CITY OF COLUMBIA

TENNESSEE

AGENDA

The Columbia Municipal Planning Commission will meet on Wednesday, January 10, 2024 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 T-Square Engineering for final plat approval with surety in the amount of $610,000 for Summit at Carter's Station Phase 3 consisting of 44 lots off Wellwind Drive.

Documents:

1. 23-0422_Staff Report
2. 23-0422_Final Plat
3. 23-0422_Stormwater Management Agreement
4. 23-0422_Development Agreement
5. 23-0422_Application

III. Discussion Items

1. Request from Louis Sloyan for a Comprehensive Plan amendment to change the future land use classification of 200 Oakwood Drive, being Tax Map 89 Parcel 21 and consisting of approximately 57 acres, from Suburban Corridor to Suburban Neighborhood and to Rezone the property from CD-3L (Large Lot Neighborhood Character District) to CD-3 (Neighborhood Character District).
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

   Documents:

   1. 23-0388_Staff Report
   2. 23-0388_Concept
   3. 23-0388_Response to Comments
   4. 23-0388_DRC Comments
   5. 23-0388_MCPS Capacity
   6. 23-0388_FLU map area
   7. 23-0388_FLU map
   8. 23-0388_Zoning map
   9. 23-0388_Memo to Staff_10-16-2023
   10. 23-0388_Legal Description
   11. 23-0388_Sewer Availability
   12. 23-0388_Water Availability
   13. 23-0388_Hydrant Analysis
   14. 23-0388_Letter of Intent
   15. 23-0388_Application

2. Request from WES Engineers & Surveyors for Comprehensive Plan amendment to change the future land use classification of two parcels off Morningside Lane, being Tax Map 89E Group F Parcels 1.01 and 1.02, from Urban Neighborhood to Suburban Neighborhood and to Rezone the property from CD-3L (Large Lot Neighborhood Character District) to CD-3 (Neighborhood Character District).
THIS ITEM WAS REFERRED FROM CITY COUNCIL

3. Request from WES Engineers & Surveyors for Rezoning approval from CD-3 (Neighborhood Character District) to CD-4 (General Urban Character District) at 807 Athenaeum Street.

4. Request from Generation 2 Generation, LLC for Site Development Plan and Preliminary and Final Plat approval of four lots located at 1205 E. End Street, being Tax Map 99 Parcel 59.

5. Request from Michael Williams for Preliminary Plat and Site Development Plan approval of Heritage Village combining four lots and developing 20 multi-family units off Santa Fe Pike and River Heights Drive.

Documents:

1. 23-0274_Staff Report Heritage Village
2. 23-0274_Site Plan_20240103
3. 23-0274 Architectural Elevations
4. 23-0355_Preliminary Grading_20240103
5. 23-0355_Preliminary Utility_20240103
6. 23-0274_Water Availability_20231108
7. 23-0274_Prelim Utility Plan_20231107
8. 23-0274_Prelim Grading Plan_20231107
9. 23-0274_Survey_20231107
10. 23-0274_Landscape Plan_20231107
11. 23-0274_Checklist_20231107
12. 23-0274_Response to Comments_20231107
13. 23-0274_DRC Comments_20231011
14. 23-0274_Architectural Elevations_20230929
15. 23-0274_Preliminary Plat_20230911
16. 23-0274_Response Letter_20230825
17. 23-0355_Preliminary Plat_20230825
18. 23-0274_Preliminary Grading Drainage Plan_20230825
19. 23-0274_Preliminary Utility Plan_20230825
20. 23-0274_Site Plan_20230825
21. 23-0274_Revised Technical Comments_20230825
22. 23-0274_DRC Comments_20230808
23. 23-0274_MCPS Capacity
24. 23-0274_Location map
25. 23-0274_Survey_20230825
26. 23-0274_Application_20230824
27. 23-0355_Application_20230824
28. 23-0274_Wastewater Availability Letter
29. 23-0274_Water Availability Letterr_20230707
30. 23-0274_Fire Flow Analysis
31. 23-0274_Fire Flow Results
32. 23-0274_Description of Proposed Project
33. 23-0274_Application_20230710

6. Request from Greg Gamble for Preliminary Plat and Site Development Plan approval of 122 units off River Road at Tax Map 90 Parcel 7.08.

7. Request from Andrew Wiseman to approve partial revocation of the Villages at Carters Creek PUD Master plan with rezoning to CD-4C (General Urban Corridor Character District) at 2425 Nashville Highway.

8. Request from Development Services for consideration and recommendation to City Council regarding revisions to the text of the Zoning Ordinance at 8.3.6 (composition and authority of the Architectural Design Review Team) and 8.5.15

(design review process)as well as corrections to scriveners errors throughout the text of same.
THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

IV. Other Business

V. 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.

Organization

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

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

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

Chairman Goatz called for a verbal roll call. The quorum was established.

Members Present: Planning Commission Chair Charlie Goatz, Planning Commission Member Councilman Danny Coleman, Planning Commission Member Thomas Hutto, Planning Commission Member Dr. Christa Martin, Planning Commission Member James Shannon, Planning Commission Member Mayor Molder.

Absent Was: Planning Commission Member Ray Pace.

Staff Present: Mr. Robert Archibald, Planner II; Mr. Austin Brass, Assistant City Planner; Mr. Glenn Harper, City Engineer; Mr. Paul Keltner, Director of Development Services; Mr. Tony Massey, City Manager; Mr. Kevin McCarthy, City Planner; Mrs. Sandra Richardson, Secretary; Mrs. Melissa Sanders, Planner I; Mr. Tim Tisher, City Attorney; and Mr. Douglas Toney, Assistant City Engineer.

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

Chairman Charlie Goatz welcomed guests and applicants to the meeting. Mr. Goatz discussed the meeting rules of conduct 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 presented the details of the updated status of the planning items that were presented to the City Council.

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

Chairman Goatz moved to approve the minutes, and Mayor Molder seconded. All the Planning Commissioners present voted aye. The motion to approve the minutes passed six to zero.

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

Mr. Glenn Harper, City Engineer, stated that all letters of credit are in order or in the process of being updated.

Consent

There were no consent items.

Discussion Items

Item III.1. - **Request from Wade Kincaid for Rezoning of property located at 6218 Cayce Lane from CD-2 (Rural Character District) to CD-3L (Neighborhood Large Lot Character District).**

THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA

Mr. Goatz recused himself in reference to this item and turned it over to Vice-chair Coleman. Mr. McCarthy gave the details in the staff report. Mr. McCarthy stated that the Planning Commission is the recommending body, and the City Council is the decision-making authority.
Mr. Gerald Vick, WES Engineering and Surveyors, and Mr. Aaron Evans, developer, were present to answer questions. Mr. Darryl Shuff, 6219 Cayce Lane, and Ms. Jenny Parachak, 6213 Cayce Lane, expressed their concerns about this request. Mayor Molder inquired about any active litigation against the City. Mr. Tisher stated that this is the only thing in front of the City at the current time. Additional discussion included safety concerns, storm water study, the traffic study, and the safety portion of the study. Mr. Harper discussed the triggering of the traffic study. Further discussion included addressing the city's concerns with the traffic study, roadway safety, drainage issues, existing issues, and highlights. Councilman Coleman moved to approve contingent to staff recommendation, and Mr. Shannon seconded the motion. The motion to approve contingent on staff recommendation passed four to zero, with Mr. Goatz, and Mr. Hutto abstaining.

Item III.2. - **Request from Louis Sloyan for a Comprehensive Plan amendment to change the future land use classification of 200 Oakwood Drive, being Tax Map 89 Parcel 21 and consisting of approximately 57 acres, from Suburban Corridor to Suburban Neighborhood and to Rezone the property from CD-3L (Large Lot Neighborhood Character District) to CD-3 (Neighborhood Character District).**

THIS ITEM WAS DEFERRED FROM A PREVIOUS AGENDA
THE APPLICANT HAS REQUESTED A DEFERRAL.

Mr. Goatz stated that the applicant requested a deferral. Mr. McCarthy gave the details of the staff recommended deferral. Mr. Goatz moved to defer with Councilman Coleman seconding. This item will be moved to the January Planning Commission meeting. The motion to defer passed six to zero.

Item III.3. - **Request from Allen O'Leary and Nick Branum for Final Plat approval with surety in the amount of $135,000 for Drumwright PUD Phase 3A consisting of 16 lots off Lyman Ridge Road and Steadman Street.**

Mr. Robert Archibald gave the details of the staff report for this item and the next two items. Mr. Gerald Vick was present to answer questions. Mr. Goatz moved to approve subject to the landscaping being installed in phases 2A, 3A, 2B,3B, 1B, and 3C prior to issuance of any building permit in phase 3C. Dr. Martin seconded the motion. Mr. Tisher asked if this was items three, four, and five. Mr. Archibald stated that is correct with conditions. Mr. Goatz stated that he made that motion on all three items, being items three, four, and five. Dr. Martin seconded the motion. Dr. Martin inquired about the staff report, and Mr. Keltner confirmed. Mr. Goatz amended his motion to add subject to any other staff and Technical comments, with Dr. Martin seconding. The motion to approve with condition passed six to zero for items three, four, and five.

Item III.4. - **Request from Allen O'Leary and Nick Branum for Final Plat approval with surety in the amount of $120,000 for Drumwright PUD Phase 3B consisting of 23 lots off Steadman Street.**

This item was included in the vote for item 3.

Item III.5. - **Request from Allen O'Leary for Final Plat approval with surety in the amount of $190,000 for Drumwright PUD Phase 3C consisting of 24 lots off Jacobs Valley Court.**

This item was included in the vote for item 3.

Item III.6. - **Request from Allison Corolla for Exception to Access Management concerning property at 1400 Hampshire Pike, being Tax Map 88M Group B Parcels 7 and 7.01.**

Mr. Glenn Harper gave the details of the staff report. He stated that the request did not meet three provisions of the Access Management Ordinance. Mr. Nathan McVey was present to answer questions. Discussion included right out only, the existing access points, TDOT, concrete island, curve island, exiting, support full access on Williamsport Pike, no connection to Hampshire Pike, signalized, safety concern, stacking, and CD-4C district. Mr. Goatz moved to deny the request based on safety concerns, and the Engineer's recommendation. Dr. Martin seconded the motion. The motion to deny passed six to zero.

Item III.7. - **Request from Louis Sloyan for Preliminary Plat and Site Development Plan approval of a new industrial park consisting of 16 lots on approximately 46 acres at Tax Map 89 Parcel 46 off Industrial Park Road.**

Austin Brass gave the details of the staff report. The condition is the site development plan adheres to all TDEC requirement for removal of the waste. Staff feel the site development plan does meet the code with the exception of the administrative adjustment moving forward. Mr. Nathan McVey was present to answer questions. Discussion included sidewalk, ADA compliant, civic space, public use, accessible, playground equipment, recreation equipment, community ideas, walking

trail, cul-de-sac, pedestrian shed, large drop off, shape of the property, storage, parking, gated, and flexibility. Mr. McCarthy discussed public access to the civic space, and the benefit. Further discussion included parallel parking, Mr. Goatz moved to approve subject to staff comments, and Mr. Hutto seconded. The motion to approve subject to staff comments passed six to zero.

Item III.8. - **Request from M2Group for Site Development Plan and Preliminary Plat approval of MacKenzie Place and consisting of 32 townhome units at 220 Theta Pike, being Tax Map 90B Group B Parcel 47.**

Mr. McCarthy discussed the details of the staff report. Discussion included the landscape buffer, driveway, sidewalk, non-street parking on the driveway access, individually marketed, stack parking is a concern, the depth of the garages, Public Works requirements, public access, the City will take responsibility of the street for the long term maintenance, private street, and HOA maintenance. Mr. Harper discussed public and private street maintenance. Additional discussion included methodology for private roads, consistency, and connectivity goes away. Mr. Goatz moved to approve subject to any staff and technical comments, and with it being labeled a private street. Councilman Coleman seconded the motion. The motion passed five to one, with Mr. Hutto voting nay.

Item III.9. - **Request from Development Services for consideration and recommendation to City Council regarding revisions to the text of the Zoning Ordinance at 8.3.6 (composition and authority of the Architectural Design Review Team), 8.5.19 (process and criteria for amendments to the official zoning map), 8.5.15 (design review process), various sections of Articles 3 and 4 referencing Connect Columbia, the comprehensive plan, as well as corrections to scriveners errors throughout the text of the Ordinance.**

Mr. McCarthy discussed the details of the staff report. He discussed corrections to be made, the Design Review Team, Ordinance 4400, comp plan consistency, the rezone process, making sure the Ordinance matches, draft text amendments, and process changes. Mr. Tisher stated that he wouldn't increase the Design Review Team and then dissolve it. The only thing they are requesting is an increase in size. Further discussion included consolidating. Mr. Keltner discussed the Design Review Team role. Additional discussion included lengthening the Commission meeting, having an architect on the Board, expediting some of the processes, having it more in professional hands for staff decisions, finding volunteers for the positions, and having an appeals board. Mr. Goatz moved to approve the other amendments with the exception of omitting the ART discussion, or postponing it. Mr. Hutto discussed adding a definition of what neighborhood character is to have criteria to go by. Mr. Keltner discussed the descriptions of the Character Districts. Further discussion included changing some of the language in the amendments, giving guidance to the people trying to interpret, guidelines, moving forward, having joint study sessions for the amendments,

comprehensive plan, and you cannot use the plan and force zoning. Mr. Goatz amended his motion removing may to shall, work on the definition of character district, and Mr. Shannon seconded the motion. The motion to approve passed five to zero with Councilman Coleman leaving at 5:45 p.m.

Other Business

Item IV.1. - **Election of Officers**

Mayor Molder moved to re-appoint Chairman Goatz as the Chairman of this Commission, and Dr. Martin seconded the motion. Motion passed five to zero.
Mr. Goatz moved to re-appoint Councilman Coleman as Vice-Chair, and Dr. Martin seconded the motion. The motion passed five to zero.

Item IV.2. - **Update from Planning Staff**

Mr. McCarthy gave the update from the Planning staff on the recap of the December 7th Parking Forum with Downtown Stakeholders.

Item IV.2. - **Recap of December 7th Parking Forum with Downtown Stakeholders**

Mr. McCarthy gave the recap report.

Item IV.2. - **2024 CMPC Meeting Schedule**

Mr. McCarthy gave the update on the 2024 CMPC meeting schedule.

Item IV.2. - **Plan for Zoning Text Revisions in 2024 and Thereafter**

Mr. McCarthy gave the update on the Plan for Zoning Text Revisions in 2024 and thereafter. Mr. McCarthy also gave the update for Administrative interpretations of the Zoning Ordinance in 2023.

Item IV.2. - **Administrative Interpretations of the Zoning Ordinance in 2023**

Adjournment

Mr. Goatz moved to adjourn and Mr. Hutto seconded the motion. The meeting adjourned at 6:06 by a vote of five to zero.

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Planning Commission Chairman, Charlie Goatz

Date

Active Letters of Credit and Sureties

1/8/2024

DEVELOPMENT/SUBDIVISION	DEVELOPER	AMOUNT	EXP. DATE
Colter Place Subidivison, Section 1 (rds/drainage)	Sterling Martin	$44,502.69	09/09/2016
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	$16,650.00	03/07/2021
Arlington Heights Subdivision, Phase 2, Section 2	Arlington Heights General Partnership	$105,000.00	04/25/2021
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	11/13/2024
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
Summerdale Subdivision, Phase 2 (roads & drainage)	P & L Development, LLC	$105,000.00	05/30/2024
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
Cottages at Bear Creek , Phase 1 (roads & drainage)	Riverstone Homes, LLC	$165,000.00	07/19/2022
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	10/12/2024
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
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
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

**Active LOC's have evergreen clause.*

Active Letters of Credit and Sureties

DEVELOPMENT/SUBDIVISION	DEVELOPER	AMOUNT	EXP. DATE
Morgan Meadow Phase 2 (roads & drainage)	KCS Property, LLC	$13,500.00	12/06/2024
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	07/12/2024
Bear Creek Glen, Phase 1 (roads and drainage)	CHR Land, LLC	$90,000.00	07/12/2024
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	08/05/2024
Quail Run Development, Phase 2 (roads and drainage)	Quail Run Development Co., LLC	$182,000.00	08/01/2024
Quail Run Development, Phase 1B (roads and drainage)	Quail Run Development Co., LLC	$185,000.00	08/01/2024
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	08/22/2024
Ridge at Carter's Station, Phase 2 (roads & drainage)	Richmond American Homes of Tenn	$645,000.00	10/31/2024
Taylor Landing, Phase 4A (roads & drainage)	Meritage Homes of Tenn., Inc.	$12,100.00	11/30/2024
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.	$18,800.00	04/30/2024
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	Honey Lakes LLC	$295,000.00	06/14/2024
Vesper Court (completion of the work) 2	P-R Vesper, LLC	$10,000.00	06/16/2024
Summit at Carter's Station Phase	Tamarack Land - Carter's Station LLC	$175,000.00	06/14/2024
Independence @ Carter's Station, Section 3, Phase 4	Pulte Homes Tennessee Partnership	$140,000.00	07/13/2024
Independence @ Carter's Station, Section 6, Phase 4	Pulte Homes Tennessee Partnership	$160,000.00	07/13/2024
Homestead South @ Carter's Station	Pulte Homes Tennessee Partnership	$125,000.00	07/13/2024
Independence @ Carter's Station, Section 3, Phase 5	Pulte Homes Tennessee Partnership	$35,000.00	07/19/2024
Williamsport Landing, Phase 1	KCS Property LLC	$310,000.00	08/17/2024

**Active LOC's have evergreen clause.*

Active Letters of Credit and Sureties

1/8/2024

DEVELOPMENT/SUBDIVISION	DEVELOPER	AMOUNT	EXP. DATE
Summit at Carter's Station West, Phase 1	Pulte Homes Tennessee Partnership	$315,000.00	10/06/2024
Drumwright Phase 3A	Lennar Homes of Tenn, LLC	$135,000.00	11/22/2024
Drumwright Phase 3B	Lennar Homes of Tenn, LLC	$120,000.00	11/22/2024
Drumwright Phase 3C	Lennar Homes of Tenn, LLC	$190,000.00	11/22/2024
Rutherford Subdivision, Phase 1	Regent Homes, LLC	$400,000.00	12/21/2024
The Summit at Carter's Station, Phase 3	Tamarack Land-Carter's Station, LLC	$610,000.00	12/20/2024

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Summit at Carter's Station Phase 3

Project #:	23-0422	Location:	Map 42 Parcel 35
Applicant:	T-Square Engineering	Case Type(s):	Final Plat
Staff Planner:	Robert Archibald, Planner II	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests approval of a Final Plat for Summit at Carter's Station, Phase 3 creating 44 Single-Family Residential lots and dedication of new Right-of-Way (ROW) of 1.41 acres.

- The development is subject to Ordinance 3638, the pre-July 2022 zoning ordinance.
- The Final Plat conforms to the approved Preliminary Plat with the additions of; clearly defining open space as *"existing Phase 1 open space"*, the addition of Note #12 for Open Space maintenance, and renaming of road from Stone Creek Pass to Barrel Oak Pass at recommendation of Maury County E-911.
- The DRC reviewed this proposal at its November 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-3	In Development	Infrastructure and Development	+/- 7.01 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	Suburban Neighborhood	PUD	Vacant/Developing
East	Suburban Neighborhood	CD-3	Vacant/Developing
West	Rural Countryside	Outside Jurisdiction	Unknown

The subject site is part of the larger multiphase development. The property is bounded on the north, east and south by developing properties, vacant land, and single-family residential dwellings. The Planning Commission approved a Preliminary Plat (21-0102) for development of 400 lots on the site in June 9, 2021.

CONFORMITY WITH ZONING ORDINANCE

The Final Plat conforms to the modified R-10 and R-6 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.
- There was no new open space created, but identified open space has been clearly delineated as existing and part of Phase 1.
- Note has been added, #12, referencing maintenance of open space is under the HOA.
- As required, Stone Creek Pass was renamed to Barrel Oak Pass.
- A surety has been posted in the amount of $610,000.
- Surveyor to sign and date once plat is ready for recordation.

REVIEW PROCESS

The Development Review Committee evaluated the proposed Final Plat at its November 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 - NOT TO SCALE

Parcel Area Table		
PARCEL	SQ. FT.	ACRES
328	11322.55	0.26
329	7098.72	0.16
330	6215.93	0.14
331	6089.60	0.14
332	6958.24	0.16
336~	9281.66	0.21
337	7748.78	0.18
338	6913.65	0.16
339	6913.65	0.16
340	6913.65	0.16
341	6913.65	0.16
342	7050.34	0.16
343	7165.79	0.16
344	7165.79	0.16
345	7165.79	0.16
346	7165.79	0.16
347	7165.79	0.16
348	7165.79	0.16
349*~	10037.63	0.23
350*~	10037.63	0.23
351*~	10037.63	0.23
443	7876.90	0.18
444	7876.90	0.18
445	7876.90	0.18
446	7876.90	0.18
447	7876.90	0.18
448	7876.90	0.18
449	7455.75	0.17
450	7313.16	0.17
451	7313.16	0.17

Parcel Area Table		
PARCEL	SQ. FT.	ACRES
452	7313.16	0.17
453	7313.16	0.17
454	8954.38	0.21
455	9186.24	0.21
456	7414.27	0.17
457	7414.27	0.17
458	7414.27	0.17
459	7963.91	0.18
460	8631.68	0.20
461	8631.68	0.20
462	8631.68	0.20
463	8631.68	0.20
464	13761.24	0.32
465	8265.20	0.19

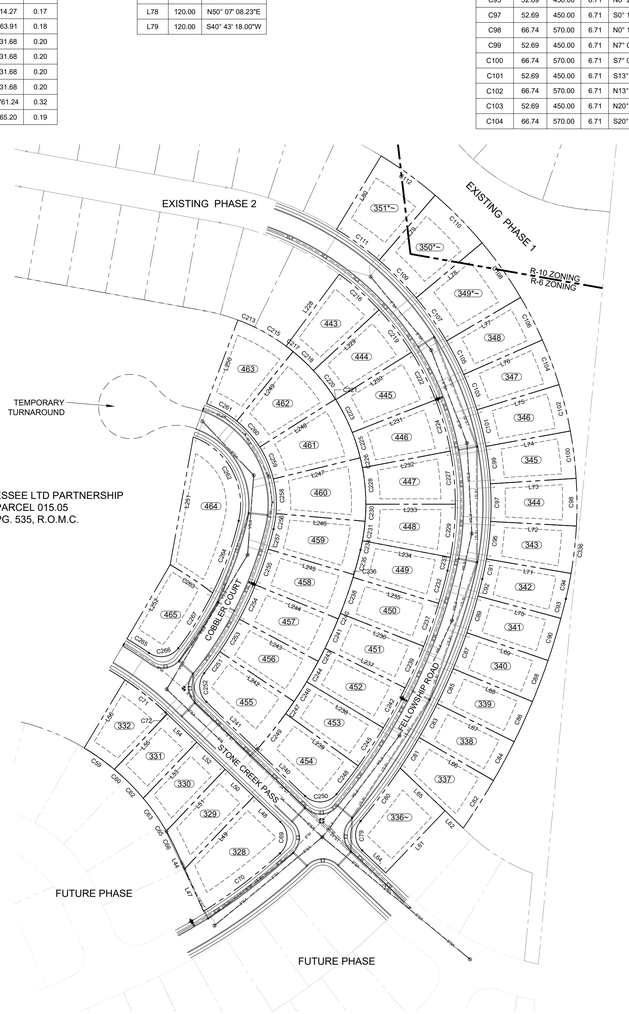
Parcel Line Table		
Line #	Length	Direction
L44	24.48	S24° 02' 17.98"E
L47	64.90	S24° 02' 17.98"E
L48	51.56	N46° 21' 19.74"W
L49	139.97	S43° 38' 40.26"W
L50	55.00	N46° 21' 19.74"W
L51	119.35	N43° 38' 40.26"E
L52	55.00	N46° 21' 19.74"W
L53	108.34	N43° 38' 40.26"E
L54	57.00	N46° 21' 19.74"W
L55	107.01	N43° 38' 40.26"E
L56	110.96	S30° 50' 05.06"W
L61	120.00	S43° 38' 40.26"W
L62	121.65	N46° 21' 19.74"W
L64	45.41	N46° 21' 19.74"W
L65	121.65	N46° 21' 19.74"W
L66	120.00	N59° 57' 58.23"W
L67	120.00	S63° 41' 46.12"E
L68	120.00	N67° 25' 34.01"W
L69	120.00	S71° 09' 21.90"E
L70	120.00	N74° 53' 09.79"W
L71	120.00	N80° 13' 54.56"W
L72	120.00	S86° 56' 25.73"E
L73	120.00	S86° 21' 03.11"W
L74	120.00	N79° 38' 31.95"E
L75	120.00	S72° 56' 00.78"W
L76	120.00	N66° 13' 29.62"E
L77	120.00	S59° 30' 58.45"W
L78	120.00	N50° 07' 08.23"E
L79	120.00	S40° 43' 18.00"W

Parcel Line Table		
Line #	Length	Direction
L80	120.00	S31° 19' 27.78"W
L228	125.00	N36° 29' 33.93"E
L229	125.00	S47° 11' 26.00"W
L230	125.00	N57° 53' 18.06"E
L231	125.00	S68° 35' 10.13"W
L232	125.00	N79° 17' 02.20"E
L233	125.00	S89° 58' 54.27"W
L234	125.00	S79° 19' 13.67"E
L235	125.00	S73° 05' 17.87"E
L236	125.00	N68° 23' 00.93"W
L237	125.00	S63° 40' 43.99"E
L238	125.00	N58° 58' 27.04"W
L239	125.00	N54° 16' 10.10"W
L240	93.45	N46° 21' 19.74"W
L241	97.25	S46° 21' 19.74"E
L242	125.00	N56° 05' 07.67"W
L243	125.00	S61° 52' 12.22"E
L244	125.00	S67° 39' 16.78"E
L245	125.00	S73° 26' 21.34"E
L246	125.00	S85° 03' 10.32"E
L247	125.00	S76° 19' 42.43"W
L248	125.00	S57° 42' 35.18"W
L249	125.00	S39° 05' 27.92"W
L250	125.00	N20° 28' 20.67"E
L251	181.42	N10° 13' 29.49"E
L252	120.00	N30° 15' 36.06"E

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C59	51.71	325.00	9.12	S54° 36' 27"E	51.65
C60	20.91	325.00	3.69	S48° 12' 24"E	20.91
C62	36.18	325.00	6.38	S43° 10' 28"E	36.16
C63	45.28	325.00	7.98	S35° 59' 37"E	45.25
C65	10.88	325.00	1.92	S31° 02' 36"E	10.88
C66	34.30	325.00	6.05	S27° 03' 41"E	34.28
C69	49.34	30.00	94.23	N0° 45' 41"E	43.96
C70	134.29	775.00	9.93	N52° 50' 32"E	134.12
C71	76.07	426.58	10.22	N51° 02' 54"W	75.97
C72	76.07	426.58	10.22	N51° 02' 54"W	75.97
C79	45.19	30.00	86.31	N3° 11' 59"W	41.04
C80	92.65	825.00	6.43	N36° 44' 20"E	92.60
C81	50.22	825.00	3.49	N31° 46' 40"E	50.22
C82	78.91	945.00	4.78	S32° 25' 34"W	78.89
C83	53.71	825.00	3.73	N28° 10' 08"E	53.70
C84	61.52	945.00	3.73	S28° 10' 08"W	61.51
C85	53.71	825.00	3.73	S24° 26' 20"W	53.70
C86	61.52	945.00	3.73	N24° 26' 20"E	61.51
C87	53.71	825.00	3.73	N20° 42' 32"E	53.70
C88	61.52	945.00	3.73	S20° 42' 32"W	61.51
C89	53.71	825.00	3.73	S16° 58' 44"W	53.70
C90	61.52	945.00	3.73	N16° 58' 44"E	61.51
C91	28.58	450.00	3.64	N11° 35' 16"E	28.58
C92	24.57	825.00	1.71	N14° 15' 38"E	24.57
C93	28.15	945.00	1.71	S14° 15' 38"W	28.15
C94	36.20	570.00	3.64	S11° 35' 16"W	36.20
C95	52.69	450.00	6.71	N6° 24' 50"E	52.66
C97	52.69	450.00	6.71	S0° 17' 41"E	52.66
C98	66.74	570.00	6.71	N0° 17' 41"W	66.70
C99	52.69	450.00	6.71	N7° 00' 12"W	52.66
C100	66.74	570.00	6.71	S7° 00' 12"E	66.70
C101	52.69	450.00	6.71	S13° 42' 44"E	52.66
C102	66.74	570.00	6.71	N13° 42' 44"W	66.70
C103	52.69	450.00	6.71	N20° 25' 15"W	52.66
C104	66.74	570.00	6.71	S20° 25' 15"E	66.70

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C105	52.69	450.00	6.71	S27° 07' 46"E	52.66
C106	66.74	570.00	6.71	N27° 07' 46"W	66.70
C107	73.81	450.00	9.40	N35° 10' 57"W	73.72
C108	93.49	570.00	9.40	S35° 10' 57"E	93.38
C109	73.81	450.00	9.40	S44° 34' 47"E	73.72
C110	93.49	570.00	9.40	N44° 34' 47"W	93.38
C111	73.81	450.00	9.40	N53° 58' 37"W	73.72
C112	93.49	570.00	9.40	S53° 58' 37"E	93.38
C213	25.55	275.00	5.32	N66° 51' 59"W	25.54
C215	51.35	275.00	10.70	S58° 51' 22"E	51.27
C216	74.68	400.00	10.70	S48° 09' 30"E	74.58
C217	12.47	275.00	2.60	N52° 12' 29"W	12.47
C218	38.87	275.00	8.10	N46° 51' 33"W	38.84
C219	74.68	400.00	10.70	N37° 27' 38"W	74.58
C220	50.49	275.00	10.52	S37° 32' 59"E	50.42
C221	0.86	275.00	0.18	S32° 12' 03"E	0.86
C222	74.68	400.00	10.70	S26° 45' 46"E	74.58
C223	51.35	275.00	10.70	N26° 45' 46"W	51.27
C224	74.68	400.00	10.70	N16° 03' 54"W	74.58
C225	37.16	275.00	7.74	S17° 32' 34"E	37.13
C226	14.19	275.00	2.96	S12° 11' 38"E	14.18
C227	74.68	400.00	10.70	S5° 22' 02"E	74.58
C228	51.35	275.00	10.70	N5° 22' 02"W	51.27
C229	74.68	400.00	10.70	N5° 19' 50"E	74.58
C230	23.83	275.00	4.97	S2° 27' 52"W	23.82
C231	27.51	275.00	5.73	S7° 48' 48"W	27.50
C232	47.40	775.00	3.50	N15° 09' 34"E	47.39
C233	19.04	400.00	2.73	N12° 02' 37"E	19.04
C234	13.09	275.00	2.73	S12° 02' 37"W	13.09
C235	35.77	650.00	3.15	S14° 59' 03"W	35.77
C236	3.98	650.00	0.35	S16° 44' 10"W	3.98
C237	63.64	775.00	4.70	S19° 15' 51"W	63.62
C238	53.37	650.00	4.70	N19° 15' 51"E	53.36
C239	63.64	775.00	4.70	N23° 58' 08"E	63.62
C240	8.27	650.00	0.73	S21° 58' 51"W	8.27

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C241	45.10	650.00	3.98	S24° 20' 00"W	45.09
C242	63.64	775.00	4.70	S28° 40' 24"W	63.62
C243	20.52	650.00	1.81	N27° 13' 32"E	20.52
C244	32.85	650.00	2.90	N29° 34' 40"E	32.85
C245	63.64	775.00	4.70	S33° 22' 41"W	63.62
C246	32.77	650.00	2.89	N32° 28' 13"E	32.77
C247	20.60	650.00	1.82	N34° 49' 21"E	20.60
C248	49.78	775.00	3.68	S37° 34' 14"W	49.77
C249	64.78	650.00	5.71	N38° 35' 07"E	64.75
C250	49.34	30.00	94.23	S86° 31' 40"W	43.96
C251	37.04	525.00	4.04	S35° 56' 09"W	37.04
C252	44.15	30.00	84.31	S4° 11' 57"E	40.27
C253	53.00	525.00	5.78	N31° 01' 20"E	52.98
C254	53.00	525.00	5.78	N25° 14' 15"E	52.98
C255	53.00	525.00	5.78	N19° 27' 11"E	52.98
C256	22.15	150.00	8.46	N9° 10' 38"E	22.13
C257	28.89	525.00	3.15	N14° 59' 03"E	28.89
C258	48.74	150.00	18.62	N4° 21' 44"W	48.53
C259	48.74	150.00	18.62	N22° 58' 51"W	48.53
C260	48.74	150.00	18.62	N41° 35' 58"W	48.53
C261	48.74	150.00	18.62	N60° 13' 06"W	48.53
C262	146.03	100.00	83.67	S28° 25' 38"E	133.40
C263	71.28	595.00	6.86	S56° 18' 29"E	71.24
C264	107.36	475.00	12.95	S19° 52' 57"W	107.13
C265	36.54	475.00	4.41	N57° 32' 10"W	36.53
C266	45.72	30.00	87.32	S81° 00' 26"W	41.42
C267	91.10	475.00	10.99	S31° 51' 07"W	90.97
C336	66.74	570.00	6.71	S6° 24' 50"W	66.70



GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE 44 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.

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER 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 APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN SUMMIT AT CARTER'S STATION, PHASE 3 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

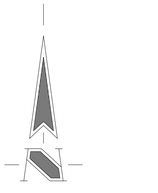
CERTIFICATE OF SURVEY ACCURACY

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

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

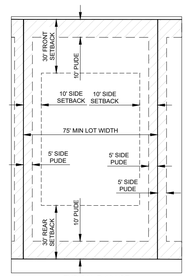
HEADWALL
CATCH BASIN
PROPOSED SEWER LINE (TYP.)
PROPOSED STORM LINE (TYP.)
PROPOSED WATER LINE (TYP.)
CURB INLET
SEWER MANHOLE
WATER VALVE
FIRE HYDRANT (TYP.)



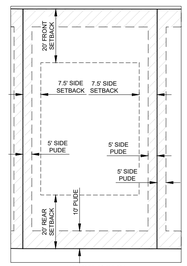
SCALE 1" = 100'

100 0 50 100 200

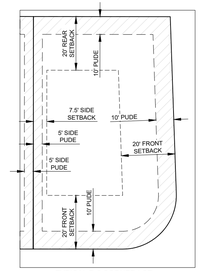
SITE DATA		
CURRENT ZONING:	R-10 & R6	
MINIMUM BUILDING SETBACKS:	R-10	R6
FRONT:	30'	20'
REAR:	30'	20'
SIDE:	10'	7.5'
TOTAL PHASE AREA:	7.01 ACRES	
NEW ROW:	1.41 ACRES	



TYPICAL R-10 LOT
N.T.S.



TYPICAL R-6 LOT
N.T.S.



TYPICAL R-6 CORNER LOT
N.T.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

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

REVISIONS

NO.	DATE

DATE: 10-10-2023
SCALE: 1" = 100'
DRAWN BY: DSW
REVIEWER:

FINAL PLAT - PHASE 3

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 3

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book R2828, Page(s) 296.

THIS AGREEMENT, made this 12 day of October, 2023, 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,

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 Tamarach Land - Carters Station, LL

Address 715 Vista Blvd Ste 303

City, State ZIP Wesley, MN 55387

STATE OF NEW JERSEY
COUNTY OF ESSEX

Before me, Yoandri Alvarado of the state and county mentioned, personally appeared Jeff Leone, 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 12 day of October, 2023.

_____
Notary Public

YOANDRI ALVARADO
Commission # 50209012
Notary Public, State of New Jersey
My Commission Expires
April 12, 2028

My Commission Expires: April 12, 2028

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

10/12/2023

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 3

SYSTEM DESCRIPTION:

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

- 2,060 LF of round concrete pipe and 29 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. 2,060 LF OF RCP AND 27 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

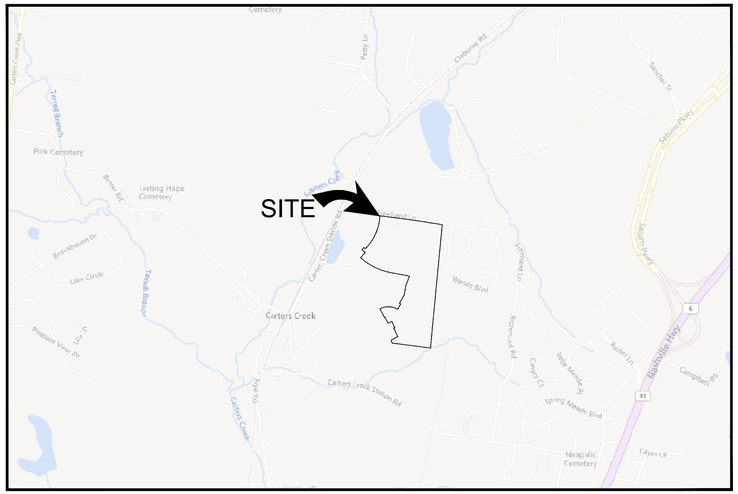
DEVELOPER: RICHMOND AMERICAN HOMES
12220 SUNRISE VALLEY DRIVE SUITE 400
RESTON, VA 20191
703-390-0900

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

POWER UTILITY: 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 #47119001806 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 CITY COMMENTS
4	08/03/22	REVISIONS PER TDEC COMMENTS
5	09/07/22	REVISIONS PER PULTE COMMENTS

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 — AGRICULTURAL — 101743 — STATE OF TENNESSEE
09/07/2022

PROJECT
21-0515

SHEET
C-0.0

T-SQUARE ENGINEERING

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SUMMIT AT CARTER'S STATION

GRADING PLAN

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

REVISIONS		
NO.	DATE	
1	03/02/22	SANITARY SEWER MAIN REVISION
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5	09/07/22	REVISIONS PER PULTE COMMENTS

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

LEGEND

- EXISTING PROPERTY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- STREAM BUFFER
- ROW DEDICATION
- 780 PROPOSED MAJOR CONTOUR
- 778 PROPOSED MINOR CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED BUILDING SETBACK

GRAPHIC SCALE (IN FEET)
100 0 50 100 200
Scale: 1" = 100'

NOTES:
1. BUILDER'S SWALE TO BE INSTALLED ON LOT LINES.
2. MAX ADA RAMP CROSS SLOPE TO BE 2%.
3. LOTS 349-351 TO BE BASEMENT LOTS.
4. SEE DETAIL DD-04 FOR RESIDENTIAL LOT GRADING AND DRAINAGE.

POND 1B
BERM ELEV. = 698.00
BOT. ELEV. = 689.00
EM. SPILLWAY ELEV. = 697.50

EMERGENCY SPILLWAY (TYP.)

RALPH ALEXANDER
MAP 42 PARCEL 3.06
R.B. 1689, PAGE 210, R.O.M.C.

PERMANENT ROCK BERM (TYP.)

POND 1A
BERM ELEV. = 667.00
BOT. ELEV. = 676.00
EM. SPILLWAY ELEV. = 675.50

BUILDER TO CONSTRUCT LOT LINE SWALES (TYP.)

POND 2A
BERM ELEV. = 694.00
BOT. ELEV. = 681.00
EM. SPILLWAY ELEV. = 693.50

LOTS TO BE GRADED ACCORDING TO CITY OF COLUMBIA DETAIL DD-04 (SEE DETAIL SHEET C-8.1)

BASEMENT LOTS

POND 2B
BERM ELEV. = 684.00
BOT. ELEV. = 675.00
EM. SPILLWAY ELEV. = 683.50

PALOMINO TRAIL
HARLOW COURT
FALCON CREST TRAIL
DOBBLE COURT
LONE CREEK PASS
PUREBY STREET
FELLOWSHIP ROAD
PALOMINO PASS ROAD
FRIENDHAND LANE
SELLERBACK WAY
YOUNGSTOWN DRIVE
LAUREL BROOK COURT

TAX MAP 42H A, PARCEL 01200 CHENTELLE RICE
TAX MAP 42H A, PARCEL 01100 KEITH & CRYSTAL EBAUGH
TAX MAP 42H, PARCEL 01000 LORRAINE KRAUSE
TAX MAP 42H A, PARCEL 00900 JAY RICHARD & SARA MILLER
TAX MAP 42H A, PARCEL 00800 SHARI & MELVIN BELFER
TAX MAP 42H A, PARCEL 00700 STANLEY & BRENDA FITZGERALD
TAX MAP 42H A, PARCEL 01300 JOHN & CHRISTIN EDMONDSON

FLOOD NOTE
A PORTION OF THIS PROPERTY LIES WITHIN AN AREA DESIGNATED AS AE, AS EVIDENCED ON FEMA PANEL #47119001806 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

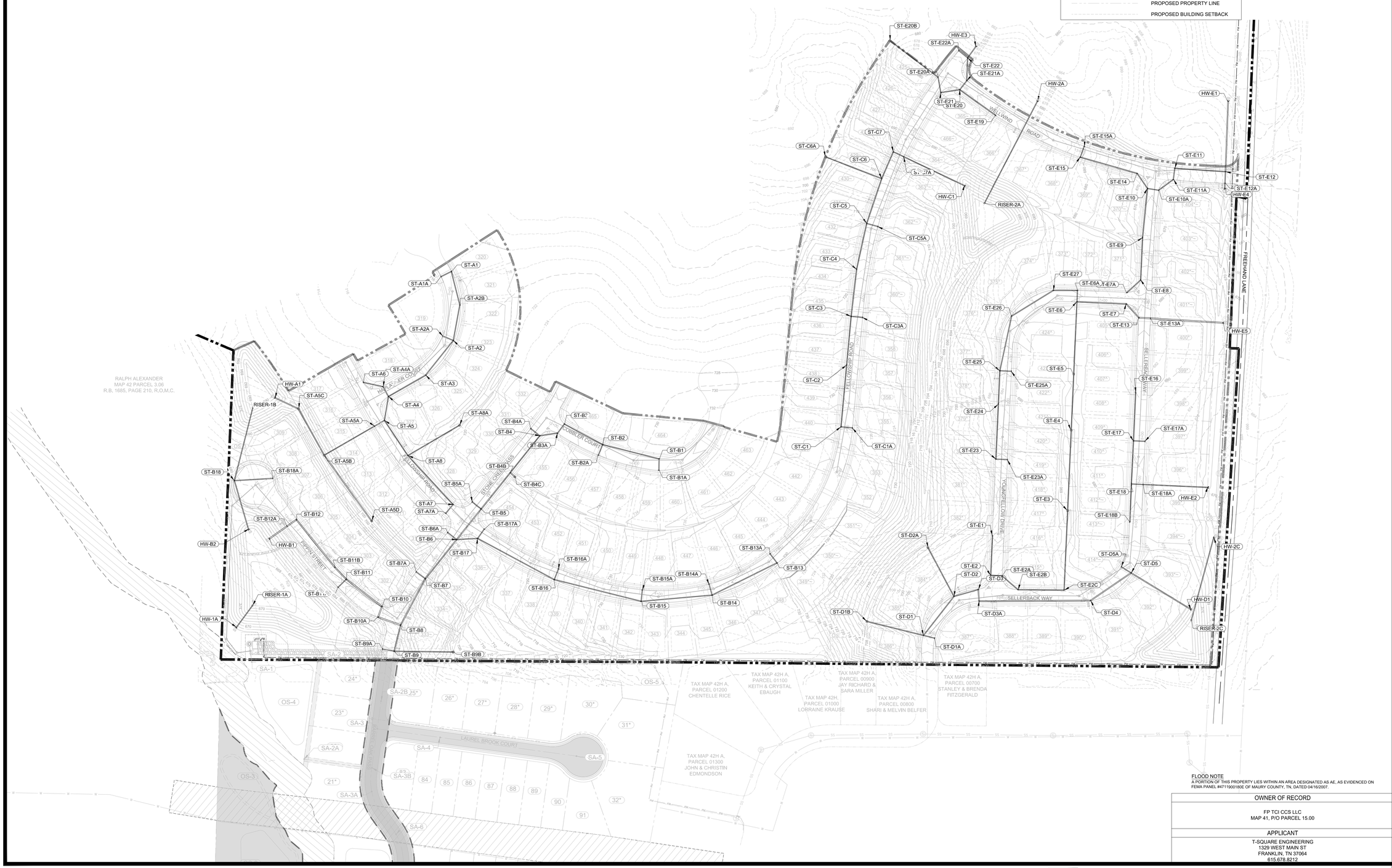
TIMOTHY E. TURNER
REGISTERED ENGINEER
AGRICULTURAL
STATE OF TENNESSEE
09/07/2022

PROJECT
21-0515

SHEET
C-5.0

T-SQUARE ENGINEERING

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FLOOD NOTE
A PORTION OF THIS PROPERTY LIES WITHIN AN AREA DESIGNATED AS AE. AS EVIDENCED ON FEMA PANEL #47119001806E 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
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5	09/07/22	REVISIONS PER PULTE COMMENTS

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

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

SUMMIT AT CARTER'S STATION

TIMOTHY E. TURNER
REGISTERED PROFESSIONAL ENGINEER
STATE OF TENNESSEE
09/07/2022

PROJECT
21-0515

SHEET
C-5.1

T-SQUARE ENGINEERING

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STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-1A	RIM = 669.10 TOP = 666.87	INV. IN = 666.39		HEADWALL
HW-2A	RIM = 681.12 TOP = ???	INV. IN = 678.41		HEADWALL
HW-2C	RIM = 675.77 TOP = 674.33	INV. IN = 673.06		HEADWALL
RISER-1A	RIM = 675.00 TOP = 668.00		INV. OUT =667.00	RISER
RISER-2A	RIM = 692.00 TOP = 682.00		INV. OUT =681.00	RISER
RISER-2C	RIM = 682.00 TOP = 676.00		INV. OUT =675.00	RISER

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-A1	RIM = 677.87 TOP = 691.88	INV. IN = 690.00		HEADWALL
ST-A1	RIM = 715.53 TOP = 715.53	INV. IN = 711.28	INV. OUT =711.28	SINGLE INLET
ST-A1A	RIM = 715.53 TOP = 715.53		INV. OUT =711.53	SINGLE INLET
ST-A2	RIM = 714.03 TOP = 714.03	INV. IN = 709.68 INV. IN = 709.68	INV. OUT =709.68	SINGLE INLET
ST-A2A	RIM = 714.03 TOP = 714.03		INV. OUT =710.03	SINGLE INLET
ST-A2B	RIM = 714.80 TOP = 714.80	INV. IN = 710.50	INV. OUT =710.50	SINGLE INLET
ST-A3	RIM = 711.99 TOP = 711.99	INV. IN = 707.99	INV. OUT =707.99	SINGLE INLET
ST-A4	RIM = 709.32 TOP = 709.32	INV. IN = 705.12 INV. IN = 705.12	INV. OUT =705.12	SINGLE INLET
ST-A4A	RIM = 709.32 TOP = 709.32	INV. IN = 705.37	INV. OUT =705.37	SINGLE INLET
ST-A5	RIM = 708.45 TOP = 708.45	INV. IN = 704.57 INV. IN = 704.57	INV. OUT =704.57	SINGLE INLET
ST-A5A	RIM = 708.45 TOP = 708.45	INV. IN = 704.32	INV. OUT =704.32	SINGLE INLET
ST-A5B	RIM = 696.80 TOP = 696.80	INV. IN = 692.31 INV. IN = 692.31	INV. OUT =692.31	AREA DRAIN
ST-A5C	RIM = 695.60 TOP = 695.60	INV. IN = 691.11	INV. OUT =691.11	AREA DRAIN
ST-A5D	RIM = 698.65 TOP = 698.65		INV. OUT =694.15	AREA DRAIN
ST-A6	RIM = 709.67 TOP = 709.67		INV. OUT =705.83	SINGLE INLET
ST-A7	RIM = 713.43 TOP = 713.43	INV. IN = 709.20	INV. OUT =709.20	SINGLE INLET
ST-A7A	RIM = 713.45 TOP = 713.45		INV. OUT =709.45	SINGLE INLET
ST-A8	RIM = 709.97 TOP = 709.97	INV. IN = 705.97 INV. IN = 705.97	INV. OUT =705.97	SINGLE INLET
ST-A8A	RIM = 717.41 TOP = 716.76		INV. OUT =714.20	AREA DRAIN

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-B1	RIM = 678.48 TOP = 674.73	INV. IN = 674.18		HEADWALL
HW-B2	RIM = 671.95 TOP = 670.00	INV. IN = 669.25		HEADWALL
RISER-1B	RIM = 690.71 TOP = 690.00		INV. OUT =689.00	RISER
ST-B1	RIM = 730.92 TOP = 730.92	INV. IN = 726.65	INV. OUT =726.65	SINGLE INLET
ST-B1A	RIM = 730.92 TOP = 730.92		INV. OUT =726.90	SINGLE INLET
ST-B2	RIM = 727.43 TOP = 727.43	INV. IN = 723.18 INV. IN = 723.18	INV. OUT =723.18	SINGLE INLET
ST-B2A	RIM = 727.43 TOP = 727.43		INV. OUT =723.43	SINGLE INLET
ST-B3	RIM = 724.82 TOP = 724.82	INV. IN = 720.82	INV. OUT =720.82	SINGLE INLET
ST-B3A	RIM = 724.81 TOP = 724.81	INV. IN = 720.57	INV. OUT =720.57	SINGLE INLET
ST-B4	RIM = 723.98 TOP = 723.98	INV. IN = 719.73 INV. IN = 719.73	INV. OUT =719.73	SINGLE INLET
ST-B4A	RIM = 723.98 TOP = 723.98		INV. OUT =719.98	SINGLE INLET
ST-B4B	RIM = 721.88 TOP = 721.88	INV. IN = 717.38 INV. IN = 717.38	INV. OUT =717.38	SINGLE INLET
ST-B4C	RIM = 722.00 TOP = 722.00		INV. OUT =718.00	AREA DRAIN
ST-B5	RIM = 717.88 TOP = 717.88	INV. IN = 713.38 INV. IN = 713.38	INV. OUT =713.38	SINGLE INLET
ST-B5A	RIM = 717.88 TOP = 717.88		INV. OUT =713.88	SINGLE INLET
ST-B6	RIM = 710.18 TOP = 710.18	INV. IN = 705.68 INV. IN = 705.68 INV. IN = 705.68	INV. OUT =705.68	SINGLE INLET
ST-B6A	RIM = 710.18 TOP = 710.18		INV. OUT =706.18	SINGLE INLET
ST-B7	RIM = 698.78 TOP = 698.78	INV. IN = 694.28 INV. IN = 694.28	INV. OUT =694.28	SINGLE INLET
ST-B7A	RIM = 698.78 TOP = 698.78		INV. OUT =694.78	SINGLE INLET
ST-B8	RIM = 687.62 TOP = 687.62	INV. IN = 678.49 INV. IN = 678.49	INV. OUT =678.49	SINGLE INLET
ST-B9	RIM = 684.10 TOP = 684.10	INV. IN = 679.10 INV. IN = 679.10	INV. OUT =679.10	SINGLE INLET
ST-B9A	RIM = 683.49 TOP = 683.49		INV. OUT =679.99	SINGLE INLET
ST-B9B	RIM = 704.00 TOP = 704.00		INV. OUT =700.00	AREA DRAIN
ST-B10	RIM = 687.69 TOP = 687.69	INV. IN = 677.70	INV. OUT =677.70	SINGLE INLET
ST-B10A	RIM = 687.70 TOP = 687.70	INV. IN = 677.95	INV. OUT =677.95	SINGLE INLET
ST-B11	RIM = 685.71 TOP = 685.71	INV. IN = 676.68 INV. IN = 676.68	INV. OUT =676.68	SINGLE INLET
ST-B11A	RIM = 685.71 TOP = 685.71		INV. OUT =682.26	SINGLE INLET
ST-B11B	RIM = 686.35 TOP = 686.35	INV. IN = 676.31	INV. OUT =676.31	SINGLE INLET
ST-B12	RIM = 686.49 TOP = 686.49	INV. IN = 674.92	INV. OUT =674.92	SINGLE INLET
ST-B12A	RIM = 686.49 TOP = 686.49	INV. IN = 674.67	INV. OUT =674.67	SINGLE INLET
ST-B13	RIM = 736.85 TOP = 736.85	INV. IN = 732.60	INV. OUT =732.60	SINGLE INLET
ST-B13A	RIM = 736.85 TOP = 736.85		INV. OUT =732.85	SINGLE INLET
ST-B14	RIM = 735.24 TOP = 735.24	INV. IN = 730.96 INV. IN = 730.96	INV. OUT =730.96	SINGLE INLET
ST-B14A	RIM = 735.24 TOP = 735.24		INV. OUT =731.24	SINGLE INLET
ST-B15	RIM = 733.28 TOP = 733.28	INV. IN = 729.03 INV. IN = 729.03	INV. OUT =729.03	SINGLE INLET
ST-B15A	RIM = 733.28 TOP = 733.28		INV. OUT =729.28	SINGLE INLET
ST-B16	RIM = 722.71 TOP = 722.71	INV. IN = 718.46 INV. IN = 718.46	INV. OUT =718.46	SINGLE INLET
ST-B16A	RIM = 722.71 TOP = 722.71		INV. OUT =718.71	SINGLE INLET
ST-B17	RIM = 714.47 TOP = 714.47	INV. IN = 710.22 INV. IN = 710.22	INV. OUT =710.22	SINGLE INLET
ST-B17A	RIM = 714.47 TOP = 714.47		INV. OUT =710.47	SINGLE INLET
ST-B18	RIM = 682.00 TOP = 682.00	INV. IN = 675.17 INV. IN = 675.17	INV. OUT =675.17	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
ST-C3A	RIM = 680.89 TOP = 680.97	INV. IN = 680.89	INV. OUT =679.42	SINGLE INLET
ST-C1	RIM = 733.69 TOP = 733.69	INV. IN = 729.44	INV. OUT =729.44	SINGLE INLET
ST-C1A	RIM = 733.69 TOP = 733.69		INV. OUT =729.69	SINGLE INLET
ST-C2	RIM = 727.10 TOP = 727.10	INV. IN = 723.10	INV. OUT =723.10	SINGLE INLET
ST-C3	RIM = 721.90 TOP = 721.90	INV. IN = 717.65 INV. IN = 717.65	INV. OUT =717.65	SINGLE INLET
ST-C3A	RIM = 721.90 TOP = 721.90		INV. OUT =717.90	SINGLE INLET
ST-C4	RIM = 716.91 TOP = 716.91	INV. IN = 712.91	INV. OUT =712.91	SINGLE INLET
ST-C5	RIM = 711.28 TOP = 711.28	INV. IN = 707.03 INV. IN = 707.03	INV. OUT =707.03	SINGLE INLET
ST-C5A	RIM = 711.28 TOP = 711.28		INV. OUT =707.28	SINGLE INLET
ST-C6	RIM = 700.85 TOP = 700.85	INV. IN = 691.14 INV. IN = 691.14	INV. OUT =691.14	SINGLE INLET
ST-C6A	RIM = 696.00 TOP = 696.00		INV. OUT =692.50	AREA DRAIN
ST-C7	RIM = 693.96 TOP = 693.96	INV. IN = 689.96	INV. OUT =689.96	SINGLE INLET
ST-C7A	RIM = 693.96 TOP = 693.96	INV. IN = 689.71	INV. OUT =689.71	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-D1	RIM = 681.45 TOP = 680.00	INV. IN = 678.20		HEADWALL
ST-D1	RIM = 696.28 TOP = 696.28	INV. IN = 692.03 INV. IN = 692.03	INV. OUT =692.03	SINGLE INLET
ST-D1A	RIM = 696.28 TOP = 696.28		INV. OUT =692.28	SINGLE INLET
ST-D1B	RIM = 707.88 TOP = 707.88		INV. OUT =703.00	AREA DRAIN
ST-D2	RIM = 693.67 TOP = 693.67	INV. IN = 689.67 INV. IN = 689.67	INV. OUT =689.67	SINGLE INLET
ST-D2A	RIM = 701.67 TOP = 701.67		INV. OUT =697.67	AREA DRAIN
ST-D3	RIM = 693.15 TOP = 693.15	INV. IN = 688.65	INV. OUT =688.65	SINGLE INLET
ST-D3A	RIM = 693.76 TOP = 693.76	INV. IN = 688.38	INV. OUT =688.38	SINGLE INLET
ST-D4	RIM = 689.15 TOP = 689.15	INV. IN = 684.54	INV. OUT =684.54	SINGLE INLET
ST-D5	RIM = 684.64 TOP = 684.64	INV. IN = 679.78 INV. IN = 679.78	INV. OUT =679.78	SINGLE INLET
ST-D5A	RIM = 684.64 TOP = 684.64		INV. OUT =680.28	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
HW-E1	RIM = 653.77 TOP = ???	INV. IN = 650.52		HEADWALL
HW-E2	RIM = 676.10 TOP = 674.48	INV. IN = 673.39		HEADWALL
HW-E3	RIM = 675.62 TOP = ???	INV. IN = 672.91		HEADWALL
HW-E4	RIM = 655.45 TOP = 654.00		INV. OUT =652.74	HEADWALL
HW-E5	RIM = 675.71 TOP = 672.75	INV. IN = 671.92		HEADWALL
ST-E1	RIM = 694.11 TOP = 694.11		INV. OUT =690.11	SINGLE INLET
ST-E2	RIM = 692.82 TOP = 692.82	INV. IN = 688.82	INV. OUT =688.82	SINGLE INLET
ST-E2A	RIM = 692.82 TOP = 692.82	INV. IN = 688.57	INV. OUT =688.57	SINGLE INLET
ST-E2B	RIM = 692.26 TOP = 692.26	INV. IN = 688.09	INV. OUT =688.09	SINGLE INLET
ST-E2C	RIM = 691.12 TOP = 691.12	INV. IN = 687.04	INV. OUT =687.04	SINGLE INLET
ST-E3	RIM = 689.67 TOP = 689.67	INV. IN = 685.23	INV. OUT =685.23	AREA DRAIN
ST-E4	RIM = 685.67 TOP = 685.67	INV. IN = 681.94	INV. OUT =681.94	AREA DRAIN
ST-E5	RIM = 684.70 TOP = 684.70	INV. IN = 679.20	INV. OUT =679.20	AREA DRAIN
ST-E6	RIM = 679.87 TOP = 679.87	INV. IN = 675.37 INV. IN = 675.37	INV. OUT =675.37	SINGLE INLET
ST-E6A	RIM = 679.87 TOP = 679.87	INV. IN = 675.87	INV. OUT =675.87	SINGLE INLET
ST-E7	RIM = 678.75 TOP = 678.75	INV. IN = 674.25	INV. OUT =674.25	SINGLE INLET
ST-E7A	RIM = 678.75 TOP = 678.75		INV. OUT =674.75	SINGLE INLET
ST-E8	RIM = 675.91 TOP = 675.91	INV. IN = 671.91	INV. OUT =671.91	SINGLE INLET
ST-E9	RIM = 669.62 TOP = 669.62	INV. IN = 665.62	INV. OUT =665.62	SINGLE INLET
ST-E10	RIM = 667.61 TOP = 667.61	INV. IN = 663.61 INV. IN = 663.61	INV. OUT =663.61	SINGLE INLET
ST-E10A	RIM = 667.61 TOP = 667.61	INV. IN = 663.36	INV. OUT =663.36	SINGLE INLET
ST-E11	RIM = 664.57 TOP = 664.57	INV. IN = 660.32	INV. OUT =660.32	SINGLE INLET
ST-E11A	RIM = 664.57 TOP = 664.57	INV. IN = 660.57	INV. OUT =660.57	SINGLE INLET
ST-E12	RIM = 656.61 TOP = 656.61	INV. IN = 652.11 INV. IN = 652.11	INV. OUT =652.11	SINGLE INLET
ST-E12A	RIM = 656.62 TOP = 656.62	INV. IN = 652.62	INV. OUT =652.62	SINGLE INLET
ST-E13	RIM = 680.87 TOP = 680.87	INV. IN = 673.82	INV. OUT =673.82	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME	DETAILS	PIPES IN	PIPES OUT	STRUCTURE
ST-E13A	RIM = 680.87 TOP = 680.87	INV. IN = 673.57	INV. OUT =673.57	SINGLE INLET
ST-E14	RIM = 670.59 TOP = 670.59	INV. IN = 666.59	INV. OUT =666.59	SINGLE INLET
ST-E15	RIM = 680.21 TOP = 680.21	INV. IN = 675.96	INV. OUT =675.96	SINGLE INLET
ST-E15A	RIM = 680.21 TOP = 680.21		INV. OUT =676.21	SINGLE INLET
ST-E16	RIM = 681.44 TOP = 681.44		INV. OUT =677.44	SINGLE INLET
ST-E17	RIM = 680.34 TOP = 680.34	INV. IN = 676.09 INV. IN = 676.09	INV. OUT =676.09	SINGLE INLET
ST-E17A	RIM = 680.34 TOP = 680.34		INV. OUT =676.34	SINGLE INLET
ST-E18	RIM = 680.15 TOP = 680.15	INV. IN = 675.11 INV. IN = 675.11	INV. OUT =675.11	DOUBLE INLET
ST-E18A	RIM = 679.54 TOP = 679.54	INV. IN = 674.86	INV. OUT =674.86	SINGLE INLET
ST-E18B	RIM = 680.54 TOP = 680.54		INV. OUT =676.19	SINGLE INLET
ST-E19	RIM = 682.14 TOP = 682.14		INV. OUT =678.14	SINGLE INLET
ST-E20	RIM = 681.32 TOP = 681.32	INV. IN = 676.18	INV. OUT =676.18	SINGLE INLET
ST-E20A	RIM = 680.14 TOP = 680.14	INV. IN = 676.53	INV. OUT =676.53	SINGLE INLET
ST-E20B	RIM = 682.00 TOP = 682.00		INV. OUT =678.00	AREA DRAIN
ST-E21	RIM = 679.35 TOP = 679.35	INV. IN = 675.35 INV. IN = 675.35	INV. OUT =675.35	SINGLE INLET
ST-E21A	RIM = 679.35 TOP = 679.35	INV. IN = 675.10	INV. OUT =675.10	SINGLE INLET
ST-E22	RIM = 677.48 TOP = 677.48	INV. IN = 673.23 INV. IN = 673.23	INV. OUT =673.23	SINGLE INLET
ST-E22A	RIM = 677.48 TOP = 677.48		INV. OUT =673.48	SINGLE INLET
ST-E23	RIM = 694.16 TOP = 694.16	INV. IN = 689.91	INV. OUT =689.91	SINGLE INLET
ST-E23A	RIM = 694.16 TOP = 694.16		INV. OUT =690.16	SINGLE INLET
ST-E24	RIM = 690.09 TOP = 690.09	INV. IN = 686.09	INV. OUT =686.09	SINGLE INLET
ST-E25	RIM = 687.61 TOP = 687.61	INV. IN = 683.36 INV. IN = 683.36	INV. OUT =683.36	SINGLE INLET
ST-E25A	RIM = 687.61 TOP = 687.61		INV. OUT =683.61	SINGLE INLET
ST-E26	RIM = 683.63 TOP = 683.63	INV. IN = 679.63	INV. OUT =679.63	SINGLE INLET
ST-E27	RIM = 680.57 TOP = 680.57	INV. IN = 676.57	INV. OUT =676.57	SINGLE INLET

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
RISER-1A TO HW-1A	18" Reinforced Concrete Pipe	58.80	1.00%
RISER-2A TO HW-2A	18" Reinforced Concrete Pipe	258.10	1.00%
RISER-2C TO HW-2C	18" Reinforced Concrete Pipe	189.97	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	99.35	1.68%
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	53.55	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-A5D TO ST-A5B	24" Reinforced Concrete Pipe	183.04	1.00%
ST-A6 TO ST-A4A	18" Reinforced Concrete Pipe	44.19	1.00%
ST-A7 TO ST-A8	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-A5	18" Reinforced Concrete Pipe	94.63	1.46%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
RISER-1B TO ST-B18	18" Reinforced Concrete Pipe	170.11	8.08%
ST-B1 TO ST-B2	18" Reinforced Concrete Pipe	130.82	2.63%
ST-B1A TO ST-B1	18" Reinforced Concrete Pipe	24.16	1.00%
ST-B2 TO ST-B3	18" Reinforced Concrete Pipe	97.62	2.39%
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	39.30	2.04%
ST-B4 TO ST-B4B	18" Reinforced Concrete Pipe	105.73	2.20%
ST-B4A TO ST-B4	18" Reinforced Concrete Pipe	24.15	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-B6	24" Reinforced Concrete Pipe	88.31	8.65%
ST-B5A TO ST-B5	18" Reinforced Concrete Pipe	24.18	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	119.65	13.21%
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	15.61%
ST-B10 TO ST-B11	30" Reinforced Concrete Pipe	100.64	1.00%
ST-B10A TO ST-B10	30" Reinforced Concrete Pipe	109.96	4.91%
ST-B11 TO ST-B11B	30" Reinforced Concrete Pipe	36.13	1.00%
ST-B11A TO ST-B11	18" Reinforced Concrete Pipe	25.15	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	47.45	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	1.19%
ST-B14A TO ST-B14	18" Reinforced Concrete Pipe	24.18	1.10%
ST-B15 TO ST-B16	18" Reinforced Concrete Pipe	202.23	5.20%
ST-B15A TO ST-B15	18" Reinforced Concrete Pipe	24.16	1.00%
ST-B16 TO ST-B17	18" Reinforced Concrete Pipe	196.46	4.17%
ST-B16A TO ST-B16	18" Reinforced Concrete Pipe	24.18	1.00%
ST-B17 TO ST-B6	18" Reinforced Concrete Pipe	46.41	9.49%
ST-B17A TO ST-B17	18" Reinforced Concrete Pipe	24.16	1.00%
ST-B18 TO HW-B2	18" Reinforced Concrete Pipe	113.99	5.17%
ST-B18A 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	139.83	4.50%
ST-C1A TO ST-C1	18" Reinforced Concrete Pipe	24.17	1.00%
ST-C2 TO ST-C3	18" Reinforced Concrete Pipe	109.96	4.91%
ST-C3 TO ST-C4	18" Reinforced Concrete Pipe	106.55	4.40%
ST-C3A TO ST-C3	18" Reinforced Concrete Pipe	24.17	1.00%
ST-C4 TO ST-C5	18" Reinforced Concrete Pipe	105.58	5.52%
ST-C5 TO ST-C6	18" Reinforced Concrete Pipe	107.53	14.80%
ST-C5A TO ST-C5	18" Reinforced Concrete Pipe	24.18	1.00%
ST-C6 TO ST-C7	18" Reinforced Concrete Pipe	65.03	1.78%
ST-C6A TO ST-C6	18" Reinforced Concrete Pipe	135.10	1.00%
ST-C7 TO ST-C7A	18" Reinforced Concrete Pipe	24.18	1.00%
ST-C7A TO HW-C1	18" Reinforced Concrete Pipe	151.76	1.00%

PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
ST-D1 TO ST-D2	18" Reinforced Concrete Pipe	110.87	2.10%
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	56.07	1.78%
ST-D2A TO ST-D2	18" Reinforced Concrete Pipe	124.21	6.40%
ST-D3 TO ST-D3A	24" Reinforced Concrete Pipe	25.28	1.00%
ST-D3A TO ST-D4	24" Reinforced Concrete Pipe	251.79	1.52%
ST-D4 TO ST-D5	24" Reinforced Concrete Pipe	110.01	4.28%
ST-D5 TO HW-D1	24" Reinforced Concrete Pipe	156.88	1.00%
ST-D5A 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	46.58	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	181.75	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	2.33%
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	95.10	6.55%
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	39.83	6.72%
ST-E11 TO ST-E12	18" Reinforced Concrete Pipe	114.48	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-E5	30" Reinforced Concrete Pipe	163.61	1.00%
ST-E14 TO ST-E10	18" Reinforced Concrete Pipe	40.03	7.15%
ST-E15 TO ST-E14	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	1.23%
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	0.98%
ST-E18A TO HW-E2	18" Reinforced Concrete Pipe	145.74	1.00%
ST-E18B TO ST-E18	18" Reinforced Concrete Pipe	85.08	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	136.09	1.07%
ST-E21 TO ST-E21A	18" Reinforced Concrete Pipe	24.21	1.00%
ST-E21A TO ST-E22	18" Reinforced Concrete Pipe	50.56	3.59%
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	123.64	3.06%
ST-E23A TO ST-E23	18" Reinforced Concrete Pipe	24.17	1.00%
ST-E24 TO ST-E25	18" Reinforced Concrete Pipe	74.88	3.59%
ST-E25 TO ST-E26	18" Reinforced Concrete Pipe	125.69	2.94%
ST-E25A TO ST-E25	18" Reinforced Concrete Pipe	24.16	1.00%
ST-E26 TO ST-E27	18" Reinforced Concrete Pipe	109.66	2.76%
ST-E27 TO ST-E6A	18" Reinforced Concrete Pipe	53.69	1.27%

FLOOD NOTE
A PORTION OF THIS PROPERTY LIES WITHIN AN AREA DESIGNATED AS AE, AS EVIDENCED ON FEMA PANEL #47119001806 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

REVISIONS

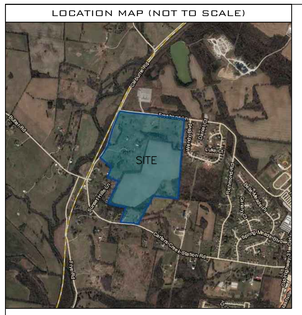
NO.	DATE	
1	03/02/22	SANITARY SEWER MAIN REVISION
2	03/16/22	REVISIONS PER TDEC COMMENTS
3	04/14/22	REVISIONS PER CITY COMMENTS
4	08/03/22	REVISIONS PER TDEC COMMENTS
5	09/07/22	REVISIONS PER PULTE COMMENTS

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

DRAINAGE PLAN TABLES

MAP 41, P/O PARCEL 15.00
COLUMBIA, T

LOCATION MAP (NOT TO SCALE)



LEGEND

- IRON PIN SET (IPS)
- IRON PIN FOUND (IPF)
- CALCULATED POINT
- MAGNAIL SET
- FENCE POST
- UTILITY POLE
- SEWER MANHOLE
- DRIVEWAY
- EDGE OF ROAD
- ZONING LINE
- OHP — OVERHEAD UTILITY LINES
- UNDERGROUND SANITARY SEWER
- W — WATER LINE
- PROPERTY BOUNDARY
- CONTOUR LINE
- FLOODPLAIN

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CALL US FIRST!
1-800-351-1111
TENNESSEE ONE CALL
IT'S THE LAW

0 200 400 600
SCALE 1" = 200'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	905.00'	137.79'	137.66'	S 60°43'09" W
C2	1091.55'	18.18'	18.18'	S 65°33'41" W
C3	1200.00'	74.24'	74.23'	N 64°11'21" E
C4	150.00'	9.27'	9.26'	N 63°47'09" E
C5	1325.03'	0.68'	0.68'	S 62°00'04" W
C6	325.00'	333.64'	319.18'	N 88°34'28" W
C7	425.00'	26.51'	26.50'	S 57°57'12" E
C8	150.00'	1.92'	1.92'	N 69°53'40" W
C9	275.00'	49.18'	49.12'	S 74°39'05" E
C10	1150.00'	628.95'	621.14'	S 64°06'26" E
C11	1025.00'	47.36'	47.35'	S 47°06'57" E
C12	30.00'	47.95'	43.01'	S 88°25'00" W
C13	925.00'	121.94'	121.85'	S 38°50'57" W
C14	925.00'	445.96'	441.65'	S 21°15'40" W
C15	30.00'	47.18'	42.47'	N 37°36'22" W
C16	858.00'	342.88'	340.60'	N 28°42'25" E
C17	8547.08'	177.22'	177.21'	N 16°37'41" E
C18	2933.12'	219.39'	219.33'	N 18°10'36" E
C19	7505.09'	289.61'	289.60'	N 21°25'30" E
C20	30.00'	47.21'	42.49'	N 22°33'17" W
C21	1025.00'	147.87'	147.74'	N 63°30'25" W

LINE	BEARING	DISTANCE
L1	S 28°14'56" W	11.85'
L2	N 68°34'00" W	66.36'
L3	N 75°47'48" W	79.83'
L4	N 80°55'48" W	39.54'
L5	N 88°46'34" W	108.66'
L6	N 80°09'10" W	56.77'
L7	N 74°09'38" W	140.02'
L8	N 73°45'29" W	84.50'
L9	N 68°23'01" W	115.11'
L10	N 40°05'45" E	127.80'
L11	N 50°59'14" W	98.10'
L12	N 18°15'39" W	148.75'
L13	S 82°27'56" E	101.73'
L14	S 21°38'01" W	22.44'
L15	N 04°27'27" E	20.18'
L16	S 05°31'21" W	20.06'
L17	S 19°25'14" E	51.86'
L18	S 24°55'09" E	120.00'
L19	S 24°55'09" E	50.00'
L20	S 24°02'18" E	125.00'
L21	S 65°57'42" W	1.65'
L22	S 27°35'00" E	124.75'
L23	S 28°00'48" E	50.00'
L24	S 28°00'48" E	125.00'
L25	N 62°00'05" E	0.77'
L26	S 30°50'05" W	110.96'
L27	S 30°15'36" W	50.00'
L28	S 30°15'36" W	120.00'
L29	S 10°13'29" W	181.42'
L30	S 19°44'18" W	50.00'
L31	S 20°28'21" W	125.00'
L32	S 79°46'31" E	283.47'
L33	S 41°33'38" W	125.00'
L34	S 45°47'33" E	32.40'
L35	S 44°12'27" W	50.00'
L36	N 45°47'32" W	3.47'
L37	S 42°37'33" W	5.44'
L38	N 07°26'58" E	38.75'
L39	N 07°32'04" E	21.20'
L40	N 67°38'24" W	72.91'

COMMITMENT NOS. 21000050245 (TAMARACK) & 21000050246 (PULTE) EXCEPTIONS:

1. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHED, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I - REQUIREMENTS ARE MET (NOT A SURVEY MATTER).

2. STANDARD EXCEPTIONS (NOT A SURVEY MATTER):
   a. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION NOT SHOWN BY THE PUBLIC RECORDS.
   b. ENCROACHMENTS, OVERLAPS, BOUNDARY LINE DISPUTES OR OTHER MATTERS WHICH WOULD BE DISCLOSED BY AN ACCURATE SURVEY AND INSPECTION OF THE PREMISES.
   c. EASEMENTS, OR CLAIMS OF EASEMENTS, NOT SHOWN BY THE PUBLIC RECORDS.
   d. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR, OR MATERIAL HERETO OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS.
   e. ANY TITLES OR RIGHTS ASSERTED BY ANYONE INCLUDING BUT NOT LIMITED TO, PERSONS, CORPORATIONS, GOVERNMENTS OR OTHER ENTITIES, TO TIDE LANDS, OR LANDS COMPRISING THE SHORES OR BOTTOMS OF NAVIGABLE RIVERS, LAKES, BAYS, OCEANS OR GULF, OR LANDS BEYOND THE LINE OF THE HARBOR OR BULKHEAD LINES AS ESTABLISHED OR CHANGED BY THE UNITED STATES GOVERNMENT OR WATER RIGHTS, IF ANY.
   f. TAXES OR SPECIAL ASSESSMENTS WHICH ARE NOT SHOWN AS EXISTING LIENS BY THE PUBLIC RECORDS.

SPECIAL EXCEPTIONS:

3. TAXES FOR THE YEAR 2021, A LIEN NOW DUE AND PAYABLE BUT NOT YET DELINQUENT, AND SUBSEQUENT YEARS, WHICH ARE A LIEN NOT YET DUE AND PAYABLE (NOT A SURVEY MATTER).

4. TAXES RESULTING FROM SUPPLEMENTAL, REVISED OR CORRECTED ASSESSMENTS UNDER TENNESSEE CODE ANNOTATED, SECTION 67-5-603, ET SEQ., AND SECTION 67-1-1001, ET SEQ (NOT A SURVEY MATTER).

5. RIGHTS OF TENANTS IN POSSESSION UNDER UNRECORDED LEASES (NOT A SURVEY MATTER).

6. ANY INACCURACY IN THE AREA, SQUARE FOOTAGE OR ACREAGE OF THE LAND OR ATTACHED PLAT, IF ANY. THE COMPANY DOES NOT INSURE THE AREA, SQUARE FOOTAGE OR ACREAGE OF THE LAND (NOT A SURVEY MATTER).

7. RIGHTS OF THE PUBLIC, COUNTY, STATE OR MUNICIPALITY IN AND TO THAT PORTION OF THE LAND TAKEN OR USED FOR ROAD PURPOSES (PUBLIC ROAD RIGHTS-OF-WAY AS SHOWN HEREON).

8. ANY TRUST, RIGHT, INTEREST OR CLAIM THAT MAY EXIST, ARISE OR BE ASSERTED AGAINST THE TITLE UNDER OR PURSUANT TO THE PERISHABLE AGRICULTURAL COMMODITIES ACT OF 1930, AS AMENDED, 7 U.S.C. §499a, ET SEQ., OR ANY SIMILAR STATE OR FEDERAL LAW (NOT A SURVEY MATTER).

9. ANY TRUST, RIGHT, INTEREST OR CLAIM THAT MAY EXIST, ARISE, OR BE ASSERTED AGAINST THE TITLE UNDER OR PURSUANT TO THE PACKERS AND STOCKYARD ACT OF 1921, AS AMENDED, 7 U.S.C. §181, ET SEQ., OR ANY SIMILAR STATE OR FEDERAL LAW (NOT A SURVEY MATTER).

10. MINERALS OF WHATSOEVER KIND, SUBSURFACE AND SURFACE SUBSTANCES, INCLUDING BUT NOT LIMITED TO COAL, LIGNITE, OIL, GAS, URANIUM, CLAY, ROCK, SAND AND GRAVEL IN, ON UNDER AND THAT MAY BE PRODUCED FROM THE LAND, TOGETHER WITH ALL RIGHTS, PRIVILEGES AND IMMUNITIES RELATING THERETO, WHETHER OR NOT APPEARING IN THE PUBLIC RECORDS OR LISTED IN SCHEDULE B. THE COMPANY MAKES NO REPRESENTATION AS TO THE PRESENT OWNERSHIP OF ANY SUCH INTERESTS. THERE MAY BE LEASES, GRANTS, EXCEPTIONS OR RESERVATION OF INTEREST THAT ARE NOT LISTED (NOT A SURVEY MATTER).

11. ALL MATTERS SHOWN ON PLATS OF RECORD IN PLAT BOOK 6, PAGE 443B (AFFECTS COMMITMENT NOS. 21000050245 & 21000050246; OVERALL BOUNDARY OF PROPERTY, NO EASEMENTS); PLAT BOOK 7, PAGE 258 (AFFECTS COMMITMENT NO. 21000050246; 2-LOT SUBDIVISION ALONG CARTERS CREEK STATION ROAD, NO EASEMENTS); AND PLAT BOOK 10, PAGE 280 (RESUBDIVISION OF LOT ALONG CARTERS CREEK STATION ROAD, EASEMENTS AFFECT COMMITMENT NO. 21000050246 AS SHOWN HEREON), ALL IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE.

12. EASEMENTS AND/OR RIGHTS-OF-WAY TO MAURY COUNTY, TENNESSEE, RECORDED IN BOOK R1665, PAGE 681 IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE (RIGHT-OF-WAY FOR CARTERS CREEK STATION ROAD, SURVEY MATCHES RIGHT-OF-WAY). EASEMENTS AND/OR RIGHTS-OF-WAY TO MAURY COUNTY, TENNESSEE, RECORDED IN BOOK R1673, PAGE 68, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE (DOES NOT APPLY TO THE SUBJECT PROPERTY).

13. RIGHT-OF-WAY OR EASEMENT TO THE CITY OF COLUMBIA, TENNESSEE, RECORDED IN BOOK R1913, PAGE 120, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE (DOES NOT APPLY TO THE SUBJECT PROPERTY).

14. RIGHT-OF-WAY EASEMENT TO THE MAURY COUNTY WATER SYSTEM OF MAURY COUNTY, TENNESSEE, RECORDED IN BOOK R1937, PAGE 846, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE (EASEMENT AFFECTS COMMITMENT NO. 21000050246 AS RELATED TO PUBLIC WATER LINE SHOWN HEREON ALONG CARTERS CREEK STATION ROAD).

15. APPLICATION(S) FOR GREENBELT ASSESSMENT - AGRICULTURAL RECORDED IN BOOK, R2106, PAGE 200; BOOK R2358, PAGE 1442; BOOK R2391, PAGE 78; AND BOOK R2418, PAGE 245, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE. (NOT A SURVEY MATTER)

16. DECLARATION OF PROTECTIVE COVENANTS, CONDITIONS AND RESTRICTIONS CARTER'S STATION RECORDED IN BOOK R2396, PAGE 644; AS AFFECTED BY FIRST SUPPLEMENTAL DECLARATION (ANNEXING SECTION, PHASE 1B) TO DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CARTER'S STATION RECORDED IN BOOK R2408, PAGE 1163; AS AFFECTED BY FIRST SUPPLEMENTAL DECLARATION (ANNEXING SECTION 1, PHASE 1C) TO DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CARTER'S STATION RECORDED IN BOOK R2448, PATE 1408; AS AFFECTED BY SUPPLEMENTAL DECLARATION (ANNEXING SECTION 2, PHASE 1A) TO DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CARTER'S STATION RECORDED IN BOOK R2481, PAGE 461; AS AFFECTED BY SUPPLEMENTAL DECLARATION (ANNEXING SECTION 2, PHASE 1B) TO DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR CARTER'S STATION RECORDED IN BOOK R2511, PAGE 1424; AS AFFECTED BY SUPPLEMENTAL DECLARATION (ANNEXING SECTION 2, PHASE 3 AND SECTION 5, PHASE 1) TO DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CARTER'S STATION RECORDED IN BOOK R2605, PAGE 1047; AS AFFECTED BY SUPPLEMENTAL DECLARATION TO DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CARTER'S STATION (ANNEXING SECTION 5, PHASE 2A AND SECTION 6, PHASE 1) RECORDED IN BOOK R2748, PAGE 769, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE. (DOES NOT APPLY TO THE SUBJECT PROPERTY)

17. INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES BETWEEN FP TCI CCS, LLC AND THE CITY OF COLUMBIA, TENNESSEE, RECORDED IN BOOK R2462, PAGE 1471, IN THE REGISTER'S OFFICE OF MAURY COUNTY,TENNESSEE. (DOES NOT APPLY TO THE SUBJECT PROPERTY)

18. QUITCLAIM DEED TO THE CARTER'S STATION HOMEOWNERS ASSOCIATION, INC RECORDED IN BOOK R2601, PAGE 473, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE (DOES NOT APPLY TO THE SUBJECT PROPERTY).

19. MEMORANDUM OF AGREEMENT BETWEEN FP TCI CCS, LLC, RELIANT BANK, AND SDH NASHVILLE, LLC, RECORDED IN BOOK R2549, PAGE 246; AS AMENDED BY AMENDED AND RESTATED MEMORANDUM OF AGREEMENT RECORDED IN BOOK R2600, PAGE 1018, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE. (REFERS TO HOMESTEAD AT CARTERS STATION, SECTION I; DOES NOT AFFECT THE SUBJECT PROPERTY)

20. INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES BETWEEN FP TCI CCS, LLC AND THE CITY OF COLUMBIA, TENNESSEE, RECORDED IN BOOK R2571, PAGE 1209, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE. (DOES NOT APPLY TO THE SUBJECT PROPERTY)

21. TEMPORARY CONSTRUCTION EASEMENT TO RICHMOND AMERICAN HOMES, OF TENNESSEE, INC., RECORDED IN BOOK R2744, PAGE 769, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE. (EASEMENT AFFECTS COMMITMENT NO. 21000050245 AS SHOWN HEREON)

22. TEMPORARY GRADING AND CONSTRUCTION EASEMENT AGREEMENT TO PULTE HOMES TENNESSEE LIMITED PARTNERSHIP, RECORDED IN BOOK R2766, PAGE 299, IN THE REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE. (EASEMENT AFFECTS COMMITMENT NO. 21000050246 AS SHOWN HEREON)

GENERAL NOTES

1) BEARINGS ARE BASED ON DEED OF RECORD.

2) THIS SURVEY WAS PREPARED USING THE CURRENT DEEDS OF RECORD.

3) ALL DEED BOOK REFERENCES PERTAIN TO REGISTER'S OFFICE OF MAURY COUNTY, TENNESSEE.

4) UTILITIES AS SHOWN WERE TAKEN FROM VISIBLE FIELD LOCATIONS.UTILITY DETAILS AND PRECISE GROUND LOCATIONS SHOULD BE OBTAINED FROM THE PROPER AUTHORITIES BEFORE ANY GROUND DISTURBANCE OR CONSTRUCTION IS STARTED.

5) CURRENT ZONING IS MCD, R-6, & R-10 AS SHOWN HEREON.

6) THERE IS NO EVIDENCE OF CURRENT EARTH MOVING WORK.

7) THIS IS A GROUND RUN SURVEY; NO RECTIFIED ORTHOPHOTOGRAPHY, PHOTOGRAMMETRIC MAPPING, OR LASER SCANNING DEVICES WERE USED.

8) THERE IS NO EVIDENCE OF USE OF THIS SITE AS A SOLID WASTE DUMP.

9) A PORTION OF SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION "AE" BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FOR COMMUNITY PANEL NO. 47119O180E, DATED 04-16-2007, IN MAURY COUNTY, STATE OF TENNESSEE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED.

10) TITLE COMMITMENT NOS. 21000050245 (TAMARACK LAND TENNESSEE, LLC.) AND 21000050246 (PULTE HOMES TENNESSEE LIMITED PARTNERSHIP) WERE FURNISHED TO THIS SURVEYOR. THIS SURVEYOR DID NOT PERFORM A TITLE SEARCH.

11) THE PROPERTY DESCRIBED HEREON IS MORE OR LESS THE PROPERTY DESCRIBED IN COMMITMENT NO. 21000050245, WITH AN EFFECTIVE DATE OF DECEMBER 13, 2021, AT 8:00 AM AND A PORTION OF THE PROPERTY DESCRIBED IN COMMITMENT NO. 21000050246, WITH AN EFFECTIVE DATE OF OCTOBER 26, 2021, AT 8:00 AM, AND THAT ALL EASEMENTS, COVENANTS, AND RESTRICTIONS REFERENCED IN SAID TITLE COMMITMENT OR APPARENT FROM A PHYSICAL INSPECTION OF THE SITE OR OTHERWISE KNOWN TO HAVE BEEN PLOTTED HEREON OR OTHERWISE NOTED AS TO THEIR EFFECT ON THE SUBJECT PROPERTY.

12) THE ACCOMPANYING SURVEY WAS MADE ON THE GROUND AND THERE ARE NO VISIBLE ENCROACHMENTS ON THE SUBJECT PROPERTY OR UPON ADJACENT LAND ABUTTING SAID PROPERTY EXCEPT AS SHOWN HEREON, AND WAS MADE IN ACCORDANCE WITH LAWS AND/OR MINIMUM STANDARDS OF THE STATE OF TENNESSEE.

13) CONTOURS SHOWN HEREON WERE DERIVED USING LIDAR, AND WERE NOT DETERMINED BY GROUND RUN SURVEY.

Property Description 64.03 Acres Pulte Homes Tennessee LP

Commencing at a Fence Post at the northwest corner of James Mills, as recorded in Deed Book 411, Page 286, Register's Office Maury County (R.O.M.C.), said Post being on the easterly right of way of Cleburne Road; thence, leaving the right of way and with Mills, S 50°59'49" E, 2.40' to an Iron Pin Set (IPS) on the proposed east right of way of Cleburne Road, said pin being the Point of Beginning; thence, leaving Mills and with said right of way, the following calls: N 40°05'45" E, a distance of 127.80' to an IPS; with a curve to the left, having a radius of 858.00 feet, an arc length of 342.88', and a chord bearing and distance of N 28°42'25" E, 340.60 feet to an IPS; with a curve to the left having a radius of 8547.08', an arc length of 177.22', and a chord bearing and distance of N 16°37'41" E, 177.21' to an IPS; with a curve to the right, having a radius of 2933.12', an arc length of 219.39', and a chord bearing and distance of N 18°10'36" E, 219.33' to an IPS; with a curve to the right, having a radius of 7505.09', an arc length of 289.61 feet, and a chord bearing and distance of N 21°25'30" E, 289.60' to an IPS; thence, leaving Cleburne Road and with a new FP TCI CCS LLC severance line, the following calls: with a curve to the left having a radius of 30.00 feet, an arc length of 47.21', and a chord bearing and distance of S 22°33'17" E, 42.49' to an IPS; S 67°38'24" E, a distance of 72.91' to an IPS; with a curve to the right having a radius of 1025.00',an arc length of 147.87' and a chord bearing and distance of S 63°30'25" E, 147.74' to an IPS; S 70°35'29" E, a distance of 444.06' to an IPS; with a curve to the right with an arc length of 121.94', a radius of 925.00', and a chord bearing and distance of S 38°50'57" W, 121.85' to Point; S 42°37'33" W, a distance of 5.44' to a Point; with a curve to the right having radius of 30.00', an arc length of 47.95', and a chord bearing and distance of S 88°25'00" W, 43.01' to a Point; N 45°47'32" W, a distance of 3.47' to a Point; S 44°12'27" E, a distance of 32.40' to a Point; with a curve to the left with an arc length of 47.36', a radius of 1025.00', and a chord bearing and distance of S 47°06'57" E, 47.35' to a Point; S 41°33'38" W, a distance of 125.00' to a Point; with a curve to the left with an arc length of 628.95', a radius of 1150.00', and a chord bearing and distance of S 64°06'26" E, 621.14' to a Point; S 79°46'31"E, a distance of 283.47' to a Point; with a curve to the right with an arc length of 49.18', a radius of 275.00', a chord bearing and distance of S 74°39'05" E, of 49.12' to a Point; S 20°28'21" W, a distance of 125.00' to a Point; with a curve to the left with an arc length of 1.92', a radius of 150.00', and a chord bearing and distance of N 69°53'40" W, 1.92' to Point; S 19°44'18" W, a distance of 50.00' to a Point; S 10°13'29" W a distance of 181.42' to a Point; S 30°15'36" W a distance of 120.00' to a Point; S 30°15'36" W a distance of 50.00' to a Point; with a curve to the left with an arc length of 26.51', a radius of 425.00', and a chord bearing and distance of S 57°57'12" E, 26.50' to a Point; S 30°50'05" W, a distance of 110.98' to a point; with a curve to the left with an arc length of 333.64', a radius of 325.00', and a chord bearing and distance of N 88°34'28" W, 319.18' to Point; S 62°00'05" W, a distance of 0.77' to a Point; S 28°00'48" E, a distance of 125.00' to a Point; S 28°00'48"E, a distance of 50.00' to a Point; with a curve to the right with an arc length of 0.68', a radius of 1325.03', and a chord bearing and distance of N62°00'04" E, 0.68' to a Point; curve to the right with an arc length of 9.27', a radius of 150.00', and a chord bearing and distance of N 63°47'09" E, 9.26' to a Point; S 27°35'00" E, a distance of 124.75' to a Point; with a curve to the right with an arc length of 74.24', a radius of 1200.00', and a chord bearing and distance of N 64°11'21" E, 74.23' to a Point; N 65°57'42"E, a distance of 1.65' to a Point; S 24°02'18"E, a distance of 125.00' to a Point; with a curve to the left with an arc length of 18.18', a radius of 1091.55', and a chord bearing and distance of S 65°33'41" W, 18.18' to a Point; S 24°55'09" E a distance of 50.00' to a Point; S 24°55'09" E a distance of 120.00' to a Point; with a curve to the left with an arc length of 137.79', a radius of 905.00', a chord bearing and distance of S 67°43'09" W, 137.66' to Point; S 19°25'14" E a distance of 51.86' to an IPF at the northwest corner of Ralph Alexander, as recorded in Record Book 1685, Page 210 R.O.M.C; thence, leaving said severance line and with Alexander, the following calls: S 27°57'46" W, a distance of 531.51' to an IPS; S 28°14'56" W, a distance of 11.85' to an IPF at the northwest corner of Austin and Burleyson, as recorded in Record Book 2686, Page 695,R.O.M.C.; thence, with Austin and Burleyson, S 28°10'29" W, a distance of 365.01' to an IPF on the north right of way of Carters Creek Station Road at the southwest corner of Austin and Burleyson; thence, leaving Austin and Burleyson and with the said right of way, the following calls: N 68°34'00" W, a distance of 66.36' to a Point; N 75°47'48" W, a distance of 79.83' to a point; N 80°55'48" W a distance of 39.54' to a point; N 88°46'34" W a distance of 108.66' to an IPF; N 86°24'35" W, a distance of 214.38' to an IPF at the southeast corner of Daniel and Pamela Raymond, as recorded in Record Book 1226, Page 835 R.O.M.C; thence, leaving said road and with Raymond, the following calls: N 18°17'13" E, a distance of 441.65' to an IPF at the northeast corner of Raymond; N 80°08'38" W, a distance of 230.96' to an IPF; N 80°09'10" W, a distance of 56.77' to an IPF at the northeast corner of Sharon and Robert Crafton, as recorded in Record Book 1882, Page 1121 R.O.M.C.; thence, with Crafton, N 74°09'38" W, a distance of 140.02' to an IPF at the northeast corner of Sam and Sheena Olson, as recorded in Record Book 2741, Page 645 R.O.M.C.; thence, with Olson, N 73°45'29" W, a distance of 84.50' to an IPF at the southeast corner of Aaron Larsen, as recorded in Record Book 1920, Page 446 R.O.M.C.; thence, with Larsen, N 28°12'49" E, a distance of 235.25' to an IPF at the southeast corner of Aaron Maher, as recorded in Record Book 2317, Page 1491 R.O.M.C.; thence, with Maher, N 28°11'33" E, a distance of 229.47' to an IPF at the southeast corner of Kenneth Johnson, as recorded in Record Book 1922, Page 728 R.O.M.C.; thence, with Johnson, the following calls: N 28°08'13" E, a distance of 220.92' to an IPF; N 68°18'42" W, a distance of 225.96' to an IPF at the northeast corner of Judson and Olivia Smith, as recorded in Record Book 2514, Page 1293 R.O.M.C.; thence, with Smith, N 68°23'01" W, a distance of 115.11' to a Fence Post at the southeast corner of James Arthur Mills, as recorded in Deed Book 411, Page 286; thence, with Mills, the following calls: N 23°41'15" E, a distance of 295.67' to a Fence Post; N 50°49'20" W a distance of 423.22' to the Point of Beginning. Containing 64.03 Acres, more or less, as surveyed by T-Square Engineering, J. Mark Cantrell, TN RLS# 1859, on December 14, 2021.

BEING a portion of the same property conveyed to FP TCI CCS, LLC by deed from Tenn. Contractors, Inc. dated April 27, 2016 recorded in Record Book R2368, page 450, Register's Office of Maury County, Tennessee, and the same property conveyed to FP TCI CCS, LLC by deed from Joseph Mark Rector and wife, Jennifer Rector dated November 21, 2016 recorded in Record Book R2403, page 313, Register's Office of Maury County, Tennessee, and the same property conveyed to FP TCI CCS, LLC by deed from Mike G. Helton and wife, Jacqueline M. Helton dated November 21, 2016 recorded in Record Book R2403, page 317, Register's Office of Maury County, Tennessee, and the same property conveyed to FP TCI CCS, LLC by deed from Sheila Lynn McNeely dated November 21, 2016 recorded in Record Book R2403, page 324, Register's Office of Maury County, Tennessee.

Property Description 48.10 Acres Tamarack Land Tennessee, LLC.

Beginning at a Magnetic Nail Set in the center of Freehand Lane, said point being located 1852.58' easterly from the intersection of Freehand Lane and Cleburne Road; thence, S 05°31'21" W, a distance of 20.06 to an Iron Pin Set (IPS) on the south right of way of Freehand Lane, being the northwest corner of Lot 33 of The Overlook at Carters Creek Station, as recorded in Plat Book 17, Page 272, Register's Office of Maury County (R.O.M.C.); thence, leaving said road and with Lots 25–33 of said subdivision, S 05°31'21" W, distance of 893.12 to an Iron Pin Found (IPF) in the west boundary Lot 24; thence, with Lots 22–24, S 05°19'52" W, a distance of 301.43 to a IPF at the southwest corner of Lot 22, and being the Northwest corner of Richmond American Homes of Tennessee INC, as recorded in Record Book 2744, Page 763 R.O.M.C.; thence, with Richmond American Homes of Tennessee INC, S 05°20'54" W a distance of 1049.60 to a IPS in the northern line of Ralph Alexander, as recorded in Record Book 1685, Page 210 R.O.M.C.; thence, with Alexander, N 82°35'30" W, a distance of 702.85 to a IPF at the northwest corner of Alexander; thence, leaving Alexander with a new FP TCI CCS LLC severance line, the following calls: N 19°25'14" W, a distance of 51.86 to a Point; with a curve to the right with an arc length of 137.79', a radius of 905.00', and a chord bearing and distance of N 67°43'09" E, 137.66' to a Point; N 24°55'09" W, a distance of 120.00 to a Point; N 24°55'09" W, a distance of 50.00 to a Point; with a curve to the right with an arc length of 18.18', a radius of 1091.55', and a chord bearing and distance of N 65°33'40" E , 18.18' to a Point; N 24°02'18" W, a distance of 125.00 to a Point; S 65°57'42" W, a distance of 1.65 to a Point; with a curve to the left with an arc length of 74.24', a radius of 1200.00', and a chord bearing and distance of S 64°11'21" W, 74.23' to a Point; N 27°35'00" W, a distance of 124.75 to a Point; with a curve turning to the left with an arc length of 9.27', a radius of 150.00', and a chord bearing and distance of S 63°47'09" W, 9.26' to a Point; with a curve to the left with an arc length of 0.68', a radius of 1325.03', and a chord bearing and distance of S 62°00'04" W, 0.68' to a Point; N 28°00'48" W, a distance of 125.00 to a Point; N 62°00'05" E, a distance of 0.77 to a Point; with a curve to the right with an arc length of 333.64', a radius of 325.00', and a chord bearing and distance of S 88°34'28" E, 319.18' to a Point; N 30°50'05" E a distance of 110.96 to a Point; with a curve turning to the left with an arc length of 26.51', a radius of 425.00', and a chord bearing and distance of N 57°57'12" W, 26.50' to a Point; N 30°15'36" E a distance of 50.00 to a Point; N 30°15'36" E a distance of 120.00 to a Point; N 10°13'29" E, a distance of 181.42 to a Point; N 19°44'18" E, a distance of 50.00 to a Point; with a curve turning to the right with an arc length of 1.92', a radius of 150.00', and a chord bearing and distance of S 69°53'40" E, with a chord length of 1.92' to a Point; N 20°28'21" E, a distance of 125.00 to a Point; with a curve turning to the left with an arc length of 49.18', a radius of 275.00', and a chord bearing and distance of N 74°39'05" W, 49.12' to a Point; N 79°46'31" W a distance of 283.47' to a Point; with a curve turning to the right with an arc length of 628.95', a radius of 1150.00', and a chord bearing and distance of N 64°06'26" W, 621.14' to a Point; N 41°33'38" E a distance of 125.00 to a Point; with a curve turning to the right with an arc length of 47.36', a radius of 1025.00', and a chord bearing and distance of N 47°06'57" W, 47.35' to a Point; N 45°47'33" W, a distance of 32.40 to a Point; N 44°12'27" E a distance of 50.00 to a Point; S 45°47'32" E, a distance of 3.47 to a Point; with a curve turning to the left with an arc length of 47.95', a radius of 30.00', and a chord bearing and distance of N 88°25'00" E, 43.01' to a Point; N 42°37'33" E a distance of 5.44 to a Point; with a curve turning to the left with an arc length of 121.94', a radius of 925.00', and a chord bearing and distance of N 38°50'57" E, 121.85' to a Point; with a curve turning to the left with an arc length of 445.96', a radius of 925.00', and a chord bearing and distance of N 21°15'40" E, 441.65' to a Point; N 07°26'58" E, a distance of 38.75 to a Point; with a curve turning to the left with an arc length of 47.18', a radius of 30.00', and a chord bearing and distance of N 37°36'22" W, 42.47' to a Point; N 07°32'04" E, a distance of 21.20 to a Mag Nail Set in the center of Freehand Lane; thence, leaving said severance line and with the center of Freehand Lane, S 82°27'56" E, a distance of 101.73 to Mag Nail Set; thence, S 21°38'01" W, a distance of 22.44 to an IPS on the south right of way of Freehand Lane; thence, with the south right of way of Freehand Lane, S 82°33'04" E, a distance of 346.65 to an IPS; thence, leaving said right of way, N 04°27'27" E, a distance of 20.18 to a Mag Nail Set in the centerline of Freehand Lane; thence, with the centerline of Freehand Lane, S 81°20'56" E, a distance of 724.60 to the Point of Beginning, Containing 48.10 Acres, more or less, as surveyed by T-Square Engineering, J. Mark Cantrell, TN RLS# 1859, on December 14, 2021.

BEING a portion of the same property conveyed to FP TCI CCS, LLC by deed from Tenn. Contractors, Inc. dated April 27, 2016, recorded in Record Book R2368, page 450, Register's Office of Maury County, and the same property conveyed to FP TCI CCS, LLC, by deed from Sheila Lynn McNeely dated November 21, 2016 recorded in Record Book R2403, page 324, Register's Office of Maury County, Tennessee.

Property Description 9.84 Acres Remaining (FP TCI CCS LLC)

Beginning at a Magnetic Nail Set (MNS) on the easterly right of way of CSX Railroad, (33' from center) said point being located N 47°22'31" W, a distance of 9.64' from the intersection of the centerlines of Cleburne and Road and Freehand Lanes; thence, South 82°27'56" East, a distance of 689.92' feet to a Magnetic Nail Set in the centerline of Freehand lane; thence, with a new FP TCI CCS LLC severance line, the following calls: S 07°32'04" W, a distance of 21.20' to an Iron Pin Set (IPS); with a curve to the right having a radius of 30.00 feet, an arc length of 47.18 feet, and a chord bearing and distance of S 37°36'22" E, 42.47' to an IPS; S 07°26'58" W, a distance of 38.75'to an IPS; with a curve to the right, having a radius of 925.00', an arc length of 445.96', and a chord bearing and distance of S 21°15'40" West, 441.65' to an IPS; N 70°35'27" W, a distance of a distance of 444.06'to an IPS; with a curve to the left having a radius of 1025.00', an arc length of 147.87', and a chord bearing and distance of N 63°30'25" W, 147.74' to an IPS; N 67°38'24" W, 72.91' to an IPS; with a curve to the right having a radius of 30.00', an arc length of 47.21', and a chord bearing and distance of N 22°33'17" W, a distance of 42.49' to an IPS on the easterly right of way of Cleburne Road; thence, along said right of way, the following calls: with a curve to the left, having a radius of 7505.09', an arc length of 289.61 feet, and a chord bearing and distance of S 21°25'30" W, 289.60' to an IPS; with a curve to the left, having a radius of 2933.12', an arc length of 219.39 feet, and a chord bearing and distance of S 18°10'36" W, 219.33' to an IPS; with a curve to the right, having a radius of 8547.08', an arc length of 177.22', and a chord bearing and distance of S 16°37'41" W, 177.21' to an IPS; with a curve to the right, having a radius of 858.00 feet, an arc length of 342.88', and a chord bearing and distance of S 28°42'25" W, 340.60 feet to an IPS; S 40°05'45" W, a distance of 127.80' to an IPS in the northerly line of James Mills, as recorded in Deed Book 411, Page 286, Register's Office Maury County; thence, leaving said right of way and crossing Cleburne Road, N 50°59'34" W, passing a Fence Post at Mills northwest corner at 2.40', a total distance of 98.10' to an Iron Pin Found (IPF) on the east right of way of CSX Railroad (33' from center); thence, N 38°26'13" E, a distance of 493.50' to a magnetic Nail Set in the center of Cleburne Road; thence, N 18°15'39" W, a distance of 148.75' to an IPF on the eastern right of way of said railroad; thence, with said railroad right of way, N 26°15'33" E, a distance of 500.20' to a point; N 26°16'46" E, a distance of 357.81' the Point of Beginning. Containing 9.84 Acres, more or less, as surveyed by T-Square Engineering, J. Mark Cantrell, TN RLS# 1859, on December 14, 2021.

BEING a portion of the same property conveyed to FP TCI CCS, LLC by deed from Tenn. Contractors, Inc. dated April 27, 2016 recorded in Record Book R2368, page 450, Register's Office of Maury County, Tennessee, and the same property conveyed to FP TCI CCS, LLC by deed from She

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, Carter's Station 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.

Summit at Carter's Station, Phase 3

PROJECT

Completed by the Developer	*Completed by the City*
Tamarack Land - Carter's Station LLC	
DEVELOPER NAME	
Jeff Leone	
AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
10/16/23	
DATE	DATE
712 Vista Blvd Ste 303	
STREET	
Waconia, MN 55387	
CITY, STATE, ZIP	
201-463-7866	
PHONE	
Jeff@TamarackLand.com	
EMAIL	
Attest	*Attest*
Jamie Heim	
ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
10/16/23	
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	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 third 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, Phase 3 ☑ 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	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	10/10/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE

Jeff Leone	Jeff Leone	10/12/2023
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	

Oakwood Drive Rezoning

Project #:	23-0388	Location:	Map 89 Parcel 21.00
Applicant:	Louis Sloyan	Case Type(s):	Plan Amendment & Rezoning
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Home(s)

PROJECT SUMMARY

The applicant requests to amend the Future Land Use Map of Connect Columbia, the city's Comprehensive Plan, and change the future land use classification of 56.7-acre parcel from Suburban Corridor to Suburban Neighborhood. The subject property is located on the north side of North James Campbell Boulevard near the intersection of Oakwood Drive. The applicant also requests to rezone the property from CD-3L (Neighborhood Large Lot Character District) to CD-3 (Neighborhood Character District). The current zoning designation permits low density single-family residences at two dwelling units per acre. The requested zoning designation permits medium density single-family residences at four dwelling units per acre.

- The DRC reviewed this proposal at its October 2023 meeting.
- The requested zoning designation is not consistent with Connect Columbia, the City's comprehensive plan.
- The applicant has requested an amendment to the Future Land Use Plan which supports the requested character district.
- The concept plan generally indicates that it is possible to develop the site in conformity with the requested standards. However, greater detail will be required at the time of any subsequent Site Development Plan and Preliminary Plat. If the concept advances to a Site Development Plan, staff will recommend modifications to the concept which will bring it into greater conformity with the standards of the zoning ordinance.
- At the request of staff, the applicant provided specific responses to some of the rezoning criteria.
- The Planning Commission is a **recommending body** for rezoning and plan amendment requests.
- The Planning Commission must make separate motions for the plan amendment and the rezoning.
- 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-3L	Single Family	Single Family Residence	+/- 56.7 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	CD-3L	(Vacant) Single-Family
North	Suburban Corridor	CD-3L	Single-Family
South	Urban Neighborhood	CD-3	Single-Family
East	Urban Neighborhood	CD-3/CD-4	Single-Family
West	Urban Neighborhood	CD-3L/CD-4C/SD-LI	Light Industrial

A vacant single-family home currently occupies the subject site. The property sits between residential properties to the east, north, and south. It is bordered on the west by an industrial property. The property to the west, an approximately 70-acre parcel, is split zoned. It contains sections which are CD-3L, CD-4C, and SD-LI. The future land use of the subject property and the properties to the west is Suburban Corridor. The current zoning in of the site is **not consistent** with Connect Columbia.

CONSISTENCY WITH CONNECT COLUMBIA

The applicant requests an amendment to the future land use map as part of this request. The requested CD-3 zoning is not consistent with the current future land use classification of Suburban Corridor; it is consistent with the requested Suburban Neighborhood future land use classification. Both classifications are described below.

Current Future Land Use Classification

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.

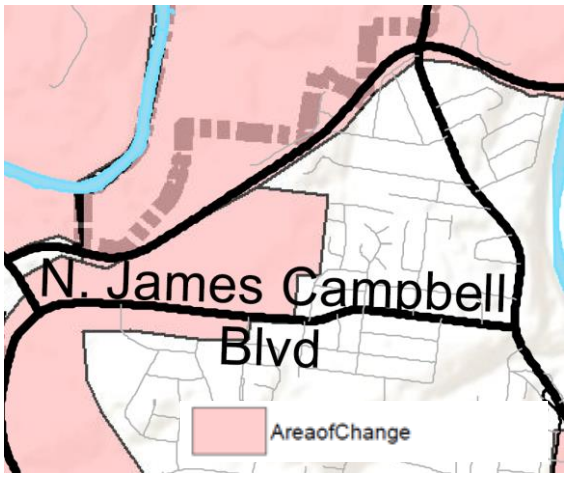
Requested Future Land Use Classification

Suburban Neighborhood: The future land use of the subject site is Suburban Neighborhood. The Character Area is conducive to 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.

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

As required by **§ 8.5.19.F.3** of the Zoning Ordinance, the applicant 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 would be required to 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.

Lots, Building Sites & Bulk Standards

- **The concept plan depicts single family lots which generally conform to the CD-3 bulk standards listed in Table 4.3.1-C of the Zoning Ordinance.**
    - The Ordinance established minimum lot widths for single-family home lots:
        - 65' for single family homes with street-facing driveways; and
        - 40' for single family homes served by alleys.
    - The Ordinance prescribes setbacks of:
        - 25' minimum front setback on principal frontages and 20' on secondary frontages;
        - 8' side setback; and
        - 25' rear setback, measured from the rear property line; or 15' from the centerline of rear alley as applicable.
    - The applicant's concept proposes the creation of 130 lots which exceed the minimum lot width and could accommodate homes conforming to the setbacks.
        - Forty-six of the conceptual lots are at least 65' wide (corner lots are wider).
        - Eighty-four of the conceptual lots are served by alleys. These lots are at least 52' wide (corner lots are wider).
    - The larger lots are arranged on the outside of the concept plan.

Civic Spaces

- **The concept plan indicated that it is possible to develop the site with required Civic Space in the form of Playgrounds, Greens, and Pocket Parks dispersed throughout the development. Additional details will be required for any subsequent Site Development Plan or Preliminary Plat.**

- 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.
- 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 each lot within a CD-3 development.
- The concept plan depicts two playground spaces, a mid-block pedestrian connection which breaks up the largest block, and four additional "open spaces" which will presumably serve a Civic Spaces.
- Conformity with the standards for each Civic Space type will be evaluated at Site Development Plan and Preliminary Plat.

Type	Number
Playground	2
Pedestrian Path	1
Other Civic Spaces	4

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 concept plan indicates that 22.8 acres of the site (40%) is covered by existing tree canopy.
  - The concept depicts trees preservation of 12.5 acres (54% of existing canopy); which exceeds the minimum requirement.
  - Any subsequent Site Development Plan or Preliminary Plat will require a detailed tree preservation plan which identifies Specimen and Heritage trees, as well as other preservation priorities listed in the Ordinance.
  - The preservation of existing tree canopy may alter the site design.

Thoroughfares, Blocks, and Connectivity

- **Section 5.2 of the Zoning Ordinance requires that new Thoroughfares and Internal Drives be arranged to form blocks, provide for connectivity, and conform to specific standards.**

[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).

- The concept plan depicts new thoroughfares which form blocks, although some lots on the perimeter of the site are not arranged into blocks.
- The concept proposes a connection to the established adjacent neighborhood to the east via an extension of Dalya Lane.[2]
- Additional future connections are proposed to the north and the west.[3]
- Some of the proposed lots expose rears to North James Campbell Boulevard, a design which is disfavored by the zoning ordinance. Abutting the rears to property identified as open space circumvents the prohibition of through-lots at **§4.3.3** of the ordinance. Planning staff has provided advisory comments suggesting alternatives which the applicant has acknowledged.

Other Requirements

- **Conformity with other requirements of the Ordinance, including design prescriptions will be reviewed at the time of Site Development Plan or building permit as applicable.**

REVIEW PROCESS

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

Section **8.5.19** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Official Zoning Map. The Planning Commission is the recommending body for rezonings under **§ 8.3.3.B.3** of the Zoning Ordinance.

Section **8.5.19.H.4** of the Zoning Ordinance establishes the review criteria for approval of all changes to the Official Zoning Map:

a. The Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;

b. It has been determined that the legal purposes for which zoning exists, as set forth in Section 1.5 [, are not contravened]; [4]

c. It has been determined that there will be no adverse effect upon Adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;

[2,3] Plan-left is north on the concept.

[4] 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."

d. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;
e. It has been determined that conditions affecting the area have changed to a sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;
f. It has been determined that adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available

Section **8.5.20** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Future Land Use Map of the Comprehensive Plan. The Planning Commission is the recommending body for amendments of the Future Land Use Map under **§ 8.3.3.B.3** of the Zoning Ordinance. Section **8.5.20.B** allows for concurrent review of Comprehensive Plan Amendments and associated Rezonings; however, "decisions shall be rendered with separate motions."

Section **8.5.20.F** of the Zoning Ordinance establishes the review criteria for changes to the Future Land Use Map of Connect Columbia, the Columbia's comprehensive plan:

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;*
2. *Whether the proposed change would be compatible with the existing land use pattern and designated future land uses;*
3. *Whether the proposed change would create substantial adverse impacts in the Adjacent area or the City in general;*
4. *Whether conditions affecting the area have changed to a sufficient extent to warrant the proposed change; and*
5. *Whether the subject parcel is of adequate shape and size to accommodate the proposed change.*

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its October 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** asked the applicant to provide a narrative response to criterion **8.5.19.H.4(e)** explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment. This request is intended to aid

the Planning Commission in its analysis of the requested change to zoning map. The applicant provided a narrative response to the request.

- Planning also asked the applicant to provide a narrative response to criterion **8.5.20.F** explaining why the request Future Land Use Map amendment is consistent with the intent and guiding principles of Connect Columbia, that the request is compatible with the surrounding area, and that the change will not create adverse impacts upon the surrounding area. This request is intended to aid the Planning Commission in its analysis of the requested change to zoning map. The applicant provided a narrative response to the request.
- Planning also made advisory comments related to the concept plan. Specifically, planning staff noted that the design depicts an arrangement of thoroughfares and blocks which results in lots with rears facing North James Campbell Boulevard. This is disfavored by the zoning ordinance. If the Future Land Use Map amendment and rezoning are approved, any future Site Development Plan should either reposition these lots with rear-to-rear configurations, utilize alternative enfrontment permitted by **4.3.1-C**, or utilize active civic space and effective screening to separate the private space from the public frontage. The applicant acknowledged this comment.
- **Wastewater** provided specific advisory comments related to the location of any required pump station and plans for its future elimination. The utility requests that if the rezoning is approved and the project proceeds to Site Development Plan, any future sanitary sewer designs direct flow toward Dalya Lane, near the northeast portion of the subject site. The applicant acknowledged this request.[5]
- The Office of the **Fire Marshal** provided an advisory comment on the concept plan. If the rezoning is approved and the project proceeds to Site Development Plan, any dead ends must include a fire apparatus turn-around. This would likely only impact the proposed future connection point at the northern portion of the concept.[6]
- Columbia Water System's (**CPWS**) consultant (Inflow) noted that the water availability letter issued on September 1, 2023 will expire in 120 days.
- **Maury County Schools** noted that the site is currently in the attendance zones of Riverside 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.

[5, 6] Plan-left is north on the concept.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

The requested CD-3 zoning is not consistent with Connect Columbia. The subject site's future land use classification is Suburban Corridor. The future land use classification is implemented exclusively by the CD-4C character district, as well as PUDs. The applicant has requested a change to the Future Land Use Map from Suburban Corridor to Suburban Neighborhood. The Suburban Neighborhood future land use is implemented by the CD-3L and CD-3 character districts.

The requested change to the future land use map is not consistent with the proposed update to Connect Columbia. The Planning Commission is currently in the process of completing a five-year update to Connect Columbia. The proposed Future Land Use classification for the subject parcel is City Center Urban Village (CCUV) which, if adopted by the Commission, will be implemented by the CD-4, CD-5, and CD-4C character districts as well as PUDs.

Conditions affecting the area may have changed to a sufficient degree to warrant the Future Land Use Map and Zoning Map Amendments. The comprehensive plan and the zoning ordinance encourage infill development. The subject property is located inside the central part of Columbia and can support higher intensity development without substantial extensions of infrastructure and urban services. In 2017, the Planning Commission designated the property as Suburban Corridor, indicating that the City's land use policy favors higher intensity development of the site. In late 2022 and early 2023, a developer failed to obtain City Council approval of a rezoning to CD-4. In a response to staff comments, the applicant argues that the failure of the previous request.

The plan of development will require modest revision should the project advance to Site Development Plan and Preliminary Plat. As discussed in previous sections, the concept plan demonstrates that it is possible to develop the site in conformity with the standards of the zoning ordinance. However, greater detail will be required at the time of Site Development Plan. In particular, the arrangement of lots on the southern portion of the site may need to be revised and the Planning Commission will require greater detail related to Civic Spaces.

If the Planning Commission recommends approval, the applicant should provide an updated water availability letter and a corrected application prior to first consideration by the City Council. The water availability letter will expire before the City Council could consider the request. In addition, there is an error in the signatures on the application. If the request advances to the City Council, the applicant should correct these potential deficiencies prior to publication of the December 2023 council agenda.

SAMPLE MOTIONS

Future Land Use Map (Comprehensive Plan) Amendment

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 **8.5.20.F** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed change to the Future Land Use Map of Connect Columbia *[, subject to technical comments and other conditions presented by planning staff*].

Deny:

Move to recommend denial of the proposed change to the Future Land Use Map of Connect Columbia having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** 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 decide, 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.

Zoning Map Amendment

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 **8.5.19.H** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed rezoning *[, subject to technical comments and other conditions presented by planning staff*].

Deny:

Move to recommend denial of the requested rezoning having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** 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 decide, 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.

NOTES:

ZONING : CD-3
AREA : ± 56.7 ACRE
TYPICAL R.O.W. WIDTH : 70'
MAX. DENSITY : 4 UNITS/ACRE

MAX. ALLOWABLE LOT : 226
SETBACKS
FRONT : 25'
SIDE : 8'
BACK : 25' OR 15' FROM CENTER LINE OF ALLEY

TOTAL LOTS : 130

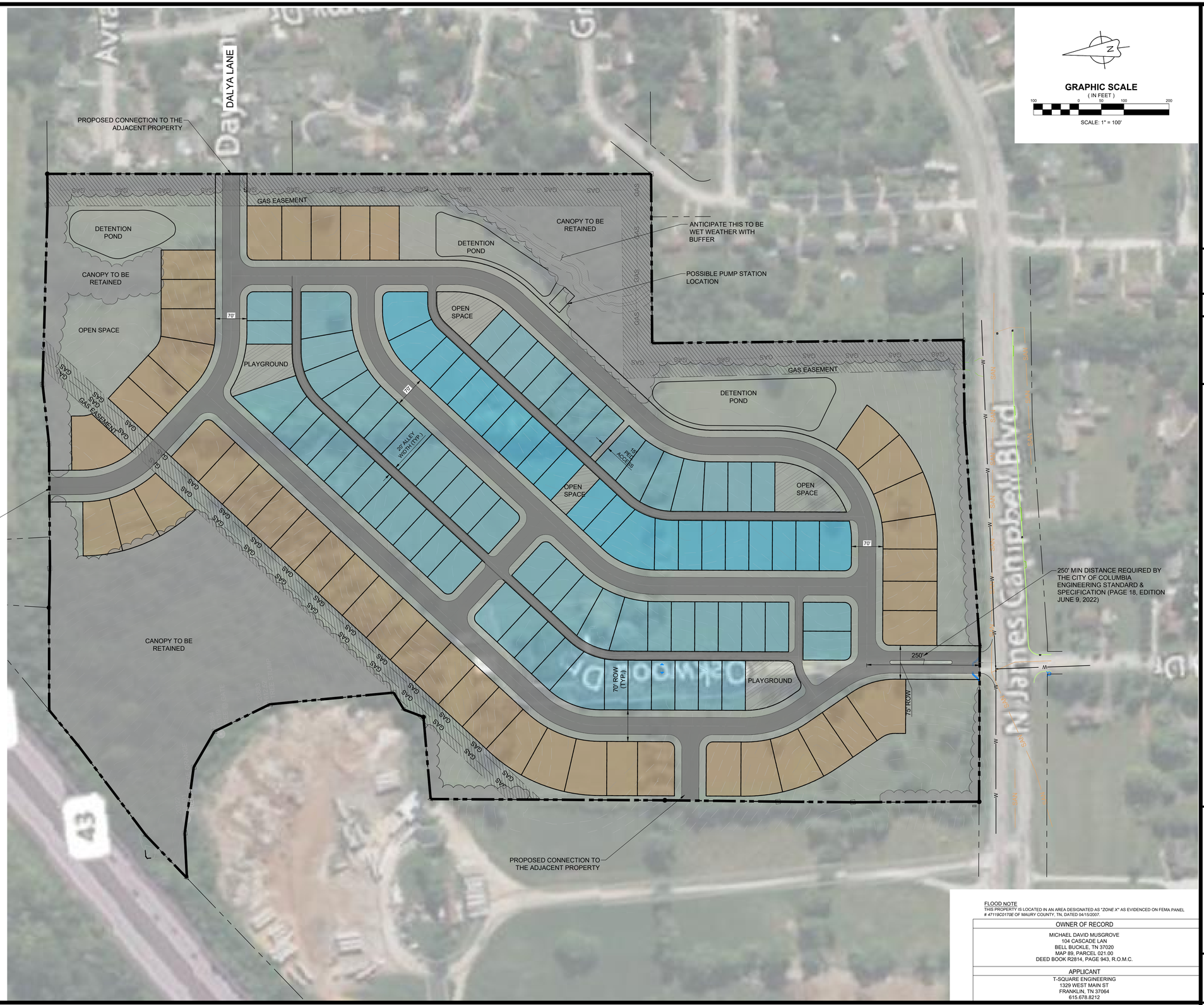
- BIGGER LOT - FRONT LOADED (46 LOTS)
  MID BLOCK LOT : 65' x 120'
  CORNER LOT : 77' x 120'
- SMALLER LOT - ALLEY LOADED (84 LOTS)
  MID BLOCK LOT : 52' x 100'
  CORNER LOT : 64' x 100'

CANOPY REQUIREMENT

- TOTAL EXISTING CANOPY : 22.8 AC (40% OF TOTAL AREA)
- MIN. REQUIRED CANOPY : 45% (10.2 AC) RETENTION
- CANOPY RETAINED : 12.15 AC (54%)

PLAYGROUND

- REQUIREMENT : EVERY 800' RADIUS. ~ NEEDS MIN. 2
- PROPOSED : 2



GRAPHIC SCALE
(IN FEET)
100 0 50 100 200
SCALE: 1" = 100'

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0170E OF MAURY COUNTY, TN, DATED 04/15/2007.

OWNER OF RECORD
MICHAEL DAVID MUSGROVE 104 CASCADE LAN BELL BUCKLE, TN 37020 MAP 89, PARCEL 021.00 DEED BOOK R2814, PAGE 943, R.O.M.C.
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 09/06/23
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: LTS

CONCEPT PLAN

MAP 89, PARCEL 021.00
COLUMBIA, TENNESSEE

OAKWOOD DRIVE SUBDIVISION

T-SQUARE ENGINEERING

PROJECT
23-0533

SHEET
C-2.0

T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-eng.com

10/16/2023

City of Columbia
700 North Garden Street
Columbia, Tennessee 38401

RE: 200 Oakwood Drive Rezoning

Staff,

Please find below the responses to the comments received for the rezoning submittal with our responses in red.

ITEM NO.
23-0388

DESCRIPTION: Request from Louis Sloyan for comprehensive plan amendment (suburban corridor to suburban neighborhood) and rezoning of 200 Oakwood Drive from CD-3L to CD-3..

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
   Acknowledged
2. A current water availability letter is required throughout the entitlement process. The current letter will expire on December 30, 2023. Presuming a timely resubmittal to technical comments and a favorable recommendation from the planning Commission in November, the public hearing for this item will occur on January 11th. Following consideration by the Planning Commission, a new water availability letter will be required to proceed to the City Council agenda. The lead times for new letters can be long. Please communicate with IDG and CPWS accordingly.
   Acknowledged, we will reach out to IDG and CPWS so they can advise on the process to obtain an extension to this current letter.
3. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
   Please refer to the included memo detailing conditions.

4. Please provide a narrative response explaining why the applicant believes the five criteria for Planning Commission Recommendations listed at 8.5.20.F of the Zoning Ordinance (p. 450) support the proposed change to the Future Land Use Map.
   Please refer to the included memo detailing the criteria.
5. Advisory: Planning staff will place signs on the property and send certified letters to adjacent property owners on or before October 27th. Please be prepared to address any concerns regarding compatibility with the established pattern of the surrounding area.
   Acknowledged.
6. Advisory: The concept depicts an arrangement of Thoroughfares and blocks which results in lots with rears facing James Campbell Boulevard. This is disfavored by the Zoning Ordinance. If the Comp Plan Amendment and Rezoning are approved, the Site Development Plan should either reposition these lots with rear-to-rear configurations, utilize alternative enfrontment permitted by 4.3.1-C, or utilize active civic space and effective screening to separate the private space from the public frontage.
   Acknowledged.

Fire

7. Dead ends over 150' must have an approved turn around
   Acknowledged.

Building

8. No comment.

Police

9. No comments provided.

Maury County E911

10. Contact Maury County 911 for street name request. cgideon@maury911.org
    Acknowledged

Maury County Schools

11. 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.
    Acknowledged.

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.

Public Works

13. No Comment.

ATT

14. AT&T INTENDS TO SERVE. DEVELOPER TO REACH OUT TO ATT REGARDNG PATHWAY AND SUBSTRUCTURE NEEDED FOR PROJECT.
    Acknowledged

Engineering

15. No comments on comprehensive plan amendment or rezoning.

Wastewater

16. Columbia Wastewater has stated its concerns in the availability letter and the Concept Plan does not reflect that in the proposed location of the pump station.
    Acknowledged

Columbia Water

17. "A water availability letter was issued on September 1, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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."
    Acknowledged.

Atmos Energy

18. No comments.

Duck River Electric Membership Corp

19. No comments provided.

Maury County Highway Dept.

20. No comments provided.

CPWS BB

Plan to serve.

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.

Please contact Louis Sloyan, PE at T-Square Engineering with comments.

Thank you for your review,

Louis Sloyan, PE
T-Square Engineering, Inc.

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, October 10, 2023

ITEM NO.
23-0388

DESCRIPTION: Request from Louis Sloyan for comprehensive plan amendment (suburban corridor to suburban neighborhood) and rezoning of 200 Oakwood Drive from CD-3L to CD-3..

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
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3. Advisory: Planning staff will place signs on the property and send certified letters to adjacent property owners on or before October 27th. Please be prepared to address any concerns regarding compatibility with the established pattern of the surrounding area.
4. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
5. Please provide a narrative response explaining why the applicant believes the five criteria for Planning Commission Recommendations listed at 8.5.20.F of the Zoning Ordinance (p. 450) support the proposed change to the Future Land Use Map.
6. Advisory: The concept depicts an arrangement of Thoroughfares and blocks which results in lots with rears facing James Campbell Boulevard. This is disfavored by the Zoning Ordinance. If the Comp Plan Amendment and Rezoning are approved, the Site Development Plan should either reposition these lots with rear-to-rear configurations, utilize alternative enfrontment permitted by 4.3.1-C, or utilize active civic space and effective screening to separate the private space from the public frontage.

Fire

7. Dead ends over 150' must have an approved turn around

Building

8. No comment.

Police

9. No comments provided.

Maury County E911

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

Maury County Schools

11. 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

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.

Public Works

13. No Comment.

ATT

14. ___ ATT INTENDS TO SERVE. DEVELOPER TO REACH OUT TO ATT REGARDNG PATHWAY AND SUBSTRUCTURE NEEDED FOR PROJECT.

Engineering

15. No comments on comprehensive plan amendment or rezoning.

Wastewater

16. Columbia Wastewater has stated its concerns in the availability letter and the Concept Plan does not reflect that in the proposed location of the pump station.

Columbia Water

17. "A water availability letter was issued on September 1, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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."

Atmos Energy

18. No comments.

Duck River Electric Membership Corp

19. No comments provided.

Maury County Highway Dept.

20. No comments provided.

CPWS BB

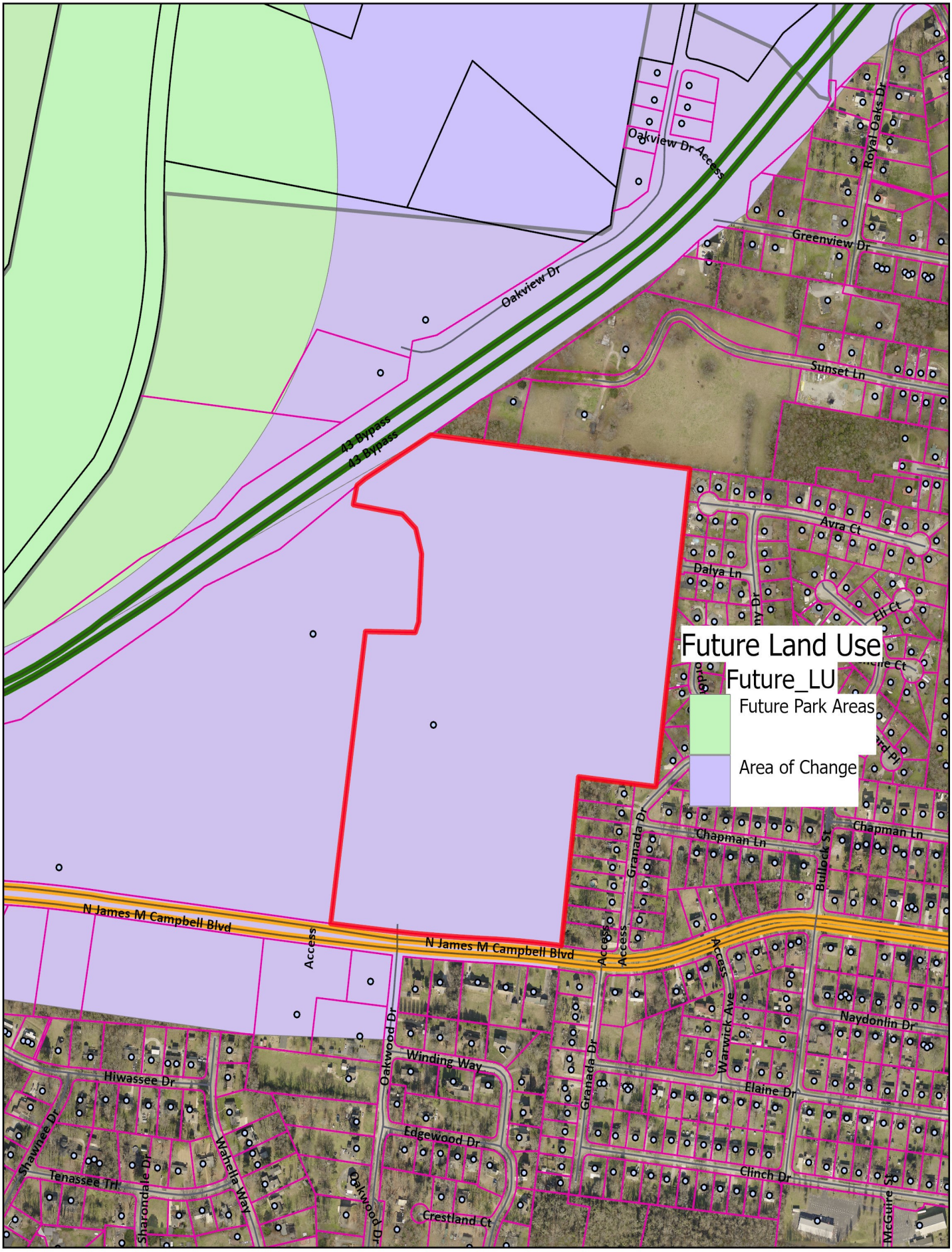
Plan to serve.

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.

Current Enrollment / Capacity

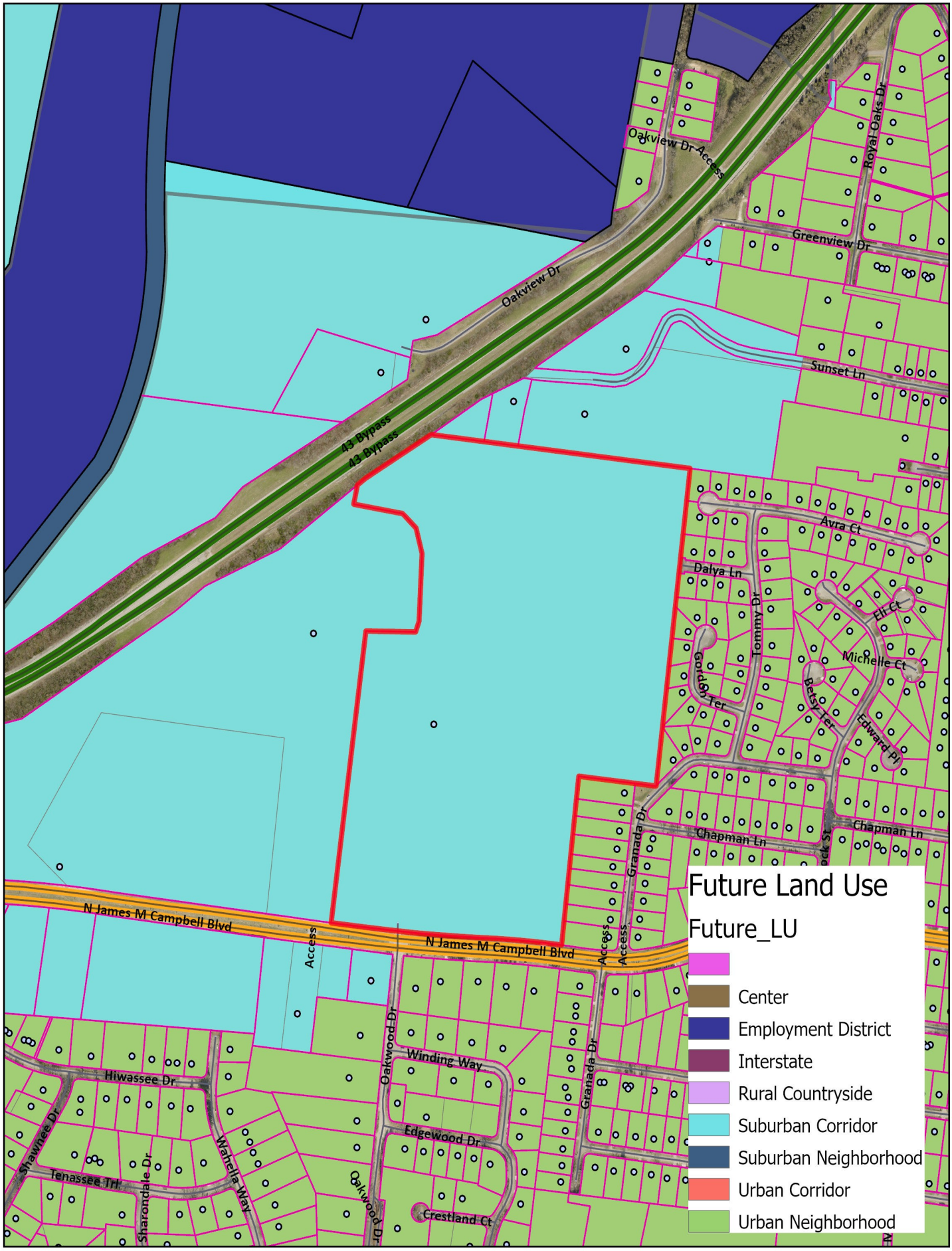
	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	609	87.0%
	Brown	1968	56,720	20	405	350	86.4%
	Highland	1986	47,800	4.5	380	303	79.7%
	Howell	1999	81,600	17.5	700	642	91.7%
	Mt. Pleasant	1978	80,021	22	630	565	89.7%
	Riverside	1984	71,150	14	500	414	82.8%
	Spring Hill	1984	69,000	10	540	442	81.9%
	Woodard	1990	76,200	17	600	563	93.8%
	Wright	2005	97,765	18	740	633	85.5%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	647	71.9%
	Mt. Pleasant	2001	113,938	29.2	550	415	75.5%
	Spring Hill	2010	158,106	39.49	950	522	54.9%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1412	83.1%
	Mt. Pleasant	1969	110,759	31	600	400	66.7%
	Spring Hill	1993	181,800	57	1200	1158	96.5%
					3500	***2970***	***84.9%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	406	81.2%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1841***	***84.8%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		139	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**12985**	



23-0388
200 Oakwood Dr.

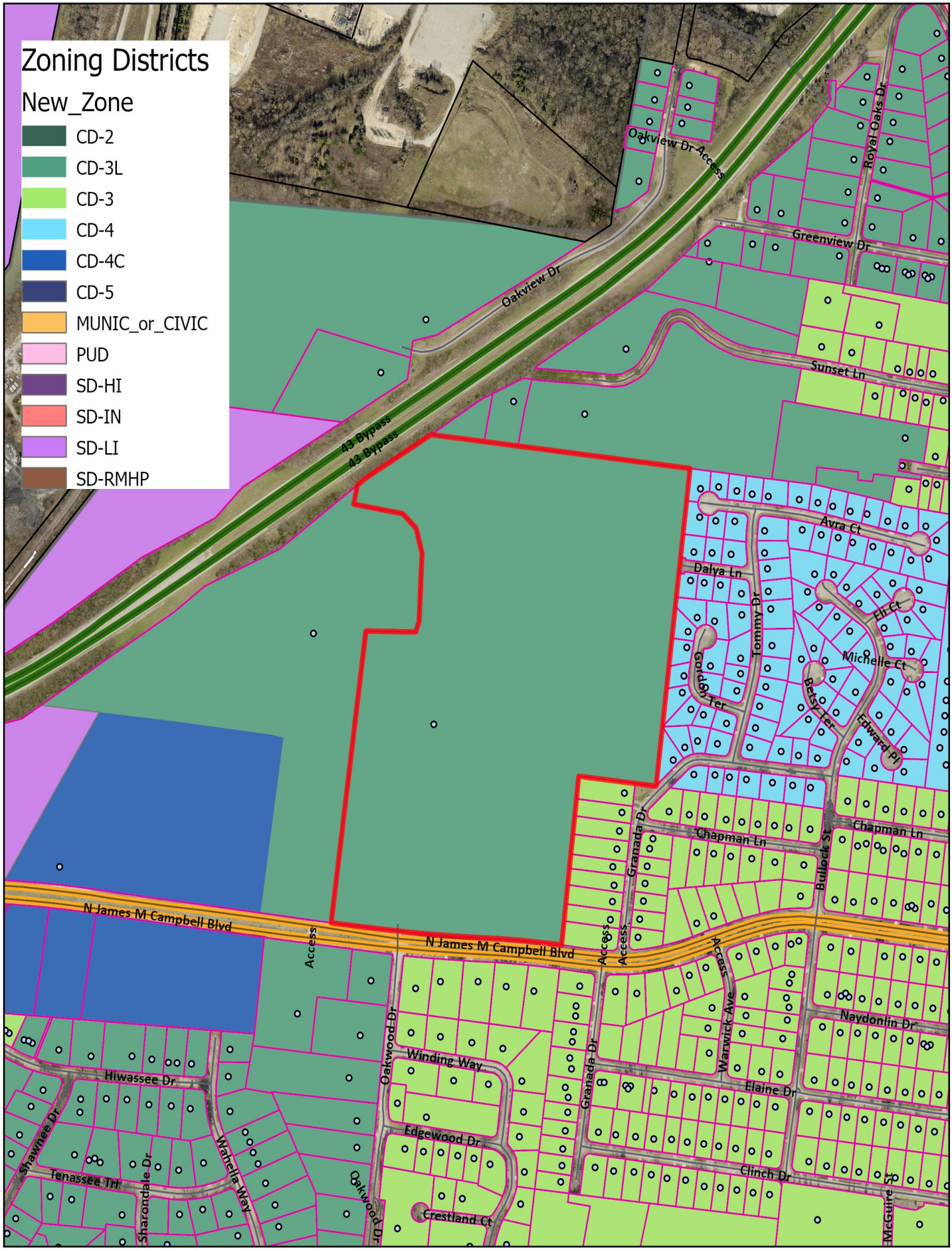
CITY OF COLUMBIA TENNESSEE

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



23-0388
200 Oakwood Dr.

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T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-eng.com

10/16/2023

City of Columbia
700 North Garden Street
Columbia, Tennessee 38401

RE: 200 Oakwood Drive Rezoning

Staff,

Please find below the supplemental narrative responses to comments 3 and 4.

The property in question was previously brought before the Planning Commission in November of 2022, with a higher density proposal of 12 units per acre. This rezoning request brought upon concerns from Planning Commission about the higher density zoning. To address the Planning Commissions concerns about higher density zoning on this property, CD-3 would be an acceptable fit for the property as it would match the existing uses and zonings to the adjacent parcels which are CD-3 and CD-4 to the east, and CD-3 to the south and extend that zoning district.

To accommodate this requested zoning change, the Comprehensive Plan would need to be updated to reflect a Suburban Neighborhood designation. This update to the Comprehensive Plan would update the policy to reflect the policy applied to the adjacent properties to the east and west and continue the single-family neighborhood plan through this parcel. This Comprehensive Plan update would also address the Planning Commission concerns of having a higher density zoning district immediately adjacent to the existing subdivisions.

Please contact Louis Sloyan, PE at T-Square Engineering with comments.

Thank you for your review,

Louis Sloyan, PE
T-Square Engineering, Inc.

Legal Description – 200 Oakwood Drive

Being a tract of land lying in Maury County, Tennessee, being generally bounded on the north by US Highway 412 (also known as US Highway 43, right-of-way varies), James Patterson (D.B. R1876, pg. 1121), and Johnny Patterson (D.B. R1265, pg. 383), on the east by Huntingdon Woods Subdivision, Section 2A (P.B. 10, pg. 14), Huntingdon Woods Subdivision, Section 1 (P.B. 8, pg. 338), and Bel Air Heights Subdivision (P.B. 2, pg. 176), on the south by James M. Campbell Boulevard (150 ft. right-of-way), and on the west by Baker (D.B. R2251, pg. 1011), and being more particularly described as follows:

Beginning at an iron pin found in the north margin of James M. Campbell Boulevard, being the southeast corner of Baker and the southwest corner of the property herein described; thence leaving the margin of said road and with the east line of Baker, the following calls: N 06°46'11" E , 279.50' to a fence post; thence N 07°27'22" E , 165.56' to a fence post; thence N 07°41'54" E , 250.53' to an iron pin found; thence N 07°19'00" E , 518.44' to a point; thence S 87°57'21" E , 182.29' to an iron pin found; thence N 27°56'50" E , 46.48' to a point; thence N 65°53'44" E , 43.80' to a fence post; thence N 01°37'19" E , 275.18' to a fence post; thence N 19°02'49" W , 136.50' to a fence post; thence N 52°49'38" W , 91.59' to a fence post; thence N 75°13'35" W , 147.19' to a fence post; thence N 85°45'39" W , 99.65' to a point in the southeast margin of US Highway 412, being the northeast corner of Baker and the northwest corner of the property herein described; thence along the margin of said road, the following calls: N 53°07'09" E , 130.52'; thence N 59°59'01" E , 250.20'; thence N 57°41'35" E , 100.48' to a point, being the southwest corner of James Patterson; thence leaving the margin of said road and with the south line of James Patterson, S 83°03'59" E , 227.01' to an iron pin found, being the southwest corner of Johnny Patterson; thence with the south line of Johnny Patterson, S 81°40'45" E , 86.95' to a fence post; thence continuing with Johnny Patterson and with the south line of James Patterson, the following calls: S 83°24'19" E , 275.54' to a fence post; thence S 89°07'08" E , 132.78' to a fence post; thence S 81°25'02" E , 397.19' to a fence post; thence S 83°18'08" E , 68.86' to an iron pin found, being the northwest corner of Lot 45 of Huntingdon Woods Subdivision, Section 2A and the northeast corner of the property herein described; thence leaving James Patterson and with the west line of Huntingdon Woods Subdivision, S 07°01'26" W , 1336.42' to a fence post in the northwest margin of Granada Drive, being the southwest corner of Lot 5 of Huntingdon Woods Subdivision, Section 1; thence leaving the margin of said road and with the north line of Bel Air Heights Subdivision, N 83°19'39" W , 374.53' to a fence post, being the northwest corner of Lot 9 of Bel Air Heights Subdivision; thence with the west line of said subdivision, S 06°26'37" W , 688.95' to a point in the north margin of James M. Campbell Boulevard, being the southwest corner of Lot 1 of Bel Ari Heights Subdivision and the southeast corner of the property herein described; thence along the margin of said road, the following calls: N 83°47'59" W , 182.65'; thence N 86°52'50" W , 495.45'; thence N 82°44'51" W , 345.20' to the Point of Beginning. Containing 56.73 Acres, as surveyed by T-Square Surveying, J. Mark Cantrell, RLS #1859, dated 09-07-2022, and being more or less the property described in DB. R2814, pg. 943, R.O.M.C.

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

21 July 2023

Drew Taylor
Land Acquisition Manager
Smith Douglas Homes
361 Mallory Station Road, Suite 103
Franklin, TN 37067

RE: Parcel ID: 089 02100 000; 200 Oakwood Drive, Columbia, TN 38401

Drew,

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.

The sanitary sewer design must allow for the flow going to the pump station to be redirected towards MHID 1588 near Dalya Ln of the existing Columbia Wastewater Sewer System such that elimination of this proposed pump station in the future is possible. The pump station should be placed near Dalya Ln to make elimination possible, and the fenced area around the station should be designed to be 50'x50'. The pump station force main should terminated at MHID 174 on N James Campbell which drains westward.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CPWS

September 1, 2023

Mr. Drew Taylor
Smith Douglas
361 Mallory Station Rd. Suite 103
Franklin, TN 37067
Sent via email: dtaylor@smithdouglas.com

RE: Water Availability Letter
Oakwood Subdivision – 130 Units
200 Oakwood Dr
Tax Map 89, Parcel 21
Columbia, Maury County, TN

Dear Mr. Taylor:

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 130 single-family residential 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 16-inch water main located on North James M. Campbell Boulevard and the existing 8-inch water main on Dalya Lane.
- Minimum size 8-inch 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.

CPWS

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 (130 SFUs)	$49,600.00

- 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 (130 meters)	$70,200.00
Impact Fee: $4,500 per 3/4" meter (130 meters)	$585,000.00
Total Meter and Impact Fees Due =	**$655,200.00**

- 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 23-039

HYDRANT FLOW ANALYSIS

HYDRANT # & LOCATION: 1258 Oakwood Drive DATE:

MODEL BY: Inflo Design Group, LLC SYS. DEMAND Max Day DURATION: 1 hrs.

WATER SUPPLIED BY: Columbia Power and Water Systems

PURPOSE OF TEST: Oakwood

MODEL DATA

FLOW HYDRANT(S)	1258	n/a	n/a
GPM:	**850**	0	0

TOTAL FLOW DURING SIMULATION: **850** GPM

GAUGE HYDRANT

HYDRANT # & LOCATION: Proposed James Campbell Blvd @ Oakwood

CONDITION 1

STATIC 79 PSI RESIDUAL: 74 PSI

CONDITION 2

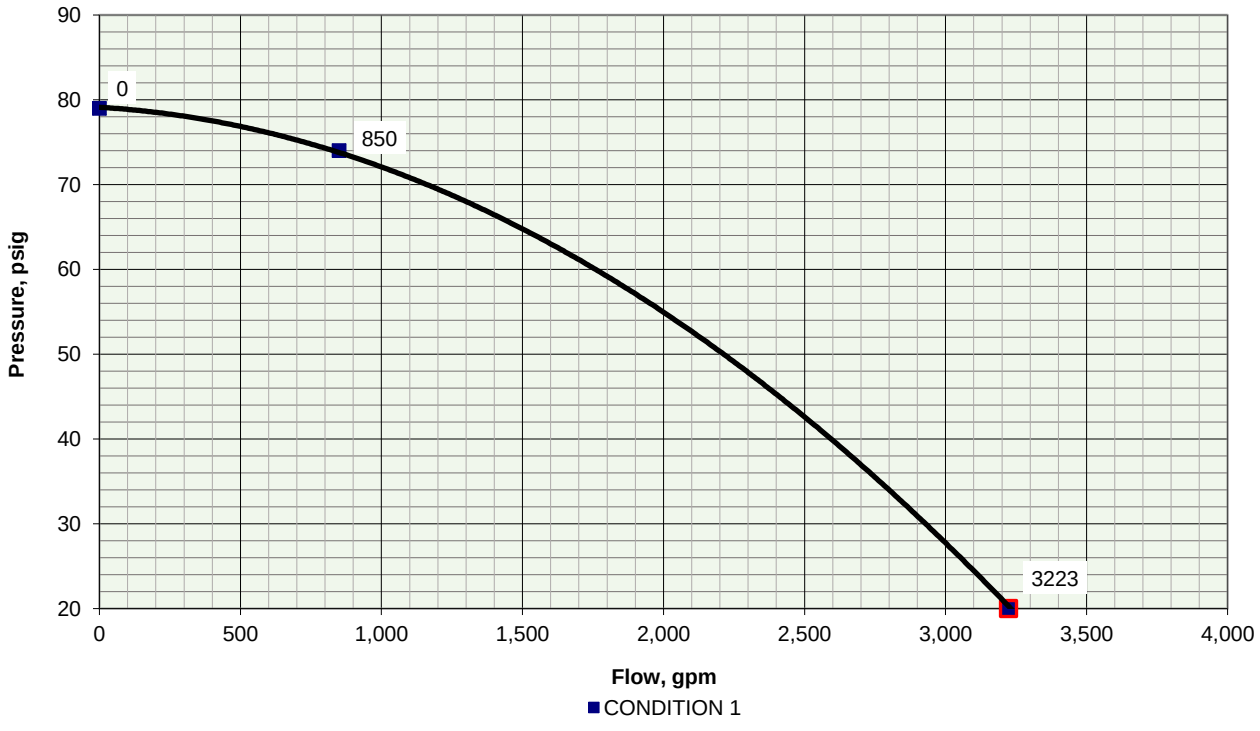
STATIC _____ PSI RESIDUAL: _____ PSI

RESULTS: AT 20 PSI RESIDUAL

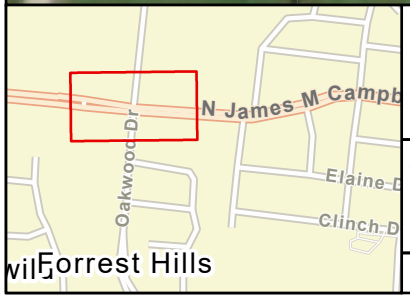
CONDITION 1 **3223** GPM

CONDITION 2 **---** GPM

REMARKS: Performance based on service elevation of 671' and current CPWS water infrastructure and do not account for additional losses associated with development piping.







