HIGHWAYS AND STREETS, 2001", CHAPTER 9, INTERSECTION SIGHT DISTANCE, CASES B AND F, AND THE DEPARTMENT PRACTICES FOR CHANNELIZED MEDIAN OPENINGS I LEFT TURNS ON MAJOR ROADWAYS I.

GENERAL NOTES

A. DETAILS APPLY TO BOTH RURAL AND URBAN INTERSECTIONS UNDER STOP SIGN CONTROL OR FLASHING BEACON CONTROL. FOR FULL SIGNAL CONTROLLED INTERSECTIONS SEE DESIGN NOTE NO 7.

B. INTERSECTION SIGHT DISTANCE I d I APPLIES TO NORMAL AND SKEWED INTERSECTIONS INTERSECTING ANGLES OF 60° TO 120°. FOR SKEWED INTERSECTIONS WITH INTERSECTING ANGLES LESS THAN 60° OR GREATER THAN 120°, SIGHT DISTANCE I d I IS MEASURED ALONG THE MAJOR ROADWAY FROM THE CENTER OF THE ENTRANCE LANE OF THE MINOR ROADWAY TO THE CENTER OF THE NEAR APPROACH LANE (RIGHT OR LEFT) OF THE MAJOR ROADWAY. DISTANCES d_L AND d_R ARE MEASURED FROM THE CENTERLINE OF THE ENTRANCE LANE (CROSS ROAD) OF THE MINOR ROADWAY TO A POINT ON THE EDGE OF THE NEAR SIDE OUTER TRAFFIC LANE ON THE MAJOR ROADWAY. DISTANCE d_M IS MEASURED FROM THE CENTERLINE OF THE ENTRANCE LANE OF THE MINOR ROADWAY TO A POINT ON THE MEDIAN CLEAR ZONE LIMIT OR HORIZONTAL CLEARANCE LIMIT FOR THE FAR SIDE ROADWAY OF THE MAJOR ROADWAY.

C. 1. THE LIMITS OF CLEAR SIGHT DEFINE A CORRIDOR THROUGHOUT WHICH A CLEAR LINE OF SIGHT MUST BE PRESERVED. SEE VERTICAL LIMITS OF CLEAR SIGHT DETAIL ON SHEET RD01-SD-2.
2. PLANTINGS, FENCES, WALLS, EMBANKMENTS OR VEHICLES AT INTERSECTION STOP LOCATIONS AND VEHICLES ON THE MAJOR ROADWAY WITHIN DIMENSION "C".
3. SINCE OBSERVATIONS ARE MADE IN BOTH DIRECTIONS ALONG THE LINE OF SIGHT, THE REFERENCE DATUM BETWEEN ROADWAYS IS 3'-6" ABOVE RESPECTIVE PAVEMENTS.

D. BARRIER SYSTEMS WITHIN INTERSECTION SIGHT CORRIDORS, WHERE PENETRATION INTO THE CLEAR LINE OF SIGHT MIGHT OCCUR, SHALL BE LOCATED TO PROVIDE THE LEAST ADVERSE AFFECT PRACTICAL.

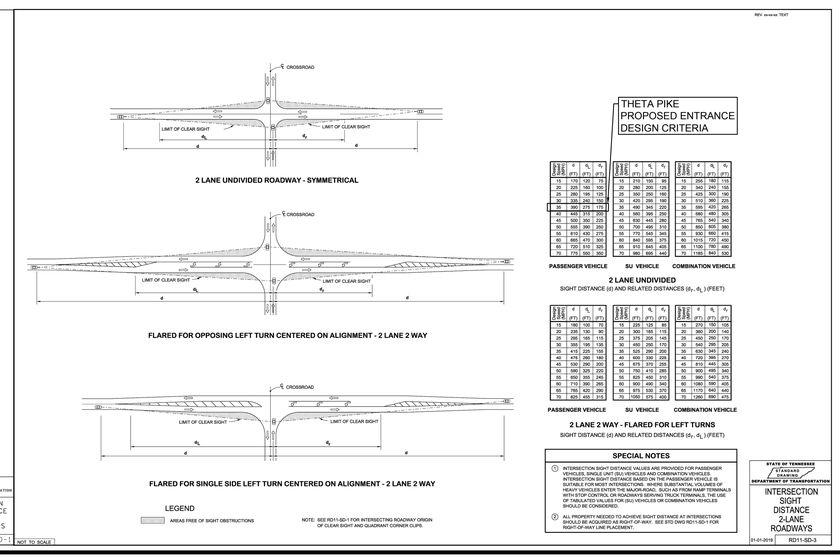
E. ALL PROPERTY NEEDED TO ACHIEVE SIGHT DISTANCE AT INTERSECTIONS SHOULD BE ACQUIRED AS RIGHT-OF-WAY.

F. SIGHT DISTANCE VALUES IN THESE STANDARD DRAWINGS ARE APPROXIMATE FOR GENERALLY FLAT AREAS WHERE THE ROADWAY GRADES ARE IN THE APPROXIMATE RANGE OF 10 TO 6%. FOR LOCATIONS WHERE ROADWAYS ARE CURVED OR WITH GRADES OUTSIDE THE 10 TO 6% RANGE, THE VALUES SHOULD BE ADJUSTED TO ENSURE THAT THEY COMPLY WITH AASHTO "A POLICY FOR GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AS CURRENTLY ADOPTED BY TDOT.

LEGEND

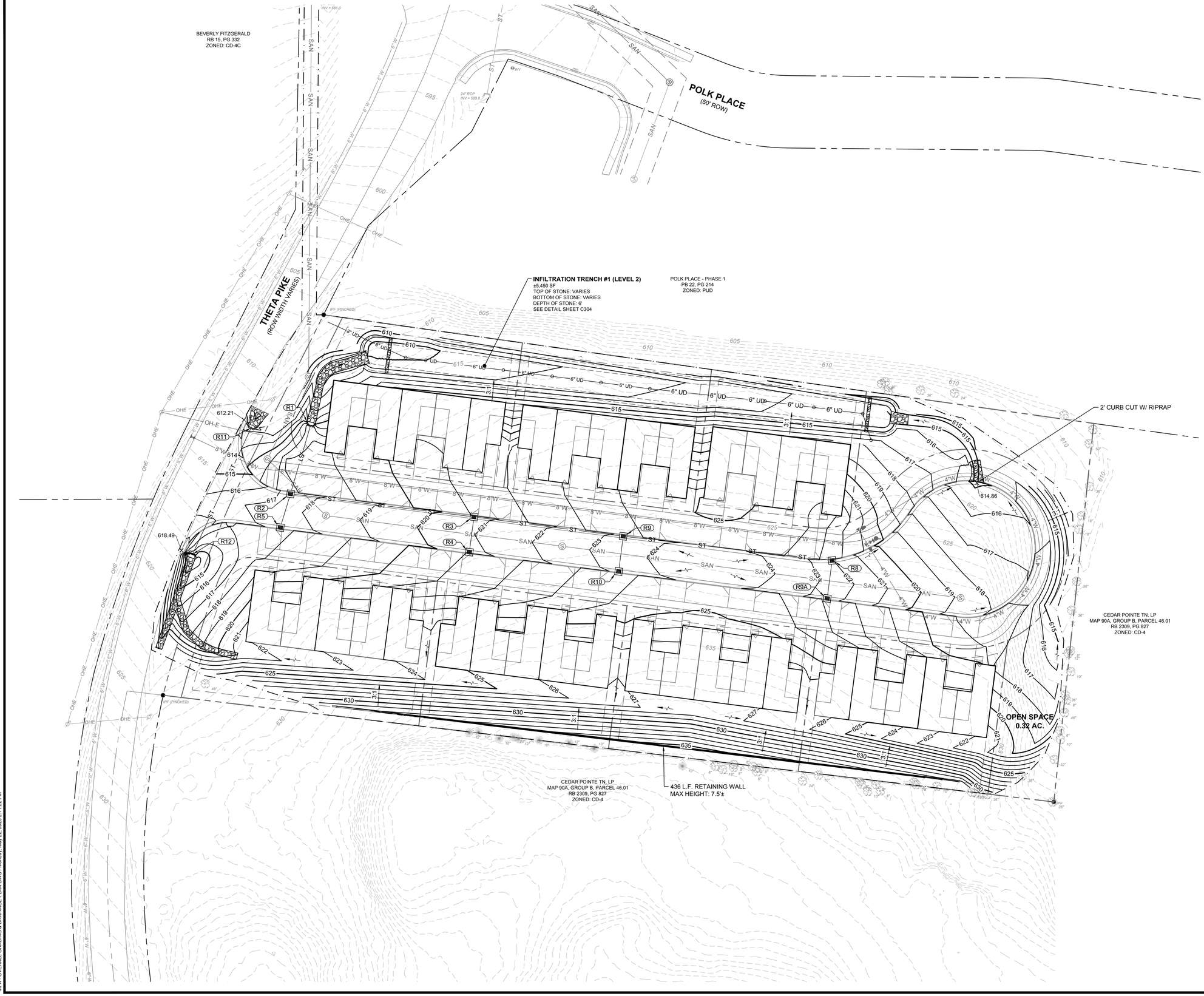
AREAS FREE OF SIGHT OBSTRUCTIONS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES
10-1-08 | RD01-SD-1 | NOT TO SCALE



THETA PIKE
PROPOSED ENTRANCE
DESIGN CRITERIA

2 LANE UNDIVIDED ROADWAY				2 LANE 2 WAY - FLARED FOR LEFT TURNS							



FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.

RETAINING WALL NOTE:

SPOT ELEVATIONS AT BOTTOM OF RETAINING WALLS REPRESENTS GROUND LEVEL ELEVATION, NOT THE TOP OF FOOTER. RETAINING WALLS ARE TO BE DESIGNED BY OTHERS.

STORM SEWER NOTE:

STORM SEWER STRUCTURES ARE SHOWN FOR GRAPHICAL PURPOSES ON THIS SHEET. SEE PIPE AND STRUCTURE TABLES ON SHEET C305 FOR ACTUAL STORM STRUCTURE SIZING AND DETAILS.

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN
LICENSED ENGINEER
COMMERCIAL
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

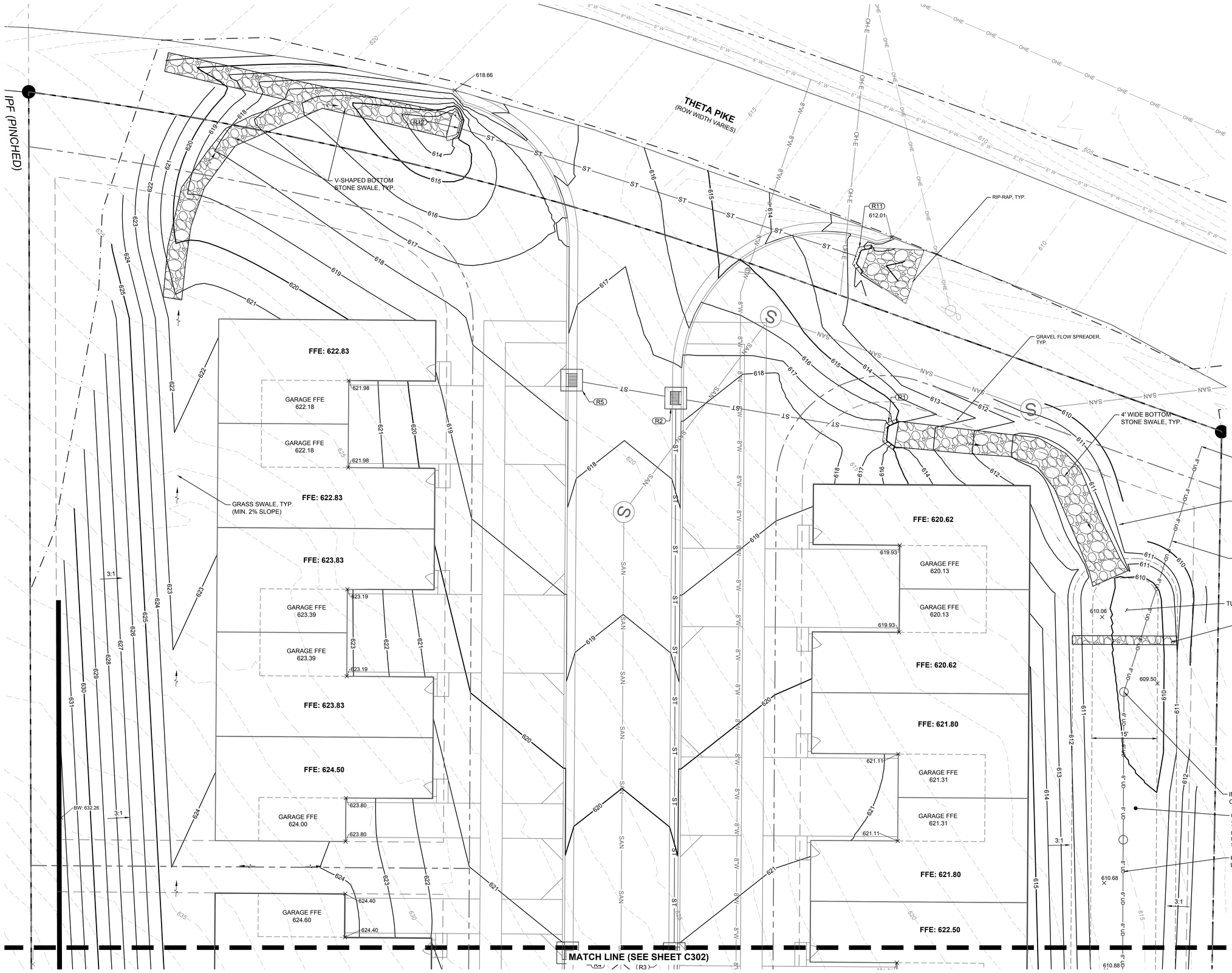
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

OVERALL GRADING & DRAINAGE PLAN

DATE:	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C300

MPA - OVERALL GRADING & DRAINAGE PLAN.DWG / Monday, May 22, 2023 2:11:22 PM



DESCRIPTION	DATE	REVISION #

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
COMMERCIAL
CERTIFICATE NO. 120144
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

ENLARGED GRADING & DRAINAGE PLAN

DATE :	PROJECT NO. :	CHECKED BY :	DRAWN BY :
MAY 22, 2023	22-085	MWB	M2G

SHEET NUMBER:
C301

811 Know what's below. Call before you dig.

MPA - ENLARGED GRADING & DRAINAGE PLAN.DWG | Monday, May 22, 2023 2:11:39 PM

MATCH LINE (SEE SHEET C301)

MATCH LINE (SEE SHEET C303)

FFE: 625.10
FFE: 626.00
GARAGE FFE 625.30
625.10
GARAGE FFE 625.30
625.10
GRASS SWALE, TYP. (MIN. 2% SLOPE)
FFE: 626.00
FFE: 627.00
GARAGE FFE 626.50
626.30
GARAGE FFE 626.50
626.30
FFE: 627.00
FFE: 628.50
GARAGE FFE 628.02
627.82
GARAGE FFE 628.02
627.82
FFE: 628.50
FFE: 628.50
GARAGE FFE 628.02
627.82
GARAGE FFE 628.02
627.82
FFE: 628.50
FFE: 622.50
GARAGE FFE 622.01
GARAGE FFE 622.81
FFE: 623.30
FFE: 624.50
GARAGE FFE 624.03
GARAGE FFE 624.03
FFE: 624.50
FFE: 625.68
GARAGE FFE 625.20
GARAGE FFE 625.20
FFE: 625.68
FFE: 626.00
GARAGE FFE 625.57
GARAGE FFE 625.57
FFE: 626.00
FFE: 625.40

BW: 633.09
BW: 633.93
BW: 634.77
BW: 635.56
HP: 627.72
GRADE BREAK
HP: 624.52
GRADE BREAK
3:1

R3 R4 R9 R10

SAN ST W-8

610.88
611.19
611.59
611.56
612.31
612.50
612.82

OBSERVATION WELL, TYP.

INFILTRATION TRENCH #1 (LEVEL 2)
±5,450 SF
TOP OF STONE: VARIES
BOTTOM OF STONE: VARIES
DEPTH OF STONE: 6'
SEE DETAIL SHEET C304

6" CORRUGATED HDPE UNDERDRAIN AT 0.5% MIN. SLOPE

15'

GRAPHIC SCALE
10' 0 10' 20'

Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
COMMERCIAL
CERTIFICATE NO. 125911
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

ENLARGED GRADING & DRAINAGE PLAN

DATE :	PROJECT NO. :	DRAWN BY :	CHECKED BY :
MAY 22, 2023	22-085	M2G	MWB

SHEET NUMBER:
C302

MPA - ENLARGED GRADING & DRAINAGE PLAN.DWG | Monday, May 22, 2023 2:11:40 PM

MATCH LINE (SEE SHEET C302)

FFE: 628.50

FFE: 627.00

GARAGE FFE
626.52

626.32

626.32

FFE: 626.50

GARAGE FFE
625.85

625.65

625.65

FFE: 625.50

GARAGE FFE
623.81

623.61

GARAGE FFE
622.81

623.61

GRASS SWALE, TYP.
(MIN. 2% SLOPE)

FFE: 625.50

FFE: 623.75

GARAGE FFE
622.33

622.13

GARAGE FFE
622.33

622.13

FFE: 623.75

OPEN SPACE
0.32 AC.

FFE: 625.40

624.70

GARAGE FFE
624.90

624.70

GARAGE FFE
624.90

FFE: 625.40

BW: 634.51

BW: 633.51

BW: 632.51

3:1

3:1

3:1

R9A

R8

IPF

INFILTRATION TRENCH
UNDERDRAIN CLEANOUT

2' CURB CUT W/ RIPRAP

614.86

6" CORRUGATED HDPE
UNDERDRAIN AT 0.5% MIN. SLOPE

15'

INFILTRATION TRENCH
OBSERVATION WELL

PERMEABLE PRETREATMENT BERM
12" TALL
1:1 SIDE SLOPES

TURF OR STONE PRETREATMENT AREA

TRAPEZOIDAL SWALE
2' BOTTOM WIDTH
3:1 SIDE SLOPES

N
NW
NE
W
E
SW
SE
S

10' 0 10' 20'
GRAPHIC SCALE

Know what's below.
Call before you dig.

DESCRIPTION | DATE | REVISION #

MATTHEW W. BRYAN
REGISTERED ENGINEER
AGRICULTURAL & ENVIRONMENTAL
COMMERCIAL
CERTIFICATE NO. 120,XXX
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

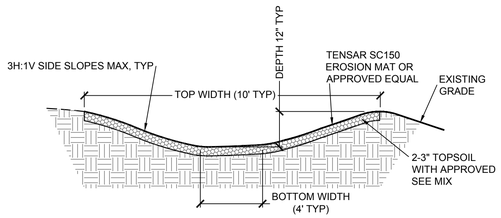
M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

ENLARGED GRADING & DRAINAGE PLAN

DATE :	MAY 22, 2023
PROJECT NO. :	22-085
DRAWN BY :	M2G
CHECKED BY :	MWB

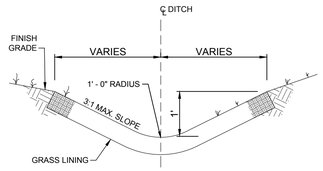
SHEET NUMBER:
C303

MPA - ENLARGED GRADING & DRAINAGE PLAN.DWG / Monday, May 22, 2023 2:11:42 PM



NORTH GRASS SWALE SECTION

N.T.S.

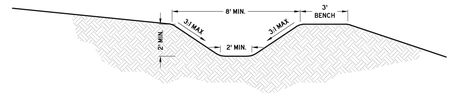


SOUTH GRASS SWALE SECTION

N.T.S.

TYPE	TDOT STANDARD DRAWING OR CASTING MODEL
CURB INLET CATCH BASINS	TDOT CB SERIES NOS. 10, 11, 12, 13, 14, 16, 17
CURB AND GUTTER INLET CASTINGS	JB&S 3080
EXTRUDED CURB INLET CASTINGS	JB&S 3103
AREA DRAIN CATCH BASINS	TDOT CB SERIES NOS. 38, 39, 40, 42, 43
AREA DRAIN CASTINGS	TDOT CBB-42
JUNCTION BOXES	TDOT JBS SERIES NOS. 1, 2, 3, 4, AND 5
MANHOLES	TDOT MH SERIES NOS. 2, 3, 4, 5, 6, 7 AND TDOT RF-1
TRENCH DRAINS	TDOT TD-1
CONCRETE PIPE INSTALLATION	TDOT PB-1
FLEXIBLE PIPE INSTALLATION	TDOT PB-2
OVAL AND ARCH PIPES	TDOT PO-1
SAFETY CROSS DRAIN ENDWALLS	TDOT PE SERIES
SAFETY SIDE DRAIN ENDWALLS	TDOT SEW SERIES AND TDOT MSE-1
PROTECTED ENDWALLS	TDOT PE, PEW SERIES
FLUMES	TDOT FLU-1

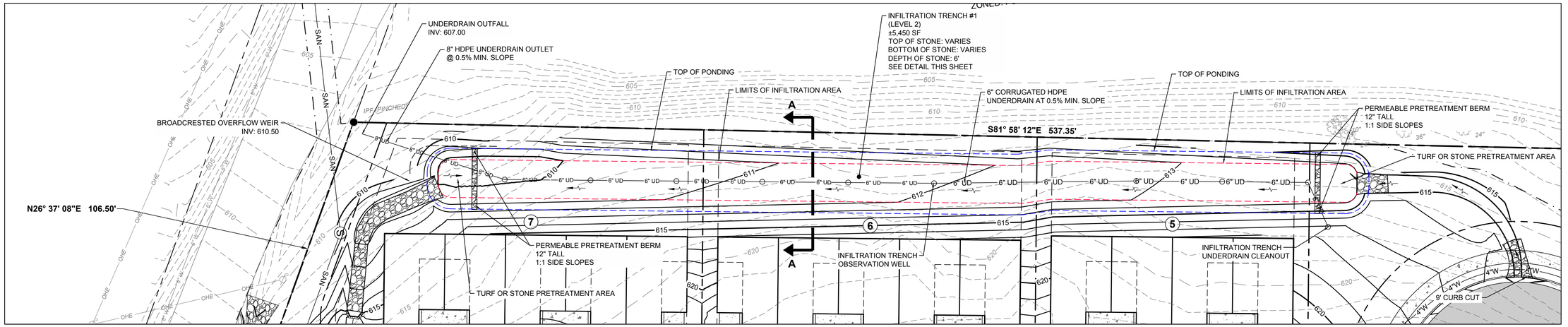
CITY OF COLUMBIA TENNESSEE	CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION STANDARD DETAILS	INLETS, CASTINGS, STRUCTURES, AND PIPES (NTS)	DATE 6/9/2022 DD-01



NOTES:

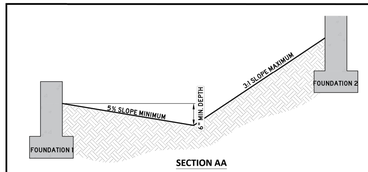
1. DITCHES SHALL BE STABILIZED WITH APPROPRIATELY DESIGNED SOFT ARMORING.
2. RIP-RAP OR OTHER HARD ARMORING TECHNIQUES ARE DISCOURAGED AND SHALL ONLY BE APPROVED WHEN ALL OTHER MEANS OF STABILIZATION ARE EXHAUSTED.
3. FLOW LINE GRADE SHALL NOT BE LESS THAN 1.0%
4. FLOW LINE GRADE SHALL NOT BE MORE THAN 7.5%
5. WHERE PLACED ON A SLOPE, A BENCH OF MINIMUM WIDTH OF 3 FEET SHALL BE PROVIDED.
6. A MINIMUM OF 6 INCHES OF FREEBOARD ABOVE THE DESIGN FLOW DEPTH SHALL BE PROVIDED.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA TENNESSEE	CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION STANDARD DETAILS	TRAPEZOIDAL DITCH (NTS)	DATE 6/9/2022 DD-03

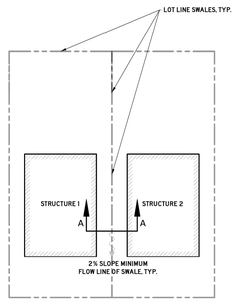


INFILTRATION TRENCH #1

SCALE: 1"=20'



SECTION AA

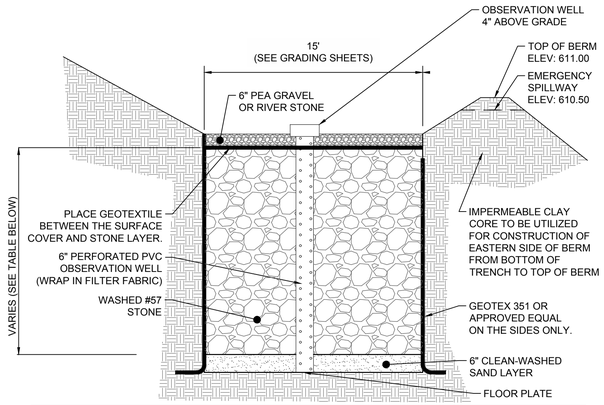


PLAN

NOTES:

1. SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE, ALL AREAS WITHIN A LOT SHALL BE GRADED TO DRAIN TO AN APPROVED STORMWATER CONVEYANCE.
2. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATIONS.
   2.1. LOTS SHALL BE GRADED TO PROVIDE A MINIMUM OF 6 INCHES OF FALL WITHIN THE FIRST 10 FEET OF THE STRUCTURE ALONG THE DIRECTION OF FLOW.
   2.2. LOTS SHALL BE GRADED TO PROVIDE A MINIMUM OF 1V:20H OF FALL PERPENDICULAR TO THE FACE OF THE FOUNDATION WALL WITHIN THE FIRST 5 FEET.
   2.3. IMPERVIOUS SURFACES SHALL BE SLOPED AT A MINIMUM OF 2% AWAY FROM THE STRUCTURE.
3. SWALES SHALL BE LOCATED ALONG LOT LINES TO REDUCE LOT TO LOT DRAINAGE, AND DIRECT STORMWATER RUNOFF TOWARDS APPROVED STORMWATER CONVEYANCES.
4. SWALES SHALL HAVE A MINIMUM SLOPE OF 2%.
5. FOUNDATIONS SHALL BE AT MINIMUM 12 INCHES ABOVE ANY THE RIM ELEVATION OR HIGHEST FLOW LINE OF ANY PUBLIC STORMWATER INFRASTRUCTURE THAT SURFACE DRAINAGE FROM THE LOT IS DIRECTED TO.
6. NON-PUBLIC STORMWATER INFRASTRUCTURE SHALL NOT SUCH AS YARD DRAINS SHALL NOT ALLEVIATE THE REQUIREMENTS OF NOTES 2 AND 3.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA TENNESSEE	CITY OF COLUMBIA DEVELOPMENT SERVICES DEPARTMENT ENGINEERING DIVISION STANDARD DETAILS	RESIDENTIAL LOT GRADING AND DRAINAGE (NTS)	DATE 6/9/2022 DD-04



INFILTRATION TRENCH SUMMARY				
INFILTRATION TRENCH	INFILTRATION AREA (SF)	TOP OF STONE	STONE DEPTH (FT)	BOTTOM OF STONE
IT#1	5,450	609.5 (VARIES)	6	603.5 (VARIES)

INFILTRATION TRENCH
SECTION A - A

N.T.S.

DESCRIPTION | DATE | REVISION #

MATTHEW W. BRIAN
REGISTERED ENGINEER
CERTIFICATE No. 121966
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
220 THETA PIKE
TAX MAP 90B, GROUP B, PARCEL 47.00
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

GRADING DETAILS

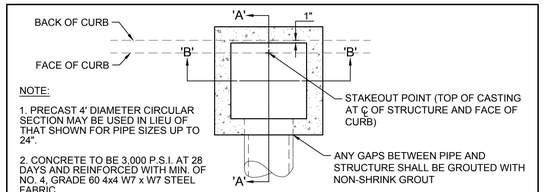
DRAWN BY : M2G
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C304

MPA - SITE DETAILS.DWG / Monday, May 22, 2023 2:11:59 PM

STRUCTURE TABLE		
NAME	INLET TYPE	DETAILS
R1	Headwall	INV IN = 613.965
R2	Single Curb Inlet	RIM = 617.470 INV IN = 614.210 INV IN = 614.208 INV OUT = 614.210
R3	Single Curb Inlet	RIM = 620.621 INV IN = 617.000 INV IN = 617.000 INV OUT = 617.000
R4	Single Curb Inlet	RIM = 620.622 INV OUT = 617.000
R5	Single Curb Inlet	RIM = 617.330 INV OUT = 614.330
R8	Single Curb Inlet	RIM = 622.006 INV IN = 619.235 INV OUT = 619.280
R9	Single Curb Inlet	RIM = 623.221 INV IN = 618.500 INV IN = 618.000 INV OUT = 618.000
R9A	Single Curb Inlet	RIM = 622.413 INV OUT = 619.557
R10	Single Curb Inlet	RIM = 623.220 INV OUT = 620.200
R11	Headwall	INV IN = 610.500
R12	Headwall	INV OUT = 613.050

PIPE TABLE				
NAME	MATERIAL	DIA.	APPROX. LENGTH	SLOPE
R1-R2	RCP	24"	49'	0.50%
R2-R3	RCP	18"	128'	2.18%
R2-R5	RCP	18"	24'	0.50%
R3-R4	RCP	18"	24'	0.00%
R3-R9	RCP	18"	104'	0.96%
R8-R9A	RCP	15"	26'	1.22%
R9-R8	RCP	18"	145'	0.88%
R9-R10	RCP	18"	25'	6.93%
R12-R11	RCP	18"	96'	2.66%



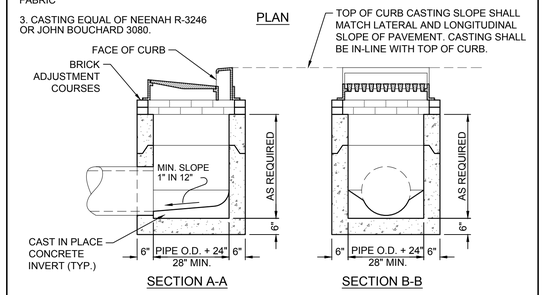
NOTE:

1. PRECAST 4' DIAMETER CIRCULAR SECTION MAY BE USED IN LIEU OF THAT SHOWN FOR PIPE SIZES UP TO 24".

2. CONCRETE TO BE 3,000 P.S.I. AT 28 DAYS AND REINFORCED WITH MIN. OF NO. 4, GRADE 60 4x4 W7 x W7 STEEL FABRIC

3. CASTING EQUAL OF NEENAH R-3246 OR JOHN BOUCHARD 3080.

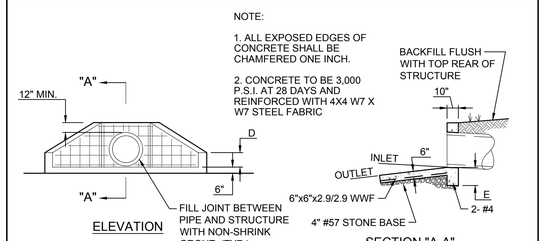
PLAN



SECTION A-A SECTION B-B

SINGLE PRECAST CURB INLET

N.T.S.



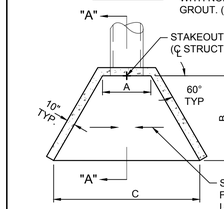
NOTE:

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ONE INCH.

2. CONCRETE TO BE 3,000 P.S.I. AT 28 DAYS AND REINFORCED WITH 4X4 W7 X W7 STEEL FABRIC

ELEVATION

SECTION "A-A"

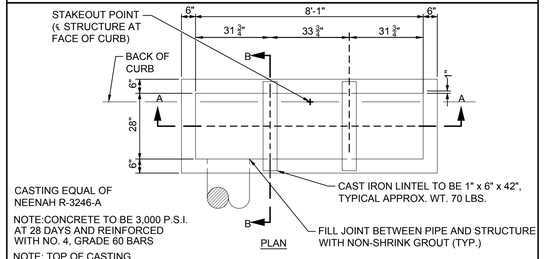


PLAN

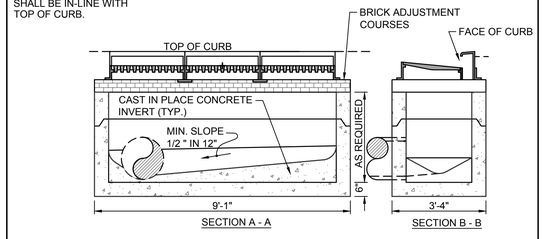
DIMENSIONS TABLE					
PIPE DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

CONCRETE WINGED HEADWALL/ENDWALL

N.T.S.



PLAN



SECTION A - A SECTION B - B

TRIPLE PRECAST CURB INLET

N.T.S.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCIAL
CERTIFICATE NO. 120,142
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

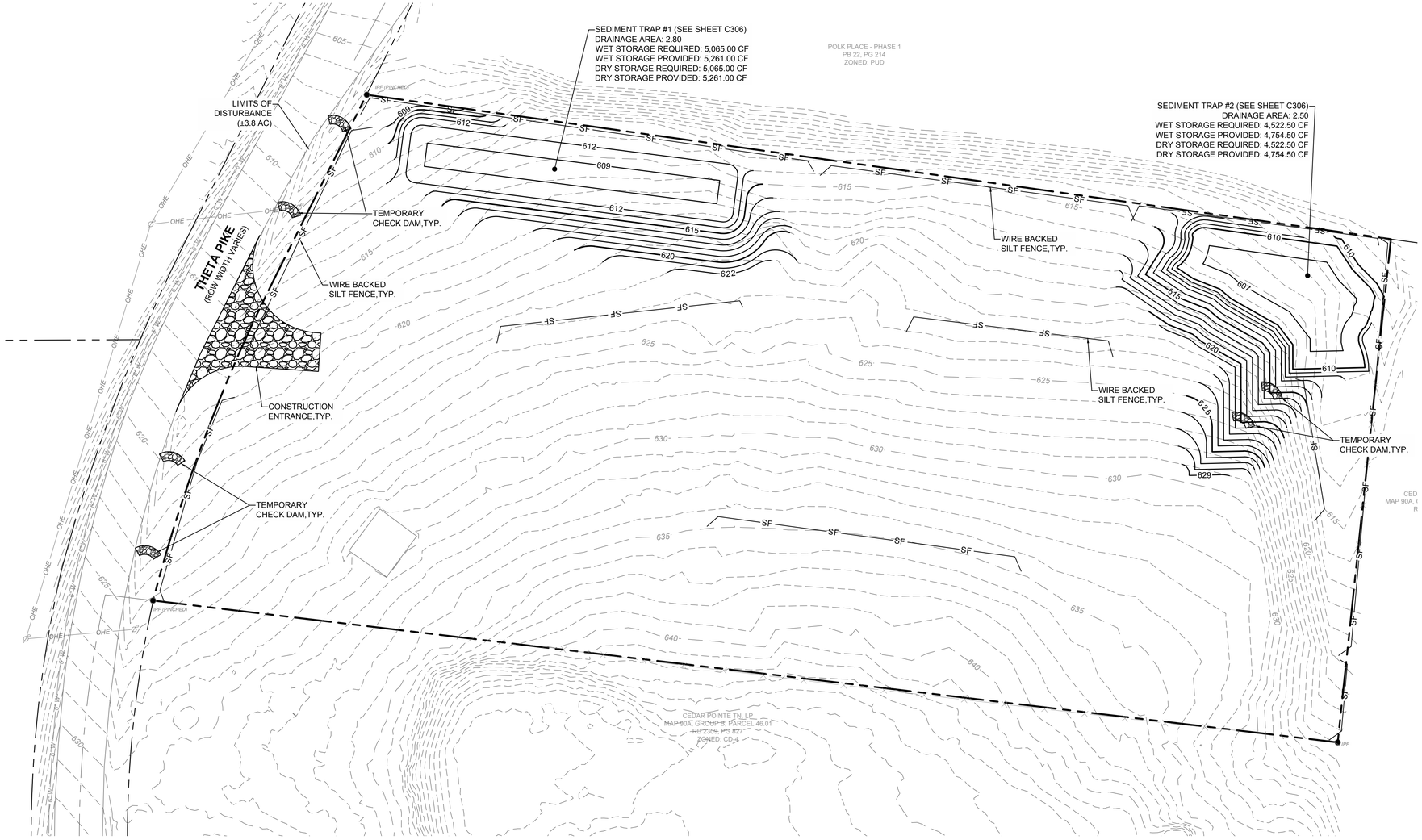
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

STORM SEWER DETAILS

DRAWN BY : M2G
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C305

SEDIMENT TRAP DESIGN		
	ST-1	ST-2
DRAINAGE AREA (AC.)	2.80	2.50
TOTAL VOL. REQUIRED (CF)	10,130.00	9,045.00
WET VOL. REQUIRED (CF)	5,065.00	4,522.50
DRY VOL. REQUIRED (CF)	5,065.00	4,522.50
WET STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TRAP BOTTOM ELEV. (FT)	607.00	607.00
TOP WET STORAGE ELEV. (FT)	608.50	608.50
SPILLWAY CREST ELEV. (FT)**	610.00	610.00
TOP EMBANKMENT ELEV. (FT)	610.00	610.00
SPILLWAY CREST LENGTH (FT)	15.00	15.00
SPILLWAY CREST WIDTH (FT)	5.00	5.00
EMBANKMENT TOP WIDTH (FT)	5.00	5.00
DRY STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TOTAL VOL. PROVIDED (CF)	**10,522.00**	**9,509.00**
* RUNOFF COEFFICIENT ASSUMED TO BE BARE SOIL CONDITION		
** SPILLWAY CREST ELEVATION IS ALSO TOP OF DRY STORAGE ELEVATION		



TDEC - NPDES NOC NOTE:

THE PROJECT ASSOCIATED WITH THESE PLANS IS REQUIRED TO BE COVERED UNDER TENNESSEE GENERAL STORM WATER PERMIT TNR100000 BECAUSE THE LIMITS OF DISTURBANCE IS OVER 1 ACRE. THE LIMITS OF DISTURBANCE IS APPROXIMATELY 3.8 ACs.

EPSC GENERAL NOTES

1. SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE; SEDIMENT SHALL BE REMOVED FROM ALL OTHER EPSC MEASURES AND CONTROL AS RECOMMENDED IN THE TNEPSC HANDBOOK, AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
2. EPSC SHALL BE IMPLEMENTED BEFORE EARTH- MOVING BEGINS.
3. AREAS WHERE CONSTRUCTION HAS TEMPORARILY/PERMANENTLY CEASED SHALL BE STABILIZED NO LATER THAN 14 DAYS (7 DAYS FOR ≥35% SLOPES).
4. INSPECTIONS OF OUTFALLS/EPSC MEASURES SHALL BE CONDUCTED AT LEAST TWICE WEEKLY AND AT LEAST 72 HOURS APART.
5. VEGETATION, EPSCS & OTHER PROTECTIVE MEASURES SHALL BE REPAIRED, REPLACED, OR MODIFIED AFTER BEING NOTIFIED OF AN ISSUE WITHIN 7 DAYS OR BY THE NEXT SIGNIFICANT RAIN CHANCE OF 50% OR GREATER. ISSUES WITH IMMEDIATE THREATS TO WATER QUALITY SHALL BE REPAIRED IMMEDIATELY AS PER FMC 23-106(2)(g).
6. CONSTRUCTION SHALL BE PHASED FOR ACTIVITIES THAT WILL DISTURB >50 ACRES.
7. EPSCS SHALL BE DESIGNED TO CONTROL THE RAINFALL AND RUNOFF FROM A 5-YEAR, 24-HOUR RETURN INTERVAL STORM.
8. TEMPORARY SEDIMENT BASIN(S) SHALL BE PROVIDED FOR ON-SITE OUTFALLS THAT RECEIVE DRAINAGE FROM ≥10 ACRES; ≥5 ACRES FOR SITES THAT DISCHARGE TO IMPAIRED OR EXCEPTIONAL TN WATERS.
9. GREEN INFRASTRUCTURE BMPS SHALL BE PROTECTED DURING SITE WORK, WITH SILT FENCE, TO PREVENT SEDIMENTATION AND COMPACTION.
10. IF DEEMED APPROPRIATE, THE CITY MAY REQUIRE THE ADDITION, REMOVAL OR MODIFICATION OF EPSC MEASURES AND/OR EPSC LOCATIONS AT ANY TIME DURING THE CONSTRUCTION PROCESS TO ENSURE PROPER EPSC PERFORMANCE.

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES OR INITIATION OF EARTH DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CLEARLY DELINEATE THE PROPOSED LIMITS OF DISTURBANCE IN THE FIELD UTILIZING FLAGGING, STAKES, AND/OR CONSTRUCTION FENCE. NO DISTURBANCE BEYOND THESE LIMITS SHALL BE PERMITTED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE ENGINEER, THE AFFECTED PROPERTY OWNER AND ANY APPLICABLE REGULATORY AGENCIES.
2. THE CONSTRUCTION ACTIVITIES ANTICIPATED FOR THIS PROJECT INCLUDES GRADING, PAVING, AND UTILITY INSTALLATION.
3. THE APPROXIMATE TOTAL DISTURBED AREA OF THIS SITE IS 6.60 ACRES. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY THE CITY OF COLUMBIA PRIOR TO ADDITIONAL DISTURBANCE.
4. CONSTRUCTION SHALL BE SEQUENCED BY THE CONTRACTOR AS TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREAS. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS.
5. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE PERSON(S) RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE JOB SITE TRAILER, OR AT THE SITE CONSTRUCTION SIGN.
6. PRE-CONSTRUCTION VEGETATIVE GROUNDCOVER SHALL NOT BE REMOVED MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATTING. STEEP SLOPES (GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 DAYS OF THE ESTABLISHMENT OF FINAL GRADES.
7. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION AND SEDIMENT CONTROL FOR A PERIOD OF THREE YEARS AFTER COMPLETION OF CONSTRUCTION OR AS REQUIRED BY GOVERNING AUTHORITIES.
8. TEMPORARY SEEDING FOR THIS PROJECT SHALL UTILIZE TDOT, TDEC OR LOCAL STANDARDS UNLESS OTHERWISE INDICATED HEREON.
9. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH MUST BE CRIMPED INTO THE SOIL BY MECHANICAL MEANS. BROADCAST SPREADING OF MULCH IS NOT ACCEPTABLE.
10. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION. ALL STOCKPILES SHALL BE COVERED WITH TEMPORARY SEEDING AND PROTECTED WITH SILT FENCING.
11. FOR PERMANENT STABILIZATION OF ALL SLOPES 3:1 OR STEEPER, INSTALL TEMPORARY EROSION CONTROL BLANKET (TENSAR NORTH AMERICAN GREEN S150 OR APPROVED EQUAL) INSTALLED PER MANUFACTURERS' RECOMMENDATIONS SHALL BE USED IN PLACE OF STRAW MULCH.
12. THE LOCATION OF SOME OF THE EROSION CONTROL MEASURES MAY NEED TO BE ALTERED DUE TO CHANGING SITE CONDITIONS COMMENSURATE WITH PROGRESS OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION AND SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
13. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.
14. CONTRACTOR SHALL PREPARE, IMPLEMENT, AND MAINTAIN A SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN, AS A SEPARATE DOCUMENT OR AS A COMPONENT OF THE SWPPP, FOR ALL TANKS/CONTAINERS STORING ONSITE FUEL, CHEMICALS, OR OTHER POLLUTANTS CONSISTENT WITH THE REQUIREMENTS OF STATE NPDES RULES. EFFECTIVE MEASURES NECESSARY TO PREVENT SPILLS AND TO CLEAN UP SPILLS OF ANY TOXIC POLLUTANT, AS DOCUMENTED IN THE FACILITY'S SPCC PLAN, SHALL BE FULLY IMPLEMENTED. SOIL CONTAMINATED BY HAZARDOUS SUBSTANCES, PAINTS, FUEL, OR CHEMICAL SPILLS, SHALL BE IMMEDIATELY CLEANED UP, MANAGED, AND DISPOSED OF IN AN APPROVED MANNER. WHERE POTENTIAL SPILLS CAN OCCUR, MATERIALS HANDLING PROCEDURES SHALL BE SPECIFIED AND PROCEDURES FOR IMMEDIATE CLEANUP/REMEDIATION OF SPILLS SHALL BE DESCRIBED IN THE SPCC PLAN OR EMPLOYEE TRAINING EXACT LOCATION OF THE SPILL, COMPANY NAME AND LOCATION, THE MATERIAL SPILLED, THE ESTIMATED QUANTITY, THE SOURCE OF THE SPILL, THE CAUSE OF THE SPILL, THE NEAREST DOWNSTREAM WATER WITH THE POTENTIAL TO RECEIVE THE SPILL, AND THE ACTIONS BEING TAKEN FOR CONTAINMENT AND CLEANUP.
15. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE SELECTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDEC SEDIMENT AND EROSION CONTROL HANDBOOK, LATEST EDITION.
16. WATER QUALITY BMPs SHALL NOT BE INSTALLED UNTIL BUILD IS NEAR COMPLETION TO PREVENT CONSTRUCTION SEDIMENT FROM ENTERING WATER QUALITY BMPs. WATER QUALITY AREAS SHALL NOT BE USED AS SEDIMENT BASINS DURING CONSTRUCTION. INSTALLER'S OF WATER QUALITY BMPs SHOULD FOLLOW ALL INSTALLATION GUIDELINES SET FORTH IN THE CITY OF COLUMBIA BMP MANUAL LOCATED ON THE CITY'S WEBSITE.
17. WATER QUALITY SIGNS SHALL BE PLACED WITHIN THE WATER QUALITY AREAS. THE SIGNS, MATERIALS, AND LABOR TO INSTALL WILL BE PROVIDED BY THE CITY STAFF.

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES
3. INSTALL SEDIMENT BASIN, IF REQUIRED
4. INSTALL WATER QUALITY BUFFER SIGNS, IF REQUIRED
5. INSTALL TREE PROTECTION FENCING
6. CONTACT CITY OF COLUMBIA FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
7. CLEAR, GRUB, AND GRADE THE SITE
8. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
9. UPON PERMANENT STABILIZATION OF THE SITE, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES (SEE FINAL EPSC PLAN FOR POST CONSTRUCTION CLOSEOUT PROCESS.

EPSC DATA CHART:

BMP DESIGN RAIN EVENT: 5 YEAR, 24 HR STORM

811 Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRIAN — LICENSED LANDSCAPE ARCHITECT — AGRICULTURE — COMMERCIAL — RESIDENTIAL — CERTIFICATE NO. — STATE OF TENNESSEE — 05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

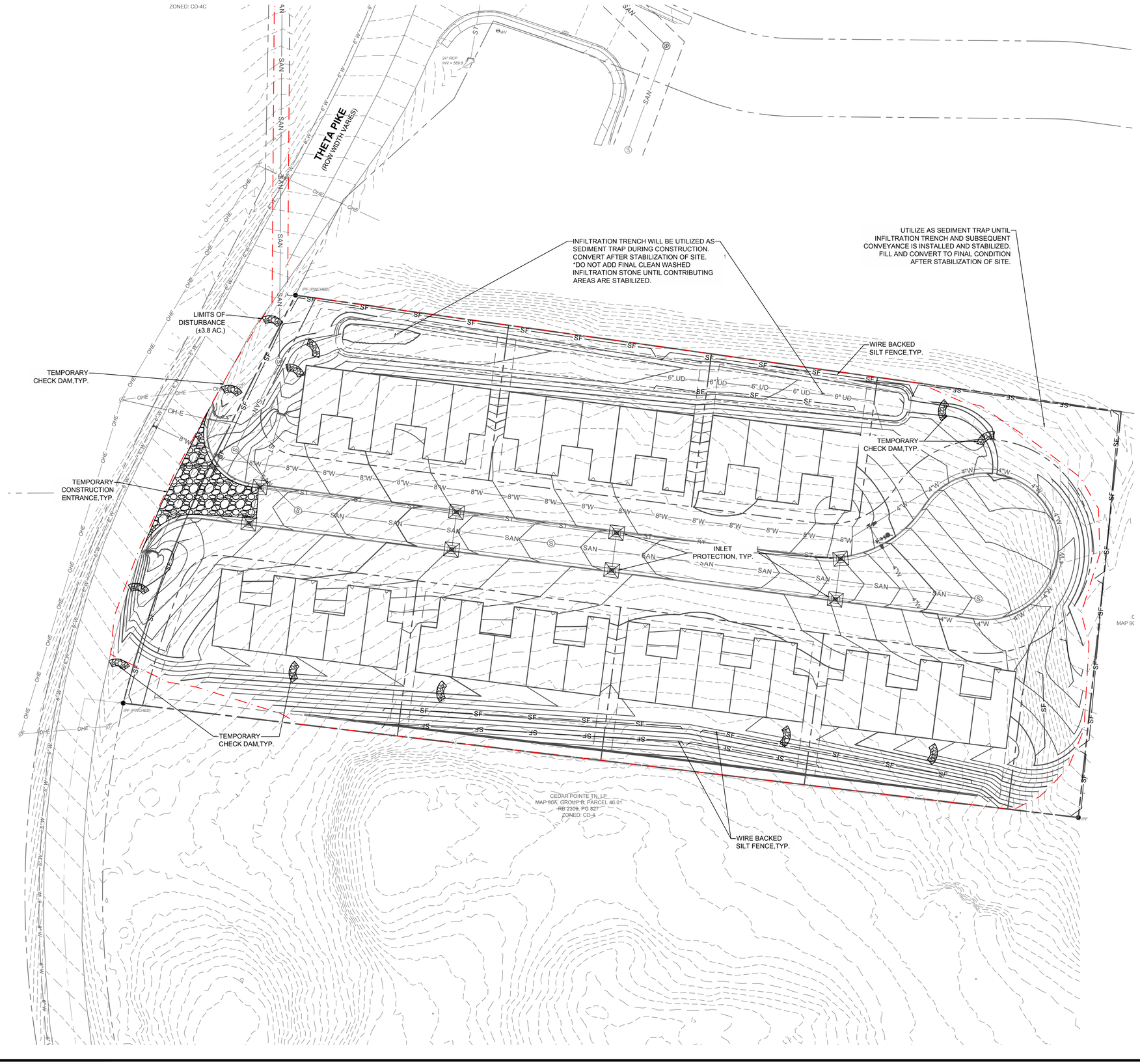
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

INITIAL EPSC PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C401

MPA - INITIAL EPSC PLAN.DWG | Monday, May 22, 2023 2:12:10 PM



TDEC - NPDES NOC NOTE:

THE PROJECT ASSOCIATED WITH THESE PLANS IS REQUIRED TO BE COVERED UNDER TENNESSEE GENERAL STORM WATER PERMIT TNR100000 BECAUSE THE LIMITS OF DISTURBANCE IS OVER 1 ACRE. THE LIMITS OF DISTURBANCE IS APPROXIMATELY 3.8 ACs.

EPSC GENERAL NOTES

1. SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE; SEDIMENT SHALL BE REMOVED FROM ALL OTHER EPSC MEASURES AND CONTROL AS RECOMMENDED IN THE TNEPSC HANDBOOK, AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
2. EPSC SHALL BE IMPLEMENTED BEFORE EARTH- MOVING BEGINS.
3. AREAS WHERE CONSTRUCTION HAS TEMPORARILY/PERMANENTLY CEASED SHALL BE STABILIZED NO LATER THAN 14 DAYS (7 DAYS FOR ≥35% SLOPES).
4. INSPECTIONS OF OUTFALLS/EPSC MEASURES SHALL BE CONDUCTED AT LEAST TWICE WEEKLY AND AT LEAST 72 HOURS APART.
5. VEGETATION, EPSCS & OTHER PROTECTIVE MEASURES SHALL BE REPAIRED, REPLACED, OR MODIFIED AFTER BEING NOTIFIED OF AN ISSUE WITHIN 7 DAYS OR BY THE NEXT SIGNIFICANT RAIN CHANCE OF 50% OR GREATER. ISSUES WITH IMMEDIATE THREATS TO WATER QUALITY SHALL BE REPAIRED IMMEDIATELY AS PER FMC 23-106(2)(g).
6. CONSTRUCTION SHALL BE PHASED FOR ACTIVITIES THAT WILL DISTURB >50 ACRES.
7. EPSCS SHALL BE DESIGNED TO CONTROL THE RAINFALL AND RUNOFF FROM A 5-YEAR, 24-HOUR RETURN INTERVAL STORM.
8. TEMPORARY SEDIMENT BASIN(S) SHALL BE PROVIDED FOR ON-SITE OUTFALLS THAT RECEIVE DRAINAGE FROM ≥10 ACRES; ≥5 ACRES FOR SITES THAT DISCHARGE TO IMPAIRED OR EXCEPTIONAL TN WATERS.
9. GREEN INFRASTRUCTURE BMPS SHALL BE PROTECTED DURING SITE WORK, WITH SILT FENCE, TO PREVENT SEDIMENTATION AND COMPACTION.
10. IF DEEMED APPROPRIATE, THE CITY MAY REQUIRE THE ADDITION, REMOVAL OR MODIFICATION OF EPSC MEASURES AND/OR EPSC LOCATIONS AT ANY TIME DURING THE CONSTRUCTION PROCESS TO ENSURE PROPER EPSC PERFORMANCE.

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES OR INITIATION OF EARTH DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CLEARLY DELINEATE THE PROPOSED LIMITS OF DISTURBANCE IN THE FIELD UTILIZING FLAGGING, STAKES, AND/OR CONSTRUCTION FENCE. NO DISTURBANCE BEYOND THESE LIMITS SHALL BE PERMITTED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE ENGINEER, THE AFFECTED PROPERTY OWNER AND ANY APPLICABLE REGULATORY AGENCIES.
2. THE CONSTRUCTION ACTIVITIES ANTICIPATED FOR THIS PROJECT INCLUDES GRADING, PAVING, AND UTILITY INSTALLATION.
3. THE APPROXIMATE TOTAL DISTURBED AREA OF THIS SITE IS 6.60 ACRES. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY THE CITY OF COLUMBIA PRIOR TO ADDITIONAL DISTURBANCE.
4. CONSTRUCTION SHALL BE SEQUENCED BY THE CONTRACTOR AS TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREAS. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS.
5. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE PERSON(S) RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE JOB SITE TRAILER, OR AT THE SITE CONSTRUCTION SIGN.
6. PRE-CONSTRUCTION VEGETATIVE GROUNDCOVER SHALL NOT BE REMOVED MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATTING. STEEP SLOPES (GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 DAYS OF THE ESTABLISHMENT OF FINAL GRADES.
7. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION AND SEDIMENT CONTROL FOR A PERIOD OF THREE YEARS AFTER COMPLETION OF CONSTRUCTION OR AS REQUIRED BY GOVERNING AUTHORITIES.
8. TEMPORARY SEEDING FOR THIS PROJECT SHALL UTILIZE TDOT, TDEC OR LOCAL STANDARDS UNLESS OTHERWISE INDICATED HEREON.
9. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH MUST BE CRIMPED INTO THE SOIL BY MECHANICAL MEANS. BROADCAST SPREADING OF MULCH IS NOT ACCEPTABLE.
10. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION. ALL STOCKPILES SHALL BE COVERED WITH TEMPORARY SEEDING AND PROTECTED WITH SILT FENCING.
11. FOR PERMANENT STABILIZATION OF ALL SLOPES 3:1 OR STEEPER, INSTALL TEMPORARY EROSION CONTROL BLANKET (TENSAR NORTH AMERICAN GREEN S150 OR APPROVED EQUAL) INSTALLED PER MANUFACTURERS' RECOMMENDATIONS SHALL BE USED IN PLACE OF STRAW MULCH.
12. THE LOCATION OF SOME OF THE EROSION CONTROL MEASURES MAY NEED TO BE ALTERED DUE TO CHANGING SITE CONDITIONS COMMENSURATE WITH PROGRESS OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION AND SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
13. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.
14. CONTRACTOR SHALL PREPARE, IMPLEMENT, AND MAINTAIN A SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN, AS A SEPARATE DOCUMENT OR AS A COMPONENT OF THE SWPPP, FOR ALL TANKS/CONTAINERS STORING ONSITE FUEL, CHEMICALS, OR OTHER POLLUTANTS CONSISTENT WITH THE REQUIREMENTS OF STATE NPDES RULES. EFFECTIVE MEASURES NECESSARY TO PREVENT SPILLS AND TO CLEAN UP SPILLS OF ANY TOXIC POLLUTANT, AS DOCUMENTED IN THE FACILITY'S SPCC PLAN, SHALL BE FULLY IMPLEMENTED. SOIL CONTAMINATED BY HAZARDOUS SUBSTANCES, PAINTS, FUEL, OR CHEMICAL SPILLS, SHALL BE IMMEDIATELY CLEANED UP, MANAGED, AND DISPOSED OF IN AN APPROVED MANNER. WHERE POTENTIAL SPILLS CAN OCCUR, MATERIALS HANDLING PROCEDURES SHALL BE SPECIFIED AND PROCEDURES FOR IMMEDIATE CLEANUP/REMEDIATION OF SPILLS SHALL BE DESCRIBED IN THE SPCC PLAN OR EMPLOYEE TRAINING EXACT LOCATION OF THE SPILL, COMPANY NAME AND LOCATION, THE MATERIAL SPILLED, THE ESTIMATED QUANTITY, THE SOURCE OF THE SPILL, THE CAUSE OF THE SPILL, THE NEAREST DOWNSTREAM WATER WITH THE POTENTIAL TO RECEIVE THE SPILL, AND THE ACTIONS BEING TAKEN FOR CONTAINMENT AND CLEANUP.
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16. WATER QUALITY BMPs SHALL NOT BE INSTALLED UNTIL BUILD IS NEAR COMPLETION TO PREVENT CONSTRUCTION SEDIMENT FROM ENTERING WATER QUALITY BMPs. WATER QUALITY AREAS SHALL NOT BE USED AS SEDIMENT BASINS DURING CONSTRUCTION. INSTALLERS OF WATER QUALITY BMPs SHOULD FOLLOW ALL INSTALLATION GUIDELINES SET FORTH IN THE CITY OF COLUMBIA BMP MANUAL LOCATED ON THE CITY'S WEBSITE.
17. WATER QUALITY SIGNS SHALL BE PLACED WITHIN THE WATER QUALITY AREAS. THE SIGNS, MATERIALS, AND LABOR TO INSTALL WILL BE PROVIDED BY THE CITY STAFF.

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES
3. INSTALL SEDIMENT TRAPS, IF REQUIRED
4. INSTALL TREE PROTECTION FENCING
5. CONTACT CITY OF COLUMBIA FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
6. CLEAR, GRUB, AND GRADE THE SITE
7. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
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EPSC DATA CHART:

BMP DESIGN RAIN EVENT: 5 YEAR, 24 HR STORM

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRIAN
REGISTERED ENGINEER
AGRICULTURAL
COMMERCIAL
CORPORATE SEAL
STATE OF TENNESSEE
05/22/23

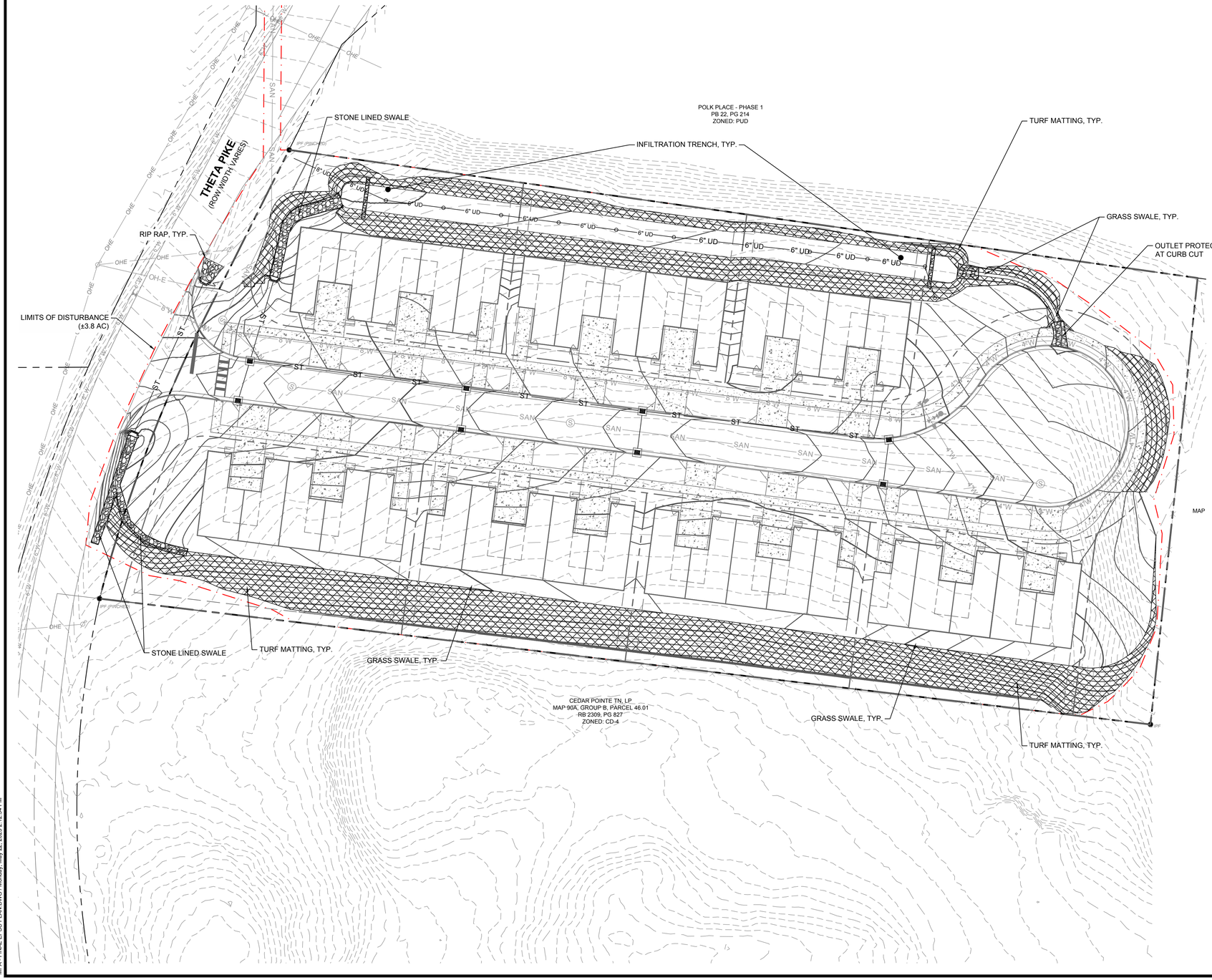
SITE PLANS FOR:
MACKENZIE PLACE
220 THETA PIKE
TAX MAP 90B, GROUP B, PARCEL 47.00
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

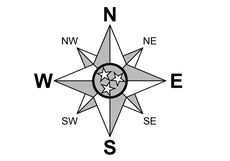
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

INTERMEDIATE EPSC PLAN

DRAWN BY :	M2G
CHECKED BY :	MWB
DATE :	MAY 22, 2023
PROJECT NO. :	22-085

SHEET NUMBER:
C402





30' 0 30' 60'

GRAPHIC SCALE

TDEC - NPDES NOC NOTE:

THE PROJECT ASSOCIATED WITH THESE PLANS IS REQUIRED TO BE COVERED UNDER TENNESSEE GENERAL STORM WATER PERMIT TNR100000 BECAUSE THE LIMITS OF DISTURBANCE IS OVER 1 ACRE. THE LIMITS OF DISTURBANCE IS APPROXIMATELY 3.8 ACs.

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2. EPSC SHALL BE IMPLEMENTED BEFORE EARTH- MOVING BEGINS.
3. AREAS WHERE CONSTRUCTION HAS TEMPORARILY/PERMANENTLY CEASED SHALL BE STABILIZED NO LATER THAN 14 DAYS (7 DAYS FOR ≥35% SLOPES).
4. INSPECTIONS OF OUTFALLS/EPSC MEASURES SHALL BE CONDUCTED AT LEAST TWICE WEEKLY AND AT LEAST 72 HOURS APART.
5. VEGETATION, EPSCS & OTHER PROTECTIVE MEASURES SHALL BE REPAIRED, REPLACED, OR MODIFIED AFTER BEING NOTIFIED OF AN ISSUE WITHIN 7 DAYS OR BY THE NEXT SIGNIFICANT RAIN CHANCE OF 50% OR GREATER. ISSUES WITH IMMEDIATE THREATS TO WATER QUALITY SHALL BE REPAIRED IMMEDIATELY AS PER FMC 23-106(2)(g).
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EROSION AND SEDIMENT CONTROL PLAN NOTES

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3. THE APPROXIMATE TOTAL DISTURBED AREA OF THIS SITE IS 6.60 ACRES. ANY INCREASE IN THE APPROXIMATE TOTAL DISTURBED AREA SHALL BE APPROVED BY THE CITY OF COLUMBIA PRIOR TO ADDITIONAL DISTURBANCE.
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CONSTRUCTION SEQUENCE

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2. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES
3. INSTALL SEDIMENT TRAPS
4. INSTALL TREE PROTECTION FENCING
5. CONTACT CITY OF COLUMBIA FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
6. CLEAR, GRUB, AND GRADE THE SITE
7. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
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EPSC DATA CHART:

BMP DESIGN RAIN EVENT: 5 YEAR, 24 HR STORM

811 Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN — LICENSED LANDSCAPE ARCHITECT — COMMERCIAL — RESIDENTIAL — AGRICULTURE — STATE OF TENNESSEE

05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

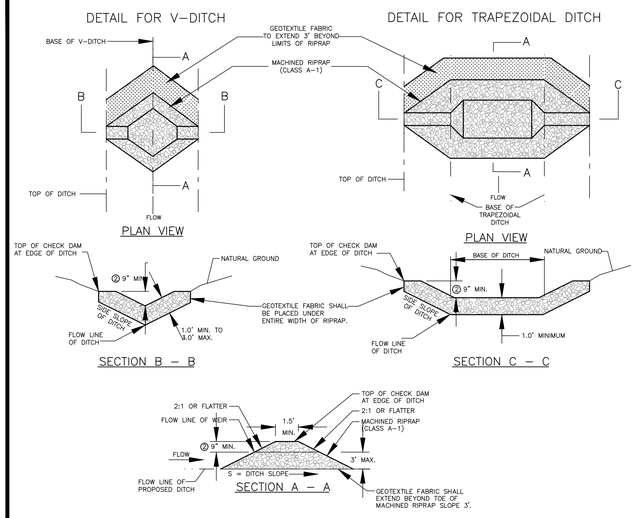
FINAL EPSC PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:

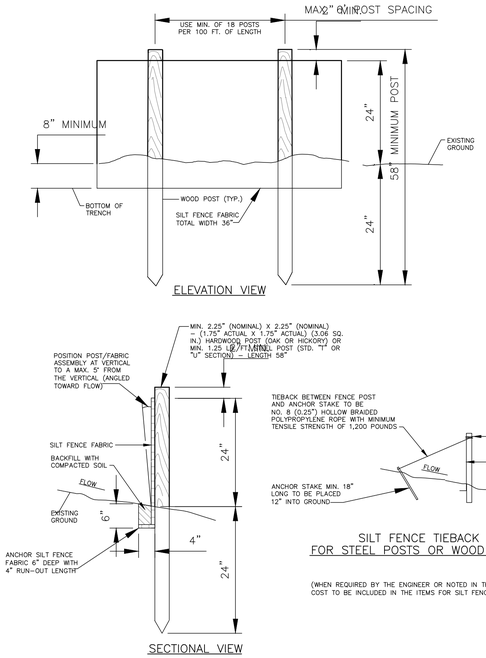
C403

MPA - FINAL EPSC PLAN.DWG | Monday, May 22, 2023 2:12:34 PM



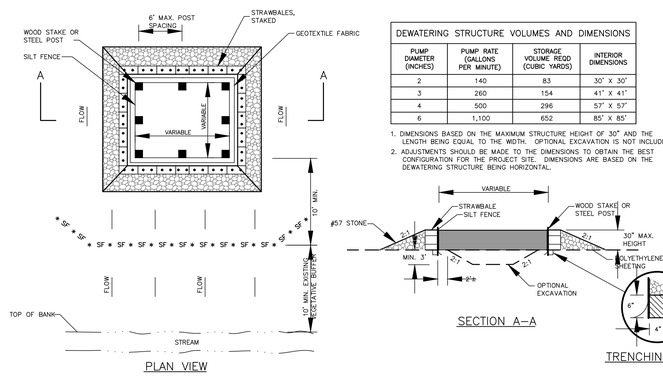
CHECK DAM

SCALE: N.T.S.



SILT FENCE

SCALE: N.T.S.



DEWATERING STRUCTURE VOLUMES AND DIMENSIONS			
PUMP DIAMETER (INCHES)	PUMP RATE (GALLONS PER MINUTE)	STORAGE VOLUME REQD (CUBIC YARDS)	INTERIOR DIMENSIONS
2	140	83	30' X 30'
3	260	154	41' X 41'
4	500	296	57' X 57'
6	1,100	652	85' X 85'

1. DIMENSIONS BASED ON THE MAXIMUM STRUCTURE HEIGHT OF 30" AND THE LENGTH BEING EQUAL TO THE WIDTH. OPTIONAL EXCAVATION IS NOT INCLUDED.
2. ADJUSTMENTS SHOULD BE MADE TO THE DIMENSIONS TO OBTAIN THE BEST CONFIGURATION FOR THE PROJECT SITE. DIMENSIONS ARE BASED ON THE DEWATERING STRUCTURE BEING HORIZONTAL.

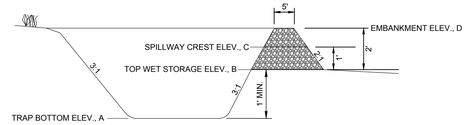
SILT FENCE & STRAW DEWATERING PIT

SCALE: N.T.S.

SEDIMENT TRAP ELEVATIONS, SEE DETAIL FOR REFERENCE → A, B, C, D

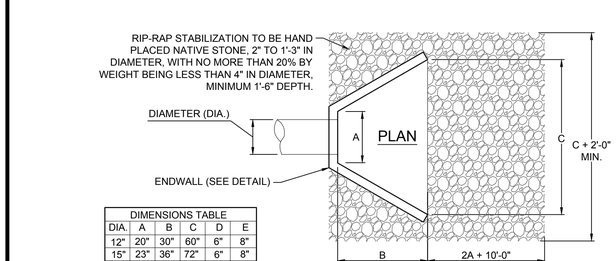
SEDIMENT TRAP DESIGN		
	ST-1	ST-2
DRAINAGE AREA (AC.)	2.80	2.50
TOTAL VOL. REQUIRED (CF)	10,130.00	9,045.00
WET VOL. REQUIRED (CF)	5,065.00	4,522.50
DRY VOL. REQUIRED (CF)	5,065.00	4,522.50
WET STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TRAP BOTTOM ELEV. (FT)	607.00	607.00
TOP WET STORAGE ELEV. (FT)	608.50	608.50
SPILLWAY CREST ELEV. (FT)**	610.00	610.00
TOP EMBANKMENT ELEV. (FT)	610.00	610.00
SPILLWAY CREST LENGTH (FT)	15.00	15.00
SPILLWAY CREST WIDTH (FT)	5.00	5.00
EMBANKMENT TOP WIDTH (FT)	5.00	5.00
DRY STORAGE VOL. PROVIDED (CF)	**5,261.00**	**4,754.50**
TOTAL VOL. PROVIDED (CF)	**10,522.00**	**9,509.00**

* RUNOFF COEFFICIENT ASSUMED TO BE BARE SOIL CONDITION
** SPILLWAY CREST ELEVATION IS ALSO TOP OF DRY STORAGE ELEVATION



TEMPORARY SEDIMENT TRAP

N.T.S.



DIMENSIONS TABLE					
DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

RIP RAP AT ENDWALL

N.T.S.

ACTIVITY: Geotextiles	PESC – 02

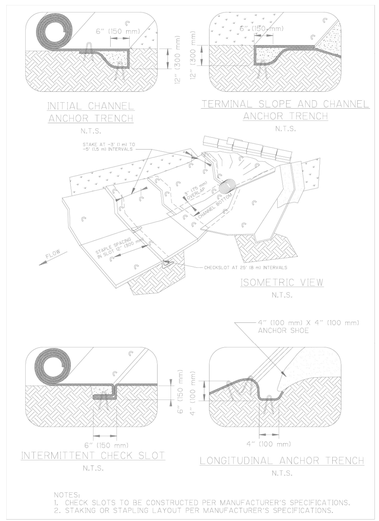


Figure PESC-02-1
Anchoring Geotextiles in Channels

Stormwater Best Management Practices – Permanent EP&SC | PESC-02-3 | January 2014

ACTIVITY: Geotextiles	PESC – 02

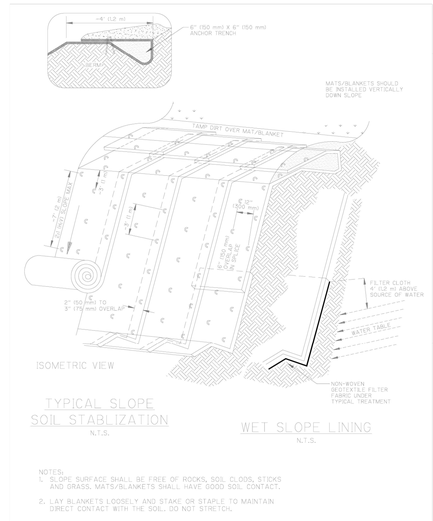
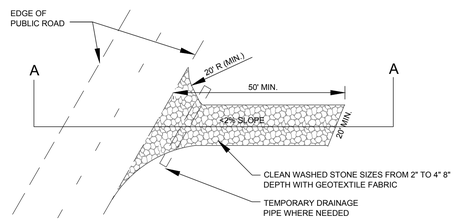


Figure PESC-02-2
Anchoring Geotextiles on Embankments

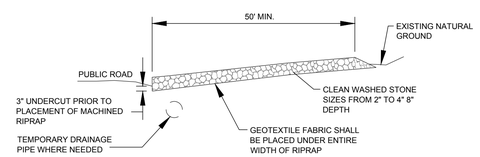
Stormwater Best Management Practices – Permanent EP&SC | PESC-02-4 | January 2014

TURF REINFORCEMENT MATTING DETAILS

SCALE: N.T.S.



PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



SECTION A-A

CONSTRUCTION EXIT

SCALE: N.T.S.

DESCRIPTION	DATE	REVISION #

MATTHEW W. BRYAN — REGISTERED ENGINEER — No. 120183 — STATE OF TENNESSEE — 05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

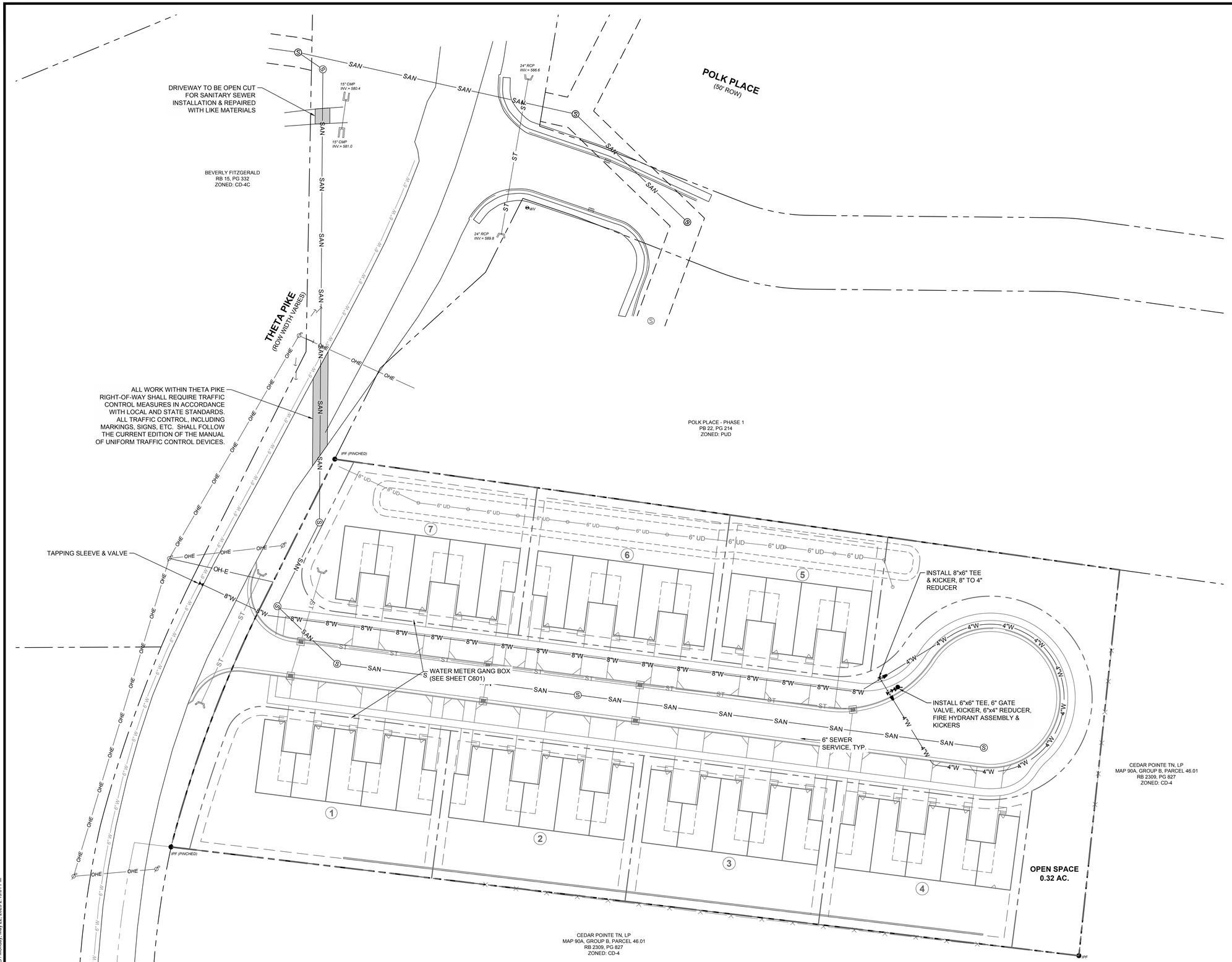
MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

EPSC DETAILS

DRAWN BY :	M2G
CHECKED BY :	MWB
DATE:	MAY 22, 2023
PROJECT NO. :	22-085

SHEET NUMBER:
C404

MPA - SITE DETAILS.DWG / Monday, May 22, 2023 2:12:49 PM



LEGEND

SAN	SANITARY SEWER
OHE	OVERHEAD ELECTRIC
UG-E	UNDERGROUND ELECTRIC
8"W	8" WATERLINE
G	NATURAL GAS
ST	STORMWATER DRAINAGE PIPE
W	WATER SERVICE

DESCRIPTION	DATE	REVISION #

MATTHEW W. BRYAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
CERTIFICATE No.
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2G GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

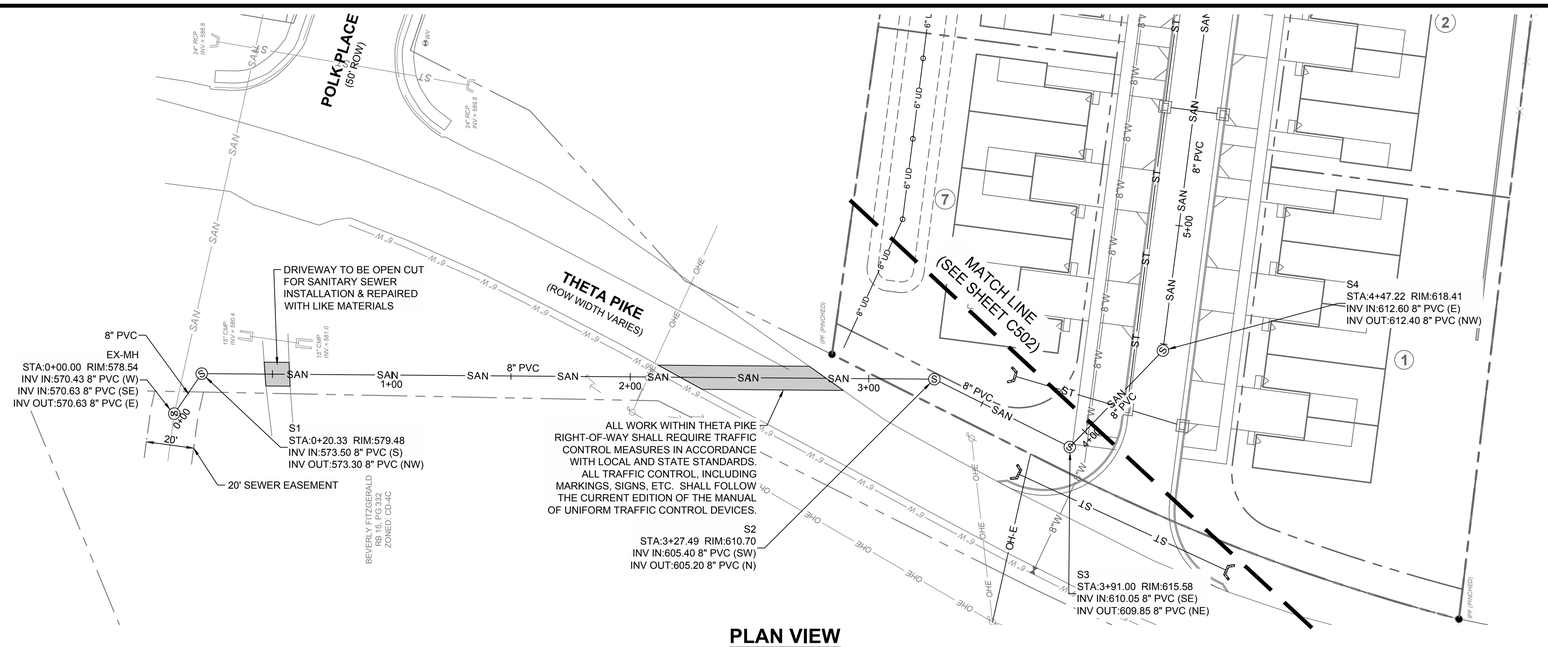
UTILITY PLAN

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C500

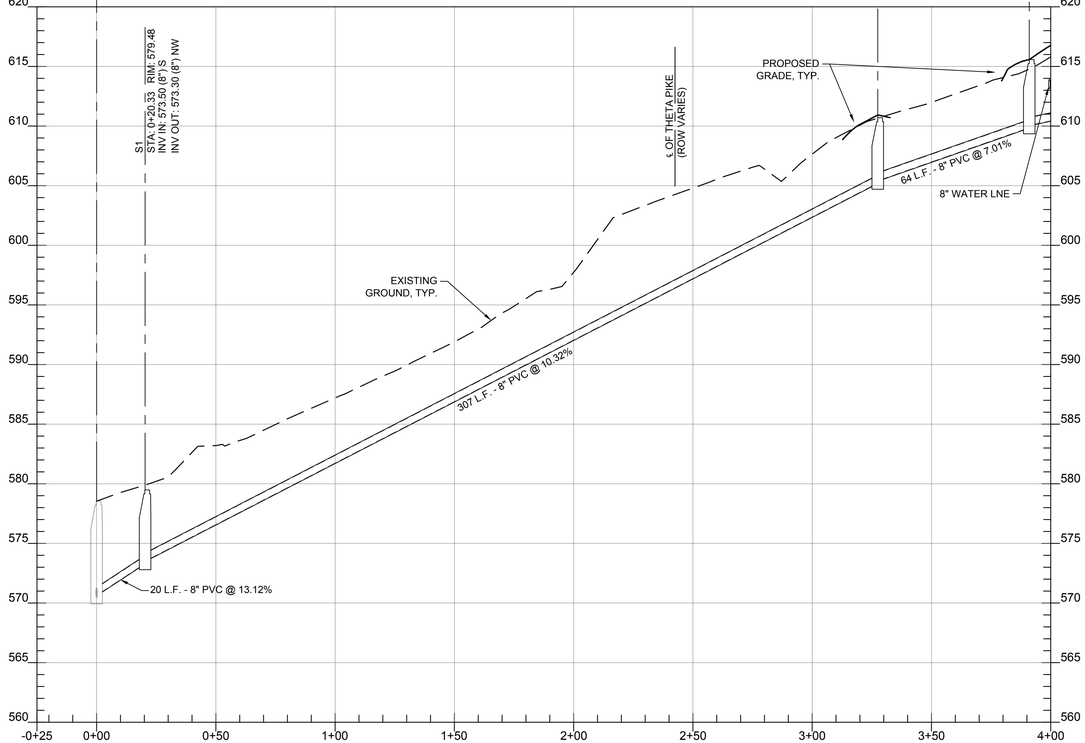
811 Know what's below. Call before you dig.

MPA - UTILITY PLAN.DWG | Monday, May 22, 2023 2:13:01 PM



PLAN VIEW

SCALE: 1" = 30'



PROPOSED OFFSITE SANITARY SEWER PROFILE

SCALE H:1"=30'; V:1"=6'

REVISION #	DATE	DESCRIPTION

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
NUMBER 121966
COMMERCIAL
CERTIFICATE NO.
STATE OF TENNESSEE
05/22/23

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

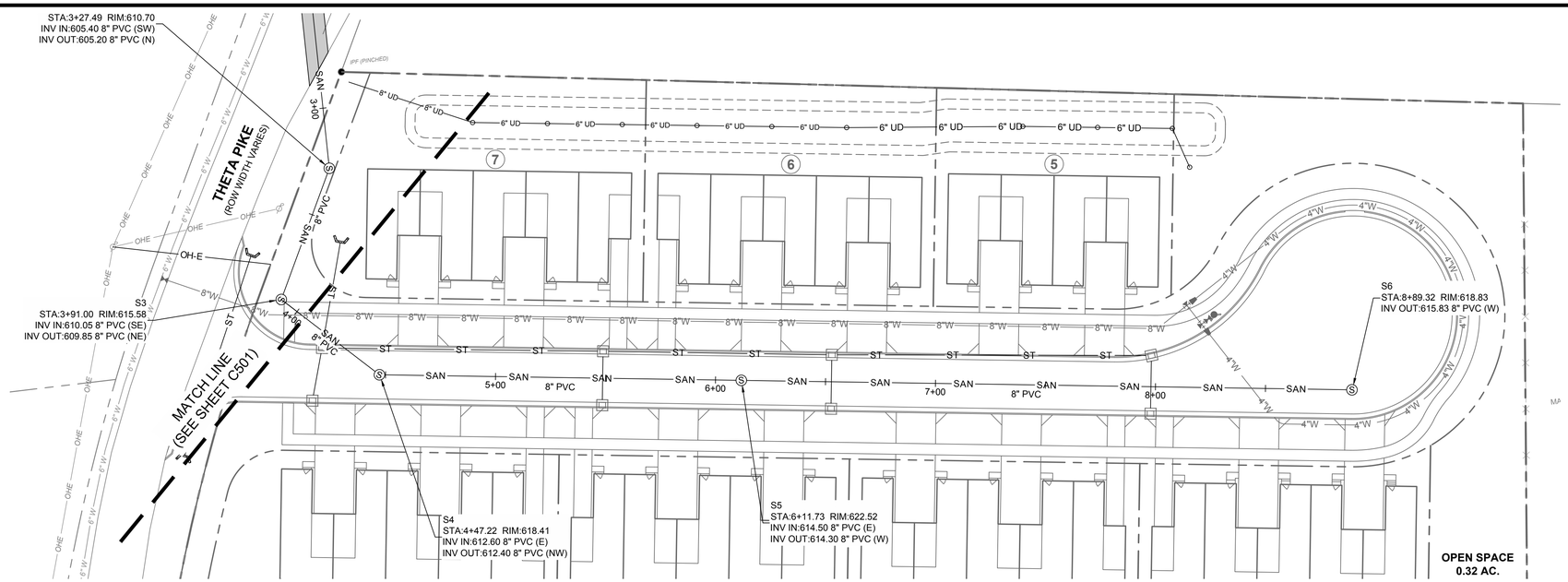
OFFSITE SANITARY SEWER PLAN & PROFILE

DATE :	MAY 22, 2023	DRAWN BY :	M2G
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C501

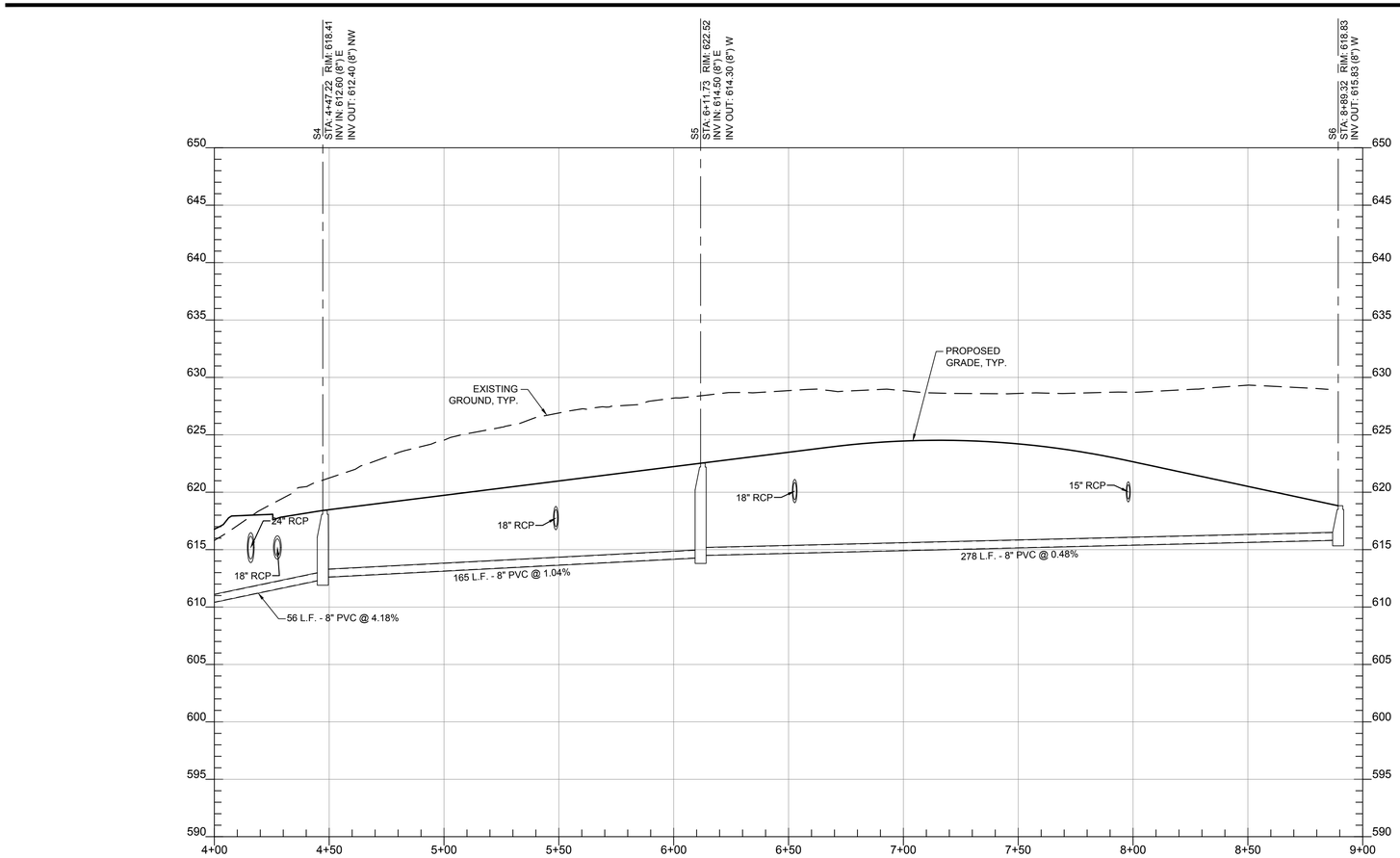
Know what's below. Call before you dig.

MPA - SANITARY SEWER PLAN & PROFILE.DWG | Monday, May 22, 2023 2:13:13 PM



PLAN VIEW

SCALE: 1" = 30'



PROPOSED SANITARY SEWER PROFILE

SCALE H:1"=30'; V:1"=6'

DESCRIPTION	DATE	REVISION #

MATTHEW W. BRYAN
LICENSED PROFESSIONAL ENGINEER
NUMBER 120144
COMMERCIAL
CERTIFICATE NO.
STATE OF TENNESSEE
05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MZ GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MZGROUPLLC.COM

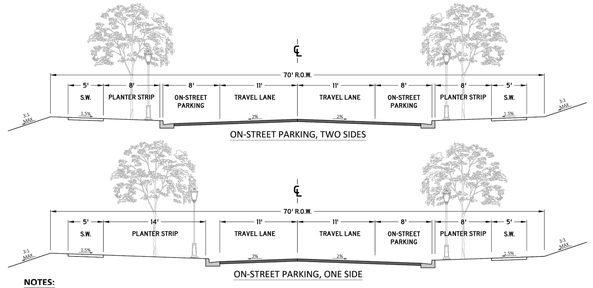
SANITARY SEWER PLAN & PROFILE

DATE :	MAY 22, 2023	DRAWN BY :	MZG
PROJECT NO. :	22-085	CHECKED BY :	MWB

SHEET NUMBER:
C502

811 Know what's below. Call before you dig.

MPA - SANITARY SEWER PLAN & PROFILE.DWG / Monday, May 22, 2023 2:13:15 PM



NOTES:

1. ONLY PERMITTED WITHIN THE APPLICABLE ZONING DISTRICTS.
2. ONLY PERMITTED ON MINOR LOCAL AND MAJOR LOCAL ROADWAY CLASSIFICATIONS.
3. PAVEMENT SECTION SHALL FOLLOW APPLICABLE ROADWAY CLASSIFICATION.
4. CURB AND GUTTER, SEE SD-01
5. TREES SHALL BE CENTERED WITHIN THE PLANTING STRIP, OFFSET A MINIMUM OF 20 FEET ALONG THE CENTERLINE OF THE ROAD FROM ANY STREET LIGHTING.
6. DECORATIVE LIGHT BASES SHALL BE BETWEEN 18" AND 24" BEHIND THE BACK OF CURB.
7. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED.
8. DIMENSIONS REFLECT A MINIMUM STANDARD.
9. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

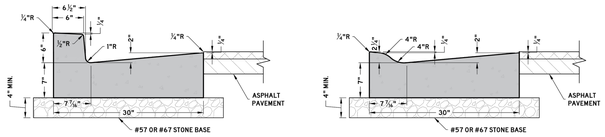
STANDARD DETAILS

CHARACTER DISTRICT STREET URBAN NEIGHBORHOOD

(NTS)

DATE 6/9/2022

DS-03

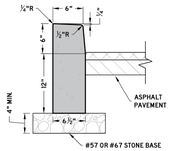


6-30 CONCRETE CURB AND GUTTER

LOWERED CONCRETE CURB AND GUTTER

NOTES:

1. BASED ON TDOT STANDARD DRAWING RP-VC-11
2. ONLY PERMITTED IN APPLICABLE ROADWAY SECTIONS
3. 4" MIN. THICK #57 OR # 67 STONE BASE
4. CLASS A 3000 PSI CONCRETE
5. EXPANSION JOINTS SHALL BE AS FOLLOWS:
   - 5.1. 1/2 INCH THICK
   - 5.2. A MAXIMUM SPACING OF 100 FEET
   - 5.3. AT TANGENTS OF ALL RADII OF CURVES
   - 5.4. BETWEEN CURBS AND ANY RIGID OBJECTS
   - 5.5. ALIGNED WITH ADJACENT EXPANSION JOINTS
   - 5.6. RUBBERIZED EXPANSION JOINT FILLER (AASHTO M153, TYPE 1)
   - 5.7. POLYPROPYLENE FOAM JOINT FILLER (ASTM D8139)
6. CONTRACTION JOINTS SHALL BE AS FOLLOWS:
   - 6.1. A MAXIMUM SPACING OF 10 FEET
   - 6.2. A MINIMUM SPACING OF 6 FEET
   - 6.3. 1/4 INCH DEPTH, EITHER SAWCUT OR HAND GROOVED.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



VERTICAL POST CURB

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

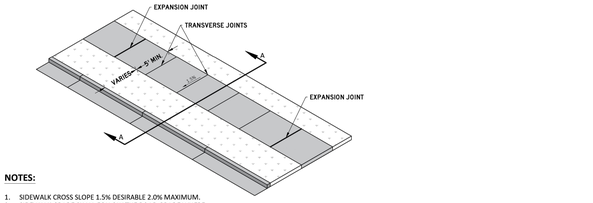
STANDARD DETAILS

CURB AND GUTTER AND POST CURB

(NTS)

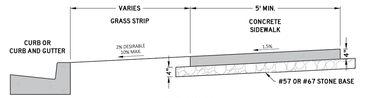
DATE 6/9/2022

SD-01



NOTES:

1. SIDEWALK CROSS SLOPE 1.5% DESIRABLE 2.0% MAXIMUM.
2. SIDEWALK GRADE SHALL FOLLOW THE ROAD GRADE WHERE POSSIBLE.
3. 4" MIN. THICK #57 OR # 67 STONE BASE
4. 4" MIN. THICKNESS CLASS A 3000 PSI CONCRETE WITH FIBER REINFORCEMENT, BROOM FINISHED.
5. EXPANSION JOINTS SHALL BE AS FOLLOWS:
   - 5.1. 1/2 INCH THICK
   - 5.2. A MAXIMUM SPACING OF 25 FEET
   - 5.3. AT TANGENTS OF ALL RADII OF CURVES
   - 5.4. BETWEEN CURBS AND ANY RIGID OBJECTS
   - 5.5. ALIGNED WITH ADJACENT EXPANSION JOINTS
   - 5.6. RUBBERIZED EXPANSION JOINT FILLER (AASHTO M153, TYPE 1)
   - 5.7. POLYPROPYLENE FOAM JOINT FILLER (ASTM D8139)
6. PROVIDE TRANSVERSE JOINTS AS NEARLY AS SQUARE AS PRACTICABLE. ON SIDEWALKS GREATER THAN 8 FEET IN WIDTH, PROVIDE A LONGITUDINAL JOINT ALONG THE CENTERLINE OF THE SIDEWALK.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER



SECTION AA

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

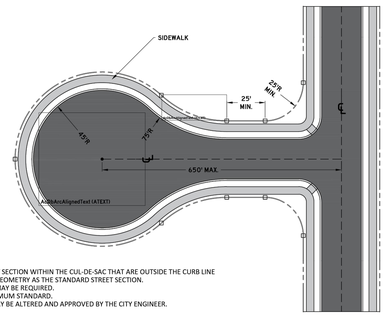
STANDARD DETAILS

CONCRETE SIDEWALK

(NTS)

DATE 6/9/2022

SD-10



NOTES:

1. ALL ELEMENTS OF THE STREET SECTION WITHIN THE CUL-DE-SAC THAT ARE OUTSIDE THE CURB LINE SHALL MAINTAIN THE SAME GEOMETRY AS THE STANDARD STREET SECTION.
2. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED.
3. DIMENSIONS REFLECT A MINIMUM STANDARD.
4. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER.

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

STANDARD DETAILS

CUL-DE-SAC

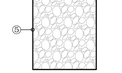
(NTS)

DATE 6/9/2022

SD-15

PAVEMENT SCHEDULE

①	**SURFACE @ 1.5" THICK** 411-12.5 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING D (SURFACE), OR 411-12.5 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING C ◆ (SURFACE)
②	**TACK COAT (GENERAL USE)** 403-01 BITUMINOUS MATERIAL FOR TACK COAT (CT) (0.05 - 0.10 GAL/SY)
③	**BIT. BINDER @ 2" THICK** 307-01.08 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2
④	**PRIME COAT** 402-10 BITUMINOUS MATERIAL FOR PRIME COAT (PC) -(0.30-0.35 GAL/SY) 402-02 AGGREGATE FOR COVER MATERIAL (PC) - (8-12 LB/SY)
⑤	**MINERAL AGGREGATE BASE @ 6" THICK** 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D



CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

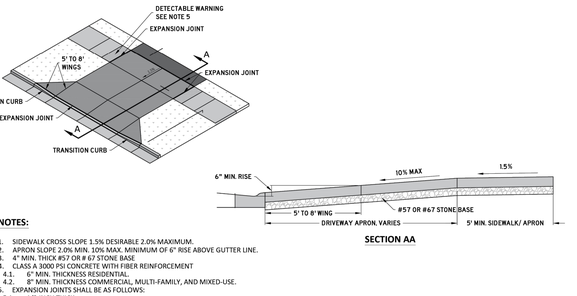
STANDARD DETAILS

PARKING LOT PAVEMENT SECTION

(NTS)

DATE 6/9/2022

MD-02



SECTION AA

NOTES:

1. SIDEWALK CROSS SLOPE 1.5% DESIRABLE 2.0% MAXIMUM.
2. APRON SLOPE 2.0% MIN. 10% MAX. MINIMUM OF 6" RISE ABOVE GUTTER LINE.
3. 4" MIN. THICK #57 OR # 67 STONE BASE
4. CLASS A 3000 PSI CONCRETE WITH FIBER REINFORCEMENT
   - 4.1. 6" MIN. THICKNESS RESIDENTIAL.
   - 4.2. 8" MIN. THICKNESS COMMERCIAL, MULTI-FAMILY, AND MIXED-USE.
5. EXPANSION JOINTS SHALL BE AS FOLLOWS:
   - 5.1. 1/2 INCH THICK.
   - 5.2. RUBBERIZED EXPANSION JOINT FILLER (AASHTO M153, TYPE 1).
   - 5.3. POLYPROPYLENE FOAM JOINT FILLER (ASTM D8139).
6. DETECTABLE WARNINGS WHERE DRIVEWAY IS STOP CONTROLLED.
7. ELEMENTS OF THIS DETAIL MAY BE ALTERED AND APPROVED BY THE CITY ENGINEER

CITY OF COLUMBIA TENNESSEE

CITY OF COLUMBIA
DEVELOPMENT SERVICES DEPARTMENT
ENGINEERING DIVISION

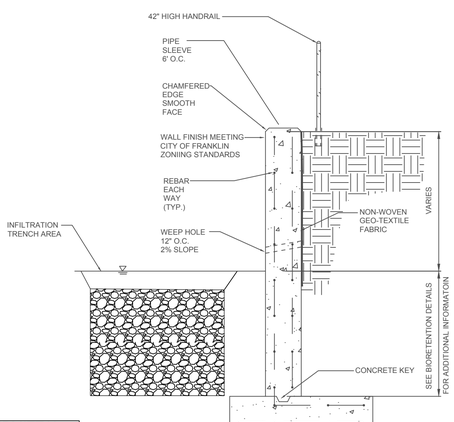
STANDARD DETAILS

DRIVEWAY APRON

(NTS)

DATE 6/9/2022

SD-12



NOTE: A FORMAL WALL SUBMITTAL PREPARED BY A LICENSED PROFESSIONAL WILL BE SUBMITTED WITH GUARDRAIL DETAILS PRIOR TO OBTAINING A BUILDING PERMIT.

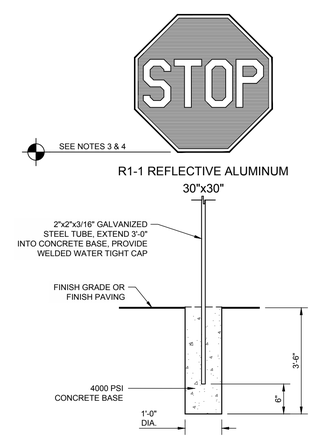
NOTE: RETAINING WALLS ADJACENT TO INFILTRATION TRENCH AREAS SHALL NOT RELY ON STONE DRAINAGE MEDIA FOR STABILITY OR LATERAL RESISTANCE. BOTTOM OF WALL/TOP OF FOOTING ELEVATION SHALL BE LOCATED AT OR BELOW BOTTOM OF LOWERMOST STONE DRAINAGE MEDIA.

RETAINING WALL ILLUSTRATIVE CROSS-SECTION

ADJACENT TO INFILTRATION TRENCH

FOR ILLUSTRATIVE PURPOSES ONLY, NOT TO BE USED FOR CONSTRUCTION

NO SCALE



R1-1 REFLECTIVE ALUMINUM
30"x30"

NOTES:

1. SET POSTS IN CONCRETE TO A MINIMUM DEPTH OF 36". SIGN PANELS SHALL BE 0.100 ALUMINUM WITH RAISED OR SILKSCREEN COPY.
2. FOR POST MOUNTING, USE NON-CORROSIVE 3/8" MACHINE BOLTS W/ WASHERS, 2 PER SIGN; OR IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. ALL SIGNAGE IS TO BE INSTALLED WITH THE BOTTOM EDGE OF THE LOWEST SIGN AT LEAST 60" ABOVE FINISHED GRADE, WHERE NO PEDESTRIAN TRAFFIC IS POSSIBLE.
4. ALL SIGNAGE IS TO BE INSTALLED WITH THE BOTTOM EDGE OF THE LOWEST SIGN AT LEAST 84", WHERE PEDESTRIAN TRAFFIC IS POSSIBLE.
5. STOP SIGN TO BE HIGH INTENSITY GRADE.

STOP SIGN/SPEED LIMIT SIGN

N.T.S.

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRIAN — REGISTERED ENGINEER — CERTIFICATE No. 120144 — COMMERCE & CONSUMER AFFAIRS — STATE OF TENNESSEE — 05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

SITE DETAILS

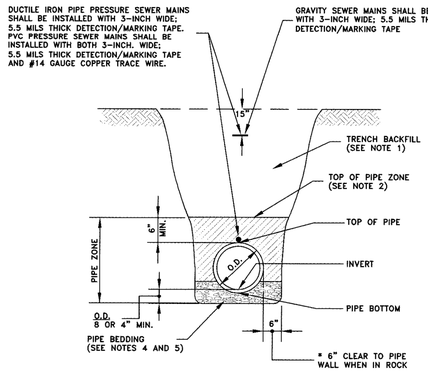
DATE : MAY 22, 2023
PROJECT NO. : 22-085
DRAWN BY : M2G
CHECKED BY : MWB

SHEET NUMBER:
C600

MPA - SITE DETAILS.DWG | Monday, May 22, 2023 2:13:31 PM

NOTES:

1. SEE PROJECT SPECIFICATIONS FOR BACKFILL REQUIREMENTS.
2. "PIPE ZONE" EXTENDS TO 6" ABOVE TOP OF PIPE AND BACKFILL IN TO BE CRUSHED STONE, GRAVEL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER.
3. LIMIT TRENCH WIDTH AT TOP OF PIPE ZONE TO O.D. + 16", UNLESS PERMITTED OTHERWISE BY ENGINEER.
4. PIPE BEDDING IS TO BE CRUSHED GRAVEL OR OTHER GRANULAR MATERIAL AS APPROVED BY ENGINEER. DEPTH UNDER BOTTOM OF PIPE IS TO BE 1/8 OUTER DIAMETER (O.D.) OF PIPE OR 4", WHICHEVER IS GREATER.*
5. PIPE TO BE CONTINUOUSLY SUPPORTED ALONG LENGTH OF PIPE BARREL EXCEPT AT BELLS. BELL HOLES ARE REQUIRED SUCH THAT NO BEARING LOAD IS TAKEN BY THE BELL.

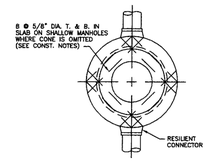


TYPICAL SEWER INSTALLATION

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S1

NOTE: ALL MANHOLES SHALL BE MANUFACTURED WITH XYPEX ADMIX C-1000/C-2000 IN CONCRETE FOR WATERPROOFING AND PROTECTION AGAINST HYDROGEN SULFIDE DETERIORATION. XYPEX ADMIX SHALL BE AS SUPPLIED BY TOM WILLIAMS; 1231 ANTIOCH PIKE, NASHVILLE. PRECAST MANHOLES SHALL BE AS SUPPLIED BY CLOUD CONCRETE PRODUCTS OR ENGINEER APPROVED EQUAL.

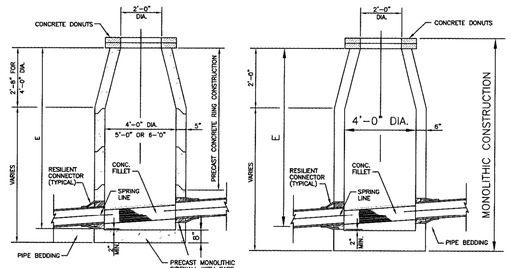


PLAN

CONSTRUCTION NOTES

CYLINDRICAL AND CONICAL SECTIONS OF ALL MANHOLES SHALL BE CONSTRUCTED OF EITHER MONOLITHIC CONCRETE OR PRECAST CONCRETE RINGS AS DESIGNED IN THE PROJECT SPECIFICATIONS OF THE CONTRACT DOCUMENT.
CONCENTRIC CONES SHALL BE USED ON PRECAST CONCRETE AND MONOLITHIC CONCRETE UNITS.
DIMENSION "E" VARIES. WHEN LESS THAN 5-FEET OMIT CONE AND EXTEND CYLINDRICAL MANHOLE SIDEWALL SECTION TO AN ELEVATION 8-INCHES BELOW BOTTOM OF ADJUSTING BRICK. CONSTRUCT 8-INCH THICK CONCRETE SLAB ON TOP OF CYLINDRICAL SECTION REINFORCED WITH 5/8-INCH DIA. BARS AS SHOWN. PROVIDE 24-INCH DIAMETER OPENING IN SLAB FOR MANHOLE'S FRAME AND BRICK ADJUSTMENT RINGS AS ON CONED MANHOLE.
BENCH WALLS IN MANHOLE AND SEWERS 18-INCHES IN DIAMETER AND SMALLER TO BE BUILT UP TO THE TOP OF THE LARGEST PIPE. FOR SEWERS 21-INCHES TO 30-INCHES IN DIAMETER, 1'-0" WIDE BENCH. LAYOUT SEWERS TO SPRING LINE. BENCH WALLS REQUIRED IN DEAD END MANHOLES, ALTHOUGH BOTTOM TO BE PROPERLY DISHED.

NOTE: GRANULAR BACKFILL MATERIAL SHALL BE PLACED ADJACENT TO MANHOLE IN AREAS WHERE SWELLING CLAY EXIST.



SECTION

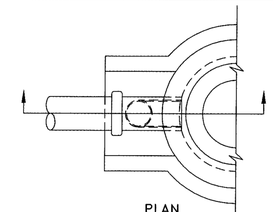
FOR SEWERS 36" DIAMETER & SMALLER
NOT TO SCALE

POURED IN PLACE MANHOLE
NOT TO SCALE

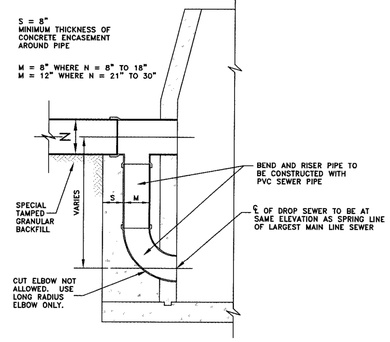
STANDARD MANHOLES

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S2



PLAN



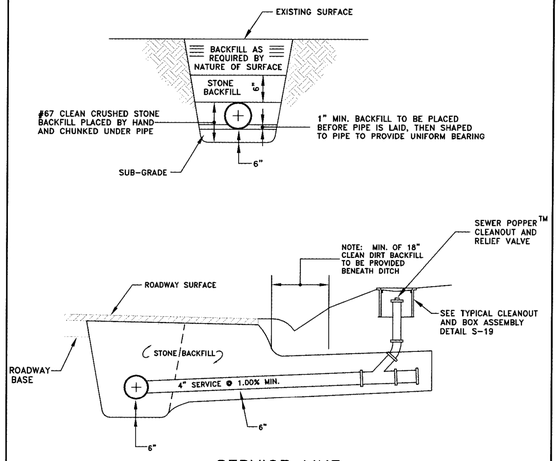
SECTION

DROP PIPE FOR STANDARD MANHOLES

NOT TO SCALE

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S3

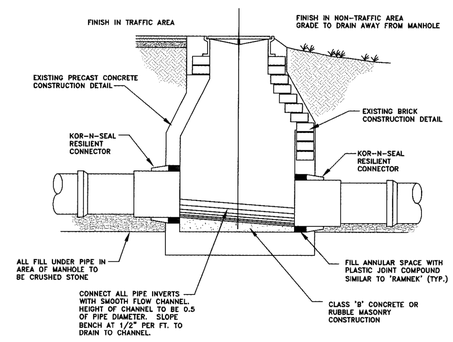


SERVICE LINE

NOT TO SCALE

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S4



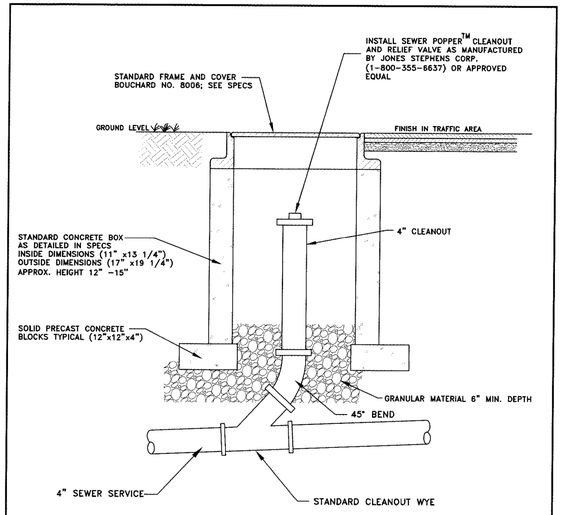
CONNECTION TO EXISTING MANHOLE

NOT TO SCALE

NOTE: THE CONTRACTOR SHALL NOT CONNECT TO EXISTING MANHOLE UNTIL ALL NEW SEWAGE FACILITIES HAVE BEEN INSTALLED, TESTED AND RELEASED FOR SERVICE.

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S5



TYPICAL CLEANOUT ASSEMBLY

NOT TO SCALE

WMS# 15157

COLUMBIA WASTEWATER TREATMENT SYSTEM	STANDARD DETAIL	S19

REVISION #	DATE	DESCRIPTION

MATTHEW W. BRYAN — REGISTERED ENGINEER — STATE OF TENNESSEE — 05/22/23

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

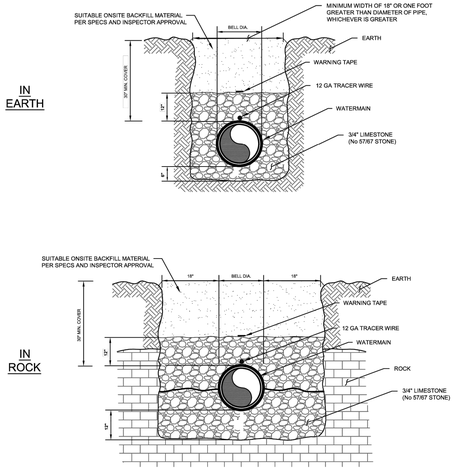
MZG GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MZGROUPLLC.COM

UTILITY DETAILS

DRAWN BY : MZG
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

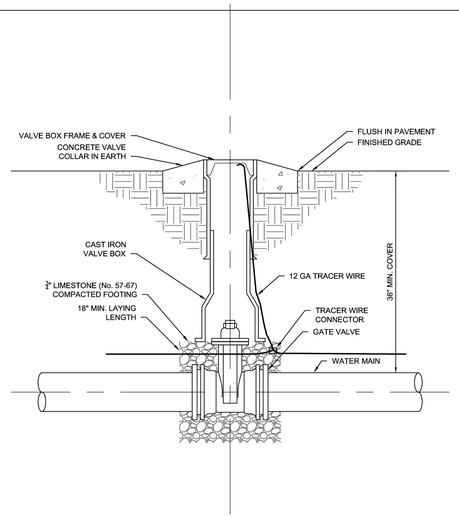
SHEET NUMBER:
C602

MPA - SITE DETAILS.DWG / Monday, May 22, 2023 2:13:35 PM



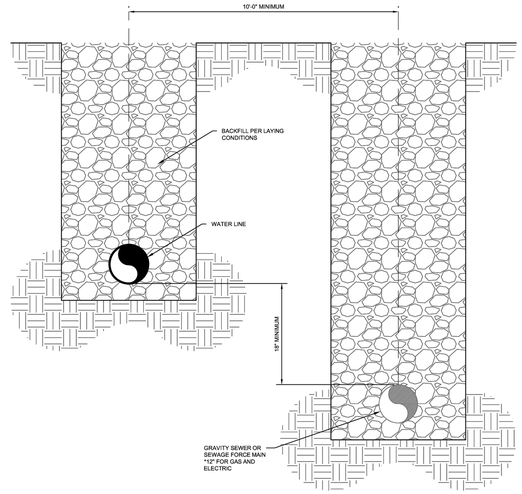
NOTES:
1. **30" MINIMUM COVER IN TRAFFIC AREAS.**
2. **UNSUITABLE EARTH MATERIALS MAY REQUIRE OVER-EXCAVATION AND GRAVEL BEDDING AND HAUNCHING.**

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: WATER LINE LAYING CONDITIONS IN ROCK OR EARTH | FIGURE NO.: CWS-1



NOTES:
1. ALL VALVE BOXES SHALL BE SET TO BE FLUSH WITH FINAL GRADES AND SHALL NOT BE COVERED WITH ANY PAVING, DIRT, SOD, GRASSING, AND/OR LANDSCAPING.
2. THIS DETAIL IS VALID FOR 16" AND SMALLER VALVE SIZES. FOR LARGER SIZES, SEE CONTRACT SPECS. OR CONFIRM WITH CPWS.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: LINE VALVE SETTING | FIGURE NO.: CWS-2



CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: UTILITY SEPARATION | FIGURE NO.: CWS-3

LENGTH TO BE RESTRAINED (L)							
PIPE SIZE	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS		VALVES OR DEAD ENDS
	11.25°	22.5°	45°	90°	UPPER	LOWER	
6"	3 FT	6 FT	13 FT	30 FT	23 FT	4 FT	66 FT
8"	4 FT	8 FT	16 FT	38 FT	30 FT	6 FT	86 FT
10"	5 FT	9 FT	19 FT	45 FT	36 FT	7 FT	103 FT
12"	6 FT	11 FT	22 FT	53 FT	43 FT	8 FT	121 FT
16"	7 FT	14 FT	28 FT	66 FT	55 FT	10 FT	154 FT
20"	8 FT	16 FT	33 FT	79 FT	66 FT	12 FT	185 FT
24"	8 FT	16 FT	33 FT	79 FT	77 FT	15 FT	204 FT

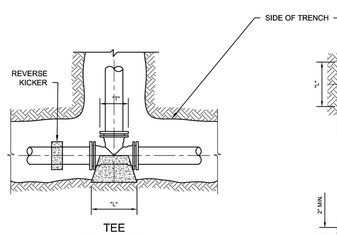
NOTES:
1. PIPE TO BE INSTALLED IN TRENCH AS PER LINE LAYING CONDITION DETAIL.
2. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED AND SHALL BE PROVIDED WITH MECHANICAL JOINT THRUST RESTRAINTS AT ALL DIRECTION CHANGES, SIZE CHANGES, AND DEAD ENDS. ALL CONNECTIONS TO EXISTING PIPE SHALL BE MADE WITH RETAINER GLANDS.
3. MECHANICAL JOINT RESTRAINTS SHALL BE DUCTILE IRON IN ACCORDANCE WITH ASTM A536 - STANDARD SPECIFICATION FOR DUCTILE IRON CASTINGS.
4. CONTRACTOR SHALL FURNISH AND INSTALL MECHANICAL JOINT RESTRAINTS WITH ALL HARDWARE AND ACCESSORIES AS REQUIRED BY THE MANUFACTURER FOR PROPER INSTALLATION.
5. CONTRACTOR SHALL PROVIDE THE SERIES/MODEL OF JOINT RESTRAINT AS REQUIRED FOR THE PIPE SIZE, MATERIAL, AND FLANGED FITTING SHOWN ON THE PLANS.
6. RESTRAINT LENGTH CALCULATIONS WERE PERFORMED UNDER THE FOLLOWING CONDITIONS: PVC PIPE MATERIAL, GM SOIL TYPE, 1.5 SAFETY FACTOR, TYPE 3 TRENCH, 2.5 FT BURY DEPTH, 150 PSI TEST PRESSURE.

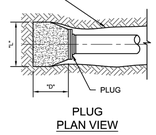
REDUCERS	
SIZE	L
6x4	34'
8x6	36'
8x4	62'
10x8	35'
10x6	63'
12x10	36'
12x8	64'
16x12	66'
16x10	92'
20x18	35'
20x16	66'
20x12	117'
24x20	56'
24x18	80'
24x16	101'

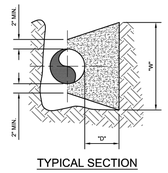
TEES		
RUN	BRANCH	L
4"	4"	F.O.
4"	6"	10'
	<6"	F.O.
8"	8"	29'
	<8"	F.O.
10"	10"	45'
	8"	13'
	<8"	F.O.
12"	12"	62'
	10"	32'
	<8"	F.O.
16"	16"	94'
	12"	39'
	10"	5'
	<10"	F.O.
20"	20"	125'
	16"	76'
	12"	14'
	<12"	F.O.
24"	24"	124'
	20"	84'
	16"	36'
	<16"	F.O.

F.O. = FITTING ONLY

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: PIPE JOINT RESTRAINT SCHEDULE | FIGURE NO.: CWS-4





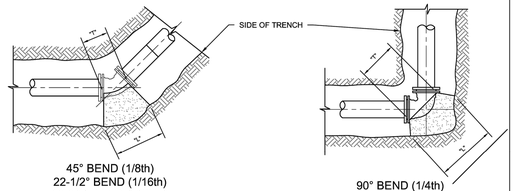


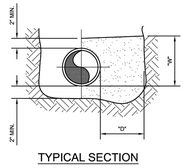
TEE							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	24"	24"	30"	36"
"L"	19"	25"	31"	38"	50"	75"	93"
"W"	19"	25"	31"	38"	50"	75"	93"
"T"	16"	16"	18"	18"	24"	36"	36"

PLUG							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	24"	24"	30"	36"
"L"	19"	25"	31"	38"	50"	75"	93"
"W"	19"	25"	31"	38"	50"	75"	93"
"T"	12"	12"	12"	12"	18"	30"	36"

NOTES:
1. DEPTH "D" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE AGAINST UNDISTURBED EARTH.
2. ALL BOLTS AND FITTINGS MUST BE WRAPPED IN MINIMUM THREE (3) MIL. PLASTIC.
3. LEAVE APPROXIMATELY 12" SEPARATION BETWEEN CONCRETE AND FITTING BELLS
4. THRUST BLOCK DIMENSIONS BASED ON 150 PSI OPERATING PRESSURE AND 50% ADDITIONAL SURGE PRESSURE
5. SOIL BEARING PRESSURE USED FOR THRUST BLOCK DIMENSIONS SHOWN IS 4,000 PSF. IF SOIL SURROUNDING THRUST BLOCK DOES NOT HAVE THIS CAPACITY, ADDITIONAL THRUST BLOCK VOLUME MAY BE REQUIRED.
6. CONCRETE TO BE USED FOR THRUST BLOCKS TO BE 3,500PSI CONCRETE.
7. LENGTH (L) AND WIDTH (W) DIMENSIONS CAN BE MODIFIED SLIGHTLY AS LONG AS TOTAL AREA DOES NOT CHANGE, BY WRITTEN DIRECTION OF CPWS ONLY TO MEET SITE SPECIFIC CONCERNS.
8. ELEVATION OF GROUNDWATER IS ASSUMED TO BE BELOW BOTTOM OF THRUST BLOCK.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: CONCRETE BLOCKING DETAILS (TEES AND PLUGS) | FIGURE NO.: CWS-5





90° BEND (1/4th)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	24"	24"	30"	36"
"L"	32"	42"	52"	63"	84"	125"	156"
"W"	16"	21"	26"	32"	42"	63"	78"
"T"	16"	16"	18"	18"	24"	36"	36"

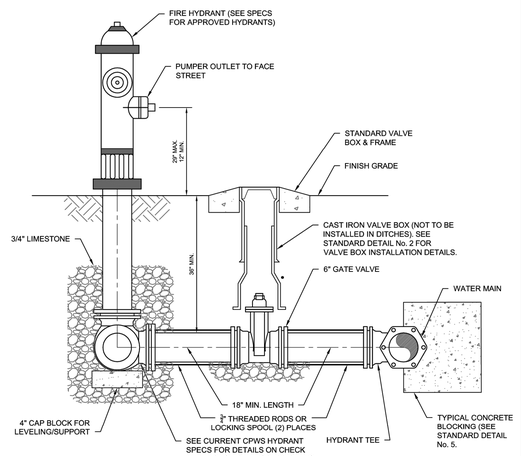
45° BEND (1/8th)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	18"	18"	18"	18"	24"	30"	36"
"L"	24"	31"	39"	46"	62"	92"	115"
"W"	12"	16"	20"	23"	31"	46"	58"
"T"	16"	16"	18"	18"	18"	24"	24"

22.5° BEND (1/16th)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	12"	12"	18"	18"	24"	24"	24"
"L"	17"	23"	28"	33"	44"	66"	82"
"W"	9"	12"	14"	17"	22"	33"	41"
"T"	16"	16"	18"	18"	18"	24"	24"

11.25° BEND (1/32nd)							
SIZE	6"	8"	10"	12"	16"	24"	30"
"D"	12"	12"	18"	18"	24"	24"	24"
"L"	12"	16"	20"	24"	32"	47"	59"
"W"	6"	8"	10"	12"	16"	24"	30"
"T"	16"	16"	18"	18"	18"	24"	24"

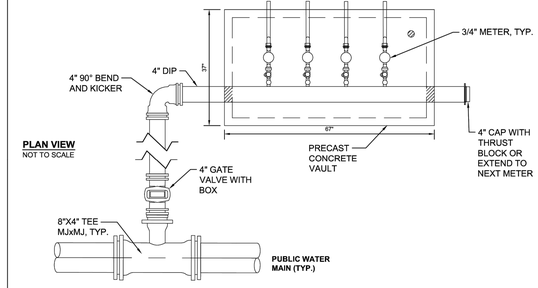
NOTES:
1. DEPTH "D" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE AGAINST UNDISTURBED EARTH.
2. ALL BOLTS AND FITTINGS MUST BE WRAPPED IN MINIMUM THREE (3) MIL. PLASTIC.
3. LEAVE APPROXIMATELY 12" CLEARANCE BETWEEN CONCRETE AND FITTING BELLS
4. THRUST BLOCK DIMENSIONS BASED ON 150 PSI OPERATING PRESSURE AND 50% ADDITIONAL SURGE PRESSURE.
5. SOIL BEARING PRESSURE USED FOR THRUST BLOCK DIMENSIONS SHOWN IS 4,000 PSF. IF SOIL SURROUNDING THRUST BLOCK DOES NOT HAVE THIS CAPACITY, ADDITIONAL THRUST BLOCK VOLUME MAY BE REQUIRED.
6. CONCRETE TO BE USED FOR THRUST BLOCKS TO BE 3,500PSI CONCRETE.
7. LENGTH (L) AND WIDTH (W) DIMENSIONS CAN BE MODIFIED SLIGHTLY AS LONG AS TOTAL AREA DOES NOT CHANGE, BY WRITTEN DIRECTION OF CPWS ONLY TO MEET SITE SPECIFIC CONCERNS.
8. ELEVATION OF GROUNDWATER IS ASSUMED TO BE BELOW BOTTOM OF THRUST BLOCK.

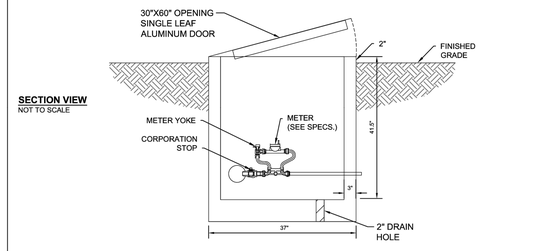
CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: CONCRETE BLOCKING (BENDS) | FIGURE NO.: CWS-6



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED SO THE PUMPER NOZZLE IS POINTED TOWARD THE STREET.
2. ALL M.J. FITTINGS TO INCLUDE WEDGE STYLE THRUST RESTRAINT.
3. FIRE HYDRANTS TO BE SAFETY YELLOW.
4. TRACER WIRE TO EXTEND TO VALVE AND HYDRANT.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: FIRE HYDRANT ASSEMBLY | FIGURE NO.: CWS-11





NOTES:
1. THE GANG VAULT MAY VARY FROM 3 TO 6 METERS DEPENDING ON CONDITIONS. VAULT SIZE WILL VARY ACCORDINGLY.
2. PRECAST VAULT TO COMPLY WITH ASTM C-857 & C-858.
3. TRACER WIRE TO EXTEND TO METER VAULT.

CPWS Columbia Power & Water Systems | STANDARD WATER DETAIL: GANG METER VAULT | FIGURE NO.: CWS-22

DESCRIPTION	DATE	REVISION #

SITE PLANS FOR:
MACKENZIE PLACE
TAX MAP 90B, GROUP B, PARCEL 47.00
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

MATTHEW W. BRYAN
REGISTERED ENGINEER
No. 120,143
COMMERCIAL
CERTIFICATE No.
STATE OF TENNESSEE
05/22/23

MPA GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.MPAGROUPLLC.COM

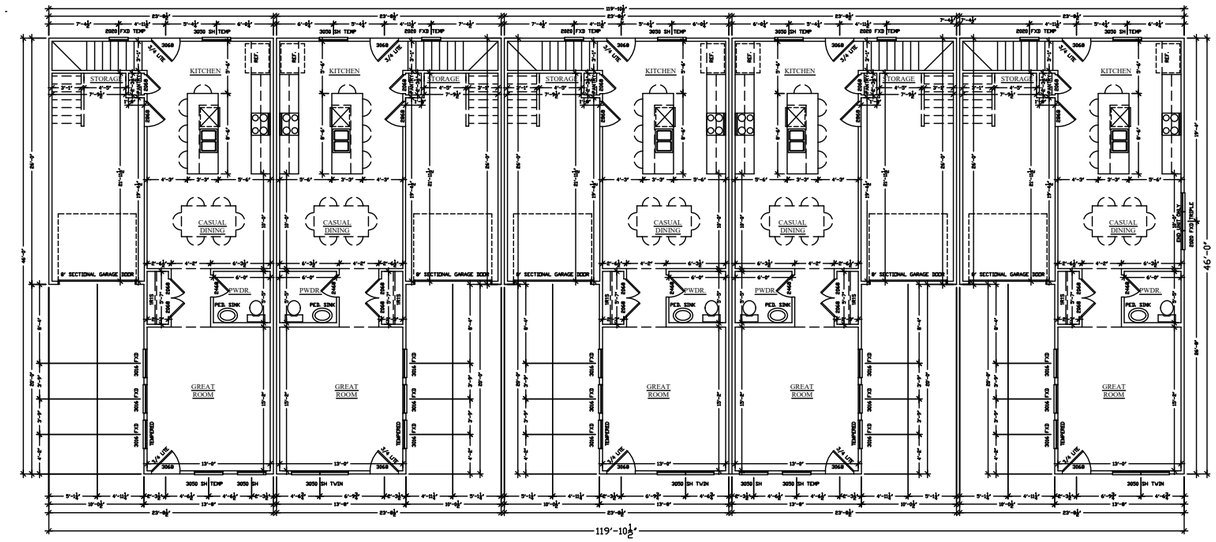
UTILITY DETAILS

DRAWN BY : MZG
CHECKED BY : MWB
DATE : MAY 22, 2023
PROJECT NO. : 22-085

SHEET NUMBER:
C601

MPA - SITE DETAILS.DWG / Monday, May 22, 2023 2:13:42 PM

NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.



STANDARD FIRST FLOORPLAN 1/16"=1'-0"

Project

TOWNHOME

Spec. Revision Date:

Lot #	Market Home or Home Owner
#	Name:

Plan Name:

PROPOSED

Sheet Name:

STANDARD FLOORPLANS

THE JONES COMPANY of Tennessee, LLC
LIVE LARGER >> LIVEJONES.COM

Drawn By: BSR

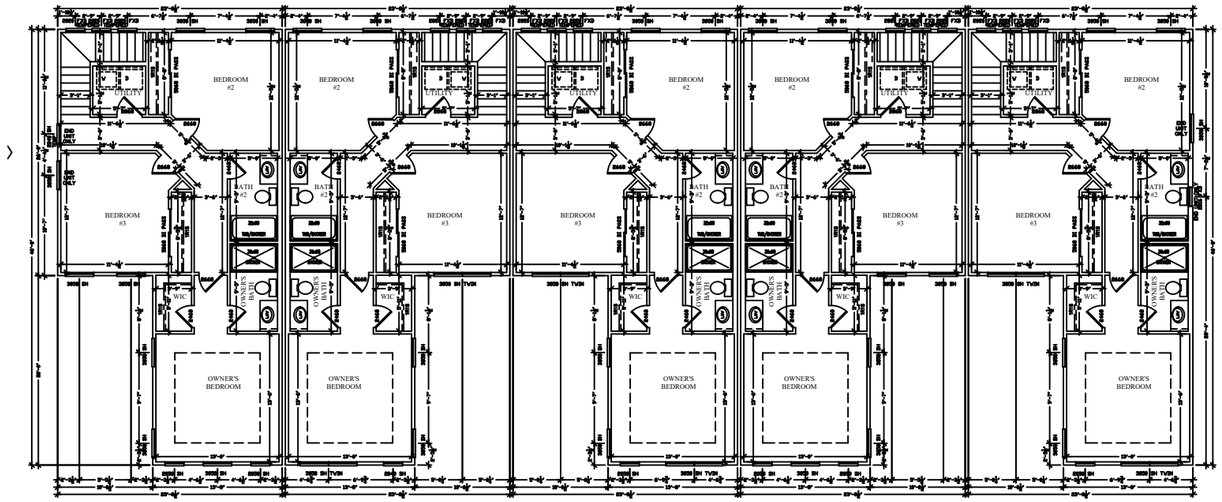
Scale: 1/16"=1'-0"

Date: XX/XX/XX

Revision Dates:

A1.0

NOTE: ALL BUILDING ELEMENTS MUST MEET THE REQUIREMENTS OF ARTICLE 4 BUILDING, LOT & BUILDING SITE STANDARDS, TABLE 4.3.1-D OF THE CD-4 ZONING DISTRICT.



STANDARD SECOND FLOORPLAN 1/16"=1'-0"

Project
TOWNHOME
Spec. Revision Date:
Lot # / Market Home or Home Owner
/ Name:
Plan Name:
PROPOSED
Sheet Name:
STANDARD FLOORPLANS

THE JONES COMPANY of Tennessee, LLC
LIVE LARGER >> LIVEJONES.COM

Drawn By: BSR
Scale: 1/16"=1'-0"
Date: XX/XX/XX
Revision Dates:

A2.0



TREE PRESERVATION PLAN

TREE CANOPY CALCULATIONS:

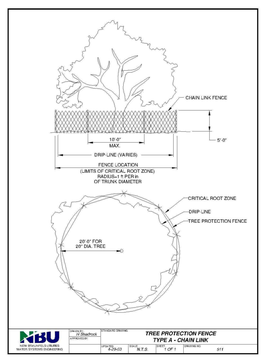
LOT SIZE:	141,429 SF
EX TREE CANOPY:	33,202 SF (23.4% OF LOT)
EX TREE CANOPY TO BE PRESERVED:	4,401 SF (13.25%)
REQUIRED TREE CANOPY RETENTION:	48%
TREES PROVIDED TO COMPENSATE (SEE L2.0)	52

TABLE 4.3.16.L TREE CANOPY COVER RETENTION

Existing Tree Canopy Cover (as % of Total Development, Lot or Building Site Size)	Minimum Tree Canopy Retention by Zoning District (as % of Total Tree Canopy Cover) [1,2]		
	CD-2 CD-3L CD-3 CD-4 [3] CD-4C [3] CD-5C [3] SD-MHP SD-INT [3] PUD-R PUD-MU [3]	CD-4 [4] CD-4C [4] CD-5C [4] SD-INT [4] PUD-MU [4]	SD-LI [4] SD-HI
80% - 100%	30%	15%	10%
60% - 79%	36%	18%	11%
40% - 59%	45%	22%	12%
20% - 39%	48%	24%	13%
19% - less	54%	26%	14%



UNHEALTHY HERITAGE TREE TO BE REMOVED



KEY

TREE CANOPY OUTLINE

TREE CANOPY TO BE PRESERVED

ON SITE TREE CANOPY TO BE REMOVED

SCALE: 1" = 20'

0 10 20 60

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http://addison-group.com/
7123 Crossroads Blvd Ste. E | Brentwood, TN 37027

MACKENZIE PLACE TOWNHOMES

220 THETA PIKE
COLUMBIA, TENNESSEE

TREE PRESERVATION PLAN

Prepared For:
Mackenzie Place Townhomes

DANIEL WOODS
REGISTERED
AGRICULTURE
TENNESSEE
License No. AL-
LANDSCAPE ARCHITECT
01.19.23

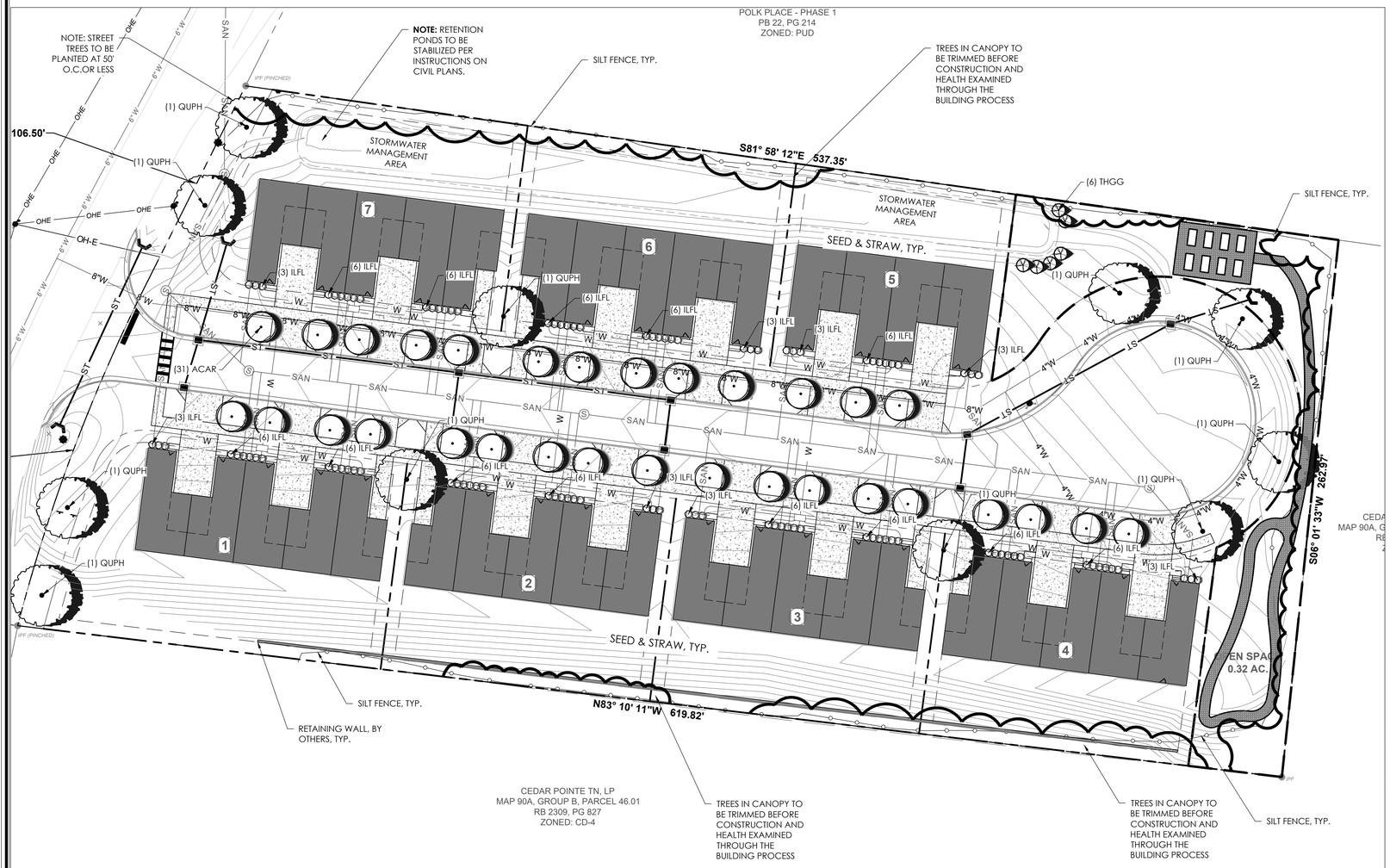
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DATE: 01.17.23

REVISIONS:
03.20.23
04.13.23
05.19.23

SHEET NO.
LP1.0

The Addison Group, LLC 2023



LANDSCAPE PLAN

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE		REMARKS
ACAR	31	Acer rubrum 'Armstrong' / Armstrong Red Maple	3" Cal.		
QUPH	11	Quercus phellos / Willow Oak	2.5" Cal.		
THGG	6	Thuja x 'Green Giant' / Green Giant Arborvitae	12-14` Ht. Min.		
SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
ILFL	102	Illicium floridanum / Florida Anise	3` Ht.	42" o.c.	

LANDSCAPE REQUIREMENTS

ZONING: **CD-4**

TABLE 4.3.1 D
REQUIRED - CONTINUOUS SHRUBS AROUND FOUNDATION AT FACADE IF 1ST LAYER IS ≥ 3 FT. DEEP, PLUS IF 1ST LAYER IS ≥ 15 FT. DEEP, 1 TREE PLANTED IN 1ST LAYER EVERY 50' FT OF FRONTAGE. DRIVE AISLE WITHIN THE 1ST LAYER, CONTINUOUS SHRUBS LANDSCAPING MUST COMPLY WITH SECTION 4.3.16.

TABLE 4.3.16.D-2 (TREES-# PER GENERA)
WHEN MORE THAN 20 TREES ARE PLANTED OR USED ON A SITE TO MEET THESE REGULATIONS, A MIX OF TREES (GENERA) SHALL BE PROVIDED.

52 TREES PROVIDED
31 TREES REQUIRED
2 GENERA REQUIRED
3 GENERA PROVIDED

TABLE 5.7.8 PROJECT BUFFERS
PER TABLE 5.7.8 (PROJECT BUFFERS), THERE ARE **NO BUFFERS REQUIRED** FOR PARCELS ZONED **CD-4.**

MULCH NOTE: ALL PLANTS SHALL BE MULCHED A MINIMUM OF THREE INCHES DEEP WITH A HARDWOOD MULCH.

Plant Materials
Plant material shall be delivered to the site after the beds are prepared and are ready for planting. Shipments of plant materials shall be thoroughly protected from the sun and from drying winds during transit. All plants which cannot be planted at once, after delivery to the site, shall be well protected. Plant materials remain the property of the Contractor until initial acceptance.

Shrubs And Groundcovers
Plants shall be nursery grown, healthy, vigorous, compact, bushy to the ground, well branched, of normal habit of growth for the species, and shall be free from defects, decay, girding roots, sun-scald injuries, abrasions of the bark or limbs, disease, insect eggs, and larvae. They shall have ball sizes that meet the standard set forth by the American Association of Nurserymen, Inc. The specified sizes shall be before pruning, and the plants shall be measured from their nominal top branches in normal position to the top of the ball or soil level. Plants shall not be pruned prior to delivery, except upon special approval.

All plants shall be of specimen quality. Specimen means an exceptionally heavy, symmetrical, tightly knit plant, so trained or favored in its development that its appearance is unquestionable and outstandingly superior in form, number of branches, compactness and symmetry.

All plants shall be hardy under climatic conditions similar to those in the locality of the project.

Shade Trees
Shade trees shall be healthy, vigorous, full-branched on all sides, well-shaped, specimen quality, symmetrical, and shall meet the trunk diameter, height and spread requirements as specified. Single trunk trees shall have a straight trunk. Trees which have a damaged or crooked leader or trunk or are one-sided or do not have a full, symmetrical branch structure and crown, will be rejected. Ball shall be firm, neat, slightly tapered, and well burlapped. Any tree loose in the ball or with broken ball at the time of planting will be rejected. Trees with abrasions on the bark, disfiguring knots, or wounds over two (2) inches which have not calloused will be rejected. All trees shall have trunk flare exposed, excess soil shall be removed from root ball necessary
. Tree ball sizes shall be as outlined in ANSI Z6.0.1 - 1980.

Multi-trunk Trees: No division of the trunk which branches more then six (6) inches from the ground level, as determined by the root crown of the plant, shall be considered a stem.

Ornamental Trees
Ornamental trees shall be healthy, vigorous; full branched, well shaped, and shall meet the height and spread, caliper and branching character as specified. Trees not having a full, symmetrical branch structure and crown will be rejected.

Single trunk ornamental trees shall have straight trunks with branching beginning a minimum of forty-two (42) inches above the top of the bail or container.

Multi-trunk ornamental trees shall be pruned so all "sucker" type branching is removed from around trunk canes as well as extraneous branching on trunk canes below crown of trees. Pruning shall be such that as least one-half of the plant is trunk branching and approximately one-half is crown foliage. All multi-trunk trees will conform to the number of trunk canes and/or caliper specified.

Materials
Compost: 100% organic, aerobically composted humus, fully composted under proper C/H ratios with sustained temperatures to 170 degrees F., possessing excellent air porosity, water holding capacity and drainage, optimum cation exchange capacity, free of weeds, weed seeds, insect pests and with a pH averaging 6.5 to 7.0. As supplied by Living Earth Technology, Dallas, Texas, or approved equal.

Fertilizer: Complete slow release fertilizer with an organic base, uniform in composition, dry and free flowing. Deliver fertilizer to site in original unopened containes, each bearing manufacturer's guaranteed statement of analysis. Fertilizer shall contain 20% nitrogen, 10% phosphoric acid, 10% potash, unless otherwise specified or approved. "Agriform" by Sierra Chemical Company, or approved equal.

Peat Moss: Clean hypnum peat, free of noxious weeds and rubble, dark brown in color.
Pine Fines: Fine texture, ¼ to ½ inch size, free of noxious weeds and rubble.

Topsoil: Fertile natural surface soil, uniform in composition, similar to site topsoil if approved, free of stones, lumps, weeds, and roots. Minimum 20 percent organic matter, 50 to 70 percent sand, 15 to 20 percent clay. If topsoil of the site does not meet specifications, Contractor is responsible for importing topsoil to the site for the purpose of backfilling plant pits.