Hydrant Analysis Location Map

Oakwood Development
(Tax Map 89, Parcel 21.00)

Maxar, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

2022

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 0.01 0.03 Mi

0 0.02 0.04 Km

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CIVIL-SITE | TRAFFIC | WASTEWATER

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Franklin, TN 37064
615.678.8212

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8/21/2023

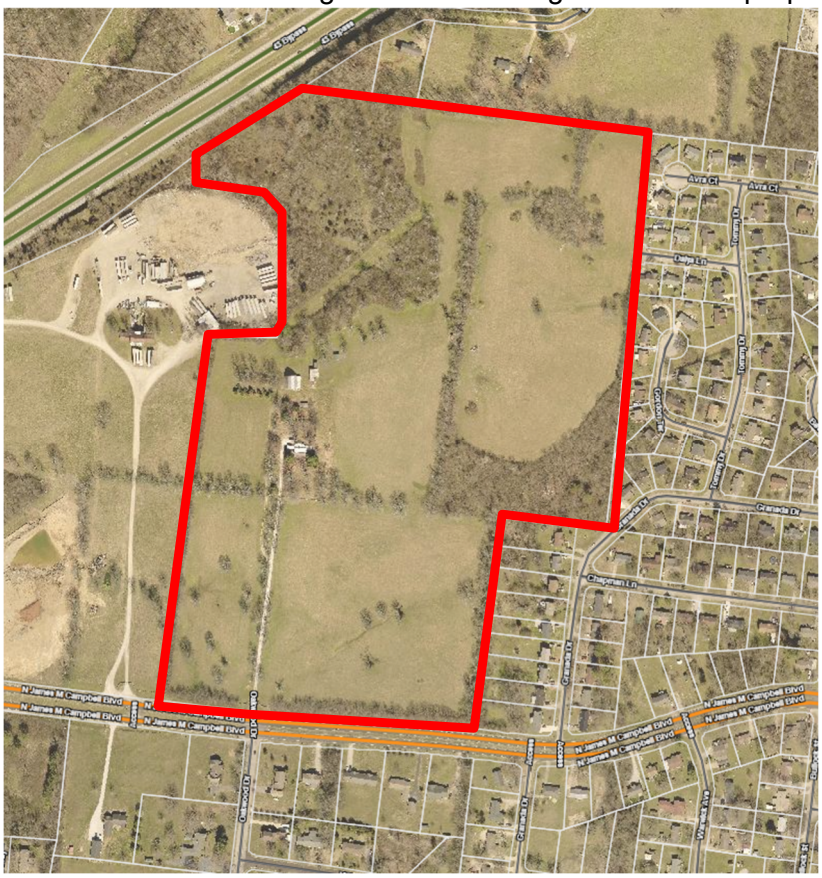
City of Columbia
700 North Garden Street
Columbia, Tennessee 38401

RE: 200 Oakwood Drive Rezoning

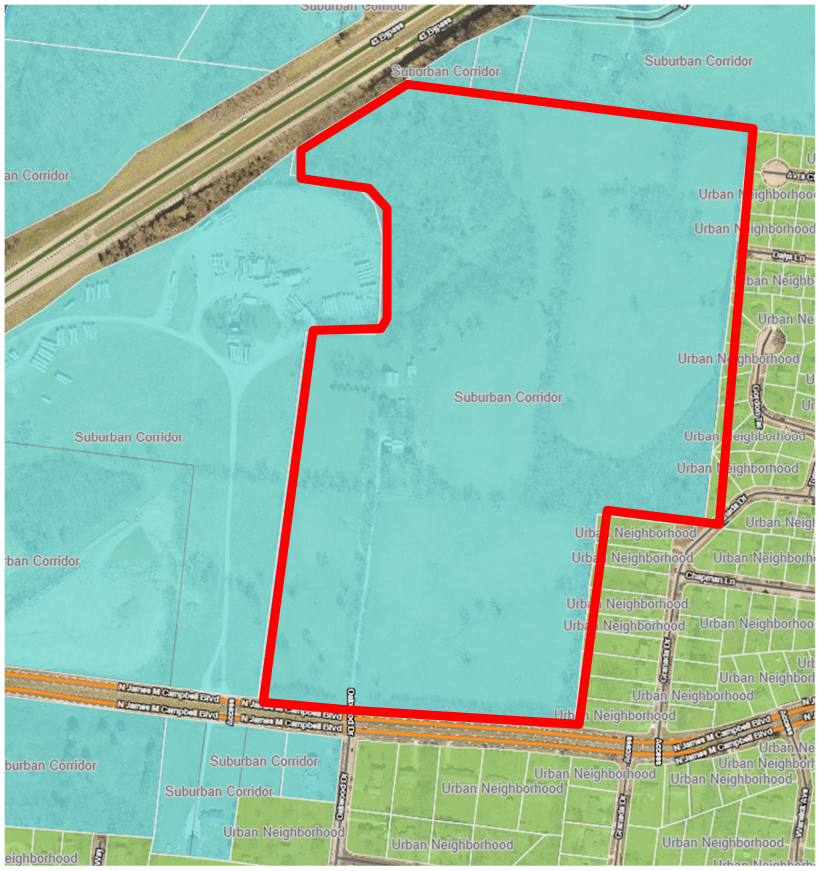
Staff,

Please find included in this submittal the Rezoning application for 200 Oakwood Drive. In these sketches, we have shaded the portion of the property we intend to rezone.

We formally request that the property at Map 89, Parcel 21.00 would be rezoned from CD-3L to CD-3. See the image below designated the property to be rezoned in red.



The property is currently shown as Suburban Corridor. Zone CD-3 is not in accordance with the current district designation of Suburban Corridor. Because of this, we are also requesting a Comprehensive Plan Amendment to Suburban Neighborhood which is supportive of the current zoning, CD-3L, and the requested zone of CD-3. The Suburban Neighborhood also is a similar character to the adjacent properties to the east and south. See the images below designating the property in red.


Suburban Corridor
Suburban Corridor
Suburban Corridor
Suburban Corridor
Urban Neighborhood
Urban Neighborhood
Urban Neighborhood

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	200 Oakwood Drive; Columbia, TN		
	TAX MAP: 089	GROUP:	PARCEL: 021.00
SUMMARY OF NATURE OF REQUEST AND WORK	Rezoning from CD-3L to CD-3, along with comprehensive plan amendment to match CD-3 zoning		

DATE OF PRE-APPLICATION CONFERENCE	6/28/2023	*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: Comprehensive Plan Amendment **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	Louis Sloyan	PHONE	615-678-8212
ADDRESS	1329 W Main Street Franklin, TN	EMAIL	Louis.Sloyan@T2-Eng.com

PROPERTY OWNER NAME	Michael Musgrove	PHONE	
ADDRESS	104 Cascade Lane Bell Buckle, TN 37020	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.

Drew Taylor APPLICANT NAME	 APPLICANT SIGNATURE	8/7/23 DATE
Michael Musgrove PROPERTY OWNER NAME	 PROPERTY OWNER SIGNATURE	8/7/23 DATE 8/7/23

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	

Morningside Lane Rezoning

Project #:	23-0379	Location:	Map 89E F Parcel 1.01, 1.02
Applicant:	WES Engineers & Surveyors	Case Type(s):	Rezoning
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests to rezone a 4.28-acre property near the current terminus of Morningside Lane from CD-3L (Neighborhood Large-Lot Character District) to CD-3 (Neighborhood Character District). The applicant also requests to amend the future land use map of Connect Columbia, the comprehensive plan, reclassifying the subject property from Urban Neighborhood to Suburban Neighborhood. The map amendment is necessary to make the requested rezoning consistent with the comprehensive plan. In November 2023, the Commission recommended approval of rezoning the property to CD-4 (General Urban Character District). The following month, City Council referred the item back to Planning Commission after the applicant agreed to amend the request. The current zoning permits low density single-family residences. The requested zoning designation accommodates medium density residential uses. The applicant's revised concept depicts development of the site for detached single family homes. The Zoning Ordinance permits two dwelling units per acre in CD-3L and four dwelling units per acre in CD-3. Single-family homes, duplexes, and civic buildings are the permitted structure types in CD-3. Most non-residential uses are prohibited.

- The DRC reviewed this proposal at its October 2023 meeting; the revisions was reviewed by relevant members of the DRC.
- The concept indicates it is possible to develop the site in conformity with CD-3 standards.
- Rezoning simply establishes entitlements under the zoning ordinance, not a vested right to develop the site as depicted in the concept plan; greater detail will be required at the time of any subsequent site development plan and preliminary plat.
- Although the subject property is not located in an Area of Change, the single-family standards of the CD-3 character district are compatible with the established pattern of the surrounding neighborhood.
- The Planning Commission is a **recommending body** for rezoning requests.
- The Planning Commission must make separate motions for the plan amendment and the rezoning.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

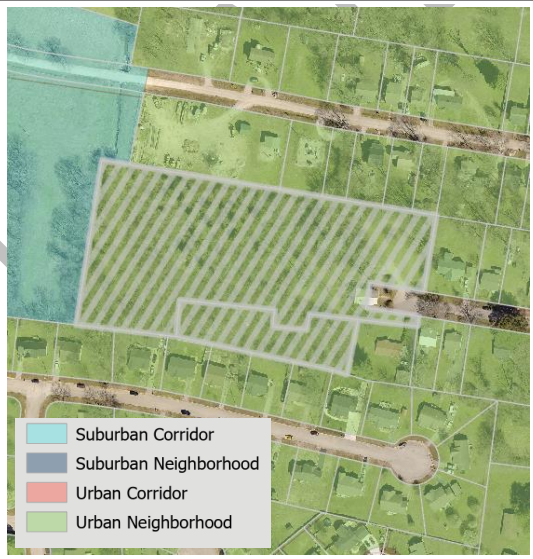
UPDATED 01-07-2024

SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-3L	Single Family	Single Family House	+/- 4.28 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Neighborhood	CD-3L	Single-Family
North	Urban Neighborhood	CD-3	Utility Facility/Single Family
South	Urban Neighborhood	CD-4	Single-Family
East	Urban Neighborhood	CD-3	Single-Family
West	Suburban Neighborhood	CD-3L	Single-Family

The subject property is currently vacant except for an unoccupied single-family home constructed in 1940. The property is located at the current terminus of Morningside Lane. It sits between a very large residential property to the west and medium density neighborhoods on the east, north, and south. One of the parcels bordering the property on the north contains a utility facility. The area is a mix of CD-3L, CD-3, and CD-4 zoned parcels. The future land use of the subject property and most adjacent properties is Urban Neighborhood. The current zoning in the immediate vicinity of the site is **not consistent** with Connect Columbia, except for the CD-4 section to the south. Although the current zoning of the immediately surrounding Sunset Park Subdivision is CD-3, and therefore inconsistent with the Future Land Use Map, the platted lots are generally 50' wide, conforming to the CD-4 standard.

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.

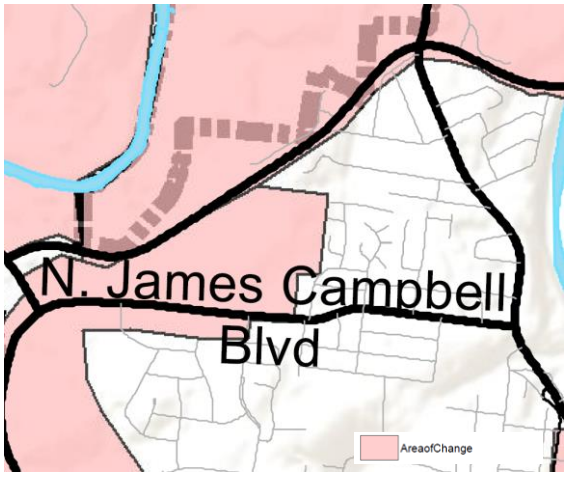
The requested CD-3 zoning is not consistent with the 2018 future land use plan, the applicant has added a request to amend the classification of the property to Suburban Neighborhood. The Suburban Neighborhood future land use is implemented by the CD-3L and CD-3 character districts. The requested zone is consistent with the requested future land use classification.

UPDATED 01-07-2024

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 not located** in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was established and that changes to overall character of the area should rarely occur. The designation does not necessarily mean that any particular development proposal is inconsistent with Connect Columbia. It does mean that the Planning Commission should pause to ensure the context of the area surrounding the subject property is considered in the review process. (Connect Columbia p. 14).

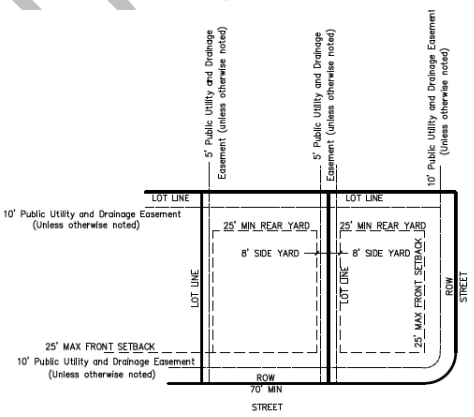


CONFORMITY WITH ZONING ORDINANCE

As required by **§ 8.5.19.F.3** of the Zoning Ordinance, the applicant 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 site development plan/preliminary plat must conform to 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.

Lots, Building Sites & Bulk Standards

- **The concept plan depicts single family lots which generally conform to the CD-3 bulk standards listed in Table 4.3.1-C of the Zoning Ordinance.**
    - The Ordinance requires a minimum lot width of 65' for a front-loaded single-family home.
    - The Ordinance prescribes setbacks of:
        - 25' minimum front setback principal and secondary frontages;
        - 8' side setback; and
          25' rear setback.
- The applicant's concept proposes the creation of fourteen lots which conform to the minimum lot width and could accommodate homes conforming to the setbacks.



Conceptual Lots Conform to CD-3 Standards

Other Standards

- Conformity with other requirements of the Ordinance, including tree preservation, Civic Space, and design prescriptions will be reviewed at the time of preliminary plat or building permit as applicable.

UPDATED 01-07-2024

REVIEW PROCESS

The Development Review Committee evaluated the proposed rezoning at its October 2023 meeting, as directed by **§8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package. The City Planner, the City Engineer, CPWS, and the designee of the Director of Wastewater reviewed the revised concept in January 2024. Their comments are summarized in the next section.

Section **8.5.19** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Official Zoning Map. The Planning Commission is the recommending body for rezonings under **§ 8.3.3.B.3** of the Zoning Ordinance.

Section **8.5.19.H.4** of the Zoning Ordinance establishes the review criteria for approval of all changes to the Official Zoning Map:

a. *The Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;*
b. *It has been determined that the legal purposes for which zoning exists, as set forth in Section 1.5 [, are not contravened];* [1]
c. *It has been determined that there will be no adverse effect upon Adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;*
d. *It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;*
e. *It has been determined that conditions affecting the area have changed to a sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;*
f. *It has been determined that adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available*

Section **8.5.20** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Future Land Use Map of the Comprehensive Plan. The Planning Commission is the recommending body for amendments of the Future Land Use Map under **§ 8.3.3.B.3** of the Zoning Ordinance. Section **8.5.20.B** allows for concurrent review of Comprehensive Plan Amendments and associated Rezonings; however, "decisions shall be rendered with separate motions."

UPDATED 01-07-2024

[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."

Section **8.5.20.F** of the Zoning Ordinance establishes the review criteria for changes to the Future Land Use Map of Connect Columbia, the Columbia's comprehensive plan:

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;*
2. *Whether the proposed change would be compatible with the existing land use pattern and designated future land uses;*
3. *Whether the proposed change would create substantial adverse impacts in the Adjacent area or the City in general;*
4. *Whether conditions affecting the area have changed to a sufficient extent to warrant the proposed change; and*
5. *Whether the subject parcel is of adequate shape and size to accommodate the proposed change.*

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The City Planner, the City Engineer, CPWS, and the designee of the Director of Wastewater reviewed the revised concept in January 2024. (See the November 2023 staff report for a summary of October 2023 DRC comments).

- **Planning** determined it is possible to develop the site in conformity with the requested CD-3 standards.
- Planning also determined the requested zoning is consistent with the requested future land use classification.
- Planning noted that the water availability letter will expire on January 13, 2024.
- **Engineering** noted that any future Site Development Plan must include a cul-de-sac turnaround conforming to the Standard Detail-15 of the City of Columbia Engineering Standards and Specifications rather than the temporary hammerhead style turnaround depicted in the concept plan.
- **Wastewater** noted that sewer upgrades may be required at the time Site Development Plan and Preliminary Plat. Specifically, the Royal Oaks sewershed warrants attention. The extent of the necessary improvements is currently unknown. Any subsequent request for development approval will require will-serve letter from the Director and the Civil Engineer of the Wastewater Department outlining necessary improvements.

UPDATED 01-07-2024

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

The requested CD-3 zoning is not consistent with Connect Columbia. The subject site's future land use classification is Urban Neighborhood. The future land use classification is implemented exclusively by the CD-4C character district, as well as PUDs. The applicant has requested a change to the Future Land Use Map from Urban Neighborhood to Suburban Neighborhood. The Suburban Neighborhood future land use is implemented by the CD-3L and CD-3 character districts.

Conditions affecting the area may have changed to a sufficient degree to warrant the Zoning Map Amendment. The comprehensive plan and the zoning ordinance encourage infill development. Although development of the site may require developer-paid improvements to wastewater infrastructure, the subject property is located well inside the urbanized area of Columbia with existing services.

If the Planning Commission recommends approval, the applicant should provide an updated water availability letter prior to consideration by the City Council. The water availability letter will expire before the City Council could consider the request. If the request advances to the City Council, the applicant should obtain an updated letter prior to publication of the council agenda.

UPDATED 01-07-2024

SAMPLE MOTIONS

Future Land Use Map (Comprehensive Plan) Amendment

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 **8.5.20.F** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed change to the Future Land Use Map of Connect Columbia *[, subject to technical comments and other conditions presented by planning staff*].

Deny: Move to recommend denial of the proposed change to the Future Land Use Map of Connect Columbia having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** 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 decide, 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.

Zoning Map Amendment

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 **8.5.19.H** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed rezoning *[, subject to technical comments and other conditions presented by planning staff*].

Deny: Move to recommend denial of the requested rezoning having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** 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 decide, 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.

UPDATED 01-07-2024

Morningside Lane Rezoning

Project #:	23-0379	Location:	Map 89E F Parcel 1.01, 1.02
Applicant:	WES Engineers & Surveyors	Case Type(s):	Rezoning
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single Family Homes

PROJECT SUMMARY

The applicant requests to rezone a 4.28-acre property located near the current terminus of Morningside Lane from CD-3L (Neighborhood Large-Lot Character District) to CD-4 (General Urban Character District). The subject site is composed of two existing lots of record. The current zoning designation permits low density single-family residences. The requested zoning designation accommodates a medium density mix of residential and commercial uses. The concept provided by the applicant depicts development of the site for detached single family homes. The Zoning Ordinance permits two dwelling units per acre in CD-3L and twelve dwelling units per acre in CD-4.

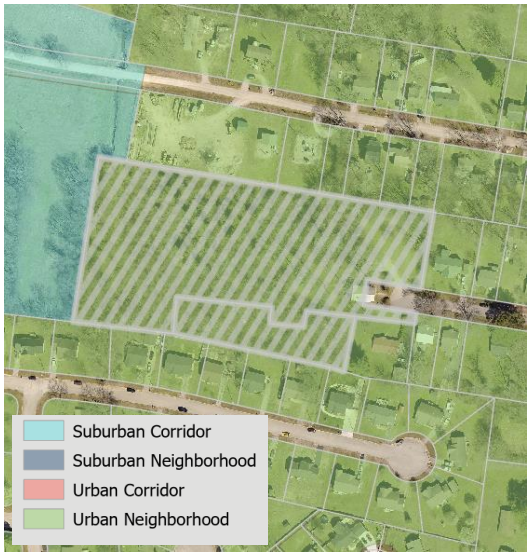
- The DRC reviewed this proposal at its October 2023 meeting.
- The request is consistent with Connect Columbia, the City's comprehensive plan.
- The concept plan generally indicates that it is possible to develop the site in conformity with the requested standards.
- Rezoning simply establishes entitlements under the zoning ordinance, not a vested right to develop the site as depicted in the concept plan; greater detail will be required at the time of any subsequent site development plan and preliminary plat.
- The concept plan depicts development of the infill site with a 550-foot extension of Morningside Lane beyond its current terminus.
- Although the subject property is not located in an Area of Change, the single-family standards of the CD-4 character district are compatible with the established pattern of the surrounding neighborhood. The development depicted in the concept plan effectively extends the Sunset Park Subdivision.
- At the request of staff, the applicant provided specific responses to some of the rezoning criteria.
- The Planning Commission is a **recommending body** for rezoning requests.
- 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-3L	Single Family	Single Family House	+/- 4.28 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Neighborhood	CD-3L	Single-Family
North	Urban Neighborhood	CD-3	Utility Facility/Single Family
South	Urban Neighborhood	CD-4	Single-Family
East	Urban Neighborhood	CD-3	Single-Family
West	Suburban Neighborhood	CD-3L	Single-Family

The subject property is currently vacant except for an unoccupied single-family home constructed in 1940. The property is located at the current terminus of Morningside Lane. It sits between a very large residential property to the west and medium density neighborhoods on the east, north, and south. One of the parcels bordering the property on the north contains a utility facility. The area is a mix of CD-3L, CD-3, and CD-4 zoned parcels. The future land use of the subject property and most adjacent properties is Urban Neighborhood. The current zoning in the immediate vicinity of the site is **not consistent** with Connect Columbia, except for the CD-4 section to the south. Although the current zoning of the immediately surrounding Sunset Park Subdivision is CD-3, and therefore inconsistent with the Future Land Use Map, the platted lots are generally 50' wide, conforming to the CD-4 standard.

CONSISTENCY WITH CONNECT COLUMBIA

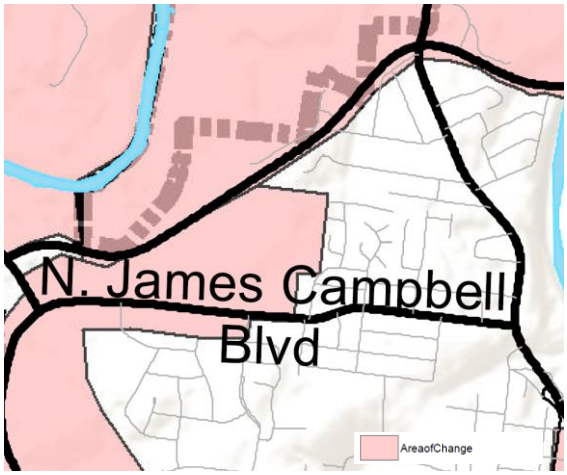
Urban Neighborhood: The future land use of the subject site is Urban Neighborhood. The Character Area is characterized by residential development and neighborhoods, with intermixed and compatible civic uses. The Future Land Use Plan indicates that "the general development pattern is defined by a single 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 not located** in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was established and that changes to overall character of the area should rarely occur. The designation does not necessarily mean that any particular development proposal is inconsistent with Connect Columbia. It does mean that the Planning Commission should pause to ensure the context of the area surrounding the subject property is considered in the review process. (Connect Columbia p. 14).

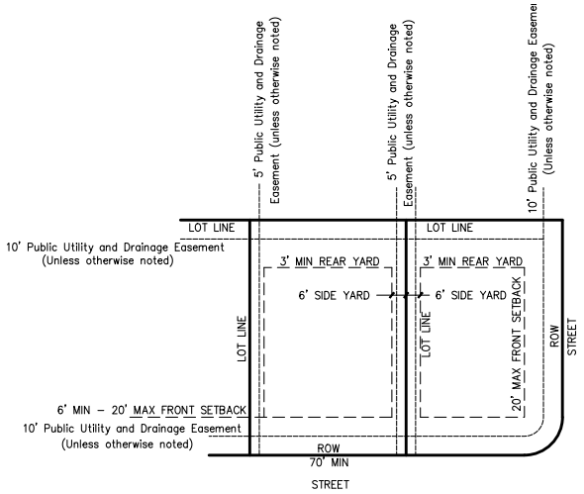


CONFORMITY WITH ZONING ORDINANCE

As required by **§ 8.5.19.F.3** of the Zoning Ordinance, the applicant 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 site development plan/preliminary plat must conform to 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.

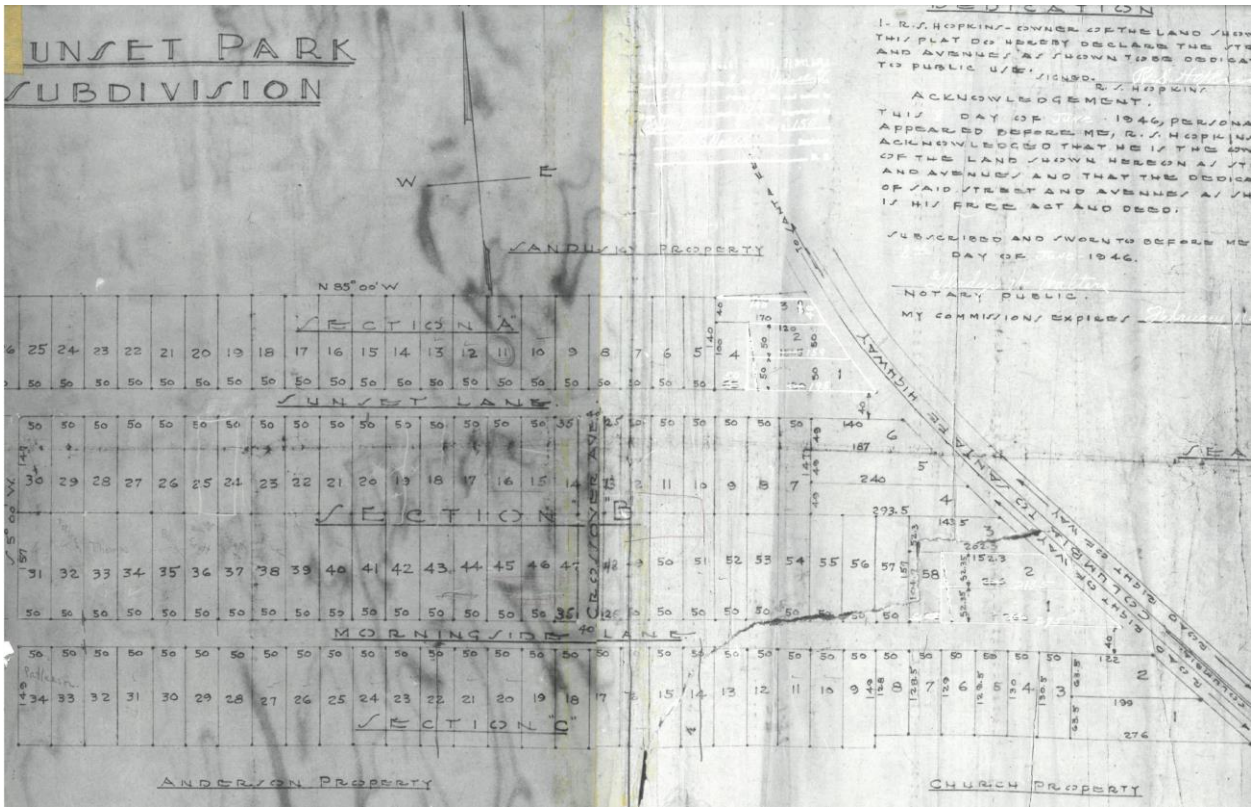
Lots, Building Sites & Bulk Standards

- **The concept plan depicts single family lots which generally conform to the CD-4 bulk standards listed in Table 4.3.1-D of the Zoning Ordinance.**
    - The Ordinance requires a minimum lot width of 50' for a single family home.
    - The Ordinance prescribes setbacks of:
        - 6' minimum and 20' maximum front setback principal and secondary frontages;
        - 6' side setback; and
        - 3' rear setback, measured from the rear property line; or 15' from the centerline of rear alley as applicable.
    - The applicant's concept proposes the creation of eighteen lots which conform to the minimum lot width and could accommodate homes conforming to the setbacks.



Conceptual Lots Conform to CD-4 Standards

- **The CD-4 lot standards extend the established pattern of Columbia**
    - The concept plan depicts development of the infill site with a 550-foot extension of Morningside Lane beyond its current terminus.
    - The Sunset Park Subdivision established 50-foot wide lots enfronting Morningside Lane and Sunset Lane, which run parallel to each other.
    - The single-family standards of the CD-4 character district are compatible with the established pattern of the surrounding neighborhood. The development depicted in the concept plan effectively extends the Sunset Park Subdivision through the subject site.



The standards of the requested zone are compatible with the lot dimensions of the surrounding neighborhood as established by the 1946 Sunset Park Subdivision Plat

Other Standards

- Conformity with other requirements of the Ordinance, including tree preservation, Civic Space, and design prescriptions will be reviewed at the time of preliminary plat or building permit as applicable.

REVIEW PROCESS

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

Section **8.5.19** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Official Zoning Map. The Planning Commission is the recommending body for rezonings under **§ 8.3.3.B.3** of the Zoning Ordinance.

Section **8.5.19.H.4** of the Zoning Ordinance establishes the review criteria for approval of all changes to the Official Zoning Map:

a. The Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;
b. It has been determined that the legal purposes for which zoning exists, as set forth in Section 1.5 [, are not contravened]; [1]
c. It has been determined that there will be no adverse effect upon Adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;
d. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;
e. It has been determined that conditions affecting the area have changed to a sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;
f. It has been determined that adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its October 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** asked the applicant to provide a narrative response to criterion **8.5.19.H.4(e)** explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment. This request is intended to aid the Planning Commission in its analysis of the requested change to zoning map.

[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."

- Planning requested a legal description of the smaller of the two parcels which compose the subject site.
- Planning also made a number of advisory comments. Specifically, planning staff noted that the design of homes for the lots will need to conform to the CD-4 standards at the time of building permit.
- Planning also advised the applicant to prepare to answer questions from the Commission and the community related to compatibility and character.
- **Wastewater** noted that sewer upgrades may be required at the time Site Development Plan and Preliminary Plat.
- Columbia Water System's (**CPWS**) consultant (Inflow) noted that water is available for the site and that a water availability letter was issued on September 15th.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

The requested CD-4 zoning is consistent with Connect Columbia. The subject site's future land use classification is Urban Neighborhood. The future land use classification is implemented by the CD-4 and CD-5 character districts, as well as PUDs.

Conditions affecting the area may have changed to a sufficient degree to warrant the Zoning Map Amendment. The comprehensive plan and the zoning ordinance encourage infill development. The subject property is located well inside the urbanized area of Columbia with existing services. The lot standards of the requested character district mimic the pattern of residential development established in 1946. The proposed rezoning allows the development of the property in a manner consistent with the comprehensive plan and compatible with adjacent residential properties.

SAMPLE 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 **8.5.19.H** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed rezoning *[, 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 **8.5.19.H** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed rezoning, subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

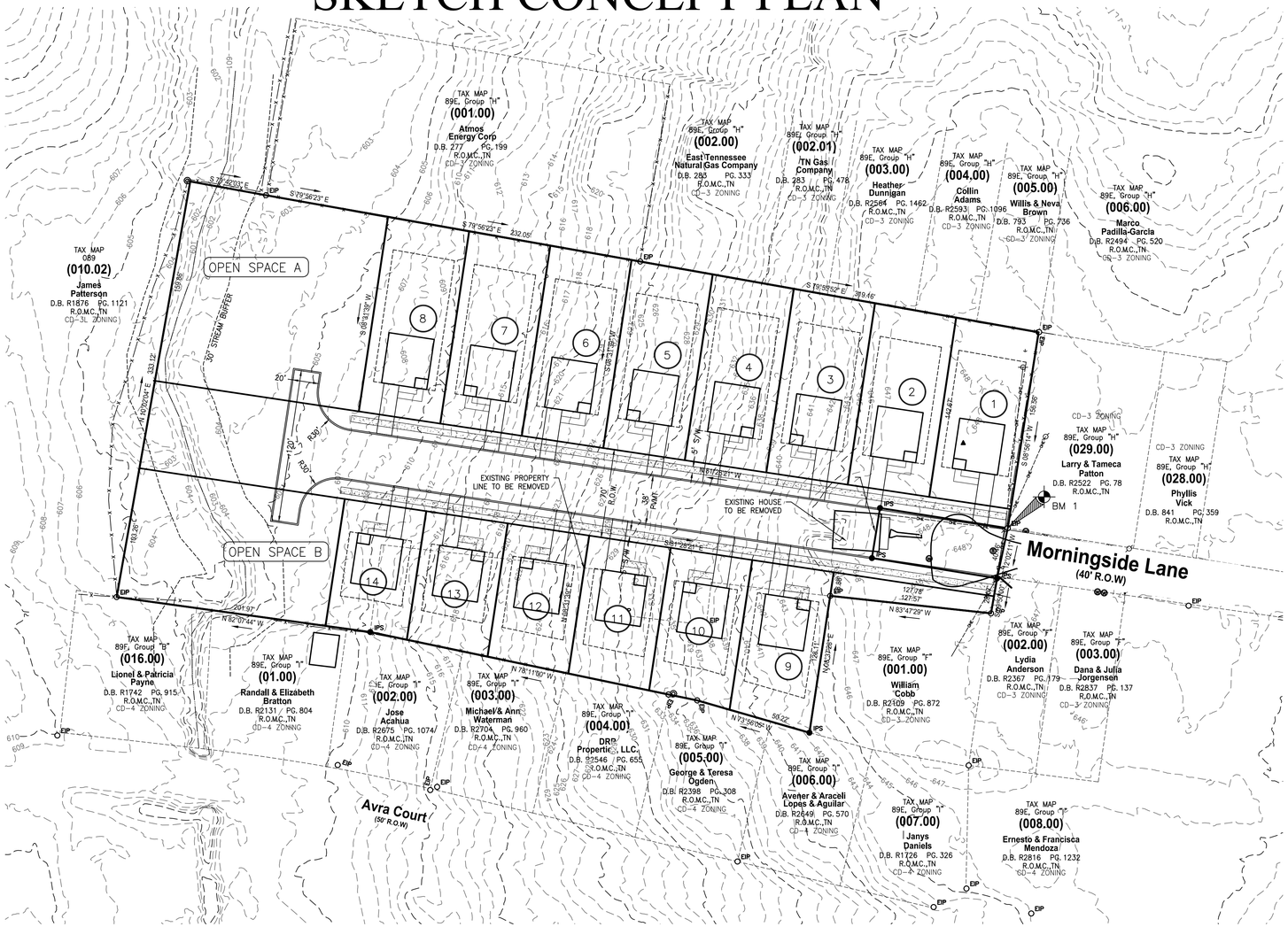
Deny:

Move to recommend denial of the requested rezoning having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** 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 decide, 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.

SKETCH CONCEPT PLAN



BENCHMARK

BENCHMARK #1
IRON PIN
ELEV = 647.69'
N = 474,645.74
E = 1,657,815.38
TENNESSEE COORDINATE
SYSTEM OF 1983
NAVD 88

WARNING! UTILITY LINES!

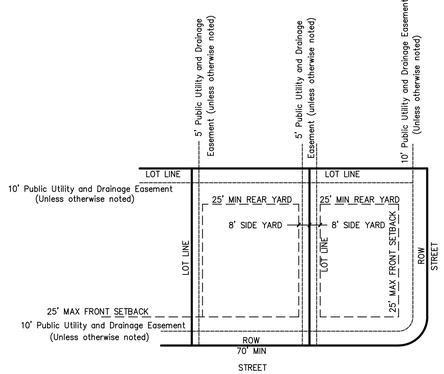
THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR 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.

Tennessee811
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LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK		

TREE LINE
STORM STRUCTURE LABEL (DI1)
ASPHALT
CONCRETE
PARKING SPACES (14)



SUBDIVISION
TYPICAL LOT LAYOUT

LOT AREA TABLE

LOT #	AREA S.F.	AREA Ac.
1	7,171.2	0.16
2	7,167.1	0.16
3	7,234.4	0.17
4	7,301.7	0.17
5	7,368.9	0.17
6	7,436.2	0.17
7	7,503.4	0.17
8	7,570.3	0.17
9	7,637.2	0.18
10	7,704.1	0.18
11	7,771.0	0.18
12	6,229.7	0.14
13	5,913.4	0.14
14	5,708.2	0.13
15	5,564.1	0.13
16	5,419.7	0.12
17	5,275.3	0.12
18	5,130.9	0.12

OPEN SPACE

OPEN SPACE	AREA S.F.	AREA Ac.
A	20,608.5	0.47
B	20,931.0	0.48

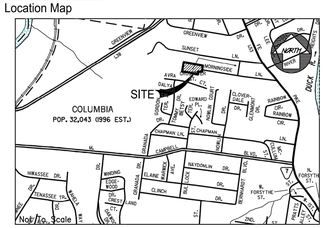
OPEN SPACE NOTE:
ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT.

GRAPHIC SCALE

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

TN GRID NORTH

Location Map



SITE DATA:

OWNER: JACK POGUE, TRUSTEE
P.O. BOX 384
COLUMBIA, TN 38402

PARCEL NUMBER: TAX MAP 89E, GRP F, PARCEL 01.01
DEED BOOK: R2733, PG 1478

SUBJECT PARCEL ZONING: REQUEST CD-3, CURRENT CD-3L

ACREAGE OF SITE: 4.78 ACRES
(PROPOSED 47,745.95 S.F. - 1.10 Ac. RIGHT OF WAY DEDICATION)

MINIMUM REQUIRED BUILDING SETBACKS:
6' MIN - 20' MAX FRONT
3' MIN - REAR
6' MIN - SIDE

UTILITY SERVICES: WATER SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

ELECTRIC SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

PURPOSE NOTE: CONSTRUCT 548.54 L.F. OF ROADWAY AND PROVIDE 18 RESIDENTIAL LOTS.

NOTES:

1. INSTALLATION OF HVAC EQUIPMENT IN P.U.D.E.'s WITH BURIED PIPES IS PROHIBITED.
2. ALL DRAINAGE SWALES AND BERMS TO BE MAINTAINED BY INDIVIDUAL HOMEOWNERS.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT 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.

SITE BENCHMARK NOTE:

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

A PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0170E DATED APRIL 16, 2007.

GERALD W. VICK
REGISTERED ENGINEER
AGRICULTURAL
No. 107415
STATE OF TENNESSEE
SURVEYOR
getalc@wesengineers.com

NOT FOR CONSTRUCTION

SUBMITTED FOR MUNICIPAL APPROVAL
NOT FOR CONSTRUCTION

© 2023

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

Client
RANEY POGUE
P.O. BOX 384
COLUMBIA, TN 38402
931-215-1299

REVISIONS	DATE
ADDRESSED STAFF COMMENTS	10/12/23
Revised to Demonstrate CD-3	1/3/24

Drawn: RP
Checked: GV
Approved: GV
Date: 9/18/23

Job no. 23544
Scale:
Vertical: 1"=50'
Horizontal:

POGUE CONCEPT SKETCH

MORNINGSIDE LANE
COLUMBIA, MAURY COUNTY, TENNESSEE
SKETCH PLAN

MP-1

FILE: J:_WES_Engineers_Surveyors 2023\23544 - Morningside - Pogue\Dwg\Engineering\23544 Morningside_CD-3.dwg

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, October 10, 2023

ITEM NO.
23-0379

DESCRIPTION: Request rezoning from CD-3L to CD-4 of +/- 4.28 acres.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
2. Please add the proposed lot widths on the concept.
3. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
4. Advisory: Consider providing a typical lot layout that includes a typical building footprint, driveway, and parking. It is not required at this point, but it is advisable to confirm that the site can accommodate lots which meet the applicant's goals and conform to the standards of the Zoning Ordinance.
5. Advisory: A current water availability letter is required throughout the entitlement process. The current letter will expire on January 13, 2024. Presuming a timely resubmittal to technical comments and a favorable recommendation from the planning Commission in November, the public hearing for this item will occur on January 11th. Any deferrals or delays will push the timeline beyond the currency of the water availability letter. The lead times for new letters can be long. Please monitor your progress and communicate with IDG and CPWS accordingly.
6. Advisory: Planning staff will place signs on the property and send certified letters to adjacent property owners on or before October 27th. Please be prepared to address any concerns regarding compatibility with the established pattern of the surrounding area.
7. Please provide legal description for TM 89E Group F Parcel 1.02

Fire

8. No comments

Building

9. No comments.

Police

10. No comments provided.

Maury County E911

11. No comment at this time.

Maury County Schools

12. No Comment.

Public Works

13. No comment.

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 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.

ATT

15. ___ ATT INTENDS TO SERVE. DEVELOPER TO REACH OUT TO ATT REGARDNG PATHWAY AND SUBSTRUCTURE NEEDED FOR PROJECT.

Engineering

16. No comments on rezoning.

Wastewater

17. Since the location of this parcel is in the Royal Oaks pump station sewer shed, upgrades are required for the existing sanitary sewer infrastructure in this basin.

Columbia Water

18. "A water availability letter was issued on September 15, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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."

Atmos Energy

19. No comments provided.

Duck River Electric Membership Corp

20. No comments provided.

Maury County Highway Dept.

21. No comments provided.

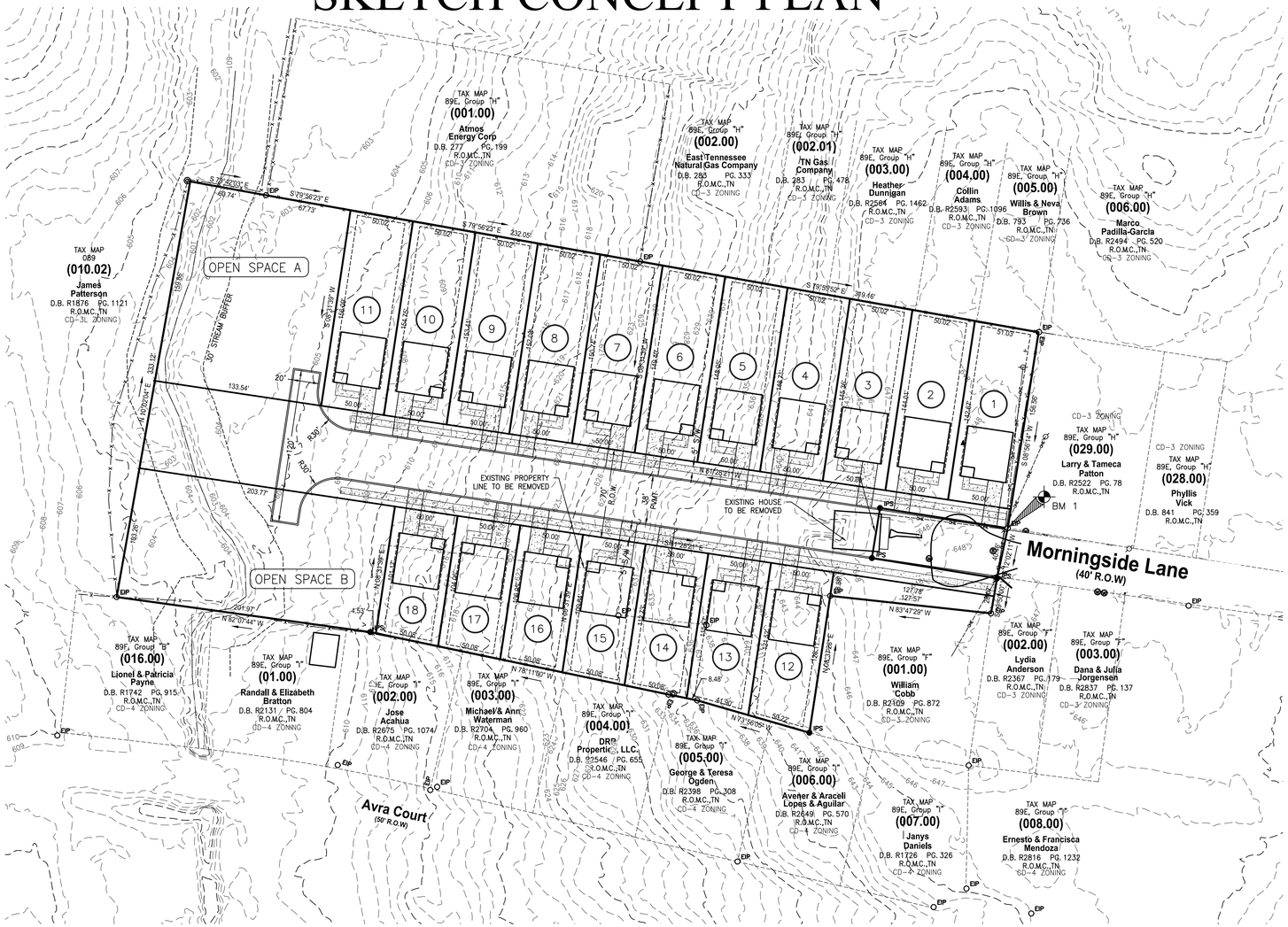
CPWS BB

22. Plan to serve.

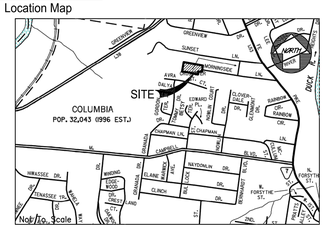
ATTACHMENTS: Concept Plan

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SKETCH CONCEPT PLAN



Location Map



© 2023

SITE DATA:

OWNER: JACK POGUE, TRUSTEE
P.O. BOX 384
COLUMBIA, TN 38402

PARCEL NUMBER: TAX MAP 89E, GRP F, PARCEL 01.01
DEED BOOK: R2733, PG 1478

SUBJECT PARCEL ZONING: REQUEST CD-4, CURRENT CD-3L

ACREAGE OF SITE: 4.78 ACRES
(PROPOSED 47,745.95 S.F. - 1.10 Ac. RIGHT OF WAY DEDICATION)

MINIMUM REQUIRED BUILDING SETBACKS:
6' MIN - 20' MAX FRONT
3' MIN - REAR
6' MIN - SIDE

UTILITY SERVICES: WATER SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

ELECTRIC SERVICE
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2. ALL DRAINAGE SWALES AND BERMS TO BE MAINTAINED BY INDIVIDUAL HOMEOWNERS.

BENCHMARK

BENCHMARK #1
IRON PIN
ELEV = 647.69'
N = 474,645.74
E = 1,657,815.38
TENNESSEE COORDINATE
SYSTEM OF 1983
NAVD 88

WARNING! UTILITY LINES!

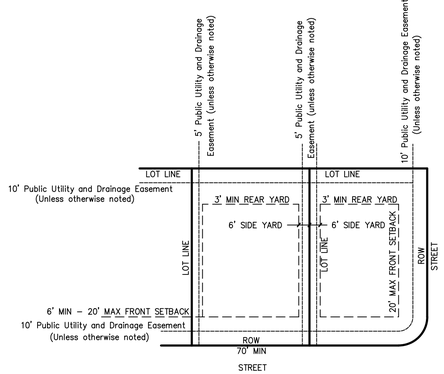
THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR 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.

Tennessee811
Know what's below
Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK		

TREE LINE
STORM STRUCTURE LABEL (INT)
ASPHALT
CONCRETE
PARKING SPACES (14)



SUBDIVISION TYPICAL LOT LAYOUT

LOT AREA TABLE

LOT #	AREA S.F.	AREA Ac.
1	7,171.2	0.16
2	7,167.1	0.16
3	7,234.4	0.17
4	7,301.7	0.17
5	7,368.9	0.17
6	7,436.2	0.17
7	7,503.4	0.17
8	7,570.3	0.17
9	7,637.2	0.18
10	7,704.1	0.18
11	7,771.0	0.18
12	6,229.7	0.14
13	5,913.4	0.14
14	5,708.2	0.13
15	5,564.1	0.13
16	5,419.7	0.12
17	5,275.3	0.12
18	5,130.9	0.12

OPEN SPACE

OPEN SPACE	AREA S.F.	AREA Ac.
A	20,608.5	0.47
B	20,931.0	0.48

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.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT 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.

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

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COLUMBIA, TENNESSEE 38401
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GERALD W. DEVICK
REGISTERED ENGINEER
AURICE
CERTIFICATE
No. 107415
STATE OF TENNESSEE

geraldd@wesengineers.com

SUBMITTED FOR MUNICIPAL APPROVAL
NOT FOR CONSTRUCTION

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

ENGINEERS & SURVEYORS

Client
RAINEY POGUE
P.O. BOX 384
COLUMBIA, TN 38402
931-215-1299

REVISIONS	DATE
ADDRESSED STAFF COMMENTS	10/12/23

POGUE CONCEPT SKETCH
MORNINGSIDE LANE
COLUMBIA, MAURY COUNTY, TENNESSEE
SKETCH PLAN

Drawn: RP | Checked: GV | Approved: GV | Date: 9/18/23

Job. no. 23544 | Scale: | Vertical: 1"=50' | Horizontal:

MP-1

FILE: J:_WES_Engineers_Surveyors 2023\23544 – Morningside – Pogue\Dwg\Engineering\23544 Morningside_base.dwg

October 16, 2023

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

RE: Project Name: 156 Morningside Lane (Rainey Pogue) 23-0379
City of Columbia Planning Commission Resubmittal

On behalf of Jack H Pogue Living Trust ETAL, c/o Rainey Pogue, the owner for the property proposed for rezoning, WES Engineers & Surveyors would like to request for rezoning and Concept Plan to the City of Columbia for Planning Commission approval. Comments are addressed in green.

Planning

2. Please add the proposed lot widths on the concept.
   Proposed lot widths (proposed dimensions) have been added to the concept.

3. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
   e. It has been determined that conditions affecting the area have changed to sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake.

   It would be the belief of the property owner that this property was mistakenly zoned CD-3L and the appropriate zoning would be CD-4 as requested. This property is a part of an existing neighborhood that includes predominately small residential lots with 50-ft fronts. A proposed zoning of CD-4 allows single family detached lots with 50-ft fronts as established in the neighborhood. Additionally, the properties directly to the south of this property as well as in that portion of the neighborhood community are presently zoned CD-4. The included concept demonstrates the proposed zoning being designed for single family, detached homes on lots that are proposed to be 50-ft in width.

4. Please provide metes and bounds legal description for TM 89E Group F Parcel 1.02.
   The deed for this parcel has been provided as a part of the resubmittal.

5. Advisory: Consider providing a typical lot layout that includes a typical building footprint, driveway, and parking. It is not required at this point, but it is advisable to confirm that the site can accommodate lots which meet the applicant's goals and conform to the standards of the Zoning Ordinance.
   A prototypical lot layout has been applied to the proposed lots as dimensioned on the concept.

6. Advisory: A current water availability letter is required throughout the entitlement process. The current letter will expire on January 13, 2024. Presuming a timely resubmittal to technical comments and a favorable recommendation from the planning Commission in November, the public hearing for this item will occur on January 11th. Any deferrals or delays will push the timeline beyond the currency of the water availability letter. The lead times for new letters can be long. Please monitor your progress and communicate with IDG and CPWS accordingly.
   We will watch the timing of this along with the resubmittal / approval process going forward. Thank you

7. Advisory: Planning staff will place signs on the property and send certified letters to adjacent property owners on or before October 27th. Please be prepared to address any concerns regarding compatibility with the established pattern of the surrounding area.
   Understood, I have shared these comments with the property owner's representative to make them aware of this.

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 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, thank you.

ATT

15. AT&T INTENDS TO SERVE. DEVELOPER TO REACH OUT TO ATT REGARDNG PATHWAY AND SUBSTRUCTURE NEEDED FOR PROJECT.
    Noted, thank you.

Wastewater

17. Since the location of this parcel is in the Royal Oaks pump station sewer shed, upgrades are required for the existing sanitary sewer infrastructure in this basin.
    Noted, thank you.

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

Sincerely,
WES Engineers & Surveyors



Gerald W. Vick, PE
Principal

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, October 10, 2023

ITEM NO.
23-0379

DESCRIPTION: Request rezoning from CD-3L to CD-4 of +/- 4.28 acres.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
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8. No comments

Building

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Police

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Maury County E911

11. No comment at this time.

Maury County Schools

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21. No comments provided.

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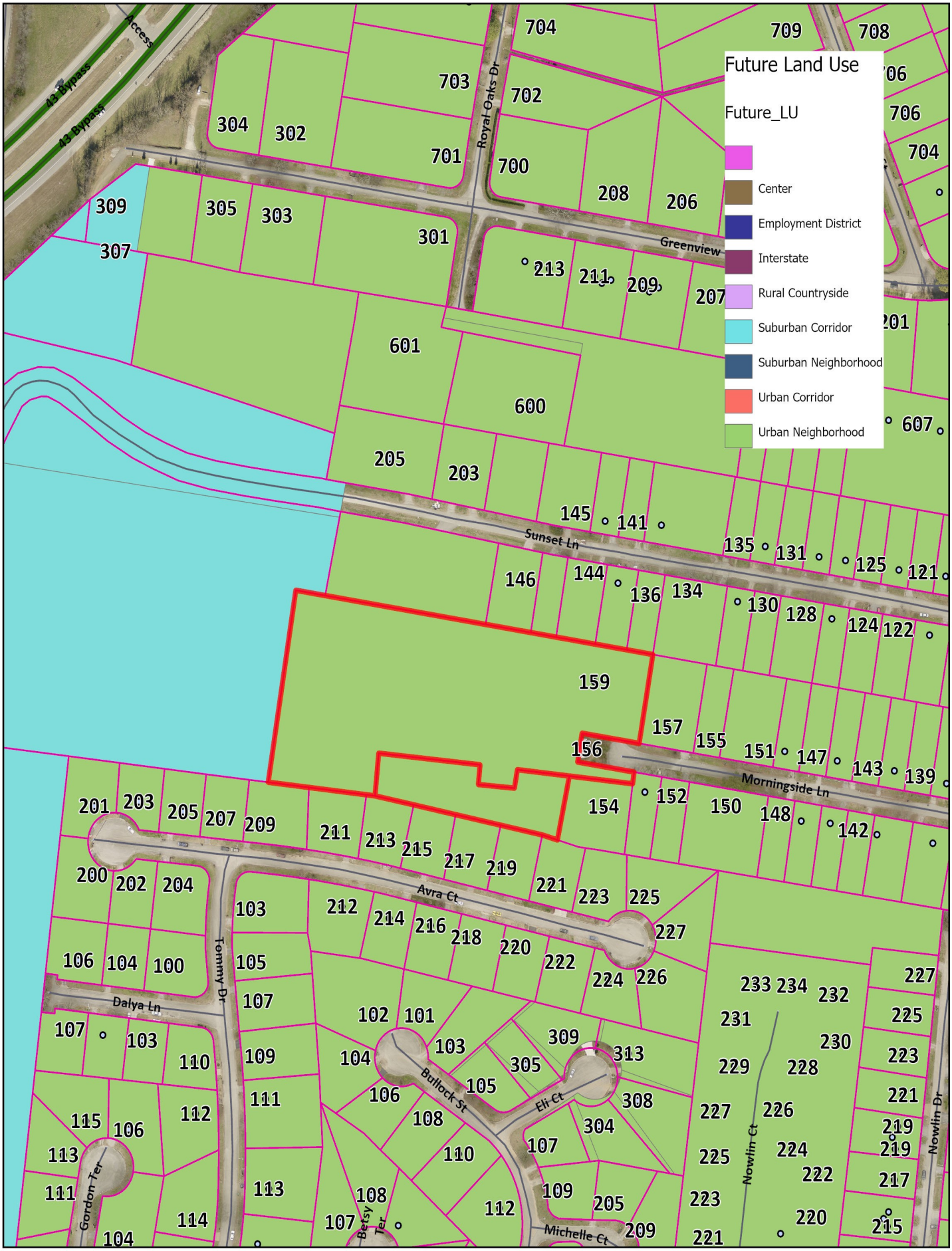
22. Plan to serve.

ATTACHMENTS: Concept Plan

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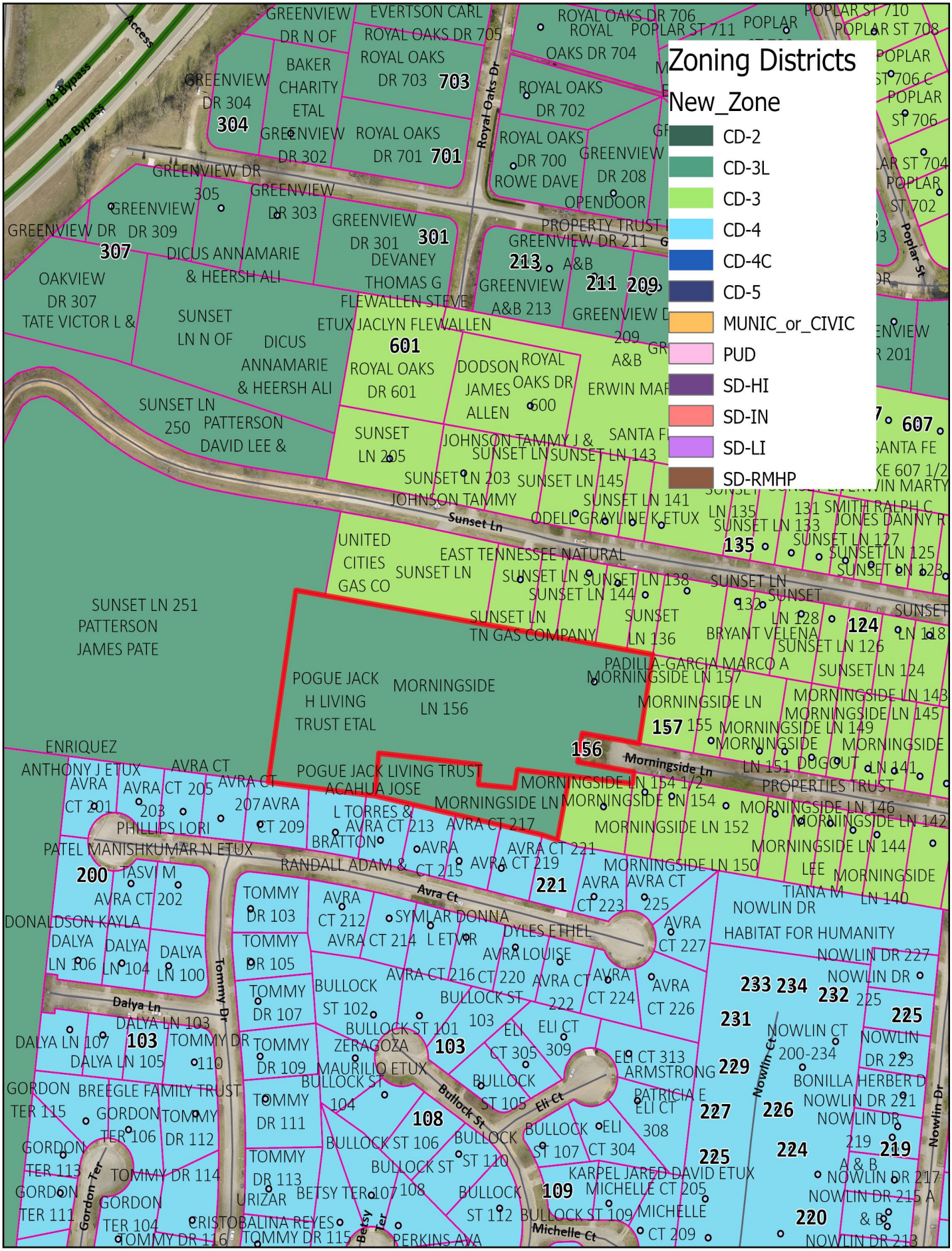
Current Enrollment / Capacity

	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	350	86.4%
	Highland	1986	47,800	4.5	380	303	79.7%
	Howell	1999	81,600	17.5	700	642	91.7%
	Mt. Pleasant	1978	80,021	22	630	565	89.7%
	Riverside	1984	71,150	14	500	414	82.8%
	Spring Hill	1984	69,000	10	540	442	81.9%
	Woodard	1990	76,200	17	600	563	93.8%
	Wright	2005	97,765	18	740	633	85.5%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	647	71.9%
	Mt. Pleasant	2001	113,938	29.2	550	415	75.5%
	Spring Hill	2010	158,106	39.49	950	522	54.9%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1412	83.1%
	Mt. Pleasant	1969	110,759	31	600	400	66.7%
	Spring Hill	1993	181,800	57	1200	1158	96.5%
					3500	***2970***	***84.9%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	406	81.2%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1841***	***84.8%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		139	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**12985**	



23-0379
TM 89E Group F Parcels 1.01 & 1.02
Morningside Lane

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



23-0379

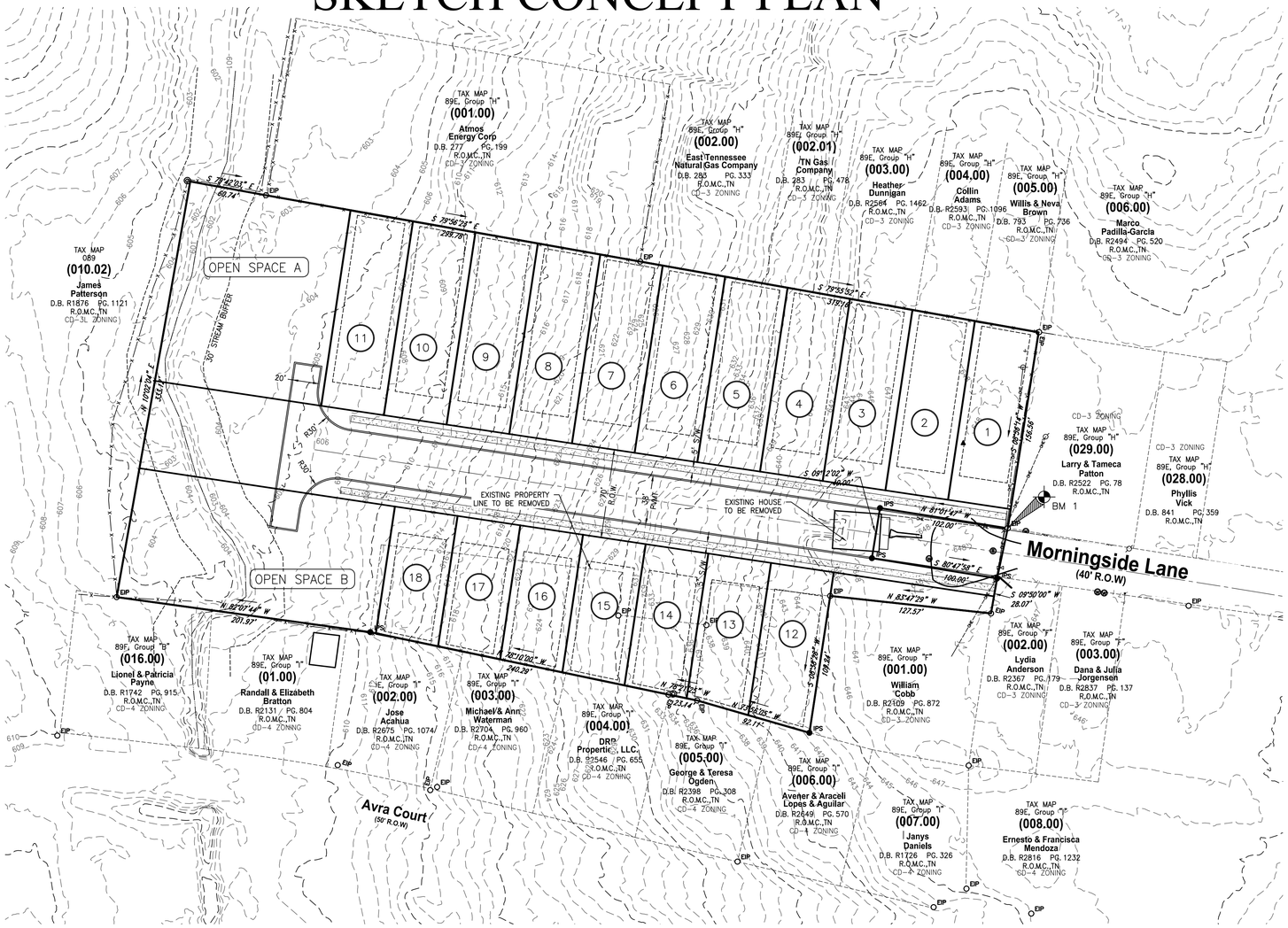
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Morningside Lane

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
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SKETCH CONCEPT PLAN



BENCHMARK

BENCHMARK #1
IRON PIN
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N = 474,645.74
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TENNESSEE COORDINATE
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NAVD 88

WARNING! UTILITY LINES!

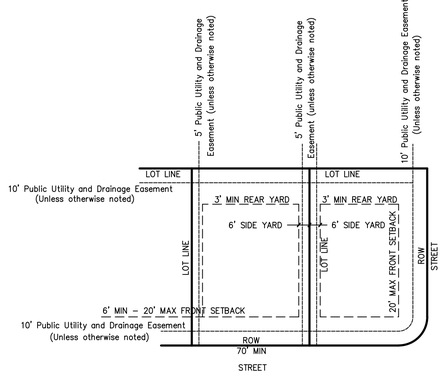
THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR 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.

Tennessee811
Know what's below
Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK		

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)



SUBDIVISION TYPICAL LOT LAYOUT

LOT AREA TABLE

LOT #	AREA S.F.	AREA Ac.
1	7,171.2	0.16
2	7,167.1	0.16
3	7,234.4	0.17
4	7,301.7	0.17
5	7,368.9	0.17
6	7,436.2	0.17
7	7,503.4	0.17
8	7,570.3	0.17
9	7,637.2	0.18
10	7,704.1	0.18
11	7,771.0	0.18
12	6,229.7	0.14
13	5,913.4	0.14
14	5,708.2	0.13
15	5,564.1	0.13
16	5,419.7	0.12
17	5,275.3	0.12
18	5,130.9	0.12

OPEN SPACE

OPEN SPACE	AREA S.F.	AREA Ac.
A	20,608.5	0.47
B	20,931.0	0.48

OPEN SPACE NOTE:

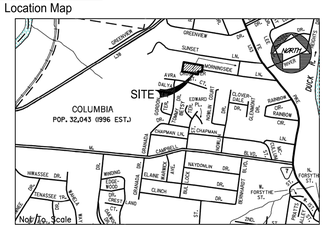
ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

Location Map



© 2023

SITE DATA:

OWNER: JACK POGUE, TRUSTEE
P.O. BOX 384
COLUMBIA, TN 38402

PARCEL NUMBER: TAX MAP 89E, GRP F, PARCEL 01.01
DEED BOOK: R2733, PG 1478

SUBJECT PARCEL ZONING: REQUEST CD-4, CURRENT CD-3L

ACREAGE OF SITE: 4.78 ACRES
(PROPOSED 47,745.95 S.F. - 1.10 Ac. RIGHT OF WAY DEDICATION)

MINIMUM REQUIRED BUILDING SETBACKS:
6' MIN - 20' MAX FRONT
3' MIN - REAR
6' MIN - SIDE

UTILITY SERVICES: WATER SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

ELECTRIC SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

PURPOSE NOTE: CONSTRUCT 548.54 L.F. OF ROADWAY AND PROVIDE 18 RESIDENTIAL LOTS.

NOTES:

1. INSTALLATION OF HVAC EQUIPMENT IN P.U.D.E.'s WITH BURIED PIPES IS PROHIBITED.
2. ALL DRAINAGE SWALES AND BERMS TO BE MAINTAINED BY INDIVIDUAL HOMEOWNERS.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT 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.

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.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

A PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0170E DATED APRIL 16, 2007.

GERALD W. VICK
REGISTERED
LICENSED
SURVEYOR
No. 107415
STATE OF TENNESSEE
9-18-23
geraldv@wesengineers.com

SUBMITTED FOR MUNICIPAL APPROVAL
NOT FOR CONSTRUCTION

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

Client
RAINEY POGUE
P.O. BOX 384
COLUMBIA, TN 38402
931-215-1299

REVISIONS	DATE

POGUE CONCEPT SKETCH

MORNINGSIDE LANE
COLUMBIA, MAURY COUNTY, TENNESSEE
SKETCH PLAN

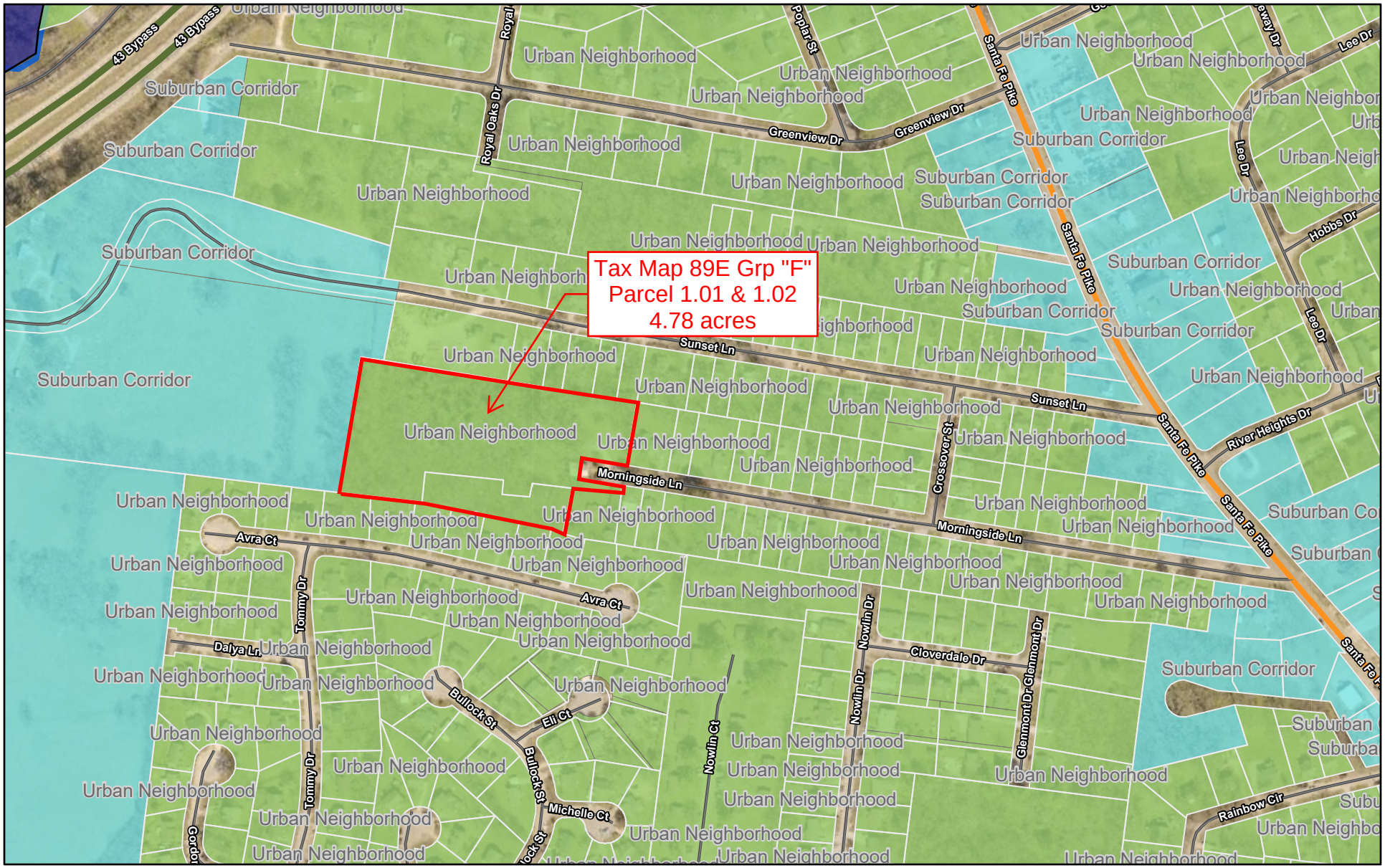
Drawn: RP
Checked: GV
Approved: GV
Date: 9/18/23

Job. no. 23544
Scale:
Vertical: 1"=50
Horizontal:

MP-1

FILE: J:_WES_Engineers_Surveyors 2023\23544 – Morningside – Pogue\Dwg\Engineering\23544 Morningside_base.dwg

Morningside Lane Future Land Use



September 15, 2023

1:4,000

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

Morningside Lane Zoning



September 15, 2023

1:4,000

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km



Location Map



Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure, portions of the survey were done utilizing a Carlson BRX7, utilizing Base and Rover.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category IV 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 City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcel is as shown hereon.
7. This property currently identified as Tax Map No. 89E, Group "F", Parcel No. 001.01, 001.02, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: n/a
9. Deed reference: Book R2733, Page 1478, Book R2733, Page 1486
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 title search as provided by others and noted hereon.
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. The property as shown hereon is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0170E, dated April 16, 2007, as scaled graphically.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Surveyor's Certification (Tennessee)

I hereby certify that this is a Category "IV" survey, meets or exceeds the Minimum Technical Standards for Land Surveyors, and the ratio of precision of the undjusted survey is greater than 1:10,000 as shown hereon, and was done in compliance with the current Minimum Technical Standards.

Allen B. O'Leary, TN RLS #1987 — 7/21/23 Date

I hereby certify this is a true and accurate survey and meets or exceeds the current Minimum Standards adn Applications of a Category IV (Remote Sensing) survey as defined in T.C.A. 0820-03-.07C(5).

Equipment:	Carlson BRX7, Base and Rover
Positional Accuracy:	HRMS =0.04 SD=0.008, VRMS=0.075 SD=0.013
Geoid:	NGS2012B
Date:	June 2023

Legend

- EIP Iron Rod Found
- IPS Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- Fence Post
- ECM 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

ALLEN B. O'LEARY — REGISTERED LAND SURVEYOR — AGRICULTURE — COMMERCE — TENNESSEE NO. 1987

allen@wesengineers.com

©2023

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

Client
Rainey Pogue
P.O. BOX 384
Columbia, TN 38402
(931) 215-1299

PLAT OF SURVEY
Morningside Lane
Maury County, TN

REVISIONS	DATE

Drawn: B.O
Checked:
Approved:
Date: July 23, 2023

Job. no. 23544
Scale:
Vertical:
Horizontal:

FILE:J:\WES_Engineers_Surveyors 2023\23544 - Morningside - Pogue\Dwg\Survey\23544 Morningside Survey.dwg

Plu Rainey Pogue

Prepared by:
Lewis W. Pogue
2201 County Club CT
Plant City, FL. 33566

SEND TAX NOTICE
Rainey Pogue
P.O. Box 384
Columbia TN 38402

QUIT CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture made this 12 day of May, 2021, between JACK H. POGUE, TRUSTEE for Eric L. Pogue and Rainey J. Pogue, HEREINAFTER REFERRED TO AS " Grantor" and JACK H POGUE AS Trustee of the JACK H. POGUE LIVING TRUST, HEREINAFTER REFERRED TO AS "Grantee", for and in consideration of the sum of Ten Dollars ($10.00} and other good and valuable considerations, to said Grantor in hand paid by said Grantee, the receipt whereof is acknowledged, have granted, bargained, and sold to Grantee, the Grantees' heirs, assigns, and successors forever, the following described land, situate, lying and being in Maury County, Tennessee, to-wit:

Property Address: Morningside Lane

Subdivision: Sunset Park

Parcel ID/Tax ID: 089E F 001.02

Located in the Ninth (9th) Civil District of Maury County, Tennessee.

This being the same property conveyed by Travis Sargent Patterson and wife, Shirly A. Patterson to Jack H. Pogue, Trustee for Eric L. Pogue and Rainey J. Pogue with the deed recorded on Book 755, Pages 623 and 624, Register's Office County of Maury, Tennessee.

A more complete description of the metes and bounds for the property can be found recorded in Book 755 Pages 623 and 624, Register's Office Maury County, Tennessee.

In Witness Whereof, the said Grantor has hereunto set his hand the day and year first written above.

Jack H. Pogue

Jack H. Pogue

BK/PG: R2733/1486-1487
21010387

2 PGS:AL-QUITCLAIM DEED	
JANE BATCH: 248818	05/12/2021 - 03:16 PM
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

Witness Name: BONNIE G. HICKMAN Witness Signature: Bonnie G. Hickman

Witness Name: Julia A Kirk Witness Signature: Julia A Kirk

CERTIFICATE OF ACKNOWLEDGMENT OF NOTARY PUBLIC

State of Tennessee)

County of MAURY)

On May 12, 2021 before me, a notary public in and for said state, personally appeared Jack H Pogue, personally known to me (or proved on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that she/he executed the same in her/his authorized capacity, and that by her/his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS MY HAND AND OFFICIAL SEAL

Penny C Worley

Notary Public

My commission expires: 1·28·24

(NOTARIAL SEAL)

MAURY COUNTY REGISTER'S STATE OF TENNESSEE
I or we hereby declare the actual Consideration for this transfer or value of property transferred whichever is greater is $ 0 which amount is equal to greater than the amount which the property transferred would command at a fair voluntary sale.
Affiant
Subscribed and sworn before me this 12 day of May 2021

John Fleming
by jj (DR)

OFFICIAL SEAL
JOHN FLEMING
REGISTER OF DEEDS
MAURY CO TN

PENNY C. WORLEY
TENNESSEE NOTARY PUBLIC
My Comm Exp. Jan 28, 2024
COUNTY OF WILLIAMSON

P/k Rainey Pogue

Prepared by:
Lewis W. Pogue
2201 County Club CT
Plant City, FL. 33566

Send TAX Info to;
Rainey Pogue
P. O. Bx 384
Columbia, TN
38402

QUIT CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, this indenture made this 12 day of May, 2021, between JACK H. POGUE, HEREINAFTER REFERRED TO AS " Grantor" and JACK H POGUE AS Trustee of the JACK H. POGUE LIVING TRUST, HEREINAFTER REFERRED TO AS "Grantee", for and in consideration of the sum of Ten Dollars ($10.00} and other good and valuable considerations, to said Grantor in hand paid by said Grantee, the receipt whereof is acknowledged, have granted, bargained, and sold to Grantee, the Grantees' heirs, assigns, and successors forever, the following described land, situate, lying and being in Maury County, Tennessee, to-wit:

Being a 4.12 acre's track of land located in the 9th Civil District of Maury County, Tennessee.

Property location: Morningside Lane, Columbia, Tennessee

Parcel ID/Tax ID: 089E F 001.01

Being the same property conveyed from James D. Patterson, Travis Sargent Patterson, Johnny D. Patterson and David Lee Patterson, to Jack H. Pogue, a one third undivided interest, and Jack H. Pogue, Trustee for Eric L. Pogue and Rainey J. Pogue a two-third undivided interest as tenants in common. and recorded in BK 753, PG's 110 & 111. Register's Office of Maury County, Tennessee.

A more complete description of metes and bounds for the property can be found as recorded in BK 753, PG' 110 and 111. Register's Office of Maury County, Tennessee.

In Witness Whereof, the said Grantor has set his hand the day and year first written above.

Jack H. Pogue

BK/PG: R2733/1478-1479
21010383

2 PGS:AL-QUITCLAIM DEED	
JANE BATCH: 248818	05/12/2021 - 03:16 PM
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

Witness Name: BONNIE G. HICKMAN Witness Signature: Bonnie G. Hickman

Witness Name: Julie A Kirk Witness Signature: Julie A Kirk

CERTIFICATE OF ACKNOWLEDGMENT OF NOTARY PUBLIC

State of Tennessee)

County of MAURY)

On May 12, 2021 before me, a notary public in and for said state, personally appeared Jack H Pogue, personally known to me (or proved on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that she/he executed the same in her/his authorized capacity, and that by her/his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS MY HAND AND OFFICIAL SEAL

Penny C Worley

Notary Public

My commission expires: 1-28-24

(NOTARIAL SEAL)

PENNY C. WORLEY
TENNESSEE NOTARY PUBLIC
My Comm Exp. Jan 28, 2024
COUNTY OF WILLIAMSON

MAURY COUNTY REGISTER STATE OF TENNESSEE

I or we hereby affirm that the actual Consideration for the transfer or value of property transferred whichever is greater is $ 0 which amount is equal to greater than the amount which the property transferred would command at a fair voluntary sale.

Barney J Pogue Affiant

Subscribed and sworn before me this 12 day of May 2021

John Fleming by jj (DR)

OFFICIAL SEAL
JOHN FLEMING
REGISTER OF DEEDS
MAURY CO TN

CPWS

September 15, 2023

Mr. Gerald W. Vick P.E.
WES Engineers & Surveyors
2486 Nashville Hwy
Columbia, TN 38401
Sent via email: gerald@wesengineers.com

RE: Water Availability Letter
156 Morningside Lane – 18 Units
Tax Map 089E, Parcel 1.01 and 1.02
Columbia, Maury County, TN

Dear Mr. Vick:

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 18 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:

- Minimum size 8-inch diameter water main must be installed from Santa Fe Pike to the development, to replace the existing 4- and 6-inch mains, with 8-inch mains through the development to Avra Court.

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 letter in 120 days, remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (18 SFUs)	$8,160.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and receipt by the applicant of any other related permits (TDOT, ARAP, etc), applicant may then request a pre-construction meeting with CPWS. Pre-con meeting will be scheduled for approximately 30 days out. Prior to pre-construction meeting, applicant must make payment of meter and impact fees or provide surety in lieu of full payment. If fees have not been paid 24 hours prior to the scheduled pre-con, meeting will be cancelled and rescheduled another 30 days out. 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 (18 meters)	$9,720.00
Impact Fee: $4,500 per 3/4" meter (18 meters)	$81,000.00
Total Meter and Impact Fees Due =	**$90,720.00**

- 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 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 23-045

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	156 Morningside Lane		
	TAX MAP: 089E	GROUP: "F"	PARCEL: 1.01 & 1.02
SUMMARY OF NATURE OF REQUEST AND WORK	Requested rezoning of 4.28 acres in two tracts from CD-3L to CD-4.		

DATE OF PRE-APPLICATION CONFERENCE	5/3/2023	*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) _____ ☐ 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	WES Engineers & Surveyors	PHONE	(931) 388-2329
ADDRESS	2486 Nashville Hwy, CLMA	EMAIL	gerald@wesengineers.com

PROPERTY OWNER NAME	Jack H Pogue Living Trust ETAL c/o Rainey Pogue	PHONE	931-215-1299
ADDRESS	P.O. Box 384, CLMA 38402-0384	EMAIL	raineysisk@yahoo.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.

Gerald Vick		9/18/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Rainey Pogue	Rainey Pogue	9/15/23
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	

807 Athenaeum

Project #:	23-0475	Location:	Tax Map 100D E Parcel 9.00
Applicant:	WES Engineers & Surveyors	Case Type(s):	Rezoning
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Professional Office

PROJECT SUMMARY

The applicant requests to rezone a 0.44-acre lot on Athenaeum Street. The property consists of a single lot with an existing residence constructed in 1921. The lot is currently zoned CD-3 (Neighborhood Character District). The applicant requests rezoning to CD-4 (General Urban Character District).

- The request is consistent with Connect Columbia, the City's comprehensive plan.
- The applicant intends adaptive reuse of the existing improvements on the property to convert the residential structure to a professional office.
- The lawful nonconforming status of the improvements will depend on the scope of renovations.
- Any significant alteration of the structure will require approval by the Historic Zoning Commission; the property is located within the Atheneum Historic District.
- Subsequent development and division of the property will require review and approval by the Planning Commission or the Zoning Administrator.
- The Planning Commission is a **recommending body** for rezoning requests.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

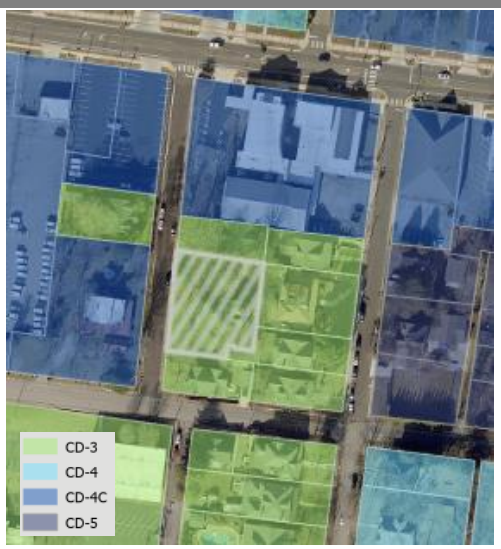
SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-3	Single Family	Single Family House	+/-0.44 Acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Neighborhood	CD-3	Single-Family
North	Urban Neighborhood	CD-3	Single-Family
South	Urban Neighborhood	CD-3	Single-Family
East	Urban Neighborhood	CD-3	Single-Family
West	Urban Neighborhood	CD-4C	Civic

The subject property is located in the Athenaeum Historic District one block outside of the downtown area. The property enfronts Athenaeum Street on the west. Adjacent properties to the north, south, and east are all single-family homes. The properties on the opposite side of Athenaeum Street include a single-family home, a parking lot, and the Athenaeum museum. There is a wide range of uses and zoning designations in the blocks surrounding the subject site. The area includes churches, a funeral home, the museum, a retail center, offices, and several single-family homes. Many of the structures in the area are of historic significance; all properties on the surrounding blocks are located within an historic district.

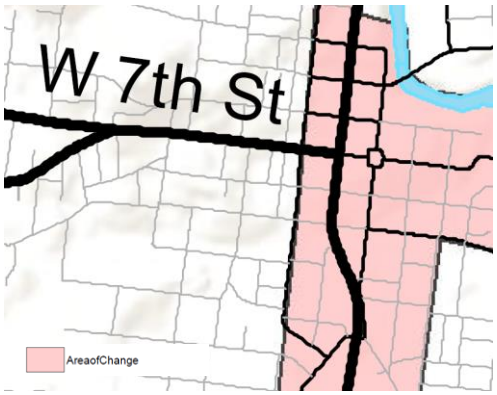
CONSISTENCY WITH CONNECT COLUMBIA

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.

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 not located** in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern was established. Changes to overall character of the area should rarely occur. The designation does not necessarily mean that any particular development proposal is inconsistent with Connect Columbia. It does mean that the Planning Commission may pause to ensure the context of the area surrounding the subject property is considered fully in the review process. (Connect Columbia p. 14).



CONFORMITY WITH ZONING ORDINANCE

As required by **§ 8.5.19.F.3** of the Zoning Ordinance, the applicant provided a concept plan (i.e. "Sketch Development Plan"). In this case, the applicant proposes to utilize existing improvements on the property. Section **1.22.2** of the Zoning Ordinance determines when modifications to existing structures must come into conformity with the physical standards of the Ordinance. Furthermore, the structure's location in a locally designated historic district requires approval by staff and/or the Historic Zoning Commission prior to any exterior modification of the structure, removal of any structure, or anew construction.

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.

Lots, Building Sites & Bulk Standards

- **The concept plan depitcts utilization of the existing building on the site.**
- **The nonconformities provisions of the Ordinance at § 1.22.2**
    - The existing improvements do not conform to the CD-4 bulk standards listed in **Table 4.3.1-D** of the Zoning Ordinance. Specifically, the 44' setback exceeds the maximum 20' established by the Ordinance.
    - The property utilizes an unpaved driveway; the Ordinance requires asphalt, concrete, or other hard surface.
    - Any proposed renovation of the existing structure will be reviewed for zoning compliance at the time of building permit. The scope of work will determine when the property must come into conformity with the current physical standards of the Ordinance.
    - Any proposed redevelopment of the site must conform to the standards of the Zoning Ordinance and applicable overlays.
- **The current request establishes the applicable standards for future reviews. The concept plan is not a plan of development and approval of the rezoning request does not establish a vested right.**

Parking

- **The Zoning Ordinance requires that each land use provide parking based on ratios listed at Table 4.3.12.B-1.**

- The conceptual office use requires one parking stall for each 200 square feet of usable floor area.
- The structure includes 3,275 square feet of conditioned space. The precise amount of parking required will depend on the internal configuration of the space when it is adapted to the office use.
- Any change of use is likely to require more parking than the two spaces required for a single-family residence.
- Section **4.3.12.C**, as well as the CD-4 standards in **Table 4.3.1-D** imposed specific requirements on the placement and design of on-site parking. These may be difficult to achieve on the subject site.
- Section **4.3.12.C.20.b** (p. 283) of the Zoning Ordinance also requires handicapped-accessible parking within 250' of the entrance.
- Section **4.3.12.B.3** allows these parking requirements to be met 1) on the site, 2) on the street on the adjacent frontage, or 3) by easement or agreement, or in a public lot, on the same or an adjacent block. The applicant intends to provide parking by easement or agreement with nearby property owners.
- Planning staff will confirm that the required parking is provided during zoning compliance review associated with any future building permit. Parking is likely to be a limiting factor for any future change of use.

Historic Zoning Review

- **The subject property is within the Athenaeum Historic District overlay.**
  - Modification, demolition, or redevelopment of the site requires a certificate of appropriateness from planning staff or the Historic Zoning Commission.
  - Any exterior modification or new construction must conform to the Historic District Design Guidelines.



Historic Districts

- The subject property was listed in the ordinance establishing the Athenaeum District in 2001. The Zoning Administrator's current interpretation is that such identification is equivalent to "contributing" status for nationally designated resources. Demolition of existing contributing resources is generally prohibited under the Historic District Design Guidelines.[1]

REVIEW PROCESS

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

Section **8.5.19** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Official Zoning Map. The Planning Commission is the recommending body for rezonings under **§ 8.3.3.B.3** of the Zoning Ordinance.

Section **8.5.19.H.4** of the Zoning Ordinance establishes the review criteria for approval of all changes to the Official Zoning Map:

a. The Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;
b. It has been determined that the legal purposes for which zoning exists, as set forth in Section 1.5 [, are not contravened]; [2]
c. It has been determined that there will be no adverse effect upon Adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;
d. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;
e. It has been determined that conditions affecting the area have changed to a sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;
f. It has been determined that adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available

[1] See section 9.1 of the Guidelines "Carefully consider the effects of demolition prior to pursuing approval."
[2] 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."

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its December 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** directed the applicant to provide a narrative response to criterion at **§ 8.5.19.H.4(e)** explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
- Planning also advised the applicant to consider the need to conform to current CD-4 standards should the intended residential-to-office conversion require a scope of work which exceeds 50% of the value of the improvements.
- Planning also advised the applicant to consider the feasibility of providing the required parking for the intended use of the property.
- **Engineering** and **Planning** commented on the feasibility of utilizing accessible on-street parking. At resubmittal, the applicant removed this feature of the site.
- Utility providers indicated willingness and capacity to serve. Some included standard caveats about the impact of supply chain disruption on the ability to establish services.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

The requested CD-4 zoning is consistent with Connect Columbia; however, the Planning Commission determines the pace of implementation of the Future Land Use Map. The subject site's future land use classification is Urban Neighborhood. The classification is implemented by CD-4 and CD-5. The area around the subject property includes several zoning classifications. Some permit more intense land uses than the requested CD-4 zoning, some are less intense, including the current CD-3 zoning. The applicant posits that conditions affecting the area have changed to warrant the Zoning Map Amendment as required by **8.5.19.H.4(e)**. The Planning Commission can determine that this is accurate. Alternatively, the Planning Commission may determine that circumstances have not changed sufficiently to warrant increased intensity of development rights in the area.

The Athenaeum Historic District overlay limits the development potential of the site. The Historic Zoning Commission has purview over any significant exterior modifications of the existing structure. Demolition and redevelopment of the site would also require Historic Zoning Commission approval. This may negate the public and private benefits of rezoning the property. Conversely, the overlay may provide some level of assurance that future property owners could not easily establish incompatible land uses which are permitted under the CD-4 zoning.

SAMPLE 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 **8.5.19.H** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed rezoning *[, 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 **8.5.19.H** the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed rezoning, subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

Move to recommend denial of the requested rezoning having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** 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 decide, 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.

From:	Rebecca Moon
To:	Kevin McCarthy
Cc:	Bennett Moon
Subject:	[External] Proposed Property Zone change - 807 Athenaeum Street
Date:	Tuesday, January 9, 2024 12:04:46 PM

Dear Mr. McCarthy,

I wanted to take this opportunity to share with you my opposition to the 'spot' zone change application for 807 Athenaeum.

I grew up at 804 Athenaeum and happily live there now. I am not opposed to growth and certainly not opposed to growth in the downtown area. However, there are precious few residential homes left in the area and I don't want to see another residence turned commercial with unknown possibilities that could be a detriment to our street and downtown community. Currently, all of Athenaeum Street and School Street (in our block) are zoned residential. I am told that the proposed use of this home would be a law office. But what about in 5 or 10 years - it could be a restaurant, a tattoo parlor, a vape store or bail bond business. With a change in zoning - there are too many possibilities.

I have talked with my neighbors - those that would be most directly affected by this change and they are opposed to this 'spot' zone change and the future impact on our neighborhood and our City.

I would appreciate your consideration of our opposition to the proposed zone change. I would be happy to discuss this matter with you and answer any questions that you may have regarding my opposition to this 'spot' rezoning on Athenaeum Street.

Becky Moon

804 Athenaeum Street

Columbia

931-626-5859

Dear City of Columbia Planning Commission,

My name is Bennett Moon, and I am the 3rd generation of my family to live on Athenaeum Street following my grandparents, Alice & Reuben Algood and mother, Becky Moon.

Since I could walk, I have explored and loved living in downtown Columbia - especially this beloved historic district of what once was the prestigious girl's school campus.
I did not have any local neighborhood playmates as a child because this area is mostly - and to no surprise - businesses, churches, government/municipal offices, or banks.
To my knowledge, there are only five "official" historic neighborhoods in our city:
The Square/Downtown,
West 6th,
West 7th,
Athenaeum St.
& Barrow Court.
Our historic neighborhood has the *least amount of homes* ***that are lived in*** as residences out of all of them.

If we lose 807 Athenaeum St. to commercial with this proposed spot zoning, then that would leave only **THREE** houses on the **ENTIRE STREET** that a family could live in and call home.
It would be a devastating loss for this community for generations to come.

Over the last 60 years, my family has witnessed the church next door to be allowed to tear down beautiful homes *(3 to be exact)* to make parking lots for their congregation. That is why our house (804 Athenaeum) is the only remaining livable home on the side of the street as the Athenaeum Rectory.
The church was also allowed to tear down 2 brick cottages across the street in the last 20 years for their gymnasium.
Luckily, in the last 10 years we were able to save the cottage directly across from our home being torn down for more parking spaces and now - a wonderful family (Richard & Toria Law + toddler) renovated it and it is a fantastic example of keeping this community vibrant & healthy with people continuing to occupy homes.

I want to be clear, I am not opposed to the growth of our amazing city -- I am delighted to see the "fresh faces" on the buildings I worried would be lost forever to disrepair.
I have no issue with Cara's law firm and I am sure that her husband Ty Cobb will make the home very fire secure and safe with his position as Chief....but it will still be a loss of livable homes in our neighborhood at the end of the day.

I am sure they will do a nice job restoring/renovating the house as it needs major structural reinforcements due to neglect.
My genuine concern when it comes to this spot zoning request of 807 to commercial use is **SPECIFICALLY the open-ended nature** of what that designation could trickle down to affect this community for **decades to come.**

The Lord willing, I plan to grow old & raise my own children on this street and the reality of this situation is - if it were to be approved as commercial - is that when the law firm concludes its use of the property in 10, 20 years and decides to sell it....then what might the new commercial occupants/owners put there instead?
A beauty salon? A vape store? A paycheck advance loan business?
Will property values be so expensive that a wealthy developer will purchase the house & large plot just to tear it down to form multiple tall condos with storefront on the bottom level like they have done in other parts of Middle TN at the detriment of the community it surrounds?

A few blocks away is Walker Street behind the radio station, and that is a good [unfortunate] example of old beautiful homes that could be used for housing, but they went commercial decades ago and remain niche businesses like the antique store or the clothing consignment store on the corner - but are not "thriving" businesses that bring major revenue for the city. Those houses never have had the chance to go back to residential use and add to the already limited housing options in downtown Columbia.

Thank you for your time & consideration on this matter,

Bennett Moon
804 Athenaeum Street
Columbia, TN 38401

Melissa Sanders

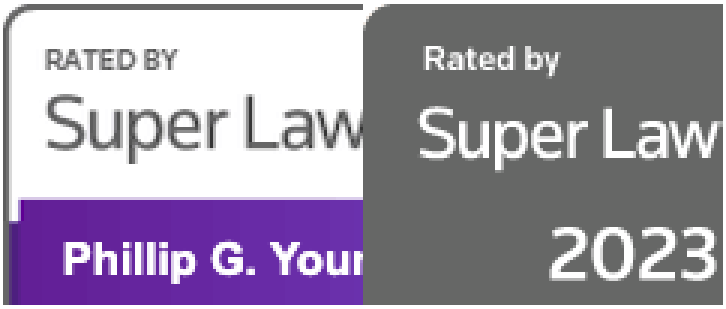
From: Phillip Young <phillip@thompsonburton.com>
Sent: Tuesday, January 9, 2024 11:01 AM
To: Kevin McCarthy
Cc: Robert Archibald; Austin Brass; Melissa Sanders; Cara Lynn
Subject: Re: [Caution External Email] - Zoning in Athenauem Historic Zone

Kevin,

Just wanted to reach out and let you know that Cara Lynn has satisfied all of my concerns about the rezoning request for the Athenauem property adjacent to mine. I have no objection to the rezoning request and do not plan to participate in the meeting this week. (I live at 814 School Street)

Thompson Burton PLLC
Redefining the Art of Law.

Phillip Young
One Franklin Park
6100 Tower Circle, Suite 200
Franklin, TN 37067
Direct Dial: (615) 465-6008
phillip@thompsonburton.com
www.thompsonburton.com



*Please refer to our email disclaimer page for important disclosures regarding this electronic communication.

On Dec 27, 2023, at 1:42 PM, Kevin McCarthy <kmccarthy@columbiatn.com> wrote:

Good afternoon, Mr. Young. The applicant for the rezoning at 807 Athenaeum, Ms. Cara Lynn, asked us to share her contact information with individuals who ask for information about the request. Her email isclynn@tfllaw.com if you would like to contact her.

Thanks!

Kevin C. McCarthy, AICP
City Planner
700 N. Garden Street
Columbia, TN 38401
Office Phone: 931.560.1531
kmccarthy@columbiatn.com



Nancy Williams
810 School Street
Columbia TN 38401

January 2, 2024

Kevin McCarthy
City Planner
City of Columba
700 North Garden Street
Columbia TN 38401

Dear Mr. McCarthy:

Thank you for the notice of proposed rezoning of 807 Athenaeum Street from CD-3 to CD-4. We live at 810 School Street and this property shares our back property line, so we have an interest in how this property develops.

Our concerns include:

1) The many potential uses allowed in the proposed CD-4 Zone
2) How commercial use will affect parking on the lot above our retaining wall
3) If there will be changes to the property that worsen the existing storm water drainage issues
4) Decreased setbacks that are inconsistent with the surrounding residences.

As shown in the photo below from our back patio, this property is uphill and 4-7 feet above our property line behind a one-hundred-year-old retaining wall. The shared property line is about 75 feet, and the existing house is close to the back of our house.

The potential new owner has called to inform us the intent of the rezoning is to allow a law firm. We do not object to having a small law firm operating in the existing home, but the request is not for "law firm zoning," it is for any permitted use in the CD-4 zone (Table 4.3.9.A-1 of the City's zoning ordinance). Spot zoning this lot CD-4 will give a future owner the right to operate a short-term rental, an Inn, a pool hall, a restaurant, a liquor store, a vet clinic and many other businesses which may be incompatible with the private residences or civic uses surrounding the lot. Although some of the allowable uses would be subject to further approval there is no guarantee that a future owner wouldn't find a way to receive that approval.

The area where the lot is located is in the Urban Neighborhood Zone described in the Connect Columbia Land Use Plan (Map 4). In the plan, Urban Neighborhood is said to be characterized by residential development with intermixed and compatible civic uses (page 24). The plan further states that, "Commercial or retail uses are not compatible and should be kept in corridors, centers or special areas" (page 25).

Also, the rezoning will dramatically alter the setback requirements of the lot (Table 4.3.1-A of the zoning ordinance). Current zoning allows for a minimum setback of 8 feet on the sides and 25 feet in the rear for an addition to the house. These setbacks will remain in effect for the existing residential lots but for the newly

zoned commercial lot the setbacks will change to 0 feet on the sides and 3 feet in the rear. It is true that the Historic Zoning Commission would have to issue a Certificate of Appropriateness for this to happen, but historic buildings are altered and changed regularly. It is not difficult to imagine a deck or garage added to the rear of the house and built to within 3 feet of the rear property line altering the character of the adjacent lots.

A unique problem with this lot is the storm water runoff. Water currently runs from the lot in question through the retaining wall, across our patio and into our basement and down the driveway to School Street, sometimes flooding the street if the storm drains are blocked. Most businesses require parking, but a paved lot on that site would worsen the drainage problem.

Again, we don't have a problem with a law firm locating behind us if there is no substantial change to the footprint of the house and no paved parking lot added. We are certain that the owners will be good neighbors. But the potential for more intrusive commercial uses on one spot in our neighborhood and the potential for those uses to make existing problems worse are real concerns. If there are creative ways to address those concerns, we welcome them.

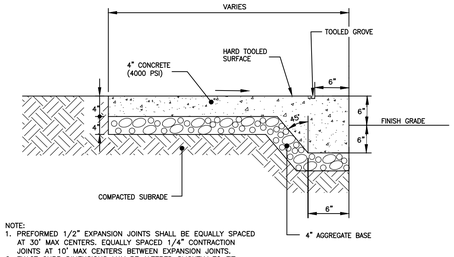
Sincerely,

Nancy Williams



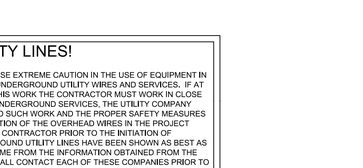
The structure on the led is the back of our house at 810 School Street. The retaining wall is ours, and the structure on the right is the back of 807 Athenaeum Street.

PROPOSED CONCEPT SKETCH



NOTE:
1. PREFORMED 1/2" EXPANSION JOINTS SHALL BE EQUALLY SPACED AT 30' MAX CENTERS. EQUALLY SPACED 1/4" CONTRACTION JOINTS AT 10' MAX CENTERS BETWEEN EXPANSION JOINTS.
2. EXACT CURB DIMENSIONS MAY BE ALTERED SLIGHTLY TO FIT STANDARD CURB MACHINES, BUT SUCH VARIANCES MUST BE APPROVED BY THE ENGINEER.

TURN-DOWN CURB AND SIDEWALK



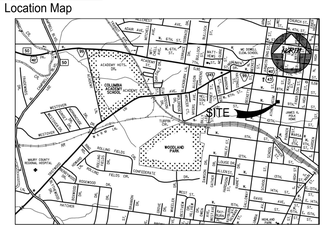
CONCRETE SIDEWALK

NOTE:
CONTROL JOINT EVERY 5'
EXPANSION JOINT EVERY 25'
UNLESS OTHERWISE NOTED.



TN GRID NORTH

Location Map



SITE DATA:

OWNER:	CLARK QUIN 807 ATHENAEUM STREET COLUMBIA, TN 38401
PARCEL NUMBER:	TAX MAP 100D PARCEL 09.00 DEED BOOK: R2550, PG 233
SUBJECT PARCEL ZONING:	EXISTING ZONING CD-3 REQUEST ZONING CD-4
ACREAGE OF SITE:	19,185 SQ. FT. 0.44 ACRES
MINIMUM REQUIRED BUILDING SETBACKS:	6' MIN - 20' MAX FRONT 3' MIN OR 15' MIN FROM CENTER OF ALLEY REAR 0' SIDE
UTILITY SERVICES:	WATER SERVICE COLUMBIA POWER & WATER SYSTEMS 201 PICKENS LANE COLUMBIA, TENNESSEE 38401 (931) 388-4833 ELECTRIC SERVICE COLUMBIA POWER & WATER SYSTEMS 201 PICKENS LANE COLUMBIA, TENNESSEE 38401 (931) 388-4833
PURPOSE NOTE:	CONVERT EXISTING RESIDENCE TO LAW OFFICE. IMPROVEMENTS TO INCLUDE CREATING AN ADA COMPLIANT PARKING SPACE & RAMP TO ENTRANCE.

© 2023

BENCHMARK

BENCHMARK #1
IRON PIN
ELEV = 683.35'
N = 467,920.79
E = 1,659,150.81
TENNESSEE COORDINATE
SYSTEM OF 1983
NAVD 88

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.

Tennessee811
Know what's **below**
Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		8"
SANITARY SEWER		
STORM SEWER	15"ST	18"ST
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		EIP
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (ST1)
ASPHALT
CONCRETE
PARKING SPACES (14)

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT 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.

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.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

A PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47119C0285E DATED APRIL 16, 2007.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

GERALD D. VICK
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 107415
STATE OF TENNESSEE

gerald@wesengineers.com

SUBMITTED FOR MUNICIPAL APPROVAL
NOT FOR CONSTRUCTION

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

ENGINEERS & SURVEYORS

Client
CARA LYNN
710 NORTH MAIN STREET
COLUMBIA, TENNESSEE 38401

REVISIONS	DATE
Addressed Staff Comments (Concept)	12/18/23

LAW OFFICE
807 ATHENAEUM STREET
COLUMBIA, MAURY COUNTY, TENNESSEE
CONCEPT SKETCH

Drawn: RP
Checked: RP
Approved: GV
Date: 11/17/23

Job. no. 23603
Scale:
Vertical: 1"=20'
Horizontal:

1 of 1

FILE: J:\ WES_Engineers_Surveyors 2023\23603 – 807 Athenaeum – Cara and Bart\Dwg\Engineering\23603 ATHENAEUM STREET_base.dwg

December 18, 2023

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

RE: Project Name: 807 Athenaeum (Cara Lynn) 23-0475
City of Columbia Planning Commission Resubmittal

Kevin:

On behalf of Cara Lynn and the owners of the property proposed for rezoning, WES Engineers & Surveyors would like to resubmit the Concept Plan and responses to staff questions to the City of Columbia for Planning Commission approval. Comments are addressed in green.

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
   Noted, thank you.

2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, please simply not that the information has been acknowledged.
   I hope that you find this response letter along with the amended concept plan acceptable as our response to the comments provided on 12/12/23.

3. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
   It is our understanding that the future proposed use of this property (or area) is consistent with the rezoning request as well as the intended future use. This property is directly across the street from CD-4c as well as other CD-4C properties on the same section of street (less than 250 feet away). This neighborhood is mixed with CD-3, CD-4, CD-4c and CD-5 within a block of this property.

4. In response to comments, please describe the applicant's plans to provide adequate parking as required by 8.4.12.B of the Zoning Ordinance (i.e. on-site, on-street, by recorded agreement, etc.).
   The proposed property owner has a shared parking agreement negotiated with W 7th St Church of Christ to provide adequate parking spaces to serve this site. These parking spaces are available within 500-ft of the property along Athenaeum Street. These spaces include signed and marked accessible spaces as well as regular spaces. Once this rezoning is complete and the property has changed hands, this agreement between the respective owners will be recorded.

5. Advisory: This property is located in an historic district. If this rezoning request is successful, any exterior modifications, including site modifications and accessibility additions, will require a Certificate of Appropriateness from the Historic Zoning Commission. Please contact Planner II Robert Archibald (rarchibald@columbiatn.com) to initiate that process.
   Understood, it is my understanding that the process will require Development Services approval before it goes before the Historic Zoning Commission.

6. Advisory: Planning and Engineering staff are uncertain how to review the plan for on-street accessible parking. At a minimum, this will require improvement in the right-of-way at the property-owner's expense. It may also require dedication of additional right-of-way. It is possible that on-street accessible parking will prove infeasible at this location. It may be prudent to develop a "plan B" for accessible parking (not a resubmittal requirement for this rezoning request).
   Understood, we look forward to meeting with you later this week to discuss this possibility. It is, however, my understanding that we have adequate parking available by agreement with another property owner on the street.

7. Advisory: The structure will be nonconforming to the standards of the CD-4 character district. The extend of modification necessary to institute the desired office use, as well as the requirements of the historic zoning overlay, may trigger conformity with current standards (1.22, p. 12-17).
   Understood, and as of delivery of this comment, the proposed owners are aware of this. They do not intend to dramatically modify this property as part of their proposed use. They are available to contact the city (Robert Archibald?) when it is appropriate to begin discussion of this.

8. Advisory: Planning staff will place signs on the property and send certified letters to adjacent property owners on or before December 28th. Please be prepared to address any concerns regarding compatibility with the established pattern of the surrounding area.
   I have confirmed that the prospective owners are aware of and prepared for any discussion that may arise from the placement of signage.

<u>Engineering</u>

9. No comments on rezoning.
   Understood, thank you.

10. Concept Plan: roadway does not appear to accommodate striped on-street parking.
    I have revised the concept to not show striped on-street parking. I also have requested a conversation with you to discuss options.

<u>Columbia Power</u>

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.
    Understood, thank you.

12. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
    Understood, thank you.

Columbia Water

13. "A water availability letter was issued on November 19, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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, hopefully this process will be completed before the letter has to be renewed since this property has existing water provided.

Wastewater

14. Columbia Wastewater has no concerns.
    Understood, thank you.

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

Sincerely,
WES Engineers & Surveyors

Gerald W. Vick, PE
Principal

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, December 12, 2023

ITEM NO.
23-0475

DESCRIPTION: Proposed Rezoning from CD-3 to CD-4 for a proposed Attorney Office providing Personal Services

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Building

1. No comments.

Police

2. No comments.

Columbia Power

3. 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.

Public Works

4. No comments.

ATT

5. No comment.

Maury County E911

6. No comment.

Engineering

7. No comments on rezoning.
8. Concept Plan: roadway does not appear to accommodate striped on-street parking.

Planning

9. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
10. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
11. Advisory: Planning staff will place signs on the property and send certified letters to adjacent property owners on or before December 28th. Please be prepared to address any concerns regarding compatibility with the established pattern of the surrounding area.
12. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, please simply not that the information has been acknowledged.
13. In response to comments, please describe the applicant's plans to provide adequate parking as required by 8.4.12.B of the Zoning Ordinance (i.e. on-site, on-street, by recorded agreement, etc).
14. Advisory: This property is located in an historic district. If this rezoning request is successful, any exterior modifications, including site modifications and accessibility additions, will require a Certificate of Appropriateness from the Historic Zoning Commission. Please contact Planner II Robert Archibald (rarchibald@columbiatn.com) to initiate that process.
15. Advisory: Planning and Engineering staff are uncertain how to review the plan for on-street accessible parking. At a minimum, this will require improvement in the right-of-way at the property-owner's expense. It may also require dedication of additional right-of-way. It is possible that on-street accessible parking will prove infeasible at this location. It may be prudent to develop a "plan B" for accessible parking (not a resubmittal requirement for this rezoning request).
16. Advisory: The structure will be nonconforming to the standards of the CD-4 character district. The extend of modification necessary to institute the desired office use, as well as the requirements of the historic zoning overlay, may trigger conformity with current standards (1.22, p. 12-17).

Wastewater

17. Columbia Wastewater has no concerns.

Fire

18. No comments

Duck River Electric Membership Corp

19. No comments.

Maury County Schools

20. No Comment.

Atmos Energy

21. No comments provided.

Columbia Water

22. "A water availability letter was issued on November 19, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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 Highway Dept.

23. No comments provided.

CPWS BB

24. Plan to serve.

ATTACHMENTS: Concept Plan

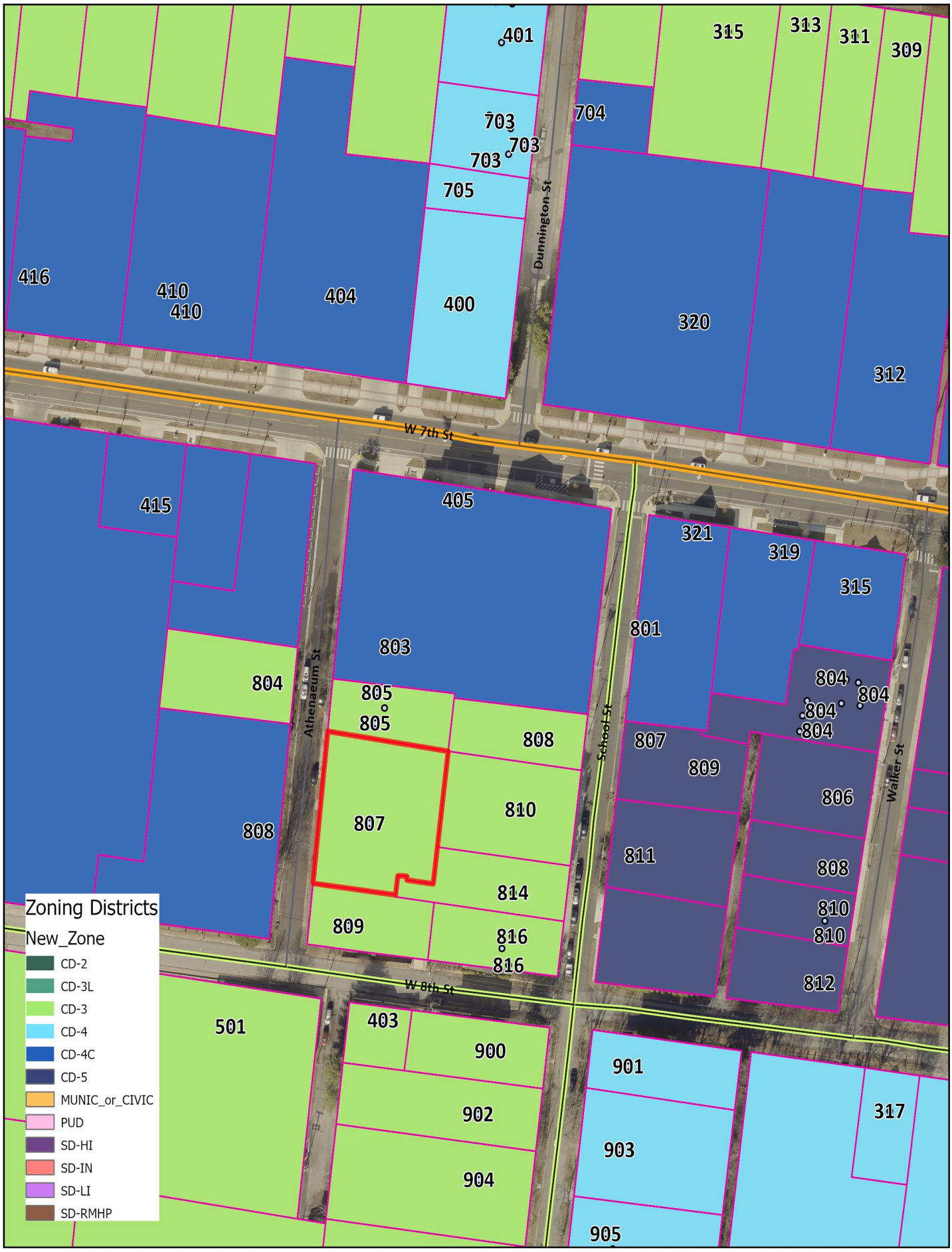
NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

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	638	91.1%
	Brown	1968	56,720	20	405	361	89.1%
	Highland	1986	47,800	4.5	380	301	79.2%
	Howell	1999	81,600	17.5	700	594	84.9%
	Mt. Pleasant	1978	80,021	22	630	583	92.5%
	Riverside	1984	71,150	14	500	407	81.4%
	Spring Hill	1984	69,000	10	540	450	83.3%
	Woodard	1990	76,200	17	600	559	93.2%
	Wright	2005	97,765	18	740	598	80.8%
					5535	***4816***	***87.0%***
Middle	Battle Creek	2019	125,000	45	900	726	80.7%
	Cox	1997	137,200	25	900	655	72.8%
	Mt. Pleasant	2001	113,938	29.2	550	426	77.5%
	Spring Hill	2010	158,106	39.49	950	534	56.2%
	Whitthorne	1979	175,600	17	1050	963	91.7%
					4350	***3304***	***76.0%***
High	Central	2016	296,740	55	1700	1396	82.1%
	Mt. Pleasant	1969	110,759	31	600	389	64.8%
	Spring Hill	1993	181,800	57	1200	1238	103.2%
					3500	***3023***	***86.4%***
Unit	Culleoka	1969	205,800	34	1020	875	85.8%
	Hampshire	1978	83,410	13.12	500	411	82.2%
	Santa Fe	1964	94,225	24	650	509	78.3%
					2170	***1795***	***82.7%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		167	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13105**	

Current Enrollment / Capacity

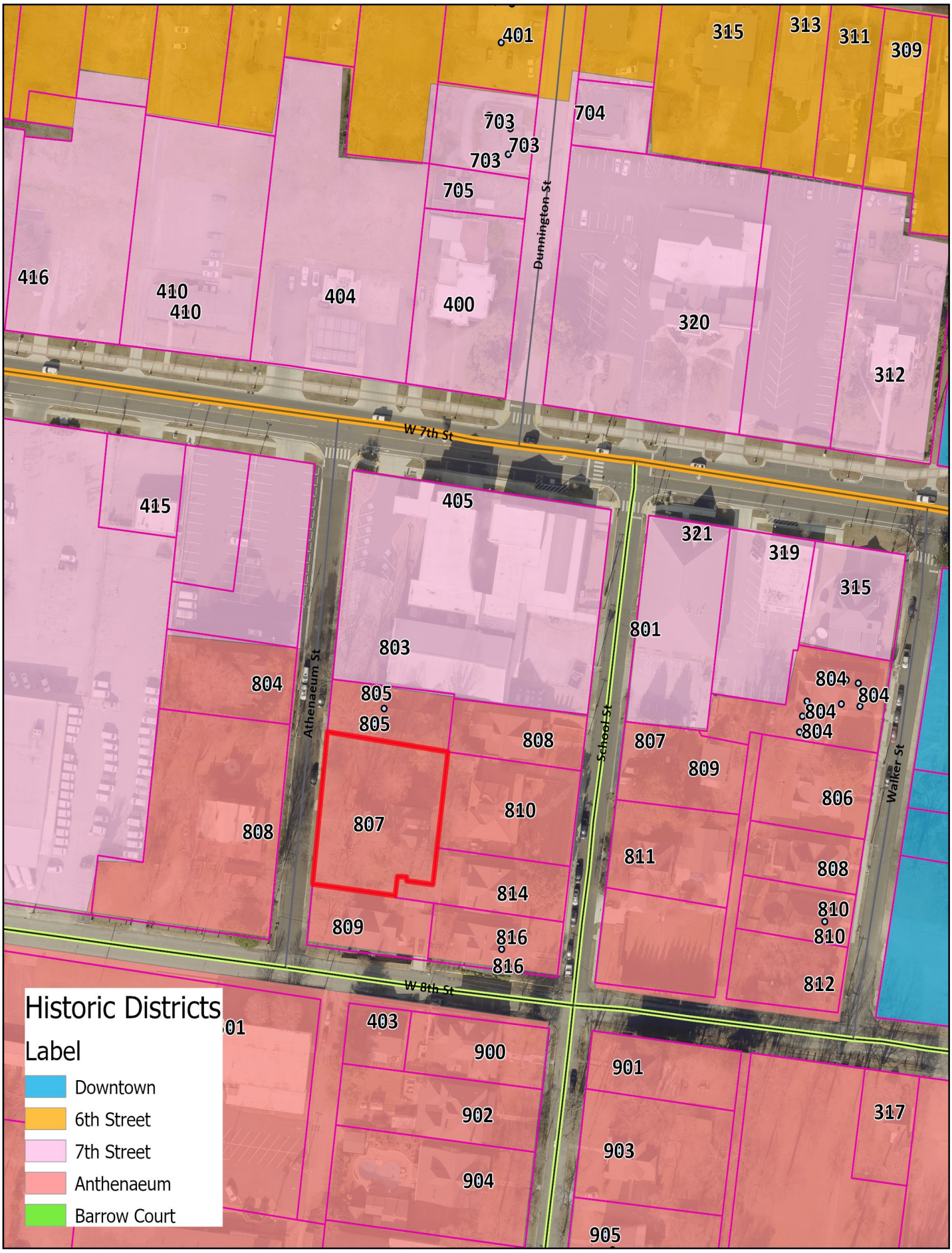
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23-0475
807 Athenaeum Street

CITY OF COLUMBIA TENNESSEE

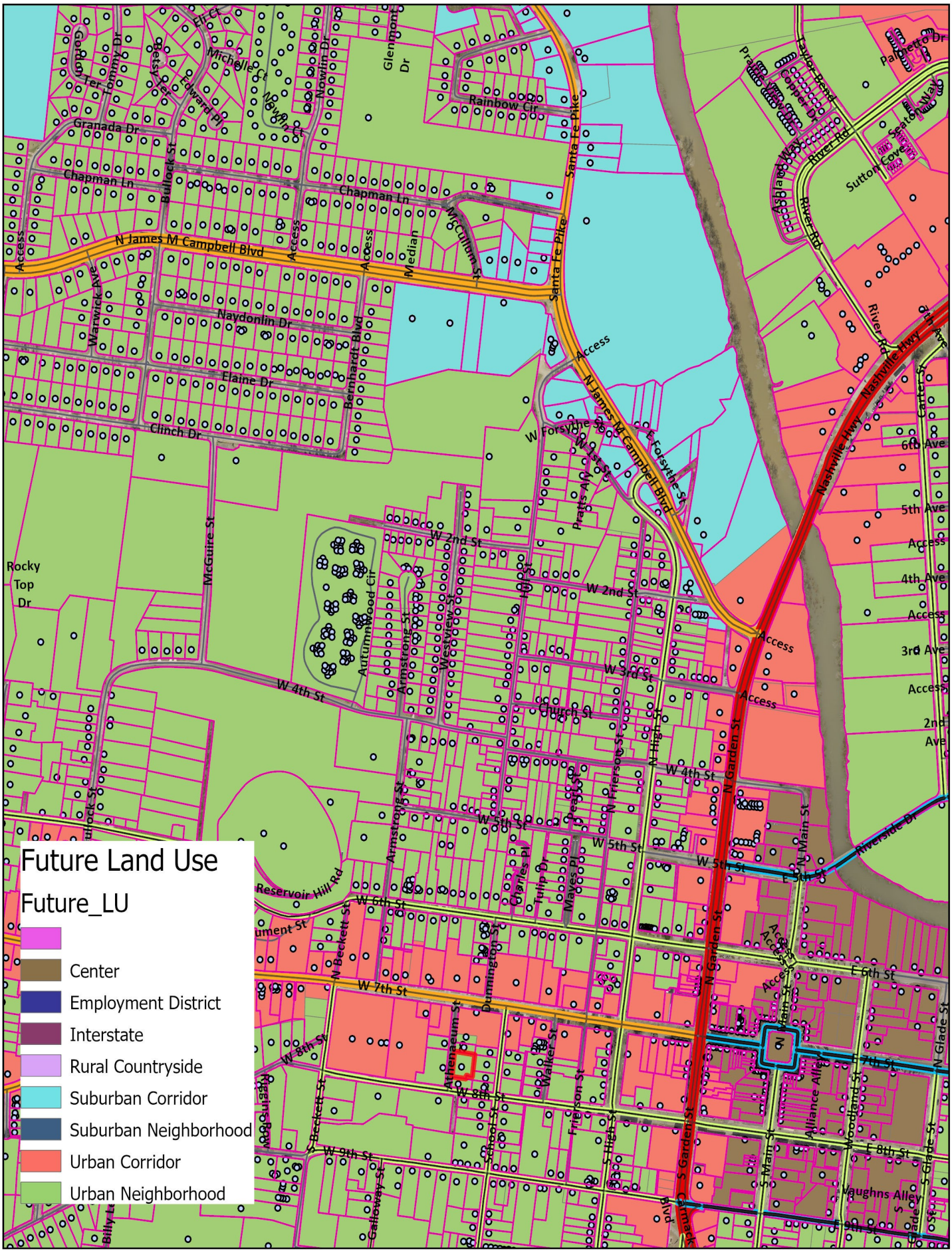
DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541



23-0475
807 Athenaeum Street

CITY OF COLUMBIA TENNESSEE

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

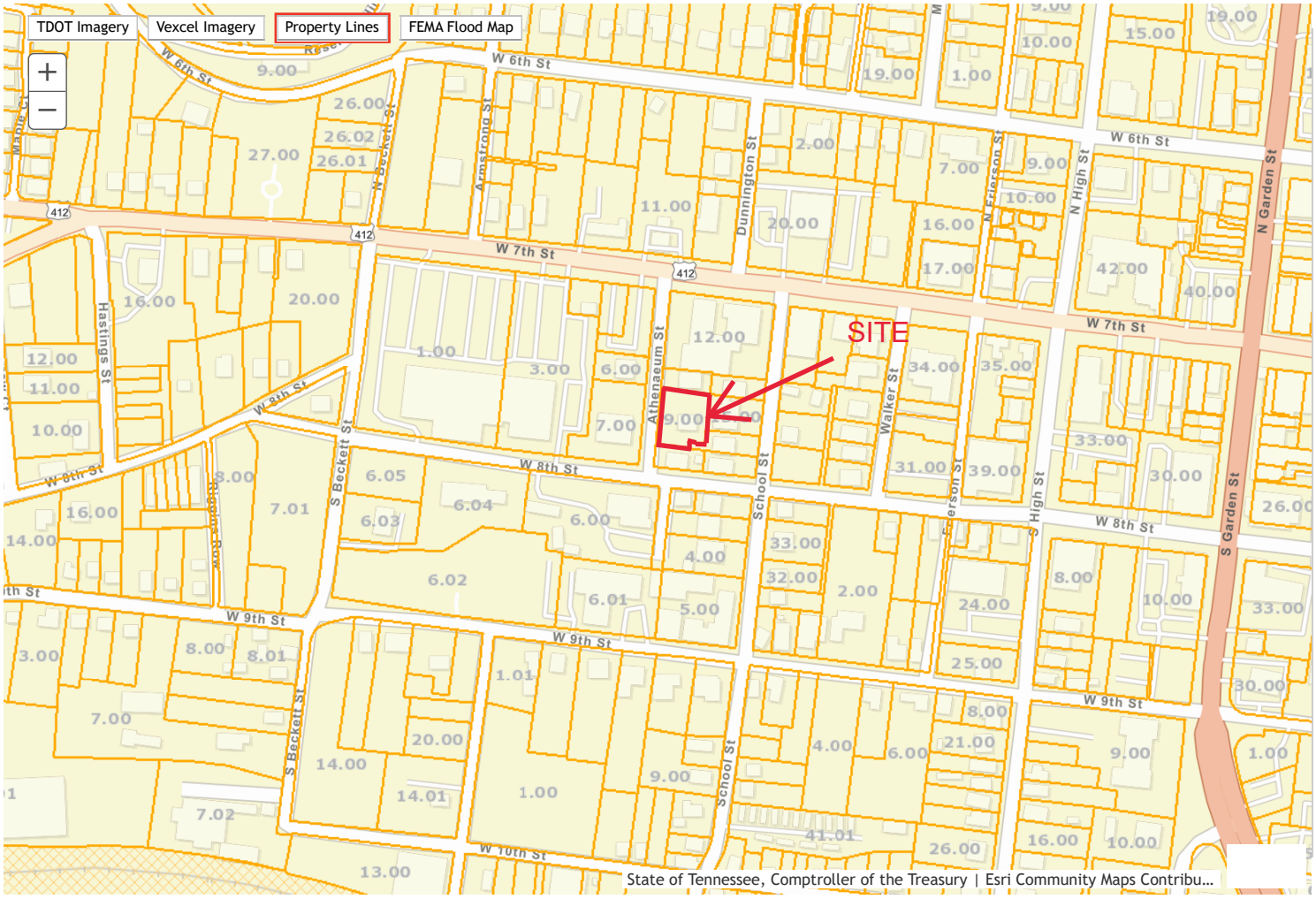


23-0475
807 Athenaeum Street

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
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Tennessee Property Viewer



Athanaeum Street



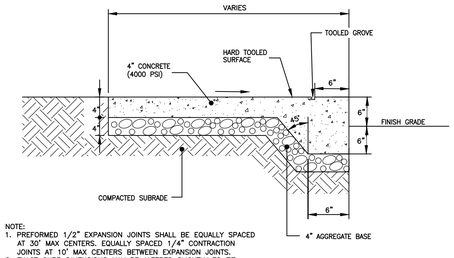
November 17, 2023

1:2,000

0 0.01 0.03 0.06 mi

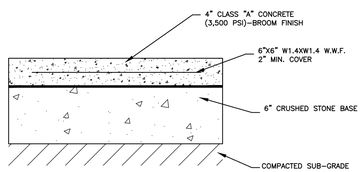
0 0.03 0.06 0.11 km

PROPOSED CONCEPT SKETCH



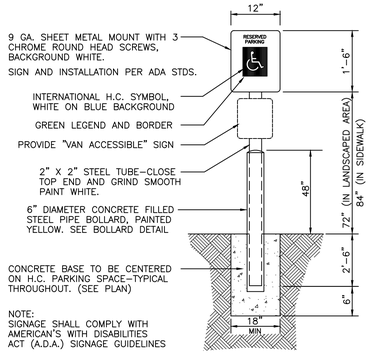
NOTE:
1. PREFORMED 1/2" EXPANSION JOINTS SHALL BE EQUALLY SPACED AT 30' MAX CENTERS. EQUALLY SPACED 1/4" CONTRACTION JOINTS AT 10' MAX CENTERS BETWEEN EXPANSION JOINTS.
2. EXACT CURB DIMENSIONS MAY BE ALTERED SLIGHTLY TO FIT STANDARD CURB MACHINES, BUT SUCH VARIANCES MUST BE APPROVED BY THE ENGINEER.

TURN-DOWN CURB AND SIDEWALK



CONCRETE SIDEWALK

NOTE:
CONTROL JOINT EVERY 5'
EXPANSION JOINT EVERY 25'
UNLESS OTHERWISE NOTED.



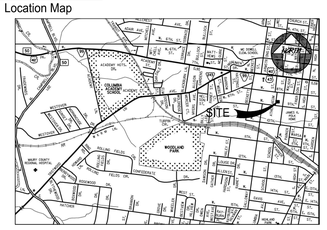
NOTE:
SIGNAGE SHALL COMPLY WITH AMERICAN'S WITH DISABILITIES ACT (A.D.A.) SIGNAGE GUIDELINES

ACCESSIBLE SIGN
NOT TO SCALE



TN GRID NORTH

Location Map



SITE DATA:

OWNER: CLARK QUIN
807 ATHENAEUM STREET
COLUMBIA, TN 38401

PARCEL NUMBER: TAX MAP 100D PARCEL 09.00
DEED BOOK: R2550, PG 233

SUBJECT PARCEL ZONING: EXISTING ZONING CD-3
REQUEST ZONING CD-4

ACREAGE OF SITE: 19,185 SQ. FT.
0.44 ACRES

MINIMUM REQUIRED BUILDING SETBACKS:
30' FRONT (MINOR COLLECTOR)
20' FRONT (MINOR)
20' REAR
7.50' SIDE
15' SIDE SETBACK FOR CORNER LOTS

UTILITY SERVICES: WATER SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

ELECTRIC SERVICE
COLUMBIA POWER & WATER SYSTEMS
201 PICKENS LANE
COLUMBIA, TENNESSEE 38401
(931) 388-4833

PURPOSE NOTE: CONVERT EXISTING RESIDENCE TO LAW OFFICE. IMPROVEMENTS TO INCLUDE CREATING AN ADA COMPLIANT PARKING SPACE & RAMP TO ENTRANCE.

© 2023

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

ENGINEERS & SURVEYORS

Client
CARA LYNN
710 NORTH MAIN STREET
COLUMBIA, TENNESSEE 38401

REVISIONS
DATE

LAW OFFICE
807 ATHENAEUM STREET
COLUMBIA, MAURY COUNTY, TENNESSEE
CONCEPT SKETCH

Drawn: RP
Checked: RP
Approved: GW
Date: 11/17/23

Job. no. 23603
Scale: Vertical: 1"=20' Horizontal:

1 of 1

BENCHMARK

BENCHMARK #1
IRON PIN
ELEV = 683.35'
N = 467,920.79
E = 1,659,150.81
TENNESSEE COORDINATE
SYSTEM OF 1983
NAVD 88

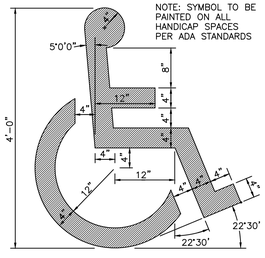
WARNING! UTILITY LINES!

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.

Tennessee811
Know what's below
Call before you dig.

LEGEND

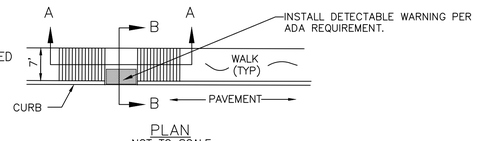
	EXISTING	PROPOSED
WATER MAIN		8"
SANITARY SEWER		
STORM SEWER	18"ST	18"ST
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET	EIP	
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		ST1
ASPHALT		
CONCRETE		
# PARKING SPACES		14



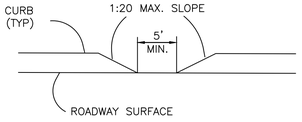
PAINTED HANDICAP SYMBOL
NOT TO SCALE

NOTES:

1. FOLLOW ADA REQUIREMENTS FOR REQUIRED LOCATIONS AND PLACEMENT OF DETECTABLE WARNINGS.

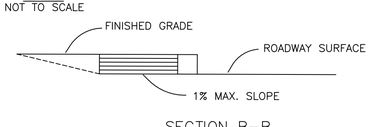


PLAN
NOT TO SCALE



SECTION A–A
NOT TO SCALE

ACCESSABLE RAMP DETAIL
NOT TO SCALE



SECTION B–B
NOT TO SCALE

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT 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.

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.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

A PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47119C0285E DATED APRIL 16, 2007.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

GERALD W. WICK III
REGISTERED ENGINEER
STATE OF TENNESSEE
No. 107415
gerald@wesengineers.com

SUBMITTED FOR MUNICIPAL APPROVAL
NOT FOR CONSTRUCTION

FILE:J:\WES_Engineers_Surveyors 2023\23603 - 807 Athenaeum - Cara and Bart\Dwg\Engineering\23603 ATHENAEUM STREET_base.dwg

CPWS

November 19, 2023
Mr. Gerald W. Vick P.E.
WES Engineers & Surveyors
2486 Nashville Hwy
Columbia, TN 38401
Sent via email: gerald@wesengineers.com
RE: Water Availability Letter
807 Athenaeum St.
Tax Map 100D, Parcel 9
Columbia, Maury County, TN

Dear Mr. Vick:

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 an existing residence to be repurposed as office space. CPWS has evaluated the projected water demands for the proposed 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.

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 23-059

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 11/1/2023
Name: Gerald Vick
Phone: 9313882329
Email: gerald@wesengineers.com
Address/Parcel ID: Athenaeum St, Columbia Map 100D, Grp "E" Pcl 9.00
Property Type: ○ Residential ◉ Commercial ○ Industrial
Construction Type: V-B
Enclosed Area (ft²): 3,275 sf (existing res)

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: NFPA 13

Water System Demand without Sprinkler Credit

Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: 1,500 gpm Duration: 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.

Water System Demand with Sprinkler Credit

Fire flow requirements (International Fire Code Appendix B)

Fire Flow: 1,000 gpm Duration: 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: 11/1/2023

CD–4 TABLE 4.3.1–D DISTRICT STANDARDS: GENERAL URBAN CHARACTER DISTRICT



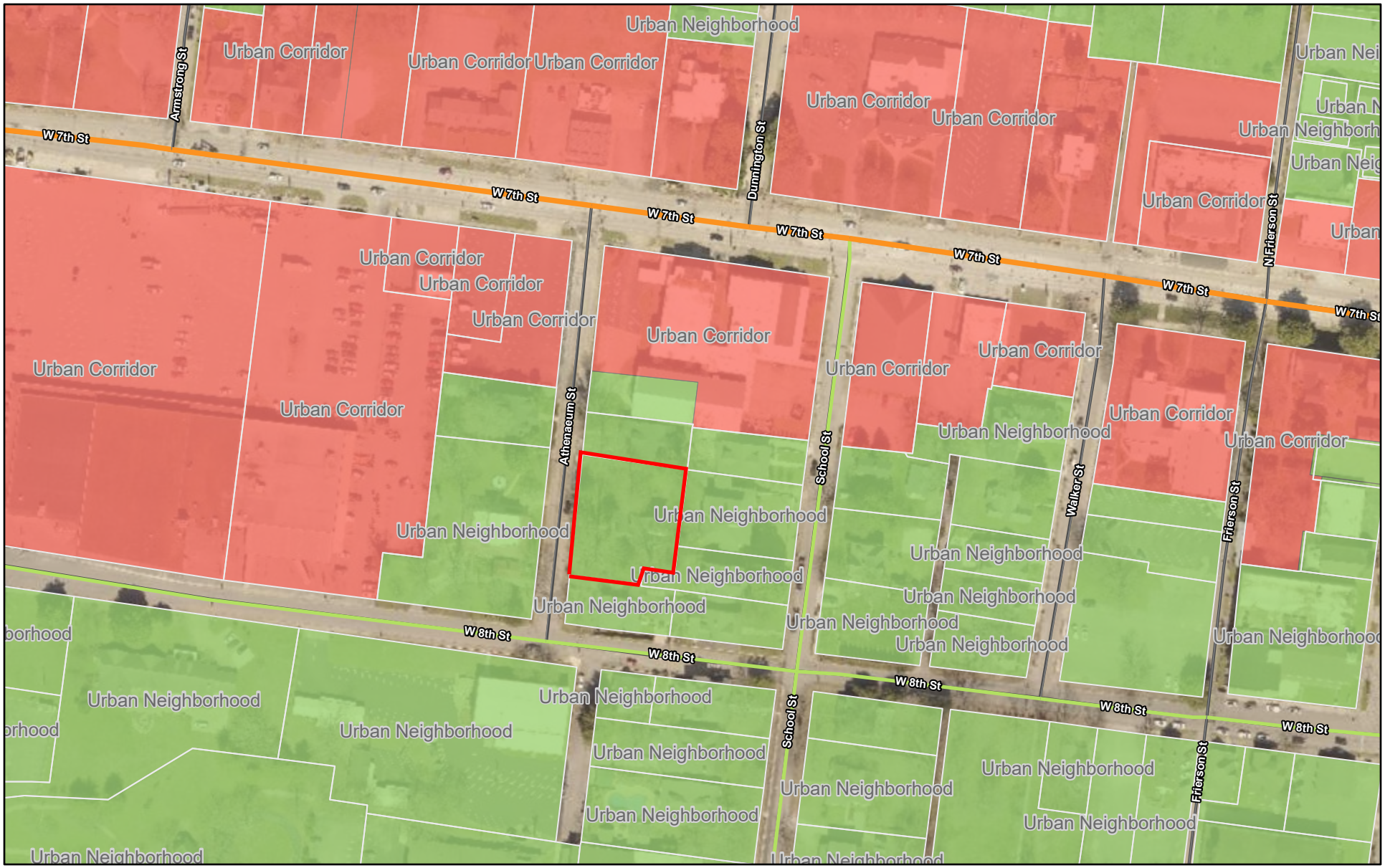
General Description

The CD–4 General Urban Character District consists of a medium density area that has a mix of Building Types and primarily Residential, Retail / Personal Service / Artisan, Office, Lodging and Civic Uses; there are medium, shallow or no front Setbacks and narrow to medium side Setbacks; it has variable private landscaping; and it has Thoroughfares and Internal Drives with curbs, Sidewalks and trees that define medium-sized blocks. CD–4 is an appropriate District for the Urban Neighborhood Character Area, the Employment Character Area, the Tom Hitch Special Area, the Industrial Road Special Area, the Bear Creek Pike "Node" Special Area, and the Interstate Gateway Special Area as described in the Comprehensive Plan.



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Athanaeum Street Future Land Use

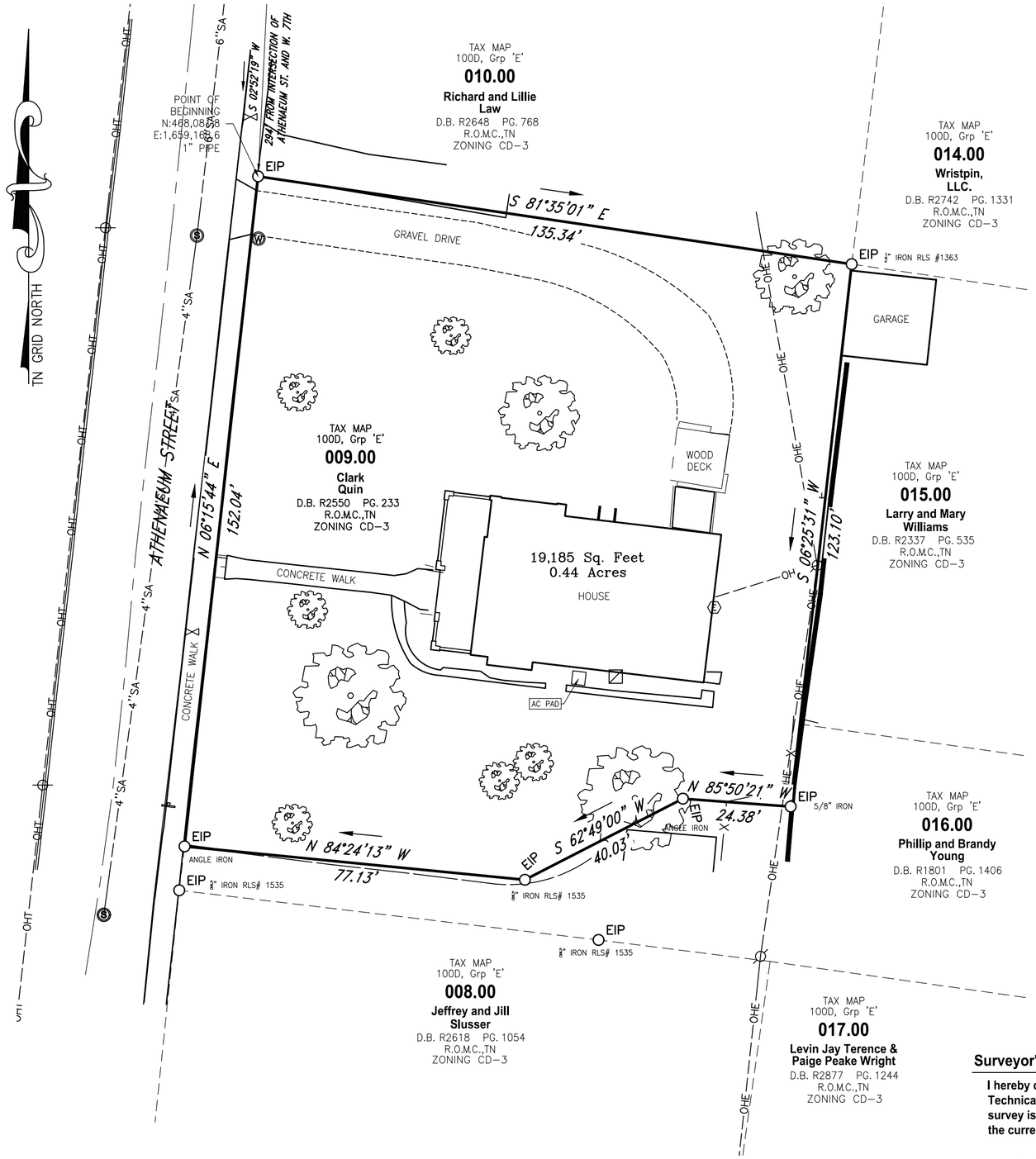


November 17, 2023

1:2,000

0 0.01 0.03 0.06 mi

0 0.03 0.06 0.11 km



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

Site Data

Current Zoning – CD-3 – Neighborhood Character District

Lot Width:
- House: 40 feet min if Alley loaded at rear, otherwise 65 feet min
- Duplex: 50 feet min for each unit of Duplex
- Civic: 50 feet min

Setbacks:
Principal:
- Front: 25 feet min(Principal Frontage)
  20 feet min(Secondary Frontage)
- Side: 8 feet min
- Rear: 25 feet min,
  or 15 feet min from center of Rear Alley

Accessory:
- Front: 25 feet min(Principal Frontage)
  20 feet min(Secondary Frontage)
- Side: 8 feet min
- Rear: 25 feet min,
  or 15 feet min from center of Rear Alley

Property Description

A tract of land located in Maury County, Tennessee. Being all of the property of Clark Quin as recorded in Deed Book R2550, page 233, shown on Tax Map 100D, Group "E", Parcel 009.00, and being more particularly described as follows.

Beginning at an 1" iron pipe, said point being the south west corner of Richard and Lillie Law as recorded in Deed Book R2648, page 768, said point lying SOUTH 02°52'19" WEST a distance of 294' from the intersection of W. 7th Street and Athenaeum Street, having a Tennessee State Plane Coordinate N-468,081.8, E-1,659,168.6 (TDOT CORS).

Thence with the south line of the Law property, SOUTH 81°35'01" EAST a distance of 135,34' to a ½" iron pin with RLS# 1363 cap;
Thence with the west line of Larry and Mary Williams as recorded in Deed Book R2337, page 535, SOUTH 06°25'31" WEST a distance of 123,10' to a 5/8" iron pin found;
Thence with the north line of Phillip and Brandy Young as recorded in Deed Book R1801, page 1406, NORTH 85°50'21" WEST a distance of 24,38' to a found angle iron;
Thence with the same, SOUTH 62°49'00" WEST a distance of 40.03' to a 5/8" iron pin with RLS# 1535 cap;
Thence with the same, NORTH 84°24'13" WEST a distance of 77,13' to a found angle iron;
Thence with the east margin of Athenaeum Stree, NORTH 06°15'44" EAST a distance of 152.04', which is the point of beginning, having an area of 19,185 square feet, 0,44 acres.

There may exist easement/easements either by record or prescription that a complete and accurate title search may reveal. No title research was provided to the surveyor at the time of this survey.

Note: The above property description is based on information gathered during the course of an actual field survey conducted by W.E.S. - ENGINEERS AND SURVEYORS - Job #23603, under the direction of Allen B. O'Leary, Tennessee Registered Land Surveyor Number 1987. All iron pins set are ½" Rebar, with a plastic cap stamped "O'Leary, RLS 1987". All deeds referenced above are of record in the Register's Office of Maury County, Tennessee. The above property description was prepared under my direction on this the 17TH day of November 2023.

Surveyor's Certification (Tennessee)

I hereby certify that this is a Category "IV" survey, meets or exceeds the Minimum Technical Standards for Land Surveyors, and the ratio of precision of the undjusted survey is greater than 1:10,000 as shown hereon, and was done in compliance with the current Minimum Technical Standards.

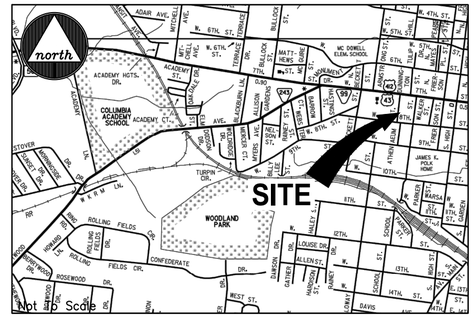
Allen B. O'Leary — 11/15/23

Allen B. O'Leary, TN RLS #1987 — **Date**

I hereby certify this is a true and accurate survey and meets or exceeds the current Minimum Standards and Applications of a Category IV (Remote Sensing) survey as defined in T.C.A. 0820-03-.07C(5).

Equipment:	Carlson BRX7, Base and Rover
Positional Accuracy:	HRMS =0.04 SD=0.008, VRMS=0.075 SD=0.013
Geoid:	NGS2012B
Date:	November 2023

Location Map



Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure, portions of the survey were done utilizing a Carlson BRX7, utilizing Base and Rover.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category IV 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 parcel is as shown hereon.
7. This property currently identified as Tax Map No. 100D, Group "E", Parcel No. 009.00, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: n/a
9. Deed reference: Book R2550, Page 233.
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 title search as provided by others and noted hereon.
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. The property as shown hereon 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, as scaled graphically.

Legend

- EIP Iron Rod Found
- IPS Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- Fence Post
- ECM 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

ALLEN B. O'LEARY XVI REGISTERED LAND SURVEYOR AGRICULTURE OR COMMERCE TENNESSEE NO. 1987

allen@wesengineers.com

©2023

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

Client
Cara Lynn
710 N. Main Street, Suite 200
Columbia, TN 38401
931-388-5070

PLAT OF SURVEY

807 ATHENAEUM STREET
COLUMBIA, TN 38401

DATE	REVISIONS

Drawn: AO | Checked: | Approved: | Date: NOV. 16, 2023

Job. no. 23603 | Scale: Vertical: 1"=20' Horizontal:

1 of 1

FILE:J:\WES_Engineers_Surveyors 2023\23603 - 807 Athenaeum - Cara and Bart\Dwg\Survey\23603 ATHENAEUM SURVEY.dwg

W.E.S. – ENGINEERS AND SURVEYORS

2486 Nashville Highway
Columbia, TN 38401
931-388-2329

CD-4 REQUEST – 807 Athenaeum Street

A tract of land located in Maury County, Tennessee. Being all of the property of Clark Quin as recorded in Deed Book R2550, page 233, shown on Tax Map 100D, Group "E", Parcel 009.00, and being more particularly described as follows.