Bed Alignment And Plant Placement
Shrubs and groundcover shall be planted in string line straight rows using alternative spaces between rows. The specified quantity of shrubs or groundcover shall be placed in the bed prior to planting to assure even coverage. The specified quantity of seasonal color shall be placed in the bed prior to planting to assure even coverage. After the planting is completed, all cultivated areas shall be leveled, loosened, and raked, and the edges carefully trimmed so that the tree pits and beds shall present a neat appearance. Care shall be used that these bed edges conform as closely as possible with the lines shown on the Planting Plan. Steel edging stakes shall be on the inside of the beds.

Top Dressing
After the work of planting has been completed and approved by the Landscape Architect, mulch all beds and tree rings with two (3) inches of shredded hardwood bark mulch, lightly cultivated into area. Do not disturb watering saucer and do not cover root flair.

Tree Pits And Planting

If planting occurs without approval of plant locations by the Landscape Architect, the Landscape Architect reserves the right to relocate plant material as deemed necessary.

Ornamental Trees: Plant ornamental trees in pits twelve (12) inches larger than the tree ball. After setting the tree, the pit shall be backfilled with parts of topsoil to one (1) part of compost and carefully settled by watering to prevent air pockets. Form a three (3) inch high watering ring for each ornamental tree. All cord or wire to secure burlap on tree ball shall be cut from top of ball and around trunk. Place a (2) inch layer of compost inside the watering ring.

Shade Trees: Plant shade trees in a tree pit two (2) feet greater in diameter that the tree ball. The crown of the tree ball should be approximately one (1) inch higher than the existing grade. After setting the tree, the pit shall be backfilled with four (4) parts of acceptable existing soil or topsoil to one (1) part compost and carefully settled by watering to prevent air pockets. Form a four (4) inch high watering ring around the tree. All cord or wire used to secure burlap on tree ball shall be cut from top one-third of ball and from around trunk after setting. Place two (2) inch layer of compost or bark mulch inside the watering ring.

Percolation Test Pits: The Contractor shall excavate at least four (4) test pits on the site and fill with water to test for percolation. Size of pits shall be comparable to largest tree pit to be excavated. Location can be in conjunction with proposed shade tree location. Monitor pit for forty-eight (48) hours. If, at the end of that time, water has not significantly percolated, a Stand Pipe underdrain system should be installed for trees in that area.

Stand Pipe Installation: Should it be determined that tree pits will not percolate, or do so very slowly, shade trees shall have sump pipes installed in specially excavated tree pits.

Bed Preparation

Groundcover Beds: Loosen all groundcover beds to a depth of six (6) inches. Two (2) inches of peat moss or compost shall be applied and worked into the upper six (6) inches of bed. Beds shall be thoroughly tilled and pulverized to a depth of six (6) inches and raked smooth. Work fertilizer into soil at the rate of twelve (12) pounds per 1000 square feet. Delivery receipts of soil amendments may be requested.

Rototill all seasonal color beds to a depth of six (6) inches. Four (4) inches of peat moss or compost shall be applied and worked into the upper six (6) inches of the bed. Beds shall be thoroughly tilled and pulverized to a depth of six (6) inches and raked smooth. Beds shall be left two (2) to three (3) inches higher than surrounding grade for proper drainage.

Shrub Bed Planting: Rototill all shrub beds to a depth of six (6) inches. Four (4) inches of peat moss or compost shall be applied and worked into the upper six (6) inches of the bed. Beds shall be thoroughly tilled and pulverized to a depth of six (6) inches and raked smooth. Beds shall be left two (2) to three (3) inches higher than surrounding grade for proper drainage. Broadcast fertilizer and work lightly into the soil around the shrubs at the rate of (12) twelve pounds per 1000 square feet. Bed shall be left high to prevent poor drainage or ponding of water within the bed.

Care shall be taken to prevent planting beds from blocking drainage against building or impeding site drainage in any way.

Tree Guying And Staking

Submit unit cost in bid for staking all trees four (4) inch caliper and under, with three (3) steel stakes and three (3) Adj-A-Tye straps, Model 5100. Stakes should be located equal distant around the tree, and outside of tree pit. Stakes to be embedded a minimum of two (2) feet into stable soil.

Staked and guys shall be removed following the one (1) year warranty period.

Grass And Weed Removal

Existing grass and weeds in areas of proposed beds shall be removed either chemically or by excavation, including root systems. Existing weeds shall be removed either chemically or by excavation, including root system, from all proposed lawn areas prior to installation of grass. Contractor shall re-fill excavated areas with topsoil to finish grade before bed preparation or grass installation.

Soil Erosion Protection

Install jute mesh or approved equal in planting bed with slopes greater than three to one prior to planting. Mesh shall have a minimum overlap of twelve (12) inches where sections join. Materials shall be installed in lengthwise sections running parallel with the slope, providing the length of slope is in excess of ten (10) linear feet from top to bottom. Jute mesh on slopes with lengths less than ten (10) linear feet shall be installed across the lope and double pinned at the twelve (12) inch overlap. Pins shall be installed so that no gaps or sags are visible in mesh.

Lawns

Loosen and rake smooth all areas to be grassed. Remove all weeds, debris and any clumps, stones, clods, etc. larger than three quarter (3/4) inch diameter. Ensure lawn areas and swales are graded for proper drainage. Areas next to sidewalks and curbs shall be graded down to one (1) inch below finished grade to allow for thickness of grass build-up.

Sod: Areas will be planted with sod as indicated on the plan. All sod shall be dark, rich green, free of weeds and nut grass and placed so joints are flush between pieces. Sod is to have root development that will support its own weight without tearing, when suspended vertically by holding the upper two corners. Sodded areas shall be rolled with a 200 pound roller immediately after laying, watered thoroughly and rerolled. All sodded grass areas shall be fertilized at the rate of twenty-five (25) pounds per 1000 square feet, prior to laying sod. Dead patches of sod shall be removed and replaced immediately.

Lawn Establishment

It is the responsibility of the Contractor to establish a dense lawn of permanent grasses, free from weeds, lumps and depressions. Any part of the area that fails to show a uniform germination shall be reseeded or resodded, and such reseeding or resodding shall continue until a dense lawn is established, regardless of amount of rain.

Water, mow and edge the lawn until initial acceptance. Mow each time after the law has reached a height of three and a half (3 ½) inches. Mow to a height of two and a half (2 ½) inches, returning the clippings to the lawn. Damage to seeded areas resulting from erosion shall be repaired by the Contractor. Scattered bare spots will not be allowed over one (1) foot square in the lawn area. Never mow off more than one-third of the grass leaves.

Clean-Up

During the work, the premises are to be kept neat and orderly at all times. Storage areas for plant and other materials shall be so organized that they, too, are neat and orderly. All trash, including debris resulting from removing weeds or rocks from planting area, preparing beds, or planting plants, shall be removed from the site daily as the work progresses. All walks and drives shall be kept clean by sweeping and hosing. Excavated soil may be distributed on the site or hauled off site as directed by Owner.

Maintenance

The Contractor shall maintain all trees, shrubs, and groundcover under this Contract until initial acceptance, by adequate watering, cultivating the top two (2) inches, weeding every two (2) weeks, spraying, and replacing as necessary to keep plants in a healthy, vigorous condition. Bed areas shall be raked as may be required to keep them neat.

The Contractor shall maintain all grass areas under this Contract until initial acceptance by watering, mowing, spraying, fertilizing, etc.

One Year Maintenance

The Contractor shall submit a separate price for maintenance of the landscape and irrigation installation for a period of one (1) year after initial acceptance. Maintenance shall be based on the Maintenance Specifications listed above.

The Addison Group, LLC 2023

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http://addison-group.com/
7123 Crossroads Blvd Ste. E | Brentwood, TN 37027

MACKENZIE PLACE TOWNHOMES

220 THETA PIKE
COLUMBIA, TENNESSEE

LANDSCAPE PLAN

Prepared For:
Mackenzie Place Townhomes

DANIEL WOODS
REGISTERED
AGRICULTURE
TENNESSEE
License No.
5.19.23
LANDSCAPE ARCHITECT

2023 The Addison Group LLC Drawings, written material, and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of The Addison Group, LLC

DATE: 01.13.23

REVISIONS:
3.20.23
4.13.23
5.19.23

SHEET NO.
LP2.0

March 20, 2023

City of Columbia, Tennessee
700 North Garden Street
Columbia, Tennessee 38401

Re: Mackenzie Place Townhomes – 220 Theta Pike
Cul-de-sac Justification Letter

To whom it may concern,

The following items are listed below to provide justification for a cul-de-sac on the aforementioned project:

1. Storm water management area directly to the east of the project site.

2. Lack of viable roadway connection to the east due to topography.

Sincerely,

Brian Holcombe

FREEMAN WEBB

5/11/2023

To the City of Columbia,

Freeman Webb agrees to allow the development of Mackenzie Place to remove vegetation along Theta Pike to the appropriate extent necessary in order to comply with minimum sight distance" However, in no event shall this be greater than the site distance shown and in no event shall any plantings or brush be disturbed around the entrance area of the Freeman Webb Property.

Best,

Bob Freeman

President

Mail – P.O. Box 23857 ● Nashville, TN 37202-3857
3810 Bedford Avenue, Suite 300 ● Nashville, TN 37215
Phone (615) 271-2700 ● Fax (615) 726-1967

GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

March 2, 2023

Waits Development
PO Box 111285
Nashville, Tennessee 37222

Attention: Mr. John Waits
John.waits1@icloud.com

Subject: **INFILTRATION TEST RESULTS**
Proposed Mackenzie Place Townhomes
220 Theta Pike
Columbia, Tennessee
GEOServices Project No. 31-231084

Dear Mr. Waits:

GEOServices has completed infiltration measurements, as requested by Waits Development personnel at the 220 Theta Pike development in Columbia, Tennessee. A total of eight (8) infiltration locations were requested by Waits Development personnel. One of the eight infiltrations were installed at the planned depth of 11 feet (IT-1) below the existing ground surface elevation. The remaining infiltration locations encountered shallow refusal conditions, but was able to be offset and completed approximately 1 to 2 feet above the refusal depth. During installation, lean and/or fat clays were encountered to the test depths. After installation, two feet of water was filled into each casing and allowed to presoak for an initial period of 24 hours prior to recording infiltration test results. After presoaking for 24 hours, the two-foot water level was re-established, readings taken after one hour, and the process repeated for a total of four hours. The infiltration locations were prefilled on February 23 (IT-1 through IT-4) and March 1 (IT-5 through IT-8), 2023 and the infiltration readings were completed on February 24 (IT-1 through IT-4) and March 2 (IT-5 through IT-8), 2023. The following table presents the findings recorded during the infiltration testing. According to test procedure guidelines, the infiltration rate can be taken as the 4th reading, or average of the four 1-hour readings.

Location #	Planned Depth (feet)	Refusal Depth (Feet)	Test Depth (feet)	Infiltration Rate (inches per hour)			
				1 hr	2 hr	3 hr	4 hr
IT-1	11	-	11	1.5	1.25	0.75	0.5
IT-2	13	5.25	4	0.5	0.5	0.5	0.5
IT-3	14	6.25	4	0	0	0	0
IT-4	15	5	4	3.5	2.25	1.5	1.25
IT-5	14	7.5	6.5	1	0.75	0.5	0.25
IT-6	13	9	8	1.5	1	0.75	0.5
IT-7	12	7	6	1	0.5	0.5	0.5
IT-8	11	11	10	3	2.25	2	1.75

Notes: Test depths rounded to the nearest 1/4 foot and test measurements rounded to the nearest 1/4 inch and should be considered approximate.

GEOServices looks forward to continuing to work with you on this project. If you have any questions or require additional information, please feel free to call us.

Sincerely,
GEOServices, LLC

Scott Williams

S. Scott Williams
Staff Professional

Jerry W. Gammon, P.E.
V.P., Nashville Area Branch Manager
TN 111633

Attachments: Infiltration Test Location Plan

N



Notes:

1) Site Source Provided by: Client
2) Aerial Provided by: Google Earth Pro, (2022)
3) Infiltration Test Locations are shown in general arrangement only
4) Do Not use Infiltration Test Locations for determinations of Distance or Quantities

Infiltration Test Location & Identifier

GEOS
GEOServices, LLC-Geotechnical and Materials Engineers
A Universal Engineering Sciences Company

Infiltration Test Location Plan
Proposed Mackenzie Place Townhomes
Columbia, Tennessee

DATE: 02/20/2023

GEOS Project No. 31-231084

FIGURE: 1

Mackenzie Place
Stormwater Management/Quantity/Quality Calculations
May 2023

Enclosures:

- Post-Development Drainage Map (MAP 2)
- LID Calculations (Post-Development)
- Hydraflow Hydrographs
- USDA Web Soil Survey

Project Description

The project consists of the construction of (thirty-four) 34 multi-family units with associated roads, sidewalks, and utilities. An Infiltration Trench (Level 2) is proposed to meet the City of Columbia's water quality and quantity requirements.

Water Quality/Low Impact Design Analysis

An Infiltration Trench (Level 2) is proposed to satisfy the **80%** target runoff reduction requirement. Water quality requirements were calculated using Metro Nashville's BMP Manual and the Water Quality Calculation Tool.

The **proposed Rv** and required infiltration trench sizes were calculated using Metro's Water Quality Calculation Tool. These calculations are included as part of this report. The infiltration trench has been oversized in order to reduce the post-development Curve Number (CN). The CN for the existing condition, based on the Metro Water Quality Calculation Tool, is **80.5**. The post development CN has been calculated to be **77.9**.

Below are the ***sizing calculations*** *for the infiltration trench*:

Infiltration Trench #1 (Level 2)

Top of Infiltration Trench Gravel = 609.50

Top of Berm Elevation = 611.50

Gravel Depth = 6 feet De = 6' * (0.4) + 0.5' (ponding depth) = 2.9'

Tv Required from LID Spreadsheet = **6,921 CF**

Surface Area Required = (Tv /De): (6,921/2.9) = **2,387 SF**

Trench Surface Area Provided = **5,450 SF/2,387 SF = 228% of the required volume**

Water Quantity Analysis

The infiltration trench (Level 2) is proposed to attenuate post-developed flow rates at or below the pre-developed flow rates. Web soil survey was utilized to determine existing soil characteristics and establish a pre-development curve number (CN=77.9) in the calculations. The post-development peak flows were

calculated by pond hydrograph routing and resulting bypass. The time of concentration for the pre and post-developed conditions was calculated using TR-55.

Hydraflow Hydrographs Version 12 was utilized to analyze the peak flows of the effective area, in the pre and post development conditions, its contributing drainage area and the resulting bypass. The total hydrologic area of analysis is 3.61 acres. The post-development peak flows for the 2, 5, 10, 25, 50, and 100-year storm events are equal to or less than the pre-development peak flows.

Below is a summary of the Hydraflow Hydrograph results for the development:

STORMWATER PEAK RUNOFF ANALYSIS		
STORM EVENT	**PRE-DEVELOPED**	**POST-DEVELOPED (COMBINED)**
2-YR, 24-HR	9.38	4.062
5-YR, 24-HR	14.83	6.142
10-YR, 24-HR	18.55	10.21
25-YR, 24-HR	23.36	16.07
50-YR, 24-HR	26.95	17.80
100-YR, 24-HR	30.49	19.44

Post-Development Map (MAP 2)

MWS LID Site Design Tool

Project Name	Mackenzie Place
Parcel Identification #	
Engineer	M2 Group, LLC

Combined Sewer Overlay?	**NO**
Pre or Post Development Worksheet?	**Post**
Target Runoff Reduction Requirement =	**80%**

See Section 7.2.1 in Metro SWMM Volume 1

Capture Depth=	**1**	**inch**
Cistern Capture=		**% Total Vol captured**

From Cistern Design Tool

MWS LID SITE DESIGN TOOL VERSION 11 - October 20, 2021

Instructions

1. Input cells are in Green.
2. Break Site Into Sub areas by single soils and land use type combinations.
3. Assign a code to each subarea and input the code into column C. Descriptions can be entered in column B.
4. Input the subarea drainage area in column D.
5. Input treatment credit code (Column F) for the first tier of treatments
6. Input additional treatment code as desired (Column I) for any subarea
7. Adjust until you reach 80% reduction or better (Cell N turns green if 80% reached).
8. If 80% reduction is not reached and it has been decided that GIPs in series is an option use Step 3a to place GIPs in series . Their respective treatment volumes are calculated in column W. This volume is separate from GIPs upstream.

Percent Volume Reduction-Based Calculations

Step 1: Lay out the site and divide it into sub-areas each of a specific land use type and Rv.					Step 1a: Change any basic land use types through reforesting, permeable pavement or green roofs - or through use of open space for a GIP.			Step 2: Treat impervious areas through the use of sheet flow			Step 3: Treat primarily impervious areas with structural GIPs either in series with Step 3 intrinsic GIPs or alone downstream from Steps 1 and 2 land use.			Size controls for Step 3 by assigning structure ID to each sub-area, combining sub-areas into one structure if appropriate.			Step 3a Treatment in Series Calculation - Place Structural GIPs in same row as upstream GIP			Size controls for Step 3a in series by assigning a sequential structure ID to each area treated in series.				
Step1 Basic Land Use					**Step 1a Modified LU**			**Step 2 Intrinsic GIPs**			**Step 3 Structural GIPs**			**Structure ID**	**IA Capture**		**Step 3a Structural GIPs in Series**			**Structure ID**	**IA Capture**		**Nominal Curve Number**	
Subarea	Description	Code	Acres	Base Rv	Code	Acres	Eff Rv1	Code	Trtmt VR1	Eff Rv2	Code	Trtmt VR2	Eff Rv3	Site GIP ID Number	Tv Multiplier	Tv (cf)	Code	Trtmt VR2	Eff Rv4	Site GIP ID Number	Tv Multiplier	Structure in Series Tv (cf)	Step 1	Step 1A
1	Imp to IT#1	IA	1.4256198	0.95	IA	1.4256198	0.95		0	0.95	I2	0.9	0.10		1.25	6,145		0	0.10		0.00	-	98	98
2	Turf to IT #1	TC	0.8543802	0.20	TC	0.8543802	0.20		0	0.20	I2	0.9	0.02		1.25	775		0	0.02		0.00	-	79	79
3				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
4				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
5				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
6				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
7				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
8				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
9	East Bypass	TC	0.3951148	0.20	TC	0.3951148	0.20		0	0.20		0	0.20		0.00	-		0	0.20		0.00	-	79	79
10	East Imp Bypass	IA	0.1748852	0.95	IA	0.1748852	0.95		0	0.95		0	0.95		0.00	-		0	0.95		0.00	-	98	98
11	West Bypass - Imp	IA	0.1592975	0.95	IA	0.1592975	0.95		0	0.95		0	0.95		0.00	-		0	0.95		0.00	-	98	98
12	West Bypass-Turf	TC	0.6007025	0.20	TC	0.6007025	0.20		0	0.20		0	0.20		0.00	-		0	0.20		0.00	-	79	79
13				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
14				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
15				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
16				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
17				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
18				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
47				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
76				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
105				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
134				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
162				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
191				0.00		0	0.00		0	0.00		0	0.00		0.00	-		0	0.00		0.00	-	0	0
		Weighted Rv		0.566		Weighted Rv	0.566		Weighted Rv	0.566		Weighted Rv	0.187		Step 3 Tv Total	**6,921**			0.187		Final Tv Total	**6,921**	88.3	88.3
		Total Area=	3.61	2.04		Total Area=	3.61	2.04					0.68						0.68					
		% Removal		43.4%		% Removal		43.4%		% Removal		% Removal	**81.3%**					% Removal	**81.3%**					

↑ THIS CELL WILL TURN GREEN WHEN TARGET RUNOFF REDUCTION MET ↑

MWS LID Site Design Tool

Project Name	Mackenzie Place
Parcel Identification #	0

MWS LID SITE DESIGN TOOL VERSION 11 - October 20, 2021

PreDev CN	80.5

METRO RAINFALL	
Return Period	**Rainfall (in)**
2-yr	3.39
5-yr	4.50
10-yr	5.23
25-yr	6.16
50-yr	6.85
100-yr	7.53

Curve Number Instructions

1. Enter the composite pre-development curve number (CN), to the left, for the watershed.
2. The tool automatically assigns curve numbers for each subarea based on MWS policy matching the land uses of Steps 1 and 1a to curve numbers (see column **G COVER SHEET**).
3. Curve numbers are shown for both Step 1 and Step 1a in columns **X** and **Y** as well as the composite curve number for the site in line 59 of those columns.
4. The ratio of the **Tv provided/Tv required** for each GIP (as a %) is entered in column **AG** (e.g. if only required Tv is provided then this should be 100%).
5. Select the rainfall in **Cell AC19** based on return periods shown in table to left.
6. Adjusted curve numbers for each subarea are shown in the table below in column **AK**, as well as the composite adjusted curve number in **Cell AK59**, for the rainfall selected. If this value is greater than the composite Pre-Development CN then **Cell AK60** will state "Detention Required"
7. These are the curve numbers to be used in flood control design calculations. Each watershed must be calculated independently. If there are multiple watersheds for the project, then the composite pre-development curve number and composite adjusted curve number should be compared for each watershed to determine if detention is required.
8. If there are GIPs in series, use the 2nd table to calculate the additional reduction in CN.

Adjusted Curve Number Calculations (Step 3 only)

No Controls				With Structural Controls &Treatment Vol Removed						
Original CN	Rainfall (in)	S (in)	Q (in)	Tv required (cu ft)	Tv provided (%)	RO Vol Red (cu ft)	Q reduction (in)	Q adj (in)	Adjusted CN	Difference
98.0	7.53	0.204	7.29	6145	228.0%	14011	2.7075	4.583	**74.7**	-23.3
79.0	7.53	2.658	5.07	775	228.0%	1768	0.57	4.502	**73.9**	-5.1
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
79.0	7.53	2.658	5.07	-			0	5.072	**79.0**	0.0
98.0	7.53	0.204	7.29	-			0	7.291	**98.0**	0.0
98.0	7.53	0.204	7.29	-			0	7.291	**98.0**	0.0
79.0	7.53	2.658	5.07	-			0	5.072	**79.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
88.3	7.53	1.330	6.14	6920.6625			0.528121494	5.612	**77.9**	-10.4

Note that this assumes the same Pre- and Post-developpment Time of Concentrations and Drainage Areas **OK**

Adjusted Curve Number Calculations (Step 3a added)

No Controls				With Structural Controls &Treatment Vol Removed						
Adjusted CN (St 3)	Rainfall (in)	S (in)	Q (in)	Tv required (cu ft)	Tv provided (%)	RO Vol Red (cu ft)	Q reduction (in)	Q adj (in)	Adjusted CN	Difference
74.7	7.53	3.392	4.58	-			0	4.583	**74.7**	0.0
73.9	7.53	3.523	4.50	-			0	4.502	**73.9**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
79.0	7.53	2.658	5.07	-			0	5.072	**79.0**	0.0
98.0	7.53	0.204	7.29	-			0	7.291	**98.0**	0.0
98.0	7.53	0.204	7.29	-			0	7.291	**98.0**	0.0
79.0	7.53	2.658	5.07	-			0	5.072	**79.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
0.0	7.53	-	-	-			0	-	**0.0**	0.0
88.3	7.53	1.330	6.14	0			0	6.140	**77.9**	-10.4

Note that this assumes the same Pre- and Post-developpment Time of Concentrations and Drainage Areas **OK**

LID Calculations (Post-Development)

IMPERVIOUS LEGEND

- IMPERVIOUS AREA TO IT#1
- IMPERVIOUS BYPASS WEST
- IMPERVIOUS AREA TO IT #2
- IMPERVIOUS BYPASS EAST
- CATCHMENT AREA

INFILTRATION TRENCH #1

TO IT#1
Area: 2.28 AC
Perimeter: 1469.75'

BYPASS WEST
Area: 0.76 AC
Perimeter: 1297.41'

BYPASS EAST
Area: 0.57 AC
Perimeter: 1220.39'

N NW NE W E SW SE S

50' 0 50' 100'
GRAPHIC SCALE

POST DEVELOPMENT DRAINAGE MAP FOR:

MAP 2

MACKENZIE PLACE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

Hydraflow Hydrographs

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	5.214	-------	8.194	10.21	12.82	14.76	16.67	Pre - West
2	SCS Runoff	------	-------	4.166	-------	6.636	8.339	10.54	12.19	13.82	Pre - East
4	Combine	1, 2,	-------	9.380	-------	14.83	18.55	23.36	26.95	30.49	Pre - Site Outfall
6	SCS Runoff	------	-------	8.999	-------	12.64	15.02	18.03	20.25	22.44	Post to Pond
7	Reservoir	6	-------	0.108	-------	1.884	5.421	7.424	7.785	11.20	Post thru Pond
8	SCS Runoff	------	-------	1.803	-------	2.692	3.282	4.034	4.591	5.138	Post - East Bypass
9	SCS Runoff	------	-------	2.260	-------	3.451	4.247	5.268	6.025	6.771	Post - West Bypass
11	Combine	7, 9,	-------	2.260	-------	3.451	7.697	12.16	13.36	14.81	Post - West
13	Combine	8, 11,	-------	4.062	-------	6.142	10.21	16.07	17.80	19.44	Post - Site Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

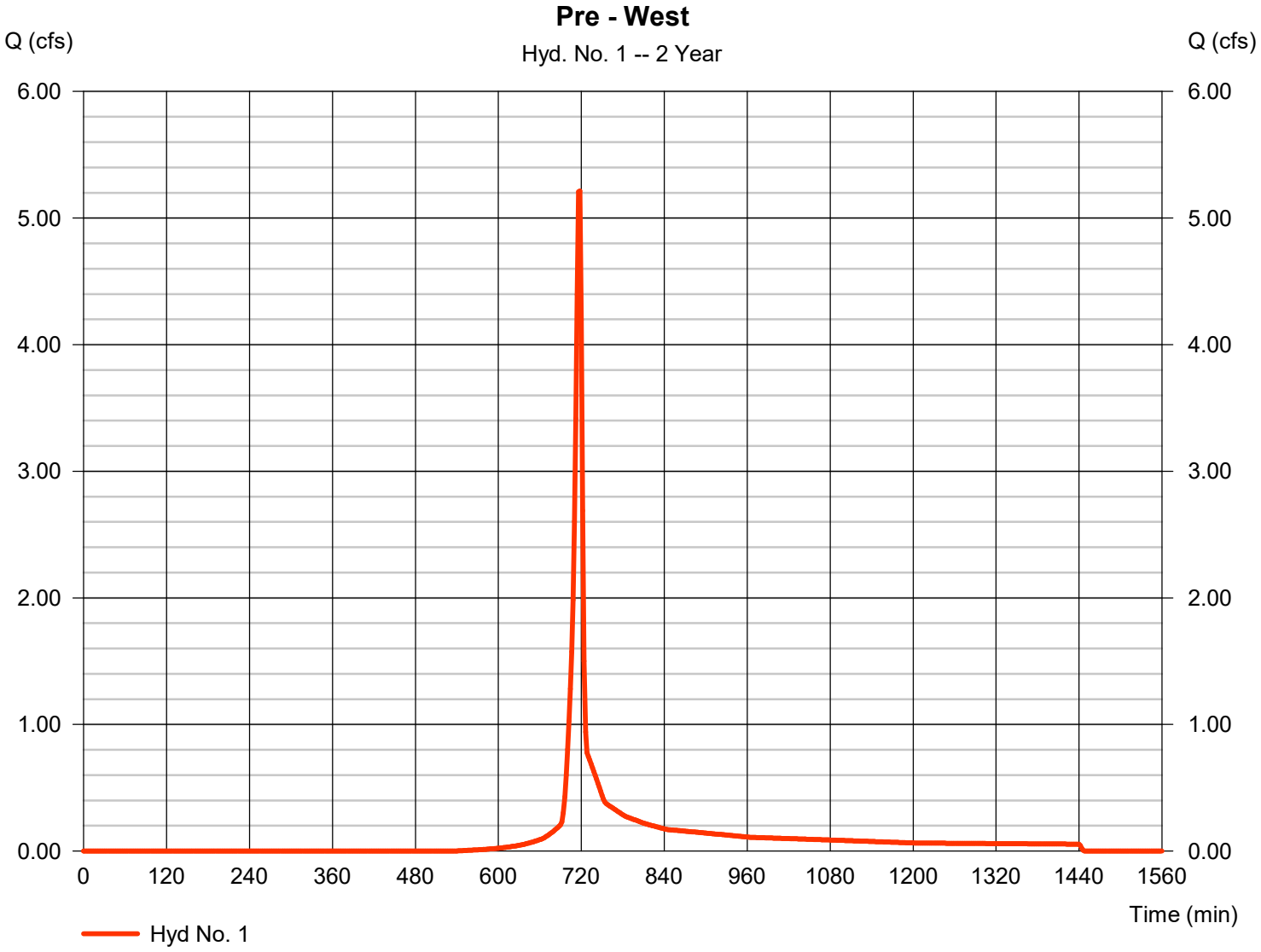
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	5.214	2	718	10,515	------	------	------	Pre - West
2	SCS Runoff	4.166	2	718	8,367	------	------	------	Pre - East
4	Combine	9.380	2	718	18,882	1, 2,	------	------	Pre - Site Outfall
6	SCS Runoff	8.999	2	716	18,910	------	------	------	Post to Pond
7	Reservoir	0.108	2	862	843	6	610.02	13,909	Post thru Pond
8	SCS Runoff	1.803	2	716	3,661	------	------	------	Post - East Bypass
9	SCS Runoff	2.260	2	716	4,569	------	------	------	Post - West Bypass
11	Combine	2.260	2	716	5,412	7, 9,	------	------	Post - West
13	Combine	4.062	2	716	9,072	8, 11,	------	------	Post - Site Outfall

Hydrograph Report

Hyd. No. 1

Pre - West

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.214 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	10,515 cuft
Drainage area	=	1.950 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	5.60 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



TR55 Tc Worksheet

Hyd. No. 1

Pre - West

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 12.33		0.00		0.00		
Travel Time (min)	**= 4.60**	**+**	**0.00**	**+**	**0.00**	**=**	**4.60**
Shallow Concentrated Flow							
Flow length (ft)	= 310.00		0.00		0.00		
Watercourse slope (%)	= 9.83		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=5.06		0.00		0.00		
Travel Time (min)	**= 1.02**	**+**	**0.00**	**+**	**0.00**	**=**	**1.02**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.150		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

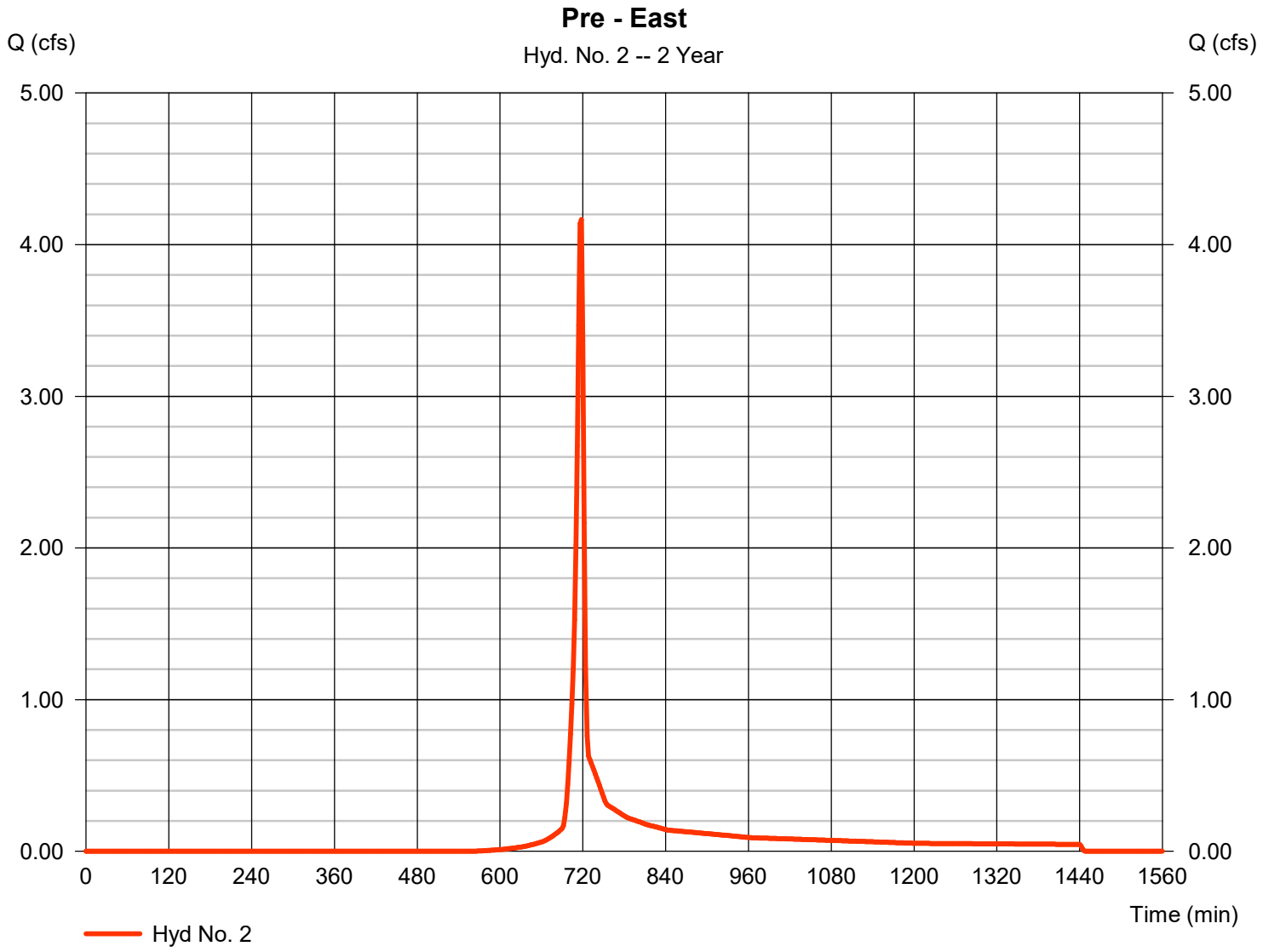
Total Travel Time, Tc ..... 5.60 min

Hydrograph Report

Hyd. No. 2

Pre - East

Hydrograph type	= SCS Runoff	Peak discharge	= 4.166 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 8,367 cuft
Drainage area	= 1.660 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hyd. No. 2

Pre - East

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 12.00		0.00		0.00		
Travel Time (min)	**= 4.65**	**+**	**0.00**	**+**	**0.00**	**=**	**4.65**
Shallow Concentrated Flow							
Flow length (ft)	= 403.00		0.00		0.00		
Watercourse slope (%)	= 10.50		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=5.23		0.00		0.00		
Travel Time (min)	**= 1.28**	**+**	**0.00**	**+**	**0.00**	**=**	**1.28**
Channel Flow							
X sectional flow area (sqft)	= 86.90		0.00		0.00		
Wetted perimeter (ft)	= 47.50		0.00		0.00		
Channel slope (%)	= 3.81		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=29.06						
			0.00				
					0.00		
Flow length (ft)	({0})100.0		0.0		0.0		
Travel Time (min)	**= 0.06**	**+**	**0.00**	**+**	**0.00**	**=**	**0.06**

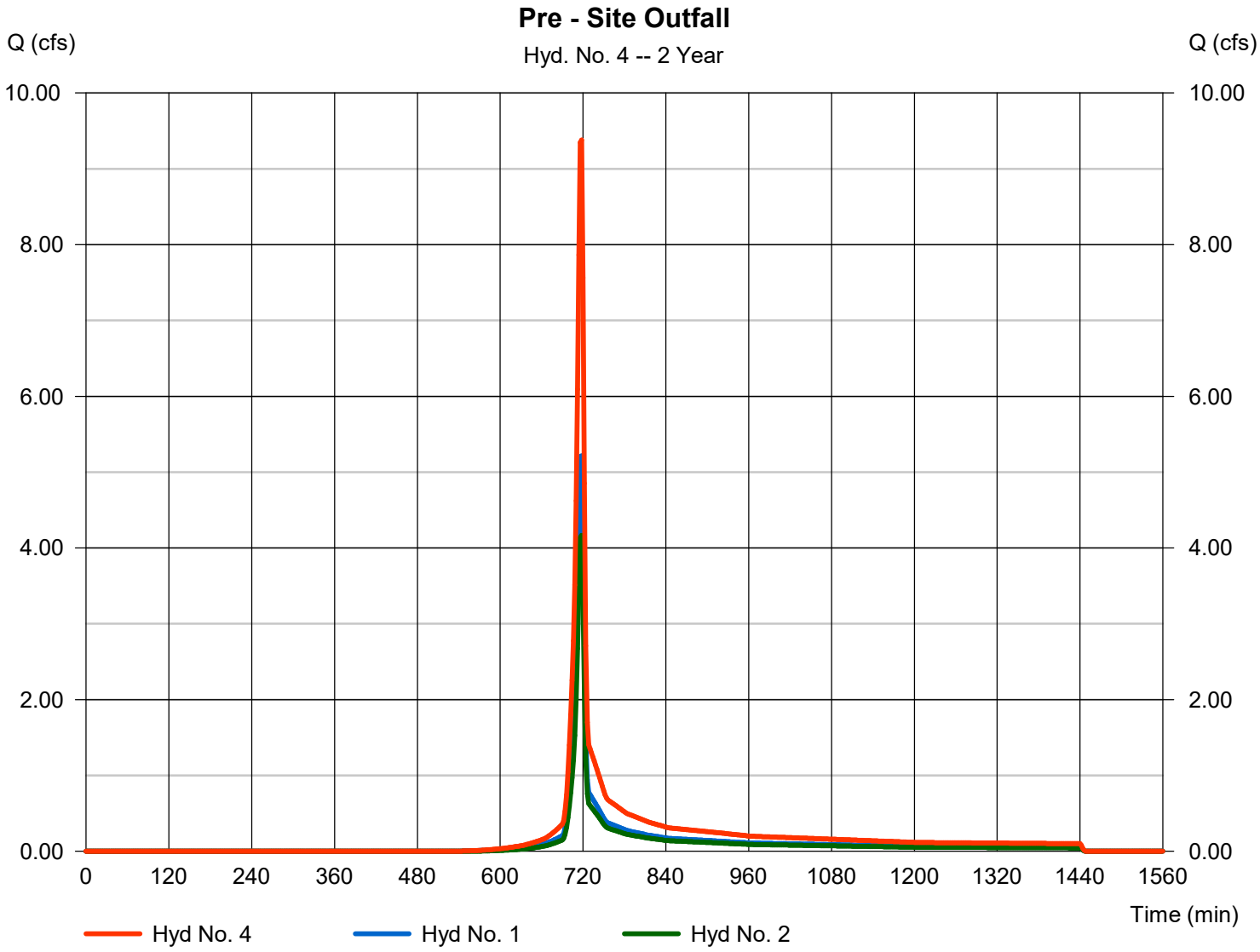
Total Travel Time, Tc ..... 6.00 min

Hydrograph Report

Hyd. No. 4

Pre - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 9.380 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 18,882 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 3.610 ac



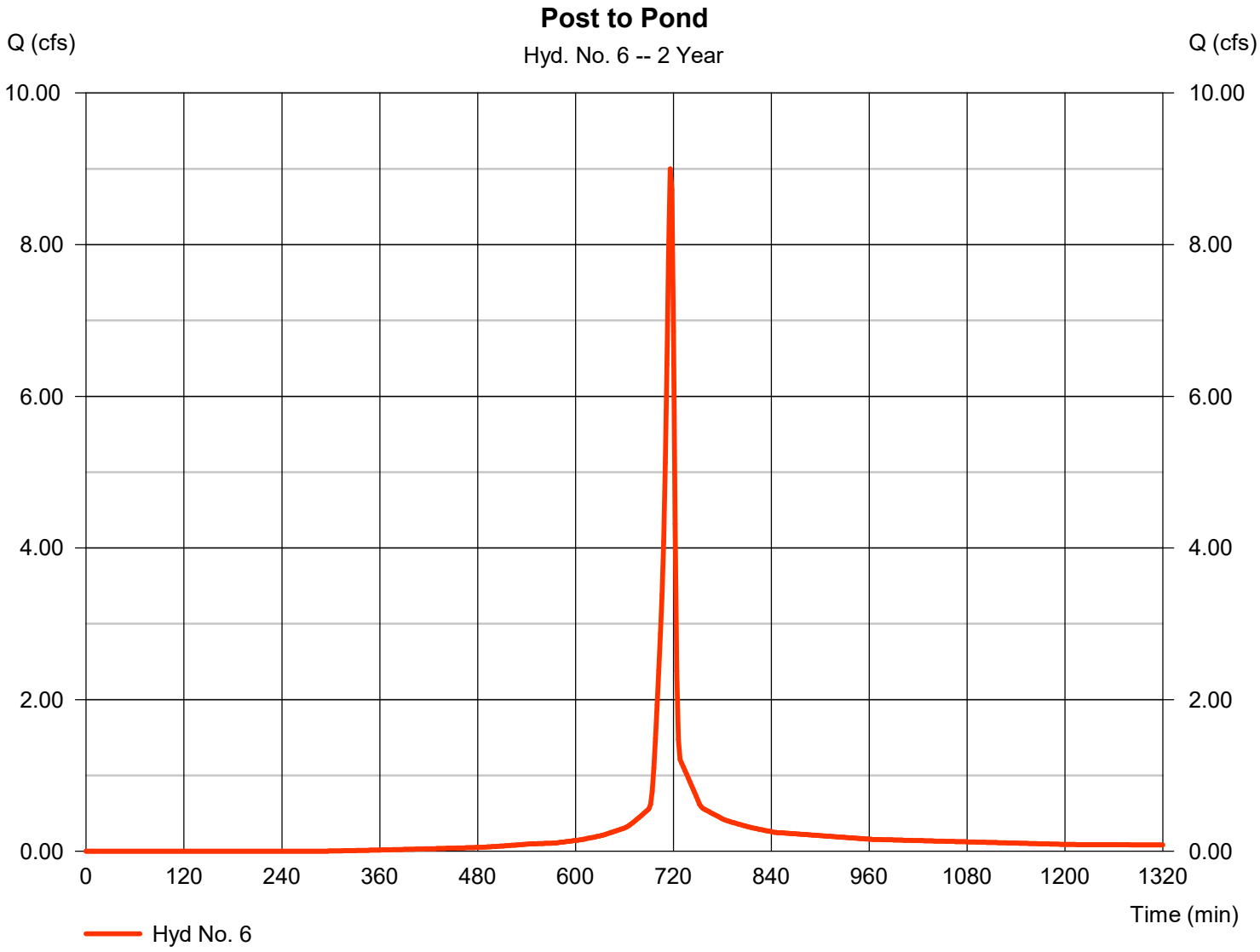
Hydrograph Report

Hyd. No. 6

Post to Pond

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.999 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	18,910 cuft
Drainage area	=	2.280 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.430 x 98) + (0.850 x 79)] / 2.280



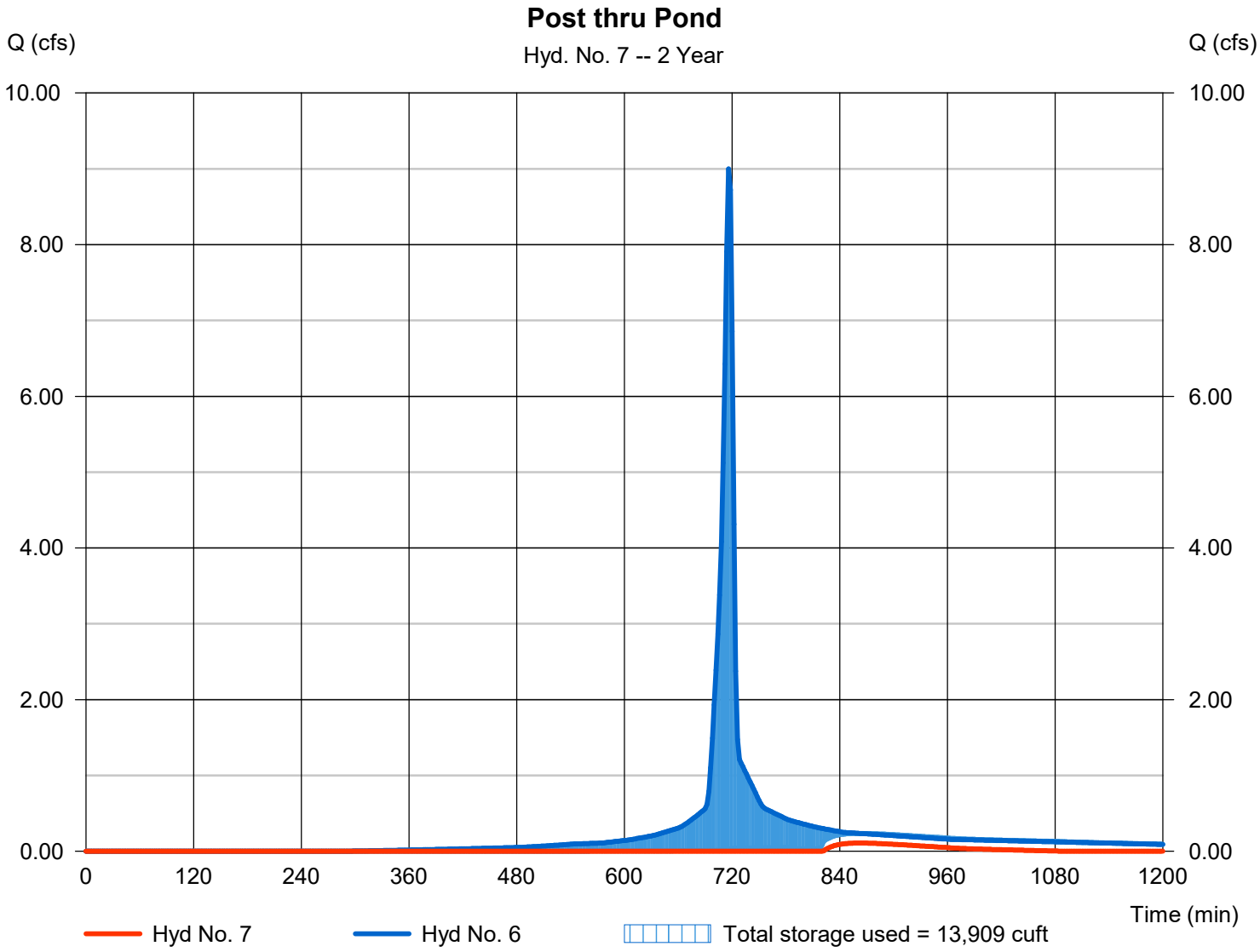
Hydrograph Report

Hyd. No. 7

Post thru Pond

Hydrograph type	=	Reservoir	Peak discharge	=	0.108 cfs
Storm frequency	=	2 yrs	Time to peak	=	862 min
Time interval	=	2 min	Hyd. volume	=	843 cuft
Inflow hyd. No.	=	6 - Post to Pond	Max. Elevation	=	610.02 ft
Reservoir name	=	INFILTRATION 1	Max. Storage	=	13,909 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond No. 3 - INFILTRATION 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 603.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	603.50	2,180	0	0
6.00	609.50	2,180	13,079	13,079
6.01	609.51	1,365	18	13,096
6.49	609.99	1,365	655	13,751
6.50	610.00	5,450	32	13,783
8.00	611.50	8,900	10,656	24,439

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 606.00	0.00	0.00	0.00
Length (ft)	= 42.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.71	22.50	0.00	0.00
Crest El. (ft)	= 610.00	611.25	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 1.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	603.50	0.00	---	---	---	0.00	0.00	---	---	0.000	---	0.000
0.60	1,308	604.10	0.00	---	---	---	0.00	0.00	---	---	0.005	---	0.005
1.20	2,616	604.70	0.00	---	---	---	0.00	0.00	---	---	0.010	---	0.010
1.80	3,924	605.30	0.00	---	---	---	0.00	0.00	---	---	0.015	---	0.015
2.40	5,231	605.90	0.00	---	---	---	0.00	0.00	---	---	0.020	---	0.020
3.00	6,539	606.50	0.00	---	---	---	0.00	0.00	---	---	0.025	---	0.025
3.60	7,847	607.10	0.00	---	---	---	0.00	0.00	---	---	0.030	---	0.030
4.20	9,155	607.70	0.00	---	---	---	0.00	0.00	---	---	0.035	---	0.035
4.80	10,463	608.30	0.00	---	---	---	0.00	0.00	---	---	0.040	---	0.040
5.40	11,771	608.90	0.00	---	---	---	0.00	0.00	---	---	0.045	---	0.045
6.00	13,079	609.50	0.00	---	---	---	0.00	0.00	---	---	0.050	---	0.050
6.00	13,080	609.50	0.00	---	---	---	0.00	0.00	---	---	0.049	---	0.049
6.00	13,082	609.50	0.00	---	---	---	0.00	0.00	---	---	0.047	---	0.047
6.00	13,084	609.50	0.00	---	---	---	0.00	0.00	---	---	0.045	---	0.045
6.00	13,086	609.50	0.00	---	---	---	0.00	0.00	---	---	0.043	---	0.043
6.00	13,087	609.50	0.00	---	---	---	0.00	0.00	---	---	0.041	---	0.041
6.01	13,089	609.51	0.00	---	---	---	0.00	0.00	---	---	0.039	---	0.039
6.01	13,091	609.51	0.00	---	---	---	0.00	0.00	---	---	0.037	---	0.037
6.01	13,093	609.51	0.00	---	---	---	0.00	0.00	---	---	0.035	---	0.035
6.01	13,095	609.51	0.00	---	---	---	0.00	0.00	---	---	0.033	---	0.033
6.01	13,096	609.51	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.06	13,162	609.56	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.11	13,227	609.61	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.15	13,293	609.65	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.20	13,358	609.70	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.25	13,424	609.75	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.30	13,489	609.80	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.35	13,555	609.85	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.39	13,620	609.89	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.44	13,686	609.94	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.49	13,751	609.99	0.00	---	---	---	0.00	0.00	---	---	0.032	---	0.032
6.49	13,755	609.99	0.00	---	---	---	0.00	0.00	---	---	0.041	---	0.041
6.49	13,758	609.99	0.00	---	---	---	0.00	0.00	---	---	0.051	---	0.051
6.49	13,761	609.99	0.00	---	---	---	0.00	0.00	---	---	0.060	---	0.060
6.49	13,764	609.99	0.00	---	---	---	0.00	0.00	---	---	0.069	---	0.069
6.49	13,767	609.99	0.00	---	---	---	0.00	0.00	---	---	0.079	---	0.079
6.50	13,770	610.00	0.00	---	---	---	0.00	0.00	---	---	0.088	---	0.088

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INFILTRATION 1

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
6.50	13,774	610.00	0.00	---	---	---	0.00	0.00	---	---	0.098	---	0.098
6.50	13,777	610.00	0.00	---	---	---	0.00	0.00	---	---	0.107	---	0.107
6.50	13,780	610.00	0.00	---	---	---	0.00	0.00	---	---	0.117	---	0.117
6.50	13,783	610.00	0.00	---	---	---	0.00	0.00	---	---	0.126	---	0.126
6.65	14,849	610.15	0.92 oc	---	---	---	0.91	0.00	---	---	0.134	---	1.046
6.80	15,914	610.30	2.58 oc	---	---	---	2.58	0.00	---	---	0.142	---	2.720
6.95	16,980	610.45	4.74 oc	---	---	---	4.74	0.00	---	---	0.150	---	4.886
7.10	18,046	610.60	6.91 oc	---	---	---	6.91 s	0.00	---	---	0.158	---	7.065
7.25	19,111	610.75	7.28 oc	---	---	---	7.27 s	0.00	---	---	0.166	---	7.441
7.40	20,177	610.90	7.50 oc	---	---	---	7.50 s	0.00	---	---	0.174	---	7.676
7.55	21,243	611.05	7.69 oc	---	---	---	7.68 s	0.00	---	---	0.182	---	7.866
7.70	22,308	611.20	7.85 oc	---	---	---	7.84 s	0.00	---	---	0.190	---	8.034
7.85	23,374	611.35	8.00 oc	---	---	---	8.00 s	1.86	---	---	0.198	---	10.05
8.00	24,439	611.50	8.14 oc	---	---	---	8.13 s	7.31	---	---	0.206	---	15.65

...End

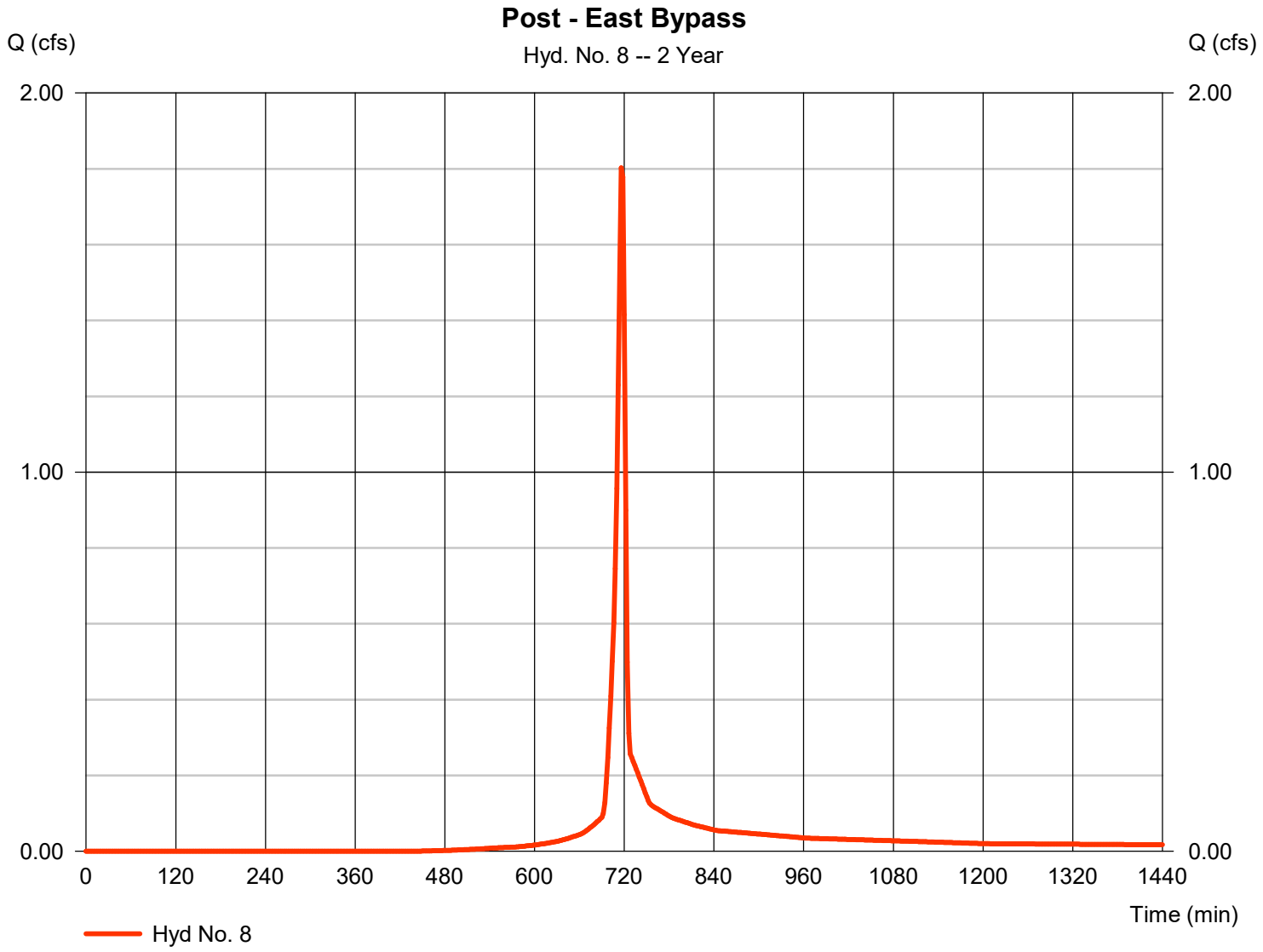
Hydrograph Report

Hyd. No. 8

Post - East Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.803 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	3,661 cuft
Drainage area	=	0.560 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 79) + (0.170 x 98)] / 0.560



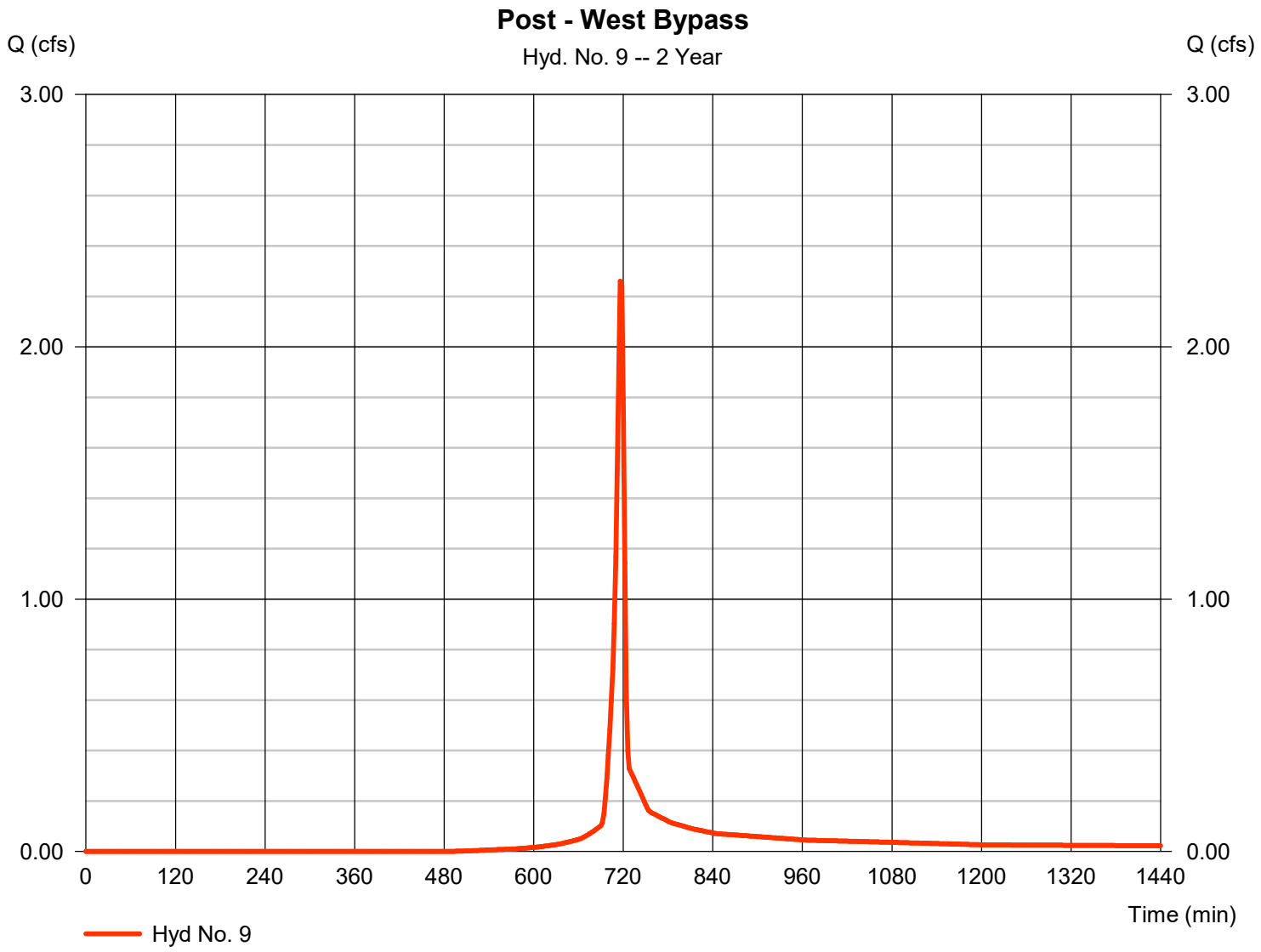
Hydrograph Report

Hyd. No. 9

Post - West Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.260 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	4,569 cuft
Drainage area	=	0.760 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.160 x 98) + (0.600 x 79)] / 0.760

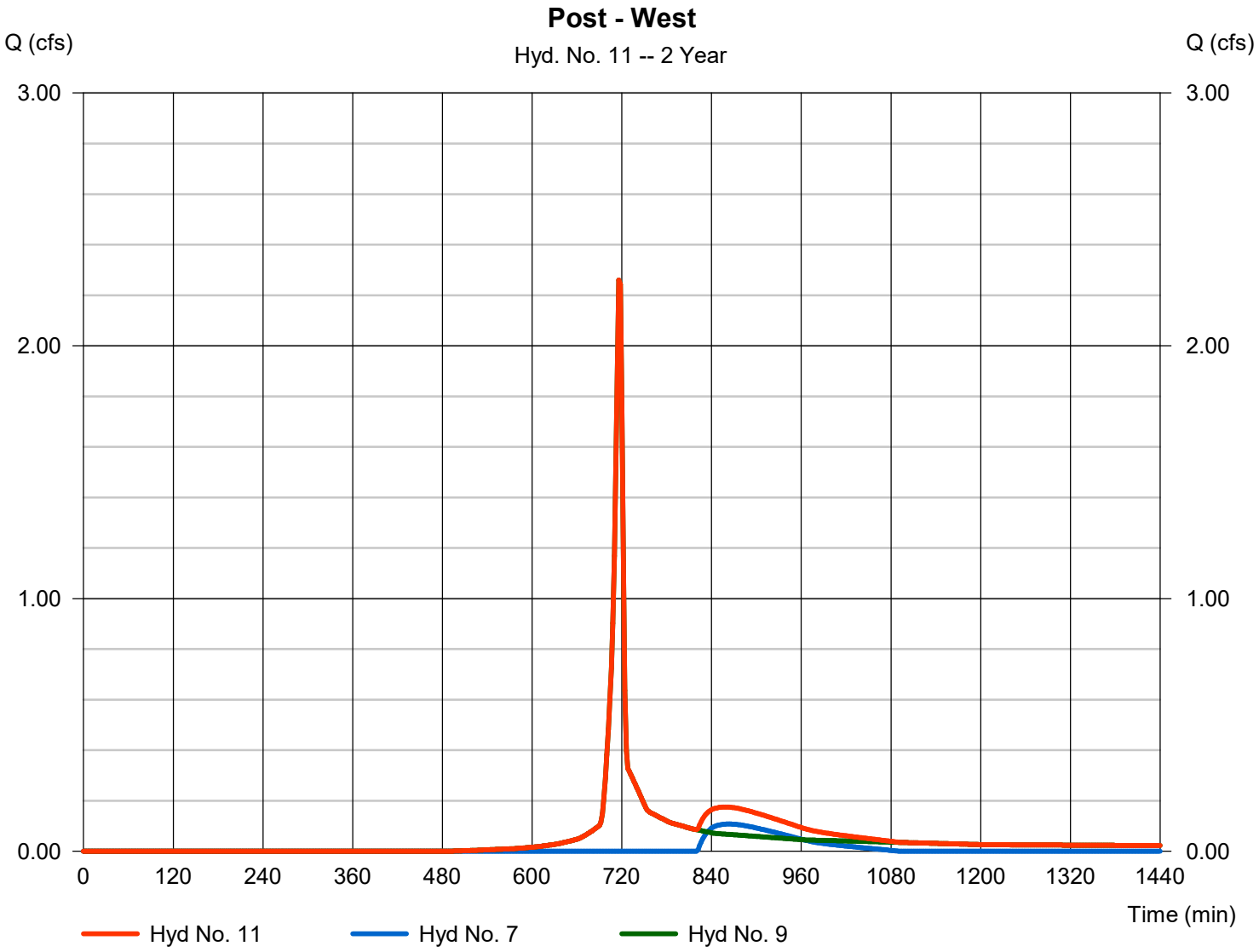


Hydrograph Report

Hyd. No. 11

Post - West

Hydrograph type	= Combine	Peak discharge	= 2.260 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 5,412 cuft
Inflow hyds.	= 7, 9	Contrib. drain. area	= 0.760 ac

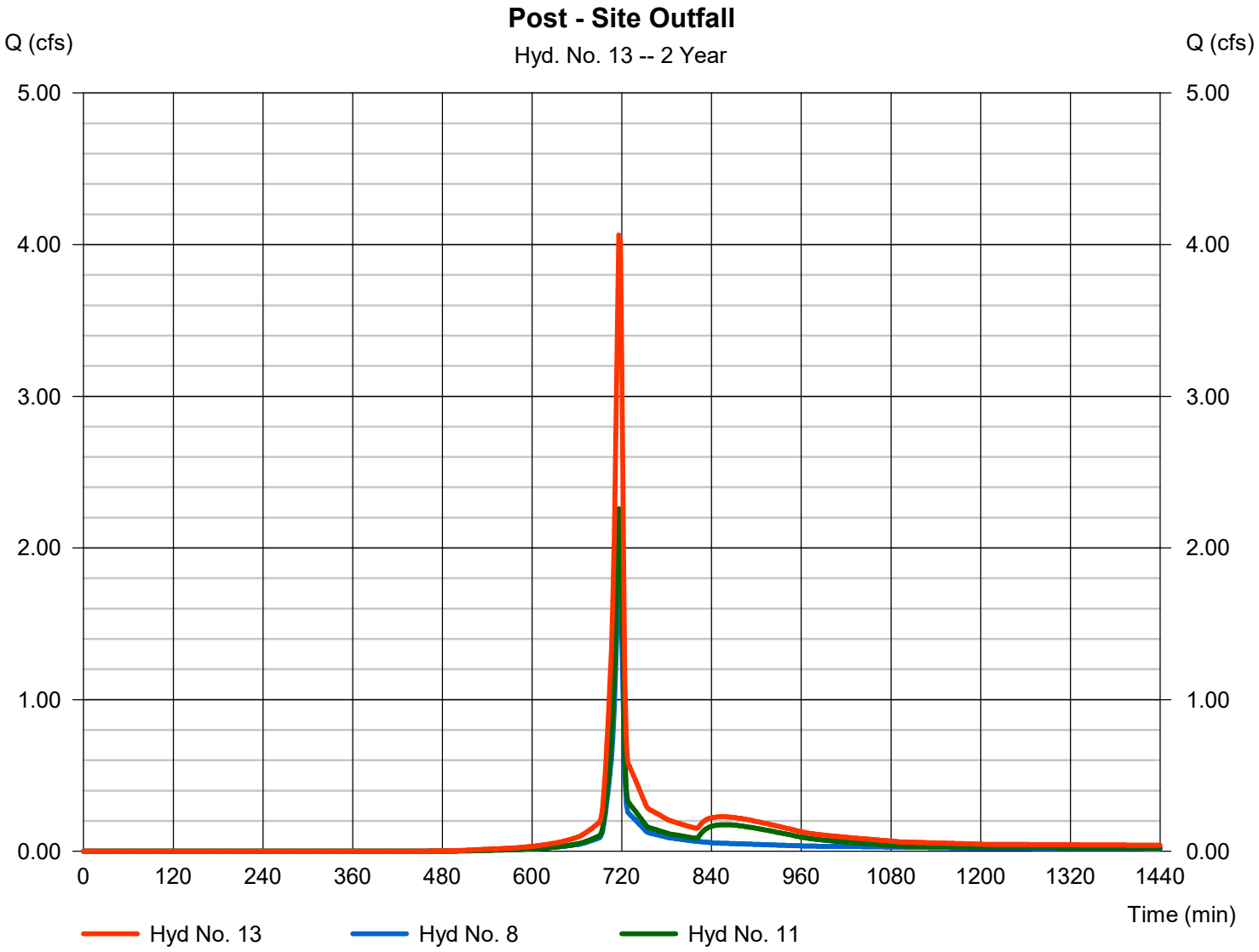


Hydrograph Report

Hyd. No. 13

Post - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 4.062 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 9,072 cuft
Inflow hyds.	= 8, 11	Contrib. drain. area	= 0.560 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

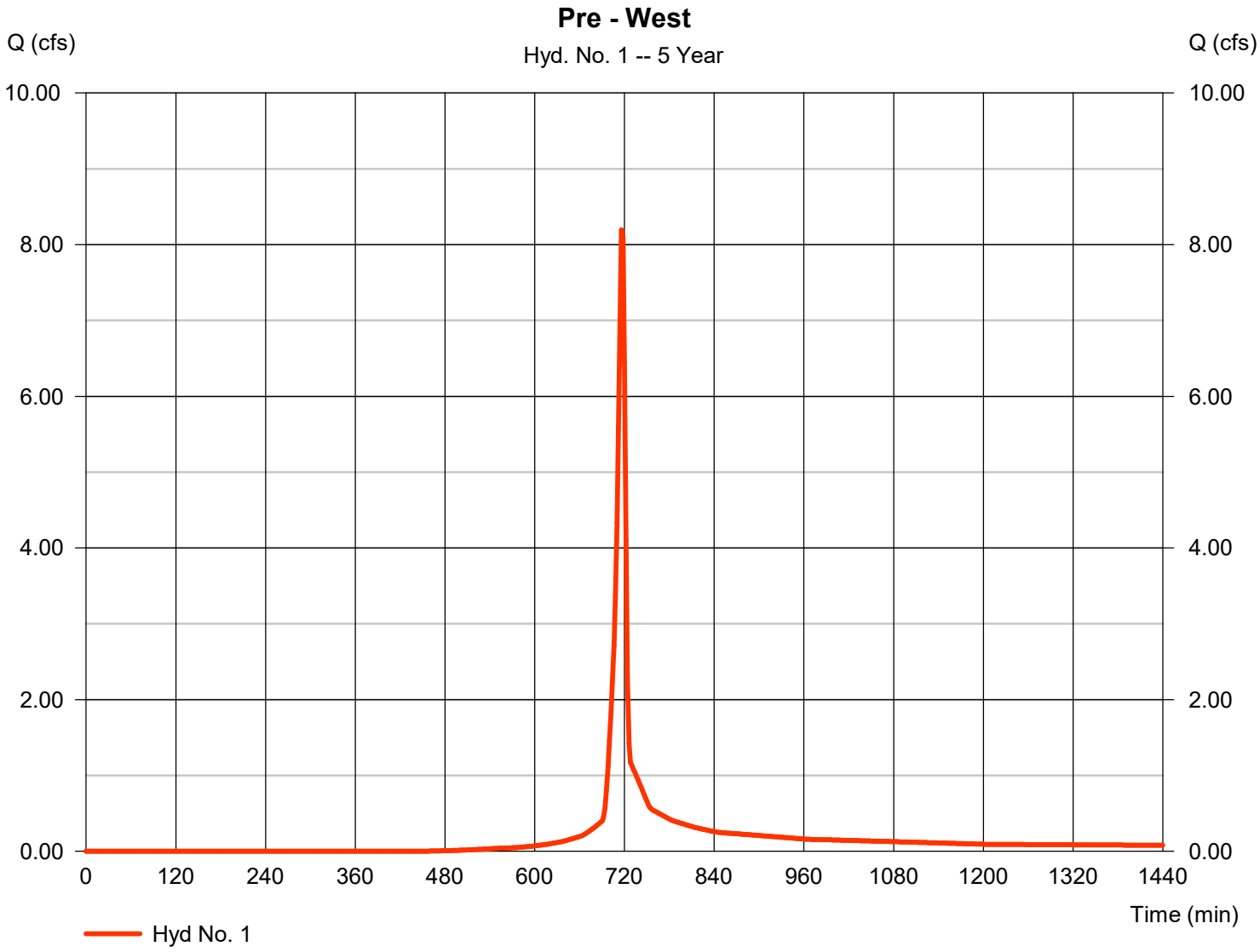
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	8.194	2	716	16,621	------	------	------	Pre - West
2	SCS Runoff	6.636	2	716	13,425	------	------	------	Pre - East
4	Combine	14.83	2	716	30,046	1, 2,	------	------	Pre - Site Outfall
6	SCS Runoff	12.64	2	716	27,142	------	------	------	Post to Pond
7	Reservoir	1.884	2	726	7,866	6	610.24	15,471	Post thru Pond
8	SCS Runoff	2.692	2	716	5,544	------	------	------	Post - East Bypass
9	SCS Runoff	3.451	2	716	7,049	------	------	------	Post - West Bypass
11	Combine	3.451	2	716	14,915	7, 9,	------	------	Post - West
13	Combine	6.142	2	716	20,459	8, 11,	------	------	Post - Site Outfall

Hydrograph Report

Hyd. No. 1

Pre - West

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.194 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	16,621 cuft
Drainage area	=	1.950 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	5.60 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

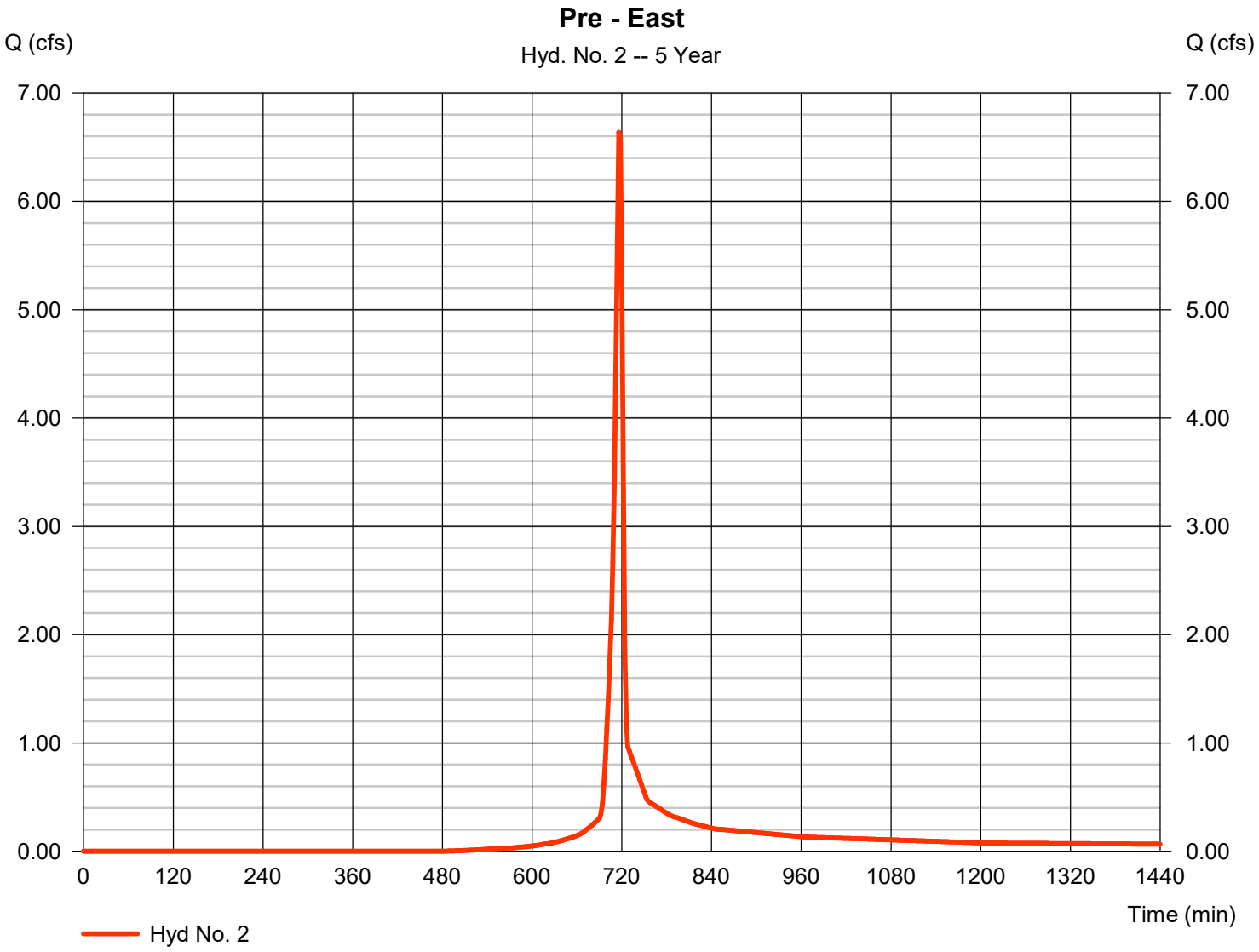


Hydrograph Report

Hyd. No. 2

Pre - East

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.636 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	13,425 cuft
Drainage area	=	1.660 ac	Curve number	=	79
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

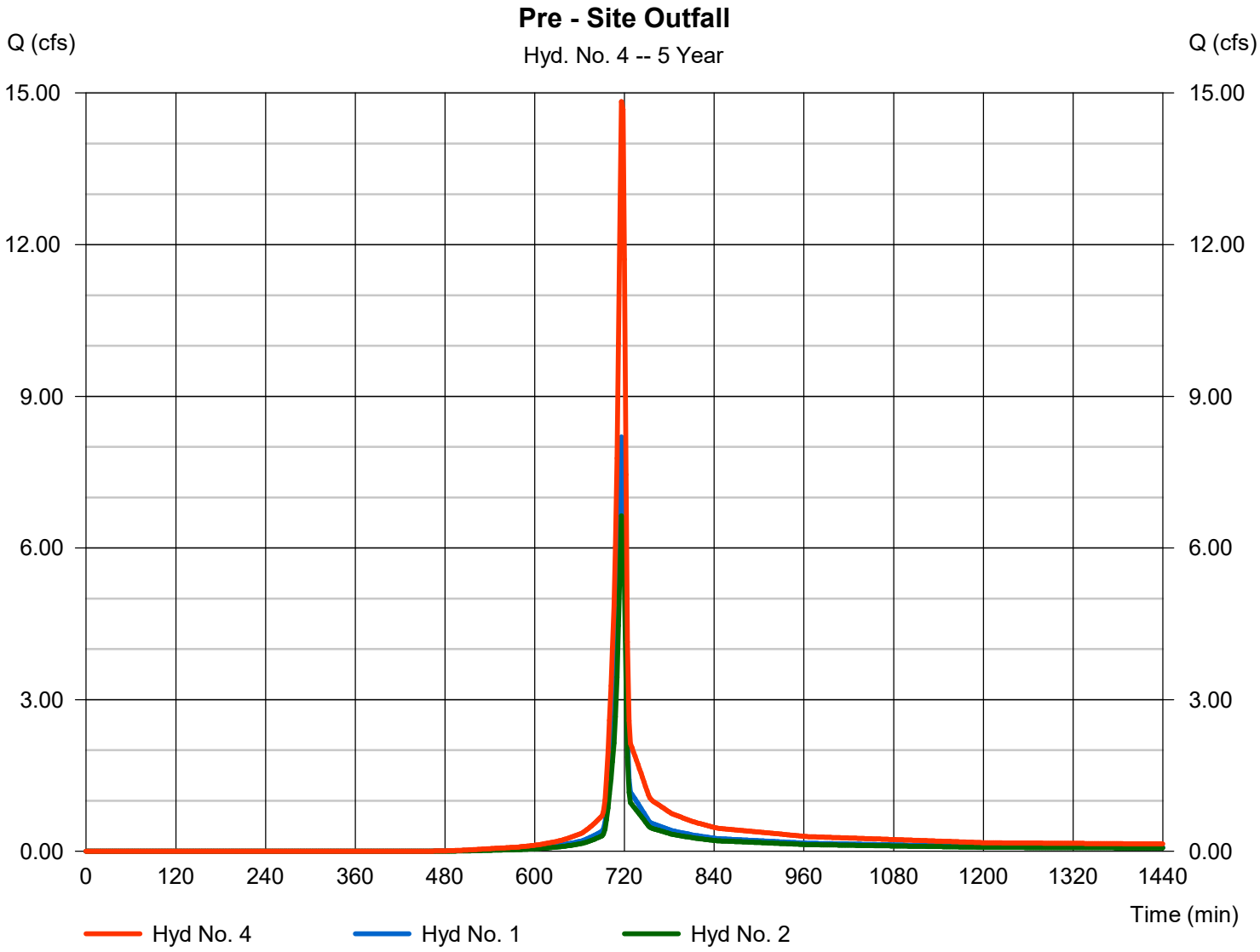


Hydrograph Report

Hyd. No. 4

Pre - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 14.83 cfs
Storm frequency	= 5 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 30,046 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 3.610 ac



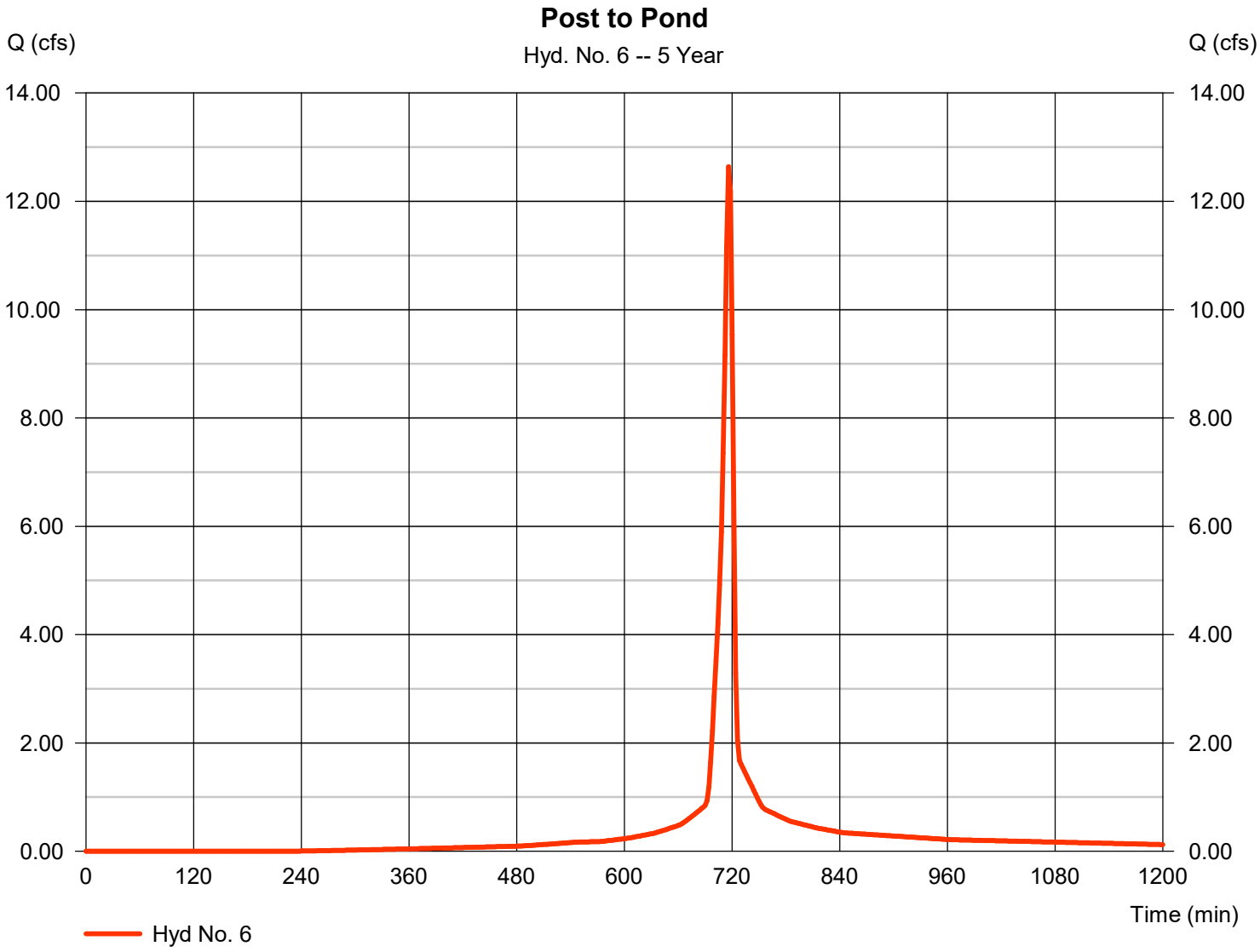
Hydrograph Report

Hyd. No. 6

Post to Pond

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.64 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	27,142 cuft
Drainage area	=	2.280 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.430 x 98) + (0.850 x 79)] / 2.280



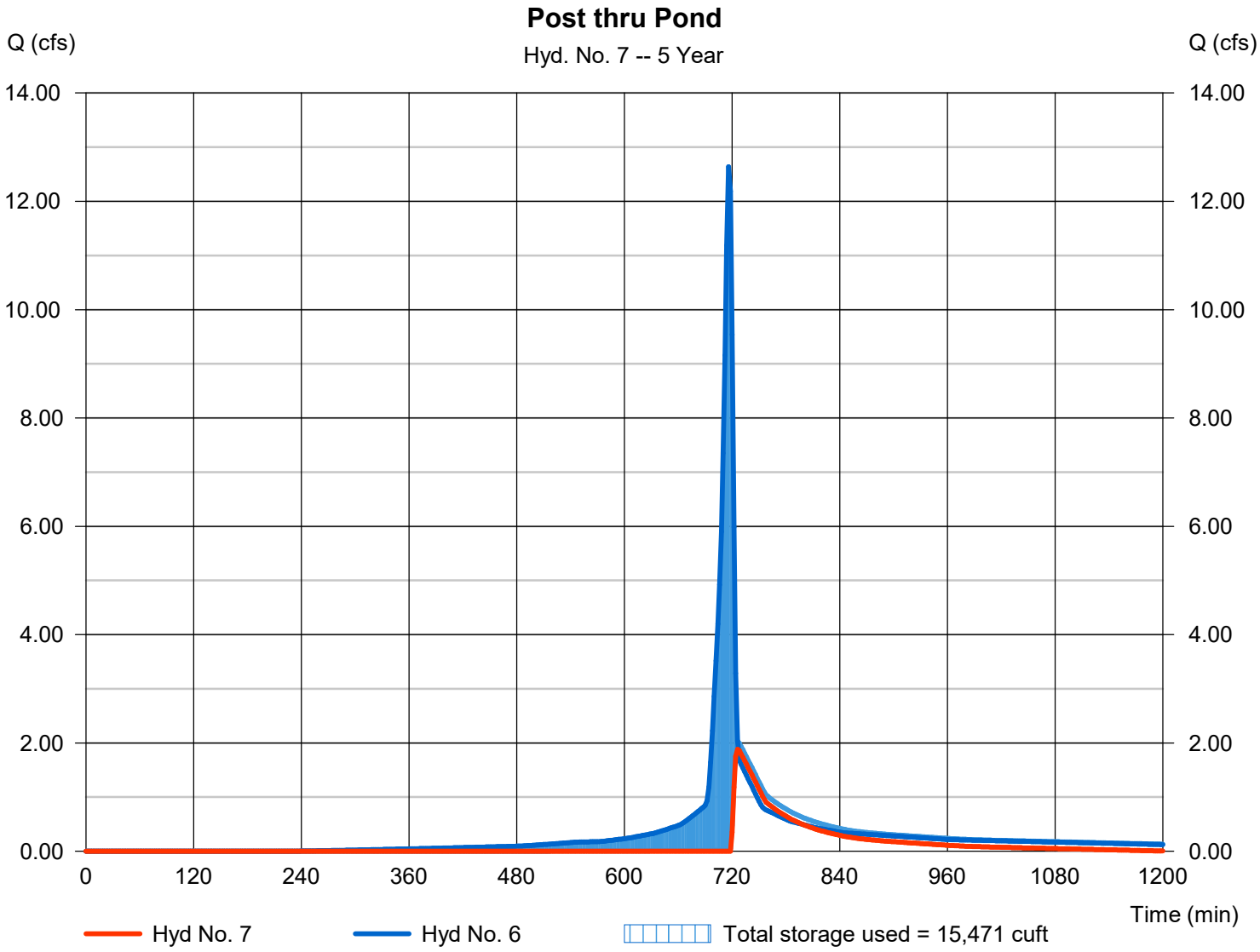
Hydrograph Report

Hyd. No. 7

Post thru Pond

Hydrograph type	=	Reservoir	Peak discharge	=	1.884 cfs
Storm frequency	=	5 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	7,866 cuft
Inflow hyd. No.	=	6 - Post to Pond	Max. Elevation	=	610.24 ft
Reservoir name	=	INFILTRATION 1	Max. Storage	=	15,471 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



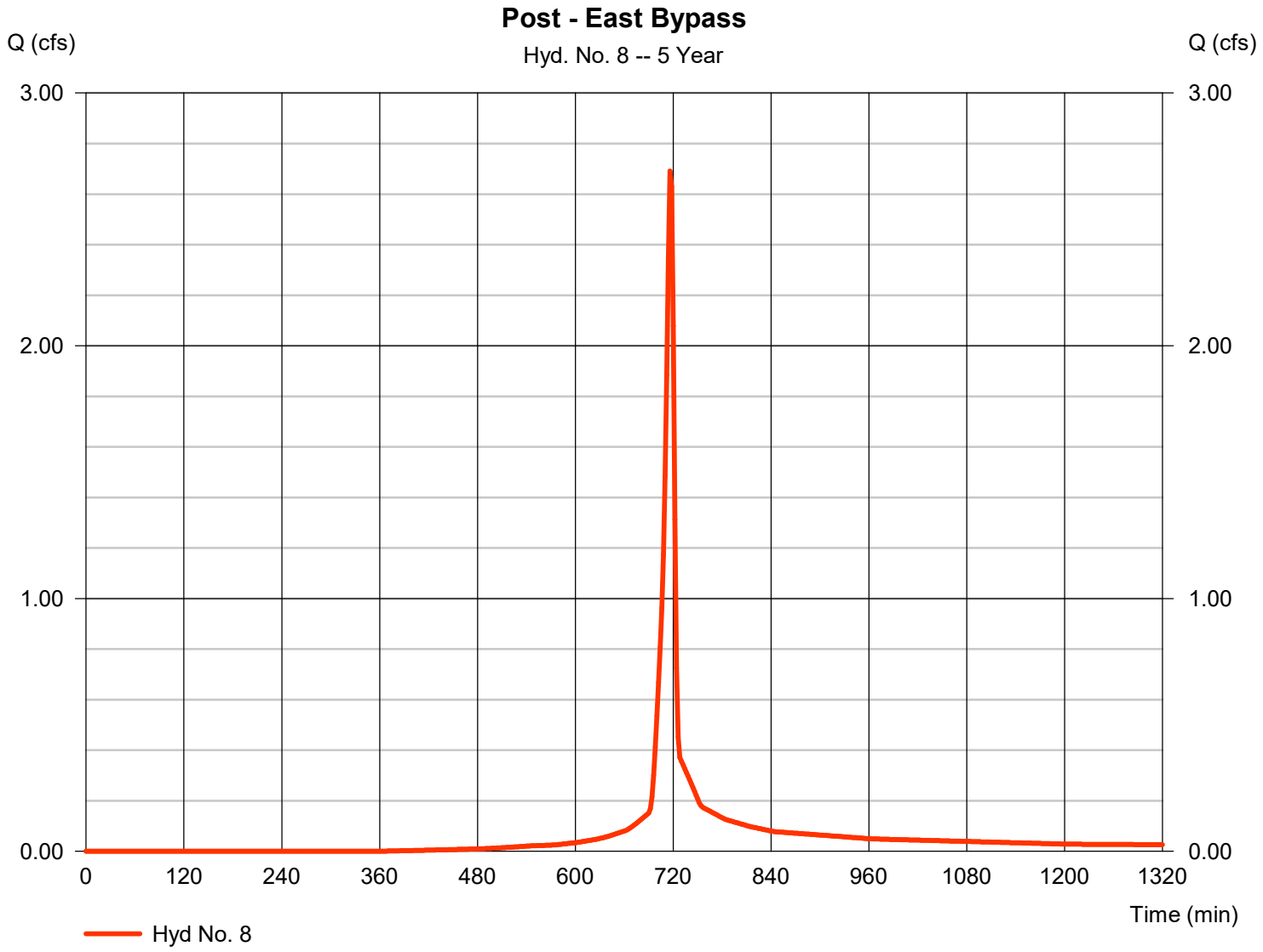
Hydrograph Report

Hyd. No. 8

Post - East Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.692 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	5,544 cuft
Drainage area	=	0.560 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 79) + (0.170 x 98)] / 0.560



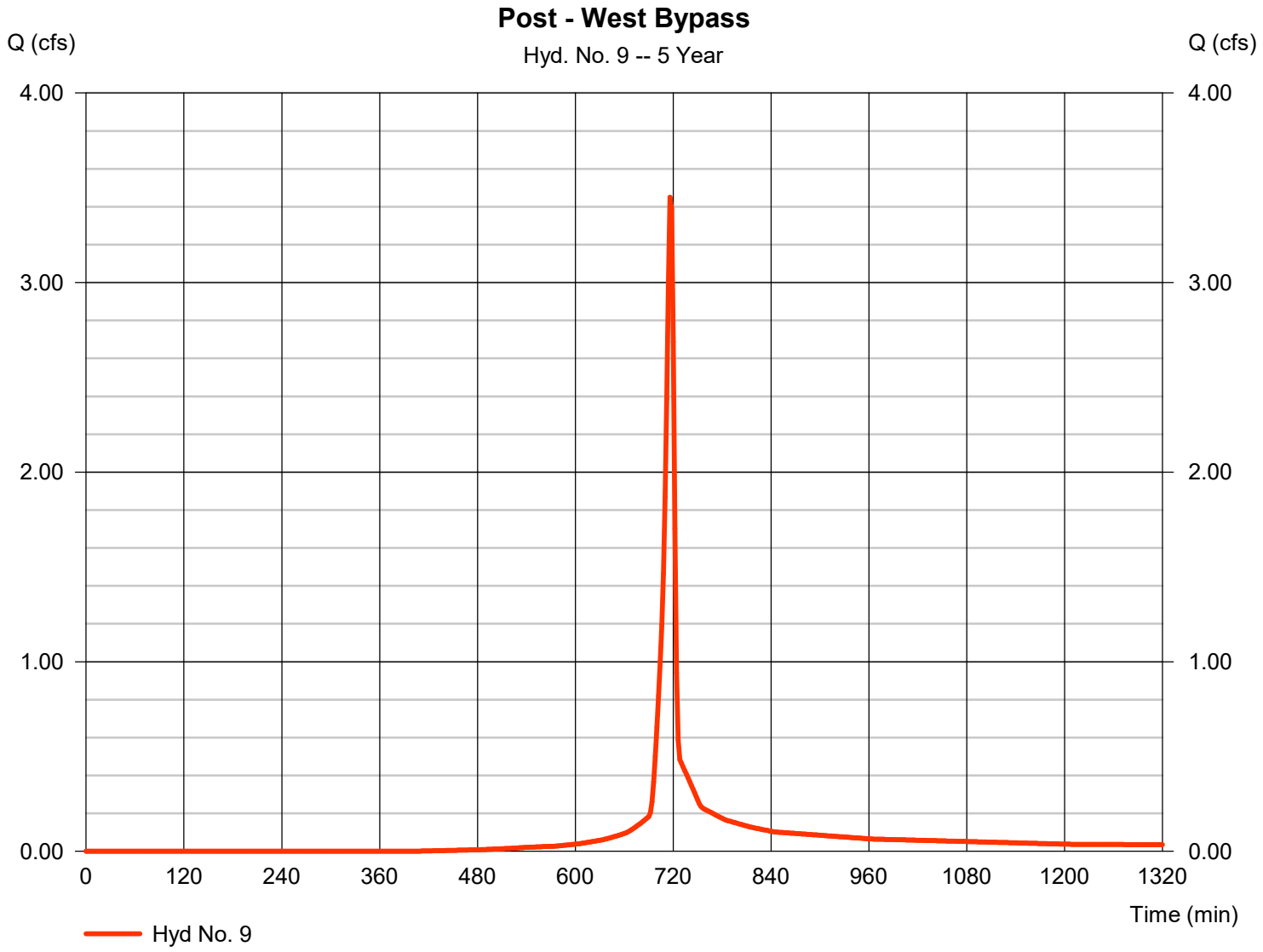
Hydrograph Report

Hyd. No. 9

Post - West Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.451 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	7,049 cuft
Drainage area	=	0.760 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.160 x 98) + (0.600 x 79)] / 0.760

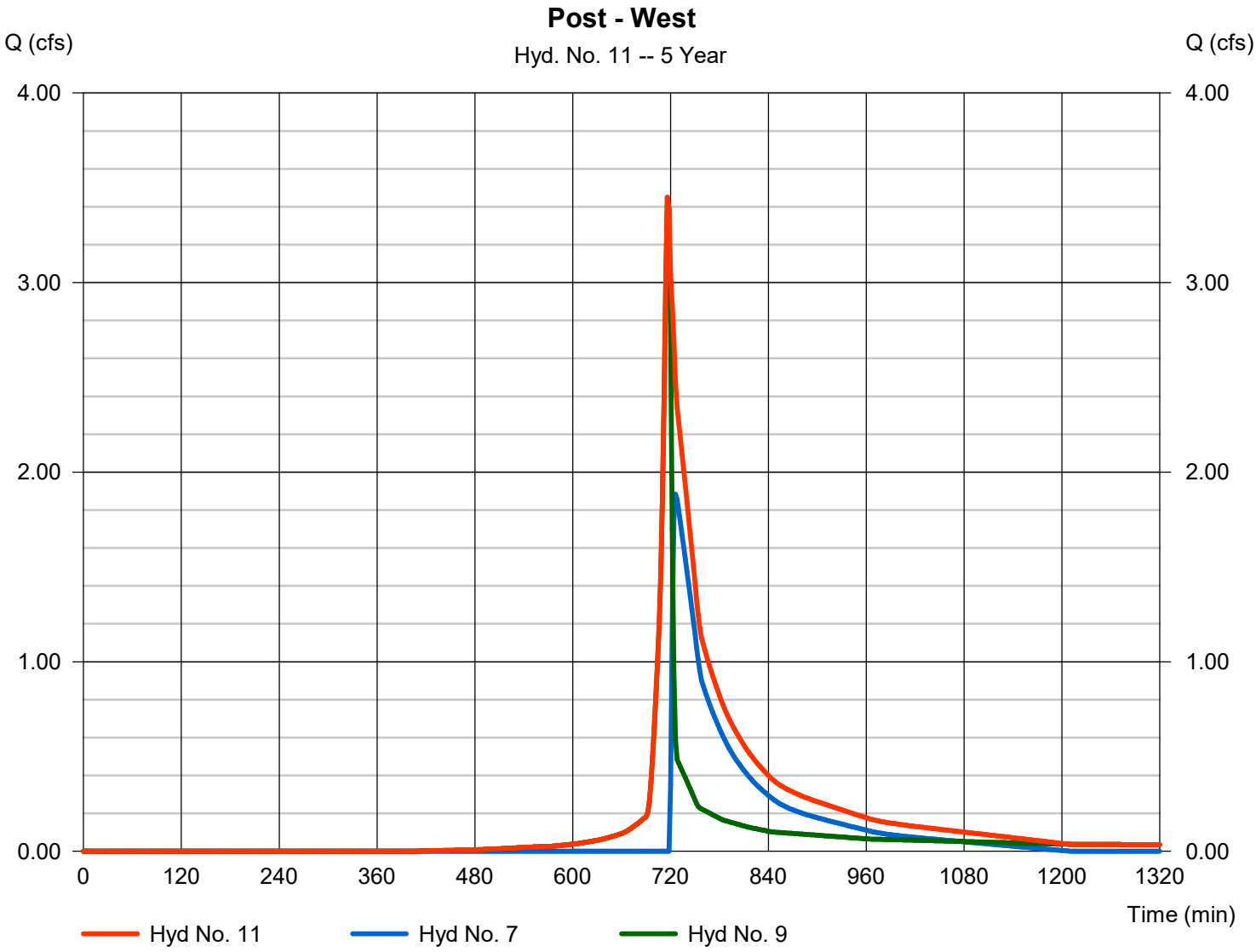


Hydrograph Report

Hyd. No. 11

Post - West

Hydrograph type	= Combine	Peak discharge	= 3.451 cfs
Storm frequency	= 5 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 14,915 cuft
Inflow hyds.	= 7, 9	Contrib. drain. area	= 0.760 ac

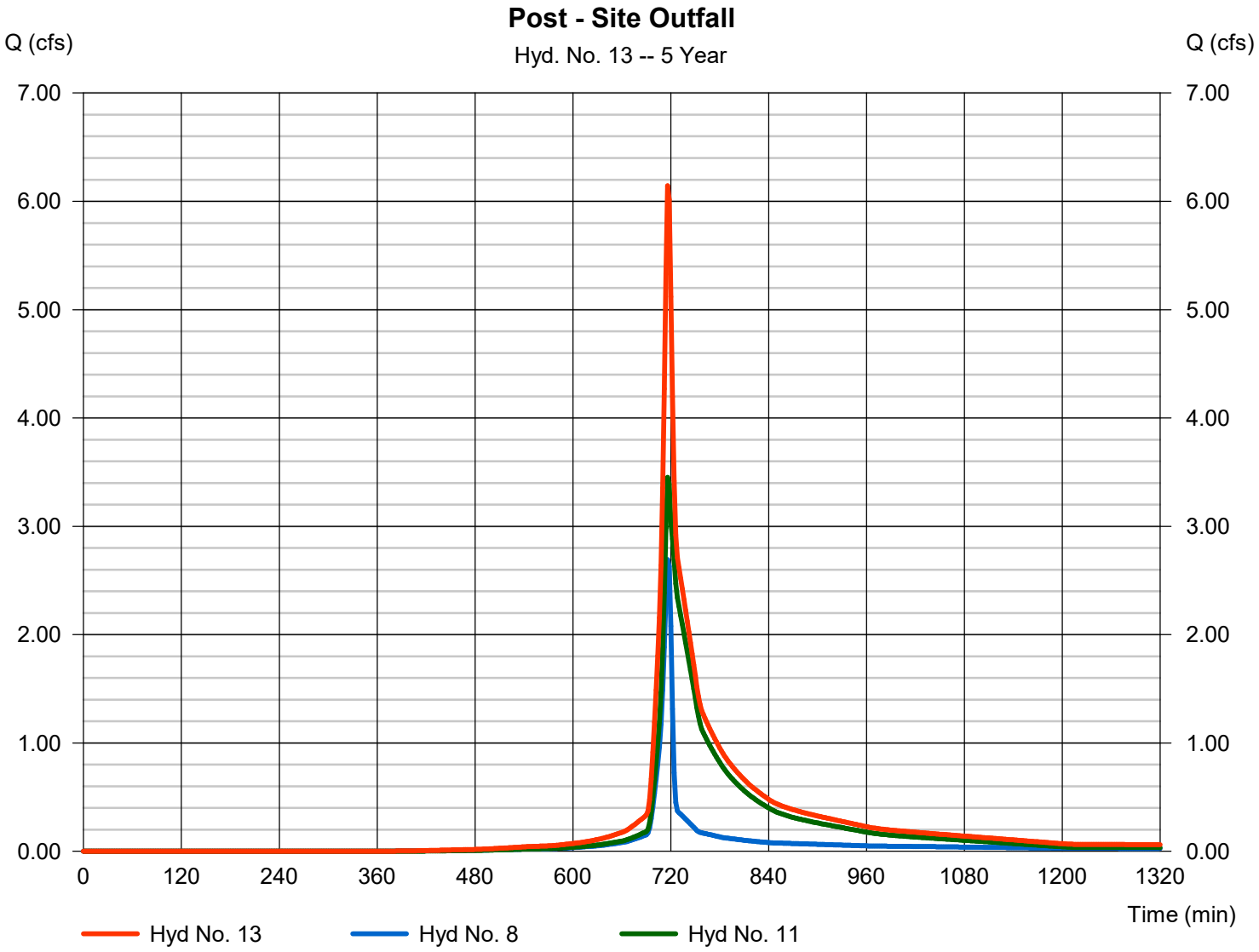


Hydrograph Report

Hyd. No. 13

Post - Site Outfall

Hydrograph type	=	Combine	Peak discharge	=	6.142 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	20,459 cuft
Inflow hyds.	=	8, 11	Contrib. drain. area	=	0.560 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

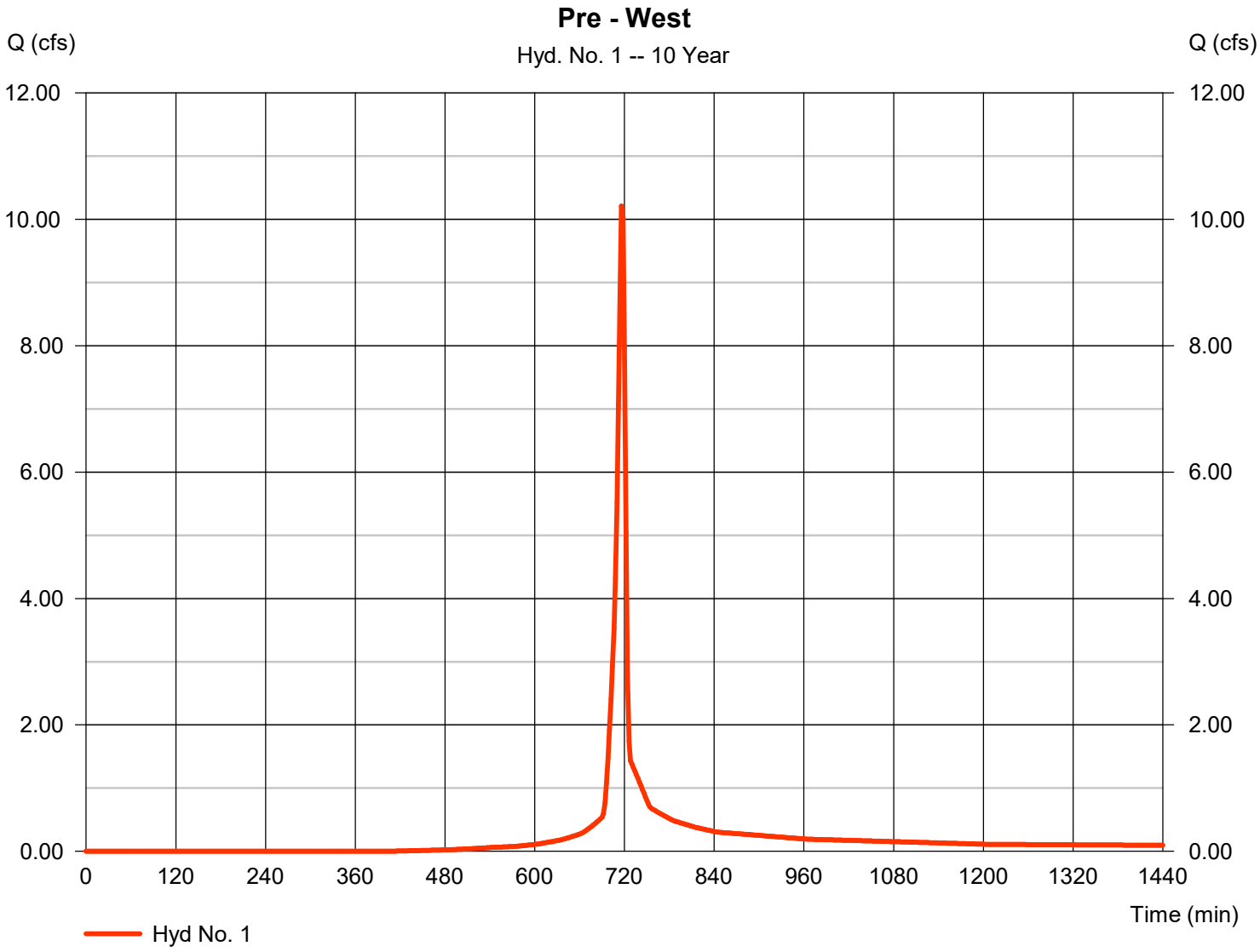
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	10.21	2	716	20,849	------	------	------	Pre - West
2	SCS Runoff	8.339	2	716	16,951	------	------	------	Pre - East
4	Combine	18.55	2	716	37,800	1, 2,	------	------	Pre - Site Outfall
6	SCS Runoff	15.02	2	716	32,632	------	------	------	Post to Pond
7	Reservoir	5.421	2	722	13,070	6	610.50	17,316	Post thru Pond
8	SCS Runoff	3.282	2	716	6,825	------	------	------	Post - East Bypass
9	SCS Runoff	4.247	2	716	8,750	------	------	------	Post - West Bypass
11	Combine	7.697	2	720	21,819	7, 9,	------	------	Post - West
13	Combine	10.21	2	720	28,644	8, 11,	------	------	Post - Site Outfall

Hydrograph Report

Hyd. No. 1

Pre - West

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.21 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	20,849 cuft
Drainage area	=	1.950 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	5.60 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

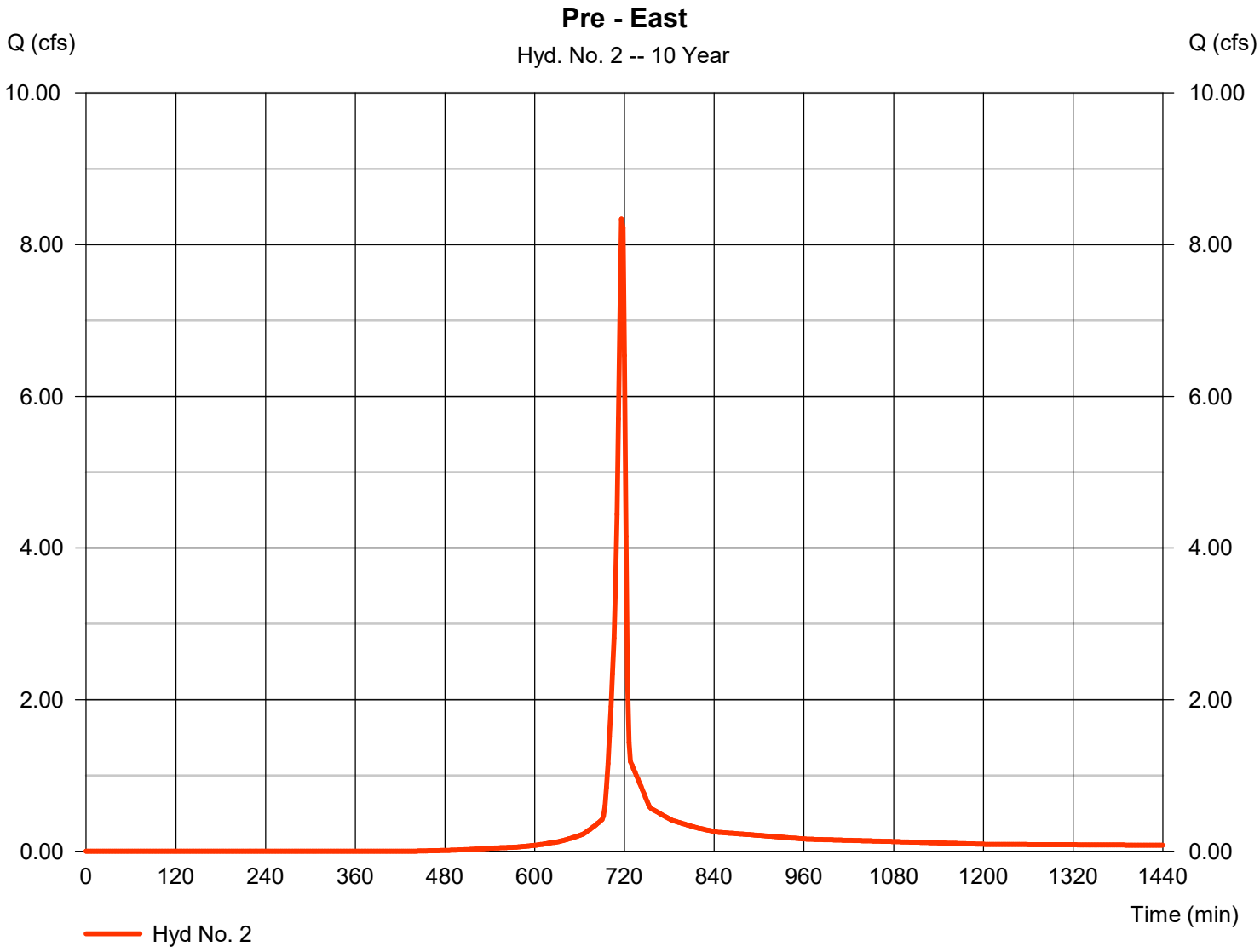


Hydrograph Report

Hyd. No. 2

Pre - East

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.339 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	16,951 cuft
Drainage area	=	1.660 ac	Curve number	=	79
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

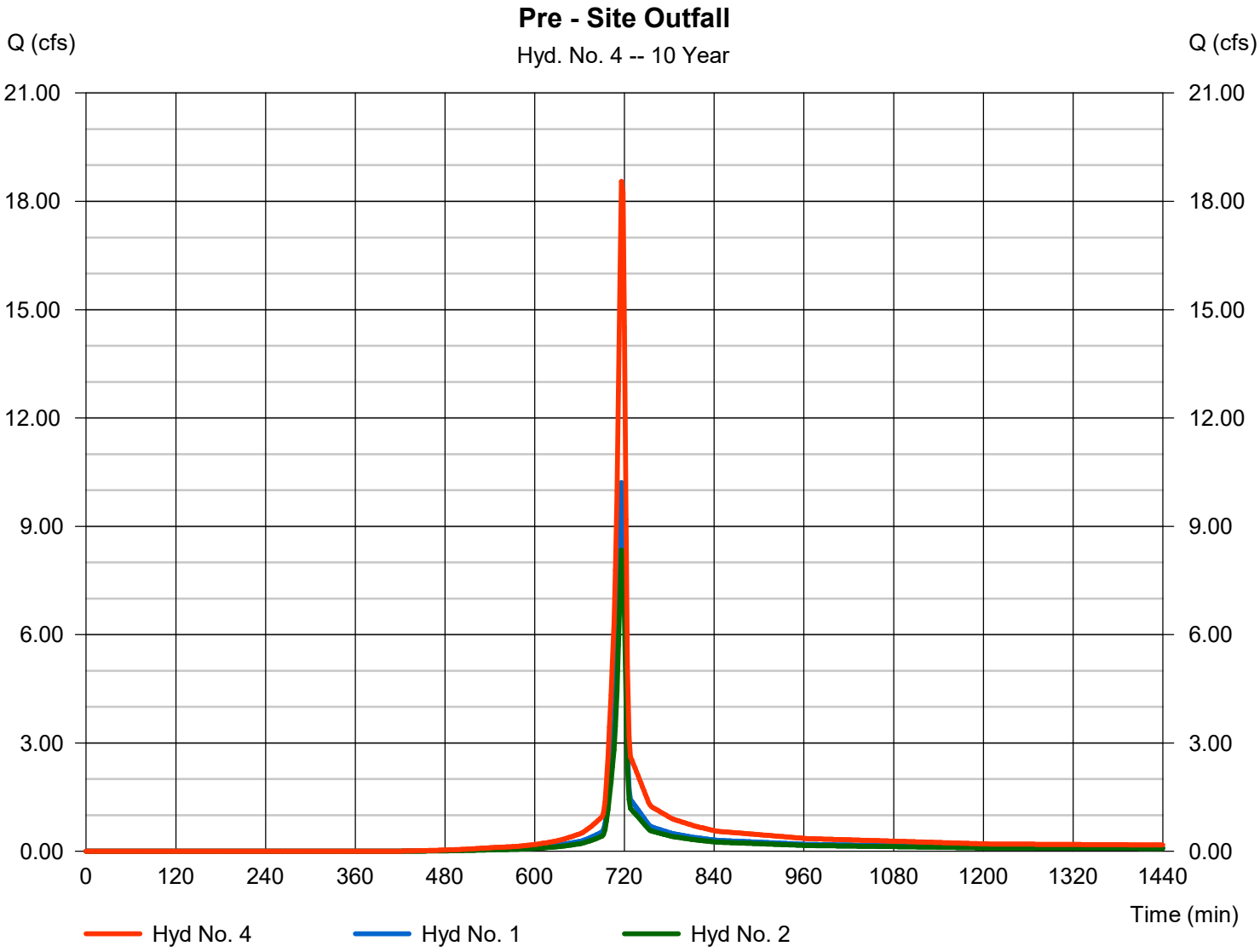


Hydrograph Report

Hyd. No. 4

Pre - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 18.55 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 37,800 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 3.610 ac



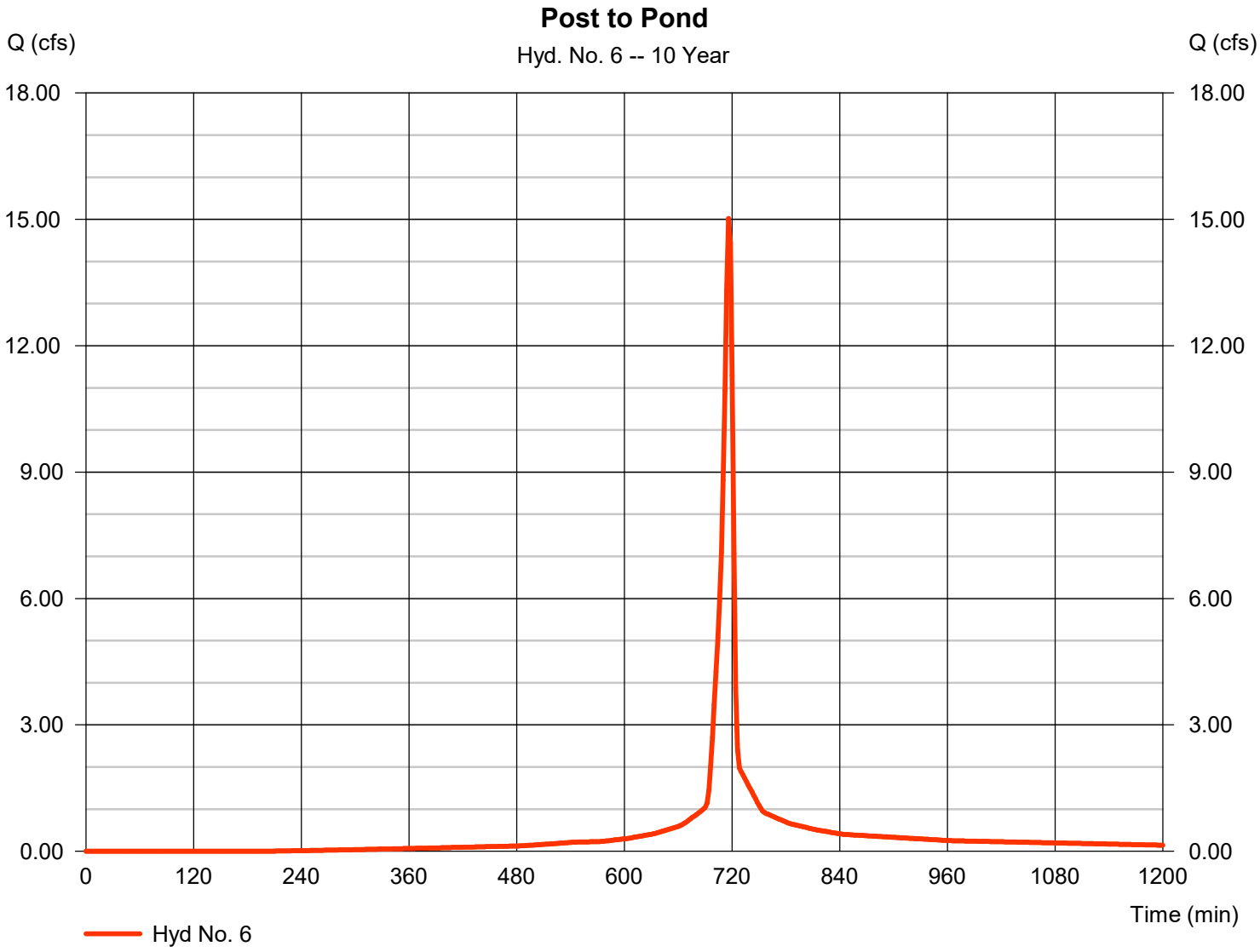
Hydrograph Report

Hyd. No. 6

Post to Pond

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.02 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	32,632 cuft
Drainage area	=	2.280 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.430 x 98) + (0.850 x 79)] / 2.280



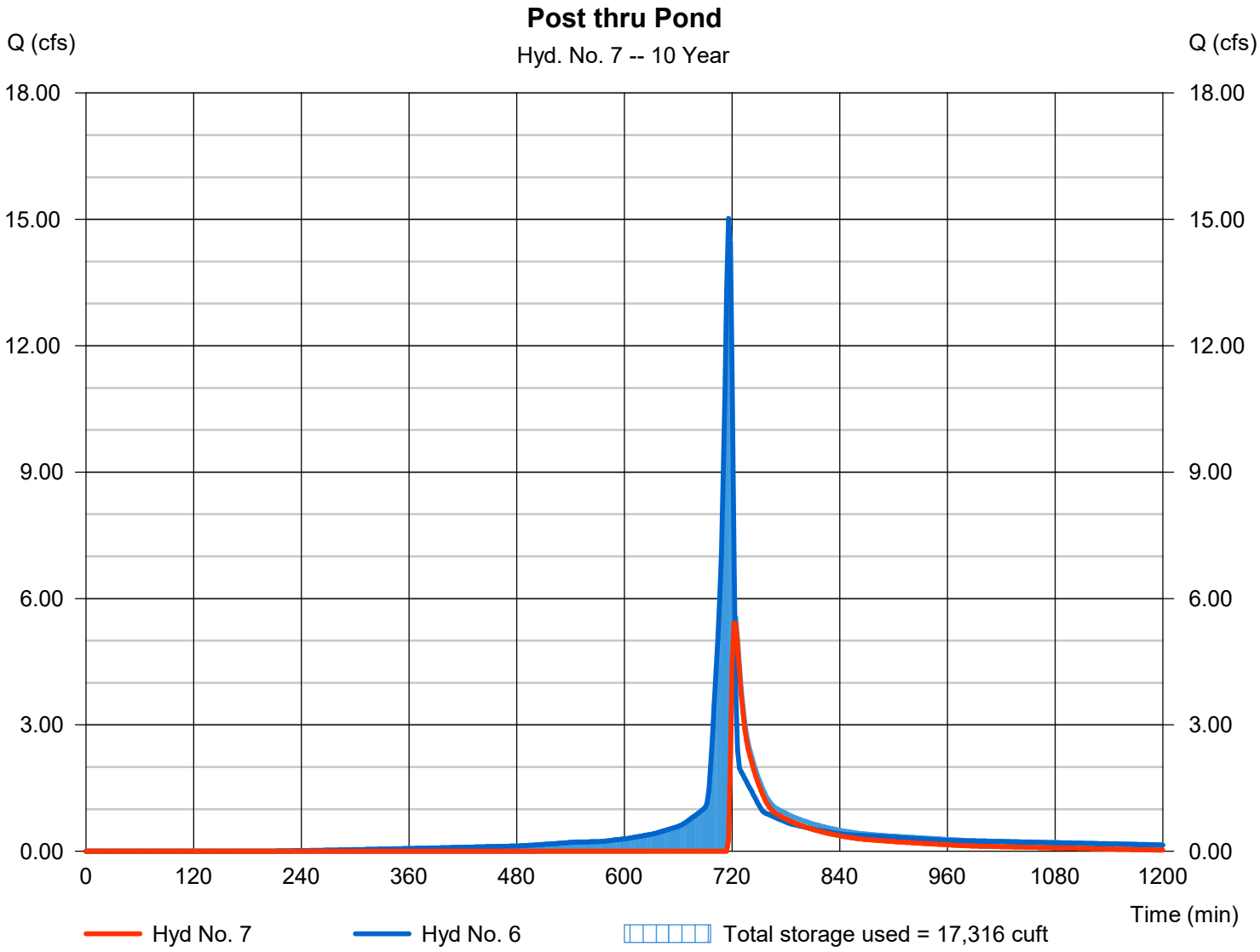
Hydrograph Report

Hyd. No. 7

Post thru Pond

Hydrograph type	=	Reservoir	Peak discharge	=	5.421 cfs
Storm frequency	=	10 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	13,070 cuft
Inflow hyd. No.	=	6 - Post to Pond	Max. Elevation	=	610.50 ft
Reservoir name	=	INFILTRATION 1	Max. Storage	=	17,316 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



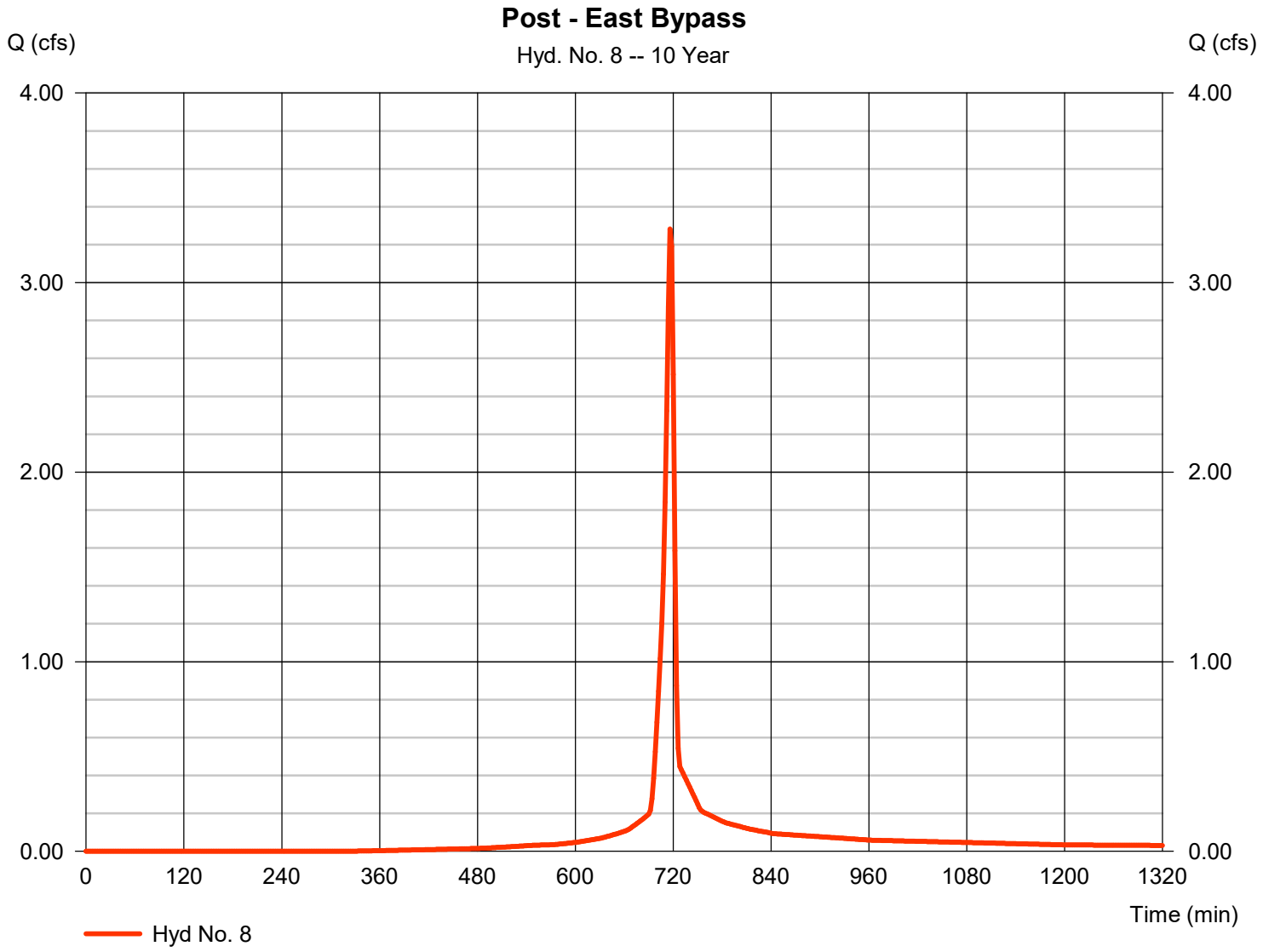
Hydrograph Report

Hyd. No. 8

Post - East Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.282 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	6,825 cuft
Drainage area	=	0.560 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 79) + (0.170 x 98)] / 0.560



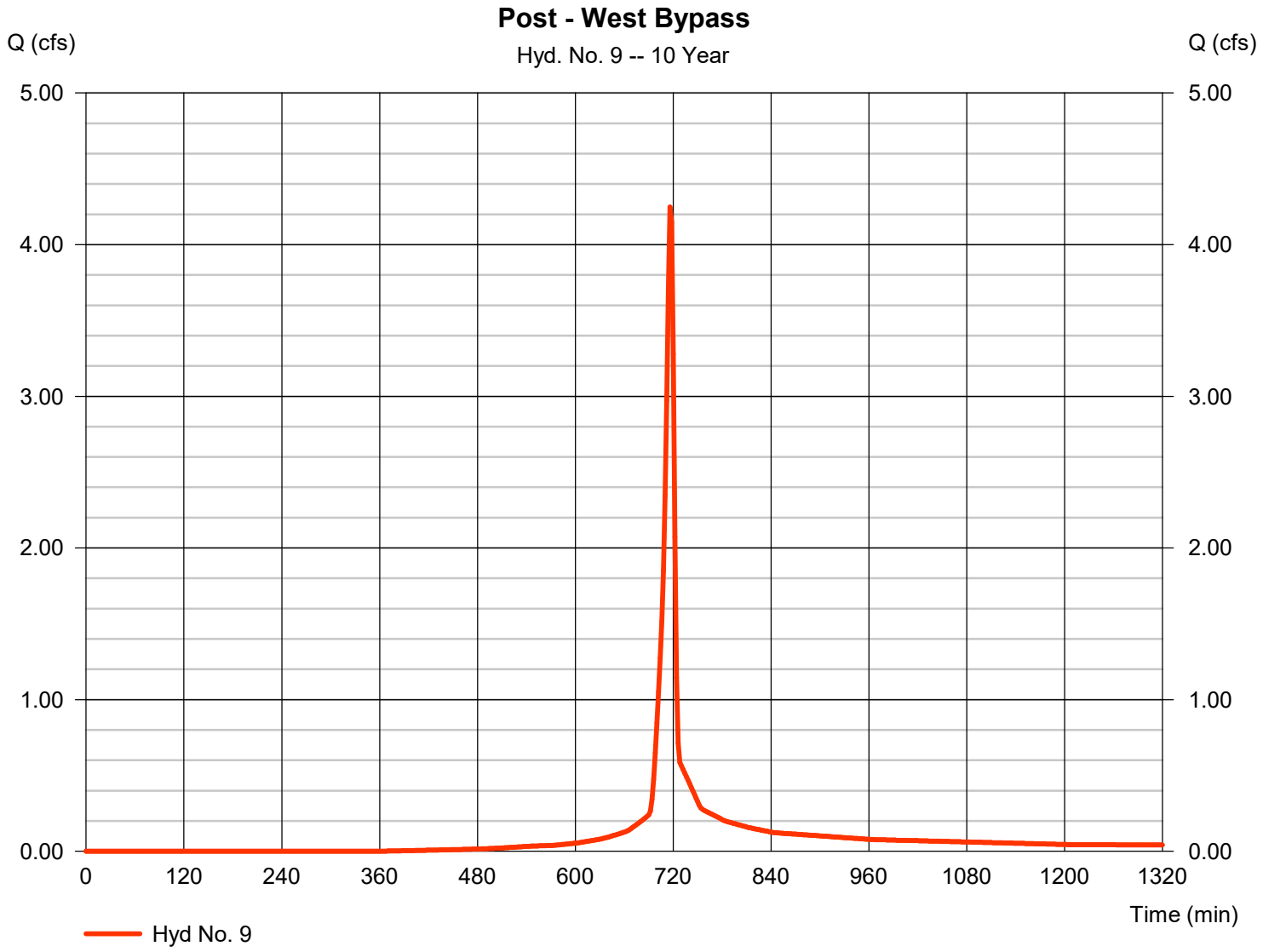
Hydrograph Report

Hyd. No. 9

Post - West Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.247 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	8,750 cuft
Drainage area	=	0.760 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.160 x 98) + (0.600 x 79)] / 0.760

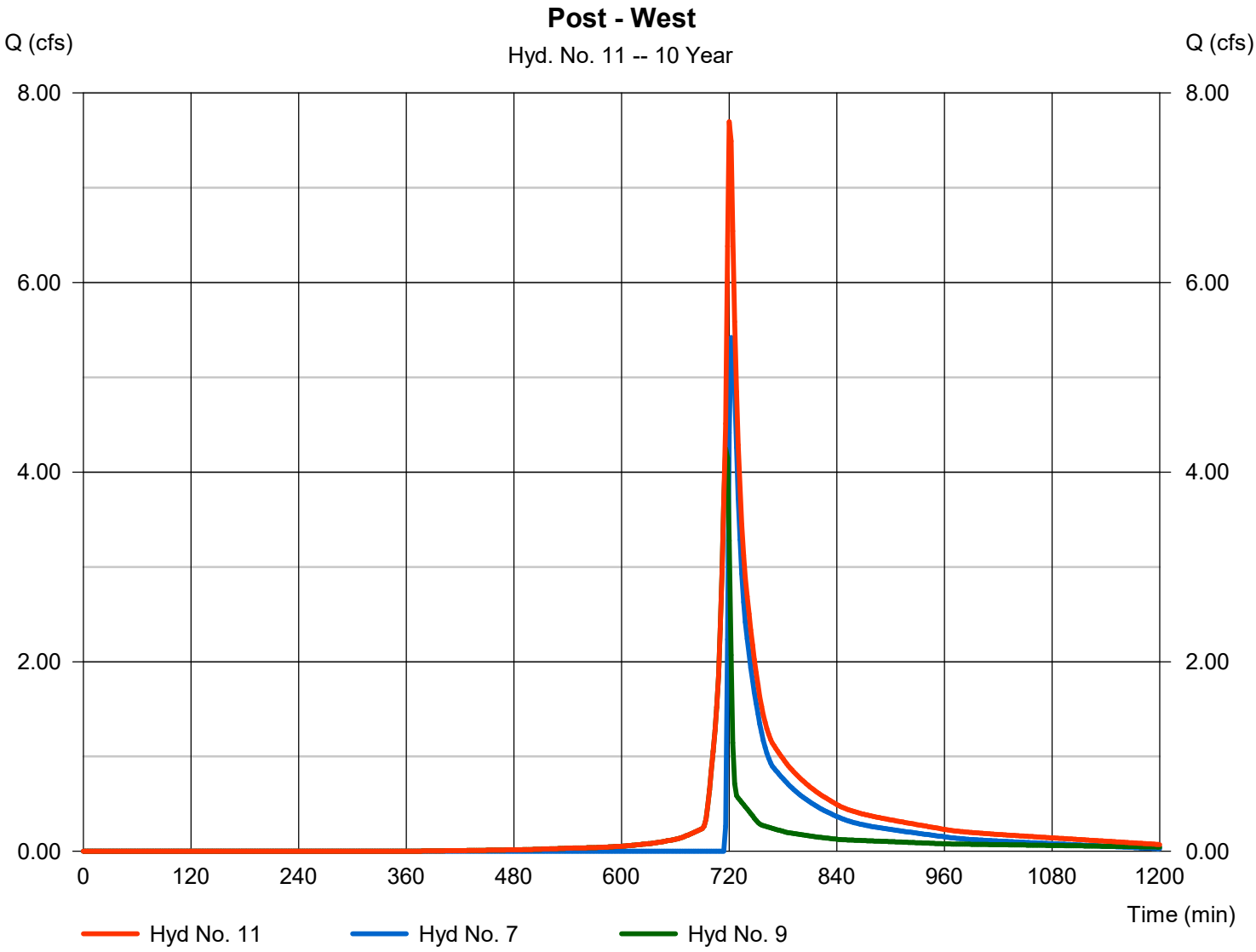


Hydrograph Report

Hyd. No. 11

Post - West

Hydrograph type	= Combine	Peak discharge	= 7.697 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 21,819 cuft
Inflow hyds.	= 7, 9	Contrib. drain. area	= 0.760 ac

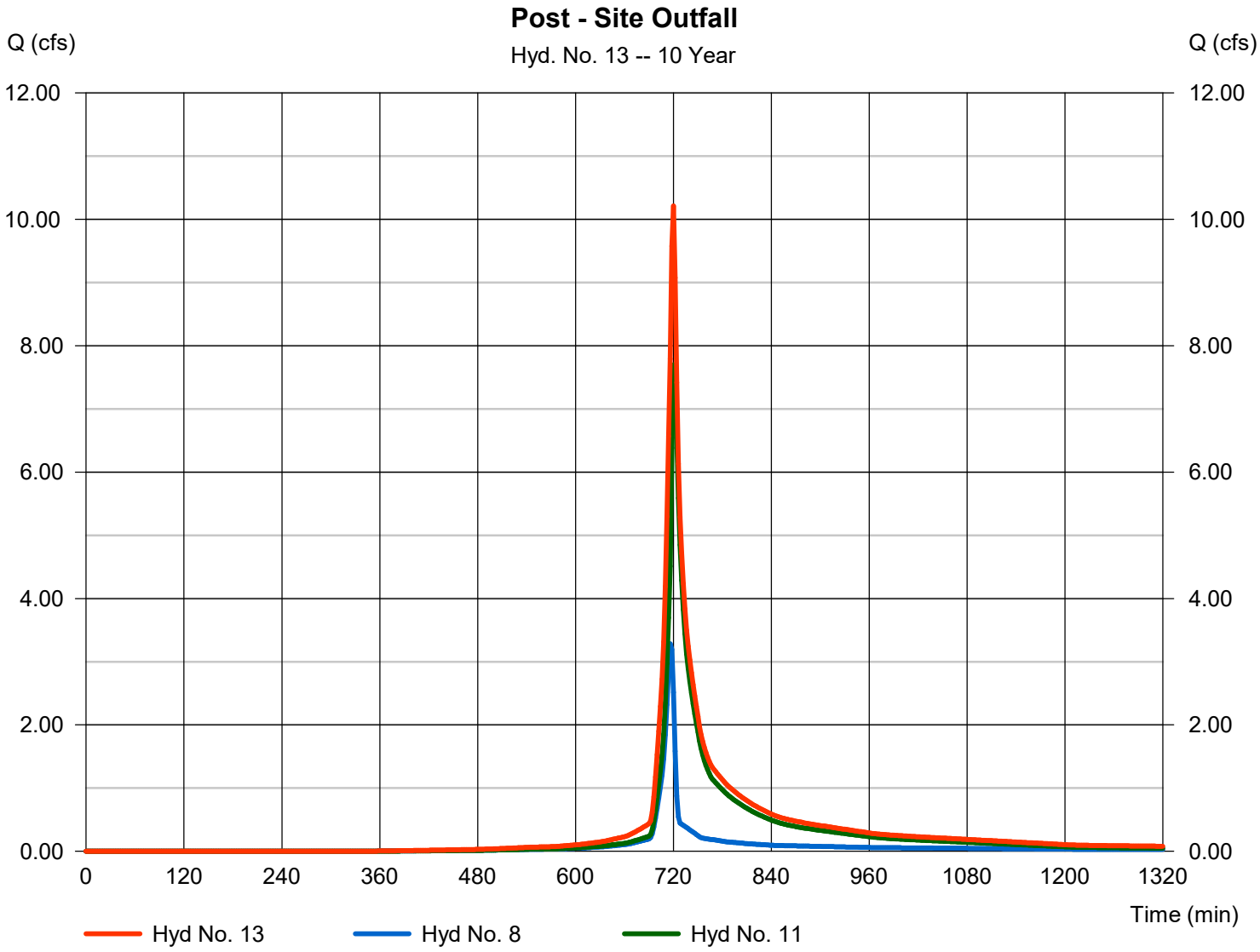


Hydrograph Report

Hyd. No. 13

Post - Site Outfall

Hydrograph type	=	Combine	Peak discharge	=	10.21 cfs
Storm frequency	=	10 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	28,644 cuft
Inflow hyds.	=	8, 11	Contrib. drain. area	=	0.560 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

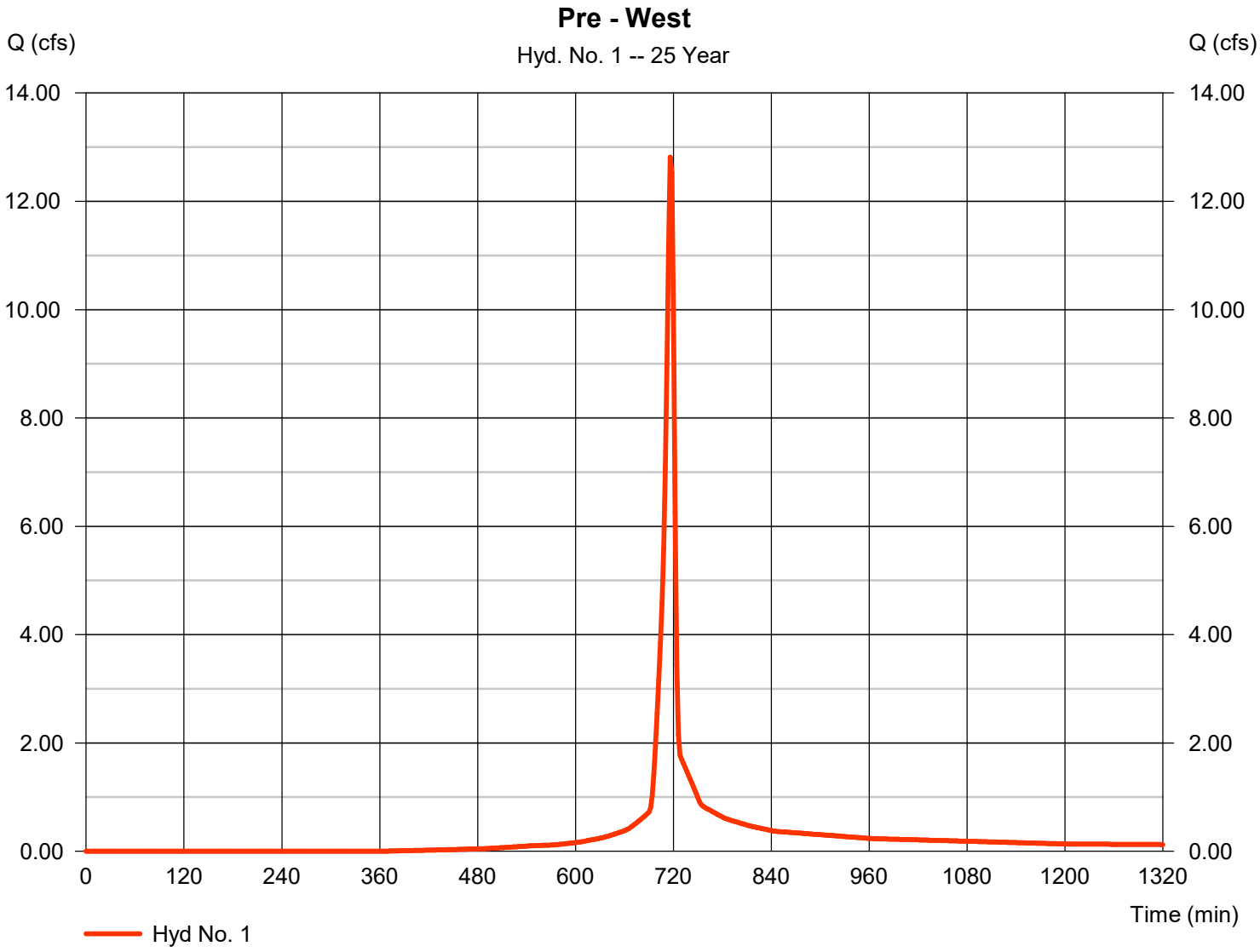
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	12.82	2	716	26,397	------	------	------	Pre - West
2	SCS Runoff	10.54	2	716	21,596	------	------	------	Pre - East
4	Combine	23.36	2	716	47,993	1, 2,	------	------	Pre - Site Outfall
6	SCS Runoff	18.03	2	716	39,679	------	------	------	Post to Pond
7	Reservoir	7.424	2	722	19,961	6	610.85	19,814	Post thru Pond
8	SCS Runoff	4.034	2	716	8,488	------	------	------	Post - East Bypass
9	SCS Runoff	5.268	2	716	10,966	------	------	------	Post - West Bypass
11	Combine	12.16	2	718	30,927	7, 9,	------	------	Post - West
13	Combine	16.07	2	718	39,415	8, 11,	------	------	Post - Site Outfall

Hydrograph Report

Hyd. No. 1

Pre - West

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.82 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	26,397 cuft
Drainage area	=	1.950 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	5.60 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

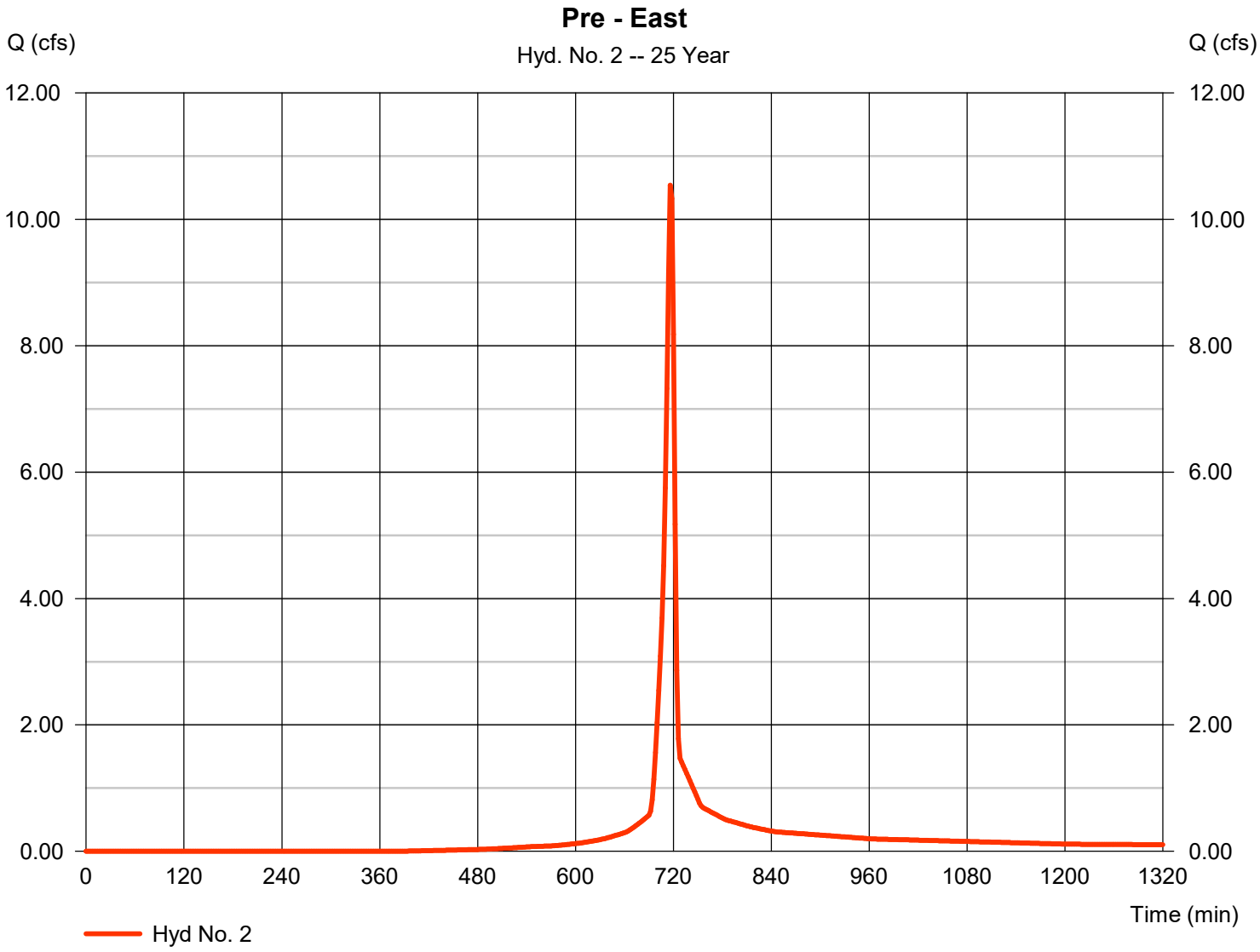


Hydrograph Report

Hyd. No. 2

Pre - East

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.54 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	21,596 cuft
Drainage area	=	1.660 ac	Curve number	=	79
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