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Thence with the same, SOUTH 62°49'00" WEST a distance of 40.03' to a 5/8" iron pin with RLS# 1535 cap;
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Allen B. O'Leary
TN R.L.S. No. 1987

Authentisign ID: FDB9A288-7485-EE11-8925-6045BDD68161

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	807 Athenaeum Street. Columbia, TN 38401		
	TAX MAP: 100D	GROUP: E	PARCEL: 09.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request rezoning from x to CD-4 for a proposed Attorney Office providing Personal Services		

DATE OF PRE-APPLICATION CONFERENCE	9/27/2023	*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) _____ ❑ Total Number of Lots _____ ❑ Total acreage _____

Authentisign ID: FDB9A288-7485-EE11-8925-6045BDD68161

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	WES Engineers & Surveyors	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy Columbia, TN 38401	EMAIL	gerald@wesengineers.com

PROPERTY OWNER NAME	Clark Quin	PHONE	
ADDRESS	807 Athenaeum Street 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
WES Engineers & Surveyors	Ariel Elizabeth Simon 11/17/23 Nathaniel David Simon 11/17/23	Oliver Eugene Simon 11/17/23
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	

East End Street Site Development Plan & Plat

Project #:	23-0437	Location:	Map 99 Parcel 59.04
Applicant:	Generation 2 Generation, LLC	Case Type(s):	Site Development Plan/Plat
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Single-Family Homes

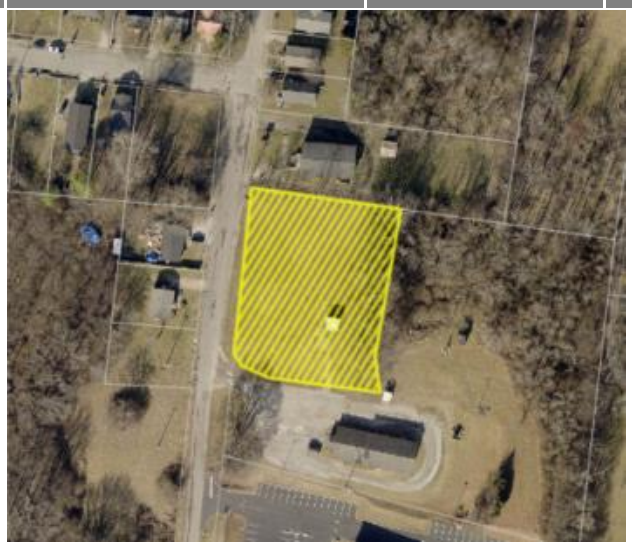
PROJECT SUMMARY

The applicant requests approval of a Site Development Plan, Preliminary Plat and Final Plat to divide the subject site into four home sites. City Council approved rezoning of this property in 2023 following favorable recommendation by Planning Commission. The subdivision follows the concept presented at that time

- The Zoning Administrator is the decision-making authority for minor Site Development Plans. However, the Ordinance requires an approved Site Development Plan in order to subdivide property. Consequently, the Zoning Administrator refers this Site Development Plan to the Planning Commission for concurrent review with the Preliminary and Final Plat.
- The Planning Commission is the **decision-making authority** for the Preliminary Plat and Final Plat.
- 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 staff 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	+ /- 1.02 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-3L	Single-Family
South	Urban Neighborhood	CD-3L	Civic Club
East	Urban Neighborhood	CD-3L	Civic Club
West	Urban Neighborhood	CD-3	Single-Family

CONSISTENCY WITH CONNECT COLUMBIA

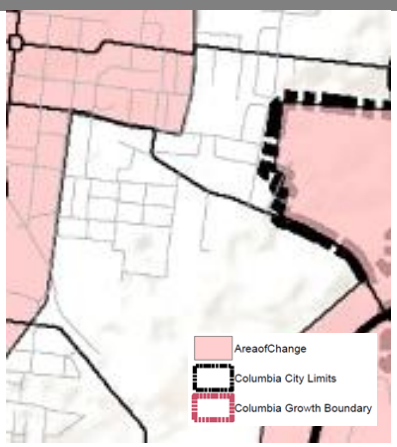
Urban Neighborhood: The future land use of the subject site is Urban Corridor. The Character Area is characterized by wide-ranging mix of uses with intermixed and compatible civic uses. The Future Land Use Plan indicates that the general development pattern is urban with "single- and multi-use activity 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.

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 not located** in an Area of Change (Connect Columbia Map 3). In 2017 the Planning Commission determined that the development pattern in the area was established and that changes to overall character of the area should rarely occur. The designation does not necessarily mean that any particular development proposal is inconsistent with Connect Columbia. It does mean that the Planning Commission should pause to ensure the context of the area surrounding the subject property is considered in the review process. (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 the single-family homes depicted in the Site Development Plan.**

Lots, Building Sites & Bulk Standards

- **The proposed Preliminary and Final Plat will divide the property into conforming lots.**
    - Minimum lot width of 50’.
    - Frontage buildout not regulated.
- **The 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.**
    - 6’ min front setback; 20’ max front setback
    - 6’ min side setback

- 3' min rear setback measured from the rear property line or 15' measured from the centerline of rear alley as applicable;
- Parking must be located in the third layer. The Applicant proposes to place parking in the third layer behind the homes.
- The Ordinance permits the use of shared driveways. The applicant proposes to create two share driveways providing access to the rear of the property.

REVIEW PROCESS

The Development Review Committee reviewed the proposed Site Development Plan and Plat at its December 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 Zoning Administrator is the Decision-Making Authority for this Site Development Plans but has elected to refer this review to the Planning Commission under **§ 8.5.6.D.2**. The Planning Commission is the Decision-Making Authority for subdivision plats under **§ 8.3.3.B.1** of the Zoning Ordinance and **§§ 2.2** and **2.3** of the Subdivision Regulations.

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 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.

Section **2.2.6** of the Subdivision Regulations establishes the review criteria for approval of Preliminary Plats.

A. Recommendations and final action on a Preliminary 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.

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 meeting in December 2023. A full list of comments, and the applicant's responses, is provided in the agenda packet. Some key comments are noted below.

- **Planning** asked for minor corrections to the plat, corrections to the form of submittal, and modification to the parking plan.
- **Engineering** requested separate documents for each proposal as well as minor corrections to the plat.
- 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** noted that the additional homesites will require impact fees and connection fees.

COMMENTS FROM PROFESSIONAL PLANNING STAFF

The proposed subdivision create four single-family lots. Zoning and Planning staff will ensure conformity with all standards of the Zoning Ordinance and other applicable regulations at the time of building permit.

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, as well as Sections **2.2.6** and **2.3.6** of the Subdivision Regulations, have been satisfied, and approve the Site Development Plan and 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 sections 8.5.6.N and O of the City of Columbia Zoning Ordinance, as well as Sections **2.2.6** and **2.3.6** of the Subdivision Regulations, have been satisfied, and approve Site Development Plan and Plat, 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, and Sections **2.2.6** and **2.3.6** 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 that future meeting.

FINAL PLAT

GENERATION 2 GENERATION LLC 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 FOUR TRACTS. THIS SURVEY IS PROVIDED TO LARRY OWENS (DEVELOPER)

2. I, TRACY SEIBER, HEREBY CERTIFY THAT THIS MAP WAS DRAWN FROM AN CATEGORY 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 18**
- **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 CD-4 CITY OF COLUMBIA ZONING ORDINANCE.
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:
LOT-1
1203A E. END ST
COLUMBIA, TN 38401
LOT-2
1203B E. END ST
COLUMBIA, TN 38401
LOT-3
1205A E. END ST
COLUMBIA, TN 38401
LOT-4
1205B E. END ST
COLUMBIA, TN 38401

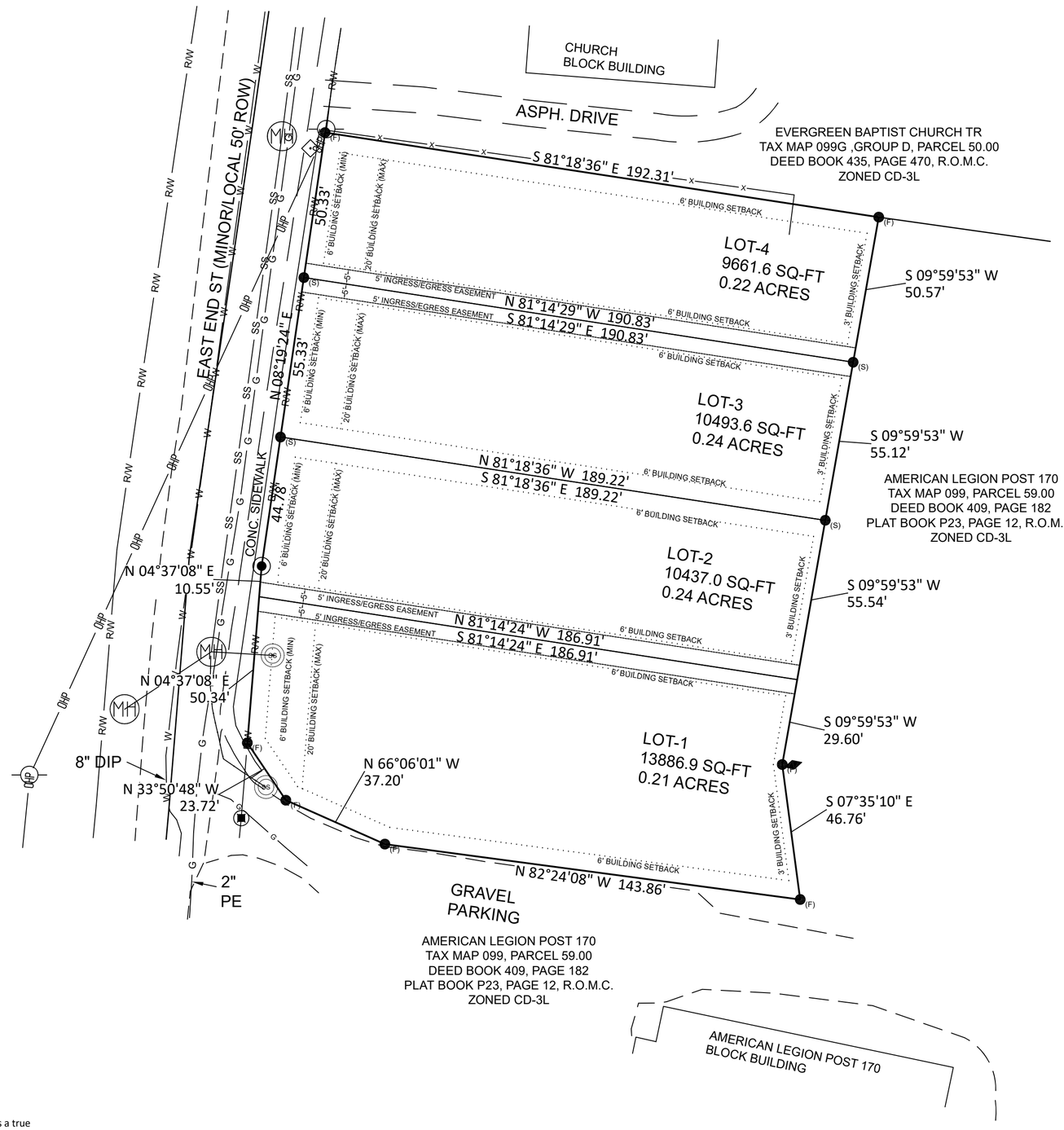
7. ALL UNDERGROUND UTILITIES ARE NOT VERIFIED BY UTILITY OWNERS AND BASED ONLY ON FIELD EVIDENCE AND SCALED FROM UTILITY OWNER MAPS. CALL 811 BEFORE ANY EXCAVATION.

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.

10. ALL STRUCTURES ON THIS SITE WILL CONFORM TO THE BULK AND DESIGN STANDARDS OF CD-4 CHARACTER DISTRICT, INCLUDING THOSE LISTED AT 4.3.1-D

11. A TITLE SEARCH WAS NOT PROVIDED AT TIME OF SURVEY. THE CERTIFICATION PROVIDED ON THIS SURVEY IS A STATEMENT OF PROFESSIONAL OPINION BASED ON FIELD EVIDENCE, EXPERIENCE, AND DOCUMENTS OF RECORD AT THE COUNTY REGISTER OF DEEDS OFFICE.



CERTIFICATE OF OWNERSHIP AND DEDICATION

I hereby certify that I am the owner of the property shown and described hereon as evidence recorded in Book Number 409, Pages 182, Maury County Register's Office, and that I hereby adopt this plan of subdivision with my free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, public easements, utilities, and other facilities have been filed.

DATE GENERATION 2 GENERATION LLC.
LARRY OWENS

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
CITY OF COLUMBIA, TN

E-911 PROGRAM CERTIFICATION OF APPROVAL

This is to certify that this plat has been reviewed and is in compliance with the Maury County E-911 Program

DATE E-911 DIRECTOR

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I hereby certify that the water system(s) outlined or indicated on the final subdivision _____ plat _____ entitled _____ Property 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 AND WATER

CERTIFICATE OF APPROVAL FOR SEWER SYSTEM

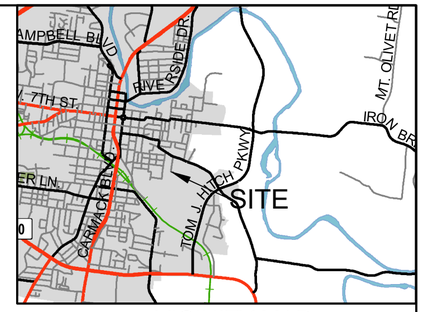
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DATE DIRECTOR OF WASTE
WATER DEPARTMENT
COLUMBIA, TN

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



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.

12/16/2023
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
R5 12/16/2023	

PRELIMINARY PLAT

GENERATION 2 GENERATION LLC 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)
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- **C. PUBLISHED/FIXED CONTROL: TDOT CORS NETWORK**
- **D. GEOID MODEL: GEOID 18**
- **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 CD-4 CITY OF COLUMBIA ZONING ORDINANCE.
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.

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LOT-3
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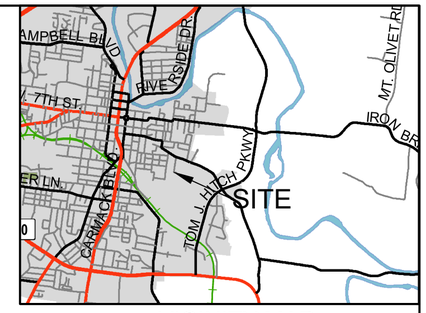
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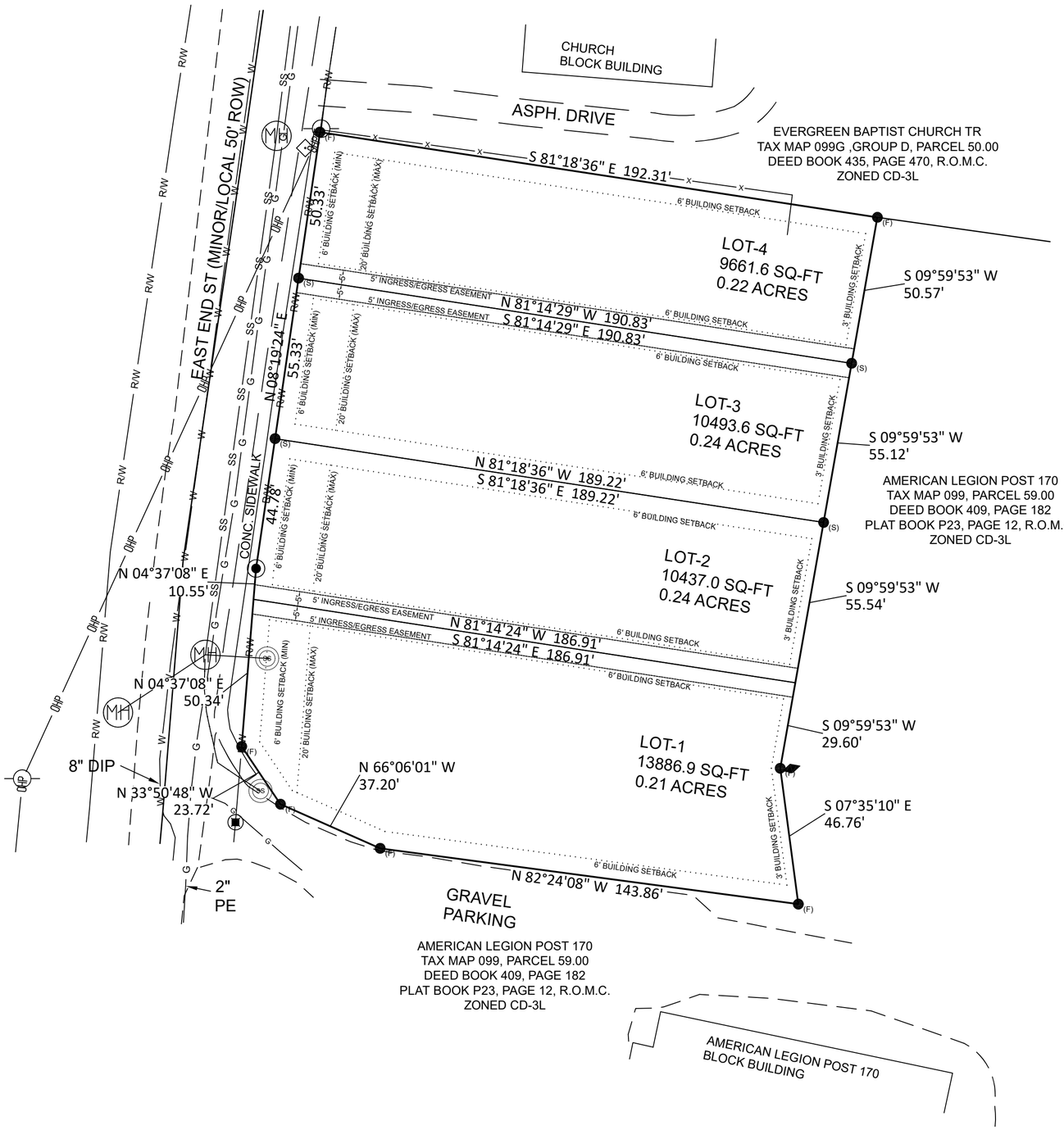
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VICINITY MAP
(NOT TO SCALE)



N
TN-NAD83

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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
R5 12/16/2023	

FINAL PLAT

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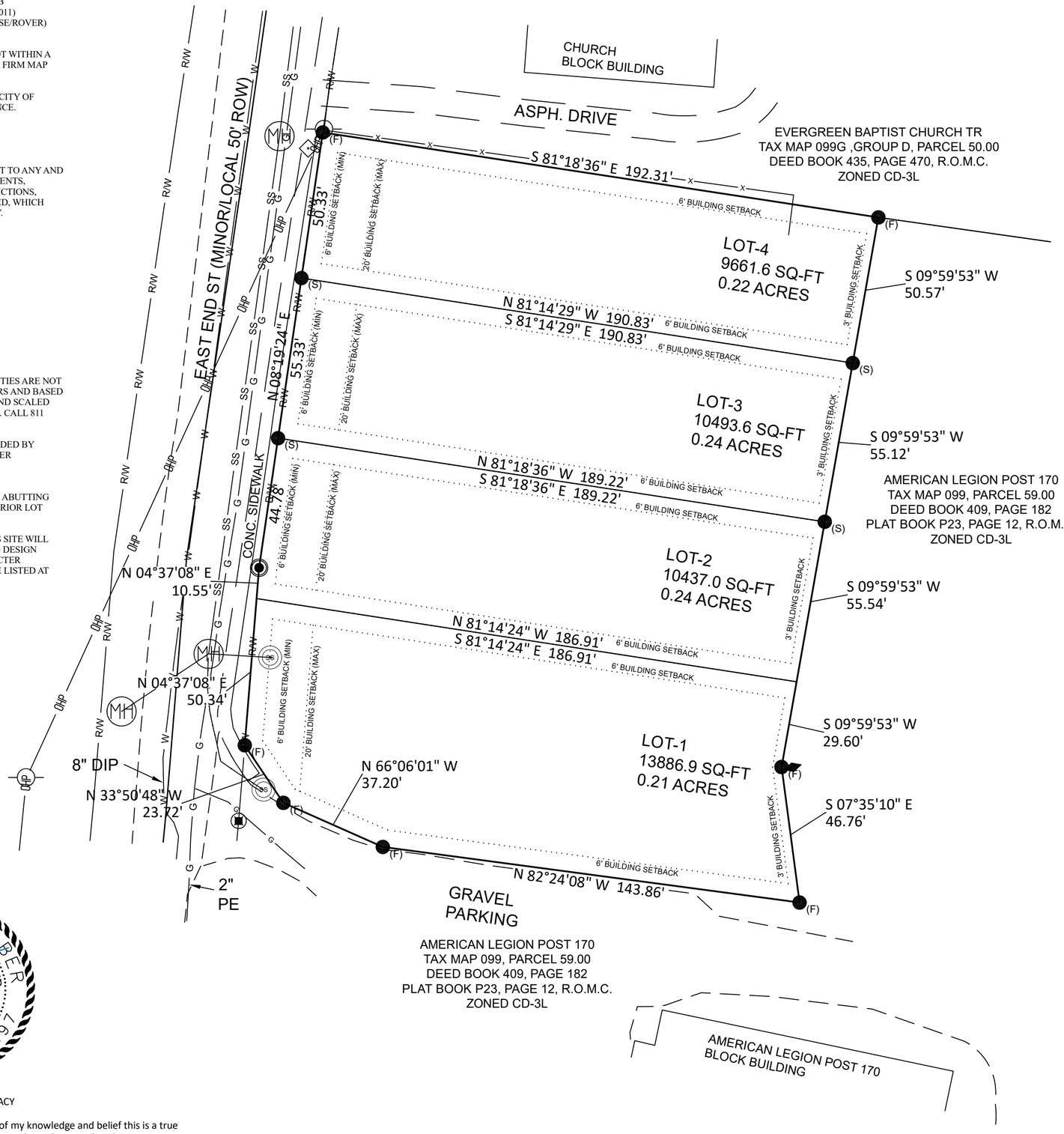
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8. ELECTRIC & WATER PROVIDED BY COLUMBIA POWER AND WATER
201 PICKENS LN
COLUMBIA, TN 38401

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12/5/2023
Date

TRACY SEIBER, RLS #2397

TRACY SEIBER REGISTERED LAND SURVEYOR XVI AGRICULTURE COMMERCE TENNESSEE NO. 2397

CERTIFICATE OF OWNERSHIP AND DEDICATION

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DATE — GENERATION 2 GENERATION LLC.
LARRY OWENS

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DATE — SECRETARY PLANNING COMMISSION
CITY OF COLUMBIA, TN

E-911 PROGRAM CERTIFICATION OF APPROVAL

This is to certify that this plat has been reviewed and is in compliance with the Maury County E-911 Program

DATE — E-911 DIRECTOR

CERTIFICATE OF APPROVAL OF WATER SYSTEM

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DATE — COLUMBIA POWER AND WATER

CERTIFICATE OF APPROVAL FOR SEWER SYSTEM

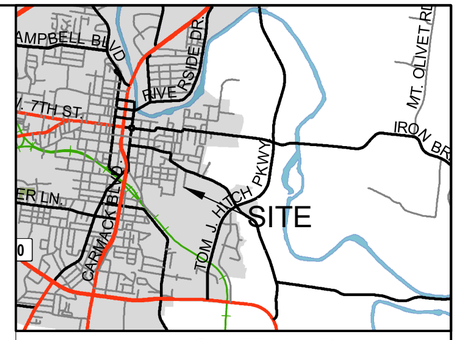
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DATE — DIRECTOR OF WASTE
WATER DEPARTMENT
COLUMBIA, TN

CERTIFICATE OF COMPLIANCE

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DATE — CITY ENGINEER
COLUMBIA, TENNESSEE



VICINITY MAP
(NOT TO SCALE)

N

TN-NAD83

LEGEND

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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

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: LARRY OWENS

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 NA

- ☐ 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 NA

- ❑ 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 NA

- ❑ 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 NA

- ❑ 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 PLAT
- ☐ Owner's Affidavit
- ☐ List of all variances requested NA
- ☐ 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:

TRACY SEIBER		12/16/2023
Print Name	Signature	Date

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, December 12, 2023

ITEM NO.
23-0437

DESCRIPTION: Site development plan and preliminary plat to create four CD-4 lots.

Final & Preliminary Plat for 1203A E. End St. Columbia TN. 38401, 1203B E. End St. Columbia TN. 38401, 1205A E. End St. Columbia TN. 38401, 1205B E. End St. Columbia TN. 38401. 4 Single Family Homes

COMMENTS:

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
   Acknowledged

1. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, please simply not that the information has been acknowledged.
   Acknowledged

1. Please revise the application to request concurrent review and approval of Preliminary Plat, Final Plat, and Site Development Plan (additional fees may apply).
   Acknowledged

1. Please revise to show the minimum and maximum building setback lines instead of actual proposed building footprints.
   Has been revised.

1. Parking is depicted in the first layer. Please revise to show parking in third layer and/or in driveway.
   Has been revised.

RECEIVED
DEC 18 2023
By
23-0437

1. Please revise note 6 to correct the address for lot 4.
   See revision.

1. At resubmittal, please provide the plat and the Site Development Plan as two separate documents. The plat should comply with the subdivision regulation and provide for division of property. The Site Development Plan should depict a plan of development conforming to the CD-4 standards of the zoning ordinance.
   Acknowledged

1. Please provide PLS signature on Final Plat.
   Has been provided.

1. Note: This site is less than one acre and is exempt from the tree protection plan requirements at 4.3.16.L per per 4.3.16.L.1.a (p. 293).
   Acknowledged

1. Please add a note indicating that all structure on the site will conform to the bulk and design standards of the CD-4 character district, including those listed at 4.3.1-D
   Has been revised.

Engineering

1. Please submit one document labeled preliminary and one document labeled final plat.
   Has been revised.

1. Provide easement surrounding existing sanitary sewer on Lot 1.
   No easement required for sewer meters without further justification.

1. All driveway aprons/sidewalk crossings shall be ADA compliant.
   Acknowledged

1. Preliminary plat: remove certificates from preliminary plat, remove final plat from title, provide existing conditions and contours at vertical intervals of not more than two (2) feet,
   Has been revised.

1. Final plat: provide IPS or F at all proposed property corners, provide certifications from subdivision regulations appendix A (except A4).
   Has been revised.

Columbia Power

1. 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.
   Acknowledged

1. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
   Acknowledged

Wastewater

1. There shall be at least 3, possibly 4 taps purchased, with impact fees for each lot.
   Acknowledged

Fire

1. An additional hydrant that was mentioned in the water letter will not be required
2. Acknowledged

Maury County Schools

1. 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.
   Acknowledged

Columbia Water

1. A water availability letter was issued on November 16, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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.
Acknowledged

Maury County E911

1. It appears the developer understands these homes will need an A & B added to address for 1203 & 1205 East End Street.

Acknowledged

ATT

1. ATT intends to serve.

Acknowledged

CPWS Broadband

1. Plan to serve
   Acknowledged

No comments were received from Building, Police, Public Works, Atmos Energy, or the Maury County Highway Dept.

Acknowledged

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.
Acknowledged

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, December 12, 2023

ITEM NO.
23-0437

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2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, please simply not that the information has been acknowledged.
   Acknowledged

3. Please revise the application to request concurrent review and approval of Preliminary Plat, Final Plat, and Site Development Plan (additional fees may apply).
   Acknowledged

4. Please revise to show the minimum and maximum building setback lines instead of actual proposed building footprints.
   Has been revised.

5. Parking is depicted in the first layer. Please revise to show parking in third layer and/or in driveway.
   Has been revised.

6. Please revise note 6 to correct the address for lot 4.
   See revision.

7. At resubmittal, please provide the plat and the Site Development Plan as two separate documents. The plat should comply with the subdivision regulation and provide for division of

property. The Site Development Plan should depict a plan of development conforming to the CD-4 standards of the zoning ordinance.
Acknowledged

8. Please provide PLS signature on Final Plat.
Has been provided.

9. Note: This site is less than one acre and is exempt from the tree protection plan requirements at 4.3.16.L per per 4.3.16.L.1.a (p. 293).
Acknowledged

10. Please add a note indicating that all structure on the site will conform to the bulk and design standards of the CD-4 character district, including those listed at 4.3.1-D
Has been revised.

Engineering

11. Please submit one document labeled preliminary and one document labeled final plat.
Has been revised.

12. Provide easement surrounding existing sanitary sewer on Lot 1.
No easement required for sewer meters without further justification.

13. All driveway aprons/sidewalk crossings shall be ADA compliant.
Acknowledged

14. Preliminary plat: remove certificates from preliminary plat, remove final plat from title, provide existing conditions and contours at vertical intervals of not more than two (2) feet,
Has been revised.

15. Final plat: provide IPS or F at all proposed property corners, provide certifications from subdivision regulations appendix A (except A4).
Has been revised.

Columbia Power

16. 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.

Acknowledged

17. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
    Acknowledged

Wastewater

18. There shall be at least 3, possibly 4 taps purchased, with impact fees for each lot.
    Acknowledged

Fire

19. An additional hydrant that was mentioned in the water letter will not be required
20. Acknowledged

Maury County Schools

21. 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.
    Acknowledged

Columbia Water

22. A water availability letter was issued on November 16, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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.
    Acknowledged

Maury County E911

23. It appears the developer understands these homes will need an A & B added to address for 1203 & 1205 East End Street.

Acknowledged

ATT

24. ATT intends to serve.

Acknowledged

CPWS Broadband

25. Plan to serve

Acknowledged

No comments were received from Building, Police, Public Works, Atmos Energy, or the Maury County Highway Dept.

Acknowledged

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.

Acknowledged

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	638	91.1%
	Brown	1968	56,720	20	405	361	89.1%
	Highland	1986	47,800	4.5	380	301	79.2%
	Howell	1999	81,600	17.5	700	594	84.9%
	Mt. Pleasant	1978	80,021	22	630	583	92.5%
	Riverside	1984	71,150	14	500	407	81.4%
	Spring Hill	1984	69,000	10	540	450	83.3%
	Woodard	1990	76,200	17	600	559	93.2%
	Wright	2005	97,765	18	740	598	80.8%
					5535	***4816***	***87.0%***
Middle	Battle Creek	2019	125,000	45	900	726	80.7%
	Cox	1997	137,200	25	900	655	72.8%
	Mt. Pleasant	2001	113,938	29.2	550	426	77.5%
	Spring Hill	2010	158,106	39.49	950	534	56.2%
	Whitthorne	1979	175,600	17	1050	963	91.7%
					4350	***3304***	***76.0%***
High	Central	2016	296,740	55	1700	1396	82.1%
	Mt. Pleasant	1969	110,759	31	600	389	64.8%
	Spring Hill	1993	181,800	57	1200	1238	103.2%
					3500	***3023***	***86.4%***
Unit	Culleoka	1969	205,800	34	1020	875	85.8%
	Hampshire	1978	83,410	13.12	500	411	82.2%
	Santa Fe	1964	94,225	24	650	509	78.3%
					2170	***1795***	***82.7%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		167	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13105**	

FINAL PLAT

GENERATION 2 GENERATION LLC 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 FOUR TRACTS. THIS SURVEY IS PROVIDED TO LARRY OWENS (DEVELOPER)

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 CD-4 CITY OF COLUMBIA ZONING ORDINANCE.
REQUESTING CD-4
FRONT 6' MIN/20' MAX
REAR 3'
SIDE 6'

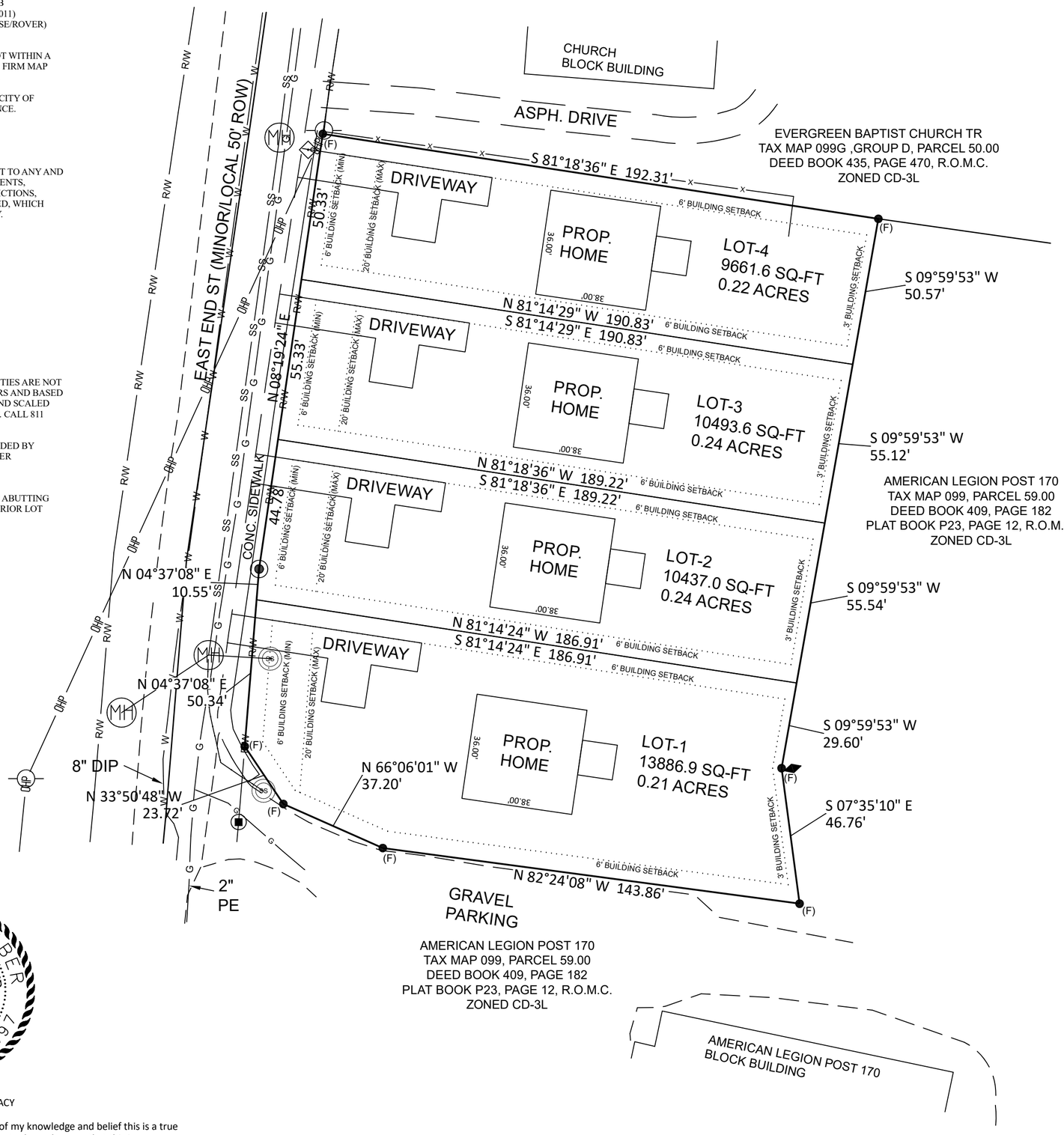
5. THIS PROPERTY IS SUBJECT TO ANY AND ALL RIGHT-OF-WAYS, EASEMENTS, EXCEPTIONS, AND/OR RESTRICTIONS, RECORDED AND UNRECORDED, WHICH MAY AFFECT THIS PROPERTY.

6. PROPERTY ADDRESS:
LOT-1
1203A E. END ST
COLUMBIA, TN 38401
LOT-2
1203B E. END ST
COLUMBIA, TN 38401
LOT-3
1205A E. END ST
COLUMBIA, TN 38401
LOT-4
1205A 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.



CERTIFICATE OF OWNERSHIP AND DEDICATION

I hereby certify that I am the owner of the property shown and described hereon as evidence recorded in Book Number 409, Pages 182, Maury County Register's Office, and that I hereby adopt this plan of subdivision with my free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, public easements, utilities, and other facilities have been filed.

DATE GENERATION 2 GENERATION LLC.
LARRY OWENS

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
CITY OF COLUMBIA, TN

E-911 PROGRAM CERTIFICATION OF APPROVAL

This is to certify that this plat has been reviewed and is in compliance with the Maury County E-911 Program

DATE E-911 DIRECTOR

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I hereby certify that the water system(s) outlined or indicated on the final subdivision _____ plat_____ entitled _____ Property 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 AND WATER

CERTIFICATE OF APPROVAL FOR SEWER SYSTEM

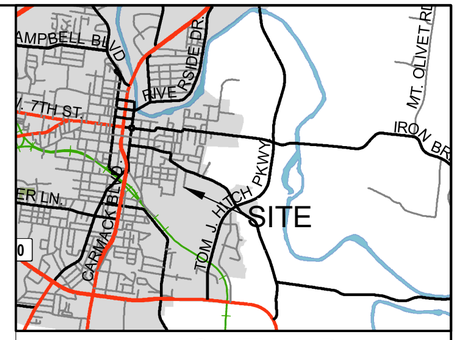
I hereby certify that the sewer system outlined or indicated on this final subdivision pat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

DATE DIRECTOR OF WASTE
WATER DEPARTMENT
COLUMBIA, TN

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



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
- 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
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.

_____ Date

_____ TRACY SEIBER, RLS #2397

PRELIMINARY

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

CPWS

November 16, 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. 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

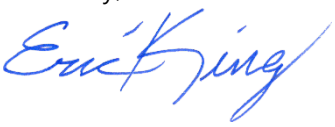
- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full 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.

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

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: LARRY OWENS SUBDIVISION

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:

TRACY SEIBER		10/26/2023
Print Name	Signature	Date

Site development plan and preliminary plat to create four CD-4 lots. The addresses are 1203A E. End St. Columbia TN. 38401, 1203B E. End St. Columbia TN. 38401, 1205A E. End St. Columbia TN. 38401, 1205B E. End St. Columbia TN. 38401. 4 Single Family Homes

CITY OF COLUMBIA TENNESSEE

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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			
	TAX MAP: 99	GROUP:	PARCEL: 099059.00
SUMMARY OF NATURE OF REQUEST AND WORK	Preliminary Plat, Final Plat, and site development for 4 CD4 Lots.		

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: Site development **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) 1203 & 1205 East End ☑ Total Number of Lots 4 ☐ Total acreage

RECEIVED
SEP 18 2023
23-0437

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	Generation 2 Generation LLC	PHONE	615-924-5337
ADDRESS	P.O. Box 1372 Columbia TN. 38402	EMAIL	g2gpropertiesllc@mail.com

PROPERTY OWNER NAME	Larry Owens	PHONE	615-924-5337
ADDRESS	P.O. Box 1372 Columbia TN. 38402	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	12/15/23
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Larry Owens	Larry Owens	12/15/23
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.	23-0437	FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

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

BOARD ACTION	

Heritage Village Multi-Family Site Plan/ Preliminary Plat

Project #:	23-0274	Location:	Map 89E B Parcels 17-20
Applicant:	Michael Williams, PE	Case Type(s):	Multi-Family SP/ PP
Staff Planner:	Austin Brass, AICP	Proposed Use:	Multi-Family Residential

PROJECT SUMMARY

This is a request from Michael Williams, PE, representing Michael Gomez, for the approval of a Site Development Plan and Preliminary Plat that involves constructing two multi-family buildings with accompanying infrastructure. The proposed buildings will consist of a total of 20 (2-bedroom) units, with 10 units in each building.

- The Site Development Plan outlines three building sites, with two of them dedicated to multi-family buildings and the third site designated as a green civic space. Architectural elevations have been included in the site plan, and they align with the prescribed standards of a CD-4 Character District.
- The plan also proposes an extension of the right-of-way dedication along River Heights Drive and Santa Fe Pike, and both buildings will be built to the 20' maximum setback at each frontage, including the added ROW dedication.
- An associated Preliminary Plat has been submitted for the creation of additional easements, with the consolidation of four lots into one contiguous lot. Three new building site lines have been indicated on the Preliminary Plat and Site Development Plan, and a Final Plat will be required for subsequent approval by the Planning Commission after the approval of the Preliminary Plat.
- The Planning Commission is the decision-making authority for Site Development Plans that include Multi-Family Buildings or Manufactured Home Parks, or one or more Development Parcels.
- Staff has granted a 20% administrative for budling site lines that slightly exceed 120'.
- Commentary from planning staff has identified approval, and approval should be conditioned on the timely submission of "as-approved" plans that reflect the substance of the plans approved by the Planning Commission, as determined by the Zoning Administrator and the City Engineer.
- To assist the Planning Commission in crafting properly formatted motions, templates have been provided at the end of the report.

SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-4	Vacant Land	Multi-Family Residential	+ /- 1.67 acres



FUTURE LAND USE MAP	ZONING MAP





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	CD-4	Vacant Land
North	Suburban Corridor	CD-4	Church
South	Suburban Corridor	CD-4	Single-Family
East	Urban Neighborhood	CD-3	Single-Family
West	Urban Neighborhood	CD-3	Single-Family

CONSISTENCY WITH CONNECT COLUMBIA

Suburban Corridor: The future land use of the subject site is Suburban Corridor. This Character Area is characterized by a wide-ranging mix of uses with intermixed and compatible civic uses. The Future Land Use Plan indicates that the general development pattern is largely site specific, since, the Corridor, by definition, traverses through rural and urban settings. Lot sizes can be defined by single- and multi-use activity on a variety of lot sizes, depending on the surrounding development pattern (*Connect Columbia, p. 26*). The specific character of the Corridor relies on the Area of Change determination. Future development and redevelopment should emphasize access control, connectivity, and context-responsive development. Additionally, new development should create a pedestrian-friendly environment by adding sidewalks and/or creating other pedestrian-friendly multi-use/bike routes lining current and future neighborhoods and major destinations such as libraries, neighborhood centers, health facilities, commercial clusters, parks, schools, or other such uses. Primary Future Uses of the Suburban Corridor Future include residential, office, commercial, and civic space (*Connect Columbia, p. 27*). The subject site is not located in an area of change. A multi-family residential use at this location would be consistent with *Connect Columbia.*

Suburban Corridor

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.

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.

Land Uses:

- **The Zoning Ordinance permits the proposed use:**
  - The applicant proposes to develop the site entirely under the use of two large multi-family buildings.
  - **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 Character District.



Large Multi-Family Building
A Principal Building that incorporates between seven (7) and twenty four (24) side-by-side and/or horizontally stacked Dwelling Units, which may have one or more shared entries.

CD-4 & -4C
CD-5 & -5C
SD-INT
SD-LI
PUD-R
PUD-MU

Lots, Building Sites & Bulk Standards:

- **The proposed Site Development Plan showcases two large multi-family buildings that adhere to the CD-4 standards outlined in Table 4.3.1-D of the Zoning Ordinance.** The Ordinance requires multi-family building types to conform to an 18 ft minimum and 120 ft maximum building lot/site width and include a 60 percent minimum frontage buildout. Furthermore, multi-family buildings must enfront either a vehicular throughfare or internal drive.[1]

  - The applicant's Site Development Plan consists of three building sites. Two of the building sites accommodate multifamily buildings. One building occupies each of those sites. Each building contains ten units each, totaling 20 units for the development. An additional 66.7 ft building site has been reserved for a civic green space with an interconnected walking trail. Front setbacks may range from 6 feet to 20 feet, with a three-foot rear yard setback required. The Ordinance also

[1] The Ordinance permits up to 20 percent of lots or building sites within a Development Parcel to enfront a pedestrian path.

requires a six-foot side yard setback between structures and side building site lines as shown.

- The remaining building site accommodates civic space, amenities, and stormwater detention.

- The applicant's Site Development Plan showcases multiunit buildings with a 30-foot separation between structures with each structure being set back at least 6' from the required side lot line separation of new proposed building site lines and at the maximum 20' front budling line setback. The site plan complies with minimum parking requirements with 39 spaces for 20 units, including two spaces provided for the proposed civic space (10,867 SF) with one space required for every 5,000 SF of civic space.

(CD-4) General Urban Character District Bulk Standards		
Bulk Standards:	**Required**	**Proposed**
Minimum Lot Area:	N/A	1.67 acres
Minimum & Maximum Lot/Building site width:	18 ft min/ 120 ft. max	Building Site 1: 66.7 ft. Building Site 2: 130 ft.* See Note Building Site 3: 134 ft. *See Note
Frontage Buildout:	60% min	60.5%
Lot/Building Enfrontment:	Vehicle Thoroughfare	Both buildings contain primary entrances that enfront Santa Fe Pike
Building Height:	3 stories maximum	2 stories (26' 1'')
Max. Impervious:	80 Percent	Less than 80 Percent
Setbacks:	Front: – 6'minimum, 20' maximum Side: – 6' Rear: 3'	Front – 20' Side 6' Rear – 3'
Note:	Maximum Building Site Width: 120 ft.	Building Site 2 exceeds 120' by 10'. At 130', staff has granted a 20% administrative adjustment that is in the parameter of allowance for such adjustment. Building Site 3 exceeds 120' by 14'. At 134 ft., staff has granted a 20% administrative adjustment that is in the parameter of allowance for such adjustment.

- **Staff has determined Conformity with the prescriptive design standards of the Ordinance for proposed multi-family structures within a CD-4-character district.**

(CD-4) Character District Architectural Standards		
Design Standards:	**Required**	**Proposed**
Vertical Composition:	Identifiable Base, Middle, & Cap	Elevations contain a defined base, middle, and cap.
Finished Floor Elevation:	Min 18 inches above finished grade	3' 8 inches
Façade Position & Façade Articulation:	Main entrance at façade & position parallel to frontage line	All facades enfront Sante Fe Pike with main entrance to unit at this principal frontage
Façade Openings:	20 ft. or less spacing for windows/doors	All windows and doors are spaced 20 ft. or less with no blank facades
Façade Glazing:	20-60 % non-shopfront	Façade elevations indicate facade glazing of at least 20%
Window Shape:	Square or vertical proportions	All windows are square or vertical proportioned
Window Alignment:	Upper floor windows and other features must be aligned with those of first floor	All upper floor windows are aligned with windows on other floors including windows found on the 1st floor
Window Types:	Single-hung, double-hung, casement	All windows adhere to the window type standards as described
Window Glazing Material:	Clear	All windows proposed are clear glass
Window Trim in 1st Layer:	Min 4 in. trim with sill and top plate/ soldier course above lintel and rowlock course below sill	Elevations indicate a 4-inch trim with sill and top plate
Shutters:	Functional to cover half of window width/ shutter dogs	Shutters are not proposed on windows
Façade Window Sill Height:	5 ft. min above grade	Elevations indicate a 5' min window sill height
Porch Frontages:	Min. 6ft. clear depth, excluding rails, pillars, columns	Frontage elevations include stoops leading to doorways and not porches. Stoops are permitted in a CD-4 district for entrances.
Façade Variety:	No façade may exist more than once on a block face or within view of same façade	Elevations are divided among buildings with a minimum 80 percent frontage buildout among building sites. Multi-Family facades are

		differentiated by stories, materials, and colors among the block face
Roof Type & Pitch:	Hip/ Gable/ Flat	Both multi-family buildings contain a flat roof
Primary Building Materials:	Brick, Fiber Cement Board, Wood	All elevations indicate a primary façade material fiber cement board and natural wood siding
Foundation Cladding:	Brick or Natural Stone	All elevations have a brick foundation cladding at the principal frontage painted black
Garage Location:	3rd Layer (20 ft. behind primary façade)	Garages are not proposed for this site development plan. Surface parking is provided in 3rd layer (rear of structures)
Garage Design:	Min. interior dimensions 10 X 20 per vehicle Parking Space. Garage door must have ornamental lighting above with a carriage house door design.	N/A
Garage Door Width:	9ft width with 2ft separation between door	N/A
Changes in Building Materials:	Primary materials must continue alongside Elevations through 2nd layer. Primary materials shall continue for entire length of all Facades facing a frontage.	Facades consist of primary materials of fiber cement board and natural wood siding. Theses primary materials continue along the full length of facades and continue into the 2nd layer.
Building Colors:	Up to 3 colors, including the natural color of any allowed materials, but excluding trim color.	Primary façade colors consist of black fiber cement board and brick with natural wood siding that consist of an earth tone color.

Parking:

- **The Site Development Plan provides for a surface parking lot in the 3rd layer as required per the Zoning Ordinance.**
    - A new 24' wide curb cut is proposed at River Heights Drive that meets all standards of the Access Management Ordinance by utilizing the least classified roadway for a new access point.

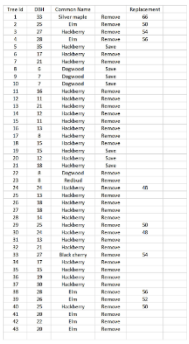
    - Section **4.3.12** of the Zoning Ordinance requires 1.5 parking spaces for each dwelling unit; 30 spaces are required for the proposed development which equates to nearly 2 spaces per unit.

- The site plan meets the minimum parking requirements with 39 spaces for 20 units when including 2 spaces provided for proposed civic space.

- Section **4.3.1** of the Zoning Ordinance requires one bike space for every 20 parking spaces. The Site Development Plan indicates the need for two bike spaces with a bike rack consisting of six parking spaces. It should be noted that the Preliminary Plat demonstrates an existing driveway serving a neighboring home and will remain unchanged as it is a legal non-conforming access point for a neighboring single-family residence located to the north of the subject site.

Civic Spaces/Landscaping & Tree Preservation:

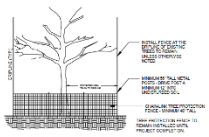
- The proposed site plan does not require Civic Space; however, a dedicated building site has been added being utilized a civic space (green) with a walking path and benches. A patio area with grill has been added between buildings accessed by a sidewalk for primary entrances at the front elevation of both multi-family buildings. A landscaping plan has been submitted indicated all required parking lot tree island landscaping and parking lot perimeter buffer landscaping including frontage trees as required along Santa Fe Pike and



Tree Id	DBH	Common Name		Replacement
1	33	Silver maple	Remove	66
2	25	Elm	Remove	50
3	27	Hackberry	Remove	54
4	28	Elm	Remove	56
5	35	Hackberry	Save	
6	17	Hackberry	Remove	
7	21	Hackberry	Remove	
8	0	Dogwood	Save	
9	7	Dogwood	Save	
10	7	Dogwood	Save	
11	16	Hackberry	Remove	
12	11	Hackberry	Remove	
13	21	Hackberry	Remove	
14	12	Hackberry	Remove	
15	11	Hackberry	Remove	
16	13	Hackberry	Remove	
17	8	Hackberry	Remove	
18	15	Hackberry	Remove	
19	15	Hackberry	Save	
20	12	Hackberry	Save	
21	10	Hackberry	Save	
22	8	Dogwood	Remove	
23	8	Redbud	Remove	
24	24	Hackberry	Remove	48
25	13	Hackberry	Remove	
26	18	Hackberry	Remove	
27	18	Hackberry	Remove	
28	14	Hackberry	Remove	
29	25	Hackberry	Remove	50
30	24	Hackberry	Remove	48
31	13	Hackberry	Remove	
32	21	Hackberry	Remove	
33	27	Black cherry	Remove	54
34	17	Hackberry	Remove	
35	15	Hackberry	Remove	
36	19	Hackberry	Remove	
37	30	Hackberry	Remove	
38	28	Elm	Remove	56
39	26	Elm	Remove	52
40	25	Hackberry	Remove	50
41	20	Elm	Remove	
42	22	Elm	Remove	
43	20	Elm	Remove	

SITE AREA: +/-1.67 AC	
SPECIMEN TREES TO BE REMOVED: (12)	
Total Caliper Inch of Replacement: (282) = 564" REPLACEMENT INCHES	
EXISTING TREE CANOPY ON SITE:	29,401 sf (0.67 AC)
REQ. CANOPY RETENTION (22% OF EXISTING COVER)	6,468 sf (0.14 AC)
PROPOSED CANOPY RETENTION	3,659 sf (.085 AC)

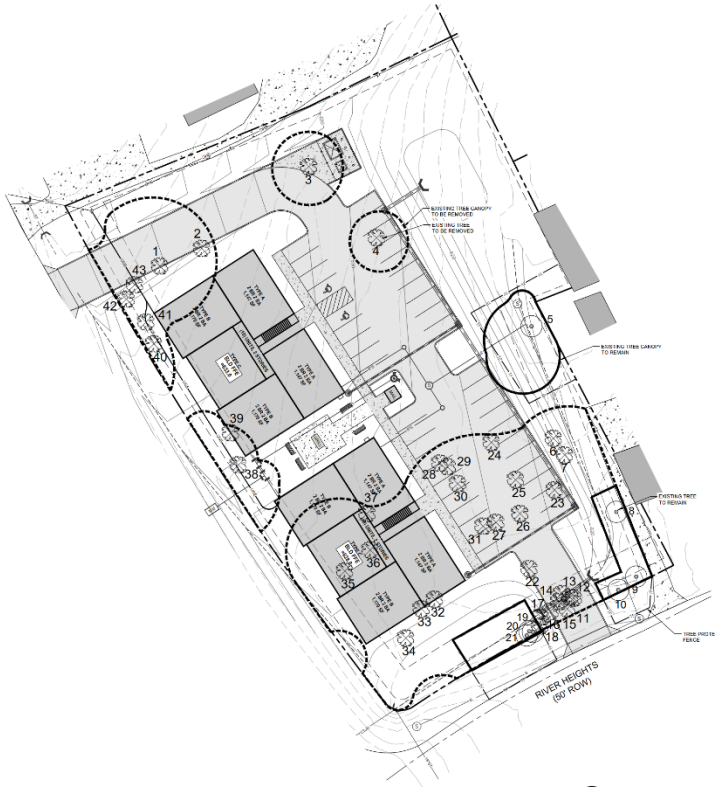
- MITIGATION TREES TO PROVIDE IN LIEU OF 2,809 SF CANOPY COVERAGE
- MITIGATION TREES = 80 TREES PER ACRE
- REQUIRED CANOPY MITIGATION 0.06 AC X 80 = 5 TREES



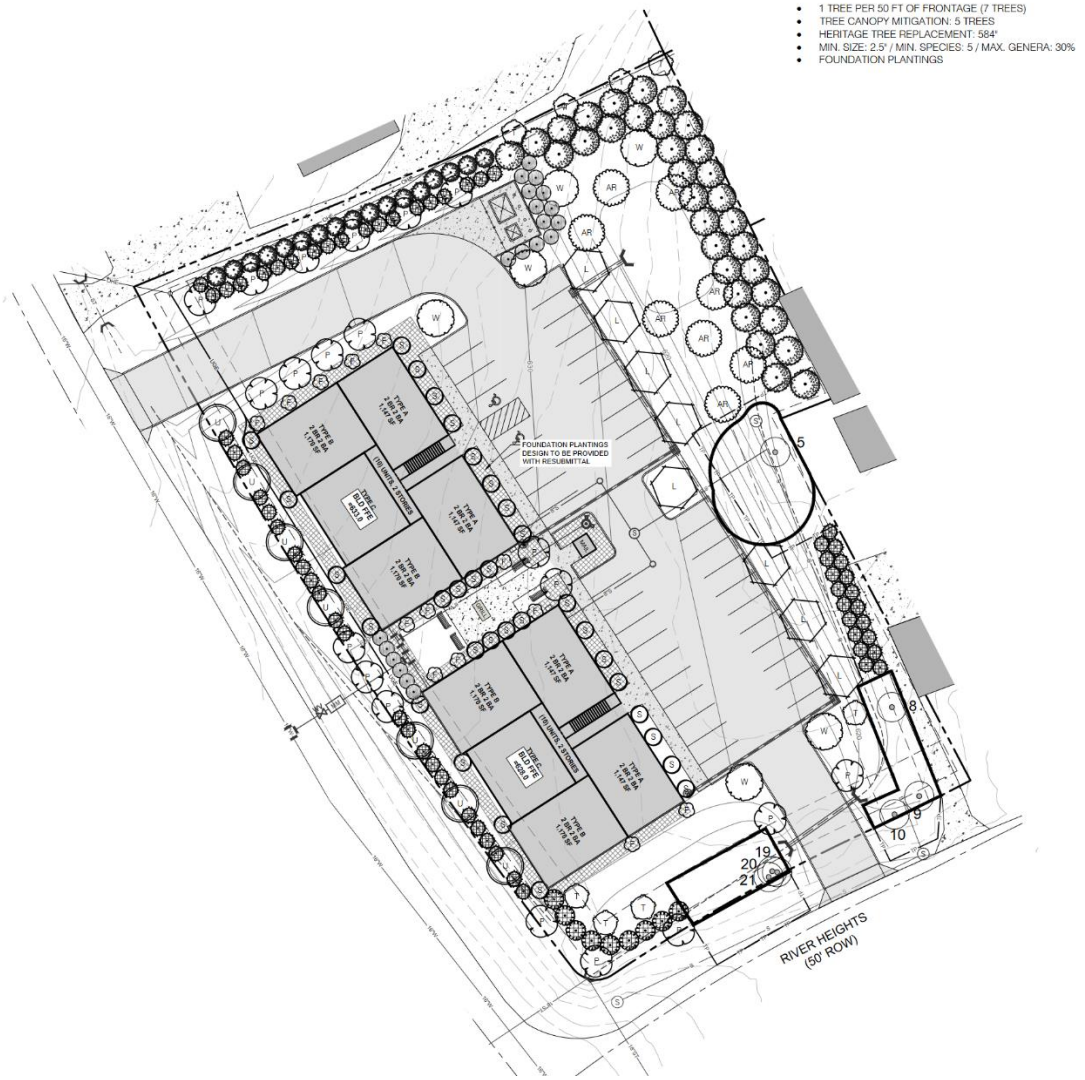
CHAIN LINK FENCING TREE PROTECTION

TREE PROTECTION NOTES

1. The tree protection barriers shall be constructed before the issuance of any permits, and shall remain intact throughout the entire period of construction.
2. The tree protection barrier shall be installed at location on this plan or a distance to the radius of the dripline, whichever is greatest, as measured from the trunk of the protected tree.
3. Any required excavation in or around the protection zone to accommodate underground services, footings, etc. shall be indicated on the plan, and shall be excavated by hand. In addition, related root pruning shall be accomplished via ANSI A.300 standard so as to minimize compact on the perimeter root system. Root pruning to occur prior to grading.
4. The storage of building materials or stockpiling shall not be permitted within the limits of or against the protection barriers.
5. Trees within the protection barriers must be adequately cared for throughout the construction pro cess (i.e., they must be watered sufficiently, particularly if the tree's root system has been disturbed by excavation.) Fill shall not be placed upon the root system as to endanger the health or life of the affected tree.
6. Heavy accumulation of dust from construction activity may occur on the surface of tree foliage. To control dust, tree foliage may be hosed down upon the request of the Landscape Architect or Owners Representative.
7. Removal of all tree protection fencing will be done by the Contractor. Restoration of all areas disturbed by the fencing will be the Contractor's responsibility. All tree fence to remain intact until final completion of the project.



River Heights Drive. A tree preservation plan indicates 12 specimen trees to be removed with a replacement plan of total caliper inches required.



REVIEW PROCESS

The Development Review Committee reviewed the proposed Preliminary Plat/Site Development Plan at its October 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Applications for a Multi-Family Dwelling shall be subject to the Site Development Plan Review Requirements of Section 8.5.6 and shall require Planning Commission approval.

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 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.

Section **2.2.6** of the Subdivision Regulations establishes the review criteria for approval of Preliminary Plats.

A. Recommendations and final action on a Preliminary 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.

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its October 2023 meeting. A full list of comments, and the applicant's responses, is provided in the agenda packet. Some key comments are noted below.

- **Engineering** noted several items of revisions that included the access point not meeting the access management ordinances along Santa Fe Pike. The applicant acknowledged this comment and made the requested revisions by removing the access point and creating a hammer head turn around and the terminus of the rear parking area.
- **Planning** noted several items for revision including the requirement for all multi-family buildings to have functional principal entrances that enfront the primary façade along Santa Fe Pike. Other items of notation included building site lines that exceeded 120'. The applicant made the revision by creating a dedicated civic space (green) building site thus creating 3 building sites that closely adhere to the 120' maximum width required with a minor administrative adjustment of 20% pursuant to the Zoning Code.
- **Columbia Water** indicated that the water availability letter was issued on July 7th, 2023 and remains 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. **An updated Water Availability Letter was provided by Columbia Power & Water (CPWS) on November 8, 2023 valid for 120 days from issuance.**

COMMENTS FROM PLANNING STAFF

This preliminary plat and multi-family site plan adhere to all standards of Zoning Ordinance 4400.

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, and Section **2.2.6** of the Subdivision Regulations, have been satisfied and approve the Site Development Plan and Preliminary Plat as presented *[,subject to technical comments and other conditions presented by planning staff*].

Approve Subject to Conditions:

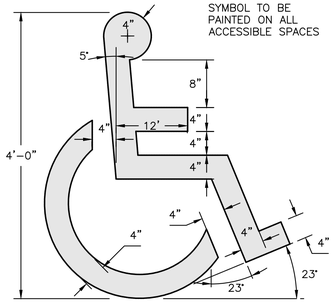
Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in sections **8.5.6.N** and **O** of the City of Columbia Zoning Ordinance, and Section **2.2.6** of the Subdivision Regulations, have been satisfied and approve the Site Development Plan and Preliminary Plat subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

Move to deny the Site Development 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 sections **8.5.6.N** and **O** of the City of Columbia Zoning Ordinance and Section **2.2.6** of the Subdivision Regulations are not satisfied [*list specific reasons for denial*].

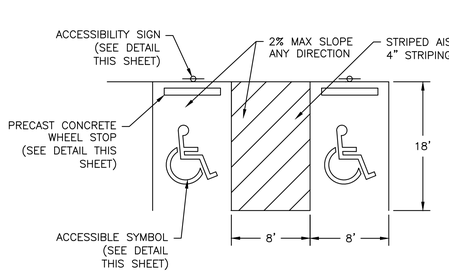
Defer:

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 that future meeting.



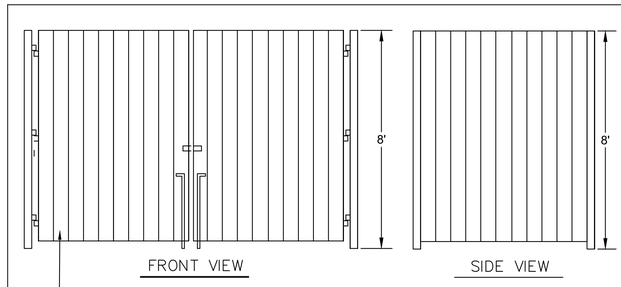
PAINTED ACCESSIBLE SYMBOL

NOT TO SCALE



ACCESSIBLE SPACES

NOT TO SCALE



WOODEN TRASH ENLCOSURE

PER CITY OF COLUMBIA SW1–3. SEC A, B, & C

DUMPSTER NOTES (per SW1-3 Sec A, B, & C)

SW1-3.A DUMPSTER STANDARDS

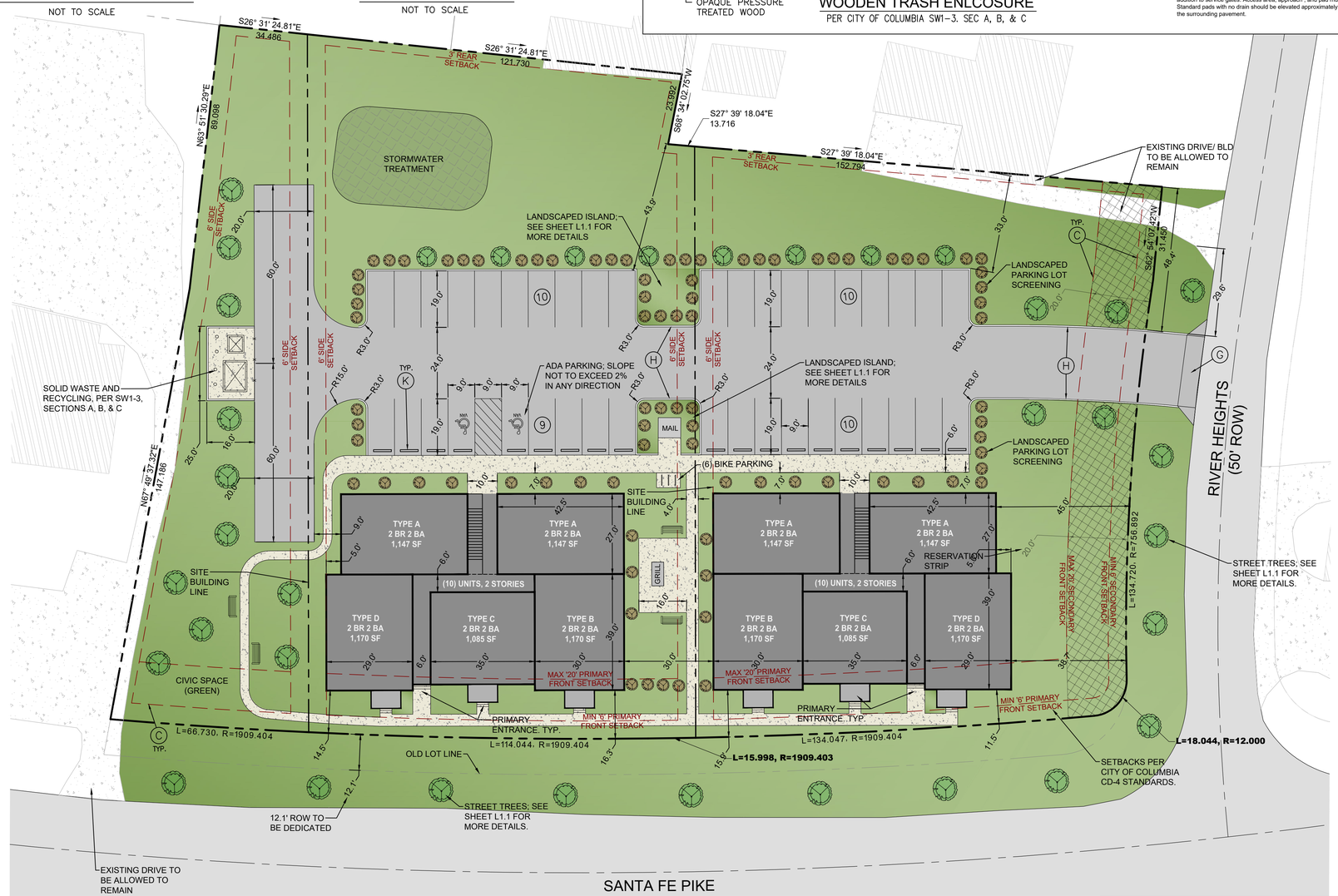
- General All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private.

SW1-3.B GUIDELINES FOR DUMPSTERS

- Guidelines For Dumpsters -The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex.
- Collection must occur at least one time per week.
- Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department.
- If the dumpster is in an enclosed area, there must be at least two (2) feet and six (6) inches of clearance on each side of the dumpster.

SW1-3.C DUMPSTER PAD REQUIREMENTS

- The concrete dumpster pad shall be at least 12 ft by 12 ft. The pad (s) shall be 8 inch thick concrete, reinforce with rebar to support a 30- ton load-bearing capacity.
- 14 ft wide by 40 ft long straight and clear access approach to each dumpster for the truck is required. Clearance at each side of each dumpster must be at least 2 ft - 6in.
- If a gated enclosure is utilized the gate must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing.
- Two 6 in diameter concrete filled steel bollards must be placed in the concrete pad to the rear of each dumpster, 2 ft from the back edge of the dumpster pad, spaced 4 feet apart and centered side to side. The bollards will rise 6 feet above the pad and extend 32 in below the pad into concrete footers.
- If the box is enclosed it is recommended that there be pedestrian access in addition to service gates. Access area, approach , and pad must be level. Standard pads with no drain should be elevated approximately 1 1/2 in. above the surrounding pavement.



TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

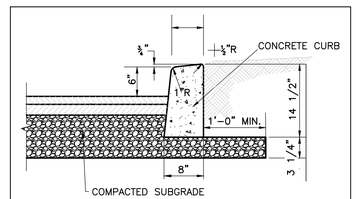
GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE

(A) PINEWOOD LANDSCAPE FENCE TO BE INSTALLED.
(B) STANDARD CURB AND GUTTER PER MPW ST-200
(C) BLD SETBACK/SIDE YARD PER GOVERNING AUTHORITY CODE.
(D) ACCESSIBLE PARING SIGN. SEE DETAIL SHEET D-1.
(E) PARKING SPACE STRIPING. STRIPES SHALL BE PAINTED 4" SOLID WHITE.
(F) GUTTER ONLY
(G) COMMERCIAL DRIVEWAY RAMP PER CITY OF COLUMBIA STANDARD DETAIL
(H) 6" POST CURB
(I) 2' CURB CUT
(J) 2' SIDEWALK CHASE
(K) PARKING BUMPER

- EXISTING PUBLIC ROAD
- ASPHALTIC CONCRETE
- PRIVATE DRIVE
- STORMWATER TREATMENT & CONVEYANCE
- GRASS STRIP/ GREEN SPACE
- CONCRETE SIDEWALK
- PROPOSED BUILDING
- PRETREATMENT CELLS



POST CURB

NOT TO SCALE

DEVELOPMENT / SITE DATA TABLE	
CITY OF COLUMBIA REGULATORY INFORMATION	
ZONING	CD-4
TOTAL AREA	1.67 AC / 72,623 SF
SIDE SETBACK	6 FT
FRONT SETBACK	15 FT
REAR SETBACK	3 Ft
MAX ISR	0.80
HEIGHT STANDARDS	3 STORIES / 35 FT
MAX CEILING HEIGHT	
RESIDENTIAL (Multi-Family)	
NO. UNITS (2 Br - 2.0 Ba)	20 UNITS
UNIT DENSITY (UNIT/AC)	12.0 UNIT/AC
COLUMBIA PARKING REQUIREMENTS	
NO. UNITS (2 Br - 2.0 Ba)	20 UNITS
PARKING REQUIRED	30 SPACES (1.5 SPACE/ UNIT)
TOTAL PARKING PROVIDED	39 SPACES
COLUMBIA BIKE PARKING REQUIREMENTS	
BIKE PARKING REQUIRED	1 BIKE SPACE PER 20 PARKING SPACES
	39 SPACES / 20 BIKE = 2.0 BIKE SPACES
BIKE PARKING PROVIDED	6 BIKE PARKING SPACES

Tennessee811

Federal Compliance Note

All development within the boundaries of this plan meets the requirements of the americans with disabilities act and the fair housing act.
ADA: https://www.ada.gov/
U.S. Justice Dept.: https://www.justice.gov/crt/fair-housing-act-2

CITY OF COLUMBIA NOTES

1. Impervious surface coverage to not exceed 80%.
2. This subject development will conform to the lighting standards allowed in City of Columbia per 4.3.17. Conformity will be confirmed at building permit stage.

DEVELOPMENT / SITE DATA TABLE	
CITY OF COLUMBIA REGULATORY INFORMATION	
FRONTAGE REQUIREMENTS	120' BUILDING MAX WIDTH
	60% MIN FRONTAGE
FRONTAGE PROVIDED	EACH BUILDING = 95' WIDTH
	[(2 BLD) * (95 FT/ BLD)] / 314 FT = 60.5%

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MATTHEW L. WILLIAMS
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
1.3.2024
NUMBER 123908
STATE OF TENNESSEE

HERITAGE VILLAGE

FOR

HIVE NASHVILLE

SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

REVISIONS	DATE
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–	–

DESIGNED BY: MLW

DATE: 1/3/2024

SCALE: 1"=20'

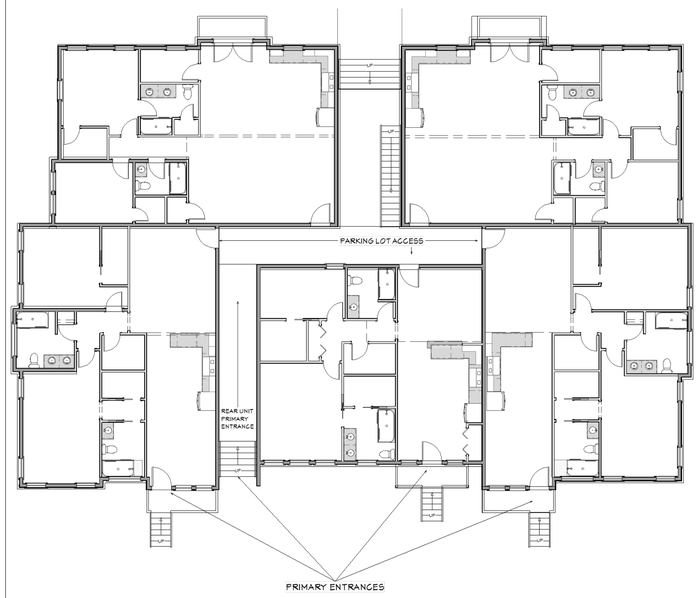
JOB #: 20230412-1

SITE PLAN

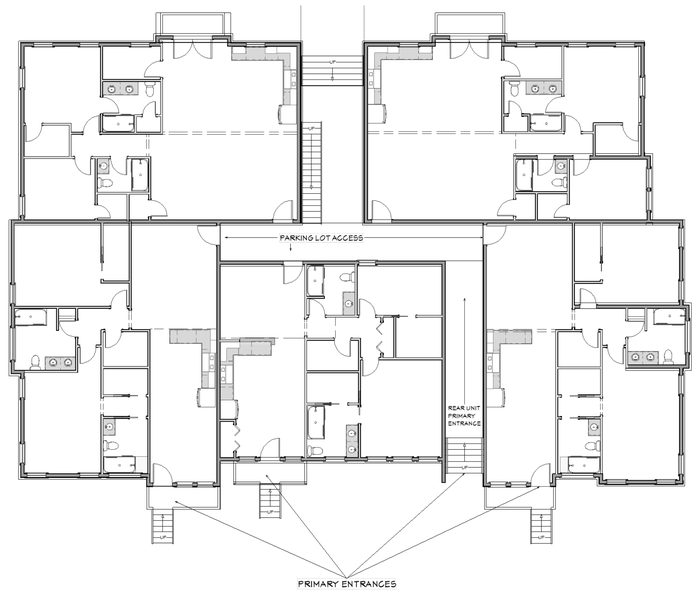
C2.0

C:\USERS\MICHAEL\WILLIAMSDRIVE - MICHAEL WILLIAMS\PROJECTS\NEW SANTE FE PIKE COLUMBIA, TN_ACAD22_PLAN SHEETS.DWG
PLOTTED BY MICHAEL WILLIAMS ON: 1/3/2024 12:11 PM LAST UPDATED BY MICHAEL WILLIAMS ON: 1/3/2024 12:11 PM





BUILDING A



BUILDING B

HERITAGE VILLAGE PROJECT

OWNER:	Jason Lincoln
PROJECT:	HERITAGE VILLAGE
ADDRESS:	Santa Fe Pike & River Heights Dr Columbia Tn 38401





Layout Page Table

Label	Title	Description
P-1	PROJECT SUMMARY	
P-2	BUILDING A	FRONT ELEVATION
P-3	BUILDING A	REAR ELEVATION
P-4	BUILDING A	SIDE ELEVATION
P-5	BUILDING A	SIDE ELEVATION
P-6	BUILDING B	FRONT ELEVATION
P-7	BUILDING B	REAR ELEVATION
P-8	BUILDING B	SIDE ELEVATION
P-9	BUILDING B	SIDE ELEVATION

GENERAL NOTES:

THIS PLAN SET, COMBINED WITH THE BUILDING CONTRACT, PROVIDES BUILDING DETAILS FOR THE RESIDENTIAL PROJECT. THE CONTRACTOR SHALL VERIFY THAT SITE CONDITIONS ARE CONSISTENT WITH THESE PLANS BEFORE STARTING WORK. WORK NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED TO THE SAME QUALITY AS SIMILAR WORK THAT IS DETAILED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH INTERNATIONAL BUILDING CODES AND LOCAL CODES. CONTRACTOR SHALL BE RESPONSIBLE AND BEAR ANY FINES OR PENALTIES FOR CODE, ORDINANCE, REGULATION OR BUILDING PROCESS VIOLATIONS. INSURANCES SHALL BE IN FORCE THROUGHOUT THE DURATION OF THE BUILDING PROJECT.

WRITTEN DIMENSIONS AND SPECIFIC NOTES SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND GENERAL NOTES. THE ENGINEER/DESIGNER SHALL BE CONSULTED FOR CLARIFICATION IF SITE CONDITIONS ARE ENCOUNTERED THAT ARE DIFFERENT THAN SHOWN, IF DISCREPANCIES ARE FOUND IN THE PLANS OR NOTES, OR IF A QUESTION ARISES OVER THE INTENT OF THE PLANS OR NOTES. CONTRACTOR SHALL VERIFY AND IS RESPONSIBLE FOR ALL DIMENSIONS (INCLUDING ROUGH OPENINGS). ALL TRADES SHALL MAINTAIN A CLEAN WORK SITE AT THE END OF EACH WORK DAY.

JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

Every attempt has been made in the preparation of this plan to avoid errors, omissions, and mistakes. Aura Creative can not guarantee against human error. The contractor or client shall verify all conditions, dimensions, details and specifications. The designer will not be liable for human error after construction begins.

It is the responsibility of the contractor to verify accuracy and compliance with all code agencies prior to construction;and their requirements must take presidence over those shown. If any concerns please contact Aura Creative or other architect or engineer.

DRAWINGS PROVIDED BY: AURA CREATIVE

DATE: 12/01/2023

SCALE:

SHEET: P-1

Building A West (Front)

Glazing Note:
Total Facade Area = 4959sqft (20% = 991.8sqft)
Total Glazing = 1040sqft







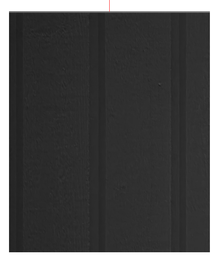
Black Painted Brick



Black Wood Shiplap



Natural Wood Siding



Black Wood Panel

JL

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DRAWINGS PROVIDED BY: AURA CREATIVE

DATE: 12/01/2023

SCALE:

SHEET: P-2

Building A East (Rear)







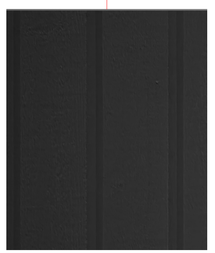
Black Painted Brick



Black Wood Shiplap



Natural Wood Siding



Black Wood Panel

JL

REVISION TABLE		
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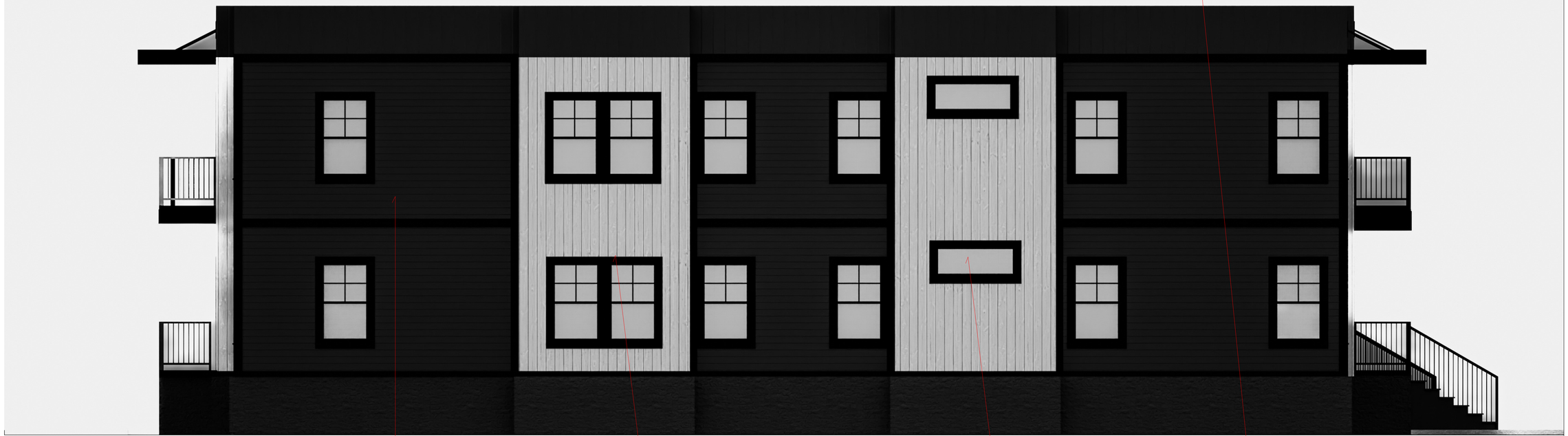
DATE:
12/01/2023

SCALE:

SHEET:
P-3

Building A North (Left Side)







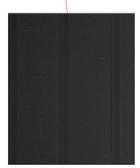
Black Wood Shiplap



Black Painted Brick



Natural Wood Siding



Black Wood Panel

REVISION TABLE			
NUMBER	DATE	REVISED BY	DESCRIPTION

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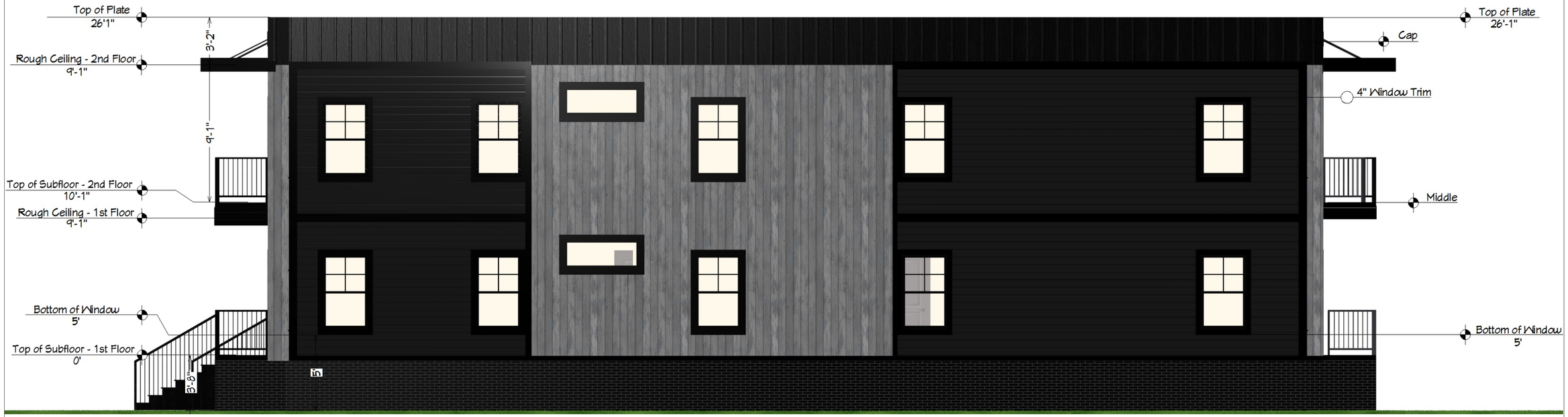
DRAWINGS PROVIDED BY: AURA CREATIVE

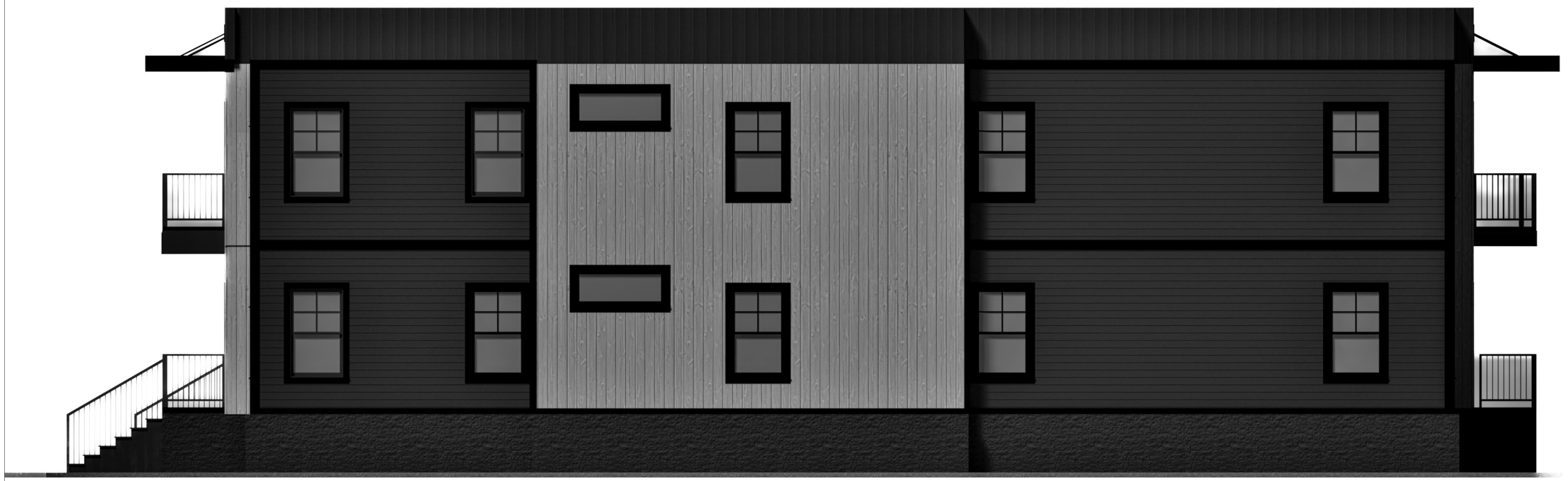
DATE: 12/01/2023

SCALE:

SHEET: P-4

Building A South (Right Side)





JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

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DRAWINGS PROVIDED BY:

AURA CREATIVE

DATE:

12/01/2023

SCALE:

SHEET:

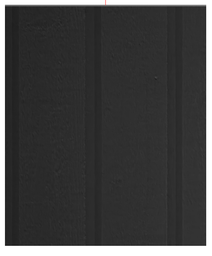
P-5

Building B West (Front)

Glazing Note:
Total Facade Area = 4959sqft (20% = 991.8sqft)
Total Glazing = 1040sqft







Black Wood Panel



Natural Wood Siding



Black Wood Shiplap



Black Painted Brick

JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

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DRAWINGS PROVIDED BY:
AURA CREATIVE

DATE:
12/01/2023

SCALE:

SHEET:
P-6

Building B East (Rear)







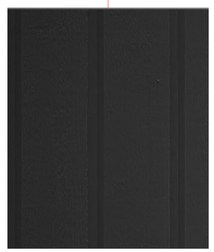
Black Painted Brick



Black Wood Shiplap



Natural Wood Siding



Black Wood Panel

JL

REVISION TABLE

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DRAWINGS PROVIDED BY:
AURA CREATIVE

DATE:
12/01/2023

SCALE:

SHEET:
P-7

Building B South (Right Side)







Black Wood Shiplap



Black Painted Brick



Natural Wood Siding



Black Wood Panel

JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION
1	11/24/2023	NT	CAB & CT
2	9/26/2023	NT	MATERIALS

Every attempt has been made in the preparation of this plan to avoid errors, omissions, and mistakes. Aura Creative can not guarantee against human error. The contractor or client shall verify all conditions, dimensions, details and specifications. The designer will not be liable for human error after construction begins.

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DRAWINGS PROVIDED BY:
AURA CREATIVE

DATE:
12/01/2023

SCALE:

SHEET:
P-8

Building B North (Left Side)





JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

Every attempt has been made in the preparation of this plan to avoid errors, omissions, and mistakes. Aura Creative can not guarantee against human error. The contractor or client shall verify all conditions, dimensions, details and specifications. The designer will not be liable for human error after construction begins.

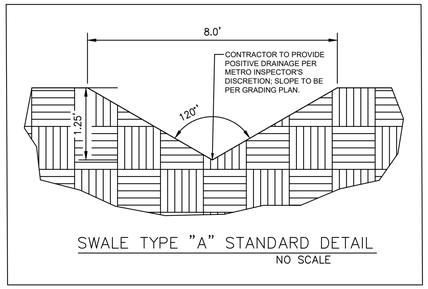
It is the responsibility of the contractor to verify accuracy and compliance with all code agencies prior to construction;and their requirements must take presidence over those shown. If any concerns please contact Aura Creative or other architect or engineer.

DRAWINGS PROVIDED BY:: AURA CREATIVE

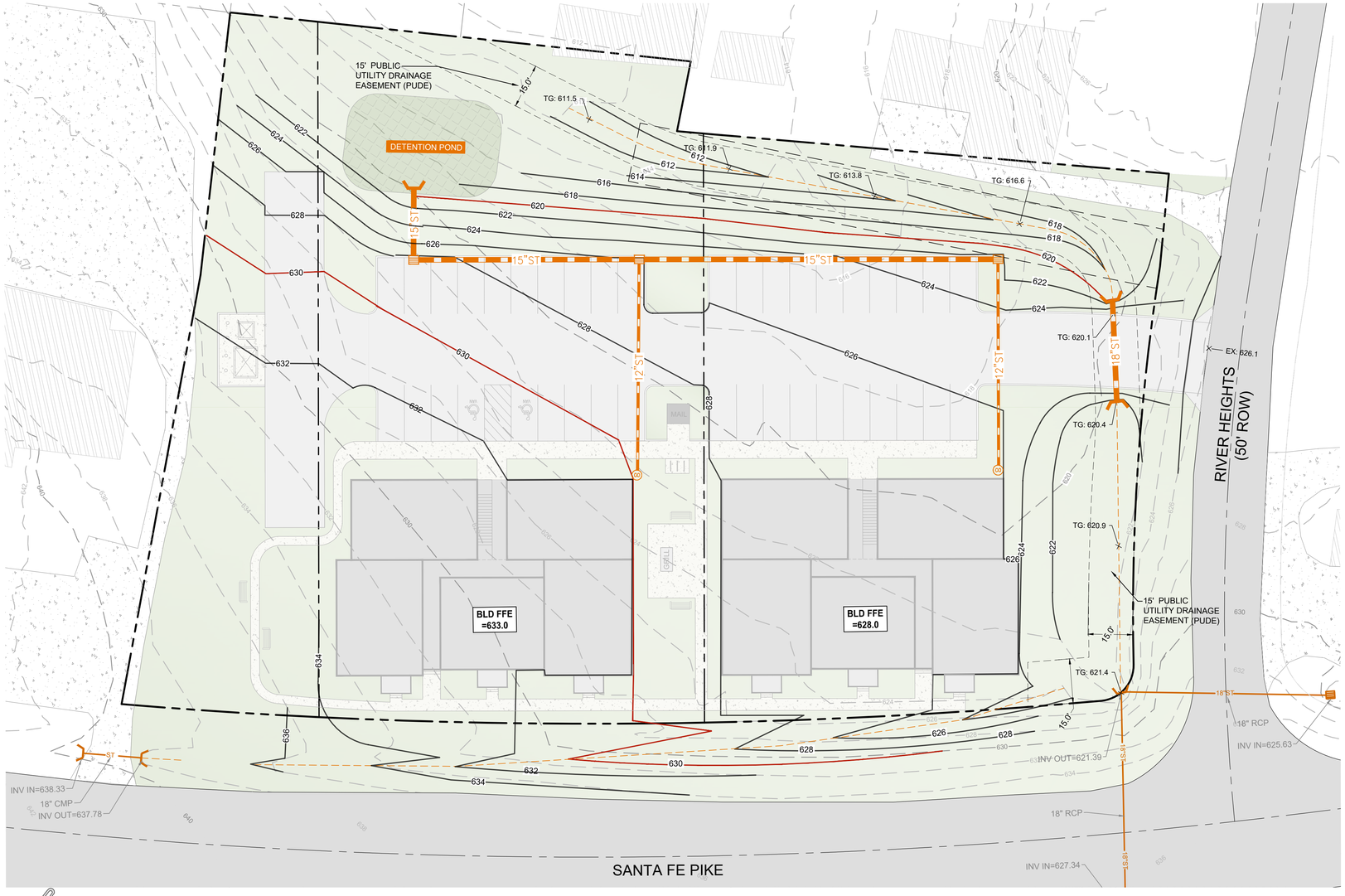
DATE:
12/01/2023

SCALE:

SHEET:
P-9



SWALE TYPE "A" STANDARD DETAIL
NO SCALE



TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

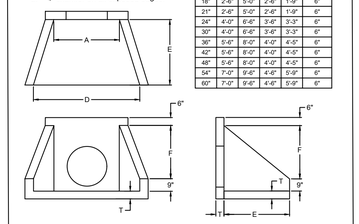
GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- 6" PERFORATED UNDERDRAIN
- HEADWALL
- ADS NYLOPLAST DOME INLET
- CLEANOUT/ OBSERVATION WELL
- JUNCTION BOX
- GRATE INLET
- PROPOSED SANITARY SEWER
- SANITARY MANHOLE
- SANITARY CLEANOUT
- TP TOP OF PAVEMENT
- TC TOP OF CURB
- TG TOP OF GRADE
- BG BOT OF GUTTER
- EX EXISTING SPOT ELV.
- STORMWATER TREATMENT & CONVEYANCE
- PRETREATMENT CELLS
- PERMEABLE PAVEMENT
- BIORETENTION (LVL2)

NOTES
1. Concrete shall be 4,000 psi @ 28 days reinforced with No. 4 bars @ 10" O.C. each way with wings and toe slab doweled to headwall with No, 5 bars.
2. ¾" chamfer on all exposed edges.

TABLE OF DIMENSIONS					
SIZE	A	D	E	F	T(MIN)
15"	2'-6"	5'-0"	2'-6"	1'-0"	6"
18"	2'-6"	5'-0"	2'-6"	1'-0"	6"
21"	2'-6"	5'-0"	2'-6"	1'-0"	6"
24"	4'-0"	6'-6"	3'-6"	1'-3"	6"
30"	4'-0"	6'-6"	3'-6"	1'-3"	6"
36"	5'-6"	8'-0"	4'-0"	4'-5"	6"
42"	5'-6"	8'-0"	4'-0"	4'-5"	6"
48"	5'-6"	8'-0"	4'-0"	4'-5"	6"
54"	7'-0"	9'-6"	4'-6"	5'-9"	6"
60"	7'-0"	9'-6"	4'-6"	5'-9"	6"



TYPICAL PRECAST HEADWALL
NO SCALE

Tennessee811

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS — 1.3.2024 — STATE OF TENNESSEE

HERITAGE VILLAGE
FOR
HIVE NASHVILLE
SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

REVISIONS	DATE
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–	–
–	–
–	–
–	–
–	–

DESIGNED BY: MLW
DATE: 1/3/2024
SCALE: 1"=20'
JOB #: 20230412-1

PRELIMARY GRADING & DRAINAGE

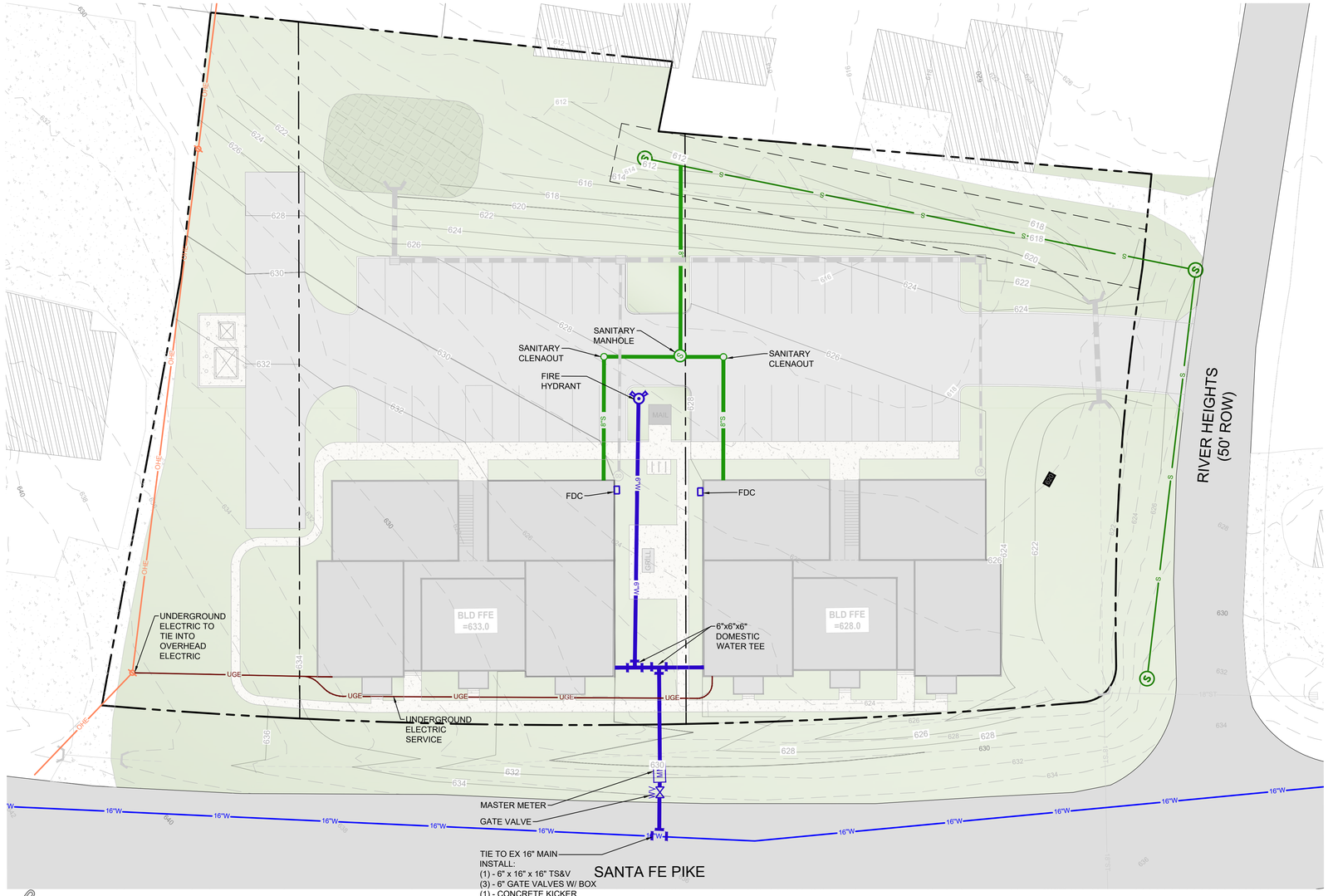
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C:\USERS\MICHAEL.WILLIAMS\ONEDRIVE - MICHAEL WILLIAMS\PROJECTS\006 SANTE FE PIKE\COLUMBIA, TN_DGN\EZ2_PLAN SHEETS.DWG
PLOTTED BY MICHAEL WILLIAMS ON: 1/3/2024 1:23 PM - LAST UPDATED BY MICHAEL.WILLIAMS ON: 1/3/2024 1:23 PM

TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE



LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM SEWER
- HEADWALL
- ADS NYLOPLAST DOME INLET
- CLEANOUT/ OBSERVATION WELL
- JUNCTION BOX
- GRATE INLET
- PROPOSED SANITARY SEWER
- SANITARY MANHOLE
- SANITARY CLEANOUT
- PROPOSED WATER
- FIRE HYDRANT
- WATER VALVE
- TAPPING TEE
- UNDERGROUND ELECTRIC

SITE UTILITY NOTES

1. All materials and workmanship for utility lines and appurtenances shall be in strict compliance with the governing utility company and local codes. Prior to construction contractor shall notify utility company. (see utility contact information)
2. Contractor shall coordinate site electrical, gas, telephone, and cable with the respective utility company for service layout and design information. Any proposed layout of these utilities depicted on these drawings is graphical only and not intended to represent design of these utilities.
3. Prior to commencement of construction, contractor shall obtain all permits and pay any required tap and connection fees.
4. All trenching, pipe laying and backfilling shall be in accordance with federal OSHA regulations.
5. Site contractor shall construct all utility services to within 5' of building.
6. Contractor shall be responsible for coordinating the sequencing of construction for all utility lines to avoid conflicts.
7. Contractor shall coordinate size and location of water, sewer and stormwater connections to the building as depicted on the building mechanical plans and the site utility plan and notify the engineer or owner's representative of any discrepancies.
8. Water services lines ¼" - 3" shall be Type-K copper and 4" or larger shall be ductile iron pipe - Class 52 unless otherwise required by utility company.
9. Fire line installation and thrust blocking location and sizing shall be per N.F.P.A. and local fire department requirements.
10. Water meter manufacturer/model number and vault specifications shall be per the water utility company.
11. Backflow device (RPBP/DDCVA) manufacturer/model number shall be per the water utility company.
12. Contractor shall install hot box enclosure (pre-finished dark green) on all exterior above-ground backflow devices. Domestic and fire backflow devices shall be heated. Contractor shall coordinate providing appropriate electrical service to backflow device.
13. Contractor shall coordinate location of backflow device with the building mechanical drawings.
14. Sanitary sewer service lines shall be SDR 35 PVC unless specified otherwise.
15. Maintain a 10' horizontal and 18" vertical separation between sanitary sewer and water lines.
16. All fire line mains to be installed by licensed fire protection contractor.
17. Installation of pipe material shall be placed with a screen stone envelope and when under pavement entire trench to be backfilled with screen stone to subgrade. Size of stone, envelopes, and trenches to be specified by municipalities for public lines and private lines to adhere to common practices for installation requirements.

Tennessee811

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
REGISTERED ENGINEER
AGRICULTURE
12390
STATE OF TENNESSEE
Michael Williams 1.3.2024

HERITAGE VILLAGE
FOR
HIVE NASHVILLE
SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

REVISIONS	DATE
–	–
–	–
–	–
–	–
–	–
–	–

DESIGNED BY: MLW

DATE: 1/3/2024

SCALE: 1"=20'

JOB #: 20230412-1

PRELIMINARY UTILITY PLAN

C5.0

C:\USERS\MICHAEL\WILLIAMSDRIVE - MICHAEL WILLIAMS\PROJECTS\RIVER & FE PIKE COLUMBIA, TN_DGN\ECS_PLAN SHEETS.DWG
PLOTTED BY: MICHAEL WILLIAMS ON: 1/3/2024 12:04 PM LAST UPDATED BY: MICHAEL WILLIAMS ON: 1/3/2024 12:04 PM

November 8, 2023

Mr. Michael Williams
Williams & Associates Engineering
818 18th Ave South
Nashville, TN 37203
Sent via email: mwilliams@civ-design.com

RE: Water Availability Letter
Heritage Village
Sante Fe Pike & River Heights Dr.
Tax Map 89, Parcel EB017, EB018, EB019, EB020
Columbia, Maury County, TN

Dear Mr. Williams:

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 20 units in two two-story multi-family buildings, with irrigation. 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 connection will be made to the existing 16-inch water main located on Santa Fe Pike.
- Redundant master meters will be provided at the property entrance(s). Any sub-metering for rental properties is the responsibility of the applicant.

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.

CPWS

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 (26.4 SFUs)	$11,268.00

- 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: $7,000 per 6" meter (2 meters, combined domestic & fire)	$14,000.00
Meter Fee: $710 per 1" meter (1 meter, irrigation)	$710.00
Impact Fee: $7,500 per 1" meter (1 meter, irrigation)	$7,500.00
Impact Fee: $25,000 per 2" meter equivalent (1 equivalent, domestic)	$25,000.00
Total Meter and Impact Fees Due =	**$47,210.00**

- 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

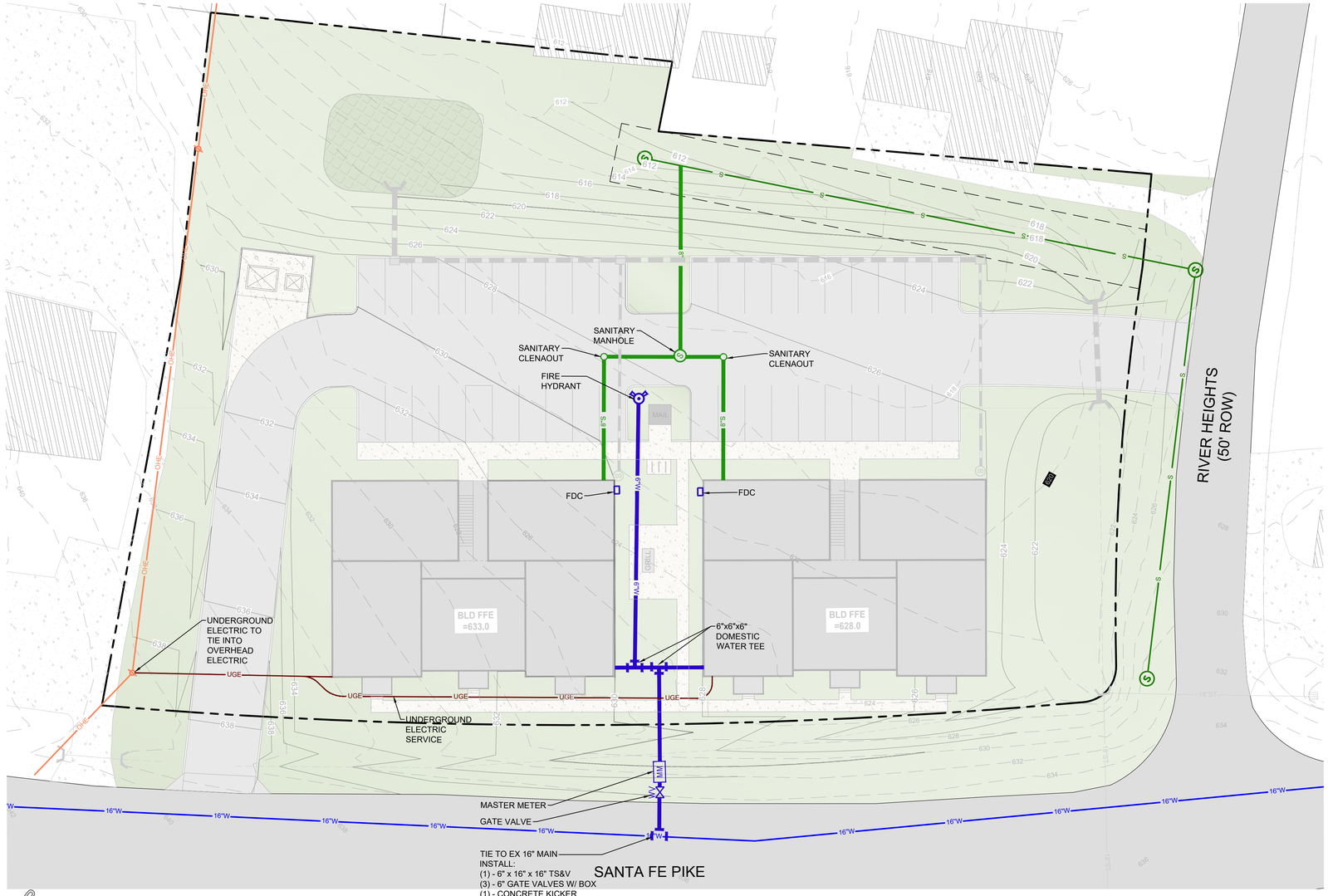
Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-033

TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE



LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM SEWER
- HEADWALL
- ADS NYLOPLAST DOME INLET
- CLEANOUT/ OBSERVATION WELL
- JUNCTION BOX
- GRATE INLET
- PROPOSED SANITARY SEWER
- SANITARY MANHOLE
- SANITARY CLEANOUT
- PROPOSED WATER
- FIRE HYDRANT
- WATER VALVE
- TAPPING TEE
- UNDERGROUND ELECTRIC

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Tennessee811

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MICHAEL L. WILLIAMS
REGISTERED ENGINEER
AGRICULTURE
No. 122900
STATE OF TENNESSEE
Michael Williams
11.7.2023

HERITAGE VILLAGE (23-0274)

FOR

HIVE NASHVILLE

SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

REVISIONS	DATE
PER CITY OF COLUMBIA	23.10.11
–	–
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–	–

DESIGNED BY: MLW

DATE: 11/7/2023

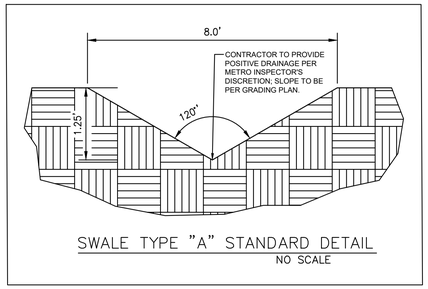
SCALE: 1"=20'

JOB #: 20230412-1

PRELIMINARY UTILITY PLAN

C5.0

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PLOTTED BY: MICHAEL WILLIAMS ON: 11/7/2023 3:39 PM LAST UPDATED BY: MICHAEL WILLIAMS ON: 11/7/2023 3:29 PM



SWALE TYPE "A" STANDARD DETAIL
NO SCALE

TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

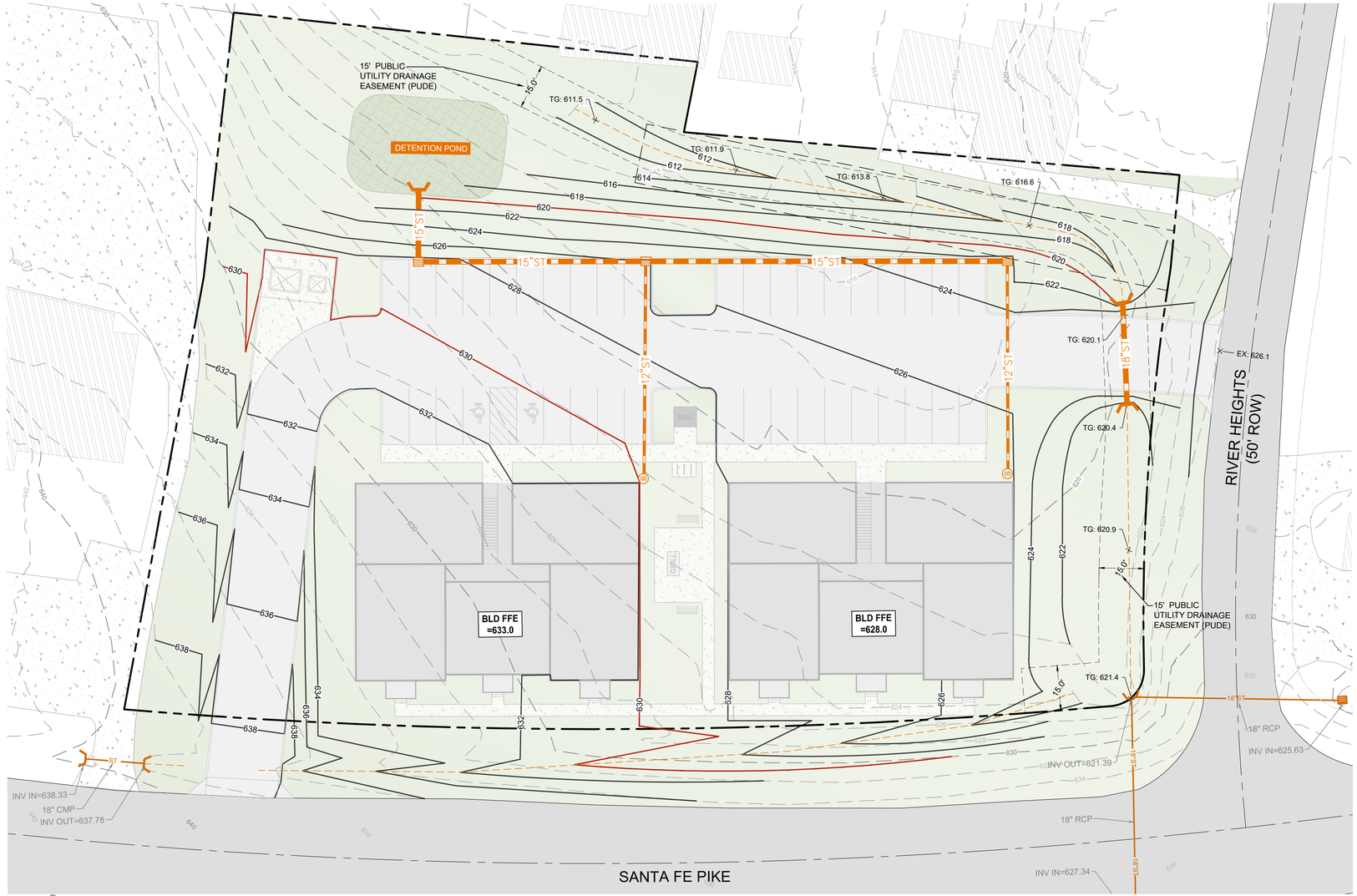
GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- 6" PERFORATED UNDERDRAIN
- HEADWALL
- ADS NYLOPLAST DOME INLET
- CLEANOUT/ OBSERVATION WELL
- JUNCTION BOX
- GRATE INLET
- PROPOSED SANITARY SEWER
- SANITARY MANHOLE
- SANITARY CLEANOUT

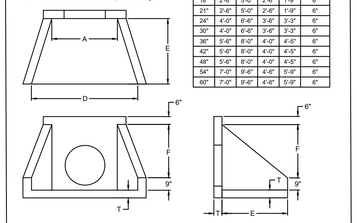
TP	TOP OF PAVEMENT
TC	TOP OF CURB
TG	TOP OF GRADE
BG	BOT OF GUTTER
EX	EXISTING SPOT ELV.

- STORMWATER TREATMENT & CONVEYANCE
- PRETREATMENT CELLS
- PERMEABLE PAVEMENT
- BIORETENTION (LVL2)



NOTES
1. Concrete shall be 4,000 psi @ 28 days reinforced with No. 4 bars @ 10" O.C. each way with wings and toe slab doweled to headwall with No, 5 bars.
2. ¾" chamfer on all exposed edges.

TABLE OF DIMENSIONS					
SIZE	A	D	E	F	T(MIN)
15"	2'-6"	5'-0"	2'-6"	1'-0"	6"
18"	2'-6"	5'-0"	2'-6"	1'-0"	6"
21"	2'-6"	5'-0"	2'-6"	1'-0"	6"
24"	4'-0"	6'-6"	3'-6"	1'-3"	6"
30"	4'-0"	6'-6"	3'-6"	1'-3"	6"
36"	5'-6"	8'-0"	4'-0"	4'-5"	6"
42"	5'-6"	8'-0"	4'-0"	4'-5"	6"
48"	5'-6"	8'-0"	4'-0"	4'-5"	6"
54"	7'-0"	9'-6"	4'-6"	5'-9"	6"
60"	7'-0"	9'-6"	4'-6"	5'-9"	6"



TYPICAL PRECAST HEADWALL
NO SCALE

Tennessee811

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
NUMBER 122900
STATE OF TENNESSEE
Michael Williams
11.7.2023

HERITAGE VILLAGE (23-0274)

FOR

HIVE NASHVILLE

SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

REVISIONS	DATE
PER CITY OF COLUMBIA	23.10.11
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DEISGNED BY: MLW

DATE: 11/7/2023

SCALE: 1"=20'

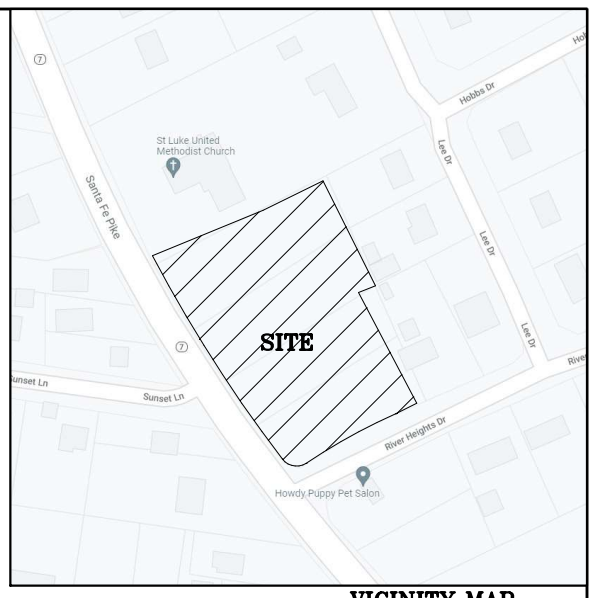
JOB #: 20230412-1

PRELIMARY GRADING & DRAINAGE

C4.0

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PLOTTED BY MICHAEL WILLIAMS ON 11/7/2023 3:19 PM - LAST UPDATED BY MICHAEL.WILLIAMS ON 11/7/2023 3:19 PM

CARROLL LAND SURVEYING
495 EAST MAIN STREET, SUITE 1
HOHENWALD, TN 38462
PHONE: (931)796-1654
FAX: (931)796-1651
EMAIL: csurvey@bellsouth.net



VICINITY MAP
(NOT TO SCALE)

LEGEND

- ⌀ = GAS VALVE
- ⌀ = WATER VALVE
- ⊠ = SEWER MAN HOLE
- ⊠ = WOOD FENCE POST
- ⊛ = UTILITY POLE
- ◔ = IRON PIPE FOUND
- ● = IRON PIN FOUND
- ⊕ = IRON PIN SET
- ◉ = CULVERT

1-2-23
MAGNETIC

ST. LUKE UNITED METHODIST CHURCH
DEED BOOK 473, PAGE 462
TAX MAP 89E, GROUP B, PARCEL 12.00

JAMES REYNOLDS ETUX
RECORD BOOK R2512, PAGE 21
TAX MAP 89E, GROUP B, PARCEL 12.01

SHIRLEY KUHN
RECORD BOOK R1858, PAGE 523
TAX MAP 89E, GROUP B, PARCEL 13.00

DONALD HURST AND
KATHRYN EARL
DEED BOOK 1224, PAGE 11
TAX MAP 89E, GROUP B, PARCEL 14.00

JANICE NEAL
DEED BOOK R2359, PAGE 510
TAX MAP 89E, GROUP B, PARCEL 15.00

POWER LINE

P.O.B.

18" METAL CULVERT
INVERT IN 638.33'
INVERT OUT 637.78'

L1 N 63°51'30" E 89.10'
159.30'
N 67°49'37" E
S 26°31'25" E 156.22'
L2 S 68°34'03" W 23.99'
S 27°39'18" E 166.51'
L3 S 62°54'07" W 31.45'

635
630
625
620
615

1.67
ACRES

C1
C2
C3

SEWER LINE

SANTA FE PIKE

RIVER HEIGHTS
DRIVE-50' R.O.W.

18" CONCRETE CULVERT
INVERT IN 627.34'
INVERT OUT 621.39'

18" CONCRETE CULVERT
INVERT IN 625.63'
INVERT OUT 621.50'

CURVE	RADIUS	CHORD BEARING	CHORD LENGTH
C1	1921.47'	N 32°35'35" W	321.69'
C2	756.89'	S 61°07'59" W	136.16'
C3	23.87'	N 79°50'34" W	32.20'

LINE	BEARING	DISTANCE
L1	N 63°51'30" E	89.10'
L2	S 68°34'03" W	23.99'
L3	S 62°54'07" W	31.45'

KENNETH CARROLL
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 1335

CERTIFICATION

I KENNETH CARROLL, LICENSED LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECTION, THAT IT IS MY OPINION THAT THIS SURVEY MEETS OR EXCEEDS THE STANDARDS OF PRACTICES FOR A CATEGORY 1 SURVEY, AND THAT THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY WAS 1:10,000 + AS SHOWN HEREON.

Kenneth Carroll
KENNETH CARROLL
TENN. REG NO. 1335

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AN (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN BOOK NUMBER R2359, PAGE 508, COUNTY REGISTERS OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT; ESTABLISH THE MINIMUM RESTRICTION LINES, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES, AND OTHER FACILITIES HAVE BEEN FILED.

DATE

JANICE ANNETTE NEAL

0 100 200 300

SURVEY FOR SANTA FE HOLDINGS LLC

SCALE: 1" = 100'	APPROVED BY: KENNETH CARROLL	DRAWN BY: BR
DATE: 1-2-23		REVISED: / /

9TH CIVIL DISTRICT - MAURY COUNTY, TN

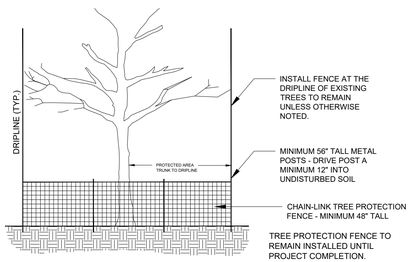
REF: RECORD BOOK R2853, PAGE 1443
PLAT BOOK 2, PAGE 268, BLOCK A, LOTS 1-4
PLAT BOOK 3, PAGE 8, BLOCK A, LOTS 3A, 4A
TAX MAP 89E, GROUP B, P/O PARCELS 17.00, 18.00, 19.00, 20.00

JOB NAME: NEAJ222 (JC)

Tree Id	DBH	Common Name		Replacement	
1	33	Silver maple	Remove	66	
2	25	Elm	Remove	50	
3	27	Hackberry	Remove	54	
4	28	Elm	Remove	56	
5	35	Hackberry	Save		
6	17	Hackberry	Remove		
7	21	Hackberry	Remove		
8	6	Dogwood	Save		
9	7	Dogwood	Save		
10	7	Dogwood	Save		
11	16	Hackberry	Remove		
12	11	Hackberry	Remove		
13	21	Hackberry	Remove		
14	12	Hackberry	Remove		
15	11	Hackberry	Remove		
16	13	Hackberry	Remove		
17	8	Hackberry	Remove		
18	15	Hackberry	Remove		
19	15	Hackberry	Save		
20	12	Hackberry	Save		
21	18	Hackberry	Save		
22	8	Dogwood	Remove		
23	8	Redbud	Remove		
24	24	Hackberry	Remove	48	
25	13	Hackberry	Remove		
26	18	Hackberry	Remove		
27	18	Hackberry	Remove		
28	14	Hackberry	Remove		
29	25	Hackberry	Remove	50	
30	24	Hackberry	Remove	48	
31	13	Hackberry	Remove		
32	21	Hackberry	Remove		
33	27	Black cherry	Remove	54	
34	17	Hackberry	Remove		
35	15	Hackberry	Remove		
36	19	Hackberry	Remove		
37	30	Hackberry	Remove		
38	28	Elm	Remove	56	
39	26	Elm	Remove	52	
40	25	Hackberry	Remove	50	
41	20	Elm	Remove		
42	22	Elm	Remove		
43	20	Elm	Remove		

SITE AREA: +/-1.67 AC	
SPECIMEN TREES TO BE REMOVED: (12)	
Total Caliper Inch of Replacement: (292x2) = 584" REPLACEMENT INCHES	
EXISTING TREE CANOPY ON SITE:	29,401 sf (0.67 AC)
REQ. CANOPY RETENTION (22% OF EXISTING COVER)	6,468 sf (0.14 AC)
PROPOSED CANOPY RETENTION	3,659 sf (.085 AC)

- MITIGATION TREES TO PROVIDE IN LIEU OF 2,809 SF CANOPY COVERAGE
- MITIGATION TREES = 80 TREES PER ACRE
- REQUIRED CANOPY MITIGATION 0.06 AC X 80 = 5 TREES



CHAIN LINK FENCING TREE PROTECTION

TREE PROTECTION NOTES:

1. The tree protection barriers shall be constructed before the issuance of any permits, and shall remain intact throughout the entire period of construction.
2. The tree protection barrier shall be installed as labeled on this plan or a distance to the radius of the dripline, whichever is greatest, as measured from the trunk of the protected tree.
3. Any required excavation in or around the protection zone to accommodate underground services, footings, etc; shall be indicated on the plan, and shall be excavated by hand. In addition, related root pruning shall be accomplished via ANSI A-300 standard so as to minimize compact on the general root system. Root prunning to occur prior to grading.
4. The storage of building materials or stockpiling shall not be permitted within the limits of or against the protection barriers.
5. Trees within the protection barriers must be adequately cared for throughout the construction pro cess (i.e., they must be watered sufficiently, particularly if the tree's root system has been disturbed by excavation.) Fill shall not be placed upon the root system as to endanger the health or life of the affected tree.
6. Heavy accumulation of dust from construction activity may occur on the surface of tree foliage. To control dust, tree foliage may be hosed down upon the request of the Landscape Architect or Owners Representative.
7. Removal of all tree protection fencing will be done by the Contractor. Restoration of all areas disturbed by the fencing will be the Contractor's responsibility. All tree fence to remain intact until final completion of the project.



LAND DESIGN
1894 Gen. Geo. Patton Dr.
Suite 400
Franklin, TN 37067
Tel: 615.376.2421
www.hblanddesign.com

PROPOSED SITE FOR:
HERITAGE VILLAGE
COLUMBIA, MAURY COUNTY, TENNESSEE

CONNOR L. BAILEY REGISTERED LANDSCAPE ARCHITECT TENNESSEE 11/7/2024

Job # - 23281 BY: cb

L1.0

PRESERVATION PLAN

PLANT SCHEDULE

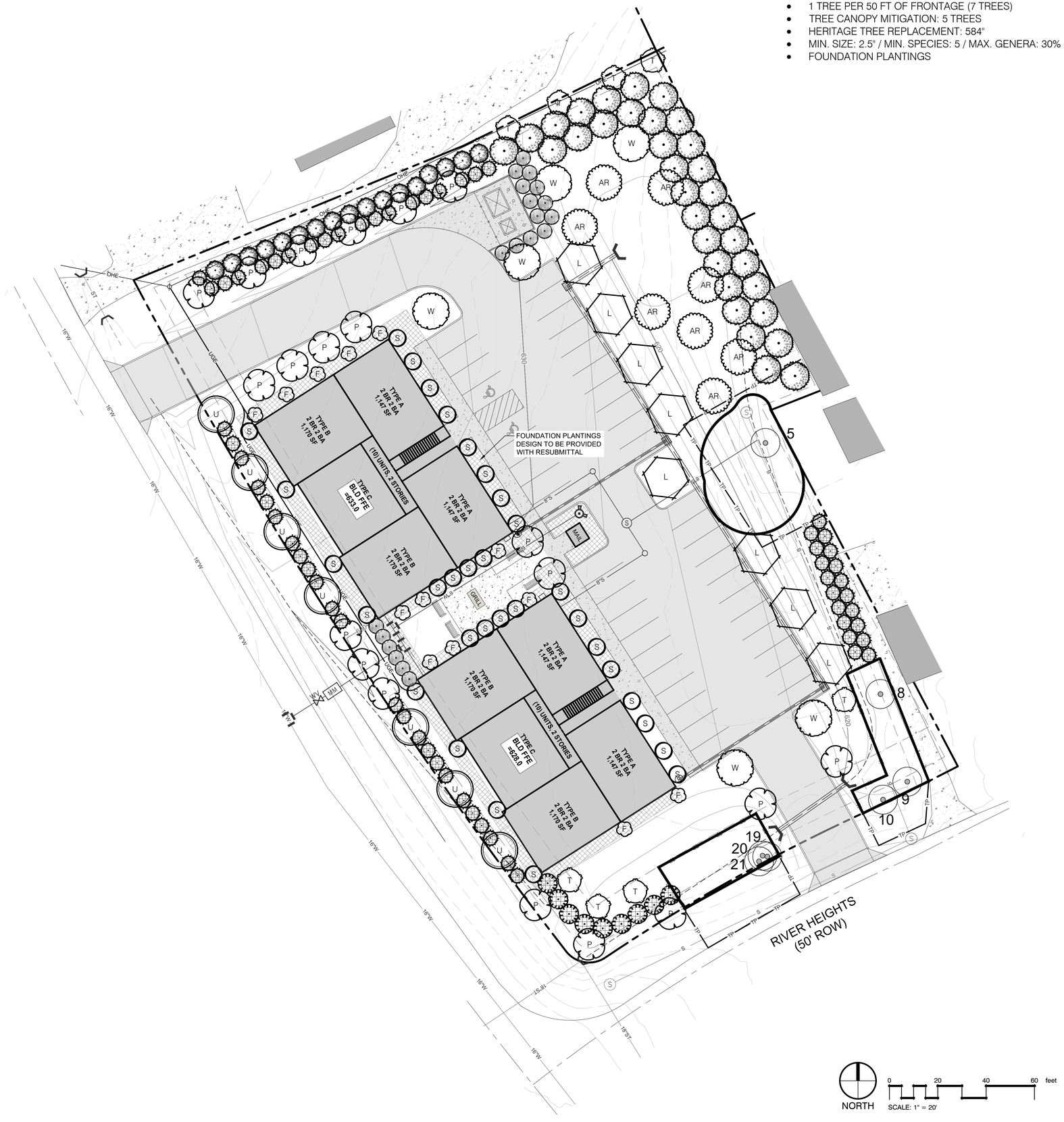
MITIGATION TREE	QTY	COMMON / BOTANICAL NAME	CONT	CAL	SIZE
W	6	Willow Oak / Quercus phellos 5` Clear Trunk. Evenly Branched. Matched. See Tree Specifications	B & B	3"Cal	12`-14` HT
MITIGATION TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**	**CAL**	**SIZE**
*	19	Blue Point Juniper / Juniperus chinensis `Blue Point` Full to Base. Full Dense Form. See Tree Specifications	B & B	2.5"Cal	8`-10` HT
REPLACEMENT TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**	**CAL**	**SIZE**
AR	8	October Glory Maple / Acer rubrum `October Glory` 5` Clear Trunk. Evenly Branched. Matched. See Tree Specifications	B & B	3"Cal	Per ANSI
F	11	Franz Fontaine Hornbeam / Carpinus betulus `Franz Fontaine` 3` Clear Trunk. MATCHED. Evenly Branched. Full Symmetrcal Crown. See Tree Specifications	B & B	2.5"Cal	Per ANSI
*	62	Nellie R. Stevens Holly / Ilex x 'Nellie R. Stevens' Full to Base. Full Dense Form. Matched. See Tree Specifications	B & B	2.5"Cal	8`-10` HT
*	17	Brodie Columnar Cedar / Juniperus virginiana `Brodie` Full To Base. Full Dense Form. See Tree Specifications	B & B	2.5"Cal	8`-10` HT
S	32	Columnar Sweet Gum / Liquidambar styraciflua `Slender Silhouette` 3` Clear Trunk. MATCHED. Evenly Branched. Full Symmetrcal Crown. See Tree Specifications	B & B	2.5"Cal	Per ANSI
L	9	Tulip Poplar / Linodendron tulipifera 5` Clear Trunk. Evenly Branched. Matched. See Tree Specifications	B & B	3"Cal	Per ANSI
*	9	Alta Southern Magnolia / Magnolia grandiflora 'TMGH' Full To Base. Full Dense Form. See Tree Specifications	B & B	3"Cal	10`-12` HT
T	8	Thundercloud Plum / Prunus cerasifera `Thundercloud` 5` Clear Trunk. Evenly Branched. Matched. See Tree Specifications	B & B	2.5"Cal	Per ANSI
P	22	Akebono Cherry / Prunus x Akebono 5` Clear Trunk. Evenly Branched. Matched. See Tree Specifications	B & B	2.5"Cal	Per ANSI
*	33	Green Giant Arborvitae / Thuja standishii x plicata `Green Giant` Full To Base. Full Dense Form Matched. See Tree Specifications	B & B	2.5"Cal	8`-10` HT
STREET TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**	**CAL**	**SIZE**
U	7	Princeton Elm / Ulmus americana 'Princeton' 5` Clear Trunk. Evenly Branched. Matched. See Tree Specifications	B & B	2.5"Cal	12`-14` HT

WHEN THE TERMS "POT", "CONTAINER", OR "CALIPER" ARE USED TO DESCRIBE MINIMUM SIZE AT PLANTING, THE ESTABLISHED AMERICAN STANDARD FOR NURSERY STOCK SHALL APPLY. THAT IS: •"ALL CONTAINER GROWN (DECIDUOUS OR CONIFER) SHRUBS SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THEY SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION." "AN ESTABLISHED CONTAINER GROWN (DECIDUOUS OR CONIFER) SHRUB SHALL BE A (DECIDUOUS OR CONIFER) SHRUB TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER." •CONTAINER SIZE MAY BE CONVERTED TO MINIMUM HEIGHT/SPREAD AS FOLLOWS:
1 GALLON = 12" TO 15" HEIGHT OR SPREAD
3 GALLON = 15"-18" HEIGHT OR SPREAD
5 GALLON = 18" TO 24" HEIGHT OR SPREAD
7 GALLON = 24" TO 30" HEIGHT OR SPREAD

PLAN NOTES:

1. ALL LANDSCAPE BEDS SHALL BE NEATLY TRENCHED WITH A BED EDGE AND HAVE 3" MINIMUM DEPTH OF PINE BARK MULCH.
2. LANDSCAPE BUFFER SHALL BE ONE CONTINUOUS BED AND MULCHED WITH 3" MIN. DEPTH OF PINE STRAW MULCH
3. ALL TREES AND SHRUBS SHALL BE COORDINATED WITH LIGHTING PLAN PRIOR TO INSTALLATION. LIGHT POLES MUST NOT BE LOCATED IN TREE ISLANDS. ALL TREES TO BE INSTALLED 15' FROM ANY LIGHT POLE.
4. ALL AREAS OF DISTURBANCE NOT SPECIFIED AS SOD SHALL BE SEEDED WITH 80% REBEL SUPREME, 20% MERION BLUEGRASS @ 8#/1,000 SF UNLESS OTHERWISE NOTED ON GRADING PLANS
5. ANY CHANGES TO TREE SPECIES OR LOCATIONS MAY REQUIRE THE CONTRACTOR TO PROVIDE AN AS-BUILT OF THE INSTALLED LANDSCAPE AND POSSIBLY DELAY APPROVAL OF THE SITE BY THE URBAN FORESTRY DEPARTMENT.

- 1 TREE PER 50 FT OF FRONTAGE (7 TREES)
- TREE CANOPY MITIGATION: 5 TREES
- HERITAGE TREE REPLACEMENT: 584"
- MIN. SIZE: 2.5" / MIN. SPECIES: 5 / MAX. GENERA: 30%
- FOUNDATION PLANTINGS



HB LAND DESIGN
1894 Gen. Geo. Patton Dr.
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Tel: 615.376.2421
www.hblanddesign.com

PROPOSED SITE FOR:

HERITAGE VILLAGE

COLUMBIA, MAURY COUNTY, TENNESSEE

CONNER L. BALL
REGISTERED
LANDSCAPE ARCHITECT
11/8/2023

Job # - 23281
BY: cb

LANDSCAPE PLAN

L1.1

PLANT STANDARDS

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. And meet the characteristics stated on this drawing. All material installed on the site MUST meet or exceed these specifications. Any trees or shrubs not meeting these standards can be rejected at time of inspection.

TREE SPECIFICATIONS: ALL TREES SHALL HAVE THE FOLLOWING CHARACTERISTICS:

1. Deciduous trees shall have one dominant single straight 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.
2. Trees with forked trunks are acceptable if all the following conditions are met:
   a. The fork occurs in the upper 1/3 of the tree.
   b. One fork is less than 2/3 the diameter of the dominant fork.
   c. The top 1/3 of the smaller fork is removed at the time of planting.
3. No branch is greater than 2/3 the diameter of the trunk directly above the branch.
4. The trunk and/or major branches shall not touch
5. Several branches are larger in diameter and obviously more dominant.
6. Branching habit is more horizontal than vertical, and no branches are oriented nearly vertical to the trunk.
7. Branches are evenly distributed around the trunk with no more than one major branch located directly above another and the crown is full of foliage evenly distributed around the tree
8. Crown spread shall look proportional to the tree.
9. NO flush cuts or open trunk wounds or other bark injury
10. Root ball meets all ANSI standards and is appropriately sized

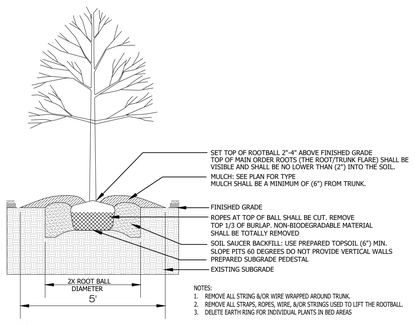
DEFICIENCIES NOT ACCEPTED:

1. Tip dieback on 5% of branches
2. Crown thin/spasely foliated
3. Included bark
4. Major Branches touching
5. Asymmetrical branching

Landscape shall not obstruct visibility or access to fire protection equipment including, but not limited to, fire hydrants and fire department connections

PLANTING NOTES:

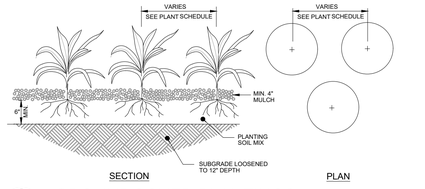
1. Refer to all written specifications; adhere to Plans and Specifications for all phases of work.
2. Verify all utility locations in the field before work begins. Repair damaged utilities to owners satisfaction at no additional cost.
3. Verify all material quantities on the drawing during bidding and pricing. In the event of a discrepancy, the quantities drawn on the plan will take precedence over the material schedule.
4. All materials are subject to the approval of the Landscape Architect, City, and Owner.
5. Once unloaded from truck, immediately stand all trees up. DO NOT lie the trees down. This will reduce the risk of sunscald.
6. Plants shall meet specifications. Root balls shall meet or exceed size standards as set forth by 'American Standards for Nursery Stock'. Main leaders of all trees shall remain intact.
7. Mulch plant pits and planting beds with specified mulch to the depth indicated on drawings.
8. Prepare all topsoil used in tree, shrub, and seed mixes in accordance with the specifications
9. Discard any material which turns brown or defoliates within 5 days after planting. Replace immediately with approved specified material at no additional cost.
10. Maintain all plant material and lawns until project is accepted in full by the City.
11. Guarantee all workmanship and materials for a period of 1 calendar year.
12. Install all plant material in accordance with all local codes and ordinances. Obtain any required permits necessary to complete the work.
13. Trees shall be first quality representatives of their species and shall meet all requirements otherwise stipulated. The Landscape Architect reserves the right to reject plant materials in the field, at the growing location, or at the job site at any time during the project.
14. Test all tree pits for drainage. Any tree pit that holds water for more than 24 hours shall be installed using filter fabric wrapped perforated drainage tube (sloped to low point) and a washed pea gravel pit well drain



NOTES:
1. REMOVE ALL STRING &/OR WIRE WRAPPED AROUND TRUNK.
2. REMOVE ALL STRAPS, ROPES, WIRE, &/OR STRINGS USED TO LIFT THE ROOTBALL.
3. DELETE EARTH RING FOR INDIVIDUAL PLANTS IN BED AREAS

DECIDUOUS TREE PLANTING

P-NO-12



GROUNDCOVER PLANTINGS

GROUNDCOVER, GRASSES, AND PERENNIALS

Know what's **below.**
Call before you dig.

LANDSCAPE NOTES:

1. Contractor responsible for locating and protecting all underground utilities prior to digging.
2. Prior to installation, the landscape contractor shall inspect the subgrade, general site conditions, verify elevations, utility locations, irrigation, approve topsoil provided by general contractor and observe the site conditions under which the work is to be done. Notify general contractor of any unsatisfactory conditions, and work shall not proceed until such conditions have been corrected.
3. Contractor responsible for protecting existing trees from damage during construction as shown on plans.
4. Minimum topsoil depth in lawn areas shall be four (4) inches.
5. Minimal topsoil depth in landscape areas shall be twelve (12) inches.
6. All shrub beds (existing and new) to be mulched with a 3-4 inch minimum layer of mulch .
7. Existing grass in proposed planting areas to be killed and removed and area to be hand raked to remove all rocks and debris larger than 1 inch in diameter prior to planting shrubs or laying sod. Landscape contractor to provide fine grading. Any existing grass disturbed during construction to be fully removed, re-graded and replaced. All tire marks and indention to be repaired.
8. Soil to be tested to determine fertilizer and lime requirements and distributed prior to laying sod or seed.
9. All areas of disturbance outside of landscape beds shall be repaired with turf.
10. Sod to be delivered fresh (cut less than 24 hours prior to arriving on site), laid immediately, rolled, and watered thoroughly immediately after planting. edge of sod adjacent to mulch beds to be shovel cut. All sod to be delivered in largest rolls available. there shall be no gaps between sod joints.
11. Lawns shall be seeded by hydroseeding method; application fertilizer shall be placed at a minimum of 80 pounds per acre, hydromulch at 1,200 pounds per acre, water at 500 gallons per acre and seed at a minimum of 220 pounds per acre. Slope protection shall be provided in seeded areas with slopes three (3) feet horizontal to one (1) foot vertical (i.e. 3H:1V) or greater.
12. The landscape contractor shall guarantee all plants installed for one full year from date of acceptance. All plants shall be alive and at a vigorous rate of growth at the end of the guarantee period. The landscape contractor shall not be responsible for acts of god or vandalism.
13. Any plant that is determined dead, in an unhealthy or unsightly condition, lost its shape due to dead branches or other symptoms of poor, non-vigorous growth, as determined by the landscape architect, shall be replaced by the landscape contractor at no cost to owner.
14. Water all plant material that are newly planted thoroughly twice in first 24 hours and apply mulch immediately.
15. All trees and shrubs shall be coordinated with lighting plan prior to installation.
16. Any utility structure, light poles, sign, or other feature may not be added to any required landscape island in such a manner that would displace the required element(s) (trees, shrubs, etc.)

SUBSTITUTION NOTE:

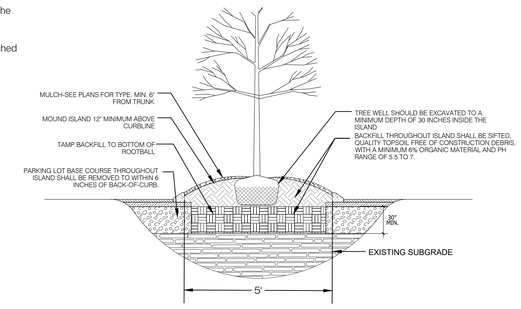
1. Requirements shown are per the City Zoning Ordinance. Substitutions are not allowed unless approved by the City and Heibert+Ball Land Design

TO AVOID OVERHEAD LIGHT POLE CONFLICTS:

In the event proposed canopy trees are in conflict (within 15') with proposed or existing light pole locations, the landscape contractor shall stop work and contact Heibert+Ball Land Design immediately for coordination and field adjustment

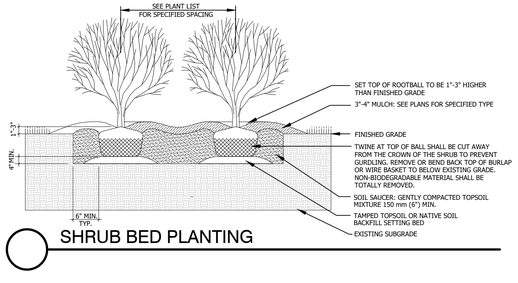
TO AVOID OVERHEAD UTILITY CONFLICTS:

In the event proposed canopy trees are in conflict (within 25') with proposed or existing overhead utility locations, the landscape contractor shall stop work and contact Heibert+Ball Land Design immediately for coordination and field adjustment.



PARKING ISLAND TREE PLANTING

FOR PARKING LOT ISLAND OR MEDIAN



SHRUB BED PLANTING

HB LAND DESIGN
1894 Gen. Geo. Patton Dr.
Suite 400
Franklin, TN 37067
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PROPOSED SITE FOR:

HERITAGE VILLAGE

COLUMBIA, MAURY COUNTY, TENNESSEE

CONNER L. BALL
REGISTERED
AGRICULTURE
COMMERCE
INDUSTRY
LANDSCAPE ARCHITECT

Job # - 23281

BY: cb

L1.3

LANDSCAPE NOTES

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: Prelim Plat & Site Development Plan (23-0274) - Ref Code: 0ZXBQL & M6VFQ2

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
- N/A ☐ Proposed phasing and timetable for all phases of development
- N/A ☐ 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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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
- N/A ☐ 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.
- N/A ☐ 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
- N/A ☐ 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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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:

Michael Williams, P.E.	Michael Williams Digitally signed by Michael Williams DN: C=US, E=mwilliams@civ-design.com, CN=Michael Williams Date: 2023.10.17 12:08:16-05'00'	11/7/2023
Print Name	Signature	Date

CITY OF COLUMBIA
TENNESSEE

October 11, 2023

via email: mwilliams@civ-design.com

Michael Williams, P.E.
Williams Engineering
818 18th Ave S, Floor 10, 37203
Nashville, TN 37203

RE: **23-0274** Comment Letter *(Heritage Village Preliminary Plat & Site Development Plan 606 Sante Fe Pike)*

RESPONSE

DATE: 11/07/2023
BY: Michael Williams, P.E.

PLANNING:

1. Design of parking areas does not conform to the standards at 4.3.12.C. For example, plan depicts greater than 10 spaces without a landscape island (p.281)

   Site Development Plan on sheet C2.0 has been revised to have no more than 10 parking spaces without an island. The required parking is 1.5 per unit (30 spaces). The max allowed is 30% or 39 spaces. 39 Spaces is provided in revised Site Dev Plan.

2. Please provide a survey and description of the property prepared by a licensed PLS. The proposed density is just under the maximum density permitted by the zoning ordinance. Provide impervious surface note that coverage does not exceed 80 percent.
   Survey stamped by licensed surveyor has been provided in resubmittal. Impervious surface note is provided on sheet C2.0.

3. Please provide a complete site development plan checklist and all items on the checklist by the resubmittal deadline. This item will not be placed on the Planning Commission agenda without a complete checklist. The checklist is available at https://www.columbiatn.com/DocumentCenter/View/1813/Checklist-for-Planning-Commission-items.
   Site Development & Preliminary Plat checklist has been provided in resubmittal.

4. Please provide a Tree Preservation Plan conforming to 4.3.16.L (p. 293-297) with recent aerial and areas to be preserved or replanted.
   Tree Preservation Plan has been provided in resubmittal (Sheet L1.0).

5. Please add a note to the site development plan indicating the development will conform to the lighting standards in providing a photometric plan at 4.3.17. Conformity will be confirmed at building permit.
   Note has been added to site development plan in bottom right corner on sheet C2.0.

6. Buildings must front a Thoroughfare. (4.3.1-D; 4.3.3C). Please revise to indicate the primary entrance to the building will face the street. Please indicate all elevations primary entrance front Sante Fe Pike with accessible access via a sidewalk or pedestrian path to the parking area.
   Site plan on sheet C2.0 has been revised to show primary entrance with sidewalks from Santa Fe Pike.

7. Principal and secondary frontage setbacks depicted on the Site Development Plan do not conform to CD-4 standards of 6' to 20' feet (4.3.1-D, p. 79).
   Each front setback has been revised on site development plan.

8. Please provide detail on dumpster enclosure and screening per 4.3.15 (p. 288).
   Dumpster enclosure is shown per 4.3.15.

9. Please indicate parcel boundaries and building site lines conforming to the CD-4 standards. Please indicate two separate building sites on the property for each building.
   Parcel boundaries have been updated to reflect ROW dedication. Primary and second build-to-zone updated per CD-4 standards. Note on sheet C2.0 added to state "setbacks per city of Columbia CD-4 standards".

10. Driveway on River Heights may not be less than 25' from the existing adjacent driveway (4.3.12.E.9, p. 293).
    Proposed driveway on River Heights is 29.5' from existing driveway. See dimension on sheet C2.0.

11. Trees along the street frontages is needed, parking rows shall terminate into landscaped islands and parking street screen along River Heights should be shown.
    Street trees are provided on Landscape Plan, sheet L1.1. Parking rows terminate into landscaped islands on sheet L1.1.

12. Each building is required to have an identifiable Base, Middle, & Cap. Please show call out on elevations. (4.3.1 D- District Standards CD-4).
    Elevations have been revised to show Base, Middle, & Cap.

13. A facade greater than 100 ft. must be differentiated so that it appears to be two or more adjacent buildings. Please note that table in section 4.3.1 D of the table on facade articulation Provide facade glazing to indicate that 20-60 percent of facade area is covered by glazing.
    Each building is only 95 ft, thus does not require a second façade. Note provided on architecture plans to call out façade percentage.

14. Please indicate window trim details with sill and top plate surrounding window with a minimum 4-inch trim.
    Architecture Plans revised to call out window trip to have a min. of 4 inch trim.

15. Please indicate facade window sill height a minimum of 5ft above grade at facade.
    Architecture Plan revised to call out distance from bottom of window to grade to be greater than 5 ft.

16. Primary building material of a black metal panel and exposed concrete is not permitted per the CD-4 building materials standards.
    Material choice has been removed from architecture plans.

17. Foundation cladding of brick or natural stone shall be provided.
    Foundation material revised to call out approved material.

18. Elevation indicates a wood privacy fence. Site plan does not indicate fence.
    Wood privacy fence has been removed from architecture plans.

19. Table 4.3.1 D indicate a 120 ft max width on all buildings with a 60 percent minimum frontage buildout. Frontage buildout consists of the building frontage facing Sante Fe Pike. Please indicate on site plan that proposed buildings meet the minimum 60 percent frontage buildout requirement and that buildings do not exceed 120 ft.
    Data table provided on civil sheet C2.0
    Each Building Width = 95 ft
    [(2 bld) * (95 ft)] / 314 ft = 60.5%

20. Please refer to Table 4.3.1 D (Pg 79 & 80) (Building Facade Standards) for a CD-4 district for design elevations that adhere to this code section.
    Architecture Plans have been revised to adhere to

21. Indicate location of bicycle parking rack required for multi-family at 1 bike space per 20 parking spaces. (4.3.13 Bicycle Parking).
    (6) Bike Parking spaces has been provided on site plan, sheet C2.0.

ENGINEERING:

1. Subject to construction plans approval.
   So noted.

2. Plat required to combine subject properties into one parcel, establish easements, and dedicate/reserve right-of-way.
   So noted.

3. Additional right of way required on Santa Fe Pike (Minor Arterial) minimum right-of-way width is 90 ft. Since the development borders one side of the street, provide half the required right-of-way (45 ft.) measured from the centerline of the existing right-of-way. Right-of-way may be dedicated, or provided via a reservation strip.
   ROW is shown to be dedicated on Prelim Plat.

4. Access along Santa Fe Pike does not meet the following requirements of the Access Management Ordinance:
   3.1.3 Access Spacing
   - Driveways along Minor Arterial Roadways have a minimum spacing requirement of 330 ft.
     322.8 ft shown from Sante Fe Pike entrance to intersection of Sante Fe / River Heights. We ask that City of Columbia Planning Commission approves the drive access distance due to the geometry of the site, in order to satisfy Fire Marshal Turn-Around requirements.

   - 3.1.2G Maximum Number of Access Points
     We ask that City of Columbia Planning Commission approve (2) drive access points in order to satisfy Fire Marshal Turn-Around requirements.

   - Developments of 75 or less residential units are permitted a maximum of one (1) access point.
     We ask that City of Columbia Planning Commission approve (2) drive access points in order to satisfy Fire Marshal Turn-Around requirements.

3.4 Corner Clearance

- Access points on Minor Arterials intersecting with a Minor Local roadway shall be located not closer to the corner than 330 ft. This measurement shall be takenfrom the intersection of property lines, or the intersection of the projected extension of property lines, at the corner to the centerline of proposed driveway.
  322.8 ft shown from Sante Fe Pike entrance to intersection of Sante Fe / River Heights. We ask that City of Columbia Planning Commission approves the drive access distance due to the geometry of the site, in order to satisfy Fire Marshal Turn-Around requirements.

5. Development Plan indicates structures and driveways of the adjoining properties on this subject property.
   Correct. Note stating " Existing Drive/ Bld to be allowed to remain" has been added to sheet C2.0.

6. As a note, there is a significant amount of drainage that traverses the site. Provide preliminary grading and storm conveyance systems.
   Preliminary Grading & Stormwater Plan provided.

7. Show all existing and proposed utilities.
   All Existing & Proposed utilities are shown on preliminary plat, sheet PP1.0 and preliminary utility plan, sheet C5.0.

8. Provide PUDE easement for drainage ditch through property.
   15' Public Utility Drainage Easement (PUDE) provided on Preliminary Plat, sheet PP1.0.

FIRE MARSHAL:

1. A sprinkler system & fire alarm system will be required.
   So noted.

2. The sprinkler FDC will have to be within 100' of a fire hydrant
   Proposed Fire Hydrant and FDC within 100' is provided on prelim utility plan.

WASTEWATER:

1. Columbia Wastewater has no concerns.
   So noted.

2. It may be required that manholes are raised/lowered before construction.
   So noted.

CITY OF COLUMBIA
TENNESSEE

PUBLIC WORKS:

1. Please reference the attached dumpster guidelines and accessibility requirements.
   Dumpster Detail and City of Columbia Noes provided on sheet C2.0.

2. Dumpster Standards SW1-3.A. General All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private. SW1-3.B. Guidelines For Dumpsters-- The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least two (2) feet and six (6) inches of clearance on each side of the dumpster. SW1-3.C. Dumpster PAD Requirements.... The concrete dumpster pad shall be at least 12 ft by 12 ft. The pad (s) shall be 8 inch thick concrete, reinforce with rebar to support a 30- ton load-bearing capacity. A 14 ft wide by 40 ft long straight and clear access approach to each dumpster for the truck is required. Clearance at each side of each dumpster must be at least 2 ft - 6in. If a gated enclosure is utilized the gate must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing. Two 6 in diameter concrete filled steel bollards must be placed in the concrete pad to the rear of each dumpster, 2 ft from the back edge of the dumpster pad, spaced 4 feet apart and centered side to side. The bollards will rise 6 feet above the pad and extend 32 in below the pad into concrete footers. Uf the box is enclosed it is recommended that there be pedestrian access in addition to service gates. Access area, approach , and pad must be level. Standard pads with no drain should be elevated approximately 1 1/2 in. above the surrounding pavement. Pads with drains must be approve by Metro Water Services. These pads can be sloped up to 2% toward the drain.
   Dumpster Detail and City of Columbia Noes provided on sheet C2.0.

MAURY COUNTY SCHOOLS:

1. Maury County Public Schools Riverside Elementary, Cox Middle School, Central High School Will Service from Santa Fe Pike 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.

2. 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.
   So noted.

COLUMBIA POWER (CPWS)

1. 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.***
   So noted.

COLUMBIA WATER

1. "A water availability letter was issued on 7-7-23 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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.

   The water A/V has been requested to be updated.

   Please provide a comment response letter and updated site plan addressing each comment and upload to the file case number as established with this case at City of Columbia | Permitting (onlama.com). Please reach out to Austin Brass with the City of Columbia at abrass@columbiatn.com for any additional questions.

Warm Regards,

Austin Brass

Austin Brass, AICP
Planner

CITY OF COLUMBIA
TENNESSEE

October 11, 2023

via email: mwilliams@civ-design.com

Michael Williams, P.E.
Williams Engineering
818 18th Ave S, Floor 10, 37203
Nashville, TN 37203

RE: **23-0274** Comment Letter *(Heritage Village Preliminary Plat & Site Development Plan 606 Sante Fe Pike)*

PLANNING:

1. Design of parking areas does not conform to the standards at 4.3.12.C. For example, plan depicts greater than 10 spaces without a landscape island (p.281)
2. Please provide a survey and description of the property prepared by a licensed PLS. The proposed density is just under the maximum density permitted by the zoning ordinance. Provide impervious surface note that coverage does not exceed 80 percent.
3. Please provide a complete site development plan checklist and all items on the checklist by the resubmittal deadline. This item will not be placed on the Planning Commission agenda without a complete checklist. The checklist is available at https://www.columbiatn.com/DocumentCenter/View/1813/Checklist-for-Planning-Commission-items.
4. Please provide a Tree Preservation Plan conforming to 4.3.16.L (p. 293-297) with recent aerial and areas to be preserved or replanted.
5. Please add a note to the site development plan indicating the development will conform to the lighting standards in providing a photometric plan at 4.3.17. Conformity will be confirmed at building permit.
6. Buildings must enfront a Thoroughfare. (4.3.1-D; 4.3.3C). Please revise to indicate the primary entrance to the building will face the street. Please indicate all elevations primary entrance front Sante Fe Pike with accessible access via a sidewalk or pedestrian path to the parking area.
7. Principal and secondary frontage setbacks depicted on the Site Development Plan do not conform to CD-4 standards of 6' to 20' feet (4.3.1-D, p. 79).
8. Please provide detail on dumpster enclosure and screening per 4.3.15 (p. 288).
9. Please indicate parcel boundaries and building site lines conforming to the CD-4 standards. Please indicate two separate building sites on the property for each building.
10. Driveway on River Heights may not be less than 25' from the existing adjacent driveway (4.3.12.E.9, p. 293).
11. Trees along the street frontages is needed, parking rows shall terminate into landscaped islands and parking street screen along River Heights should be shown.

12. Each building is required to have an identifiable Base, Middle, & Cap. Please show call out on elevations. (4.3.1 D- District Standards CD-4)
13. A facade greater than 100 ft. must be differentiated so that it appears to be two or more adjacent buildings. Please note that table in section 4.3.1 D of the table on facade articulation Provide facade glazing to indicate that 20-60 percent of facade area is covered by glazing.
14. Please indicate window trim details with sill and top plate surrounding window with a minimum 4-inch trim.
15. Please indicate facade window sill height a minimum of 5ft above grade at facade.
16. Primary building material of a black metal panel and exposed concrete is not permitted per the CD-4 building materials standards.
17. Foundation cladding of brick or natural stone shall be provided.
18. Elevation indicates a wood privacy fence. Site plan does not indicate fence.
19. Table 4.3.1 D indicate a 120 ft max width on all buildings with a 60 percent minimum frontage buildout. Frontage buildout consists of the building frontage facing Sante Fe Pike. Please indicate on site plan that proposed buildings meet the minimum 60 percent frontage buildout requirement and that buildings do not exceed 120 ft.
20. Please refer to Table 4.3.1 D (Building Facade Standards) for a CD-4 district for design elevations that adhere to this code section.
21. Indicate location of bicycle parking rack required for multi-family at 1 bike space per 20 parking spaces. (4.3.13 Bicycle Parking).

ENGINEERING:

1. Subject to construction plans approval.
2. Plat required to combine subject properties into one parcel, establish easements, and dedicate/reserve right-of-way
3. Additional right of way required on Santa Fe Pike (Minor Arterial) minimum right-of-way width is 90 ft. Since the development borders one side of the street, provide half the required right-of-way (45 ft.) measured from the centerline of the existing right-of-way. Right-of-way may be dedicated, or provided via a reservation strip.
4. Access along Santa Fe Pike does not meet the following requirements of the Access Management Ordinance:
   3.1.3 Access Spacing
   - Driveways along Minor Arterial Roadways have a minimum spacing requirement of 330 ft.
   - 3.1.2G Maximum Number of Access Points
   - Developments of 75 or less residential units are permitted a maximum of one (1) access point.

   3.4 Corner Clearance
   - Access points on Minor Arterials intersecting with a Minor Local roadway shall be located not closer to the corner than 330 ft. This measurement shall be taken

from the intersection of property lines, or the intersection of the projected extension of property lines, at the corner to the centerline of proposed driveway.

5. Development Plan indicates structures and driveways of the adjoining properties on this subject property.
6. As a note, there is a significant amount of drainage that traverses the site. Provide preliminary grading and storm conveyance systems.
7. Show all existing and proposed utilities.
8. Provide PUDE easement for drainage ditch through property.

FIRE MARSHAL:

1. A sprinkler system & fire alarm system will be required
2. The sprinkler FDC will have to be within 100' of a fire hydrant

WASTEWATER:

1. Columbia Wastewater has no concerns.
2. It may be required that manholes are raised/lowered before construction.

PUBLIC WORKS:

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2. requirements.
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Warm Regards,

Austin Brass

Austin Brass, AICP
Planner



HERITAGE VILLAGE PROJECT

OWNER:	Jason Lincoln
PROJECT:	HERITAGE VILLAGE
ADDRESS:	Santa Fe Pike & River Heights Dr Columbia Tn 38401



BUILDING A



BUILDING B



Layout Page Table		
Label	Title	Description
P-1	PROJECT SUMMARY	
P-2	RE-WORK PERSPECTIVES	
P-3	FRONT PERSPECTIVE	
P-4	FRONT CORNER PERSECTIVE	
P-5	DAY PERSPECTIVE	
P-6	FRONT ELEVATIONS	(WEST)
P-7	SIDE ELEVATIONS	(NORTH& SOUTH)
P-8	REAR ELEVATIONS	(EAST)

GENERAL NOTES:

THIS PLAN SET, COMBINED WITH THE BUILDING CONTRACT, PROVIDES BUILDING DETAILS FOR THE RESIDENTIAL PROJECT. THE CONTRACTOR SHALL VERIFY THAT SITE CONDITIONS ARE CONSISTENT WITH THESE PLANS BEFORE STARTING WORK. WORK NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED TO THE SAME QUALITY AS SIMILAR WORK THAT IS DETAILED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH INTERNATIONAL BUILDING CODES AND LOCAL CODES. CONTRACTOR SHALL BE RESPONSIBLE AND BEAR ANY FINES OR PENALTIES FOR CODE, ORDINANCE, REGULATION OR BUILDING PROCESS VIOLATIONS. INSURANCES SHALL BE IN FORCE THROUGHOUT THE DURATION OF THE BUILDING PROJECT.

WRITTEN DIMENSIONS AND SPECIFIC NOTES SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND GENERAL NOTES. THE ENGINEER/DESIGNER SHALL BE CONSULTED FOR CLARIFICATION IF SITE CONDITIONS ARE ENCOUNTERED THAT ARE DIFFERENT THAN SHOWN, IF DISCREPANCIES ARE FOUND IN THE PLANS OR NOTES, OR IF A QUESTION ARISES OVER THE INTENT OF THE PLANS OR NOTES. CONTRACTOR SHALL VERIFY AND IS RESPONSIBLE FOR ALL DIMENSIONS (INCLUDING ROUGH OPENINGS). ALL TRADES SHALL MAINTAIN A CLEAN WORK SITE AT THE END OF EACH WORK DAY.

JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

Every attempt has been made in the preparation of this plan to avoid errors, omissions, and mistakes. Aura Creative can not guarantee against human error. The contractor or client shall verify all conditions, dimensions, details and specifications. The designer will not be liable for human error after construction begins.

It is the responsibility of the contractor to verify accuracy and compliance with all code agencies prior to construction;and their requirements must take presidence over those shown. If any concerns please contact Aura Creative or other architect or engineer.

DRAWINGS PROVIDED BY:

AURA CREATIVE

DATE: 9/27/2023

SCALE:

SHEET: P-1



JL

REVISION TABLE			
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DRAWINGS PROVIDED BY:

AURA CREATIVE

DATE:

9/27/2023

SCALE:

SHEET:

P-2



JL

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DRAWINGS PROVIDED BY:
AURA CREATIVE

DATE:
9/27/2023

SCALE:

SHEET:
P-3



JL

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DRAWINGS PROVIDED BY:
AURA CREATIVE

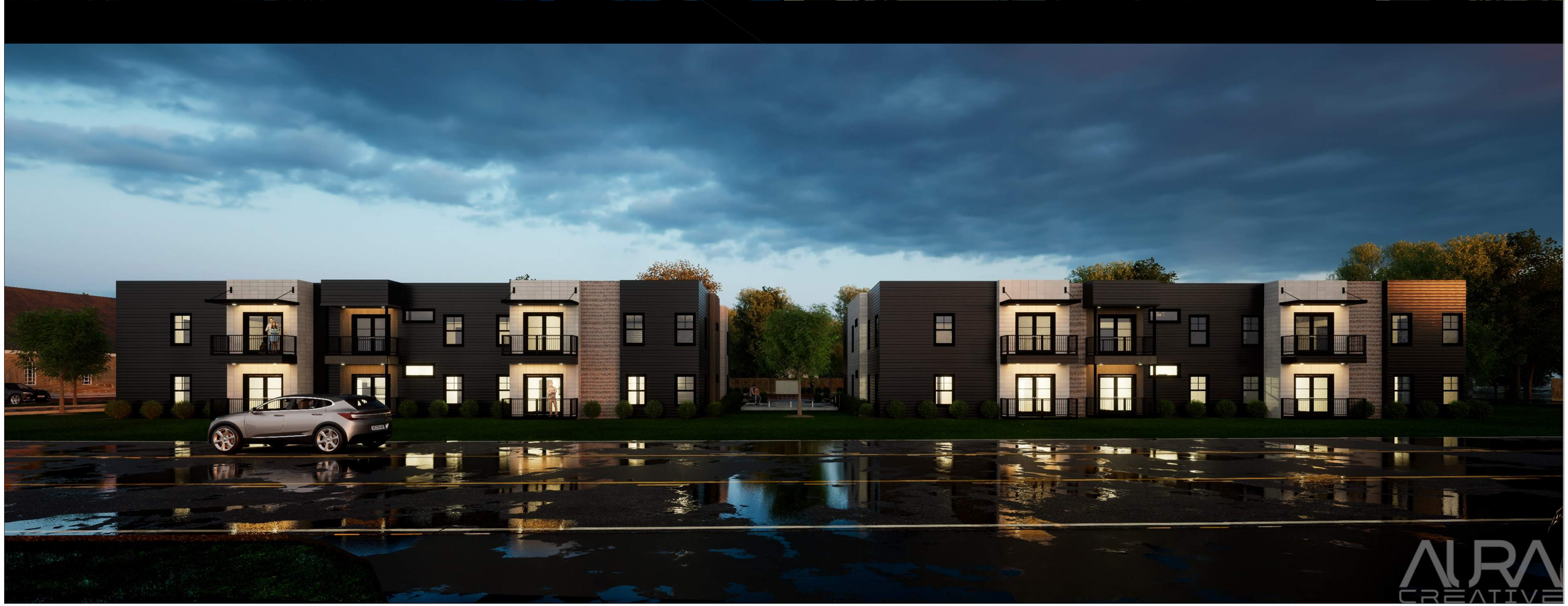
DATE:
9/27/2023

SCALE:

SHEET:
P-4







REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

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DRAWINGS PROVIDED BY:

AURA CREATIVE

DATE:

9/27/2023

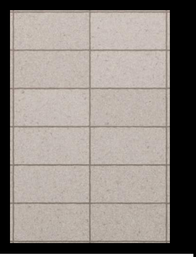
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SHEET:

P-5



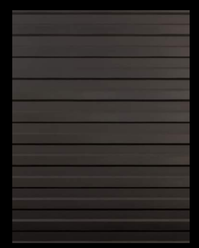
BUILDING A FRONT



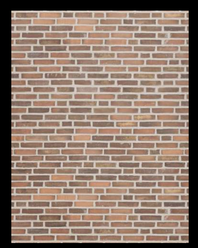
Stacked Concrete Block



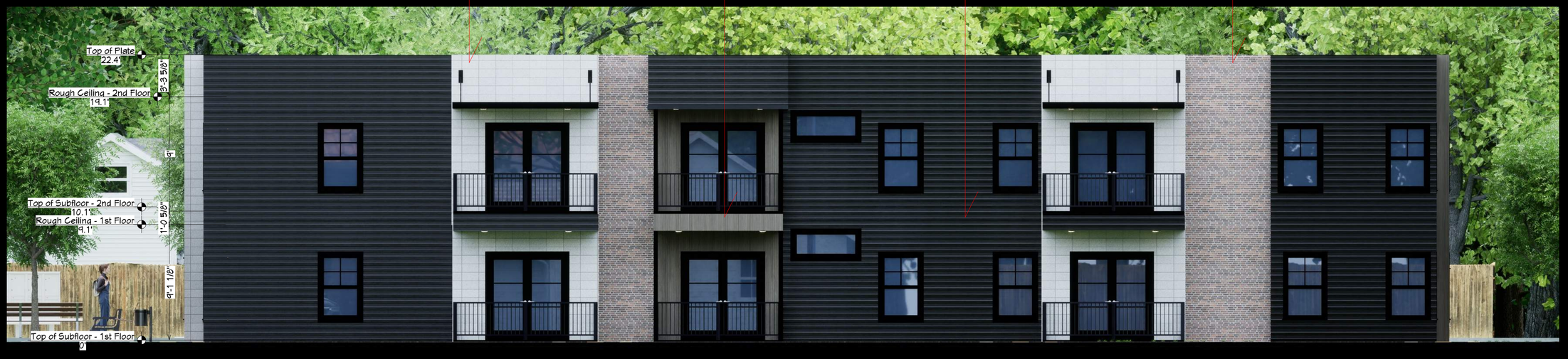
Light Brown/Grey Vetical Wood Panel



Black Metal Panel



Mixed Red/Brown Brick



BUILDING B FRONT

JL

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION
1	11/24/2023	NT	CAB & CT
2	9/26/2023	NT	MATERIALS

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AURA CREATIVE

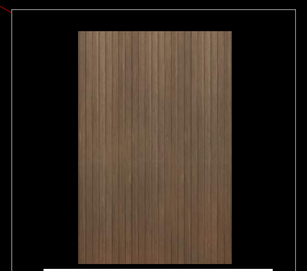
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9/27/2023

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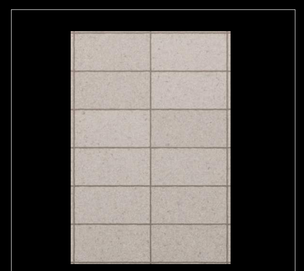
SHEET:
P-6



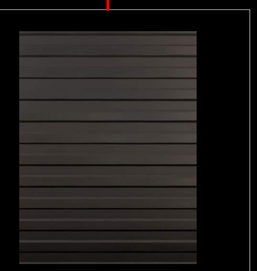
BUILDING A SIDE



Light Brown/Grey Vetical Wood Panel



Stacked Concrete Block



Black Metal Panel



BUILDING B SIDE

JL

REVISION TABLE

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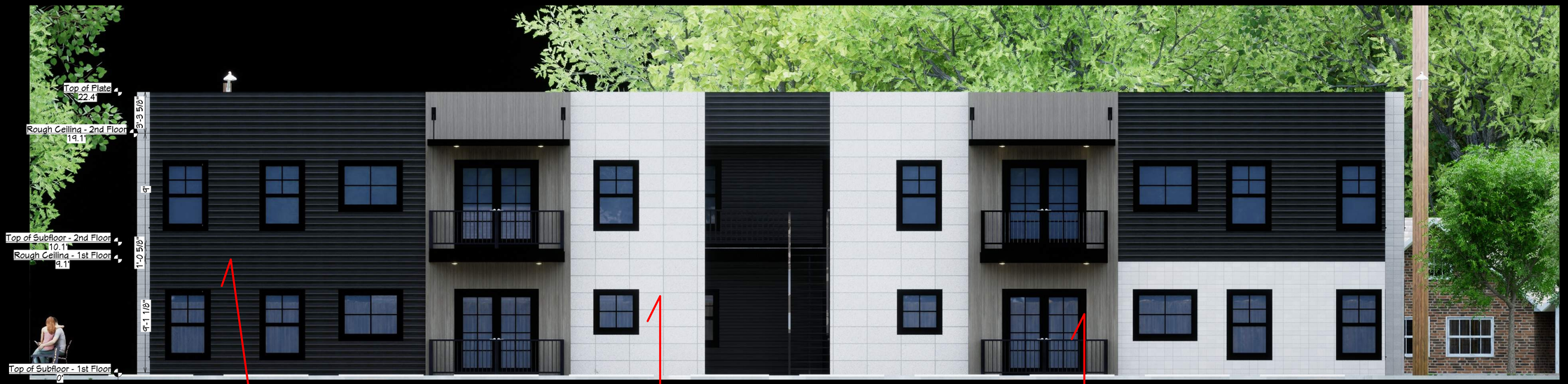
DATE:

9/27/2023

SCALE:

SHEET:

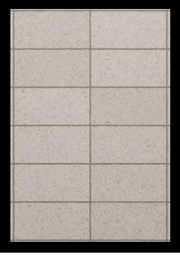
P-7



BUILDING A REAR



Black
Metal Panel



Stacked Concrete
Block



Light Brown/Grey
Vetical Wood Panel



BUILDING B REAR

JL

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DRAWINGS PROVIDED BY:

AURA CREATIVE

DATE:

9/27/2023

SCALE:

SHEET:

P-8



TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE

CURVE	RADIUS	CHORD BEARING	CHORD LENGTH
C1	1921.47'	N 32°35'35" W	321.69'
C2	756.89'	S 61°07'59" W	136.16'
C3	23.87'	N 79°50'34" W	32.20'

LINE	BEARING	DISTANCE
L1	N 63°51'30" E	89.10'
L2	S 68°34'03" W	23.99'
L3	S 62°54'07" W	31.45'

Tennessee811

PRELIMINARY PLAT

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
REGISTERED ENGINEER
AGRICULTURE
NUMBER 122908
STATE OF TENNESSEE
Michael Williams 8.24.2023

HERITAGE VILLAGE

FOR

HIVE NASHVILLE

SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

REVISIONS	DATE
–	–
–	–
–	–
–	–
–	–
–	–

DEISGNED BY: MLW

DATE: 8/24/2023

SCALE: 1"=20'

JOB #: 20230412-1

PRELIMINARY PLAT

PP1.0

C:\USERS\MICHAEL.WILLIAMS\DESKTOP_MICHAEL WILLIAMS\PROJECTS\006 SANTA FE PIKE COLUMBIA, TN_QUAD\EZ_PLAN SHEETS.DWG
PLOTTED BY MICHAEL WILLIAMS ON 8/25/2023 9:17 PM - LAST UPDATED BY MICHAEL WILLIAMS ON 8/25/2023 9:17 PM

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TL:NNL:SSL:L

DEVELOPMENT SERVICES

DEVELOPMENT REVIEW COMMITTEE MEETING

Tuesday, August 8, 2023

RESPONSE

DATE: 08/24/2023
BY: Michael Williams, P.E.

ITEM NO.

23-0274

Planning Comments

Driveway on River Heights may not be less than 25' from the existing adjacent driveway (4.3.12.E.9, p. 293).
Dimension has been added to site plan. There is 29.6' between existing and proposed driveways.

Trees along the street frontages is needed, parking rows shall terminate into landscaped islands and parking street screen along River Heights should be shown.

Street trees, landscaped islands and parking lot screening along River Heights has been added to site plan.

Please revise application to request a preliminary plat, Additional fees will apply. Separate document should meet requirements of Preliminary plat in SubRegs.

Preliminary Plat has been included in separate submittal with associated documents.

Engineering

Development Plan indicates structures and driveways of the adjoining properties on this subject property.
Yes, there is a existing driveway encroaching on the property at the southeast corner of the site.

As a note, there is a significant amount of drainage that traverses the site. Provide preliminary grading and storm conveyance systems.

Preliminary Grading plan provided in resubmittal.

Show all existing and proposed utilities.

Existing and proposed utility plan provided in resubmittal.

A sprinkler system & fire alarm system will be required
So noted

The sprinkler FDC will have to be within 100' of a fire hydrant
A fire hydrant has been added. FDC is now 100' from fire hydrant.

Wastewater

Columbia Wastewater has no concerns.
So noted

BuildingNo Comments.
So noted

Public Works

Please reference the attached dumpster guidelines and accessibility requirements.

Dumpster Standards SWI-3.A. General All requirements for collection and accessibility to containers apply, regardless of whether collection is public or,private. SWI-3.B. Guidelines For Dumpsters-- The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least two (2) feet and six (6) inches of clearance on each side of the dumpster. SWI-3.C.Dumpster PAD Requirements.... The concrete dumpster pad shall be at least 12 ft by 12 ft. The pad (s) shall be 8 inch thick concrete, reinforce with rebar to support a 30-ton load-bearing capacity. A 14 ft wide by 40 ft long straight and clear access approach to each dumpster for the truck is required. Clearance at each side of each dumpster must be at least 2 ft - Gin. If a gated enclosure is utilized the gate must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing. Two 6 in diameter concrete filled steel bollards must be placed in the concrete pad to the rear of each dumpster, 2 ft from the back edge of the dumpster pad, spaced 4 feet apart and centered side to side. The bollards will rise 6 feet above the pad and extend 32 in below the pad into concrete footers. If the box is enclosed it is recommended that there be pedestrian access in addition to service gates. Access area, approach, and pad must be level. Standard pads with no drain should be elevated approximately 11/2 in. above the surrounding pavement. Pads with drains must be approve by Metro Water Services. These pads can be sloped up to 2% toward the drain.
Site plan revised to meet all dumpster standards per SWI-3.A

Columbia Power

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.

So noted.

Columbia Water

"A water availability letter was issued on 7-7-23 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 detailed in the availability letter are the responsibility of the developer/owner. All public water systemimprovements 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 note

Atmos Energy

No comments provided.
So noted

Maury County E911

No comments provided.
So noted

Maury County Schools

Maury County Public Schools Riverside Elementary, Cox Middle School, Central High School Will Service from Santa Fe Pike 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

Maury County Highway Dept.

No comments provided.

ATT intends to serve.
So noted

CPWS Broadband

Plan to Serve
So noted



TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE

CURVE	RADIUS	CHORD BEARING	CHORD LENGTH
C1	1921.47'	N 32°35'35" W	321.69'
C2	756.89'	S 61°07'59" W	136.16'
C3	23.87'	N 79°50'34" W	32.20'

LINE	BEARING	DISTANCE
L1	N 63°51'30" E	89.10'
L2	S 68°34'03" W	23.99'
L3	S 62°54'07" W	31.45'

Tennessee811

PRELIMINARY PLAT

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
REGISTERED ENGINEER
AGRICULTURE
NUMBER 122908
STATE OF TENNESSEE
Michael Williams 8.24.2023

HERITAGE VILLAGE
FOR
HIVE NASHVILLE
SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

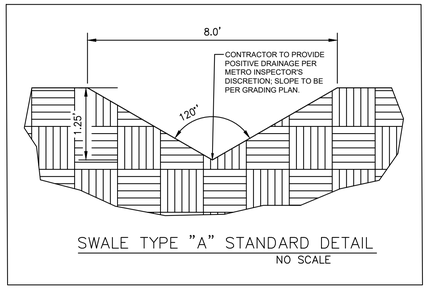
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JOB #: 20230412-1

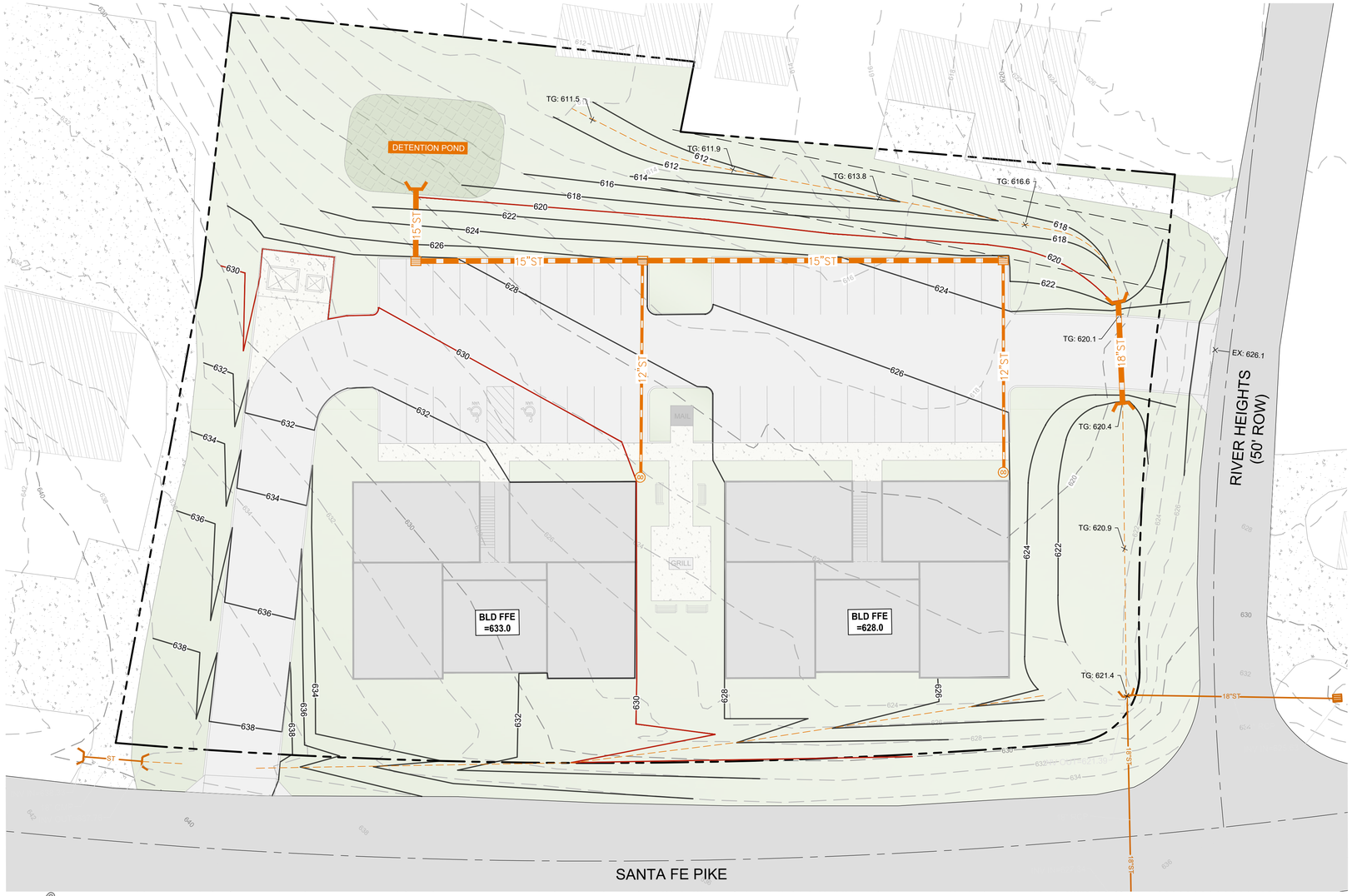
PRELIMINARY PLAT

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SWALE TYPE "A" STANDARD DETAIL
NO SCALE



TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

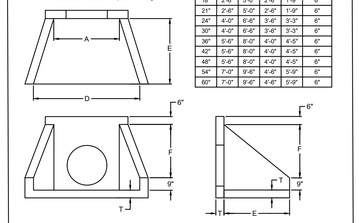
GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- 6" PERFORATED UNDERDRAIN
- HEADWALL
- ADS NYLOPLAST DOME INLET
- CLEANOUT/ OBSERVATION WELL
- JUNCTION BOX
- GRATE INLET
- PROPOSED SANITARY SEWER
- SANITARY MANHOLE
- SANITARY CLEANOUT
- TP TOP OF PAVEMENT
- TC TOP OF CURB
- TG TOP OF GRADE
- BG BOT OF GUTTER
- EX EXISTING SPOT ELV.
- STORMWATER TREATMENT & CONVEYANCE
- PRETREATMENT CELLS
- PERMEABLE PAVEMENT
- BIORETENTION (LVL2)

NOTES
1. Concrete shall be 4,000 psi @ 28 days reinforced with No. 4 bars @ 10" O.C. each way with wings and toe slab doweled to headwall with No, 5 bars.
2. ¾" chamfer on all exposed edges.

TABLE OF DIMENSIONS					
SIZE	A	D	E	F	T(MIN)
15"	2'-6"	5'-0"	2'-6"	1'-0"	6"
18"	2'-6"	5'-0"	2'-6"	1'-0"	6"
21"	2'-6"	5'-0"	2'-6"	1'-0"	6"
24"	4'-0"	6'-6"	3'-6"	1'-3"	6"
30"	4'-0"	6'-6"	3'-6"	1'-3"	6"
36"	5'-6"	8'-0"	4'-0"	4'-5"	6"
42"	5'-6"	8'-0"	4'-0"	4'-5"	6"
48"	5'-6"	8'-0"	4'-0"	4'-5"	6"
54"	7'-0"	9'-6"	4'-6"	5'-9"	6"
60"	7'-0"	9'-6"	4'-6"	5'-9"	6"



TYPICAL PRECAST HEADWALL
NO SCALE

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Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
No. 122900
STATE OF TENNESSEE
Michael Williams
8.24.2023

HERITAGE VILLAGE
FOR
HIVE NASHVILLE
SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

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PRELIMARY GRADING & DRAINAGE

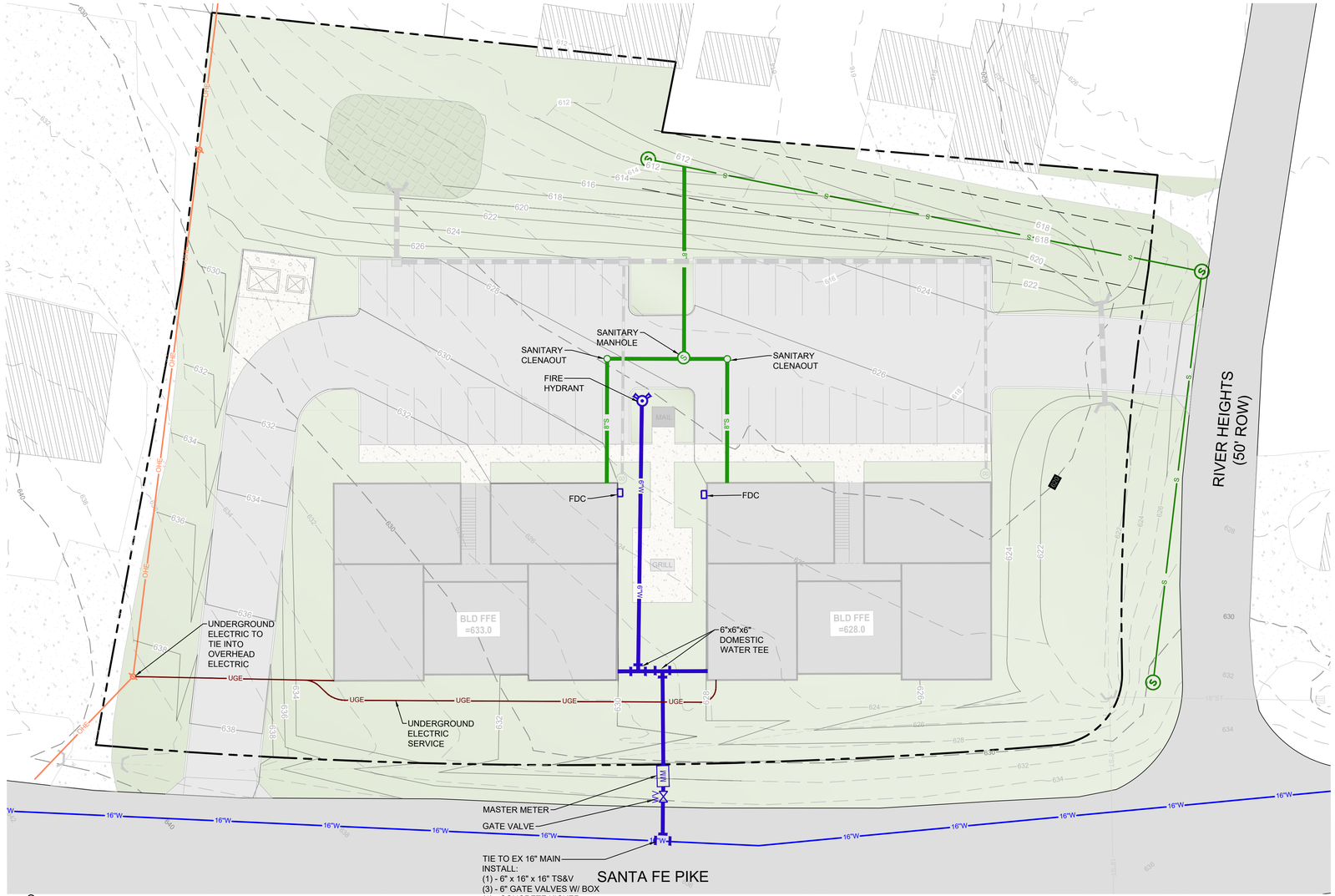
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TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE



LEGEND

- PROPERTY LINE
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM SEWER
- HEADWALL
- ADS NYLOPLAST DOME INLET
- CLEANOUT/ OBSERVATION WELL
- JUNCTION BOX
- GRATE INLET
- PROPOSED SANITARY SEWER
- SANITARY MANHOLE
- SANITARY CLEANOUT
- PROPOSED WATER
- FIRE HYDRANT
- WATER VALVE
- TAPPING TEE
- UNDERGROUND ELECTRIC

SITE UTILITY NOTES

1. All materials and workmanship for utility lines and appurtenances shall be in strict compliance with the governing utility company and local codes. Prior to construction contractor shall notify utility company. (see utility contact information)
2. Contractor shall coordinate site electrical, gas, telephone, and cable with the respective utility company for service layout and design information. Any proposed layout of these utilities depicted on these drawings is graphical only and not intended to represent design of these utilities.
3. Prior to commencement of construction, contractor shall obtain all permits and pay any required tap and connection fees.
4. All trenching, pipe laying and backfilling shall be in accordance with federal OSHA regulations.
5. Site contractor shall construct all utility services to within 5' of building.
6. Contractor shall be responsible for coordinating the sequencing of construction for all utility lines to avoid conflicts.
7. Contractor shall coordinate size and location of water, sewer and stormwater connections to the building as depicted on the building mechanical plans and the site utility plan and notify the engineer or owner's representative of any discrepancies.
8. Water services lines ¼" - 3" shall be Type-K copper and 4" or larger shall be ductile iron pipe - Class 52 unless otherwise required by utility company.
9. Fire line installation and thrust blocking location and sizing shall be per N.F.P.A. and local fire department requirements.
10. Water meter manufacturer/model number and vault specifications shall be per the water utility company.
11. Backflow device (RPBP/DDCVA) manufacturer/model number shall be per the water utility company.
12. Contractor shall install hot box enclosure (pre-finished dark green) on all exterior above-ground backflow devices. Domestic and fire backflow devices shall be heated. Contractor shall coordinate providing appropriate electrical service to backflow device.
13. Contractor shall coordinate location of backflow device with the building mechanical drawings.
14. Sanitary sewer service lines shall be SDR 35 PVC unless specified otherwise.
15. Maintain a 10' horizontal and 18" vertical separation between sanitary sewer and water lines.
16. All fire line mains to be installed by licensed fire protection contractor.
17. Installation of pipe material shall be placed with a screen stone envelope and when under pavement entire trench to be backfilled with screen stone to subgrade. Size of stone, envelopes, and trenches to be specified by municipalities for public lines and private lines to adhere to common practices for installation requirements.

Tennessee811

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
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COMMERCE
No. 122900
STATE OF TENNESSEE
Michael L. Williams
8.24.2023

HERITAGE VILLAGE
FOR
HIVE NASHVILLE
SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

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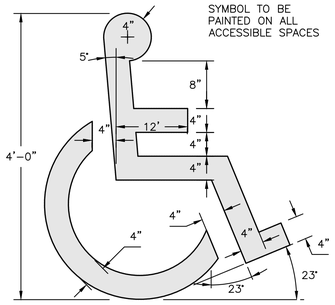
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JOB #: 20230412-1

PRELIMINARY UTILITY PLAN

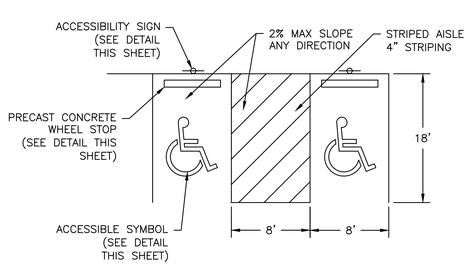
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NOT TO SCALE



ACCESSIBLE SPACES

NOT TO SCALE

SITE CONSTRUCTION NOTES

1. 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 and obtain all permits and pay all fees involved in securing said permits. He shall also comply with all city, county and state building laws, ordinances or regulations relating to the construction of the project.
2. The contractor shall be responsible for and shall bear all expenses of field staking necessary for site and building layout. All layout shall be performed in accordance with the site layout plan.
3. The location of existing piping and underground utilities, such as water and gas lines, electrical and telephone conduits, etc., as shown on this portion of the plans have been determined from the best available information by 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 actual location of those shown may vary somewhat from the location designated on this portion of the plans. In areas where it is necessary that the exact locations of underground lines be known, the contractor shall, at this own expense, furnish all labor and tools to either verify and substantiate or definitively establish the location of the lines.
4. 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 by the owner. Therefore, the contractor shall furnish and install all necessary temporary works for the protection of the work, including barricades, warning signs, and lights.
5. The site development portion of this project will be subject to the inspection and final approval of the local planning, codes, water and sewer departments (and/or utility districts), engineering/public works departments and fire marshal's office.
6. If, during the construction of the site development portion of this project, a question of intent or clarity arises from either the plans or specifications, the contractor will immediately bring the matter to the attention of the civil engineer or owner's representative for resolution before the affected work items are initiated or pursued further.
7. The contractor will exercise extreme caution in the use of equipment in and around overhead and/or underground power lines. If at any time in the pursuit of this work the contractor must work in close proximity of the above-noted lines, the electric and/or telephone companies shall be contacted prior to such work and the proper safety measures taken. The contractor should make a thorough examination of the overhead lines in the project area prior to the initiation of construction.
8. The contractor shall be responsible for any damage done to the premises or adjacent premises, or injuries to the public during the construction of the work, caused by himself, his subcontractors, or the carelessness of any of his employees.
9. Any offsite work to be coordinated by contractor with subject property owner prior to the work beginning.

TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE

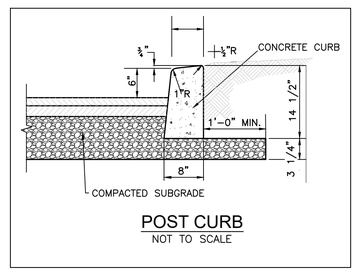


LEGEND

- PROPERTY LINE
- X X EXISTING FENCE
- OHE OHE EXISTING OVERHEAD POWER LINE
- SA SA EXISTING SANITARY SEWER
- ST ST EXISTING STORM SEWER
- W W EXISTING WATER LINE

(A) PINEWOOD LANDSCAPE FENCE TO BE INSTALLED.
(B) STANDARD CURB AND GUTTER PER MPW ST-200
(C) BLD SETBACK/SIDE YARD PER GOVERNING AUTHORITY CODE.
(D) ACCESSIBLE PARING SIGN. SEE DETAIL SHEET D-1.
(E) PARKING SPACE STRIPING. STRIPES SHALL BE PAINTED 4" SOLID WHITE.
(F) GUTTER ONLY
(G) COMMERCIAL DRIVEWAY RAMP PER CITY OF COLUMBIA STANDARD DETAIL
(H) 6" POST CURB
(I) 2' CURB CUT
(J) 2' SIDEWALK CHASE
(K) PARKING BUMPER

- EXISTING PUBLIC ROAD
- ASPHALTIC CONCRETE
- PRIVATE DRIVE
- STORMWATER TREATMENT & CONVEYANCE
- GRASS STRIP/ GREEN SPACE
- CONCRETE SIDEWALK
- PROPOSED BUILDING
- PRETREATMENT CELLS



POST CURB
NOT TO SCALE

DEVELOPMENT / SITE DATA TABLE	
CITY OF COLUMBIA REGULATORY INFORMATION	
ZONING	CD-4
TOTAL AREA	1.67 AC / 72,623 SF
SIDE SETBACK	6 FT
FRONT SETBACK	15 FT
REAR SETBACK	3 Ft
MAX ISR	0.80
HEIGHT STANDARDS	3 STORIES / 35 FT
MAX CEILING HEIGHT	
RESIDENTIAL (Multi-Family)	
NO. UNITS (2 Br - 2.0 Ba)	20 UNITS
UNIT DENSITY (UNIT/AC)	12.0 UNIT/AC
COLUMBIA PARKING REQUIREMENTS	
NO. UNITS (2 Br - 2.0 Ba)	20 UNITS
PARKING REQUIRED	30 SPACES (1.5 SPACE/ UNIT)
TOTAL PARKING PROVIDED	43 SPACES

Tennessee811

Federal Compliance Note

All development within the boundaries of this plan meets the requirements of the americans with disabilities act and the fair housing act.
ADA: https://www.ada.gov/
U.S. Justice Dept.: https://www.justice.gov/crt/fair-housing-act-2

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
COMMERCE
No. 122900
STATE OF TENNESSEE
Michael Williams
8.24.2023

HERITAGE VILLAGE

FOR

HIVE NASHVILLE

SANTA FE PIKE & RIVER HEIGHTS DR COLUMBIA, TN 38401

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DATE: 8/24/2023

SCALE: 1"=20'

JOB #: 20230412-1

SITE PLAN

C2.0

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CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, August 8, 2023

ITEM NO.
23-0274

DESCRIPTION: Project site does not have address. 4 subject parcels are directly south, adjacent to 606 Santa Fe Pike; Subject Parcel IDs: 089EB01700000, 089EB01800000, 089EB01900000, & 089EB02000000. The proposed Heritage Village development is to include (2) buildings, with each building having (10) 2 Br units, for a total of (20) 2 Br units on 1.67 ac. The purpose of this submittal is to obtain approval by City of Columbia for the two "Large Multi-Family Buildings".

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he will prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments.
2. Please revise application to request a Preliminary Plat, Additional fees will apply. Separate document should meet requirements of Preliminary plat in SubRegs.
3. Please provide a survey and description of the property prepared by a licensed PLS. The proposed density is just under the maximum density permitted by the zoning ordinance.
4. Buildings must enfront a Thoroughfare. (4.3.1-D; 4.3.3C). Please revise to indicate the primary entrance to the building will face the street.
5. Principal and secondary frontage setbacks depicted on the Site Development Plan do not conform to CD-4 standards of 6' to 20' feet (4.3.1-D, p. 79).
6. Driveway on River Heights may not be less than 25' from the existing adjacent driveway (4.3.12.E.9, p. 293).
7. Design of parking areas does not conform to the standards at 4.3.12.C. For example, plan depicts greater than 10 spaces without a landscape island (4.3.12.C ; p.281).
8. Please show bicycle parking per 4.3.13 (p. 286) (8.5.6.H.3.i, p. 414).
9. The plan exceeds the maximum parking permitted by 4.3.12.B.4 (p. 278).
10. Please provide a complete site development plan checklist and all items on the checklist by the resubmittal deadline. This item will not be placed on the Planning Commission agenda without a complete checklist. The checklist is available at https://www.columbiatn.com/DocumentCenter/View/1813/Checklist-for-Planning-Commission-items.
11. Please provide an illustrative plan of the site depicting each development and building element regulated by the Zoning Ordinance (§ 8.5.6.H.3.U, p.415 – 416).
12. Please provide full color architectural renderings and preliminary architectural plans, showing all Facades and Elevations of each other exterior wall and all exterior materials to be used, keyed to the project description and project illustrative plan (§ 8.5.6.H.3.U, p.415). Facades must meet conform to the CD-4 design and materials standards at 4.3.1-D and allowable frontage types (see Table 4.3.8.B).
13. Please provide a photometric plan indicating the development will conform to the lighting standards at 4.3.17. (§ 8.5.6.G.4.P, p. 413).
14. Please provide full landscape plan. Trees are required along the street frontages; parking rows shall terminate into landscaped islands and parking street screen along River Heights should be shown.
15. Provide development schedule and timeline (8.5.6.G).

Engineering

16. Subject to construction plans approval.
17. Plat required to combine subject properties into one parcel, establish easements, and dedicate/reserve right-of-way.
18. Additional right of way required on Santa Fe Pike (Minor Arterial) minimum right-of-way width is 90 ft. Since the development borders one side of the street, provide half the required right-of-way (45 ft.) measured from the centerline of the existing right-of-way. Right-of-way may be dedicated, or provided via a reservation strip.
19. Access along Santa Fe Pike does not meet the following requirements of the Access Management Ordinance:
    a. 3.1.3 Access Spacing
    b. Driveways along Minor Arterial Roadways have a minimum spacing requirement of 330 ft.
    c. 3.1.2G Maximum Number of Access Points
    d. Developments of 75 or less residential units are permitted a maximum of one (1) access point.
    e. 3.4 Corner Clearance
    f. Access points on Minor Arterials intersecting with a Minor Local roadway shall be located not closer to the corner than 330 ft. This measurement shall be taken from the intersection of property lines, or the intersection of the projected extension of property lines, at the corner to the centerline of proposed driveway.
20. Development Plan indicates structures and driveways of the adjoining properties on this subject property.
21. As a note, there is a significant amount of drainage that traverses the site. Provide preliminary grading and storm conveyance systems.
22. Show all existing and proposed utilities.

Building

23. No comments.

Police

24. No comments provided.

Public Works

25. Please reference the attached dumpster guidelines and accessibility requirements.
26. Dumpster Standards SW1-3.A. General All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private. SW1-3.B. Guidelines For Dumpsters-- The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least two (2) feet and six (6) inches of clearance on each side of the dumpster. SW1-3.C. Dumpster PAD Requirements.... The concrete dumpster pad shall be at least 12 ft by 12 ft. The pad (s) shall be 8-inch-thick concrete, reinforce with rebar to support a 30-ton load-bearing capacity. A 14 ft wide by 40 ft long straight and clear access approach to each dumpster for the truck is required. Clearance at each side of each dumpster must be at least 2 fr - 6in. If a gated enclosure is utilized the gate must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing. Two 6 in diameter concrete filled steel bollards must be placed in the concrete pad to the rear of each dumpster, 2 ft from the back edge of the dumpster pad,

spaced 4 feet apart and centered side to side. The bollards will rise 6 feet above the pad and extend 32 in below the pad into concrete footers. If the box is enclosed it is recommended that there be pedestrian access in addition to service gates. Access area, approach, and pad must be level. Standard pads with no drain should be elevated approximately 1 1/2 in. above the surrounding pavement. Pads with drains must be approve by Metro Water Services. These pads can be sloped up to 2% toward the drain.

Wastewater

27. Columbia Wastewater has no concerns.

Maury County Schools

28. Maury County Public Schools Riverside Elementary, Cox Middle School, Central High School Will Service from Santa Fe Pike 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.

Fire

29. A sprinkler system & fire alarm system will be required
30. The sprinkler FDC will have to be within 100' of a fire hydrant

Columbia Power

31. 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
32. 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.
33. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

ATT

34. ATT intends to serve.

Atmos Energy

30. No comments provided.

Maury County E911

31. No comments.

Duck River Electric Membership Corp

32. No comments provided.

Maury County Highway Dept.

33. No comments provided.

Columbia Water

34. A water availability letter was issued on 7-7-23 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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.

CPWS BROADBAND

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.

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES

DEVELOPMENT REVIEW COMMITTEE MEETING

Tuesday, August 8, 2023

ITEM NO.

23-0274

Planning Comments

Driveway on River Heights may not be less than 25' from the existing adjacent driveway (4.3.12.E.9, p. 293).

Trees along the street frontages is needed, parking rows shall terminate into landscaped islands and parking street screen along River Heights should be shown.

Please revise application to request a preliminary plat, Additional fees will apply. Separate document should meet requirements of Preliminary plat in SubRegs.

Engineering

Development Plan indicates structures and driveways of the adjoining properties on this subject property.

As a note, there is a significant amount of drainage that traverses the site. Provide preliminary grading and storm conveyance systems.

Show all existing and proposed utilities.

Fire

A sprinkler system & fire alarm system will be required

The sprinkler FDC will have to be within 100' of a fire hydrant

Wastewater

Columbia Wastewater has no concerns.

Building

No comments.

Police

No Comments.

Public Works

Please reference the attached dumpster guidelines and accessibility requirements.

Dumpster Standards SW1-3.A. General All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private. SW1-3.B. Guidelines For Dumpsters-- The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least two (2) feet and six (6) inches of clearance on each side of the dumpster. SW1-3.C. Dumpster PAD Requirements.... The concrete dumpster pad shall be at least 12 ft by 12 ft. The pad (s) shall be 8 inch thick concrete, reinforce with rebar to support a 30-ton load-bearing capacity. A 14 ft wide by 40 ft long straight and clear access approach to each dumpster for the truck is required. Clearance at each side of each dumpster must be at least 2 ft - 6in. If a gated enclosure is utilized the gate must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing. Two 6 in diameter concrete filled steel bollards must be placed in the concrete pad to the rear of each dumpster, 2 ft from the back edge of the dumpster pad, spaced 4 feet apart and centered side to side. The bollards will rise 6 feet above the pad and extend 32 in below the pad into concrete footers. If the box is enclosed it is recommended that there be pedestrian access in addition to service gates. Access area, approach, and pad must be level. Standard pads with no drain should be elevated approximately 1 1/2 in. above the surrounding pavement. Pads with drains must be approve by Metro Water Services. These pads can be sloped up to 2% toward the drain.

Columbia Power

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.

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"A water availability letter was issued on 7-7-23 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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."

Atmos Energy

No comments provided.

Maury County E911

No comments provided.

Maury County Schools

Maury County Public Schools Riverside Elementary, Cox Middle School, Central High School Will Service from Santa Fe Pike 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 Highway Dept.

No comments provided.

ATT

ATT intends to serve.

CPWS Broadband

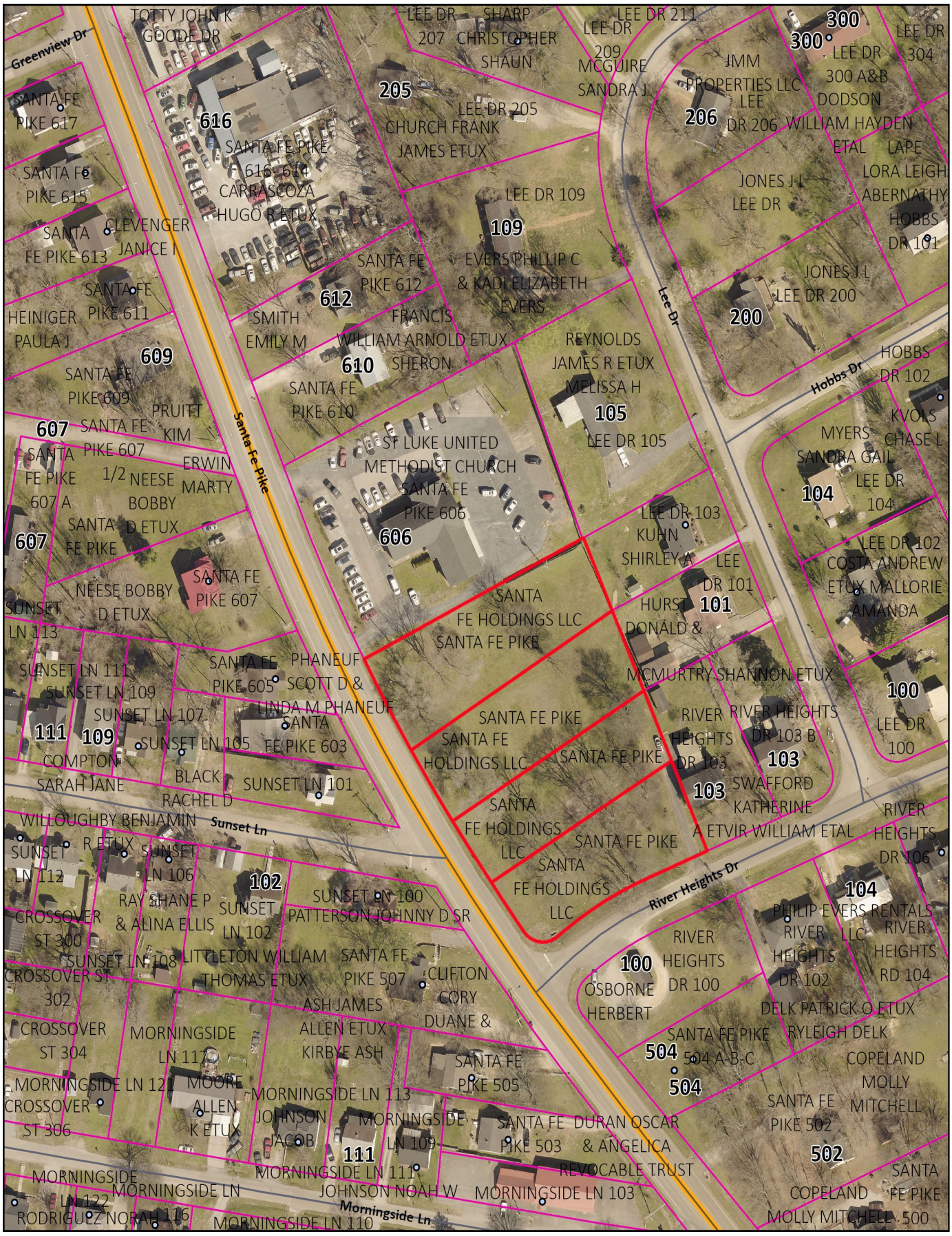
Plan to Serve

TECHNICAL

23-0274

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	350	86.4%
	Highland	1986	47,800	4.5	380	303	79.7%
	Howell	1999	81,600	17.5	700	642	91.7%
	Mt. Pleasant	1978	80,021	22	630	565	89.7%
	Riverside	1984	71,150	14	500	414	82.8%
	Spring Hill	1984	69,000	10	540	442	81.9%
	Woodard	1990	76,200	17	600	563	93.8%
	Wright	2005	97,765	18	740	633	85.5%
					5535	***4846***	***87.6%***
Middle	Battle Creek	2019	125,000	45	900	693	77.0%
	Cox	1997	137,200	25	900	647	71.9%
	Mt. Pleasant	2001	113,938	29.2	550	415	75.5%
	Spring Hill	2010	158,106	39.49	950	522	54.9%
	Whitthorne	1979	175,600	17	1050	912	86.9%
					4350	***3189***	***73.3%***
High	Central	2016	296,740	55	1700	1412	83.1%
	Mt. Pleasant	1969	110,759	31	600	400	66.7%
	Spring Hill	1993	181,800	57	1200	1158	96.5%
					3500	***2970***	***84.9%***
Unit	Culleoka	1969	205,800	34	1020	903	88.5%
	Hampshire	1978	83,410	13.12	500	406	81.2%
	Santa Fe	1964	94,225	24	650	532	81.8%
					2170	***1841***	***84.8%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		139	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**12985**	

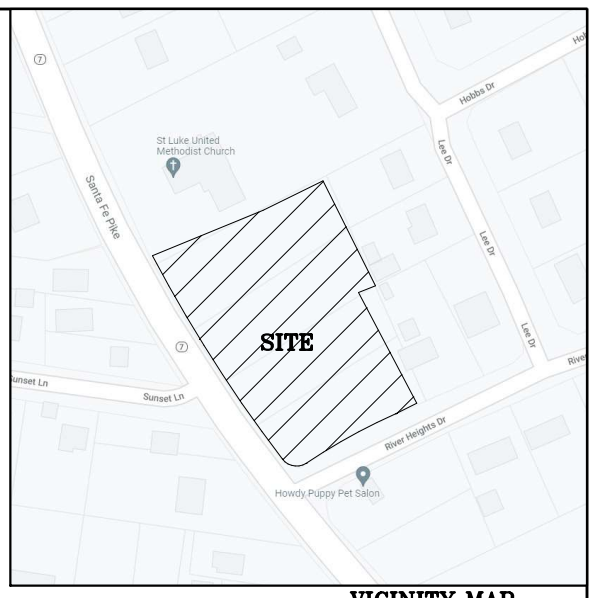


23-0274
Heritage Village
Santa Fe Pike

CITY OF COLUMBIA
TENNESSEE

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

CARROLL LAND SURVEYING
495 EAST MAIN STREET, SUITE 1
HOHENWALD, TN 38462
PHONE: (931)796-1654
FAX: (931)796-1651
EMAIL: csurvey@bellsouth.net



VICINITY MAP
(NOT TO SCALE)

LEGEND

- ⌀ = GAS VALVE
- ⌀ = WATER VALVE
- ▣ = SEWER MAN HOLE
- ☒ = WOOD FENCE POST
- ⊛ = UTILITY POLE
- ◕ = IRON PIPE FOUND
- ● = IRON PIN FOUND
- ⊕ = IRON PIN SET
- ◉ = CULVERT

1-2-23
MAGNETIC

ST. LUKE UNITED METHODIST CHURCH
DEED BOOK 473, PAGE 462
TAX MAP 89E, GROUP B, PARCEL 12.00

JAMES REYNOLDS ETUX
RECORD BOOK R2512, PAGE 21
TAX MAP 89E, GROUP B, PARCEL 12.01

SHIRLEY KUHN
RECORD BOOK R1858, PAGE 523
TAX MAP 89E, GROUP B, PARCEL 13.00

DONALD HURST AND
KATHRYN EARL
DEED BOOK 1224, PAGE 11
TAX MAP 89E, GROUP B, PARCEL 14.00

JANICE NEAL
DEED BOOK R2359, PAGE 510
TAX MAP 89E, GROUP B, PARCEL 15.00

POWER LINE

P.O.B.

18" METAL CULVERT
INVERT IN 638.33'
INVERT OUT 637.78'

L1 N 63°51'30" E 89.10'
159.30'
N 67°49'37" E
S 26°31'25" E 156.22'
L2 S 68°34'03" W 23.99'
S 27°39'18" E 166.51'
L3 S 62°54'07" W 31.45'

635 630 625 620 615

1.67 ACRES

C1
C2
C3

SEWER LINE

SANTA FE PIKE

RIVER HEIGHTS DRIVE-50' R.O.W.

18" CONCRETE CULVERT
INVERT IN 627.34'
INVERT OUT 621.39'

18" CONCRETE CULVERT
INVERT IN 625.63'
INVERT OUT 621.50'

CURVE	RADIUS	CHORD BEARING	CHORD LENGTH
C1	1921.47'	N 32°35'35" W	321.69'
C2	756.89'	S 61°07'59" W	136.16'
C3	23.87'	N 79°50'34" W	32.20'

LINE	BEARING	DISTANCE
L1	N 63°51'30" E	89.10'
L2	S 68°34'03" W	23.99'
L3	S 62°54'07" W	31.45'

KENNETH CARROLL
REGISTERED LAND SURVEYOR
XVI
AGRICULTURE
COMMERCE
TENNESSEE NO. 1335

CERTIFICATION

I KENNETH CARROLL, LICENSED LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECTION, THAT IT IS MY OPINION THAT THIS SURVEY MEETS OR EXCEEDS THE STANDARDS OF PRACTICES FOR A CATEGORY 1 SURVEY, AND THAT THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY WAS 1:10,000 + AS SHOWN HEREON.

Kenneth Carroll
KENNETH CARROLL
TENN. REG NO. 1335

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AN (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN BOOK NUMBER R2359, PAGE 508, COUNTY REGISTERS OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT; ESTABLISH THE MINIMUM RESTRICTION LINES, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES, AND OTHER FACILITIES HAVE BEEN FILED.

DATE

JANICE ANNETTE NEAL

0 100 200 300

SURVEY FOR SANTA FE HOLDINGS LLC

SCALE: 1" = 100'	APPROVED BY: KENNETH CARROLL	DRAWN BY: BR
DATE: 1-2-23		REVISED: / /

9TH CIVIL DISTRICT - MAURY COUNTY, TN

REF: RECORD BOOK R2853, PAGE 1443
PLAT BOOK 2, PAGE 268, BLOCK A, LOTS 1-4
PLAT BOOK 3, PAGE 8, BLOCK A, LOTS 3A, 4A
TAX MAP 89E, GROUP B, P/O PARCELS 17.00, 18.00, 19.00, 20.00

JOB NAME: NEAJ222 (JC)

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	0 Santa Fe Pike, Columbia, TN 38401		
	TAX MAP: see below	GROUP: see below	PARCEL: see below
SUMMARY OF NATURE OF REQUEST AND WORK	The purpose of this submittal is to obtain approval by City of of Columbia for the two "Large Multi-Family Buildings". The proposed Heritage Village development is to include (2) buildings, with each building having (10) 2 Br units, for a total of (20) 2 Br units on 1.67 ac. Project site does not have address. 4 subject parcels are directly south, adjacent to 606 Sante Fe Pike; Subject Parcel IDs: 089EB01700000, 089EB01800000, 089EB01900000, & 089EB02000000.		

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) Heritage Village ☑ Total Number of Lots 4 (to be consolidated into 1) ☑ Total acreage 1.67 ac

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	Michael Williams, P.E.	PHONE	(865) 679-5992
ADDRESS	818 18th Ave S, FL 10 Nashville, TN 37203	EMAIL	mwilliams@civ-design.com

PROPERTY OWNER NAME	Michael Gomez	PHONE	(615) 613-4461
ADDRESS	376 Herron Dr, STE 2 Nashville, TN 37210	EMAIL	michael@hivenashville.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.

Michael Williams, P.E.	Michael Williams	08/24/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Michael Gomez	Michael Gomez (Aug 24, 2023 17:35 CDT)	08/24/2023
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	

Application_PC_FOR SIGNATURE

Final Audit Report 2023-08-24

Created:	2023-08-24
By:	Michael Williams (mwilliams@civ-design.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAw9HrDqxUYqC5JXbT3DxWu7CTnfXWLw4i

"Application_PC_FOR SIGNATURE" History

Document created by Michael Williams (mwilliams@civ-design.com)
2023-08-24 - 10:33:07 PM GMT- IP address: 50.220.19.194

Document emailed to michael@hivenashville.com for signature
2023-08-24 - 10:34:05 PM GMT

Email viewed by michael@hivenashville.com
2023-08-24 - 10:34:26 PM GMT- IP address: 136.58.95.64

Signer michael@hivenashville.com entered name at signing as Michael Gomez
2023-08-24 - 10:35:08 PM GMT- IP address: 136.58.95.64

Document e-signed by Michael Gomez (michael@hivenashville.com)
Signature Date: 2023-08-24 - 10:35:10 PM GMT - Time Source: server- IP address: 136.58.95.64

Agreement completed.
2023-08-24 - 10:35:10 PM GMT

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

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NAME	Michael Williams, P.E.	PHONE	(865) 679-5992
ADDRESS	818 18th Ave S, FL 10 Nashville, TN 37203	EMAIL	mwilliams@civ-design.com

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APPLICANT NAME	APPLICANT SIGNATURE	DATE
Michael Gomez	Michael Gomez (Aug 24, 2023 17:35 CDT)	08/24/2023
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	

Application_PC_FOR SIGNATURE

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Signer michael@hivenashville.com entered name at signing as Michael Gomez
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Agreement completed.
2023-08-24 - 10:35:10 PM GMT

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

6 June 2023

Michael Williams
818 18th Ave S, Floor 10
Nashville, TN 37203

RE: 0 Santa Fe Pike, Columbia, TN 38401

Michael,

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

July 7, 2023

Mr. Michael Williams
Williams & Associates Engineering
818 18th Ave South
Nashville, TN 37203
Sent via email: mwilliams@civ-design.com

RE: Water Availability Letter
Heritage Village
Sante Fe Pike & River Heights Dr.
Tax Map 89, Parcel EB017, EB018, EB019, EB020
Columbia, Maury County, TN

Dear Mr. Williams:

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 20 units in two two-story multi-family buildings, with irrigation. 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 connection will be made to the existing 16-inch water main located on Santa Fe Pike.
- Redundant master meters will be provided at the property entrance(s). Any sub-metering for rental properties is the responsibility of the applicant.

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.

CPWS

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 (26.4 SFUs)	$11,268.00

- 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: $7,000 per 6" meter (2 meters, combined domestic & fire)	$14,000.00
Meter Fee: $710 per 1" meter (1 meter, irrigation)	$710.00
Impact Fee: $7,500 per 1" meter (1 meter, irrigation)	$7,500.00
Impact Fee: $25,000 per 2" meter equivalent (1 equivalent, domestic)	$25,000.00
Total Meter and Impact Fees Due =	**$47,210.00**

- 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

Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-033

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 06/06/2023
Name: Michael Williams, P.E.
Phone: 865.679.5992
Email: mwilliams@civ-design.com
Address/Parcel ID: 0 Santa Fe Pike (intersection of Santa Fe Pike & River Heights Dr) (089EB01700000, 089EB01800000, 089EB01900000, & 089EB02000000)
Property Type: ○ Residential ◉ Commercial ○ Industrial
Construction Type: Multi-Family
Enclosed Area (ft²): Bld Footprint = 5,719 SF / Total Livable SF = 5,719 * 2 bld * 2 floors = 22,876 SF

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: NFPA 13R

Water System Demand without Sprinkler Credit

Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: _____ gpm Duration: _____ hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: _____

Average spacing between hydrants: _____ft.

Maximum distance from frontage to hydrant: _____ ft.

Water System Demand with Sprinkler Credit

Fire flow requirements (International Fire Code Appendix B)

Fire Flow: 1,500 gpm Duration: 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: 6-6-2023



TENNESSEE STATE PLANE
COORDINATE SYSTEM - NAD 1983
VERTICAL DATUM - NAVD 1988

0 20 40 80 Feet

GRAPHIC SCALE

LEGEND

- PROPERTY LINE
- X X EXISTING FENCE
- OHE OHE EXISTING OVERHEAD POWER LINE
- SA SA EXISTING SANITARY SEWER
- ST ST EXISTING STORM SEWER
- W W EXISTING WATER LINE

(A) PINEWOOD LANDSCAPE FENCE TO BE INSTALLED.
(B) STANDARD CURB AND GUTTER PER MPW ST-200
(C) BLD SETBACK/SIDE YARD PER GOVERNING AUTHORITY CODE.
(D) EXIT PORCH. SEE ARCHITECTURAL PLANS FOR EXACT SIZE, LOCATION FOR STOOPS, STAIRS AND/OR RAMPS THAT MAY BE REQUIRED. RAMP PAVEMENT FLUSH WITH THE TOP OF STOOP.
(E) ACCESSIBLE PARING SIGN. SEE DETAIL SHEET D-1.
(F) PARKING SPACE STRIPING. STRIPES SHALL BE PAINTED 4" SOLID WHITE.
(G) GUTTER ONLY
(H) COMMERCIAL DRIVEWAY RAMP PER MPW STANDARD DETAIL ST-324
(I) CROSSWALK PER MPW DETAIL.
(J) METRO BIKE LANE TO BE INSTALLED FOR FUTURE USE PER STANDARD DETAIL ST-503
(K) STANDARD CONCRETE PUBLIC SIDEWALK PER STANDARD DETAIL ST-210
(L) 6" POST CURB PER MPW ST-201
(M) 2' CURB CUT
(N) 2' SIDEWALK CHASE
(O) PARKING BUMPER

- EXISTING PUBLIC ROAD
- ASPHALTIC CONCRETE
- PRIVATE DRIVE
- PROPOSED DRIVEWAY RAMP
- STORMWATER TREATMENT & CONVEYANCE
- PERMEABLE PAVEMENT
- GRASS STRIP/ GREEN SPACE
- CONCRETE SIDEWALK
- PROPOSED BUILDING
- PROPOSED CURB & GUTTER
- PRETREATMENT CELLS
- BIORETENTION (LVL2)

DEVELOPMENT / SITE DATA TABLE	
METRO ZONING REGULATORY INFORMATION	
ZONING	CS
ZONING OVERLAY	N/A
TOTAL AREA	0.99 AC
SIDE SETBACK	0 FT
FRONT SETBACK	15 FT
REAR SETBACK	20 Ft
LANDSCAPE BUFFER	N/A
MAX ISR	0.90
HEIGHT STANDARDS	3 STORIES
RESIDENTIAL (Multi-Family)	
NO. UNITS (3 Br - 2.5 Ba)	18 UNITS
UNIT DENSITY (UNIT/AC)	17.5 UNIT/AC
TOTAL UNITS	18 UNITS
METRO PARKING REQUIREMENTS	
NO. UNITS (3 Br - 2.5 Ba)	18 UNITS
PARKING REQUIRED	27 SPACES (1.5 SPACE/ UNIT)
GARAGE PARKING PROVIDED	36 SPACES
PARKING STALL PROVIDED	6 SPACES
TOTAL PARKING PROVIDED	42 SPACES

Tennessee811

Federal Compliance Note
All development within the boundaries of this plan meets the requirements of the americans with disabilities act and the fair housing act.
ADA: https://www.ada.gov/
U.S. Justice Dept.: https://www.justice.gov/crt/fair-housing-act-2

Williams Engineering
Plan - Design - Build
Nashville: 865.679.5992 | mwilliams@civ-design.com

MICHAEL L. WILLIAMS
REGISTERED ENGINEER
AGRICULTURE
No. 122908
STATE OF TENNESSEE
Michael Williams
5.2.2023

PROJECT_NAME1
FOR
PROJECT CLIENT
PROJECT LOCATION

REVISIONS	DATE
–	–
–	–
–	–
–	–
–	–
–	–

DEISGNED BY: MLW
DATE: 5/2/2023
SCALE: #"=##'
JOB #: ####

SITE PLAN

C2.0

C:\USERS\MICHAEL.WILLIAMS\DESKTOP_MICHAEL WILLIAMS\PROJECTS\998 SANTE FE PIKE COLUMBIA, TN_GOMEZ_PLAN SHEETS.DWG
PLOTTED BY MICHAEL WILLIAMS ON: 5/2/2023 4:43 PM
LAST UPDATED BY MICHAEL.WILLIAMS ON: 5/2/2023 4:43 PM

HYDRANT FLOW ANALYSIS

HYDRANT # & LOCATION: 353 616 Santa Fe Pike DATE: 7/7/2023

MODEL BY: Inflo Design Group, LLC SYS. DEMAND Max Day DURATION: 2 hrs.

WATER SUPPLIED BY: Columbia Power and Water Systems

PURPOSE OF TEST: Heritage Village

MODEL DATA

FLOW HYDRANT(S)	353	n/a	n/a
GPM:	**850**	0	0

TOTAL FLOW DURING SIMULATION: **850** GPM

GAUGE HYDRANT

HYDRANT # & LOCATION: 406 101 Sante Fe Pike

CONDITION 1

STATIC 89 PSI RESIDUAL: 84 PSI

CONDITION 2

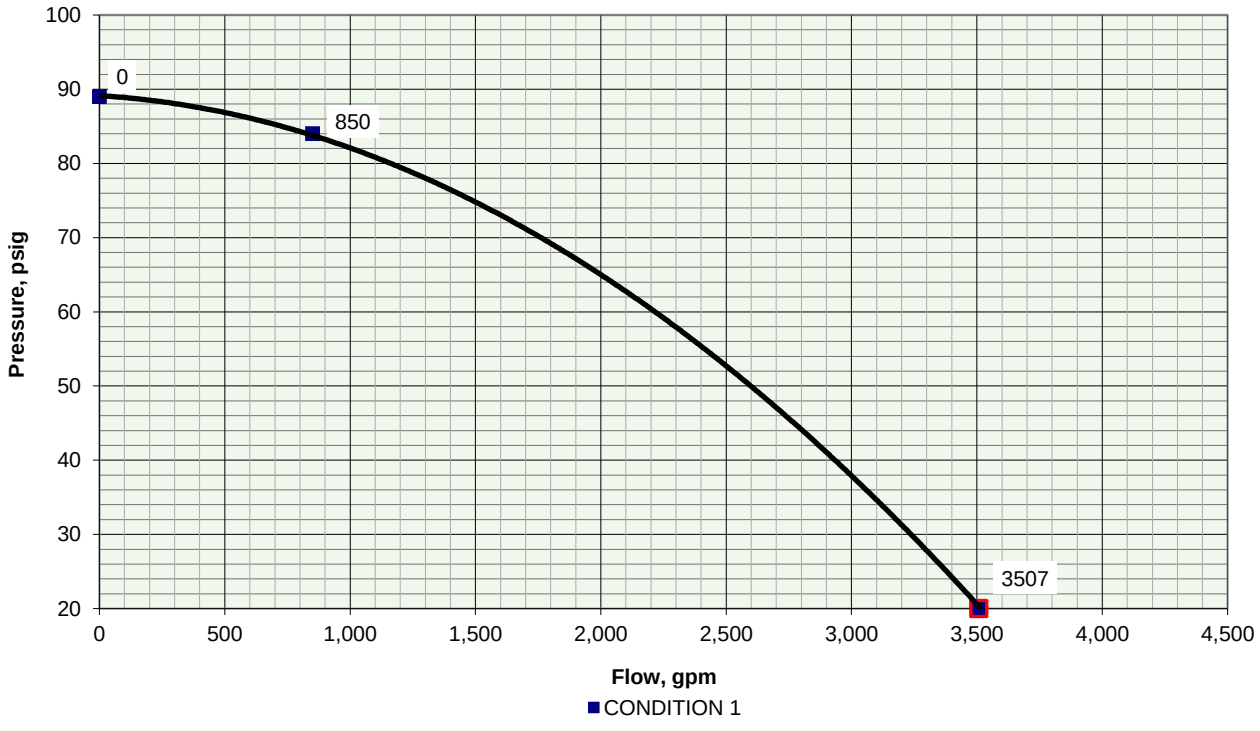
STATIC _____ PSI RESIDUAL: _____ PSI

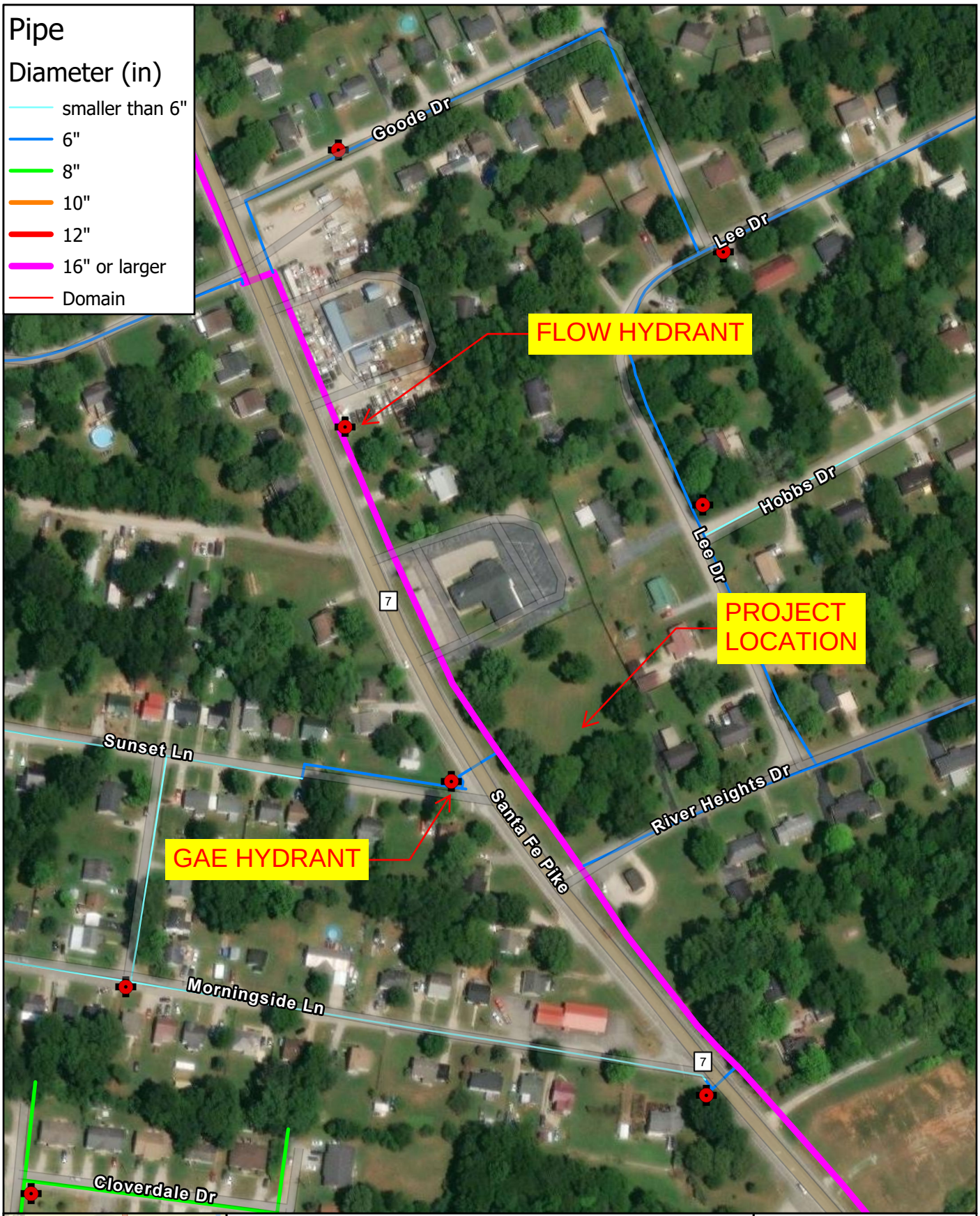
RESULTS: AT 20 PSI RESIDUAL

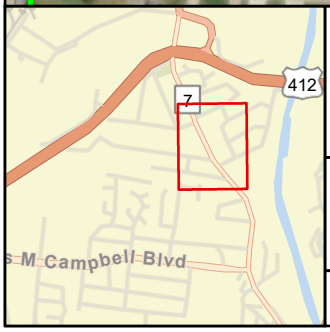
CONDITION 1 **3507** GPM

CONDITION 2 **---** GPM

REMARKS: Performance based on service elevation of 642' and current CPWS water infrastructure and does not account for additional losses associated with development piping.







Hydrant Analysis Location Map

Heritage Village

Santa Fe Pike @ River Heights Drive

Esri Community Maps Contributors, Tennessee STS GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

2023

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 0.02 0.04 Mi

0 125 250 Feet

Project Description

The proposed Heritage Village development is to include (2) buildings, with each building having (10) 2 Br units, for a total of (20) 2 Br units on 1.67 ac. The purpose of this submittal is to obtain approval by City of of Columbia for the two "Large Multi-Family Buildings".

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	0 Santa Fe Pike, Columbia, TN 38401		
	TAX MAP: see below	GROUP: see below	PARCEL: see below
SUMMARY OF NATURE OF REQUEST AND WORK	The purpose of this submittal is to obtain approval by City of of Columbia for the two "Large Multi-Family Buildings". The proposed Heritage Village development is to include (2) buildings, with each building having (10) 2 Br units, for a total of (20) 2 Br units on 1.67 ac. Project site does not have address. 4 subject parcels are directly south, adjacent to 606 Sante Fe Pike; Subject Parcel IDs: 089EB01700000, 089EB01800000, 089EB01900000, & 089EB02000000.		

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) Heritage Village ☑ Total Number of Lots 4 (to be consolidated into 1) ☑ Total acreage 1.67 ac

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	Michael Williams, P.E.	PHONE	(865) 679-5992
ADDRESS	818 18th Ave S, FL 10 Nashville, TN 37203	EMAIL	mwilliams@civ-design.com

PROPERTY OWNER NAME	Michael Gomez	PHONE	(615) 613-4461
ADDRESS	376 Herron Dr, STE 2 Nashville, TN 37210	EMAIL	michael@hivenashville.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.

Michael Williams, P.E.	Michael Williams	07/10/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Michael Gomez	Michael Gomez (Jul 10, 2023 14:39 CDT)	07/10/2023
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	

FOR SIGNATURE_Columbia Application

Final Audit Report 2023-07-10

Created:	2023-07-10
By:	Michael Williams (mwilliams@civ-design.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAxc7ELxpCbuArXwhthiQbNzTAfjv2Lv_V

"FOR SIGNATURE_Columbia Application" History

Document created by Michael Williams (mwilliams@civ-design.com)
2023-07-10 - 7:36:44 PM GMT- IP address: 50.220.19.194

Document emailed to michael@hivenashville.com for signature
2023-07-10 - 7:37:12 PM GMT

Email viewed by michael@hivenashville.com
2023-07-10 - 7:38:51 PM GMT- IP address: 136.58.95.64

Signer michael@hivenashville.com entered name at signing as Michael Gomez
2023-07-10 - 7:39:18 PM GMT- IP address: 136.58.95.64

Document e-signed by Michael Gomez (michael@hivenashville.com)
Signature Date: 2023-07-10 - 7:39:20 PM GMT - Time Source: server- IP address: 136.58.95.64

Agreement completed.
2023-07-10 - 7:39:20 PM GMT

River Road Preliminary Plat/ Site Development Plan

Project #:	23-0476	Location:	Map 90 Parcel 7.08
Applicant:	Gamble Design Collaborative	Case Type(s):	Preliminary Plat/ SDP
Staff Planner:	Austin Brass, AICP	Proposed Use:	Multi-Family Site Plan/Preliminary Plat

PROJECT SUMMARY

The applicant seeks approval of a Preliminary Plat and Multi-Family Site Development Plan, encompassing a 5.87-acre parcel within a CD-5 Character District. The plan proposes the construction of 6 multi-family buildings, comprising 92 units, and 30 attached townhome dwellings, totaling 122 units. The proposal also includes the establishment of a new urban center street section and necessary infrastructure, including civic spaces.

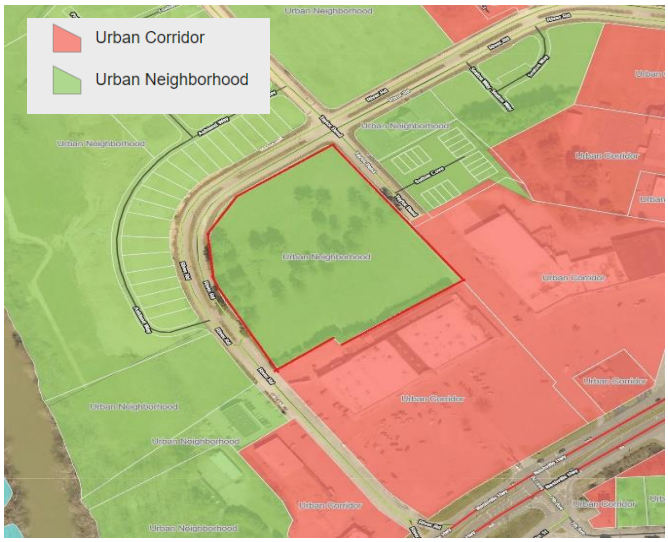
- City Council approved a Zoning Map Amendment from MU-PUD (Mixed Use Planned Unit Development) to CD-5 (Urban Center Character District) on August 10th, 2023. This rezoning request aligns with the Comprehensive Plan Future Land Use of “Urban Neighborhood” and included a concept plan outlining the construction of multi-family buildings and townhomes.
- The site development plan provides architectural elevations for all multi-family buildings, with architectural design for townhomes to adhere to all CD-5 standards upon approval of subsequent building permits.
- Staff has granted a 20% administrative adjustment for building site lines which slightly exceed 120', and a window sill height adjustment from the required 5' to 4', subject to the provided criteria for section **8.5.8 D** of the Zoning Code, Administrative Adjustment Criteria.
- The Planning Commission is the decision-making authority for the Site Development Plan and Preliminary Plat.
- Any approval should be conditioned on the timely submittal of "as-approved" plans, which reflect the substance of the plans approved by the Planning Commission, as determined by the Zoning Administrator and the City Engineer.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.
- The Planning Commission is the **decision-making authority** for the Site Development Plan and Preliminary Plat.

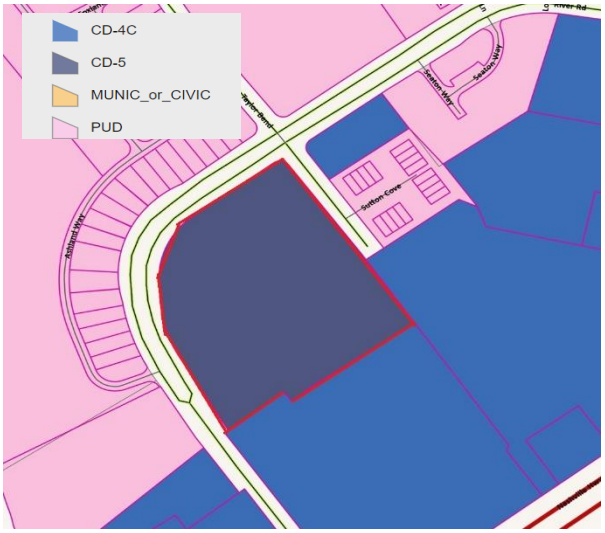
SITE INFORMATION

CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
CD-5	Vacant Land	Multi-Family/Townhomes	+ /- 5.80 acres



FUTURE LAND USE MAP (Urban Neighborhood)	ZONING MAP (CD-5)





SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Urban Neighborhood	CD-5	Vacant
North	Urban Neighborhood	PUD	Single-Family Residential
South	Urban Corridor	CD-4C	Shopping Center
East	Urban Neighborhood/ Urban Corridor	PUD & CD-4C	Shopping Center/ Multi-Family (*Townhomes)*

CONSISTENCY WITH CONNECT COLUMBIA

Urban Neighborhood:

The Urban Neighborhood Character Area is characterized by residential development and neighborhoods, with intermixed and compatible civic uses. The general development pattern is defined by a single use activity on individual lots with a mixture of lot sizes, with typically shallow setbacks. Street networks are defined by linear streets with moderate or short distances between intersections. Roadway typical sections are generally defined by the roadway, curb and gutter, and pedestrian connections (such as sidewalks, greenways, bicycle routes, or multiuse paths). Green space is largely incorporated on individual lots, but pocket and community parks should be located within neighborhoods to enhance the quality of life. Future development should focus on context-responsive in-fill development that emphasizes connectivity and housing diversity. Additionally, new development or redevelopment should aid in the creation of a pedestrian-friendly environment by adding sidewalks and/or creating other pedestrian-friendly multiuse trail/bike routes linking current and future neighborhoods and major destinations such as libraries, neighborhood centers, health facilities, commercial clusters, parks, schools, or other such uses. Primary Future Uses Single Family detached and attached, as well as Multifamily residential uses are the most appropriate use in this Character Area. Duplexes are appropriate but should not be concentrated within a neighborhood. Multifamily residential should respect any neighboring single-family residential areas and blend into established site context. Civic Uses such as places of worship, schools, governmental services, community centers, parks, or other recreational uses (including greenways and trails) are appropriate only if they are compatible with surrounding residential development and are located on a Collector or Arterial Street. Commercial or retail uses are not compatible and should be kept in Corridors, Centers, or Special Areas. Home offices are acceptable, but under limited circumstances, so not as to disrupt the primary residential nature of this Character Area.

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.

The proposed development for 4 large multi-family buildings, and two small multi-family buildings including townhomes would be consistent with the underlying zoning and description of uses permissible in the Urban Neighborhood Future Land use. An urban center throughfare connection is provided with pedestrian connectivity provided among the development site including defined civic green spaces.

This site plan is designed to reflect the context-sensitive infill development approach that emphasizes the provision of diverse housing options. The development includes multi-family residential units and townhomes, which are situated in close proximity to similar land uses. The townhome section of the development is located adjacent to existing single-family homes and townhomes within the Taylor Landing Planned Unit Development. The multi-family section of the development is located nearest to an adjacent shopping center. The property is bounded by single-family residential homes to the north of the subject site within the Taylor Landing Planned Unit Development. These homes are a mixture of single-family and townhouse units, complete with associated amenities.

CONFORMITY WITH ZONING ORDINANCE

Lots, Building Sites & Bulk Standards:

- **The proposed Site Development and Preliminary plat conforms to the bulk standards of the Ordinance within an CD-5 Character District.**



Large Multi-Family Building
A Principal Building that incorporates between seven (7) and twenty four (24) side-by-side and/or horizontally stacked Dwelling Units, which may have one or more shared entries.

CD-4 & -4C
CD-5 & -5C
SD-INT
SD-LI
PUD-R
PUD-MU

  - The Zoning Ordinance permits large & small multi-family buildings including townhomes and is required to conform to the uses as outlined in **§ 4.3.1 C** of the Zoning Ordinance. A preliminary plat has been included with this site development plan that proposes a lot division for the creation of 30 townhomes with 92 dwelling units among 6 multi-family buildings
  - 36 total building sites are shown that consist collectively of multi-family buildings, townhouse, and combination of open space lots and dedicated civic spaces.
  - 6 building sites are dedicated to multi-family buildings. Among these 6 building sites, building site 1 proposes a small multi-family building that enfronts a pedestrian path and civic space playground. The Zoning Ordinance permits at least 20 percent of building frontages to enfront a pedestrian path with small multi-family building proposed enfronting 6% of the development site.
  - Large multi-family building 2 & 3 consist of 24 units, with large multi-family buildings 1 & 4 consisting of 18 units.
  - Small multi-family buildings 1 & 2 consist of 4 units.
  - Building sites 8-15, 17-30, and 32-39 consist of townhome units.
  - 5 building sites are dedicated towards civic spaces and open space.
  - Staff prepared the tables below to demonstrate how the proposed development conforms to the bulk and design standards of the Zoning Ordinance. Table 5-1 describes applicable bulk standards per **§ 4.3.1-C** (building, lot & building site standards) of the Zoning Ordinance for a CD-5-character district in which the subject property is zoned. Table 5-2 describes the applicable design standards for the multi-family site plan

Table 5-1 (CD-5) Urban Center Character Districts Bulk Standards		
Bulk Standards:	**Required**	**Proposed**
Minimum Lot/ Building Site Width Minimum and Maximum:	18 ft. min/ 120 ft. max (Townhomes 18-36 ft.)	Building Site 1: 105.4 ft. Building Site 2: 49.2 ft. Building Site 3: 58 ft. Building Site 4: 133 ft. *See Note Building Site 5: 133 ft. *See Note Building Site 6: 117 ft. Building Sites 8-39 (Townhomes) 18-27 ft.
Lot/Building Enfrontment:	NR/ Facades must have main entrance in principle of building frontage	All lots enfront a thoroughfare street section and pedestrian path
Building Height:	2 Story min; 5 Stories max. adjacent to CD-5	2 stories indicated for small multi-family;3 stories indicated for large multi-family; 4 stories indicated for large multi-family adjacent to CD-5 within the development site
Frontage Buildout:	80% minimum	All multi-family building sites indicate at least an 80% minimum frontage buildout with townhome building sites indicating a 100% frontage buildout
Parking:	1.5 spaces per dwelling unit	*See parking subsection below*
Max. Impervious:	100 percent	N/A
Setbacks:	**Principal Buildings** **Front:** – 0 ft. at corners; 0 ft. min; 15 ft. max elsewhere **Side:** – 0 ft. min; 24 ft. max per side **Rear:** N/A **Accessory Building** **Front:** 40 ft. max from rear property line **Side:** 3ft max **Rear:** Setback: 3ft min. or 5ft min if Garage doors face rear alley	**Principal Buildings** **Front:** – 8-14 ft. townhomes/ 0 ft. large multi-family & small multi-family 2/12' small multi-family 1. **Side:** - 0 ft-15ft townhomes/ **Rear:** - 5' townhomes that utilize rear garages **Accessory Building (Two 8 Car Garage Units)** **Front:** 23 ft. **Side:** 3ft. from building site lines **Rear:** 3 ft.
Min/Max Building Site Note:	Maximum Building Site Width: 120 ft.	Building Site 4 exceeds 120' by 13'. At 133', staff has granted a 20% administrative adjustment that is in the parameter of allowance for such adjustment. Building Site 5 exceeds 120' by 13'. At 133 ft., staff has granted a 20% administrative adjustment that is in the parameter of allowance for such adjustment.

Architecture:

- **Staff will determine Conformity with the prescriptive design standards of the Ordinance at the time of building permit for all townhome elevations.**

Table 5-2 (CD-5) Character District Architectural Standards, Multi-Family Buildings		
Design Standards:	**Required**	**Proposed**
Vertical Composition:	Identifiable Base, Middle, & Cap	All elevations contain a defined base, middle, and cap. This is achieved by a rowlock brick course at the base, defined middle, and cornice details at the cap.
Finished Floor Elevation:	Min 18 inches above finished grade	Exceeds 18 inch minimum
Façade Position & Façade Articulation:	Main entrance at façade & position parallel to frontage line	All facades enfront a street section and/or pedestrian path.
Façade Openings:	20 ft. or less spacing for windows/doors	All windows appear to be 20 ft or less with no blank facades.
Façade Glazing:	20-60 % non-shopfront	All façade elevations on site plan indicate a façade glazing of at least 20% or more.
Window Shape:	Square or vertical proportions	All windows are square or vertical proportioned
Window Alignment:	Upper floor windows and other features must be aligned with those of first floor	All upper floor windows are aligned with windows on other floors including windows found on the 1st floor.
Window Types:	Single-hung, double-hung, casement	All windows adhere to the window type standards as described.
Window Glazing Material:	Clear	All windows proposed are clear glass.
Window Trim in 1st Layer:	Min 4 in. trim with sill and top plate/ soldier course above lintel and rowlock course below sill	Elevations appear to consist of window trim details and rowlock course below window sills and soldier course above windows for brick elevations.
Shutters:	Functional to cover half of window width/ shutter dogs	Shutters are not proposed on windows.
Façade Window Sill Height:	5 ft. min above grade	Elevations indicate a 4’ min window sill height. This is in the range of a 20% adjustment that can be granted per the Zoning Ordinance.
Porch Frontages:	Min. 6ft. clear depth, excluding rails, pillars, columns	Frontage elevations include stoops leading to doorways and not porches. Stoops are permitted in a CD-5 district for entrances.

Façade Variety:	No façade may exist more than once on a block face or within view of same façade	Elevations are divided among buildings with a minimum 80 percent frontage buildout among building sites. Multi-Family facades are differentiated by stories, materials, and colors among the block face.
Roof Type & Pitch:	Hip/ Gable/ Flat	Large multi-family buildings contain a flat roof with small multi-family buildings having a hip and gable roof design.
Primary Building Materials:	Brick, Fiber Cement Board, Wood	All elevations indicate a primary façade material of brick & fiber cement board.
Foundation Cladding:	Brick or Natural Stone	All elevations have a brick foundation cladding at the principal frontage.
Garage Location:	3rd Layer (20 ft. behind primary façade)	Multi-family structures indicate garage parking to be located in the 3rd layer in the rear of all principal buildings. Small Multi-family buildings consist of a first level garage with two additional accessory structures serving as garages.
Garage Design:	Min. interior dimensions 10 X 20 per vehicle Parking Space. Garage door must have ornamental lighting above with a carriage house door design.	Garages are located in the 3rd layer but, do not adhere to the minimum 10 X 20 space per vehicle; therefore, are not counted towards the required parking ratio. Ornamental lighting is not required as garages are located in the 3rd layer.
Garage Door Width:	9ft width with 2ft separation between door	N/A; garage doors are located within the 3rd layer.
Changes in Building Materials:	Primary materials must continue alongside Elevations through 2nd layer. Primary materials shall continue for entire length of all Facades facing a frontage.	Facades consist of primary materials of fiber cement board and brick. Theses primary materials continue along the full length of facades and continue into the 2nd layer. Rear elevations that are not primary facades consist of the same materials of brick and fiber cement board.
Building Colors:	Up to 3 colors, including the natural color of any allowed materials, but excluding trim color.	Primary façade colors consist of two earth-tone painted colors on the Cementous siding and brick.

Civic Spaces:

- **The Zoning Ordinance requires at least 5% but not more than 20% of the proposed Site Development Plan's gross acreage be designated as Civic Space(s).** According to **Table 5.3.3-A** of the Zoning Code, certain Civic Space types are applicable per district. As per the site development plan, 11.9% of the site is allocated as civic space, which includes a Square, Playground, and two Pocket Parks. The Square civic space features a retention pond, a fountain, and an outdoor seating area, complemented by walking path connections. Pocket Park 1 is located in a parklet setting, featuring a gas fire pit area, outdoor seating, and a game lawn. Pocket Park 2 comprises an outdoor seating area and pedestrian walkway. Lastly, the playground civic space is situated close to the small multi-family building 1, which features formal plantings, seating, and outdoor play equipment.

Project Buffering/Landscaping:

- According to § 4.3.12.C of the Zoning Ordinance, a parking area must incorporate a landscape island for every ten parking spaces, each containing at least one shade tree. The site development plan adheres to this requirement, highlighting the landscape islands for every ten spaces.
- Additionally, the plan includes one shrub per ten linear feet of required foundation landscaping for all multi-family buildings, including the townhome units.
- Street trees have also been provided, adhering to the requirement of one tree for every fifty linear feet of an Urban Center Street section (Zoning Ordinance **Table 5.2.2.G-1**). The site plan also reflects the preservation of an existing tree line between the subject site and the Shopping Center located to the south.

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 however, the subject property is Zoned CD-5 that does not have a minimum tree canopy retention requirement. This would be common due to CD-5 districts being in the densest areas of Columbia having.

Thoroughfare Standards/ Façade Enfrontment:

- **This Development Plan and Preliminary Plat conforms to the standard for block formation and network connectivity when utilizing an Urban Center Street section.**
    - Section **5.2.2.E** requires that all Thoroughfares and Internal Drives shall terminate at other Thoroughfares or Internal Drives, forming a network. This site development plan provides the required street section utilizing an Urban Center

Street section that consist of a 65' ROW with 38' pavement width and a 6' sidewalk on both sides of the street section. In addition, this street section provides an 8' parking lane on each side allowing for dedicated civic space parking and overflow parking for residential units.

- This site development plan utilizes the required 20' rear alley section with two 8' travel lanes that terminates into an existing throughfare street section.
- The zoning codes requires all buildings within a CD-5 Character District to have at least an 80% enfrontment requirement. All buildings adhere to this 80 percent enfrontment minimum with all primary entrances of buildings enfronting a throughfare and/or pedestrian walkway.

Parking:

- As per the Site Development Plan, the third layer of multi-family units would feature a surface parking lot, along with an on-street parking availability. In addition, the townhome units would comprise two surface parking spaces per unit, located at the rear. The total number of required parking spaces per **§ 4.3.12** of the Zoning Ordinance is 183, while the plan provides for 228 parking spaces, effectively fulfilling the parking needs of 122 units.

- Article **4.3.12** of the Zoning Ordinance requires 1.5 parking spaces for each multi-family dwelling unit with 92 units shown. 138 spaces are required for the proposed development. Among the 138 spaces, 105 spaces are shown as rear surface parking, with 15 (10 X 20) garage spaces provided in the ground level of small multi-family building 1 and 2 with garages being with the 3rd layer of the multi-family buildings. In addition, 18 street parking spaces provided for multi-family use.

- The site plan has a notation that 17 additional parking spaces are provided for street parking that are not part of the included count for the multi-family buildings.

- Six civic space parking stalls are dedicated as street parking that adheres to the zoning code requirement of 1 space per 5,000 SF of civic space with an overall 30,463 SF of civic space provided.

- Article **4.3.12** of the Zoning Ordinance requires 1.5 parking spaces for each townhome unit. With 30 townhome units, 45 parking spaces are required with 67 spaces provided. Each unit consist of two parking spaces per lot with, with 7 10x20 min rear garage units.

All surface and garage parking will be accessed by a rear alley section. 14 on-street parking spaces are provided.

- Article 4.3.1 of the Zoning Ordinance requires one bicycle parking space for every 20 parking spaces. The site development plan indicates the need for two bike spaces with a bike rack consisting of six parking spaces. At 183 spaces required, 7 bike spaces have been provided adhering to the standards of the Zoning Ordinance.

REVIEW PROCESS

The Development Review Committee reviewed the proposed Preliminary Plat/Site Development Plan at its December 12th, 2023 meeting, as directed by section **8.3.7** of the Zoning Ordinance. Technical comments are provided in the agenda package and summarized above.

Applications for a Multi-Family Dwellings shall be subject to the Site Development Plan Review Requirements of Section **8.5.6** and shall require Planning Commission approval.

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 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.

Section **2.2.6** of the Subdivision Regulations establishes the review criteria for approval of Preliminary Plats.

A. Recommendations and final action on a Preliminary 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.

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its September 2023 meeting. 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 this site is subject to approval from an executed Traffic Impact Study and recommended a Right-of-Way Dedication to contain a sidewalk along River Road that the applicant has shown in the site development plan.
- **Planning** noted several items for revisions with a frontage modification made for small multi-family building 2 fronting a pedestrian path that overlooks the playground civic space. This is similar to the enfrontment patten of small multi-family building 1 on River Road. The applicant acknowledged these changes and made the requested revisions.
- **Wastewater** noted that an adjacent tie-in manhole may require rehabilitation work to bring it at proper grade, but indicated that this will be reviewed at construction plan review with the applicant noting that improvements required to be made.
- **Columbia Water** indicated that the water availability letter was issued on **November 19th, 2023** and remains 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.

COMMENTS FROM PLANNING STAFF

This preliminary plat and multi-family site development plan adheres to all standards of Zoning Ordinance 4400. As noted on the preliminary plat/site development plan, all structures for townhome units are required to conform to the prescriptive design standards in Table 4.3.1-C of the Ordinance. This includes all form standards described.

SAMPLE 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, and Section **2.2.6** of the Subdivision Regulations, have been satisfied and approve the Site Development Plan and 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 sections **8.5.6.N** and **O** of the City of Columbia Zoning Ordinance, and Section **2.2.6** of the Subdivision Regulations, have been satisfied and approve the Site Development Plan and Preliminary Plat subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

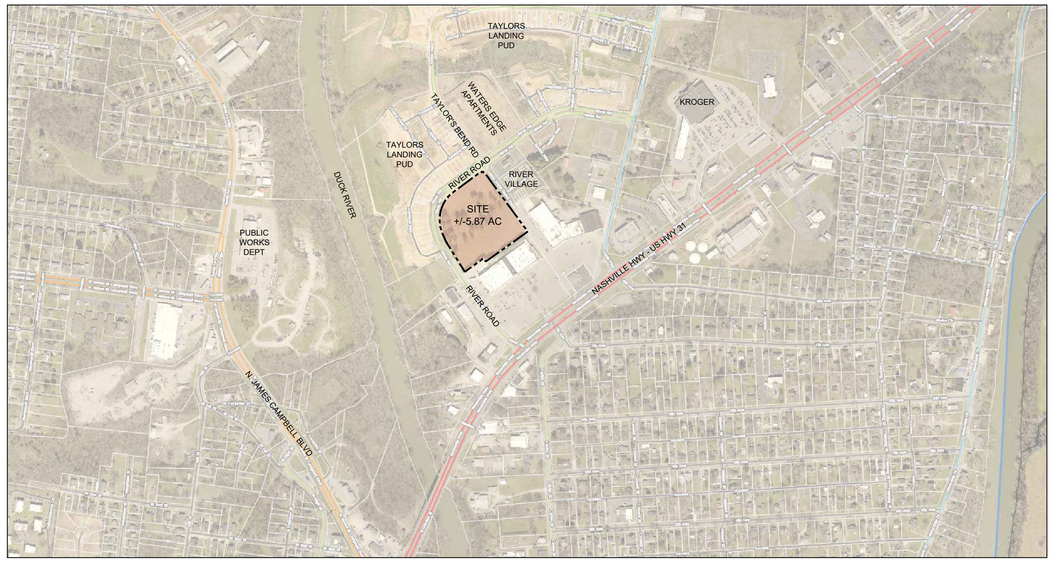
Move to deny the Site Development Plan and Preliminary Plat having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in sections **8.5.6.N** and **O** of the City of Columbia Zoning Ordinance and Section **2.2.6** of the Subdivision 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 that future meeting.

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN

INTERSECTION OF RIVER ROAD AND TAYLOR'S BEND ROAD
COLUMBIA, TENNESSEE



LOCATION MAP

0 500 1000
GRAPHIC SCALE 1"=500'-0"

OWNER:
DAVID TAYLOR
3006 KNUD DRIVE
COLUMBIA, TN

DEVELOPER:
CPS LAND
213 OVERLOOK CIRCLE, SUITE B2
BRENTWOOD, TN 37027
CLIFF SMITH
cliff.smith@cpsland.com

APPLICANT/ LAND PLANNER:
GAMBLE DESIGN COLLABORATIVE
3020 STANSBERRY LANE, SUITE 201
FRANKLIN, TN 37064
GREG GAMBLE
615-975-5765
greg.gamble@gdc-tn.com

ENGINEER:
KIMLEY-HORN
4031 ASPEN GROVE DRIVE, SUITE 200
FRANKLIN, TN 37067
GRAY HARRISON, P.E.
615.564.2701
gray.harrison@kimley-horn.com

ARCHITECT:
OPEN ARCHITECTURE
ERIC CLAUS
513.403.7019
ERIC.CLAUS@OPENARCHITECTURE.COM

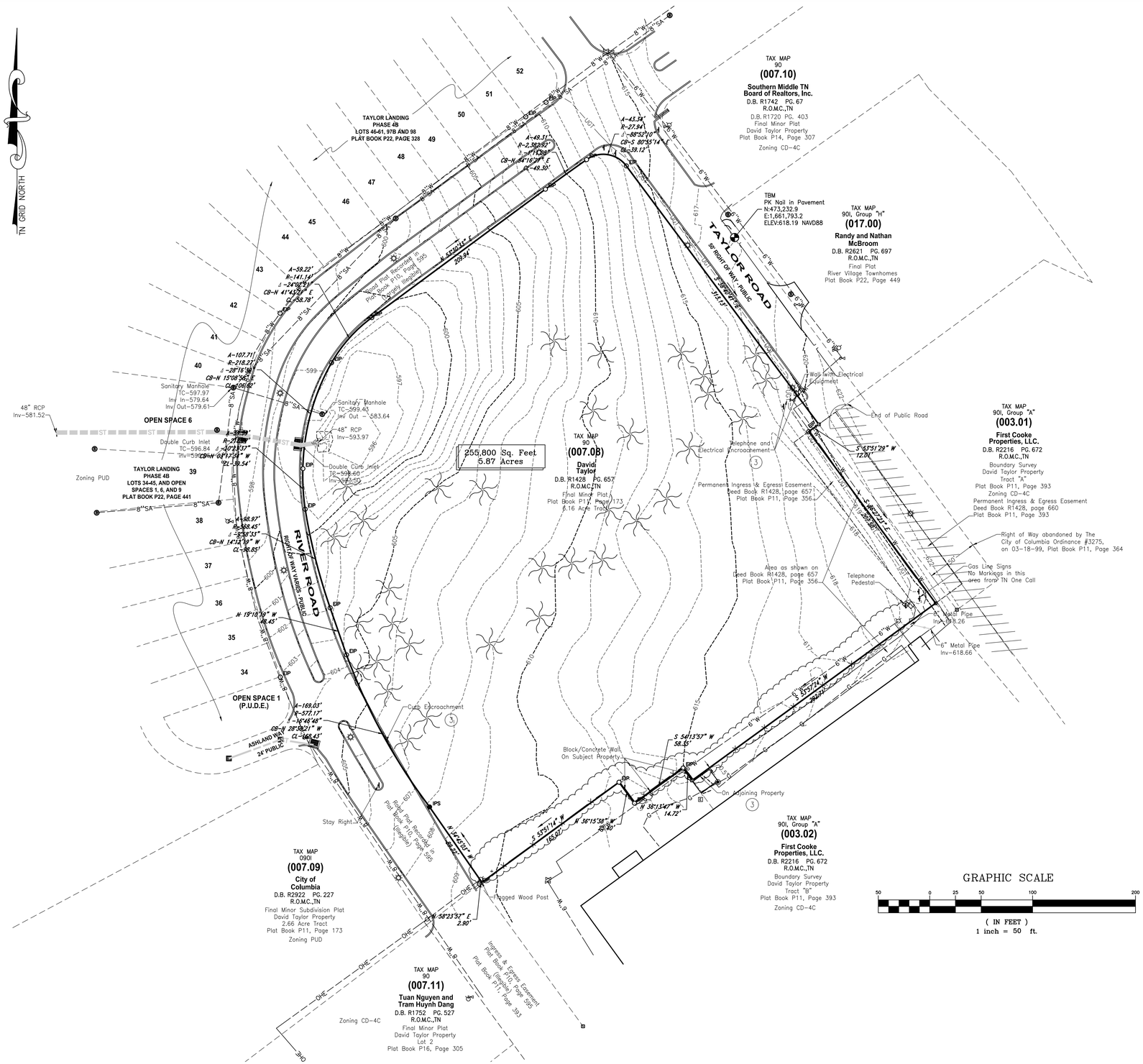
SHEET INDEX

C0.0	COVER SHEET
C1.0	SURVEY
C2.0	SITE DEVELOPMENT PLAN
C2.1	PRELIMINARY PLAT
L1.0	LANDSCAPE PLAN
L2.0	CIVIC SPACE DETAILS AND CHARACTER IMAGES
	ARCHITECTURAL ELEVATIONS

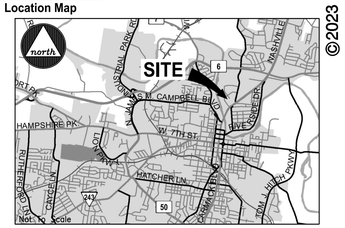
JEFFREY A. ROSE REGISTERED LANDSCAPE ARCHITECT 12.18.23

PRE-APP: August 30, 2023
INITIAL SUBMITTAL: October 16, 2023
RESUBMITTAL: December 18, 2023

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE



Location Map



©2023

Current Zoning

No Zoning Letter Provided to Surveyor

Current Zoning: PUD

Old Republic National Title Insurance Company
Commitment No. 226275
Effective Date: January 16, 2023 at 8:00 AM

Schedule B, Section II Items

1. Defects, liens, encumbrances, adverse claims, and matters in the public record are as addressed below.
2. Discrepancies, conflicts, easements, boundary line disputes, any shortages in area, encroachments or protrusions, or overlapping of improvements are as shown hereon.
3. Rights and claims of parties in possession were not addressed as part of this survey.
4. Liens were not addressed as part of this survey.
5. Items not of Public record were not addressed as part of this survey.
6. Items not of Public record were not addressed as part of this survey.
7. Taxes were not addressed as part of this survey.
8. Matters as shown on Plat Book P11, page 173, Plat Book P11, Page 356, and Plat Book P11, Page 364 are as shown hereon.
9. Waterline easement in Book 301, page 419, does not affect the subject property.
10. Water Flowage Easement in Book 385, page 277, does not affect teh subject property.
11. Sewer Line Easement in Book 431, page 419.
12. Right of Way/Ingress/Egress Easement in Book R1428, Page 660.

(#) Shows location of the designated commitment exception on the current survey.

Encroachment Note

1. The curb line of River Road encroaches on the west side of the subject property.
2. The wall along the south side of the property crosses the property line where labeled, ownership of said was is uncertain to the surveyor.

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure, portions of the survey were done utilizing a Carlson BRX7, utilizing Base and Rover.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category IV 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 pertoining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcel is as shown hereon.
7. This property currently identified as Tax Map No. 90, Parcel No. 007.08, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: Plat Book P11, page 173
9. Deed reference: Book R1428, Page 657
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 title search as provided by others and noted hereon.
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. The property as shown hereon is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0170E, dated April 16, 2007, as scaled graphically.
17. Vertical Datum as shown hereon is NAVD88, as established by TDOT CORS.

Legend

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

ALTA/NSPS Surveyor's Certification

To: First American Title Insurance Company, and Barlow Builders :

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1-6, 8, 11, and 17 of Table A thereof. The field work was completed on August 10, 2023.

Allen B. O'Leary, TN RLS #1987 — 8-11-23 Date

I hereby certify this is a true and accurate survey and meets or exceeds the current Minimum Standards and Applications of a Category IV (Remote Sensing) survey as defined in T.C.A. 0820-03-.07(5).

Equipment: Carlson BRX7, Base and Rover
Positional Accuracy: HRMS=0.04 SD=0.008, VRMS=0.075 SD=0.013
Geoid: NGS2012B
Date: August 2023

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

allenwesengineers.com

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

ENGINEERS & SURVEYORS

Client
BARLOW BUILDERS
3020 Stansberry Lane, #101
Franklin, TN 37069
615-376-1680

A.L.T.A./N.S.P.S. LAND TITLE SURVEY

RIVER ROAD / TAYLOR ROAD
COLUMBIA, TN – MAURY COUNTY

DATE	REVISIONS

Drawn: BD
Checked:
Approved:
Date: 08-11-23

Job. no. 23563
Scale:
Vertical:
Horizontal:

FILE: J:\WES_Engineers_Surveyors 2023\23563 - Riverbend ALTA - Barlow\Dwg\Survey\23563 Riverbend Survey.dwg

CIVIC SPACE REQUIRED: 5%-20% OF GROSS SITE AREA PROVIDED: 11.9% (30,463 SF; 0.70 AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	22,334 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK 1	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS
POCKET PARK 2	3,029 SF	HARDSCAPE, SITE FURNISHINGS, FORMAL PLANTINGS



SITE DEVELOPMENT PLAN SITE DATA:

TOTAL SITE AREA: 255,800 SF; 5.87 AC
AREA OF ROW DEDICATION: 3,222 SF
ADJUSTED TOTAL SITE AREA: 5.80 AC
TOTAL DWELLING UNITS: 122 UNITS
TOTAL DENSITY: 21.03 DUA
TOTAL CIVIC SPACE: 30,463 SF; 0.70 AC (11.9%)
TOTAL SURFACE PARKING LOT: 43,905 SF; 1.01 AC
TOTAL ROW AND ALLEY EASEMENT: 42,199 SF; .97 AC

BUILDING BREAKDOWN:
TOTAL MULTI-FAMILY UNITS: 92 DWELLING UNITS
LARGE MULTI-FAMILY BLDG 1: 18 DU
LARGE MULTI-FAMILY BLDG 2: 24 DU
LARGE MULTI-FAMILY BLDG 3: 24 DU
LARGE MULTI-FAMILY BLDG 4: 18 DU
SMALL MULTI-FAMILY BLDG 1: 4 DU; 7-GARAGE PARKING SPACES
SMALL MULTI-FAMILY BLDG 2: 4 DU; 8-GARAGE PARKING SPACES

TOWNHOMES: 30 DWELLING UNITS

ACCESSORY BUILDINGS:
ACCESSORY BLDG 1: 8-CAR GARAGE
ACCESSORY BLDG 2: 8-CAR GARAGE

BUILDING SETBACKS:
PRINCIPAL STRUCTURES:
FRONT SETBACK: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
PROVIDED SETBACK: 8'-14' TOWNHOMES; 0' LARGE MULTI-FAMILY; 12' SMALL MULTI-FAMILY

FRONT SETBACK SECONDARY: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
PROVIDED SETBACK: 7'-10' TOWNHOMES; 16'-22' LARGE MULTI-FAMILY

SIDE SETBACK: 0' MIN. - 24' MAXIMUM
PROVIDED SETBACK: 0'; 15' MINIMUM BETWEEN TOWNHOME BUILDINGS

REAR SETBACK: NOT REGULATED
PROVIDED SETBACK: 24' TOWNHOME WITHOUT GARAGE; 5' TOWNHOME WHERE GARAGE FACES ALLEY

ACCESSORY STRUCTURES:
FRONT SETBACK: 40' MAX FROM REAR PROPERTY LINE
PROVIDED SETBACK: 23' FROM REAR PROPERTY LINE

SIDE SETBACK: 3' MAX.
PROVIDED SETBACK: 3' FROM BUILDING SITE LINE ON ONE SIDE

REAR SETBACK: 3' MIN.
PROVIDED SETBACK: 3'

*NOTE: PRIMARY BUILDING CORNER SETBACKS ARE AS CLOSE TO 0' FRONT/0' SIDE AS POSSIBLE. DUE TO THE UNIQUE PROPERTY LINE CONSTRAINTS, BUILDINGS ARE SET BACK TO ALLOW SIDEWALKS AND PLANTING AREAS AND TO AVOID EXISTING EASEMENTS/UTILITIES. ACCESSORY STRUCTURES ARE SET 3' FROM BUILDING SITE LINES ON ONE SIDE. BUILDING SITES ARE WIDER THAN THE ACCESSORY BUILDINGS, PREVENTING 3' SIDE SETBACKS ON BOTH SIDES. ADDITIONALLY, ROW HAS BEEN DEDICATED ALONG RIVER ROAD, WHICH PLACES THE NEW ROW LINE AT THE BACK OF SIDEWALK.

PARKING SUMMARY:
TOTAL DWELLING UNITS: 122 UNITS
REQUIRED MINIMUM PARKING RATIO: 1.5 SPACES PER UNIT
TOTAL PROVIDED PARKING SPACES: 228 PARKING SPACES PROVIDED

TOTAL REQUIRED RESIDENTIAL PARKING: 183 PARKING SPACES; 205 PARKING SPACES PROVIDED
TOWNHOMES: 30 UNITS, 45 REQUIRED PARKING SPACES
PROVIDED: 67 SPACES PROVIDED.
46 SURFACE ON LOT; 7 GARAGE SPACES, 14 ON-STREET SPACES CARPORT (INTERIOR) UNITS HAVE TWO SURFACE PARKING SPACES PROVIDED ON EACH LOT, FOR A TOTAL OF 46 SURFACE SPACES. GARAGE UNITS (EXTERIOR) HAVE ONE PARKING SPOT (10'X20' MIN) PROVIDED ON SITE, FOR A TOTAL OF 7 GARAGE SPACES.

MULTI-FAMILY: 92 UNITS, 138 REQUIRED PARKING SPACES
PROVIDED: 138 SPACES PROVIDED*
105 SURFACE PARKING; 15 GARAGE PARKING SPACES (10'X20' MIN.); 18 ON-STREET PARKING SPACES
ACCESSIBLE PARKING REQUIRED: 1 PER 25 REQUIRED SPACES. (138/25 = 6 ACCESSIBLE SPACES)
PROVIDED: 6 ACCESSIBLE SPACES IN SURFACE PARKING LOT

PROVIDED: ADDITIONAL 17 ON-STREET PARKING SPACES ON STREET A THAT ARE NOT A PART OF THE REQUIRED PARKING FOR TOWNHOMES, MULTI-FAMILY OR CIVIC SPACES.

TOTAL CIVIC SPACE: 30,463 SF; 0.70 AC
REQUIRED MINIMUM PARKING RATIO: 1 SPACE PER 5,000 SF GROSS LAND AREA
TOTAL REQUIRED CIVIC SPACE PARKING: 6 PARKING SPACES
PROVIDED: 6 ON-STREET PARKING SPACES

*NOTE: AN ADDITIONAL 16 GARAGE SPACES ARE PROVIDED IN ACCESSORY BUILDINGS FOR THE MULTI-FAMILY BUILDINGS, AND AN ADDITIONAL 7 TOWNHOME GARAGE SPACES ARE PROVIDED. THESE PARKING SPACES HAVE NOT BEEN INCLUDED IN THE PARKING TOTALS SINCE THEY ARE SMALLER THAN THE MINIMUM 10' X 20' GARAGE SPACE REQUIREMENT.

BIKE PARKING: REQUIRED 1 SPACE PER 20 REQUIRED PARKING SPACES
BIKE PARKING PROVIDED: 183 REQ. PARKING SPACES/20 = 7 BIKE SPACES

FRONTAGE BUILD-OUT: 80% MINIMUM REQUIRED; 92.6% AVERAGE FOR 36 BUILDING SITES
BUILDING SITE 1: NO FRONTAGE
BUILDING SITE 2: 89%
BUILDING SITE 3: 83%
BUILDING SITE 4: NO FRONTAGE
BUILDING SITE 5: 80%
BUILDING SITE 6: 82%
BUILDING SITES 8-15; 17-30; 32-39: 100%

LOT/BUILDING SITE ENFRONTMENT:
TOTAL NUMBER OF BUILDING SITES: 36
BUILDING SITES ENFRONTING PEDESTRIAN PATH: 2 (LARGE MULTI-FAMILY BLDG 2 & SMALL MULTI-FAMILY BLDG 2)
% BUILDING SITES ENFRONTING PEDESTRIAN PATH: 6%

PLEASE SEE ARCHITECTURE ELEVATIONS FOR ALL MULTI-FAMILY BUILDING DIMENSIONS AND ELEVATION COMPLIANCE TABULATIONS.

ARCHITECTURAL NOTES:
1. LARGE MULTI-FAMILY BUILDINGS 1 AND 2 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
2. LARGE MULTI-FAMILY BUILDINGS 3 AND 4 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
3. LARGE MULTI-FAMILY BUILDINGS: HVAC UNITS TO BE LOCATED ON ROOF.
4. SMALL MULTI-FAMILY BUILDINGS: HVAC LOCATED IN 3RD LAYER.
5. TOWNHOME DESIGN WILL ADHERE TO THE PRESCRIPTIVE STANDARDS OF CD-5 AT BUILDING PERMIT STAGE.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

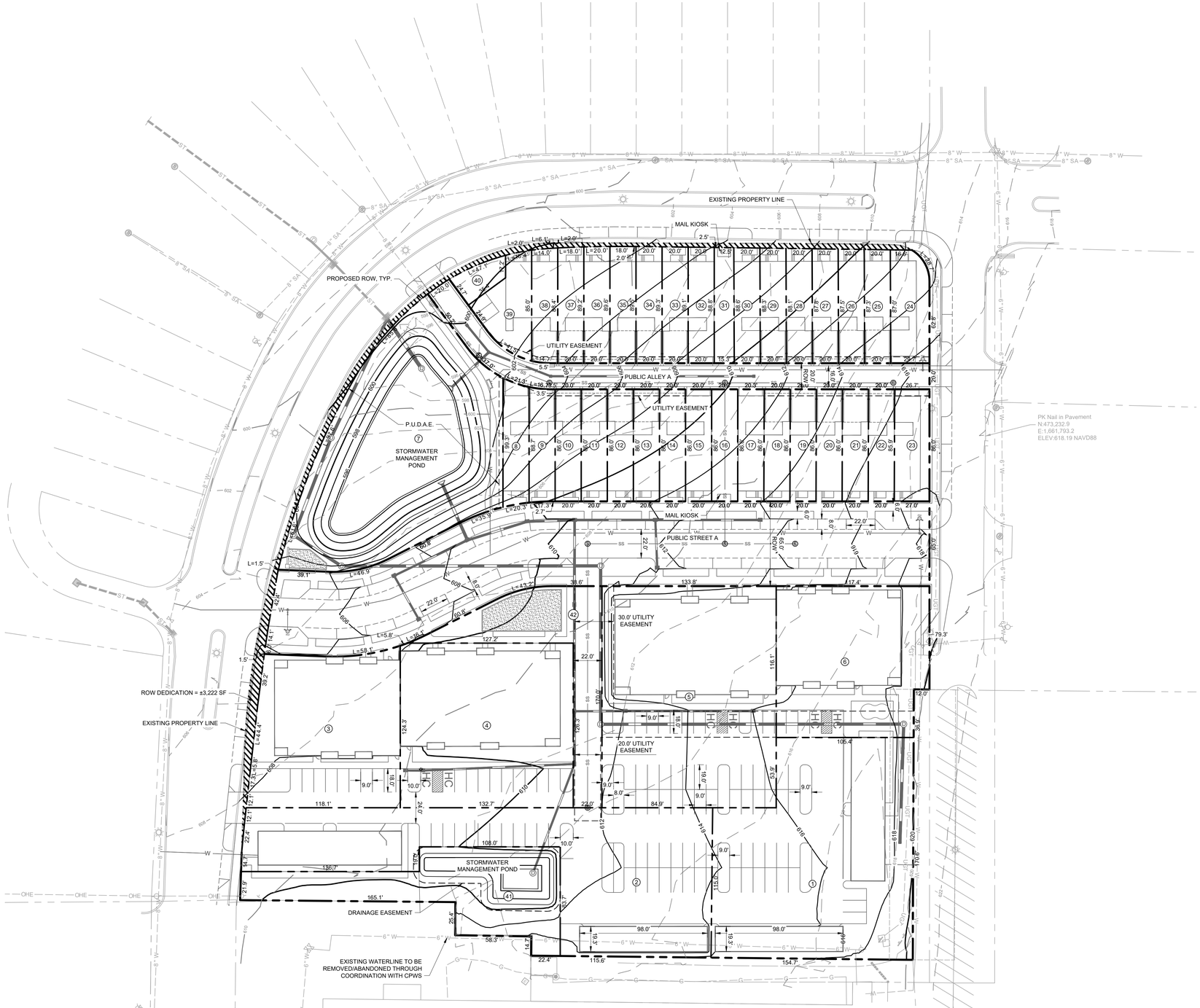
RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, COLUMBIA, Tennessee

GREGORY C. GAMBLE
REGISTERED LANDSCAPE ARCHITECT
TENNESSEE
No. 346
LANDSCAPE ARCHITECTURE

Date: NOV. 20, 2023

Revision Date
1 DEC. 18, 2023
2
3

SITE DEVELOPMENT PLAN
SHEET
C2.0

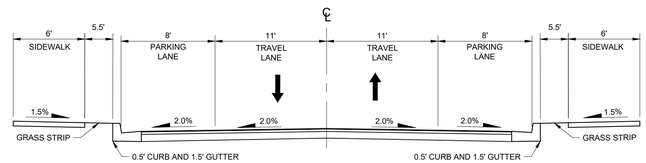


NOTES

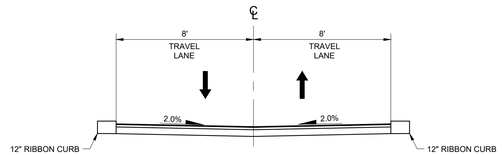
1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN THE 100 YEAR FLOODPLAIN, PER THE FEMA FIRM MAP NUMBER 47119C0170E EFFECTIVE APRIL 16, 2007

LAND USE CHART

SITE AREA	5.87 AC
CIVIC SPACE AREA	0.70 AC
SURFACE PARKING AREA	1.01 AC
ROW DEDICATION	0.07 AC
DENSITY	21.03 DUA



TYPICAL SECTION - URBAN CENTER STREET (65' PUBLIC ROW)
NTS



TYPICAL SECTION - ALLEY A (20' PUBLIC ROW)
NTS

PARCEL AREA TABLE	
Parcel #	Area (SF)
1	23544.57
2	23153.53
3	13123.47
4	16743.18
5	22709.41
6	13204.54
7	22631.71
8	1865.34
9	1734.94
10	1720.00
11	1720.00
12	1720.00
13	1720.00
14	1720.00
15	1720.00
16	1720.00
17	1733.37
18	1720.01
19	1720.01
20	1720.01
21	1720.01

PARCEL AREA TABLE	
Parcel #	Area (SF)
22	1719.47
23	2309.70
24	2499.81
25	1743.14
26	1748.50
27	1753.18
28	1758.55
29	1763.91
30	1769.28
31	1344.01
32	1778.77
33	1783.64
34	1788.52
35	1791.75
36	1788.72
37	1777.20
38	1745.56
39	2415.28
40	862.52
41	10091.70
42	7293.42

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

Kimley»Horn
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RIVER ROAD
DEVELOPMENT PLAT PLAN
Franklin, Williamson County, Tennessee

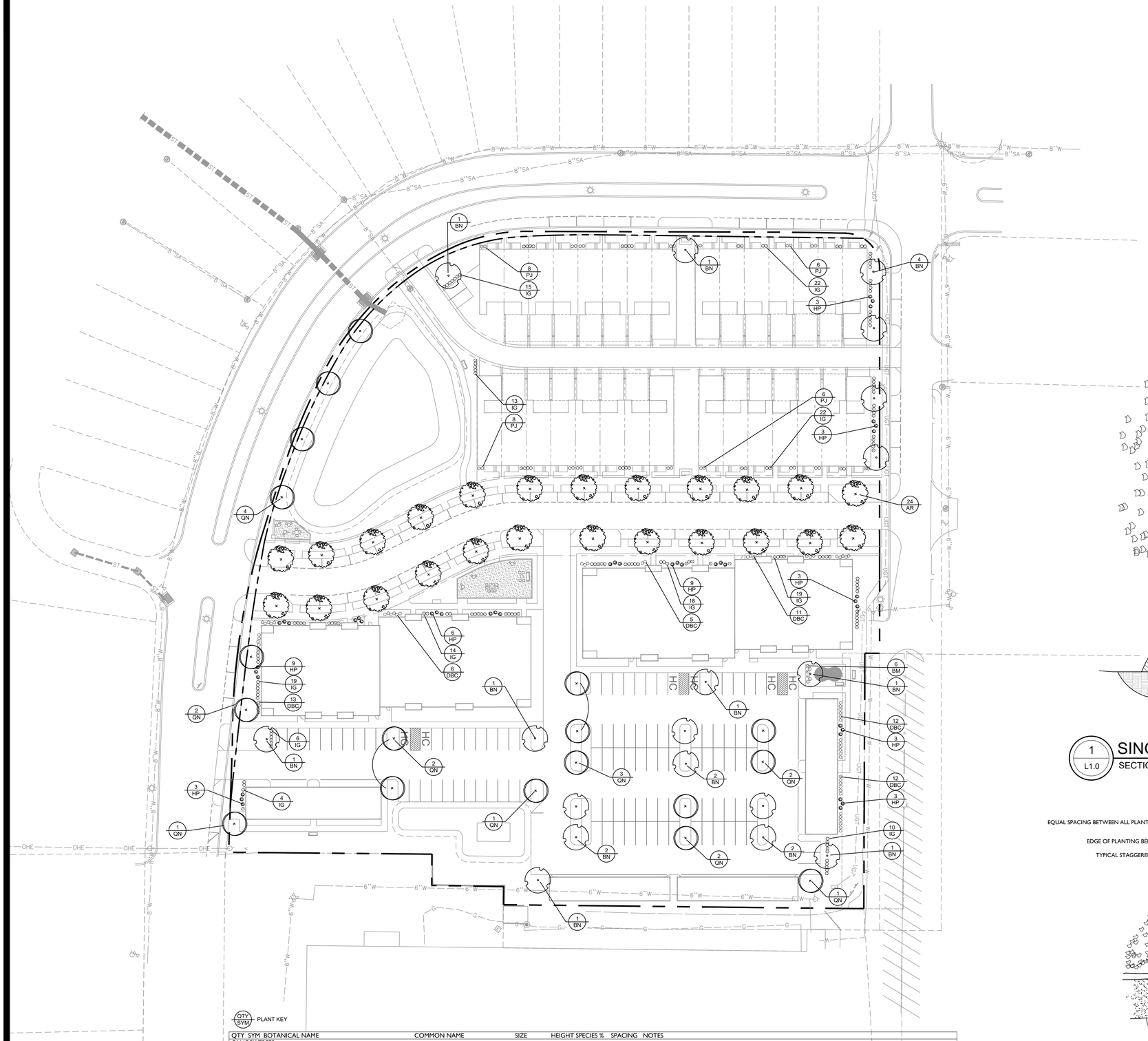
WILLIAM GRAY HARRISON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 127919
STATE OF TENNESSEE

Revision Date
△ _____
△ _____
△ _____
△ _____

PRELIMINARY PLAT

SHEET
C2.1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



0 40 80 120
GRAPHIC SCALE 1"=40'-0"

QTY / SYM PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
24	AR	ACER RUBRUM ' AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	40%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN, MATCHING
19	QN	QUERCUS NUTTALLI	NUTTAL OAK	2.5" CAL	10' MIN.	32%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
16	BN	BETULA NIGRA	RIVER BIRCH	2.5" CAL	10' MIN.	27%	AS SHOWN	MULTI-STEM, 3 TO 5 CANES WITH A SUM TOTAL OF EACH CANE TO EQUAL MIN. CALIPER SIZE
SHRUBS								
6	BM	BUXUS MICROPHYLLA VAR. JAPONICA 'WINTER GEM'	WINTER GEM BOXWOOD	#3 CONT.	30" MIN.		36" O.C.	
162	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	#3 CONT.	30" MIN.		36" O.C.	
28	PJ	PIERIS JAPONICA 'FIRE &ICE'	FIRE & ICE PIERIS	#3 CONT.	30" MIN.		36" O.C.	
39	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA	#3 CONT.	30" MIN.		48" O.C.	
59	DBC	DISTYLIUM HYBRID 'PIIDIST-II'	BLUE CASCADE EVERGREEN DISTYLLIUM	#3 CONT.	30" MIN.		36" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

CODE MINIMUM LANDSCAPE PLAN

THIS LANDSCAPE PLAN HAS BEEN DESIGNED TO MEET THE MINIMUM CODE REQUIREMENTS OF THE CITY OF COLUMBIA TN ZONING ORDINANCE FOR SITE DEVELOPMENT PLAN.

ZONING ORDINANCE 4.3.16 - CD-5 LANDSCAPING:
CONTINUOUS SHRUBS AROUND FOUNDATION AT FACADE. 1 SHRUB EVERY 10 LF
SMALL MULTI-FAMILY BLDG 1: REQ. 3 SHRUBS; PROVIDED: 5 SHRUBS
SMALL MULTI-FAMILY BLDG 2: REQ. 11 SHRUBS; PROVIDED: 30 SHRUBS
LARGE MULTI-FAMILY BLDG 1: REQ.18 SHRUBS; PROVIDED: 42 SHRUBS
LARGE MULTI-FAMILY BLDG 2: REQ.13 SHRUBS; PROVIDED: 26 SHRUBS
LARGE MULTI-FAMILY BLDG 3: REQ.13 SHRUBS; PROVIDED: 32 SHRUBS
LARGE MULTI-FAMILY BLDG 4: REQ.18 SHRUBS; PROVIDED: 33 SHRUBS
TOWNHOMES: 2 SHRUBS FRONT; 8 SIDE; PROVIDED: 2 FRONT, 17 SIDE

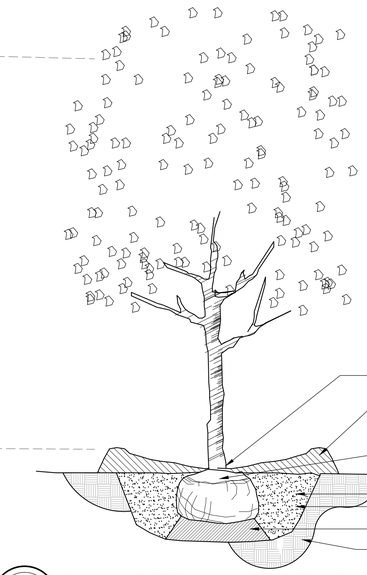
ZONING ORDINANCE 5.2.2.G-1 - URBAN CENTER STREET:
REQUIRED: 1 STREET TREE EVERY 50 LF.
PROVIDED: 1 STREET TREE EVERY 50 LF.

ZONING ORDINANCE 4.13.12.C - PARKING DESIGN:
REQUIRED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS.
PROVIDED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS

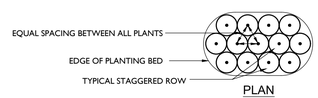
REQUIRED: 1 TREE PER 2,000 SF OF PARKING LOT
PROVIDED: 43,905 SF PARKING AREA/ 2,000 SF = 22 TREES REQUIRED. PROVIDED: 23 TREES

REQUIRED: 36" HEDGE TO SCREEN PARKING FROM CIVIC SPACE AND ADJACENT PROPERTY
PROVIDED: HEDGES PROVIDED AS REQUIRED.

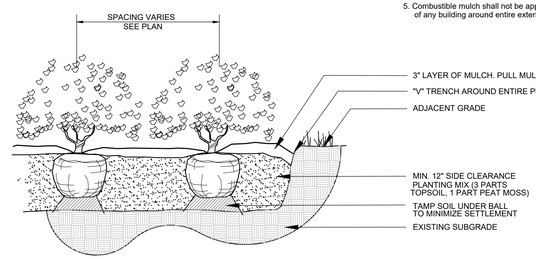
ZONING ORDINANCE 4.3.16.L - TREE PROTECTION:
CD-5 DOES NOT REQUIRED EXISTING TREE CANOPY PRESERVATION.
NO EXISTING TREES ARE DESIGNATED AS PRESERVED.



1 / L1.0 SINGLE TRUNK DECIDUOUS TREE — DETAIL # NTS
SECTION



PLAN



2 / L1.0 SHRUB PLANTING — DETAIL # NTS
SECTION

GENERAL NOTES:

1. All trees are to be nursery grown, burlap and ball (B&B). Minimum tree size is per schedule (measured 6" above root ball).
2. Remove all treated or plastic-coated burlap, strapping, wire or nylon twine from root ball. After setting in hole, cut away top and sides of wire basket, if any.
3. Install top of plant ball even with or up to 2" above existing grade.
4. Set tree in vertical position; stake if necessary for stabilization.
5. Soak plant ball and pit immediately after installation. Place 3" of seasoned mulch or pine needles around base of tree, 3' diameter minimum.

GENERAL NOTES:

1. Install top of plant ball shall be level with finished grade.
2. Tamp planting mix firmly as pit is filled around each plant ball.
3. Soak each plant ball and pit immediately after installation.
4. Cut and remove burlap from top 1/3 of root ball. Non-degradable burlap shall be removed or rolled under ball after replacement of plant.
5. Combustible mulch shall not be applied or maintained within two feet of any building around entire exterior perimeter.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

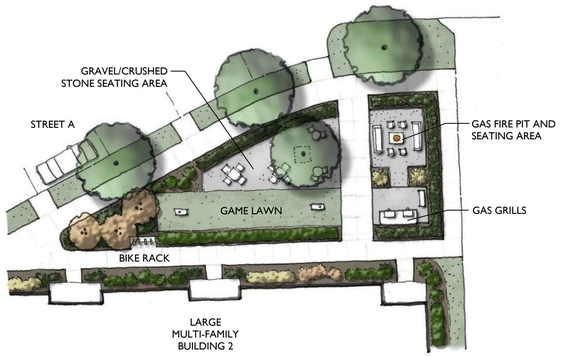
RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, Columbia, Tennessee

JEFFREY A. RUSAK — REGISTERED — LANDSCAPE ARCHITECT — STATE OF TENNESSEE — 12.29.23

Date: NOV. 20, 2023

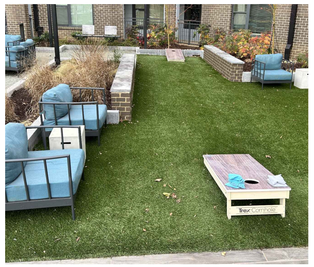
Revision	Date
1	DEC. 18, 2023
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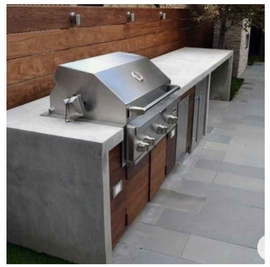
LANDSCAPE PLAN
SHEET
L1.0

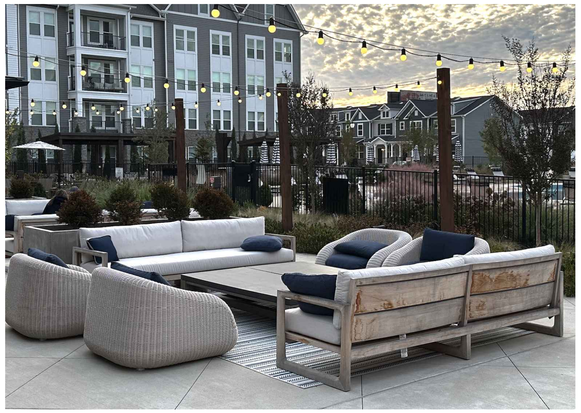


1 L2.0 POCKET PARK 1 CIVIC SPACE
PLAN

CHARACTER IMAGES









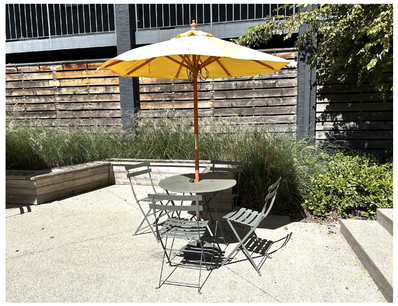
2 L2.0 POCKET PARK 2 CIVIC SPACE
PLAN

CHARACTER IMAGES

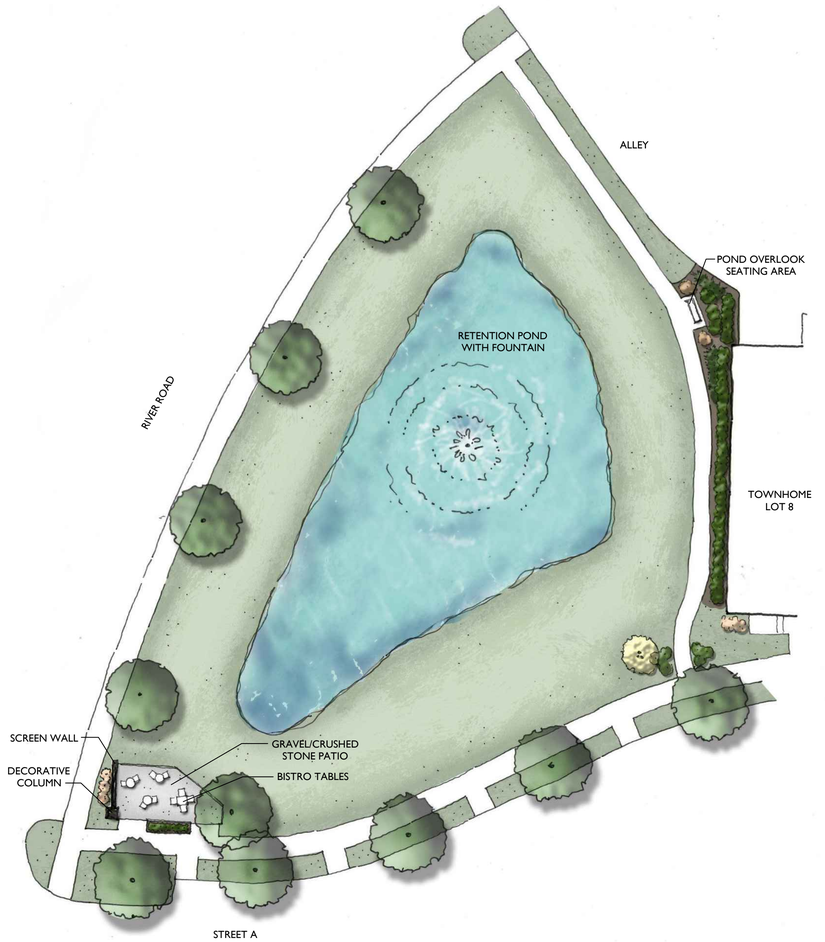
3 L2.0 PLAYGROUND CIVIC SPACE
PLAN

CIVIC SPACE		
REQUIRED: 5%-20% OF GROSS SITE AREA		
PROVIDED: 11.9% (30,463 SF; 0.70 AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	22,334 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK 1	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS
POCKET PARK 2	3,029 SF	HARDSCAPE, SITE FURNISHINGS, FORMAL PLANTINGS

CHARACTER IMAGES







4 L2.0 SQUARE CIVIC SPACE
PLAN

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, Columbia, Tennessee

JEFFREY A. ROSIAK
REGISTERED
LANDSCAPE ARCHITECT
12-31-23

Date: NOV. 20, 2023

Revision Date
1. DEC. 18, 2023
2.
3.

CIVIC SPACE PLAN

SHEET
L2.0

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.



WEST ELEVATION

FACADE GLAZING - 24%

NORTH ELEVATION

BUILDING #2

FACADE GLAZING - 26%

BUILDING #1

FACADE GLAZING - 26%



SOUTH ELEVATION

BUILDING #1

BUILDING #2

EAST ELEVATION

FACADE GLAZING - 28%

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

DECEMBER 18, 2023

MULTIFAMILY BUILDINGS 1 & 2

BARLOW BUILDERS

CPS land creating community

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.





GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY
EXTERIOR ELEVATIONS
DECEMBER 18, 2023

MULTIFAMILY BUILDINGS 3 & 4

BARLOW BUILDERS

CPS land creating community

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.