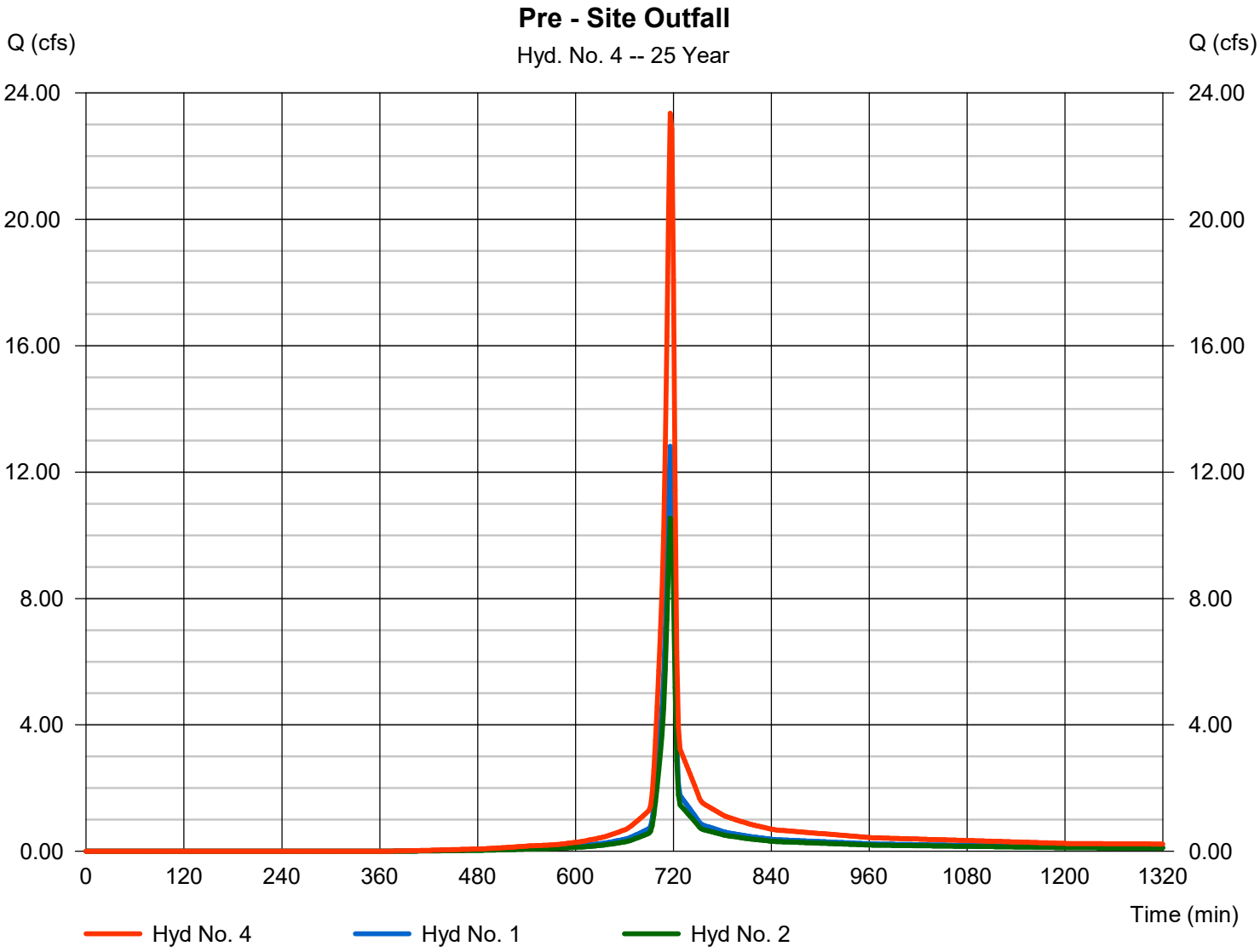


Hydrograph Report

Hyd. No. 4

Pre - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 23.36 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 47,993 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 3.610 ac



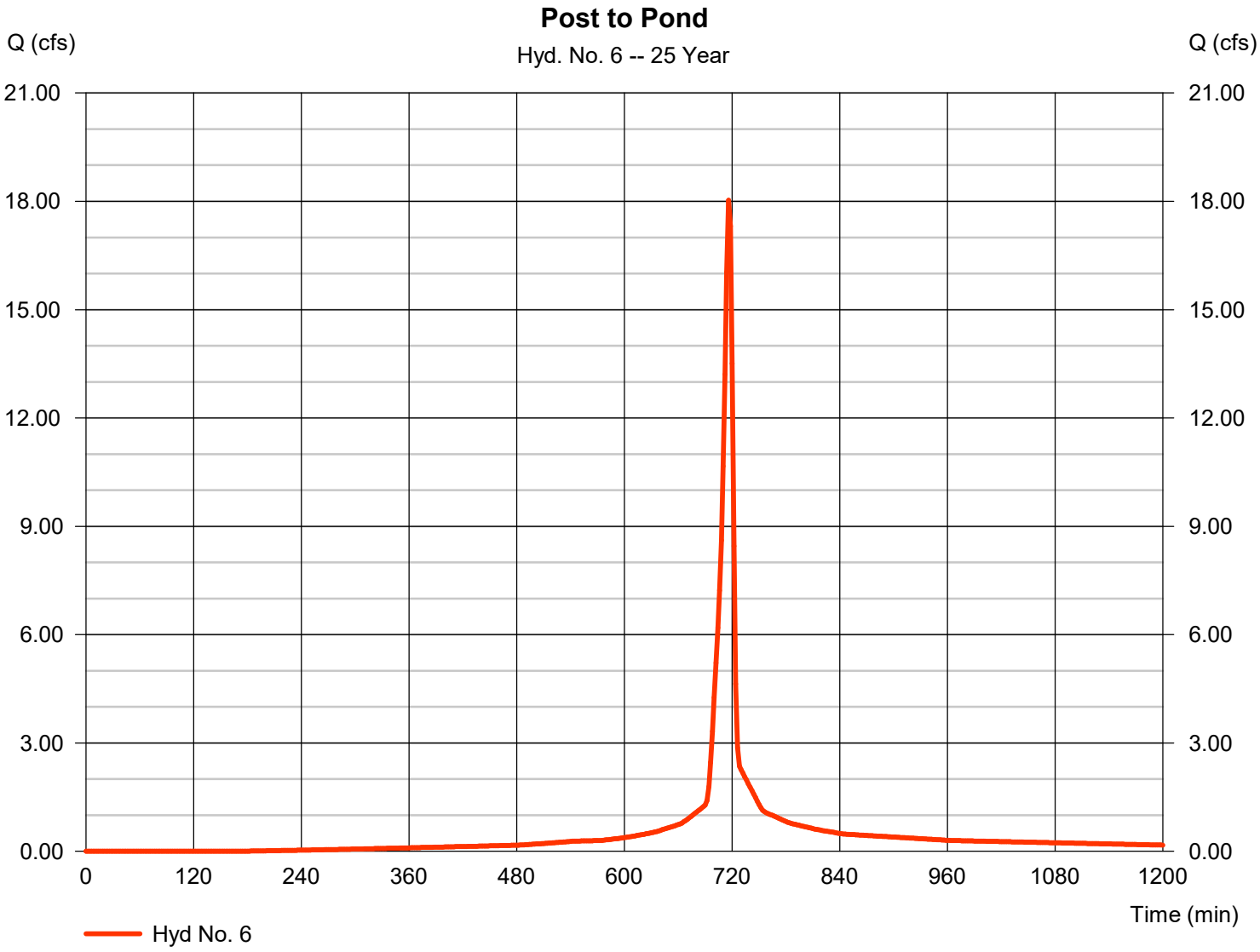
Hydrograph Report

Hyd. No. 6

Post to Pond

Hydrograph type	=	SCS Runoff	Peak discharge	=	18.03 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	39,679 cuft
Drainage area	=	2.280 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.430 x 98) + (0.850 x 79)] / 2.280



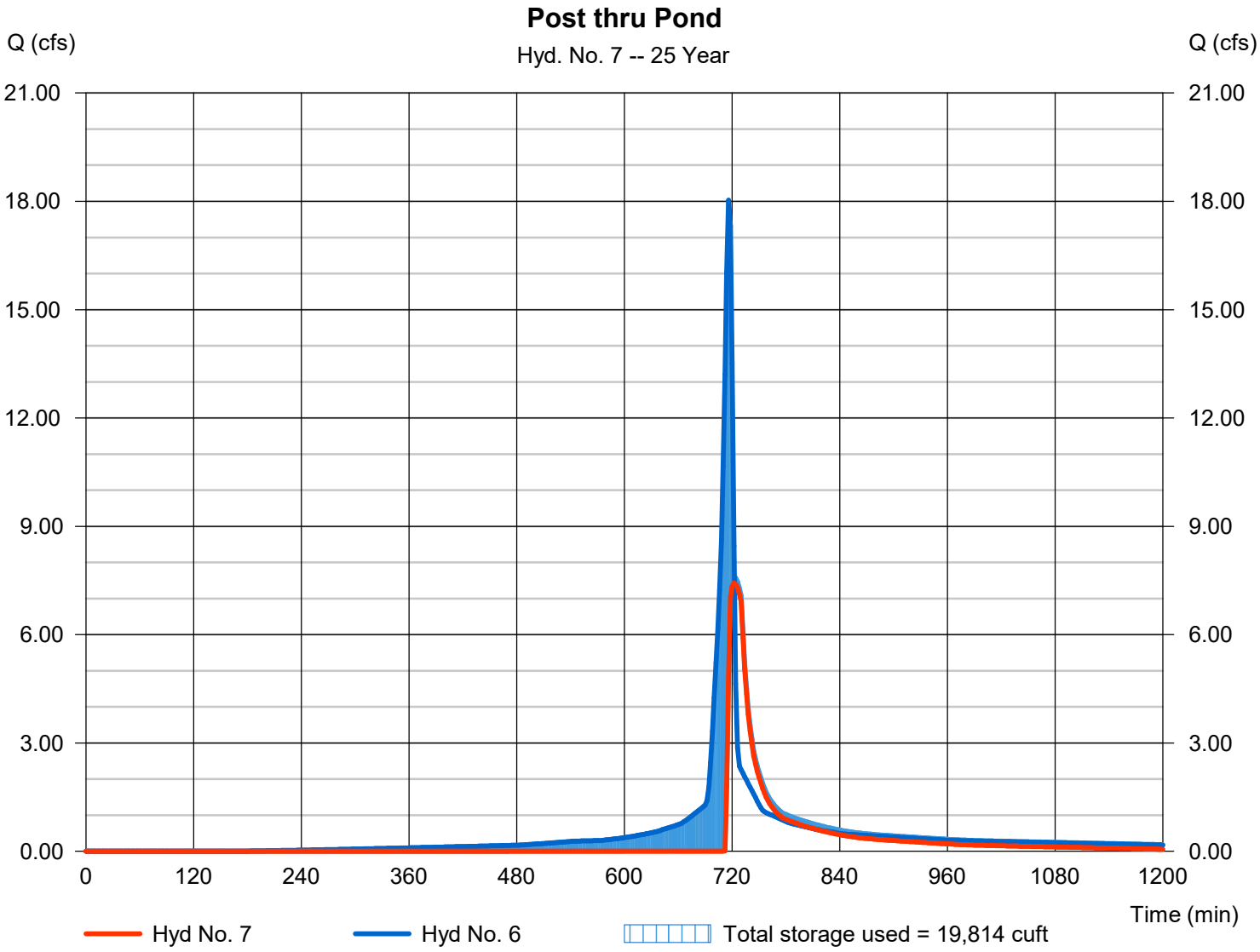
Hydrograph Report

Hyd. No. 7

Post thru Pond

Hydrograph type	=	Reservoir	Peak discharge	=	7.424 cfs
Storm frequency	=	25 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	19,961 cuft
Inflow hyd. No.	=	6 - Post to Pond	Max. Elevation	=	610.85 ft
Reservoir name	=	INFILTRATION 1	Max. Storage	=	19,814 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



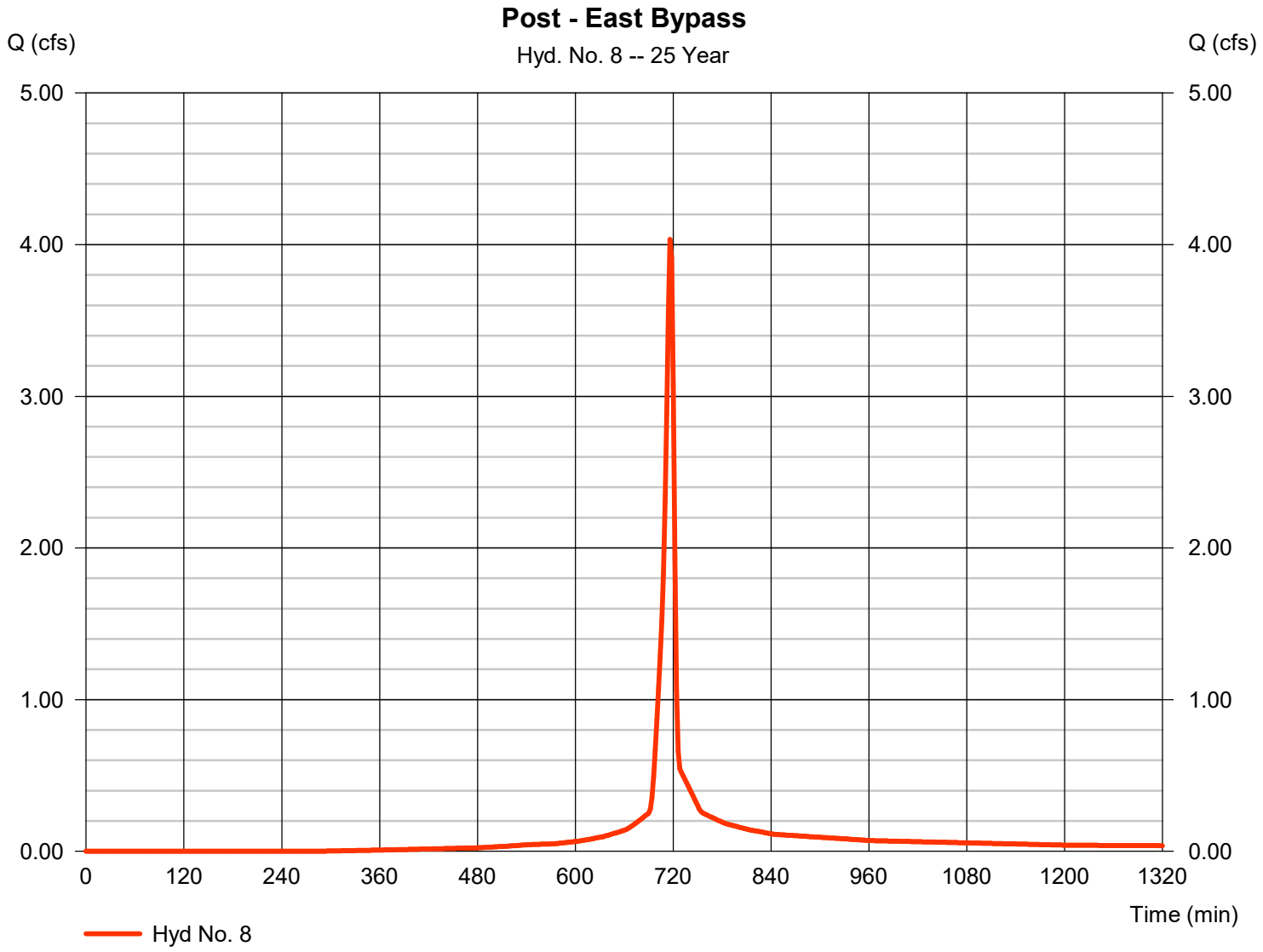
Hydrograph Report

Hyd. No. 8

Post - East Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.034 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	8,488 cuft
Drainage area	=	0.560 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 79) + (0.170 x 98)] / 0.560



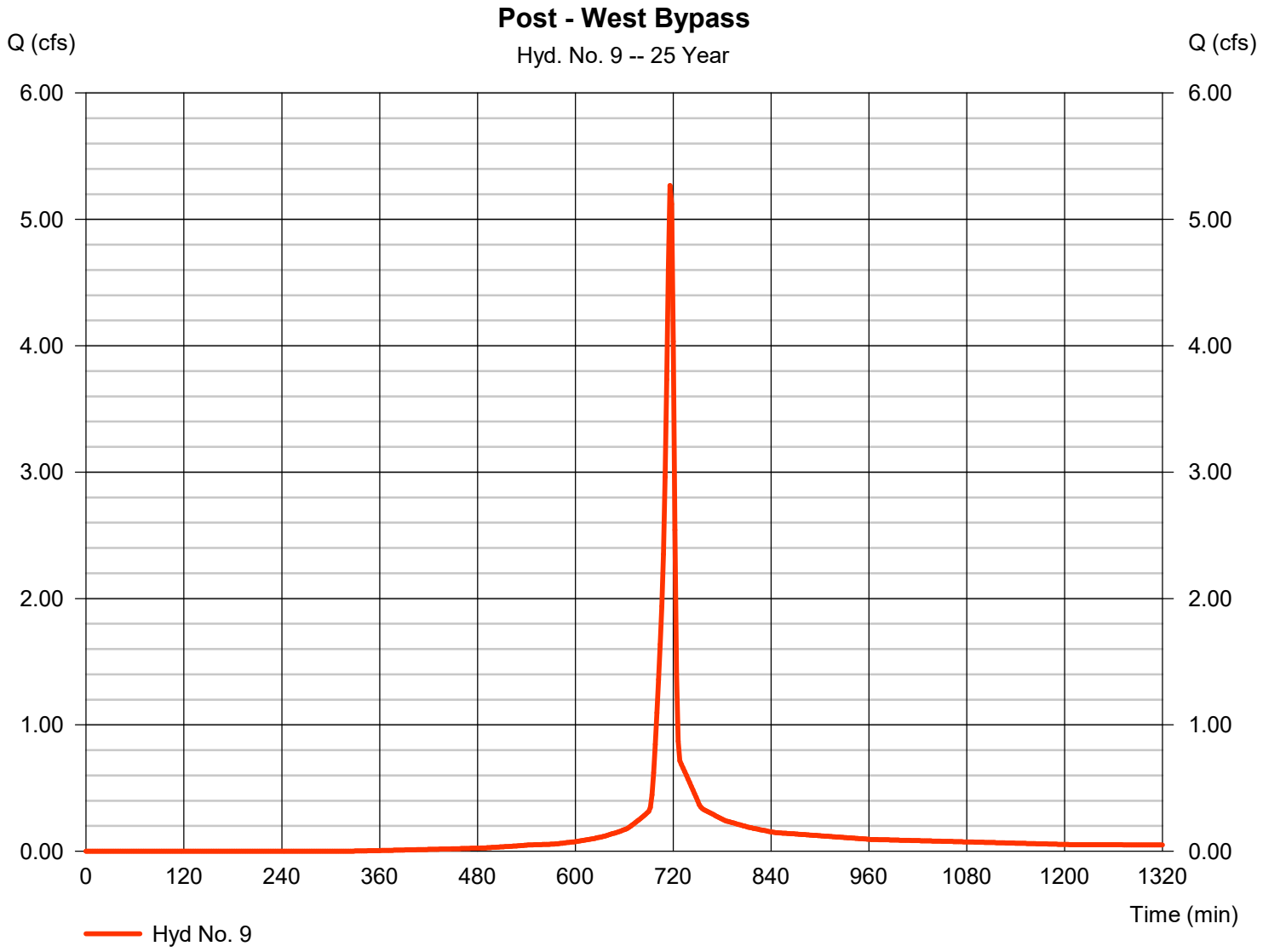
Hydrograph Report

Hyd. No. 9

Post - West Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.268 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	10,966 cuft
Drainage area	=	0.760 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.160 x 98) + (0.600 x 79)] / 0.760

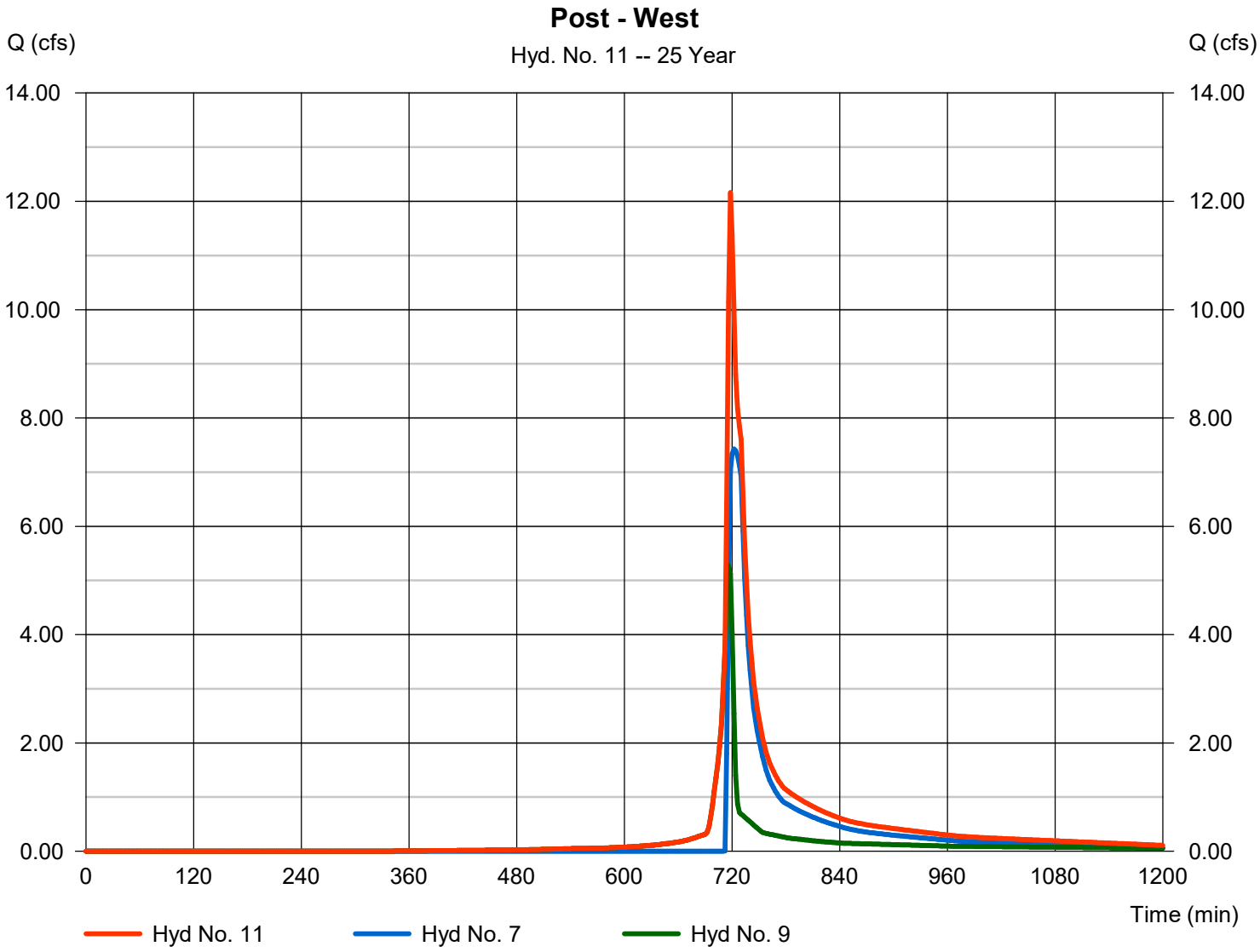


Hydrograph Report

Hyd. No. 11

Post - West

Hydrograph type	=	Combine	Peak discharge	=	12.16 cfs
Storm frequency	=	25 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	30,927 cuft
Inflow hyds.	=	7, 9	Contrib. drain. area	=	0.760 ac

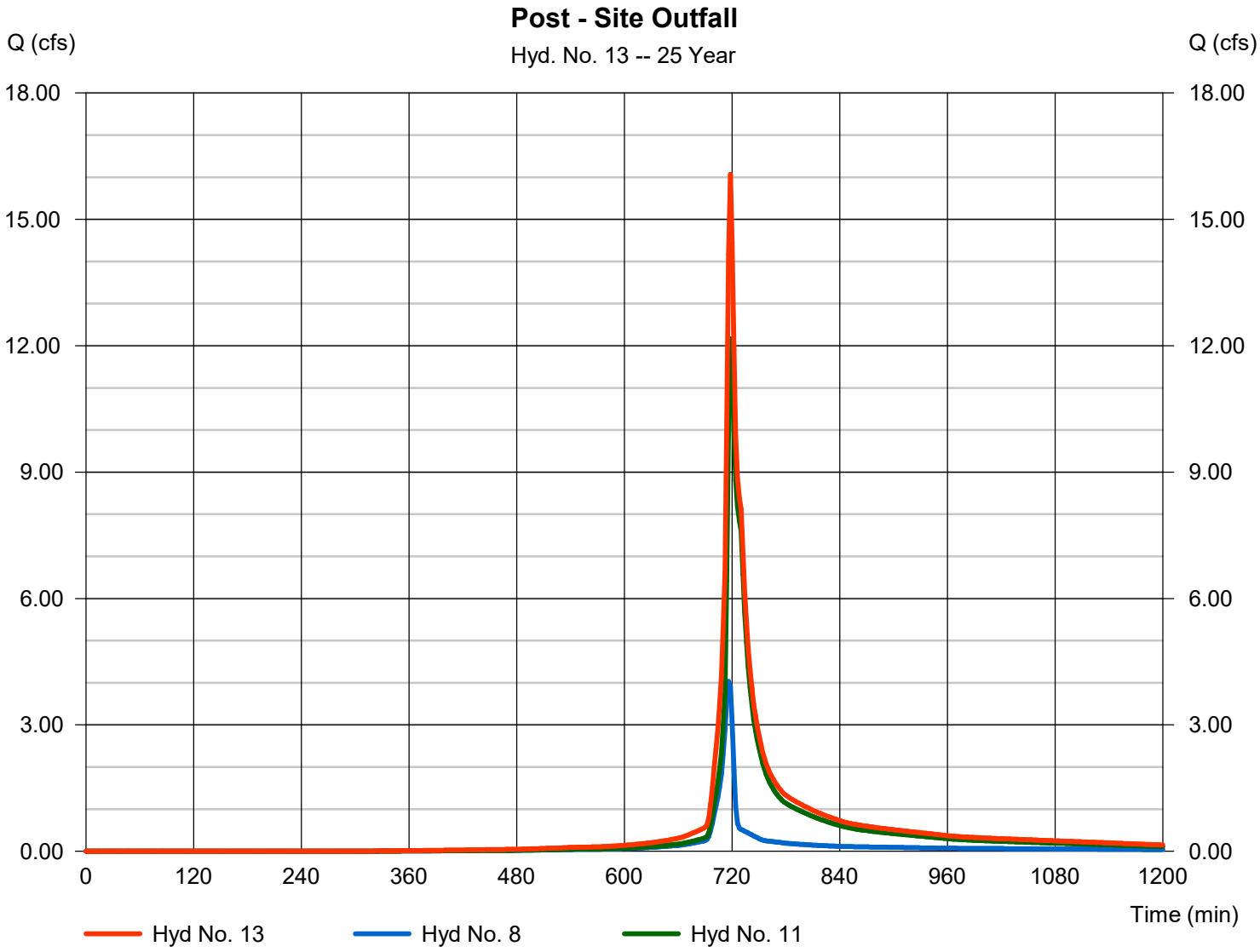


Hydrograph Report

Hyd. No. 13

Post - Site Outfall

Hydrograph type	=	Combine	Peak discharge	=	16.07 cfs
Storm frequency	=	25 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	39,415 cuft
Inflow hyds.	=	8, 11	Contrib. drain. area	=	0.560 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

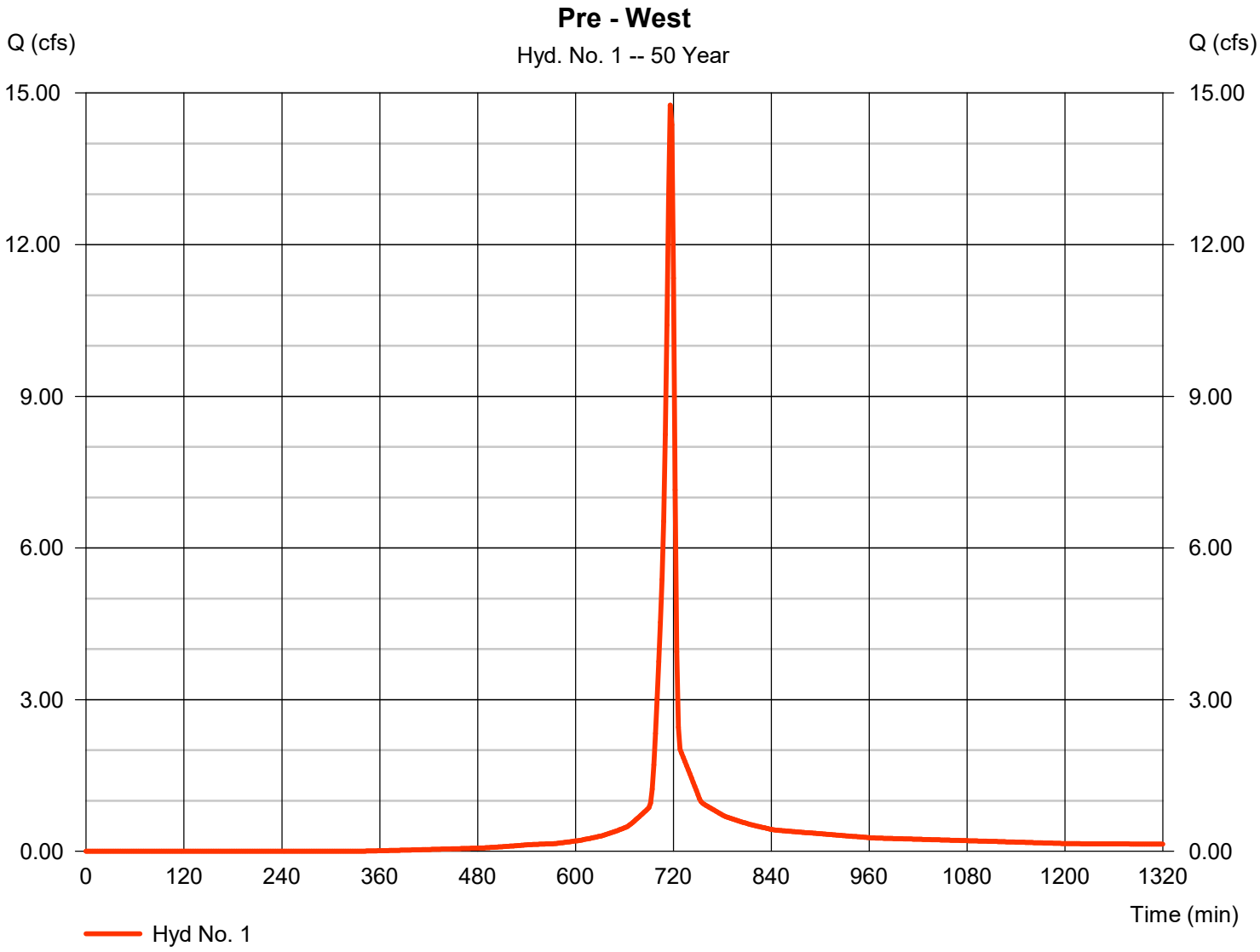
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	14.76	2	716	30,598	------	------	------	Pre - West
2	SCS Runoff	12.19	2	716	25,124	------	------	------	Pre - East
4	Combine	26.95	2	716	55,722	1, 2,	------	------	Pre - Site Outfall
6	SCS Runoff	20.25	2	716	44,935	------	------	------	Post to Pond
7	Reservoir	7.785	2	722	25,098	6	611.14	21,914	Post thru Pond
8	SCS Runoff	4.591	2	716	9,737	------	------	------	Post - East Bypass
9	SCS Runoff	6.025	2	716	12,638	------	------	------	Post - West Bypass
11	Combine	13.36	2	718	37,736	7, 9,	------	------	Post - West
13	Combine	17.80	2	718	47,473	8, 11,	------	------	Post - Site Outfall

Hydrograph Report

Hyd. No. 1

Pre - West

Hydrograph type	=	SCS Runoff	Peak discharge	=	14.76 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	30,598 cuft
Drainage area	=	1.950 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	5.60 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

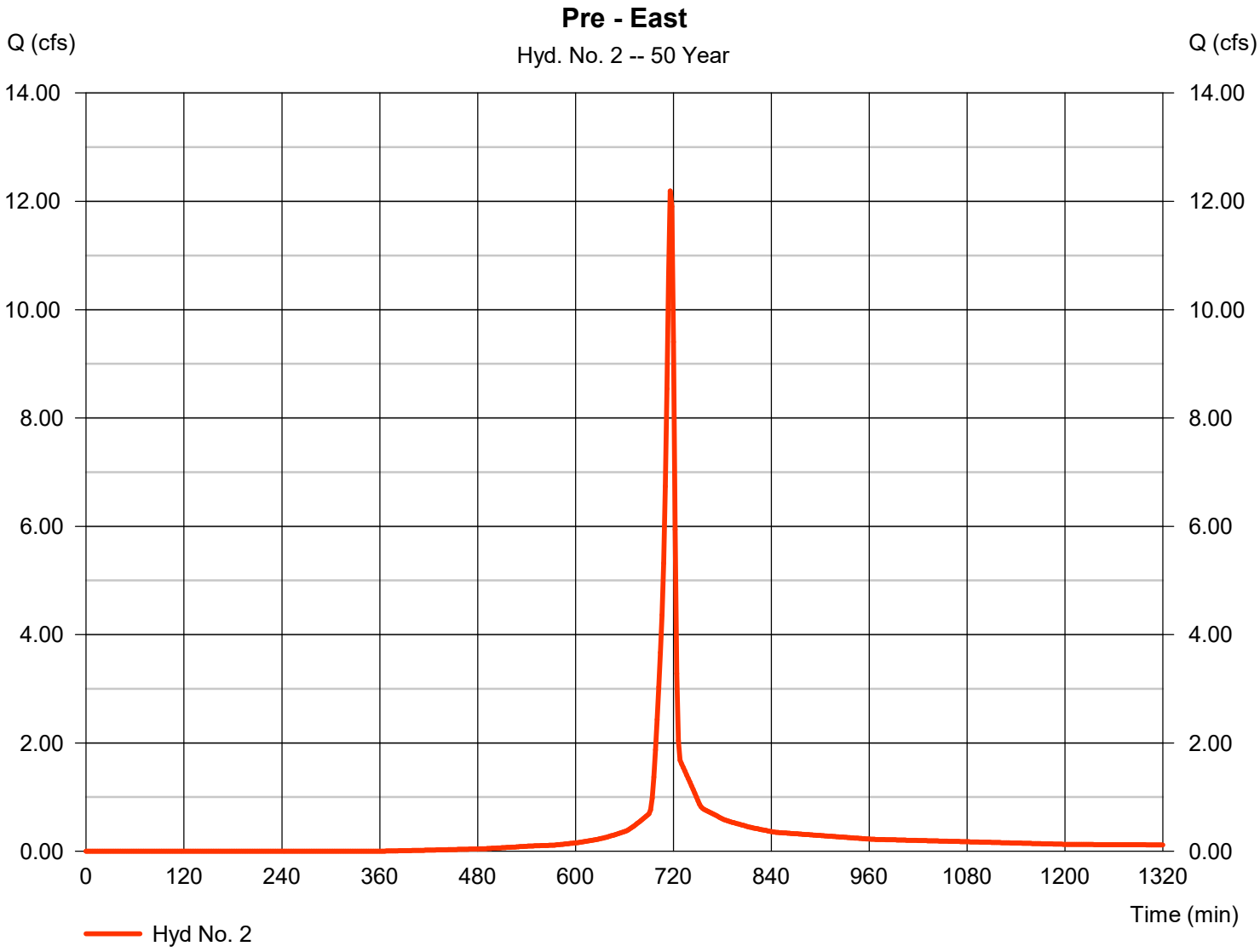


Hydrograph Report

Hyd. No. 2

Pre - East

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.19 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	25,124 cuft
Drainage area	=	1.660 ac	Curve number	=	79
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

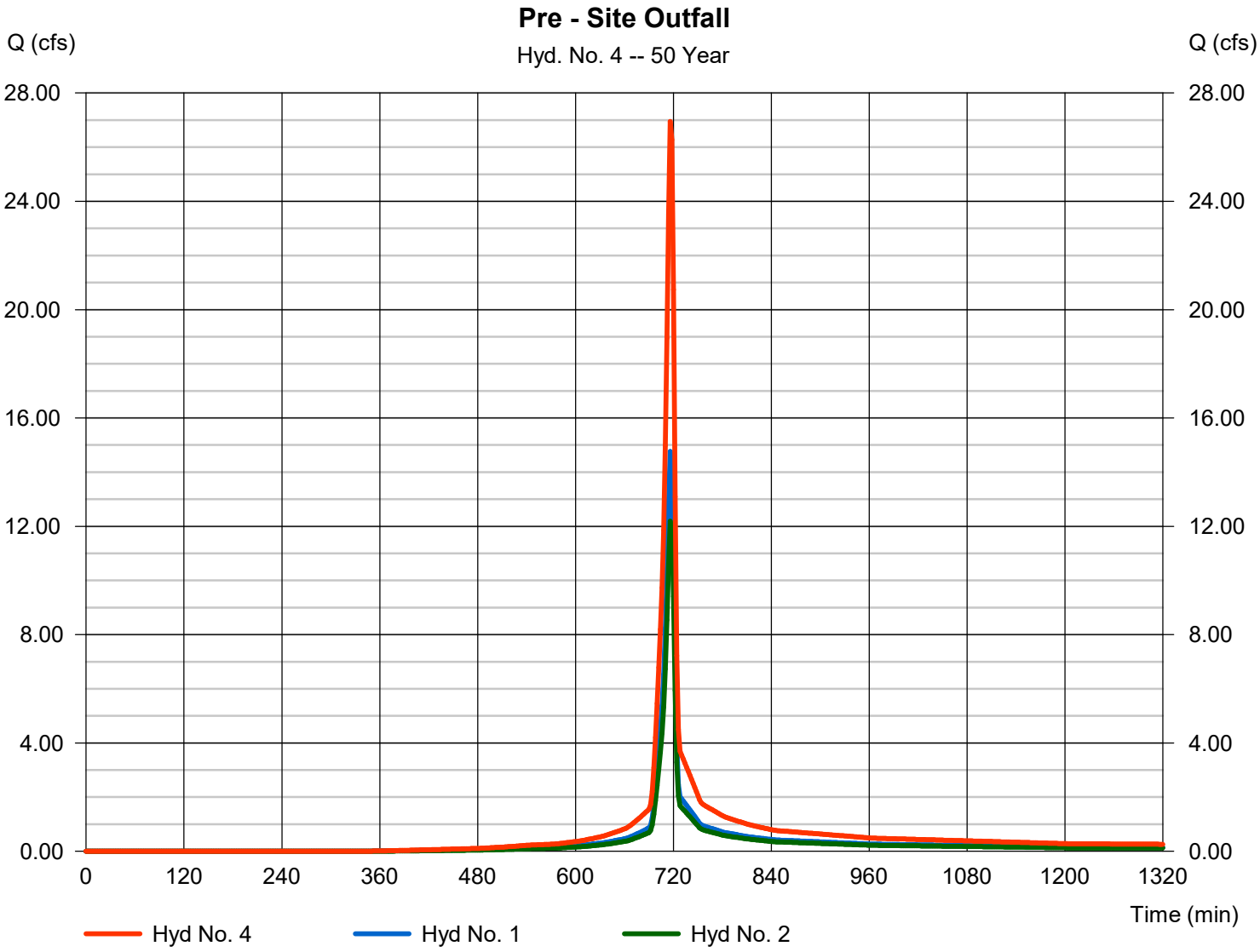


Hydrograph Report

Hyd. No. 4

Pre - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 26.95 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 55,722 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 3.610 ac



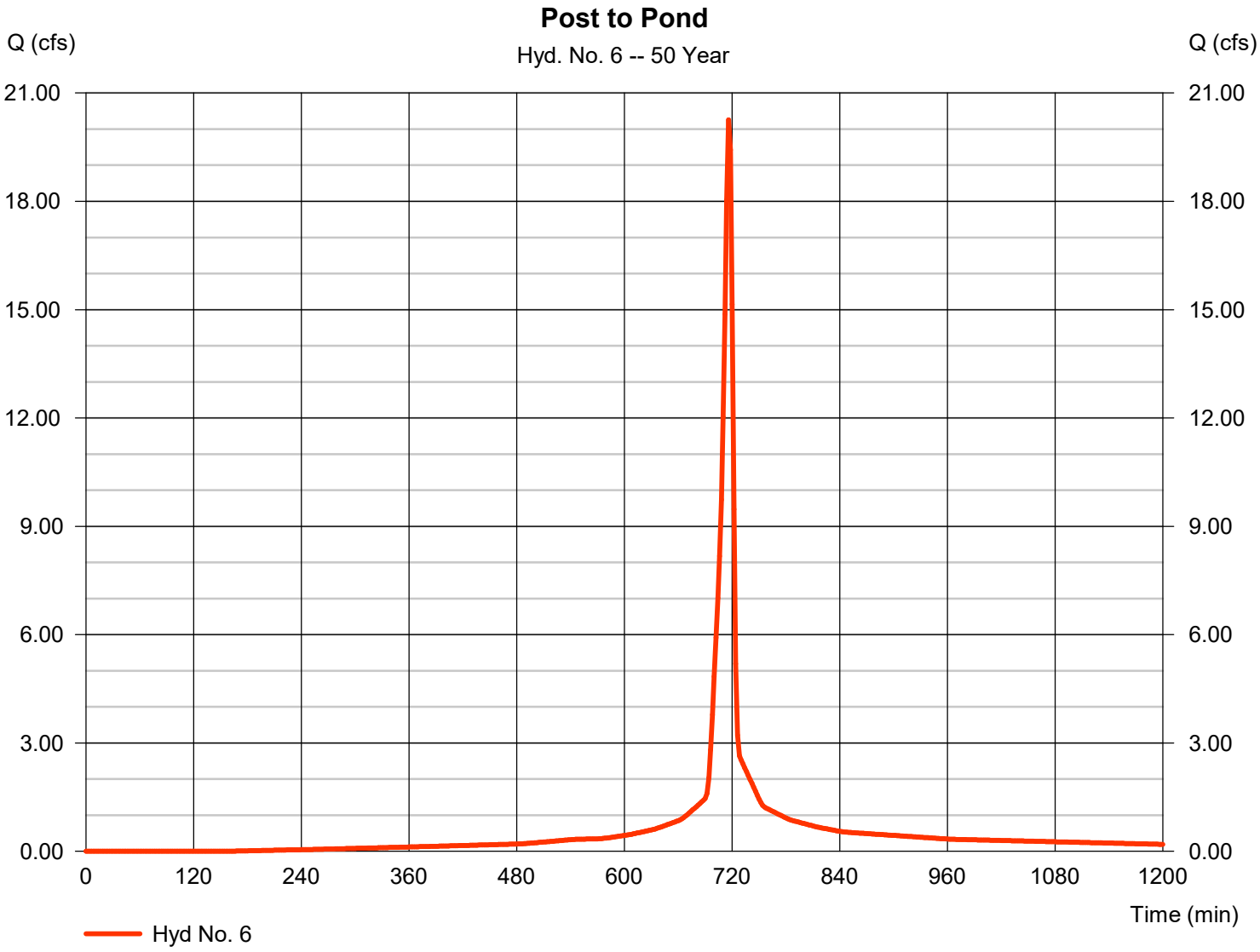
Hydrograph Report

Hyd. No. 6

Post to Pond

Hydrograph type	=	SCS Runoff	Peak discharge	=	20.25 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	44,935 cuft
Drainage area	=	2.280 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.430 x 98) + (0.850 x 79)] / 2.280



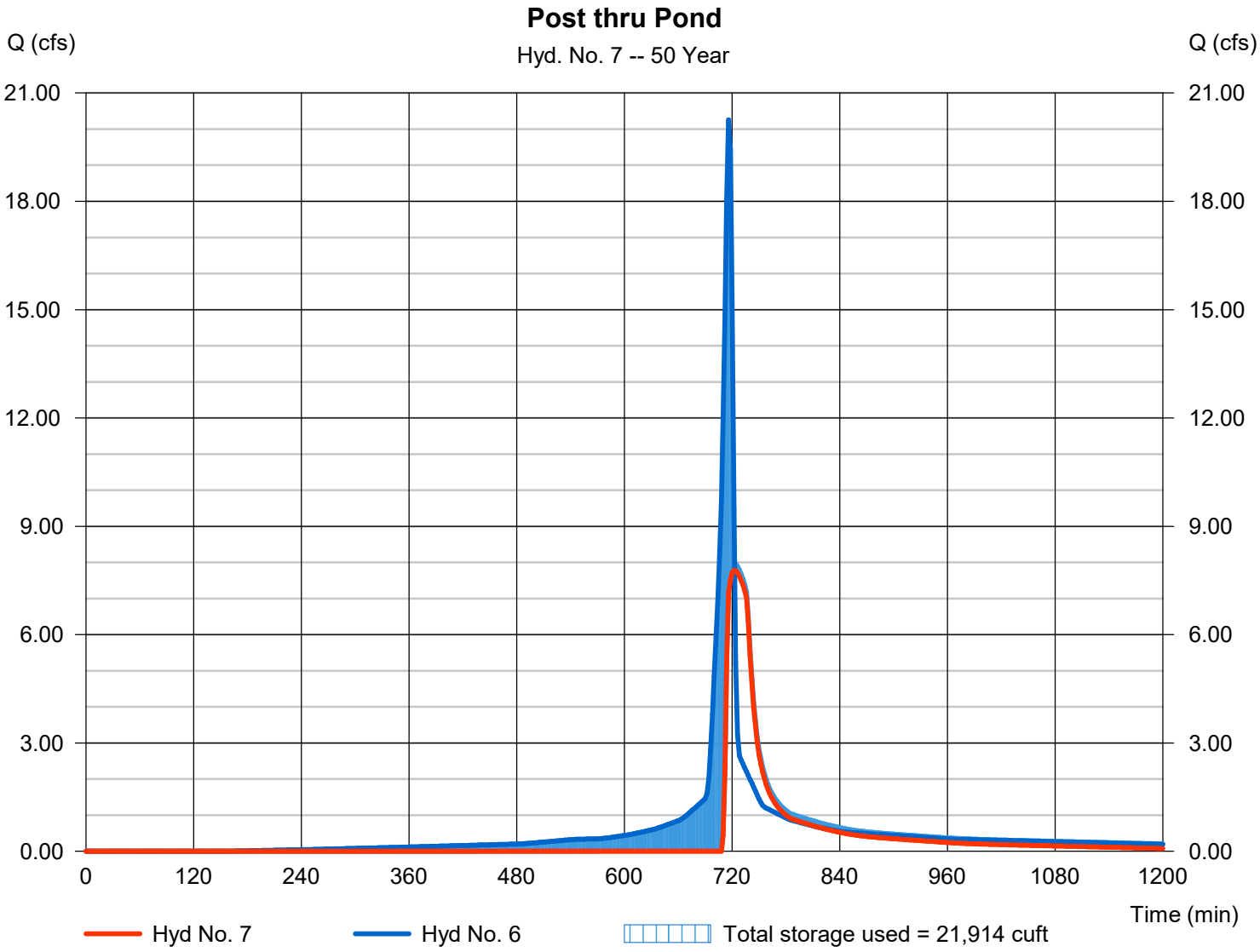
Hydrograph Report

Hyd. No. 7

Post thru Pond

Hydrograph type	=	Reservoir	Peak discharge	=	7.785 cfs
Storm frequency	=	50 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	25,098 cuft
Inflow hyd. No.	=	6 - Post to Pond	Max. Elevation	=	611.14 ft
Reservoir name	=	INFILTRATION 1	Max. Storage	=	21,914 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



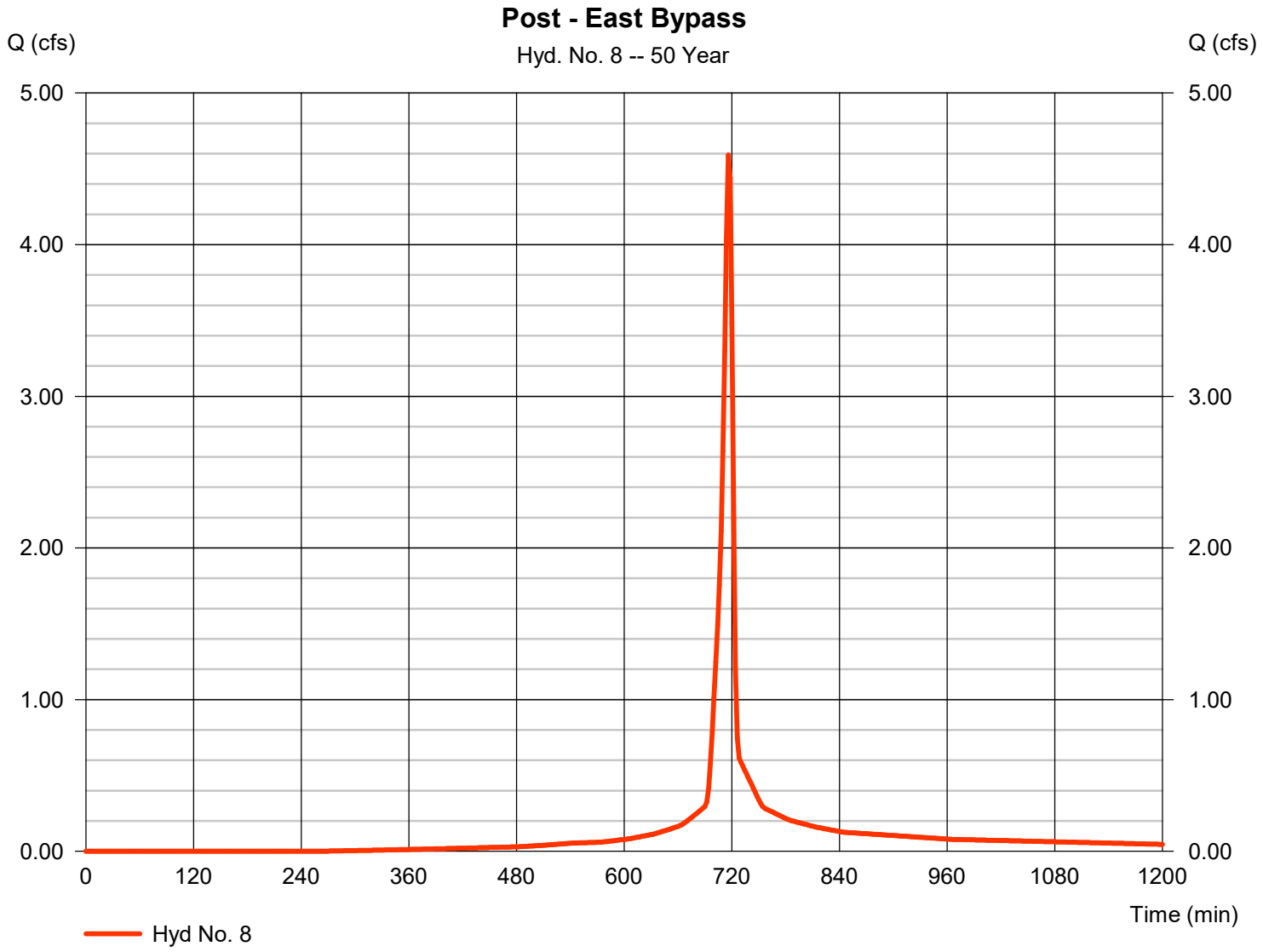
Hydrograph Report

Hyd. No. 8

Post - East Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.591 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	9,737 cuft
Drainage area	=	0.560 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 79) + (0.170 x 98)] / 0.560



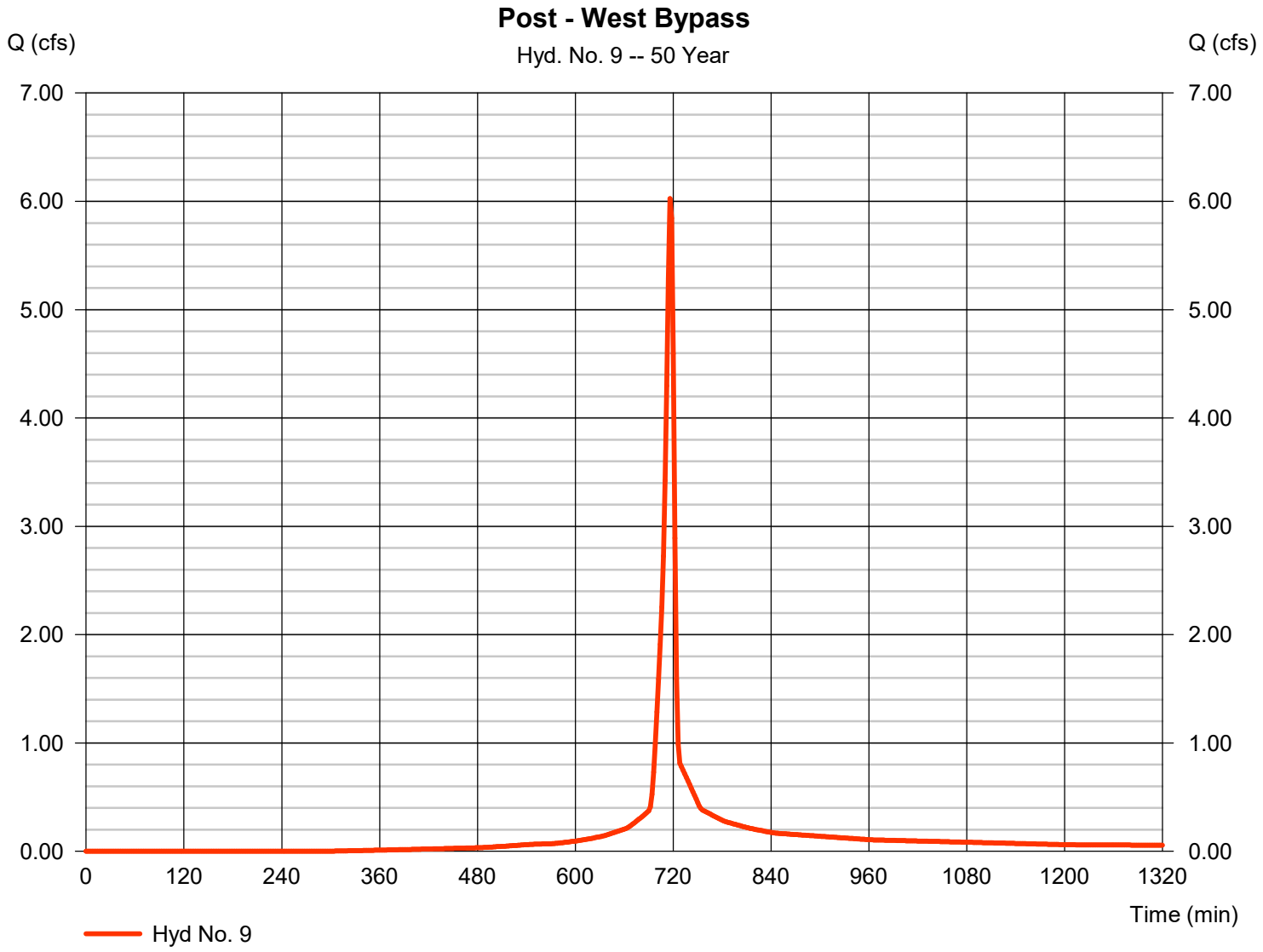
Hydrograph Report

Hyd. No. 9

Post - West Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.025 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	12,638 cuft
Drainage area	=	0.760 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.160 x 98) + (0.600 x 79)] / 0.760

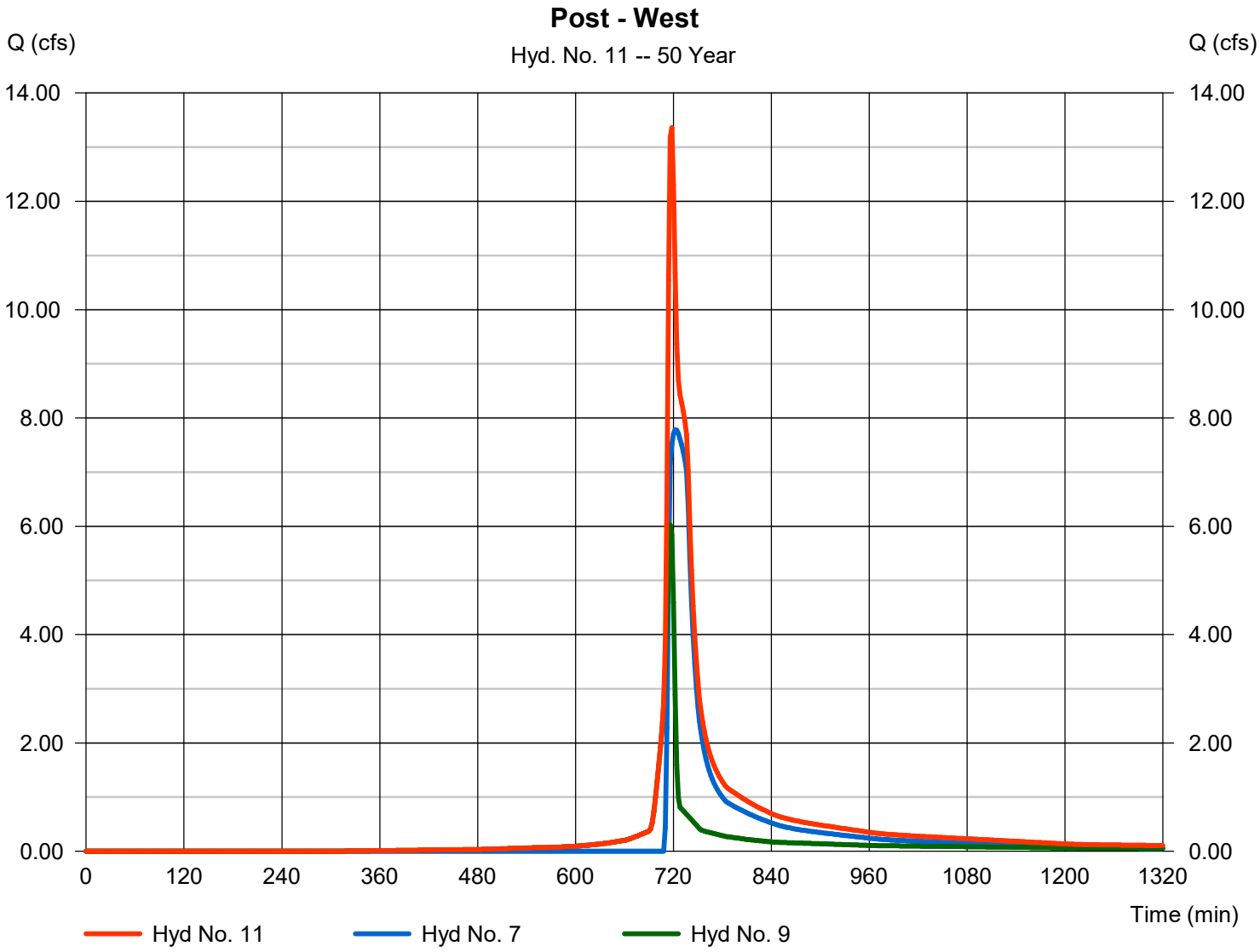


Hydrograph Report

Hyd. No. 11

Post - West

Hydrograph type	= Combine	Peak discharge	= 13.36 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 37,736 cuft
Inflow hyds.	= 7, 9	Contrib. drain. area	= 0.760 ac

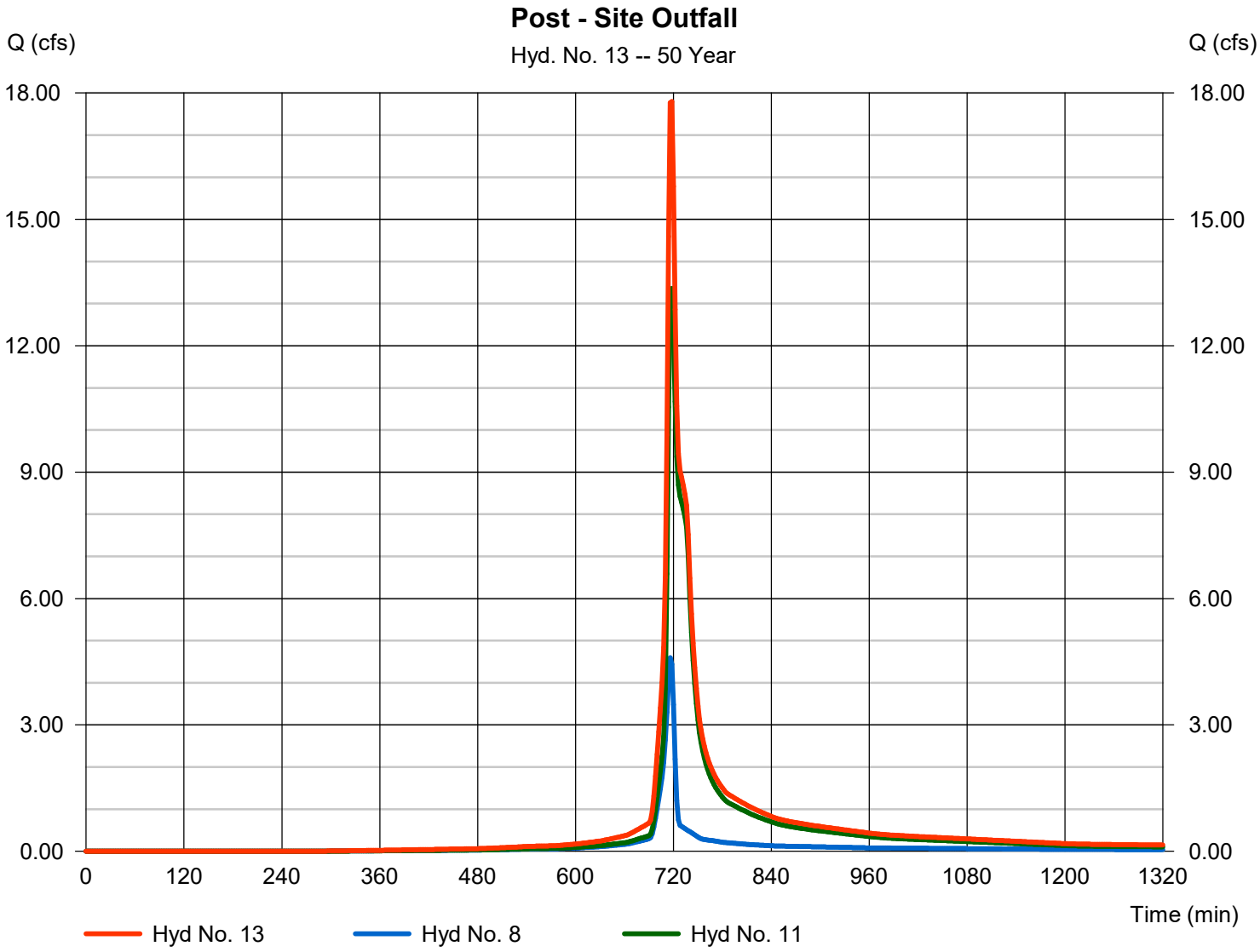


Hydrograph Report

Hyd. No. 13

Post - Site Outfall

Hydrograph type	=	Combine	Peak discharge	=	17.80 cfs
Storm frequency	=	50 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	47,473 cuft
Inflow hyds.	=	8, 11	Contrib. drain. area	=	0.560 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

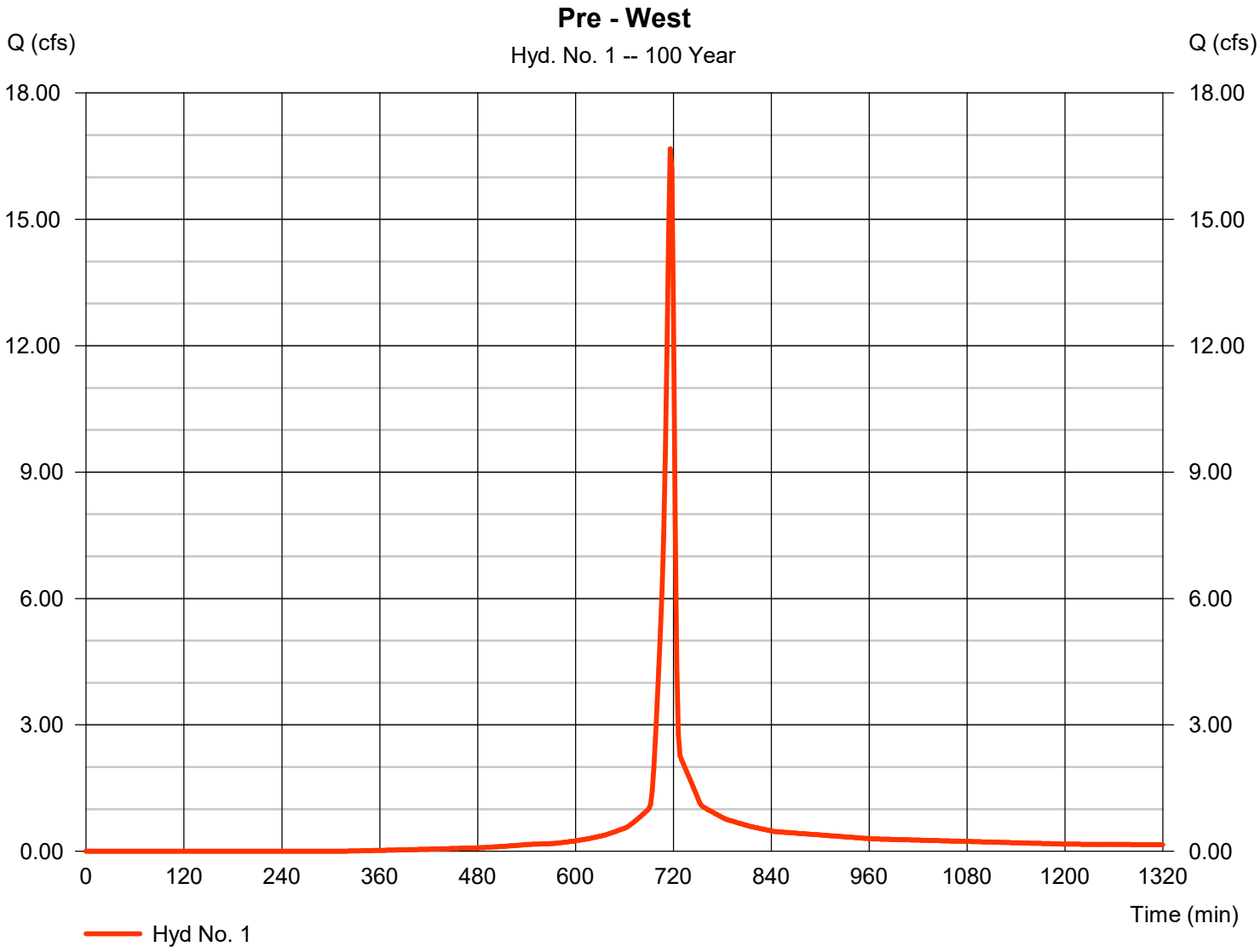
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	16.67	2	716	34,793	------	------	------	Pre - West
2	SCS Runoff	13.82	2	716	28,652	------	------	------	Pre - East
4	Combine	30.49	2	716	63,445	1, 2,	------	------	Pre - Site Outfall
6	SCS Runoff	22.44	2	716	50,130	------	------	------	Post to Pond
7	Reservoir	11.20	2	722	30,183	6	611.39	23,631	Post thru Pond
8	SCS Runoff	5.138	2	716	10,978	------	------	------	Post - East Bypass
9	SCS Runoff	6.771	2	716	14,302	------	------	------	Post - West Bypass
11	Combine	14.81	2	720	44,485	7, 9,	------	------	Post - West
13	Combine	19.44	2	716	55,463	8, 11,	------	------	Post - Site Outfall

Hydrograph Report

Hyd. No. 1

Pre - West

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.67 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	34,793 cuft
Drainage area	=	1.950 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	5.60 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

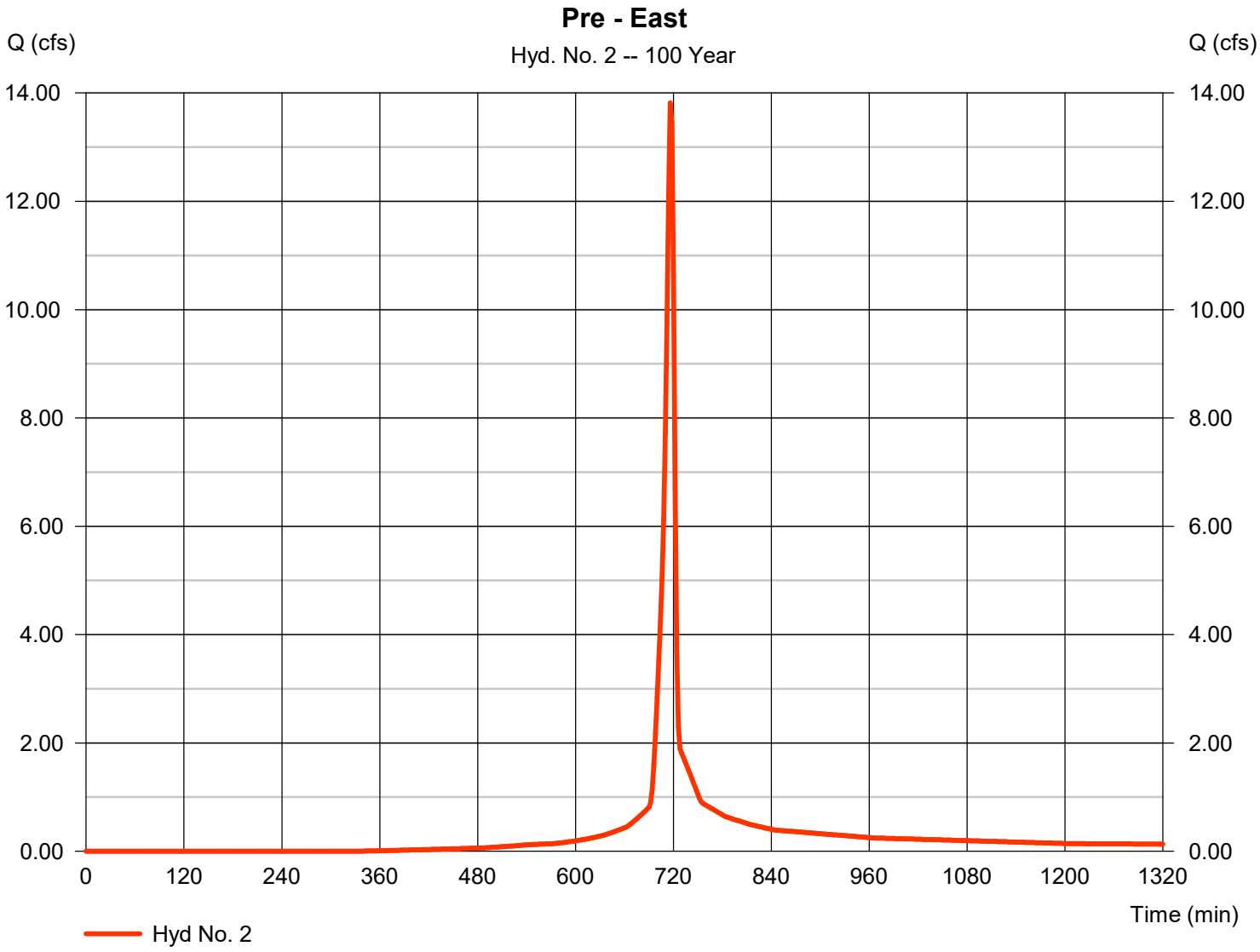


Hydrograph Report

Hyd. No. 2

Pre - East

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.82 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	28,652 cuft
Drainage area	=	1.660 ac	Curve number	=	79
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