WEST ELEVATION

FACADE GLAZING - 25%

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

DECEMBER 18, 2023

CARRIAGE HOUSE 1

BARLOW BUILDERS

CPS land creating community

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NORTH ELEVATION

FACADE GLAZING - 25%

WEST ELEVATION



EAST ELEVATION

SOUTH ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

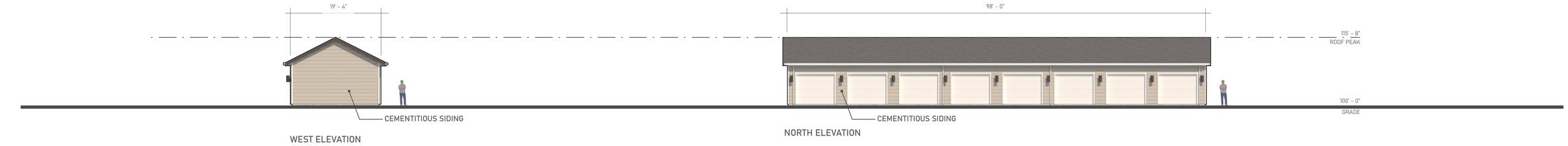
DECEMBER 18, 2023

CARRIAGE HOUSE 2

BARLOW BUILDERS

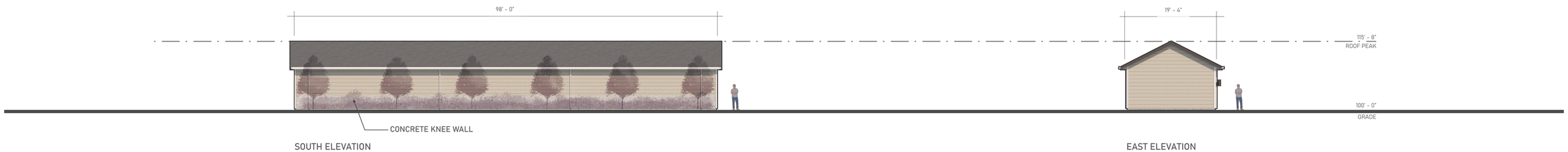
CPS land creating community

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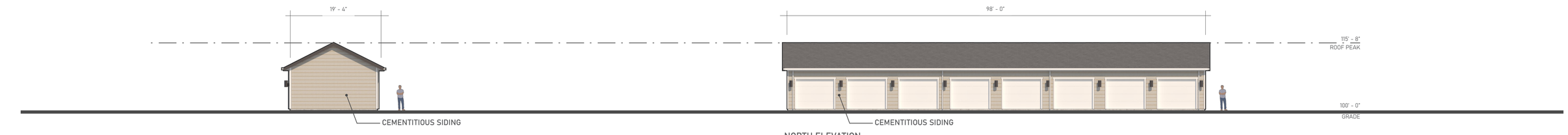
WEST ELEVATION

NORTH ELEVATION



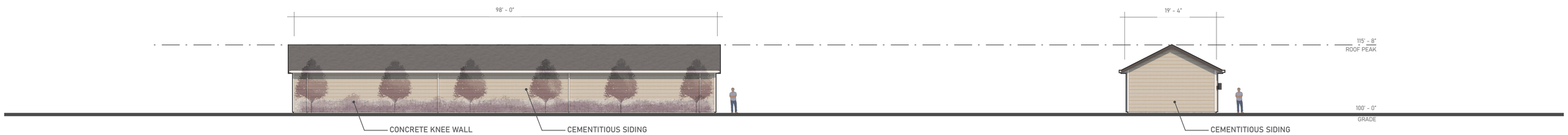
SOUTH ELEVATION

EAST ELEVATION



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY
EXTERIOR ELEVATIONS
DECEMBER 18, 2023

GARAGE 1 & 2

BARLOW BUILDERS

CPS land creating community

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NORTH ELEVATION

FACADE GLAZING - 25%

WEST ELEVATION



EAST ELEVATION

SOUTH ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

DECEMBER 18, 2023

CARRIAGE HOUSE 2

BARLOW BUILDERS

CPS land creating community

CIVIC SPACE REQUIRED: 5%-20% OF GROSS SITE AREA PROVIDED: 11.9% (30,463 SF; 0.70 AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	22,334 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK 1	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS
POCKET PARK 2	3,029 SF	HARDSCAPE, SITE FURNISHINGS, FORMAL PLANTINGS



SITE DEVELOPMENT PLAN SITE DATA:

TOTAL SITE AREA: 255,800 SF; 5.87 AC
AREA OF ROW DEDICATION: 3,222 SF
ADJUSTED TOTAL SITE AREA: 5.80 AC
TOTAL DWELLING UNITS: 122 UNITS
TOTAL DENSITY: 21.03 DUA
TOTAL CIVIC SPACE: 30,463 SF; 0.70 AC (11.9%)
TOTAL SURFACE PARKING LOT: 43,905 SF; 1.01 AC
TOTAL ROW AND ALLEY EASEMENT: 42,199 SF; .97 AC

BUILDING BREAKDOWN:
TOTAL MULTI-FAMILY UNITS: 92 DWELLING UNITS
LARGE MULTI-FAMILY BLDG 1: 18 DU
LARGE MULTI-FAMILY BLDG 2: 24 DU
LARGE MULTI-FAMILY BLDG 3: 24 DU
LARGE MULTI-FAMILY BLDG 4: 18 DU
SMALL MULTI-FAMILY BLDG 1: 4 DU; 7-GARAGE PARKING SPACES
SMALL MULTI-FAMILY BLDG 2: 4 DU; 8-GARAGE PARKING SPACES

TOWNHOMES: 30 DWELLING UNITS

ACCESSORY BUILDINGS:
ACCESSORY BLDG 1: 8-CAR GARAGE
ACCESSORY BLDG 2: 8-CAR GARAGE

BUILDING SETBACKS:
PRINCIPAL STRUCTURES:
FRONT SETBACK: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
PROVIDED SETBACK: 8'-14' TOWNHOMES; 0' LARGE MULTI-FAMILY; 12' SMALL MULTI-FAMILY

FRONT SETBACK SECONDARY: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
PROVIDED SETBACK: 7'-10' TOWNHOMES; 16'-22' LARGE MULTI-FAMILY

SIDE SETBACK: 0' MIN. - 24' MAXIMUM
PROVIDED SETBACK: 0'; 15' MINIMUM BETWEEN TOWNHOME BUILDINGS

REAR SETBACK: NOT REGULATED
PROVIDED SETBACK: 24' TOWNHOME WITHOUT GARAGE; 5' TOWNHOME WHERE GARAGE FACES ALLEY

ACCESSORY STRUCTURES:
FRONT SETBACK: 40' MAX FROM REAR PROPERTY LINE
PROVIDED SETBACK: 23' FROM REAR PROPERTY LINE

SIDE SETBACK: 3' MAX.
PROVIDED SETBACK: 3' FROM BUILDING SITE LINE ON ONE SIDE

REAR SETBACK: 3' MIN.
PROVIDED SETBACK: 3'

*NOTE: PRIMARY BUILDING CORNER SETBACKS ARE AS CLOSE TO 0' FRONT/0' SIDE AS POSSIBLE. DUE TO THE UNIQUE PROPERTY LINE CONSTRAINTS, BUILDINGS ARE SET BACK TO ALLOW SIDEWALKS AND PLANTING AREAS AND TO AVOID EXISTING EASEMENTS/UTILITIES. ACCESSORY STRUCTURES ARE SET 3' FROM BUILDING SITE LINES ON ONE SIDE. BUILDING SITES ARE WIDER THAN THE ACCESSORY BUILDINGS, PREVENTING 3' SIDE SETBACKS ON BOTH SIDES. ADDITIONALLY, ROW HAS BEEN DEDICATED ALONG RIVER ROAD, WHICH PLACES THE NEW ROW LINE AT THE BACK OF SIDEWALK.

PARKING SUMMARY:
TOTAL DWELLING UNITS: 122 UNITS
REQUIRED MINIMUM PARKING RATIO: 1.5 SPACES PER UNIT
TOTAL PROVIDED PARKING SPACES: 228 PARKING SPACES PROVIDED

TOTAL REQUIRED RESIDENTIAL PARKING: 183 PARKING SPACES; 205 PARKING SPACES PROVIDED
TOWNHOMES: 30 UNITS, 45 REQUIRED PARKING SPACES
PROVIDED: 67 SPACES PROVIDED.
46 SURFACE ON LOT; 7 GARAGE SPACES, 14 ON-STREET SPACES CARPORT (INTERIOR) UNITS HAVE TWO SURFACE PARKING SPACES PROVIDED ON EACH LOT, FOR A TOTAL OF 46 SURFACE SPACES. GARAGE UNITS (EXTERIOR) HAVE ONE PARKING SPOT (10'X20' MIN) PROVIDED ON SITE, FOR A TOTAL OF 7 GARAGE SPACES.

MULTI-FAMILY: 92 UNITS, 138 REQUIRED PARKING SPACES
PROVIDED: 138 SPACES PROVIDED*
105 SURFACE PARKING; 15 GARAGE PARKING SPACES (10'X20' MIN.); 18 ON-STREET PARKING SPACES
ACCESSIBLE PARKING REQUIRED: 1 PER 25 REQUIRED SPACES. (138/25 = 6 ACCESSIBLE SPACES)
PROVIDED: 6 ACCESSIBLE SPACES IN SURFACE PARKING LOT

PROVIDED: ADDITIONAL 17 ON-STREET PARKING SPACES ON STREET A THAT ARE NOT A PART OF THE REQUIRED PARKING FOR TOWNHOMES, MULTI-FAMILY OR CIVIC SPACES.

TOTAL CIVIC SPACE: 30,463 SF; 0.70 AC
REQUIRED MINIMUM PARKING RATIO: 1 SPACE PER 5,000 SF GROSS LAND AREA
TOTAL REQUIRED CIVIC SPACE PARKING: 6 PARKING SPACES
PROVIDED: 6 ON-STREET PARKING SPACES

*NOTE: AN ADDITIONAL 16 GARAGE SPACES ARE PROVIDED IN ACCESSORY BUILDINGS FOR THE MULTI-FAMILY BUILDINGS, AND AN ADDITIONAL 7 TOWNHOME GARAGE SPACES ARE PROVIDED. THESE PARKING SPACES HAVE NOT BEEN INCLUDED IN THE PARKING TOTALS SINCE THEY ARE SMALLER THAN THE MINIMUM 10' X 20' GARAGE SPACE REQUIREMENT.

BIKE PARKING: REQUIRED 1 SPACE PER 20 REQUIRED PARKING SPACES
BIKE PARKING PROVIDED: 183 REQ. PARKING SPACES/20 = 7 BIKE SPACES

FRONTAGE BUILD-OUT: 80% MINIMUM REQUIRED; 92.6% AVERAGE FOR 36 BUILDING SITES
BUILDING SITE 1: NO FRONTAGE
BUILDING SITE 2: 89%
BUILDING SITE 3: 83%
BUILDING SITE 4: NO FRONTAGE
BUILDING SITE 5: 80%
BUILDING SITE 6: 82%
BUILDING SITES 8-15; 17-30; 32-39: 100%

LOT/BUILDING SITE ENFRONTMENT:
TOTAL NUMBER OF BUILDING SITES: 36
BUILDING SITES ENFRONTING PEDESTRIAN PATH: 2 (LARGE MULTI-FAMILY BLDG 2 & SMALL MULTI-FAMILY BLDG 2)
% BUILDING SITES ENFRONTING PEDESTRIAN PATH: 6%

PLEASE SEE ARCHITECTURE ELEVATIONS FOR ALL MULTI-FAMILY BUILDING DIMENSIONS AND ELEVATION COMPLIANCE TABULATIONS.

ARCHITECTURAL NOTES:
1. LARGE MULTI-FAMILY BUILDINGS 1 AND 2 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
2. LARGE MULTI-FAMILY BUILDINGS 3 AND 4 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
3. LARGE MULTI-FAMILY BUILDINGS: HVAC UNITS TO BE LOCATED ON ROOF.
4. SMALL MULTI-FAMILY BUILDINGS: HVAC LOCATED IN 3RD LAYER.
5. TOWNHOME DESIGN WILL ADHERE TO THE PRESCRIPTIVE STANDARDS OF CD-5 AT BUILDING PERMIT STAGE.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

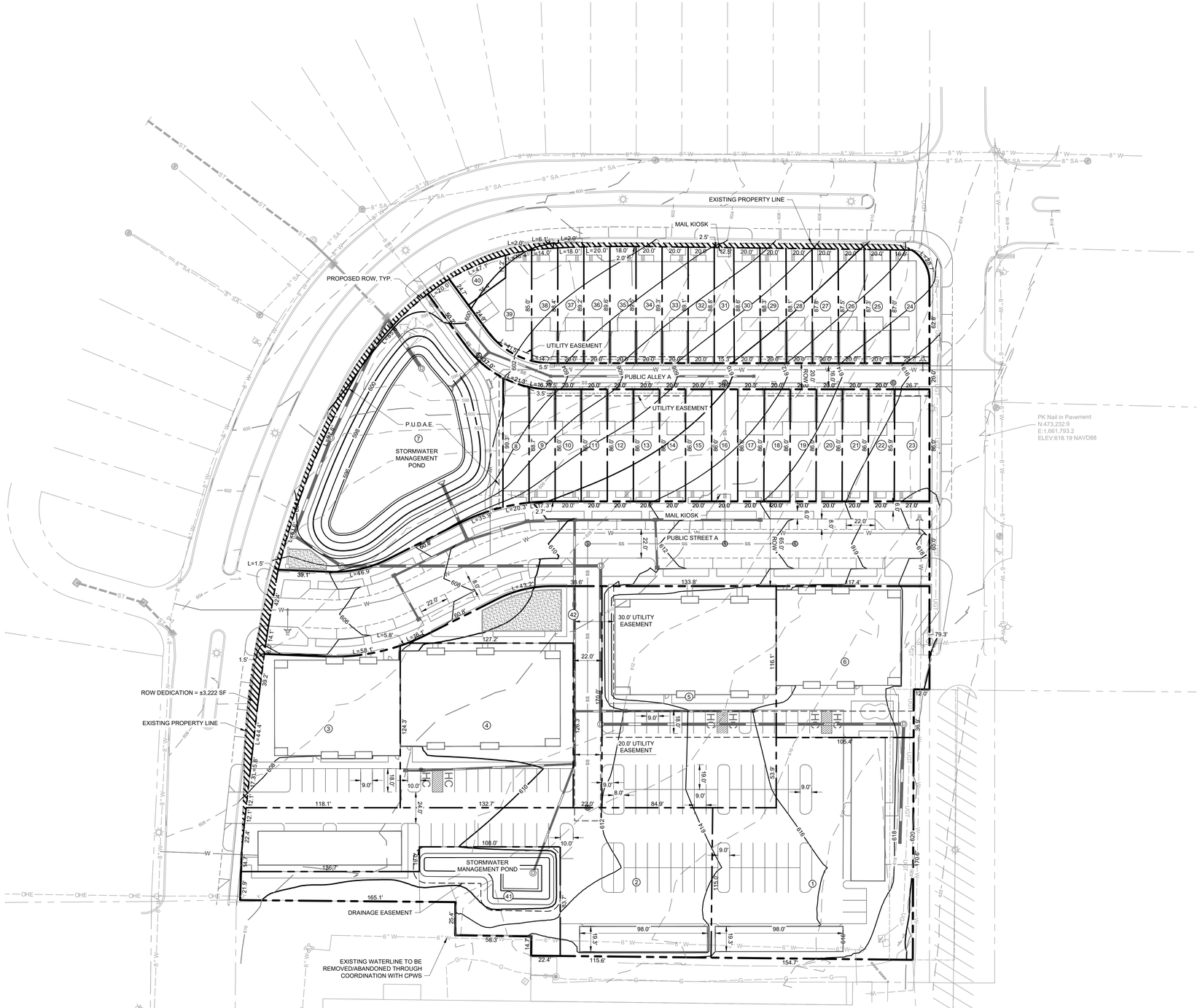
RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, COLUMBIA, Tennessee

GREGORY C. GAMBLE
REGISTERED LANDSCAPE ARCHITECT
TENNESSEE
No. 2456
LANDSCAPE ARCHITECTURE

Date: NOV. 20, 2023

Revision Date
1. DEC. 18, 2023
2.
3.

SITE DEVELOPMENT PLAN
SHEET
C2.0

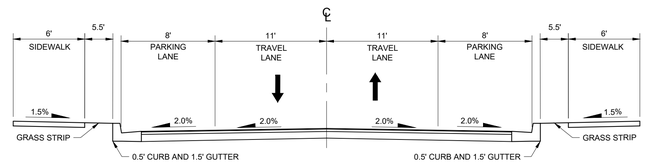


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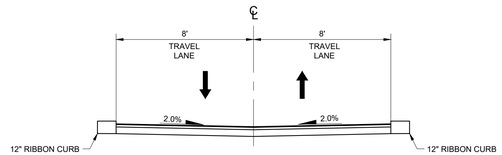
1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN THE 100 YEAR FLOODPLAIN, PER THE FEMA FIRM MAP NUMBER 47119C0170E EFFECTIVE APRIL 16, 2007

LAND USE CHART

SITE AREA	5.87 AC
CIVIC SPACE AREA	0.70 AC
SURFACE PARKING AREA	1.01 AC
ROW DEDICATION	0.07 AC
DENSITY	21.03 DUA



TYPICAL SECTION - URBAN CENTER STREET (65' PUBLIC ROW)
NTS



TYPICAL SECTION - ALLEY A (20' PUBLIC ROW)
NTS

PARCEL AREA TABLE	
Parcel #	Area (SF)
1	23544.57
2	23153.53
3	13123.47
4	16743.18
5	22709.41
6	13204.54
7	22631.71
8	1865.34
9	1734.94
10	1720.00
11	1720.00
12	1720.00
13	1720.00
14	1720.00
15	1720.00
16	1720.00
17	1733.37
18	1720.01
19	1720.01
20	1720.01
21	1720.01

PARCEL AREA TABLE	
Parcel #	Area (SF)
22	1719.47
23	2309.70
24	2499.81
25	1743.14
26	1748.50
27	1753.18
28	1758.55
29	1763.91
30	1769.28
31	1344.01
32	1778.77
33	1783.64
34	1788.52
35	1791.75
36	1788.72
37	1777.20
38	1745.56
39	2415.28
40	862.52
41	10091.70
42	7293.42

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

Kimley»Horn
4031 Aspen Grove Drive, Suite 200, Franklin, TN 37067
Main: 615.208.5112 | www.kimley-horn.com
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RIVER ROAD
DEVELOPMENT PLAT PLAN
Franklin, Williamson County, Tennessee

WILLIAM GRAY HARRISON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 127919
STATE OF TENNESSEE

Revision Date
△ _____
△ _____
△ _____
△ _____

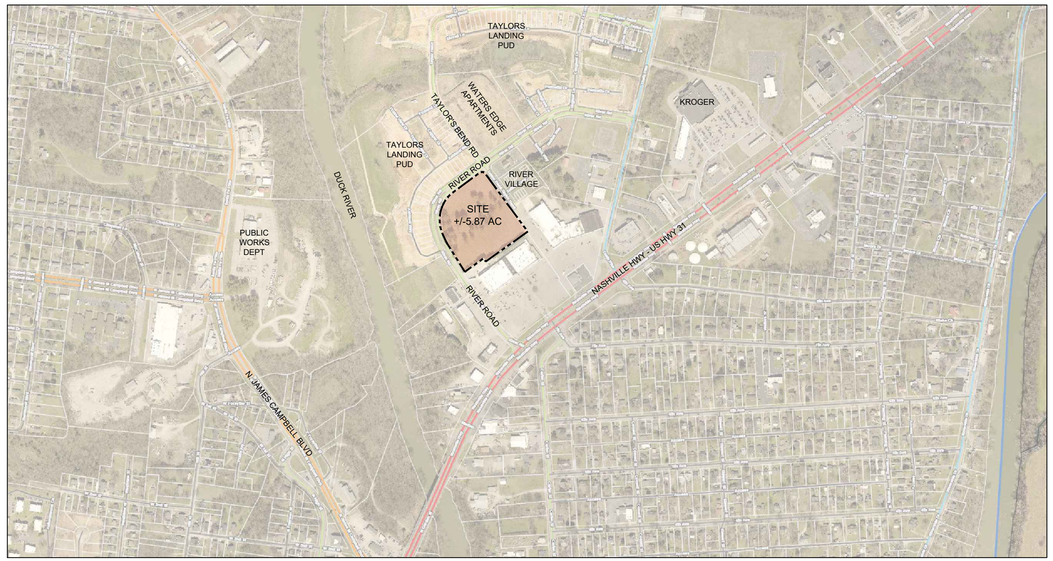
PRELIMINARY PLAT

SHEET
C2.1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN

INTERSECTION OF RIVER ROAD AND TAYLOR'S BEND ROAD
COLUMBIA, TENNESSEE



LOCATION MAP

0 500 1000
GRAPHIC SCALE 1"=500'-0"

OWNER:
DAVID TAYLOR
3006 KNUD DRIVE
COLUMBIA, TN

DEVELOPER:
CPS LAND
213 OVERLOOK CIRCLE, SUITE B2
BRENTWOOD, TN 37027
CLIFF SMITH
cliff.smith@cpsland.com

APPLICANT/ LAND PLANNER:
GAMBLE DESIGN COLLABORATIVE
3020 STANSBERRY LANE, SUITE 201
FRANKLIN, TN 37064
GREG GAMBLE
615-975-5765
greg.gamble@gdc-tn.com

ENGINEER:
KIMLEY-HORN
4031 ASPEN GROVE DRIVE, SUITE 200
FRANKLIN, TN 37067
GRAY HARRISON, P.E.
615.564.2701
gray.harrison@kimley-horn.com

ARCHITECT:
OPEN ARCHITECTURE
ERIC CLAUS
513.403.7019
ERIC.CLAUS@OPENARCHITECTURE.COM

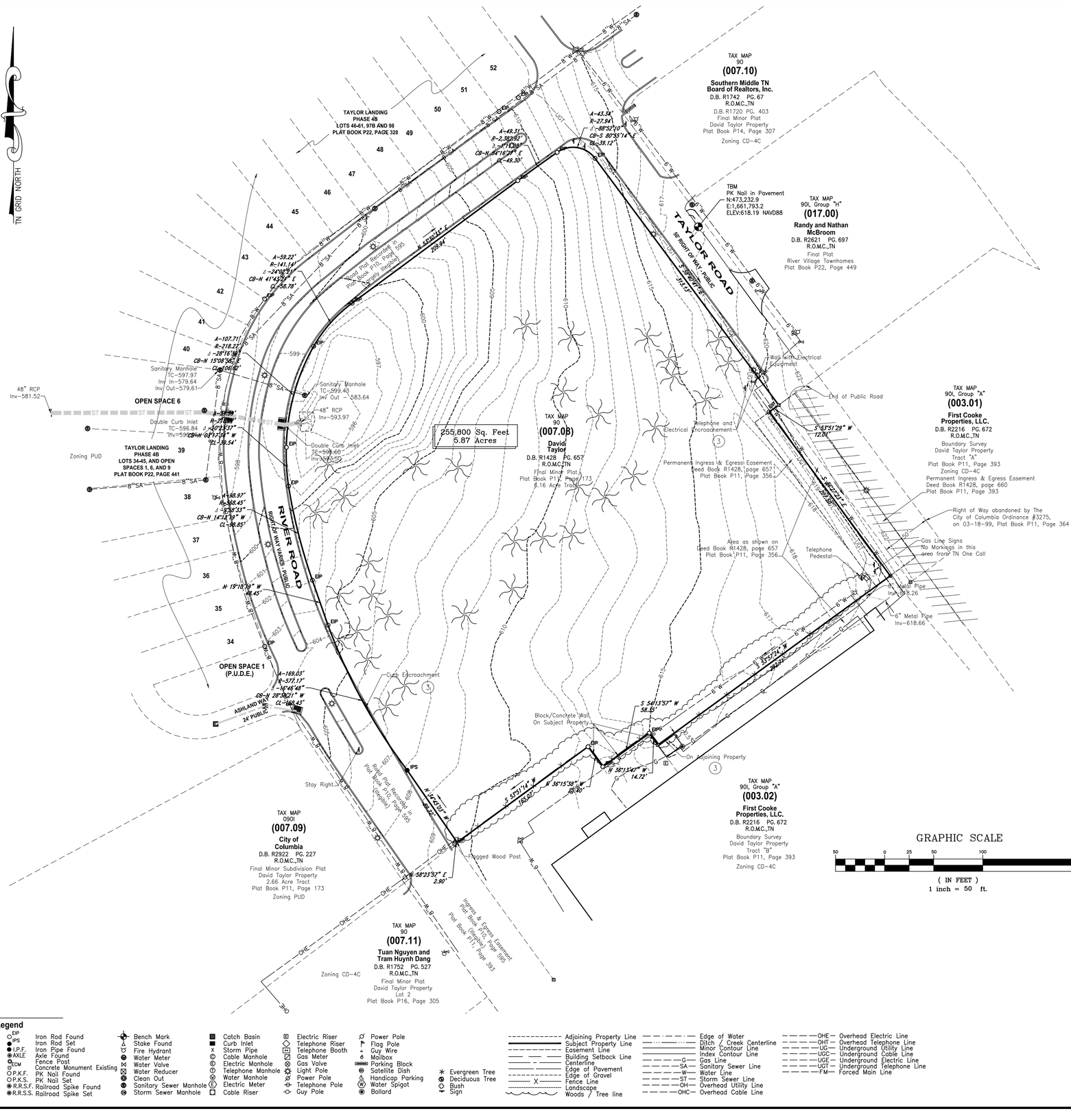
SHEET INDEX

C0.0	COVER SHEET
C1.0	SURVEY
C2.0	SITE DEVELOPMENT PLAN
C2.1	PRELIMINARY PLAT
L1.0	LANDSCAPE PLAN
L2.0	CIVIC SPACE DETAILS AND CHARACTER IMAGES
	ARCHITECTURAL ELEVATIONS

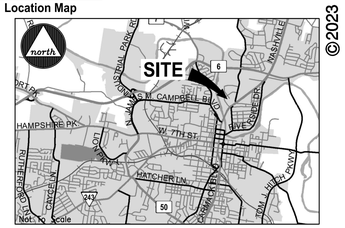
JEFFREY A. ROSS REGISTERED LANDSCAPE ARCHITECT 12.18.23

PRE-APP: August 30, 2023
INITIAL SUBMITTAL: October 16, 2023
RESUBMITTAL: December 18, 2023

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE



Location Map



©2023

Current Zoning

No Zoning Letter Provided to Surveyor

Current Zoning: PUD

Old Republic National Title Insurance Company
Commitment No. 226275
Effective Date: January 16, 2023 at 8:00 AM

Schedule B, Section II Items

1. Defects, liens, encumbrances, adverse claims, and matters in the public record are as addressed below.
2. Discrepancies, conflicts, easements, boundary line disputes, any shortages in area, encroachments or protrusions, or overlapping of improvements are as shown hereon.
3. Rights and claims of parties in possession were not addressed as part of this survey.
4. Liens were not addressed as part of this survey.
5. Items not of Public record were not addressed as part of this survey.
6. Items not of Public record were not addressed as part of this survey.
7. Taxes were not addressed as part of this survey.
8. Matters as shown on Plat Book P11, page 173, Plat Book P11, Page 356, and Plat Book P11, Page 364 are as shown hereon.
9. Waterline easement in Book 301, page 419, does not affect the subject property.
10. Water Flowage Easement in Book 385, page 277, does not affect teh subject property.
11. Sewer Line Easement in Book 431, page 419.
12. Right of Way/Ingress/Egress Easement in Book R1428, Page 660.

(#) Shows location of the designated commitment exception on the current survey.

Encroachment Note

1. The curb line of River Road encroaches on the west side of the subject property.
2. The wall along the south side of the property crosses the property line where labeled, ownership of said was is uncertain to the surveyor.

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure, portions of the survey were done utilizing a Carlson BRX7, utilizing Base and Rover.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category IV 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 City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcel is as shown hereon.
7. This property currently identified as Tax Map No. 90, Parcel No. 007.08, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: Plat Book P11, page 173
9. Deed reference: Book R1428, Page 657
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 title search as provided by others and noted hereon.
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. The property as shown hereon is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0170E, dated April 16, 2007, as scaled graphically.
17. Vertical Datum as shown hereon is NAVD88, as established by TDOT CORS.

Legend

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

Evergreen Tree, Deciduous Tree, Bush, Sign

ALTA/NSPS Surveyor's Certification

To: First American Title Insurance Company, and Barlow Builders :

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1-6, 8, 11, and 17 of Table A thereof. The field work was completed on August 10, 2023.

Allen B. O'Leary, TN RLS #1987 — 8-11-23 Date

I hereby certify this is a true and accurate survey and meets or exceeds the current Minimum Standards and Applications of a Category IV (Remote Sensing) survey as defined in T.C.A. 0820-03-.07C(5).

Equipment: Carlson BRX7, Base and Rover
Positional Accuracy: HRMS=0.04 SD=0.008, VRMS=0.075 SD=0.013
Geoid: NGS2012B
Date: August 2023

ALLEN B. O'LEARY — REGISTERED LAND SURVEYOR — AGRICULTURE — CONVERSE — TENNESSEE NO. 1987

allenwesengineers.com

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

Client
BARLOW BUILDERS
3020 Stansberry Lane, #101
Franklin, TN 37069
615-376-1680

A.L.T.A./N.S.P.S. LAND TITLE SURVEY

RIVER ROAD / TAYLOR ROAD
COLUMBIA, TN – MAURY COUNTY

DATE	REVISIONS	Drawn: BG	Checked:	Approved:	Date: 08-11-23

Job. no. 23563
Scale:
Vertical:
Horizontal:

FILE: J:\WES_Engineers_Surveyors 2023\23563 - Riverbend ALTA - Barlow\Dwg\Survey\23563 Riverbend Survey.dwg

CIVIC SPACE		
REQUIRED: 5%-20% OF GROSS SITE AREA		
PROVIDED: 11% (27,434 SF; 0.63AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	22,334 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS



SITE DEVELOPMENT PLAN SITE DATA:

TOTAL SITE AREA: 255,800 SF; 5.87 AC
AREA OF ROW DEDICATION: 3,222 SF
ADJUSTED TOTAL SITE AREA: 5.80 AC
TOTAL DWELLING UNITS: 122 UNITS
TOTAL DENSITY: 21.03 DUA
TOTAL CIVIC SPACE: 28,200 SF; 0.65 AC (11%)
TOTAL SURFACE PARKING LOT: 43,905 SF; 1.01 AC
TOTAL ROW AND ALLEY EASEMENT: 42,199 SF; .97 AC

BUILDING BREAKDOWN:
TOTAL MULTI-FAMILY UNITS: 92 DWELLING UNITS
LARGE MULTI-FAMILY BLDG 1: 18 DU
LARGE MULTI-FAMILY BLDG 2: 24 DU
LARGE MULTI-FAMILY BLDG 3: 24 DU
LARGE MULTI-FAMILY BLDG 4: 18 DU
SMALL MULTI-FAMILY BLDG 1: 4 DU; 7-GARAGE PARKING SPACES
SMALL MULTI-FAMILY BLDG 2: 4 DU; 8-GARAGE PARKING SPACES

TOWNHOMES: 30 DWELLING UNITS

ACCESSORY BUILDINGS:
ACCESSORY BLDG 1: 8-CAR GARAGE
ACCESSORY BLDG 2: 8-CAR GARAGE

BUILDING SETBACKS:
PRINCIPAL STRUCTURES:
FRONT SETBACK: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
PROVIDED SETBACK: 8'-14' TOWNHOMES; 0' LARGE MULTI-FAMILY; 12' SMALL MULTI-FAMILY

FRONT SETBACK SECONDARY: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
PROVIDED SETBACK: 7'-10' TOWNHOMES; 16'-22' LARGE MULTI-FAMILY

SIDE SETBACK: 0' MIN. - 24' MAXIMUM
PROVIDED SETBACK: 0'; 15' MINIMUM BETWEEN TOWNHOME BUILDINGS

REAR SETBACK: NOT REGULATED
PROVIDED SETBACK: 24' TOWNHOME WITHOUT GARAGE; 5' TOWNHOME WHERE GARAGE FACES ALLEY

ACCESSORY STRUCTURES:
FRONT SETBACK: 40' MAX FROM REAR PROPERTY LINE
PROVIDED SETBACK: 23' FROM REAR PROPERTY LINE

SIDE SETBACK: 3' MAX.
PROVIDED SETBACK: 3' FROM BUILDING SITE LINE ON ONE SIDE

REAR SETBACK: 3' MIN.
PROVIDED SETBACK: 3'

*NOTE: PRIMARY BUILDING CORNER SETBACKS ARE AS CLOSE TO 0' FRONT/0' SIDE AS POSSIBLE. DUE TO THE UNIQUE PROPERTY LINE CONSTRAINTS, BUILDINGS ARE SET BACK TO ALLOW SIDEWALKS AND PLANTING AREAS AND TO AVOID EXISTING EASEMENTS/UTILITIES. ACCESSORY STRUCTURES ARE SET 3' FROM BUILDING SITE LINES ON ONE SIDE. BUILDING SITES ARE WIDER THAN THE ACCESSORY BUILDINGS, PREVENTING 3' SIDE SETBACKS ON BOTH SIDES. ADDITIONALLY, ROW HAS BEEN DEDICATED ALONG RIVER ROAD, WHICH PLACES THE NEW ROW LINE AT THE BACK OF SIDEWALK.

PARKING SUMMARY:
TOTAL DWELLING UNITS: 122 UNITS
REQUIRED MINIMUM PARKING RATIO: 1.5 SPACES PER UNIT
TOTAL PROVIDED PARKING SPACES: 228 PARKING SPACES PROVIDED

TOTAL REQUIRED RESIDENTIAL PARKING: 183 PARKING SPACES; 205 PARKING SPACES PROVIDED
TOWNHOMES: 30 UNITS, 45 REQUIRED PARKING SPACES
PROVIDED: 67 SPACES PROVIDED.
46 SURFACE ON LOT; 7 GARAGE SPACES, 14 ON-STREET SPACES CARPORT (INTERIOR) UNITS HAVE TWO SURFACE PARKING SPACES PROVIDED ON EACH LOT, FOR A TOTAL OF 46 SURFACE SPACES. GARAGE UNITS (EXTERIOR) HAVE ONE PARKING SPOT (10'X20' MIN) PROVIDED ON SITE, FOR A TOTAL OF 7 GARAGE SPACES.

MULTI-FAMILY: 92 UNITS, 138 REQUIRED PARKING SPACES
PROVIDED: 138 SPACES PROVIDED*
105 SURFACE PARKING; 15 GARAGE PARKING SPACES (10'X20' MIN.); 18 ON-STREET PARKING SPACES
ACCESSIBLE PARKING REQUIRED: 1 PER 25 REQUIRED SPACES. (138/25 = 6 ACCESSIBLE SPACES)
PROVIDED: 6 ACCESSIBLE SPACES IN SURFACE PARKING LOT

PROVIDED: ADDITIONAL 17 ON-STREET PARKING SPACES ON STREET A THAT ARE NOT A PART OF THE REQUIRED PARKING FOR TOWNHOMES, MULTI-FAMILY OR CIVIC SPACES.

TOTAL CIVIC SPACE: 27,434 SF; 0.63 AC
REQUIRED MINIMUM PARKING RATIO: 1 SPACE PER 5,000 SF GROSS LAND AREA
TOTAL REQUIRED CIVIC SPACE PARKING: 6 PARKING SPACES
PROVIDED: 6 ON-STREET PARKING SPACES

*NOTE: AN ADDITIONAL 16 GARAGE SPACES ARE PROVIDED IN ACCESSORY BUILDINGS FOR THE MULTI-FAMILY BUILDINGS, AND AN ADDITIONAL 7 TOWNHOME GARAGE SPACES ARE PROVIDED. THESE PARKING SPACES HAVE NOT BEEN INCLUDED IN THE PARKING TOTALS SINCE THEY ARE SMALLER THAN THE MINIMUM 10' X 20' GARAGE SPACE REQUIREMENT.

BIKE PARKING: REQUIRED 1 SPACE PER 20 REQUIRED PARKING SPACES
BIKE PARKING PROVIDED: 183 REQ. PARKING SPACES/20 = 7 BIKE SPACES

FRONTAGE BUILD-OUT: 80% MINIMUM REQUIRED; 92% AVERAGE FOR 36 BUILDING SITES
BUILDING SITE 1: NO FRONTAGE
BUILDING SITE 2: 56%
BUILDING SITE 3: 83%
BUILDING SITE 4: NO FRONTAGE
BUILDING SITE 5: 80%
BUILDING SITE 6: 82%
BUILDING SITES 8-15; 17-30; 32-39: 100%

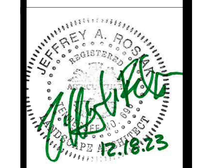
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PLEASE SEE ARCHITECTURE ELEVATIONS FOR ALL MULTI-FAMILY BUILDING DIMENSIONS AND ELEVATION COMPLIANCE TABULATIONS.

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GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

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SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, COLUMBIA, Tennessee

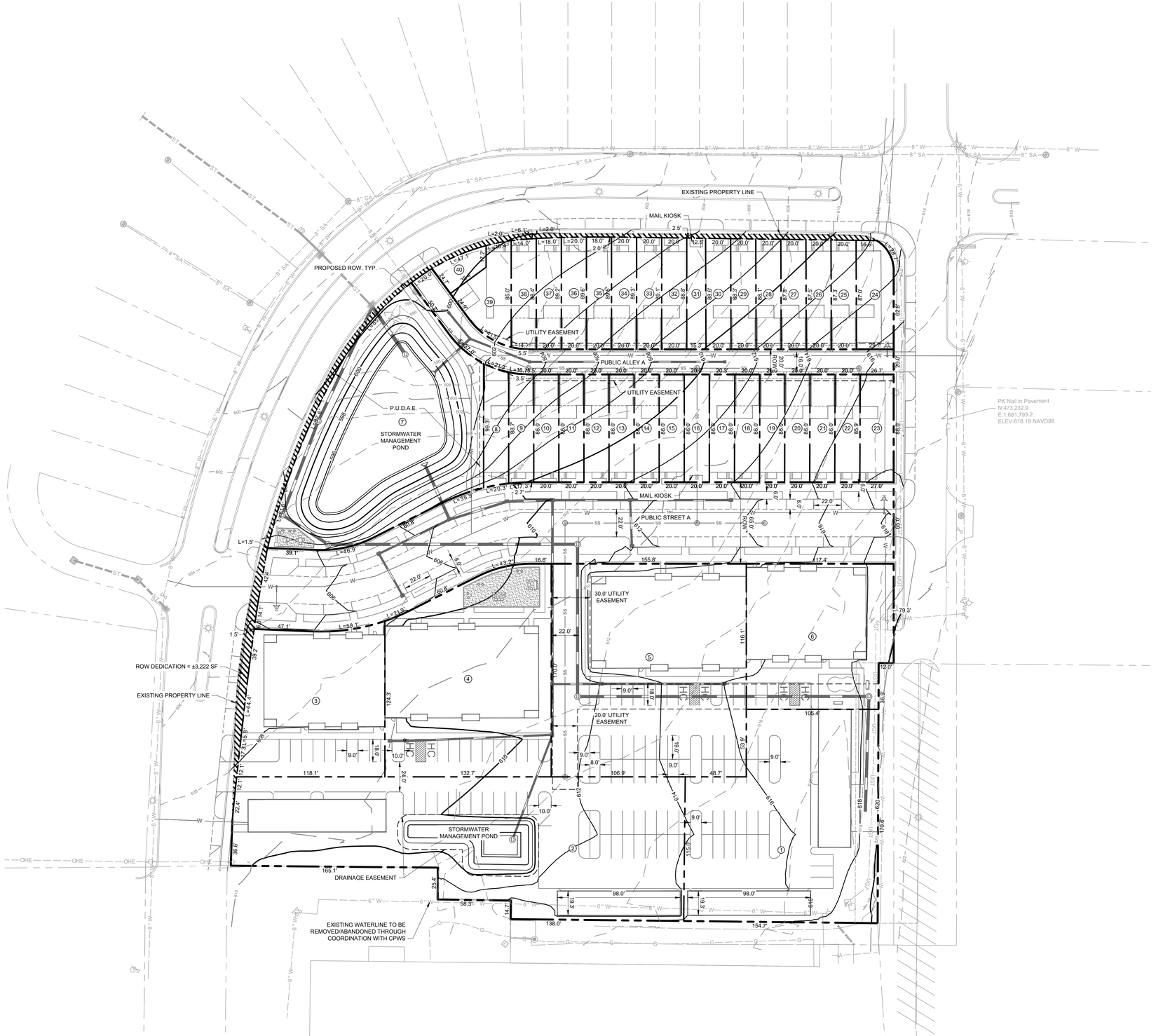


Date: NOV. 20, 2023

Revision Date
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3

SITE DEVELOPMENT PLAN
SHEET
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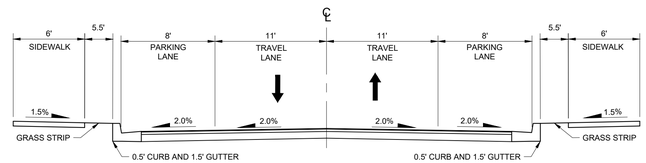


NOTES

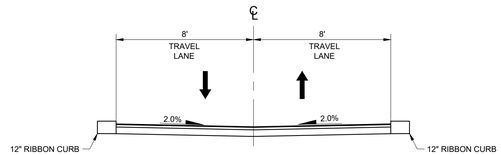
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NTS



TYPICAL SECTION - ALLEY A (20' PUBLIC ROW)
NTS

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11	1720.00
12	1720.00
13	1720.00
14	1720.00
15	1720.00
16	1720.00
17	1733.37
18	1720.01
19	1720.01
20	1720.01

PARCEL AREA TABLE	
Parcel #	Area (SF)
21	1720.01
22	1719.47
23	2309.70
24	2499.81
25	1743.14
26	1748.50
27	1753.18
28	1758.55
29	1763.91
30	1769.28
31	1344.01
32	1778.77
33	1783.64
34	1788.52
35	1791.75
36	1788.72
37	1777.20
38	1745.56
39	2415.28
40	862.52

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

Kimley»Horn
4031 Aspen Grove Drive, Suite 200, Franklin, TN 37067
Main: 615.208.5112 | www.kimley-horn.com
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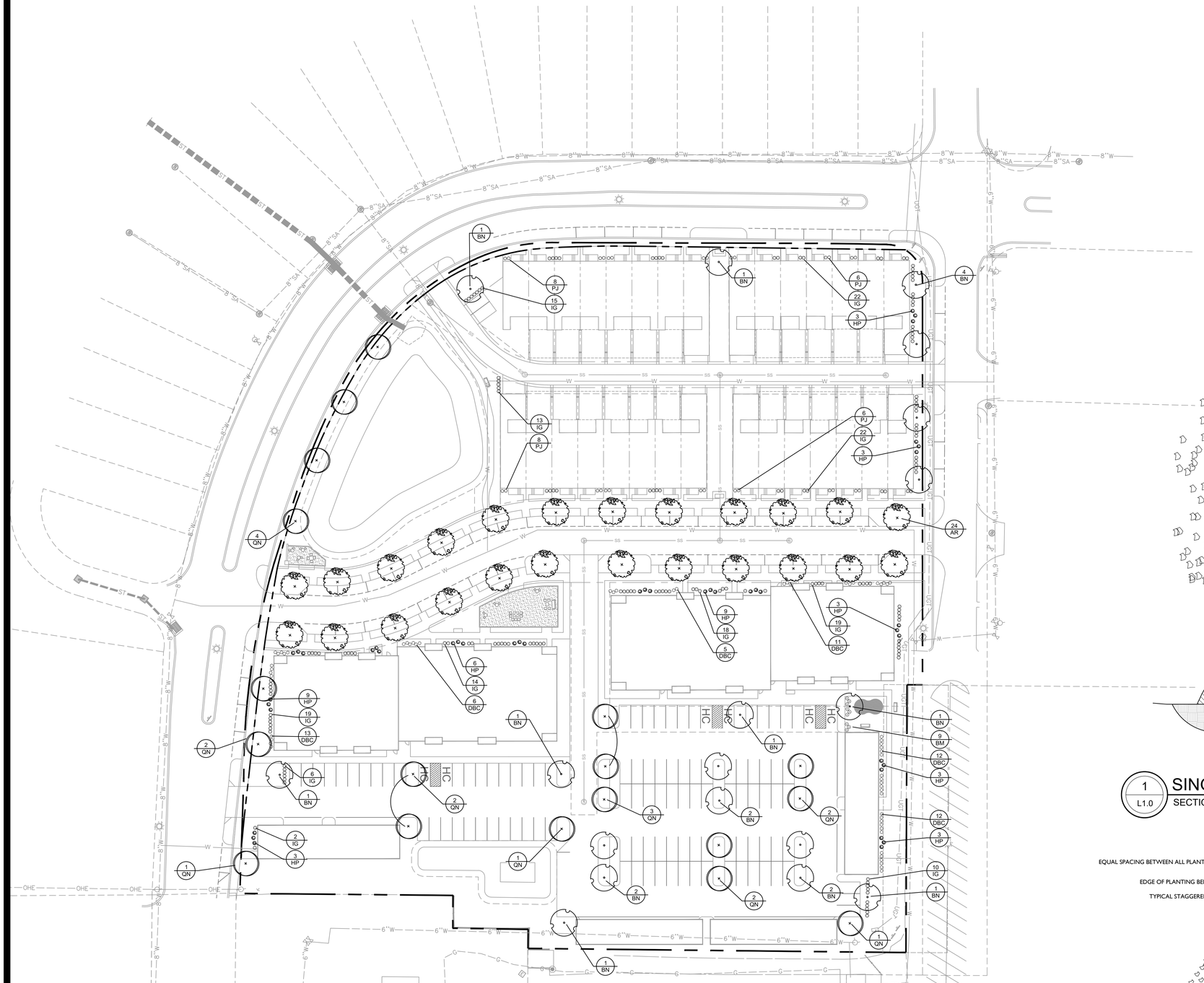
RIVER ROAD
DEVELOPMENT PLAT PLAN
Franklin, Williamson County, Tennessee

WILLIAM GRAY HARRISON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 127915
STATE OF TENNESSEE
12/18/2023

Revision Date
△ _____
△ _____
△ _____
△ _____

PRELIMINARY PLAT

SHEET
C2.1



QTY / SYM — PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
24	AR	ACER RUBRUM ' AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	40%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN, MATCHING
19	QN	QUERCUS NUTTALLI	NUTTAL OAK	2.5" CAL	10' MIN.	32%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
16	BN	BETULA NIGRA	RIVER BIRCH	2.5" CAL	10' MIN.	27%	AS SHOWN	MULTI-STEM, 3 TO 5 CANES WITH A SUM TOTAL OF EACH CANE TO EQUAL MIN. CALIPER SIZE
SHRUBS								
9	BM	BUXUS MICROPHYLLA VAR. JAPONICA 'WINTER GEM'	WINTER GEM BOXWOOD	#3 CONT.	30" MIN.		36" O.C.	
160	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	#3 CONT.	30" MIN.		36" O.C.	
28	PJ	PIERIS JAPONICA 'FIRE &ICE'	FIRE & ICE PIERIS	#3 CONT.	30" MIN.		36" O.C.	
39	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA	#3 CONT.	30" MIN.		48" O.C.	
59	DBC	DISTYLLIUM HYBRID 'PIIDIST-II'	BLUE CASCADE EVERGREEN DISTYLLIUM	#3 CONT.	30" MIN.		36" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

0 40 80 120
GRAPHIC SCALE 1"=40'-0"

CODE MINIMUM LANDSCAPE PLAN

THIS LANDSCAPE PLAN HAS BEEN DESIGNED TO MEET THE MINIMUM CODE REQUIREMENTS OF THE CITY OF COLUMBIA TN ZONING ORDINANCE FOR SITE DEVELOPMENT PLAN.

ZONING ORDINANCE 4.3.16 - CD-5 LANDSCAPING:
CONTINUOUS SHRUBS AROUND FOUNDATION AT FACADE. 1 SHRUB EVERY 10 LF
- SMALL MULTI-FAMILY BLDG 1: REQ. 3 SHRUBS; PROVIDED: 5 SHRUBS
- SMALL MULTI-FAMILY BLDG 2: REQ. 11 SHRUBS; PROVIDED: 30 SHRUBS
- LARGE MULTI-FAMILY BLDG 1: REQ.18 SHRUBS; PROVIDED: 42 SHRUBS
- LARGE MULTI-FAMILY BLDG 2: REQ.13 SHRUBS; PROVIDED: 26 SHRUBS
- LARGE MULTI-FAMILY BLDG 3: REQ.13 SHRUBS; PROVIDED: 32 SHRUBS
- LARGE MULTI-FAMILY BLDG 4: REQ.18 SHRUBS; PROVIDED: 33 SHRUBS
- TOWNHOMES: 2 SHRUBS FRONT; 8 SIDE; PROVIDED: 2 FRONT, 17 SIDE

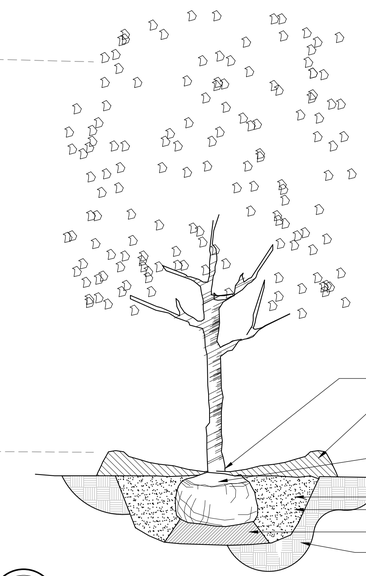
ZONING ORDINANCE 5.2.2.G-1 - URBAN CENTER STREET:
REQUIRED: 1 STREET TREE EVERY 50 LF.
PROVIDED: 1 STREET TREE EVERY 50 LF.

ZONING ORDINANCE 4.13.12.C - PARKING DESIGN:
REQUIRED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS.
PROVIDED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS

REQUIRED: 1 TREE PER 2,000 SF OF PARKING LOT
PROVIDED: 43,905 SF PARKING AREA/ 2,000 SF = 22 TREES REQUIRED. PROVIDED: 23 TREES

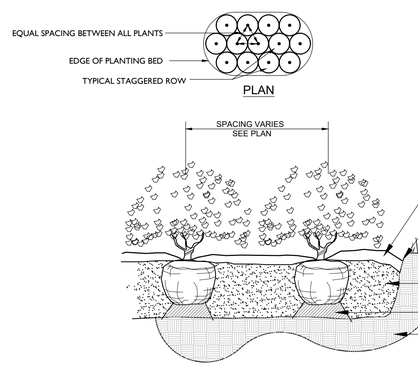
REQUIRED: 36" HEDGE TO SCREEN PARKING FROM CIVIC SPACE AND ADJACENT PROPERTY
PROVIDED: HEDGES PROVIDED AS REQUIRED.

ZONING ORDINANCE 4.3.16.L - TREE PROTECTION:
CD-5 DOES NOT REQUIRED EXISTING TREE CANOPY PRESERVATION.
NO EXISTING TREES ARE DESIGNATED AS PRESERVED.



1 / L1.0 — SINGLE TRUNK DECIDUOUS TREE — SECTION — DETAIL # NTS

GENERAL NOTES:
1. All trees are to be nursery grown, burlap and ball (B&B). Minimum tree size is per schedule (measured 6" above root ball).
2. Remove all treated or plastic-coated burlap, strapping, wire or nylon twine from root ball. After setting in hole, cut away top and sides of wire basket, if any.
3. Install top of plant ball even with or up to 2" above existing grade.
4. Set tree in vertical position; stake if necessary for stabilization.
5. Soak plant ball and pit immediately after installation. Place 3" of seasoned mulch or pine needles around base of tree, 3' diameter minimum.



2 / L1.0 — SHRUB PLANTING — SECTION — DETAIL # NTS

GENERAL NOTES:
1. Install top of plant ball shall be level with finished grade.
2. Tamp planting mix firmly as pit is filled around each plant ball.
3. Soak each plant ball and pit immediately after installation.
4. Cut and remove burlap from top 1/3 of root ball. Non-degradable burlap shall be removed or rolled under ball after replacement of plant.
5. Combustible mulch shall not be applied or maintained within two feet of any building around entire exterior perimeter.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

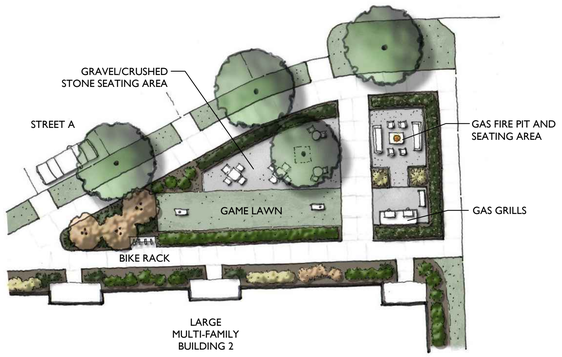
RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, Columbia, Tennessee

JEFFREY A. ROSS — REGISTERED LANDSCAPE ARCHITECT — STATE OF TENNESSEE — 12.18.23

Date: NOV. 20, 2023

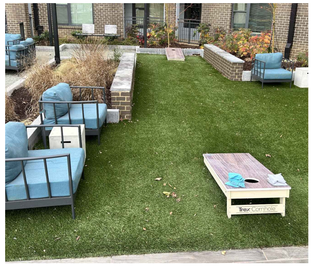
Revision	Date
1	DEC. 18, 2023
2	
3	

LANDSCAPE PLAN
SHEET
L1.0

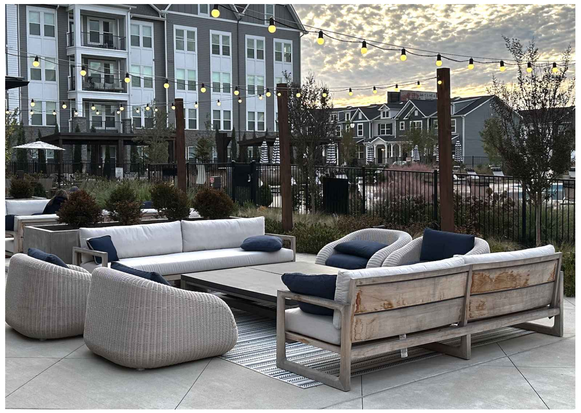


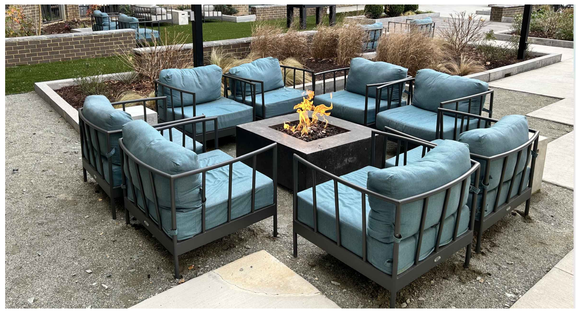
1 L2.0 POCKET PARK CIVIC SPACE PLAN

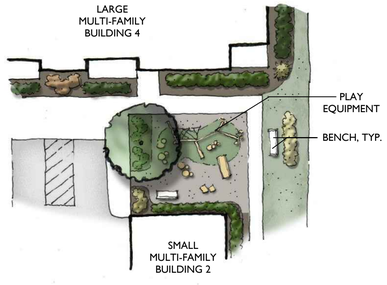
CHARACTER IMAGES



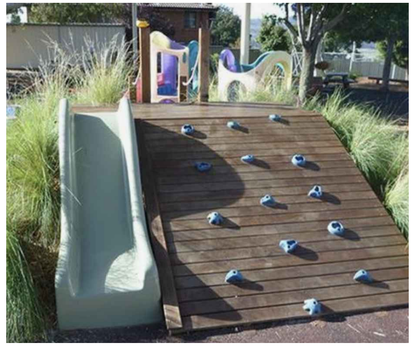










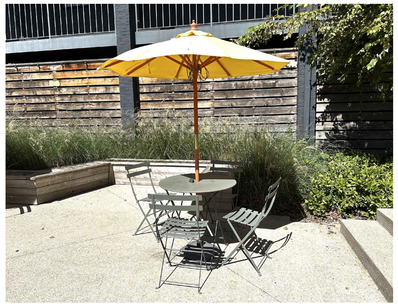


CHARACTER IMAGES

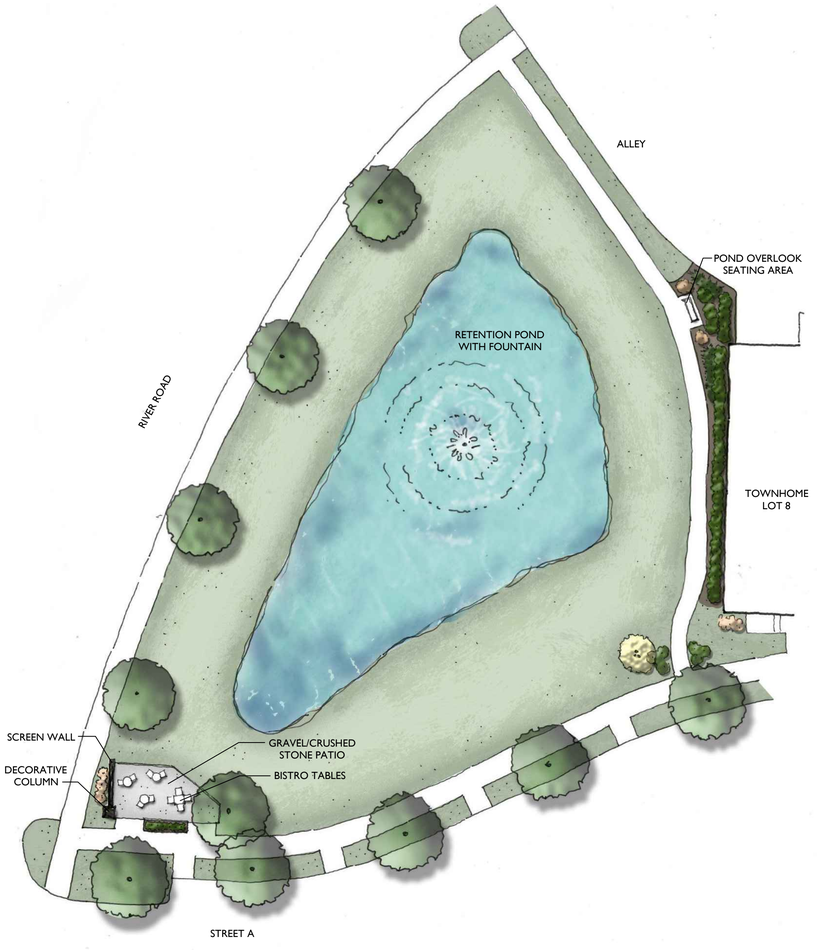
2 L2.0 PLAYGROUND CIVIC SPACE PLAN

CIVIC SPACE		
REQUIRED: 5%-20% OF GROSS SITE AREA		
PROVIDED: 11% (27,434 SF; 0.63AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	22,334 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS

CHARACTER IMAGES







3 L2.0 SQUARE CIVIC SPACE PLAN

GAMBLE DESIGN COLLABORATIVE

DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, Columbia, Tennessee

JEFFREY A. ROSS REGISTERED LANDSCAPE ARCHITECT 12.18.23

Date: NOV. 20, 2023

Revision Date
1 DEC. 18, 2023
2
3

CIVIC SPACE PLAN

SHEET L2.0

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.



WEST ELEVATION

FACADE GLAZING - 24%

NORTH ELEVATION

BUILDING #2

FACADE GLAZING - 26%

BUILDING #1

FACADE GLAZING - 26%



SOUTH ELEVATION

BUILDING #1

BUILDING #2

EAST ELEVATION

FACADE GLAZING - 28%

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

DECEMBER 18, 2023

MULTIFAMILY BUILDINGS 1 & 2

BARLOW BUILDERS

CPS land creating community

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.





GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY
EXTERIOR ELEVATIONS
DECEMBER 18, 2023

MULTIFAMILY BUILDINGS 3 & 4

BARLOW BUILDERS

CPS land creating community

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.



WEST ELEVATION

FACADE GLAZING - 25%

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

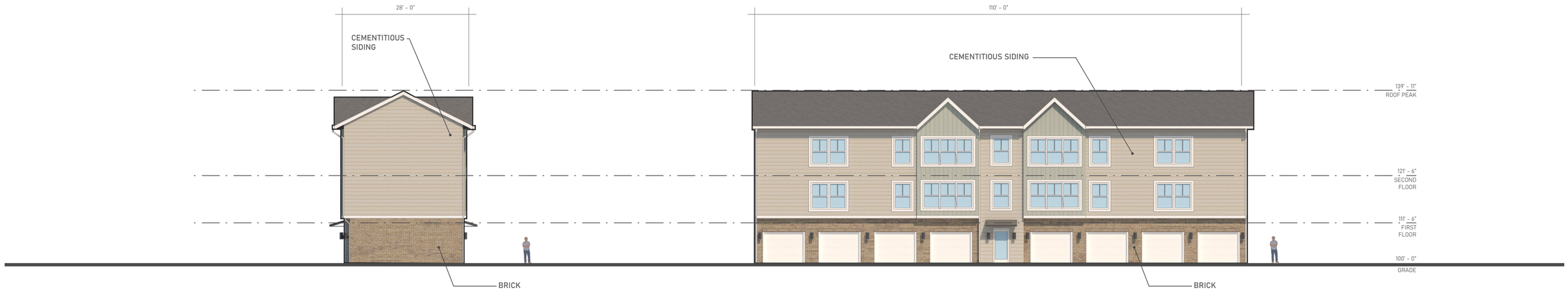
DECEMBER 18, 2023

CARRIAGE HOUSE 1

BARLOW BUILDERS

CPS land creating community

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.



NORTH ELEVATION

WEST ELEVATION



EAST ELEVATION

FACADE GLAZING - 31%

SOUTH ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

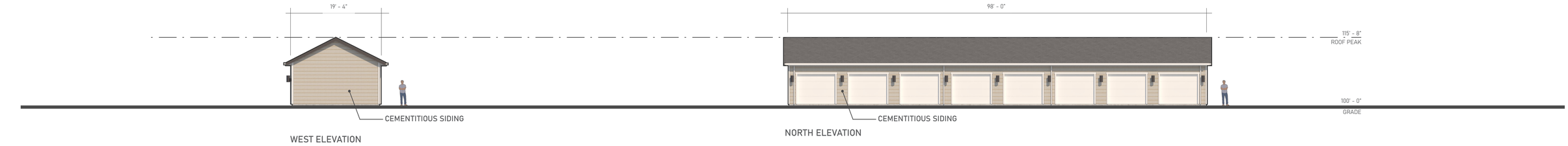
DECEMBER 18, 2023

CARRIAGE HOUSE 2

BARLOW BUILDERS

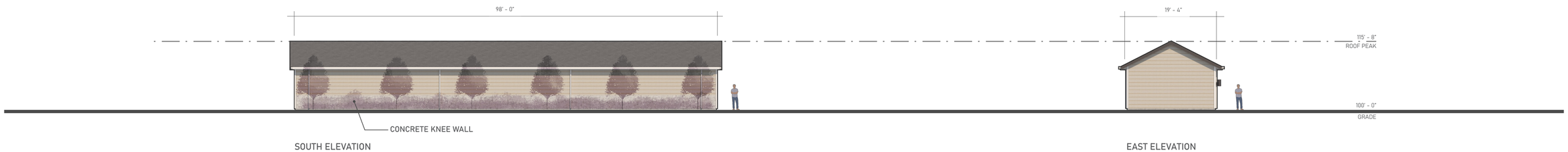
CPS land creating community

*Sill Height Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level allowable deviation to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.



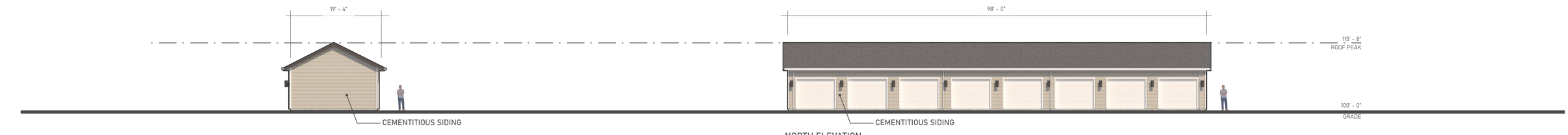
WEST ELEVATION

NORTH ELEVATION



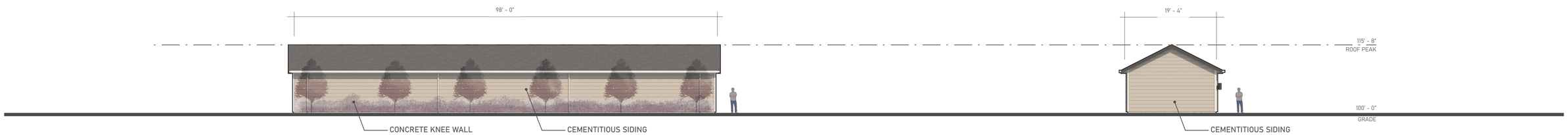
SOUTH ELEVATION

EAST ELEVATION



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

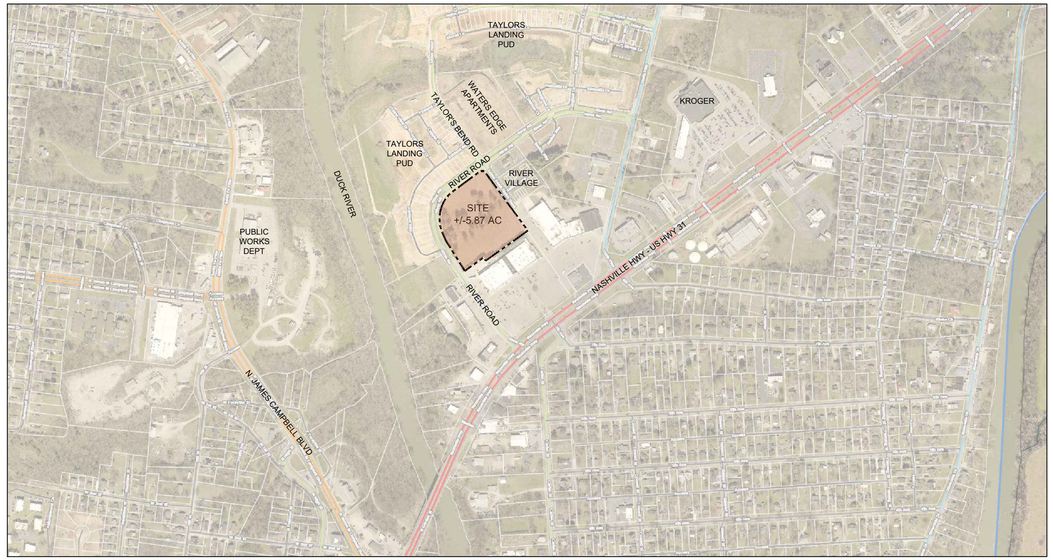
EAST ELEVATION

RIVER ROAD PROPERTY
EXTERIOR ELEVATIONS
DECEMBER 18, 2023

GARAGE 1 & 2

RIVER ROAD PROPERTY
PRELIMINARY PLAT

INTERSECTION OF RIVER ROAD AND TAYLOR'S BEND ROAD
COLUMBIA, TENNESSEE



LOCATION MAP

0 500 1000
GRAPHIC SCALE 1"=500'-0"

OWNER:
DAVID TAYLOR
3006 KNUD DRIVE
COLUMBIA, TN

DEVELOPER:
CPS LAND
213 OVERLOOK CIRCLE, SUITE B2
BRENTWOOD, TN 37027
CLIFF SMITH
cliff.smith@cpsland.com

APPLICANT/ LAND PLANNER:
GAMBLE DESIGN COLLABORATIVE
3020 STANSBERRY LANE, SUITE 201
FRANKLIN, TN 37064
GREG GAMBLE
615-975-5765
greg.gamble@gdc-tn.com

ENGINEER:
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4031 ASPEN GROVE DRIVE, SUITE 200
FRANKLIN, TN 37067
GRAY HARRISON, P.E.
615.564.2701
gray.harrison@kimley-horn.com

ARCHITECT:
OPEN ARCHITECTURE
ERIC CLAUS
513.403.7019
ERIC.CLAUS@OPENARCHITECTURE.COM

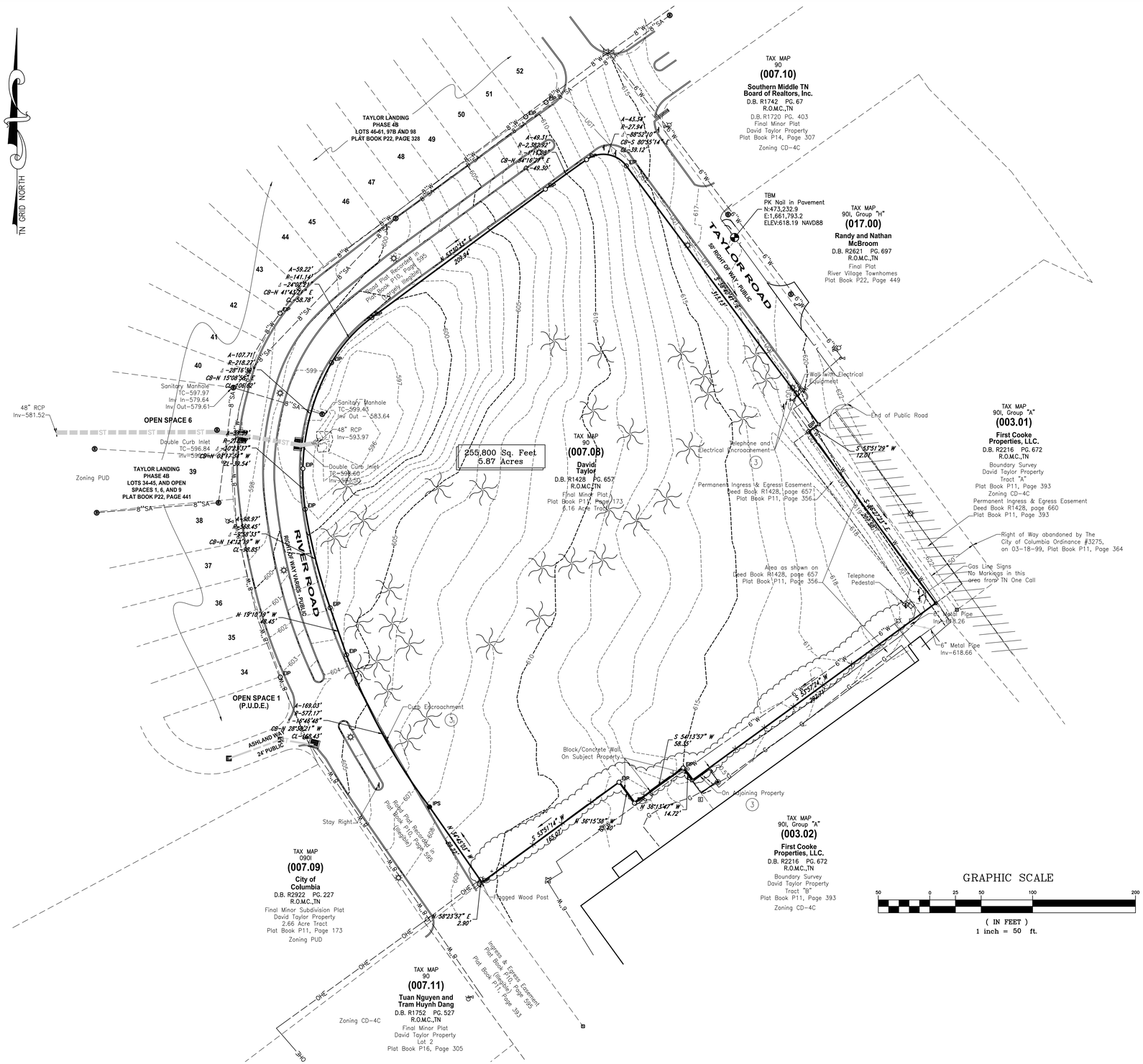
SHEET INDEX

C0.0	COVER SHEET
C1.0	SURVEY
C2.1	PRELIMINARY PLAT

JEFFREY A. ROSS
REGISTERED
LANDSCAPE ARCHITECT
12.18.23

PRE-APP: August 30, 2023
INITIAL SUBMITTAL: October 16, 2023
RESUBMITTAL: December 18, 2023

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

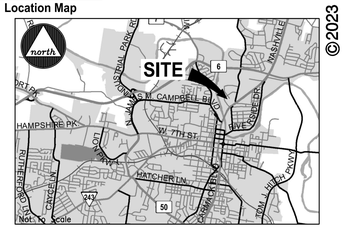


GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

Location Map



©2023

Current Zoning

No Zoning Letter Provided to Surveyor

Current Zoning: PUD

Old Republic National Title Insurance Company
Commitment No. 226275
Effective Date: January 16, 2023 at 8:00 AM

Schedule B, Section II Items

1. Defects, liens, encumbrances, adverse claims, and matters in the public record are as addressed below.
2. Discrepancies, conflicts, easements, boundary line disputes, any shortages in area, encroachments or protrusions, or overlapping of improvements are as shown hereon.
3. Rights and claims of parties in possession were not addressed as part of this survey.
4. Liens were not addressed as part of this survey.
5. Items not of Public record were not addressed as part of this survey.
6. Items not of Public record were not addressed as part of this survey.
7. Taxes were not addressed as part of this survey.
8. Matters as shown on Plat Book P11, page 173, Plat Book P11, Page 356, and Plat Book P11, Page 364 are as shown hereon.
9. Waterline easement in Book 301, page 419, does not affect the subject property.
10. Water Flowage Easement in Book 385, page 277, does not affect teh subject property.
11. Sewer Line Easement in Book 431, page 419.
12. Right of Way/Ingress/Egress Easement in Book R1428, Page 660.

(#) Shows location of the designated commitment exception on the current survey.

Encroachment Note

1. The curb line of River Road encroaches on the west side of the subject property.
2. The wall along the south side of the property crosses the property line where labeled, ownership of said was is uncertain to the surveyor.

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure, portions of the survey were done utilizing a Carlson BRX7, utilizing Base and Rover.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category IV 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 pertoining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcel is as shown hereon.
7. This property currently identified as Tax Map No. 90, Parcel No. 007.08, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: Plat Book P11, page 173
9. Deed reference: Book R1428, Page 657
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 title search as provided by others and noted hereon.
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. The property as shown hereon is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0170E, dated April 16, 2007, as scaled graphically.
17. Vertical Datum as shown hereon is NAVD88, as established by TDOT CORS.

ALTA/NSPS Surveyor's Certification

To: First American Title Insurance Company, and Barlow Builders :

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1-6, 8, 11, and 17 of Table A thereof. The field work was completed on August 10, 2023.

Allen B. O'Leary, TN RLS #1987 — 8-11-23 Date

I hereby certify this is a true and accurate survey and meets or exceeds the current Minimum Standards and Applications of a Category IV (Remote Sensing) survey as defined in T.C.A. 0820-03-.07(5).

Equipment: Carlson BRX7, Base and Rover
Positional Accuracy: HRMS=0.04 SD=0.008, VRMS=0.075 SD=0.013
Geoid: NGS2012B
Date: August 2023

ALLEN B. O'LEARY — REGISTERED LAND SURVEYOR — AGRICULTURE — CONVERSE — TENNESSEE NO. 1987

allenwesengineers.com

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

Client
BARLOW BUILDERS
3020 Stansberry Lane, #101
Franklin, TN 37069
615-376-1680

A.L.T.A./N.S.P.S. LAND TITLE SURVEY

RIVER ROAD / TAYLOR ROAD
COLUMBIA, TN – MAURY COUNTY

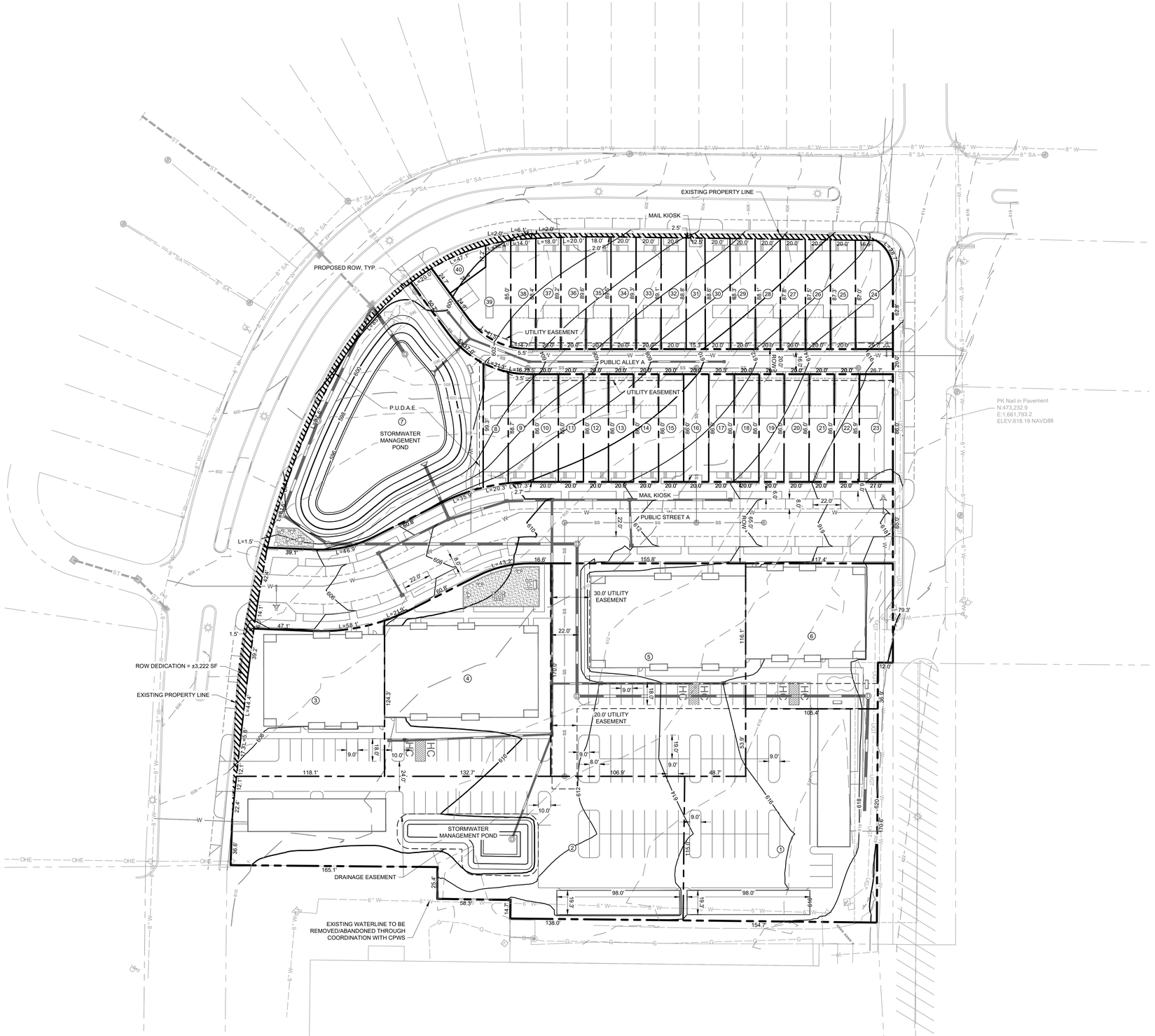
DATE	REVISIONS

Drawn: BD
Checked:
Approved:
Date: 08-11-23

Job. no. 23563
Scale:
Vertical:
Horizontal:

FILE: J:\WES_Engineers_Surveyors 2023\23563 - Riverbend ALTA - Barlow\Dwg\Survey\23563 Riverbend Survey.dwg

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

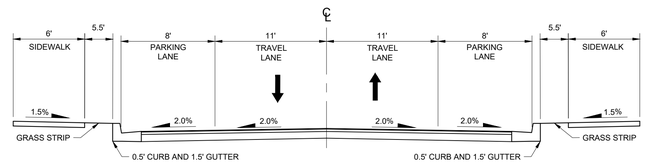


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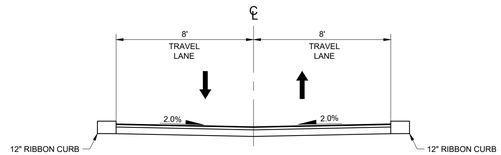
1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN THE 100 YEAR FLOODPLAIN, PER THE FEMA FIRM MAP NUMBER 47119C0170E EFFECTIVE APRIL 16, 2007

LAND USE CHART

SITE AREA	5.87 AC
CIVIC SPACE AREA	0.65 AC
SURFACE PARKING AREA	1.01 AC
ROW DEDICATION	0.07 AC
DENSITY	21.03 DUA



TYPICAL SECTION - URBAN CENTER STREET (65' PUBLIC ROW)
NTS



TYPICAL SECTION - ALLEY A (20' PUBLIC ROW)
NTS

PARCEL AREA TABLE	
Parcel #	Area (SF)
1	23544.57
2	33244.93
3	13123.47
4	20296.86
5	26449.45
6	13204.54
7	22631.71
8	1865.34
9	1734.94
10	1720.00
11	1720.00
12	1720.00
13	1720.00
14	1720.00
15	1720.00
16	1720.00
17	1733.37
18	1720.01
19	1720.01
20	1720.01

PARCEL AREA TABLE	
Parcel #	Area (SF)
21	1720.01
22	1719.47
23	2309.70
24	2499.81
25	1743.14
26	1748.50
27	1753.18
28	1758.55
29	1763.91
30	1769.28
31	1344.01
32	1778.77
33	1783.64
34	1788.52
35	1791.75
36	1788.72
37	1777.20
38	1745.56
39	2415.28
40	862.52

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

Kimley»Horn
4031 Aspen Grove Drive, Suite 200, Franklin, TN 37067
Main: 615.208.5112 | www.kimley-horn.com
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RIVER ROAD
DEVELOPMENT PLAT PLAN
Franklin, Williamson County, Tennessee

WILLIAM GRAY HARRISON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 127915
STATE OF TENNESSEE
12/18/2023

Revision Date
△ _____
△ _____
△ _____
△ _____

PRELIMINARY PLAT

SHEET
C2.1



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

MULTIFAMILY BUILDINGS 1 & 2

GAMBLE DESIGN COLLABORATIVE

BARLOW BUILDERS

CPS land creating community



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

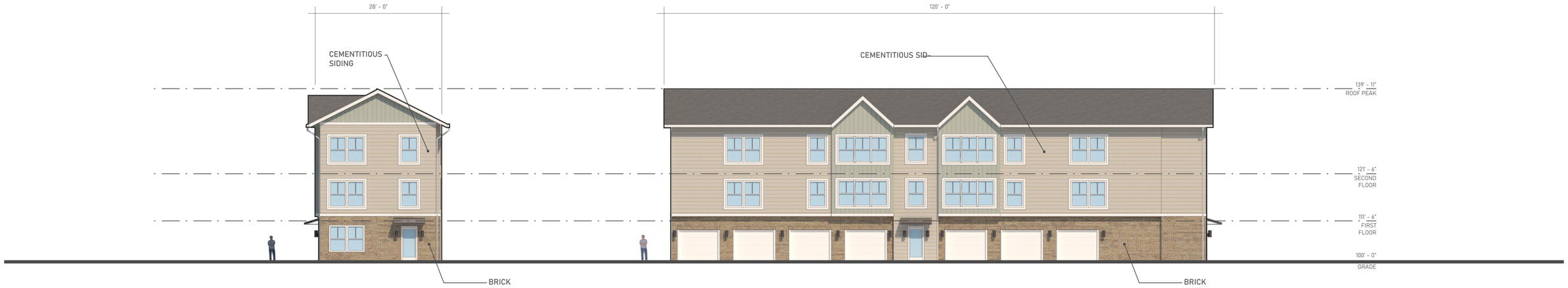
EAST ELEVATION

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

MULTIFAMILY BUILDINGS 3 & 4



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

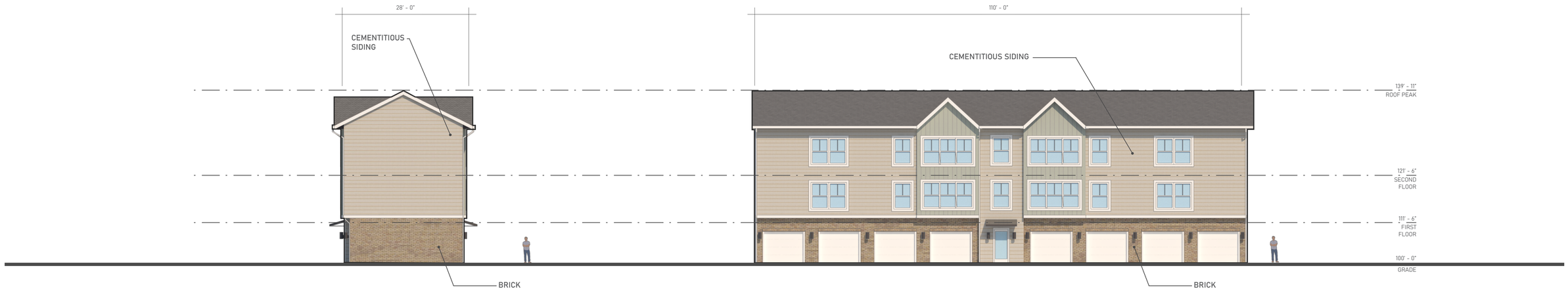
EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

CARRIAGE HOUSE 1

BARLOW BUILDERS

CPS land creating community



NORTH ELEVATION

WEST ELEVATION



EAST ELEVATION

SOUTH ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

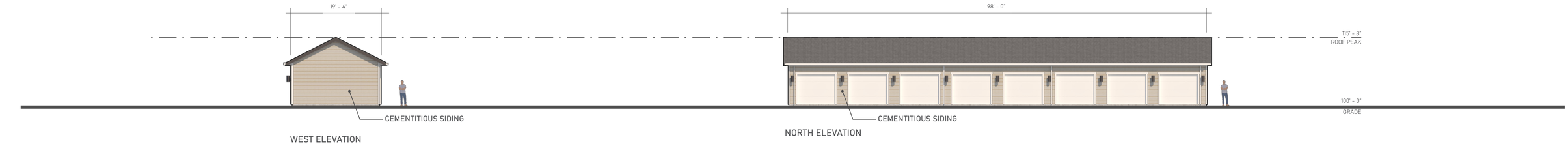
EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

CARRIAGE HOUSE 2

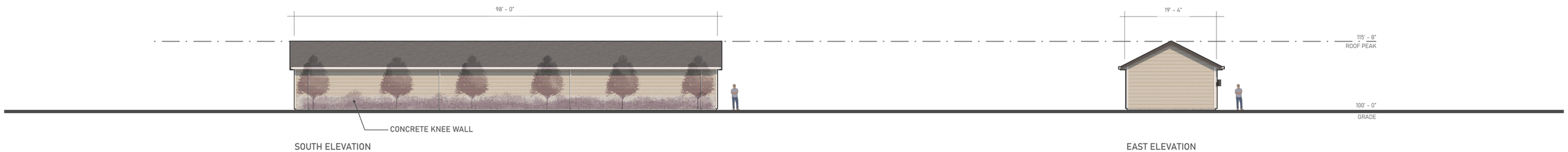
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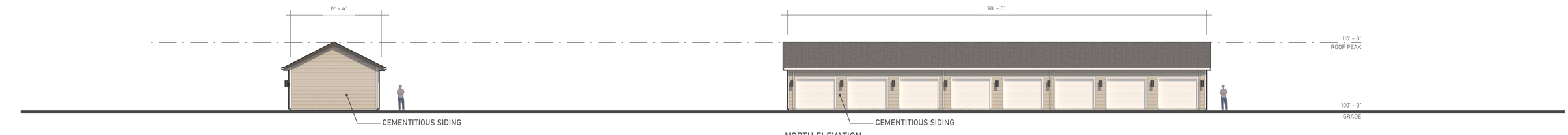
WEST ELEVATION

NORTH ELEVATION



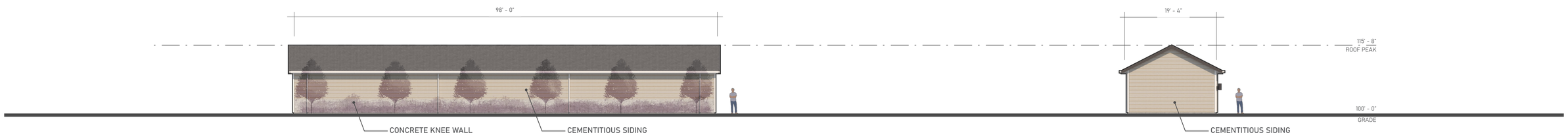
SOUTH ELEVATION

EAST ELEVATION



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

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GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

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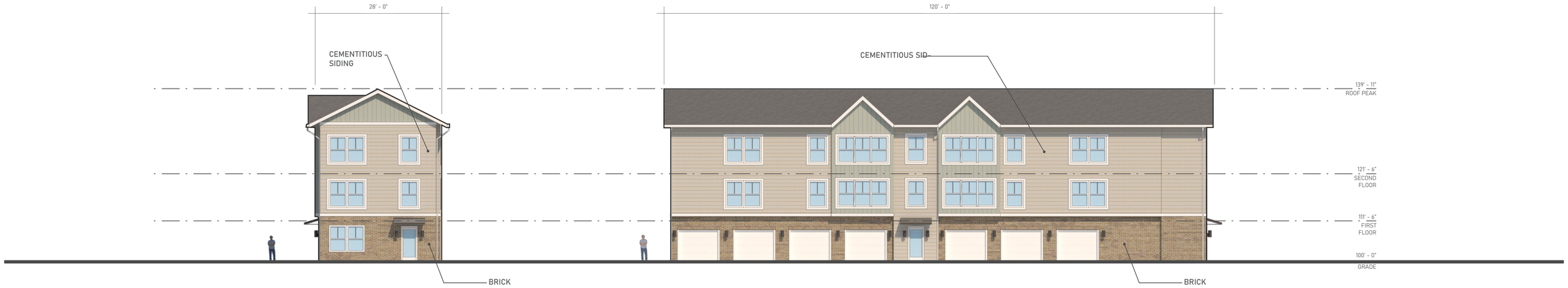


SOUTH ELEVATION

EAST ELEVATION

RIVER ROAD PROPERTY
EXTERIOR ELEVATIONS
NOVEMBER 20, 2023

MULTIFAMILY BUILDINGS 3 & 4



WEST ELEVATION

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RIVER ROAD PROPERTY

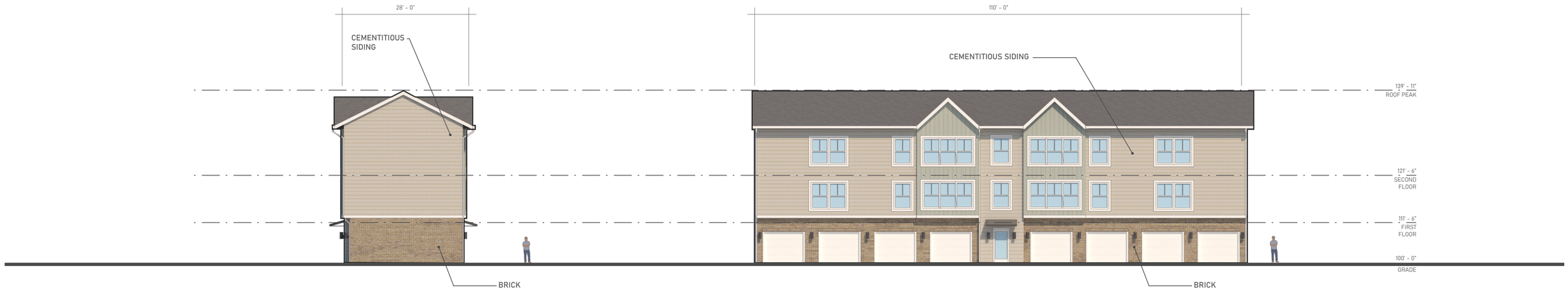
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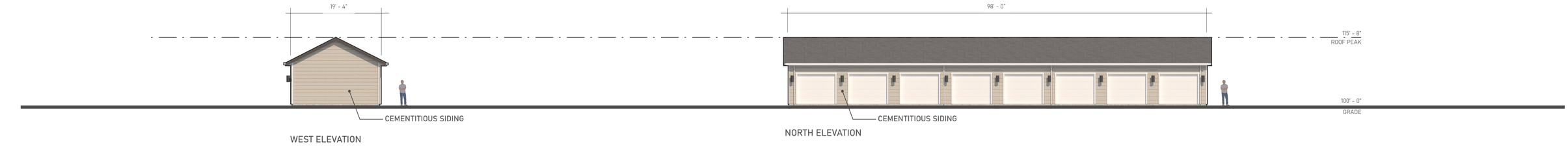
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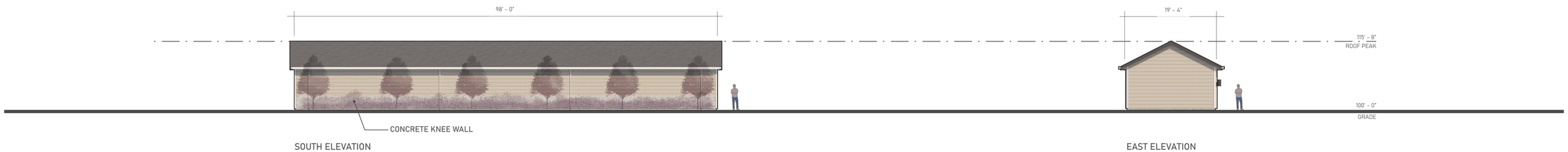
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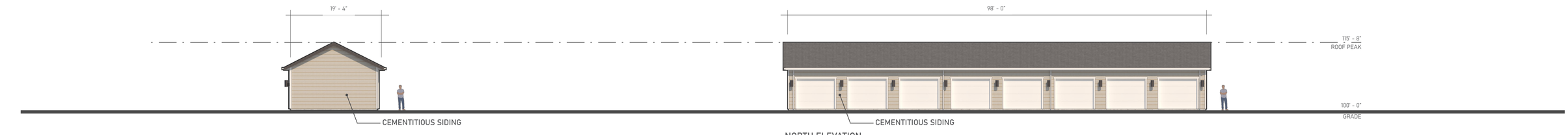
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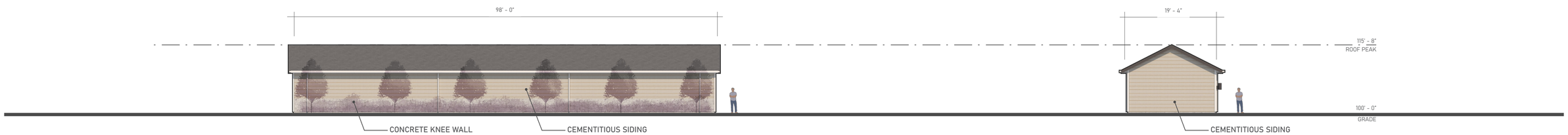
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GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

GARAGE 1 & 2

BARLOW BUILDERS

CPS land creating community

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, December 12, 2023

ITEM NO.
23-0476

DESCRIPTION: Site Development Plan + Preliminary Plat for River Road Property, located at Tax Map 90, Parcel 7.08. Plan includes 122 dwelling units in Townhomes, Small and Large Multi-Family buildings with associated civic space and parking.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Building

1. No comments.

Police

2. No comments provided.

Columbia Power

3. 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.

Public Works

4. For 92 multi-family units and 30 townhomes, we recommend three or four 8-yard dumpsters with 3x/week collection if utilizing City of Columbia sanitation services. Private sanitation services, including dumpsters, compactors, individual receptacles or valet service, may be utilized. Individual trash receptacles will not be provided by the City of Columbia to townhome or multi-family residents. Please see attached City of Columbia Dumpster Guidelines & Accessibility Requirements.

Something Good Around Every Corner
Public Works 110 Santa Fe Pike Columbia, Tennessee 38401 Phone 931.388.8650
This institution is an equal opportunity provider.
PUBLIC WORKS DEPARTMENT
DUMPSTER GUIDELINES AND ACCESSIBILITY REQUIREMENTS
DUMPSTER AND COMPACTOR STANDARDS
GENERAL
All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private.
GUIDELINES FOR DUMPSTERS
The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week, with special approval needed for every other week (EOW) collection. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least 2 feet
and 6 inches of clearance on each side of the dumpster.
DUMPSTER PAD REQUIREMENTS
1. The concrete dumpster pad shall be at least 12 feet by 12 feet.
2. The pad(s) shall be 8-inch-thick concrete, reinforced with rebar to support a 30-ton loadbearing capacity.
3. A 14-foot-wide by 40-foot-long straight and clear access approach to each dumpster for the truck is required.
4. Clearance at each side of the dumpster must be at least 2 feet and 6 inches.
5. If a gated enclosure is utilized, the gates must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing.

ATT

5. ATT intends to serve.

Maury County E911

6. Contact Maury County 911 for Street names. Cgideon@maury911.org

Engineering

7. Provide inset parking islands along River Road and Taylor Bend Road, where parallel parking is provided.
8. Provide "reverse crown" for alley section.
9. Confirm adequate site distance will be acceptable post-development with the addition of landscaping elements and on-street parking. Inset parking islands may be required to extend access points in front of proposed landscaping.
10. Recommend ROW dedication to contain sidewalk.

11. Subject to TIS and construction plans
12. Add Crosswalk across River Rd at Taylor Bend
13. Alleys and drives should be concrete apron style connections to roadways.
14. See SD-06 for parallel parking island requirements

Planning

15. The lead staff person for this case is Planner Austin Brass, AICP; he will prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments.
16. Unit facing pedestrian path indicates no facade details at base (east elevation). Please provide windows to ensure that upper story windows align with lower story windows that eliminates this blank facade.
17. Provide note indicating call out for minimum window sill height of 5'.
18. Provide facade glazing percentages 20-60% minimum for each building site for all elevations.
19. Please show a parking plan that demonstrates how the on-street and surface parking provides sufficient parking for each unit as described in 4.3.12.B.3 (i.e. show which buildings are served by which parking spaces). Please also show parking for civic spaces (1:5,000 ft of Civic Space area).
20. conform 50% Thoroughfare enfrontment requirement for civic spaces with the exception of playground 5.3.3.C (p. 335).
21. Provide foundation plantings at unit with facade enfronting pedestrian path.
22. Site plan provides notation of frontage buildout requirement at 80% minimum as required in a CD-5 district, with a statement of 70% provided. Please provide clarification of frontage buildout for each individual building site requiring 80% min.
23. Will alleyway be paved at 20' in easement provided?
24. Please provide details of civic space amenities provided for pocket park and playground.
25. Provide note that townhome design will adhere to the prescriptive standards of CD-5 at building permit stage

Fire

26. Reminder: All apartments must be sprinklered throughout and have a fire alarm system
27. Reminder: All Fire Department Connections (FDC) must be within 100' of a fire hydrant

Maury County Schools

28. 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 Water

29. "A water availability letter was issued on November 19, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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."

Atmos Energy

30. No comments provided.

Duck River Electric Membership Corp

31. No comments.

Maury County Highway Dept.

32. No comments provided.

Wastewater

33. The distinction between private sewer and public sewer is probably going to end at the last upstream manhole in the public street. The plans are not clear how each building will get sewer, which can be sorted out during plan review. The existing tie-in manhole may need work to rehabilitate and bring it to grade.

CPWS BB

34. Plan to serve.

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.

Current Enrollment / Capacity

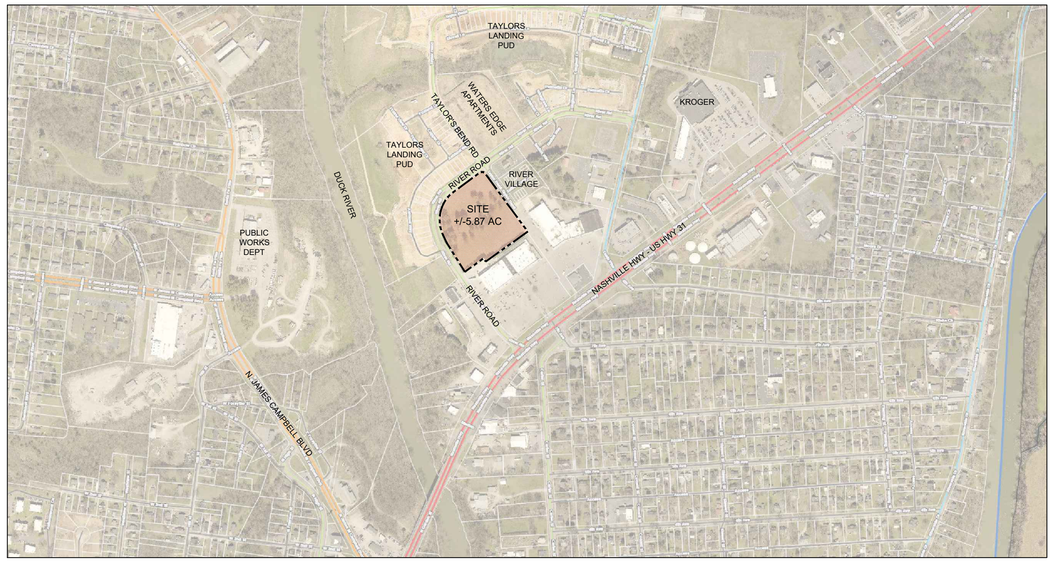
	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity	Current Enrollment	Capacity Used
Elementary	Baker	1960	43,920	12	340	325	95.6%
	Battle Creek	2019	90,000	30	700	638	91.1%
	Brown	1968	56,720	20	405	361	89.1%
	Highland	1986	47,800	4.5	380	301	79.2%
	Howell	1999	81,600	17.5	700	594	84.9%
	Mt. Pleasant	1978	80,021	22	630	583	92.5%
	Riverside	1984	71,150	14	500	407	81.4%
	Spring Hill	1984	69,000	10	540	450	83.3%
	Woodard	1990	76,200	17	600	559	93.2%
	Wright	2005	97,765	18	740	598	80.8%
					5535	***4816***	***87.0%***
Middle	Battle Creek	2019	125,000	45	900	726	80.7%
	Cox	1997	137,200	25	900	655	72.8%
	Mt. Pleasant	2001	113,938	29.2	550	426	77.5%
	Spring Hill	2010	158,106	39.49	950	534	56.2%
	Whitthorne	1979	175,600	17	1050	963	91.7%
					4350	***3304***	***76.0%***
High	Central	2016	296,740	55	1700	1396	82.1%
	Mt. Pleasant	1969	110,759	31	600	389	64.8%
	Spring Hill	1993	181,800	57	1200	1238	103.2%
					3500	***3023***	***86.4%***
Unit	Culleoka	1969	205,800	34	1020	875	85.8%
	Hampshire	1978	83,410	13.12	500	411	82.2%
	Santa Fe	1964	94,225	24	650	509	78.3%
					2170	***1795***	***82.7%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		167	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13105**	

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			2,509,930	**550.27**	**15555**	**13105**	

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN

INTERSECTION OF RIVER ROAD AND TAYLOR'S BEND ROAD
COLUMBIA, TENNESSEE



LOCATION MAP

0 500 1000
GRAPHIC SCALE 1"=500'-0"

OWNER:
DAVID TAYLOR
3006 KNUD DRIVE
COLUMBIA, TN

DEVELOPER:
CPS LAND
213 OVERLOOK CIRCLE, SUITE B2
BRENTWOOD, TN 37027
CLIFF SMITH
cliff.smith@cpsland.com

APPLICANT/ LAND PLANNER:
GAMBLE DESIGN COLLABORATIVE
3020 STANSBERRY LANE, SUITE 201
FRANKLIN, TN 37064
GREG GAMBLE
615-975-5765
greg.gamble@gdc-tn.com

ENGINEER:
KIMLEY-HORN
4031 ASPEN GROVE DRIVE, SUITE 200
FRANKLIN, TN 37067
GRAY HARRISON, P.E.
615.564.2701
gray.harrison@kimley-horn.com

ARCHITECT:
OPEN ARCHITECTURE
ERIC CLAUS
513.403.7019
ERIC.CLAUS@OPENARCHITECTURE.COM

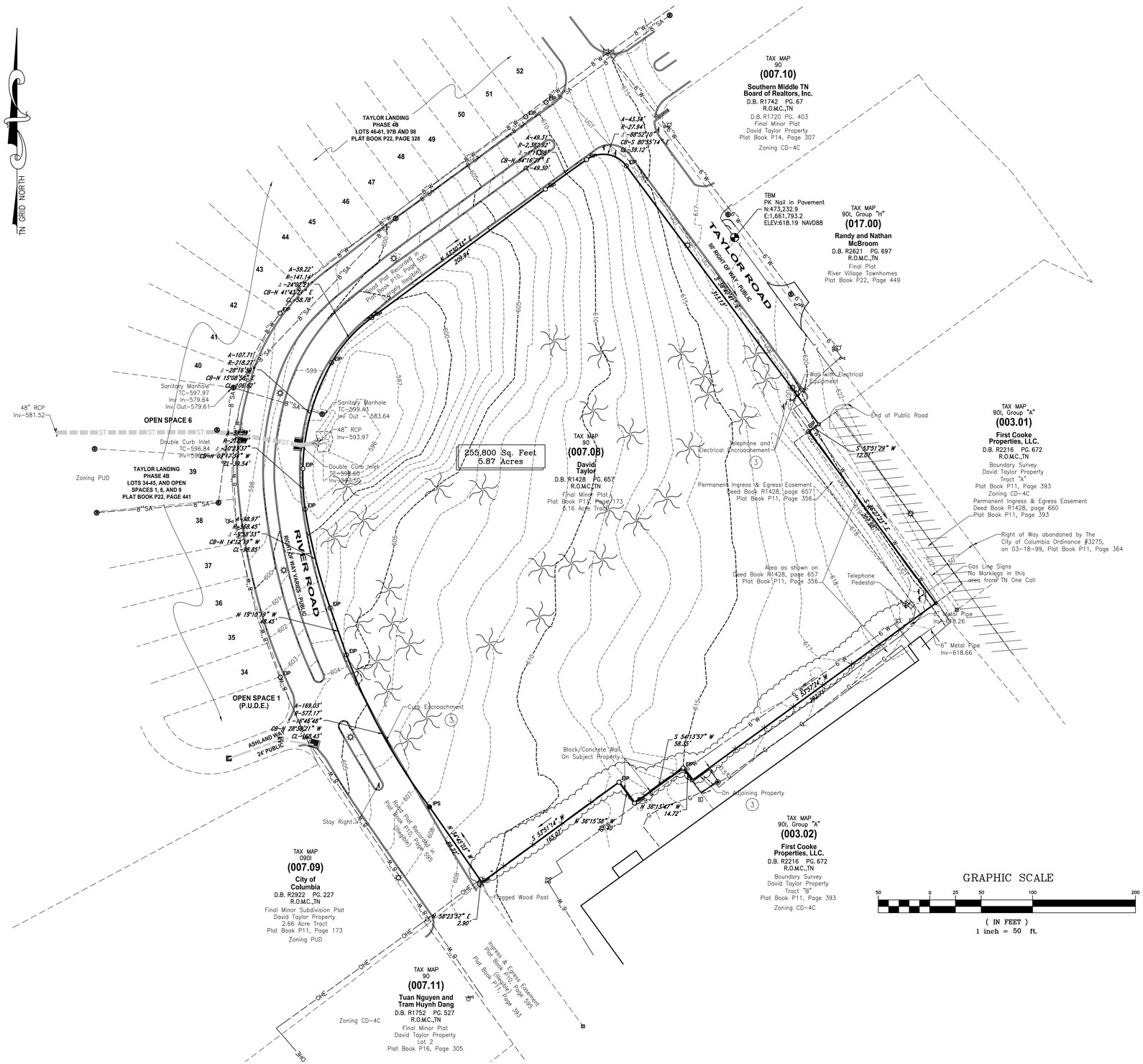
SHEET INDEX

C0.0	COVER SHEET
C1.0	SURVEY
C2.0	SITE DEVELOPMENT PLAN
C2.1	PRELIMINARY PLAT
L1.0	LANDSCAPE PLAN
	ARCHITECTURAL ELEVATIONS

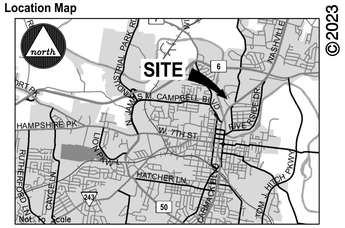
GREGORY C. GAMBLE
TENNESSEE
REGISTERED
LANDSCAPE ARCHITECT
11.22.23

PRE-APP: August 30, 2023
INITIAL SUBMITTAL: October 16, 2023

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE



Location Map



©2023

Current Zoning

No Zoning Letter Provided to Surveyor

Current Zoning: PUD

Old Republic National Title Insurance Company
Commitment No. 226275
Effective Date: January 16, 2023 at 8:00 AM

Schedule B, Section II Items

1. Defects, liens, encumbrances, adverse claims, and matters in the public record are as addressed below.
2. Discrepancies, conflicts, easements, boundary line disputes, any shortages in area, encroachments or protrusions, or overlapping of improvements are as shown hereon.
3. Rights and claims of parties in possession were not addressed as part of this survey.
4. Liens were not addressed as part of this survey.
5. Items not of Public record were not addressed as part of this survey.
6. Items not of Public record were not addressed as part of this survey.
7. Taxes were not addressed as part of this survey.
8. Matters as shown on Plat Book P11, page 173, Plat Book P11, Page 356, and Plat Book P11, Page 364 are as shown hereon.
9. Waterline easement in Book 301, page 419, does not affect the subject property.
10. Water Flowage Easement in Book 385, page 277, does not affect teh subject property.
11. Sewer Line Easement in Book 431, page 419.
12. Right of Way/Ingress/Egress Easement in Book R1428, Page 660.

(#) Shows location of the designated commitment exception on the current survey.

Encroachment Note

1. The curb line of River Road encroaches on the west side of the subject property.
2. The wall along the south side of the property crosses the property line where labeled, ownership of said was is uncertain to the surveyor.

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure, portions of the survey were done utilizing a Carlson BRX7, utilizing Base and Rover.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category IV 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 pertoining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcel is as shown hereon.
7. This property currently identified as Tax Map No. 90, Parcel No. 007.08, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: Plat Book P11, page 173
9. Deed reference: Book R1428, Page 657
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 title search as provided by others and noted hereon.
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. The property as shown hereon is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0170E, dated April 16, 2007, as scaled graphically.
17. Vertical Datum as shown hereon is NAVD88, as established by TDOT CORS.

ALTA/NSPS Surveyor's Certification

To: First American Title Insurance Company, and Barlow Builders :

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1-6, 8, 11, and 17 of Table A thereof. The field work was completed on August 10, 2023.

Allen B. O'Leary, TN RLS #1987 — 8-11-23 Date

I hereby certify this is a true and accurate survey and meets or exceeds the current Minimum Standards and Applications of a Category IV (Remote Sensing) survey as defined in T.C.A. 0820-03-.07C(5).

Equipment: Carlson BRX7, Base and Rover
Positional Accuracy: HRMS=0.04 SD=0.008, VRMS=0.075 SD=0.013
Geoid: NGS2012B
Date: August 2023

ALLEN B. O'LEARY — REGISTERED LAND SURVEYOR — AGRICULTURE — CONVERSE — TENNESSEE NO. 1987

allenowesengineers.com

WES Engineers & Surveyors
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2486 NASHVILLE HIGHWAY
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www.wesengineers.com
ENGINEERS & SURVEYORS

Client
BARLOW BUILDERS
3020 Stansberry Lane, #101
Franklin, TN 37069
615-376-1680

A.L.T.A./N.S.P.S. LAND TITLE SURVEY

RIVER ROAD / TAYLOR ROAD
COLUMBIA, TN – MAURY COUNTY

DATE	REVISIONS

Drawn: BG
Checked:
Approved:
Date: 08-11-23

Job. no. 23563
Scale:
Vertical:
Horizontal:

FILE: J:\WES_Engineers_Surveyors 2023\23563 - Riverbend ALTA - Barlow\Dwg\Survey\23563 Riverbend Survey.dwg

CIVIC SPACE REQUIRED: 5%-20% OF GROSS SITE AREA PROVIDED: 11% (28,200 SF; 0.65AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	23,100 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS



SITE DEVELOPMENT PLAN SITE DATA:

TOTAL SITE AREA: 255,800 SF; 5.87 AC
TOTAL DWELLING UNITS: 122 UNITS
TOTAL DENSITY: 20.78 DUA
TOTAL CIVIC SPACE: 28,200 SF; 0.65 AC (11%)
TOTAL SURFACE PARKING LOT: 43,905 SF; 1.01 AC
TOTAL ROW AND ALLEY EASEMENT: 42,199 SF; .97 AC

BUILDING BREAKDOWN:
- TOTAL MULTI-FAMILY UNITS: 92 DWELLING UNITS
  - LARGE MULTI-FAMILY BLDG 1: 18 DU
  - LARGE MULTI-FAMILY BLDG 2: 24 DU
  - LARGE MULTI-FAMILY BLDG 3: 24 DU
  - LARGE MULTI-FAMILY BLDG 4: 18 DU
  - SMALL MULTI-FAMILY BLDG 1: 4 DU; 7-GARAGE PARKING SPACES
  - SMALL MULTI-FAMILY BLDG 2: 4 DU; 8-GARAGE PARKING SPACES
- TOWNHOMES: 30 DWELLING UNITS
- ACCESSORY BUILDINGS:
  - ACCESSORY BLDG 1: 8-CAR GARAGE
  - ACCESSORY BLDG 2: 8-CAR GARAGE

BUILDING SETBACKS:
PRINCIPAL STRUCTURES:
- FRONT SETBACK: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
  PROVIDED SETBACK: 8'-14' TOWNHOMES; 0' LARGE MULTI-FAMILY; 12' SMALL MULTI-FAMILY
- FRONT SETBACK SECONDARY: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
  PROVIDED SETBACK: 7'-10' TOWNHOMES; 16'-22' LARGE MULTI-FAMILY
- SIDE SETBACK: 0' MIN. - 24' MAXIMUM
  PROVIDED SETBACK: 0'; 15' MINIMUM BETWEEN TOWNHOME BUILDINGS
- REAR SETBACK: NOT REGULATED
  PROVIDED SETBACK: 24' TOWNHOME WITHOUT GARAGE; 5' TOWNHOME WHERE GARAGE FACES ALLEY

ACCESSORY STRUCTURES:
- FRONT SETBACK: 40' MAX FROM REAR PROPERTY LINE
  PROVIDED SETBACK: 23' FROM REAR PROPERTY LINE
- SIDE SETBACK: 3' MAX.
  PROVIDED SETBACK: 3' FROM BUILDING SITE LINE ON ONE SIDE
- REAR SETBACK: 3' MIN.
  PROVIDED SETBACK: 3'

*NOTE: PRIMARY BUILDING CORNER SETBACKS ARE AS CLOSE TO 0' FRONT/0' SIDE AS POSSIBLE. DUE TO THE UNIQUE PROPERTY LINE CONSTRAINTS, BUILDINGS ARE SET BACK TO ALLOW SIDEWALKS AND PLANTING AREAS AND TO AVOID EXISTING EASEMENTS/UTILITIES. ACCESSORY STRUCTURES ARE SET 3' FROM BUILDING SITE LINES ON ONE SIDE. BUILDING SITES ARE WIDER THAN THE ACCESSORY BUILDINGS, PREVENTING 3' SIDE SETBACKS ON BOTH SIDES.

PARKING SUMMARY:
- TOTAL DWELLING UNITS: 122 UNITS
- REQUIRED MINIMUM PARKING RATIO: 1.5 SPACES PER UNIT
- TOTAL REQUIRED RESIDENTIAL PARKING: 183 PARKING SPACES

- TOTAL CIVIC SPACE: 28,200 SF; 0.65 AC
- REQUIRED MINIMUM PARKING RATIO: 1 SPACE PER 5,000 SF GROSS LAND AREA
- TOTAL REQUIRED CIVIC SPACE PARKING: 6 PARKING SPACES

- TOTAL REQUIRED PARKING SPACES: 189 SPACES
- TOTAL PROVIDED PARKING SPACES: 233 SPACES
  - SURFACE PARKING LOT: 108 SPACES
  - SMALL MULTI-FAMILY BUILDING GARAGE: 15 SPACES (10'X20' MINIMUM)
  - STREET A ON-STREET PARKING: 36 SPACES
  - RIVER ROAD ON-STREET PARKING: 16 SPACES
  - TAYLOR'S BEND ROAD ON-STREET PARKING: 5 SPACES
  - TOWNHOME GARAGE SPACES: 7 SPACES (10'X20' MINIMUM)
  - TOWNHOME SURFACE SPACES: 46 SPACES

*NOTE: AN ADDITIONAL 16 GARAGE SPACES ARE PROVIDED IN ACCESSORY BUILDINGS FOR THE MULTI-FAMILY BUILDINGS, AND AN ADDITIONAL 7 TOWNHOME GARAGE SPACES ARE PROVIDED. THESE PARKING SPACES HAVE NOT BEEN INCLUDED IN THE PARKING TOTALS SINCE THEY ARE SMALLER THAN THE MINIMUM 10' X 20' GARAGE SPACE REQUIREMENT.

BIKE PARKING: REQUIRED 1 SPACE PER 20 REQUIRED PARKING SPACES
BIKE PARKING PROVIDED: 183 REQ. PARKING SPACES/20 = 7 BIKE SPACES

FRONTAGE BUILD-OUT: 80% MINIMUM REQUIRED
PROVIDED: 1,458 LF BUILD-OUT/2,081 LF FRONTAGE; 70% PROVIDED
LOT/BUILDING SITE ENFRONTMENT:
- TOTAL NUMBER OF BUILDING SITES: 36
- BUILDING SITES ENFRONTING PEDESTRIAN PATH: 2 (LARGE MULTI-FAMILY BLDG 2 & SMALL MULTI-FAMILY BLDG 2)
- % BUILDING SITES ENFRONTING PEDESTRIAN PATH: 6%

PLEASE SEE ARCHITECTURE ELEVATIONS FOR ALL MULTI-FAMILY BUILDING DIMENSIONS AND ELEVATION COMPLIANCE TABULATIONS.

ARCHITECTURAL NOTES:
1. LARGE MULTI-FAMILY BUILDINGS 1 AND 2 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
2. LARGE MULTI-FAMILY BUILDINGS 3 AND 4 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
3. LARGE MULTI-FAMILY BUILDINGS: HVAC UNITS TO BE LOCATED ON ROOF.
4. SMALL MULTI-FAMILY BUILDINGS: HVAC LOCATED IN 3RD LAYER.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, Columbia, Tennessee

GREGORY C. GAMBLE REGISTERED LANDSCAPE ARCHITECT 11.20.23

Date: NOV. 20, 2023

Revision Date
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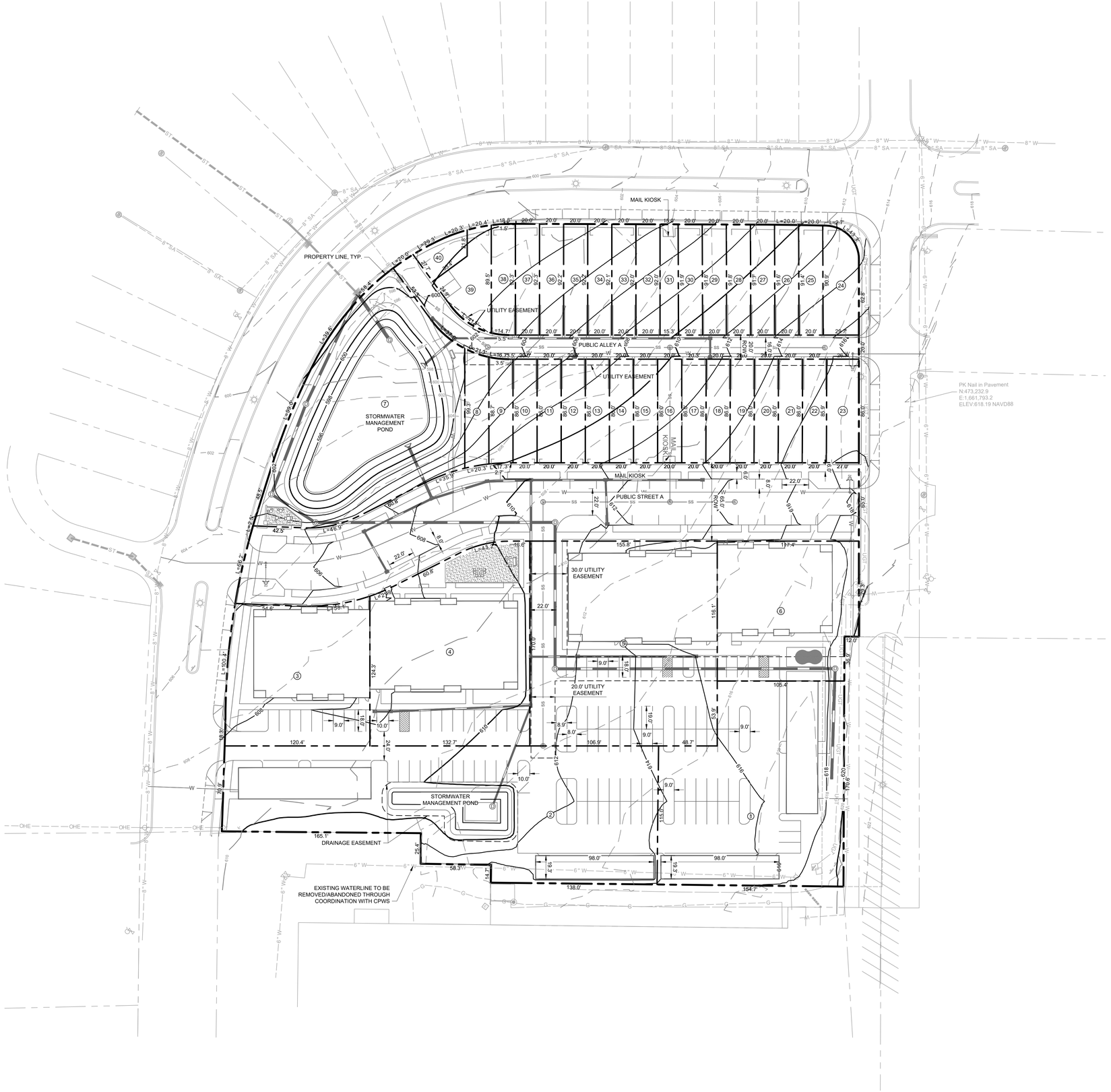
SITE DEVELOPMENT PLAN
SHEET
C2.0

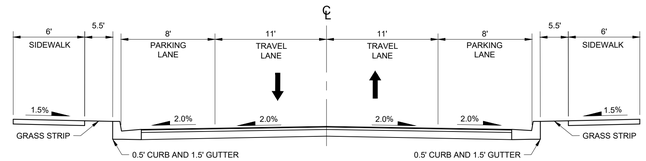
NOTES

1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN THE 100 YEAR FLOODPLAIN, PER THE FEMA FIRM MAP NUMBER 47119C0170E EFFECTIVE APRIL 16, 2007

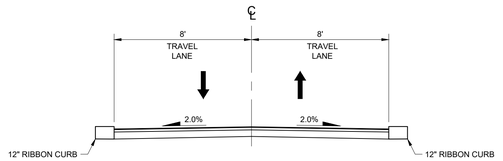
LAND USE CHART

SITE AREA	5.87 AC
CIVIC SPACE AREA	0.65 AC
SURFACE PARKING AREA	1.01 AC
ROW DEDICATION	0.97 AC
DENSITY	20.78 DUA





TYPICAL SECTION - URBAN CENTER STREET (65' PUBLIC ROW)
NTS



TYPICAL SECTION - ALLEY A (20' PUBLIC ROW)
NTS

PARCEL AREA TABLE	
Parcel #	Area
1	23544.57
2	33282.39
3	13872.70
4	20296.86
5	26449.45
6	13204.54
7	23430.95
8	1865.34
9	1734.94
10	1720.00
11	1720.00
12	1720.00
13	1720.00
14	1720.00
15	1720.00
16	1720.00
17	1733.37
18	1720.01
19	1720.01
20	1720.01

PARCEL AREA TABLE	
Parcel #	Area
21	1720.01
22	1719.47
23	2309.70
24	2546.82
25	1823.45
26	1830.42
27	1833.31
28	1834.90
29	1836.21
30	1837.52
31	1392.29
32	1839.79
33	1841.09
34	1842.40
35	1843.71
36	1845.01
37	1846.32
38	1832.22
39	2506.37
40	1038.13

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

Kimley»Horn
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RIVER ROAD
DEVELOPMENT PLAN
Franklin, Williamson County, Tennessee

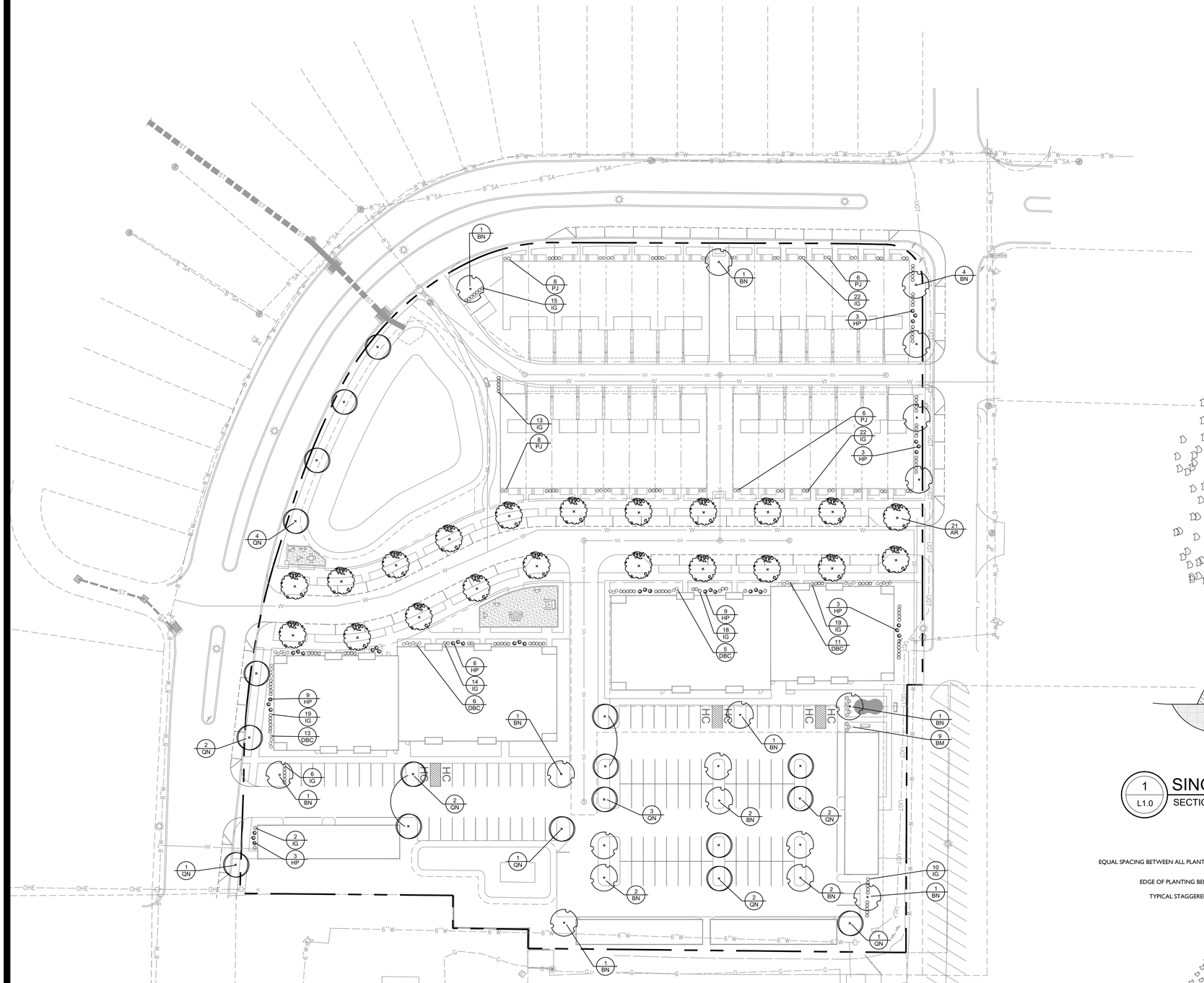
WILLIAM GRAY HARRISON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 127919
STATE OF TENNESSEE

Revision Date
- △ _____
- △ _____
- △ _____
- △ _____

PRELIMINARY PLAT

SHEET
C2.1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



QTY / SYM — PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
21	AR	ACER RUBRUM ' AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	29%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
19	QN	QUERCUS NUTTALLI	NUTTAL OAK	2.5" CAL	10' MIN.	34%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
16	BN	BETULA NIGRA	RIVER BIRCH	2.5" CAL	10' MIN.	38%	AS SHOWN	MULTI-STEM, 3 TO 5 CANES WITH A SUM TOTAL OF EACH CANE TO EQUAL MIN. CALIPER SIZE
SHRUBS								
9	BM	BUXUS MICROPHYLLA VAR. JAPONICA 'WINTER GEM'	WINTER GEM BOXWOOD	#3 CONT.	30" MIN.		36" O.C.	
160	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	#3 CONT.	30" MIN.		36" O.C.	
28	PJ	PIERIS JAPONICA 'FIRE &ICE'	FIRE & ICE PIERIS	#3 CONT.	30" MIN.		36" O.C.	
36	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA	#3 CONT.	30" MIN.		48" O.C.	
35	DBC	DISTYLLIUM HYBRID 'PIIDIST-II'	BLUE CASCADE EVERGREEN DISTYLLIUM	#3 CONT.	30" MIN.		36" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

CODE MINIMUM LANDSCAPE PLAN

THIS LANDSCAPE PLAN HAS BEEN DESIGNED TO MEET THE MINIMUM CODE REQUIREMENTS OF THE CITY OF COLUMBIA TN ZONING ORDINANCE FOR SITE DEVELOPMENT PLAN.

ZONING ORDINANCE 4.3.16 - CD-5 LANDSCAPING:
CONTINUOUS SHRUBS AROUND FOUNDATION AT FACADE. 1 SHRUB EVERY 10 LF
SMALL MULTI-FAMILY BLDG 1: REQ. 3 SHRUBS; PROVIDED: 5 SHRUBS
LARGE MULTI-FAMILY BLDG 1: REQ.18 SHRUBS; PROVIDED: 42 SHRUBS
LARGE MULTI-FAMILY BLDG 2: REQ.13 SHRUBS; PROVIDED: 26 SHRUBS
LARGE MULTI-FAMILY BLDG 3: REQ.13 SHRUBS; PROVIDED: 32 SHRUBS
LARGE MULTI-FAMILY BLDG 4: REQ.18 SHRUBS; PROVIDED: 33 SHRUBS
TOWNHOMES: 2 SHRUBS FRONT; 8 SIDE; PROVIDED: 2 FRONT, 17 SIDE

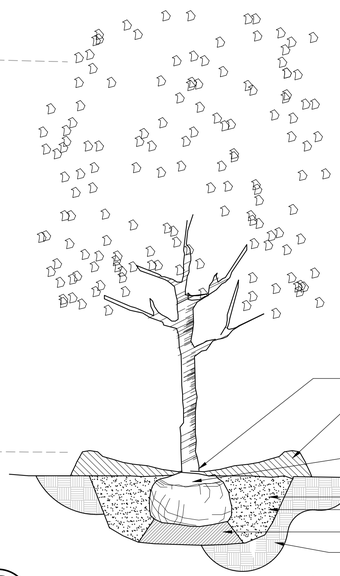
ZONING ORDINANCE 5.2.2.G-1 - URBAN CENTER STREET:
REQUIRED: 1 STREET TREE EVERY 50 LF.
PROVIDED: 1 STREET TREE EVERY 50 LF.

ZONING ORDINANCE 4.13.12.C - PARKING DESIGN:
REQUIRED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS.
PROVIDED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS

REQUIRED: 1 TREE PER 2,000 SF OF PARKING LOT
PROVIDED: 43,905 SF PARKING AREA/ 2,000 SF = 22 TREES REQUIRED. PROVIDED: 23 TREES

REQUIRED: 36" HEDGE TO SCREEN PARKING FROM CIVIC SPACE AND ADJACENT PROPERTY
PROVIDED: HEDGES PROVIDED AS REQUIRED.

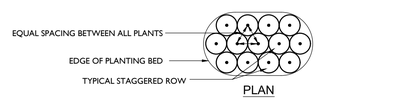
ZONING ORDINANCE 4.3.16.L - TREE PROTECTION:
CD-5 DOES NOT REQUIRED EXISTING TREE CANOPY PRESERVATION.
NO EXISTING TREES ARE DESIGNATED AS PRESERVED.



1 / L1.0 — SINGLE TRUNK DECIDUOUS TREE — SECTION — DETAIL # NTS

GENERAL NOTES:

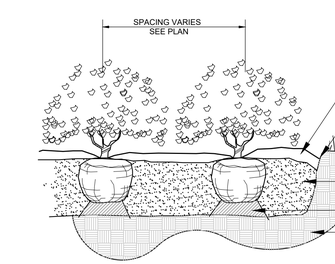
1. All trees are to be nursery grown, burlap and ball (B&B). Minimum tree size is per schedule (measured 6" above root ball).
2. Remove all treated or plastic-coated burlap, strapping, wire or nylon twine from root ball. After setting in hole, cut away top and sides of wire basket, if any.
3. Install top of plant ball even with or up to 2" above existing grade.
4. Set tree in vertical position; stake if necessary for stabilization.
5. Soak plant ball and pit immediately after installation. Place 3" of seasoned mulch or pine needles around base of tree, 3' diameter minimum.



PLAN

GENERAL NOTES:

1. Install top of plant ball shall be level with finished grade.
2. Tamp planting mix firmly as pit is filled around each plant ball.
3. Soak each plant ball and pit immediately after installation.
4. Cut and remove burlap from top 1/3 of root ball. Non-degradable burlap shall be removed or rolled under ball after replacement of plant.
5. Combustible mulch shall not be applied or maintained within two feet of any building around entire exterior perimeter.



2 / L1.0 — SHRUB PLANTING — SECTION — DETAIL # NTS

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, COLUMBIA, Tennessee

GREGORY C. GAMBLE — TENNESSEE — REGISTERED LANDSCAPE ARCHITECT — 1116 — 11-20-2023

Date: NOV. 20, 2023

Revision Date
△
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LANDSCAPE PLAN
SHEET
L1.0



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

RIVER ROAD PROPERTY
EXTERIOR ELEVATIONS
NOVEMBER 20, 2023

MULTIFAMILY BUILDINGS 1 & 2

GAMBLE DESIGN COLLABORATIVE

BARLOW BUILDERS

CPS land creating community



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

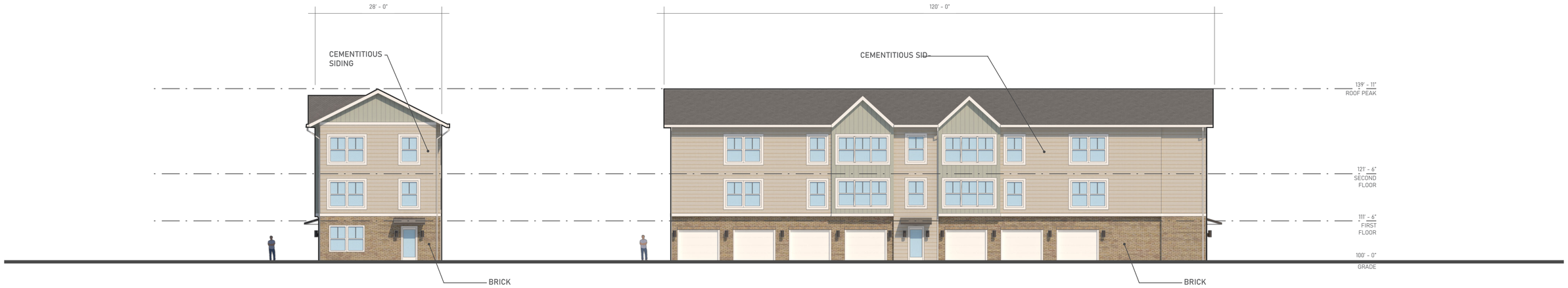
EAST ELEVATION

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

MULTIFAMILY BUILDINGS 3 & 4



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

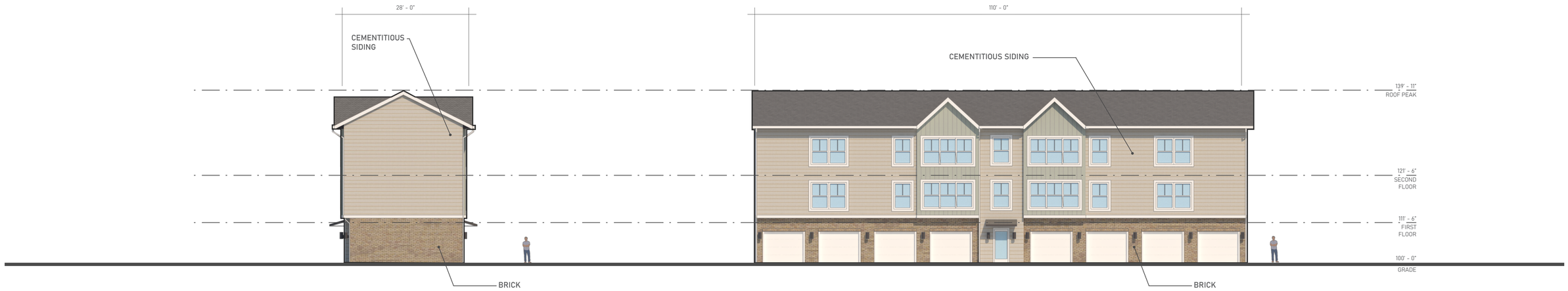
EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

CARRIAGE HOUSE 1

BARLOW BUILDERS

CPS land creating community



NORTH ELEVATION

WEST ELEVATION



EAST ELEVATION

SOUTH ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

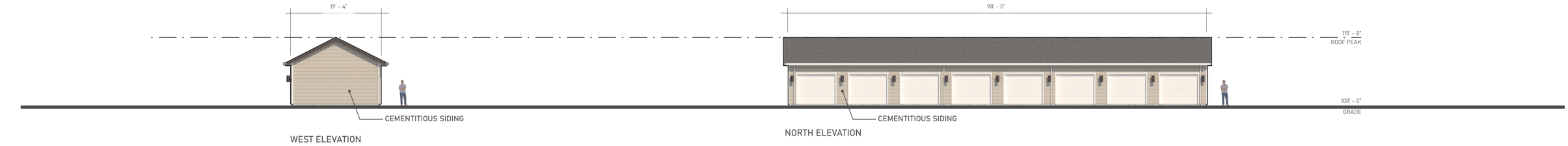
EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

CARRIAGE HOUSE 2

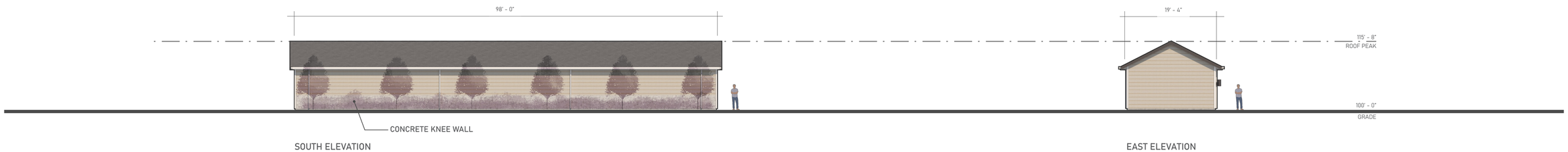
BARLOW BUILDERS

CPS land creating community



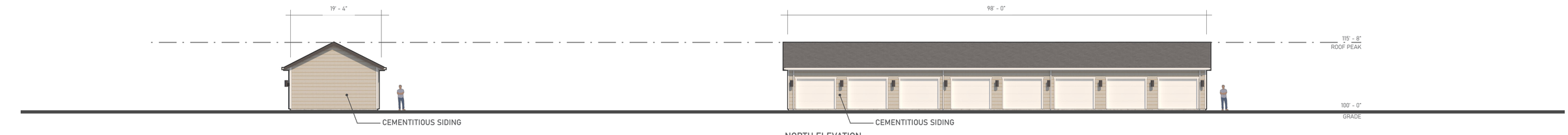
WEST ELEVATION

NORTH ELEVATION



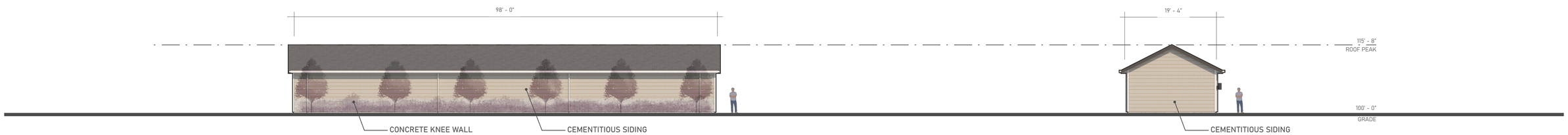
SOUTH ELEVATION

EAST ELEVATION



WEST ELEVATION

NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION

GAMBLE DESIGN COLLABORATIVE

RIVER ROAD PROPERTY

EXTERIOR ELEVATIONS

NOVEMBER 20, 2023

GARAGE 1 & 2

BARLOW BUILDERS

CPS land creating community

November 19, 2023
Mr. Cliff Smith
CPS Land, LLC
213 Overlook Circle
Brentwood, TN 37027
Sent via email: cliff.smith@cpsland.com; sbernick@ragansmith.com
RE: Water Availability Letter
River Road Mixed Use
Tax Map 90, Parcel 7.08
Columbia, Maury County, TN

Dear Mr. Smith:

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 includes 30 townhome residences and 92 units in multi-family 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 1,563 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 on River Road.
- Rental units will be served by redundant master meters at separate entrances. Any sub-metering will be the responsibility of the applicant. Irrigation will be served as a separate metered connection.

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:

- 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 (140.3 SFUs)	$53,411.00

- 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: $710 per 1" irrigation meter (1 meter)	$710.00
Meter Fee: $7,000 per 6" fire-rated ultra-sonic meter (2 meters)	$14,000.00
Impact Fee: $7,500 per 1" irrigation meter (1 meter)	$7,500.00
Impact Fee: $375,000 per 6" meter equivalent (1 equivalent)	$375,000.00
Total Meter and Impact Fees Due =	**$397,210.00**

- 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 22-093

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

November 17, 2023

Claudia M. Forrester
4031 Aspen Grove Drive
Suite 200
Franklin, TN 37067

Re: River Road Project, Parcel: 090 007.08. Mixed residential development with townhomes, multi-family buildings, public roadway infrastructure and surface parking.

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

so

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

28 February 2023

Cliff Smith
CPS Land, LLC
213 Overlook Circle Suite B-2
Brentwood, TN 37027

RE: River Road 5.8 Map 090, Parcel 007.08

Cliff,

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

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 11/8/23
Name: Cliff Smith
Phone: 615-477-3186
Email: cliff.smith@cpsland.com
Address/Parcel ID: 090 007.08
Property Type: (•) Residential ( ) Commercial ( ) Industrial
Construction Type: 5A
Enclosed Area (ft^2): 55,183

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: NFPA13R

Water System Demand without Sprinkler Credit

Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: _____ gpm Duration: _____ hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: _____

Average spacing between hydrants: _____ft.

Maximum distance from frontage to hydrant: _____ ft.

Water System Demand with Sprinkler Credit

Fire flow requirements (International Fire Code Appendix B)

Fire Flow: 1,563 gpm Duration: 2 hours

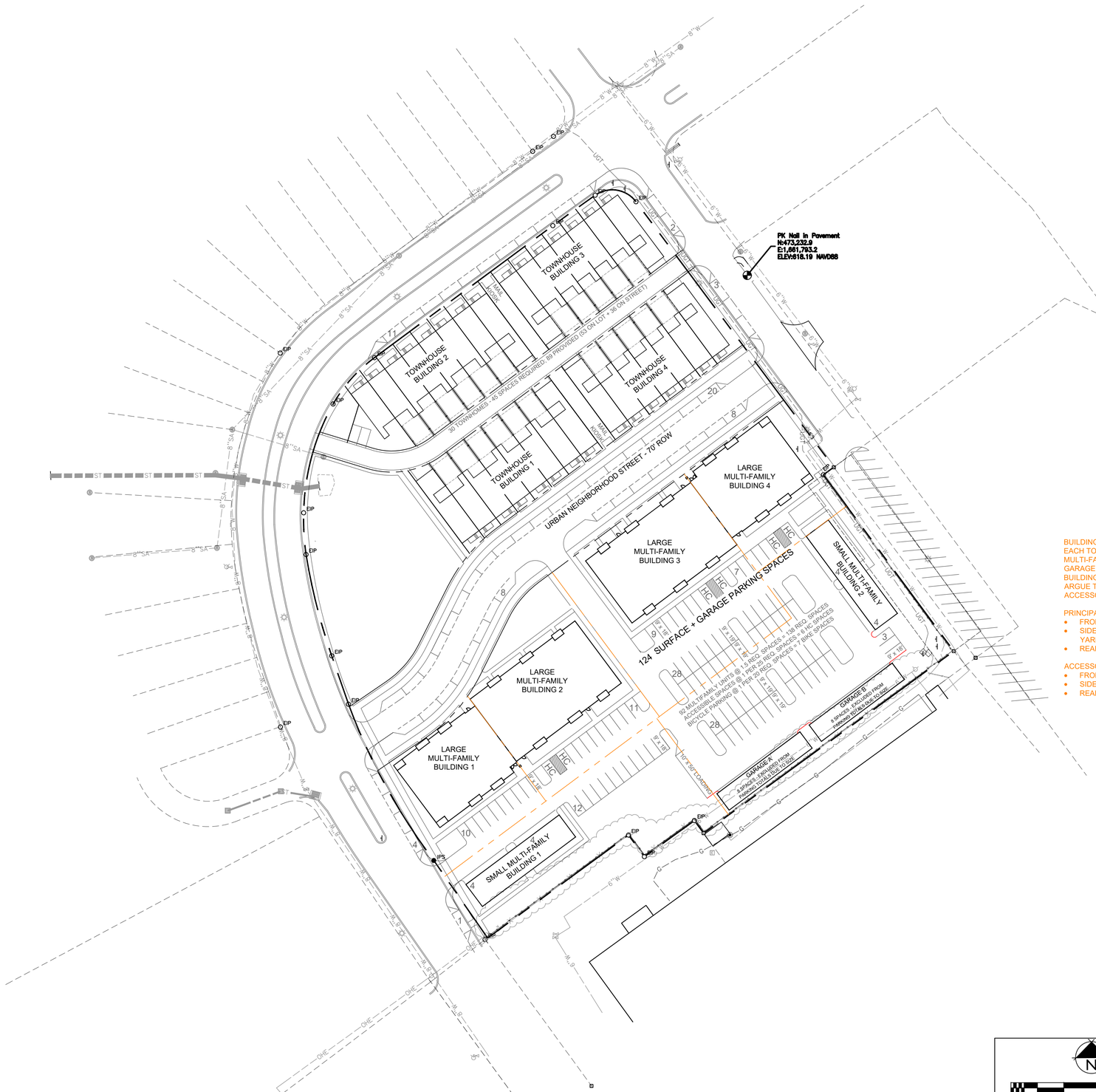
Fire Hydrant Location and Distribution (International Fire Code Appendix C)

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: 11-13-2023



BUILDING SITE BOUNDARY LINES FOR DISCUSSION:
EACH TOWNHOME WILL BE ON ITS OWN BUILDING SITE. EACH MULTI-FAMILY BUILDING WILL BE ON ITS OWN BUILDING SITE. AS DRAWN, GARAGE A AND B ARE ON THE BUILDING SITE WITH SMALL MULTI-FAMILY BUILDING 2. SINCE SMF2 DOESN'T HAVE A ROW FRONTAGE, I WOULD ARGUE THAT OUR NEW ROW WOULD BE IT'S FRONTAGE, THEREFORE THE ACCESSORY BUILDINGS WOULD CONFORM TO THE SITE SETBACKS.

PRINCIPAL BUILDINGS:
- FRONT SETBACK: 15' MAX (ZERO AT CORNERS)
- SIDE SETBACK: 15' MAX ON CORNER LOTS, 24' MAX ALL OTHER SIDE YARDS, (ZERO AT CORNER)
- REAR SETBACK: NOT REGULATED

ACCESSORY BUILDING (GARAGE):
- FRONT SETBACK: 40' FROM REAR PROPERTY LINE
- SIDE SETBACK: 3'
- REAR SETBACK: 3', 5' WHEN GARAGE DOOR FACES ALLEY

RIVER ROAD - CONCEPT PLAN - 11.8.2023

N

0 50 100 150
GRAPHIC SCALE 1"=50'-0"

CITY OF COLUMBIA – DEVELOPMENT SERVICES

TRAFFIC IMPACT STUDY (TIS) MEMORANDUM OF UNDERSTANDING (MOU) & AGREEMENT

CONTACT INFO (Identify primary point of contact)			
DEVELOPER/OWNER ☐ PRIMARY CONTACT		CIVIL CONSULTANT ☑ PRIMARY CONTACT	
Contact Name:	Cliff Smith	Contact Name:	Gray Harrison
Company:	CPS Land	Company:	Kimley-Horn
Address:	213 Overlook Circle Suite B2 Brentwood, TN 37027	Address:	4031 Aspen Grove Drive, Suite 200, Franklin,TN 37069
Email:	cliff.smith@cpsland.com	Email:	Gray.Harrison@Kimley-Horn.com
Phone:	615 477 3106	Phone:	615.564.2701

DEVELOPERS TIS CONSULTANT CONTACT INFO: *complete if study was completed by Developer's consultant.*			
Contact Name:	Kennedy Adams	Company:	Kimley-Horn
Address:	4031 Aspen Grove Drive, Suite 200, Franklin, TN 37069		
Email:	Kennedy.Adams@Kimley-Horn.com	Phone:	615.564.2701

INDICATE THE LEVEL OF TIS REVIEW TO BE PERFORMED BY 3RD PARTY CONSULTANT AND CORRESPONDING FEE (SUBJECT TO STAFF CONFIRMATION):

* Level of TIS determined by the number of Daily & Peak Hour Trips per estimated trip generation calculation.

☐ Traffic Access Study ($2,900) ☑ Level I TIS ($3,900) ☐ Level II TIS ($4,800) ☐ Level III TIS (Fee TBD)

TRANSPORTATION IMPACT STUDY – MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the transportation impact study for the following project will be prepared in accordance with the latest version of the City of Columbia Land Development Regulations.

PROJECT INFORMATION:	
Name:	River Road
Address:	
Description:	Located along the south and east side of River Road and west side of Taylor Bend Road in Columbia, TN
Existing Land Use (be specific):	Vacant
Proposed Land Use (be specific):	CD-5 (mixed residential town homes and multi-family)
Reason for Request: (Planned Unit Development, Site Plan, Rezoning)	Site Plan
Potential Development Yield (number of residential units; building square footage, projected number of employees, hours of operations):	126 Units (30 town homes and 96 multi-family)

☑ Attach a site map and a trip generation table with a description of the proposed land uses, ITE rates, estimated daily, morning, midday and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc.

☑ Attach a conceptual development plan showing all access points and adjacent streets.

Project Buildout Year: 2025	Ambient or CMP Growth Rate (% Per Year): 3%

STUDY INTERSECTIONS: *use additional pages as necessary	
1. Taylor Bend at River Road	9.
2. River Road at Theta Pike	10.
3. Nashville Highway at Theta Pike	11.
4. Nashville Highway at 7th Avenue	12.
5. Nashville Highway at River Road	13.
6.	14.
7.	15.
8.	16.

TRIP CREDITS (EXACT AMOUNT OF CREDIT SUBJECT TO APPROVAL BY CITY OF COLUMBIA):

	YES	(indicate ☐% of total trips)	NO
Transit Usage	◯	%	☑
Existing Active Land Use	☐	%	☑
Previous Land Use	☐	%	☑
Internal Trip	☐	%	☑
Pass-By Trip	☐	%	☑

3RD PARTY TRAFFIC CONSULTANT CONTACT INFO:	☐ NEEL SCHAFFER	☐ VOLKERT	
NEEL SCHAFFER - GREG JUDY		VOLKERT – DYAN DAMRON	
201 E. Main Street, Suite 325 Murfreesboro, TN 37130		302 Innovation Drive, Suite 100 Franklin, TN 37067	
greg.judy@neel-schaffer.com	615-217-0500	dyan.damron@volkert.com	615-656-1845

MEMORANDUM OF UNDERSTANDING SIGN OFF:

APPLICANT: Cliff Smith (Name) — Cliff Smith (Signature) — 11/1/23 (Date)

*As applicant, I agree to pay 100% of the review fee. *Paid to the City of Columbia.*
I understand that no work will commence until FULL payment is received and that it is NON-REFUNDABLE.

3RD PARTY TRAFFIC CONSULTANT: Dyan Damron, PE, PTP (Name) — Dyan C Damron (Signature) — 11/3/23 (Date)

CITY ENGINEER: _____ (Name) _____ (Signature) _____ (Date)

DIRECTOR OF DEVELOPMENT SERVICES: _____ (Name) _____ (Signature) _____ (Date)

Questions may be submitted and the completed form shall be emailed for review to: Glenn Harper, City Engineer gharper@columbiatn.com.

River Road Columbia Scoping Summary

We have a project located along the south and east side of River Road and west of Taylor Bend Road in Columbia, Tennessee. Please see some notes for our assumptions listed below. Supporting documentation is also attached.

Land Uses/Densities

- Multifamily Housing (Low-Rise) – 96 Units
- Single-Family Attached Housing – 30 Units

Study Type

- Traffic Impact Analysis

Trip Generation

- The calculations shown are based on the general urban/suburban setting

Growth Rate

- 3%

Background Developments

- TBD

Build Out Year

- 2025

Study Intersections

- Taylor Bend at River Road
- River Road at Theta Pike
- Nashville Highway at Theta Pike
- Nashville Highway at 7th Avenue
- Nashville Highway at River Road

Site access:

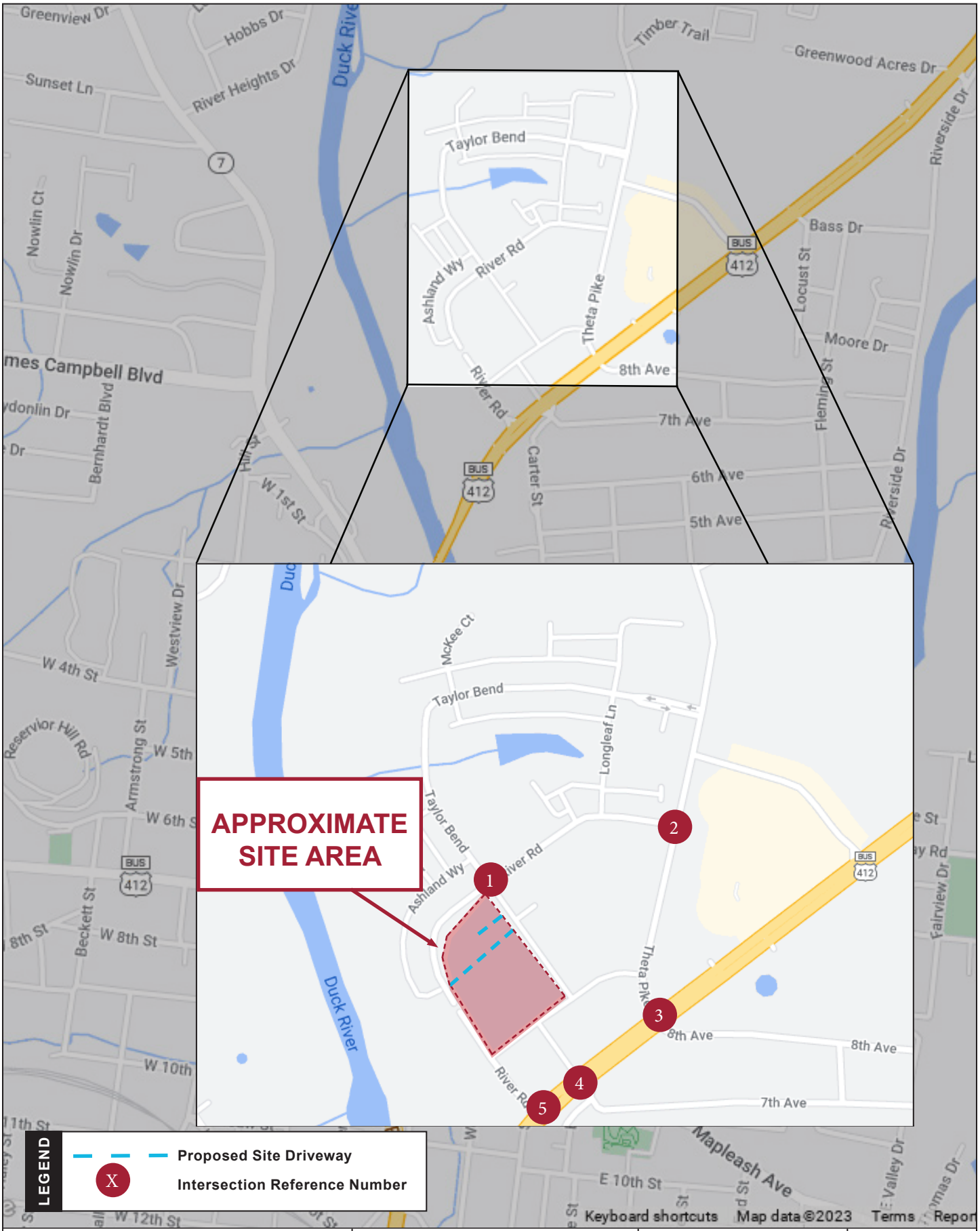
- One full movement driveway along Taylor Road
- One full movement driveway along River Road
- One driveway along Taylor Road via alley access

Additional Notes:

- Perform TDOT Turn Lane warrants.
- Kimley-Horn to measure sight distance in the field.
- Will put together exhibits with identified improvements.

Trip Generation - River Road Columbia

ITE Code	Land Use	Setting/Location	Density		Daily			AM Peak Hour			PM Peak Hour		
					Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
215	Single-Family Attached Housing	General Urban/Suburban	30	d.u.	178	89	89	10	3	7	14	8	6
220	Multifamily Housing (Low-Rise)	General Urban/Suburban	96	d.u.	690	345	345	53	13	40	62	39	23
GROSS TRIPS					868	434	434	63	16	47	76	47	29



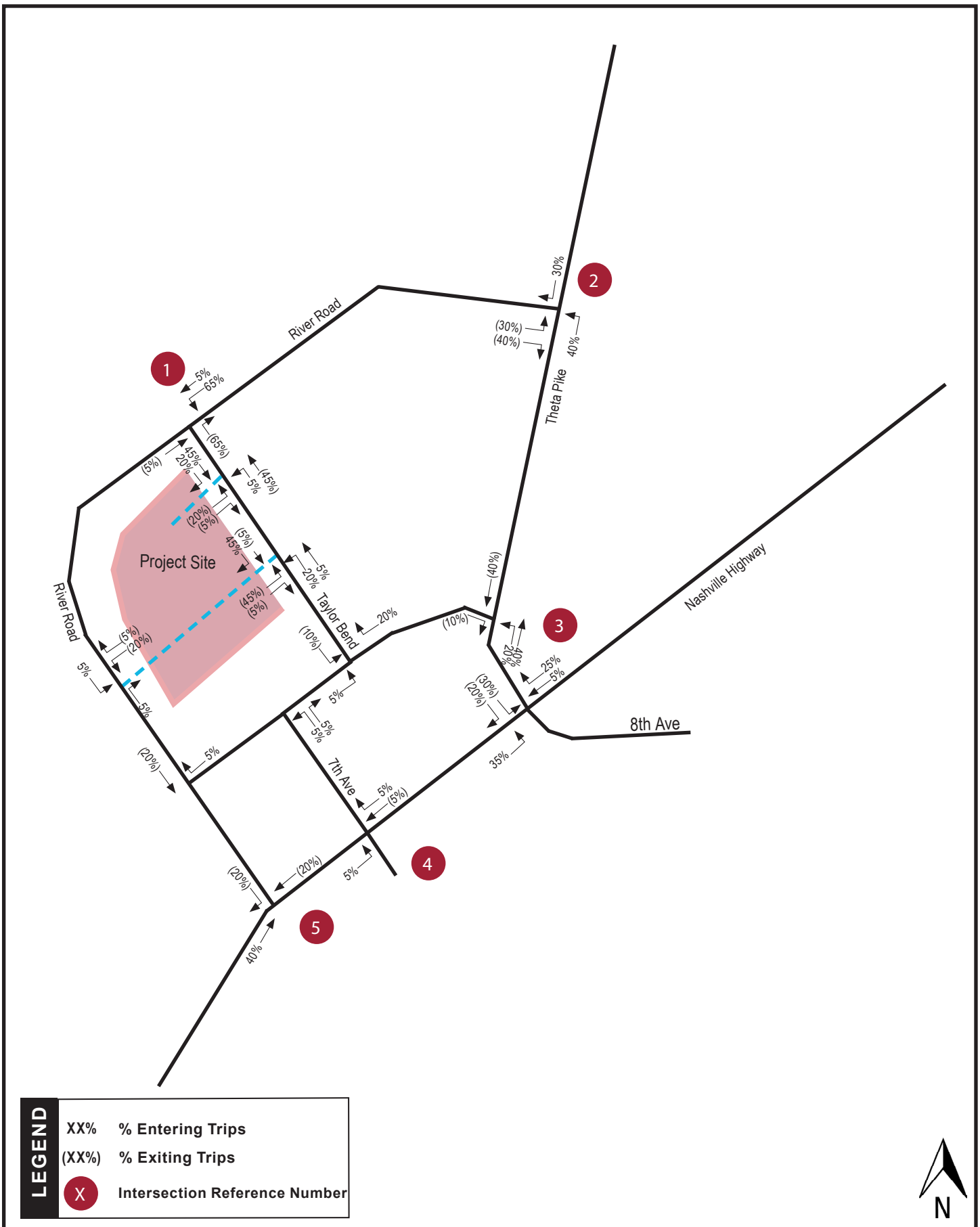
Kimley»Horn	River Road Columbia Traffic Impact Study	Site Location Map	Figure 1

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Kimley»Horn	River Road Columbia Traffic Impact Study	Site Aerial	Figure 2

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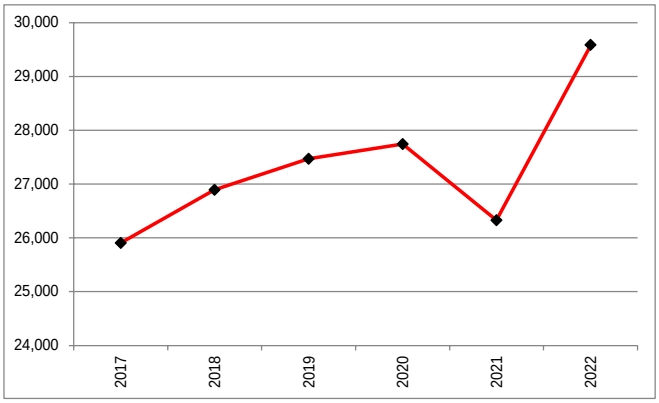
Kimley»Horn	River Road Columbia Traffic Impact Study	Trip Distribution and Assignment	Figure 3

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Growth Rate Calculations - River Road Columbia

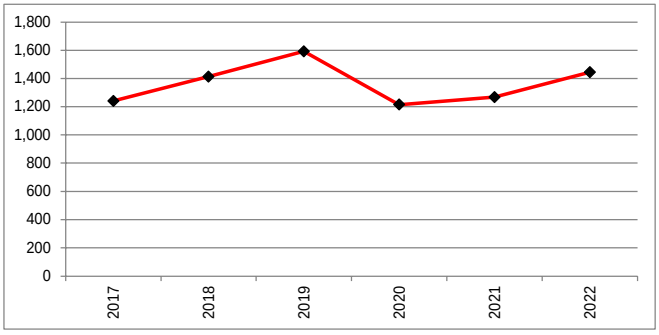
Station	600000046		
Route	SR007 Columbia		
Location	North-East of Bass Dr		
Count Type	Count Year	AADT	Annual Growth Rate
Estimated	2017	25,904	
Estimated	2018	26,893	3.8%
Actual	2019	27,466	2.1%
Estimated	2020	27,741	1.0%
Combined From Child AADT	2021	26,329	-5.1%
Actual	2022	29,584	12.4%

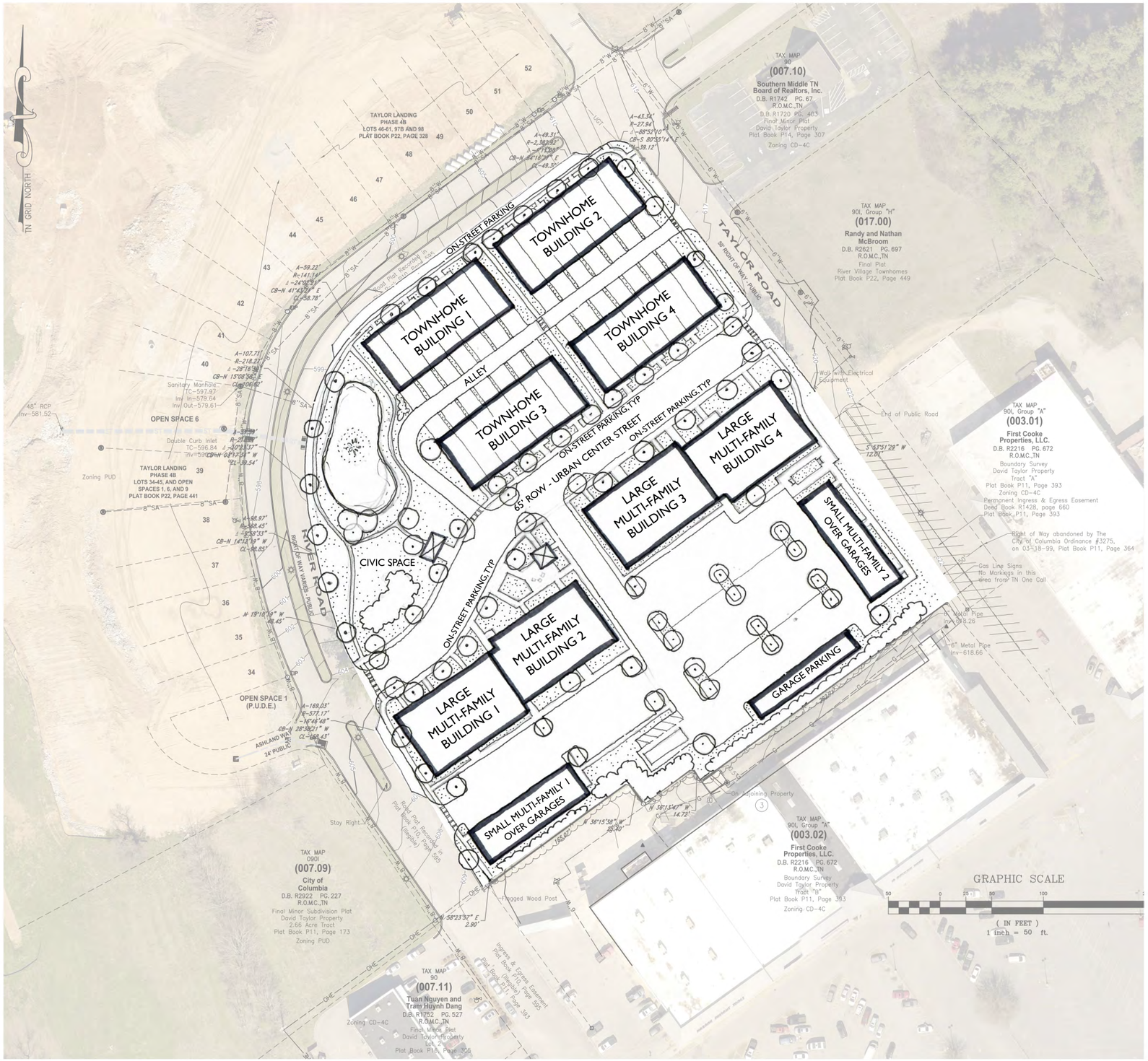
	AADT
5 Year Growth Rate	2.7%
Average 1 Year Growth Rate	2.8%
Most Recent Actual Count Growth Rate	12.4%



Station	600000151		
Route	Carter Street		
Location	South of U.S. Hwy 31		
Count Type	Count Year	AADT	Annual Growth Rate
Actual	2017	1,241	
Actual	2018	1,414	13.9%
Actual	2019	1,593	12.7%
Actual	2020	1,215	-23.7%
Actual	2021	1,267	4.3%
Actual	2022	1,444	14.0%

	AADT
5 Year Growth Rate	3.1%
Average 1 Year Growth Rate	4.2%
Most Recent Actual Count Growth Rate	14.0%





RIVER ROAD PROPERTY
CONCEPT PLAN
Septemebr 29, 2023

Traffic Impact Study

River Road Columbia

November 2023

FOR SUBMITTAL TO:

City of Columbia, Tennessee

PREPARED FOR:

CPS Land

Kimley»Horn

Traffic Impact Study

River Road Columbia

FOR SUBMITTAL TO:

City of Columbia, Tennessee

PREPARED FOR:

CPS Land

PREPARED BY:

Kimley»Horn
4031 Aspen Grove Drive, Suite 200
Franklin, Tennessee 37067
615.564.2701

November 2023

Project Number 118119002



11/17/2023

Kimley»Horn

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Appendix A: Site Plan
Appendix B: Traffic Count Data
Appendix C: Volume Development
Appendix D: *Synchro* Reports
Appendix E: Turn Lane Evaluation
Appendix F: Sight Distance

1.0 EXECUTIVE SUMMARY

This traffic study evaluated the anticipated traffic impacts associated with the *River Road Columbia* development, which is expected to be completed in 2025 (referred to herein as build-out year). As currently envisioned, the development will consist of approximately 30 single-family attached housing units and 96 multifamily units. The site is located in the southwest quadrant at the intersection of River Road and Taylor Bend in the City of Columbia, Tennessee.

This following scenarios were considered in this analysis:

- Existing 2023 Conditions
- Projected 2025 No-Build Conditions
- Projected 2025 Build Conditions

The study network for this analysis includes the following intersections:

1. Taylor Bend at River Road
2. River Road at Theta Pike
3. Nashville Highway at Theta Pike
4. Nashville Highway at 7th Avenue
5. Nashville Highway at River Road

The results of the analyses show that all study intersections currently operate at an acceptable overall LOS during the AM and PM peak hours. Under the projected 2025 No-Build and Build conditions, all study intersections are projected to continue to operate at an acceptable overall LOS during the AM and PM peak hours.

1.1 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following development improvements are recommended to serve the Projected 2025 Build traffic conditions (Note: this would be the improvements needed to serve the traffic associated with the *River Road Columbia* development).

- Intersection 6 – River Road at Site Driveway A
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site.
- Intersection 7 – River Road at Site Driveway B
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
- Intersection 8 – River Road at Site Driveway C
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
- Intersection 9 – Taylor Bend at Site Driveway C
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
- Intersection 10 – Taylor Bend at Site Driveway B
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site

2.0 INTRODUCTION

This report presents the analysis of the anticipated traffic impacts associated with the *River Road Columbia* development, which is expected to be completed in 2025 (referred to herein as build-out year). As currently envisioned, the development will consist of approximately 30 single-family attached housing units and 96 multifamily units. The site is located in the southwest quadrant at the intersection of River Road and Taylor Bend in the City of Columbia, Tennessee.

This report will summarize the analyses of the following scenarios:

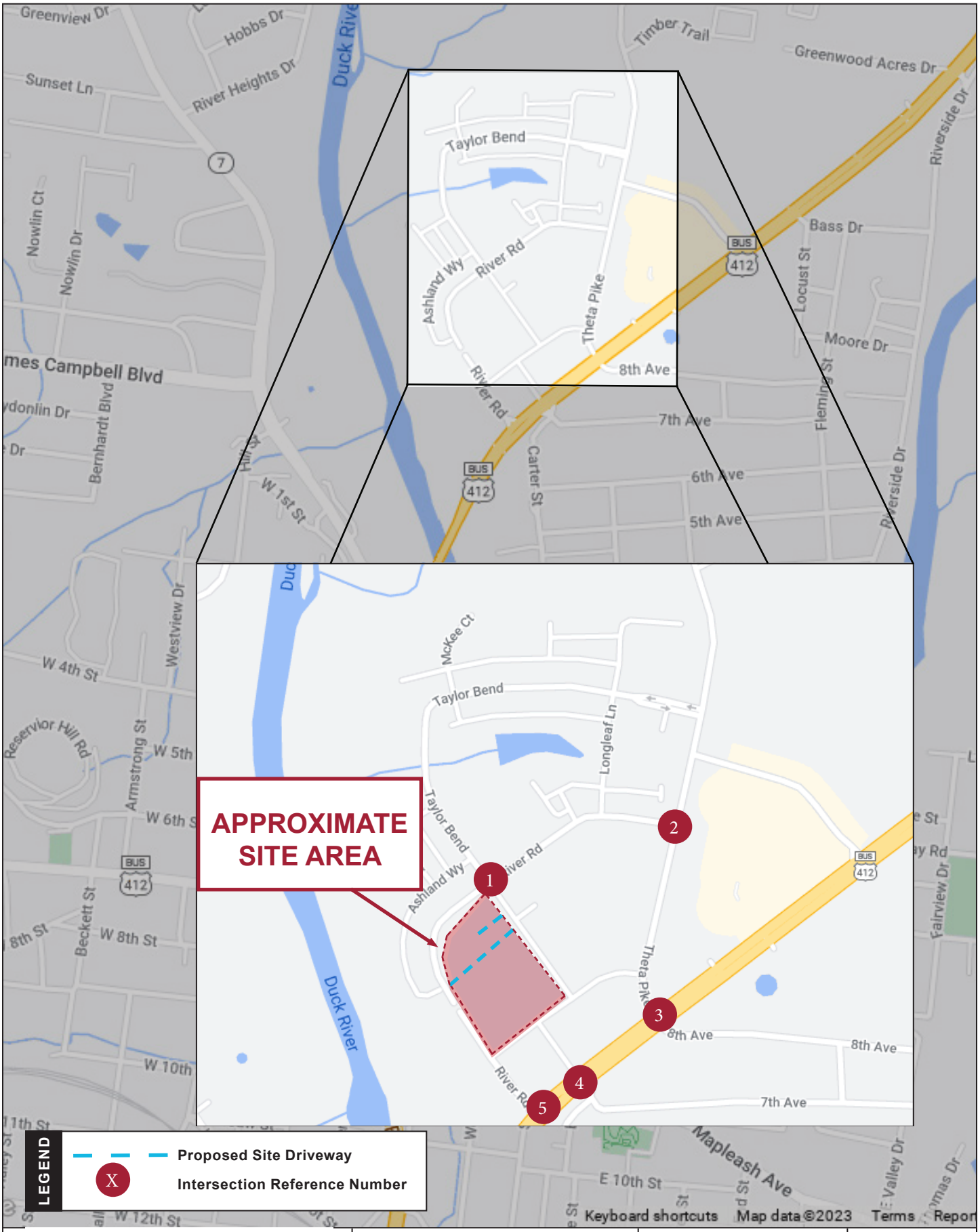
- Existing 2023 Conditions
- Projected 2025 No-Build Conditions
- Projected 2025 Build Conditions

The study network for this analysis includes the following intersections:

1. Taylor Bend at River Road
2. River Road at Theta Pike
3. Nashville Highway at Theta Pike
4. Nashville Highway at 7th Avenue
5. Nashville Highway at River Road

For the purposes of this traffic impact study, Nashville Highway, River Road (Intersections 1 and 2), Site Driveway A, Site Driveway B, and Site Driveway C are considered to have an east-west orientation. Taylor Bend, Theta Pike, 7th Avenue, 8th Avenue, River Road (Intersections 5, 6, 7, and 8), and Site Driveway C (Intersection 8) are considered to have a north-south orientation.

Figure 1 provides a location map of the project site. **Figure 2** provides an aerial image of the project site. A site plan is also included in **Appendix A**.



Kimley»Horn	River Road Columbia Traffic Impact Study	Site Location Map	Figure 1

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Kimley»Horn	River Road Columbia Traffic Impact Study	Site Aerial	Figure 2

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3.0 EXISTING CONDITIONS

3.1 VEHICULAR NETWORK

Characteristics for the roadways within the study are summarized in **Table 1**.

Table 1: Roadway Network

Roadway	Number of Lanes	Posted Speed Limit (MPH)	Functional Classification	2022 TDOT AADT
Nashville Highway	4	45	Principal Arterial	29,584
River Road	2	N/A	N/A	N/A
Taylor Bend	2	N/A	N/A	N/A
7th Avenue	2	N/A	N/A	N/A
Theta Pike	2	35	N/A	N/A

The existing road geometry is illustrated in **Figure 3.**

3.2 VEHICULAR VOLUMES

Vehicle peak hour turning movement counts (TMCs) were performed at each study intersection. The TMCs were collected during the AM period (7:00 AM – 9:00 AM) and the PM period (4:00 PM – 6:00 PM) on Tuesday, October 24, 2023. Peak hours for the study intersection are shown in **Table 2**.

Table 2: Intersection Peak Hours

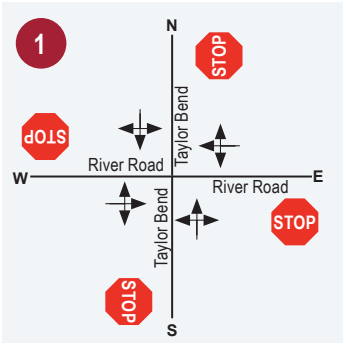
Intersection	AM Peak Hour	PM Peak Hour
1. Taylor Bend at River Road	7:15 AM – 8:15 AM	5:00 PM – 6:00 PM
2. River Road at Theta Pike	7:45 AM – 8:45 AM	4:45 PM – 5:45 PM
3. Nashville Highway at Theta Pike	7:15 AM – 8:15 AM	4:15 PM – 5:15 PM
4. Nashville Highway at 7th Avenue	7:15 AM – 8:15 AM	4:15 PM – 5:15 PM
5. Nashville Highway at River Road	7:15 AM – 8:15 AM	4:15 PM – 5:15 PM

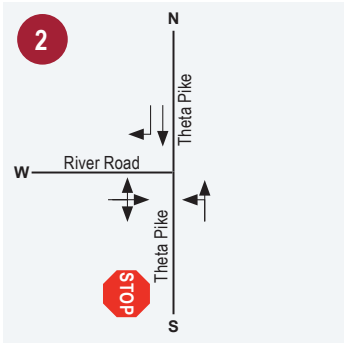
In addition to the TMCs, a 24-hour average daily traffic (ADT) count was also collected at the following location:

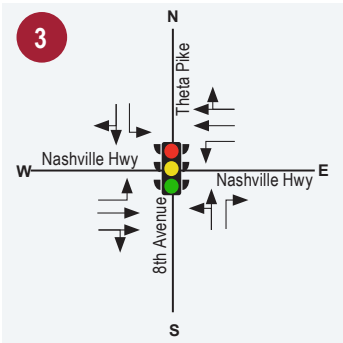
- Theta Pike south of River Road (3,348 daily vehicles – 1,758 NB, 1,590 SB)
  - Speed limit: 35 MPH; 85th percentile speed: 37 MPH
- Nashville Highway southwest of River Road (32,797 daily vehicles – 16,718 NB, 16,079 SB)
  - Speed limit: 45 MPH; 85th percentile speed: 46 MPH

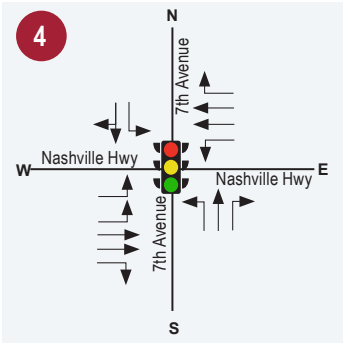
The Existing 2023 peak hour traffic volumes are shown in **Figure 4**. The complete traffic count data is provided in **Appendix B**.













LEGEND

- Existing Laneage
- Existing Traffic Signal
- Existing Stop Sign

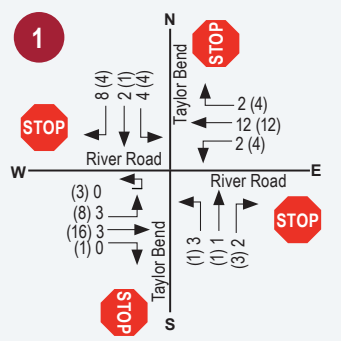
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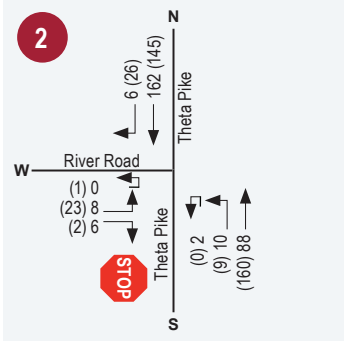
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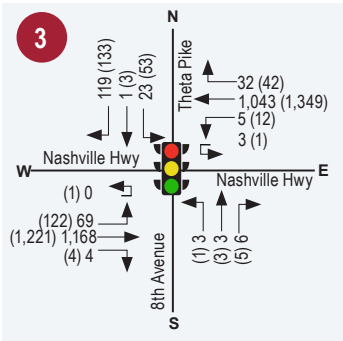
River Road Columbia Traffic Impact Study	Existing 2023 Geometry	Figure 3

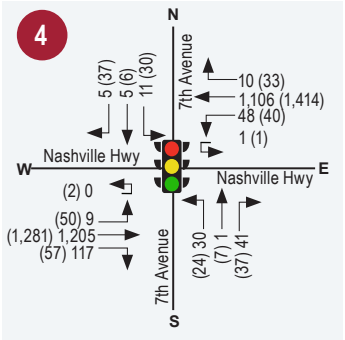
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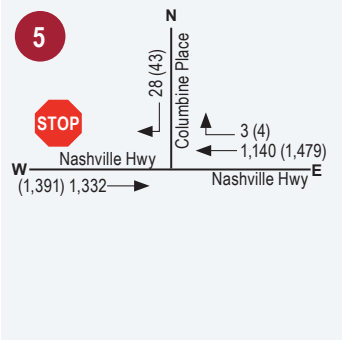


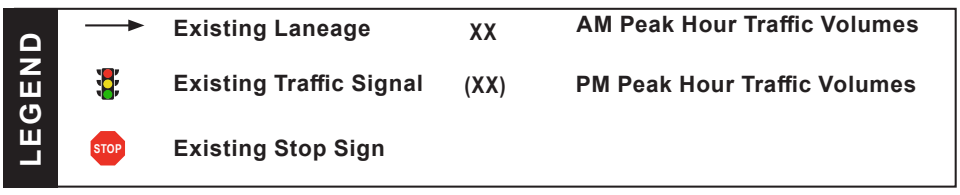














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River Road Columbia Traffic Impact Study	2023 Existing Intersection Volumes	Figure 4

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4.0 NO-BUILD CONDITIONS

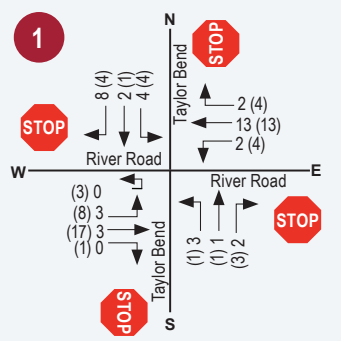
Background traffic is defined as expected traffic on the roadway in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates.

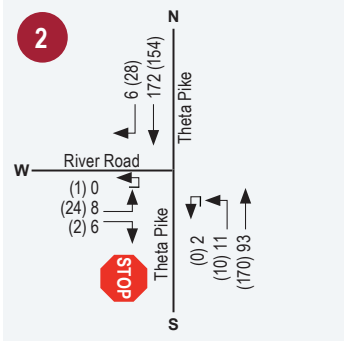
To account for background traffic, the Existing 2023 traffic volumes were increased by 3.0% per year to account for the expected background growth through year 2025.

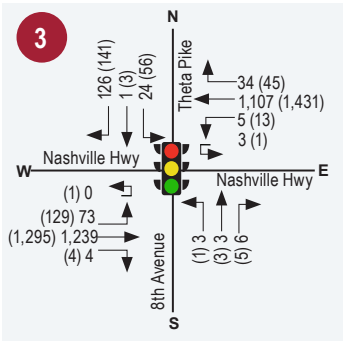
Figure 5 illustrates the Projected 2025 No-Build traffic volumes.

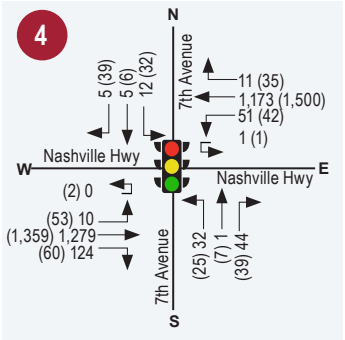
No lane configuration changes at any of the study intersections were identified in the scoping meeting to incorporate in the No-Build analysis.

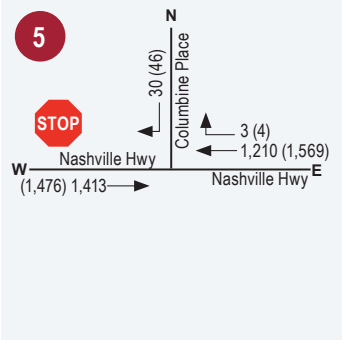












LEGEND

→	Existing Laneage	XX	AM Peak Hour Traffic Volumes
	Existing Traffic Signal	(XX)	PM Peak Hour Traffic Volumes
STOP	Existing Stop Sign		

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River Road Columbia Traffic Impact Study	2025 No-Build Traffic Volumes	Figure 5

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5.0 BUILD CONDITIONS

5.1 SITE ACCESS AND CIRCULATION

A brief description of the site access is as follows:

- Site Driveway A
    - Driveway A is a proposed full-movement driveway along Rover Road located approximately 740' north of Nashville Highway. The driveway is proposed to have one (1) ingress lane entering the site, one (1) egress lane exiting the site, and operate under stop control at both connection points. Driveway A is proposed to provide access to the multifamily apartment units.
- Site Driveway B
    - Driveway B is a proposed roadway connection through site with connection to River Road approximately 890' north of Nashville Highway and connection to Taylor Bend approximately 260' south of River Road. The driveway access points are proposed to be full-movement at both the River Road and Taylor Bend connections. Driveway B is proposed to have one (1) ingress lane entering the site, one (1) egress lane exiting the site, and operate under stop control at both connection points. Driveway B is proposed to provide access to the multifamily apartment units.
- Site Driveway C
    - Driveway B is a proposed roadway connection through site with connection to River Road approximately 420' west of Taylor Bend and connection to Taylor Bend approximately 135' south of River Road. The driveway access points are proposed to be full-movement at both the River Road and Taylor Bend connections. Driveway C is proposed to have one (1) ingress lane entering the site, one (1) egress lane exiting the site, and operate under stop control at both connection points. Driveway C is proposed to provide access to the attached single-family (townhome) units.

Refer to the site plan in **Appendix A** for a visual representation of vehicular access and circulation throughout the proposed development.

5.2 SIGHT DISTANCE

Intersection sight distance measurements and calculations were performed for all site access points using methodology provided in *A Policy on Geometric Design of Highways and Streets, 6th Edition (2011)*, published by the American Association of State Highways and Transportation Officials (AASHTO).

River Road and Taylor Bend currently do not have posted speed limit signs and were assumed to be 25 MPH. Also, due to the median and wider pavement width along River Road, the time gap for left-turns from driveways along River Road was adjusted to 8.5 seconds. The required and available sight distance at each access point is summarized in the table below. A sight distance exhibit as well as site photos can be found in **Appendix F.**

Table 3: Intersection Sight Distance

Intersection	Direction	SSD	ISD	Available
6. River Road at Driveway A	WBL (Looking Right)	200’	375’	1000’+
	WBR (Looking Left)	200’	290’	670’
7. River Road at Driveway B	WBL (Looking Right)	200’	375’	1000’+
	WBR (Looking Left)	200’	290’	800’
8. River Road at Driveway C	WBL (Looking Right)	200’	375’	1000’+
	WBR (Looking Left)	200’	290’	470’
9. Taylor Bend at Driveway C	EBL (Looking Right)	200’	335’	1000’+
	EBR (Looking Left)	200’	290’	1000’+
10. Taylor Bend at Driveway B	EBL (Looking Right)	200’	335’	1000’+
	EBR (Looking Left)	200’	290’	1000’+

5.3 TURN LANE EVALUATION

TDOT HSAM Vol 3 Geometric Design Criteria was used to evaluate if turn lanes should be implemented along the major road at the unsignalized site driveways. From the TDOT HSAM, the following methodologies were applied to perform these evaluations:

- Figure 3-17 (“Left-Turn Warrant Along Four-Lane Rural Roadways (Unsignalized)
- Figure 3-18 (“Right-Turn Lane Warrant Along Four-Lane Roadway (Unsignalized Intersection with Two-Way Stop-Control”)

The results of the turn lane warrants are summarized in **Table 4**. **Appendix E** provides the TDOT Turn Lane Warrant charts used for the analysis.

Table 4: Turn Lane Warrants				
Intersection	**Movement**	**Analysis Scenario**	**AM Peak Hour**	**PM Peak Hour**
2. River Road at Theta Pike	NBL	Build 2026	Not Warranted	Warranted

Per the TDOT HSAM, "The volume-based warrants indicate situations where turn lanes would help to mitigate traffic conflicts, not necessarily situations where a turn lane is required or must be constructed. Turn lanes can have an adverse safety and operational effect for pedestrians and bicyclists. All existing and future users of the roadway should be considered when determining turn lane needs."

A southbound left-turn lane is warranted at the intersection of River Road and Theta Pike (Intersection 2) during the PM peak hour but not during the AM peak hour. It should be noted that the threshold to warrant a left-turn lane for the geometric and volume conditions at this intersection is 160 vehicles per lane per hour for 29 vehicles turning left in the PM peak hour. The projected vehicles per lane per hour are estimated to be 162 during the PM peak hour.

5.4 TRIP GENERATION

Traffic for the proposed development was calculated using equations contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, *11th Edition*, using equations where available.

Internal capture (or mixed-use) reductions represent the concept that trips generated by individual land uses within a site may remain internal to the site. Mixed-use vehicle trip reductions are calculated using guidance from the *ITE Trip Generation Handbook, 3rd Edition*.

Alternative modes of transportation include pedestrians, bicyclists, and transit users. Alternate mode reductions account for the notion that some site-generated trips will occur by a means other than automobile.

A pass-by trip occurs when a proposed development diverts traffic that is already traveling on a street adjacent to the site. Pass-by reductions are calculated using guidance from the *ITE Trip Generation Handbook, 3rd Edition*.

Due to the location and proposed uses for the development, the trip generation for the site was performed with no reductions to gross trips.

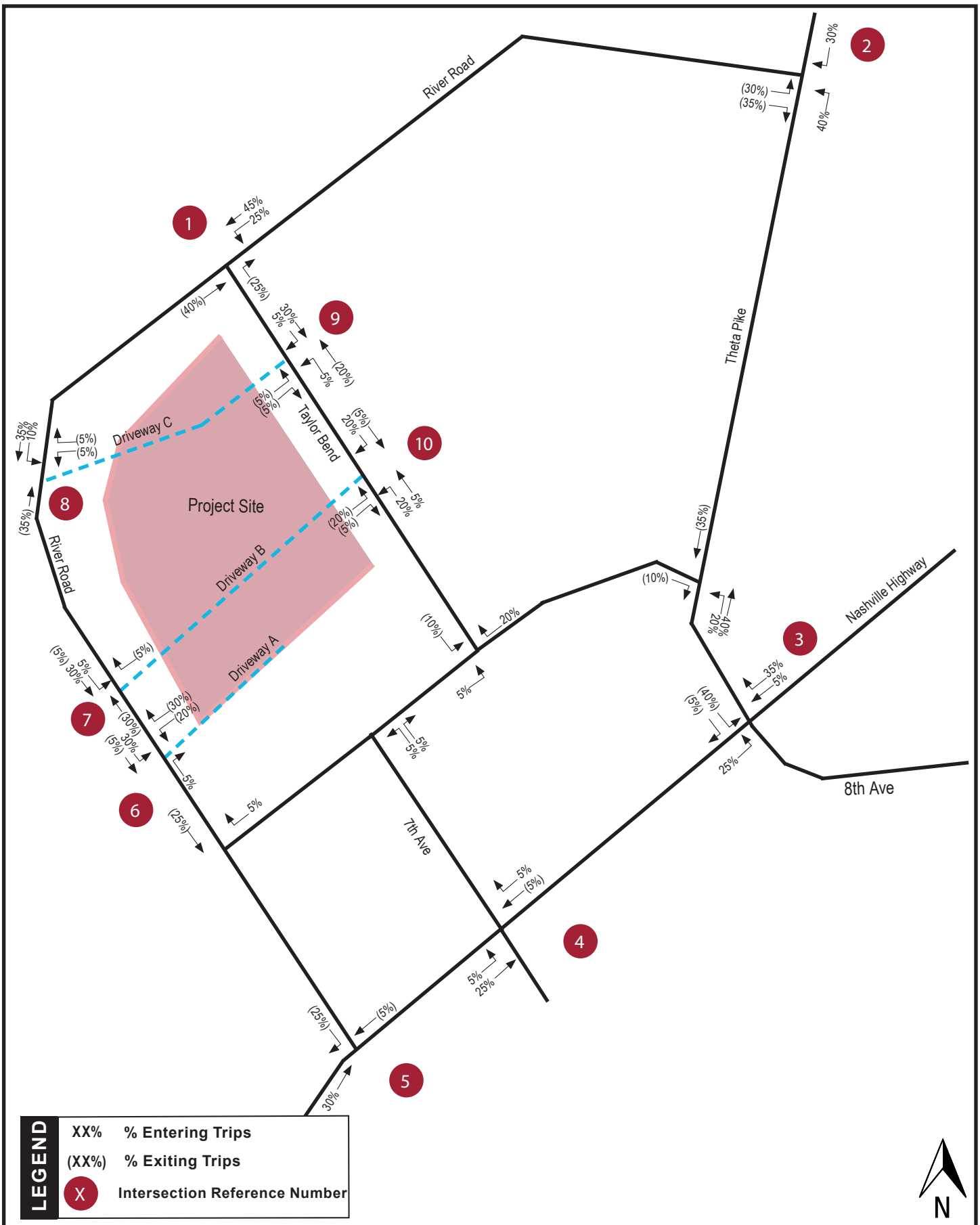
Table 5 summarizes the project trip generation. **Appendix C** provides a detailed trip generation worksheet for the proposed development.

Table 5: Trip Generation

ITE Code	Land Use	Density	Daily		AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
215	Single-Family Attached Housing	30 units	89	89	3	7	8	6
220	Multifamily Housing (Low-Rise)	96 units	345	345	13	40	39	23
Gross Trips			**434**	**434**	**16**	**47**	**47**	**29**

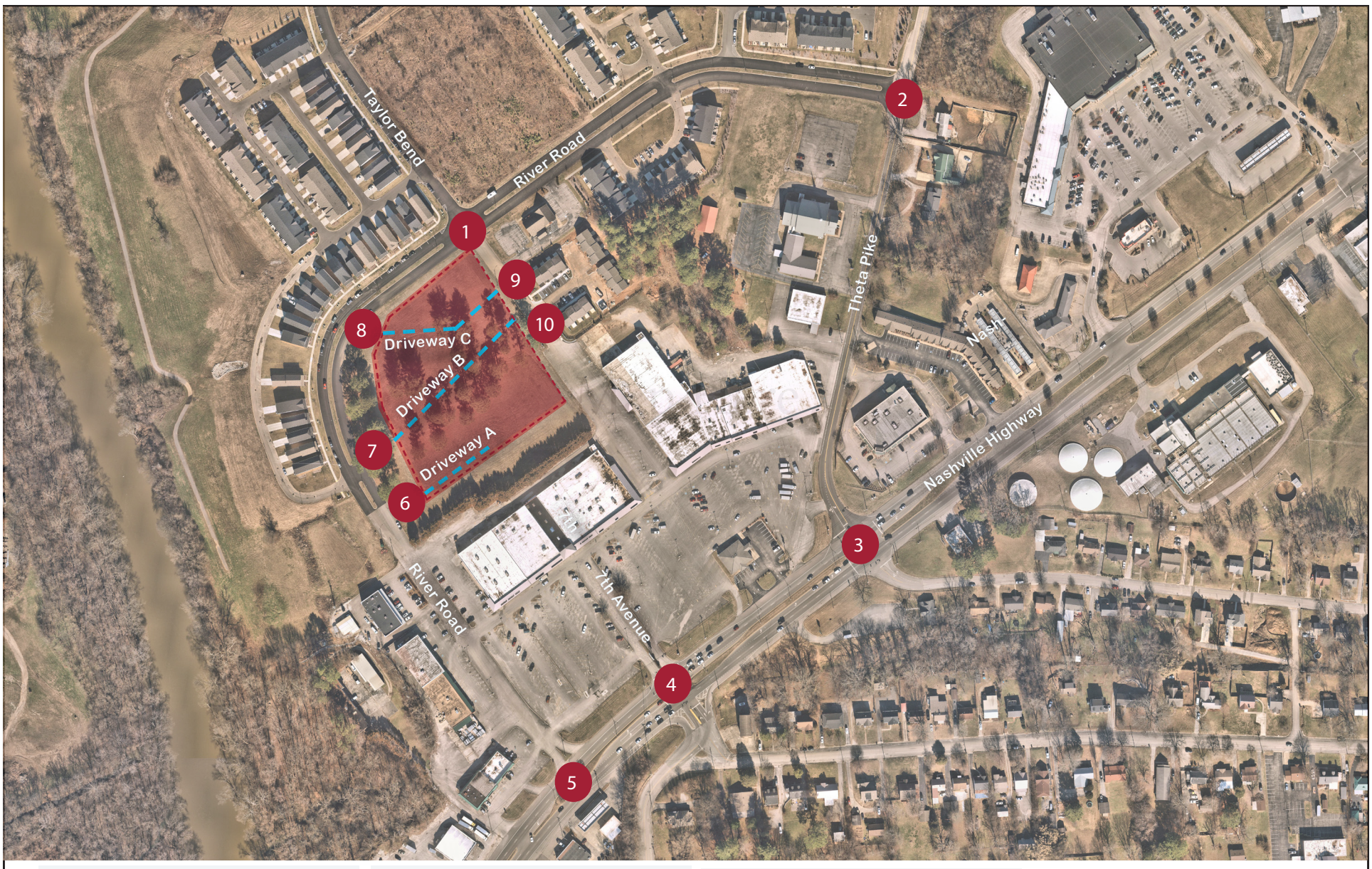
5.5 TRIP DISTRIBUTION AND ASSIGNMENT

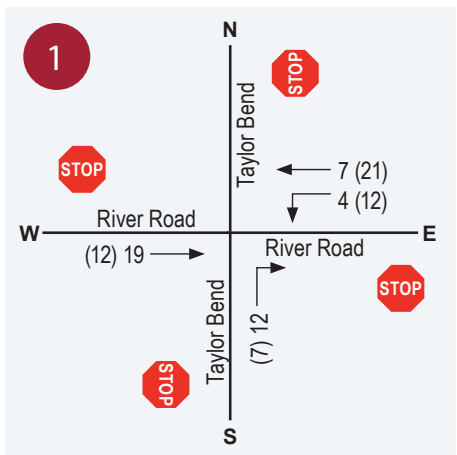
The directional distribution and assignment of new project trips was based on a review of land uses and population densities in the area and the existing peak hour turning movement counts. **Figure 6** provides the directional distribution and assignment of new project trips. **Figure 7** illustrates the assignment of project trips to the study network. The Projected 2025 Build peak hour volumes are shown in **Figure 8**. **Appendix C** provides intersection volume worksheets for all intersections and driveways within the study network.

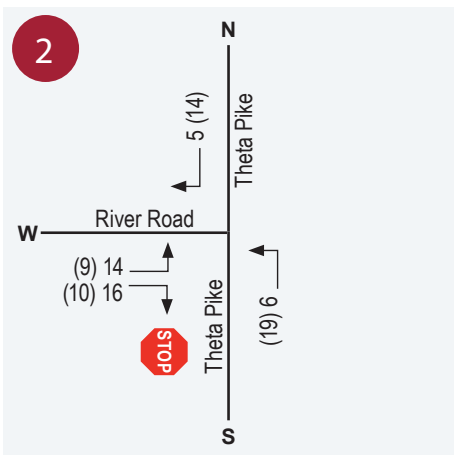


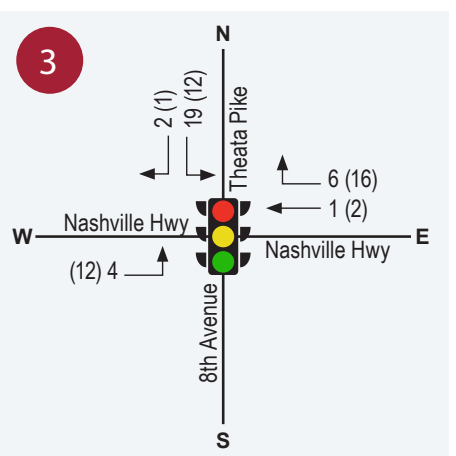
Kimley»Horn	River Road Columbia Traffic Impact Study	Trip Distribution and Assignment	Figure 6

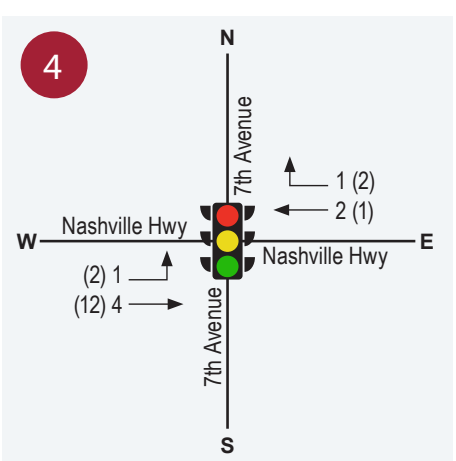
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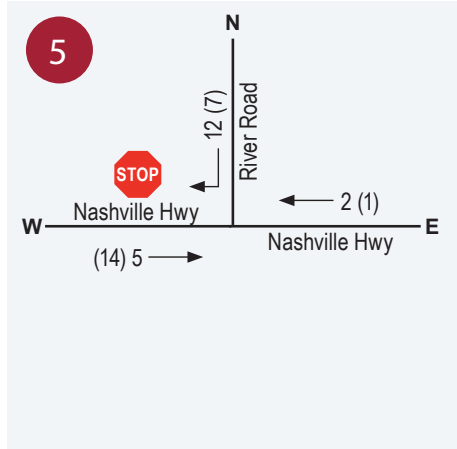


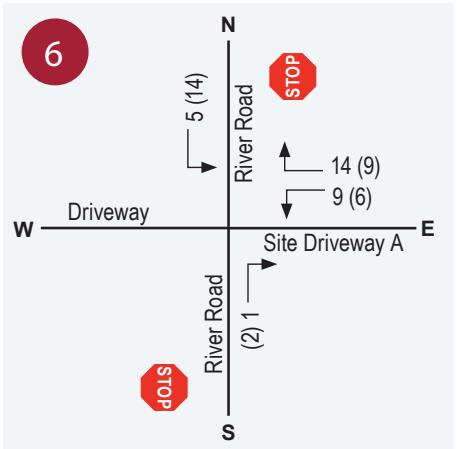


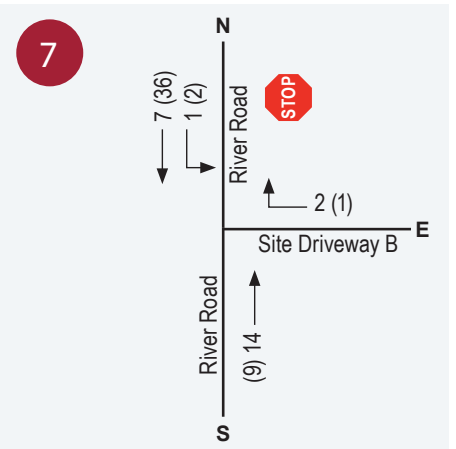


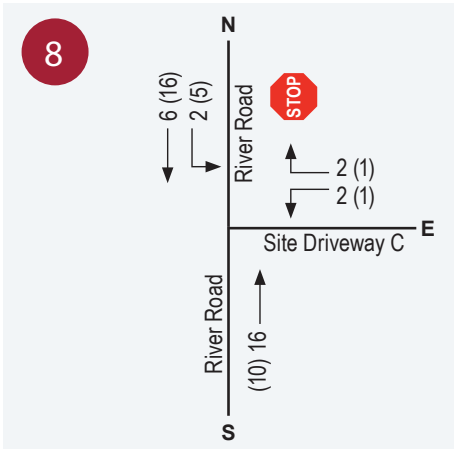


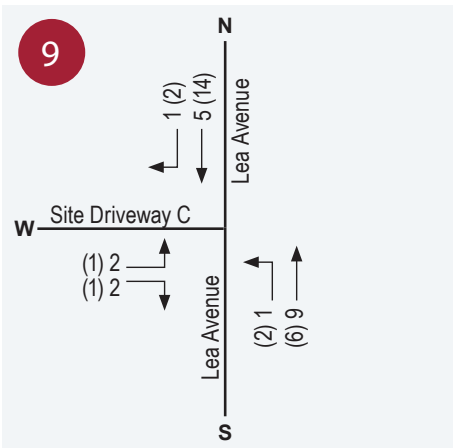


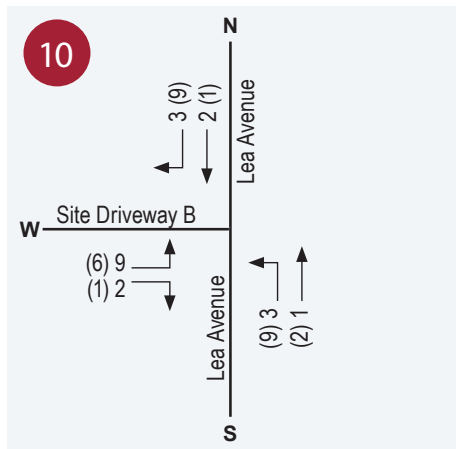












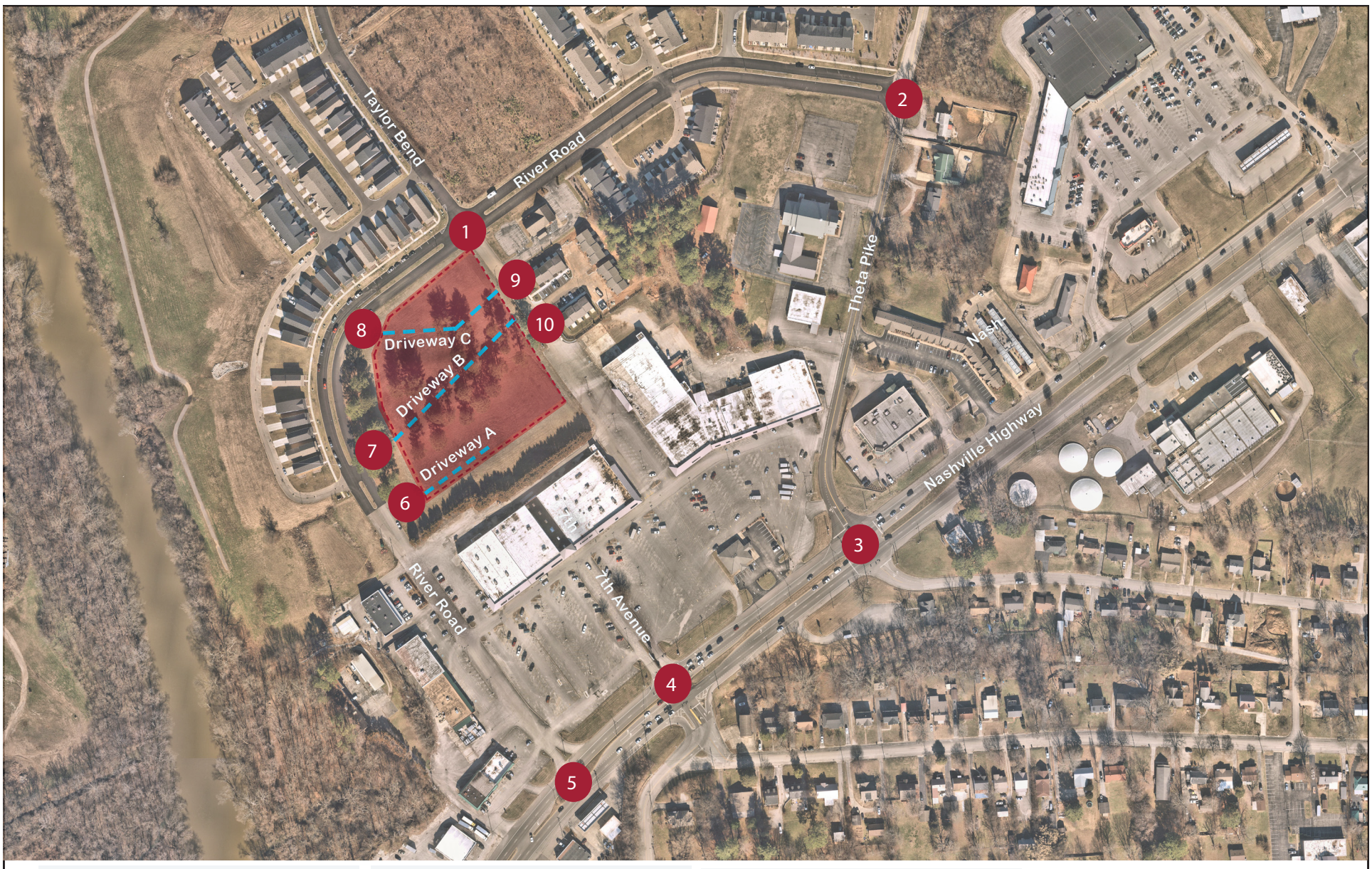
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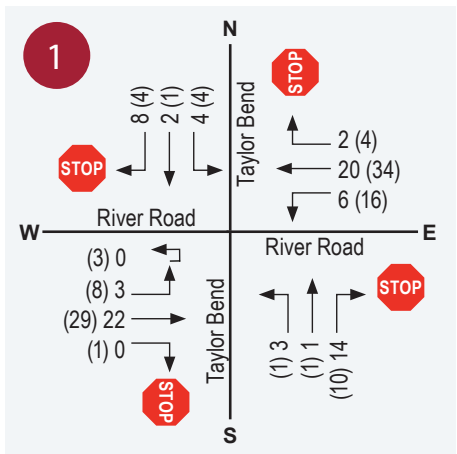
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Existing Traffic Signal	(XX)	PM Peak Hour Project Trips
Existing Stop Sign	STOP	Proposed Stop Sign

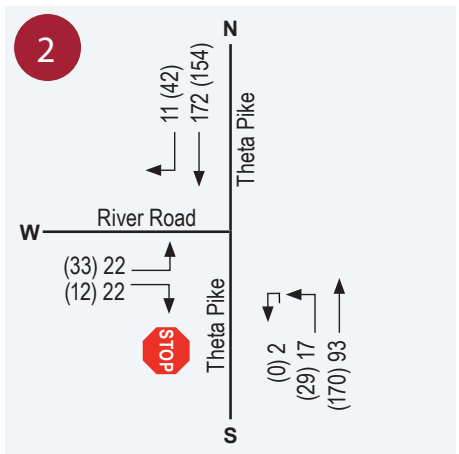
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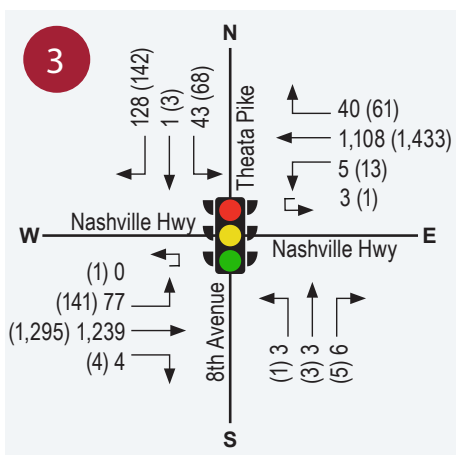
River Road Columbia Traffic Impact Study	Project Trips	Figure 7

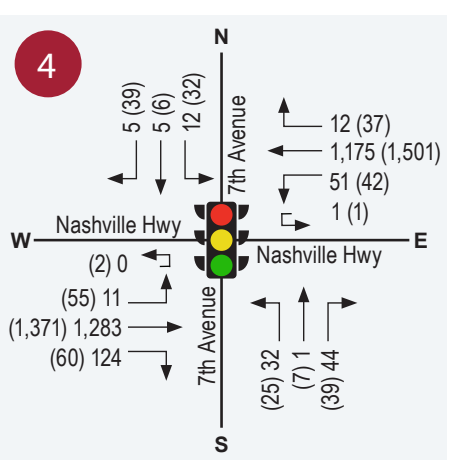
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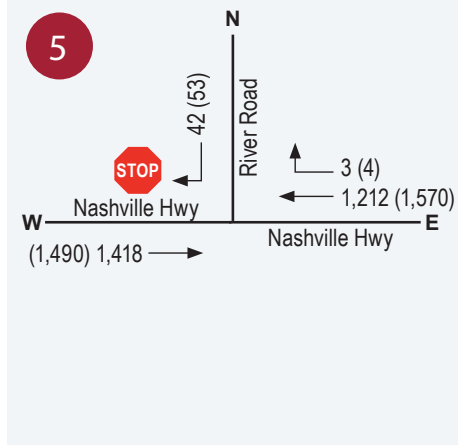


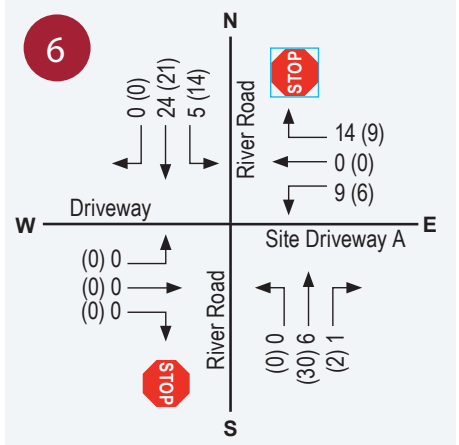


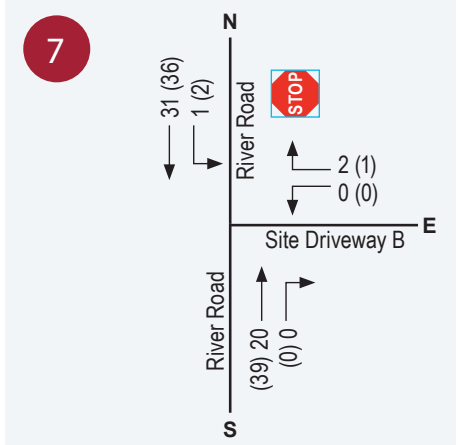


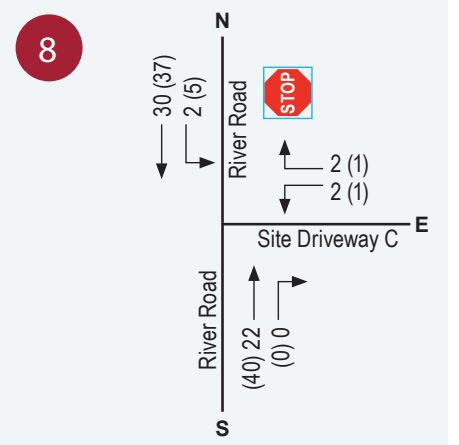


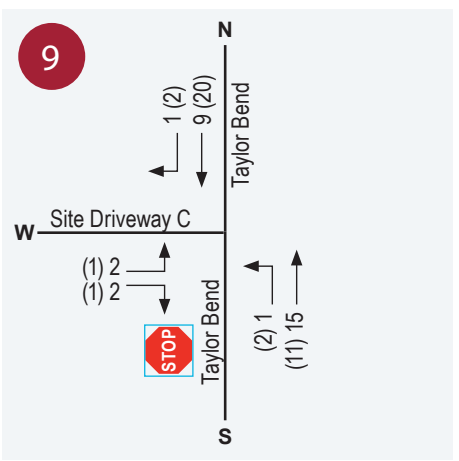


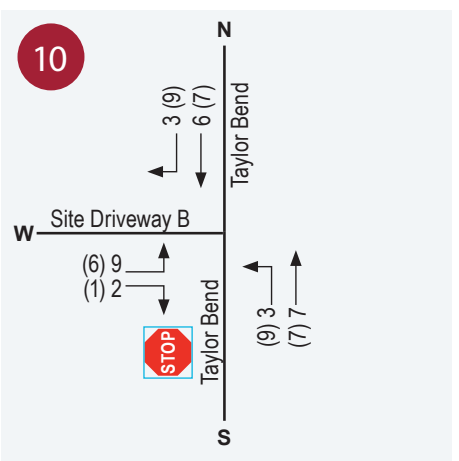












LEGEND

Existing Laneage	XX	AM Peak Hour Project Trips
Existing Traffic Signal	(XX)	PM Peak Hour Project Trips
Existing Stop Sign	STOP	Proposed Stop Sign

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River Road Columbia Traffic Impact Study	Build Intersection Geometry	Figure 8

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6.0 CAPACITY ANALYSES

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study network intersections using *Synchro, Version 11.0. Synchro* software uses methodologies contained in the *Highway Capacity Manual, 6th Edition* to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F the worst.

Levels-of-service for unsignalized intersections, with stop control on the minor street only, are reported for the side-street approaches and major street left-turns. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delay turning onto a major roadway.

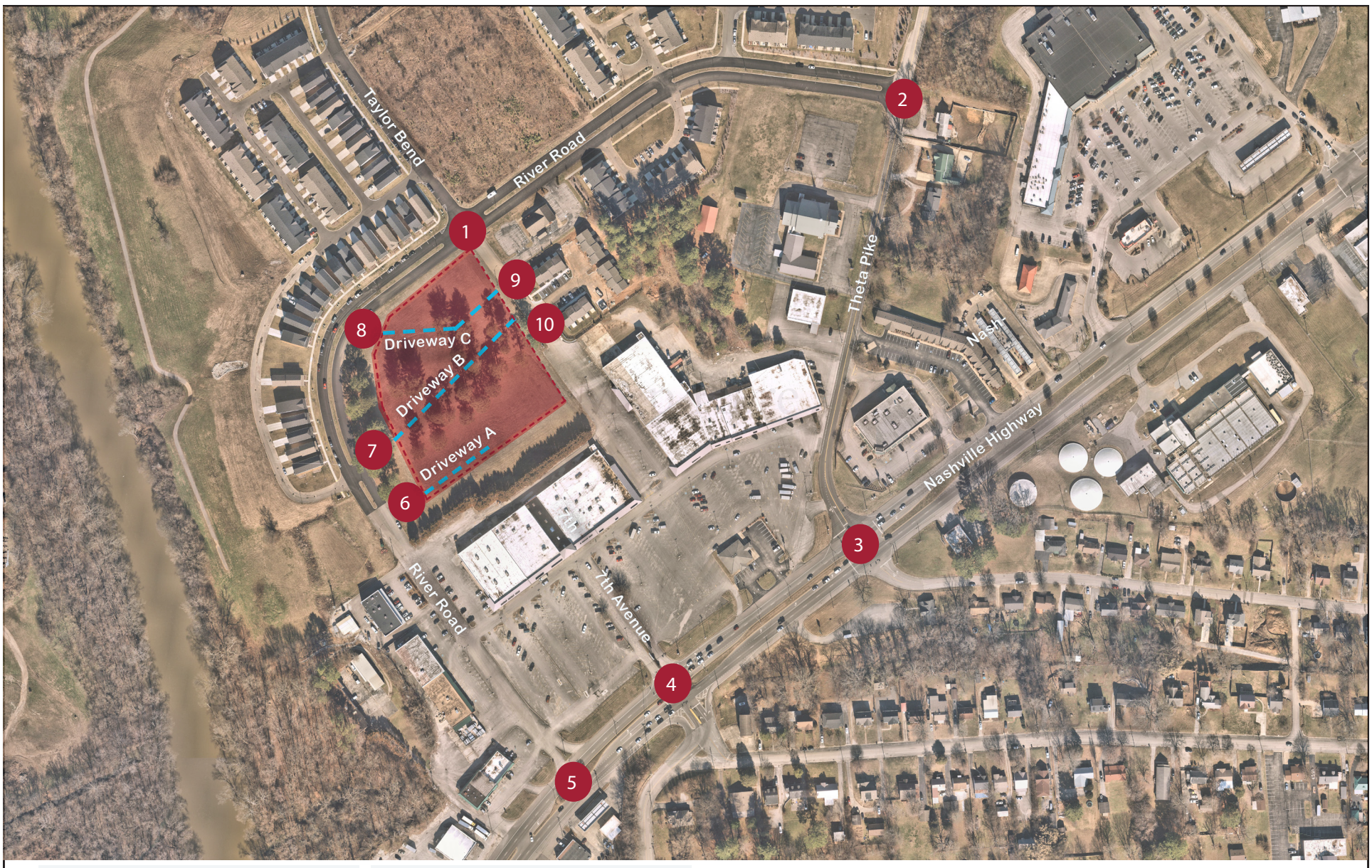
Levels-of-service for signalized and all-way stop controlled (AWSC) intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

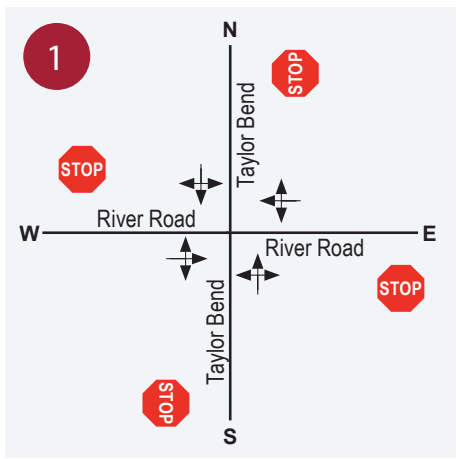
The results of the capacity analyses are summarized in **Table 13**. The *Synchro* analyses reports are included in **Appendix D**.

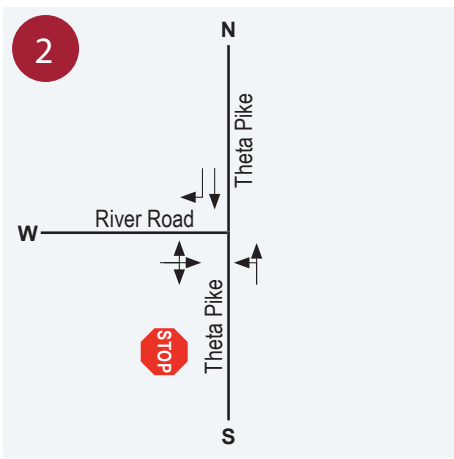
Although no improvements were identified in the capacity analyses, the recommended lane configuration for site driveways is shown visually in **Figure 9**.

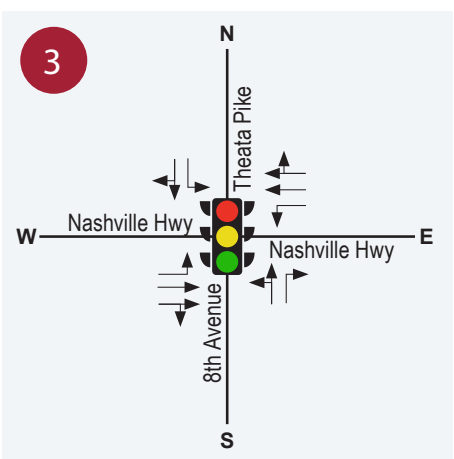
				Existing AM		Existing PM		No-Build AM		No-Build PM		Build AM		Build PM	
ID	**Intersection**	**Control**	**Movement**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
1	River Road at Taylor Bend	Unsignalized (AWSC)	NB	A	6.9			A	7	A	6.8	A	6.8	A	6.8
			SB	A	6.8			A	6.8	A	6.9	A	6.9	A	7.1
			EB	A	7.1			A	7.1	A	7.2	A	7.2	A	7.4
			WB	A	7			A	7.1	A	7	A	7.2	A	7.4
			Intersection	A	6.9	A	7.1	A	7	A	7.1	A	7.1	A	7.3
2	Theta Pike at River Road	Unsignalized (TWSC)	NBL	A	7.6	s	s	A	7.7	A	7.6	A	7.7	A	7.7
			EB	A	9.9	B	10.7	A	10	B	10.9	B	10.3	B	11.1
3	Nashville Hwy at 8th Ave	Signalized	NBL	s	s	s	s	s	s	s	s	s	s	s	s
			NBT	A	0	A	0	A	0	A	0	A	0	A	0
			NBR	D	43.2	D	40.8	D	42.7	D	40.1	D	41.3	D	39.4
			SBL	D	52.2	D	51.4	D	52.2	D	51.3	D	51.6	D	51
			SBT	A	0	A	0	A	0	A	0	A	0	A	0
			SBR	s	s	s	s	s	s	s	s	s	s	s	s
			EBL	A	5.1	A	9	A	5.7	B	10.9	A	6.4	B	12.5
			EBT	A	1.2	A	1.2	A	1.3	A	1.4	A	1.4	A	1.5
			EBR	s	s	s	s	s	s	s	s	s	s	s	s
			WBL	A	4.7	A	5.6	A	4.9	A	5.8	A	5.4	A	6.1
			WBT	A	8.6	B	12.1	A	9.3	B	13.4	B	10.2	B	14.4
			WBR	s	s	s	s	s	s	s	s	s	s	s	s
			NB	D	43.3	D	40.8	D	42.8	D	40.2	D	41.5	D	39.4
			SB	D	49.2	D	47.2	D	49	D	47.3	D	47.7	D	46.8
			EB	A		A	1.9	A	1.5	A	2.2	A	1.6	A	2.5
			WB	A	8.6	B	12	A	9.2	B	13.3	B	10.2	B	14.3
			Intersection	A	7.5	A	9.7	A	7.8	B	10.5	A	8.5	B	11.2
4	Nashville Hwy at 7th Ave	Signalized	NBL	D	52.3	D	52.5	D	52.2	D	52.4	D	52.2	D	52.4
			NBT	D	49.9	D	48.3	D	49.7	D	48	D	49.7	D	48
			NBR	D	54.3	D	50.1	D	54.3	D	49.8	D	54.3	D	49.8
			SBT	A	0	A	0	A	0	A	0	A	0	A	0
			SBR	s	s	s	s	s	s	s	s	s	s	s	s
			EBL	D	55	D	52.7	D	54.8	D	52.7	D	54.6	D	52.7
			EBT	A	5.8	A	6.2	A	6.3	A	6.7	A	6.3	A	6.7
			EBR	A	3.6	A	3.7	A	3.8	A	3.8	A	3.8	A	3.8
			WBL	E	58.6	E	57.6	E	57.9	E	57.7	E	57.8	E	57.5
			WBT	A	4.3	A	6.7	A	4.6	A	7.2	A	4.6	A	7.2
			WBR	A	2.6	A	3.7	A	2.6	A	3.8	A	2.7	A	3.9
			NB	D	53.4	D	50.7	D	53.4		50.5	D	53.4	D	50.5
			SB	D	51.6	D	54.8	D	51.3	D	54.4	D	51.3	D	54.4
			EB	A	5.9	A	7.8	A	6.4	A	8.3	A	6.4	A	8.4
			WB	A	6.5	A	8.1	A	6.8	A	8.5	A	6.8	A	8.5
			Intersection	A	7.9	A	10	A	8.2	B	10.5	A	8.3	B	10.5

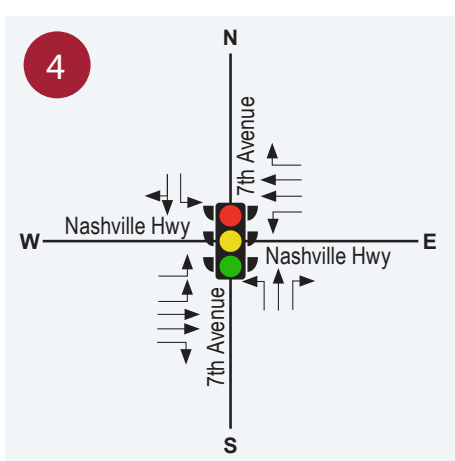
				Existing AM		Existing PM		No-Build AM		No-Build PM		Build AM		Build PM	
ID	**Intersection**	**Control**	**Movement**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
5	Nashville Hwy at River Road	Unsignalized (RIRO)	WBR	s	s	s	s	s	s	s	s	s	s	s	s
			SB	B	14	C	17.1	B	14.6	C	18.3	B	15	C	18.7
6	River Road at Driveway A	Unsignalized (TWSC)	SBL	A	0	s	s	A	0	A	0	A	7.2	A	7.3
			WB	A	0	A	0	A	0	A	0	A	8.6	A	8.8
7	River Road at Driveway B	Unsignalized (TWSC)	SBL									A	7.3	A	7.3
			WB									A	8.4	A	8.5
8	River Road at Driveway C	Unsignalized (TWSC)	SBL									A	7.3	A	7.3
			WB									A	8.7	A	8.8
9	Taylor Bend at Driveway C	Unsignalized (TWSC)	NBL									A	7.2	A	7.4
			EB									A	8.5	A	9
10	Taylor Bend at Driveway B	Unsignalized (TWSC)	NBL									A	7.2	A	7.4
			EB									A	8.7	A	9.4

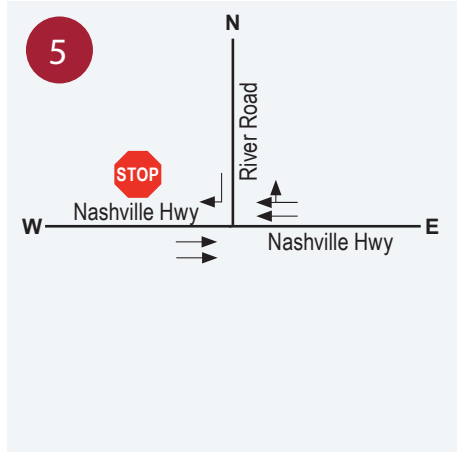


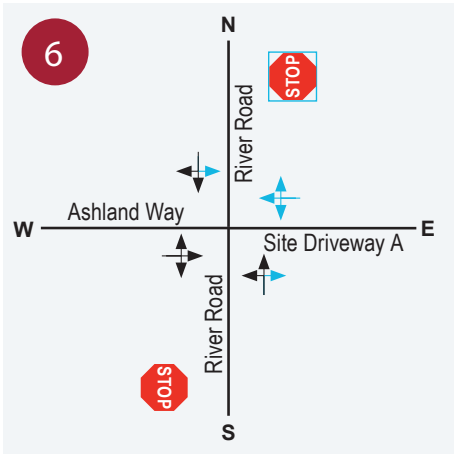


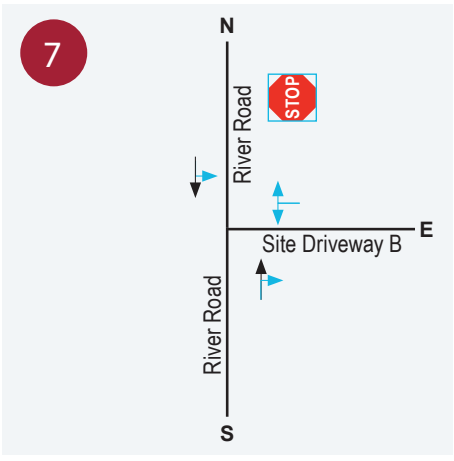


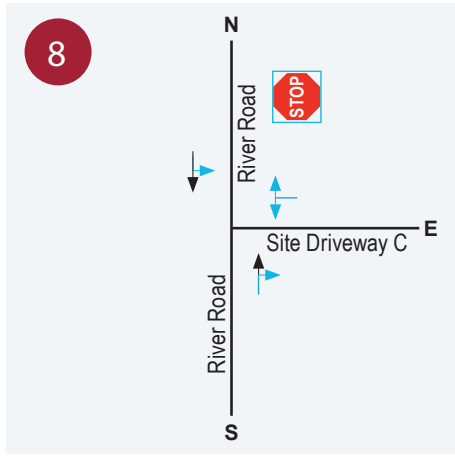


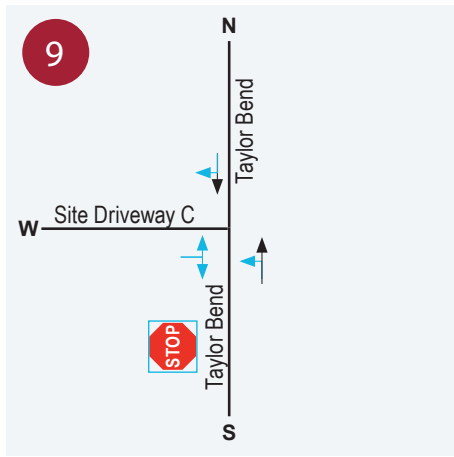


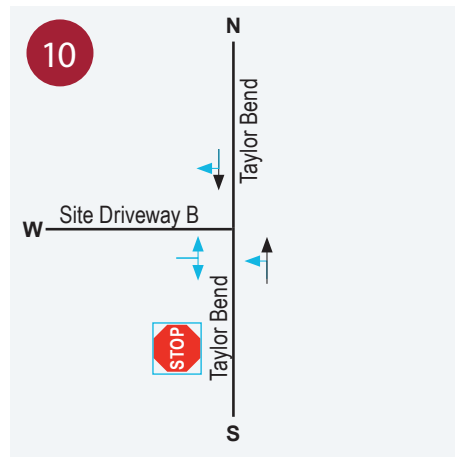


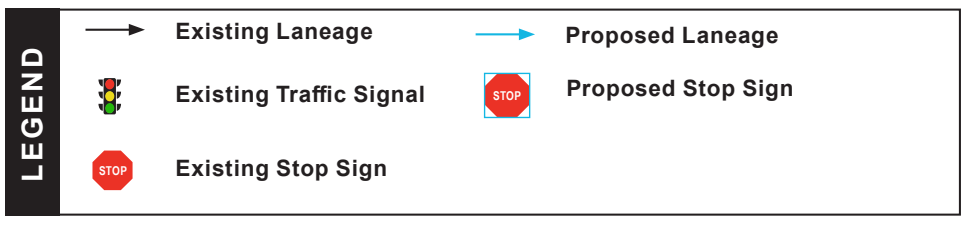












Kimley»Horn

River Road Columbia Traffic Impact Study	2025 Build Traffic Volumes	Figure 9

K:\FRA_LDEV\118119002 - River Road\5-Traffic\4-Report\Figures

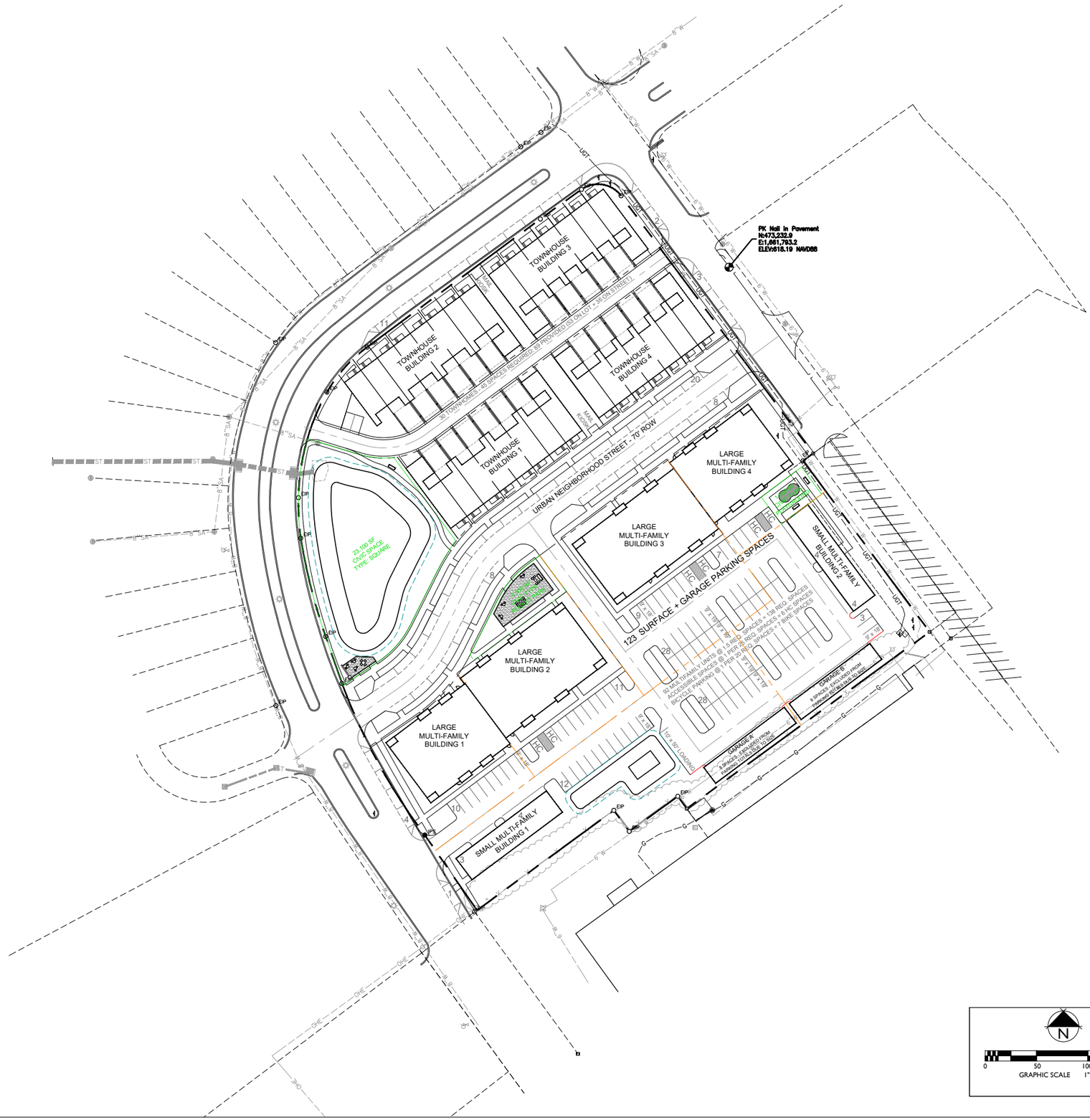
7.0 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following development improvements are recommended to serve the Projected 2025 Build traffic conditions (Note: this would be the improvements needed to serve the traffic associated with the *River Road Columbia* development).

- Intersection 6 – River Road at Site Driveway A
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site.
- Intersection 7 – River Road at Site Driveway B
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
- Intersection 8 – River Road at Site Driveway C
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
- Intersection 9 – Taylor Bend at Site Driveway C
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
- Intersection 10 – Taylor Bend at Site Driveway B
    - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site

APPENDIX A

Site Plan



RIVER ROAD - CONCEPT PLAN - 11.16.2023

N

0 50 100 150

GRAPHIC SCALE 1"=50'-0"

APPENDIX B

Traffic Count Data

Peak Hour Turning Movement Count

Columbia, TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	0700 - 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						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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	3	0	0	-	0	3	2	0	4	-	0	6	0	0	0	-	0	0	0	2	1	-	0	3	12
0730 - 0745	0	0	1	-	0	1	2	1	0	-	0	3	0	2	0	-	0	2	0	7	1	-	0	8	14
0745 - 0800	0	1	1	-	0	2	0	1	2	-	0	3	1	0	0	-	0	1	0	1	0	-	0	1	7
0800 - 0815	0	0	0	-	0	0	0	0	2	-	0	2	2	1	0	-	0	3	2	2	0	-	0	4	9
Total	3	1	2	0	0	6	4	2	8	0	0	14	3	3	0	0	0	6	2	12	2	0	0	16	42
Approach %	50.00	16.67	33.33	0.00	0.00	-	28.57	14.29	57.14	0.00	0.00	-	50.00	50.00	0.00	0.00	0.00	-	12.50	75.00	12.50	0.00	0.00	-	
PHF	0.25	0.25	0.50	0.00	0.00	**0.50**	0.50	0.50	0.50	0.00	0.00	**0.58**	0.38	0.38	0.00	0.00	0.00	**0.50**	0.25	0.43	0.50	0.00	0.00	**0.50**	**0.75**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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	3	0	0	-	0	3	2	0	4	-	0	6	0	0	0	-	0	0	0	2	0	-	0	2	11
0730 - 0745	0	0	1	-	0	1	2	1	0	-	0	3	0	2	0	-	0	2	0	7	1	-	0	8	14
0745 - 0800	0	1	1	-	0	2	0	1	2	-	0	3	1	0	0	-	0	1	0	1	0	-	0	1	7
0800 - 0815	0	0	0	-	0	0	0	0	2	-	0	2	2	1	0	-	0	3	2	2	0	-	0	4	9
Total	3	1	2	0	0	6	4	2	8	0	0	14	3	3	0	0	0	6	2	12	1	0	0	15	41
Approach %	50.00	16.67	33.33	0.00	0.00	-	28.57	14.29	57.14	0.00	0.00	-	50.00	50.00	0.00	0.00	0.00	-	13.33	80.00	6.67	0.00	0.00	-	
PHF	0.25	0.25	0.50	0.00	0.00	**0.50**	0.50	0.50	0.50	0.00	0.00	**0.58**	0.38	0.38	0.00	0.00	0.00	**0.50**	0.25	0.43	0.25	0.00	0.00	**0.47**	**0.73**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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	1	-	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
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	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	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	**0.25**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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	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	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	0.00	0.00	**0.00**	**0.00**

Peak Hour Turning Movement Count

Click here for Map

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	1600 - 1800
Peak Hour	1700 - 1800

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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
1700 - 1715	0	0	1	-	0	1	2	1	1	-	0	4	3	4	0	-	0	7	1	3	0	-	0	4	16
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	1	5	1	-	0	7	2	3	0	-	0	5	12
1730 - 1745	0	0	2	-	0	2	0	0	1	-	0	1	2	4	0	-	2	8	1	0	2	-	0	3	14
1745 - 1800	1	1	0	-	0	2	2	0	2	-	0	4	2	3	0	-	1	6	0	6	2	-	0	8	20
Total	1	1	3	0	0	5	4	1	4	0	0	9	8	16	1	0	3	28	4	12	4	0	0	20	62
Approach %	20.00	20.00	60.00	0.00	0.00	-	44.44	11.11	44.44	0.00	0.00	-	28.57	57.14	3.57	0.00	10.71	-	20.00	60.00	20.00	0.00	0.00	-	
PHF	0.25	0.25	0.38	0.00	0.00	**0.63**	0.50	0.25	0.50	0.00	0.00	**0.56**	0.67	0.80	0.25	0.00	0.38	**0.88**	0.50	0.50	0.50	0.00	0.00	**0.63**	**0.78**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1730 - 1745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1745 - 1800	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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
1700 - 1715	0	0	1	-	0	1	2	1	1	-	0	4	3	4	0	-	0	7	1	3	0	-	0	4	16
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	1	5	1	-	0	7	2	3	0	-	0	5	12
1730 - 1745	0	0	2	-	0	2	0	0	1	-	0	1	2	4	0	-	2	8	1	0	2	-	0	3	14
1745 - 1800	1	1	0	-	0	2	2	0	2	-	0	4	2	3	0	-	1	6	0	6	2	-	0	8	20
Total	1	1	3	0	0	5	4	1	4	0	0	9	8	16	1	0	3	28	4	12	4	0	0	20	62
Approach %	20.00	20.00	60.00	0.00	0.00	-	44.44	11.11	44.44	0.00	0.00	-	28.57	57.14	3.57	0.00	10.71	-	20.00	60.00	20.00	0.00	0.00	-	
PHF	0.25	0.25	0.38	0.00	0.00	**0.63**	0.50	0.25	0.50	0.00	0.00	**0.56**	0.67	0.80	0.25	0.00	0.38	**0.88**	0.50	0.50	0.50	0.00	0.00	**0.63**	**0.78**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1730 - 1745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1745 - 1800	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	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	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	0.00	0.00	**0.00**	**0.00**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						Taylor Bend						River Rd (West)						River Rd (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
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1730 - 1745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1745 - 1800	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	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	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	0.00	0.00	**0.00**	**0.00**

Peak Hour Turning Movement Count

Click here for Map

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	0700 - 0900
Peak Hour	0745 - 0845

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	2.1	2.2			2.3	Total		2.4	2.5		2.6	Total	2.7		2.8		2.9	Total						Total	Total
0745 - 0800	0	18	-	-	0	18	-	49	0	-	0	49	1	-	1	-	0	2	-	-	-	-	-	0	69
0800 - 0815	3	30	-	-	0	33	-	43	3	-	0	46	0	-	0	-	0	0	-	-	-	-	-	0	79
0815 - 0830	0	14	-	-	0	14	-	43	0	-	0	43	4	-	0	-	0	4	-	-	-	-	-	0	61
0830 - 0845	7	26	-	-	2	35	-	27	3	-	0	30	3	-	5	-	0	8	-	-	-	-	-	0	73
Total	10	88	0	0	2	100	0	162	6	0	0	168	8	0	6	0	0	14	0	0	0	0	0	0	282
Approach %	10.00	88.00	0.00	0.00	2.00	-	0.00	96.43	3.57	0.00	0.00	-	57.14	0.00	42.86	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.36	0.73	0.00	0.00	0.25	**0.71**	0.00	0.83	0.50	0.00	0.00	**0.86**	0.50	0.00	0.30	0.00	0.00	**0.44**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.89**

Bikes

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	2.1	2.2			2.3	Total		2.4	2.5		2.6	Total	2.7		2.8		2.9	Total						Total	Total
0745 - 0800	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
0815 - 0830	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
0830 - 0845	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	2.1	2.2			2.3	Total		2.4	2.5		2.6	Total	2.7		2.8		2.9	Total						Total	Total
0745 - 0800	0	18	-	-	0	18	-	49	0	-	0	49	1	-	1	-	0	2	-	-	-	-	-	0	69
0800 - 0815	3	28	-	-	0	31	-	43	3	-	0	46	0	-	0	-	0	0	-	-	-	-	-	0	77
0815 - 0830	0	14	-	-	0	14	-	40	0	-	0	40	4	-	0	-	0	4	-	-	-	-	-	0	58
0830 - 0845	7	25	-	-	2	34	-	27	3	-	0	30	3	-	5	-	0	8	-	-	-	-	-	0	72
Total	10	85	0	0	2	97	0	159	6	0	0	165	8	0	6	0	0	14	0	0	0	0	0	0	276
Approach %	10.31	87.63	0.00	0.00	2.06	-	0.00	96.36	3.64	0.00	0.00	-	57.14	0.00	42.86	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.36	0.76	0.00	0.00	0.25	**0.71**	0.00	0.81	0.50	0.00	0.00	**0.84**	0.50	0.00	0.30	0.00	0.00	**0.44**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.90**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	2.1	2.2			2.3	Total		2.4	2.5		2.6	Total	2.7		2.8		2.9	Total						Total	Total
0745 - 0800	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
0800 - 0815	0	1	-	-	0	1	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	1
0815 - 0830	0	0	-	-	0	0	-	1	0	-	0	1	0	-	0	-	0	0	-	-	-	-	-	0	1
0830 - 0845	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
Total	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.00	100.00	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	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.00	**0.25**	0.00	0.25	0.00	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	0.00	**0.00**	**0.50**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	2.1	2.2			2.3	Total		2.4	2.5		2.6	Total	2.7		2.8		2.9	Total						Total	Total
0745 - 0800	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
0800 - 0815	0	1	-	-	0	1	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	1
0815 - 0830	0	0	-	-	0	0	-	2	0	-	0	2	0	-	0	-	0	0	-	-	-	-	-	0	2
0830 - 0845	0	1	-	-	0	1	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	1
Total	0	2	0	0	0	2	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
Approach %	0.00	100.00	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	0.00	0.00	0.00	-	
PHF	0.00	0.50	0.00	0.00	0.00	**0.50**	0.00	0.25	0.00	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	0.00	**0.00**	**0.50**

Peak Hour Turning Movement Count

Columbia, TN

Click here for Map

Marr Traffic DATA COLLECTION

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Tuesday, October 24, 2023	
Period	1600 - 1800
Peak Hour	1645 - 1745

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
Time	Left 2.1	Thru 2.2			U-Turn 2.3	App Total		Thru 2.4	Right 2.5		U-Turn 2.6	App Total	Left 2.7		Right 2.8		U-Turn 2.9	App Total						App Total	Int Total
1645 - 1700	0	40	-	-	0	40	-	44	6	-	0	50	6	-	0	-	0	6	-	-	-	-	-	0	96
1700 - 1715	2	40	-	-	0	42	-	37	6	-	0	43	4	-	1	-	0	5	-	-	-	-	-	0	90
1715 - 1730	4	45	-	-	0	49	-	32	8	-	0	40	3	-	0	-	1	4	-	-	-	-	-	0	93
1730 - 1745	3	35	-	-	0	38	-	32	6	-	0	38	10	-	1	-	0	11	-	-	-	-	-	0	87
Total	9	160	0	0	0	169	0	145	26	0	0	171	23	0	2	0	1	26	0	0	0	0	0	0	366
Approach %	5.33	94.67	0.00	0.00	0.00	-	0.00	84.80	15.20	0.00	0.00	-	88.46	0.00	7.69	0.00	3.85	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.56	0.89	0.00	0.00	0.00	**0.86**	0.00	0.82	0.81	0.00	0.00	**0.86**	0.58	0.00	0.50	0.00	0.25	**0.59**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.95**

Bikes

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
Time	Left 2.1	Thru 2.2			U-Turn 2.3	App Total		Thru 2.4	Right 2.5		U-Turn 2.6	App Total	Left 2.7		Right 2.8		U-Turn 2.9	App Total						App Total	Int Total
1645 - 1700	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
1715 - 1730	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1730 - 1745	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
Time	Left 2.1	Thru 2.2			U-Turn 2.3	App Total		Thru 2.4	Right 2.5		U-Turn 2.6	App Total	Left 2.7		Right 2.8		U-Turn 2.9	App Total						App Total	Int Total
1645 - 1700	0	39	-	-	0	39	-	42	6	-	0	48	6	-	0	-	0	6	-	-	-	-	-	0	93
1700 - 1715	2	40	-	-	0	42	-	37	6	-	0	43	4	-	1	-	0	5	-	-	-	-	-	0	90
1715 - 1730	4	45	-	-	0	49	-	32	8	-	0	40	3	-	0	-	1	4	-	-	-	-	-	0	93
1730 - 1745	3	35	-	-	0	38	-	31	6	-	0	37	10	-	1	-	0	11	-	-	-	-	-	0	86
Total	9	159	0	0	0	168	0	142	26	0	0	168	23	0	2	0	1	26	0	0	0	0	0	0	362
Approach %	5.36	94.64	0.00	0.00	0.00	-	0.00	84.52	15.48	0.00	0.00	-	88.46	0.00	7.69	0.00	3.85	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.56	0.88	0.00	0.00	0.00	**0.86**	0.00	0.85	0.81	0.00	0.00	**0.88**	0.58	0.00	0.50	0.00	0.25	**0.59**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.97**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
Time	Left 2.1	Thru 2.2			U-Turn 2.3	App Total		Thru 2.4	Right 2.5		U-Turn 2.6	App Total	Left 2.7		Right 2.8		U-Turn 2.9	App Total						App Total	Int Total
1645 - 1700	0	1	-	-	0	1	-	1	0	-	0	1	0	-	0	-	0	0	-	-	-	-	-	0	2
1700 - 1715	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1715 - 1730	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1730 - 1745	0	0	-	-	0	0	-	1	0	-	0	1	0	-	0	-	0	0	-	-	-	-	-	0	1
Total	0	1	0	0	0	1	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
Approach %	0.00	100.00	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	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.00	**0.25**	0.00	0.50	0.00	0.00	0.00	**0.50**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.38**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound												
	Theta Pike (South)						Theta Pike (North)						River Rd												
Time	Left 2.1	Thru 2.2			U-Turn 2.3	App Total		Thru 2.4	Right 2.5		U-Turn 2.6	App Total	Left 2.7		Right 2.8		U-Turn 2.9	App Total						App Total	Int Total
1645 - 1700	0	0	-	-	0	0	-	1	0	-	0	1	0	-	0	-	0	0	-	-	-	-	-	0	1
1700 - 1715	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1715 - 1730	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1730 - 1745	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.00	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	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.25	0.00	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.25**

Peak Hour Turning Movement Count

Columbia, TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	0700 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	8th Ave						Theta Pike						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	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	1	0	2	-	0	3	7	0	29	-	0	36	12	258	1	-	0	271	1	238	5	-	1	245	555
0730 - 0745	1	1	1	-	0	3	5	0	30	-	0	35	15	296	1	-	0	312	2	281	7	-	0	290	640
0745 - 0800	1	0	1	-	0	2	7	1	33	-	0	41	14	322	1	-	0	337	2	274	7	-	0	283	663
0800 - 0815	0	2	2	-	0	4	4	0	27	-	0	31	28	292	1	-	0	321	0	250	13	-	2	265	621
Total	3	3	6	0	0	12	23	1	119	0	0	143	69	1168	4	0	0	1241	5	1043	32	0	3	1083	2479
Approach %	25.00	25.00	50.00	0.00	0.00	-	16.08	0.70	83.22	0.00	0.00	-	5.56	94.12	0.32	0.00	0.00	-	0.46	96.31	2.95	0.00	0.28	-	
PHF	0.75	0.38	0.75	0.00	0.00	**0.75**	0.82	0.25	0.90	0.00	0.00	**0.87**	0.62	0.91	1.00	0.00	0.00	**0.92**	0.63	0.93	0.62	0.00	0.38	**0.93**	**0.93**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	8th Ave						Theta Pike						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	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	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	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	0.00	0.00	**0.00**	**0.00**

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		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	1	0	2	-	0	3	7	0	28	-	0	35	12	249	1	-	0	262	1	228	3	-	1	233	533
0730 - 0745	1	1	1	-	0	3	5	0	30	-	0	35	14	284	1	-	0	299	2	274	6	-	0	282	619
0745 - 0800	1	0	1	-	0	2	7	1	33	-	0	41	14	307	1	-	0	322	2	266	7	-	0	275	640
0800 - 0815	0	2	2	-	0	4	4	0	27	-	0	31	27	272	1	-	0	300	0	240	13	-	2	255	590
Total	3	3	6	0	0	12	23	1	118	0	0	142	67	1112	4	0	0	1183	5	1008	29	0	3	1045	2382
Approach %	25.00	25.00	50.00	0.00	0.00	-	16.20	0.70	83.10	0.00	0.00	-	5.66	94.00	0.34	0.00	0.00	-	0.48	96.46	2.78	0.00	0.29	-	
PHF	0.75	0.38	0.75	0.00	0.00	**0.75**	0.82	0.25	0.89	0.00	0.00	**0.87**	0.62	0.91	1.00	0.00	0.00	**0.92**	0.63	0.92	0.56	0.00	0.38	**0.93**	**0.93**

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		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	1	-	0	1	0	9	0	-	0	9	0	7	2	-	0	9	19
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	8	0	-	0	8	0	5	0	-	0	5	13
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	8	0	-	0	8	0	4	0	-	0	4	12
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	13	0	-	0	13	0	8	0	-	0	8	21
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	38	0	0	0	38	0	24	2	0	0	26	65
Approach %	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	0.00	-	0.00	92.31	7.69	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	0.00	0.73	0.00	0.00	0.00	**0.73**	0.00	0.75	0.25	0.00	0.00	**0.72**	**0.77**

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		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	3	0	-	0	3	3
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	1	4	0	-	0	5	0	2	1	-	0	3	8
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	7	0	-	0	7	0	4	0	-	0	4	11
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	1	7	0	-	0	8	0	2	0	-	0	2	10
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	18	0	0	0	20	0	11	1	0	0	12	32
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	10.00	90.00	0.00	0.00	0.00	-	0.00	91.67	8.33	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**	0.50	0.64	0.00	0.00	0.00	**0.63**	0.00	0.69	0.25	0.00	0.00	**0.75**	**0.73**

Peak Hour Turning Movement Count

Columbia, TN

Click here for Map

Marr Traffic DATA COLLECTION

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Tuesday, October 24, 2023	
Period	1600 - 1800
Peak Hour	1615 - 1715

* 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		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
1615 - 1630	0	0	2	-	0	2	13	0	40	-	0	53	37	289	0	-	0	326	4	333	9	-	0	346	727
1630 - 1645	1	1	0	-	0	2	11	1	24	-	0	36	28	337	3	-	0	368	4	336	12	-	0	352	758
1645 - 1700	0	2	2	-	0	4	16	0	33	-	0	49	29	279	1	-	0	309	2	343	9	-	1	355	717
1700 - 1715	0	0	1	-	0	1	13	2	36	-	0	51	28	316	0	-	1	345	2	337	12	-	0	351	748
Total	1	3	5	0	0	9	53	3	133	0	0	189	122	1221	4	0	1	1348	12	1349	42	0	1	1404	2950
Approach %	11.11	33.33	55.56	0.00	0.00	-	28.04	1.59	70.37	0.00	0.00	-	9.05	90.58	0.30	0.00	0.07	-	0.85	96.08	2.99	0.00	0.07	-	
PHF	0.25	0.38	0.63	0.00	0.00	**0.56**	0.83	0.38	0.83	0.00	0.00	**0.89**	0.82	0.91	0.33	0.00	0.25	**0.92**	0.75	0.98	0.88	0.00	0.25	**0.99**	**0.97**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	8th Ave						Theta Pike						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	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
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	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	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	0.00	0.00	**0.00**	**0.00**

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		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
1615 - 1630	0	0	2	-	0	2	13	0	39	-	0	52	37	284	0	-	0	321	4	327	8	-	0	339	714
1630 - 1645	1	1	0	-	0	2	11	1	22	-	0	34	28	329	2	-	0	359	4	330	12	-	0	346	741
1645 - 1700	0	2	2	-	0	4	16	0	32	-	0	48	28	274	1	-	0	303	2	336	9	-	1	348	703
1700 - 1715	0	0	1	-	0	1	13	2	36	-	0	51	28	315	0	-	1	344	2	331	12	-	0	345	741
Total	1	3	5	0	0	9	53	3	129	0	0	185	121	1202	3	0	1	1327	12	1324	41	0	1	1378	2899
Approach %	11.11	33.33	55.56	0.00	0.00	-	28.65	1.62	69.73	0.00	0.00	-	9.12	90.58	0.23	0.00	0.08	-	0.87	96.08	2.98	0.00	0.07	-	
PHF	0.25	0.38	0.63	0.00	0.00	**0.56**	0.83	0.38	0.83	0.00	0.00	**0.89**	0.82	0.91	0.38	0.00	0.25	**0.92**	0.75	0.99	0.85	0.00	0.25	**0.99**	**0.98**

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		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
1615 - 1630	0	0	0	-	0	0	0	0	1	-	0	1	0	4	0	-	0	4	0	4	1	-	0	5	10
1630 - 1645	0	0	0	-	0	0	0	0	1	-	0	1	0	6	1	-	0	7	0	4	0	-	0	4	12
1645 - 1700	0	0	0	-	0	0	0	0	1	-	0	1	1	4	0	-	0	5	0	5	0	-	0	5	11
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	3	0	-	0	3	3
Total	0	0	0	0	0	0	0	0	3	0	0	3	1	14	1	0	0	16	0	16	1	0	0	17	36
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	6.25	87.50	6.25	0.00	0.00	-	0.00	94.12	5.88	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.75	0.00	0.00	**0.75**	0.25	0.58	0.25	0.00	0.00	**0.57**	0.00	0.80	0.25	0.00	0.00	**0.85**	**0.75**

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		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
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	2	0	-	0	2	3
1630 - 1645	0	0	0	-	0	0	0	0	1	-	0	1	0	2	0	-	0	2	0	2	0	-	0	2	5
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	2	0	-	0	2	3
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	3	0	-	0	3	4
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	5	0	0	0	5	0	9	0	0	0	9	15
Approach %	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	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	0.00	0.63	0.00	0.00	0.00	**0.63**	0.00	0.75	0.00	0.00	0.00	**0.75**	**0.75**

Peak Hour Turning Movement Count

Columbia, TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	0700 - 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						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	7	0	7	-	0	14	1	3	2	-	0	6	2	258	15	-	0	275	6	258	0	-	0	264	559
0730 - 0745	7	0	9	-	0	16	3	1	1	-	0	5	1	304	38	-	0	343	13	302	3	-	1	319	683
0745 - 0800	9	0	6	-	0	15	5	1	1	-	0	7	4	337	35	-	0	376	18	287	2	-	0	307	705
0800 - 0815	7	1	19	-	0	27	2	0	1	-	0	3	2	306	29	-	0	337	11	259	5	-	0	275	642
Total	30	1	41	0	0	72	11	5	5	0	0	21	9	1205	117	0	0	1331	48	1106	10	0	1	1165	2589
Approach %	41.67	1.39	56.94	0.00	0.00	-	52.38	23.81	23.81	0.00	0.00	-	0.68	90.53	8.79	0.00	0.00	-	4.12	94.94	0.86	0.00	0.09	-	
PHF	0.83	0.25	0.54	0.00	0.00	**0.67**	0.55	0.42	0.63	0.00	0.00	**0.75**	0.56	0.89	0.77	0.00	0.00	**0.88**	0.67	0.92	0.50	0.00	0.25	**0.91**	**0.92**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	7	0	7	-	0	14	1	2	2	-	0	5	2	251	14	-	0	267	6	252	0	-	0	258	544
0730 - 0745	5	0	9	-	0	14	3	1	1	-	0	5	1	293	37	-	0	331	13	292	3	-	1	309	659
0745 - 0800	8	0	6	-	0	14	4	1	1	-	0	6	4	324	34	-	0	362	18	278	2	-	0	298	680
0800 - 0815	7	1	17	-	0	25	2	0	1	-	0	3	2	289	28	-	0	319	11	249	4	-	0	264	611
Total	27	1	39	0	0	67	10	4	5	0	0	19	9	1157	113	0	0	1279	48	1071	9	0	1	1129	2494
Approach %	40.30	1.49	58.21	0.00	0.00	-	52.63	21.05	26.32	0.00	0.00	-	0.70	90.46	8.84	0.00	0.00	-	4.25	94.86	0.80	0.00	0.09	-	
PHF	0.84	0.25	0.57	0.00	0.00	**0.67**	0.63	0.50	0.63	0.00	0.00	**0.79**	0.56	0.89	0.76	0.00	0.00	**0.88**	0.67	0.92	0.56	0.00	0.25	**0.91**	**0.92**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	0	0	0	-	0	0	0	1	0	-	0	1	0	6	1	-	0	7	0	3	0	-	0	3	11
0730 - 0745	2	0	0	-	0	2	0	0	0	-	0	0	0	9	1	-	0	10	0	8	0	-	0	8	20
0745 - 0800	0	0	0	-	0	0	1	0	0	-	0	1	0	6	1	-	0	7	0	5	0	-	0	5	13
0800 - 0815	0	0	2	-	0	2	0	0	0	-	0	0	0	10	1	-	0	11	0	8	1	-	0	9	22
Total	2	0	2	0	0	4	1	1	0	0	0	2	0	31	4	0	0	35	0	24	1	0	0	25	66
Approach %	50.00	0.00	50.00	0.00	0.00	-	50.00	50.00	0.00	0.00	0.00	-	0.00	88.57	11.43	0.00	0.00	-	0.00	96.00	4.00	0.00	0.00	-	
PHF	0.25	0.00	0.25	0.00	0.00	**0.50**	0.25	0.25	0.00	0.00	0.00	**0.50**	0.00	0.78	1.00	0.00	0.00	**0.80**	0.00	0.75	0.25	0.00	0.00	**0.69**	**0.75**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	3	0	-	0	3	4
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	2	0	-	0	2	4
0745 - 0800	1	0	0	-	0	1	0	0	0	-	0	0	0	7	0	-	0	7	0	4	0	-	0	4	12
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	7	0	-	0	7	0	2	0	-	0	2	9
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	17	0	0	0	17	0	11	0	0	0	11	29
Approach %	100.00	0.00	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	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.25	0.00	0.00	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.61	0.00	0.00	0.00	**0.61**	0.00	0.69	0.00	0.00	0.00	**0.69**	**0.60**

Peak Hour Turning Movement Count

Columbia, TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	1600 - 1800
Peak Hour	1615 - 1715

* the Peak Hour Diagram does not include Bikes



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1615 - 1630	8	2	7	-	0	17	8	2	8	-	0	18	11	297	11	-	0	319	9	356	11	-	0	376	730
1630 - 1645	5	1	9	-	0	15	6	1	10	-	0	17	15	358	7	-	0	380	8	345	8	-	1	362	774
1645 - 1700	7	3	10	-	0	20	6	1	8	-	0	15	12	300	25	-	1	338	12	360	9	-	0	381	754
1700 - 1715	4	1	11	-	0	16	10	2	11	-	0	23	12	326	14	-	1	353	11	353	5	-	0	369	761
Total	24	7	37	0	0	68	30	6	37	0	0	73	50	1281	57	0	2	1390	40	1414	33	0	1	1488	3019
Approach %	35.29	10.29	54.41	0.00	0.00	-	41.10	8.22	50.68	0.00	0.00	-	3.60	92.16	4.10	0.00	0.14	-	2.69	95.03	2.22	0.00	0.07	-	
PHF	0.75	0.58	0.84	0.00	0.00	**0.85**	0.75	0.75	0.84	0.00	0.00	**0.79**	0.83	0.89	0.57	0.00	0.50	**0.91**	0.83	0.98	0.75	0.00	0.25	**0.98**	**0.98**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1615 - 1630	8	2	7	-	0	17	8	1	8	-	0	17	11	292	11	-	0	314	9	351	11	-	0	371	719
1630 - 1645	5	1	9	-	0	15	6	1	10	-	0	17	15	350	7	-	0	372	8	340	8	-	1	357	761
1645 - 1700	7	3	10	-	0	20	6	1	8	-	0	15	12	294	25	-	1	332	12	349	9	-	0	370	737
1700 - 1715	4	1	11	-	0	16	10	2	11	-	0	23	12	324	14	-	1	351	10	348	5	-	0	363	753
Total	24	7	37	0	0	68	30	5	37	0	0	72	50	1260	57	0	2	1369	39	1388	33	0	1	1461	2970
Approach %	35.29	10.29	54.41	0.00	0.00	-	41.67	6.94	51.39	0.00	0.00	-	3.65	92.04	4.16	0.00	0.15	-	2.67	95.00	2.26	0.00	0.07	-	
PHF	0.75	0.58	0.84	0.00	0.00	**0.85**	0.75	0.63	0.84	0.00	0.00	**0.78**	0.83	0.90	0.57	0.00	0.50	**0.92**	0.81	0.99	0.75	0.00	0.25	**0.98**	**0.98**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1615 - 1630	0	0	0	-	0	0	0	1	0	-	0	1	0	4	0	-	0	4	0	3	0	-	0	3	8
1630 - 1645	0	0	0	-	0	0	0	0	0	-	0	0	0	7	0	-	0	7	0	2	0	-	0	2	9
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	4	0	-	0	4	0	9	0	-	0	9	13
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	1	2	0	-	0	3	4
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	16	0	0	0	16	1	16	0	0	0	17	34
Approach %	0.00	0.00	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	-	5.88	94.12	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.25	0.00	0.00	0.00	**0.25**	0.00	0.57	0.00	0.00	0.00	**0.57**	0.25	0.44	0.00	0.00	0.00	**0.47**	**0.65**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	7th Ave						Driveway						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (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	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	2	0	-	0	2	3
1630 - 1645	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	3	0	-	0	3	4
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	2	0	-	0	2	4
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	3	0	-	0	3	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	10	0	0	0	10	15
Approach %	0.00	0.00	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	-	0.00	100.00	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	0.63	0.00	0.00	0.00	**0.63**	0.00	0.83	0.00	0.00	0.00	**0.83**	**0.94**

Peak Hour Turning Movement Count

Click here for Map

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	0700 - 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						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
0715 - 0730	-	-	0	-	-	0	-	-	11	-	-	11	-	291	-	-	-	291	-	268	1	-	-	269	571
0730 - 0745	-	-	0	-	-	0	-	-	5	-	-	5	-	340	-	-	-	340	-	309	0	-	-	309	654
0745 - 0800	-	-	0	-	-	0	-	-	8	-	-	8	-	372	-	-	-	372	-	298	1	-	-	299	679
0800 - 0815	-	-	0	-	-	0	-	-	4	-	-	4	-	329	-	-	-	329	-	265	1	-	-	266	599
Total	0	0	0	0	0	0	0	0	28	0	0	28	0	1332	0	0	0	1332	0	1140	3	0	0	1143	2503
Approach %	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	0.00	-	0.00	99.74	0.26	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.64	0.00	0.00	**0.64**	0.00	0.90	0.00	0.00	0.00	**0.90**	0.00	0.92	0.75	0.00	0.00	**0.92**	**0.92**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
0715 - 0730	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	0	0	-	-	0	0
0730 - 0745	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	0	0	-	-	0	0
0745 - 0800	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	0	0	-	-	0	0
0800 - 0815	-	-	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
0715 - 0730	-	-	0	-	-	0	-	-	11	-	-	11	-	279	-	-	-	279	-	258	1	-	-	259	549
0730 - 0745	-	-	0	-	-	0	-	-	5	-	-	5	-	332	-	-	-	332	-	299	0	-	-	299	636
0745 - 0800	-	-	0	-	-	0	-	-	8	-	-	8	-	359	-	-	-	359	-	288	1	-	-	289	656
0800 - 0815	-	-	0	-	-	0	-	-	4	-	-	4	-	312	-	-	-	312	-	257	1	-	-	258	574
Total	0	0	0	0	0	0	0	0	28	0	0	28	0	1282	0	0	0	1282	0	1102	3	0	0	1105	2415
Approach %	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	0.00	-	0.00	99.73	0.27	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.64	0.00	0.00	**0.64**	0.00	0.89	0.00	0.00	0.00	**0.89**	0.00	0.92	0.75	0.00	0.00	**0.92**	**0.92**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
0715 - 0730	-	-	0	-	-	0	-	-	0	-	-	0	-	11	-	-	-	11	-	7	0	-	-	7	18
0730 - 0745	-	-	0	-	-	0	-	-	0	-	-	0	-	5	-	-	-	5	-	8	0	-	-	8	13
0745 - 0800	-	-	0	-	-	0	-	-	0	-	-	0	-	7	-	-	-	7	-	5	0	-	-	5	12
0800 - 0815	-	-	0	-	-	0	-	-	0	-	-	0	-	11	-	-	-	11	-	6	0	-	-	6	17
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	34	0	26	0	0	0	26	60
Approach %	0.00	0.00	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	-	0.00	100.00	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	0.77	0.00	0.00	0.00	**0.77**	0.00	0.81	0.00	0.00	0.00	**0.81**	**0.83**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
0715 - 0730	-	-	0	-	-	0	-	-	0	-	-	0	-	1	-	-	-	1	-	3	0	-	-	3	4
0730 - 0745	-	-	0	-	-	0	-	-	0	-	-	0	-	3	-	-	-	3	-	2	0	-	-	2	5
0745 - 0800	-	-	0	-	-	0	-	-	0	-	-	0	-	6	-	-	-	6	-	5	0	-	-	5	11
0800 - 0815	-	-	0	-	-	0	-	-	0	-	-	0	-	6	-	-	-	6	-	2	0	-	-	2	8
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	0	12	0	0	0	12	28
Approach %	0.00	0.00	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	-	0.00	100.00	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	0.67	0.00	0.00	0.00	**0.67**	0.00	0.60	0.00	0.00	0.00	**0.60**	**0.64**

Peak Hour Turning Movement Count

Click here for Map

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Tuesday, October 24, 2023	
Period	1600 - 1800
Peak Hour	1615 - 1715

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
1615 - 1630	-	-	2	-	-	2	-	-	10	-	-	10	-	316	-	-	-	316	-	370	2	-	-	372	700
1630 - 1645	-	-	3	-	-	3	-	-	7	-	-	7	-	384	-	-	-	384	-	364	2	-	-	366	760
1645 - 1700	-	-	6	-	-	6	-	-	12	-	-	12	-	328	-	-	-	328	-	374	0	-	-	374	720
1700 - 1715	-	-	1	-	-	1	-	-	14	-	-	14	-	363	-	-	-	363	-	371	0	-	-	371	749
Total	0	0	12	0	0	12	0	0	43	0	0	43	0	1391	0	0	0	1391	0	1479	4	0	0	1483	2929
Approach %	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	0.00	-	0.00	99.73	0.27	0.00	0.00	-	
PHF	0.00	0.00	0.50	0.00	0.00	**0.50**	0.00	0.00	0.77	0.00	0.00	**0.77**	0.00	0.91	0.00	0.00	0.00	**0.91**	0.00	0.99	0.50	0.00	0.00	**0.99**	**0.96**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
1615 - 1630	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	0	0	-	-	0	0
1630 - 1645	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	0	0	-	-	0	0
1645 - 1700	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	0	0	-	-	0	0
1700 - 1715	-	-	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	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	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	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
1615 - 1630	-	-	2	-	-	2	-	-	10	-	-	10	-	312	-	-	-	312	-	364	2	-	-	366	690
1630 - 1645	-	-	3	-	-	3	-	-	6	-	-	6	-	374	-	-	-	374	-	357	2	-	-	359	742
1645 - 1700	-	-	6	-	-	6	-	-	12	-	-	12	-	322	-	-	-	322	-	362	0	-	-	362	702
1700 - 1715	-	-	1	-	-	1	-	-	14	-	-	14	-	360	-	-	-	360	-	367	0	-	-	367	742
Total	0	0	12	0	0	12	0	0	42	0	0	42	0	1368	0	0	0	1368	0	1450	4	0	0	1454	2876
Approach %	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	0.00	-	0.00	99.72	0.28	0.00	0.00	-	
PHF	0.00	0.00	0.50	0.00	0.00	**0.50**	0.00	0.00	0.75	0.00	0.00	**0.75**	0.00	0.91	0.00	0.00	0.00	**0.91**	0.00	0.99	0.50	0.00	0.00	**0.99**	**0.97**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
1615 - 1630	-	-	0	-	-	0	-	-	0	-	-	0	-	3	-	-	-	3	-	5	0	-	-	5	8
1630 - 1645	-	-	0	-	-	0	-	-	1	-	-	1	-	9	-	-	-	9	-	5	0	-	-	5	15
1645 - 1700	-	-	0	-	-	0	-	-	0	-	-	0	-	4	-	-	-	4	-	9	0	-	-	9	13
1700 - 1715	-	-	0	-	-	0	-	-	0	-	-	0	-	3	-	-	-	3	-	3	0	-	-	3	6
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	19	0	0	0	19	0	22	0	0	0	22	42
Approach %	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	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	0.00	0.53	0.00	0.00	0.00	**0.53**	0.00	0.61	0.00	0.00	0.00	**0.61**	**0.70**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	Driveway						River Rd						TN-99 Nashville Hwy (West)						TN-99 Nashville Hwy (East)						
Time			Right 5.1			App Total			Right 5.2			App Total		Thru 5.3				App Total		Thru 5.4	Right 5.5			App Total	Int Total
1615 - 1630	-	-	0	-	-	0	-	-	0	-	-	0	-	1	-	-	-	1	-	1	0	-	-	1	2
1630 - 1645	-	-	0	-	-	0	-	-	0	-	-	0	-	1	-	-	-	1	-	2	0	-	-	2	3
1645 - 1700	-	-	0	-	-	0	-	-	0	-	-	0	-	2	-	-	-	2	-	3	0	-	-	3	5
1700 - 1715	-	-	0	-	-	0	-	-	0	-	-	0	-	0	-	-	-	0	-	1	0	-	-	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	7	0	0	0	7	11
Approach %	0.00	0.00	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	-	0.00	100.00	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	0.50	0.00	0.00	0.00	**0.50**	0.00	0.58	0.00	0.00	0.00	**0.58**	**0.55**

Bi-Directional Speed & Class Count || Volume Summary 15min

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1
Theta Pike,
south of River Rd

Date
Tuesday, October 24, 2023

Lat/Long
35.628853°, -87.029336°

Weather
Mostly Cloudy
67°F

Click here for Detailed Weather

Click here for Map

0000 - 2400 (Weekday 24h Session)
Volume Summary 15min

	Volume Summary 15min		15min	60min
Time	NB	SB	Total	Total
0000 - 0015	1	1	**2**	
0015 - 0030	1	1	**2**	
0030 - 0045	4	1	**5**	
0045 - 0100	1	0	**1**	**10**
0100 - 0115	1	0	**1**	
0115 - 0130	1	3	**4**	
0130 - 0145	2	2	**4**	
0145 - 0200	1	0	**1**	**10**
0200 - 0215	0	0	**0**	
0215 - 0230	0	1	**1**	
0230 - 0245	0	0	**0**	
0245 - 0300	0	1	**1**	**2**
0300 - 0315	2	0	**2**	
0315 - 0330	0	3	**3**	
0330 - 0345	2	2	**4**	
0345 - 0400	0	2	**2**	**11**
0400 - 0415	0	0	**0**	
0415 - 0430	1	0	**1**	
0430 - 0445	2	1	**3**	
0445 - 0500	0	4	**4**	**8**
0500 - 0515	2	2	**4**	
0515 - 0530	7	3	**10**	
0530 - 0545	3	3	**6**	
0545 - 0600	5	4	**9**	**29**
0600 - 0615	5	8	**13**	
0615 - 0630	9	17	**26**	
0630 - 0645	4	6	**10**	
0645 - 0700	15	19	**34**	**83**
0700 - 0715	14	24	**38**	
0715 - 0730	15	41	**56**	
0730 - 0745	20	37	**57**	
0745 - 0800	16	45	**61**	**212**
0800 - 0815	43	30	**73**	
0815 - 0830	42	29	**71**	
0830 - 0845	19	21	**40**	
0845 - 0900	17	24	**41**	**225**
0900 - 0915	19	25	**44**	
0915 - 0930	28	26	**54**	
0930 - 0945	17	29	**46**	
0945 - 1000	25	16	**41**	**185**
1000 - 1015	20	26	**46**	
1015 - 1030	21	10	**31**	
1030 - 1045	14	31	**45**	
1045 - 1100	17	30	**47**	**169**
1100 - 1115	16	23	**39**	
1115 - 1130	28	23	**51**	
1130 - 1145	31	28	**59**	
1145 - 1200	19	23	**42**	**191**
1200 - 1215	37	18	**55**	
1215 - 1230	28	24	**52**	
1230 - 1245	34	25	**59**	
1245 - 1300	32	30	**62**	**228**
1300 - 1315	19	25	**44**	
1315 - 1330	33	27	**60**	
1330 - 1345	18	21	**39**	
1345 - 1400	33	27	**60**	**203**
1400 - 1415	40	39	**79**	
1415 - 1430	40	34	**74**	
1430 - 1445	33	28	**61**	
1445 - 1500	33	27	**60**	**274**
1500 - 1515	38	30	**68**	
1515 - 1530	57	47	**104**	
1530 - 1545	41	41	**82**	
1545 - 1600	31	43	**74**	**328**
1600 - 1615	47	30	**77**	
1615 - 1630	46	36	**82**	
1630 - 1645	42	29	**71**	
1645 - 1700	37	41	**78**	**308**
1700 - 1715	42	36	**78**	
1715 - 1730	51	32	**83**	
1730 - 1745	30	24	**54**	
1745 - 1800	33	36	**69**	**284**
1800 - 1815	35	19	**54**	
1815 - 1830	33	23	**56**	
1830 - 1845	28	15	**43**	
1845 - 1900	18	23	**41**	**194**
1900 - 1915	36	14	**50**	
1915 - 1930	33	19	**52**	
1930 - 1945	22	8	**30**	
1945 - 2000	20	11	**31**	**163**
2000 - 2015	17	10	**27**	
2015 - 2030	14	11	**25**	
2030 - 2045	16	8	**24**	
2045 - 2100	13	14	**27**	**103**
2100 - 2115	22	6	**28**	
2115 - 2130	10	7	**17**	
2130 - 2145	15	4	**19**	
2145 - 2200	3	6	**9**	**73**
2200 - 2215	5	2	**7**	
2215 - 2230	6	3	**9**	
2230 - 2245	8	1	**9**	
2245 - 2300	2	4	**6**	**31**
2300 - 2315	7	4	**11**	
2315 - 2330	3	0	**3**	
2330 - 2345	3	2	**5**	
2345 - 0000	4	1	**5**	**24**

Session Total	1758	1590	**3348**
Session Average	18.31	16.56	**34.88**
Session Percentage	52.51	47.49	

Bi-Directional Speed & Class Count || Bi-Directional Speed 15min

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1
Theta Pike,
south of River Rd

Date
Tuesday, October 24, 2023

Lat/Long
35.628853°, -87.029336°

Click here for Map

Weather
Mostly Cloudy
67°F

Click here for Detailed Weather

0000 - 2400 (Weekday 24h Session)
Bi-Directional Speed 15min

	Bi-Directional 15min															15min
Time	5-14 mph	15-19 mph	20-24 mph	25-29 mph	30-34 mph	35-39 mph	40-44 mph	45-49 mph	50-54 mph	55-59 mph	60-64 mph	65-69 mph	70-74 mph	75-79 mph	80-99 mph	Total
0000 - 0015	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
0015 - 0030	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
0030 - 0045	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	5
0045 - 0100	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0100 - 0115	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0115 - 0130	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
0130 - 0145	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
0145 - 0200	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0215 - 0230	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0230 - 0245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0245 - 0300	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0300 - 0315	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
0315 - 0330	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
0330 - 0345	0	0	0	0	1	2	0	1	0	0	0	0	0	0	0	4
0345 - 0400	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
0400 - 0415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0415 - 0430	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0430 - 0445	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
0445 - 0500	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
0500 - 0515	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4
0515 - 0530	0	0	0	1	4	3	2	0	0	0	0	0	0	0	0	10
0530 - 0545	0	0	0	1	1	3	1	0	0	0	0	0	0	0	0	6
0545 - 0600	0	0	0	1	2	6	0	0	0	0	0	0	0	0	0	9
0600 - 0615	0	0	1	1	5	6	0	0	0	0	0	0	0	0	0	13
0615 - 0630	0	1	1	4	9	5	6	0	0	0	0	0	0	0	0	26
0630 - 0645	0	0	0	0	5	3	2	0	0	0	0	0	0	0	0	10
0645 - 0700	0	1	0	4	13	14	1	1	0	0	0	0	0	0	0	34
0700 - 0715	0	0	1	4	13	13	5	2	0	0	0	0	0	0	0	38
0715 - 0730	0	3	2	9	16	19	7	0	0	0	0	0	0	0	0	56
0730 - 0745	1	1	5	8	16	14	11	1	0	0	0	0	0	0	0	57
0745 - 0800	0	1	5	7	16	21	9	2	0	0	0	0	0	0	0	61
0800 - 0815	1	2	6	22	27	12	3	0	0	0	0	0	0	0	0	73
0815 - 0830	3	7	18	22	12	6	3	0	0	0	0	0	0	0	0	71
0830 - 0845	3	1	7	8	12	9	0	0	0	0	0	0	0	0	0	40
0845 - 0900	0	1	1	9	22	7	0	1	0	0	0	0	0	0	0	41
0900 - 0915	2	1	4	15	14	5	1	2	0	0	0	0	0	0	0	44
0915 - 0930	0	0	2	19	21	8	2	2	0	0	0	0	0	0	0	54
0930 - 0945	1	2	9	14	7	9	4	0	0	0	0	0	0	0	0	46
0945 - 1000	0	0	3	11	12	12	2	1	0	0	0	0	0	0	0	41
1000 - 1015	0	1	1	9	24	5	6	0	0	0	0	0	0	0	0	46
1015 - 1030	0	1	5	4	10	10	1	0	0	0	0	0	0	0	0	31
1030 - 1045	0	1	3	7	10	16	7	1	0	0	0	0	0	0	0	45
1045 - 1100	0	0	1	10	17	11	6	2	0	0	0	0	0	0	0	47
1100 - 1115	0	2	3	4	16	10	1	2	1	0	0	0	0	0	0	39
1115 - 1130	0	1	7	10	20	12	1	0	0	0	0	0	0	0	0	51
1130 - 1145	0	4	9	16	12	14	4	0	0	0	0	0	0	0	0	59
1145 - 1200	0	3	4	12	10	10	2	1	0	0	0	0	0	0	0	42
1200 - 1215	0	1	12	13	19	6	3	0	1	0	0	0	0	0	0	55
1215 - 1230	0	1	9	11	23	7	0	1	0	0	0	0	0	0	0	52
1230 - 1245	0	1	9	20	19	6	4	0	0	0	0	0	0	0	0	59
1245 - 1300	0	2	8	20	22	9	0	0	0	0	1	0	0	0	0	62
1300 - 1315	0	3	7	10	7	15	2	0	0	0	0	0	0	0	0	44
1315 - 1330	0	0	5	13	24	16	1	0	1	0	0	0	0	0	0	60
1330 - 1345	0	1	5	7	14	10	2	0	0	0	0	0	0	0	0	39
1345 - 1400	1	0	6	18	22	12	1	0	0	0	0	0	0	0	0	60
1400 - 1415	1	4	13	23	25	9	4	0	0	0	0	0	0	0	0	79
1415 - 1430	1	3	9	29	18	9	4	0	1	0	0	0	0	0	0	74
1430 - 1445	0	0	9	19	14	15	4	0	0	0	0	0	0	0	0	61
1445 - 1500	0	0	9	13	24	11	2	1	0	0	0	0	0	0	0	60
1500 - 1515	2	2	3	18	27	14	1	0	1	0	0	0	0	0	0	68
1515 - 1530	2	1	8	53	28	5	5	1	0	1	0	0	0	0	0	104
1530 - 1545	0	1	6	22	26	20	6	1	0	0	0	0	0	0	0	82
1545 - 1600	0	2	9	7	34	18	4	0	0	0	0	0	0	0	0	74
1600 - 1615	0	1	6	16	33	16	4	1	0	0	0	0	0	0	0	77
1615 - 1630	0	1	4	18	35	18	6	0	0	0	0	0	0	0	0	82
1630 - 1645	0	0	5	17	28	17	2	0	1	1	0	0	0	0	0	71
1645 - 1700	0	2	2	17	29	21	7	0	0	0	0	0	0	0	0	78
1700 - 1715	1	6	5	14	24	22	6	0	0	0	0	0	0	0	0	78
1715 - 1730	0	1	4	10	34	28	6	0	0	0	0	0	0	0	0	83
1730 - 1745	0	0	2	12	27	10	2	1	0	0	0	0	0	0	0	54
1745 - 1800	0	2	1	15	29	16	5	1	0	0	0	0	0	0	0	69
1800 - 1815	0	0	6	12	24	8	3	1	0	0	0	0	0	0	0	54
1815 - 1830	0	1	3	8	23	13	7	1	0	0	0	0	0	0	0	56
1830 - 1845	0	0	1	18	14	8	2	0	0	0	0	0	0	0	0	43
1845 - 1900	0	0	0	11	18	9	3	0	0	0	0	0	0	0	0	41
1900 - 1915	0	0	7	11	20	9	2	0	0	0	0	0	0	0	1	50
1915 - 1930	1	0	7	13	17	8	6	0	0	0	0	0	0	0	0	52
1930 - 1945	0	0	2	10	9	5	3	0	1	0	0	0	0	0	0	30
1945 - 2000	0	1	4	4	15	6	0	0	0	1	0	0	0	0	0	31
2000 - 2015	0	0	5	5	8	3	3	2	1	0	0	0	0	0	0	27
2015 - 2030	0	1	0	7	9	7	0	1	0	0	0	0	0	0	0	25
2030 - 2045	0	0	0	4	11	7	2	0	0	0	0	0	0	0	0	24
2045 - 2100	0	2	0	1	12	11	1	0	0	0	0	0	0	0	0	27
2100 - 2115	0	0	1	8	10	7	1	1	0	0	0	0	0	0	0	28
2115 - 2130	0	1	3	0	9	2	2	0	0	0	0	0	0	0	0	17
2130 - 2145	0	0	1	7	5	4	2	0	0	0	0	0	0	0	0	19
2145 - 2200	0	0	0	1	2	5	1	0	0	0	0	0	0	0	0	9
2200 - 2215	0	0	1	1	3	1	1	0	0	0	0	0	0	0	0	7
2215 - 2230	0	1	0	2	1	4	1	0	0	0	0	0	0	0	0	9
2230 - 2245	0	1	0	0	4	3	1	0	0	0	0	0	0	0	0	9
2245 - 2300	0	0	0	1	4	0	1	0	0	0	0	0	0	0	0	6
2300 - 2315	0	0	0	2	4	4	1	0	0	0	0	0	0	0	0	11
2315 - 2330	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
2330 - 2345	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5
2345 - 2400	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	5
Session Total	20	77	296	782	1178	733	216	32	9	3	1	0	0	0	1	3348

10mph Pace Speed	Number in Pace
27-36	2070 (61.8%)

15th Percentile	50th Percentile	Average	85th Percentile	95th Percentile
25	32	31	37	41

Bi-Directional Speed & Class Count || Volume Summary 15min

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 2
SR-99 U.S. Hwy 31,
south of River Rd

Date
Tuesday, October 24, 2023

Lat/Long
35.624448°, -87.032657°

Click here for Map

Weather
Mostly Cloudy
67°F

Click here for Detailed Weather

0000 - 2400 (Weekday 24h Session)
Volume Summary 15min

	Volume Summary 15min		15min	60min
Time	NB	SB	Total	Total
0000 - 0015	10	21	**31**	
0015 - 0030	18	30	**48**	
0030 - 0045	13	45	**58**	
0045 - 0100	9	32	**41**	**178**
0100 - 0115	8	10	**18**	
0115 - 0130	3	35	**38**	
0130 - 0145	13	76	**89**	
0145 - 0200	9	34	**43**	**188**
0200 - 0215	5	17	**22**	
0215 - 0230	8	18	**26**	
0230 - 0245	15	8	**23**	
0245 - 0300	10	12	**22**	**93**
0300 - 0315	16	12	**28**	
0315 - 0330	26	16	**42**	
0330 - 0345	42	19	**61**	
0345 - 0400	24	12	**36**	**167**
0400 - 0415	25	27	**52**	
0415 - 0430	46	30	**76**	
0430 - 0445	72	17	**89**	
0445 - 0500	84	22	**106**	**323**
0500 - 0515	162	27	**189**	
0515 - 0530	197	33	**230**	
0530 - 0545	198	33	**231**	
0545 - 0600	193	72	**265**	**915**
0600 - 0615	181	84	**265**	
0615 - 0630	195	126	**321**	
0630 - 0645	220	145	**365**	
0645 - 0700	244	179	**423**	**1374**
0700 - 0715	230	201	**431**	
0715 - 0730	271	295	**566**	
0730 - 0745	334	270	**604**	
0745 - 0800	332	268	**600**	**2201**
0800 - 0815	273	230	**503**	
0815 - 0830	228	240	**468**	
0830 - 0845	218	229	**447**	
0845 - 0900	242	227	**469**	**1887**
0900 - 0915	224	212	**436**	
0915 - 0930	237	227	**464**	
0930 - 0945	191	222	**413**	
0945 - 1000	235	229	**464**	**1777**
1000 - 1015	216	208	**424**	
1015 - 1030	237	197	**434**	
1030 - 1045	235	239	**474**	
1045 - 1100	215	253	**468**	**1800**
1100 - 1115	241	253	**494**	
1115 - 1130	236	270	**506**	
1130 - 1145	281	261	**542**	
1145 - 1200	248	273	**521**	**2063**
1200 - 1215	285	256	**541**	
1215 - 1230	285	276	**561**	
1230 - 1245	281	255	**536**	
1245 - 1300	266	258	**524**	**2162**
1300 - 1315	265	277	**542**	
1315 - 1330	264	254	**518**	
1330 - 1345	258	285	**543**	
1345 - 1400	259	263	**522**	**2125**
1400 - 1415	330	274	**604**	
1415 - 1430	282	307	**589**	
1430 - 1445	322	288	**610**	
1445 - 1500	313	319	**632**	**2435**
1500 - 1515	381	283	**664**	
1515 - 1530	381	319	**700**	
1530 - 1545	285	325	**610**	
1545 - 1600	296	334	**630**	**2604**
1600 - 1615	347	333	**680**	
1615 - 1630	304	329	**633**	
1630 - 1645	358	331	**689**	
1645 - 1700	311	332	**643**	**2645**
1700 - 1715	335	328	**663**	
1715 - 1730	306	320	**626**	
1730 - 1745	292	335	**627**	
1745 - 1800	233	322	**555**	**2471**
1800 - 1815	219	257	**476**	
1815 - 1830	218	282	**500**	
1830 - 1845	221	237	**458**	
1845 - 1900	194	215	**409**	**1843**
1900 - 1915	183	184	**367**	
1915 - 1930	176	207	**383**	
1930 - 1945	138	167	**305**	
1945 - 2000	158	133	**291**	**1346**
2000 - 2015	111	116	**227**	
2015 - 2030	126	118	**244**	
2030 - 2045	113	81	**194**	
2045 - 2100	88	113	**201**	**866**
2100 - 2115	99	108	**207**	
2115 - 2130	93	81	**174**	
2130 - 2145	92	78	**170**	
2145 - 2200	42	81	**123**	**674**
2200 - 2215	43	67	**110**	
2215 - 2230	41	82	**123**	
2230 - 2245	37	60	**97**	
2245 - 2300	26	56	**82**	**412**
2300 - 2315	29	51	**80**	
2315 - 2330	20	40	**60**	
2330 - 2345	23	30	**53**	
2345 - 0000	19	36	**55**	**248**

Session Total	16718	16079	**32797**
Session Average	174.15	167.49	**341.64**
Session Percentage	50.97	49.03	

Bi-Directional Speed & Class Count || Bi-Directional Speed 15min

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 2
SR-99 U.S. Hwy 31,
south of River Rd

Date
Tuesday, October 24, 2023

Lat/Long
35.624448°, -87.032657°

Weather
Mostly Cloudy
67°F

Click here for Detailed Weather

Click here for Map

0000 - 2400 (Weekday 24h Session)
Bi-Directional Speed 15min

	Bi-Directional 15min															15min
Time	5-14 mph	15-19 mph	20-24 mph	25-29 mph	30-34 mph	35-39 mph	40-44 mph	45-49 mph	50-54 mph	55-59 mph	60-64 mph	65-69 mph	70-74 mph	75-79 mph	80-99 mph	Total
0000 - 0015	0	0	0	0	1	2	17	10	1	0	0	0	0	0	0	31
0015 - 0030	0	0	0	0	2	5	15	19	7	0	0	0	0	0	0	48
0030 - 0045	0	0	0	0	3	8	29	16	2	0	0	0	0	0	0	58
0045 - 0100	0	0	0	0	2	8	14	14	3	0	0	0	0	0	0	41
0100 - 0115	0	0	0	1	0	5	8	3	1	0	0	0	0	0	0	18
0115 - 0130	0	0	0	0	1	7	16	7	6	0	1	0	0	0	0	38
0130 - 0145	0	0	0	0	1	9	36	37	4	1	1	0	0	0	0	89
0145 - 0200	0	0	0	0	2	7	19	12	3	0	0	0	0	0	0	43
0200 - 0215	0	0	0	0	2	3	7	7	1	2	0	0	0	0	0	22
0215 - 0230	0	0	0	0	3	8	9	5	1	0	0	0	0	0	0	26
0230 - 0245	0	0	0	0	1	5	12	4	1	0	0	0	0	0	0	23
0245 - 0300	0	0	0	0	3	3	11	3	2	0	0	0	0	0	0	22
0300 - 0315	0	0	0	0	0	1	14	13	0	0	0	0	0	0	0	28
0315 - 0330	0	0	0	0	0	9	17	14	2	0	0	0	0	0	0	42
0330 - 0345	0	0	0	0	2	3	30	16	7	2	1	0	0	0	0	61
0345 - 0400	0	0	0	0	1	3	19	11	2	0	0	0	0	0	0	36
0400 - 0415	0	0	0	0	0	11	12	27	2	0	0	0	0	0	0	52
0415 - 0430	0	0	0	0	1	11	28	32	3	1	0	0	0	0	0	76
0430 - 0445	0	0	0	0	3	11	34	33	7	1	0	0	0	0	0	89
0445 - 0500	0	0	0	0	0	11	48	40	6	1	0	0	0	0	0	106
0500 - 0515	0	0	0	0	0	21	79	73	14	1	1	0	0	0	0	189
0515 - 0530	0	0	0	1	0	10	74	113	27	5	0	0	0	0	0	230
0530 - 0545	0	0	0	1	2	21	94	89	20	3	1	0	0	0	0	231
0545 - 0600	0	0	0	0	6	20	116	93	25	5	0	0	0	0	0	265
0600 - 0615	1	0	0	1	1	24	105	106	22	4	1	0	0	0	0	265
0615 - 0630	0	1	0	1	6	49	133	100	25	6	0	0	0	0	0	321
0630 - 0645	1	1	0	1	3	53	169	114	23	0	0	0	0	0	0	365
0645 - 0700	0	0	0	0	11	69	188	128	22	5	0	0	0	0	0	423
0700 - 0715	0	0	0	0	5	78	208	114	25	1	0	0	0	0	0	431
0715 - 0730	1	0	0	6	22	115	256	137	26	3	0	0	0	0	0	566
0730 - 0745	0	0	1	1	20	142	280	128	27	5	0	0	0	0	0	604
0745 - 0800	1	1	0	12	56	164	239	103	20	3	0	1	0	0	0	600
0800 - 0815	0	0	2	2	14	110	230	122	21	2	0	0	0	0	0	503
0815 - 0830	0	1	0	3	15	56	202	162	27	2	0	0	0	0	0	468
0830 - 0845	1	0	0	3	15	100	219	93	14	2	0	0	0	0	0	447
0845 - 0900	1	0	1	2	23	121	189	116	16	0	0	0	0	0	0	469
0900 - 0915	0	1	2	0	17	99	205	102	5	5	0	0	0	0	0	436
0915 - 0930	0	0	2	4	34	128	202	83	7	1	2	1	0	0	0	464
0930 - 0945	0	0	0	1	31	111	164	89	15	2	0	0	0	0	0	413
0945 - 1000	0	0	0	2	3	112	235	97	14	1	0	0	0	0	0	464
1000 - 1015	1	0	1	1	7	98	210	95	11	0	0	0	0	0	0	424
1015 - 1030	0	1	1	2	14	112	204	88	10	2	0	0	0	0	0	434
1030 - 1045	1	3	2	13	24	112	214	95	10	0	0	0	0	0	0	474
1045 - 1100	2	1	2	4	27	114	207	92	17	2	0	0	0	0	0	468
1100 - 1115	2	2	1	4	20	103	232	109	18	2	1	0	0	0	0	494
1115 - 1130	3	1	3	7	19	117	219	116	17	4	0	0	0	0	0	506
1130 - 1145	1	1	0	8	28	155	210	125	14	0	0	0	0	0	0	542
1145 - 1200	2	2	2	3	27	136	210	118	15	6	0	0	0	0	0	521
1200 - 1215	8	3	5	9	52	177	202	79	6	0	0	0	0	0	0	541
1215 - 1230	1	1	2	8	22	161	257	95	14	0	0	0	0	0	0	561
1230 - 1245	1	2	4	10	65	141	223	76	13	1	0	0	0	0	0	536
1245 - 1300	0	0	6	13	50	133	214	92	12	3	1	0	0	0	0	524
1300 - 1315	1	4	3	2	21	154	230	103	24	0	0	0	0	0	0	542
1315 - 1330	1	0	2	4	26	121	231	109	21	3	0	0	0	0	0	518
1330 - 1345	0	0	2	11	59	182	221	56	10	2	0	0	0	0	0	543
1345 - 1400	2	1	1	4	44	138	224	95	10	1	2	0	0	0	0	522
1400 - 1415	1	2	1	9	39	203	230	104	14	1	0	0	0	0	0	604
1415 - 1430	1	1	4	5	48	198	239	83	9	1	0	0	0	0	0	589
1430 - 1445	1	0	1	6	50	165	257	109	16	5	0	0	0	0	0	610
1445 - 1500	2	2	2	2	25	162	300	105	28	4	0	0	0	0	0	632
1500 - 1515	1	3	5	18	64	178	271	112	11	0	1	0	0	0	0	664
1515 - 1530	5	4	4	11	50	219	285	108	13	1	0	0	0	0	0	700
1530 - 1545	0	0	2	0	14	124	297	150	22	1	0	0	0	0	0	610
1545 - 1600	1	2	3	19	65	195	238	90	17	0	0	0	0	0	0	630
1600 - 1615	1	0	2	19	39	223	262	115	17	1	1	0	0	0	0	680
1615 - 1630	0	0	5	7	34	150	267	150	20	0	0	0	0	0	0	633
1630 - 1645	2	3	3	18	87	203	261	99	13	0	0	0	0	0	0	689
1645 - 1700	2	0	1	14	40	178	265	127	14	2	0	0	0	0	0	643
1700 - 1715	0	4	12	32	79	228	223	78	7	0	0	0	0	0	0	663
1715 - 1730	0	0	0	3	25	137	254	172	33	1	1	0	0	0	0	626
1730 - 1745	0	3	6	7	25	171	289	110	16	0	0	0	0	0	0	627
1745 - 1800	0	0	0	3	25	126	247	131	20	3	0	0	0	0	0	555
1800 - 1815	0	1	1	6	14	84	217	124	27	1	1	0	0	0	0	476
1815 - 1830	2	1	0	1	34	145	204	97	15	1	0	0	0	0	0	500
1830 - 1845	0	0	0	0	37	138	197	79	5	2	0	0	0	0	0	458
1845 - 1900	0	0	0	0	12	81	230	76	10	0	0	0	0	0	0	409
1900 - 1915	0	0	0	2	7	78	181	83	15	1	0	0	0	0	0	367
1915 - 1930	0	0	0	0	18	82	172	97	13	1	0	0	0	0	0	383
1930 - 1945	0	0	0	0	13	81	137	64	8	2	0	0	0	0	0	305
1945 - 2000	0	0	0	0	13	66	128	69	13	2	0	0	0	0	0	291
2000 - 2015	0	0	0	0	2	35	111	70	6	2	1	0	0	0	0	227
2015 - 2030	0	0	0	0	12	53	118	49	10	1	1	0	0	0	0	244
2030 - 2045	0	0	1	0	9	46	79	44	12	3	0	0	0	0	0	194
2045 - 2100	0	0	0	0	5	33	88	59	14	1	1	0	0	0	0	201
2100 - 2115	0	0	0	0	5	33	100	61	7	1	0	0	0	0	0	207
2115 - 2130	0	0	0	1	3	28	75	58	7	2	0	0	0	0	0	174
2130 - 2145	0	0	0	0	3	22	78	55	12	0	0	0	0	0	0	170
2145 - 2200	0	0	0	1	7	20	58	34	2	0	1	0	0	0	0	123
2200 - 2215	0	1	0	0	2	16	48	32	10	1	0	0	0	0	0	110
2215 - 2230	0	0	0	0	0	16	47	51	9	0	0	0	0	0	0	123
2230 - 2245	0	0	0	1	1	16	43	29	7	0	0	0	0	0	0	97
2245 - 2300	0	0	0	0	3	12	34	29	2	2	0	0	0	0	0	82
2300 - 2315	0	0	0	3	0	14	30	27	6	0	0	0	0	0	0	80
2315 - 2330	0	0	0	1	1	21	25	10	2	0	0	0	0	0	0	60
2330 - 2345	0	0	0	0	2	11	23	16	1	0	0	0	0	0	0	53
2345 - 2400	0	0	0	1	2	12	27	12	1	0	0	0	0	0	0	55
Session Total	51	54	98	335	1731	7890	14125	7196	1162	133	20	2	0	0	0	32797