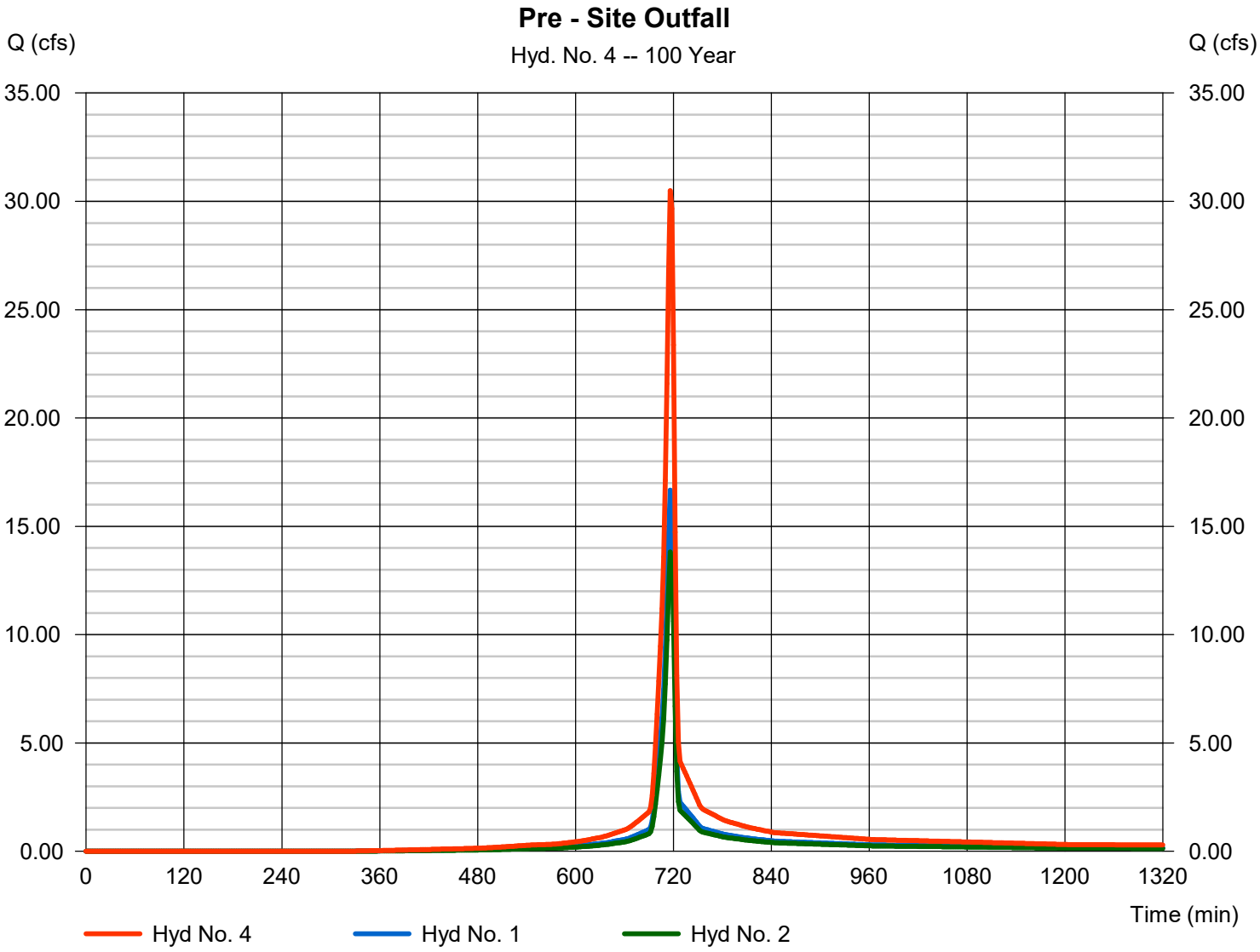


Hydrograph Report

Hyd. No. 4

Pre - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 30.49 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 63,445 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 3.610 ac



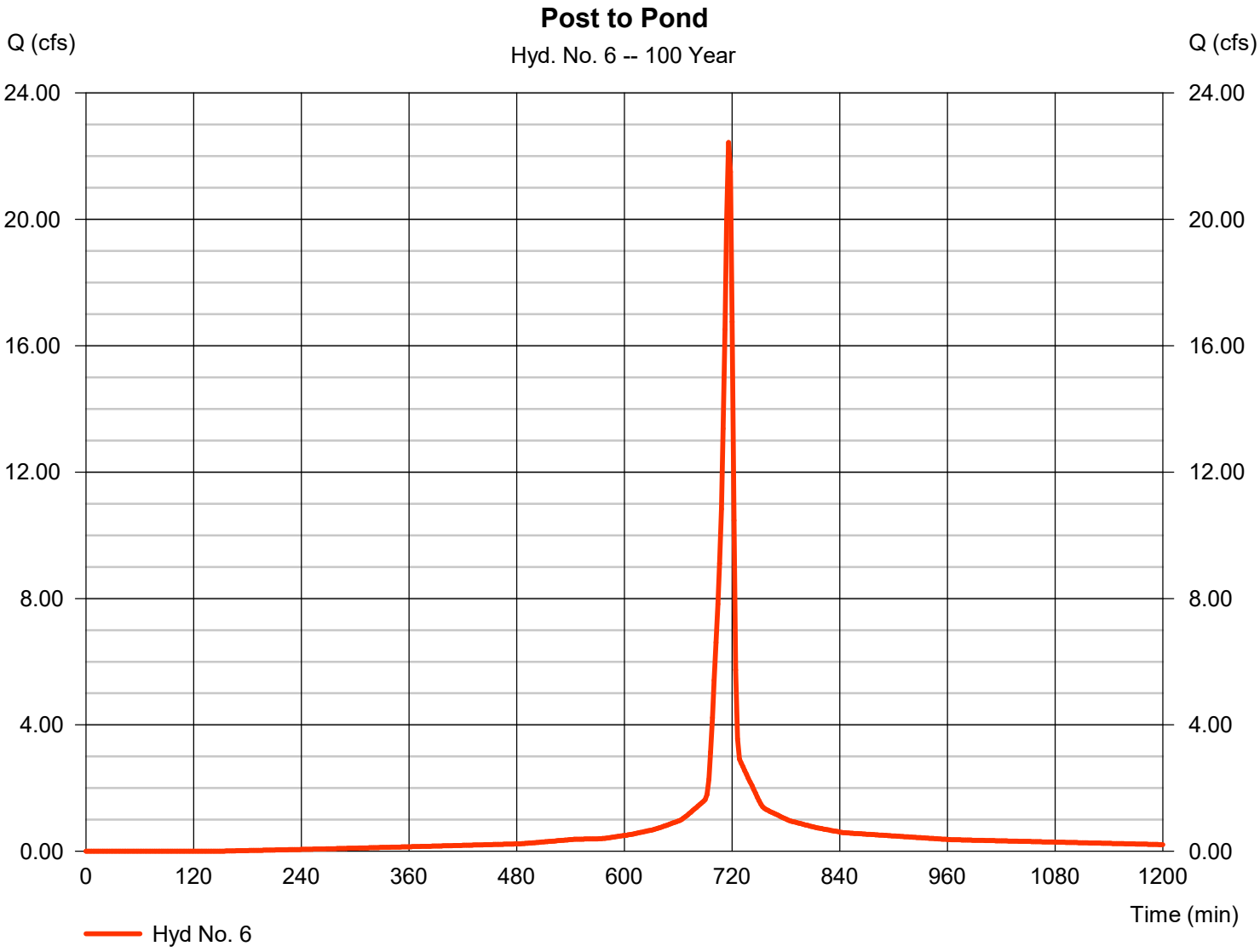
Hydrograph Report

Hyd. No. 6

Post to Pond

Hydrograph type	=	SCS Runoff	Peak discharge	=	22.44 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	50,130 cuft
Drainage area	=	2.280 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.430 x 98) + (0.850 x 79)] / 2.280



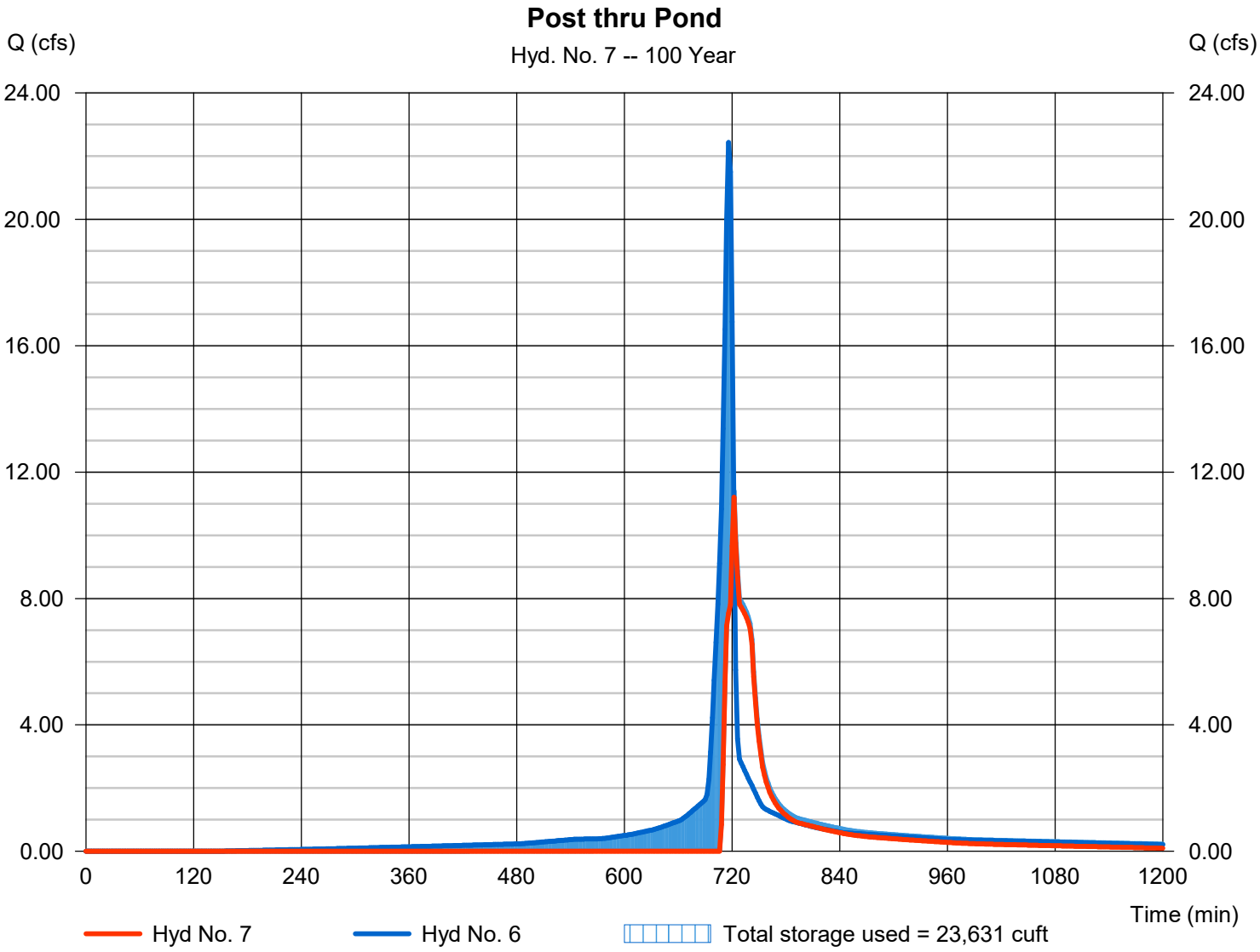
Hydrograph Report

Hyd. No. 7

Post thru Pond

Hydrograph type	=	Reservoir	Peak discharge	=	11.20 cfs
Storm frequency	=	100 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	30,183 cuft
Inflow hyd. No.	=	6 - Post to Pond	Max. Elevation	=	611.39 ft
Reservoir name	=	INFILTRATION 1	Max. Storage	=	23,631 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



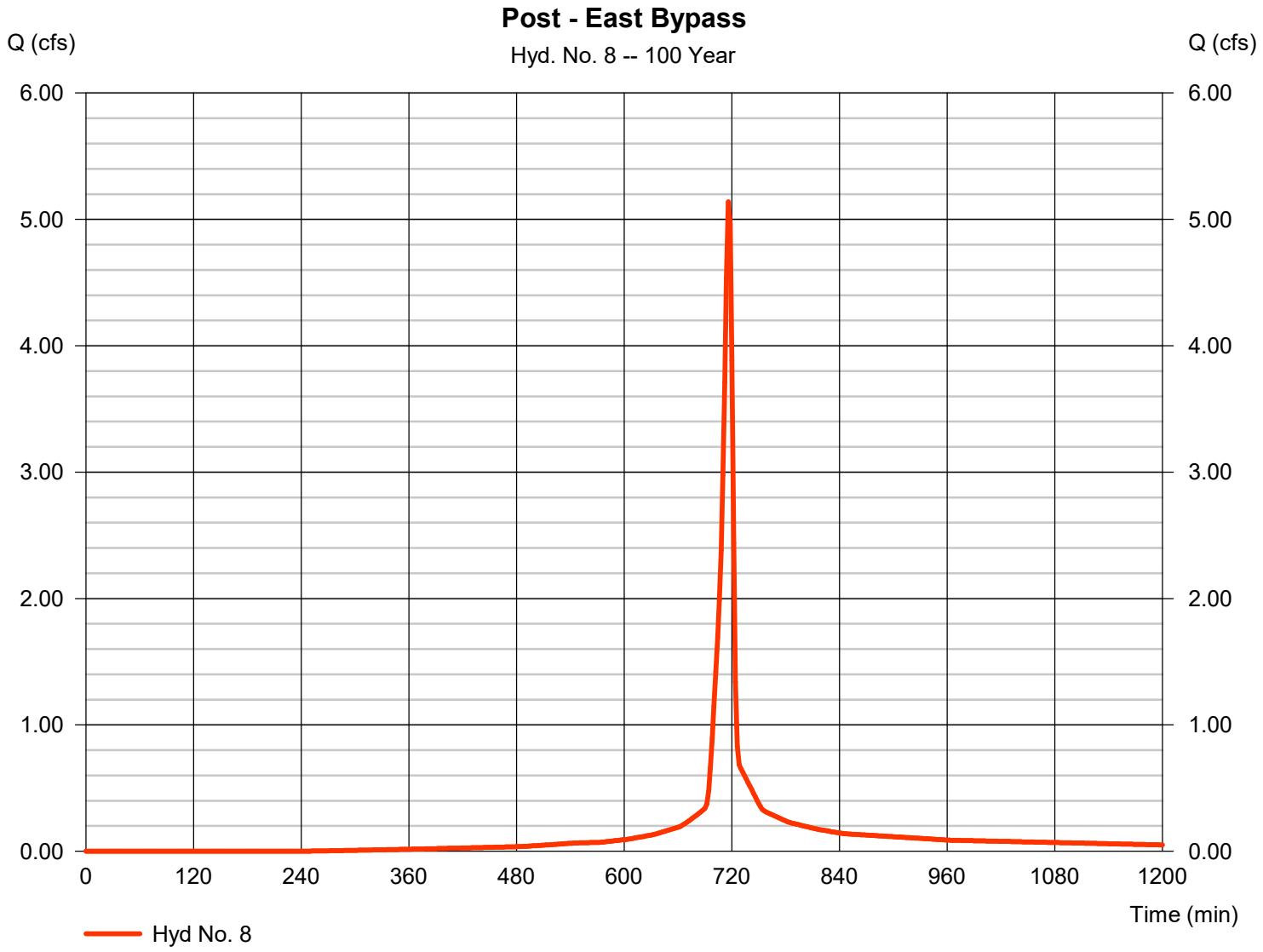
Hydrograph Report

Hyd. No. 8

Post - East Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.138 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	10,978 cuft
Drainage area	=	0.560 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 79) + (0.170 x 98)] / 0.560



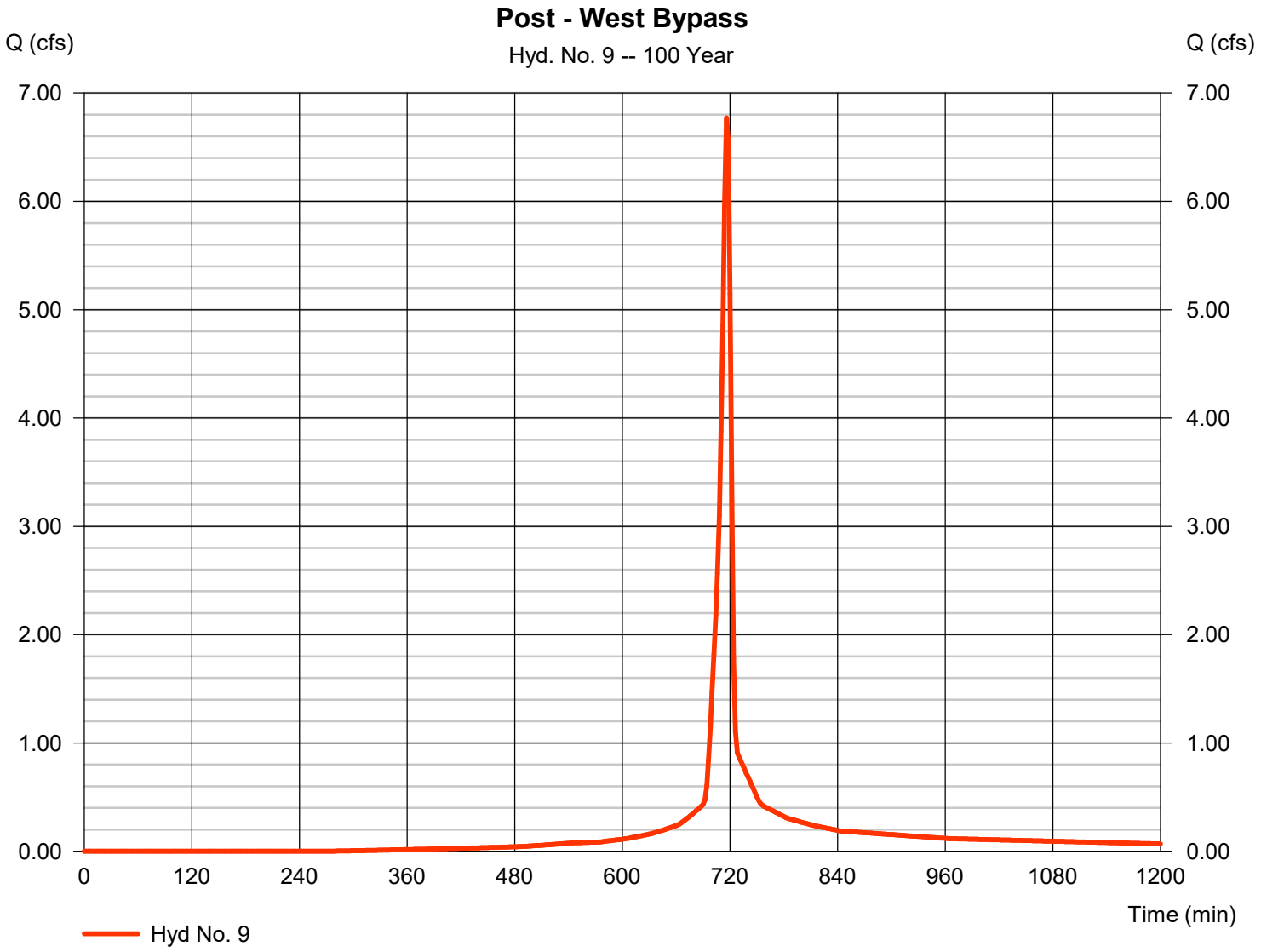
Hydrograph Report

Hyd. No. 9

Post - West Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.771 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	14,302 cuft
Drainage area	=	0.760 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.160 x 98) + (0.600 x 79)] / 0.760

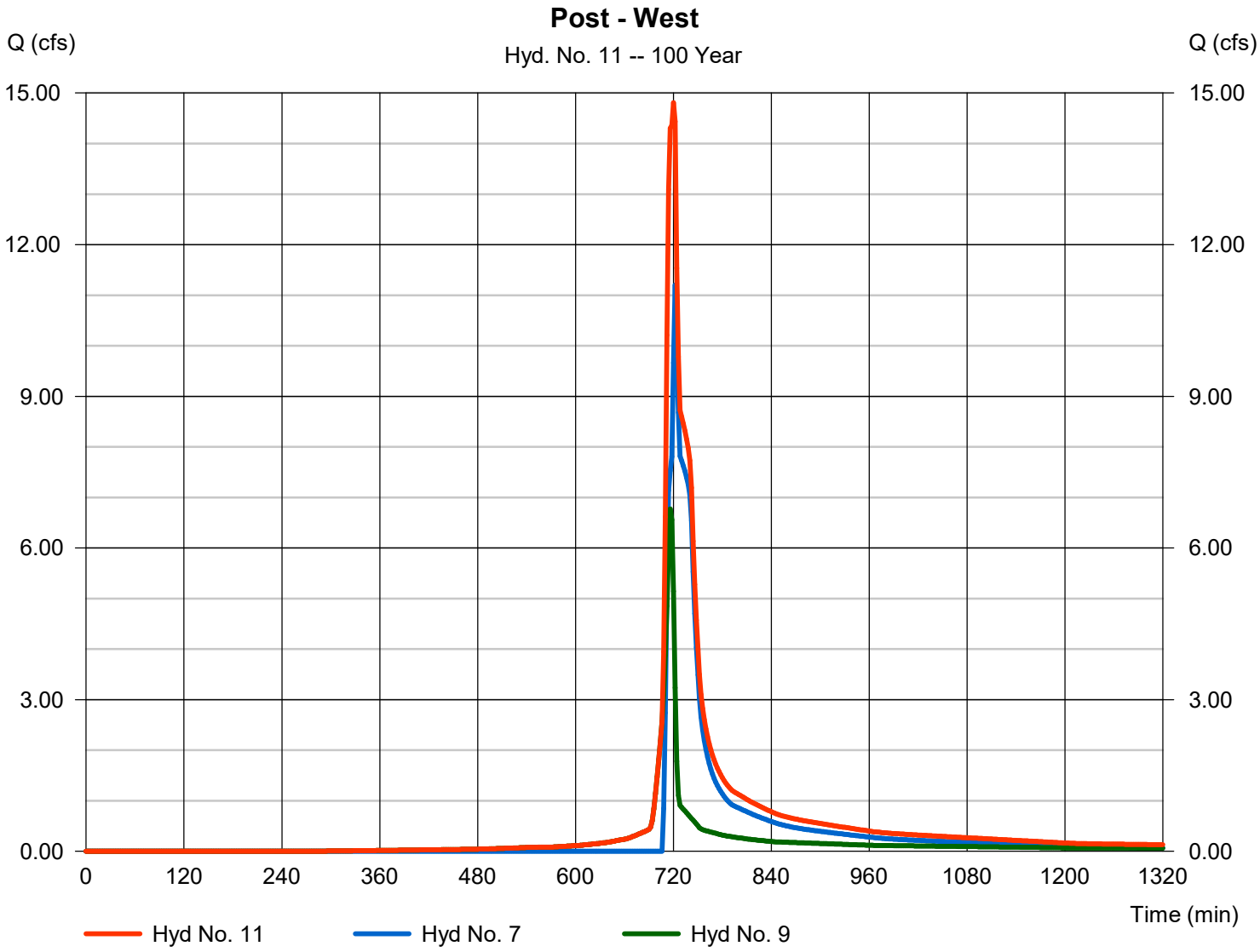


Hydrograph Report

Hyd. No. 11

Post - West

Hydrograph type	= Combine	Peak discharge	= 14.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 44,485 cuft
Inflow hyds.	= 7, 9	Contrib. drain. area	= 0.760 ac

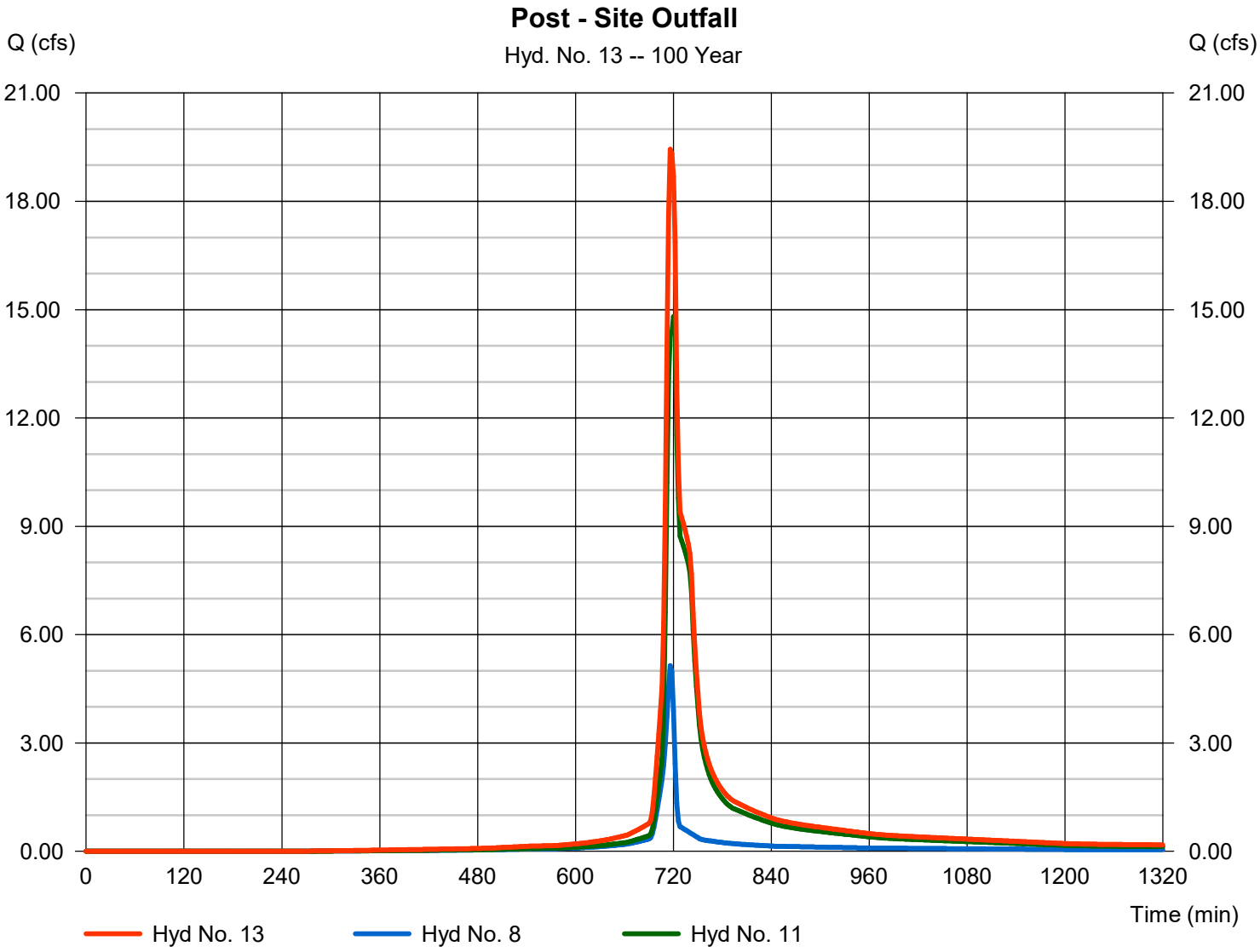


Hydrograph Report

Hyd. No. 13

Post - Site Outfall

Hydrograph type	= Combine	Peak discharge	= 19.44 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 55,463 cuft
Inflow hyds.	= 8, 11	Contrib. drain. area	= 0.560 ac



USDA Web Soil Survey

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Maury County, Tennessee



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


87° 1'43" W
87° 1'34" W
35° 38' 10" N
35° 38' 5" N
497390
497410
497430
497450
497470
497490
497510
497530
497550
497570
497590
497610
497630
3943590
3943570
3943550
3943530
3943510
3943490
3943470
3943450
Theta Pike
Rd
Hr
Gd
Eh
Timber Trl
Soil Map may not be valid at this scale.
Map Scale: 1:1,120 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 15 30 60 90
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Maury County, Tennessee
Survey Area Data: Version 16, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2021—Apr 20, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Eh	Etowah silt loam, eroded sloping phosphatic phase	0.2	4.2%
Gd	Gullied land, phosphatic	0.0	0.4%
Hr	Huntington silt loam, local alluvium phosphatic phase	0.0	1.2%
Rd	Rockland, mimosa and inman materials, sloping	3.9	94.2%
Totals for Area of Interest		**4.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Maury County, Tennessee

Eh—Etowah silt loam, eroded sloping phosphatic phase

Map Unit Setting

National map unit symbol: kq5x
Elevation: 620 to 1,200 feet
Mean annual precipitation: 45 to 55 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Etowah and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Etowah

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Parent material: Loamy alluvium and/or colluvium derived from limestone, sandstone, and shale

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 30 inches: silty clay loam
H3 - 30 to 60 inches: silty clay loam

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Gd—Gullied land, phosphatic

Map Unit Composition

Gullied land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gullied Land

Typical profile

H1 - 0 to 30 inches: variable
R - 30 to 34 inches: bedrock

Properties and qualities

Slope: 12 to 25 percent
Depth to restrictive feature: 9 to 79 inches to lithic bedrock

Hr—Huntington silt loam, local alluvium phosphatic phase

Map Unit Setting

National map unit symbol: kq6s
Elevation: 510 to 1,000 feet
Mean annual precipitation: 48 to 55 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 205 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Huntington and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Huntington

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Parent material: Loamy alluvium derived from limestone, sandstone, and shale

Typical profile

H1 - 0 to 24 inches: silt loam
H2 - 24 to 64 inches: silt loam

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Rd—Rockland, mimosa and inman materials, sloping

Map Unit Setting

National map unit symbol: kq7v
Elevation: 500 to 1,100 feet
Mean annual precipitation: 48 to 54 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 40 percent
Inman and similar soils: 30 percent
Mimosa and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Typical profile

R - 0 to 10 inches: bedrock

Description of Inman

Setting

Landform: Hillslopes
Landform position (three-dimensional): Crest
Parent material: Clayey residuum weathered from limestone and shale

Typical profile

H1 - 0 to 6 inches: flaggy silty clay loam
H2 - 6 to 32 inches: flaggy clay
Cr - 32 to 42 inches: bedrock

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Mimosa

Setting

Landform: Hillslopes
Landform position (three-dimensional): Crest
Parent material: Clayey residuum weathered from limestone

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 20 inches: clay
H3 - 20 to 55 inches: clay
R - 55 to 65 inches: bedrock

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Erosion Factors

Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

K Factor, Whole Soil

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.


87° 1'43" W
87° 1'34" W
35° 38' 10" N
35° 38' 5" N
497390
497410
497430
497450
497470
497490
497510
497530
497550
497570
497590
497610
497630
3943590
3943570
3943550
3943530
3943510
3943490
3943470
3943450
Theta Pike
Hr
Rd
Gd
Eh
Timber Trl
Soil Map may not be valid at this scale.
Map Scale: 1:1,120 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 15 30 60 90
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- .02
- .05
- .10
- .15
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- .55
- .64
- Not rated or not available

Soil Rating Lines
- .02
- .05
- .10
- .15
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- .55
- .64
- Not rated or not available

Soil Rating Points
- .02
- .05
- .10
- .15
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- .55
- .64
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Maury County, Tennessee
Survey Area Data: Version 16, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2021—Apr 20, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Eh	Etowah silt loam, eroded sloping phosphatic phase	.37	0.2	4.2%
Gd	Gullied land, phosphatic		0.0	0.4%
Hr	Huntington silt loam, local alluvium phosphatic phase	.37	0.0	1.2%
Rd	Rockland, mimosa and inman materials, sloping		3.9	94.2%
Totals for Area of Interest			**4.1**	**100.0%**

Rating Options—K Factor, Whole Soil

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

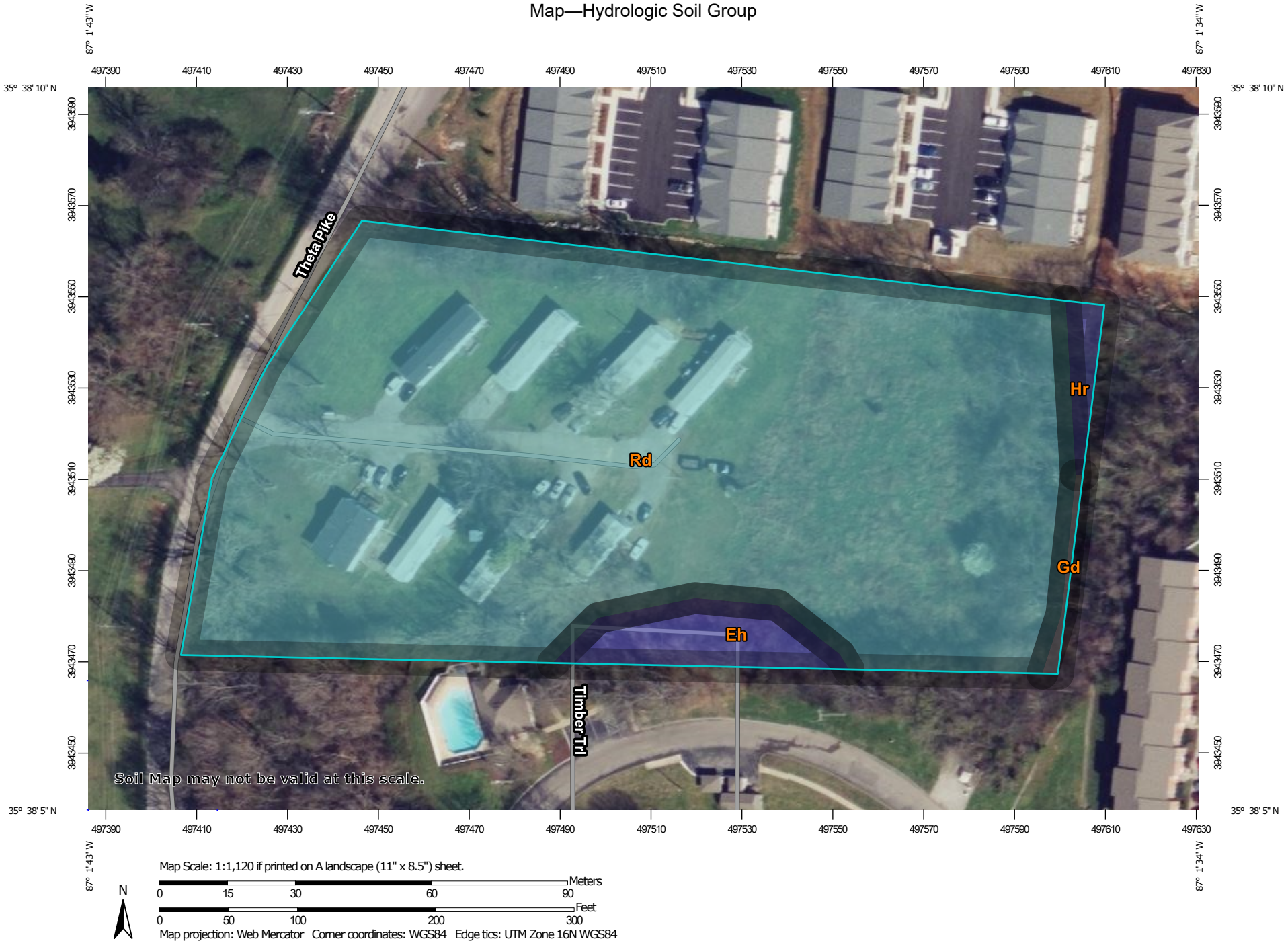
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Map Scale: 1:1,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Maury County, Tennessee
Survey Area Data: Version 16, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2021—Apr 20, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Eh	Etowah silt loam, eroded sloping phosphatic phase	B	0.2	4.2%
Gd	Gullied land, phosphatic		0.0	0.4%
Hr	Huntington silt loam, local alluvium phosphatic phase	B	0.0	1.2%
Rd	Rockland, mimosa and inman materials, sloping	C	3.9	94.2%
Totals for Area of Interest			**4.1**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

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CPWS

May 19, 2023

Mr. Brian Holcombe
M2 Group, LLC
P.O. Box 848
Franklin, TN 37065
Sent via email: brian@m2groupllc.com

RE: Water Availability Letter
Mackenzie Place Townhomes – 34 Units
220 Theta Pike
Tax Map 90B, Parcel 47.00
Columbia, Maury County, TN

Dear Mr. Holcombe:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 34 townhome units in 7 buildings. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the existing 6-inch water main located on Theta Pike.
- Minimum size 8-inch water mains will be required throughout the development.

- Townhomes will be served via gang-meter vaults.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (34 SFUs)	$14,080.00

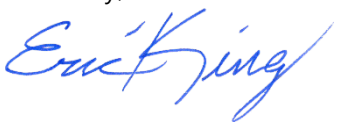
- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: $540 per 3/4" meter (34 meters)	$18,360.00
Impact Fee: $875 per 3/4" meter (34 meters)	$29,750.00
Total Meter and Impact Fees Due =	**$48,110.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact Mr. Jonathan Hardin or myself at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-005

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

28 December 2022

Brian Holcombe
M2 Group, LLC
brian@m2groupllc.com

RE: 220 Theta Pike, Columbia, TN 38401

Brian,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CPWS
Columbia Power & Water Systems

201 Pickens Lane
P.O. Box 379
Columbia, TN 38402

P 931.388.4833
F 931.388.5287
www.cpws.com

January 10, 2023

M2 Group, LLC
Matt Bryant, PE
matt@m2groupllc.com

Re: 220 Theta Pike
Mackenzie Place Apartments, 34 Townhome Units

Dear Sir:

Columbia Power System has an existing power line near your proposed development.

We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

Yours truly,

COLUMBIA POWER & WATER SYSTEMS

Ryan Massey, P. E.
Vice President of Power Operations

kw

VOLKERT
750 Old Hickory Boulevard,
Suite 1-230
Brentwood, Tennessee 37027
615.257.1761
www.volkert.com

June 10, 2022

Glenn Harper, PE
City Engineer
City of Columbia
700 N Garden Street
Columbia, TN 38401

Re: Mackenzie Place Apartments
Traffic Impact Study
Review Comments

Dear Glenn:

This memorandum provides the findings of the independent review of the Mackenzie Place Apartments Traffic Impact Study (TIS) Update. Our review includes the traffic projections and the operational analyses; evaluation of the proposed roadway network; review and evaluation of the recommended infrastructure improvements; and identification of any recommended modifications or additions to the recommended infrastructure improvements identified in the TIS.

General Project Information

The Mackenzie Place Apartments TIS, dated May 2022, was completed by the Corradino Group, Inc. for Waits Development Group, LLC. Mackenzie Place Apartments development in Columbia, TN is proposed to be located east of Theta Pike and south of Highway 412/13, bound to the south and north by a multi-family residential development, to the west by a single-family residential, and to the east by multi-family housing and light industrial facilities. The Mackenzie Place Apartments development will consist of 80 multifamily units with one access point along Theta Pike. The site access is located approximately 650 feet south of the intersection of Theta Pike and Highway 412/13 and 475 feet north of Timber Trail. The development is expected to be complete in two years, which is a year 2024 horizon. Traffic counts were conducted by the Corradino Group, Inc. on a typical weekday in February 2022 while schools were in session for the intersections of Theta Pike and Highway 412/13, Theta Pike and Timber Trail, and Theta Pike/8th Avenue and Nashville Highway. In addition, 24-hour bi-directional volume and speed tube counts were conducted along Theta Pike in the vicinity of the proposed development access. To develop the growth rate to be applied to the existing traffic volumes, historical daily traffic volumes were obtained from the TDOT count stations located on Highway 412/43, Theta Pike, and Nashville Highway in the vicinity of the project site. The growth rate found from the count stations was 4% but a growth rate of 3.5% was selected through coordination with the City's traffic consultant. These counts were grown by an annual 3.5% to obtain the background 2024 traffic volumes. Additionally, there are two proposed developments, Theta Pike Cove & Taylor Landing, near the study area that are expected to

affect the traffic volumes at the study intersections. Traffic for both developments were added to the background 2024 traffic volumes.

Trip Generation and Trip Distribution

Future trips generated by Mackenzie Place Apartments were calculated using ITE's *Trip Generation*, 11th Edition based on the future land use. The land use used to determine the project-generated trips was 80 dwelling units of low-rise multifamily homes. The total development is expected to produce 588 trips per day with 48 new trips in the AM peak hour and 55 new trips in the PM peak hour. The new trips are detailed below.

	Total Entering Trips	Total Exiting Trips
AM	12	36
PM	35	20

These trips were distributed throughout the study area based on commuter patterns in the area and the proximity and routes to major transportation facilities. The directional distribution assumes approximately 40% of the project-generated traffic will be oriented from the southwest along Nashville Highway, 20% to the northwest along, Highway 412, 15% to the north along Theta Pike, 15% to the northeast along Highway 412, and 10% to the southeast along Nashville Highway.

Capacity/Level of Service Analyses

The operational analyses for the intersections within the study area was completed utilizing Synchro 11 software, which uses the methods from *Highway Capacity Manual 2010*. The intersections were evaluated for the weekday AM and PM existing, background, and projected traffic conditions. Additionally, turn lane and sight distance analysis was completed.

Intersection Capacity Analysis

In the projected 2024 conditions, the analyses indicate that all of the critical turning movements are expected to operate at LOS D or better during both peak hours.

Turn Lane Warrant Analysis

The intersection of Theta Pike at the Site Access was evaluated for the need for left turn lanes on Theta Pike based on methodology outlined in *M.D. Harmelink's Volume Warrants for Left-Turn Storage Lanes at Unsignalized Intersections.* Based on the total projected peak hour traffic volumes presented in the TIS, a left turn deceleration lane on Theta Pike at the Site Access is not warranted. The intersection of Theta Pike at the Site Access was also evaluated for the need for right turn lanes on Theta Pike based on methodology in *Intersection Channelization Design Guide (NCHRP 279)*. Similarly, a right turn deceleration lane is not warranted by the total projected peak hour volumes. Therefore, separate turn lanes on Theta Pike are not needed.

VOLKERT
750 Old Hickory Boulevard,
Suite 1-230
Brentwood, Tennessee 37027
615.257.1761
www.volkert.com

Intersection Sight Distance Evaluation

The available intersection sight distance along Theta Pike was evaluated where traffic will enter and exit the site. The criteria for intersection sight distance are provided in the AASHTO *Policy on Geometric Design of Highways and Streets*, commonly known as the Green Book. The sight distance at the proposed access location does not exceed the required sight distances per AASHTO. The available sight distance to the south is blocked but a "Theta Pike Residential" sign and vegetation. Construction of the site access should be completed with the minimum 390 feet of intersection sight distance provided to the north for a left turn from the site access to Theta Pike. In addition, a minimum of 335 feet of intersection sight distance provided to the south for a right turn from the site access onto Theta Pike.

Recommendations Identified in the TIS

The following conclusion and recommendations are included in the study and our response.

- The traffic operations in the study area for the Future Traffic Analysis are expected to continue to operate at the level currently being experienced or at the level of operation expected with the background traffic. To conclude, proposed development will have minimal impact on the nearby intersections thus requiring no improvements in terms of traffic signal and intersection geometry.
  Staff Response: *We agree that the proposed development will have minimal impact on the nearby intersections and that no improvements are required.*
- The proposed site access should be designed such that the departure sight triangles, as specified by AASHTO and detailed in this study, will be clear of all sight obstructions, including landscaping, existing vegetation, monument signs/walls, fences, etc.
  Staff Responses: *We agree that the site access should be constructed such that sufficient sight distance is provided.*
- The proposed site access on Theta Pike should be designed to include sufficient width for one entering lane and two exiting lanes as shown in the proposed site plan. This access should be stop controlled on the westbound approach for traffic exiting the site. STOP sign installation should be done based on TDOT sign guidelines.
  Staff Responses: *We agree that the proposed access should include one entering lane and two exiting lanes. This access should be constructed according to MUTCD, AASHTO, TDOT, and City of Columbia Standards, including providing sufficient sight distance.*
- All intersection and roadway signing and pavement markings should be completed according to the Manual on Uniform Traffic Control Devices (MUTCD).
  Staff Responses: *We agree that all signing and pavement marking should be completed according the MUTCD, AASHTO, TDOT, and City of Columbia Standards.*

Additional Staff Response:

- *Based on the site plan included in the TIS, the mail kiosk is proposed to be located very close to the access on Theta Pike. All design aspects should ensure a mail delivery vehicle and/or residents' vehicles will not impede incoming traffic that could block traffic onto Theta Pike.*

VOLKERT
750 Old Hickory Boulevard,
Suite 1-230
Brentwood, Tennessee 37027
615.257.1761
www.volkert.com

Conclusion

The Mackenzie Place Apartments Traffic Impact Study submitted May 2022 covers the typical required traffic impact study components and identifies several feasible and beneficial infrastructure improvements. It is recommended The Corradino Group, Inc. make a note of the comments identified above; however, we require no additional evaluation or analysis.

Should you have any questions or need additional information, please contact me.

Sincerely,



Dyan C. Damron, PE, PTP
Director of Traffic, Planning & ROW
Volkert, Inc.

TRAFFIC IMPACT STUDY

MACKENZIE PLACE APARTMENTS
COLUMBIA, TN

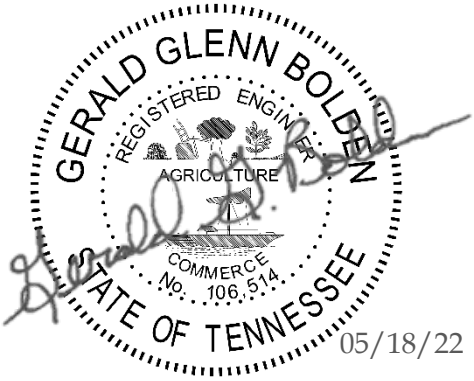
Prepared For: Waits Development Group, LLC

Prepared By: The Corradino Group, Inc.

May 2022

Traffic Impact Study
MacKenzie Place Apartment
Columbia, Tennessee

Prepared For:
Waits Development Group, LLC.



Prepared By:
The Corradino Group, Inc.
Franklin, TN

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Executive Summary

Project Description

This study will evaluate the traffic impacts of the proposed Mackenzie Place Apartment, a multifamily residential development located at 220 Theta Pike in Columbia, Tennessee. The site plan proposes 80 dwelling units accommodated in four two-story buildings. Access to the development is planned to be provided by a single access drive on Theta Pike. Surface parking is planned to accommodate the residential development. The purpose of this study is to analyze the access plan and the traffic impacts associated with this proposed development. For this study, it is assumed the development will be completed by 2024.

Existing Traffic Volumes

In order to analyze the roadway operations in the vicinity of the proposed development, typical weekday intersection turning movement counts were conducted at the following locations:

- Theta Pike and Highway 412/43
- Theta Pike and Timber Trail
- Theta Pike/8th Avenue and Nashville Highway

In addition, 24-hour bi-directional volume and speed tube counts were conducted along Theta Pike in the vicinity of the proposed development access.

Projection of Future Traffic Volumes

It is assumed that the traffic will continue to grow before the project is completed. Therefore, a historic growth rate was calculated and applied to the existing traffic counts. Additionally, traffic from two other approved developments were included in the background traffic volumes. Trips expected from the proposed multifamily residential development were added to background traffic in order to obtain the total projected traffic volumes for the study area. Finally, these trips were analyzed to determine the recommendations required for adequate roadway operations in the study.

Conclusions and Recommendations

The proposed Mackenzie Place development is located to the south of Hwy 412/43 and on the east side of Theta Pike in Columbia, Tennessee. According to the site engineer, the proposed development consists of approximately 80 multi-family dwelling units. The analyses presented in this study indicate that the impacts of the proposed project on the existing street network will be manageable by providing the recommendations below. These specific recommendations will provide safe and efficient traffic operations within the study area following the completion of the proposed project.

- The traffic operations in the study area for the Future Traffic Analysis are expected to continue to operate at the level currently being experienced or at the level of operation expected with the background traffic. To conclude, proposed development will have minimal impact on the nearby intersections thus requiring no improvement in terms of traffic signal and intersection geometry.

- The proposed site access should be designed such that the departure sight triangles, as specified by AASHTO and detailed in this study, will be clear of all sight obstructions, including landscaping, existing vegetation, monument signs/walls, fences, etc.

- The proposed site access on Theta Pike should be designed to include sufficient width for one entering lane and two exiting lanes as shown in the proposed site plan. This access should be stop controlled on the westbound approach for traffic exiting the site. STOP sign installation should be done based on TDOT sign guidelines.

- All intersection and roadway signing and pavement markings should be completed according to the Manual on Uniform Traffic Control Devices (MUTCD).

Introduction

This study aims to evaluate the traffic impacts of a proposed residential development located east of Theta Pike and south of Highway 412/43 in Columbia, Tennessee. The proposed development is within an area that is characterized by a mix of low to high density land uses, with multi-family residential developments immediately adjacent to the south, east and north of the project site. The site plan proposes 80 multi-family dwelling units. Access to the proposed development will create an intersection with Theta Pike. Access is located approximately 650 feet south of the intersection of Theta Pike and Highway 412/43 and 475 feet north of the Timber Trail.

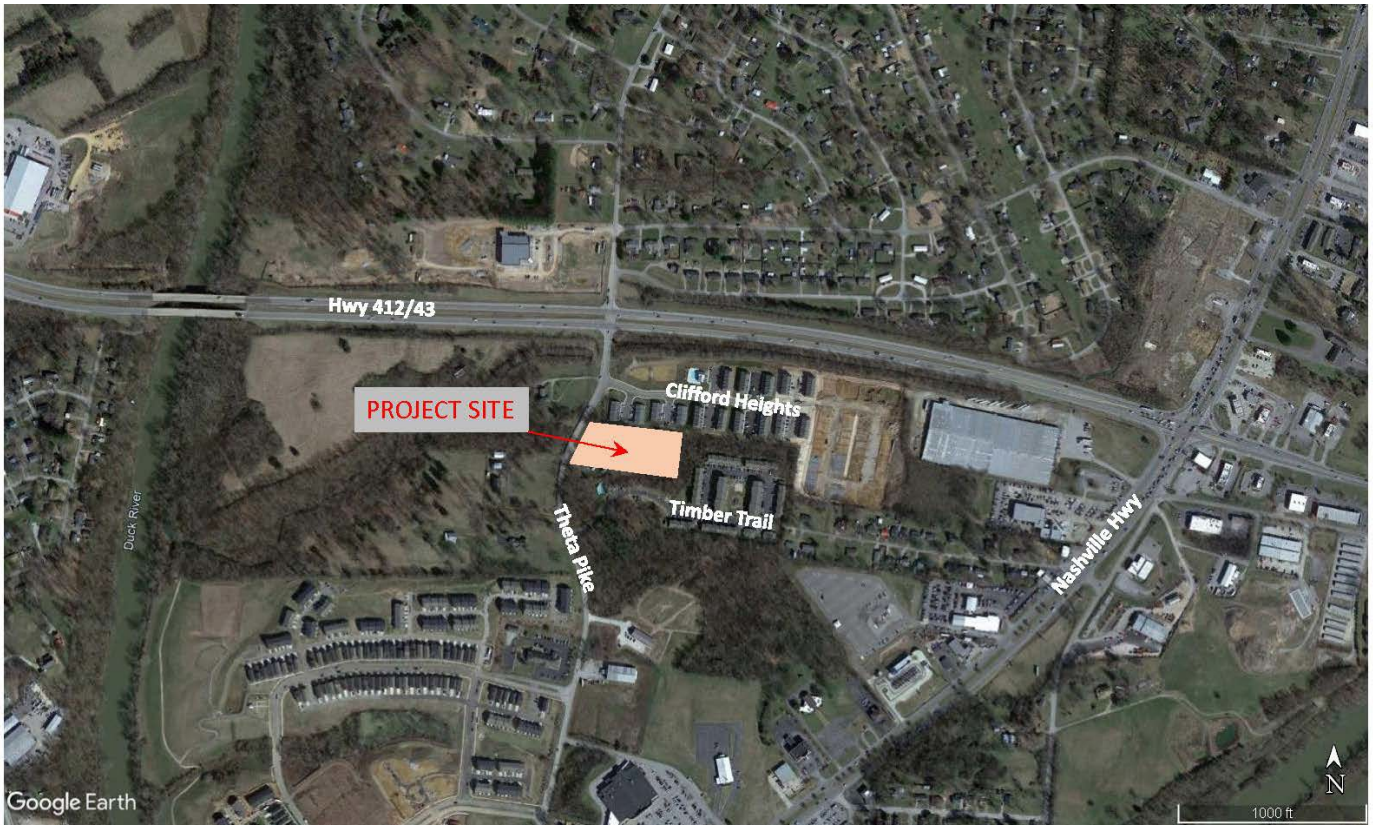
In this study existing operating conditions of the roadway network near the proposed development will be evaluated using traffic counts conducted along the study area roadways and intersections. The expected annual traffic growth will be determined based on historical traffic data. Using the estimated growth rate and trips generated by two other approved yet unbuild residential developments in the area, the background traffic volumes will be calculated. Trips generated by the proposed development will be determined and distributed to the roadway network to get the total projected traffic that will be present when the proposed development is completed.

Using the anticipated build-out final traffic, adjacent roadways and intersections will then be reevaluated to determine the anticipated traffic impacts of the proposed project. The project team will also conduct turn lane warrant analysis for the proposed access location. Industry standards will be used to analyze the traffic volumes and identify any necessary mitigation strategies to offset the decline (if any) in roadway operations resulting from the proposed development.

Project Description

The proposed residential development is located at 220 Theta Pike in Columbia, Tennessee. As shown on **Figure 1**, the development is located just east of Theta Pike, north of Timber Trail and south of south of Highway 412/43. The property is generally bounded on the south and north by multi-family housing, to the west by large lot single-family residential and on the east by multi-family housing and light industrial facilities. According to the site plan the property is intended to be zoned to RM-1 (High Density Residential).

As shown on the site plan provided in **Appendix A**, the development consists of 80 dwelling units accommodated in four two-story buildings. The proposed vehicular access point for the planned surface parking will be provided by an access drive on Theta Pike on the west side of the site. Access is located approximately in the mid-point between Timber Trail and Bancroft MI (Clifford Heights). The project is anticipated to be completed in 2024.



[Source: Google Earth]

Figure 1 Study Area

Existing Conditions

Existing Roadway Network

The existing roadway network, in the vicinity of the project site, includes Theta Pike, Highway 412/43 and Timber Trail. A description of this roadways and study intersections within the project vicinity is as follows:

Roadways

Theta Pike near the project site is a two-lane two-way undivided roadway with a posted speed limit of 35 mph. In the study area, this roadway runs in a north-south direction and provides a connection between Nashville Highway to the south and more rural areas of the county to the north. Based on Columbia's Transportation Master Plan, this roadway is classified as collector road. This road has 12-feet lane width in both directions along with open ditches and no shoulder. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Theta Pike.



Northbound Theta Pike – Near Proposed Access



Southbound Theta Pike - Near Proposed Access

Timber Trail is a two-lane local road mainly serving as an access to the Cedar Pointe residential establishment (located southeast of the proposed development). The roadway is approximately 24 feet wide with mountable curb along each side. There is no sidewalk facilities on this section of road. There is no posted speed limit.



Westbound Timber Trail

Highway 412/43, near the project site, is a four-lane median divided roadway with paved shoulders and a posted speed limit of 45 mph. This segment of roadway runs in an east-west direction and provides a bypass around the north side of Columbia. As a

whole, Highway 412/43 provides a connection to I-65. To the east of Nashville Highway, this roadway has partial access control. There is no on-street parking, sidewalk, transit, or bicycle facilities are provided on Highway 412/43.

Intersections

Theta Pike and Highway 412/43 form a four-legged, signalized intersection. On both southbound and northbound approaches of Theta Pike, there is a shared through/right-turn lane and exclusive left-turn lane. The northbound left-turn lane has approximately 90 feet of available storage while the southbound left has approximately 150 feet. These approaches include protected-permissive left turn signal phasing. Highway 412/43 has one through lane, one shared through/right-turn lane and one exclusive left-turn lane on both the eastbound and westbound approaches. The westbound left-turn lane has approximately 185 feet of available storage while the eastbound left has approximately 140 feet. The eastbound and westbound approaches on Highway 412/43 have protected only left turn signal phasing. No pedestrian facilities are provided at the intersection.



Eastbound Highway 412/43 @ Theta Pike



Westbound Highway 412/43 @ Theta Pike



Northbound Theta Pike @ Highway 412/43



Southbound Theta Pike @ Highway 412/43

Theta Pike and Timber Trail form a three-leg stop controlled intersection with Timber Trail having the stop condition. Timber Trail has one shared left-turn/right-turn lane. Northbound Theta Pike has one shared through/right-turn lane while southbound Theta Pike has one shared through/left-turn lane.



Westbound Timber Trail @ Theta Pike

Theta Pike/8th Avenue and Nashville Highway forms a four-legged signalized intersection. Southbound Theta Pike has an exclusive left-turn lane with approximately 75 feet of storage and a shared through/right-turn lane. Northbound 8th Avenue has one shared through/left-turn lane and one exclusive right turn lane with approximately 90 feet of storage. Both eastbound and westbound approaches of Nashville Highway have one through lane, one shared through/right-turn lane and one exclusive left-turn lane. The westbound left-turn lane has approximately 85 feet of storage and the eastbound left-turn lane has approximately 300 feet of storage. The northbound and southbound approaches of Theta Pike and 8th Avenue operate as permissive phasing. Protected-permissive left turn signal phasing is utilized for the eastbound and westbound approaches of Nashville Highway.



Southbound Theta Pike/8th Avenue @ Nashville Highway



Northbound Theta Pike/8th Avenue @ Nashville Highway



Eastbound Nashville Highway @ Theta Pike/8th Avenue



Westbound Nashville Highway @ Theta Pike/8th Avenue

Existing Traffic Volumes

In order to analyze the roadway operations in the vicinity of the proposed development, typical weekday intersection turning movement counts were conducted at the following locations:

- Theta Pike and Highway 412/43
- Theta Pike and Timber Trail
- Theta Pike/8th Avenue and Nashville Highway

The turning movement counts were collected on Tuesday, February 22, 2022, during the AM and PM peak periods while school was in full session. The AM count period was from 6:00 – 9:00 AM and the PM count period was from 3:00 – 6:00 PM, to be inclusive of the school arrival and dismissal periods. In addition, 24-hour bi-directional volume and speed tube counts were conducted along Theta Pike in the vicinity of the proposed development access. The raw turning movement counts and 24-hour bi-directional counts are included in **Appendix B**.

Existing Traffic Analysis

To determine the effects of the proposed development on the existing roadway network, analysis of the roadway network in the study area was conducted. The existing traffic volumes used are shown in **Figure 2**. The operational analysis results in a Level of Service (LOS) for each intersection during the AM and PM peak hours. The LOS is based on the industry standard outlined in the *Highway Capacity Manual* 2010. The LOS results range from an A to a F with A being the best and F the worst. For intersections, the LOS is based on the volume-to-capacity ratio and amount of delay experienced by each movement. For unsignalized intersections, the LOS is reported for critical turning movements based on delay and volume-to-capacity (v/c) ratio and for signalized intersections the LOS is reported for each approach and for the overall intersection based on delay, as shown in **Table 1**. The LOS for the existing traffic volumes at the study intersections is shown in **Table 2** and **Appendix C** contains the LOS reports.

TABLE 1
LEVEL OF SERVICE THRESHOLDS

LOS	CONTROL DELAY/VEHICLE (s/veh)	
	UNSIGNALIZED	SIGNALIZED
A	0 – 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

TABLE 2
EXISTING LEVEL OF SERVICE

Intersection	Movement	AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
Theta Pike and Highway 412/43	Eastbound Approach	B	19.2	C	21.6
	Westbound Approach	B	18.3	C	26.1
	Northbound Approach	D	46.1	D	39.5
	Southbound Approach	D	53.0	D	54.1
	Overall Intersection	**C**	***22.5***	**C**	***28.0***
Theta Pike and Nashville Highway	Eastbound Approach	A	7.3	A	8.2
	Westbound Approach	A	9.8	B	10.3
	Northbound Approach	C	33.1	C	32.8
	Southbound Approach	D	38.6	D	40.2
	Overall Intersection	**B**	***10.4***	***B***	***11.4***
Theta Pike and Timber Trail	Westbound Approach	A	9.8	B	11.6
	Southbound Left	A	7.4	A	7.9

The results show that overall, all intersections operate at acceptable levels of service (LOS D or better) during AM and PM peak hour. The LOS analysis reports are included in **Appendix C**.

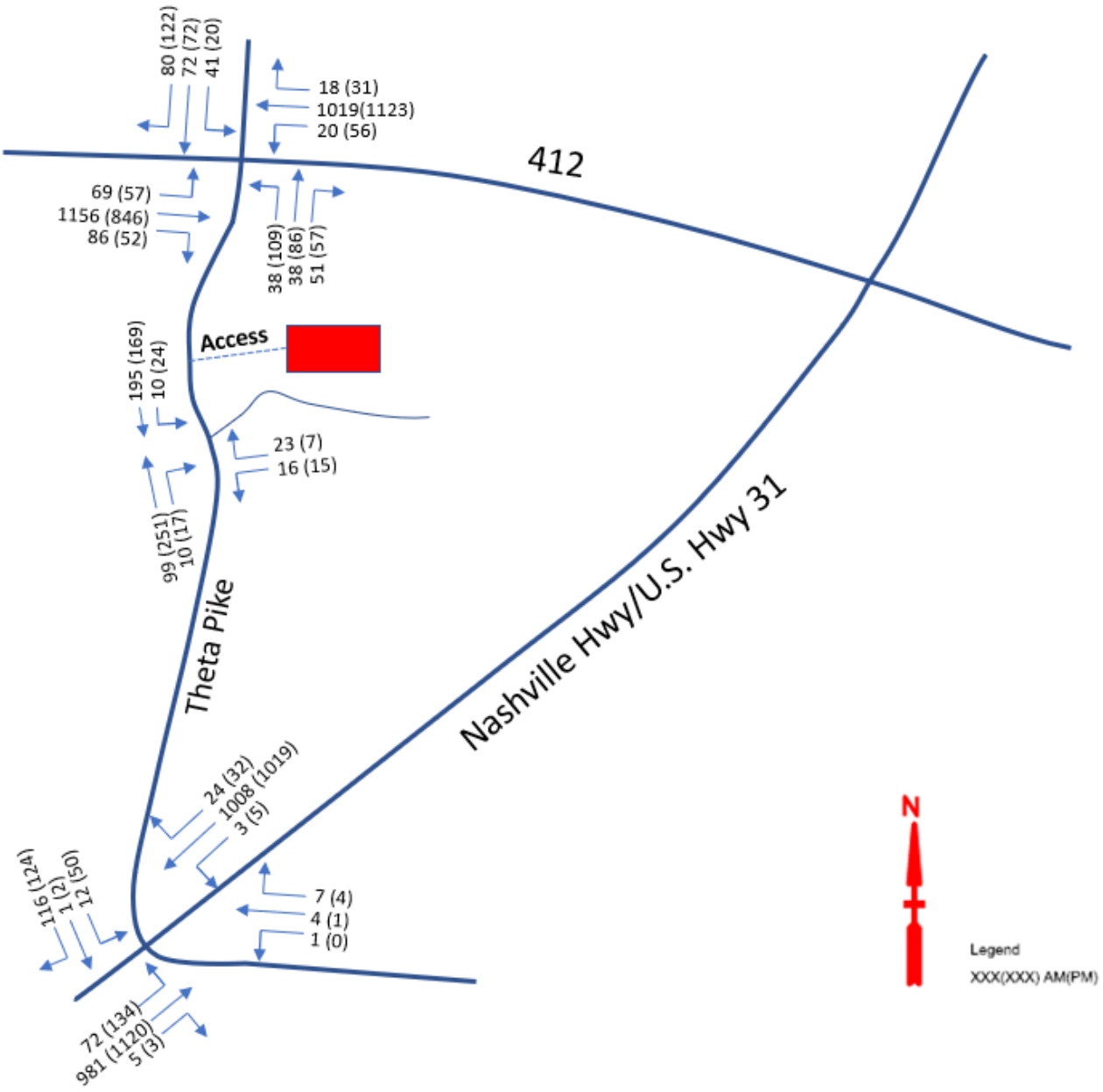


Figure 2 Existing Traffic Volumes

Background Traffic Volumes

Developing Historic Growth Rates

In order to account for the traffic growth prior to the completion of the proposed project, background traffic volumes were established. To develop the growth rate to be applied to the existing traffic volumes, historical daily traffic volumes were obtained from the TDOT count stations located on Highway 412/43, Theta Pike, and Nashville Highway in the vicinity of the project site. **Table 3** below shows the AADT for TDOT count Station. For these three-count station average linear growth rate from 2016 to 2021 is 4%. Through coordination with the City's traffic consultant and based on the historical count data, a 3.5% annual growth rate was used. Anticipated project build-out is 2024, so, percentage growth is calculated for 2-year period to represent the 2024 background traffic growth.

TABLE 3
TDOT COUNT STATION

TDOT Count Sta.60000043 Theta Pike		TDOT Count Sta. 60000202 New Lawrenceburg		TDOT Count Sta. 60000046 Nashville Hwy	
Year	**AADT**	**Year**	**AADT**	**Year**	**AADT**
2021	4,164	2021	32,654	2021	30,239
2020	3,809	2020	24,408	2020	27,741
2019	3,510	2019	24,166	2019	27,466
2018	3,060	2018	19,450	2018	26,893
2017	3,374	2017	28,345	2017	25,904
2016	3,440	2016	23,564	2016	26,101

There are two proposed developments, Theta Pike Cove & Taylor Landing, near the study area that is expected to affect the traffic volumes at the study intersections. Theta Pike Cove is a residential development of 162 townhome units. Taylor Landing, on the other hand, is a development consisting of 140 single family homes and 148 townhome units. For Taylor Landing, the traffic information provided by the city did not have trip distribution and assignment. The project team utilized the old distribution and assignment pattern to develop traffic for the updated trip generation. Traffic for both of these developments were included in the background growth. **Figure 3** shows the total background traffic volume for the study area which includes the 7% total ambient growth to account for the 2 years to buildout. The trip distribution and assignment figure for the approved developments are included in **Appendix D** for reference.

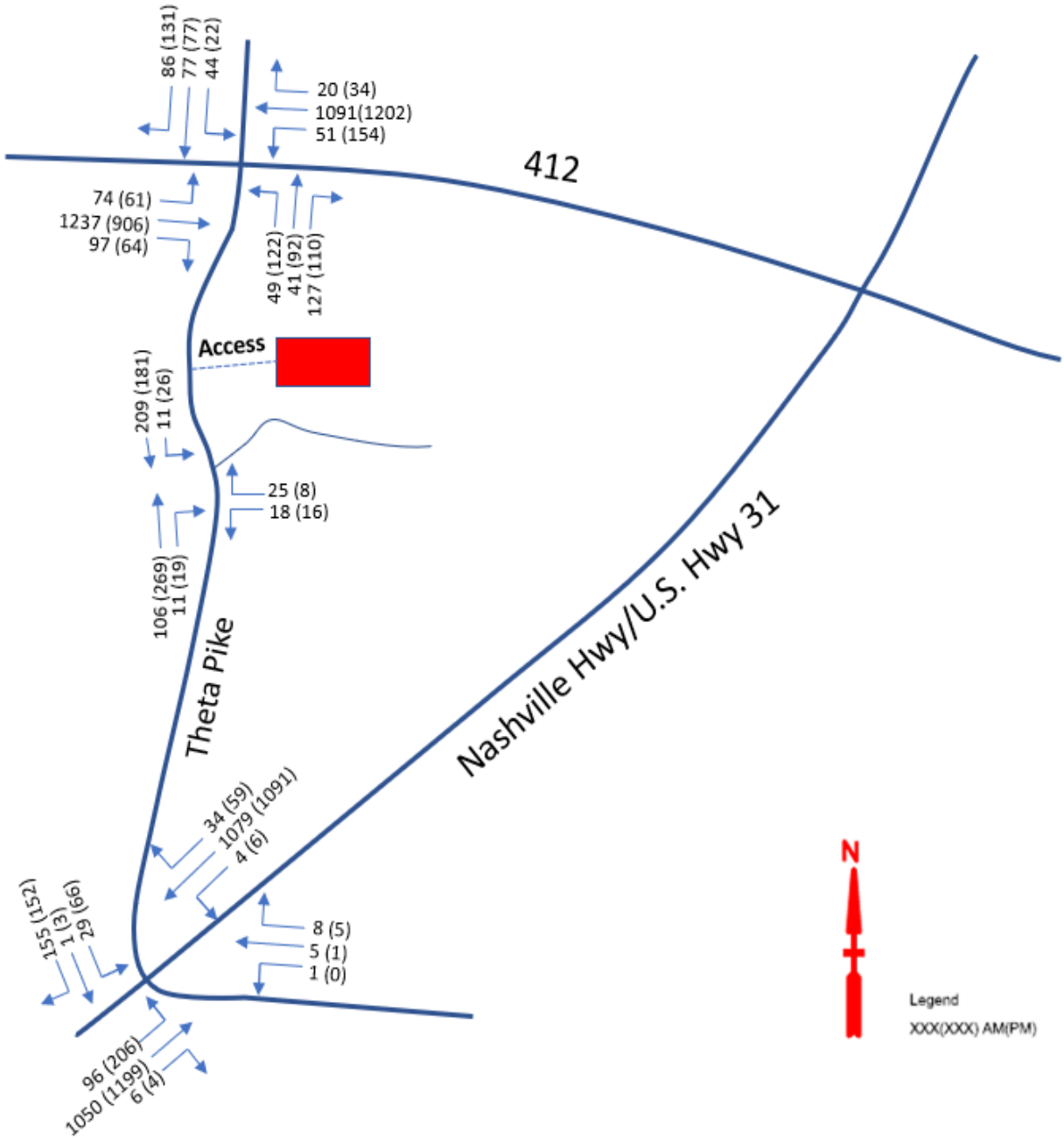


Figure 3 Background Traffic Volumes

Background Traffic Analysis

Using the background traffic volumes and the methodology outlined in the existing conditions, **Table 4** shows the results of the background traffic analysis. As shown, overall, all intersections in the study area are expected to operate at acceptable levels of service under background conditions similar to the existing condition. The LOS analysis reports are included in **Appendix C**.

TABLE 4
BACKGROUND LEVEL OF SERVICE

Intersection	Movement	AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
Theta Pike and Highway 412/43	Eastbound Approach	C	22.6	C	27.4
	Westbound Approach	C	21.0	D	45.0
	Northbound Approach	D	54.1	D	41.1
	Southbound Approach	D	51.7	D	54.2
	Overall Intersection	**C**	***26.2***	**D**	***39.2***
Theta Pike and Nashville Highway	Eastbound Approach	A	9.8	B	10.8
	Westbound Approach	B	13.3	B	13.8
	Northbound Approach	C	30.1	C	31.2
	Southbound Approach	D	40.9	D	44.5
	Overall Intersection	**B**	***13.9***	***B***	***14.8***
Theta Pike and Timber Trail	Westbound Approach	A	9.9	B	11.9
	Southbound Left	A	7.5	A	7.9

Proposed Development Impacts

Development Trip Generation

The proposed new development is expected to generate vehicular trips that will use the roadway network in the study area. To determine the expected amount of traffic to be generated from the residential development, *ITE Trip Generation Manual*, 11th Edition was used to calculate the daily trips, AM Peak hour trips, and PM peak hour trips. **Table 5** lists the calculated trips for the proposed development. **Appendix E** includes the trip generation calculations.

TABLE 5
TRIP GENERATION FOR PROPOSED DEVELOPMENT

Trip Generation Table							
Land Use	**LUC**	**Size**	**Daily Trips**	**AM Peak Hour Trips**		**PM Peak Hour Trips**	
				Enter	**Exit**	**Enter**	**Exit**
Multifamily Housing (Low-Rise)	220	80 units	588	12	36	35	20

Trip Distribution and Traffic Assignment

The trips generated by the proposed development will be distributed and assigned to the roadway network within the study area. The trip distribution is based on the existing traffic flow and attractors in the area and regionally. It is assumed the new traffic created by the Mackenzie Place development will travel in the same pattern through the study area roadway network to and from the proposed development as the existing traffic, given it is the same general land use. **Figures 4 and 5** show the trip distribution and traffic assignment for the proposed residential uses.

To determine the total amount of traffic traveling through the study area in 2024 when the development is complete, the trip assignment was added to the total background traffic volumes. The resulting total proposed traffic volumes are shown in **Figure 6**.