10mph Pace Speed	Number in Pace
37-46	23988 (73.1%)

15th Percentile	50th Percentile	Average	85th Percentile	95th Percentile
37	42	41	46	49

APPENDIX C

Volume Development

Proposed Trip Generation - River Road Residential

ITE Code	Land Use	Density		Daily			AM Peak Hour			PM Peak Hour		
				Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
215	Single-Family Attached Housing	30	d.u.	178	89	89	10	3	7	14	8	6
220	Multifamily Housing (Low-Rise)	96	d.u.	690	345	345	53	13	40	62	39	23
GROSS PROPOSED TRIPS				868	434	434	63	16	47	76	47	29

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

River Rd at Taylor Bend

AM PEAK HOUR

	River Rd Eastbound				River Rd Westbound				Taylor Bend Northbound				Taylor Bend Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	3	3	0	0	2	12	2	0	3	1	2	0	4	2	8	42
Existing Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Conflicting Pedestrians		2		1		1		2		1		2		2		1	
Heavy Vehicles	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	50	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
No-Build 2025 AM Volumes (Growth Only)	0	3	3	0	0	2	13	2	0	3	1	2	0	4	2	8	43
Project Traffic																	
Trip Distribution IN						25%	45%										
Trip Distribution OUT			40%									25%					
Project Trips	0	0	19	0	0	4	7	0	0	0	0	12	0	0	0	0	42
Build 2025 AM Volumes (Growth Only)	0	3	22	0	0	6	20	2	0	3	1	14	0	4	2	8	85
% from Existing (Build-Out)	0.0%	100.0%	13.6%	0.0%	0.0%	33.3%	60.0%	100.0%	0.0%	100.0%	100.0%	14.3%	0.0%	100.0%	100.0%	100.0%	49.4%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%
% from Project Trips (Build-Out)	0.0%	0.0%	86.4%	0.0%	0.0%	66.7%	35.0%	0.0%	0.0%	0.0%	0.0%	85.7%	0.0%	0.0%	0.0%	0.0%	49.4%

PM PEAK HOUR

	River Rd Eastbound				River Rd Westbound				Taylor Bend Northbound				Taylor Bend Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	3	8	16	1	0	4	12	4	0	1	1	3	0	4	1	4	62
Existing Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
Conflicting Pedestrians		3		0		0		3		0		4		4		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
No-Build 2025 PM Volumes (Growth Only)	3	8	17	1	0	4	13	4	0	1	1	3	0	4	1	4	64
Project Traffic																	
Trip Distribution IN						25%	45%										
Trip Distribution OUT			40%									25%					
Project Trips	0	0	12	0	0	12	21	0	0	0	0	7	0	0	0	0	52
Build 2025 PM Volumes (Growth Only)	3	8	29	1	0	16	34	4	0	1	1	10	0	4	1	4	116
% from Existing (Build-Out)	100.0%	100.0%	55.2%	100.0%	0.0%	25.0%	35.3%	100.0%	0.0%	100.0%	100.0%	30.0%	0.0%	100.0%	100.0%	100.0%	53.4%
% from Background Growth (Build-Out)	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%
% from Project Trips (Build-Out)	0.0%	0.0%	41.4%	0.0%	0.0%	75.0%	61.8%	0.0%	0.0%	0.0%	0.0%	70.0%	0.0%	0.0%	0.0%	0.0%	44.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 2

River Rd at Theta Pike

AM PEAK HOUR

	River Rd Eastbound				Westbound				Theta Pike Northbound				Theta Pike Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	8	0	6	0	0	0	0	2	10	88	0	0	0	162	6	282
Existing Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	1	5	0	0	0	10	0	16
No-Build 2025 AM Volumes (Growth Only)	0	8	0	6	0	0	0	0	2	11	93	0	0	0	172	6	298
Project Traffic																	
Trip Distribution IN										40%						30%	
Trip Distribution OUT		30%		35%													
Project Trips	0	14	0	16	0	0	0	0	0	6	0	0	0	0	0	5	41
Build 2025 AM Volumes (Growth Only)	0	22	0	22	0	0	0	0	2	17	93	0	0	0	172	11	339
% from Existing (Build-Out)	0.0%	36.4%	0.0%	27.3%	0.0%	0.0%	0.0%	0.0%	100.0%	58.8%	94.6%	0.0%	0.0%	0.0%	94.2%	54.5%	83.2%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	5.4%	0.0%	0.0%	0.0%	5.8%	0.0%	4.7%
% from Project Trips (Build-Out)	0.0%	63.6%	0.0%	72.7%	0.0%	0.0%	0.0%	0.0%	0.0%	35.3%	0.0%	0.0%	0.0%	0.0%	0.0%	45.5%	12.1%

PM PEAK HOUR

	River Rd Eastbound				Westbound				Theta Pike Northbound				Theta Pike Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	1	23	0	2	0	0	0	0	0	9	160	0	0	0	145	26	366
Existing Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Conflicting Pedestrians		0		0		0		0		1		0		0		1	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	1	0	0	0	0	0	0	0	1	10	0	0	0	9	2	23
No-Build 2025 PM Volumes (Growth Only)	1	24	0	2	0	0	0	0	0	10	170	0	0	0	154	28	389
Project Traffic																	
Trip Distribution IN										40%						30%	
Trip Distribution OUT		30%		35%													
Project Trips	0	9	0	10	0	0	0	0	0	19	0	0	0	0	0	14	52
Build 2025 PM Volumes (Growth Only)	1	33	0	12	0	0	0	0	0	29	170	0	0	0	154	42	441
% from Existing (Build-Out)	100.0%	69.7%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	31.0%	94.1%	0.0%	0.0%	0.0%	94.2%	61.9%	83.0%
% from Background Growth (Build-Out)	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	5.9%	0.0%	0.0%	0.0%	5.8%	4.8%	5.2%
% from Project Trips (Build-Out)	0.0%	27.3%	0.0%	83.3%	0.0%	0.0%	0.0%	0.0%	0.0%	65.5%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	11.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 3

TN-99 Nashville Hwy at 8th Ave/Theta Pike

AM PEAK HOUR

	TN-99 Nashville Hwy Eastbound				TN-99 Nashville Hwy Westbound				8th Ave Northbound				Theta Pike Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	69	1168	4	3	5	1043	32	0	3	3	6	0	23	1	119	2479
Existing Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	2	56	0	0	0	35	3	0	0	0	0	0	0	0	1	
Heavy Vehicle %	2	3	5	2	2	2	3	9	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	4	71	0	0	0	64	2	0	0	0	0	0	1	0	7	149
No-Build 2025 AM Volumes (Growth Only)	0	73	1239	4	3	5	1107	34	0	3	3	6	0	24	1	126	2628
Project Traffic																	
Trip Distribution IN		25%					5%	35%									
Trip Distribution OUT														40%		5%	
Project Trips	0	4	0	0	0	0	1	6	0	0	0	0	0	19	0	2	32
Build 2025 AM Volumes (Growth Only)	0	77	1239	4	3	5	1108	40	0	3	3	6	0	43	1	128	2660
% from Existing (Build-Out)	0.0%	89.6%	94.3%	100.0%	100.0%	100.0%	94.1%	80.0%	0.0%	100.0%	100.0%	100.0%	0.0%	53.5%	100.0%	93.0%	93.2%
% from Background Growth (Build-Out)	0.0%	5.2%	5.7%	0.0%	0.0%	0.0%	5.8%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	5.5%	5.6%
% from Project Trips (Build-Out)	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	0.1%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	44.2%	0.0%	1.6%	1.2%

PM PEAK HOUR

	TN-99 Nashville Hwy Eastbound				TN-99 Nashville Hwy Westbound				8th Ave Northbound				Theta Pike Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	1	122	1221	4	1	12	1349	42	0	1	3	5	0	53	3	133	2950
Existing Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Conflicting Pedestrians		1		0		0		1		0		0		0		0	
Heavy Vehicles	0	1	19	1	0	0	25	1	0	0	0	0	0	0	0	4	
Heavy Vehicle %	2	2	2	25	2	2	2	2	2	2	2	2	2	2	2	3	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	7	74	0	0	1	82	3	0	0	0	0	0	3	0	8	178
No-Build 2025 PM Volumes (Growth Only)	1	129	1295	4	1	13	1431	45	0	1	3	5	0	56	3	141	3128
Project Traffic																	
Trip Distribution IN		25%					5%	35%									
Trip Distribution OUT														40%		5%	
Project Trips	0	12	0	0	0	0	2	16	0	0	0	0	0	12	0	1	43
Build 2025 PM Volumes (Growth Only)	1	141	1295	4	1	13	1433	61	0	1	3	5	0	68	3	142	3171
% from Existing (Build-Out)	100.0%	86.5%	94.3%	100.0%	100.0%	92.3%	94.1%	68.9%	0.0%	100.0%	100.0%	100.0%	0.0%	77.9%	100.0%	93.7%	93.0%
% from Background Growth (Build-Out)	0.0%	5.0%	5.7%	0.0%	0.0%	7.7%	5.7%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	5.6%	5.6%
% from Project Trips (Build-Out)	0.0%	8.5%	0.0%	0.0%	0.0%	0.0%	0.1%	26.2%	0.0%	0.0%	0.0%	0.0%	0.0%	17.6%	0.0%	0.7%	1.4%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

TN-99 Nashville Hwy at 7th Ave/7th Avenue

AM PEAK HOUR

	TN-99 Nashville Hwy Eastbound				TN-99 Nashville Hwy Westbound				7th Ave Northbound				7th Avenue Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	9	1205	117	1	48	1106	10	0	30	1	41	0	11	5	5	2589
Existing 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	0.92	0.92	0.92	0.92	
Conflicting Pedestrians		1		0		0		1		0		0		0		0	
Heavy Vehicles	0	0	48	4	0	0	35	1	0	3	0	2	0	1	1	0	
Heavy Vehicle %	2	2	4	3	2	2	3	10	2	10	2	5	2	9	20	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	1	74	7	0	3	67	1	0	2	0	3	0	1	0	0	159
No-Build 2025 AM Volumes (Growth Only)	0	10	1279	124	1	51	1173	11	0	32	1	44	0	12	5	5	2748
Project Traffic																	
Trip Distribution IN		5%	25%					5%									
Trip Distribution OUT							5%										
Project Trips	0	1	4	0	0	0	2	1	0	0	0	0	0	0	0	0	8
Build 2025 AM Volumes (Growth Only)	0	11	1283	124	1	51	1175	12	0	32	1	44	0	12	5	5	2756
% from Existing (Build-Out)	0.0%	81.8%	93.9%	94.4%	100.0%	94.1%	94.1%	83.3%	0.0%	93.8%	100.0%	93.2%	0.0%	91.7%	100.0%	100.0%	93.9%
% from Background Growth (Build-Out)	0.0%	9.1%	5.8%	5.6%	0.0%	5.9%	5.7%	8.3%	0.0%	6.3%	0.0%	6.8%	0.0%	8.3%	0.0%	0.0%	5.8%
% from Project Trips (Build-Out)	0.0%	9.1%	0.3%	0.0%	0.0%	0.0%	0.2%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%

PM PEAK HOUR

	TN-99 Nashville Hwy Eastbound				TN-99 Nashville Hwy Westbound				7th Ave Northbound				7th Avenue Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	2	50	1281	57	1	40	1414	33	0	24	7	37	0	30	6	37	3019
Existing Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Conflicting Pedestrians		1		0		0		1		0		0		0		0	
Heavy Vehicles	0	0	21	0	0	1	26	0	0	0	0	0	0	0	1	0	
Heavy Vehicle %	2	2	2	2	2	3	2	2	2	2	2	2	2	2	17	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	3	78	3	0	2	86	2	0	1	0	2	0	2	0	2	181
No-Build 2025 PM Volumes (Growth Only)	2	53	1359	60	1	42	1500	35	0	25	7	39	0	32	6	39	3200
Project Traffic																	
Trip Distribution IN		5%	25%					5%									
Trip Distribution OUT							5%										
Project Trips	0	2	12	0	0	0	1	2	0	0	0	0	0	0	0	0	17
Build 2025 PM Volumes (Growth Only)	2	55	1371	60	1	42	1501	37	0	25	7	39	0	32	6	39	3217
% from Existing (Build-Out)	100.0%	90.9%	93.4%	95.0%	100.0%	95.2%	94.2%	89.2%	0.0%	96.0%	100.0%	94.9%	0.0%	93.8%	100.0%	94.9%	93.8%
% from Background Growth (Build-Out)	0.0%	5.5%	5.7%	5.0%	0.0%	4.8%	5.7%	5.4%	0.0%	4.0%	0.0%	5.1%	0.0%	6.3%	0.0%	5.1%	5.6%
% from Project Trips (Build-Out)	0.0%	3.6%	0.9%	0.0%	0.0%	0.0%	0.1%	5.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 5

TN-99 Nashville Hwy at Driveway/River Rd

AM PEAK HOUR

	TN-99 Nashville Hwy Eastbound				TN-99 Nashville Hwy Westbound				Driveway Northbound				River Rd Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	0	1332	0	0	0	1140	3	0	0	0	0	0	0	0	28	2503
Existing 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	0.92	0.92	0.92	0.92	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	50	0	0	0	38	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	4	2	2	2	3	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	81	0	0	0	70	0	0	0	0	0	0	0	0	2	153
No-Build 2025 AM Volumes (Growth Only)	0	0	1413	0	0	0	1210	3	0	0	0	0	0	0	0	30	2656
Project Traffic																	
Trip Distribution IN			30%														
Trip Distribution OUT							5%									25%	
Project Trips	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	12	19
Build 2025 AM Volumes (Growth Only)	0	0	1418	0	0	0	1212	3	0	0	0	0	0	0	0	42	2675
% from Existing (Build-Out)	0.0%	0.0%	93.9%	0.0%	0.0%	0.0%	94.1%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	93.6%
% from Background Growth (Build-Out)	0.0%	0.0%	5.7%	0.0%	0.0%	0.0%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	5.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.6%	0.7%

PM PEAK HOUR

	TN-99 Nashville Hwy Eastbound				TN-99 Nashville Hwy Westbound				Driveway Northbound				River Rd Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	0	0	1391	0	0	0	1479	4	0	0	0	12	0	0	0	43	2929
Existing Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Conflicting Pedestrians		0		0		0		0		1		0		0		1	
Heavy Vehicles	0	0	23	0	0	0	29	0	0	0	0	0	0	0	0	1	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	85	0	0	0	90	0	0	0	0	1	0	0	0	3	179
No-Build 2025 PM Volumes (Growth Only)	0	0	1476	0	0	0	1569	4	0	0	0	13	0	0	0	46	3108
Project Traffic																	
Trip Distribution IN			30%														
Trip Distribution OUT							5%									25%	
Project Trips	0	0	14	0	0	0	1	0	0	0	0	0	0	0	0	7	22
Build 2025 PM Volumes (Growth Only)	0	0	1490	0	0	0	1570	4	0	0	0	13	0	0	0	53	3130
% from Existing (Build-Out)	0.0%	0.0%	93.4%	0.0%	0.0%	0.0%	94.2%	100.0%	0.0%	0.0%	0.0%	92.3%	0.0%	0.0%	0.0%	81.1%	93.6%
% from Background Growth (Build-Out)	0.0%	0.0%	5.7%	0.0%	0.0%	0.0%	5.7%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%	0.0%	5.7%	5.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.2%	0.7%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 6

Ashland Way/Site Driveway A at River Road

AM PEAK HOUR

	Ashland Way Eastbound				Site Driveway A Westbound				River Road Northbound				River Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes											6				23		29
Existing Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Conflicting Pedestrians																	
Heavy Vehicles											0				0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
No-Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	6	0	0	0	24	0	30
Project Traffic																	
Trip Distribution IN												5%		30%			
Trip Distribution OUT						20%		30%									
Project Trips	0	0	0	0	0	9	0	14	0	0	0	1	0	5	0	0	29
Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	9	0	14	0	0	6	1	0	5	24	0	59
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	95.8%	0.0%	49.2%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	0.0%	1.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	49.2%

PM PEAK HOUR

	Ashland Way Eastbound				Site Driveway A Westbound				River Road Northbound				River Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes											28				20		48
Existing Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
Conflicting Pedestrians																	
Heavy Vehicles											0				0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3
No-Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	30	0	0	0	21	0	51
Project Traffic																	
Trip Distribution IN												5%		30%			
Trip Distribution OUT						20%		30%									
Project Trips	0	0	0	0	0	6	0	9	0	0	0	2	0	14	0	0	31
Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	6	0	9	0	0	30	2	0	14	21	0	82
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.3%	0.0%	0.0%	0.0%	95.2%	0.0%	58.5%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	4.8%	0.0%	3.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	37.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 7

Site Driveway B at River Road

AM PEAK HOUR

	Eastbound				Site Driveway B Westbound				River Road Northbound				River Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes											6				23		29
Existing Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Conflicting Pedestrians																	
Heavy Vehicles											0				0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
No-Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	6	0	0	0	24	0	30
Project Traffic																	
Trip Distribution IN														5%	30%		
Trip Distribution OUT								5%			30%				5%		
Project Trips	0	0	0	0	0	0	0	2	0	0	14	0	0	1	7	0	24
Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	0	0	2	0	0	20	0	0	1	31	0	54
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	74.2%	0.0%	53.7%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	0.0%	1.9%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	70.0%	0.0%	0.0%	100.0%	22.6%	0.0%	44.4%

PM PEAK HOUR

	0 Eastbound				Site Driveway B Westbound				River Road Northbound				River Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes											28				20		48
Existing Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
Conflicting Pedestrians																	
Heavy Vehicles											0				0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3
No-Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	30	0	0	0	21	0	51
Project Traffic																	
Trip Distribution IN														5%	30%		
Trip Distribution OUT								5%			30%				5%		
Project Trips	0	0	0	0	0	0	0	1	0	0	9	0	0	2	15	0	27
Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	0	0	1	0	0	39	0	0	2	36	0	78
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	71.8%	0.0%	0.0%	0.0%	55.6%	0.0%	61.5%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	0.0%	0.0%	0.0%	2.8%	0.0%	3.8%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	23.1%	0.0%	0.0%	100.0%	41.7%	0.0%	34.6%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 8

Site Driveway C at River Road

AM PEAK HOUR

	Eastbound				Site Driveway C Westbound				River Road Northbound				River Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes											6				23		29
Existing Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Conflicting Pedestrians																	
Heavy Vehicles											0				0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
No-Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	6	0	0	0	24	0	30
Project Traffic																	
Trip Distribution IN														10%	35%		
Trip Distribution OUT						5%		5%			35%						
Project Trips	0	0	0	0	0	2	0	2	0	0	16	0	0	2	6	0	28
Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	2	0	2	0	0	22	0	0	2	30	0	58
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.3%	0.0%	0.0%	0.0%	76.7%	0.0%	50.0%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	1.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	72.7%	0.0%	0.0%	100.0%	20.0%	0.0%	48.3%

PM PEAK HOUR

	0 Eastbound				Site Driveway C Westbound				River Road Northbound				River Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes											28				20		48
Existing Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
Conflicting Pedestrians																	
Heavy Vehicles											0				0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3
No-Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	30	0	0	0	21	0	51
Project Traffic																	
Trip Distribution IN														10%	35%		
Trip Distribution OUT						5%		5%			35%						
Project Trips	0	0	0	0	0	1	0	1	0	0	10	0	0	5	16	0	33
Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	1	0	1	0	0	40	0	0	5	37	0	84
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	70.0%	0.0%	0.0%	0.0%	54.1%	0.0%	57.1%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	2.7%	0.0%	3.6%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	25.0%	0.0%	0.0%	100.0%	43.2%	0.0%	39.3%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 9

Site Driveway C at Taylor Bend

AM PEAK HOUR

	Site Driveway C Eastbound				Westbound				Taylor Bend Northbound				Taylor Bend Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10
Existing Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10
Project Traffic																	
Trip Distribution IN										5%					30%	5%	
Trip Distribution OUT		5%		5%							20%						
Project Trips	0	2	0	2	0	0	0	0	0	1	9	0	0	0	5	1	20
Build 2025 AM Volumes (Growth Only)	0	2	0	2	0	0	0	0	0	1	15	0	0	0	9	1	30
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	0.0%	0.0%	0.0%	44.4%	0.0%	33.3%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	60.0%	0.0%	0.0%	0.0%	55.6%	100.0%	66.7%

PM PEAK HOUR

	Site Driveway C Eastbound				Westbound				Taylor Bend Northbound				Taylor Bend Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	11
Existing Peak Hour Factor	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	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	11
Project Traffic																	
Trip Distribution IN										5%					30%	5%	
Trip Distribution OUT		5%		5%							20%						
Project Trips	0	1	0	1	0	0	0	0	0	2	6	0	0	0	14	2	26
Build 2025 PM Volumes (Growth Only)	0	1	0	1	0	0	0	0	0	2	11	0	0	0	20	2	37
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.5%	0.0%	0.0%	0.0%	30.0%	0.0%	29.7%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	54.5%	0.0%	0.0%	0.0%	70.0%	100.0%	70.3%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 10

Site Driveway B at Taylor Bend

AM PEAK HOUR

	Site Driveway B Eastbound				Westbound				Taylor Bend Northbound				Taylor Bend Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10
Existing Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor (Build-Out)	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2025 AM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10
Project Traffic																	
Trip Distribution IN										20%	5%					20%	
Trip Distribution OUT		20%		5%											5%		
Project Trips	0	9	0	2	0	0	0	0	0	3	1	0	0	0	2	3	20
Build 2025 AM Volumes (Growth Only)	0	9	0	2	0	0	0	0	0	3	7	0	0	0	6	3	30
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.7%	0.0%	0.0%	0.0%	66.7%	0.0%	33.3%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	14.3%	0.0%	0.0%	0.0%	33.3%	100.0%	66.7%

PM PEAK HOUR

	Site Driveway B Eastbound				Westbound				Taylor Bend Northbound				Taylor Bend Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	11
Existing Peak Hour Factor	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	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Growth Factor	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	
Growth Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2025 PM Volumes (Growth Only)	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	11
Project Traffic																	
Trip Distribution IN										20%	5%					20%	
Trip Distribution OUT		20%		5%											5%		
Project Trips	0	6	0	1	0	0	0	0	0	9	2	0	0	0	1	9	28
Build 2025 PM Volumes (Growth Only)	0	6	0	1	0	0	0	0	0	9	7	0	0	0	7	9	39
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	71.4%	0.0%	0.0%	0.0%	85.7%	0.0%	28.2%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	28.6%	0.0%	0.0%	0.0%	14.3%	100.0%	71.8%

APPENDIX D

Synchro Reports

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	3	0	2	12	2	3	1	2	4	2	8
Future Vol, veh/h	3	3	0	2	12	2	3	1	2	4	2	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	50	2	2	2	2	2	2
Mvmt Flow	4	4	0	3	16	3	4	1	3	5	3	11
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	7	6.9	6.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	50%	12%	29%
Vol Thru, %	17%	50%	75%	14%
Vol Right, %	33%	0%	12%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	6	16	14
LT Vol	3	3	2	4
Through Vol	1	3	12	2
RT Vol	2	0	2	8
Lane Flow Rate	8	8	21	19
Geometry Grp	1	1	1	1
Degree of Util (X)	0.009	0.009	0.023	0.019
Departure Headway (Hd)	3.899	4.097	3.937	3.705
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	920	876	913	969
Service Time	1.913	2.108	1.946	1.718
HCM Lane V/C Ratio	0.009	0.009	0.023	0.02
HCM Control Delay	6.9	7.1	7	6.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.1	0.1

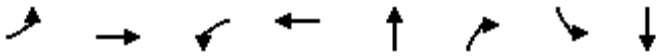
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	6	12	88	162	6
Future Vol, veh/h	8	6	12	88	162	6
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	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	9	7	13	99	182	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	307	182	189	0	-	0
Stage 1	182	-	-	-	-	-
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	685	861	1385	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	678	861	1385	-	-	-
Mov Cap-2 Maneuver	678	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	901	-	-	-	-	-

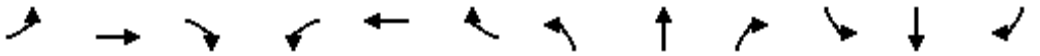
Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1385	-	746	-	-
HCM Lane V/C Ratio	0.01	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	74	1260	9	1156	6	6	25	129
v/c Ratio	0.18	0.45	0.02	0.44	0.09	0.04	0.28	0.59
Control Delay	2.5	3.1	2.0	6.3	50.0	0.3	56.2	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.5	3.1	2.0	6.3	50.0	0.3	56.2	19.9
Queue Length 50th (ft)	6	85	1	142	4	0	17	1
Queue Length 95th (ft)	15	102	3	218	17	0	44	58
Internal Link Dist (ft)		479		806	665			1060
Turn Bay Length (ft)	295		90				65	
Base Capacity (vph)	519	2796	525	2623	179	341	249	386
Starvation Cap Reductn	0	84	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.46	0.02	0.44	0.03	0.02	0.10	0.33

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1168	4	8	1043	32	3	3	6	23	1	119
Future Volume (veh/h)	69	1168	4	8	1043	32	3	3	6	23	1	119
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1826	1870	1870	1856	1767	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	1256	4	9	1122	34	3	3	6	25	1	128
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	5	2	2	3	9	2	2	2	2	2	2
Cap, veh/h	405	2583	8	392	2439	74	77	62	183	118	1	182
Arrive On Green	0.08	1.00	1.00	0.01	0.70	0.70	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1767	3547	11	1781	3493	106	244	535	1585	1406	12	1575
Grp Volume(v), veh/h	74	614	646	9	566	590	6	0	6	25	0	129
Grp Sat Flow(s),veh/h/ln	1767	1735	1824	1781	1763	1836	779	0	1585	1406	0	1587
Q Serve(g_s), s	1.2	0.0	0.0	0.2	15.7	15.7	0.0	0.0	0.4	1.9	0.0	8.6
Cycle Q Clear(g_c), s	1.2	0.0	0.0	0.2	15.7	15.7	8.6	0.0	0.4	10.5	0.0	8.6
Prop In Lane	1.00		0.01	1.00		0.06	0.50		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	405	1263	1328	392	1231	1282	139	0	183	118	0	183
V/C Ratio(X)	0.18	0.49	0.49	0.02	0.46	0.46	0.04	0.00	0.03	0.21	0.00	0.70
Avail Cap(c_a), veh/h	582	1263	1328	624	1231	1282	232	0	281	205	0	281
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	0.0	0.0	4.7	7.4	7.4	43.4	0.0	43.2	51.9	0.0	46.8
Incr Delay (d2), s/veh	0.2	1.2	1.1	0.0	1.2	1.2	0.0	0.0	0.0	0.3	0.0	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	0.3	0.4	0.4	0.1	5.1	5.3	0.1	0.0	0.1	0.7	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	1.2	1.1	4.7	8.6	8.6	43.4	0.0	43.2	52.2	0.0	48.7
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1334			1165			12			154	
Approach Delay, s/veh		1.4			8.6			43.3			49.2	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	86.1		18.2	9.0	82.8		18.2				
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5				
Max Green Setting (Gmax), s	15.5	59.0		19.5	15.5	59.0		19.5				
Max Q Clear Time (g_c+I1), s	2.2	2.0		10.6	3.2	17.7		12.5				
Green Ext Time (p_c), s	0.0	24.2		0.0	0.1	18.6		0.2				

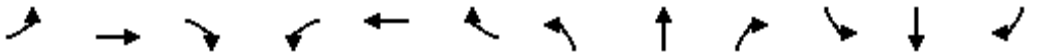
Intersection Summary		
HCM 6th Ctrl Delay		7.5
HCM 6th LOS		A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	1310	127	53	1202	11	33	1	45	12	10
v/c Ratio	0.06	0.50	0.11	0.45	0.41	0.01	0.34	0.01	0.24	0.12	0.08
Control Delay	51.2	8.4	2.9	79.2	1.3	0.0	57.4	46.0	6.0	48.8	35.6
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	51.2	8.4	2.9	79.2	1.3	0.0	57.4	46.0	6.0	48.8	35.6
Queue Length 50th (ft)	3	204	9	40	7	0	22	1	0	8	3
Queue Length 95th (ft)	12	306	32	81	33	m0	54	6	12	27	21
Internal Link Dist (ft)		244			479			629			278
Turn Bay Length (ft)	200		120	100		100			50		
Base Capacity (vph)	468	2612	1199	241	2906	1215	224	321	331	228	277
Starvation Cap Reductn	0	0	0	0	229	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.50	0.11	0.22	0.45	0.01	0.15	0.00	0.14	0.05	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1205	117	49	1106	10	30	1	41	11	5	5
Future Volume (veh/h)	9	1205	117	49	1106	10	30	1	41	11	5	5
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1856	1870	1856	1752	1752	1870	1826	1767	1604	1870
Adj Flow Rate, veh/h	10	1310	127	53	1202	11	33	1	45	12	5	5
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	4	3	2	3	10	10	2	5	9	20	2
Cap, veh/h	41	2656	1193	68	2770	1166	120	89	74	126	35	35
Arrive On Green	0.01	0.76	0.76	0.04	0.79	0.79	0.05	0.05	0.05	0.05	0.05	0.05
Sat Flow, veh/h	3456	3497	1571	1781	3526	1484	1316	1870	1547	1284	736	736
Grp Volume(v), veh/h	10	1310	127	53	1202	11	33	1	45	12	0	10
Grp Sat Flow(s),veh/h/ln	1728	1749	1571	1781	1763	1484	1316	1870	1547	1284	0	1471
Q Serve(g_s), s	0.3	15.9	2.3	3.2	12.2	0.2	2.7	0.1	3.1	1.0	0.0	0.7
Cycle Q Clear(g_c), s	0.3	15.9	2.3	3.2	12.2	0.2	3.4	0.1	3.1	1.0	0.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	41	2656	1193	68	2770	1166	120	89	74	126	0	70
V/C Ratio(X)	0.24	0.49	0.11	0.78	0.43	0.01	0.28	0.01	0.61	0.10	0.00	0.14
Avail Cap(c_a), veh/h	471	2656	1193	243	2770	1166	284	323	267	287	0	254
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	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	5.1	3.5	52.4	3.8	2.5	51.9	49.9	51.4	50.4	0.0	50.2
Incr Delay (d2), s/veh	1.1	0.7	0.2	6.2	0.4	0.0	0.5	0.0	3.0	0.7	0.0	2.0
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	0.1	4.2	0.6	1.5	2.9	0.0	0.9	0.0	1.3	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	5.8	3.6	58.6	4.3	2.6	52.3	49.9	54.3	51.1	0.0	52.2
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	A	D
Approach Vol, veh/h		1447			1266			79			22	
Approach Delay, s/veh		5.9			6.5			53.4			51.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	92.4		11.3	9.2	89.5		11.3				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	59.0		19.0	15.0	59.0		19.0				
Max Q Clear Time (g_c+I1), s	2.3	14.2		5.4	5.2	17.9		3.0				
Green Ext Time (p_c), s	0.0	21.5		0.1	0.0	24.4		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		7.9	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1332	1140	3	0	28
Future Vol, veh/h	0	1332	1140	3	0	28
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	4	3	2	2	2
Mvmt Flow	0	1448	1239	3	0	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	621
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	430
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	430
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	430
HCM Lane V/C Ratio	-	-	-	0.071
HCM Control Delay (s)	-	-	-	14
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	16	1	4	12	4	1	1	3	4	1	4
Future Vol, veh/h	11	16	1	4	12	4	1	1	3	4	1	4
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	21	1	5	15	5	1	1	4	5	1	5
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	7.2	7	6.8	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	39%	20%	44%
Vol Thru, %	20%	57%	60%	11%
Vol Right, %	60%	4%	20%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	28	20	9
LT Vol	1	11	4	4
Through Vol	1	16	12	1
RT Vol	3	1	4	4
Lane Flow Rate	6	36	26	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.007	0.04	0.028	0.012
Departure Headway (Hd)	3.73	4.042	3.912	3.869
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	959	889	918	924
Service Time	1.756	2.052	1.925	1.895
HCM Lane V/C Ratio	0.006	0.04	0.028	0.013
HCM Control Delay	6.8	7.2	7	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0

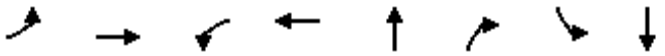
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	2	9	160	145	26
Future Vol, veh/h	24	2	9	160	145	26
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	2	9	168	153	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	340	154	181	0	-	0
Stage 1	154	-	-	-	-	-
Stage 2	186	-	-	-	-	-
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	656	892	1394	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	650	891	1393	-	-	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	845	-	-	-	-	-

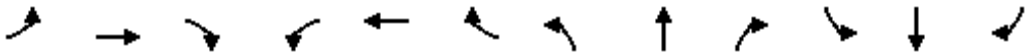
Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1393	-	664	-	-
HCM Lane V/C Ratio	0.007	-	0.041	-	-
HCM Control Delay (s)	7.6	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	127	1263	13	1434	4	5	55	140
v/c Ratio	0.41	0.46	0.04	0.58	0.03	0.03	0.49	0.56
Control Delay	12.3	3.9	2.6	9.8	44.8	0.2	62.2	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	4.0	2.6	9.8	44.8	0.2	62.2	17.3
Queue Length 50th (ft)	12	84	1	225	3	0	38	2
Queue Length 95th (ft)	61	112	5	364	14	0	78	60
Internal Link Dist (ft)		479		806	665			1060
Turn Bay Length (ft)	295		90				65	
Base Capacity (vph)	423	2751	515	2489	282	341	249	391
Starvation Cap Reductn	0	119	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.48	0.03	0.58	0.01	0.01	0.22	0.36

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	1221	4	13	1349	42	1	3	5	53	3	133
Future Volume (veh/h)	123	1221	4	13	1349	42	1	3	5	53	3	133
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1530	1870	1870	1870	1870	1870	1870	1870	1870	1856
Adj Flow Rate, veh/h	127	1259	4	13	1391	43	1	3	5	55	3	137
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	25	2	2	2	2	2	2	2	2	3
Cap, veh/h	313	2540	8	386	2355	73	65	163	223	147	5	219
Arrive On Green	0.09	1.00	1.00	0.01	0.67	0.67	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3634	12	1781	3519	109	171	1160	1585	1407	34	1556
Grp Volume(v), veh/h	127	616	647	13	702	732	4	0	5	55	0	140
Grp Sat Flow(s),veh/h/ln	1781	1777	1868	1781	1777	1851	1331	0	1585	1407	0	1590
Q Serve(g_s), s	2.4	0.0	0.0	0.3	23.7	23.8	0.0	0.0	0.3	4.2	0.0	9.1
Cycle Q Clear(g_c), s	2.4	0.0	0.0	0.3	23.7	23.8	9.1	0.0	0.3	13.3	0.0	9.1
Prop In Lane	1.00		0.01	1.00		0.06	0.25		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	313	1242	1306	386	1189	1239	228	0	223	147	0	224
V/C Ratio(X)	0.41	0.50	0.50	0.03	0.59	0.59	0.02	0.00	0.02	0.37	0.00	0.63
Avail Cap(c_a), veh/h	485	1242	1306	610	1189	1239	289	0	281	199	0	282
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	5.5	9.9	10.0	40.8	0.0	40.7	50.8	0.0	44.5
Incr Delay (d2), s/veh	0.7	1.2	1.2	0.0	2.2	2.1	0.0	0.0	0.0	0.6	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	0.7	0.4	0.4	0.1	8.3	8.6	0.1	0.0	0.1	1.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	1.2	1.2	5.6	12.1	12.0	40.8	0.0	40.8	51.4	0.0	45.6
LnGrp LOS	A	A	A	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1390			1447			9			195	
Approach Delay, s/veh		1.9			12.0			40.8			47.2	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	82.9		21.0	9.4	79.6		21.0				
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5				
Max Green Setting (Gmax), s	15.5	59.0		19.5	15.5	59.0		19.5				
Max Q Clear Time (g_c+I1), s	2.3	2.0		11.1	4.4	25.8		15.3				
Green Ext Time (p_c), s	0.0	24.2		0.0	0.2	21.7		0.2				

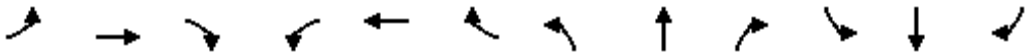
Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	53	1307	58	42	1443	34	24	7	38	31	44
v/c Ratio	0.29	0.48	0.05	0.39	0.54	0.03	0.21	0.04	0.18	0.25	0.25
Control Delay	53.9	7.9	1.0	77.8	2.4	0.0	49.5	44.7	2.8	50.4	20.6
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	53.9	7.9	1.0	77.8	2.4	0.0	49.5	44.7	2.8	50.4	20.6
Queue Length 50th (ft)	19	207	0	32	14	0	16	5	0	21	4
Queue Length 95th (ft)	39	311	9	m56	34	m0	42	19	4	50	37
Internal Link Dist (ft)		244			479			629			278
Turn Bay Length (ft)	200		120	100		100			50		
Base Capacity (vph)	468	2708	1230	238	2673	1200	234	321	338	242	305
Starvation Cap Reductn	0	0	0	0	111	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.48	0.05	0.18	0.56	0.03	0.10	0.02	0.11	0.13	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1281	57	41	1414	33	24	7	37	30	6	37
Future Volume (veh/h)	52	1281	57	41	1414	33	24	7	37	30	6	37
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1870	1870	1870	1870	1870	1870	1648	1870
Adj Flow Rate, veh/h	53	1307	58	42	1443	34	24	7	38	31	6	38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	3	2	2	2	2	2	2	17	2
Cap, veh/h	126	2657	1184	58	2644	1179	113	122	103	149	13	80
Arrive On Green	0.04	0.75	0.75	0.03	0.74	0.74	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	3456	3554	1584	1767	3554	1584	1362	1870	1585	1361	194	1232
Grp Volume(v), veh/h	53	1307	58	42	1443	34	24	7	38	31	0	44
Grp Sat Flow(s),veh/h/ln	1728	1777	1584	1767	1777	1584	1362	1870	1585	1361	0	1426
Q Serve(g_s), s	1.7	16.2	1.1	2.6	19.3	0.6	1.9	0.4	2.5	2.4	0.0	3.3
Cycle Q Clear(g_c), s	1.7	16.2	1.1	2.6	19.3	0.6	5.2	0.4	2.5	2.8	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	126	2657	1184	58	2644	1179	113	122	103	149	0	93
V/C Ratio(X)	0.42	0.49	0.05	0.72	0.55	0.03	0.21	0.06	0.37	0.21	0.00	0.47
Avail Cap(c_a), veh/h	471	2657	1184	241	2644	1179	260	323	274	296	0	246
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	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.9	5.5	3.6	52.7	6.1	3.7	52.1	48.3	49.3	49.6	0.0	49.6
Incr Delay (d2), s/veh	0.8	0.7	0.1	4.9	0.6	0.0	0.3	0.1	0.8	1.5	0.0	7.8
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	0.7	4.5	0.3	1.2	5.4	0.2	0.7	0.2	1.0	0.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	6.2	3.7	57.6	6.7	3.7	52.5	48.3	50.1	51.0	0.0	57.5
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	A	E
Approach Vol, veh/h		1418			1519			69			75	
Approach Delay, s/veh		7.8			8.1			50.7			54.8	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	87.8		13.2	8.6	88.2		13.2				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	59.0		19.0	15.0	59.0		19.0				
Max Q Clear Time (g_c+I1), s	3.7	21.3		7.2	4.6	18.2		5.3				
Green Ext Time (p_c), s	0.0	24.7		0.1	0.0	23.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		10.0	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1391	1479	4	0	43
Future Vol, veh/h	0	1391	1479	4	0	43
Conflicting Peds, #/hr	0	0	0	0	0	1
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1449	1541	4	0	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	774
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	341
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	341
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	341
HCM Lane V/C Ratio	-	-	-	0.131
HCM Control Delay (s)	-	-	-	17.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	3	0	2	13	2	3	1	2	4	2	8
Future Vol, veh/h	3	3	0	2	13	2	3	1	2	4	2	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	50	2	2	2	2	2	2
Mvmt Flow	4	4	0	3	17	3	4	1	3	5	3	11
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	7.1	7	6.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	50%	12%	29%
Vol Thru, %	17%	50%	76%	14%
Vol Right, %	33%	0%	12%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	6	17	14
LT Vol	3	3	2	4
Through Vol	1	3	13	2
RT Vol	2	0	2	8
Lane Flow Rate	8	8	23	19
Geometry Grp	1	1	1	1
Degree of Util (X)	0.009	0.009	0.025	0.019
Departure Headway (Hd)	3.901	4.098	3.94	3.707
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	919	876	912	967
Service Time	1.917	2.11	1.949	1.722
HCM Lane V/C Ratio	0.009	0.009	0.025	0.02
HCM Control Delay	7	7.1	7.1	6.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.1	0.1

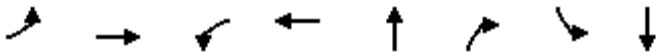
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	6	13	93	172	6
Future Vol, veh/h	8	6	13	93	172	6
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	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	9	7	15	104	193	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	327	193	200	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	134	-	-	-	-	-
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	667	849	1372	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	659	849	1372	-	-	-
Mov Cap-2 Maneuver	659	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	892	-	-	-	-	-

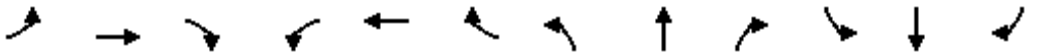
Approach	EB	NB	SB
HCM Control Delay, s	10	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1372	-	729	-	-
HCM Lane V/C Ratio	0.011	-	0.022	-	-
HCM Control Delay (s)	7.7	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	1336	9	1227	6	6	26	136
v/c Ratio	0.21	0.48	0.03	0.47	0.10	0.04	0.29	0.60
Control Delay	2.7	3.2	2.0	6.6	50.2	0.3	56.1	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	3.2	2.0	6.6	50.2	0.3	56.1	19.8
Queue Length 50th (ft)	6	90	1	156	4	0	18	1
Queue Length 95th (ft)	16	108	4	242	17	0	45	59
Internal Link Dist (ft)		479		806	665			1060
Turn Bay Length (ft)	295		90				65	
Base Capacity (vph)	495	2792	499	2615	167	341	249	392
Starvation Cap Reductn	0	83	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.49	0.02	0.47	0.04	0.02	0.10	0.35

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1239	4	8	1107	34	3	3	6	24	1	126
Future Volume (veh/h)	73	1239	4	8	1107	34	3	3	6	24	1	126
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1826	1870	1870	1856	1767	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1332	4	9	1190	37	3	3	6	26	1	135
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	5	2	2	3	9	2	2	2	2	2	2
Cap, veh/h	379	2565	8	369	2418	75	78	62	191	119	1	190
Arrive On Green	0.08	1.00	1.00	0.01	0.69	0.69	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1767	3548	11	1781	3490	108	238	518	1585	1406	12	1575
Grp Volume(v), veh/h	78	651	685	9	601	626	6	0	6	26	0	136
Grp Sat Flow(s),veh/h/ln	1767	1735	1824	1781	1763	1836	756	0	1585	1406	0	1587
Q Serve(g_s), s	1.3	0.0	0.0	0.2	17.5	17.5	0.0	0.0	0.4	2.0	0.0	9.1
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.2	17.5	17.5	9.1	0.0	0.4	11.1	0.0	9.1
Prop In Lane	1.00		0.01	1.00		0.06	0.50		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	379	1254	1319	369	1221	1272	140	0	191	119	0	191
V/C Ratio(X)	0.21	0.52	0.52	0.02	0.49	0.49	0.04	0.00	0.03	0.22	0.00	0.71
Avail Cap(c_a), veh/h	555	1254	1319	600	1221	1272	225	0	281	199	0	281
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.4	0.0	0.0	4.9	7.9	7.9	42.9	0.0	42.7	51.8	0.0	46.5
Incr Delay (d2), s/veh	0.2	1.3	1.2	0.0	1.4	1.4	0.0	0.0	0.0	0.3	0.0	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	0.4	0.5	0.5	0.1	5.8	6.0	0.1	0.0	0.1	0.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	1.3	1.2	4.9	9.3	9.2	42.9	0.0	42.7	52.2	0.0	48.4
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1414			1236			12			162	
Approach Delay, s/veh		1.5			9.2			42.8			49.0	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	85.5		18.8	9.0	82.2		18.8				
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5				
Max Green Setting (Gmax), s	15.5	59.0		19.5	15.5	59.0		19.5				
Max Q Clear Time (g_c+I1), s	2.2	2.0		11.1	3.3	19.5		13.1				
Green Ext Time (p_c), s	0.0	26.7		0.0	0.1	19.8		0.3				

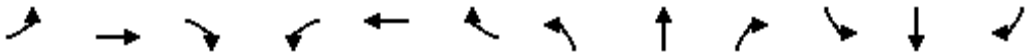
Intersection Summary			
HCM 6th Ctrl Delay		7.8	
HCM 6th LOS		A	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	11	1390	135	57	1275	12	35	1	48	13	10
v/c Ratio	0.07	0.53	0.11	0.47	0.44	0.01	0.36	0.01	0.26	0.12	0.08
Control Delay	51.3	9.0	3.1	79.3	1.3	0.0	57.8	45.0	7.0	48.8	35.3
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	51.3	9.0	3.1	79.3	1.4	0.0	57.8	45.0	7.0	48.8	35.3
Queue Length 50th (ft)	4	228	11	43	8	0	24	1	0	9	3
Queue Length 95th (ft)	13	342	35	87	35	m0	57	6	15	28	20
Internal Link Dist (ft)		244			479			629			278
Turn Bay Length (ft)	200		120	100		100			50		
Base Capacity (vph)	468	2602	1195	241	2902	1214	224	321	331	228	277
Starvation Cap Reductn	0	0	0	0	158	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.53	0.11	0.24	0.46	0.01	0.16	0.00	0.15	0.06	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1279	124	52	1173	11	32	1	44	12	5	5
Future Volume (veh/h)	10	1279	124	52	1173	11	32	1	44	12	5	5
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1856	1870	1856	1752	1752	1870	1826	1767	1604	1870
Adj Flow Rate, veh/h	11	1390	135	57	1275	12	35	1	48	13	5	5
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	4	3	2	3	10	10	2	5	9	20	2
Cap, veh/h	45	2639	1186	74	2760	1162	122	93	77	128	37	37
Arrive On Green	0.01	0.75	0.75	0.04	0.78	0.78	0.05	0.05	0.05	0.05	0.05	0.05
Sat Flow, veh/h	3456	3497	1571	1781	3526	1484	1316	1870	1547	1281	736	736
Grp Volume(v), veh/h	11	1390	135	57	1275	12	35	1	48	13	0	10
Grp Sat Flow(s),veh/h/ln	1728	1749	1571	1781	1763	1484	1316	1870	1547	1281	0	1471
Q Serve(g_s), s	0.3	17.8	2.5	3.5	13.5	0.2	2.9	0.1	3.3	1.1	0.0	0.7
Cycle Q Clear(g_c), s	0.3	17.8	2.5	3.5	13.5	0.2	3.6	0.1	3.3	1.1	0.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	45	2639	1186	74	2760	1162	122	93	77	128	0	73
V/C Ratio(X)	0.25	0.53	0.11	0.78	0.46	0.01	0.29	0.01	0.62	0.10	0.00	0.14
Avail Cap(c_a), veh/h	471	2639	1186	243	2760	1162	284	323	267	286	0	254
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	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	5.5	3.6	52.2	4.1	2.6	51.7	49.7	51.3	50.2	0.0	50.0
Incr Delay (d2), s/veh	1.0	0.8	0.2	5.6	0.5	0.0	0.5	0.0	3.1	0.7	0.0	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	0.2	4.9	0.6	1.6	3.3	0.0	1.0	0.0	1.4	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	6.3	3.8	57.9	4.6	2.6	52.2	49.7	54.3	51.0	0.0	51.8
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	A	D
Approach Vol, veh/h		1536			1344			84			23	
Approach Delay, s/veh		6.4			6.8			53.4			51.3	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	92.1		11.5	9.5	89.0		11.5				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	59.0		19.0	15.0	59.0		19.0				
Max Q Clear Time (g_c+I1), s	2.3	15.5		5.6	5.5	19.8		3.1				
Green Ext Time (p_c), s	0.0	23.0		0.1	0.0	25.4		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		8.2
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1413	1210	3	0	30
Future Vol, veh/h	0	1413	1210	3	0	30
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	4	3	2	2	2
Mvmt Flow	0	1536	1315	3	0	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	659
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	406
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	406
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	406
HCM Lane V/C Ratio	-	-	-	0.08
HCM Control Delay (s)	-	-	-	14.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	17	1	4	13	4	1	1	3	4	1	4
Future Vol, veh/h	11	17	1	4	13	4	1	1	3	4	1	4
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	22	1	5	17	5	1	1	4	5	1	5
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	7.2	7	6.8	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	38%	19%	44%
Vol Thru, %	20%	59%	62%	11%
Vol Right, %	60%	3%	19%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	29	21	9
LT Vol	1	11	4	4
Through Vol	1	17	13	1
RT Vol	3	1	4	4
Lane Flow Rate	6	37	27	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.007	0.042	0.029	0.012
Departure Headway (Hd)	3.733	4.041	3.917	3.872
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	957	889	916	923
Service Time	1.762	2.051	1.93	1.9
HCM Lane V/C Ratio	0.006	0.042	0.029	0.013
HCM Control Delay	6.8	7.2	7	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0

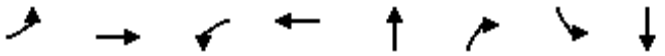
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	2	10	170	154	28
Future Vol, veh/h	25	2	10	170	154	28
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	2	11	179	162	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	364	163	192	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	201	-	-	-	-	-
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	635	882	1381	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	628	881	1380	-	-	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	832	-	-	-	-	-

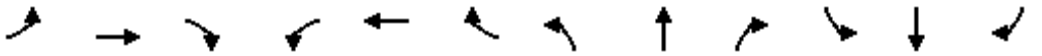
Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1380	-	642	-	-
HCM Lane V/C Ratio	0.008	-	0.044	-	-
HCM Control Delay (s)	7.6	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	134	1339	14	1521	4	5	58	148
v/c Ratio	0.45	0.49	0.04	0.62	0.03	0.03	0.51	0.57
Control Delay	17.1	4.1	2.9	11.3	44.5	0.2	62.7	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	4.1	2.9	11.3	44.5	0.2	62.7	16.9
Queue Length 50th (ft)	13	88	1	256	3	0	40	2
Queue Length 95th (ft)	82	118	5	435	13	0	80	61
Internal Link Dist (ft)		479		806	665			1060
Turn Bay Length (ft)	295		90				65	
Base Capacity (vph)	398	2744	490	2448	271	341	249	398
Starvation Cap Reductn	0	117	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.51	0.03	0.62	0.01	0.01	0.23	0.37

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1295	4	14	1431	45	1	3	5	56	3	141
Future Volume (veh/h)	130	1295	4	14	1431	45	1	3	5	56	3	141
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1530	1870	1870	1870	1870	1870	1870	1870	1870	1856
Adj Flow Rate, veh/h	134	1335	4	14	1475	46	1	3	5	58	3	145
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	25	2	2	2	2	2	2	2	2	3
Cap, veh/h	288	2513	8	364	2331	73	66	167	233	150	5	229
Arrive On Green	0.09	1.00	1.00	0.02	0.66	0.66	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3634	11	1781	3518	110	169	1131	1585	1407	32	1558
Grp Volume(v), veh/h	134	653	686	14	744	777	4	0	5	58	0	148
Grp Sat Flow(s),veh/h/ln	1781	1777	1868	1781	1777	1851	1300	0	1585	1407	0	1590
Q Serve(g_s), s	2.7	0.0	0.0	0.3	26.7	26.9	0.0	0.0	0.3	4.4	0.0	9.6
Cycle Q Clear(g_c), s	2.7	0.0	0.0	0.3	26.7	26.9	9.6	0.0	0.3	14.0	0.0	9.6
Prop In Lane	1.00		0.01	1.00		0.06	0.25		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	288	1229	1292	364	1177	1226	232	0	233	150	0	234
V/C Ratio(X)	0.46	0.53	0.53	0.04	0.63	0.63	0.02	0.00	0.02	0.39	0.00	0.63
Avail Cap(c_a), veh/h	460	1229	1292	587	1177	1226	282	0	281	192	0	282
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	5.7	10.8	10.8	40.2	0.0	40.1	50.7	0.0	44.1
Incr Delay (d2), s/veh	1.0	1.4	1.3	0.0	2.6	2.5	0.0	0.0	0.0	0.6	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	0.9	0.5	0.5	0.1	9.5	9.9	0.1	0.0	0.1	1.6	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	1.4	1.3	5.8	13.4	13.3	40.2	0.0	40.1	51.3	0.0	45.8
LnGrp LOS	B	A	A	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1473			1535			9			206	
Approach Delay, s/veh		2.2			13.3			40.2			47.3	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	82.1		21.7	9.4	78.9		21.7				
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5				
Max Green Setting (Gmax), s	15.5	59.0		19.5	15.5	59.0		19.5				
Max Q Clear Time (g_c+I1), s	2.3	2.0		11.6	4.7	28.9		16.0				
Green Ext Time (p_c), s	0.0	26.7		0.0	0.2	21.6		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	56	1387	61	44	1531	36	26	7	40	33	46
v/c Ratio	0.30	0.53	0.05	0.40	0.57	0.03	0.22	0.04	0.19	0.26	0.25
Control Delay	54.0	9.2	1.1	76.3	2.1	0.0	49.8	44.6	3.5	50.7	20.1
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	54.0	9.2	1.1	76.3	2.1	0.0	49.8	44.6	3.5	50.7	20.1
Queue Length 50th (ft)	20	230	0	33	15	0	17	5	0	22	4
Queue Length 95th (ft)	40	345	10	m55	36	m0	45	19	7	52	39
Internal Link Dist (ft)		244			479			629			278
Turn Bay Length (ft)	200		120	100		100			50		
Base Capacity (vph)	468	2634	1198	238	2667	1197	233	321	338	242	307
Starvation Cap Reductn	0	0	0	0	109	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.53	0.05	0.18	0.60	0.03	0.11	0.02	0.12	0.14	0.15

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1359	60	43	1500	35	25	7	39	32	6	39
Future Volume (veh/h)	55	1359	60	43	1500	35	25	7	39	32	6	39
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1870	1870	1870	1870	1870	1870	1648	1870
Adj Flow Rate, veh/h	56	1387	61	44	1531	36	26	7	40	33	6	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	3	2	2	2	2	2	2	17	2
Cap, veh/h	129	2643	1178	59	2631	1173	116	127	108	153	13	84
Arrive On Green	0.04	0.74	0.74	0.03	0.74	0.74	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	3456	3554	1584	1767	3554	1584	1360	1870	1585	1359	186	1239
Grp Volume(v), veh/h	56	1387	61	44	1531	36	26	7	40	33	0	46
Grp Sat Flow(s),veh/h/ln	1728	1777	1584	1767	1777	1584	1360	1870	1585	1359	0	1425
Q Serve(g_s), s	1.7	18.0	1.1	2.7	21.6	0.7	2.1	0.4	2.7	2.6	0.0	3.4
Cycle Q Clear(g_c), s	1.7	18.0	1.1	2.7	21.6	0.7	5.5	0.4	2.7	2.9	0.0	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	129	2643	1178	59	2631	1173	116	127	108	153	0	97
V/C Ratio(X)	0.44	0.52	0.05	0.74	0.58	0.03	0.22	0.06	0.37	0.22	0.00	0.47
Avail Cap(c_a), veh/h	471	2643	1178	241	2631	1173	258	323	274	295	0	246
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	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	5.9	3.8	52.7	6.5	3.8	52.0	48.0	49.0	49.3	0.0	49.4
Incr Delay (d2), s/veh	0.9	0.7	0.1	5.0	0.7	0.0	0.4	0.1	0.8	1.5	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	0.8	5.1	0.3	1.3	6.1	0.2	0.7	0.2	1.1	0.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	6.7	3.8	57.7	7.2	3.8	52.4	48.0	49.8	50.8	0.0	56.9
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	A	E
Approach Vol, veh/h		1504			1611			73			79	
Approach Delay, s/veh		8.3			8.5			50.5			54.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	87.4		13.5	8.7	87.8		13.5				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	59.0		19.0	15.0	59.0		19.0				
Max Q Clear Time (g_c+I1), s	3.7	23.6		7.5	4.7	20.0		5.4				
Green Ext Time (p_c), s	0.0	25.1		0.1	0.0	24.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1476	1569	4	0	46
Future Vol, veh/h	0	1476	1569	4	0	46
Conflicting Peds, #/hr	0	0	0	0	0	1
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1538	1634	4	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	820
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	318
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	318
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	318
HCM Lane V/C Ratio	-	-	-	0.151
HCM Control Delay (s)	-	-	-	18.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	22	0	6	20	2	3	1	14	4	2	8
Future Vol, veh/h	3	22	0	6	20	2	3	1	14	4	2	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	50	2	2	2	2	2	2
Mvmt Flow	4	29	0	8	27	3	4	1	19	5	3	11
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	7.2	7.2	6.8	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	12%	21%	29%
Vol Thru, %	6%	88%	71%	14%
Vol Right, %	78%	0%	7%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	25	28	14
LT Vol	3	3	6	4
Through Vol	1	22	20	2
RT Vol	14	0	2	8
Lane Flow Rate	24	33	37	19
Geometry Grp	1	1	1	1
Degree of Util (X)	0.024	0.038	0.042	0.02
Departure Headway (Hd)	3.638	4.06	4.034	3.789
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	980	883	889	942
Service Time	1.673	2.08	2.052	1.824
HCM Lane V/C Ratio	0.024	0.037	0.042	0.02
HCM Control Delay	6.8	7.2	7.2	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1

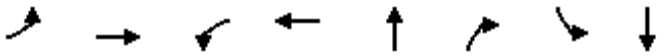
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	22	19	93	172	11
Future Vol, veh/h	22	22	19	93	172	11
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	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	25	25	21	104	193	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	339	193	205	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	146	-	-	-	-	-
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	657	849	1366	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	646	849	1366	-	-	-
Mov Cap-2 Maneuver	646	-	-	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	881	-	-	-	-	-

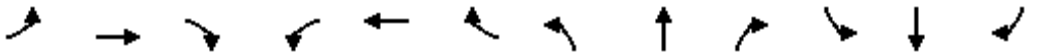
Approach	EB	NB	SB
HCM Control Delay, s	10.3	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1366	-	734	-	-
HCM Lane V/C Ratio	0.016	-	0.067	-	-
HCM Control Delay (s)	7.7	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	83	1336	9	1234	6	6	46	139
v/c Ratio	0.23	0.48	0.03	0.48	0.07	0.03	0.44	0.57
Control Delay	3.0	3.4	2.2	7.3	47.0	0.3	60.9	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	3.5	2.2	7.3	47.0	0.3	60.9	17.5
Queue Length 50th (ft)	7	91	1	168	4	0	32	1
Queue Length 95th (ft)	18	108	4	253	17	0	68	59
Internal Link Dist (ft)		479		806	665			1060
Turn Bay Length (ft)	295		90				65	
Base Capacity (vph)	486	2757	493	2575	212	341	249	394
Starvation Cap Reductn	0	85	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.50	0.02	0.48	0.03	0.02	0.18	0.35

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	1239	4	8	1108	40	3	3	6	43	1	128
Future Volume (veh/h)	77	1239	4	8	1108	40	3	3	6	43	1	128
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1826	1870	1870	1856	1767	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	1332	4	9	1191	43	3	3	6	46	1	138
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	5	2	2	3	9	2	2	2	2	2	2
Cap, veh/h	367	2514	8	362	2352	85	88	73	214	139	2	213
Arrive On Green	0.08	1.00	1.00	0.01	0.68	0.68	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1767	3548	11	1781	3471	125	289	540	1585	1406	11	1575
Grp Volume(v), veh/h	83	651	685	9	605	629	6	0	6	46	0	139
Grp Sat Flow(s),veh/h/ln	1767	1735	1824	1781	1763	1833	829	0	1585	1406	0	1587
Q Serve(g_s), s	1.5	0.0	0.0	0.2	18.5	18.5	0.0	0.0	0.4	3.5	0.0	9.1
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.2	18.5	18.5	9.1	0.0	0.4	12.6	0.0	9.1
Prop In Lane	1.00		0.01	1.00		0.07	0.50		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	367	1229	1293	362	1195	1242	161	0	214	139	0	214
V/C Ratio(X)	0.23	0.53	0.53	0.02	0.51	0.51	0.04	0.00	0.03	0.33	0.00	0.65
Avail Cap(c_a), veh/h	542	1229	1293	594	1195	1242	224	0	281	198	0	281
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	5.4	8.7	8.7	41.5	0.0	41.3	51.1	0.0	45.1
Incr Delay (d2), s/veh	0.3	1.4	1.3	0.0	1.5	1.5	0.0	0.0	0.0	0.5	0.0	1.2
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	0.4	0.5	0.5	0.1	6.3	6.5	0.1	0.0	0.1	1.2	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	1.4	1.3	5.4	10.2	10.2	41.6	0.0	41.3	51.6	0.0	46.4
LnGrp LOS	A	A	A	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1419			1243			12			185	
Approach Delay, s/veh		1.6			10.2			41.5			47.7	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	84.0		20.3	9.1	80.6		20.3				
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5				
Max Green Setting (Gmax), s	15.5	59.0		19.5	15.5	59.0		19.5				
Max Q Clear Time (g_c+I1), s	2.2	2.0		11.1	3.5	20.5		14.6				
Green Ext Time (p_c), s	0.0	26.7		0.0	0.1	19.7		0.2				

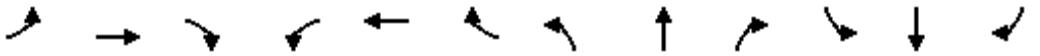
Intersection Summary												
HCM 6th Ctrl Delay			8.5									
HCM 6th LOS			A									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	1395	135	57	1277	13	35	1	48	13	10
v/c Ratio	0.08	0.54	0.11	0.47	0.44	0.01	0.36	0.01	0.26	0.12	0.08
Control Delay	51.4	9.0	3.1	80.6	1.2	0.0	57.8	45.0	7.0	48.8	35.3
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	51.4	9.0	3.1	80.6	1.2	0.0	57.8	45.0	7.0	48.8	35.3
Queue Length 50th (ft)	4	230	11	43	8	0	24	1	0	9	3
Queue Length 95th (ft)	14	344	35	0	35	m0	57	6	15	28	20
Internal Link Dist (ft)		244			479			629			278
Turn Bay Length (ft)	200		120	100		100			50		
Base Capacity (vph)	468	2602	1195	241	2902	1214	224	321	331	228	277
Starvation Cap Reductn	0	0	0	0	142	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.54	0.11	0.24	0.46	0.01	0.16	0.00	0.15	0.06	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1283	124	52	1175	12	32	1	44	12	5	5
Future Volume (veh/h)	11	1283	124	52	1175	12	32	1	44	12	5	5
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1856	1870	1856	1752	1752	1870	1826	1767	1604	1870
Adj Flow Rate, veh/h	12	1395	135	57	1277	13	35	1	48	13	5	5
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	4	3	2	3	10	10	2	5	9	20	2
Cap, veh/h	48	2639	1186	74	2756	1160	122	93	77	128	37	37
Arrive On Green	0.01	0.75	0.75	0.04	0.78	0.78	0.05	0.05	0.05	0.05	0.05	0.05
Sat Flow, veh/h	3456	3497	1571	1781	3526	1484	1316	1870	1547	1281	736	736
Grp Volume(v), veh/h	12	1395	135	57	1277	13	35	1	48	13	0	10
Grp Sat Flow(s),veh/h/ln	1728	1749	1571	1781	1763	1484	1316	1870	1547	1281	0	1471
Q Serve(g_s), s	0.4	17.9	2.5	3.5	13.6	0.2	2.9	0.1	3.3	1.1	0.0	0.7
Cycle Q Clear(g_c), s	0.4	17.9	2.5	3.5	13.6	0.2	3.6	0.1	3.3	1.1	0.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	48	2639	1186	74	2756	1160	122	93	77	128	0	73
V/C Ratio(X)	0.25	0.53	0.11	0.78	0.46	0.01	0.29	0.01	0.62	0.10	0.00	0.14
Avail Cap(c_a), veh/h	471	2639	1186	243	2756	1160	284	323	267	286	0	254
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	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.7	5.5	3.6	52.2	4.1	2.6	51.7	49.7	51.3	50.2	0.0	50.0
Incr Delay (d2), s/veh	1.0	0.8	0.2	5.6	0.5	0.0	0.5	0.0	3.1	0.7	0.0	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	0.2	4.9	0.6	1.6	3.3	0.0	1.0	0.0	1.4	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	6.3	3.8	57.8	4.6	2.7	52.2	49.7	54.3	51.0	0.0	51.8
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	A	D
Approach Vol, veh/h		1542			1347			84			23	
Approach Delay, s/veh		6.4			6.8			53.4			51.3	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	92.0		11.5	9.5	89.0		11.5				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	59.0		19.0	15.0	59.0		19.0				
Max Q Clear Time (g_c+I1), s	2.4	15.6		5.6	5.5	19.9		3.1				
Green Ext Time (p_c), s	0.0	23.0		0.1	0.0	25.5		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		8.3
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1418	1212	3	0	42
Future Vol, veh/h	0	1418	1212	3	0	42
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	4	3	2	2	2
Mvmt Flow	0	1541	1317	3	0	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	660
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	406
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	406
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	406
HCM Lane V/C Ratio	-	-	-	0.112
HCM Control Delay (s)	-	-	-	15
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	14	6	1	5	24
Future Vol, veh/h	9	14	6	1	5	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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	19	8	1	7	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	55	9	0	0	9	0
Stage 1	9	-	-	-	-	-
Stage 2	46	-	-	-	-	-
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	953	1073	-	-	1611	-
Stage 1	1014	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	949	1073	-	-	1611	-
Mov Cap-2 Maneuver	949	-	-	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1021	1611	-
HCM Lane V/C Ratio	-	-	0.03	0.004	-
HCM Control Delay (s)	-	-	8.6	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	20	0	1	31
Future Vol, veh/h	0	2	20	0	1	31
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	27	0	1	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	70	27	0	0	27	0
Stage 1	27	-	-	-	-	-
Stage 2	43	-	-	-	-	-
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	934	1048	-	-	1587	-
Stage 1	996	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	933	1048	-	-	1587	-
Mov Cap-2 Maneuver	933	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1048	1587	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	22	0	2	30
Future Vol, veh/h	2	2	22	0	2	30
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	29	0	3	40

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	75	29	0	0	29	0
Stage 1	29	-	-	-	-	-
Stage 2	46	-	-	-	-	-
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	928	1046	-	-	1584	-
Stage 1	994	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	926	1046	-	-	1584	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	974	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	982	1584	-
HCM Lane V/C Ratio	-	-	0.005	0.002	-
HCM Control Delay (s)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	1	15	9	1
Future Vol, veh/h	2	2	1	15	9	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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	1	20	12	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	35	13	13	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	22	-	-	-	-	-
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	978	1067	1606	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	977	1067	1606	-	-	-
Mov Cap-2 Maneuver	977	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1606	-	1020	-	-
HCM Lane V/C Ratio	0.001	-	0.005	-	-
HCM Control Delay (s)	7.2	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	2	3	7	6	3
Future Vol, veh/h	9	2	3	7	6	3
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	3	4	9	8	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	27	10	12	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	17	-	-	-	-	-
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	988	1071	1607	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	985	1071	1607	-	-	-
Mov Cap-2 Maneuver	985	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1006	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1607	-	1000	-	-
HCM Lane V/C Ratio	0.002	-	0.015	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	29	1	16	34	4	1	1	10	4	1	4
Future Vol, veh/h	11	29	1	16	34	4	1	1	10	4	1	4
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	37	1	21	44	5	1	1	13	5	1	5
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	7.4	6.8	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	27%	30%	44%
Vol Thru, %	8%	71%	63%	11%
Vol Right, %	83%	2%	7%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	41	54	9
LT Vol	1	11	16	4
Through Vol	1	29	34	1
RT Vol	10	1	4	4
Lane Flow Rate	15	53	69	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.059	0.078	0.013
Departure Headway (Hd)	3.67	4.072	4.035	3.98
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	966	880	889	892
Service Time	1.727	2.096	2.055	2.036
HCM Lane V/C Ratio	0.016	0.06	0.078	0.013
HCM Control Delay	6.8	7.4	7.4	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.3	0

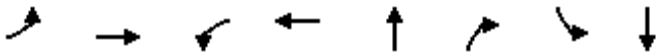
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	12	29	170	154	42
Future Vol, veh/h	34	12	29	170	154	42
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	13	31	179	162	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	404	163	207	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	241	-	-	-	-	-
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	603	882	1364	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	587	881	1363	-	-	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	843	-	-	-	-	-
Stage 2	798	-	-	-	-	-

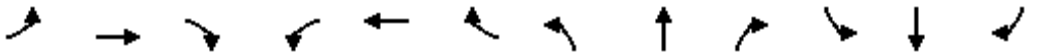
Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1363	-	643	-	-
HCM Lane V/C Ratio	0.022	-	0.075	-	-
HCM Control Delay (s)	7.7	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	146	1339	14	1540	4	5	70	149
v/c Ratio	0.49	0.49	0.04	0.64	0.03	0.02	0.56	0.54
Control Delay	21.7	4.2	3.2	12.6	43.2	0.2	63.7	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	4.3	3.2	12.6	43.2	0.2	63.7	15.7
Queue Length 50th (ft)	22	89	1	280	3	0	48	2
Queue Length 95th (ft)	100	118	6	475	13	0	92	61
Internal Link Dist (ft)		479		806	665			1060
Turn Bay Length (ft)	295		90				65	
Base Capacity (vph)	387	2716	486	2397	300	341	249	399
Starvation Cap Reductn	0	125	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.52	0.03	0.64	0.01	0.01	0.28	0.37

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1295	4	14	1433	61	1	3	5	68	3	142
Future Volume (veh/h)	142	1295	4	14	1433	61	1	3	5	68	3	142
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1530	1870	1870	1870	1870	1870	1870	1870	1870	1856
Adj Flow Rate, veh/h	146	1335	4	14	1477	63	1	3	5	70	3	146
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	25	2	2	2	2	2	2	2	2	3
Cap, veh/h	282	2484	7	360	2265	96	69	178	246	161	5	242
Arrive On Green	0.09	1.00	1.00	0.02	0.65	0.65	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3634	11	1781	3473	148	181	1145	1585	1407	32	1558
Grp Volume(v), veh/h	146	653	686	14	754	786	4	0	5	70	0	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1868	1781	1777	1844	1327	0	1585	1407	0	1590
Q Serve(g_s), s	3.0	0.0	0.0	0.3	28.2	28.4	0.0	0.0	0.3	5.4	0.0	9.6
Cycle Q Clear(g_c), s	3.0	0.0	0.0	0.3	28.2	28.4	9.6	0.0	0.3	14.9	0.0	9.6
Prop In Lane	1.00		0.01	1.00		0.08	0.25		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	282	1215	1277	360	1159	1203	247	0	246	161	0	247
V/C Ratio(X)	0.52	0.54	0.54	0.04	0.65	0.65	0.02	0.00	0.02	0.43	0.00	0.60
Avail Cap(c_a), veh/h	449	1215	1277	583	1159	1203	283	0	281	192	0	282
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	6.1	11.5	11.6	39.4	0.0	39.4	50.3	0.0	43.3
Incr Delay (d2), s/veh	1.3	1.5	1.4	0.0	2.8	2.8	0.0	0.0	0.0	0.7	0.0	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	1.2	0.5	0.5	0.1	10.2	10.6	0.1	0.0	0.1	1.9	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	1.5	1.4	6.1	14.4	14.4	39.4	0.0	39.4	51.0	0.0	44.8
LnGrp LOS	B	A	A	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1485			1554			9			219	
Approach Delay, s/veh		2.5			14.3			39.4			46.8	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	81.2		22.6	9.7	77.7		22.6				
Change Period (Y+Rc), s	4.5	6.0		5.5	4.5	6.0		5.5				
Max Green Setting (Gmax), s	15.5	59.0		19.5	15.5	59.0		19.5				
Max Q Clear Time (g_c+I1), s	2.3	2.0		11.6	5.0	30.4		16.9				
Green Ext Time (p_c), s	0.0	26.7		0.0	0.2	21.0		0.2				

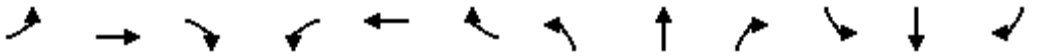
Intersection Summary												
HCM 6th Ctrl Delay			11.2									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	58	1399	61	44	1532	38	26	7	40	33	46
v/c Ratio	0.31	0.53	0.05	0.40	0.57	0.03	0.22	0.04	0.19	0.26	0.25
Control Delay	54.0	9.2	1.1	74.8	1.7	0.0	49.8	44.6	3.5	50.7	20.1
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	54.0	9.2	1.1	74.8	1.8	0.0	49.8	44.6	3.5	50.7	20.1
Queue Length 50th (ft)	20	233	0	33	15	0	17	5	0	22	4
Queue Length 95th (ft)	41	351	10	m54	36	m0	45	19	7	52	39
Internal Link Dist (ft)		244			479			629			278
Turn Bay Length (ft)	200		120	100		100			50		
Base Capacity (vph)	468	2634	1198	238	2665	1196	233	321	338	242	307
Starvation Cap Reductn	0	0	0	0	122	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.53	0.05	0.18	0.60	0.03	0.11	0.02	0.12	0.14	0.15

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1371	60	43	1501	37	25	7	39	32	6	39
Future Volume (veh/h)	57	1371	60	43	1501	37	25	7	39	32	6	39
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1870	1870	1870	1870	1870	1870	1648	1870
Adj Flow Rate, veh/h	58	1399	61	44	1532	38	26	7	40	33	6	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	3	2	2	2	2	2	2	17	2
Cap, veh/h	130	2643	1178	59	2629	1172	116	127	108	153	13	84
Arrive On Green	0.04	0.74	0.74	0.03	0.74	0.74	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	3456	3554	1584	1767	3554	1584	1360	1870	1585	1359	186	1239
Grp Volume(v), veh/h	58	1399	61	44	1532	38	26	7	40	33	0	46
Grp Sat Flow(s),veh/h/ln	1728	1777	1584	1767	1777	1584	1360	1870	1585	1359	0	1425
Q Serve(g_s), s	1.8	18.3	1.1	2.7	21.7	0.7	2.1	0.4	2.7	2.6	0.0	3.4
Cycle Q Clear(g_c), s	1.8	18.3	1.1	2.7	21.7	0.7	5.5	0.4	2.7	2.9	0.0	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	130	2643	1178	59	2629	1172	116	127	108	153	0	97
V/C Ratio(X)	0.44	0.53	0.05	0.74	0.58	0.03	0.22	0.06	0.37	0.22	0.00	0.47
Avail Cap(c_a), veh/h	471	2643	1178	241	2629	1172	258	323	274	295	0	246
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	0.72	0.72	0.72	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	6.0	3.8	52.7	6.5	3.8	52.0	48.0	49.0	49.3	0.0	49.4
Incr Delay (d2), s/veh	0.9	0.8	0.1	4.8	0.7	0.0	0.4	0.1	0.8	1.5	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	0.8	5.2	0.3	1.2	6.2	0.2	0.7	0.2	1.1	0.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	6.7	3.8	57.5	7.2	3.9	52.4	48.0	49.8	50.8	0.0	56.9
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	A	E
Approach Vol, veh/h		1518			1614			73			79	
Approach Delay, s/veh		8.4			8.5			50.5			54.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	87.4		13.5	8.7	87.8		13.5				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	59.0		19.0	15.0	59.0		19.0				
Max Q Clear Time (g_c+I1), s	3.8	23.7		7.5	4.7	20.3		5.4				
Green Ext Time (p_c), s	0.0	25.1		0.1	0.0	24.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1490	1570	4	0	53
Future Vol, veh/h	0	1490	1570	4	0	53
Conflicting Peds, #/hr	0	0	0	0	0	1
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1552	1635	4	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	821
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	318
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	318
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	318
HCM Lane V/C Ratio	-	-	-	0.174
HCM Control Delay (s)	-	-	-	18.7
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	9	30	2	14	21
Future Vol, veh/h	6	9	30	2	14	21
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	12	38	3	18	27

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	103	40	0	0	41	0
Stage 1	40	-	-	-	-	-
Stage 2	63	-	-	-	-	-
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	1031	-	-	1568	-
Stage 1	982	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	1031	-	-	1568	-
Mov Cap-2 Maneuver	884	-	-	-	-	-
Stage 1	982	-	-	-	-	-
Stage 2	948	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	967	1568	-
HCM Lane V/C Ratio	-	-	0.02	0.011	-
HCM Control Delay (s)	-	-	8.8	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	39	0	2	36
Future Vol, veh/h	0	1	39	0	2	36
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	50	0	3	46

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	102	50	0	0	50	0
Stage 1	50	-	-	-	-	-
Stage 2	52	-	-	-	-	-
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	896	1018	-	-	1557	-
Stage 1	972	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	894	1018	-	-	1557	-
Mov Cap-2 Maneuver	894	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1018	1557	-
HCM Lane V/C Ratio	-	-	0.001	0.002	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	40	0	5	37
Future Vol, veh/h	1	1	40	0	5	37
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1	51	0	6	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	110	51	0	0	51	0
Stage 1	51	-	-	-	-	-
Stage 2	59	-	-	-	-	-
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	887	1017	-	-	1555	-
Stage 1	971	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	883	1017	-	-	1555	-
Mov Cap-2 Maneuver	883	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	945	1555	-
HCM Lane V/C Ratio	-	-	0.003	0.004	-
HCM Control Delay (s)	-	-	8.8	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	11	20	2
Future Vol, veh/h	1	1	2	11	20	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	25	25	25	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	8	44	80	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	144	84	88	0	-	0
Stage 1	84	-	-	-	-	-
Stage 2	60	-	-	-	-	-
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	849	975	1508	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	845	975	1508	-	-	-
Mov Cap-2 Maneuver	845	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	905	-	-
HCM Lane V/C Ratio	0.005	-	0.009	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	1	9	7	7	9
Future Vol, veh/h	6	1	9	7	7	9
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	25	25	25	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	4	36	28	28	36

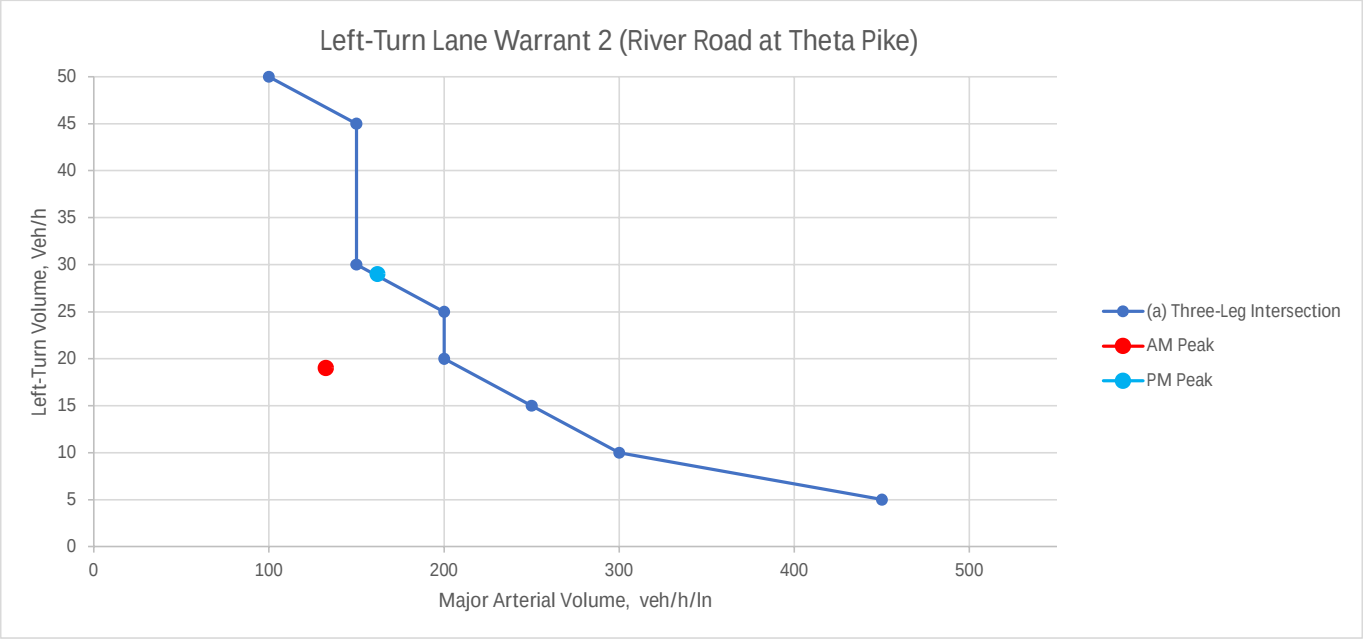
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	146	46	64	0	-	0
Stage 1	46	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	846	1023	1538	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	826	1023	1538	-	-	-
Mov Cap-2 Maneuver	826	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1538	-	849	-	-
HCM Lane V/C Ratio	0.023	-	0.033	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

APPENDIX E

Turn Lane Evaluation


Left-Turn Lane Warrant 2 (River Road at Theta Pike)
Left-Turn Volume, Veh/h
50
45
40
35
30
25
20
15
10
5
0
0
100
200
300
400
500
Major Arterial Volume, veh/h/ln
(a) Three-Leg Intersection
AM Peak
PM Peak

APPENDIX F

Sight Distance



Kimley»Horn

RIVER ROAD

INTERSECTION SIGHT DISTANCE

November 6, 2023

0 40 80 160

NORTH

Kimley»Horn
4031 Aspen Grove Drive
Franklin, TN 37069

CPS Land

Photograph Sheet

KHA Job No.: 118119002
KHA Rep.: BG
Date: November 14, 2023
Page: 1 of 5

Site Name: River Road

Photo No. 1



Comments: Site Driveway B at Taylor Bend, EBR (Looking Left)

Photo No. 2



Comments: Site Driveway B at Taylor Bend, EBL (Looking Right)

Kimley»Horn
4031 Aspen Grove Drive
Franklin, TN 37069

CPS Land

Photograph Sheet

KHA Job No.: 118119002
KHA Rep.: BG
Date: November 14, 2023
Page: 2 of 5

Site Name: River Road

Photo No. 3



Comments: Site Driveway C at Taylor Bend, EBR (Looking Left)

Photo No. 4



Comments: Site Driveway C at Taylor Bend, EBL (Looking Right)

Kimley»Horn
4031 Aspen Grove Drive
Franklin, TN 37069

CPS Land

Photograph Sheet

KHA Job No.: 118119002
KHA Rep.: BG
Date: November 14, 2023
Page: 3 of 5

Site Name: River Road

Photo No. 5



Comments: Site Driveway B at River Road, EBR (Looking Left)

Photo No. 6



Comments: Site Driveway B at River Road, EBL (Looking Right)

Kimley»Horn
4031 Aspen Grove Drive
Franklin, TN 37069

CPS Land

Photograph Sheet

KHA Job No.: 118119002
KHA Rep.: BG
Date: November 14, 2023
Page: 4 of 5

Site Name: River Road

Photo No. 7



Comments: Site Driveway A at River Road, EBR (Looking Left)

Photo No. 8



Comments: Site Driveway A at River Road, EBL (Looking Right)

Kimley»Horn
4031 Aspen Grove Drive
Franklin, TN 37069

CPS Land

Photograph Sheet

KHA Job No.: 118119002
KHA Rep.: BG
Date: November 14, 2023
Page: 5 of 5

Site Name: River Road

Photo No. 9



Comments: Site Driveway C at River Road, EBL (Looking Right)

Photo No. 10



Comments: Site Driveway C at River Road, EBR (Looking Left)

December 18, 2023

Paul Keltner, Director
Development Services
City of Columbia, TN

RE: Project# 23-0476; Re-Submittal Site Development Plan + Preliminary Plat River Road Property

Dear Mr. Keltner,
The accompanying documents and comment responses below are for the resubmittal of the above referenced project.

Included in the submittal are the following:

1. Online/Digital upload of revised Site Development Plan and Preliminary Plat documents
2. Comment responses to Development Review Committee dated Dec. 12, 2023 (below)

Staff Comments:

Columbia Power

1. 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.
   Response: Noted

Public Works

2. For 92 multi-family units and 30 townhomes, we recommend three or four 8-yard dumpsters with 3x/week collection if utilizing City of Columbia sanitation services. Private sanitation services, including dumpsters, compactors, individual receptacles or valet service, may be utilized. Individual trash receptacles will not be provided by the City of Columbia to townhome or multi-family residents. Please see attached City of Columbia Dumpster Guidelines & Accessibility Requirements.
   Something Good Around Every Corner
   Public Works 110 Santa Fe Pike Columbia, Tennessee 38401 Phone 931.388.8650

greg.gamble@gdc-tn.com
615.975.5765 cell
3020 Stansberry Lane, Suite 201
Franklin, TN 370

This institution is an equal opportunity provider.
PUBLIC WORKS DEPARTMENT
DUMPSTER GUIDELINES AND ACCESSIBILITY REQUIREMENTS
DUMPSTER AND COMPACTOR STANDARDS
GENERAL
All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private.
GUIDELINES FOR DUMPSTERS
The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week, with special approval needed for every other week (EOW) collection. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least 2 feet and 6 inches of clearance on each side of the dumpster.
DUMPSTER PAD REQUIREMENTS
1. The concrete dumpster pad shall be at least 12 feet by 12 feet.
2. The pad(s) shall be 8-inch-thick concrete, reinforced with rebar to support a 30-ton loadbearing capacity.
3. A 14-foot-wide by 40-foot-long straight and clear access approach to each dumpster for the truck is required.
4. Clearance at each side of the dumpster must be at least 2 feet and 6 inches.
5. If a gated enclosure is utilized, the gates must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing.
Response: Noted. The development will serviced by private valet service.

Maury County E911

1. Contact Maury County 911 for Street names. Cgideon@maury911.org
   Response: Noted. The applicant is working to secure an approved street name.

Engineering

1. Provide inset parking islands along River Road and Taylor Bend Road, where parallel parking is provided.
   Response: Layout plan has been revised.
2. Provide "reverse crown" for alley section.
   Response: Alley grading has been revised to be reverse crown. Utilities have been adjusted accordingly.
3. Confirm adequate site distance will be acceptable post-development with the addition of landscaping elements and on-street parking. Inset parking islands may be required to extend access points in front of proposed landscaping.
   Response: Site distance has been reviewed with revised driveway entries, design is acceptable for adequate sight distance.
4. Recommend ROW dedication to contain sidewalk.
   Response: The applicant is now showing a ROW dedication along River Road. The ROW dedication totals 3,222 SF and is placed at the back of sidewalk.
5. Subject to TIS and construction plans
   Response: Noted

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6. Add Crosswalk across River Rd at Taylor Bend
   Response: Added to layout
7. Alleys and drives should be concrete apron style connections to roadways.
   Response: Concrete aprons have been added.
8. See SD-06 for parallel parking island requirements
   Response: islands have been revised per SD-06

Planning

9. The lead staff person for this case is Planner Austin Brass, AICP; he will prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments.
   Response: Noted
10. Unit facing pedestrian path indicates no facade details at base (east elevation). Please provide windows to ensure that upper story windows align with lower story windows that eliminates this blank facade.
    Response: Refer to revised elevations.
11. Provide note indicating call out for minimum window sill height of 5'.
    Response: Note: CD-5 Zoning Code requires the Residential Sill to be 5' min. above average grade at Façade. Applicant is requesting staff level variance to reduce the min. dimension to 4' (20%) min. above average grade at Façade for all buildings that are Parallel to straight Frontage Lines or Tangent of Curved Frontage Line.
12. Provide facade glazing percentages 20-60% minimum for each building site for all elevations.
    Response: Refer to revised elevations listing percentage of glazing for required facades.
13. Please show a parking plan that demonstrates how the on-street and surface parking provides sufficient parking for each unit as described in 4.3.12.B.3 (i.e. show which buildings are served by which parking spaces). Please also show parking for civic spaces (1:5,000 ft of Civic Space area).
    Response:
14. conform 50% Thoroughfare enfrontment requirement for civic spaces with the exception of playground 5.3.3.C (p. 335).
    Response: 5.3.3 applies to properties greater than 20 acres. The subject property is 5.87 acres.
15. Provide foundation plantings at unit with facade enfronting pedestrian path.
    Response: See L1.0. Foundation plantings have been added.
16. Site plan provides notation of frontage buildout requirement at 80% minimum as required in a CD-5 district, with a statement of 70% provided. Please provide clarification of frontage buildout for each individual building site requiring 80% min
    Response: This calculation was an error. After discussion with staff, it was determined that this calculation was per building site. Please see Site Development Plan for calculations per building site.
17. Will alleyway be paved at 20' in easement provided?
    Response: see Sheet C2.1 for alley section.
18. Please provide details of civic space amenities provided for pocket park and playground.
    Response: Please see L2.0 for additional civic space details
19. Provide note that townhome design will adhere to the prescriptive standards of CD-5 at building permit stage
    Response: This note has been added to Site Development Plan.

DEVELOPMENT PLANNING
DESIGN
MANAGEMENT

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Franklin, TN 370

Fire

1. Reminder: All apartments must be sprinklered throughout and have a fire alarm system
   Response: Noted.
2. Reminder: All Fire Department Connections (FDC) must be within 100' of a fire hydrant
   Response: Noted.

Columbia Water

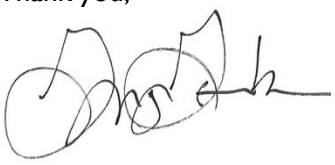
1. "A water availability letter was issued on November 19, 2023, it remains valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All public 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: Noted.

Wastewater

1. The distinction between private sewer and public sewer is probably going to end at the last upstream manhole in the public street. The plans are not clear how each building will get sewer, which can be sorted out during plan review. The existing tie-in manhole may need work to rehabilitate and bring it to grade.
   Response: Noted, to be coordinated at plan review.

If there are any questions or additional information needed, please feel free to reach out to me, or Keli Frymire (keli@gdc-tn.com) in my office.

Thank you,



Gamble Design Collaborative
Greg Gamble

CIVIC SPACE REQUIRED: 5%-20% OF GROSS SITE AREA PROVIDED: 11% (28,200 SF; 0.65AC)		
TYPE:	AREA:	AMENITIES:
SQUARE	23,100 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, FORMAL PLANTINGS, WALKING PATH AND POND OVERLOOK
POCKET PARK	3,500 SF	HARDSCAPE/GRAVEL SEATING AREA, SITE FURNISHINGS, GAS FIRE PIT, FORMAL PLANTINGS
PLAYGROUND	1,600 SF	SEATING AREA, PLAY EQUIPMENT, FORMAL PLANTINGS



SITE DEVELOPMENT PLAN SITE DATA:

TOTAL SITE AREA: 255,800 SF; 5.87 AC
TOTAL DWELLING UNITS: 122 UNITS
TOTAL DENSITY: 20.78 DUA
TOTAL CIVIC SPACE: 28,200 SF; 0.65 AC (11%)
TOTAL SURFACE PARKING LOT: 43,905 SF; 1.01 AC
TOTAL ROW AND ALLEY EASEMENT: 42,199 SF; .97 AC

BUILDING BREAKDOWN:
- TOTAL MULTI-FAMILY UNITS: 92 DWELLING UNITS
  - LARGE MULTI-FAMILY BLDG 1: 18 DU
  - LARGE MULTI-FAMILY BLDG 2: 24 DU
  - LARGE MULTI-FAMILY BLDG 3: 24 DU
  - LARGE MULTI-FAMILY BLDG 4: 18 DU
  - SMALL MULTI-FAMILY BLDG 1: 4 DU; 7-GARAGE PARKING SPACES
  - SMALL MULTI-FAMILY BLDG 2: 4 DU; 8-GARAGE PARKING SPACES
- TOWNHOMES: 30 DWELLING UNITS
- ACCESSORY BUILDINGS:
  - ACCESSORY BLDG 1: 8-CAR GARAGE
  - ACCESSORY BLDG 2: 8-CAR GARAGE

BUILDING SETBACKS:
PRINCIPAL STRUCTURES:
- FRONT SETBACK: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
  PROVIDED SETBACK: 8'-14' TOWNHOMES; 0' LARGE MULTI-FAMILY; 12' SMALL MULTI-FAMILY
- FRONT SETBACK SECONDARY: 0' MIN/MAX AT CORNERS; 15' MAXIMUM ELSEWHERE
  PROVIDED SETBACK: 7'-10' TOWNHOMES; 16'-22' LARGE MULTI-FAMILY
- SIDE SETBACK: 0' MIN. - 24' MAXIMUM
  PROVIDED SETBACK: 0'; 15' MINIMUM BETWEEN TOWNHOME BUILDINGS
- REAR SETBACK: NOT REGULATED
  PROVIDED SETBACK: 24' TOWNHOME WITHOUT GARAGE; 5' TOWNHOME WHERE GARAGE FACES ALLEY

ACCESSORY STRUCTURES:
- FRONT SETBACK: 40' MAX FROM REAR PROPERTY LINE
  PROVIDED SETBACK: 23' FROM REAR PROPERTY LINE
- SIDE SETBACK: 3' MAX.
  PROVIDED SETBACK: 3' FROM BUILDING SITE LINE ON ONE SIDE
- REAR SETBACK: 3' MIN.
  PROVIDED SETBACK: 3'

*NOTE: PRIMARY BUILDING CORNER SETBACKS ARE AS CLOSE TO 0' FRONT/0' SIDE AS POSSIBLE. DUE TO THE UNIQUE PROPERTY LINE CONSTRAINTS, BUILDINGS ARE SET BACK TO ALLOW SIDEWALKS AND PLANTING AREAS AND TO AVOID EXISTING EASEMENTS/UTILITIES. ACCESSORY STRUCTURES ARE SET 3' FROM BUILDING SITE LINES ON ONE SIDE. BUILDING SITES ARE WIDER THAN THE ACCESSORY BUILDINGS, PREVENTING 3' SIDE SETBACKS ON BOTH SIDES.

PARKING SUMMARY:
- TOTAL DWELLING UNITS: 122 UNITS
- REQUIRED MINIMUM PARKING RATIO: 1.5 SPACES PER UNIT
- TOTAL REQUIRED RESIDENTIAL PARKING: 183 PARKING SPACES

- TOTAL CIVIC SPACE: 28,200 SF; 0.65 AC
- REQUIRED MINIMUM PARKING RATIO: 1 SPACE PER 5,000 SF GROSS LAND AREA
- TOTAL REQUIRED CIVIC SPACE PARKING: 6 PARKING SPACES

- TOTAL REQUIRED PARKING SPACES: 189 SPACES
- TOTAL PROVIDED PARKING SPACES: 233 SPACES
  - SURFACE PARKING LOT: 108 SPACES
  - SMALL MULTI-FAMILY BUILDING GARAGE: 15 SPACES (10'X20' MINIMUM)
  - STREET A ON-STREET PARKING: 36 SPACES
  - RIVER ROAD ON-STREET PARKING: 16 SPACES
  - TAYLOR'S BEND ROAD ON-STREET PARKING: 5 SPACES
  - TOWNHOME GARAGE SPACES: 7 SPACES (10'X20' MINIMUM)
  - TOWNHOME SURFACE SPACES: 46 SPACES

*NOTE: AN ADDITIONAL 16 GARAGE SPACES ARE PROVIDED IN ACCESSORY BUILDINGS FOR THE MULTI-FAMILY BUILDINGS, AND AN ADDITIONAL 7 TOWNHOME GARAGE SPACES ARE PROVIDED. THESE PARKING SPACES HAVE NOT BEEN INCLUDED IN THE PARKING TOTALS SINCE THEY ARE SMALLER THAN THE MINIMUM 10' X 20' GARAGE SPACE REQUIREMENT.

BIKE PARKING: REQUIRED 1 SPACE PER 20 REQUIRED PARKING SPACES
BIKE PARKING PROVIDED: 183 REQ. PARKING SPACES/20 = 7 BIKE SPACES

FRONTAGE BUILD-OUT: 80% MINIMUM REQUIRED
PROVIDED: 1,458 LF BUILD-OUT/2,081 LF FRONTAGE; 70% PROVIDED
LOT/BUILDING SITE ENFRONTMENT:
- TOTAL NUMBER OF BUILDING SITES: 36
- BUILDING SITES ENFRONTING PEDESTRIAN PATH: 2 (LARGE MULTI-FAMILY BLDG 2 & SMALL MULTI-FAMILY BLDG 2)
- % BUILDING SITES ENFRONTING PEDESTRIAN PATH: 6%

PLEASE SEE ARCHITECTURE ELEVATIONS FOR ALL MULTI-FAMILY BUILDING DIMENSIONS AND ELEVATION COMPLIANCE TABULATIONS.

ARCHITECTURAL NOTES:
1. LARGE MULTI-FAMILY BUILDINGS 1 AND 2 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
2. LARGE MULTI-FAMILY BUILDINGS 3 AND 4 WILL UTILIZE THE SAME ELEVATOR VIA COMMON INTERIOR CORRIDOR.
3. LARGE MULTI-FAMILY BUILDINGS: HVAC UNITS TO BE LOCATED ON ROOF.
4. SMALL MULTI-FAMILY BUILDINGS: HVAC LOCATED IN 3RD LAYER.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

RIVER ROAD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
RIVER ROAD, Columbia, Tennessee

GREGORY C. GAMBLE REGISTERED LANDSCAPE ARCHITECT 1120-000298 11-20-23

Date: NOV. 20, 2023

Revision Date
△
△
△

SITE DEVELOPMENT PLAN
SHEET
C2.0

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: RIVER RD PROPERTY - SITE DEV. PLAN & PRELIM PLAT

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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TENNESSEE

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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 WAIVED. CDS

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 N/A

- ☐ 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:

Keli Frymire		11/21/2023
Print Name	Signature	Date

Rev. 6/7/2022

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

ADDRESS/LOCATION	River Road		
	TAX MAP: 90	GROUP:	PARCEL: 7.08
SUMMARY OF NATURE OF REQUEST AND WORK	Site Development Plan + Preliminary Plat for a +/-5.87 acre CD-5 Zoned property located on River Road at the intersection with Taylors Bend Rd. Plan includes 122 dwelling units in Townhomes, Small and Large Multi-Family buildings with associated civic spaces and parking.		

DATE OF PRE-APPLICATION CONFERENCE	10/04/2023	

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: Site Development Plan	**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 5.87 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

NAME	Greg Gamble - Gamble Design Collaborative	PHONE	615.975.5765
ADDRESS	3020 Stansberry Lane, STE 201, Franklin	EMAIL	info@gdc-tn.com

PROPERTY OWNER NAME	David Taylor	PHONE	
ADDRESS	3006 Knud Dr., Columbia TN	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.

Greg Gamble		11/20/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
David Taylor	Laura Taylor	11-16-23
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	

Villages at Carters Creek Commercial Rezoning

Project #:	23-0418	Location:	Tax Map 55 Parcel 22.03
Applicant:	Andrew Wiseman	Case Type(s):	Rezoning
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	Retail & Car Wash

PROJECT SUMMARY

The applicant requests to rezone an 3.97-acre portion of the Villages at Carter's Creek development located near the intersection Nashville Highway and Greens Mill Road to CD-4C (Urban Corridor Character District). The property is currently zoned as a Convenience Retail Services Planned Unit Development (CRS-PUD) approved under the previous zoning ordinance. City Council first approved the Master Plan in 2017. A revision was approved in 2021. The Master Plan includes the so-called "Citizen House at Spring Hill" apartment complex, the subject site, and a stormwater pond parallel to Nashville Highway. The Master Plan, approved under the previous ordinance, depicts three commercial buildings with restaurants and office space on the subject site. The multifamily portion of the property has been constructed. The applicant requests partial revocation of the Planned Unit Development Master Plan and rezoning to CD-4C.

- The request is consistent with Connect Columbia, the City's comprehensive plan.
- The concept plan generally indicates that it is possible to develop the site in conformity with the requested standards. Greater detail will be required at the time of any subsequent Site Development Plan.
- The Zoning Ordinance authorizes the Planning Commission to recommend revocation of a Preliminary PUD Master Plan upon a finding that circumstances have changed to such a degree that the landholder is unlikely to develop the site in conformity with the plan.
- If the Planning Commission recommends approval of the requested rezoning, the action should also recommend revocation of the PUD Master Plan for the subject site.
- Subsequent development and division of the property will require review and approval by the Planning Commission or the Zoning Administrator.
- The Planning Commission is a **recommending body** for rezoning requests.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

SITE INFORMATION

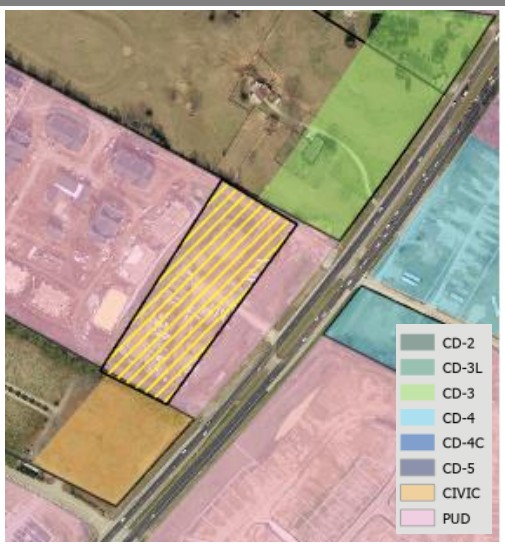
CURRENT ZONING	EXISTING USE	EXISTING IMP.	LAND AREA
OTHER PUD (CRS)	Vacant	Vacant	+/-3.97Acres



FUTURE LAND USE MAP



ZONING MAP



SITE CONTEXT/ADJACENT PROPERTIES			
	Future Land Use	Zoning	Current Use
Subject Property	Suburban Corridor	Other PUD (CRS)	Vacant
North	Suburban Corridor	CD-3	Single-Family
South	Suburban Corridor	CIVIC	Cemetery
East	Suburban Corridor	Other PUD (RM-1)	Townhomes
West	Suburban Corridor	Other PUD (CRS)	Multifamily

The subject property is spart of the Villages at Carter's Creek Planned Unit Development. The property enfronts Nashville Highway on the east. There is a single-family residence immediately north of the property. The property to the south is a cemetery. The property to the east across Nashville Highway is currently in development. It includes a mix of townhomes and single-family home sites. The property to the west is subject to the same PUD Master Plan. A multifamily apartment complex was recently constructed on the site.

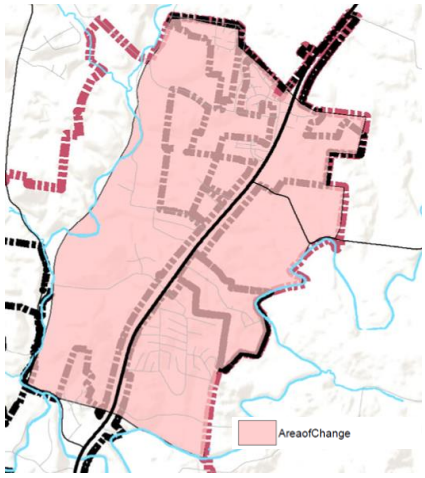
CONSISTENCY WITH CONNECT COLUMBIA

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 within 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).

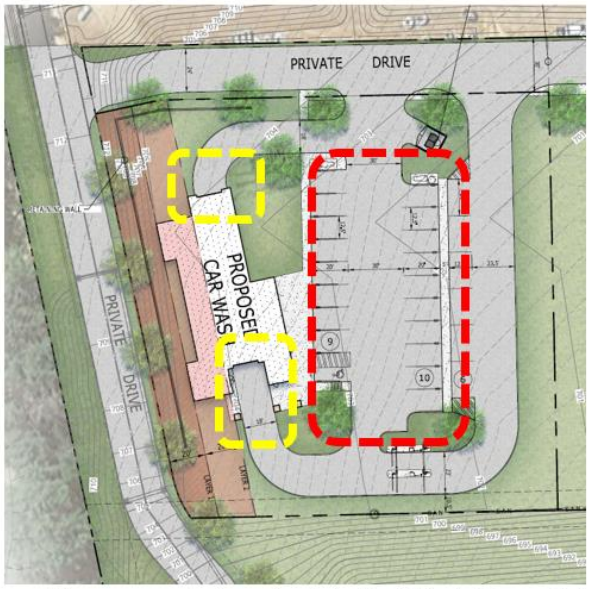


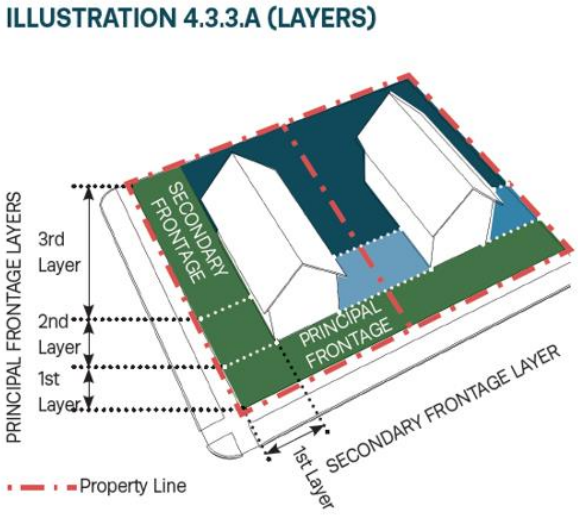
CONFORMITY WITH ZONING ORDINANCE

As required by **§ 8.5.19.F.3** of the Zoning Ordinance, the applicant 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 would be required to 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.

Lots, Building Sites & Bulk Standards

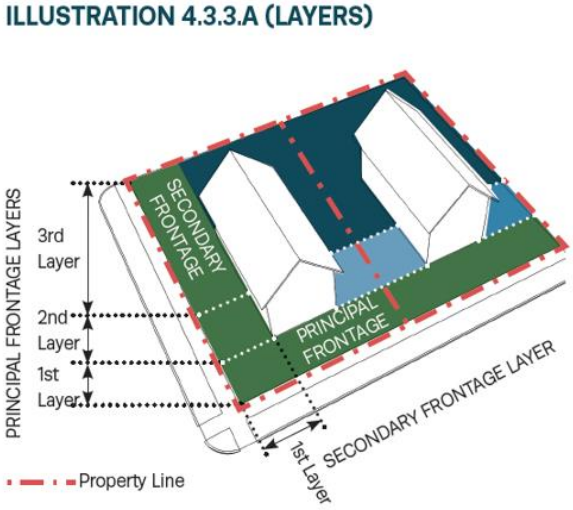
- **The concept plan depitcts building site layouts which generally conform to the CD-4C bulk standards listed in Table 4.3.1-E of the Zoning Ordinance.**
- **The current request establishes the applicable standards for future reviews. The concept plan is not a plan of development and approval of the rezoning request does not establish a vested right.**
- **Planning staff will determine conformity with the limited use standards of §4.3.9.E, the general development standards of Article 4, and the applicable Development Parcel Standards of Article 5 at the time of Site Development Plan approval.**
    - The concept depicts a car wash, and a convenience store with a gas canopy.
    - The Ordinance establishes site and limited use standards for the uses proposed in the concept.
    - Although many details need refinement, the plan demonstrates that it is possible to develop the site in conformity with the standards of the Ordinance.
        - **§ 4.3.9.E.6.f(3)** (p. 245) requires that "no wash bay shall face or be located in the 1st or 2nd Layer or the Frontage."
        - **§ 4.3.9.E.6.i(2)** (p. 246) and **§ 4.3.12.G** (p. 284) require that drive-through facilities, including car wash operations, be located in the third layer of any building site.
        - **§ 4.3.9.E.6.l** (p. 247) requires that fuel pumps be located at least 15' from any property line and in the third layer. The limited use standards also limit each fuel sales operation to a maximum of eight pumps.





The concept plan depicts Car Wash Bays, Drive-through elements and parking in the third layer (provided the "private drive" is not considered an Internal Drive).

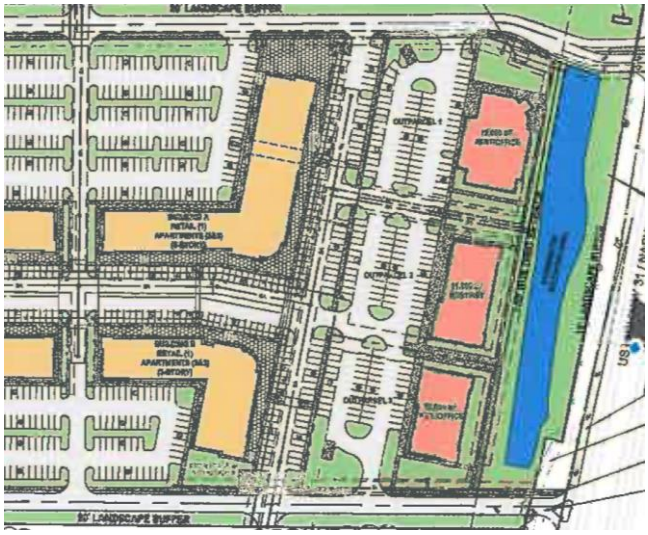




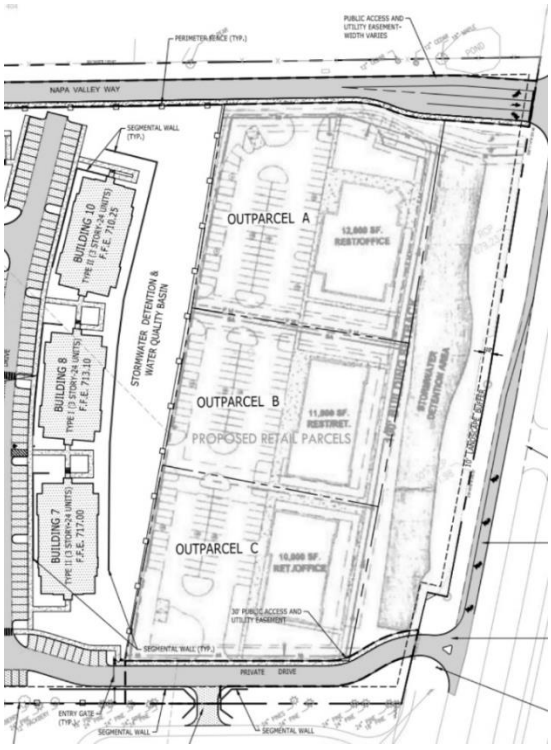
The concept plan depicts the fuel canopy and parking in the third layer (provided the "private drive" is not considered an Internal Drive).

- **The current Master Plan establishes entitlements for the site and provides a detailed predictability in how the property can develop. However, any change in concept requires onerous PUD revisions.**

- **Rezoning the property establishes clear standards for the site under a variety of development scenarios and eliminates the need for the applicant and Planning Commission to repeatedly revisit the Master Plan. However, CD-4C permits a wide range of uses and physical configurations.**



2017 Master Plan



2021 Revised Master Plan



Concept Plan Demonstrating CD-4C Development

REVIEW PROCESS

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

Section **8.5.19** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the Official Zoning Map. The Planning Commission is the recommending body for rezonings under **§ 8.3.3.B.3** of the Zoning Ordinance.

Section **8.5.19.H.4** of the Zoning Ordinance establishes the review criteria for approval of all changes to the Official Zoning Map:

a. *The Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area;*
b. *It has been determined that the legal purposes for which zoning exists, as set forth in Section 1.5 [, are not contravened];* [1]
c. *It has been determined that there will be no adverse effect upon Adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;*
d. *It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public;*
e. *It has been determined that conditions affecting the area have changed to a sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake;*
f. *It has been determined that adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available*

Section **8.5.21.R** of the Zoning Ordinance authorizes the Planning Commission to recommend revocation of a Preliminary PUD Master Plan upon a finding that circumstances have changed to such a degree that the landholder is unlikely to develop the site in conformity with the plan.

[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."

SUMMARY OF DEVELOPMENT REVIEW COMMITTEE COMMENTS

The DRC reviewed this proposal at its December 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** directed the applicant to provide a narrative response to criterion at **§ 8.5.19.H.4(e)** explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
- Planning also advised the applicant that the City Council recently denied a similar request. Staff asked the applicant to distinguish the unique circumstances which support rezoning of the subject parcel.
- Utility providers indicated willingness and capacity to serve . Some included standard caveats about the impact of supply chain disruption on the ability to establish services.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

The requested CD-4C zoning is consistent with Connect Columbia; removing the PUD designation may facilitate orderly development of the site. The subject site's future land use classification is Suburban Corridor. The classification is implemented by CD-4C and PUDs. The applicant has demonstrated that the site can develop under the only implementing character district. The CD-4C standards are highly prescriptive. The prescriptions of the Ordinance ensure a high-quality appearance of all structures as well as performance standards for uses established on the site. However, the CD-4C zoning permits a wide range of uses which and physical configurations which may differ from the concept provided by the applicant.

The current Master Plan establishes entitlements for the site and provides a detailed predictability in how the property can develop. However, any change in concept requires onerous PUD revisions. Abandoning the Master Plan in favor of a new concept will likely require the Planning Commission to evaluate a long list of deviations from the PUD-MU standards. The discretionary nature of the approval process could delay development of the site and negate the predictability of the PUD.

Rezoning the property establishes clear standards for the site under a variety of development scenarios and eliminates the need for the applicant and Planning Commission to repeatedly revisit the Master Plan. The applicant posits that the highly prescriptive PUD-MU standards remove flexibility. According the applicant, circumstances warrant market-driven uses of the property which differ from the existing entitlement. However, the Planning Commission may determine that the mix of office and restaurant uses arranged in three buildings remains the most appropriate development scenario for the property.

SAMPLE 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 **8.5.19.H** and **8.5.21.R** of the City of Columbia Zoning Ordinance have been satisfied and recommend partial revocation of the existing Master Plan and approval of the proposed rezoning *[, subject to technical comments and other conditions presented by planning staff*].

Approve Subject to Conditions:

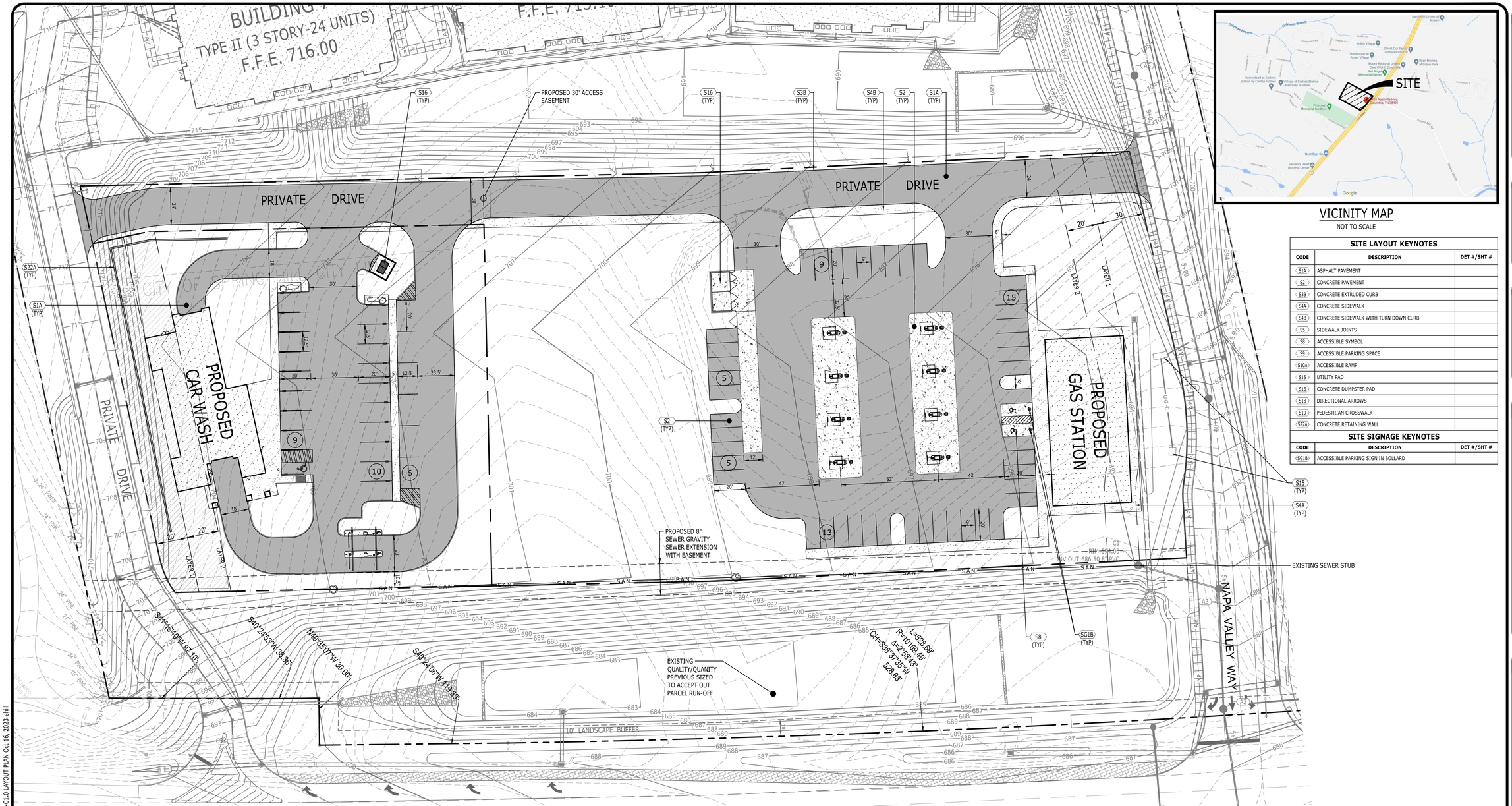
Move to find, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** and **8.5.21.R** of the City of Columbia Zoning Ordinance have been satisfied and recommend partial revocation of the existing Master Plan and approval of the proposed rezoning, subject to the following conditions: [*list conditions of approval crafted by Planning Commission*].

Deny:

Move to recommend denial of the requested rezoning having found, based on the information presented by the applicant and the analysis provided by city staff, that the criteria listed in section **8.5.19.H** and **8.5.21.R** 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 decide, 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.



VICINITY MAP

NOT TO SCALE

SITE LAYOUT KEYNOTES

CODE	DESCRIPTION	DET #/SHT #
S1A	ASPHALT PAVEMENT	
S2	CONCRETE PAVEMENT	
S3B	CONCRETE EXTRUDED CURB	
S4A	CONCRETE SIDEWALK	
S4B	CONCRETE SIDEWALK WITH TURN DOWN CURB	
S5	SIDEWALK JOINTS	
S8	ACCESSIBLE SYMBOL	
S9	ACCESSIBLE PARKING SPACE	
S10A	ACCESSIBLE RAMP	
S15	UTILITY PAD	
S16	CONCRETE DUMPSTER PAD	
S18	DIRECTIONAL ARROWS	
S19	PEDESTRIAN CROSSWALK	
S22A	CONCRETE RETAINING WALL	

SITE SIGNAGE KEYNOTES

CODE	DESCRIPTION	DET #/SHT #
SG1B	ACCESSIBLE PARKING SIGN IN BOLLARD	

SITE DATA

TAX MAP:	50
PARCEL ID.:	051 02203 000
SITE ADDRESS:	2425 NASHVILLE HIGHWAY COLUMBIA, TN, 38401
SITE AC. PROPOSED GAS STATION:	2.77 AC. (120,510 FT²)
SITE AC. PROPOSED CAR WASH:	1.20 AC. (52,419 FT²)
	3.97 AC. TOTAL
EXISTING ZONING:	PUD
PROPOSED ZONING:	CP-4C SUBURBAN CORRIDOR CHARACTER DISTRICT
LOT OCCUPATION:	HOUSE 38' MIN. IF ALLEY LOADED GARAGE AT REAR, OTHERWISE 50' MIN. DUPLEX: 30' FT MIN. FOR EACH UNIT OF DUPLEX TOWNHOUSE: FOR TOWNHOUSES WITH EACH UNIT ON ITS OWN LOT OR BUILDING SITE: 18 - 36 FT, FOR SINGLE TOWNHOUSE UNIT ATTACHED TO OTHER TOWNHOUSE UNITS X 8 MAX. ATTACHED TOWNHOUSE UNITS FOR MULTIPLE TOWNHOUSES ON A SINGLE LOT OR BUILDING SITE: 18 20 FT PER TOWNHOUSE UNIT X 6 MAX ATTACHED TOWNHOUSE UNITS LARGE SCALE COMMERCIAL: 600 FT. MAX. ALL OTHER BUILDING TYPES: 18 FT MIN. - 200 FT MAX.
FRONT BUILDOUT:	60% MIN. EXCEPT COMMERCIAL 40% MIN.
LOT / BUILDING SITE AREA:	NR
LOT / BUILDING SITE ENFRONTMENT:	MUST ENFRONT A VEHICULAR THOROUGHFARE OR INTERNAL DRIVE, EXCEPT < 20% OF THE LOTS OR BUILDING SITES WITHIN EACH TYPE OF CHARACTER DISTRICT OF A DEVELOPMENT PARCEL MAY ENFRONT A PEDESTRIAN PATH PASSAGE, PEDESTRIAN WALKWAY OR WATER BODY IF SUCH LOTS HAVE LEGAL AND PHYSICAL VEHICULAR ACCESS TO A VEHICULAR THOROUGHFARE VIA DRIVEWAY OR EASEMENT.
LOT / BUILDING SITE ACCESS:	ALL LOTS MUST HAVE LEGAL AND PHYSICAL VEHICULAR ACCESS TO A VEHICULAR THOROUGHFARE VIA DRIVEWAY OR EASEMENT.

SETBACK / YARDS:

SETBACK / YARDS - PRINCIPAL BUILDING	
FRONT SETBACK / YARD PRINCIPAL FRONTAGE:	6 FT. MIN. - 40 FT. MAX.
FRONT SETBACK / YARD SECONDARY FRONTAGE:	6 FT. MIN. - 40 FT. MAX.
SIDE SETBACK / YARD, EACH SIDE:	0 FT. MIN. PER SIDE
REAR SETBACK:	3 FT. MIN.; 15 FT. MIN. FROM CENTER LINE OF REAR ALLEY
SETBACK / YARDS - ACCESSORY BUILDING	
FRONT SETBACK / YARD PRINCIPAL FRONTAGE:	20 FT. MIN. BEHIND PRINCIPAL BUILDING FRONTAGE
FRONT SETBACK / YARD SECONDARY FRONTAGE:	5 FT. MIN.
SIDE SETBACK / YARD, EACH SIDE:	5 FT. MIN.
REAR SETBACK:	3 FT. MIN.; 5 FT. MIN. IF GARAGE DOOR FACES REAR ALLEY

IMPERVIOUS SURFACE AREA GAS STATION:

BUILDINGS:	0.12 AC. (5,302 FT²)
DRIVES/SIDEWALKS:	1.43 AC. (62,582 FT²)
TOTAL PROPOSED IMPERVIOUS AREA:	1.55 AC. (67,384 FT²)
PROPOSED ISR:	0.56 (67,384 FT² / 112,777 FT²)

IMPERVIOUS SURFACE AREA CAR WAS:

BUILDINGS:	0.11 AC. (4,718 FT²)
DRIVES/SIDEWALKS:	0.60 AC. (26,343 FT²)
TOTAL PROPOSED IMPERVIOUS AREA:	0.71 AC. (31,061 FT²)
PROPOSED ISR:	0.59 (31,061 FT² / 52,419 FT²)
ALLOWED ISR:	80% MAX.

OWNER:	ENDEAVOR REAL ESTATE GROUP
ADDRESS:	500 WEST 5TH STREET, STE. 700 AUSTIN, TX, 78701
PHONE NO.:	512.532.2180
CONTACT NAME:	NELSON CROWE
CONTACT E-MAIL ADDRESS:	NCROWE@ENDEAVOR-RE.COM

PROJECT REPRESENTATIVE:	CATALYST DESIGN GROUP
ADDRESS:	5100 TENNESSEE AVENUE NASHVILLE, TN 37209
PHONE NO.:	615.622.7200
CONTACT NAME:	ANDREW WISEMAN
CONTACT E-MAIL ADDRESS:	AWISEMAN@CATALYST-DG.COM

PARKING SUMMARY

PARKING RQD GAS STATION:	1 PER 200 S.F. (5,302 S.F. / 200 S.F.) = 27 SPACES
PARKING REQUIRED CAR WASH:	1 PER 500 S.F. (4,718 S.F. / 500 S.F.) = 10 SPACES

PARKING PROPOSED

GAS STATION	47 SPACES (2 ACCESSIBLE)
CAR WASH	26 SPACES (1 ACCESSIBLE)

LEGEND

BUILDING	
CONCRETE PAVEMENT	
CONCRETE SIDEWALK	
HEAVY DUTY PAVEMENT	
LIGHT DUTY PAVEMENT	
PAINTED STRIPE	
CONCRETE CURB	

N

0 15 30 60 90

GRAPHIC SCALE

CATALYST DESIGN GROUP
5100 TENNESSEE AVENUE, NASHVILLE, TN 37209
(615) 622-7200 | WWW.CATALYST-DG.COM

ENDEAVOR REAL ESTATE GROUP
500 WEST 5TH STREET, ST. 700
AUSTIN, TX 78701
512.532.2180

PRELIMINARY SITE PLAN FOR REZONING

RETAIL PARCEL

2425 NASHVILLE HIGHWAY
COLUMBIA, MAURY COUNTY, TENNESSEE, 38401

NO.	DATE	DESCRIPTION

DRAWING TITLE

SCHEMATIC LAYOUT

PROJECT NUMBER
20210055

DRAWING NUMBER
C1.0

P:\2021\20210055\dwg\Construction\Retail Out Parcels\ref\20210055_C1-0_LAY.dwg-C1.0 LAYOUT PLAN Oct 16, 2023 ehill

BUILDING 7
TYPE II (3 STORY-24 UNITS)
F.F.E. 716.00

F.F.E. 715.10

PROPOSED 30' ACCESS EASEMENT

DUMPSTER PAD

PRIVATE DRIVE

PRIVATE DRIVE

RETAINING WALL

PROPOSED CAR WASH

PROPOSED GAS STATION

DUMPSTER PAD

LAYER 1

LAYER 2

STORMWATER

10' LANDSCAPE BUFFER

NAPA VALLEY WAY

NASHVILLE HIGHWAY
(HIGHWAY 31)
(PUBLIC R.O.W. VARIES)

CURB CUT

GREEN MILLS

N

0 15 30 60 90
GRAPHIC SCALE

P:\20212\20210055\dwg\Construction\Retail Out Parcels\Xref\20210055_C1-0_LAY.dwg-C2.0 RENDER Oct 16, 2023 ehill

Catalyst DESIGN GROUP
5100 TENNESSEE AVENUE, NASHVILLE, TN 37209
(615) 622-7200 | WWW.CATALYST-DG.COM

ENDEAVOR REAL ESTATE GROUP
500 WEST 5TH STREET, ST. 700
AUSTIN, TX 78701
512.532.2180

PRELIMINARY SITE PLAN FOR REZONING

RETAIL PARCEL

2425 NASHVILLE HIGHWAY
COLUMBIA, MAURY COUNTY, TENNESSEE, 38401

NO.	DATE	DESCRIPTION

DRAWING TITLE

RENDERED LAYOUT

PROJECT NUMBER
20210055

DRAWING NUMBER
C2.0

December 15, 2023
Kevin McCarthy
City of Columbia
800 Second Avenue South
Nashville, TN, 37219

Re: Item 23-0418 Project 2425 Nashville Hwy - Villages at Carters Creek at 051 022.03
Comment Response
Columbia, TN

Kevin,

Please see the below responses to your initial technical review comments for the Final Site Plan application for Villages at Carter's Creek, Commercial out parcel rezoning received on December 13th. Please let this letter serve as response as no comments are perceived to require concept plan revisions.

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
   Response: Noted.
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, please simply not that the information has been acknowledged.
   Response: Provided.
3. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
   Response: Please find the below reasoning for section 8.5.19.H.4 in its entirety.
   a. The Rezoning is consistent and not in conflict with the Comprehensive Plan or other applicable approved local plans for the area; CD-4C is consistent with the Comprehensive Plan
   b. It has been determined that the legal purposes for which zoning exists, as set forth in Section 1.5; Give the consistency with the Comprehensive Plan and current entitlement we feel that these conditions are met.
   c. It has been determined that there will be no adverse effect upon Adjoining property owners unless such effect can be justified by the overwhelming public good or welfare; With the completion of the apartment complex, we feel that there would be little affect to neighboring property owners given the reduction in scale of the proposed commercial product proposed from the original PUD request and likely to result in a reduction in trips generated. Given the substantial improvements made to site access with new signalization and turn lane improvements the site has presumably increased traffic safety it the main entrance to the property.
   d. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public; Because the site is already approved for ±30,000 square feet of commercial within the existing PUD it is not perceived

that any material benefit is made by any one property owner, as substantial public street improvements were made based on current approvals.

e. It has been determined that conditions affecting the area have changed to a sufficient to warrant the Zoning Map Amendment or that the existing zoning of the property was the result of a mistake. With the completion of the apartment complex, new signalization and projected proposed projects in the area a different scale of commercial use is being market driven. As an unexpected consequence of the updated zoning ordinance for PUD development that any revision would have to adhere to there is little flexibility in the commercial product to meet the intent of the new PUD standards.

f. It has been determined that adequate school, road, parks, wastewater treatment, water supply, and stormwater drainage facilities are available. Given capacity and will serve letters provided for public water and sewer the proposed development would actually reduce impacts to infrastructure from current entitlements. Also, because this is a commercial intended rezoning, the impact to schools would be minimal. Additionally, with the overall development accounted for the additional stormwater contributed by these retail out parcels and traffic improvements were made.

4. Please be advised that the City Council recently decline a similar rezoning request. The applicant's responses to the criteria at 8.5.19 will need to distinguish the unique circumstances which support rezoning of the subject parcel.
   Response: See above and additional narrative here. After reviewing the video from the Council hearing referenced, we feel that this particular request differs from the scale and location of that request. We are requesting rezoning of ±3 acres (as opposed to 11 acres at the head of a mostly SF residential neighborhood) of a planned commercial development within the existing PUD to a CD-4C as to be more consistent with current market driven scale of desired development. Due to the recent updated to the PUD requirements of the new zoning ordinance, impactful changes would be required under this ordinance for example a 2 story development requirement which is inconsistent with the scale of commercial business that would be attracted to these size properties. The underlying fact remains CD-4C provides flexibility in the design of the commercial nature of the property given its proximity and visibility to Nashville highway as intended by the comprehensive plan and updated accessibility with the improved intersection.

Engineering

5. No comments on rezoning.
   Response: Noted.
6. TIS update will be required for updated uses with development plan.
   Response: Noted.

Columbia Power

7. 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.

Response: Noted.

8. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
   Response: Noted.

Public Works

9. Please reference attached City of Columbia Dumpster Guidelines & Accessibility
   Response: Noted to be provided at Development Plan.

Columbia Water

10. A water availability letter was issued on November 7, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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: Noted

CPWS BB

11. CPWS plans to serve the site with broadband.
    Response: Noted

Wastewater

12. Wastewater has no concerns.
    Response: Noted

No comments were provided by Atmos Energy, Maury County Highway Dept., ATT, Maury County E911, Building, Fire, Maury County Schools, or Duck River Electric Membership Corp.

Response: Noted

Best Regards,

Catalyst Design Group



Andrew Wiseman, PE
Principal | Project Manager

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, December 12, 2023

ITEM NO.
23-0418

DESCRIPTION: Rezone request to cancel existing PUD and rezone to CD-4C.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Engineering

1. No comments on rezoning.
2. TIS update will be required for updated uses with development plan.

Building

3. No comments.

Police

4. No comments provided.

Columbia Power

5. 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

Public Works

6. Please reference attached City of Columbia Dumpster Guidelines & Accessibility Requirements to ensure easy access for front load garbage trucks.

Something Good Around Every Corner
Public Works 110 Santa Fe Pike Columbia, Tennessee 38401 Phone 931.388.8650
This institution is an equal opportunity provider.

PUBLIC WORKS DEPARTMENT

DUMPSTER GUIDELINES AND ACCESSIBILITY REQUIREMENTS

DUMPSTER AND COMPACTOR STANDARDS

GENERAL

All requirements for collection and accessibility to containers apply, regardless of whether collection is public or private.

GUIDELINES FOR DUMPSTERS

The number and capacity of dumpsters must be adequate to serve the disposal needs of the business, development or complex. Collection must occur at least one time per week, with special approval needed for every other week (EOW) collection. Each dumpster must be easily accessible, as determined by the Public Works Department, and of a size compatible with equipment of the department. If the dumpster is in an enclosed area, there must be at least 2 feet
and 6 inches of clearance on each side of the dumpster.

DUMPSTER PAD REQUIREMENTS

1. The concrete dumpster pad shall be at least 12 feet by 12 feet.
2. The pad(s) shall be 8-inch-thick concrete, reinforced with rebar to support a 30-ton loadbearing capacity.
3. A 14-foot-wide by 40-foot-long straight and clear access approach to each dumpster for the truck is required.
4. Clearance at each side of the dumpster must be at least 2 feet and 6 inches.
5. If a gated enclosure is utilized, the gates must be lockable in the open position to prevent the gates from swinging into the path of the truck during servicing.

Something Good Around Every Corner
Public Works 110 Santa Fe Pike Columbia, Tennessee 38401 Phone 931.388.8650
This institution is an equal opportunity provider.

6. Two 6-inch diameter concrete filled steel bollards must be placed in the concrete pad to the rear of each dumpster, 2 feet from the back edge of the dumpster pad, spaced 4 feet apart and centered side to side. The bollards will rise 6 feet above the pad and extend 32 inches below the pad into the concrete footers.
7. If the box is enclosed, it is recommended that there be pedestrian access in addition to service gates.
8. Access area, approach and pad must be level.
9. Standard pads with no drain should be elevated approximately 1-1/2 inches above the surrounding pavement.

ACCESSIBILITY REQUIREMENTS FOR DUMPSTERS AND COMPACTORS

1. Access must accommodate a 40-foot-long truck, with a 45-foot turning radius. Circular through movement through the complex for the vehicles is highly recommended.
2. The collection truck shall not be required to back-up for no more than 200 feet.
3. No backing into or across a public right-of-way.
4. No overhead obstructions at waste handling or access area. Refuse collection trucks need a minimum of a 25-foot vertical clearance to service containers.
5. Heavy duty pavement is required for the collection truck's path through the complex. City of Columbia Public Works will not be responsible for the repair of asphalt or

concrete which has been damaged due to normal usage.
6. Gates must be unlocked and open for collection.

ATT

7. No comment.

Maury County E911

8. No comment.

Planning

9. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
10. Please provide a narrative response to criterion 8.5.19.H.4(e) explaining why the applicant believes conditions affecting the area have changed sufficiently to warrant the Zoning Map Amendment.
11. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, please simply not that the information has been acknowledged.

Wastewater

12. Wastewater has no concerns.

Fire

13. No comments

Maury County Schools

14. No Comment

Duck River Electric Membership Corp

15. No comments.

Columbia Water

16. "A water availability letter was issued on November 7, 2023, it remains 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 detailed in the availability letter are the responsibility of the developer/owner. All public 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."

Atmos Energy

17. No comments provided.

Maury County Highway Dept.

18. No comments provided.

CPWS BB

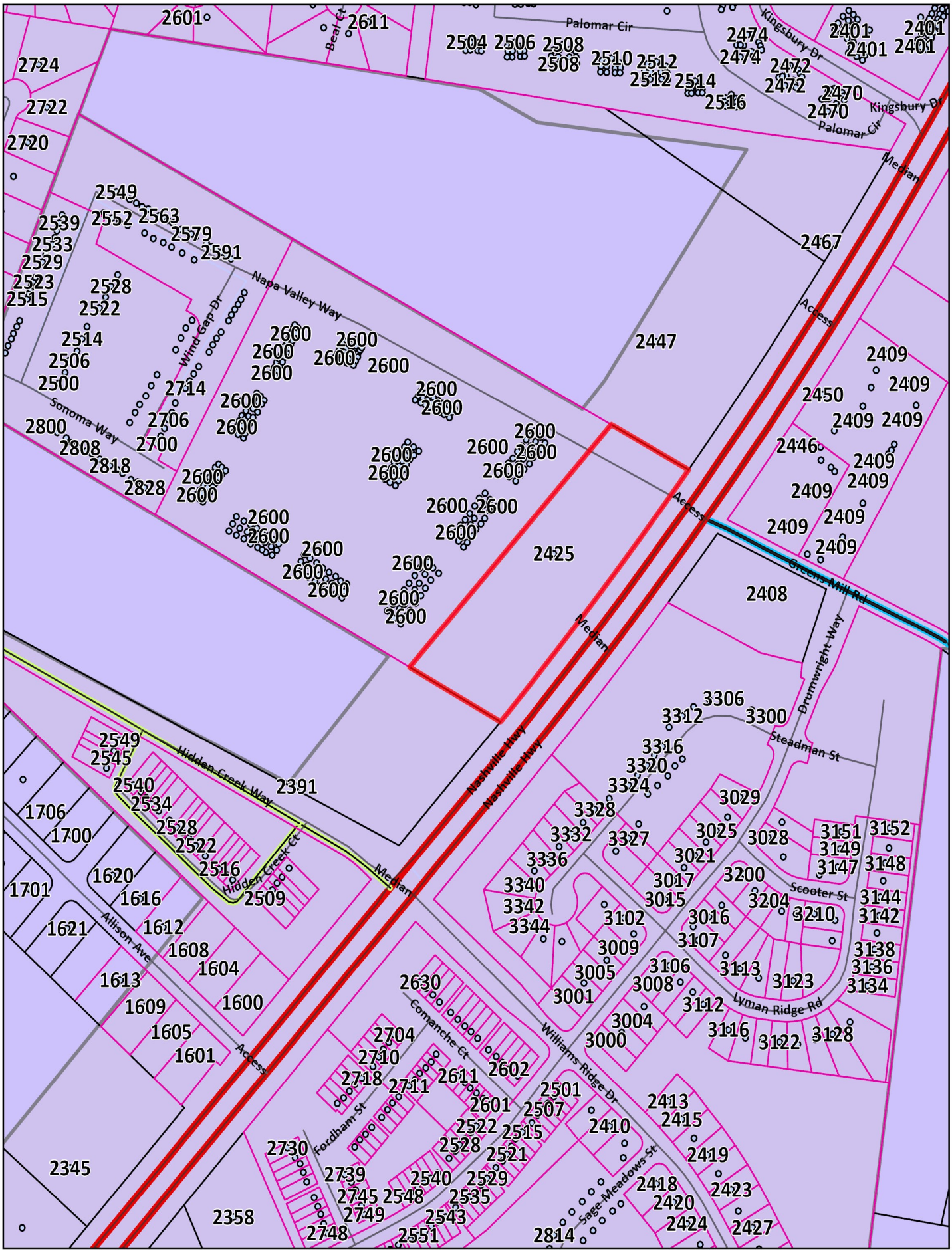
19. Plan to serve.

ATTACHMENTS: PUD Master Plan, 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.

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	638	91.1%
	Brown	1968	56,720	20	405	361	89.1%
	Highland	1986	47,800	4.5	380	301	79.2%
	Howell	1999	81,600	17.5	700	594	84.9%
	Mt. Pleasant	1978	80,021	22	630	583	92.5%
	Riverside	1984	71,150	14	500	407	81.4%
	Spring Hill	1984	69,000	10	540	450	83.3%
	Woodard	1990	76,200	17	600	559	93.2%
	Wright	2005	97,765	18	740	598	80.8%
					5535	***4816***	***87.0%***
Middle	Battle Creek	2019	125,000	45	900	726	80.7%
	Cox	1997	137,200	25	900	655	72.8%
	Mt. Pleasant	2001	113,938	29.2	550	426	77.5%
	Spring Hill	2010	158,106	39.49	950	534	56.2%
	Whitthorne	1979	175,600	17	1050	963	91.7%
					4350	***3304***	***76.0%***
High	Central	2016	296,740	55	1700	1396	82.1%
	Mt. Pleasant	1969	110,759	31	600	389	64.8%
	Spring Hill	1993	181,800	57	1200	1238	103.2%
					3500	***3023***	***86.4%***
Unit	Culleoka	1969	205,800	34	1020	875	85.8%
	Hampshire	1978	83,410	13.12	500	411	82.2%
	Santa Fe	1964	94,225	24	650	509	78.3%
					2170	***1795***	***82.7%***
Other	Central Office	1960	15,400	1.5			
	College Hill	1958	42,211	2.26		167	
	Maintenance	1987	9,400	4.7			
	McDowell		46,165	7			
			2,509,930	**550.27**	**15555**	**13105**	



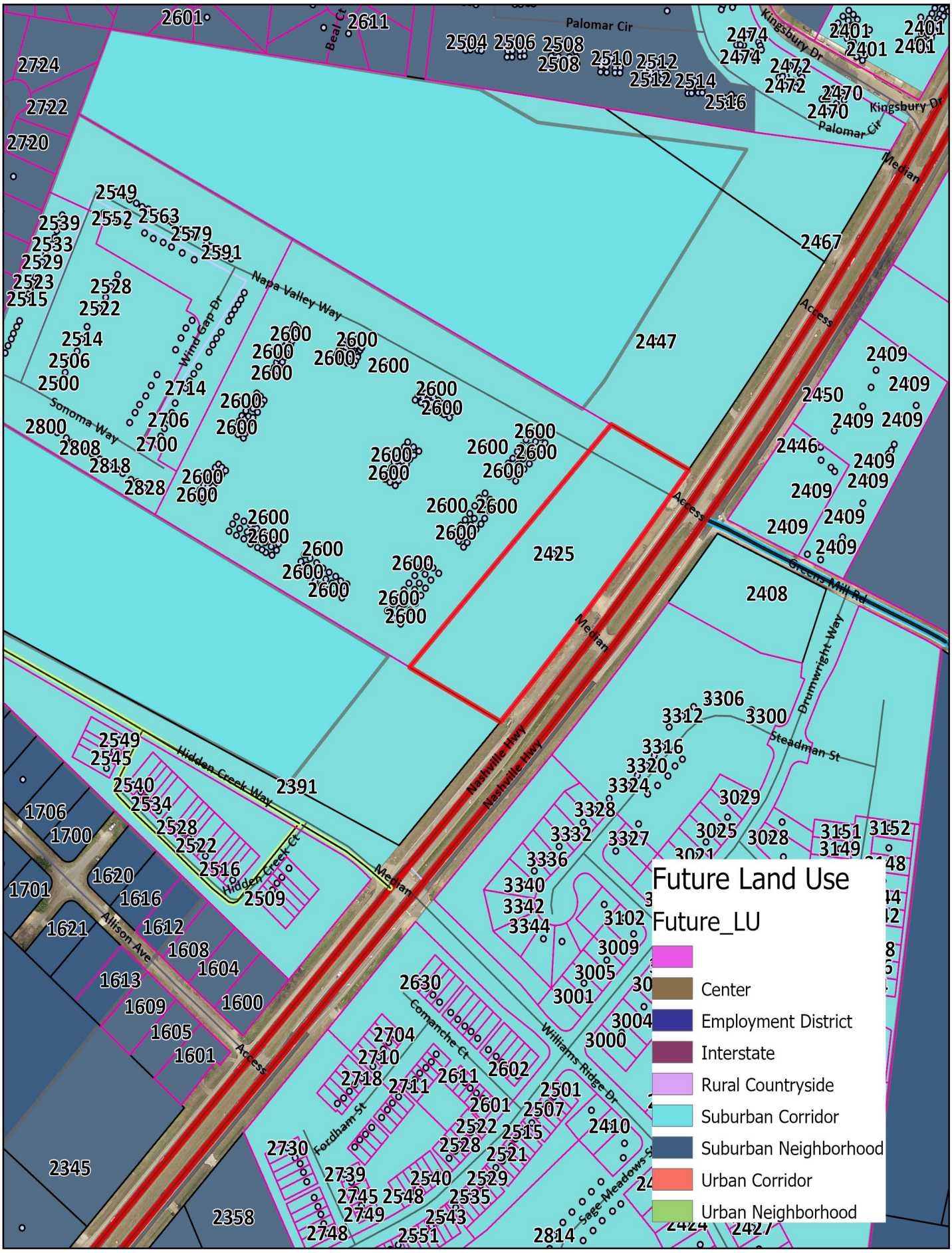
23-0418

2425 Nashville Highway

Area of Change

CITY OF COLUMBIA TENNESSEE

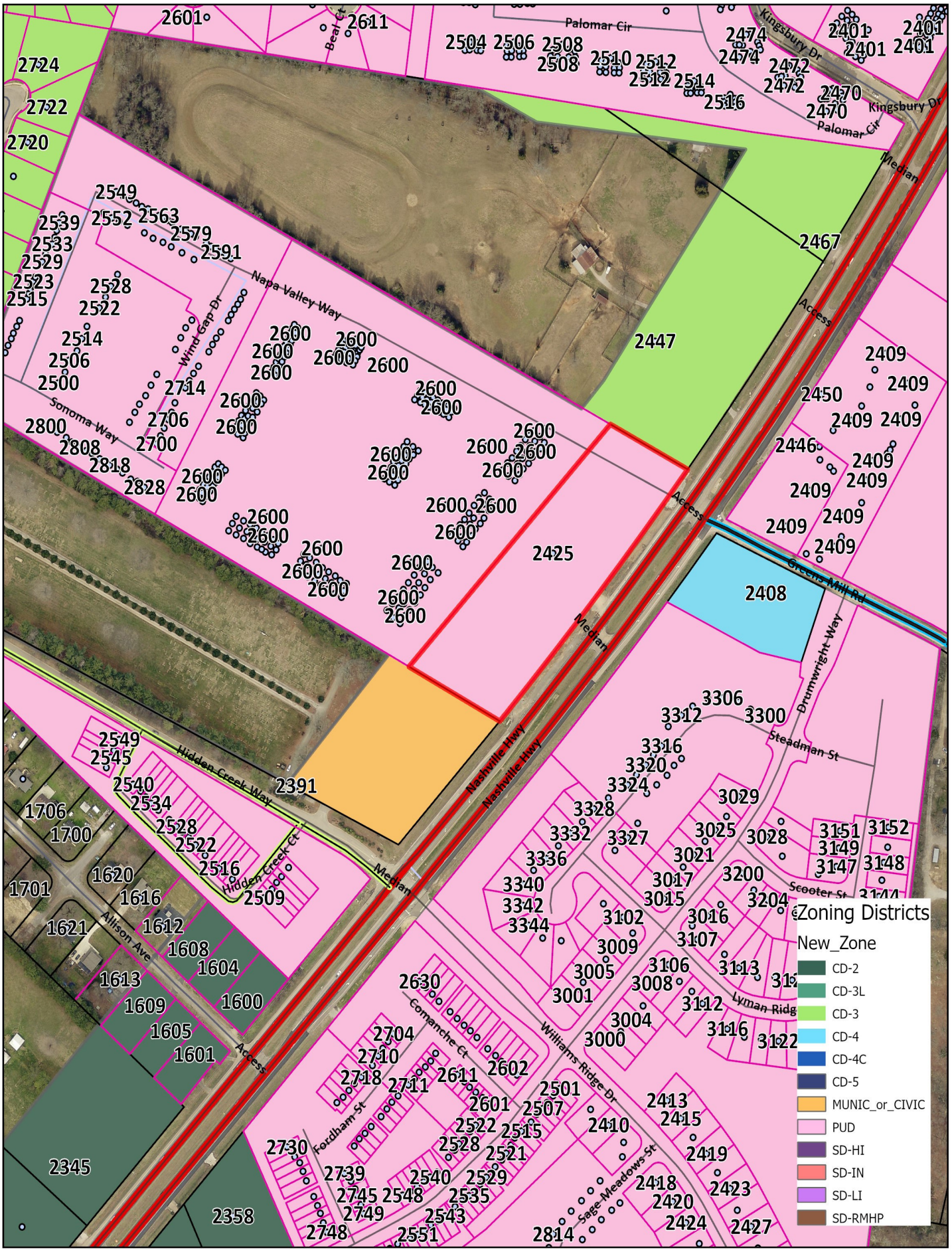
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MAY 2017

TRAFFIC IMPACT STUDY

VILLAGE AT CARTER'S STATION
NASHVILLE, TENNESSEE

PREPARED FOR:
MARTIN CONSULTING AND ENGINEERING, LLC

Transportation Consultants, LLC

1101 17TH AVENUE SOUTH
NASHVILLE, TENNESSEE 37212

TRAFFIC IMPACT STUDY
VILLAGE AT CARTERS STATION
NASHVILLE, TENNESSEE

PREPARED FOR:
MARTIN CONSULTING AND ENGINEERING, LLC



PREPARED BY:
RPM TRANSPORTATION CONSULTANTS, LLC
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EXECUTIVE SUMMARY

Project Description

The proposed Village at Carter's Station mixed-use development is located in Columbia, Tennessee, at the intersection of Nashville Highway and Greens Mill Road. The proposed development is located in an area that is predominately rural and characterized by low density land uses and farmland. According to the civil engineer for the project, Martin Consulting and Engineering, the development consists of approximately 181 apartment units, 108 townhome units, 9,300 square feet of office space, 68,300 square feet of specialty retail space, and 9,300 square feet of restaurant space.