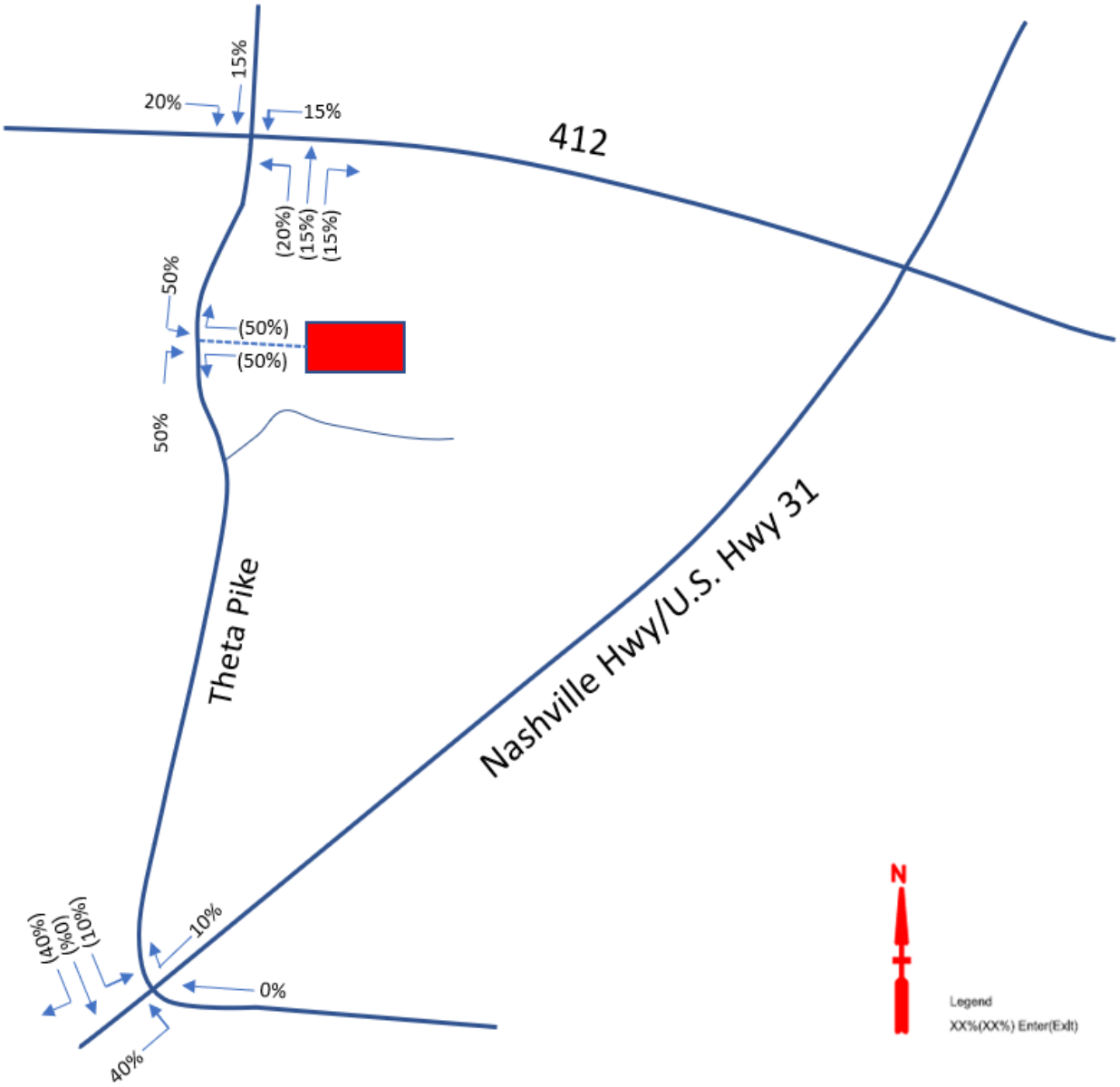


Figure 4 Peak Hour Traffic Distribution

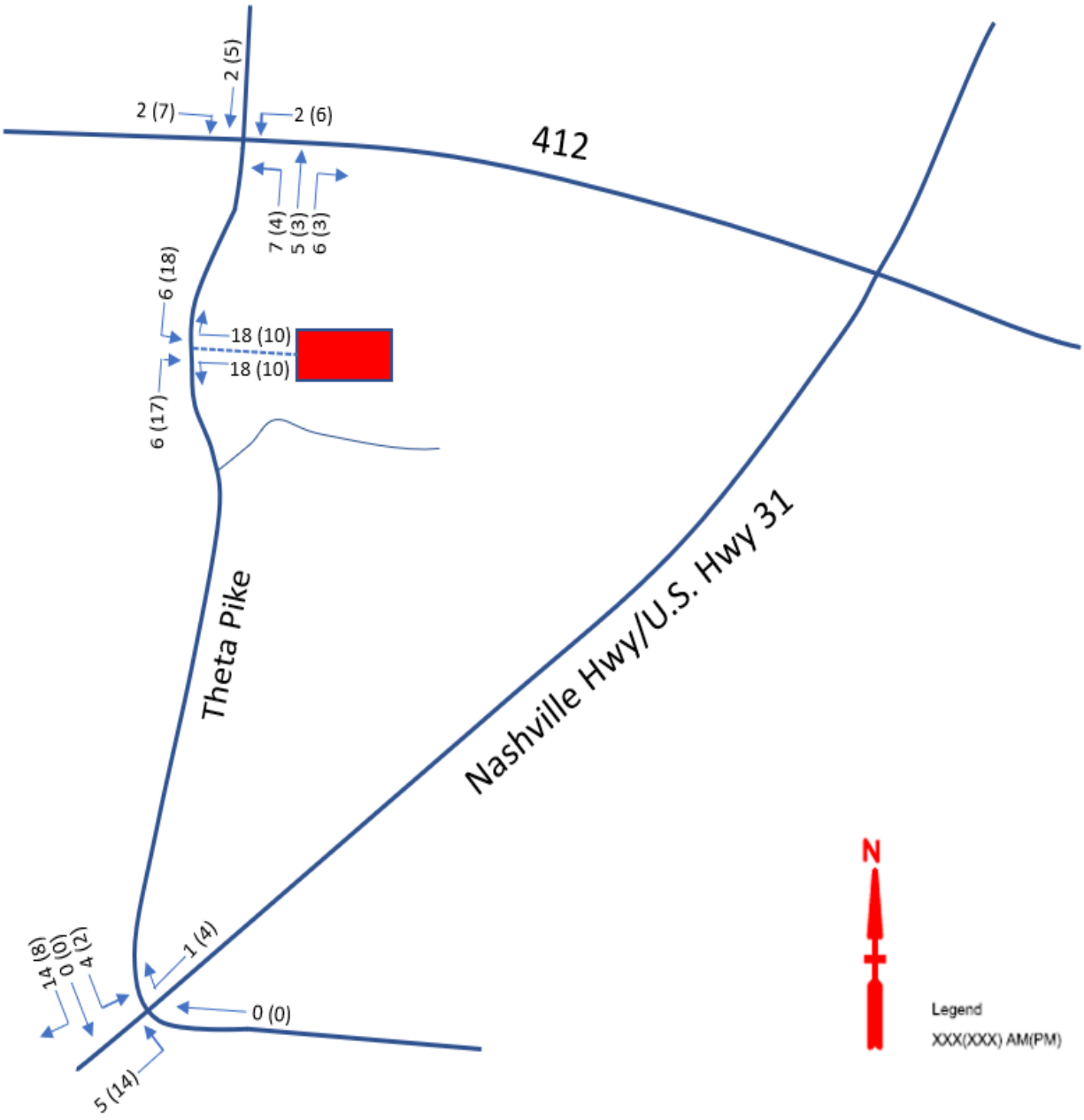


Figure 5 Peak Hour Traffic Assignment

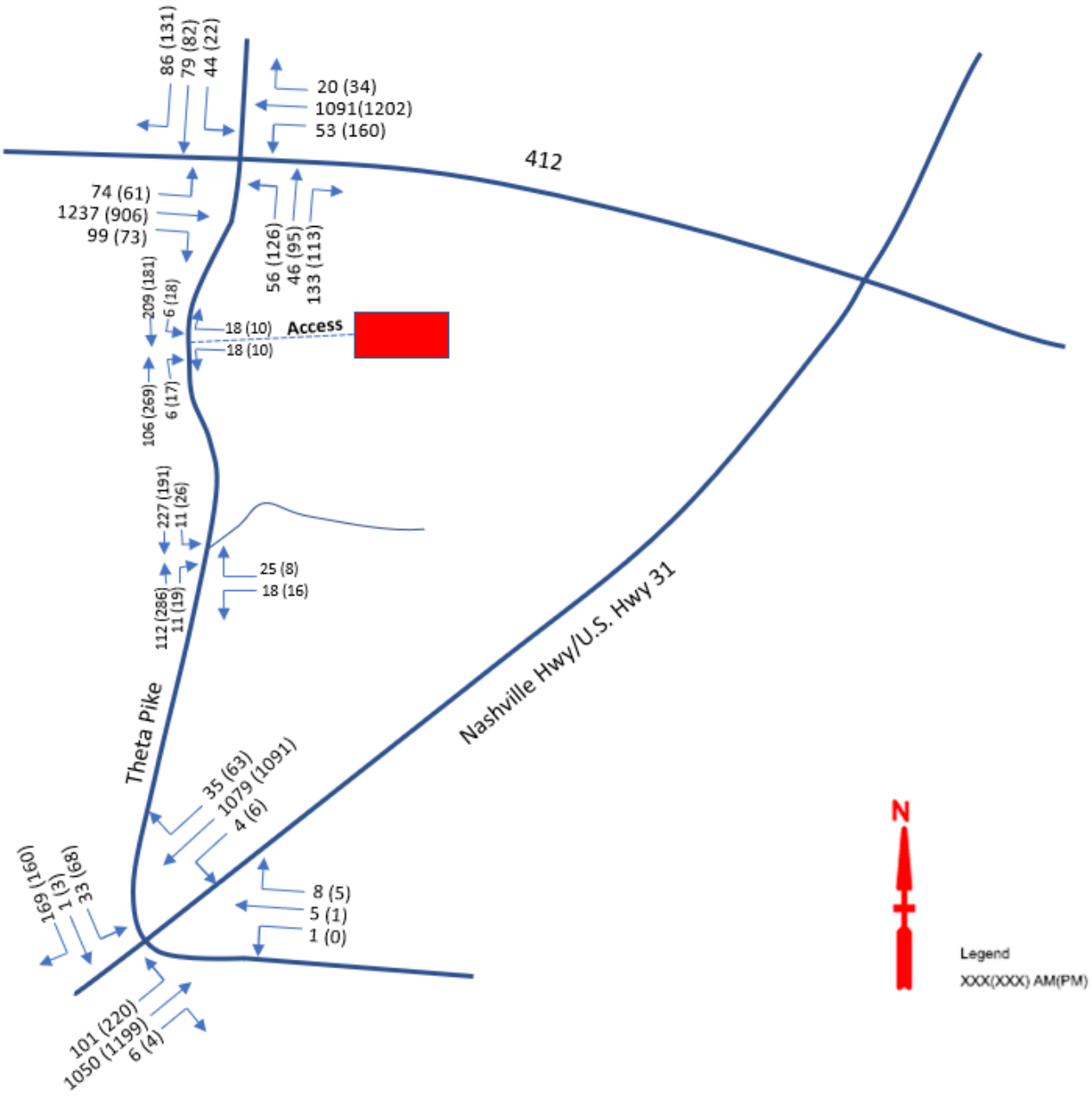


Figure 6 Total Projected Traffic Volumes Expected in Buildout Year

Future Traffic Analysis

Future traffic volumes were developed from the background traffic and proposed residential development. Capacity analyses were performed in order to determine the impact of the project on the study intersections. These capacity analyses were also used to evaluate the need for roadway and traffic control improvements at the intersections studied. For the analyses, the intersection configurations and signal timings were the same as the existing and background conditions. It was assumed the site access on Theta Pike will include one lane for entering traffic and two lanes for exiting traffic as shown in the site plan included in **Appendix A**.

Table 6 shows the resulting LOS for the intersections in the study area. According to the analysis under the projected conditions the capacity analyses indicate that the study intersections are expected to continue to operate at the same levels of service as under the background conditions with only slight increases in vehicular delay. All intersections are expected to continue to operate at acceptable levels of service. The LOS analysis reports are included in **Appendix C**.

TABLE 6
TOTAL PROJECTED LEVEL OF SERVICE

Intersection	Movement	AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
Theta Pike and Highway 412/43	Eastbound Approach	C	23.5	C	27.9
	Westbound Approach	C	21.7	D	47.9
	Northbound Approach	D	54.8	D	41.3
	Southbound Approach	D	51.2	D	54.6
	Overall Intersection	**C**	***27.2***	**D**	***40.8***
Theta Pike and Nashville Highway	Eastbound Approach	B	10.6	B	11.6
	Westbound Approach	B	14.3	B	14.6
	Northbound Approach	C	29.1	C	30.8
	Southbound Approach	D	41.6	D	45.7
	Overall Intersection	**B**	***14.9***	***B***	***15.6***
Theta Pike and Timber Trail	Westbound Approach	B	10.1	B	12.2
	Southbound Left	A	7.5	A	8.0
Theta Pike and Project Access	Westbound Left	B	11.1	B	12.8
	Westbound Right	A	9.1	B	10.0
	Southbound Left	A	7.5	A	7.9

Analysis of Site Plan

Turn Lane Analysis

The site access point on Theta Pike was evaluated for the need to provide a left turn lane based on the projected traffic volumes. This analysis was based on the procedures outlined in M.D. Harmelink's *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Intersections*. The result of this analysis indicates that a left turn lane is not warranted by the projected traffic volumes at the study intersection. Details of the Harmelink analyses are included in **Appendix F**.

The site access point on Theta Pike was also evaluated for the need to provide a right turn lane based on the projected traffic volumes. According to the Intersection Channelization Design Guide (NCHRP 279), a full width right turn lane is not warranted at the site access point based on the projected peak hour traffic volumes. The right turn lane analysis is included in **Appendix F**.

Access Sight Distance

As previously mentioned, access to the proposed development will be provided by a single driveway on Theta Pike. Field investigations and sight distance measurements were conducted to determine if adequate sight distance would be available for motorists exiting the project site onto Theta Pike from the site access based on the current site plan. For a 35-mph speed, as posted on Theta Pike, the guidelines from *A Policy on Geometric Design of Highways and Streets*, by the American Association of State Highway and Transportation Officials (AASHTO), call for a minimum stopping sight distance of 250 feet as a design value. This is the distance required for a motorist to detect an object in the roadway necessitating a stop and be able to stop before reaching the object.

Subsequently, AASHTO also provides minimum design values for intersection sight distance. The intersection sight distance allows enough time gap for a motorist to turn from the site access onto Theta Pike without requiring a motorist on Theta Pike to significantly reduce speed. For a speed of 35 mph, the design value for intersection sight distance for a motorist turning left from a stop (Case B1) onto a two-lane roadway such as Theta Pike is 390 feet and for a motorist turning right from a stop (Case B2) is 335 feet.

The field investigations indicate that the sight distance available at the proposed intersection of the site access and Theta Pike will be more than adequate to the north of the access. However, intersection sight distance to the south of the access, for right turning vehicle, was measured at approximately 275 feet which falls below the required intersection sight distance. Currently, a "Theta Pike Residential" sign and trees are a hindrance for right-turning movement and limiting the available sight distance.

Construction of the site access should be completed such that a minimum of 390 feet of intersection sight distance is provided to the north for a left turn from the site access onto Theta Pike. In addition, a minimum of 335 feet of intersection sight distance should be provided to the south for a right turn from the site access onto Theta Pike.



Intersection Sight Distance for Right-Turning Vehicle: Existing Condition

Conclusions and Recommendations

The proposed Mackenzie Place development is located to the south of Hwy 412/43 and on the east side of Theta Pike in Columbia, Tennessee. According to the site engineer, the proposed development consists of approximately 80 multi-family dwelling units. The analyses presented in this study indicate that the impacts of the proposed project on the existing street network will be manageable by providing the recommendations below. These specific recommendations will provide safe and efficient traffic operations within the study area following the completion of the proposed project.

- The traffic operations in the study area for the Future Traffic Analysis are expected to continue to operate at the level currently being experienced or at the level of operation expected with the background traffic. To conclude, proposed development will have minimal impact on the nearby intersections thus requiring no improvement in terms of traffic signal and intersection geometry.

- The proposed site access should be designed such that the departure sight triangles, as specified by AASHTO and detailed in this study, will be clear of all sight obstructions, including landscaping, existing vegetation, monument signs/walls, fences, etc.

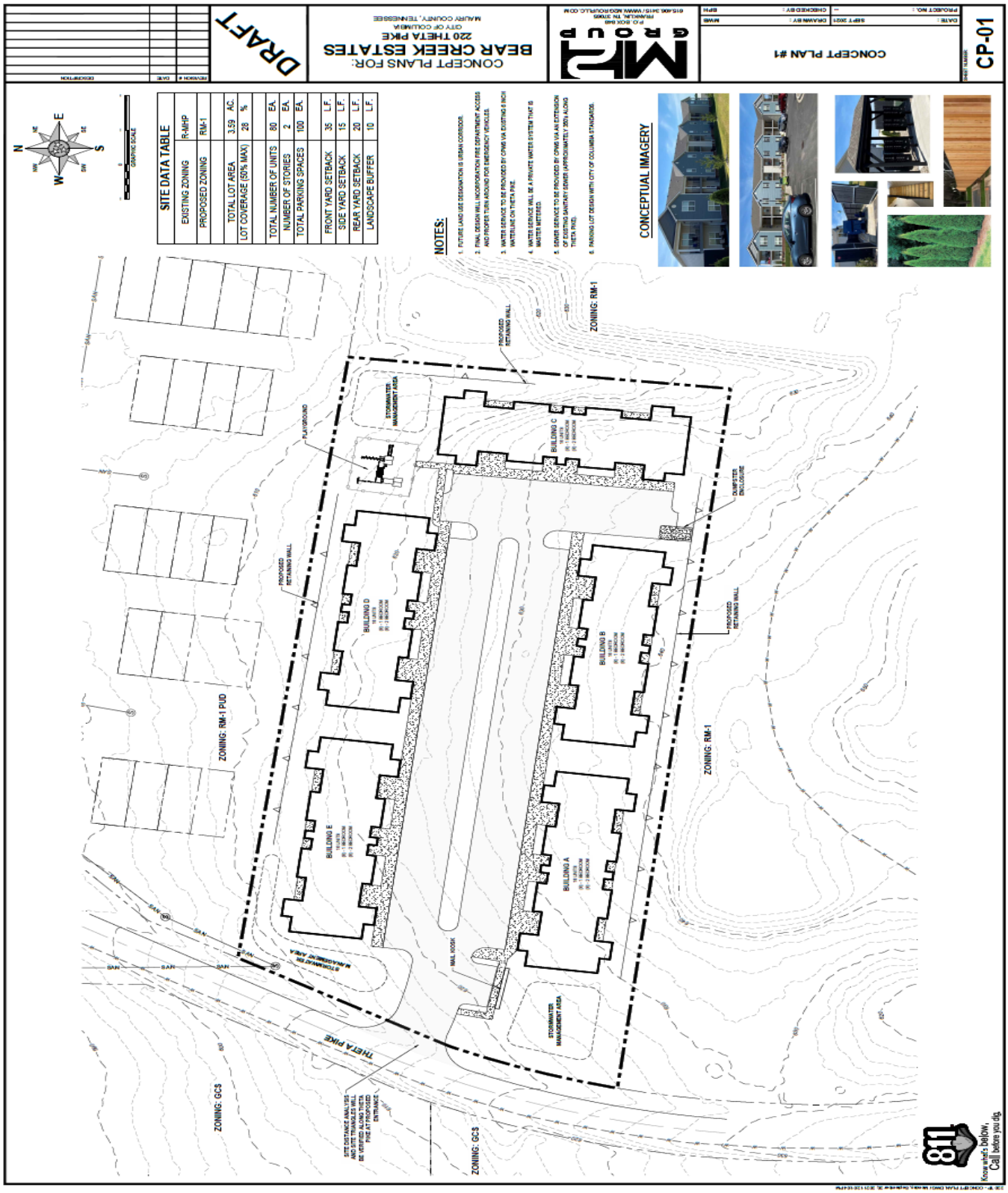
- The proposed site access on Theta Pike should be designed to include sufficient width for one entering lane and two exiting lanes as shown in the proposed site plan. This access should be stop controlled on the westbound approach for traffic exiting the site. STOP sign installation should be done based on TDOT sign guidelines.

- All intersection and roadway signing and pavement markings should be completed according to the Manual on Uniform Traffic Control Devices (MUTCD).

Appendix

A. Site Plan
B. Traffic Counts
C. Level of Service (LOS) Reports –
    Existing
    Background
    Projected
D. Background Traffic Data
E. Trip Generation
F. Turn Lane Analysis

A. Site Plan


CP-01
CONCEPT PLAN #1
DATE: SEPT 2021
PROJECT NO.: --
DRAWN BY: MMB
CHECKED BY: BPH
GROUP
P.O. BOX 848
FRANKLIN, TN 37065
615.406.3415 / WWW.MCGROUPLLC.COM
DRAFT
CONCEPT PLANS FOR:
BEAR CREEK ESTATES
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE
SITE DATA TABLE
EXISTING ZONING R-MHP
PROPOSED ZONING RM-1
TOTAL LOT AREA 3.59 AC.
LOT COVERAGE (50% MAX) 28 %
TOTAL NUMBER OF UNITS 80 EA.
NUMBER OF STORIES 2 EA.
TOTAL PARKING SPACES 100 EA.
FRONT YARD SETBACK 35 L.F.
SIDE YARD SETBACK 15 L.F.
REAR YARD SETBACK 20 L.F.
LANDSCAPE BUFFER 10 L.F.
GRAPHIC SCALE
NOTES:
1. FUTURE LAND USE DESIGNATION IS URBAN CORRIDOR.
2. FINAL DESIGN WILL INCORPORATION FIRE DEPARTMENT ACCESS AND PROPER TURN AROUND FOR EMERGENCY VEHICLES.
3. WATER SERVICE TO BE PROVIDED BY CPWS VIA EXISTING 8 INCH WATERLINE ON THETA PIKE.
4. WATER SERVICE WILL BE A PRIVATE WATER SYSTEM THAT IS MASTER METERED.
5. SEWER SERVICE TO BE PROVIDED BY CPWS VIA AN EXTENSION OF EXISTING SANITARY SEWER (APPROXIMATELY 700') ALONG THETA PIKE).
6. PARKING LOT DESIGN WITH CITY OF COLUMBIA STANDARDS.
CONCEPTUAL IMAGERY
ZONING: RM-1
ZONING: RM-1 PUD
ZONING: GCS
THETA PIKE
PROPOSED RETAINING WALL
STORMWATER MANAGEMENT AREA
PLAYGROUND
DUMPSTER ENCLOSURE
BUILDING A
BUILDING B
BUILDING C
BUILDING D
BUILDING E
811
Know what's below. Call before you dig.

B. Traffic Counts

Peak Hour Turning Movement Count

Bear Creek Estates

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, February 22, 2022	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	10	8	5	0	23	12	13	24	0	49	17	321	17	0	355	6	235	1	0	242	669
0730 - 0745	16	8	15	0	39	10	22	17	0	49	25	301	20	0	346	10	295	5	0	310	744
0745 - 0800	6	13	14	0	33	13	27	29	0	69	19	304	35	0	358	11	232	7	0	250	710
0800 - 0815	6	9	17	0	32	6	10	10	0	26	8	230	14	1	253	20	257	5	0	282	593
Total	38	38	51	0	127	41	72	80	0	193	69	1156	86	1	1312	47	1019	18	0	1084	2716
Approach %	29.92	29.92	40.16	0.00	-	21.24	37.31	41.45	0.00	-	5.26	88.11	6.55	0.08	-	4.34	94.00	1.66	0.00	-	
PHF	0.59	0.73	0.75	0.00	**0.81**	0.79	0.67	0.69	0.00	**0.70**	0.69	0.90	0.61	0.25	**0.92**	0.59	0.86	0.64	0.00	**0.87**	**0.91**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	10	7	4	0	21	12	13	23	0	48	17	306	16	0	339	6	215	1	0	222	630
0730 - 0745	16	8	15	0	39	8	22	17	0	47	25	280	20	0	325	10	265	5	0	280	691
0745 - 0800	6	13	14	0	33	12	27	28	0	67	19	287	34	0	340	11	209	7	0	227	667
0800 - 0815	5	9	17	0	31	6	10	10	0	26	7	213	13	1	234	20	222	4	0	246	537
Total	37	37	50	0	124	38	72	78	0	188	68	1086	83	1	1238	47	911	17	0	975	2525
Approach %	29.84	29.84	40.32	0.00	-	20.21	38.30	41.49	0.00	-	5.49	87.72	6.70	0.08	-	4.82	93.44	1.74	0.00	-	
PHF	0.58	0.71	0.74	0.00	**0.79**	0.79	0.67	0.70	0.00	**0.70**	0.68	0.89	0.61	0.25	**0.91**	0.59	0.86	0.61	0.00	**0.87**	**0.91**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	0	1	1	0	2	0	0	1	0	1	0	4	0	0	4	0	10	0	0	10	17
0730 - 0745	0	0	0	0	0	2	0	0	0	2	0	14	0	0	14	0	16	0	0	16	32
0745 - 0800	0	0	0	0	0	1	0	1	0	2	0	8	1	0	9	0	14	0	0	14	25
0800 - 0815	1	0	0	0	1	0	0	0	0	0	1	11	1	0	13	0	24	1	0	25	39
Total	1	1	1	0	3	3	0	2	0	5	1	37	2	0	40	0	64	1	0	65	113
Approach %	33.33	33.33	33.33	0.00	-	60.00	0.00	40.00	0.00	-	2.50	92.50	5.00	0.00	-	0.00	98.46	1.54	0.00	-	
PHF	0.25	0.25	0.25	0.00	**0.38**	0.38	0.00	0.50	0.00	**0.63**	0.25	0.66	0.50	0.00	**0.71**	0.00	0.67	0.25	0.00	**0.65**	**0.72**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	11	1	0	12	0	10	0	0	10	22
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	14	0	0	14	21
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	9	0	0	9	18
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	11	0	0	11	17
Total	0	0	0	0	0	0	0	0	0	0	0	33	1	0	34	0	44	0	0	44	78
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	97.06	2.94	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.75	0.25	0.00	**0.71**	0.00	0.79	0.00	0.00	**0.79**	**0.89**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	1a	1b			Total	1c	1d			Total	1e	1f			Total	1g	1h			Total	Total
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0800 - 0815	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Bear Creek Estates

Marr Traffic DATA COLLECTION

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All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1615 - 1630	34	23	22	0	79	5	25	44	0	74	14	203	10	0	227	11	267	5	0	283	663
1630 - 1645	33	16	12	0	61	2	15	27	0	44	10	242	16	0	268	15	320	6	0	341	714
1645 - 1700	20	17	10	0	47	6	19	32	0	57	15	205	13	1	234	15	268	8	0	291	629
1700 - 1715	22	30	13	0	65	7	13	19	0	39	18	196	13	0	227	15	268	12	0	295	626
Total	109	86	57	0	252	20	72	122	0	214	57	846	52	1	956	56	1123	31	0	1210	2632
Approach %	43.25	34.13	22.62	0.00	-	9.35	33.64	57.01	0.00	-	5.96	88.49	5.44	0.10	-	4.63	92.81	2.56	0.00	-	
PHF	0.80	0.72	0.65	0.00	**0.80**	0.71	0.72	0.69	0.00	**0.72**	0.79	0.87	0.81	0.25	**0.89**	0.93	0.88	0.65	0.00	**0.89**	**0.92**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1615 - 1630	33	23	22	0	78	5	25	44	0	74	14	195	10	0	219	10	255	5	0	270	641
1630 - 1645	33	16	12	0	61	2	14	27	0	43	10	233	16	0	259	14	309	6	0	329	692
1645 - 1700	20	17	10	0	47	6	19	32	0	57	15	187	13	1	216	15	265	8	0	288	608
1700 - 1715	22	30	13	0	65	7	12	19	0	38	18	185	13	0	216	15	260	12	0	287	606
Total	108	86	57	0	251	20	70	122	0	212	57	800	52	1	910	54	1089	31	0	1174	2547
Approach %	43.03	34.26	22.71	0.00	-	9.43	33.02	57.55	0.00	-	6.26	87.91	5.71	0.11	-	4.60	92.76	2.64	0.00	-	
PHF	0.82	0.72	0.65	0.00	**0.80**	0.71	0.70	0.69	0.00	**0.72**	0.79	0.86	0.81	0.25	**0.88**	0.90	0.88	0.65	0.00	**0.89**	**0.92**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1615 - 1630	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	1	7	0	0	8	11
1630 - 1645	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	1	6	0	0	7	11
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	3	0	0	3	7
1700 - 1715	0	0	0	0	0	0	1	0	0	1	0	5	0	0	5	0	4	0	0	4	10
Total	1	0	0	0	1	0	2	0	0	2	0	14	0	0	14	2	20	0	0	22	39
Approach %	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	9.09	90.91	0.00	0.00	-	
PHF	0.25	0.00	0.00	0.00	**0.25**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.70	0.00	0.00	**0.70**	0.50	0.71	0.00	0.00	**0.69**	**0.89**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	5	0	0	5	11
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	5	0	0	5	11
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	4	0	0	4	10
Total	0	0	0	0	0	0	0	0	0	0	0	32	0	0	32	0	14	0	0	14	46
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.57	0.00	0.00	**0.57**	0.00	0.70	0.00	0.00	**0.70**	**0.82**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	1a	1b			Total	1c	1d			Total	1e	1f			Total	1g	1h			Total	Total
1615 - 1630	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1630 - 1645	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1645 - 1700	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1700 - 1715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Marr Traffic DATA COLLECTION

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Bear Creek Estates

Site 1 of 3
Theta Pike (South)
Theta Pike (North)
TN-6 (West)
TN-6 (East)

Date
Tuesday, February 22, 2022

Lat/Long
35.637331°, -87.027785°

Weather
Cloudy
65°F

0600 - 0900 (Weekday 3h Session) (02-22-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0600 - 0615	3	3	5	0	11	3	4	3	0	10	7	248	3	0	258	3	98	2	0	103	382
0615 - 0630	3	2	9	0	14	3	5	6	0	14	7	322	3	0	332	1	162	2	0	165	525
0630 - 0645	5	4	12	0	21	4	7	9	0	20	10	291	7	0	308	0	171	3	1	175	524
0645 - 0700	9	3	11	0	23	2	12	14	0	28	9	281	8	0	298	3	179	4	0	186	535
Hourly Total	20	12	37	0	**69**	12	28	32	0	**72**	33	1142	21	0	**1196**	7	610	11	1	**629**	**1966**
0700 - 0715	11	6	7	0	24	9	11	14	0	34	12	258	10	0	280	5	220	7	0	232	570
0715 - 0730	10	8	5	0	23	12	13	24	0	49	17	321	17	0	355	6	235	1	0	242	669
0730 - 0745	16	8	15	0	39	10	22	17	0	49	25	301	20	0	346	10	295	5	0	310	744
0745 - 0800	6	13	14	0	33	13	27	29	0	69	19	304	35	0	358	11	232	7	0	250	710
Hourly Total	43	35	41	0	**119**	44	73	84	0	**201**	73	1184	82	0	**1339**	32	982	20	0	**1034**	**2693**
0800 - 0815	6	9	17	0	32	6	10	10	0	26	8	230	14	1	253	20	257	5	0	282	593
0815 - 0830	6	9	13	0	28	3	12	15	0	30	8	253	17	0	278	13	178	4	0	195	531
0830 - 0845	11	10	17	0	38	3	11	7	0	21	9	196	15	0	220	11	178	0	0	189	468
0845 - 0900	7	5	8	0	20	5	19	10	0	34	7	202	21	0	230	10	174	7	1	192	476
Hourly Total	30	33	55	0	**118**	17	52	42	0	**111**	32	881	67	1	**981**	54	787	16	1	**858**	**2068**
Grand Total	93	80	133	0	**306**	73	153	158	0	**384**	138	3207	170	1	**3516**	93	2379	47	2	**2521**	**6727**
Approach %	30.39	26.14	43.46	0.00	-	19.01	39.84	41.15	0.00	-	3.92	91.21	4.84	0.03	-	3.69	94.37	1.86	0.08	-	
Intersection %	1.38	1.19	1.98	0.00	4.55	1.09	2.27	2.35	0.00	5.71	2.05	47.67	2.53	0.01	52.27	1.38	35.36	0.70	0.03	37.48	
PHF	0.59	0.73	0.75	0.00	**0.81**	0.79	0.67	0.69	0.00	**0.70**	0.69	0.90	0.61	0.25	**0.92**	0.59	0.86	0.64	0.00	**0.87**	**0.91**

1500 - 1800 (Weekday 3h Session) (02-22-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					TN-6 (West)					TN-6 (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1500 - 1515	21	23	11	0	55	12	15	23	0	50	31	275	21	0	327	17	224	9	0	250	682
1515 - 1530	26	29	13	0	68	13	23	22	0	58	42	258	22	1	323	13	223	16	0	252	701
1530 - 1545	20	32	19	0	71	4	11	15	0	30	33	243	20	0	296	19	244	7	0	270	667
1545 - 1600	29	26	13	0	68	3	12	21	0	36	10	177	15	1	203	6	236	3	2	247	554
Hourly Total	96	110	56	0	**262**	32	61	81	0	**174**	116	953	78	2	**1149**	55	927	35	2	**1019**	**2604**
1600 - 1615	26	21	12	0	59	8	25	31	0	64	14	167	9	0	190	13	286	7	1	307	620
1615 - 1630	34	23	22	0	79	5	25	44	0	74	14	203	10	0	227	11	267	5	0	283	663
1630 - 1645	33	16	12	0	61	2	15	27	0	44	10	242	16	0	268	15	320	6	0	341	714
1645 - 1700	20	17	10	0	47	6	19	32	0	57	15	205	13	1	234	15	268	8	0	291	629
Hourly Total	113	77	56	0	**246**	21	84	134	0	**239**	53	817	48	1	**919**	54	1141	26	1	**1222**	**2626**
1700 - 1715	22	30	13	0	65	7	13	19	0	39	18	196	13	0	227	15	268	12	0	295	626
1715 - 1730	22	20	10	0	52	5	24	25	0	54	9	195	14	0	218	7	256	5	0	268	592
1730 - 1745	13	27	7	0	47	9	13	18	0	40	17	148	11	0	176	12	238	8	0	258	521
1745 - 1800	16	22	5	0	43	5	10	14	0	29	9	140	14	0	163	11	179	13	0	203	438
Hourly Total	73	99	35	0	**207**	26	60	76	0	**162**	53	679	52	0	**784**	45	941	38	0	**1024**	**2177**
Grand Total	282	286	147	0	**715**	79	205	291	0	**575**	222	2449	178	3	**2852**	154	3009	99	3	**3265**	**7407**
Approach %	39.44	40.00	20.56	0.00	-	13.74	35.65	50.61	0.00	-	7.78	85.87	6.24	0.11	-	4.72	92.16	3.03	0.09	-	
Intersection %	3.81	3.86	1.98	0.00	9.65	1.07	2.77	3.93	0.00	7.76	3.00	33.06	2.40	0.04	38.50	2.08	40.62	1.34	0.04	44.08	
PHF	0.80	0.72	0.65	0.00	**0.80**	0.71	0.72	0.69	0.00	**0.72**	0.79	0.87	0.81	0.25	**0.89**	0.93	0.88	0.65	0.00	**0.89**	**0.92**

Peak Hour Turning Movement Count

Bear Creek Estates

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, February 22, 2022	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
Time	Left 2.1	Thru 2.2	Right 2.3		App Total	Left 2.4	Thru 2.5	Right 2.6	U-Turn 2.7	App Total	Left 2.8	Thru 2.9	Right 2.10	U-Turn 2.11	App Total	Left 2.12	Thru 2.13	Right 2.14	U-Turn 2.15	App Total	Int Total
0715 - 0730	0	1	2	-	3	3	0	28	0	31	9	242	3	0	254	1	213	6	0	220	508
0730 - 0745	0	2	3	-	5	0	0	31	0	31	16	239	1	0	256	1	268	6	0	275	567
0745 - 0800	1	0	0	-	1	5	1	36	0	42	27	293	1	0	321	0	285	11	0	296	660
0800 - 0815	0	1	2	-	3	4	0	21	0	25	20	207	0	0	227	1	242	1	0	244	499
Total	1	4	7	0	12	12	1	116	0	129	72	981	5	0	1058	3	1008	24	0	1035	2234
Approach %	8.33	33.33	58.33	0.00	-	9.30	0.78	89.92	0.00	-	6.81	92.72	0.47	0.00	-	0.29	97.39	2.32	0.00	-	
PHF	0.25	0.50	0.58	0.00	**0.60**	0.60	0.25	0.81	0.00	**0.77**	0.67	0.84	0.42	0.00	**0.82**	0.75	0.88	0.55	0.00	**0.87**	**0.85**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
Time	Left 2.1	Thru 2.2	Right 2.3		App Total	Left 2.4	Thru 2.5	Right 2.6	U-Turn 2.7	App Total	Left 2.8	Thru 2.9	Right 2.10	U-Turn 2.11	App Total	Left 2.12	Thru 2.13	Right 2.14	U-Turn 2.15	App Total	Int Total
0715 - 0730	0	1	2	-	3	2	0	28	0	30	8	232	3	0	243	1	207	5	0	213	489
0730 - 0745	0	2	3	-	5	0	0	30	0	30	16	231	1	0	248	1	262	6	0	269	552
0745 - 0800	1	0	0	-	1	5	1	36	0	42	27	281	1	0	309	0	278	11	0	289	641
0800 - 0815	0	1	2	-	3	4	0	21	0	25	19	198	0	0	217	1	229	1	0	231	476
Total	1	4	7	0	12	11	1	115	0	127	70	942	5	0	1017	3	976	23	0	1002	2158
Approach %	8.33	33.33	58.33	0.00	-	8.66	0.79	90.55	0.00	-	6.88	92.63	0.49	0.00	-	0.30	97.41	2.30	0.00	-	
PHF	0.25	0.50	0.58	0.00	**0.60**	0.55	0.25	0.80	0.00	**0.76**	0.65	0.84	0.42	0.00	**0.82**	0.75	0.88	0.52	0.00	**0.87**	**0.84**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
Time	Left 2.1	Thru 2.2	Right 2.3		App Total	Left 2.4	Thru 2.5	Right 2.6	U-Turn 2.7	App Total	Left 2.8	Thru 2.9	Right 2.10	U-Turn 2.11	App Total	Left 2.12	Thru 2.13	Right 2.14	U-Turn 2.15	App Total	Int Total
0715 - 0730	0	0	0	-	0	0	0	0	0	0	1	8	0	0	9	0	5	1	0	6	15
0730 - 0745	0	0	0	-	0	0	0	1	0	1	0	5	0	0	5	0	5	0	0	5	11
0745 - 0800	0	0	0	-	0	0	0	0	0	0	0	11	0	0	11	0	5	0	0	5	16
0800 - 0815	0	0	0	-	0	0	0	0	0	0	1	8	0	0	9	0	8	0	0	8	17
Total	0	0	0	0	0	0	0	1	0	1	2	32	0	0	34	0	23	1	0	24	59
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	5.88	94.12	0.00	0.00	-	0.00	95.83	4.17	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	**0.25**	0.50	0.73	0.00	0.00	**0.77**	0.00	0.72	0.25	0.00	**0.75**	**0.87**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
Time	Left 2.1	Thru 2.2	Right 2.3		App Total	Left 2.4	Thru 2.5	Right 2.6	U-Turn 2.7	App Total	Left 2.8	Thru 2.9	Right 2.10	U-Turn 2.11	App Total	Left 2.12	Thru 2.13	Right 2.14	U-Turn 2.15	App Total	Int Total
0715 - 0730	0	0	0	-	0	1	0	0	0	1	0	2	0	0	2	0	1	0	0	1	4
0730 - 0745	0	0	0	-	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
0745 - 0800	0	0	0	-	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0800 - 0815	0	0	0	-	0	0	0	0	0	0	0	1	0	0	1	0	5	0	0	5	6
Total	0	0	0	0	0	1	0	0	0	1	0	7	0	0	7	0	9	0	0	9	17
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.00	0.00	**0.25**	0.00	0.58	0.00	0.00	**0.58**	0.00	0.45	0.00	0.00	**0.45**	**0.71**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
Time	Left 2.1	Thru 2.2	Right 2.3		App Total	Left 2.4	Thru 2.5	Right 2.6	U-Turn 2.7	App Total	Left 2.8	Thru 2.9	Right 2.10	U-Turn 2.11	App Total	Left 2.12	Thru 2.13	Right 2.14	U-Turn 2.15	App Total	Int Total
0715 - 0730	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
Time	EB 2a	WB 2b			App Total	EB 2c	WB 2d			App Total	NB 2e	SB 2f			App Total	NB 2g	SB 2h			App Total	Int Total
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0800 - 0815	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Bear Creek Estates

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, February 22, 2022	
Period	1500 - 1800
Peak Hour	1500 - 1600

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right		App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3		Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
1500 - 1515	0	1	1	-	2	9	0	40	0	49	33	307	1	1	342	0	282	10	2	294	687
1515 - 1530	0	0	3	-	3	13	0	34	0	47	38	305	2	1	346	3	264	7	1	275	671
1530 - 1545	0	0	0	-	0	12	1	23	0	36	31	262	0	0	293	1	248	8	2	259	588
1545 - 1600	0	0	0	-	0	16	1	27	0	44	32	246	0	1	279	1	225	7	1	234	557
Total	0	1	4	0	5	50	2	124	0	176	134	1120	3	3	1260	5	1019	32	6	1062	2503
Approach %	0.00	20.00	80.00	0.00	-	28.41	1.14	70.45	0.00	-	10.63	88.89	0.24	0.24	-	0.47	95.95	3.01	0.56	-	
PHF	0.00	0.25	0.33	0.00	**0.42**	0.78	0.50	0.78	0.00	**0.90**	0.88	0.91	0.38	0.75	**0.91**	0.42	0.90	0.80	0.75	**0.90**	**0.91**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right		App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3		Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
1500 - 1515	0	1	1	-	2	9	0	39	0	48	33	301	1	1	336	0	277	10	2	289	675
1515 - 1530	0	0	3	-	3	13	0	34	0	47	38	297	2	1	338	3	257	7	1	268	656
1530 - 1545	0	0	0	-	0	12	1	23	0	36	31	260	0	0	291	1	239	8	2	250	577
1545 - 1600	0	0	0	-	0	16	1	27	0	44	32	244	0	1	277	1	224	7	1	233	554
Total	0	1	4	0	5	50	2	123	0	175	134	1102	3	3	1242	5	997	32	6	1040	2462
Approach %	0.00	20.00	80.00	0.00	-	28.57	1.14	70.29	0.00	-	10.79	88.73	0.24	0.24	-	0.48	95.87	3.08	0.58	-	
PHF	0.00	0.25	0.33	0.00	**0.42**	0.78	0.50	0.79	0.00	**0.91**	0.88	0.92	0.38	0.75	**0.92**	0.42	0.90	0.80	0.75	**0.90**	**0.91**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right		App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3		Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
1500 - 1515	0	0	0	-	0	0	0	1	0	1	0	3	0	0	3	0	4	0	0	4	8
1515 - 1530	0	0	0	-	0	0	0	0	0	0	0	7	0	0	7	0	6	0	0	6	13
1530 - 1545	0	0	0	-	0	0	0	0	0	0	0	2	0	0	2	0	9	0	0	9	11
1545 - 1600	0	0	0	-	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
Total	0	0	0	0	0	0	0	1	0	1	0	14	0	0	14	0	20	0	0	20	35
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	**0.25**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.56	0.00	0.00	**0.56**	**0.67**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right		App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3		Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
1500 - 1515	0	0	0	-	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
1515 - 1530	0	0	0	-	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1530 - 1545	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	2	0	0	2	6
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.33	0.00	0.00	**0.33**	0.00	0.50	0.00	0.00	**0.50**	**0.38**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right		App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3		Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
1500 - 1515	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	8th Ave					Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	2a	2b			Total	2c	2d			Total	2e	2f			Total	2g	2h			Total	Total
1500 - 1515	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1515 - 1530	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1530 - 1545	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1545 - 1600	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Marr Traffic DATA COLLECTION

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Bear Creek Estates

Site 2 of 3
8th Ave
Theta Pike
TN-99 Nashville Hwy (West)
TN-99 Nashville Hwy (East)

Date
Tuesday, February 22, 2022

Lat/Long
35.627192°, -87.029283°

Weather
Cloudy
65°F

0600 - 0900 (Weekday 3h Session) (02-22-2022)

All vehicles

	Northbound				Southbound					Eastbound					Westbound					
	8th Ave				Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	2.1	2.2	2.3	Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
0600 - 0615	0	1	3	4	0	0	5	1	6	2	141	0	0	143	0	69	0	0	69	222
0615 - 0630	0	0	0	0	0	0	6	0	6	2	156	0	0	158	1	105	0	0	106	270
0630 - 0645	0	0	4	4	0	0	9	0	9	10	193	1	0	204	0	114	2	0	116	333
0645 - 0700	3	0	1	4	3	0	13	0	16	3	195	0	0	198	1	134	0	0	135	353
Hourly Total	3	1	8	**12**	3	0	33	1	**37**	17	685	1	0	**703**	2	422	2	0	**426**	**1178**
0700 - 0715	0	0	4	4	2	0	14	0	16	14	195	1	0	210	1	154	0	0	155	385
0715 - 0730	0	1	2	3	3	0	28	0	31	9	242	3	0	254	1	213	6	0	220	508
0730 - 0745	0	2	3	5	0	0	31	0	31	16	239	1	0	256	1	268	6	0	275	567
0745 - 0800	1	0	0	1	5	1	36	0	42	27	293	1	0	321	0	285	11	0	296	660
Hourly Total	1	3	9	**13**	10	1	109	0	**120**	66	969	6	0	**1041**	3	920	23	0	**946**	**2120**
0800 - 0815	0	1	2	3	4	0	21	0	25	20	207	0	0	227	1	242	1	0	244	499
0815 - 0830	2	0	0	2	4	0	20	0	24	22	182	0	0	204	1	188	19	1	209	439
0830 - 0845	0	0	2	2	14	0	31	0	45	13	210	1	0	224	0	231	10	0	241	512
0845 - 0900	0	0	1	1	8	0	30	0	38	13	200	1	0	214	0	224	6	2	232	485
Hourly Total	2	1	5	**8**	30	0	102	0	**132**	68	799	2	0	**869**	2	885	36	3	**926**	**1935**
Grand Total	6	5	22	**33**	43	1	244	1	**289**	151	2453	9	0	**2613**	7	2227	61	3	**2298**	**5233**
Approach %	18.18	15.15	66.67	-	14.88	0.35	84.43	0.35	-	5.78	93.88	0.34	0.00	-	0.30	96.91	2.65	0.13	-	
Intersection %	0.11	0.10	0.42	0.63	0.82	0.02	4.66	0.02	5.52	2.89	46.88	0.17	0.00	49.93	0.13	42.56	1.17	0.06	43.91	
PHF	0.25	0.50	0.58	**0.60**	0.60	0.25	0.81	0.00	**0.77**	0.67	0.84	0.42	0.00	**0.82**	0.75	0.88	0.55	0.00	**0.87**	**0.85**

1500 - 1800 (Weekday 3h Session) (02-22-2022)

All vehicles

	Northbound				Southbound					Eastbound					Westbound					
	8th Ave				Theta Pike					TN-99 Nashville Hwy (West)					TN-99 Nashville Hwy (East)					
	Left	Thru	Right	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	2.1	2.2	2.3	Total	2.4	2.5	2.6	2.7	Total	2.8	2.9	2.10	2.11	Total	2.12	2.13	2.14	2.15	Total	Total
1500 - 1515	0	1	1	2	9	0	40	0	49	33	307	1	1	342	0	282	10	2	294	687
1515 - 1530	0	0	3	3	13	0	34	0	47	38	305	2	1	346	3	264	7	1	275	671
1530 - 1545	0	0	0	0	12	1	23	0	36	31	262	0	0	293	1	248	8	2	259	588
1545 - 1600	0	0	0	0	16	1	27	0	44	32	246	0	1	279	1	225	7	1	234	557
Hourly Total	0	1	4	**5**	50	2	124	0	**176**	134	1120	3	3	**1260**	5	1019	32	6	**1062**	**2503**
1600 - 1615	0	0	0	0	11	1	20	0	32	23	255	1	2	281	4	322	10	2	338	651
1615 - 1630	0	1	0	1	5	0	31	0	36	25	217	2	0	244	4	264	17	2	287	568
1630 - 1645	0	0	0	0	6	1	40	0	47	19	252	0	0	271	4	219	0	2	225	543
1645 - 1700	1	0	2	3	4	1	27	0	32	28	243	0	1	272	5	365	5	0	375	682
Hourly Total	1	1	2	**4**	26	3	118	0	**147**	95	967	3	3	**1068**	17	1170	32	6	**1225**	**2444**
1700 - 1715	2	1	1	4	3	2	20	0	25	33	300	1	2	336	2	273	4	0	279	644
1715 - 1730	0	0	1	1	3	1	20	0	24	30	227	4	3	264	4	250	8	1	263	552
1730 - 1745	0	0	1	1	5	0	28	0	33	25	209	1	2	237	0	276	6	3	285	556
1745 - 1800	2	1	2	5	4	1	21	0	26	14	169	2	0	185	1	232	6	0	239	455
Hourly Total	4	2	5	**11**	15	4	89	0	**108**	102	905	8	7	**1022**	7	1031	24	4	**1066**	**2207**
Grand Total	5	4	11	**20**	91	9	331	0	**431**	331	2992	14	13	**3350**	29	3220	88	16	**3353**	**7154**
Approach %	25.00	20.00	55.00	-	21.11	2.09	76.80	0.00	-	9.88	89.31	0.42	0.39	-	0.86	96.03	2.62	0.48	-	
Intersection %	0.07	0.06	0.15	0.28	1.27	0.13	4.63	0.00	6.02	4.63	41.82	0.20	0.18	46.83	0.41	45.01	1.23	0.22	46.87	
PHF	0.00	0.25	0.33	**0.42**	0.78	0.50	0.78	0.00	**0.90**	0.88	0.91	0.38	0.75	**0.91**	0.42	0.90	0.80	0.75	**0.90**	**0.91**

Peak Hour Turning Movement Count

Bear Creek Estates

Click here for Map

Marr Traffic DATA COLLECTION

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Tuesday, February 22, 2022	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
0715 - 0730	0	19	1	0	20	0	38	0	0	38	0	0	0	0	0	3	0	7	0	10	68
0730 - 0745	0	27	2	0	29	0	51	0	0	51	0	0	0	0	0	2	0	10	0	12	92
0745 - 0800	0	29	2	0	31	5	67	1	0	73	0	0	0	0	0	4	0	1	0	5	109
0800 - 0815	0	24	5	0	29	5	39	0	0	44	1	0	0	0	1	7	0	5	0	12	86
Total	0	99	10	0	109	10	195	1	0	206	1	0	0	0	1	16	0	23	0	39	355
Approach %	0.00	90.83	9.17	0.00	-	4.85	94.66	0.49	0.00	-	100.00	0.00	0.00	0.00	-	41.03	0.00	58.97	0.00	-	
PHF	0.00	0.85	0.50	0.00	**0.88**	0.50	0.73	0.25	0.00	**0.71**	0.25	0.00	0.00	0.00	**0.25**	0.57	0.00	0.58	0.00	**0.81**	**0.81**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
0715 - 0730	0	17	1	0	18	0	37	0	0	37	0	0	0	0	0	3	0	7	0	10	65
0730 - 0745	0	27	2	0	29	0	51	0	0	51	0	0	0	0	0	2	0	10	0	12	92
0745 - 0800	0	29	2	0	31	5	66	1	0	72	0	0	0	0	0	4	0	1	0	5	108
0800 - 0815	0	23	5	0	28	5	39	0	0	44	1	0	0	0	1	7	0	5	0	12	85
Total	0	96	10	0	106	10	193	1	0	204	1	0	0	0	1	16	0	23	0	39	350
Approach %	0.00	90.57	9.43	0.00	-	4.90	94.61	0.49	0.00	-	100.00	0.00	0.00	0.00	-	41.03	0.00	58.97	0.00	-	
PHF	0.00	0.83	0.50	0.00	**0.85**	0.50	0.73	0.25	0.00	**0.71**	0.25	0.00	0.00	0.00	**0.25**	0.57	0.00	0.58	0.00	**0.81**	**0.81**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
0715 - 0730	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0800 - 0815	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Approach %	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.38	0.00	0.00	**0.38**	0.00	0.25	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.50**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
0715 - 0730	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.25	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.25**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	3a	3b			Total	3c	3d			Total	3e	3f			Total	3g	3h			Total	Total
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0800 - 0815	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Peak Hour Turning Movement Count

Bear Creek Estates

Click here for Map

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Tuesday, February 22, 2022	
Period	1500 - 1800
Peak Hour	1500 - 1600

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1500 - 1515	0	52	4	0	56	8	46	0	0	54	0	0	0	0	0	3	0	3	0	6	116
1515 - 1530	0	65	3	0	68	8	46	0	0	54	0	0	0	0	0	7	0	2	0	9	131
1530 - 1545	0	68	5	0	73	4	42	0	0	46	0	0	0	0	0	3	0	1	1	5	124
1545 - 1600	0	66	5	0	71	4	35	0	0	39	0	0	0	0	0	2	0	1	0	3	113
Total	0	251	17	0	268	24	169	0	0	193	0	0	0	0	0	15	0	7	1	23	484
Approach %	0.00	93.66	6.34	0.00	-	12.44	87.56	0.00	0.00	-	0.00	0.00	0.00	0.00	-	65.22	0.00	30.43	4.35	-	
PHF	0.00	0.92	0.85	0.00	**0.92**	0.75	0.92	0.00	0.00	**0.89**	0.00	0.00	0.00	0.00	**0.00**	0.54	0.00	0.58	0.25	**0.64**	**0.92**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1500 - 1515	0	50	4	0	54	6	46	0	0	52	0	0	0	0	0	2	0	2	0	4	110
1515 - 1530	0	65	3	0	68	7	46	0	0	53	0	0	0	0	0	7	0	2	0	9	130
1530 - 1545	0	68	5	0	73	4	42	0	0	46	0	0	0	0	0	3	0	1	1	5	124
1545 - 1600	0	66	5	0	71	4	35	0	0	39	0	0	0	0	0	2	0	1	0	3	113
Total	0	249	17	0	266	21	169	0	0	190	0	0	0	0	0	14	0	6	1	21	477
Approach %	0.00	93.61	6.39	0.00	-	11.05	88.95	0.00	0.00	-	0.00	0.00	0.00	0.00	-	66.67	0.00	28.57	4.76	-	
PHF	0.00	0.92	0.85	0.00	**0.91**	0.75	0.92	0.00	0.00	**0.90**	0.00	0.00	0.00	0.00	**0.00**	0.50	0.00	0.75	0.25	**0.58**	**0.92**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1500 - 1515	0	2	0	0	2	2	0	0	0	2	0	0	0	0	0	1	0	1	0	2	6
1515 - 1530	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	3	0	0	0	3	0	0	0	0	0	1	0	1	0	2	7
Approach %	0.00	100.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	50.00	0.00	50.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	**0.25**	0.38	0.00	0.00	0.00	**0.38**	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.25	0.00	**0.25**	**0.29**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	3a	3b			Total	3c	3d			Total	3e	3f			Total	3g	3h			Total	Total
1500 - 1515	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1515 - 1530	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1530 - 1545	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1545 - 1600	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

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Bear Creek Estates

Site 3 of 3
Theta Pike (South)
Theta Pike (North)
Driveway
Timber Trail

Date
Tuesday, February 22, 2022

Lat/Long
35.624217°, -87.028542°

Weather
Cloudy
65°F

0600 - 0900 (Weekday 3h Session) (02-22-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
0600 - 0615	0	13	0	0	13	0	8	0	0	8	0	0	0	0	0	1	0	0	0	1	22
0615 - 0630	0	8	1	0	9	1	8	0	0	9	0	0	0	0	0	3	0	3	0	6	24
0630 - 0645	0	15	2	0	17	2	12	0	0	14	0	0	0	0	0	1	0	2	0	3	34
0645 - 0700	0	14	0	0	14	1	20	0	0	21	0	0	0	0	0	2	0	5	0	7	42
Hourly Total	0	50	3	0	**53**	4	48	0	0	**52**	0	0	0	0	**0**	7	0	10	0	**17**	**122**
0700 - 0715	0	14	2	0	16	3	21	0	0	24	0	0	0	0	0	0	0	6	0	6	46
0715 - 0730	0	19	1	0	20	0	38	0	0	38	0	0	0	0	0	3	0	7	0	10	68
0730 - 0745	0	27	2	0	29	0	51	0	0	51	0	0	0	0	0	2	0	10	0	12	92
0745 - 0800	0	29	2	0	31	5	67	1	0	73	0	0	0	0	0	4	0	1	0	5	109
Hourly Total	0	89	7	0	**96**	8	177	1	0	**186**	0	0	0	0	**0**	9	0	24	0	**33**	**315**
0800 - 0815	0	24	5	0	29	5	39	0	0	44	1	0	0	0	1	7	0	5	0	12	86
0815 - 0830	0	21	2	0	23	3	36	0	0	39	0	0	0	0	0	0	0	1	0	1	63
0830 - 0845	0	29	2	0	31	1	38	0	0	39	0	0	0	0	0	4	0	7	0	11	81
0845 - 0900	0	18	4	0	22	1	46	0	0	47	0	0	0	0	0	2	0	2	0	4	73
Hourly Total	0	92	13	0	**105**	10	159	0	0	**169**	1	0	0	0	**1**	13	0	15	0	**28**	**303**
Grand Total	0	231	23	0	**254**	22	384	1	0	**407**	1	0	0	0	**1**	29	0	49	0	**78**	**740**
Approach %	0.00	90.94	9.06	0.00	-	5.41	94.35	0.25	0.00	-	100.00	0.00	0.00	0.00	-	37.18	0.00	62.82	0.00	-	
Intersection %	0.00	31.22	3.11	0.00	34.32	2.97	51.89	0.14	0.00	55.00	0.14	0.00	0.00	0.00	0.14	3.92	0.00	6.62	0.00	10.54	
PHF	0.00	0.85	0.50	0.00	**0.88**	0.50	0.73	0.25	0.00	**0.71**	0.25	0.00	0.00	0.00	**0.25**	0.57	0.00	0.58	0.00	**0.81**	**0.81**

1500 - 1800 (Weekday 3h Session) (02-22-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Theta Pike (South)					Theta Pike (North)					Driveway					Timber Trail					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1500 - 1515	0	52	4	0	56	8	46	0	0	54	0	0	0	0	0	3	0	3	0	6	116
1515 - 1530	0	65	3	0	68	8	46	0	0	54	0	0	0	0	0	7	0	2	0	9	131
1530 - 1545	0	68	5	0	73	4	42	0	0	46	0	0	0	0	0	3	0	1	1	5	124
1545 - 1600	0	66	5	0	71	4	35	0	0	39	0	0	0	0	0	2	0	1	0	3	113
Hourly Total	0	251	17	0	**268**	24	169	0	0	**193**	0	0	0	0	**0**	15	0	7	1	**23**	**484**
1600 - 1615	0	53	1	0	54	3	37	0	0	40	0	0	0	0	0	2	0	4	0	6	100
1615 - 1630	0	71	7	0	78	2	44	0	0	46	0	0	0	0	0	3	0	4	0	7	131
1630 - 1645	0	59	1	0	60	2	44	0	0	46	0	0	0	0	0	2	0	1	0	3	109
1645 - 1700	0	44	7	0	51	2	38	0	0	40	0	0	0	0	0	1	0	2	0	3	94
Hourly Total	0	227	16	0	**243**	9	163	0	0	**172**	0	0	0	0	**0**	8	0	11	0	**19**	**434**
1700 - 1715	0	61	6	0	67	1	35	0	0	36	0	0	0	0	0	1	0	4	0	5	108
1715 - 1730	0	46	2	0	48	0	48	0	0	48	0	0	0	0	0	3	0	4	0	7	103
1730 - 1745	0	54	2	0	56	1	35	0	0	36	0	0	0	0	0	3	0	0	0	3	95
1745 - 1800	0	38	0	0	38	4	26	0	0	30	0	0	0	0	0	2	0	0	0	2	70
Hourly Total	0	199	10	0	**209**	6	144	0	0	**150**	0	0	0	0	**0**	9	0	8	0	**17**	**376**
Grand Total	0	677	43	0	**720**	39	476	0	0	**515**	0	0	0	0	**0**	32	0	26	1	**59**	**1294**
Approach %	0.00	94.03	5.97	0.00	-	7.57	92.43	0.00	0.00	-	0.00	0.00	0.00	0.00	-	54.24	0.00	44.07	1.69	-	
Intersection %	0.00	52.32	3.32	0.00	55.64	3.01	36.79	0.00	0.00	39.80	0.00	0.00	0.00	0.00	0.00	2.47	0.00	2.01	0.08	4.56	
PHF	0.00	0.92	0.85	0.00	**0.92**	0.75	0.92	0.00	0.00	**0.89**	0.00	0.00	0.00	0.00	**0.00**	0.54	0.00	0.58	0.25	**0.64**	**0.92**

Bi-Directional Speed & Class Count || Graphical Analysis NB EB

Bear Creek Estates

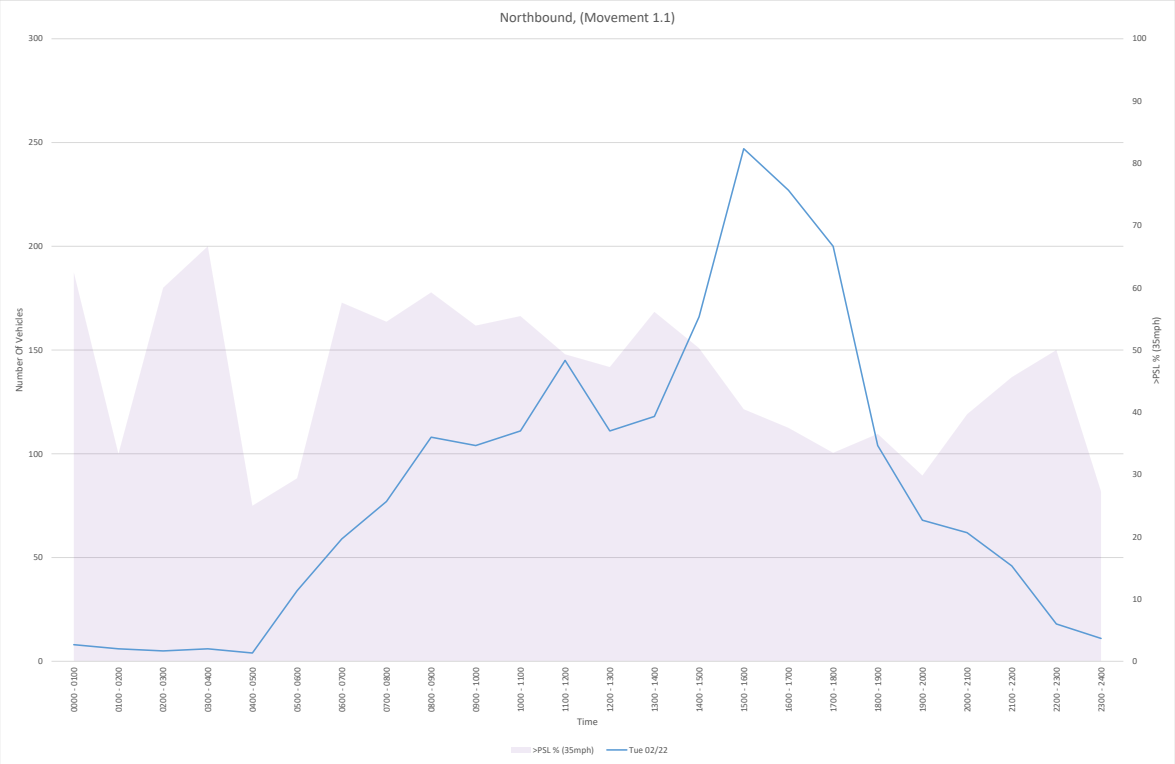
Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1
Theta Pike,
south of Bancroft Ml

Lat/Long
35.635555°, -87.028507°

Click here for Map

0000 - 2400 (Weekday 24h Session)
Graphical Analysis NB EB



Bi-Directional Speed & Class Count || Graphical Analysis SB WB

Bear Creek Estates

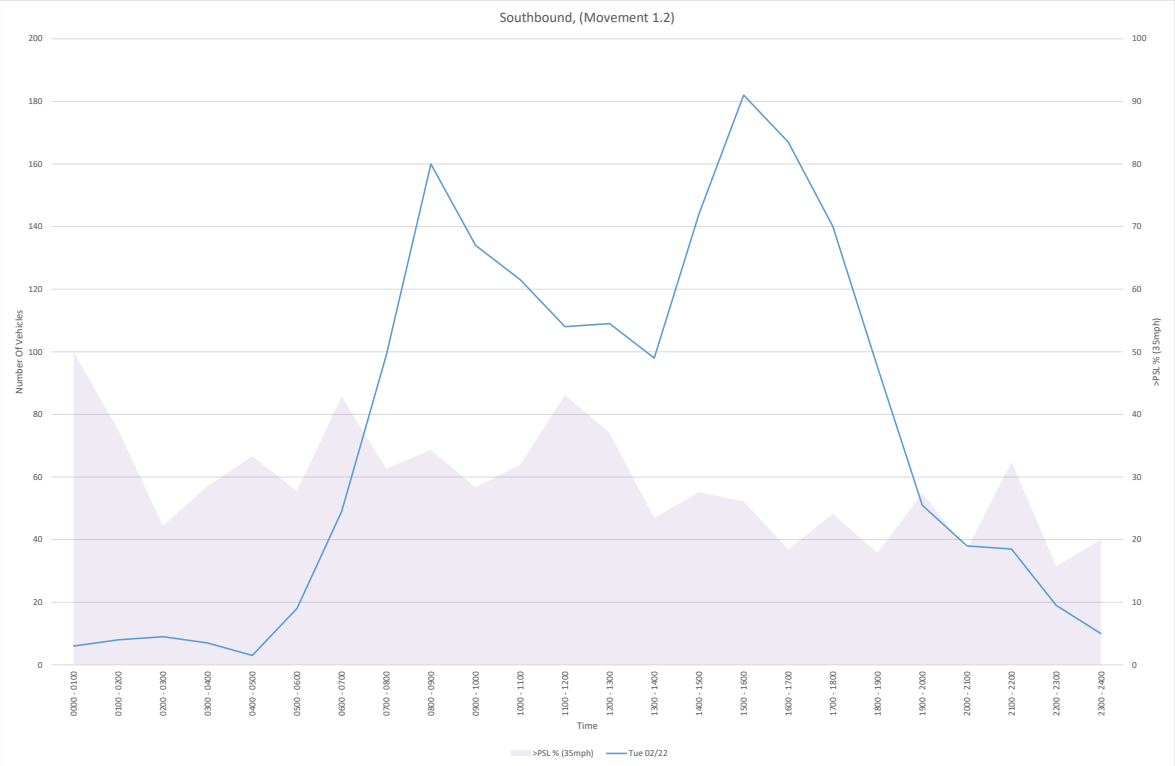
Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1
Theta Pike,
south of Bancroft Ml

Lat/Long
35.635555°, -87.028507°

Click here for Map

0000 - 2400 (Weekday 24h Session)
Graphical Analysis SB WB



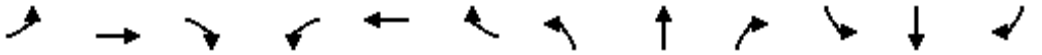
C. Level of Service

Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1156	86	47	1019	18	38	38	51	41	72	80
Future Volume (veh/h)	69	1156	86	47	1019	18	38	38	51	41	72	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1795	1900	1900	1729	1900	1863	1863	1900	1776	1870	1900
Adj Flow Rate, veh/h	76	1270	95	52	1120	20	42	42	56	45	79	88
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	6	4	0	10	5	2	2	2	7	0	3
Cap, veh/h	97	1960	146	67	1955	35	151	85	113	199	96	107
Arrive On Green	0.05	0.61	0.61	0.04	0.59	0.59	0.03	0.12	0.12	0.03	0.12	0.12
Sat Flow, veh/h	1792	3217	240	1810	3302	59	1774	725	967	1691	810	902
Grp Volume(v), veh/h	76	672	693	52	557	583	42	0	98	45	0	167
Grp Sat Flow(s),veh/h/ln	1792	1705	1752	1810	1642	1718	1774	0	1692	1691	0	1711
Q Serve(g_s), s	4.7	28.2	28.4	3.2	23.2	23.3	2.3	0.0	6.0	2.6	0.0	10.6
Cycle Q Clear(g_c), s	4.7	28.2	28.4	3.2	23.2	23.3	2.3	0.0	6.0	2.6	0.0	10.6
Prop In Lane	1.00		0.14	1.00		0.03	1.00		0.57	1.00		0.53
Lane Grp Cap(c), veh/h	97	1039	1067	67	972	1017	151	0	198	199	0	202
V/C Ratio(X)	0.78	0.65	0.65	0.77	0.57	0.57	0.28	0.00	0.49	0.23	0.00	0.83
Avail Cap(c_a), veh/h	210	1039	1067	212	972	1017	229	0	305	302	0	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	14.0	14.0	53.0	14.0	14.0	41.5	0.0	45.9	41.3	0.0	47.8
Incr Delay (d2), s/veh	5.0	3.1	3.1	6.8	2.5	2.3	0.7	0.0	1.9	0.4	0.0	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	14.0	14.6	1.7	11.2	11.7	1.1	0.0	2.9	1.2	0.0	5.5
LnGrp Delay(d),s/veh	56.9	17.1	17.1	59.7	16.4	16.3	42.2	0.0	47.8	41.7	0.0	56.0
LnGrp LOS	E	B	B	E	B	B	D		D	D		E
Approach Vol, veh/h		1441			1192			140			212	
Approach Delay, s/veh		19.2			18.3			46.1			53.0	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	74.6	8.1	19.1	11.0	72.7	8.3	19.0
Change Period (Y+Rc), s	5.0	7.0	4.5	6.0	5.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	13.0	45.0	8.5	22.0	13.0	45.0	10.5	20.0
Max Q Clear Time (g_c+I1), s	5.2	30.4	4.3	12.6	6.7	25.3	4.6	8.0
Green Ext Time (p_c), s	0.0	11.1	0.0	0.5	0.0	12.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	846	52	56	1123	31	109	86	57	20	72	122
Future Volume (veh/h)	57	846	52	56	1123	31	109	86	57	20	72	122
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1794	1900	1900	1729	1900	1863	1863	1900	1776	1865	1900
Adj Flow Rate, veh/h	63	930	57	62	1234	34	120	95	63	22	79	134
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	6	4	0	10	5	2	2	2	7	0	3
Cap, veh/h	81	1734	106	80	1732	48	223	209	138	242	93	157
Arrive On Green	0.05	0.53	0.53	0.04	0.53	0.53	0.07	0.20	0.20	0.02	0.15	0.15
Sat Flow, veh/h	1792	3264	200	1810	3266	90	1774	1046	694	1691	623	1056
Grp Volume(v), veh/h	63	486	501	62	620	648	120	0	158	22	0	213
Grp Sat Flow(s),veh/h/ln	1792	1705	1759	1810	1643	1714	1774	0	1740	1691	0	1678
Q Serve(g_s), s	3.9	20.7	20.7	3.8	31.6	31.7	6.3	0.0	8.9	1.1	0.0	13.7
Cycle Q Clear(g_c), s	3.9	20.7	20.7	3.8	31.6	31.7	6.3	0.0	8.9	1.1	0.0	13.7
Prop In Lane	1.00		0.11	1.00		0.05	1.00		0.40	1.00		0.63
Lane Grp Cap(c), veh/h	81	906	935	80	871	909	223	0	347	242	0	250
V/C Ratio(X)	0.78	0.54	0.54	0.77	0.71	0.71	0.54	0.00	0.46	0.09	0.00	0.85
Avail Cap(c_a), veh/h	129	906	935	147	871	909	230	0	408	334	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	17.0	17.0	52.5	19.7	19.7	37.0	0.0	39.1	34.4	0.0	46.0
Incr Delay (d2), s/veh	5.8	2.3	2.2	5.8	4.9	4.7	1.8	0.0	0.9	0.1	0.0	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	10.3	10.6	2.0	15.5	16.1	3.2	0.0	4.3	0.5	0.0	7.1
LnGrp Delay(d),s/veh	58.3	19.3	19.3	58.3	24.6	24.4	38.8	0.0	40.1	34.5	0.0	56.2
LnGrp LOS	E	B	B	E	C	C	D		D	C		E
Approach Vol, veh/h		1050			1330			278			235	
Approach Delay, s/veh		21.6			26.1			39.5			54.1	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	66.0	12.6	22.5	10.0	65.9	7.0	28.1
Change Period (Y+Rc), s	5.0	7.0	4.5	6.0	5.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	9.0	45.0	8.5	26.0	8.0	46.0	8.5	26.0
Max Q Clear Time (g_c+I1), s	5.8	22.7	8.3	15.7	5.9	33.7	3.1	10.9
Green Ext Time (p_c), s	0.0	11.1	0.0	0.8	0.0	9.2	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	12	1	116	1	4	7	72	981	5	3	1008	24
Future Volume (veh/h)	12	1	116	1	4	7	72	981	5	3	1008	24
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1881	1900	1900	1900	1900	1863	1827	1900	1900	1844	1900
Adj Flow Rate, veh/h	14	1	136	1	5	8	85	1154	6	4	1186	28
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	0	1	0	0	0	2	4	0	0	3	4
Cap, veh/h	129	1	185	59	182	197	387	2444	13	360	2255	53
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.05	0.69	0.69	0.01	0.64	0.64
Sat Flow, veh/h	1318	12	1589	85	1566	1615	1774	3542	18	1810	3499	83
Grp Volume(v), veh/h	14	0	137	6	0	8	85	566	594	4	594	620
Grp Sat Flow(s),veh/h/ln	1318	0	1601	1651	0	1615	1774	1736	1824	1810	1752	1830
Q Serve(g_s), s	0.9	0.0	7.0	0.0	0.0	0.4	1.2	12.7	12.7	0.1	15.5	15.5
Cycle Q Clear(g_c), s	7.9	0.0	7.0	7.0	0.0	0.4	1.2	12.7	12.7	0.1	15.5	15.5
Prop In Lane	1.00		0.99	0.17		1.00	1.00		0.01	1.00		0.05
Lane Grp Cap(c), veh/h	129	0	186	242	0	197	387	1198	1259	360	1129	1179
V/C Ratio(X)	0.11	0.00	0.73	0.02	0.00	0.04	0.22	0.47	0.47	0.01	0.53	0.53
Avail Cap(c_a), veh/h	201	0	273	337	0	284	515	1198	1259	574	1129	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	0.0	36.3	33.3	0.0	32.9	5.8	6.1	6.1	5.7	8.1	8.1
Incr Delay (d2), s/veh	0.1	0.0	2.2	0.0	0.0	0.0	0.3	1.3	1.3	0.0	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.2	0.1	0.0	0.2	0.6	6.4	6.7	0.0	8.0	8.3
LnGrp Delay(d),s/veh	40.2	0.0	38.5	33.3	0.0	33.0	6.1	7.4	7.3	5.7	9.9	9.8
LnGrp LOS	D		D	C		C	A	A	A	A	A	A
Approach Vol, veh/h		151			14			1245			1218	
Approach Delay, s/veh		38.6			33.1			7.3			9.8	
Approach LOS		D			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	64.7		15.4	8.8	60.8		15.4
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5
Max Green Setting (Gmax), s	10.5	44.0		14.5	10.5	44.0		14.5
Max Q Clear Time (g_c+I1), s	2.1	14.7		9.0	3.2	17.5		9.9
Green Ext Time (p_c), s	0.0	15.6		0.0	0.1	15.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	50	2	124	0	1	4	134	1120	3	5	1019	32
Future Volume (veh/h)	50	2	124	0	1	4	134	1120	3	5	1019	32
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1881	1900	1900	1900	1900	1863	1827	1900	1900	1844	1900
Adj Flow Rate, veh/h	59	2	146	0	1	5	158	1318	4	6	1199	38
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	0	1	0	0	0	2	4	0	0	3	4
Cap, veh/h	238	3	183	0	220	200	387	2443	7	311	2214	70
Arrive On Green	0.12	0.12	0.12	0.00	0.12	0.12	0.06	0.69	0.69	0.01	0.64	0.64
Sat Flow, veh/h	1326	22	1581	0	1900	1615	1774	3550	11	1810	3467	110
Grp Volume(v), veh/h	59	0	148	0	1	5	158	644	678	6	606	631
Grp Sat Flow(s),veh/h/ln	1326	0	1602	0	1900	1615	1774	1736	1825	1810	1752	1825
Q Serve(g_s), s	3.5	0.0	7.6	0.0	0.0	0.2	2.4	15.6	15.7	0.1	16.2	16.3
Cycle Q Clear(g_c), s	3.5	0.0	7.6	0.0	0.0	0.2	2.4	15.6	15.7	0.1	16.2	16.3
Prop In Lane	1.00		0.99	0.00		1.00	1.00		0.01	1.00		0.06
Lane Grp Cap(c), veh/h	238	0	186	0	220	200	387	1195	1256	311	1119	1165
V/C Ratio(X)	0.25	0.00	0.80	0.00	0.00	0.03	0.41	0.54	0.54	0.02	0.54	0.54
Avail Cap(c_a), veh/h	310	0	273	0	324	288	504	1195	1256	521	1119	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	36.6	0.0	33.2	32.7	6.7	6.6	6.6	6.1	8.5	8.5
Incr Delay (d2), s/veh	0.2	0.0	5.6	0.0	0.0	0.0	0.7	1.8	1.7	0.0	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	3.7	0.0	0.0	0.1	1.3	7.9	8.3	0.1	8.3	8.7
LnGrp Delay(d),s/veh	35.0	0.0	42.2	0.0	33.2	32.8	7.4	8.3	8.2	6.1	10.4	10.3
LnGrp LOS	D		D		C	C	A	A	A	A	B	B
Approach Vol, veh/h		207			6			1480			1243	
Approach Delay, s/veh		40.2			32.8			8.2			10.3	
Approach LOS		D			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	64.5		15.3	9.4	60.3		15.3
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5
Max Green Setting (Gmax), s	10.5	44.0		14.5	10.5	44.0		14.5
Max Q Clear Time (g_c+I1), s	2.1	17.7		2.2	4.4	18.3		9.6
Green Ext Time (p_c), s	0.0	16.9		0.0	0.2	15.5		0.3

Intersection Summary			
HCM 2010 Ctrl Delay		11.4	
HCM 2010 LOS		B	

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	23	99	10	10	195
Future Vol, veh/h	16	23	99	10	10	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	17	25	108	11	11	212

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	348	114	0	0	119	0
Stage 1	114	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	653	944	-	-	1482	-
Stage 1	916	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	648	944	-	-	1482	-
Mov Cap-2 Maneuver	648	-	-	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	795	1482	-
HCM Lane V/C Ratio	-	-	0.053	0.007	-
HCM Control Delay (s)	-	-	9.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.9

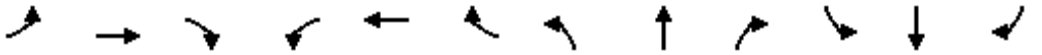
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	7	251	17	24	169
Future Vol, veh/h	15	7	251	17	24	169
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	16	8	273	18	26	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	518	282	0	0	291	0
Stage 1	282	-	-	-	-	-
Stage 2	236	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	521	762	-	-	1282	-
Stage 1	770	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	509	762	-	-	1282	-
Mov Cap-2 Maneuver	509	-	-	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	789	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	569	1282	-
HCM Lane V/C Ratio	-	-	0.042	0.02	-
HCM Control Delay (s)	-	-	11.6	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Background



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	1237	97	51	1091	20	49	41	127	44	77	86
Future Volume (veh/h)	74	1237	97	51	1091	20	49	41	127	44	77	86
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1795	1900	1900	1729	1900	1863	1863	1900	1776	1870	1900
Adj Flow Rate, veh/h	81	1359	107	56	1199	22	54	45	140	48	85	95
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	6	4	0	10	5	2	2	2	7	0	3
Cap, veh/h	103	1887	148	73	1885	35	165	53	166	150	106	119
Arrive On Green	0.06	0.59	0.59	0.04	0.57	0.57	0.04	0.13	0.13	0.03	0.13	0.13
Sat Flow, veh/h	1792	3204	251	1810	3300	61	1774	400	1244	1691	808	903
Grp Volume(v), veh/h	81	721	745	56	597	624	54	0	185	48	0	180
Grp Sat Flow(s),veh/h/ln	1792	1705	1751	1810	1642	1718	1774	0	1643	1691	0	1711
Q Serve(g_s), s	5.0	33.4	33.8	3.4	27.1	27.2	2.9	0.0	12.2	2.7	0.0	11.3
Cycle Q Clear(g_c), s	5.0	33.4	33.8	3.4	27.1	27.2	2.9	0.0	12.2	2.7	0.0	11.3
Prop In Lane	1.00		0.14	1.00		0.04	1.00		0.76	1.00		0.53
Lane Grp Cap(c), veh/h	103	1004	1031	73	938	982	165	0	219	150	0	225
V/C Ratio(X)	0.78	0.72	0.72	0.77	0.64	0.64	0.33	0.00	0.84	0.32	0.00	0.80
Avail Cap(c_a), veh/h	210	1004	1031	212	938	982	236	0	341	206	0	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.6	16.2	16.3	52.8	16.0	16.0	40.2	0.0	47.0	40.2	0.0	46.8
Incr Delay (d2), s/veh	4.8	4.4	4.4	6.3	3.3	3.1	0.8	0.0	10.9	0.9	0.0	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	16.9	17.4	1.8	13.1	13.7	1.4	0.0	6.2	1.3	0.0	5.8
LnGrp Delay(d),s/veh	56.4	20.7	20.7	59.1	19.3	19.2	41.1	0.0	57.8	41.1	0.0	54.5
LnGrp LOS	E	C	C	E	B	B	D		E	D		D
Approach Vol, veh/h		1547			1277			239			228	
Approach Delay, s/veh		22.6			21.0			54.1			51.7	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	72.4	8.6	20.6	11.4	70.4	8.4	20.8
Change Period (Y+Rc), s	5.0	7.0	4.5	6.0	5.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	13.0	45.0	8.5	22.0	13.0	45.0	7.5	23.0
Max Q Clear Time (g_c+I1), s	5.4	35.8	4.9	13.3	7.0	29.2	4.7	14.2
Green Ext Time (p_c), s	0.0	7.8	0.0	0.6	0.0	10.9	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	906	64	154	1202	34	122	92	110	22	77	131
Future Volume (veh/h)	61	906	64	154	1202	34	122	92	110	22	77	131
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1795	1900	1900	1729	1900	1863	1863	1900	1776	1865	1900
Adj Flow Rate, veh/h	67	996	70	169	1321	37	134	101	121	24	85	144
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	6	4	0	10	5	2	2	2	7	0	3
Cap, veh/h	86	1554	109	147	1677	47	231	164	196	208	99	168
Arrive On Green	0.05	0.48	0.48	0.08	0.51	0.51	0.08	0.21	0.21	0.02	0.16	0.16
Sat Flow, veh/h	1792	3232	227	1810	3265	91	1774	773	926	1691	623	1056
Grp Volume(v), veh/h	67	525	541	169	664	694	134	0	222	24	0	229
Grp Sat Flow(s),veh/h/ln	1792	1705	1755	1810	1643	1713	1774	0	1699	1691	0	1679
Q Serve(g_s), s	4.1	25.7	25.7	9.0	36.6	36.7	6.9	0.0	13.1	1.2	0.0	14.8
Cycle Q Clear(g_c), s	4.1	25.7	25.7	9.0	36.6	36.7	6.9	0.0	13.1	1.2	0.0	14.8
Prop In Lane	1.00		0.13	1.00		0.05	1.00		0.55	1.00		0.63
Lane Grp Cap(c), veh/h	86	820	844	147	844	880	231	0	360	208	0	267
V/C Ratio(X)	0.78	0.64	0.64	1.15	0.79	0.79	0.58	0.00	0.62	0.12	0.00	0.86
Avail Cap(c_a), veh/h	129	820	844	147	844	880	231	0	398	312	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.2	21.6	21.6	51.0	22.0	22.0	36.2	0.0	39.7	33.7	0.0	45.5
Incr Delay (d2), s/veh	7.8	3.8	3.7	120.9	7.3	7.1	3.2	0.0	2.4	0.2	0.0	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	12.8	13.2	9.4	18.1	19.1	3.6	0.0	6.4	0.6	0.0	7.6
LnGrp Delay(d),s/veh	60.0	25.5	25.4	171.9	29.3	29.1	39.4	0.0	42.1	33.9	0.0	56.4
LnGrp LOS	E	C	C	F	C	C	D		D	C		E
Approach Vol, veh/h		1133			1527			356			253	
Approach Delay, s/veh		27.4			45.0			41.1			54.2	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	60.4	13.0	23.6	10.3	64.0	7.1	29.5
Change Period (Y+Rc), s	5.0	7.0	4.5	6.0	5.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	9.0	44.0	8.5	27.0	8.0	45.0	9.5	26.0
Max Q Clear Time (g_c+I1), s	11.0	27.7	8.9	16.8	6.1	38.7	3.2	15.1
Green Ext Time (p_c), s	0.0	9.8	0.0	0.9	0.0	5.3	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	39.2
HCM 2010 LOS	D

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	29	1	155	1	5	8	96	1050	6	4	1079	34
Future Volume (veh/h)	29	1	155	1	5	8	96	1050	6	4	1079	34
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1881	1900	1900	1900	1900	1863	1827	1900	1900	1844	1900
Adj Flow Rate, veh/h	34	1	182	1	6	9	113	1235	7	5	1269	40
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	0	1	0	0	0	2	4	0	0	3	4
Cap, veh/h	149	1	251	61	247	265	336	2292	13	305	2078	65
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.65	0.65	0.01	0.60	0.60
Sat Flow, veh/h	1315	9	1592	78	1564	1615	1774	3540	20	1810	3468	109
Grp Volume(v), veh/h	34	0	183	7	0	9	113	606	636	5	641	668
Grp Sat Flow(s),veh/h/ln	1315	0	1600	1642	0	1615	1774	1736	1824	1810	1752	1825
Q Serve(g_s), s	2.1	0.0	9.2	0.0	0.0	0.4	1.9	16.0	16.1	0.1	19.6	19.7
Cycle Q Clear(g_c), s	11.4	0.0	9.2	9.2	0.0	0.4	1.9	16.0	16.1	0.1	19.6	19.7
Prop In Lane	1.00		0.99	0.14		1.00	1.00		0.01	1.00		0.06
Lane Grp Cap(c), veh/h	149	0	252	307	0	265	336	1124	1181	305	1050	1094
V/C Ratio(X)	0.23	0.00	0.73	0.02	0.00	0.03	0.34	0.54	0.54	0.02	0.61	0.61
Avail Cap(c_a), veh/h	166	0	273	330	0	286	458	1124	1181	517	1050	1094
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	34.1	30.3	0.0	29.9	8.5	8.1	8.1	7.5	10.8	10.8
Incr Delay (d2), s/veh	0.3	0.0	7.0	0.0	0.0	0.0	0.6	1.9	1.8	0.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	4.6	0.1	0.0	0.2	1.0	8.1	8.5	0.0	10.2	10.6
LnGrp Delay(d),s/veh	39.7	0.0	41.1	30.3	0.0	29.9	9.1	10.0	9.9	7.5	13.4	13.3
LnGrp LOS	D		D	C		C	A	A	A	A	B	B
Approach Vol, veh/h		217			16			1355			1314	
Approach Delay, s/veh		40.9			30.1			9.8			13.3	
Approach LOS		D			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	61.0		18.9	9.2	56.9		18.9
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5
Max Green Setting (Gmax), s	10.5	44.0		14.5	10.5	44.0		14.5
Max Q Clear Time (g_c+I1), s	2.1	18.1		11.2	3.9	21.7		13.4
Green Ext Time (p_c), s	0.0	15.7		0.0	0.1	14.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	66	3	152	0	1	5	206	1199	4	6	1091	59
Future Volume (veh/h)	66	3	152	0	1	5	206	1199	4	6	1091	59
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1882	1900	1900	1900	1900	1863	1827	1900	1900	1844	1900
Adj Flow Rate, veh/h	78	4	179	0	1	6	242	1411	5	7	1284	69
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	0	1	0	0	0	2	4	0	0	3	4
Cap, veh/h	266	5	215	0	261	236	359	2362	8	272	2030	109
Arrive On Green	0.14	0.14	0.14	0.00	0.14	0.14	0.07	0.67	0.67	0.01	0.60	0.60
Sat Flow, veh/h	1325	35	1570	0	1900	1615	1774	3548	13	1810	3382	181
Grp Volume(v), veh/h	78	0	183	0	1	6	242	690	726	7	664	689
Grp Sat Flow(s),veh/h/ln	1325	0	1605	0	1900	1615	1774	1736	1825	1810	1752	1812
Q Serve(g_s), s	4.6	0.0	9.4	0.0	0.0	0.3	4.1	18.8	18.8	0.1	20.7	20.8
Cycle Q Clear(g_c), s	4.6	0.0	9.4	0.0	0.0	0.3	4.1	18.8	18.8	0.1	20.7	20.8
Prop In Lane	1.00		0.98	0.00		1.00	1.00		0.01	1.00		0.10
Lane Grp Cap(c), veh/h	266	0	220	0	261	236	359	1155	1215	272	1052	1088
V/C Ratio(X)	0.29	0.00	0.83	0.00	0.00	0.03	0.67	0.60	0.60	0.03	0.63	0.63
Avail Cap(c_a), veh/h	310	0	274	0	324	290	446	1155	1215	480	1052	1088
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	35.7	0.0	31.7	31.1	12.1	7.9	7.9	7.6	10.9	11.0
Incr Delay (d2), s/veh	0.2	0.0	13.3	0.0	0.0	0.0	2.9	2.3	2.2	0.0	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	5.0	0.0	0.0	0.1	3.8	9.6	10.0	0.1	10.8	11.2
LnGrp Delay(d),s/veh	33.9	0.0	49.0	0.0	31.7	31.1	15.0	10.2	10.1	7.6	13.8	13.8
LnGrp LOS	C		D		C	C	B	B	B	A	B	B
Approach Vol, veh/h		261			7			1658			1360	
Approach Delay, s/veh		44.5			31.2			10.8			13.8	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	62.6		17.2	10.8	57.0		17.2
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5
Max Green Setting (Gmax), s	10.5	44.0		14.5	10.5	44.0		14.5
Max Q Clear Time (g_c+I1), s	2.1	20.8		2.3	6.1	22.8		11.4
Green Ext Time (p_c), s	0.0	16.6		0.0	0.3	14.8		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	25	106	11	11	209
Future Vol, veh/h	18	25	106	11	11	209
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	20	27	115	12	12	227

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	372	121	0	0	127	0
Stage 1	121	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	633	936	-	-	1472	-
Stage 1	909	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	627	936	-	-	1472	-
Mov Cap-2 Maneuver	627	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	776	1472	-
HCM Lane V/C Ratio	-	-	0.06	0.008	-
HCM Control Delay (s)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	8	269	19	26	181
Future Vol, veh/h	16	8	269	19	26	181
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	17	9	292	21	28	197

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	556	303	0	0	313	0
Stage 1	303	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	496	741	-	-	1259	-
Stage 1	754	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	484	741	-	-	1259	-
Mov Cap-2 Maneuver	484	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	547	1259	-
HCM Lane V/C Ratio	-	-	0.048	0.022	-
HCM Control Delay (s)	-	-	11.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Projected

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	1237	99	53	1091	20	56	46	133	44	79	86
Future Volume (veh/h)	74	1237	99	53	1091	20	56	46	133	44	79	86
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1795	1900	1900	1729	1900	1863	1863	1900	1776	1871	1900
Adj Flow Rate, veh/h	81	1359	109	58	1199	22	62	51	146	48	87	95
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	6	4	0	10	5	2	2	2	7	0	3
Cap, veh/h	103	1857	148	75	1863	34	175	60	171	150	110	120
Arrive On Green	0.06	0.58	0.58	0.04	0.56	0.56	0.04	0.14	0.14	0.03	0.13	0.13
Sat Flow, veh/h	1792	3199	256	1810	3300	61	1774	426	1221	1691	819	894
Grp Volume(v), veh/h	81	722	746	58	597	624	62	0	197	48	0	182
Grp Sat Flow(s),veh/h/ln	1792	1705	1750	1810	1642	1718	1774	0	1647	1691	0	1713
Q Serve(g_s), s	5.0	34.2	34.6	3.5	27.6	27.6	3.3	0.0	13.0	2.7	0.0	11.4
Cycle Q Clear(g_c), s	5.0	34.2	34.6	3.5	27.6	27.6	3.3	0.0	13.0	2.7	0.0	11.4
Prop In Lane	1.00		0.15	1.00		0.04	1.00		0.74	1.00		0.52
Lane Grp Cap(c), veh/h	103	990	1016	75	927	970	175	0	231	150	0	230
V/C Ratio(X)	0.78	0.73	0.73	0.77	0.64	0.64	0.35	0.00	0.85	0.32	0.00	0.79
Avail Cap(c_a), veh/h	210	990	1016	212	927	970	238	0	341	206	0	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.6	16.9	17.0	52.7	16.5	16.5	39.7	0.0	46.6	39.7	0.0	46.5
Incr Delay (d2), s/veh	4.8	4.7	4.7	6.1	3.4	3.3	0.9	0.0	12.7	0.9	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	17.3	17.9	1.9	13.3	13.9	1.7	0.0	6.7	1.3	0.0	5.9
LnGrp Delay(d),s/veh	56.4	21.7	21.7	58.8	20.0	19.8	40.6	0.0	59.2	40.5	0.0	54.0
LnGrp LOS	E	C	C	E	B	B	D		E	D		D
Approach Vol, veh/h		1549			1279			259			230	
Approach Delay, s/veh		23.5			21.7			54.8			51.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	71.4	9.0	20.9	11.4	69.7	8.4	21.6
Change Period (Y+Rc), s	5.0	7.0	4.5	6.0	5.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	13.0	45.0	8.5	22.0	13.0	45.0	7.5	23.0
Max Q Clear Time (g_c+I1), s	5.5	36.6	5.3	13.4	7.0	29.6	4.7	15.0
Green Ext Time (p_c), s	0.0	7.2	0.0	0.6	0.0	10.6	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	906	73	160	1202	34	126	95	113	22	82	131
Future Volume (veh/h)	61	906	73	160	1202	34	126	95	113	22	82	131
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1795	1900	1900	1729	1900	1863	1863	1900	1776	1866	1900
Adj Flow Rate, veh/h	67	996	80	176	1321	37	138	104	124	24	90	144
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	6	4	0	10	5	2	2	2	7	0	3
Cap, veh/h	86	1529	123	147	1669	47	230	166	198	206	105	167
Arrive On Green	0.05	0.48	0.48	0.08	0.51	0.51	0.08	0.21	0.21	0.02	0.16	0.16
Sat Flow, veh/h	1792	3198	257	1810	3265	91	1774	775	924	1691	647	1036
Grp Volume(v), veh/h	67	531	545	176	664	694	138	0	228	24	0	234
Grp Sat Flow(s),veh/h/ln	1792	1705	1750	1810	1643	1713	1774	0	1700	1691	0	1683
Q Serve(g_s), s	4.1	26.2	26.2	9.0	36.8	36.9	7.1	0.0	13.5	1.2	0.0	15.0
Cycle Q Clear(g_c), s	4.1	26.2	26.2	9.0	36.8	36.9	7.1	0.0	13.5	1.2	0.0	15.0
Prop In Lane	1.00		0.15	1.00		0.05	1.00		0.54	1.00		0.62
Lane Grp Cap(c), veh/h	86	815	837	147	840	876	230	0	365	206	0	272
V/C Ratio(X)	0.78	0.65	0.65	1.20	0.79	0.79	0.60	0.00	0.63	0.12	0.00	0.86
Avail Cap(c_a), veh/h	129	815	837	147	840	876	230	0	398	311	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.2	21.9	22.0	51.0	22.3	22.3	36.1	0.0	39.5	33.5	0.0	45.3
Incr Delay (d2), s/veh	7.8	4.0	3.9	137.9	7.5	7.3	3.7	0.0	2.7	0.2	0.0	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	13.2	13.5	10.1	18.4	19.1	3.7	0.0	6.6	0.6	0.0	7.8
LnGrp Delay(d),s/veh	60.0	26.0	25.9	188.9	29.8	29.6	39.8	0.0	42.2	33.7	0.0	56.7
LnGrp LOS	E	C	C	F	C	C	D		D	C		E
Approach Vol, veh/h		1143			1534			366			258	
Approach Delay, s/veh		27.9			47.9			41.3			54.6	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	60.1	13.0	23.9	10.3	63.7	7.1	29.8
Change Period (Y+Rc), s	5.0	7.0	4.5	6.0	5.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	9.0	44.0	8.5	27.0	8.0	45.0	9.5	26.0
Max Q Clear Time (g_c+I1), s	11.0	28.2	9.1	17.0	6.1	38.9	3.2	15.5
Green Ext Time (p_c), s	0.0	9.7	0.0	0.9	0.0	5.1	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	40.8
HCM 2010 LOS	D

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	33	1	169	1	5	8	101	1050	6	4	1079	35
Future Volume (veh/h)	33	1	169	1	5	8	101	1050	6	4	1079	35
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1881	1900	1900	1900	1900	1863	1827	1900	1900	1844	1900
Adj Flow Rate, veh/h	39	1	199	1	6	9	119	1235	7	5	1269	41
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	0	1	0	0	0	2	4	0	0	3	4
Cap, veh/h	153	1	272	61	259	286	328	2246	13	296	2030	66
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.06	0.63	0.63	0.01	0.59	0.59
Sat Flow, veh/h	1315	8	1592	77	1518	1615	1774	3540	20	1810	3464	112
Grp Volume(v), veh/h	39	0	200	7	0	9	119	606	636	5	641	669
Grp Sat Flow(s),veh/h/ln	1315	0	1600	1594	0	1615	1774	1736	1824	1810	1752	1824
Q Serve(g_s), s	2.5	0.0	10.1	0.0	0.0	0.4	2.1	16.6	16.6	0.1	20.3	20.4
Cycle Q Clear(g_c), s	12.5	0.0	10.1	10.1	0.0	0.4	2.1	16.6	16.6	0.1	20.3	20.4
Prop In Lane	1.00		1.00	0.14		1.00	1.00		0.01	1.00		0.06
Lane Grp Cap(c), veh/h	153	0	273	320	0	286	328	1102	1157	296	1026	1069
V/C Ratio(X)	0.25	0.00	0.73	0.02	0.00	0.03	0.36	0.55	0.55	0.02	0.62	0.63
Avail Cap(c_a), veh/h	153	0	273	320	0	286	449	1102	1157	508	1026	1069
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	33.4	29.4	0.0	28.9	9.2	8.7	8.7	8.0	11.5	11.5
Incr Delay (d2), s/veh	0.3	0.0	8.6	0.0	0.0	0.0	0.7	2.0	1.9	0.0	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	5.1	0.1	0.0	0.2	1.1	8.5	8.9	0.0	10.4	10.9
LnGrp Delay(d),s/veh	39.7	0.0	42.0	29.4	0.0	29.0	9.9	10.7	10.6	8.0	14.4	14.3
LnGrp LOS	D		D	C		C	A	B	B	A	B	B
Approach Vol, veh/h		239			16			1361			1315	
Approach Delay, s/veh		41.6			29.1			10.6			14.3	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	59.9		20.0	9.2	55.8		20.0
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5
Max Green Setting (Gmax), s	10.5	44.0		14.5	10.5	44.0		14.5
Max Q Clear Time (g_c+I1), s	2.1	18.6		12.1	4.1	22.4		14.5
Green Ext Time (p_c), s	0.0	15.4		0.0	0.1	14.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	68	3	160	0	1	5	220	1199	4	6	1091	63
Future Volume (veh/h)	68	3	160	0	1	5	220	1199	4	6	1091	63
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1882	1900	1900	1900	1900	1863	1827	1900	1900	1844	1900
Adj Flow Rate, veh/h	80	4	188	0	1	6	259	1411	5	7	1284	74
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	0	1	0	0	0	2	4	0	0	3	4
Cap, veh/h	273	5	224	0	271	245	360	2343	8	269	1987	114
Arrive On Green	0.14	0.14	0.14	0.00	0.14	0.14	0.08	0.66	0.66	0.01	0.59	0.59
Sat Flow, veh/h	1325	33	1571	0	1900	1615	1774	3548	13	1810	3367	194
Grp Volume(v), veh/h	80	0	192	0	1	6	259	690	726	7	667	691
Grp Sat Flow(s),veh/h/ln	1325	0	1604	0	1900	1615	1774	1736	1825	1810	1752	1809
Q Serve(g_s), s	4.7	0.0	9.9	0.0	0.0	0.3	4.5	19.1	19.1	0.1	21.4	21.5
Cycle Q Clear(g_c), s	4.7	0.0	9.9	0.0	0.0	0.3	4.5	19.1	19.1	0.1	21.4	21.5
Prop In Lane	1.00		0.98	0.00		1.00	1.00		0.01	1.00		0.11
Lane Grp Cap(c), veh/h	273	0	229	0	271	245	360	1146	1205	269	1034	1068
V/C Ratio(X)	0.29	0.00	0.84	0.00	0.00	0.02	0.72	0.60	0.60	0.03	0.65	0.65
Avail Cap(c_a), veh/h	310	0	274	0	324	290	438	1146	1205	476	1034	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	0.0	35.5	0.0	31.3	30.7	13.3	8.1	8.1	7.9	11.5	11.6
Incr Delay (d2), s/veh	0.2	0.0	15.3	0.0	0.0	0.0	4.5	2.3	2.2	0.0	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	5.3	0.0	0.0	0.1	4.2	9.8	10.2	0.1	11.1	11.5
LnGrp Delay(d),s/veh	33.5	0.0	50.8	0.0	31.3	30.7	17.7	10.5	10.4	7.9	14.6	14.6
LnGrp LOS	C		D		C	C	B	B	B	A	B	B
Approach Vol, veh/h		272			7			1675			1365	
Approach Delay, s/veh		45.7			30.8			11.6			14.6	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	62.1		17.6	11.2	56.2		17.6
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5
Max Green Setting (Gmax), s	10.5	44.0		14.5	10.5	44.0		14.5
Max Q Clear Time (g_c+I1), s	2.1	21.1		2.3	6.5	23.5		11.9
Green Ext Time (p_c), s	0.0	16.4		0.0	0.3	14.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	25	112	11	11	227
Future Vol, veh/h	18	25	112	11	11	227
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	20	27	122	12	12	247

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	399	128	0	0	134	0
Stage 1	128	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	611	927	-	-	1463	-
Stage 1	903	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	605	927	-	-	1463	-
Mov Cap-2 Maneuver	605	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	771	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	758	1463	-
HCM Lane V/C Ratio	-	-	0.062	0.008	-
HCM Control Delay (s)	-	-	10.1	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	8	286	19	26	191
Future Vol, veh/h	16	8	286	19	26	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	17	9	311	21	28	208

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	586	322	0	0	332	0
Stage 1	322	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	476	724	-	-	1239	-
Stage 1	739	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	464	724	-	-	1239	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	527	1239	-
HCM Lane V/C Ratio	-	-	0.05	0.023	-
HCM Control Delay (s)	-	-	12.2	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	18	131	6	6	220
Future Vol, veh/h	18	18	131	6	6	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	20	20	142	7	7	239

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	399	146	0	0	149	0
Stage 1	146	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	611	906	-	-	1445	-
Stage 1	886	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	607	906	-	-	1445	-
Mov Cap-2 Maneuver	607	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	789	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	607	906	1445	-
HCM Lane V/C Ratio	-	-	0.032	0.022	0.005	-
HCM Control Delay (s)	-	-	11.1	9.1	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0	-

Intersection	
Int Delay, s/veh	0.7

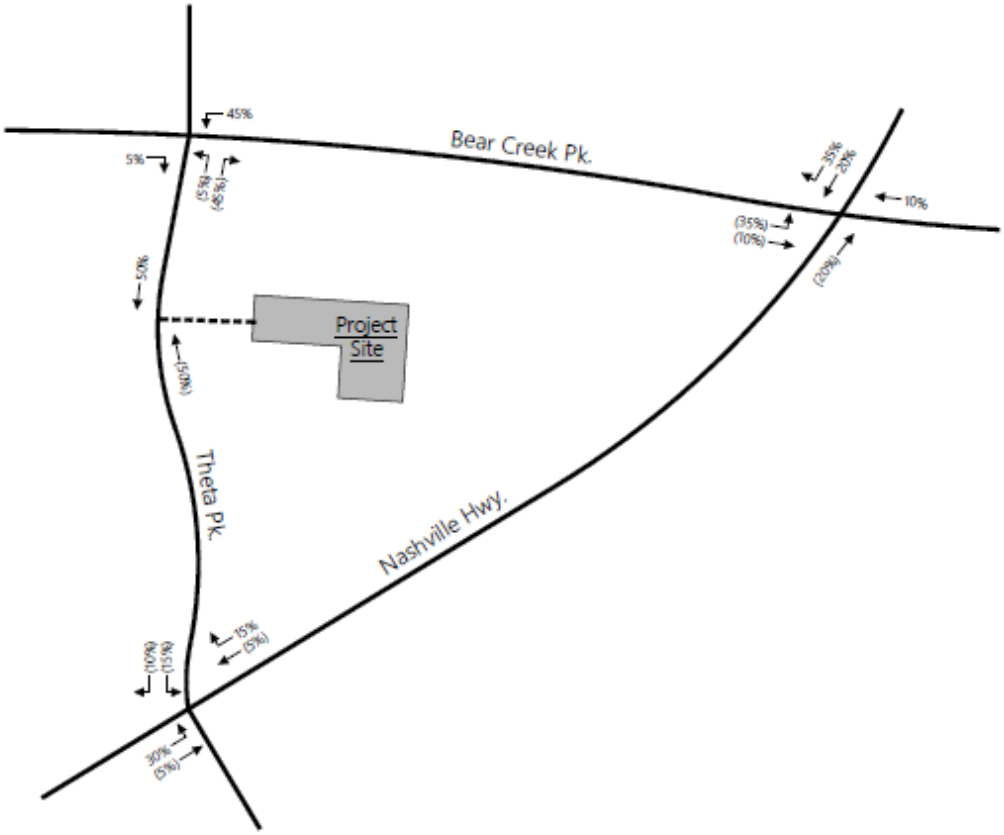
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	277	17	18	207
Future Vol, veh/h	10	10	277	17	18	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	11	11	301	18	20	225

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	575	310	0	0	319	0
Stage 1	310	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	483	735	-	-	1252	-
Stage 1	748	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	474	735	-	-	1252	-
Mov Cap-2 Maneuver	474	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	474	735	1252	-
HCM Lane V/C Ratio	-	-	0.023	0.015	0.016	-
HCM Control Delay (s)	-	-	12.8	10	7.9	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

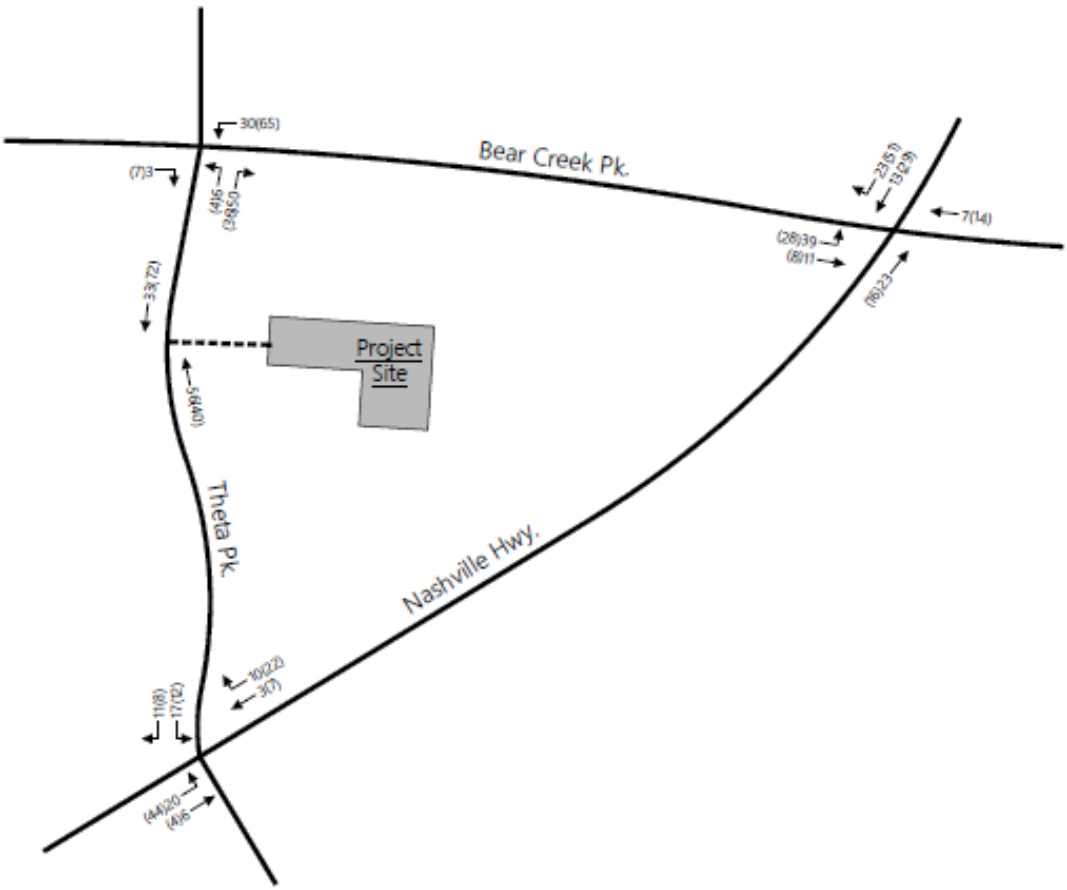
D. Background



XX% - Enter
(XX%) - Exit

N

Distribution of Peak Hour Traffic Volumes
Generated by Theta Pike Residential
(Not to Scale) Figure F1.

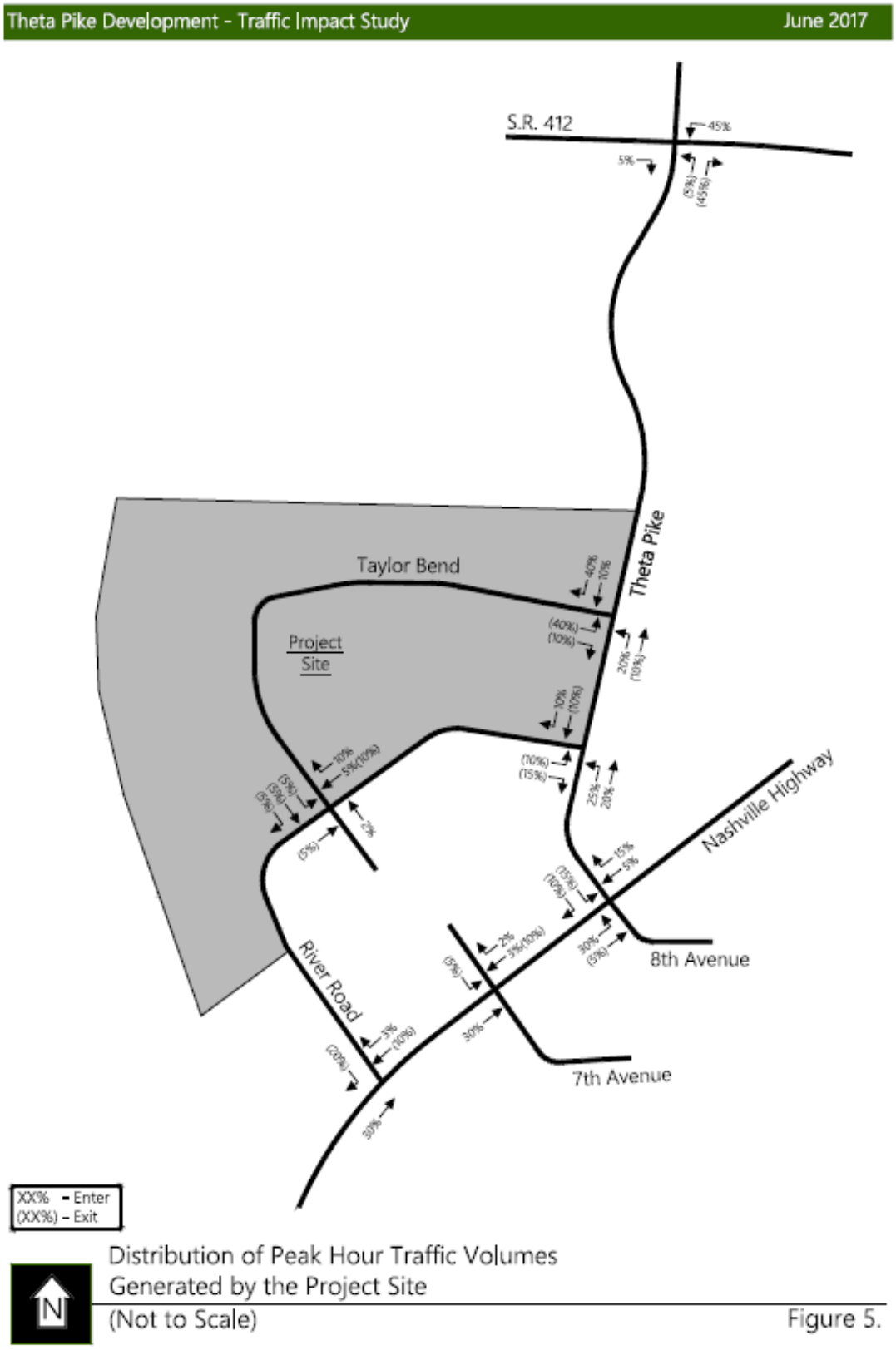


XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes

N

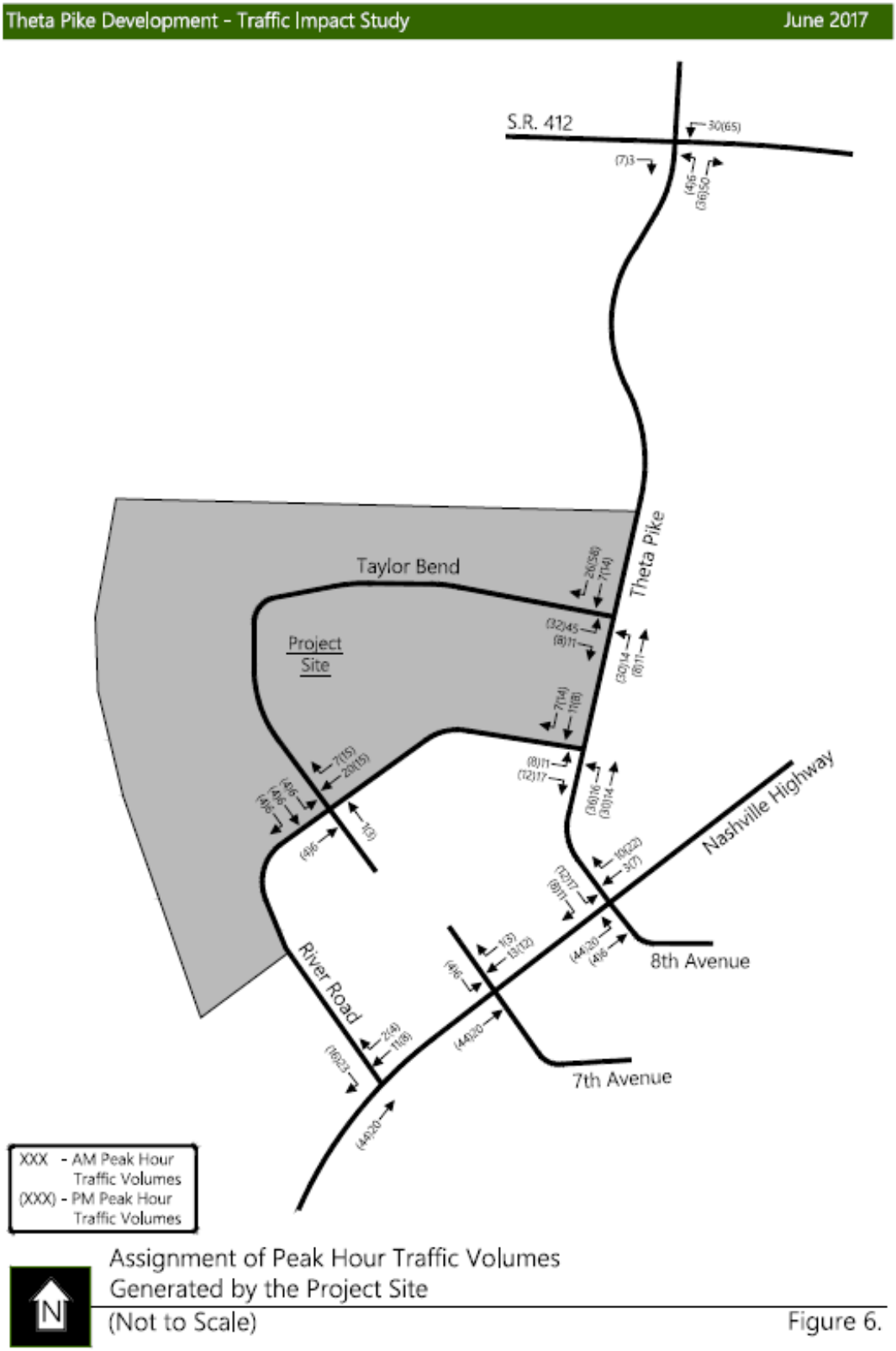
Assignment of Peak Hour Traffic Volumes
Generated by Theta Pike Residential
(Not to Scale)

Figure F2.



Distribution of Peak Hour Traffic Volumes
Generated by the Project Site
(Not to Scale)

Figure 5.


Theta Pike Development - Traffic Impact Study
June 2017
S.R. 412
30(65)
(7)3
(4)6
(36)50
Theta Pike
Taylor Bend
26(58)
7(14)
Project Site
(32)45
(8)11
(30)14
(8)11
7(14)
11(8)
7(15)
20(35)
(4)6
(4)6
(4)6
1(3)
(8)11
(12)17
(30)16
(30)14
Nashville Highway
10(22)
3(7)
(12)17
(8)11
8th Avenue
(44)20
(4)6
1(3)
13(22)
(4)6
River Road
2(4)
11(8)
(16)23
(44)20
7th Avenue
(44)20
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N
Assignment of Peak Hour Traffic Volumes Generated by the Project Site
(Not to Scale)
Figure 6.

E. Trip Generation

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

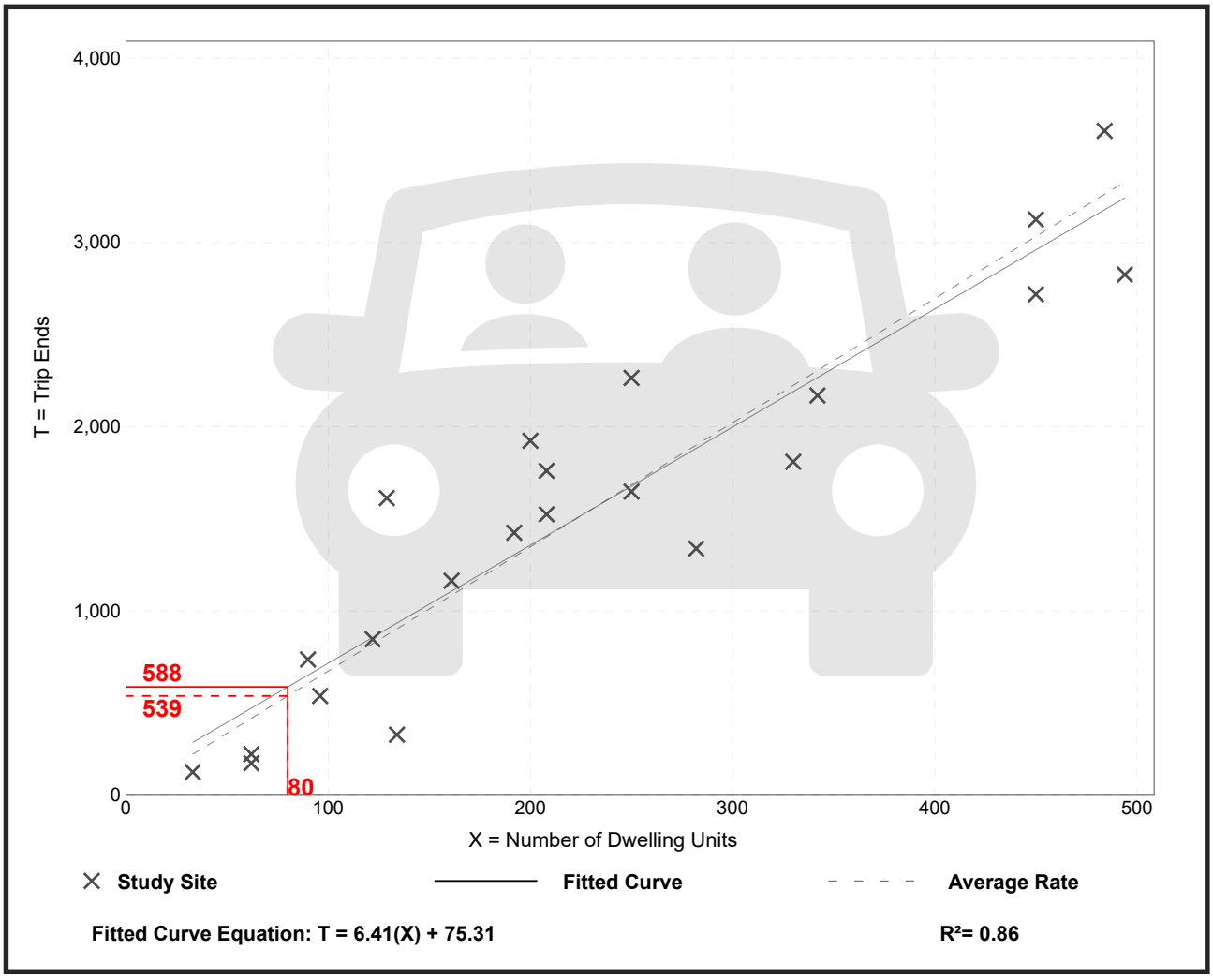
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

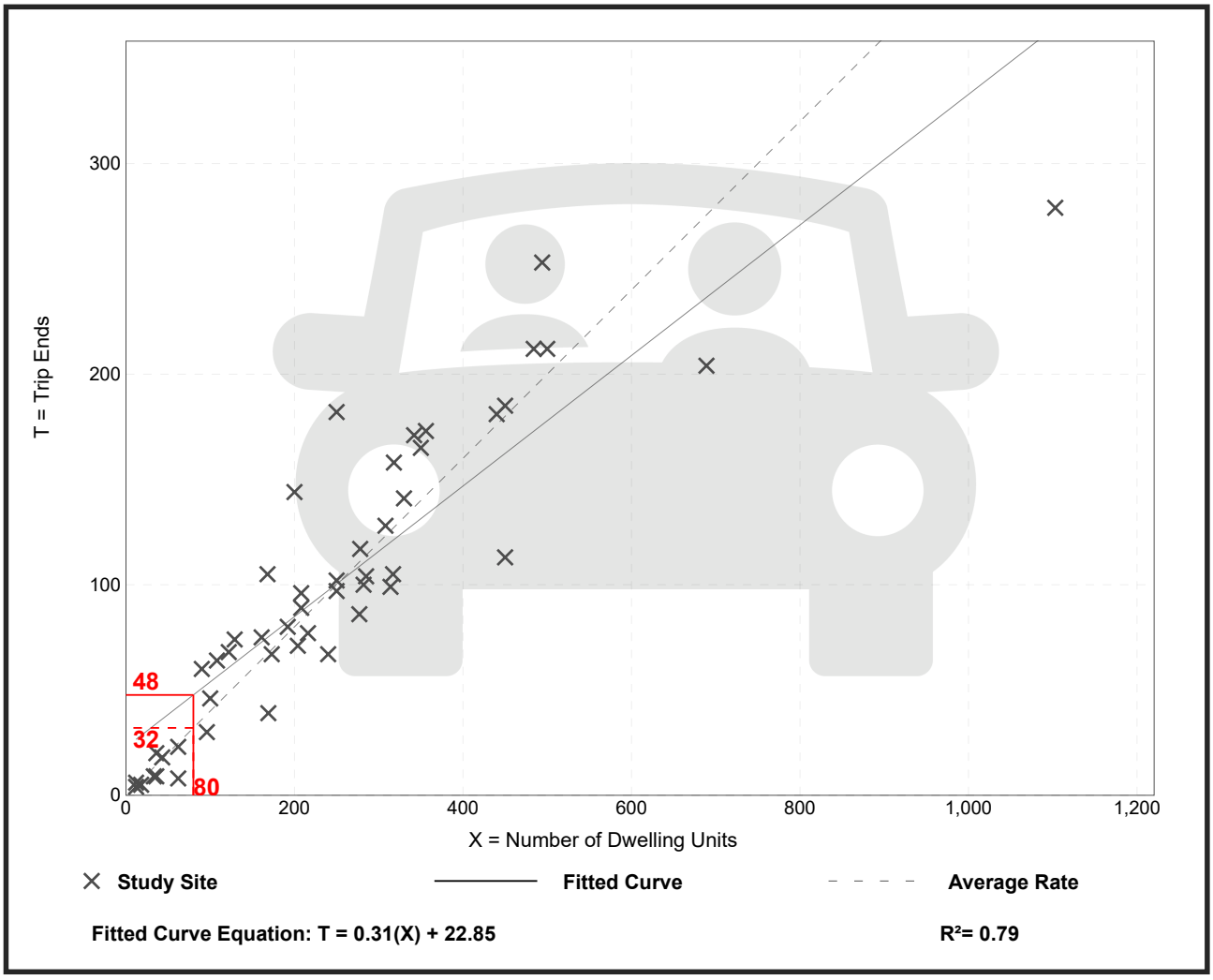
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 49
Avg. Num. of Dwelling Units: 249
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

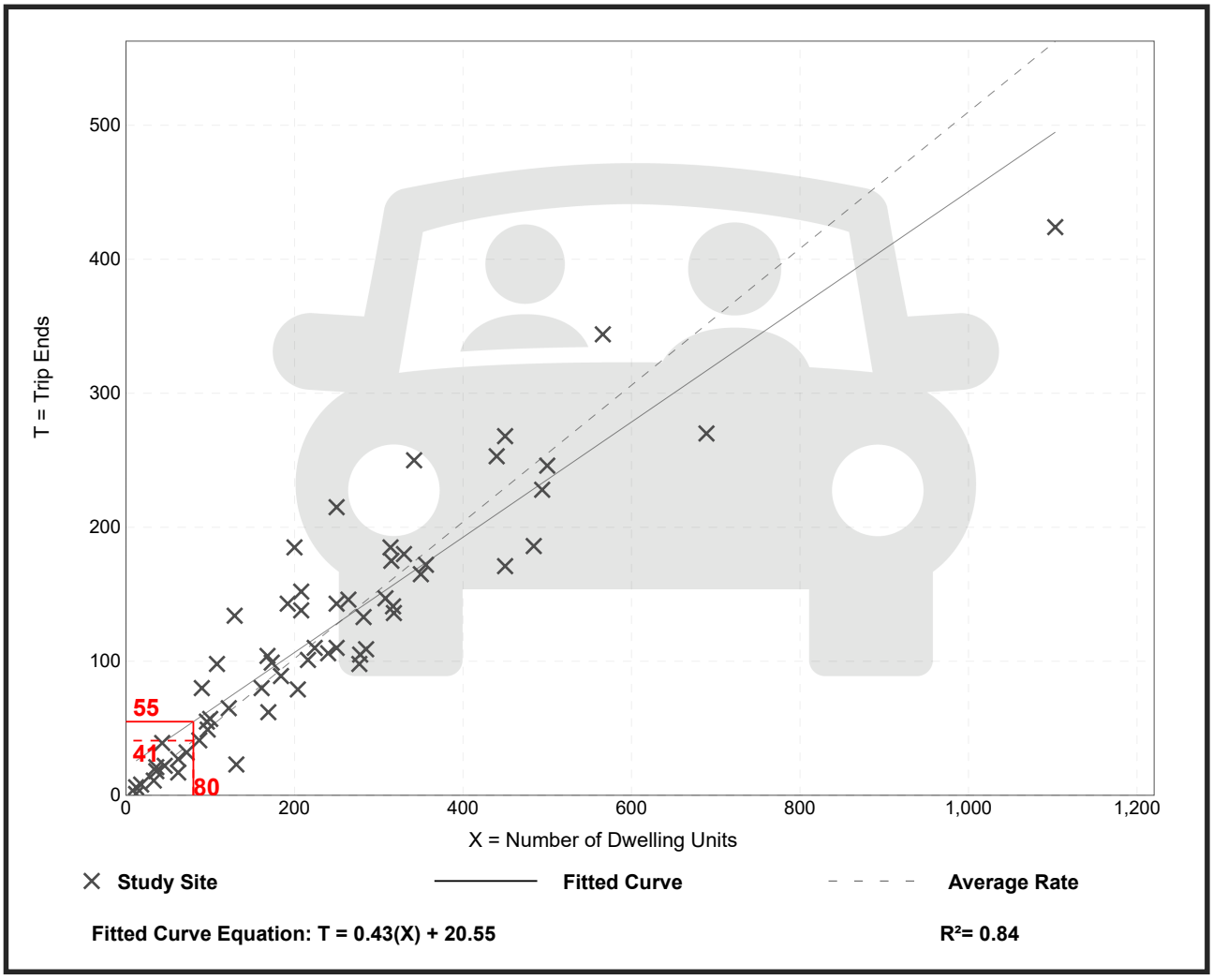
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 59
Avg. Num. of Dwelling Units: 241
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



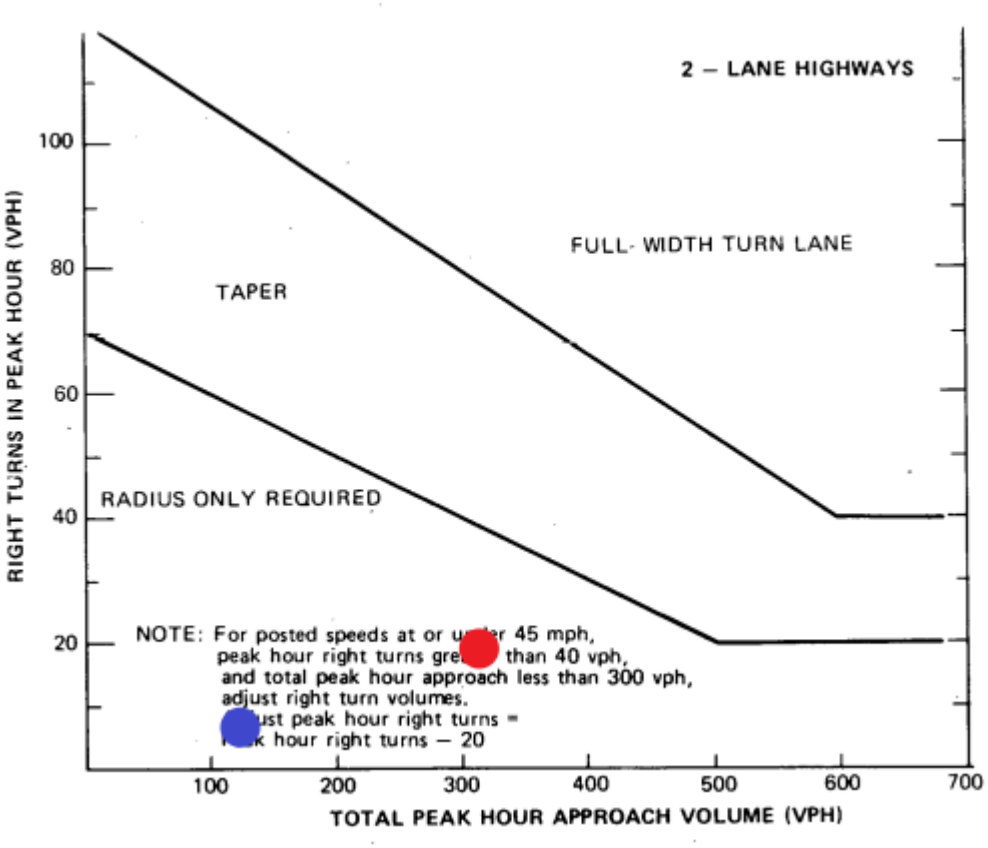
Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

F. Turn Lane Analysis

RIGHT TURN LANE WARRANT ANALYSES
(Based on Intersection Channelization Design Guide)

Intersection Approach	AM Peak			PM Peak		
	V_{R*}	V_{A*}	Warranted?	V_{R*}	V_{A*}	Warranted?
Northbound Theta Pike @ Site Access	6	118	No	17	303	No

*V_R = Right Turn Volumes, V_A = Advancing Volumes ** Adjusted right turn volumes



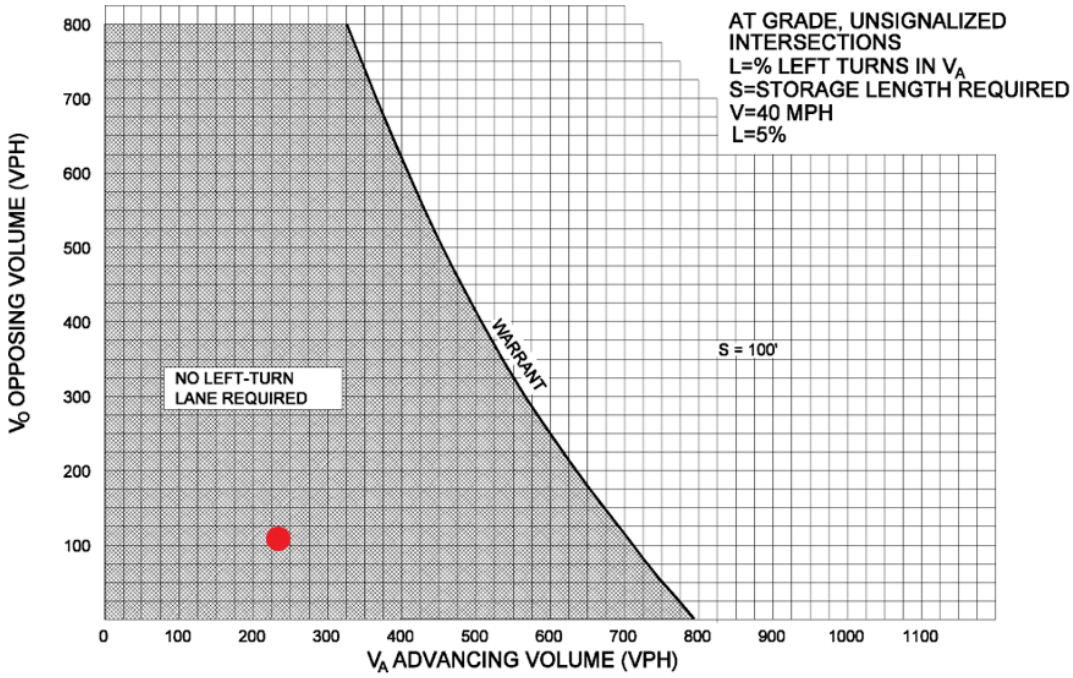
Under projected conditions, an exclusive right turn lane is not warranted on Theta Pike at the Site Access during either peak hour.

LEFT TURN LANE WARRANT ANALYSES
(Based on Harmelink Methodology)
Theta Pike and Site Access (AM Peak Hour)

2-lane roadway

Variable	Value
85th percentile speed, mph:	39
Percent of left turns in advancing volume (VA), %:	2.5%
Advancing volume (VA), veh/h:	233
Opposing volume (VO), veh/h:	118

HARMELINK CHARTS – 40 MPH



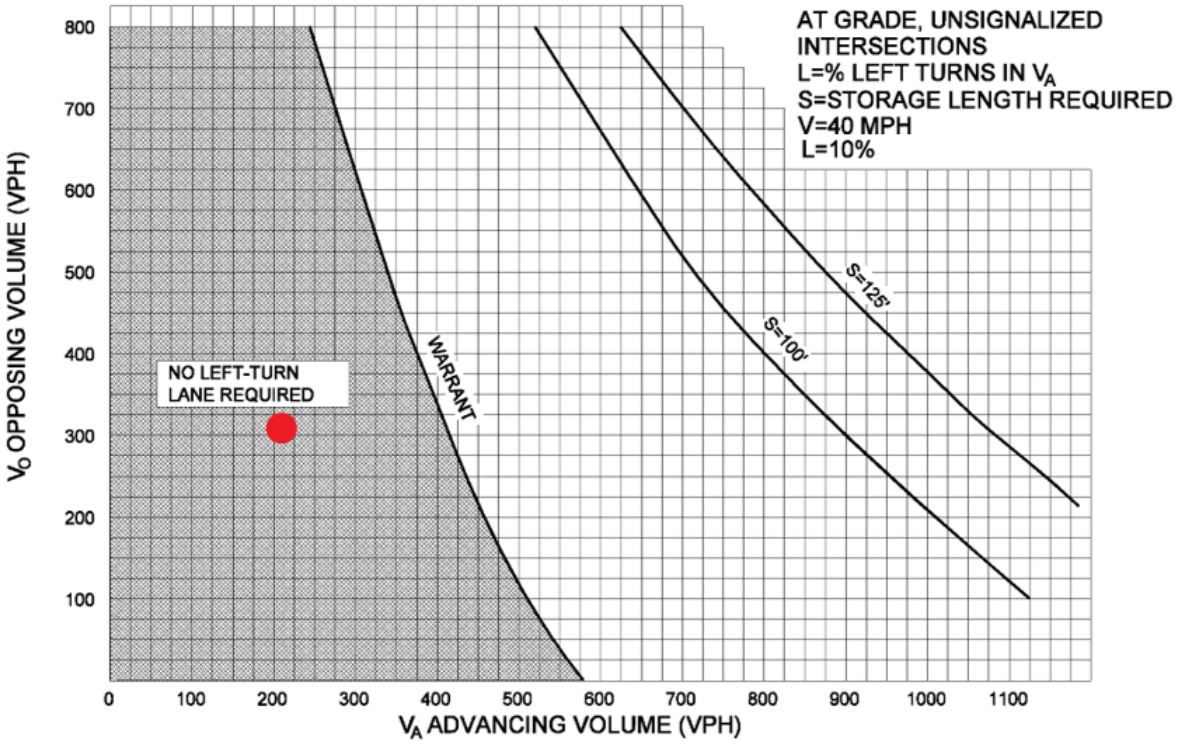
Warrant for 5% Left-Turn Storage Lanes at 40 mph

Under projected conditions, an exclusive **left turn lane is not warranted** on Theta Pike at the Site Access during **AM peak hour.**

LEFT TURN LANE WARRANT ANALYSES
(Based on Harmelink Methodology)
Theta Pike and Site Access (PM Peak Hour)

2-lane roadway

Variable	Value
85th percentile speed, mph:	39
Percent of left turns in advancing volume (VA), %:	8.5%
Advancing volume (VA), veh/h:	209
Opposing volume (VO), veh/h:	303



Warrant for 10% Left-Turn Storage Lanes at 40 mph

Under projected conditions, an exclusive **left turn lane is not warranted** on Theta Pike at the Site Access during **PM peak hour**.

May 22, 2023

City of Columbia, Tennessee
700 North Garden Street
Columbia, Tennessee 38401

Re: **Mackenzie Place Townhomes**
220 Theta Pike
Description of Proposed Project

To Whom it May Concern:

The Mackenzie Place Townhome project consists of 34 townhome units that will be constructed along a 560+/- LF roadway terminating with a cul-de-sac. Each unit will have two parking spaces: one within the garage itself and the other space located in the driveway.

Due to topography, a 436+/- LF retaining wall with varying heights (7.5' at its maximum) will be required along the south property line.

Storm water will be managed via an (level 2) infiltration trench which will satisfy the 80% target runoff reduction requirement. The infiltration trench has been oversized in order to reduce the post-development Curve Number (CN) to meet the stormwater requirements and ensure that post developed flows do not exceed the pre-developed flows.

Sanitary Sewer will be provided with a proposed extension of the existing network connecting at a manhole adjacent to the intersection of Theta Pike and Polk Place.

Water will be provided with the construction of a new 8" main that will connect to an existing main along Theta Pike.

Thank you for your consideration of this site plan submittal and please do not hesitate to reach out to us if have any questions, or need any further information.

Sincerely,

Brian Holcombe



LEGEND

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPE
- 870 EXISTING INDEX CONTOUR
- OHE OHE EXISTING OVERHEAD ELECTI
- SAN EXISTING SANITARY SEWER
- EXISTING TREELINE
- 700.00 EXISTING SPOT ELEVATION
- ST EXISTING STORM SEWER LIN
- FIRE HYDRANT
- W WATER METER
- TREE, DECIDUOUS
- TREE, CONIFER
- IRON PIPE FOUND (IPF)
- S SANITARY MANHOLE
- WV WATER BOX (WATER VALVE)
- POWER POLE
- CURB INLET

GENERAL NOTES

1. BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD83, 2011).
2. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88, GEOID 18). CONTOURS ARE SHOWN AT 1-FOOT INTERVALS.
3. THE FIELD SURVEY WAS COMPLETED ON MAY, 2022.
4. THIS SURVEY WAS PREPARED USING THE CURRENT DEEDS AND PLATS OF RECORD.
5. ALL DEED BOOK AND PLAT REFERENCES PERTAIN TO THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
6. ADJOINING PROPERTY LINES SHOWN WERE PLOTTED FROM INFORMATION TAKEN FROM EITHER DEED DESCRIPTION, RECORD PLATS, OR TAX MAPS.
7. PROPERTY CORNERS SET THIS SURVEY ARE 18" #4 REBAR WITH ORANGE PLASTIC CAP STAMPED "M2 GROUP", 18" #5 REBAR WITH YELLOW PLASTIC CAP STAMPED "M2 GROUP, LLC", OR PK NAIL WITH STAINLESS STEEL WASHER STAMPED "M2 GROUP, LLC", UNLESS NOTED OTHERWISE.
8. UTILITIES SHOWN HEREON WERE COMPILED FROM VISIBLE STRUCTURES AT THE SITE, INFORMATION FROM PLANS, AND PHYSICAL MARKINGS AND COMBINED TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THIS SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. VERIFICATION OF EXISTENCE, LOCATIONS, AND DEPTH SHOULD BE MADE BEFORE CONDUCTING ANY EXCAVATION IN THE VICINITY OF THE UTILITY.
9. THE PROPERTY SHOWN HEREON IS LOCATED IN A FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO F.I.R.M. MAP "MAURY COUNTY, TENNESSEE" PANEL 170 OF 440, MAP NUMBER 47119C0170E, EFFECTIVE DATE APRIL 16, 2007.
10. NO TITLE REPORT WAS PROVIDED TO THIS SURVEYOR REGARDING THE SUBJECT PROPERTIES, THEREFORE, THIS SURVEY IS SUBJECT TO THE FINDINGS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH AND REPORT MAY DISCLOSE.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS TRUE AND ACCURATE TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF. THE SURVEY SHOWN HEREON REPRESENTS A CATEGORY I SURVEY, HAVING A LINEAR ERROR OF CLOSURE WHICH IS EQUAL TO OR LESS THAN 1 FOOT PER 10,000 FEET OF LAND (1:10,000). THIS SURVEY WAS MADE IN COMPLIANCE WITH THE CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE.

SUBJECT PROPERTY INFORMATION:

- OWNER: BLAIR PROPERTY MANAGEMENT INC
- TAX MAP 90B, GROUP B, PARCEL 47.00
- TOTAL AREA = 3.61 AC.

N NW NE W E SW SE S

40' 0 40' 80'
GRAPHIC SCALE

REVISION #	DATE	DESCRIPTION

BOUNDARY & TOPOGRAPHIC SURVEY
220 THETA PIKE
CITY OF COLUMBIA
MAURY COUNTY, TENNESSEE

DATE :	**MAY, 2022**	**DRAWN BY :**	**BPH**
MADE FOR :	**WAITS DEVELOPMENT GROUP, LLC**	**CHECKED BY :**	**SVH**

M2 GROUP
P.O. BOX 848
FRANKLIN, TN 37065
WWW.M2GROUPLLC.COM

SHEET NUMBER: **SV-01**

MPA - SURVEY.DWG / Monday, June 19, 2023 3:48:02 PM

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: MacKenzie Place

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☑ Name of development
- ☑ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☑ Plan sealed by a Design Professional licensed in the State of Tennessee.
- ☑ North Arrow, legend, and site vicinity map
- ☑ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☑ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☑ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☑ All property boundaries, existing easements, and encumbrances
- ☑ Parcel identification, owner, and deed and plat references of adjoining properties
- ☑ Proposed phasing and timetable for all phases of development
- ☑ Traffic Impact Study, as required.
- ☑ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☑ The size of total property to be developed in square feet and acres
- ☑ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☑ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☑ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☑ Location and approximate dimensions of all existing and proposed structures.
- ☑ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☑ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☑ Location, type, and size of proposed signs
- ☑ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☑ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☑ General proposed contours at vertical intervals of not more than two (2) feet
- ☑ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☑ Location and dimension of aquatic buffer zones
- ☑ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☑ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☑ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☑ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☑ Proposed improvements as identified in the Traffic Impact Study, as required
- ☑ Existing and proposed sidewalks, trails, and other pedestrian elements
- ☑ Existing and proposed on-street and off-street parking and loading areas
- ☑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☑ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☑ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☑ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☑ Any amenity features and structures for private or public benefit.
- ☑ Location, dimension, and materials of fences and walls
- ☑ Tree Canopy retention

Utilities

- ☑ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☑ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PUD Specific Items

- ❑ Legal Description of Property
- ❑ Owner's Affidavit
- ❑ List of all variances requested
- ❑ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ❑ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ❑ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ❑ Exterior lighting

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Brian Holcombe	Brian Holcombe	05/22/23
Print Name	Signature	Date

DocuSign Envelope ID: A9390243-670C-4902-9842-71113075C10E

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	220 Theta Pike - Columbia, TN		
	TAX MAP: 90B	GROUP: B	PARCEL: 47.00
SUMMARY OF NATURE OF REQUEST AND WORK	34 town home units.		

DATE OF PRE-APPLICATION CONFERENCE	04/05/23	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ☑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ❑ Project Name (include Sections & Phases) _____ ❑ Total Number of Lots _____ ❑ Total acreage _____

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Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	M2 Group, LLC	PHONE	(615) 925-0851
ADDRESS	P.O. Box 848 - Franklin, TN 37064	EMAIL	brian@m2groupllc.com

PROPERTY OWNER NAME	Blair Property Management, LLC	PHONE	(615) 498-4190
ADDRESS	8217 VICTORY TRL BRENTWOOD TN 37027-7374	EMAIL	

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

M2 Group, LLC	DocuSigned by: Brian Holcombe 804B4D38BAE24F9...	01-17-2023 | 12:27:59 CST
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Blair Property Management, LLC	DocuSigned by: 5E3D27D00E42406...	01-17-2023 | 12:31:33 CST
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	