Access to the project will be provided by two accesses on Nashville Highway. The northern proposed Site Access 1 on Nashville Highway is planned to be aligned with Greens Mill Road, and the southern proposed Site Access 2 is planned to be right-in/right-out and located approximately 600 feet south of the Site Access 1. Surface parking is planned to accommodate the development.

Data Collection

In order to provide data for the traffic impact analysis, manual traffic counts were conducted at the following unsignalized intersections:

- Nashville Highway and Greens Mill Road
- Nashville Highway and Arden Village Drive/Grove Park Way
- Nashville Highway and Old Highway 31 North
- Old Highway 31 North and Carters Creek Road

Specifically, RPM Transportation Consultants, LLC, conducted the traffic counts from 7:00 – 9:00 AM and 4:00 – 6:00 PM on a typical weekday in May 2017 while schools were in session. From the counts, it was determined that the peak hours of traffic flow for the study intersections occurred from 7:15 – 8:15 AM and 4:45 – 5:45 PM.

Projection of Future Traffic Volumes

In order to account for the traffic growth prior to the completion of the proposed project, background traffic volumes were established, which includes general background traffic growth. Then the estimated project-generated traffic volumes were

added to the background peak hour traffic volumes in order to obtain the total projected peak hour traffic volumes for the study area intersections.

Conclusions and Recommendations

The analyses presented in this study indicate that the impacts of the proposed Village at Carter's Station mixed-use development 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 recommendations are as follows:

- Site Access 1 should be designed to include sufficient width for one entering lane and two exiting lanes. The exiting lanes should be striped to provide an exclusive left turn lane and a shared through/right turn lane.

- A traffic signal should be installed at the intersection of Nashville Highway and Site Access 1/Greens Mill Road based on satisfaction of traffic signal warrants. Protected left turn phasing should be implemented for the northbound and southbound approaches. This signal is projected to be warranted upon completion of approximately 60% of the Village at Carter's Station development. Because the warrant analysis is based on projected traffic volumes, it is recommended that updated signal warrant analysis be conducted at approximately the 60% development level of the Village at Carter's Station to determine if actual traffic volumes meet the signal warrants.

- An exclusive right turn lane with approximately 140 feet of storage should be provided on the southbound approach of Nashville Highway at Site Access 1, as shown in the site plan.

- An exclusive left turn lane with approximately 200 feet of storage should be provided on the northbound approach of Nashville Highway at Site Access 1, as shown in the site plan.

- Site Access 2 should be designed as a Right-In-Right-Out (RIRO) access and should include sufficient width for one entering lane and one exiting lane. The eastbound approach should be stop controlled. This access is necessary due to the size of the development.

- Install one Right Turn Only (R3-5R) sign on the south side of Site Access 2 at the eastbound approach of Site Access 2 at Nashville Highway.

- An exclusive right turn lane with approximately 260 feet of storage should be provided on the southbound approach of Nashville Highway at Site Access 2, as shown in the site plan.

- The existing median break, located approximately 150 feet north of Site Access 2, should be closed.

- Due to its proximity, the existing cemetery access on the southeast area of the project site should either be closed or consolidated with the proposed southern Site Access 2

1. INTRODUCTION

The purpose of this study is to analyze the traffic impacts and access plan associated with the proposed Village at Carter's Station development located in the Columbia, Tennessee, at the intersection of Nashville Highway and Greens Mill Road. According to the civil engineer for the project, Martin Consulting and Engineering, the development consists of approximately 181 apartment units, 108 townhome units, 9,300 square feet of office space, 68,300 square feet of specialty retail space, and 9,300 square feet of restaurant space. It was assumed that the development would be completed by 2020, which is a three-year horizon.

The Village at Carter's Station development is planned to be located on the west side of Nashville Highway. The property is bounded on the east by Nashville Highway, on the south by a cemetery, and on the north and west by vacant land.

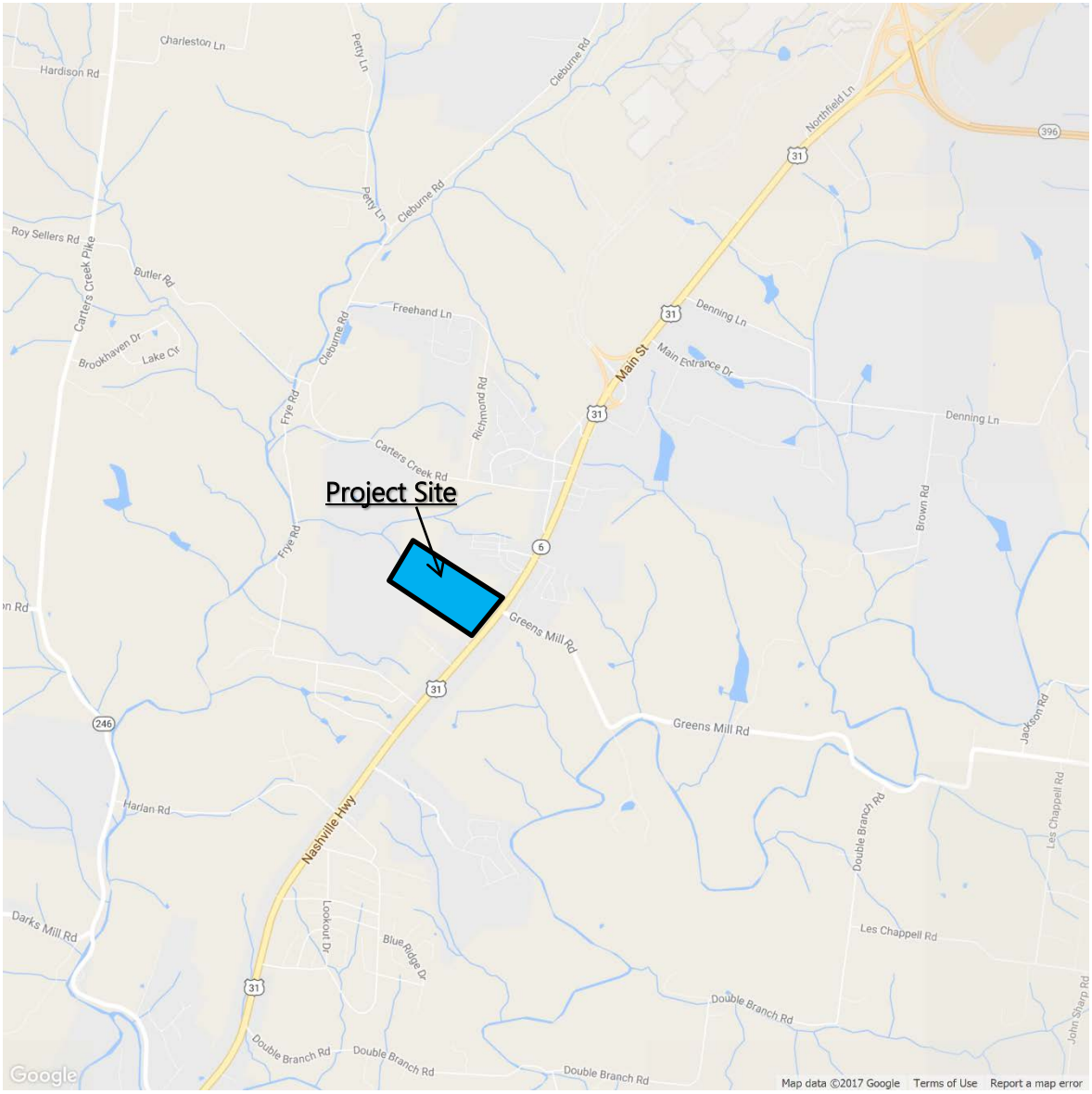
In this study, the current operating characteristics of the adjacent roadways and intersections in the vicinity of the project site are evaluated. The expected trips generated by the proposed development are determined and distributed to the roadway network. The adjacent roadways and intersections are then reevaluated to determine the anticipated traffic impacts of the project. Finally, recommendations are presented, including roadway improvements and/or traffic control improvements that are needed to accommodate the expected traffic.

2. PROJECT DESCRIPTION

The proposed Village at Carter's Station development is located in Columbia, Tennessee, at the intersection of Nashville Highway and Greens Hills Road. The project site is located on the west side of Nashville Highway. As shown in Figure 1, the project site is bounded on the east by Nashville Highway, on the south by a cemetery, and on the west and north by vacant land. The proposed development is within an area that is predominantly rural and characterized by a low density land uses and farmland.

According to the developer, the development consists of approximately 181 apartment units, 108 townhome units, 9,300 square feet of office space, 68,300 square feet of specialty retail space, and 9,300 square feet of restaurant space.

The current concept plan for the Village at Carter's Station site is shown in Appendix A. Surface parking is planned to accommodate the development. Two vehicular access points to the development are planned to be located on Nashville Highway, one northern Site Access 1 aligned with Greens Mill Road, and the second Site Access 2 located approximately 600 feet south of Greens Mill Road.



Location of the Project Site
(Not to Scale)

Figure 1.

3. EXISTING CONDITIONS

3.1 Existing Roadway Network

Local access to the site will be provided by Nashville Highway, Greens Mill Road, Old Highway 31 North, Carters Creek Road, Arden Village Drive, and Grove Park Way. A description of these roadways within the project vicinity is as follows:

Nashville Highway (also designated as State Route 6 and US 31) is a two-way roadway that generally travels in the north-south direction with two travel lanes in each direction, separated by a grass median. Nashville Highway provides connection between Columbia, Tennessee, to the south, and Spring Hill, Tennessee, to the north. Nashville Highway is classified as a Principal Arterial by TDOT. The posted speed limit on Nashville Highway is 55 mph. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Nashville Highway.



Nashville Highway Looking South Adjacent to the Project Site

Greens Mill Road is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Greens Mill Road provides connection between Nashville Highway to the west and residential streets along Greens Mill Road. Greens Mill Road is classified as a Major Collector by TDOT. The posted speed limit on Greens Mill Road is 40 mph. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Greens Mill Road.



Greens Mill Road Looking East At Nashville Highway

Old Highway 31 North is a two-way roadway that generally travels in a north-south direction with one travel lane in each direction. Old Highway 31 North provides connection between Nashville Highway to the south and Spring Hill High School to the north. The posted speed limit on Old Highway 31 is 25 mph. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Old Highway 31 North.



Old Highway 31 North Looking East To Nashville Highway

Carters Creek Road is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Carters Creek Road provides connection between Old Highway 31 to the east and Cleburne Road to the west, which in turn provides connection to Spring Hill Middle School to the north. The posted speed limit is 35 mph. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Carters Creek Road.



Carters Creek Road Looking West At Old Highway 31 North

Arden Village Road is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Arden Village Road provides access from Nashville Highway to the Arden Village residential neighborhood to the west. No speed limit is posted on Arden Village Road. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Arden Village Road, except a sidewalk provided on the south side of Arden Village Road.



Arden Village Road Looking West At Nashville Highway

Grove Park Way is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Grove Park Way provides access from Nashville Highway to retail buildings and a church to the east. No speed limit is posted on Grove Park Way. No on-street parking, sidewalk, transit, or bicycle facilities are provided on Grove Park Way.



Grove Park Way Looking West To Nashville Highway

The study area includes four existing intersections described as follows:

Nashville Highway and Greens Mill Road is an unsignalized intersection with three approaches. The westbound approach of Greens Mill Road is stop-controlled and includes one shared left turn/right turn lane. The northbound approach of Nashville Highway includes one through lane and one shared through/right turn lane. The southbound approach of Nashville Highway includes two through lanes and one left turn lane. No pedestrian facilities are provided at the intersection.



Greens Mill Road Looking Westbound At Nashville Highway

Nashville Highway and Arden Village Road/Grove Park Way is an unsignalized intersection with four approaches. The westbound approach of Grove Park Way is stop-controlled and includes a left turn lane and a shared through/right turn lane. The eastbound approach of Arden Village Road is stop controlled and includes a right turn lane and a shared through/left turn lane. The northbound approach of Nashville Highway includes a left turn lane, two through lanes, and a right turn lane. The southbound approach of Nashville Highway includes a left turn lane, two through lanes, and a right turn lane. No pedestrian facilities are provided at the intersection, except a sidewalk on the south side of Arden Village Road that ends at the intersection with a curb ramp.



Arden Village Road Looking Eastbound at Nashville Highway

Nashville Highway and Old Highway 31 North is an unsignalized intersection with three approaches. The eastbound approach of Old Highway 31 North is stop controlled and includes a shared right/left turn lane. The northbound approach of Nashville Highway includes one through lane and one shared through/left turn lane via a median crossing. No pedestrian facilities are provided at the intersection.



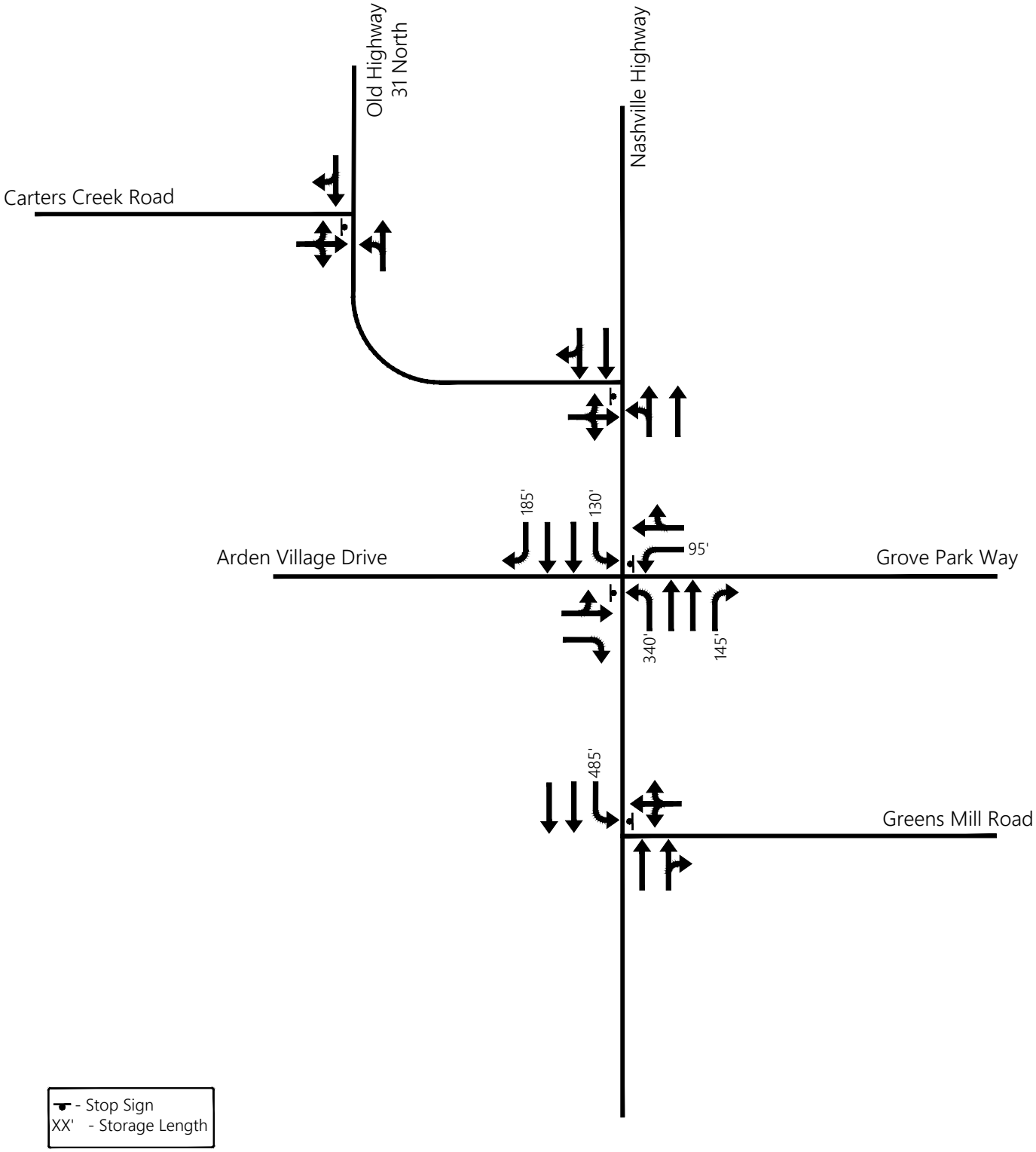
Old Highway 31 Looking Eastbound at Nashville Highway

Old Highway 31 North and Carters Creek Road is an unsignalized intersection with three approaches. The eastbound approach of Carters Creek Road is stop-controlled and includes one shared left/right turn lane. The northbound approach of Old Highway 31 North includes one shared through/left turn lane. The southbound approach of Old Highway 31 North includes one shared through/left turn lane.



Carters Creek Road Looking Eastbound at Old Highway 31

The existing laneage at the study intersections is illustrated in Figure 2.



Existing Laneage
(Not to Scale)

Figure 2.

3.2 Existing Traffic Volumes

In order to provide data for the traffic impact analysis, manual traffic counts were conducted at the following unsignalized intersections:

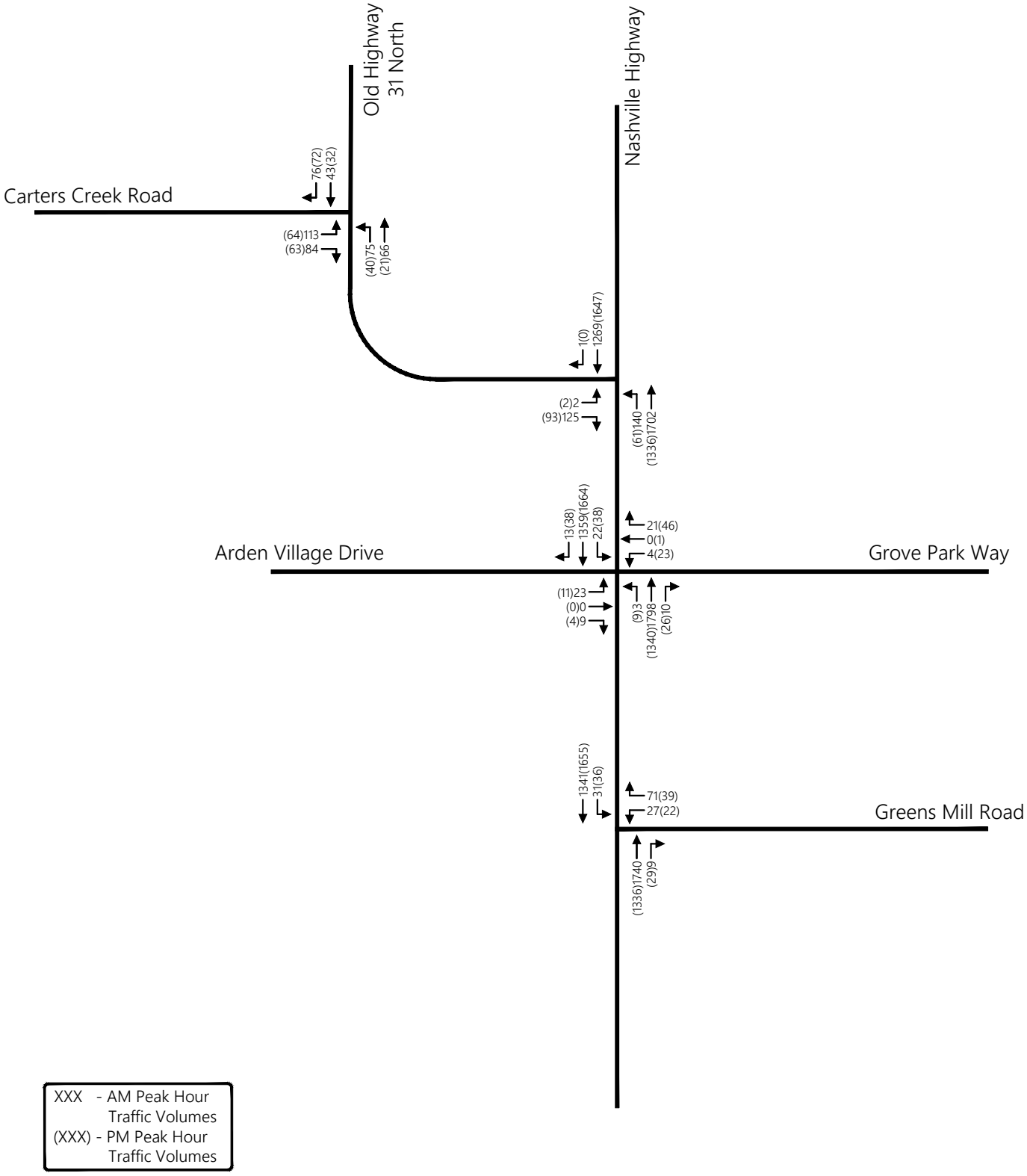
- Nashville Highway and Greens Mill Road
- Nashville Highway and Arden Village Drive/Grove Park Way
- Nashville Highway and Old Highway 31 North
- Old Highway 31 North and Carters Creek Road

Traffic counts for the study intersections were conducted on a typical weekday in May 2017 by RPM Transportation Consultants, LLC (RPM). Specifically, the turning movement counts were conducted from 7:00 – 9:00 AM and 4:00 – 6:00 PM on Wednesday, May 3, 2017, while schools were in session. From the counts, it was determined that the peak hours of traffic flow for the study intersections occurred from 7:15 – 8:15 AM and 4:45 – 5:45 PM. It should be noted that the traffic volumes were balanced between intersections.

The existing peak hour turning movement volumes are presented in Figure 3. A detailed summary of the turning movement counts is included in Appendix B.

In addition to the above information, average daily traffic volumes were obtained from the Tennessee Department of Transportation (TDOT). There are three TDOT count stations located in the vicinity of the project site. There is a count station located on Nashville Highway south of Greens Mill Road. According to TDOT count data, the annual average daily traffic (AADT) in 2015 on Nashville Highway was approximately 34,875 vehicles per day (vpd). There is a count station located on Greens Mill Road east of Nashville Highway. According to TDOT data, the AADT in 2015 on Greens Mill Road was approximately 1,195 vpd. There is a count station located on State Route 396 (the area's primary Interstate access) approximately 3 miles north of the site. According to TDOT data, the AADT in 2015 on State Route 396 was approximately 23,291 vpd.

TDOT Count Station data is included in Appendix C.



Existing Peak Hour Traffic Volumes
(Not to Scale)

Figure 3.

3.3 Existing Traffic Operations

To determine the current operation of the study intersections, capacity analyses were performed for the AM and PM peak hours. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual*, TRB 2010. The capacity analyses result in the determination of a Level of Service (LOS) for an intersection. The LOS is a concept used to describe how well an intersection or roadway operates. LOS A is the best, while LOS F is the worst. LOS D is typically considered as the minimum acceptable LOS for an intersection in an urbanized area. Table 1A presents the descriptions of LOS for unsignalized intersections, and Table 1B presents the descriptions of LOS for signalized intersections.

TABLE 1A: DESCRIPTIONS OF LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	DESCRIPTION	CONTROL DELAY (sec/veh)
A	Little or no delay	$\leq$ 10.0
B	Short traffic delay	>10 and $\leq$ 15
C	Average traffic delay	>15 and $\leq$ 25
D	Long traffic delay	>25 and $\leq$ 35
E	Very long traffic delay	>35 and $\leq$ 50
F	Extreme traffic delay	> 50.0

Source: *Highway Capacity Manual*, TRB 2010

TABLE 1B: DESCRIPTIONS OF LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	DESCRIPTION	CONTROL DELAY (sec/veh)
A	Operations with very low delay. This occurs when progression is extremely favorable. Most vehicles do not stop at all.	≤ 10
B	Operations with stable flows. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	>10 and ≤ 20
C	Operations with stable flow. Occurs with fair progression and/or longer cycle lengths. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	>20 and ≤ 35
D	Approaching unstable flow. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop.	>35 and ≤ 55
E	Unstable flow. This is considered to be the limit for acceptable delay. These high delays generally indicate poor progression, long cycle lengths, and high V/C ratios.	>55 and ≤ 80
F	Unacceptable delay. This condition often occurs with over saturation or with high V/C ratios. Poor progression and long cycle lengths may also cause such delay levels.	>80.0

Source: *Highway Capacity Manual*, TRB 2010

The results of the capacity analyses for the existing conditions at the study intersections are presented in Table 2. As shown, all movements on Nashville Highway operate at acceptable levels of service. However, several minor streets on Nashville Highway have movements with a LOS of D or worse, which is common for unsignalized approaches to major arterial streets.

TABLE 2: EXISTING PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE	
		AM Peak Hour (Average Approach Delay in sec/veh)	PM Peak Hour (Average Approach Delay in sec/veh)
Nashville Highway and Old Highway 31 North	Northbound Left Turn	C (15.5)	C (18.0)
	Eastbound Left Turn	D (26.7)	C (24.7)
Nashville Highway and Greens Mill Road	Westbound Approach	F (300.0*)	F (271.7)
	Southbound Left Turn	C (18.1)	B (13.8)
Nashville Highway and Arden Village Drive/Grove Park Way	Northbound Left Turn	B (13.0)	C (16.0)
	Eastbound Through/Left Turn	F (300.0*)	F (300.0*)
	Eastbound Right Turn	C (15.3)	C (18.1)
	Westbound Left Turn	F (300.0*)	F (300.0*)
	Westbound Through/Right Turn	C (20.8)	D (33.8)
	Southbound Left Turn	C (18.3)	B (13.6)
Old Highway 31 North and Carters Creek Road	Northbound Left Turn	A (7.6)	A (7.5)
	Eastbound Left Turn	B (11.8)	A (9.9)

Note: For stop-controlled intersections, an LOS is presented for each critical turning movement.
* Indicates delay that exceeds 300 seconds

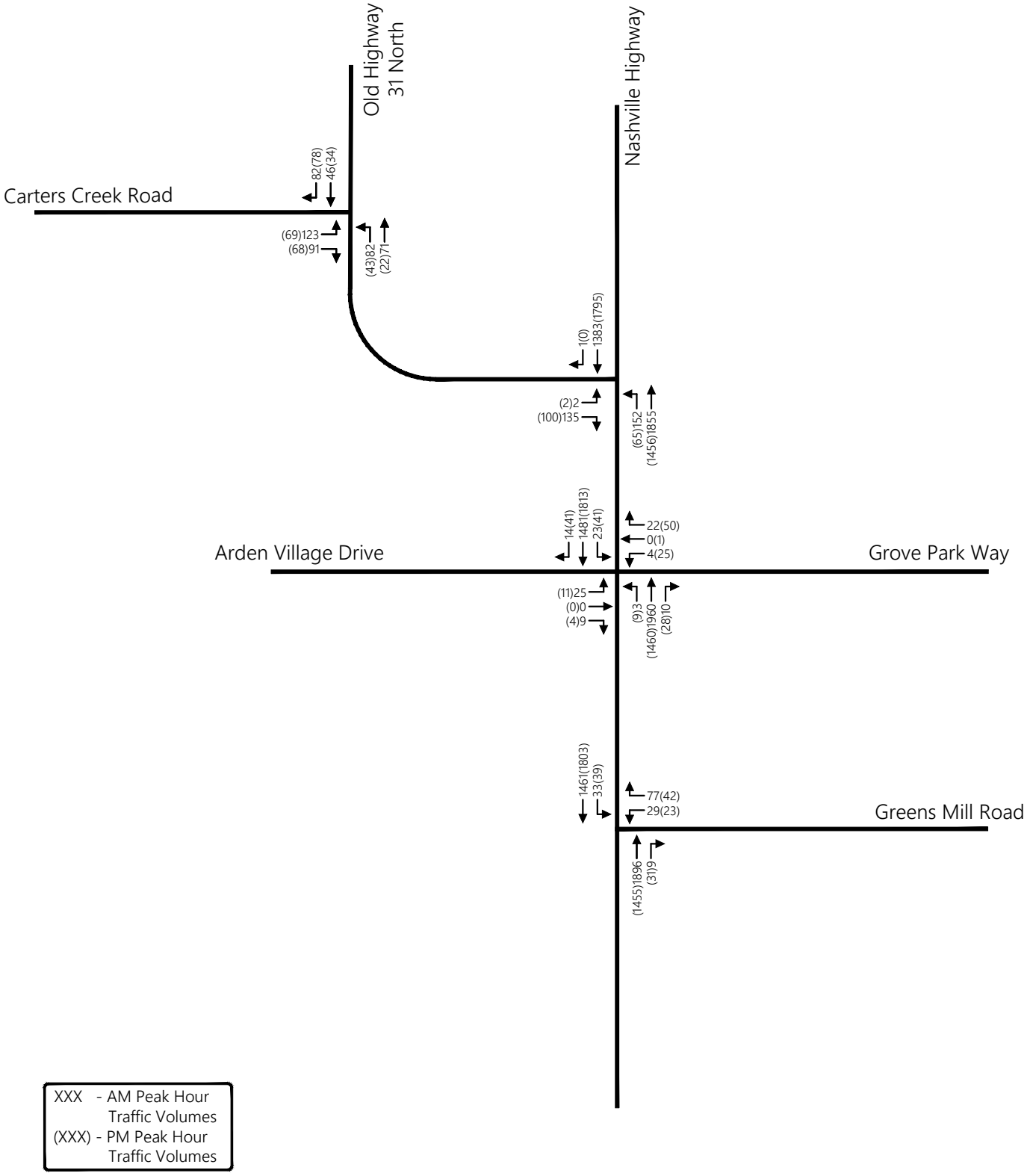
4. BACKGROUND TRAFFIC VOLUMES

4.1 Establishing Background Volumes

In order to account for the traffic growth prior to the completion of the proposed project, background traffic volumes were established. For the purposes of this traffic study, the proposed development was assumed to be completed by the year 2020, which is a three-year horizon. Historical daily traffic volumes were obtained from the TDOT count stations located on Nashville Highway, Greens Mill Road, and State Route 396 in the vicinity of the project site. Since 2010, the combined traffic at these four TDOT count stations has increased by an average of 2.6% per year. The TDOT count station data is included in Appendix C.

A growth factor was applied to the existing peak hour traffic volumes to account for general background growth for the future conditions. The existing peak hour traffic volumes at the study intersections were conservatively increased by 3% per year for three years to account for background traffic growth within the study area. These volumes represent the peak hour traffic that is expected to be on the roadway in 2020 even if the proposed Village at Carter's Station is not completed.

Figure 4 presents the total background AM and PM peak hour traffic volumes expected in the year 2020.



Background Peak Hour Traffic Volumes - Year 2020
(Not to Scale) Figure 4.

4.2 Background Traffic Operations

To determine the operation of the study area intersections under background conditions, capacity analyses were performed for the AM and PM peak hours. The analyses for the background conditions were based on the same lane configurations as the existing conditions.

As shown in Table 3, under background conditions the capacity analyses indicate that the study intersections are expected to continue to operate at similar levels of service as under the existing conditions with minimal increases in vehicular delay, with a few exceptions. The LOS of the westbound through/right turn lane at the intersection of Nashville Highway and Arden Village Drive/Grove Park Way is expected to deteriorate from LOS D to LOS F in the PM peak hour. Also, the LOS of the eastbound left turn at the intersection of Nashville Highway and Old 31 North is expected to deteriorate from LOS D to LOS E in the AM peak hour and from LOS C to LOS D in the PM peak hour. Also, the southbound left turns from Nashville Highway on to Greens Mill Road will drop from LOS B to LOS C during the PM peak hour, and the eastbound left turns at the intersection of Old Highway 31 North and Carters Creek Road will drop from LOS A to LOS B.

TABLE 3: BACKGROUND PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE	
		AM Peak Hour (Average Approach Delay in sec/veh)	PM Peak Hour (Average Approach Delay in sec/veh)
Nashville Highway and Old Highway 31 North	Northbound Left Turn	C (18.0)	C (20.9)
	Eastbound Left Turn	E (35.6)	D (30.2)
Nashville Highway and Greens Mill Road	Westbound Approach	F (300.0*)	F (300.0*)
	Southbound Left Turn	C (20.7)	C (15.1)
Nashville Highway and Arden Village Drive/Grove Park Way	Northbound Left Turn	B (14.0)	C (17.8)
	Eastbound Through/Left Turn	F (300.0*)	F (300.0*)
	Eastbound Right Turn	C (16.4)	C (19.8)
	Westbound Left Turn	F (300.0*)	F (300.0*)
	Westbound Through/Right Turn	C (23.4)	F (53.7)
	Southbound Left Turn	C (20.9)	B (14.8)
Old Highway 31 North and Carters Creek Road	Northbound Left Turn	A (7.7)	A (7.5)
	Eastbound Left Turn	B (12.4)	B (10.1)

Note: For stop-controlled intersections, an LOS is presented for each critical turning movement.
* Indicates delay that exceeds 300 seconds

5. IMPACTS

5.1 Trip Generation

A traffic generation process was used to estimate the amount of traffic expected to be generated by the proposed Village at Carter's Station mixed-use development. Factors for the trip generation were taken from ITE's *Trip Generation*, Ninth Edition. As previously discussed, the development consists of approximately 181 apartment units, 108 townhome units, 9,300 square feet of office space, 68,300 square feet of specialty retail space, and 9,300 square feet of restaurant space.

The development is characterized by a variety of land uses, which will result in internal trips within the site among the various land uses. Conservatively, 15% of the traffic generated by the proposed commercial land uses was assumed to be due to internal trips. The development is located in a predominantly rural setting with low density and farmland land uses, with no transit, pedestrian, and bicycle facilities. Conservatively, no reductions were taken to account for pass-by trips or alternative transportation modes.

The calculations for trip generation are included in Appendix E.

Table 4 presents the daily, AM, and PM peak hour trip generation for the proposed mixed-use development. As shown in Table 4, the development can be expected to generate approximately 5,853 new vehicle trips per day. The AM and PM peak hour trip generations will equal approximately 332 and 420 new trips, respectively. These trips represent the new traffic that will be generated by the proposed Village at Carter's Station development.

TABLE 4: DEVELOPMENT TRIP GENERATION

LAND USE	SIZE	GENERATED TRAFFIC				
		DAILY TRAFFIC	AM PEAK		PM PEAK	
			Enter	Exit	Enter	Exit
Apartments	181 d.u.	1,037	15	63	65	35
Townhomes	108 d.u.	585	8	39	21	10
Office	9,300 s.f.	88	11	2	2	10
Specialty Retail Center	68,300 s.f.	2,960	57	36	81	104
High-Turnover Sit-Down Restaurant	9,300 s.f.	1,183	56	45	55	37
	SUBTOTAL	5,853	147	185	224	196
	NEW TRIPS	5,853	332		420	

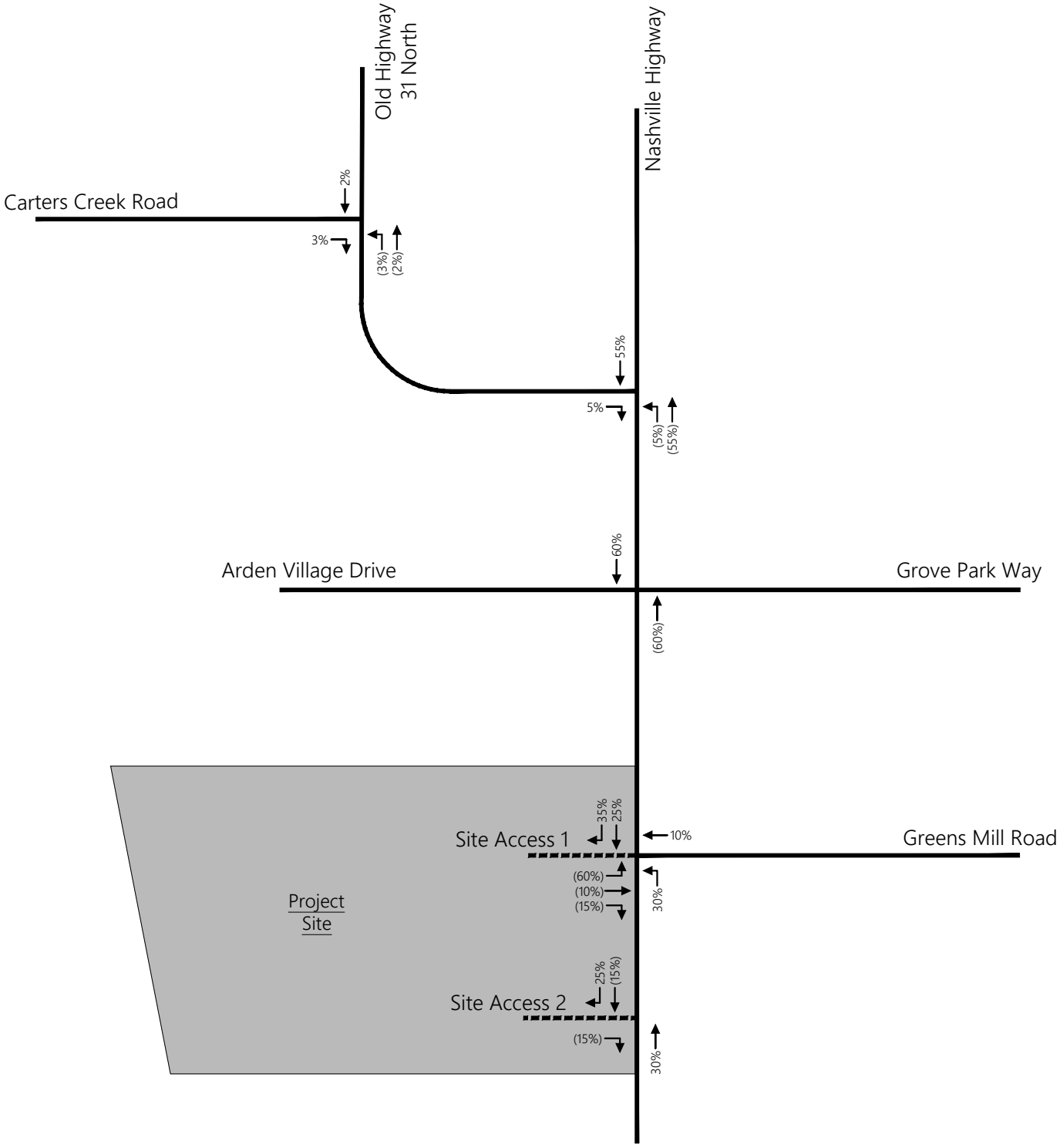
Source: *Trip Generation*, Ninth Edition

5.2 Trip Distribution and Traffic Assignment

A directional distribution of traffic generated by the proposed project was established based on the proposed accesses, the existing roadway network, and the existing travel patterns developed from the existing peak hour traffic counts. As previously discussed, there will be two accesses to the site. The northern Site Access 1 will be aligned with Greens Mill Road, and the southern Site Access 2 will be located approximately 600 feet south.

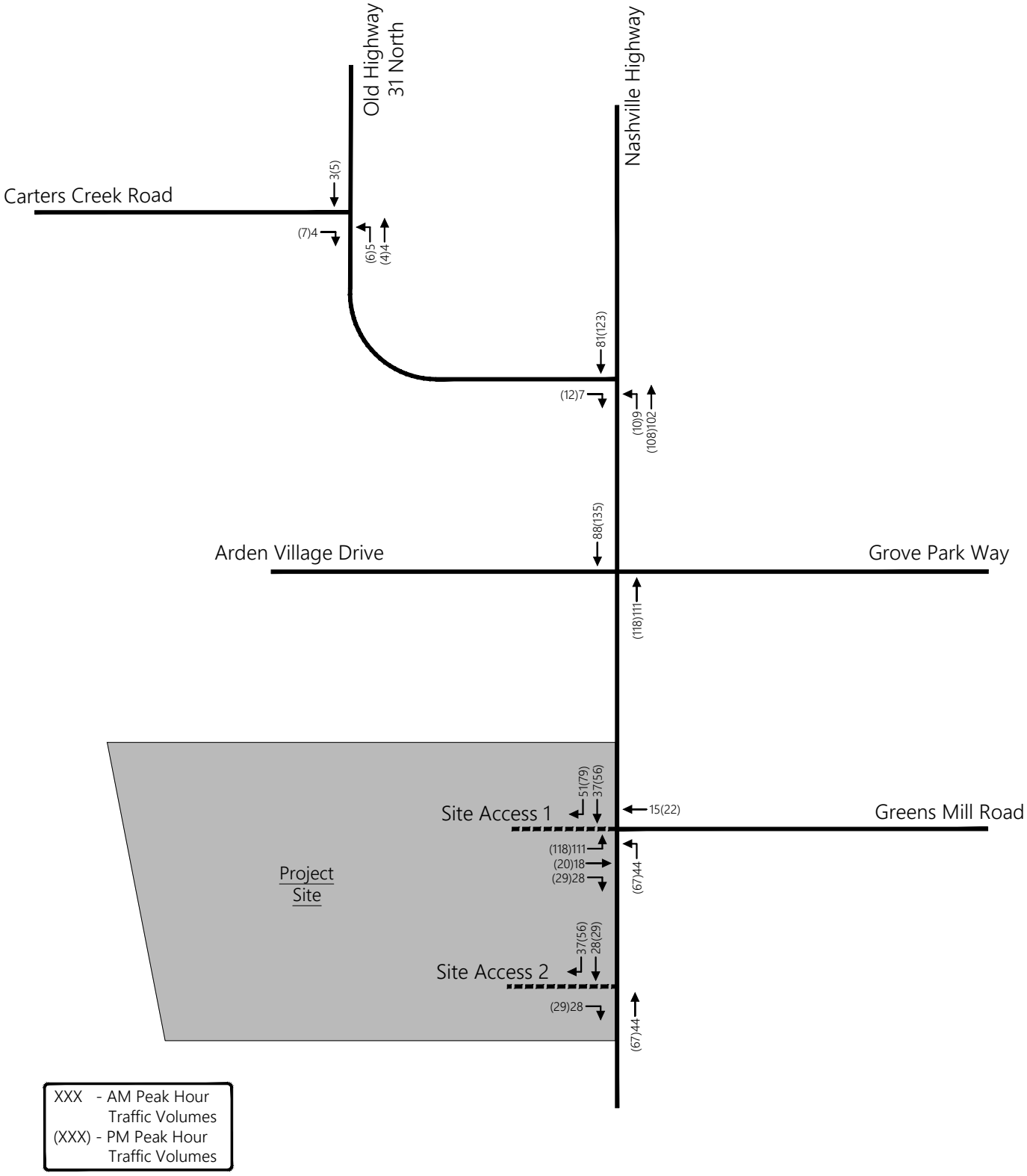
Directional distributions for the proposed development are shown in Figure 5. As shown in the figures, approximately 55% of the traffic generated by the development will be oriented north on Nashville Highway, 2% north on Old Highway 31 North, 3% west on Carters Creek Road, 10% east on Greens Mill Road, and 30% south on Nashville Highway.

Based on these directional distributions, the project-generated traffic was assigned to the roadway network. The total traffic assignment for the proposed mixed-use development is shown in Figure 6.



Distribution of Peak Hour Traffic Volumes Generated by the Project Site

(Not to Scale) Figure 5.



Assignment of Peak Hour Traffic Volumes Generated by the Project Site

(Not to Scale)

Figure 6.

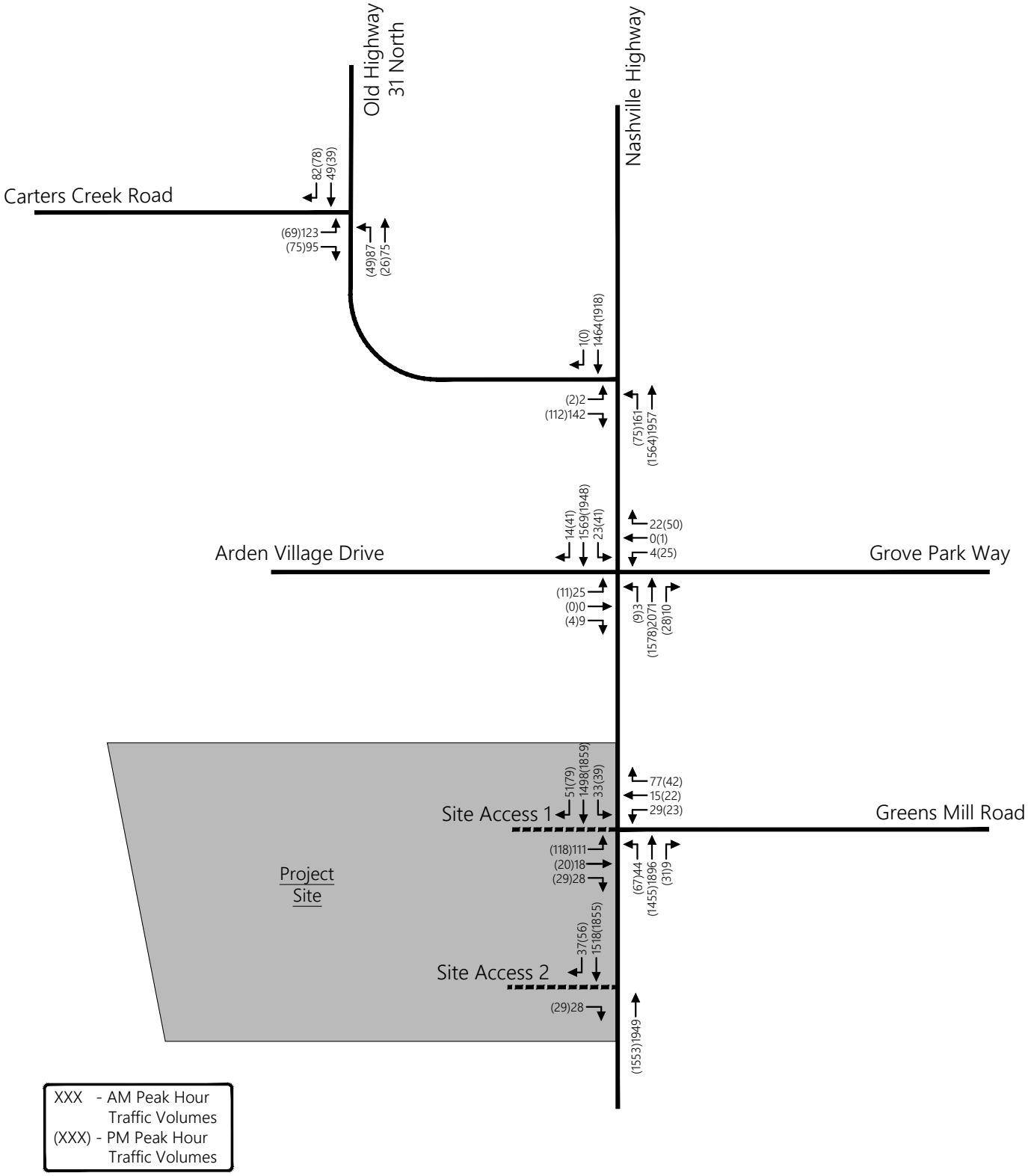
5.3 Capacity / Level of Service Analyses

The total site-generated traffic volumes were added to the background peak hour traffic volumes for the proposed Village at Carter's Station development in order to obtain the total projected traffic volumes for the study intersections. Figure 7 presents the total projected AM and PM peak hour traffic volumes expected at the completion of the proposed 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. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual*, TRB 2010. The results of the capacity analyses for the projected conditions at the study area intersections are presented in Table 5. For the analyses, the intersection configurations were the same as the existing and background conditions. It was assumed the lane configurations at the site accesses aligned with those shown in the site plan in Appendix A. Capacity analyses worksheets are included in Appendix D.

As shown in Table 5, under the projected conditions the capacity analyses indicate that the study intersections are expected to continue to operate at similar levels of service as under the background conditions, with a few exceptions. The LOS of the eastbound left turn at the intersection of Nashville Highway and Old 31 North is expected to deteriorate from LOS E to LOS F in the AM peak hour, and LOS D to LOS E in the PM peak hour, despite minimal traffic being assigned to Old Highway 31 North. Also, at the intersection of Nashville Highway and Arden Village Drive/Grove Park Way, the westbound through/right turn lane will drop from LOS C to LOS D and the southbound left turn lane will drop from LOS B to LOS C.

Capacity analyses were also conducted under projected conditions with the inclusion of a southbound right turn lane and a northbound left turn lane on Nashville Highway at Site Access 1, and a southbound right turn lane on Nashville Highway at Site Access 2. As shown in Table 5, the turn lanes are expected to improve traffic operations on Nashville Highway. However, a traffic signal will be warranted to improve the LOS of Site Access 1 due to the high turning traffic volumes. As shown in Table 5, the proposed signalized intersection of Site Access 1/Greens Mill Road and Nashville Highway is expected to operate at LOS A at both AM and PM peak hours.



Total Projected Peak Hour Traffic Volumes
(Not to Scale) Figure 7.

TABLE 5: PROJECTED PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE	
		AM Peak Hour (Average Approach Delay in sec/veh)	PM Peak Hour (Average Approach Delay in sec/veh)
Nashville Highway and Old Highway 31 North	Northbound Left Turn	C (20.3)	C (24.8)
	Eastbound Left Turn	F (78.1)	E (38.7)
Nashville Highway and Site Access 2 *With Recommended Turn Lanes*	Eastbound Right Turn	C (18.1) *C (17.6)*	C (23.4) *C (22.3)*
Nashville Highway and Site Access 1/Greens Mill Road *With Recommended Turn Lanes* ***With Recommended Traffic Signal***	Northbound Left Turn	C (16.0) *C (15.4)*	C (24.5) *C (22.5)*
	Eastbound Through/Right Turn	F (300.0*)	D (26.1)
	Southbound Left Turn	C (20.7)	C (15.1)
	Overall Intersection	***B (14.5)***	***B (13.1)***
Nashville Highway and Arden Village Drive/Grove Park Way	Northbound Left Turn	B (14.8)	C (19.7)
	Eastbound Through/Left Turn	F (300.0*)	F (300.0*)
	Eastbound Right Turn	C (17.3)	C (21.6)
	Westbound Left Turn	F (300.0*)	F (300.0*)
	Westbound Through/Right Turn	D (25.5)	F (76.1)
	Southbound Left Turn	C (23.0)	C (16.2)
Old Highway 31 North and Carters Creek Road	Northbound Left Turn	A (7.7)	A (7.6)
	Eastbound Left Turn	B (12.7)	B (10.2)

Notes: For signalized and all-way stop-controlled intersections, an overall LOS is presented. For two-way stop-controlled intersections, an LOS is presented for each critical turning movement.
* Indicates delay that exceeds 300 seconds

6. ANALYSIS OF SITE PLAN

6.1 Site Access Review

The proposed development consists of approximately 181 apartment units, 108 townhome units, 9,300 square feet of office space, 68,300 square feet of specialty retail space, and 9,300 square feet of restaurant space.

Two site access points are planned to serve the site. The northern Site Access 1 is shown in the site plan to have one left turn lane and one shared through/right turn lane. The southern Site Access 2 is shown in the site plan to be right turn in/right turn out, and to have one right turn lane. The two site driveways will have spacing of approximately 600 feet and these driveways are well spaced from adjacent access points on Nashville Highway. Site Access 2 is necessary due to the traffic generated by the size of the proposed development. These driveway accesses will be adequate to provide good traffic flow and operations once the traffic signal is installed.

There is an existing cemetery access on the southeast area of the project site. Due to its proximity, this cemetery access should either be closed or consolidated with the proposed Site Access 2

Surface parking is planned to accommodate the development.

6.2 Turn Lane Analysis

Both site access were evaluated for the need to provide turn lanes on Nashville Highway. According to the Intersection Channelization Design Guide (NCHRP 279), a right turn lane is warranted on both the southbound approaches of Nashville Highway at Site Access 1 and Site Access 2.

The northern Site Access 1 was also evaluated using Harmelink Methodology for the need to install a northbound left turn lane on Nashville Highway. Based on the projected traffic volumes in both the AM and PM peak hours, a left turn lane is warranted on the northbound approach of Nashville Highway at Greens Mill Road/Site Access 1. Details of the Harmelink analysis are included in Appendix G.

6.3 Signal Warrant Analysis

Under projected conditions, the eastbound approach of the proposed northern Site Access 1 operates at poor LOS; therefore, the intersection of Nashville Highway

and Greens Mill Road/Site Access 1 was evaluated for the need to provided traffic signal control.

As previously mentioned, access to the development will be provided by two site access driveways, only one of which is a full access driveway. A traffic signal should not normally be installed at an intersection unless specific warrants are satisfied. Therefore, traffic signal warrant analyses were performed with available data for the intersection of Nashville Highway and Site Access 1 based on the anticipated traffic conditions with completion of the development.

The Manual on Uniform Traffic Control Devices (MUTCD) sets forth nine different warrants that have been developed by the traffic engineering profession to facilitate the determination of whether a signal is warranted. These warrants include minimum conditions that normally indicate when a traffic signal is justified at a particular location. The MUTCD states that "traffic control signals should not be installed unless one or more signal warrants as in the manual are met." A complete description of the relevant traffic signal warrants, as presented in the MUTCD, is included in Appendix F.

The 70% reduced warrants were used to analyze the intersection because the posted speed limit on Nashville Highway exceeds 40 mph. For the intersection of Nashville Highway and Greens Mill Road/Site Access 1, traffic signal warrant analyses were based on estimates of the eighth highest hour of a typical day. The method for this estimation is described in the Manual of Traffic Signal Design, by Iris Fullerton and James H. Kell. The results of these analyses are shown in Appendix F.

The results of the warrant analyses indicate that at the completion of the development, the projected traffic volumes at the intersection of Nashville Highway and Greens Mill Road/Site Access 1 will satisfy Signal Warrant 1B, Interruption of Continuous Traffic, Signal Warrant 2, Four-Hour Vehicular Volume, and Warrant 3, Peak Hour Volume. Additional analyses were conducted to determine whether a traffic signal would be needed at the intersection of Nashville Highway and Greens Mill Road/Site Access 1 before the development is completed. The results of these analyses indicate that the traffic signal at this intersection will be warranted upon completion of approximately 60% of the development.

8. CONCLUSIONS AND RECOMMENDATIONS

The analyses presented in this study indicate that the impacts of the proposed Village at Carter's Station mixed-use development 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 recommendations are as follows:

- Site Access 1 should be designed to include sufficient width for one entering lane and two exiting lanes. The exiting lanes should be striped to provide an exclusive left turn lane and a shared through/right turn lane.

- A traffic signal should be installed at the intersection of Nashville Highway and Site Access 1/Greens Mill Road based on satisfaction of traffic signal warrants. Protected left turn phasing should be implemented for the northbound and southbound approaches. This signal is projected to be warranted upon completion of approximately 60% of the Village at Carter's Station development. Because the warrant analysis is based on projected traffic volumes, it is recommended that updated signal warrant analysis be conducted at approximately the 60% development level of the Village at Carter's Station to determine if actual traffic volumes meet the signal warrants.

- An exclusive right turn lane with approximately 140 feet of storage should be provided on the southbound approach of Nashville Highway at Site Access 1, as shown in the site plan.

- An exclusive left turn lane with approximately 200 feet of storage should be provided on the northbound approach of Nashville Highway at Site Access 1, as shown in the site plan.

- Site Access 2 should be designed as a Right-In-Right-Out (RIRO) access and should include sufficient width for one entering lane and one exiting lane. The eastbound approach should be stop controlled. This access is necessary due to the size of the development.

- Install one Right Turn Only (R3-5R) sign on the south side of Site Access 2 at the eastbound approach of Site Access 2 at Nashville Highway.

- An exclusive right turn lane with approximately 260 feet of storage should be provided on the southbound approach of Nashville Highway at Site Access 2, as shown in the site plan.

- The existing median break, located approximately 150 feet north of Site Access 2, should be closed.

- Due to its proximity, the existing cemetery access on the southeast area of the project site should either be closed or consolidated with the proposed southern Site Access 2

In summary, based on the analyses conducted, no further recommendations are presented for the proposed Village at Carter's Station development.

APPENDICES

APPENDIX A
PRELIMINARY CONCEPT PLAN

APPENDIX B
DETAILED TURNING MOVEMENT COUNTS

APPENDIX C
TDOT COUNT DATA

APPENDIX D
CAPACITY ANALYSES

APPENDIX E
TRIP GENERATION CALCULATIONS

APPENDIX F
SIGNAL WARRANT ANALYSIS

APPENDIX G
TURN LANE WARRANT ANALYSIS

APPENDIX A
PRELIMINARY CONCEPT PLAN

PURPOSE OF SUBMITTAL - TO ANNEX A PORTION OF THE SITE NOT WITHIN THE CITY LIMITS OF COLUMBIA AND TO REZONE THE ENTIRE PROPERTY TO CRS.

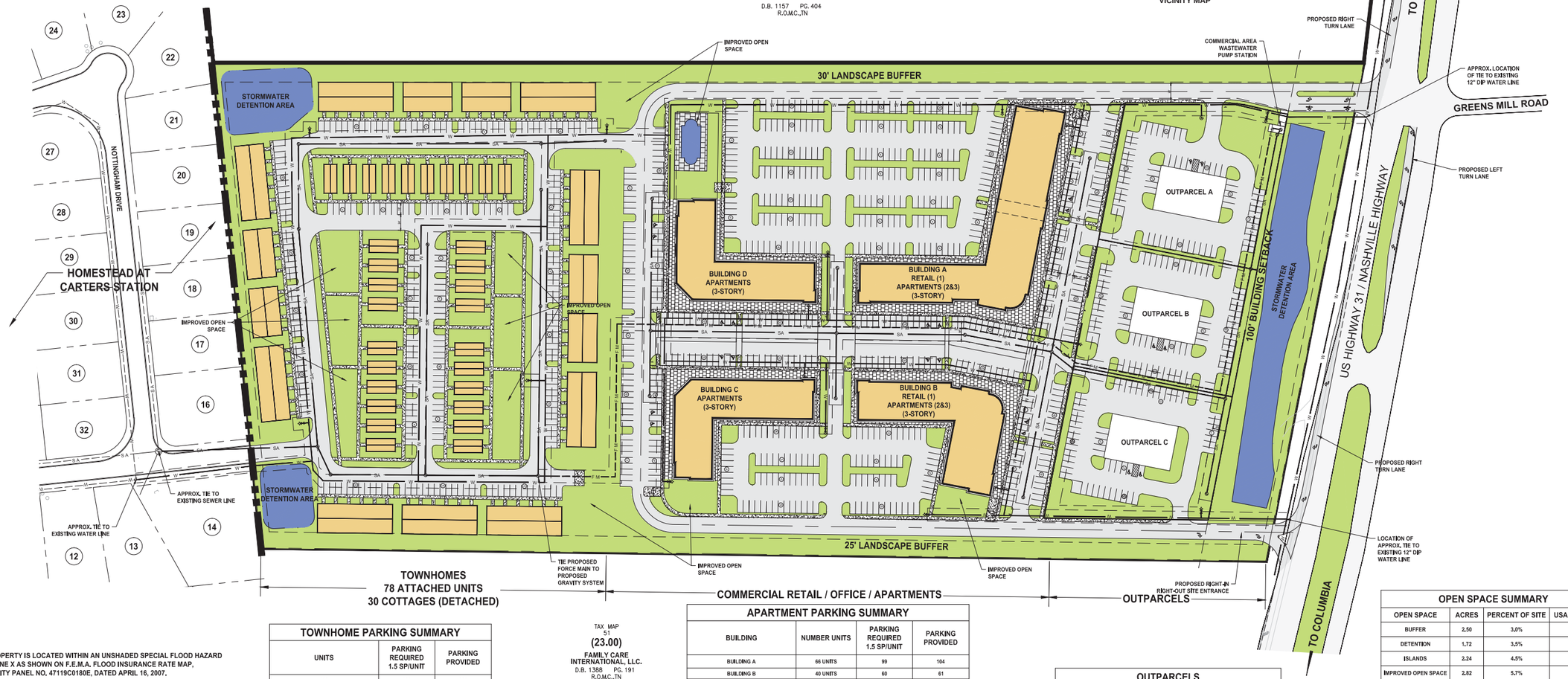
PROPERTY DEVELOPER:
FP TCI CCS, LLC.

PROJECT DESCRIPTION:
ANNEX AND REZONE PROPERTY TO DEVELOP INTO A 214 UNIT APARTMENT AND 108 UNIT TOWNHOME DEVELOPMENT WITH 30,000 SF OF RETAIL AND 19,000 SF OF RESTAURANT WITH 3 COMMERCIAL OUTPARCELS.

ALL ROAD NAMES TO BE APPROVED BY E-911.



VICINITY MAP



TOWNHOME PARKING SUMMARY		
UNITS	PARKING REQUIRED 1.5 SP/UNIT	PARKING PROVIDED
108	162	262
TOTAL	162	262

TAX MAP 51
(23.00)
FAMILY CARE INTERNATIONAL, LLC.
D.B. 1388 PG. 191
R.O.M.C.,TN

APARTMENT PARKING SUMMARY			
BUILDING	NUMBER UNITS	PARKING REQUIRED 1.5 SP/UNIT	PARKING PROVIDED
BUILDING A	66 UNITS	99	104
BUILDING B	40 UNITS	60	61
BUILDING C	54 UNITS	81	101
BUILDING D	54 UNITS	81	120
TOTAL	181 UNITS	321	386

RETAIL OFFICE BUILDING & PARKING					
BUILDING	AREA (SF)	RETAIL PARKING REQUIRED 1 SP/400 SF.	RESTAURANT PARKING REQUIRED 1SP/100 SF.	TOTAL REQUIRED PARKING	PARKING PROVIDED
BUILDING A	37,000	47	119	166	166
BUILDING B	22,000	28	71	99	99
TOTAL	59,000	75	190	265	265

OUTPARCELS	
PARCEL	ACRES
OUTPARCEL A	1,36
OUTPARCEL B	1,15
OUTPARCEL C	1,25
TOTAL	3,76

OPEN SPACE SUMMARY			
OPEN SPACE	ACRES	PERCENT OF SITE	USABLE AREA
BUFFER	2,50	3,0%	1,7
DETENTION	1,72	3,5%	0,3
ISLANDS	2,24	4,5%	0
IMPROVED OPEN SPACE	2,82	5,7%	1,4
TOTAL	9,28	16,7%	3,4

THIS PROPERTY IS LOCATED WITHIN AN UNSHADED SPECIAL FLOOD HAZARD AREA ZONE X AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 47119C0180E, DATED APRIL 16, 2007.

TRAFFIC IMPACT STUDY
DEVELOPER WILL CONDUCT TRAFFIC STUDY IMMEDIATELY FOLLOWING THIS SUBMITTAL. DEVELOPER WILL SUBMIT TRAFFIC STUDY TO CITY AND TDOT AND REQUEST PERMISSION TO SIGNALIZE SITE ENTRANCE AT GREENS MILL ROAD AND CONSTRUCT NECESSARY LEFT-HAND TURN LANE AND RIGHT-HAND TURN / DECEL LANE.

LEGEND

- SANITARY SEWER — SA
- WATER LINE — W
- SANITARY SEWER MANHOLE — S
- FIRE HYDRANT ASSEMBLY
- WATER METER — W
- WATER VALVE
- STOP SIGN

VILLAGE AT CARTER'S CREEK MULTI-USE DEVELOPMENT

FP TCI CCS, LLC.
COLUMBIA, TENNESSEE
MAURY COUNTY
APRIL 17, 2017

GRAPHIC SCALE
80 0 40 80
(IN FEET)
1 inch = 80 ft.

MARTIN ENGINEERING & SURVEYING, LLC
5226 Main Street, Suite C-3
Spring Hill, TN 37174
615.812.2147
gary@martinengrg.com

APPENDIX B
DETAILED TURNING MOVEMENT COUNTS

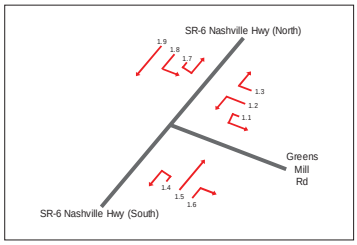
Columbia, TN
Classified Turn Movement Count

Site 1 of 4
Greens Mill Rd
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.702619°, -86.979254°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C



Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
1 (615) 431-6750
1 (800) 615-3765

0600 - 0900 (Weekday AM Peak)

	Westbound Greens Mill Rd					Northbound SR-6 Nashville Hwy (South)					Southbound SR-6 Nashville Hwy (North)					
TIME	U-Turn 1.1	Left 1.2	Right 1.3	Peds 1a	App Total	U-Turn 1.4	Thru 1.5	Right 1.6	Peds 1b	App Total	U-Turn 1.7	Left 1.8	Thru 1.9	Peds 1c	App Total	Int Total
0600 - 0615	0	3	9	0	12	0	382	0	0	382	1	1	163	0	165	559
0615 - 0630	0	1	5	0	6	0	369	4	0	373	0	6	558	0	564	943
0630 - 0645	0	3	2	0	5	0	360	0	0	360	0	3	392	0	395	760
0645 - 0700	0	3	13	0	16	0	380	0	0	380	1	2	244	0	247	643
Hourly Total	0	10	29	0	**39**	0	1491	4	0	**1495**	2	12	1357	0	**1371**	**2905**
0700 - 0715	1	4	14	0	19	0	370	2	0	372	0	3	249	0	252	643
0715 - 0730	0	9	27	0	36	0	487	0	0	487	0	7	340	0	347	870
0730 - 0745	0	9	25	0	34	0	459	1	0	460	1	11	401	0	413	907
0745 - 0800	0	6	11	0	17	0	379	7	0	386	0	7	315	0	322	725
Hourly Total	1	28	77	0	**106**	0	1695	10	0	**1705**	1	28	1305	0	**1334**	**3145**
0800 - 0815	0	3	8	0	11	0	415	1	0	416	0	6	285	0	291	718
0815 - 0830	0	5	7	0	12	0	335	2	0	337	1	2	249	0	252	601
0830 - 0845	0	8	15	0	23	0	363	6	0	369	1	4	238	0	243	635
0845 - 0900	0	4	9	0	13	0	337	3	0	340	2	3	214	0	219	572
Hourly Total	0	20	39	0	**59**	0	1450	12	0	**1462**	4	15	986	0	**1005**	**2526**
Grand Total	1	58	145	0	**204**	0	4636	26	0	**4662**	7	55	3649	0	**3710**	**8576**
App Percentage	0.49	28.43	71.08	0.00		0.00	99.44	0.56	0.00		0.19	1.48	98.33	0.00		
Int Percentage	0.01	0.68	1.69	0.00	2.38	0.00	54.06	0.30	0.00	54.36	0.08	0.64	42.54	0.00	43.26	
Cars	0	58	142	-	200	0	4410	25	-	4435	6	52	3430	-	3488	
Trucks	1	0	3	-	4	0	226	1	-	227	1	3	218	-	222	
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	
Cars (%)	0.00	100.00	97.93	-	98.04	0.00	95.13	96.15	-	95.13	85.71	94.55	94.02	-	94.02	
Trucks (%)	100.00	0.00	2.07	-	1.96	0.00	4.87	3.85	-	4.87	14.29	5.45	5.98	-	5.98	

1500 - 1800 (Weekday PM Peak)

	Westbound Greens Mill Rd					Northbound SR-6 Nashville Hwy (South)					Southbound SR-6 Nashville Hwy (North)					
TIME	U-Turn 1.1	Left 1.2	Right 1.3	Peds 1a	App Total	U-Turn 1.4	Thru 1.5	Right 1.6	Peds 1b	App Total	U-Turn 1.7	Left 1.8	Thru 1.9	Peds 1c	App Total	Int Total
1500 - 1515	0	4	10	0	14	0	260	8	0	268	0	25	432	0	457	739
1515 - 1530	0	5	2	0	7	0	285	8	0	293	1	6	398	0	405	705
1530 - 1545	0	3	4	0	7	0	274	6	0	280	0	11	468	0	479	766
1545 - 1600	1	5	7	0	13	0	317	4	0	321	0	10	425	0	435	769
Hourly Total	1	17	23	0	**41**	0	1136	26	0	**1162**	1	52	1723	0	**1776**	**2979**
1600 - 1615	0	7	7	0	14	0	244	9	0	253	0	8	397	0	405	672
1615 - 1630	0	2	8	0	10	1	299	6	0	306	0	9	455	0	464	780
1630 - 1645	0	4	8	0	12	0	302	6	0	308	1	10	430	0	441	761
1645 - 1700	0	4	10	0	14	0	327	3	0	330	1	10	436	0	447	791
Hourly Total	0	17	33	0	**50**	1	1172	24	0	**1197**	2	37	1718	0	**1757**	**3004**
1700 - 1715	0	7	5	0	12	0	310	9	0	319	0	12	398	0	410	741
1715 - 1730	0	7	13	0	20	0	365	14	0	379	0	8	380	0	388	787
1730 - 1745	0	4	11	0	15	0	327	3	0	330	0	6	420	0	426	771
1745 - 1800	0	3	7	0	10	0	314	4	0	318	0	11	393	0	404	732
Hourly Total	0	21	36	0	**57**	0	1316	30	0	**1346**	0	37	1591	0	**1628**	**3031**
Grand Total	1	55	92	0	**148**	1	3624	80	0	**3705**	3	126	5032	0	**5161**	**9014**
App Percentage	0.68	37.16	62.16	0.00		0.03	97.81	2.16	0.00		0.06	2.44	97.50	0.00		
Int Percentage	0.01	0.61	1.02	0.00	1.64	0.01	40.20	0.89	0.00	41.10	0.03	1.40	55.82	0.00	57.26	
Cars	0	54	91	-	145	1	3454	80	-	3535	3	126	4880	-	5009	
Trucks	1	1	1	-	3	0	170	0	-	170	0	0	151	-	151	
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	
Cars (%)	0.00	98.18	98.91	-	97.97	100.00	95.31	100.00	-	95.41	100.00	100.00	97.00	-	97.07	
Trucks (%)	100.00	1.82	1.09	-	2.03	0.00	4.69	0.00	-	4.59	0.00	0.00	3.00	-	2.93	

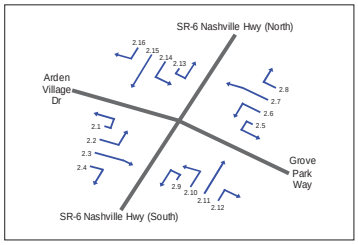
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Site 2 of 4
Arden Village Dr
Grove Park Way
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SR-6 Nashville Hwy (North)

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Sunny Intervals
Temp: 28°C



Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
1 (615) 431-6750
1 (800) 615-3765

0600 - 0900 (Weekday AM Peak)

	Eastbound Arden Village Dr						Westbound Grove Park Way						Northbound SR-6 Nashville Hwy (South)						Southbound SR-6 Nashville Hwy (North)						
TIME	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds 2a	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds 2b	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds 2c	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds 2d	App Total	Int Total
0600 - 0615	0	4	0	0	0	4	0	0	0	5	0	5	0	2	397	0	0	399	0	0	166	2	0	168	576
0615 - 0630	0	3	0	0	0	3	0	3	0	4	0	7	0	2	372	0	0	374	0	0	574	5	0	579	963
0630 - 0645	0	1	1	2	0	4	0	1	0	4	0	5	1	0	361	1	0	363	0	2	373	1	0	376	748
0645 - 0700	0	6	0	2	0	8	0	0	0	4	0	4	0	1	390	3	0	394	0	3	253	4	0	260	666
Hourly Total	0	14	1	4	0	**19**	0	4	0	17	0	**21**	1	5	1520	4	0	**1530**	0	5	1366	12	0	**1383**	**2953**
0700 - 0715	0	8	0	1	0	9	0	1	0	3	0	4	0	4	376	3	0	383	0	2	240	0	0	242	638
0715 - 0730	0	7	0	3	0	10	0	2	0	5	0	7	0	0	506	1	0	507	0	5	335	3	0	343	867
0730 - 0745	0	5	0	1	0	6	0	0	0	5	0	5	0	2	474	2	0	478	1	7	413	3	0	424	913
0745 - 0800	0	7	0	3	0	10	0	0	0	3	0	3	0	1	386	2	0	389	0	3	297	6	0	306	708
Hourly Total	0	27	0	8	0	**35**	0	3	0	16	0	**19**	0	7	1742	8	0	**1757**	1	17	1285	12	0	**1315**	**3126**
0800 - 0815	0	4	0	2	0	6	0	2	0	8	0	10	0	0	406	5	0	411	0	7	292	1	0	300	727
0815 - 0830	0	3	0	2	0	5	0	0	0	11	0	11	0	2	347	7	1	357	0	5	254	1	0	260	633
0830 - 0845	0	1	0	3	0	4	0	1	0	9	0	10	0	1	377	4	1	383	0	5	239	0	0	244	641
0845 - 0900	0	5	0	2	0	7	0	2	0	11	0	13	0	2	340	5	0	347	0	8	218	2	0	228	595
Hourly Total	0	13	0	9	0	**22**	0	5	0	39	0	**44**	0	5	1470	21	2	**1498**	0	25	1003	4	0	**1032**	**2596**
Grand Total	0	54	1	21	0	**76**	0	12	0	72	0	**84**	1	17	4732	33	2	**4785**	1	47	3654	28	0	**3730**	**8675**
App Percentage	0.00	71.05	1.32	27.63	0.00		0.00	14.29	0.00	85.71	0.00		0.02	0.36	98.89	0.69	0.04		0.03	1.26	97.96	0.75	0.00		
Int Percentage	0.00	0.62	0.01	0.24	0.00	0.88	0.00	0.14	0.00	0.83	0.00	0.97	0.01	0.20	54.55	0.38	0.02	55.16	0.01	0.54	42.12	0.32	0.00	43.00	
Cars	0	54	1	20	-	75	0	10	0	67	-	77	0	17	4504	32	-	4553	1	42	3437	26	-	3506	
Trucks	0	0	0	1	-	1	0	2	0	5	-	7	1	0	228	1	-	230	0	5	217	2	-	224	
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	
Cars (%)	0.00	100.00	100.00	95.24	-	98.68	0.00	83.33	0.00	93.06	-	91.67	0.00	100.00	95.18	96.97	-	95.19	100.00	89.36	94.06	92.86	-	93.99	
Trucks (%)	0.00	0.00	0.00	4.76	-	1.32	0.00	16.67	0.00	6.94	-	8.33	100.00	0.00	4.82	3.03	-	4.81	0.00	10.64	5.94	7.14	-	6.01	

1500 - 1800 (Weekday PM Peak)

	Eastbound Arden Village Dr						Westbound Grove Park Way						Northbound SR-6 Nashville Hwy (South)						Southbound SR-6 Nashville Hwy (North)						
TIME	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds 2a	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds 2b	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds 2c	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds 2d	App Total	Int Total
1500 - 1515	0	2	0	0	0	2	0	2	0	5	0	7	0	2	260	7	0	269	1	7	443	8	0	459	737
1515 - 1530	0	2	2	2	0	6	0	6	1	8	0	15	0	1	277	9	0	287	1	6	405	4	0	416	724
1530 - 1545	0	2	1	3	0	6	0	3	2	7	0	12	0	4	262	4	0	270	2	10	437	3	0	452	740
1545 - 1600	0	3	0	1	0	4	0	8	0	9	0	17	1	3	317	2	0	323	0	4	429	8	0	441	785
Hourly Total	0	9	3	6	0	**18**	0	19	3	29	0	**51**	1	10	1116	22	0	**1149**	4	27	1714	23	0	**1768**	**2986**
1600 - 1615	0	5	0	2	0	7	0	5	0	11	0	16	0	1	250	5	0	256	1	13	410	8	0	432	711
1615 - 1630	0	4	0	0	0	4	0	8	0	6	0	14	0	7	291	4	0	302	0	11	440	9	0	460	780
1630 - 1645	0	0	0	3	0	3	0	4	0	6	0	10	0	1	310	7	0	318	0	12	439	2	0	453	784
1645 - 1700	0	2	0	3	0	5	0	9	0	10	0	19	0	0	325	10	0	335	0	11	436	4	0	451	810
Hourly Total	0	11	0	8	0	**19**	0	26	0	33	0	**59**	0	9	1176	26	0	**1211**	1	47	1725	23	0	**1796**	**3085**
1700 - 1715	0	2	0	0	0	2	0	7	1	14	0	22	0	1	316	6	0	323	0	11	419	9	0	439	786
1715 - 1730	0	4	0	0	0	4	0	5	0	10	0	15	0	3	366	7	0	376	0	7	369	8	0	384	779
1730 - 1745	0	3	0	1	0	4	0	2	0	12	0	14	0	5	326	3	0	334	0	9	440	7	0	456	808
1745 - 1800	0	4	0	2	0	6	0	9	0	4	0	13	0	6	307	11	0	324	0	9	385	15	0	409	752
Hourly Total	0	13	0	3	0	**16**	0	23	1	40	0	**64**	0	15	1315	27	0	**1357**	0	36	1613	39	0	**1688**	**3125**
Grand Total	0	33	3	17	0	**53**	0	68	4	102	0	**174**	1	34	3607	75	0	**3717**	5	110	5052	85	0	**5252**	**9196**
App Percentage	0.00	62.26	5.66	32.08	0.00		0.00	39.08	2.30	58.62	0.00		0.03	0.91	97.04	2.02	0.00		0.10	2.09	96.19	1.62	0.00		
Int Percentage	0.00	0.36	0.03	0.18	0.00	0.58	0.00	0.74	0.04	1.11	0.00	1.89	0.01	0.37	39.22	0.82	0.00	40.42	0.05	1.20	54.94	0.92	0.00	57.11	
Cars	0	32	3	16	-	51	0	66	3	101	-	170	1	34	3436	75	-	3546	5	108	4904	85	-	5102	
Trucks	0	1	0	1	-	2	0	2	1	1	-	4	0	0	171	0	-	171	0	2	147	0	-	149	
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	
Cars (%)	0.00	96.97	100.00	94.12	-	96.23	0.00	97.06	75.00	99.02	-	97.70	100.00	100.00	95.26	100.00	-	95.40	100.00	98.18	97.09	100.00	-	97.16	
Trucks (%)	0.00	3.03	0.00	5.88	-	3.77	0.00	2.94	25.00	0.98	-	2.30	0.00	0.00	4.74	0.00	-	4.60	0.00	1.82	2.91	0.00	-	2.84	

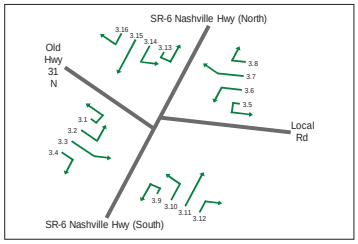
Columbia, TN
Classified Turn Movement Count

Site 3 of 4
Old Hwy 31 N
Local Rd
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.707700°, -86.975686°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C



Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
1 (615) 431-6750
1 (800) 615-3765

0600 - 0900 (Weekday AM Peak)

	Eastbound Old Hwy 31 N						Westbound Local Rd						Northbound SR-6 Nashville Hwy (South)						Southbound SR-6 Nashville Hwy (North)						
	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	Int
TIME	3.1	3.2	3.3	3.4	3a	Total	3.5	3.6	3.7	3.8	3b	Total	3.9	3.10	3.11	3.12	3c	Total	3.13	3.14	3.15	3.16	3d	Total	Total
0600 - 0615	0	0	0	9	0	9	0	0	0	0	0	0	0	13	402	0	0	415	0	0	167	0	0	167	591
0615 - 0630	0	0	0	27	0	27	0	0	0	0	0	0	0	10	370	0	0	380	0	0	554	0	0	554	961
0630 - 0645	0	0	0	9	0	9	0	0	0	0	0	0	1	20	339	0	0	360	0	0	363	0	0	363	732
0645 - 0700	0	0	0	12	0	12	0	0	0	0	0	0	1	38	361	0	0	400	0	0	238	0	0	238	650
Hourly Total	0	0	0	57	0	**57**	0	0	0	0	0	**0**	2	81	1472	0	0	**1555**	0	0	1322	0	0	**1322**	**2934**
0700 - 0715	0	0	0	11	0	11	0	0	0	0	0	0	0	45	336	0	0	381	0	0	230	0	0	230	622
0715 - 0730	0	0	0	35	0	35	0	0	0	0	0	0	0	55	461	0	0	516	1	0	305	0	0	306	857
0730 - 0745	0	0	0	45	0	45	0	0	0	0	0	0	2	46	433	0	0	481	0	0	381	0	0	381	907
0745 - 0800	0	1	0	26	0	27	0	0	0	0	0	0	0	13	400	0	0	413	0	0	285	0	0	285	725
Hourly Total	0	1	0	117	0	**118**	0	0	0	0	0	**0**	2	159	1630	0	0	**1791**	1	0	1201	0	0	**1202**	**3111**
0800 - 0815	0	0	0	17	0	17	0	0	0	0	0	0	0	14	397	0	0	411	0	0	280	1	0	281	709
0815 - 0830	0	0	0	8	0	8	0	0	0	0	0	0	0	14	350	0	0	364	0	0	248	2	0	250	622
0830 - 0845	0	0	0	6	0	6	0	0	0	0	0	0	0	17	366	0	0	383	0	0	240	0	0	240	629
0845 - 0900	0	1	0	9	0	10	0	0	0	0	0	0	1	39	319	0	0	359	0	0	215	0	0	215	584
Hourly Total	0	1	0	40	0	**41**	0	0	0	0	0	**0**	1	84	1432	0	0	**1517**	0	0	983	3	0	**986**	**2544**
Grand Total	0	2	0	214	0	**216**	0	0	0	0	0	**0**	5	324	4534	0	0	**4863**	1	0	3506	3	0	**3510**	**8589**
App Percentage	0.00	0.93	0.00	99.07	0.00		0.00	0.00	0.00	0.00	0.00		0.10	6.66	93.23	0.00	0.00		0.03	0.00	99.89	0.09	0.00		
Int Percentage	0.00	0.02	0.00	2.49	0.00	2.51	0.00	0.00	0.00	0.00	0.00	0.00	0.06	3.77	52.79	0.00	0.00	56.62	0.01	0.00	40.82	0.03	0.00	40.87	
Cars	0	2	0	207	-	209	0	0	0	0	-	0	5	318	4307	0	-	4630	1	0	3289	3	-	3293	
Trucks	0	0	0	7	-	7	0	0	0	0	-	0	0	6	227	0	-	233	0	0	217	0	-	217	
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	
Cars (%)	0.00	100.00	0.00	96.73	-	96.76	0.00	0.00	0.00	0.00	-	0.00	100.00	98.15	94.99	0.00	-	95.21	100.00	0.00	93.81	100.00	-	93.82	
Trucks (%)	0.00	0.00	0.00	3.27	-	3.24	0.00	0.00	0.00	0.00	-	0.00	0.00	1.85	5.01	0.00	-	4.79	0.00	0.00	6.19	0.00	-	6.18	

1500 - 1800 (Weekday PM Peak)

	Eastbound Old Hwy 31 N						Westbound Local Rd						Northbound SR-6 Nashville Hwy (South)						Southbound SR-6 Nashville Hwy (North)						
	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	Int
TIME	3.1	3.2	3.3	3.4	3a	Total	3.5	3.6	3.7	3.8	3b	Total	3.9	3.10	3.11	3.12	3c	Total	3.13	3.14	3.15	3.16	3d	Total	Total
1500 - 1515	0	0	0	46	0	46	0	0	0	0	0	0	0	5	258	0	0	263	1	0	419	1	0	421	730
1515 - 1530	0	0	0	24	0	24	0	0	0	0	0	0	0	13	278	0	0	291	0	0	393	0	0	393	708
1530 - 1545	0	0	0	24	0	24	0	1	1	0	0	2	0	6	272	0	0	278	0	0	438	2	0	440	744
1545 - 1600	0	0	0	18	0	18	0	0	0	0	0	0	0	13	311	1	0	325	0	0	419	2	0	421	764
Hourly Total	0	0	0	112	0	**112**	0	1	1	0	0	**2**	0	37	1119	1	0	**1157**	1	0	1669	5	0	**1675**	**2946**
1600 - 1615	0	0	0	18	0	18	0	0	0	0	0	0	1	11	255	0	0	267	0	0	410	0	0	410	695
1615 - 1630	0	0	0	18	0	18	0	0	0	0	0	0	0	12	285	0	0	297	0	0	439	0	0	439	754
1630 - 1645	0	0	0	26	0	26	0	0	0	0	0	0	0	11	303	0	0	314	0	0	433	0	0	433	773
1645 - 1700	0	0	0	19	0	19	0	0	0	0	0	0	0	8	335	0	0	343	1	0	426	0	0	427	789
Hourly Total	0	0	0	81	0	**81**	0	0	0	0	0	**0**	1	42	1178	0	0	**1221**	1	0	1708	0	0	**1709**	**3011**
1700 - 1715	0	1	0	24	0	25	0	0	0	0	0	0	0	14	315	0	0	329	0	0	412	0	0	412	766
1715 - 1730	0	0	0	23	0	23	0	0	0	0	0	0	0	16	358	0	0	374	0	0	355	0	0	355	752
1730 - 1745	0	1	0	25	0	26	0	0	0	0	0	0	0	14	328	0	0	342	1	0	427	0	0	428	796
1745 - 1800	0	2	0	18	0	20	0	0	0	0	0	0	1	13	308	0	0	322	0	0	392	0	0	392	734
Hourly Total	0	4	0	90	0	**94**	0	0	0	0	0	**0**	1	57	1309	0	0	**1367**	1	0	1586	0	0	**1587**	**3048**
Grand Total	0	4	0	283	0	**287**	0	1	1	0	0	**2**	2	136	3606	1	0	**3745**	3	0	4963	5	0	**4971**	**9005**
App Percentage	0.00	1.39	0.00	98.61	0.00		0.00	50.00	50.00	0.00	0.00		0.05	3.63	96.29	0.03	0.00		0.06	0.00	99.84	0.10	0.00		
Int Percentage	0.00	0.04	0.00	3.14	0.00	3.19	0.00	0.01	0.01	0.00	0.00	0.02	0.02	1.51	40.04	0.01	0.00	41.59	0.03	0.00	55.11	0.06	0.00	55.20	
Cars	0	4	0	277	-	281	0	1	1	0	-	2	2	129	3440	1	-	3572	3	0	4819	5	-	4827	
Trucks	0	0	0	6	-	6	0	0	0	0	-	0	0	7	166	0	-	173	0	0	143	0	-	143	
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	
Cars (%)	0.00	100.00	0.00	97.88	-	97.91	0.00	100.00	100.00	0.00	-	100.00	100.00	94.85	95.40	100.00	-	95.38	100.00	0.00	97.12	100.00	-	97.12	
Trucks (%)	0.00	0.00	0.00	2.12	-	2.09	0.00	0.00	0.00	0.00	-	0.00	0.00	5.15	4.60	0.00	-	4.62	0.00	0.00	2.88	0.00	-	2.88	

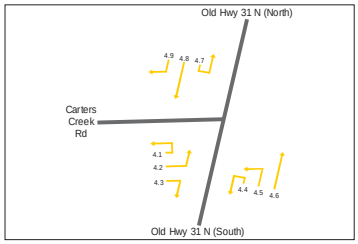
Columbia, TN
Classified Turn Movement Count

Site 4 of 4
Carters Creek Rd
Old Hwy 31 N (South)
Old Hwy 31 N (North)

Lat/Long
35.710390°, -86.975503°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C



Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
1 (615) 431-6750
1 (800) 615-3765

0600 - 0900 (Weekday AM Peak)

	Eastbound Carters Creek Rd					Northbound Old Hwy 31 N (South)					Southbound Old Hwy 31 N (North)					
	U-Turn	Left	Right	Peds	App	U-Turn	Left	Thru	Peds	App	U-Turn	Thru	Right	Peds	App	Int
TIME	4.1	4.2	4.3	4a	Total	4.4	4.5	4.6	4b	Total	4.7	4.8	4.9	4c	Total	Total
0600 - 0615	0	14	14	0	28	0	11	1	0	12	0	0	6	0	6	46
0615 - 0630	0	18	25	0	43	0	6	2	0	8	0	2	13	0	15	66
0630 - 0645	0	16	9	0	25	0	19	6	0	25	0	1	9	0	10	60
0645 - 0700	0	17	9	0	26	0	29	8	0	37	0	4	7	0	11	74
Hourly Total	0	65	57	0	**122**	0	65	17	0	**82**	0	7	35	0	**42**	**246**
0700 - 0715	0	25	11	0	36	0	30	15	0	45	0	3	22	0	25	106
0715 - 0730	0	41	21	0	62	0	30	28	0	58	0	14	32	0	46	166
0730 - 0745	0	38	21	0	59	0	24	27	0	51	0	24	23	0	47	157
0745 - 0800	0	17	27	0	44	0	9	3	0	12	0	4	11	0	15	71
Hourly Total	0	121	80	0	**201**	0	93	73	0	**166**	0	45	88	0	**133**	**500**
0800 - 0815	0	17	15	0	32	0	11	8	0	19	0	1	10	0	11	62
0815 - 0830	0	23	6	0	29	0	5	9	0	14	0	3	9	0	12	55
0830 - 0845	0	12	5	0	17	0	4	17	0	21	0	2	4	0	6	44
0845 - 0900	0	17	6	0	23	0	14	24	0	38	0	5	13	0	18	79
Hourly Total	0	69	32	0	**101**	0	34	58	0	**92**	0	11	36	0	**47**	**240**
Grand Total	0	255	169	0	**424**	0	192	148	0	**340**	0	63	159	0	**222**	**986**
App Percentage	0.00	60.14	39.86	0.00		0.00	56.47	43.53	0.00		0.00	28.38	71.62	0.00		
Int Percentage	0.00	25.86	17.14	0.00	43.00	0.00	19.47	15.01	0.00	34.48	0.00	6.39	16.13	0.00	22.52	
Cars	0	240	163	-	403	0	186	148	-	334	0	62	146	-	208	
Trucks	0	15	6	-	21	0	6	0	-	6	0	1	13	-	14	
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	
Cars (%)	0.00	94.12	96.45	-	95.05	0.00	96.88	100.00	-	98.24	0.00	98.41	91.82	-	93.69	
Trucks (%)	0.00	5.88	3.55	-	4.95	0.00	3.13	0.00	-	1.76	0.00	1.59	8.18	-	6.31	

1500 - 1800 (Weekday PM Peak)

	Eastbound Carters Creek Rd					Northbound Old Hwy 31 N (South)					Southbound Old Hwy 31 N (North)					
	U-Turn	Left	Right	Peds	App	U-Turn	Left	Thru	Peds	App	U-Turn	Thru	Right	Peds	App	Int
TIME	4.1	4.2	4.3	4a	Total	4.4	4.5	4.6	4b	Total	4.7	4.8	4.9	4c	Total	Total
1500 - 1515	0	17	33	0	50	0	5	3	0	8	0	16	42	0	58	116
1515 - 1530	0	21	19	0	40	0	6	4	0	10	0	5	22	0	27	77
1530 - 1545	0	14	16	0	30	0	8	4	0	12	0	9	20	0	29	71
1545 - 1600	0	15	16	0	31	0	13	6	0	19	0	8	20	0	28	78
Hourly Total	0	67	84	0	**151**	0	32	17	0	**49**	0	38	104	0	**142**	**342**
1600 - 1615	0	10	12	0	22	0	13	3	0	16	0	4	15	0	19	57
1615 - 1630	0	13	17	0	30	0	8	2	0	10	0	2	16	0	18	58
1630 - 1645	0	17	19	0	36	0	8	4	0	12	0	8	23	0	31	79
1645 - 1700	0	13	12	0	25	0	8	6	0	14	0	6	20	0	26	65
Hourly Total	0	53	60	0	**113**	0	37	15	0	**52**	0	20	74	0	**94**	**259**
1700 - 1715	0	19	21	0	40	0	12	3	0	15	0	7	24	0	31	86
1715 - 1730	0	13	16	0	29	0	10	6	0	16	0	9	15	0	24	69
1730 - 1745	0	19	14	0	33	0	10	6	0	16	0	10	13	0	23	72
1745 - 1800	0	8	20	0	28	0	10	2	0	12	0	3	32	0	35	75
Hourly Total	0	59	71	0	**130**	0	42	17	0	**59**	0	29	84	0	**113**	**302**
Grand Total	0	179	215	0	**394**	0	111	49	0	**160**	0	87	262	0	**349**	**903**
App Percentage	0.00	45.43	54.57	0.00		0.00	69.38	30.63	0.00		0.00	24.93	75.07	0.00		
Int Percentage	0.00	19.82	23.81	0.00	43.63	0.00	12.29	5.43	0.00	17.72	0.00	9.63	29.01	0.00	38.65	
Cars	0	172	209	-	381	0	106	47	-	153	0	87	256	-	343	
Trucks	0	7	6	-	13	0	5	2	-	7	0	0	6	-	6	
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	
Cars (%)	0.00	96.09	97.21	-	96.70	0.00	95.50	95.92	-	95.63	0.00	100.00	97.71	-	98.28	
Trucks (%)	0.00	3.91	2.79	-	3.30	0.00	4.50	4.08	-	4.38	0.00	0.00	2.29	-	1.72	

Grand Total (All Sessions)

	Westbound					Northbound					Southbound					
	Greens Mill Rd					SR-6 Nashville Hwy (South)					SR-6 Nashville Hwy (North)					
TIME	U-Turn 1.1	Left 1.2	Right 1.3		Peds 1a	App Total	U-Turn 1.4	Thru 1.5	Right 1.6		Peds 1b	App Total	U-Turn 1.7	Left 1.8	Thru 1.9		Peds 1c	App Total	Int Total
Grand Total	2	113	237		0	**352**	1	8260	106		0	**8367**	10	181	8680		0	**8871**	**17590**
App Percentage	0.57	32.10	67.33		0.00		0.01	98.72	1.27		0.00		0.11	2.04	97.85		0.00		
Int Percentage	0.01	0.64	1.35		0.00	2.00	0.01	46.96	0.60		0.00	47.57	0.06	1.03	49.35		0.00	50.43	
Cars	0	112	233		-	345	1	7864	105		-	7970	9	178	8310		-	8497	
Trucks	2	1	4		-	7	0	396	1		-	397	1	3	369		-	373	
P/Cycles	0	0	0		-	0	0	0	0		-	0	0	0	1		-	1	
Cars (%)	0.00	99.12	98.31		-	98.01	100.00	95.21	99.06		-	95.26	90.00	98.34	95.75		-	95.79	
Trucks (%)	100.00	0.88	1.69		-	1.99	0.00	4.79	0.94		-	4.74	10.00	1.66	4.25		-	4.21	

Grand Total (All Sessions)

	Eastbound						Westbound						Northbound						Southbound						
	Arden Village Dr						Grove Park Way						SR-6 Nashville Hwy (South)						SR-6 Nashville Hwy (North)						
TIME	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds 2a	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds 2b	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds 2c	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds 2d	App Total	Int Total
Grand Total	0	87	4	38	0	**129**	0	80	4	174	0	**258**	2	51	8339	108	2	**8502**	6	157	8706	113	0	**8982**	**17871**
App Percentage	0.00	67.44	3.10	29.46	0.00		0.00	31.01	1.55	67.44	0.00		0.02	0.60	98.08	1.27	0.02		0.07	1.75	96.93	1.26	0.00		
Int Percentage	0.00	0.49	0.02	0.21	0.00	0.72	0.00	0.45	0.02	0.97	0.00	1.44	0.01	0.29	46.66	0.60	0.01	47.57	0.03	0.88	48.72	0.63	0.00	50.26	
Cars	0	86	4	36	-	126	0	76	3	168	-	247	1	51	7940	107	-	8099	6	150	8341	111	-	8608	
Trucks	0	1	0	2	-	3	0	4	1	6	-	11	1	0	399	1	-	401	0	7	364	2	-	373	
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	
Cars (%)	0.00	98.85	100.00	94.74	-	97.67	0.00	95.00	75.00	96.55	-	95.74	50.00	100.00	95.22	99.07	-	95.28	100.00	95.54	95.82	98.23	-	95.85	
Trucks (%)	0.00	1.15	0.00	5.26	-	2.33	0.00	5.00	25.00	3.45	-	4.26	50.00	0.00	4.78	0.93	-	4.72	0.00	4.46	4.18	1.77	-	4.15	

Grand Total (All Sessions)

	Eastbound						Westbound						Northbound						Southbound						
	Old Hwy 31 N						Local Rd						SR-6 Nashville Hwy (South)						SR-6 Nashville Hwy (North)						
TIME	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds 3a	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds 3b	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds 3c	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds 3d	App Total	Int Total
Grand Total	0	6	0	497	0	**503**	0	1	1	0	0	**2**	7	460	8140	1	0	**8608**	4	0	8469	8	0	**8481**	**17594**
App Percentage	0.00	1.19	0.00	98.81	0.00		0.00	50.00	50.00	0.00	0.00		0.08	5.34	94.56	0.01	0.00		0.05	0.00	99.86	0.09	0.00		
Int Percentage	0.00	0.03	0.00	2.82	0.00	2.86	0.00	0.01	0.01	0.00	0.00	0.01	0.04	2.61	46.27	0.01	0.00	48.93	0.02	0.00	48.14	0.05	0.00	48.20	
Cars	0	6	0	484	-	490	0	1	1	0	-	2	7	447	7747	1	-	8202	4	0	8108	8	-	8120	
Trucks	0	0	0	13	-	13	0	0	0	0	-	0	0	13	393	0	-	406	0	0	360	0	-	360	
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	
Cars (%)	0.00	100.00	0.00	97.38	-	97.42	0.00	100.00	100.00	0.00	-	100.00	100.00	97.17	95.17	100.00	-	95.28	100.00	0.00	95.75	100.00	-	95.75	
Trucks (%)	0.00	0.00	0.00	2.62	-	2.58	0.00	0.00	0.00	0.00	-	0.00	0.00	2.83	4.83	0.00	-	4.72	0.00	0.00	4.25	0.00	-	4.25	

Grand Total (All Sessions)

	Eastbound					Northbound					Southbound					
	Carters Creek Rd					Old Hwy 31 N (South)					Old Hwy 31 N (North)					
TIME	U-Turn 4.1	Left 4.2	Right 4.3	Peds 4a	App Total	U-Turn 4.4	Left 4.5	Thru 4.6	Peds 4b	App Total	U-Turn 4.7	Thru 4.8	Right 4.9	Peds 4c	App Total	Int Total
Grand Total	0	434	384	0	**818**	0	303	197	0	**500**	0	150	421	0	**571**	**1889**
App Percentage	0.00	53.06	46.94	0.00		0.00	60.60	39.40	0.00		0.00	26.27	73.73	0.00		
Int Percentage	0.00	22.98	20.33	0.00	43.30	0.00	16.04	10.43	0.00	26.47	0.00	7.94	22.29	0.00	30.23	
Cars	0	412	372	-	784	0	292	195	-	487	0	149	402	-	551	
Trucks	0	22	12	-	34	0	11	2	-	13	0	1	19	-	20	
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	
Cars (%)	0.00	94.93	96.88	-	95.84	0.00	96.37	98.98	-	97.40	0.00	99.33	95.49	-	96.50	
Trucks (%)	0.00	5.07	3.13	-	4.16	0.00	3.63	1.02	-	2.60	0.00	0.67	4.51	-	3.50	

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0715 - 0815 (Intersection Peak Hour)

	Westbound					Northbound					Southbound					
	Greens Mill Rd					SR-6 Nashville Hwy (South)					SR-6 Nashville Hwy (North)					
TIME	U-Turn 1.1	Left 1.2	Right 1.3	Peds 1a	App Total	U-Turn 1.4	Thru 1.5	Right 1.6	Peds 1b	App Total	U-Turn 1.7	Left 1.8	Thru 1.9	Peds 1c	App Total	Int Total
0715 - 0730	0	9	27	0	36	0	487	0	0	487	0	7	340	0	347	870
0730 - 0745	0	9	25	0	34	0	459	1	0	460	1	11	401	0	413	907
0745 - 0800	0	6	11	0	17	0	379	7	0	386	0	7	315	0	322	725
0800 - 0815	0	3	8	0	11	0	415	1	0	416	0	6	285	0	291	718
Hourly Total	0	27	71	0	**98**	0	1740	9	0	**1749**	1	31	1341	0	**1373**	**3220**
Grand Total	0	27	71	0	**98**	0	1740	9	0	**1749**	1	31	1341	0	**1373**	**3220**
App Percentage	0.00	27.55	72.45	0.00		0.00	99.49	0.51	0.00		0.07	2.26	97.67	0.00		
Int Percentage	0.00	0.84	2.20	0.00	3.04	0.00	54.04	0.28	0.00	54.32	0.03	0.96	41.65	0.00	42.64	
Cars	0	27	71	-	98	0	1653	9	-	1662	1	30	1256	-	1287	3047
Trucks	0	0	0	-	0	0	87	0	-	87	0	1	85	-	86	173
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
Cars (%)	0.00	100.00	100.00	-	100.00	0.00	95.00	100.00	-	95.03	100.00	96.77	93.66	-	93.74	94.63
Trucks (%)	0.00	0.00	0.00	-	0.00	0.00	5.00	0.00	-	4.97	0.00	3.23	6.34	-	6.26	5.37
PHF	0.000	0.750	0.657	-	0.681	0.000	0.893	0.321	-	0.898	0.250	0.705	0.836	-	0.831	0.888

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0715 - 0815 (Intersection Peak Hour)

	Eastbound Arden Village Dr						Westbound Grove Park Way						Northbound SR-6 Nashville Hwy (South)						Southbound SR-6 Nashville Hwy (North)						
TIME	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds 2a	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds 2b	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds 2c	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds 2d	App Total	Int Total
0715 - 0730	0	7	0	3	0	10	0	2	0	5	0	7	0	0	506	1	0	507	0	5	335	3	0	343	867
0730 - 0745	0	5	0	1	0	6	0	0	0	5	0	5	0	2	474	2	0	478	1	7	413	3	0	424	913
0745 - 0800	0	7	0	3	0	10	0	0	0	3	0	3	0	1	386	2	0	389	0	3	297	6	0	306	708
0800 - 0815	0	4	0	2	0	6	0	2	0	8	0	10	0	0	406	5	0	411	0	7	292	1	0	300	727
Hourly Total	0	23	0	9	0	**32**	0	4	0	21	0	**25**	0	3	1772	10	0	**1785**	1	22	1337	13	0	**1373**	**3215**
Grand Total	0	23	0	9	0	**32**	0	4	0	21	0	**25**	0	3	1772	10	0	**1785**	1	22	1337	13	0	**1373**	**3215**
App Percentage	0.00	71.88	0.00	28.13	0.00		0.00	16.00	0.00	84.00	0.00		0.00	0.17	99.27	0.56	0.00		0.07	1.60	97.38	0.95	0.00		
Int Percentage	0.00	0.72	0.00	0.28	0.00	1.00	0.00	0.12	0.00	0.65	0.00	0.78	0.00	0.09	55.12	0.31	0.00	55.52	0.03	0.68	41.59	0.40	0.00	42.71	
Cars	0	23	0	8	-	31	0	3	0	20	-	23	0	3	1684	9	-	1696	1	19	1252	12	-	1284	3034
Trucks	0	0	0	1	-	1	0	1	0	1	-	2	0	0	88	1	-	89	0	3	85	1	-	89	181
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Cars (%)	0.00	100.00	0.00	88.89	-	96.88	0.00	75.00	0.00	95.24	-	92.00	0.00	100.00	95.03	90.00	-	95.01	100.00	86.36	93.64	92.31	-	93.52	94.37
Trucks (%)	0.00	0.00	0.00	11.11	-	3.13	0.00	25.00	0.00	4.76	-	8.00	0.00	0.00	4.97	10.00	-	4.99	0.00	13.64	6.36	7.69	-	6.48	5.63
PHF	0.000	0.821	0.000	0.750	-	0.800	0.000	0.500	0.000	0.656	-	0.625	0.000	0.375	0.875	0.500	-	0.880	0.250	0.786	0.809	0.542	-	0.810	0.880

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0715 - 0815 (Intersection Peak Hour)

	Eastbound						Westbound						Northbound						Southbound						
	Old Hwy 31 N						Local Rd						SR-6 Nashville Hwy (South)						SR-6 Nashville Hwy (North)						
TIME	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds 3a	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds 3b	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds 3c	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds 3d	App Total	Int Total
0715 - 0730	0	0	0	35	0	35	0	0	0	0	0	0	0	55	461	0	0	516	1	0	305	0	0	306	857
0730 - 0745	0	0	0	45	0	45	0	0	0	0	0	0	2	46	433	0	0	481	0	0	381	0	0	381	907
0745 - 0800	0	1	0	26	0	27	0	0	0	0	0	0	0	13	400	0	0	413	0	0	285	0	0	285	725
0800 - 0815	0	0	0	17	0	17	0	0	0	0	0	0	0	14	397	0	0	411	0	0	280	1	0	281	709
Hourly Total	0	1	0	123	0	**124**	0	0	0	0	0	**0**	2	128	1691	0	0	**1821**	1	0	1251	1	0	**1253**	**3198**
Grand Total	0	1	0	123	0	**124**	0	0	0	0	0	**0**	2	128	1691	0	0	**1821**	1	0	1251	1	0	**1253**	**3198**
App Percentage	0.00	0.81	0.00	99.19	0.00		0.00	0.00	0.00	0.00	0.00		0.11	7.03	92.86	0.00	0.00		0.08	0.00	99.84	0.08	0.00		
Int Percentage	0.00	0.03	0.00	3.85	0.00	3.88	0.00	0.00	0.00	0.00	0.00	0.00	0.06	4.00	52.88	0.00	0.00	56.94	0.03	0.00	39.12	0.03	0.00	39.18	
Cars	0	1	0	117	-	118	0	0	0	0	-	0	2	126	1604	0	-	1732	1	0	1167	1	-	1169	3019
Trucks	0	0	0	6	-	6	0	0	0	0	-	0	0	2	87	0	-	89	0	0	84	0	-	84	179
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Cars (%)	0.00	100.00	0.00	95.12	-	95.16	0.00	0.00	0.00	0.00	-	0.00	100.00	98.44	94.86	0.00	-	95.11	100.00	0.00	93.29	100.00	-	93.30	94.40
Trucks (%)	0.00	0.00	0.00	4.88	-	4.84	0.00	0.00	0.00	0.00	-	0.00	0.00	1.56	5.14	0.00	-	4.89	0.00	0.00	6.71	0.00	-	6.70	5.60
PHF	0.000	0.250	0.000	0.683	-	0.689	0.000	0.000	0.000	0.000	-	0.000	0.250	0.582	0.917	0.000	-	0.882	0.250	0.000	0.821	0.250	-	0.822	0.881

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0645 - 0745 (Intersection Peak Hour)

	Eastbound					Northbound					Southbound					
	Carters Creek Rd					Old Hwy 31 N (South)					Old Hwy 31 N (North)					
TIME	U-Turn 4.1	Left 4.2	Right 4.3	Peds 4a	App Total	U-Turn 4.4	Left 4.5	Thru 4.6	Peds 4b	App Total	U-Turn 4.7	Thru 4.8	Right 4.9	Peds 4c	App Total	Int Total
0645 - 0700	0	17	9	0	26	0	29	8	0	37	0	4	7	0	11	74
0700 - 0715	0	25	11	0	36	0	30	15	0	45	0	3	22	0	25	106
0715 - 0730	0	41	21	0	62	0	30	28	0	58	0	14	32	0	46	166
0730 - 0745	0	38	21	0	59	0	24	27	0	51	0	24	23	0	47	157
Hourly Total	0	121	62	0	**183**	0	113	78	0	**191**	0	45	84	0	**129**	**503**
Grand Total	0	121	62	0	**183**	0	113	78	0	**191**	0	45	84	0	**129**	**503**
App Percentage	0.00	66.12	33.88	0.00		0.00	59.16	40.84	0.00		0.00	34.88	65.12	0.00		
Int Percentage	0.00	24.06	12.33	0.00	36.38	0.00	22.47	15.51	0.00	37.97	0.00	8.95	16.70	0.00	25.65	
Cars	0	115	58	-	173	0	111	78	-	189	0	44	77	-	121	483
Trucks	0	6	4	-	10	0	2	0	-	2	0	1	7	-	8	20
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
Cars (%)	0.00	95.04	93.55	-	94.54	0.00	98.23	100.00	-	98.95	0.00	97.78	91.67	-	93.80	96.02
Trucks (%)	0.00	4.96	6.45	-	5.46	0.00	1.77	0.00	-	1.05	0.00	2.22	8.33	-	6.20	3.98
PHF	0.000	0.738	0.738	-	0.738	0.000	0.942	0.696	-	0.823	0.000	0.469	0.656	-	0.686	0.758

Columbia, TN
Classified Turn Movement Count

Site 1 of 4
Greens Mill Rd
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.702619°, -86.979254°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

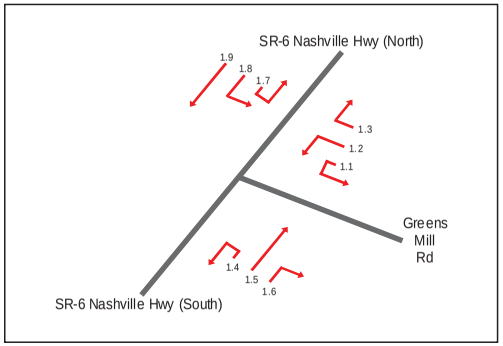
Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
1 (615) 431-6750
1 (800) 615-3765

C (Southbound) SR-6 Nashville Hwy (North)

C (In)	C (Out)	C (Tot)
1373	1812	3185

Peds	Thru	Left	U-Turn
0	1341	31	1



A (Westbound) Greens Mill Rd

Peds	0
Right	71
Left	27
U-Turn	0

A (In)	98
A (Out)	40
A (Tot)	138

B (Northbound) SR-6 Nashville Hwy (South)

U-Turn	Thru	Right	Peds
0	1740	9	0

B (Out)	B (In)	B (Tot)
1368	1749	3117

Time Interval

0715 - 0815 (Intersection Peak Hour)

Parameter

Grand Total

Columbia, TN
Classified Turn Movement Count

Site 2 of 4
Arden Village Dr
Grove Park Way
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.706070°, -86.976722°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
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D (Southbound) SR-6 Nashville Hwy (North)

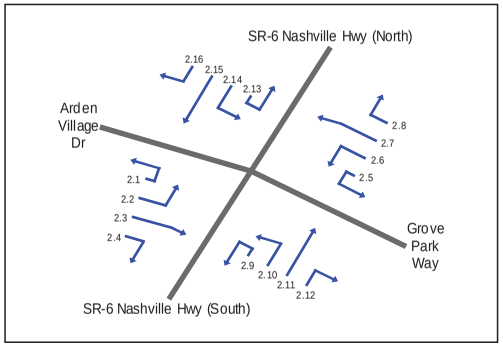
D (In)	D (Out)	D (Tot)
1373	1817	3190

Peds	Right	Thru	Left	U-Turn
0	13	1337	22	1

A (Eastbound) Arden Village Dr

A (Out)	16
A (In)	32
A (Tot)	48

U-Turn	0
Left	23
Thru	0
Right	9
Peds	0



B (Westbound) Grove Park Way

Peds	0
Right	21
Thru	0
Left	4
U-Turn	0

B (In)	25
B (Out)	32
B (Tot)	57

C (Northbound) SR-6 Nashville Hwy (South)

U-Turn	Left	Thru	Right	Peds
0	3	1772	10	0

C (Out)	C (In)	C (Tot)
1350	1785	3135

Time Interval

0715 - 0815 (Intersection Peak Hour)

Parameter

Grand Total

Columbia, TN
Classified Turn Movement Count

Site 3 of 4
Old Hwy 31 N
Local Rd
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.707700°, -86.975686°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

Marr Traffic
Transportation Data Collection

41 Peabody Street, Nashville, TN 37210
1 (615) 431-6750
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D (Southbound) SR-6 Nashville Hwy (North)

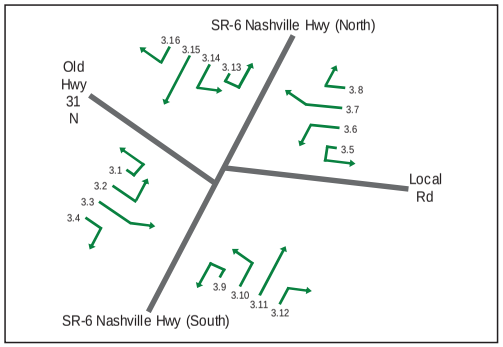
D (In)	D (Out)	D (Tot)
1253	1693	2946

Peds	Right	Thru	Left	U-Turn
0	1	1251	0	1

A (Eastbound) Old Hwy 31 N

A (Out)	129
A (In)	124
A (Tot)	253

U-Turn	0
Left	1
Thru	0
Right	123
Peds	0



B (Westbound) Local Rd

Peds	0
Right	0
Thru	0
Left	0
U-Turn	0

B (In)	0
B (Out)	0
B (Tot)	0

C (Northbound) SR-6 Nashville Hwy (South)

U-Turn	Left	Thru	Right	Peds
2	128	1691	0	0

C (Out)	C (In)	C (Tot)
1376	1821	3197

Time Interval

0715 - 0815 (Intersection Peak Hour)

Parameter

Grand Total

Columbia, TN
Classified Turn Movement Count

Site 4 of 4
Carters Creek Rd
Old Hwy 31 N (South)
Old Hwy 31 N (North)

Lat/Long
35.710390°, -86.975503°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

Marr Traffic
Transportation Data Collection

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C (Southbound) Old Hwy 31 N (North)

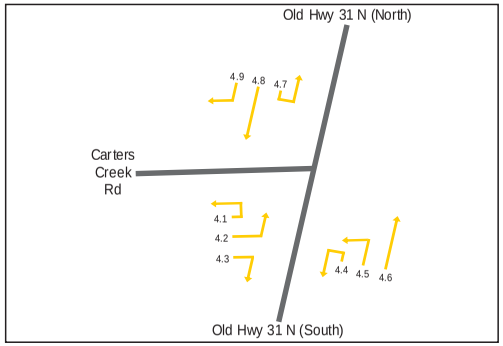
C (In)	C (Out)	C (Tot)
129	199	328

Peds	Right	Thru	U-Turn
0	84	45	0

A (Eastbound) Carters Creek Rd

A (Out)	197
A (In)	183
A (Tot)	380

U-Turn	0
Left	121
Right	62
Peds	0



B (Northbound) Old Hwy 31 N (South)

U-Turn	Left	Thru	Peds
0	113	78	0

B (Out)	B (In)	B (Tot)
107	191	298

Time Interval

0645 - 0745 (Intersection Peak Hour)

Parameter

Grand Total

Peak Hour Window: 1500 - 1800 (Weekday PM Peak)

1645 - 1745 (Intersection Peak Hour)

	Westbound					Northbound					Southbound					
	Greens Mill Rd					SR-6 Nashville Hwy (South)					SR-6 Nashville Hwy (North)					
TIME	U-Turn 1.1	Left 1.2	Right 1.3	Peds 1a	App Total	U-Turn 1.4	Thru 1.5	Right 1.6	Peds 1b	App Total	U-Turn 1.7	Left 1.8	Thru 1.9	Peds 1c	App Total	Int Total
1645 - 1700	0	4	10	0	14	0	327	3	0	330	1	10	436	0	447	791
1700 - 1715	0	7	5	0	12	0	310	9	0	319	0	12	398	0	410	741
1715 - 1730	0	7	13	0	20	0	365	14	0	379	0	8	380	0	388	787
1730 - 1745	0	4	11	0	15	0	327	3	0	330	0	6	420	0	426	771
Hourly Total	0	22	39	0	**61**	0	1329	29	0	**1358**	1	36	1634	0	**1671**	**3090**
Grand Total	0	22	39	0	**61**	0	1329	29	0	**1358**	1	36	1634	0	**1671**	**3090**
App Percentage	0.00	36.07	63.93	0.00		0.00	97.86	2.14	0.00		0.06	2.15	97.79	0.00		
Int Percentage	0.00	0.71	1.26	0.00	1.97	0.00	43.01	0.94	0.00	43.95	0.03	1.17	52.88	0.00	54.08	
Cars	0	22	38	-	60	0	1279	29	-	1308	1	36	1600	-	1637	3005
Trucks	0	0	1	-	1	0	50	0	-	50	0	0	34	-	34	85
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
Cars (%)	0.00	100.00	97.44	-	98.36	0.00	96.24	100.00	-	96.32	100.00	100.00	97.92	-	97.97	97.25
Trucks (%)	0.00	0.00	2.56	-	1.64	0.00	3.76	0.00	-	3.68	0.00	0.00	2.08	-	2.03	2.75
PHF	0.000	0.786	0.750	-	0.763	0.000	0.910	0.518	-	0.896	0.250	0.750	0.937	-	0.935	0.977

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0715 - 0815 (Intersection Peak Hour)

	Eastbound Arden Village Dr						Westbound Grove Park Way						Northbound SR-6 Nashville Hwy (South)						Southbound SR-6 Nashville Hwy (North)						
TIME	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds 2a	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds 2b	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds 2c	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds 2d	App Total	Int Total
0715 - 0730	0	7	0	3	0	10	0	2	0	5	0	7	0	0	506	1	0	507	0	5	335	3	0	343	867
0730 - 0745	0	5	0	1	0	6	0	0	0	5	0	5	0	2	474	2	0	478	1	7	413	3	0	424	913
0745 - 0800	0	7	0	3	0	10	0	0	0	3	0	3	0	1	386	2	0	389	0	3	297	6	0	306	708
0800 - 0815	0	4	0	2	0	6	0	2	0	8	0	10	0	0	406	5	0	411	0	7	292	1	0	300	727
Hourly Total	0	23	0	9	0	**32**	0	4	0	21	0	**25**	0	3	1772	10	0	**1785**	1	22	1337	13	0	**1373**	**3215**
Grand Total	0	23	0	9	0	**32**	0	4	0	21	0	**25**	0	3	1772	10	0	**1785**	1	22	1337	13	0	**1373**	**3215**
App Percentage	0.00	71.88	0.00	28.13	0.00		0.00	16.00	0.00	84.00	0.00		0.00	0.17	99.27	0.56	0.00		0.07	1.60	97.38	0.95	0.00		
Int Percentage	0.00	0.72	0.00	0.28	0.00	1.00	0.00	0.12	0.00	0.65	0.00	0.78	0.00	0.09	55.12	0.31	0.00	55.52	0.03	0.68	41.59	0.40	0.00	42.71	
Cars	0	23	0	8	-	31	0	3	0	20	-	23	0	3	1684	9	-	1696	1	19	1252	12	-	1284	3034
Trucks	0	0	0	1	-	1	0	1	0	1	-	2	0	0	88	1	-	89	0	3	85	1	-	89	181
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Cars (%)	0.00	100.00	0.00	88.89	-	96.88	0.00	75.00	0.00	95.24	-	92.00	0.00	100.00	95.03	90.00	-	95.01	100.00	86.36	93.64	92.31	-	93.52	94.37
Trucks (%)	0.00	0.00	0.00	11.11	-	3.13	0.00	25.00	0.00	4.76	-	8.00	0.00	0.00	4.97	10.00	-	4.99	0.00	13.64	6.36	7.69	-	6.48	5.63
PHF	0.000	0.821	0.000	0.750	-	0.800	0.000	0.500	0.000	0.656	-	0.625	0.000	0.375	0.875	0.500	-	0.880	0.250	0.786	0.809	0.542	-	0.810	0.880

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0715 - 0815 (Intersection Peak Hour)

	Eastbound						Westbound						Northbound						Southbound						
	Old Hwy 31 N						Local Rd						SR-6 Nashville Hwy (South)						SR-6 Nashville Hwy (North)						
TIME	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds 3a	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds 3b	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds 3c	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds 3d	App Total	Int Total
0715 - 0730	0	0	0	35	0	35	0	0	0	0	0	0	0	55	461	0	0	516	1	0	305	0	0	306	857
0730 - 0745	0	0	0	45	0	45	0	0	0	0	0	0	2	46	433	0	0	481	0	0	381	0	0	381	907
0745 - 0800	0	1	0	26	0	27	0	0	0	0	0	0	0	13	400	0	0	413	0	0	285	0	0	285	725
0800 - 0815	0	0	0	17	0	17	0	0	0	0	0	0	0	14	397	0	0	411	0	0	280	1	0	281	709
Hourly Total	0	1	0	123	0	**124**	0	0	0	0	0	**0**	2	128	1691	0	0	**1821**	1	0	1251	1	0	**1253**	**3198**
Grand Total	0	1	0	123	0	**124**	0	0	0	0	0	**0**	2	128	1691	0	0	**1821**	1	0	1251	1	0	**1253**	**3198**
App Percentage	0.00	0.81	0.00	99.19	0.00		0.00	0.00	0.00	0.00	0.00		0.11	7.03	92.86	0.00	0.00		0.08	0.00	99.84	0.08	0.00		
Int Percentage	0.00	0.03	0.00	3.85	0.00	3.88	0.00	0.00	0.00	0.00	0.00	0.00	0.06	4.00	52.88	0.00	0.00	56.94	0.03	0.00	39.12	0.03	0.00	39.18	
Cars	0	1	0	117	-	118	0	0	0	0	-	0	2	126	1604	0	-	1732	1	0	1167	1	-	1169	3019
Trucks	0	0	0	6	-	6	0	0	0	0	-	0	0	2	87	0	-	89	0	0	84	0	-	84	179
P/Cycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Cars (%)	0.00	100.00	0.00	95.12	-	95.16	0.00	0.00	0.00	0.00	-	0.00	100.00	98.44	94.86	0.00	-	95.11	100.00	0.00	93.29	100.00	-	93.30	94.40
Trucks (%)	0.00	0.00	0.00	4.88	-	4.84	0.00	0.00	0.00	0.00	-	0.00	0.00	1.56	5.14	0.00	-	4.89	0.00	0.00	6.71	0.00	-	6.70	5.60
PHF	0.000	0.250	0.000	0.683	-	0.689	0.000	0.000	0.000	0.000	-	0.000	0.250	0.582	0.917	0.000	-	0.882	0.250	0.000	0.821	0.250	-	0.822	0.881

Peak Hour Window: 0600 - 0900 (Weekday AM Peak)

0645 - 0745 (Intersection Peak Hour)

	Eastbound					Northbound					Southbound					
	Carters Creek Rd					Old Hwy 31 N (South)					Old Hwy 31 N (North)					
TIME	U-Turn 4.1	Left 4.2	Right 4.3	Peds 4a	App Total	U-Turn 4.4	Left 4.5	Thru 4.6	Peds 4b	App Total	U-Turn 4.7	Thru 4.8	Right 4.9	Peds 4c	App Total	Int Total
0645 - 0700	0	17	9	0	26	0	29	8	0	37	0	4	7	0	11	74
0700 - 0715	0	25	11	0	36	0	30	15	0	45	0	3	22	0	25	106
0715 - 0730	0	41	21	0	62	0	30	28	0	58	0	14	32	0	46	166
0730 - 0745	0	38	21	0	59	0	24	27	0	51	0	24	23	0	47	157
Hourly Total	0	121	62	0	**183**	0	113	78	0	**191**	0	45	84	0	**129**	**503**
Grand Total	0	121	62	0	**183**	0	113	78	0	**191**	0	45	84	0	**129**	**503**
App Percentage	0.00	66.12	33.88	0.00		0.00	59.16	40.84	0.00		0.00	34.88	65.12	0.00		
Int Percentage	0.00	24.06	12.33	0.00	36.38	0.00	22.47	15.51	0.00	37.97	0.00	8.95	16.70	0.00	25.65	
Cars	0	115	58	-	173	0	111	78	-	189	0	44	77	-	121	483
Trucks	0	6	4	-	10	0	2	0	-	2	0	1	7	-	8	20
P/Cycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
Cars (%)	0.00	95.04	93.55	-	94.54	0.00	98.23	100.00	-	98.95	0.00	97.78	91.67	-	93.80	96.02
Trucks (%)	0.00	4.96	6.45	-	5.46	0.00	1.77	0.00	-	1.05	0.00	2.22	8.33	-	6.20	3.98
PHF	0.000	0.738	0.738	-	0.738	0.000	0.942	0.696	-	0.823	0.000	0.469	0.656	-	0.686	0.758

Columbia, TN
Classified Turn Movement Count

Site 1 of 4
Greens Mill Rd
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.702619°, -86.979254°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

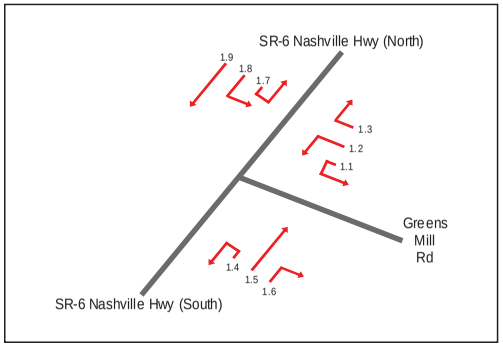
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C (Southbound) SR-6 Nashville Hwy (North)

C (In)	C (Out)	C (Tot)
1671	1369	3040

Peds	Thru	Left	U-Turn
0	1634	36	1



A (Westbound) Greens Mill Rd

Peds	0
Right	39
Left	22
U-Turn	0

A (In)	61
A (Out)	65
A (Tot)	126

B (Northbound) SR-6 Nashville Hwy (South)

U-Turn	Thru	Right	Peds
0	1329	29	0

B (Out)	B (In)	B (Tot)
1656	1358	3014

Time Interval

1645 - 1745 (Intersection Peak Hour)

Parameter

Grand Total

Columbia, TN
Classified Turn Movement Count

Site 2 of 4
Arden Village Dr
Grove Park Way
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.706070°, -86.976722°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

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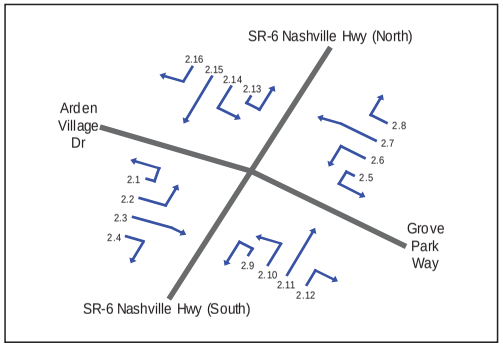
D (In)	D (Out)	D (Tot)
1373	1817	3190

Peds	Right	Thru	Left	U-Turn
0	13	1337	22	1

A (Eastbound) Arden Village Dr

A (Out)	16
A (In)	32
A (Tot)	48

U-Turn	0
Left	23
Thru	0
Right	9
Peds	0



B (Westbound) Grove Park Way

Peds	0
Right	21
Thru	0
Left	4
U-Turn	0

B (In)	25
B (Out)	32
B (Tot)	57

C (Northbound) SR-6 Nashville Hwy (South)

U-Turn	Left	Thru	Right	Peds
0	3	1772	10	0

C (Out)	C (In)	C (Tot)
1350	1785	3135

Time Interval

0715 - 0815 (Intersection Peak Hour)

Parameter

Grand Total

Columbia, TN
Classified Turn Movement Count

Site 3 of 4
Old Hwy 31 N
Local Rd
SR-6 Nashville Hwy (South)
SR-6 Nashville Hwy (North)

Lat/Long
35.707700°, -86.975686°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

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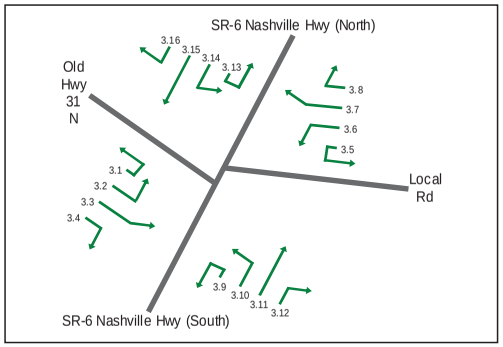
D (In)	D (Out)	D (Tot)
1253	1693	2946

Peds	Right	Thru	Left	U-Turn
0	1	1251	0	1

A (Eastbound) Old Hwy 31 N

A (Out)	129
A (In)	124
A (Tot)	253

U-Turn	0
Left	1
Thru	0
Right	123
Peds	0



B (Westbound) Local Rd

Peds	0
Right	0
Thru	0
Left	0
U-Turn	0

B (In)	0
B (Out)	0
B (Tot)	0

C (Northbound) SR-6 Nashville Hwy (South)

U-Turn	Left	Thru	Right	Peds
2	128	1691	0	0

C (Out)	C (In)	C (Tot)
1376	1821	3197

Time Interval

0715 - 0815 (Intersection Peak Hour)

Parameter

Grand Total

Columbia, TN
Classified Turn Movement Count

Site 4 of 4
Carters Creek Rd
Old Hwy 31 N (South)
Old Hwy 31 N (North)

Lat/Long
35.710390°, -86.975503°

Date
Wednesday 3 May 2017

Weather
Sunny Intervals
Temp: 28°C

Peak Hour Data (Interactive Diagram)

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1 (800) 615-3765

C (Southbound) Old Hwy 31 N (North)

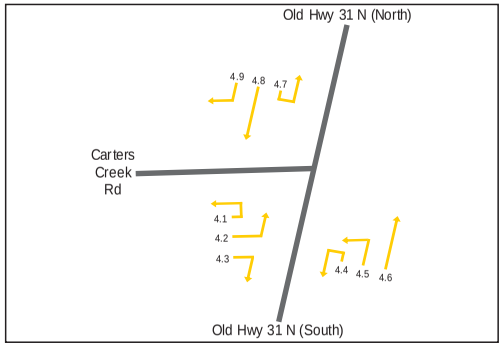
C (In)	C (Out)	C (Tot)
129	199	328

Peds	Right	Thru	U-Turn
0	84	45	0

A (Eastbound) Carters Creek Rd

A (Out)	197
A (In)	183
A (Tot)	380

U-Turn	0
Left	121
Right	62
Peds	0



B (Northbound) Old Hwy 31 N (South)

U-Turn	Left	Thru	Peds
0	113	78	0

B (Out)	B (In)	B (Tot)
107	191	298

Time Interval

0645 - 0745 (Intersection Peak Hour)

Parameter

Grand Total

APPENDIX C
TDOT COUNT DATA

TDOT Station Information

Station	000019	000223	000091
Route	00972	SR396	SR006
Location	SOUTHEAST NEAPOLIS	NEAR SPRING HILL	SOUTH OF NEAPOLIS
County	Maury	Maury	Maury
2015	1195	23291	34875
2014	1072	22575	34235
2013	973	23466	30975
2012	1016	21687	29517
2011	1048	21362	30297
2010	1104	22563	27335
2009	1145	21991	27095
2008	1110	23333	27226
2007	1207	21691	27921
2006	1193	22601	32741
2005	1171	25005	31459
2004	1399	25000	30322
2003	1359	24980	28802
2002	1184	23863	27462
2001	1089	24391	30777
2000	1165	NA	28764
1999	1231	NA	27152
1998	970	NA	26643
1997	963	NA	27282
1996	1056	NA	23600
1995	979	NA	24941
1994	650	NA	22257
1993	640	NA	20906
1992	642	NA	19642
1991	618	NA	19229
1990	640	NA	15303
1989	658	NA	16510
1988	585	NA	11643
1987	474	NA	9833
1986	610	NA	10334
1985	423	NA	9022
1984	NA	NA	NA
1983	NA	NA	NA

APPENDIX D
CAPACITY ANALYSES

EXISTING CONDITIONS CAPACITY ANALYSES

Intersection	
Int Delay, s/veh	1.7

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	140	1702	1269	1	2	125
Future Vol, veh/h	140	1702	1269	1	2	125
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	152	1850	1379	1	2	136

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1380	0	-	0	2609	690
Stage 1	-	-	-	-	1380	-
Stage 2	-	-	-	-	1229	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	493	-	-	-	20	388
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	239	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	493	-	-	-	20	388
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	239	-

Approach	NB	SB	SE
HCM Control Delay, s	1.2	0	26.7
HCM LOS			D

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	493	-	301	-	-
HCM Lane V/C Ratio	0.309	-	0.459	-	-
HCM Control Delay (s)	15.5	0	26.7	-	-
HCM Lane LOS	C	A	D	-	-
HCM 95th %tile Q(veh)	1.3	-	2.3	-	-

Intersection	
Int Delay, s/veh	23.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	71	1740	9	31	1341
Future Vol, veh/h	27	71	1740	9	31	1341
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	-	-	-	485	-
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	29	77	1891	10	34	1458

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2692	951	0	0	1901	0
Stage 1	1896	-	-	-	-	-
Stage 2	796	-	-	-	-	-
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	~ 17	260	-	-	309	-
Stage 1	104	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 15	260	-	-	309	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-	-
Stage 1	104	-	-	-	-	-
Stage 2	360	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 765.7	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	47	309	-
HCM Lane V/C Ratio	-	-	2.266	0.109	-
HCM Control Delay (s)	-	-	$ 765.7	18.1	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	11.1	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	0	9	4	0	21	3	1798	10	22	1359	13
Future Vol, veh/h	23	0	9	4	0	21	3	1798	10	22	1359	13
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	95	-	-	340	-	145	130	-	185
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	25	0	10	4	0	23	3	1954	11	24	1477	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2509	3486	739	2747	3486	977	1477	0	0	1954	0	0
Stage 1	1525	1525	-	1961	1961	-	-	-	-	-	-	-
Stage 2	984	1961	-	786	1525	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 14	6	360	9	6	250	452	-	-	295	-	-
Stage 1	123	178	-	65	108	-	-	-	-	-	-	-
Stage 2	267	108	-	351	178	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 12	5	360	8	5	250	452	-	-	295	-	-
Mov Cap-2 Maneuver	~ 12	5	-	8	5	-	-	-	-	-	-	-
Stage 1	122	164	-	65	107	-	-	-	-	-	-	-
Stage 2	241	107	-	314	164	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 818.2	129.4	0	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	452	-	-	12	360	8	250	295	-	-
HCM Lane V/C Ratio	0.007	-	-	2.083	0.027	0.543	0.091	0.081	-	-
HCM Control Delay (s)	13	-	-	$ 1132.4	15.3	$ 699.6	20.8	18.3	-	-
HCM Lane LOS	B	-	-	F	C	F	C	C	-	-
HCM 95th %tile Q(veh)	0	-	-	4	0.1	1.1	0.3	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	113	84	75	66	43	76
Future Vol, veh/h	113	84	75	66	43	76
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	123	91	82	72	47	83

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	323	88	129	0	-	0
Stage 1	88	-	-	-	-	-
Stage 2	235	-	-	-	-	-
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	671	970	1457	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	631	970	1457	-	-	-
Mov Cap-2 Maneuver	631	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1457	-	741	-	-
HCM Lane V/C Ratio	0.056	-	0.289	-	-
HCM Control Delay (s)	7.6	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	61	1336	1647	0	2	93
Future Vol, veh/h	61	1336	1647	0	2	93
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	66	1452	1790	0	2	101

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1790	0	-	0	2649	895
Stage 1	-	-	-	-	1790	-
Stage 2	-	-	-	-	859	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	342	-	-	-	19	284
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	375	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	342	-	-	-	0	284
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	0	-

Approach	NB	SB	SE
HCM Control Delay, s	8.7	0	24.7
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	342	-	284	-	-
HCM Lane V/C Ratio	0.194	-	0.364	-	-
HCM Control Delay (s)	18	8.3	24.7	-	-
HCM Lane LOS	C	A	C	-	-
HCM 95th %tile Q(veh)	0.7	-	1.6	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	39	1336	29	36	1655
Future Vol, veh/h	22	39	1336	29	36	1655
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	-	-	-	485	-
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	24	42	1452	32	39	1799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2446	742	0	0	1484	0
Stage 1	1468	-	-	-	-	-
Stage 2	978	-	-	-	-	-
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	26	358	-	-	449	-
Stage 1	178	-	-	-	-	-
Stage 2	325	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	24	358	-	-	449	-
Mov Cap-2 Maneuver	24	-	-	-	-	-
Stage 1	178	-	-	-	-	-
Stage 2	297	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	271.7	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	59	449	-
HCM Lane V/C Ratio	-	-	1.124	0.087	-
HCM Control Delay (s)	-	-	271.7	13.8	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	5.5	0.3	-

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	4	23	1	46	9	1340	26	38	1664	38
Future Vol, veh/h	11	0	4	23	1	46	9	1340	26	38	1664	38
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	95	-	-	340	-	145	130	-	185
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	12	0	4	25	1	50	10	1457	28	41	1809	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2639	3367	904	2463	3367	728	1809	0	0	1457	0	0
Stage 1	1891	1891	-	1476	1476	-	-	-	-	-	-	-
Stage 2	748	1476	-	987	1891	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 11	8	280	~ 16	8	366	336	-	-	460	-	-
Stage 1	72	117	-	132	189	-	-	-	-	-	-	-
Stage 2	371	189	-	265	117	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 8	7	280	~ 14	7	366	336	-	-	460	-	-
Mov Cap-2 Maneuver	~ 8	7	-	~ 14	7	-	-	-	-	-	-	-
Stage 1	70	107	-	128	183	-	-	-	-	-	-	-
Stage 2	309	183	-	238	107	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 831.7	$ 327.2	0.1	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	336	-	-	8	280	14	175	460	-	-
HCM Lane V/C Ratio	0.029	-	-	1.495	0.016	1.786	0.292	0.09	-	-
HCM Control Delay (s)	16	-	-	$ 1127.6	18.1	$ 926.7	33.8	13.6	-	-
HCM Lane LOS	C	-	-	F	C	F	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.4	0	3.8	1.2	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	64	63	40	21	32	72
Future Vol, veh/h	64	63	40	21	32	72
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	70	68	43	23	35	78

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	184	74	113	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	110	-	-	-	-	-
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	805	988	1476	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	781	988	1476	-	-	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	888	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	872	-	-
HCM Lane V/C Ratio	0.029	-	0.158	-	-
HCM Control Delay (s)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

BACKGROUND CONDITIONS
CAPACITY ANALYSES

Intersection	
Int Delay, s/veh	2.2

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	152	1855	1383	1	2	135
Future Vol, veh/h	152	1855	1383	1	2	135
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	165	2016	1503	1	2	147

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1504	0	-	0	2843	752
Stage 1	-	-	-	-	1504	-
Stage 2	-	-	-	-	1339	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	441	-	-	-	14	353
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	209	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	441	-	-	-	14	353
Mov Cap-2 Maneuver	-	-	-	-	14	-
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	209	-

Approach	NB	SB	SE
HCM Control Delay, s	1.4	0	35.6
HCM LOS			E

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	441	-	261	-	-
HCM Lane V/C Ratio	0.375	-	0.571	-	-
HCM Control Delay (s)	18	0	35.6	-	-
HCM Lane LOS	C	A	E	-	-
HCM 95th %tile Q(veh)	1.7	-	3.2	-	-

Intersection	
Int Delay, s/veh	41.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	77	1896	9	33	1461
Future Vol, veh/h	29	77	1896	9	33	1461
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	-	-	-	485	-
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	84	2061	10	36	1588

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2932	1035	0	0	2071	0
Stage 1	2066	-	-	-	-	-
Stage 2	866	-	-	-	-	-
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	~ 12	229	-	-	265	-
Stage 1	83	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 10	229	-	-	265	-
Mov Cap-2 Maneuver	~ 10	-	-	-	-	-
Stage 1	83	-	-	-	-	-
Stage 2	321	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1371.5	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	33	265	-
HCM Lane V/C Ratio	-	-	3.491	0.135	-
HCM Control Delay (s)	-	-	$ 1371.5	20.7	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	13.5	0.5	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	15.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	9	4	0	22	3	1960	10	23	1481	14
Future Vol, veh/h	25	0	9	4	0	22	3	1960	10	23	1481	14
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	95	-	-	340	-	145	130	-	185
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	27	0	10	4	0	24	3	2130	11	25	1610	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2732	3797	805	2992	3797	1065	1610	0	0	2130	0	0
Stage 1	1660	1660	-	2137	2137	-	-	-	-	-	-	-
Stage 2	1072	2137	-	855	1660	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 10	4	325	6	4	219	402	-	-	252	-	-
Stage 1	101	153	-	50	88	-	-	-	-	-	-	-
Stage 2	235	88	-	319	153	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 8	4	325	5	4	219	402	-	-	252	-	-
Mov Cap-2 Maneuver	~ 8	4	-	5	4	-	-	-	-	-	-	-
Stage 1	100	138	-	50	87	-	-	-	-	-	-	-
Stage 2	208	87	-	279	138	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1462.8	208.6	0	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	402	-	-	8	325	5	219	252	-	-
HCM Lane V/C Ratio	0.008	-	-	3.397	0.03	0.87	0.109	0.099	-	-
HCM Control Delay (s)	14	-	-	$ 1983.5	16.4	$ 1227.3	23.4	20.9	-	-
HCM Lane LOS	B	-	-	F	C	F	C	C	-	-
HCM 95th %tile Q(veh)	0	-	-	4.6	0.1	1.2	0.4	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	123	91	82	71	46	82
Future Vol, veh/h	123	91	82	71	46	82
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	134	99	89	77	50	89

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	350	95	139	0	-	0
Stage 1	95	-	-	-	-	-
Stage 2	255	-	-	-	-	-
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	647	962	1445	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	606	962	1445	-	-	-
Mov Cap-2 Maneuver	606	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1445	-	719	-	-
HCM Lane V/C Ratio	0.062	-	0.324	-	-
HCM Control Delay (s)	7.7	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	65	1456	1795	0	2	100
Future Vol, veh/h	65	1456	1795	0	2	100
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	71	1583	1951	0	2	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1951	0	-	0	2884	976
Stage 1	-	-	-	-	1951	-
Stage 2	-	-	-	-	933	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	296	-	-	-	13	251
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	343	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	296	-	-	-	0	251
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	0	-

Approach	NB	SB	SE
HCM Control Delay, s	10.1	0	30.2
HCM LOS			D

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	296	-	251	-	-
HCM Lane V/C Ratio	0.239	-	0.442	-	-
HCM Control Delay (s)	20.9	9.6	30.2	-	-
HCM Lane LOS	C	A	D	-	-
HCM 95th %tile Q(veh)	0.9	-	2.1	-	-

Intersection	
Int Delay, s/veh	10.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	42	1455	31	39	1803
Future Vol, veh/h	23	42	1455	31	39	1803
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	-	-	-	485	-
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	25	46	1582	34	42	1960

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2663	808	0	0	1615	0
Stage 1	1598	-	-	-	-	-
Stage 2	1065	-	-	-	-	-
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	~ 18	324	-	-	400	-
Stage 1	151	-	-	-	-	-
Stage 2	292	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 16	324	-	-	400	-
Mov Cap-2 Maneuver	~ 16	-	-	-	-	-
Stage 1	151	-	-	-	-	-
Stage 2	261	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 563	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	41	400	-
HCM Lane V/C Ratio	-	-	1.723	0.106	-
HCM Control Delay (s)	-	-	$ 563	15.1	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	7.3	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	19.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	4	25	1	50	9	1460	28	41	1813	41
Future Vol, veh/h	11	0	4	25	1	50	9	1460	28	41	1813	41
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	95	-	-	340	-	145	130	-	185
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	12	0	4	27	1	54	10	1587	30	45	1971	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2874	3667	985	2681	3667	793	1971	0	0	1587	0	0
Stage 1	2060	2060	-	1607	1607	-	-	-	-	-	-	-
Stage 2	814	1607	-	1074	2060	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 7	5	247	~ 11	5	331	290	-	-	410	-	-
Stage 1	56	96	-	109	163	-	-	-	-	-	-	-
Stage 2	338	163	-	235	96	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 4	4	247	~ 10	4	331	290	-	-	410	-	-
Mov Cap-2 Maneuver	~ 4	4	-	~ 10	4	-	-	-	-	-	-	-
Stage 1	54	85	-	105	157	-	-	-	-	-	-	-
Stage 2	271	157	-	206	85	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1868.2	$ 535.8	0.1	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	290	-	-	4	247	10	127	410	-	-
HCM Lane V/C Ratio	0.034	-	-	2.989	0.018	2.717	0.436	0.109	-	-
HCM Control Delay (s)	17.8	-	-	$ 2540.4	19.8	$ 1519.2	53.7	14.8	-	-
HCM Lane LOS	C	-	-	F	C	F	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.7	0.1	4.4	1.9	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	68	43	22	34	78
Future Vol, veh/h	69	68	43	22	34	78
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	75	74	47	24	37	85

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	196	79	122	0	-	0
Stage 1	79	-	-	-	-	-
Stage 2	117	-	-	-	-	-
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	793	981	1465	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	767	981	1465	-	-	-
Mov Cap-2 Maneuver	767	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1465	-	860	-	-
HCM Lane V/C Ratio	0.032	-	0.173	-	-
HCM Control Delay (s)	7.5	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

PROJECTED CONDITIONS CAPACITY ANALYSES

Intersection	
Int Delay, s/veh	3.9

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	161	1957	1464	1	2	142
Future Vol, veh/h	161	1957	1464	1	2	142
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	175	2127	1591	1	2	154

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1592	0	-	0	3006	796
Stage 1	-	-	-	-	1592	-
Stage 2	-	-	-	-	1414	-
Critical Hdwy	4.14	-	-	-	7.54	6.94
Critical Hdwy Stg 1	-	-	-	-	6.54	-
Critical Hdwy Stg 2	-	-	-	-	6.54	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	408	-	-	-	6	330
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	145	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	408	-	-	-	6	330
Mov Cap-2 Maneuver	-	-	-	-	6	-
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	145	-

Approach	NB	SB	SE
HCM Control Delay, s	1.5	0	78.1
HCM LOS			F

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	408	-	189	-	-
HCM Lane V/C Ratio	0.429	-	0.828	-	-
HCM Control Delay (s)	20.3	0	78.1	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	2.1	-	5.9	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	0	28	0	1949	1518	37
Future Vol, veh/h	0	28	0	1949	1518	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	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	0	30	0	2118	1650	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	845	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	306	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	306	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NE	SW
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NET	EBLn1	SWT	SWR
Capacity (veh/h)	-	306	-	-
HCM Lane V/C Ratio	-	0.099	-	-
HCM Control Delay (s)	-	18.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	111	18	28	29	15	77	44	1896	9	33	1498	51
Future Vol, veh/h	111	18	28	29	15	77	44	1896	9	33	1498	51
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	-	-	-	-	-	-	-	-	485	-	-
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	121	20	30	32	16	84	48	2061	10	36	1628	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2862	3894	842	3057	3916	1035	1684	0	0	2071	0	0
Stage 1	1728	1728	-	2161	2161	-	-	-	-	-	-	-
Stage 2	1134	2166	-	896	1755	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 8	~ 3	308	~ 5	~ 3	229	376	-	-	265	-	-
Stage 1	~ 92	142	-	48	85	-	-	-	-	-	-	-
Stage 2	216	85	-	301	137	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 3	308	-	~ 3	229	376	-	-	265	-	-
Mov Cap-2 Maneuver	-	~ 3	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	~ 92	123	-	48	85	-	-	-	-	-	-	-
Stage 2	~ 111	85	-	197	118	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.4	0.4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	376	-	-	-	8	-	265	-	-
HCM Lane V/C Ratio	0.127	-	-	-	6.25	-	0.135	-	-
HCM Control Delay (s)	16	0	-	$	3267.5	-	20.7	-	-
HCM Lane LOS	C	A	-	-	F	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	7.7	-	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	9	4	0	22	3	2071	10	23	1569	14
Future Vol, veh/h	25	0	9	4	0	22	3	2071	10	23	1569	14
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	95	-	-	340	-	145	130	-	185
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	27	0	10	4	0	24	3	2251	11	25	1705	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2887	4013	853	3161	4013	1126	1705	0	0	2251	0	0
Stage 1	1755	1755	-	2258	2258	-	-	-	-	-	-	-
Stage 2	1132	2258	-	903	1755	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 7	3	302	~ 4	3	199	369	-	-	225	-	-
Stage 1	88	137	-	42	76	-	-	-	-	-	-	-
Stage 2	216	76	-	299	137	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 6	3	302	~ 4	3	199	369	-	-	225	-	-
Mov Cap-2 Maneuver	~ 6	3	-	~ 4	3	-	-	-	-	-	-	-
Stage 1	87	122	-	42	75	-	-	-	-	-	-	-
Stage 2	188	75	-	257	122	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2034.3	265.9	0	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	369	-	-	6	302	4	199	225	-	-
HCM Lane V/C Ratio	0.009	-	-	4.529	0.032	1.087	0.12	0.111	-	-
HCM Control Delay (s)	14.8	-	-	$ 2760.4	17.3	$ 1588.3	25.5	23	-	-
HCM Lane LOS	B	-	-	F	C	F	D	C	-	-
HCM 95th %tile Q(veh)	0	-	-	4.8	0.1	1.3	0.4	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	123	95	87	75	49	82
Future Vol, veh/h	123	95	87	75	49	82
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	134	103	95	82	53	89

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	369	98	142	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	271	-	-	-	-	-
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	631	958	1441	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	587	958	1441	-	-	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1441	-	706	-	-
HCM Lane V/C Ratio	0.066	-	0.336	-	-
HCM Control Delay (s)	7.7	0	12.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

Intersection	
Int Delay, s/veh	6.5

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	75	1564	1918	0	2	112
Future Vol, veh/h	75	1564	1918	0	2	112
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	82	1700	2085	0	2	122

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2085	0	-	0	3098	1042
Stage 1	-	-	-	-	2085	-
Stage 2	-	-	-	-	1013	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	262	-	-	-	9	226
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	312	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	262	-	-	-	0	226
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	0	-

Approach	NB	SB	SE
HCM Control Delay, s	11.9	0	38.7
HCM LOS			E

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	262	-	226	-	-
HCM Lane V/C Ratio	0.311	-	0.548	-	-
HCM Control Delay (s)	24.8	11.3	38.7	-	-
HCM Lane LOS	C	B	E	-	-
HCM 95th %tile Q(veh)	1.3	-	3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	0	1553	1855	56
Future Vol, veh/h	0	29	0	1553	1855	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	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	0	32	0	1688	2016	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1039	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	227	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	227	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	227	-	-
HCM Lane V/C Ratio	-	0.139	-	-
HCM Control Delay (s)	-	23.4	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	20	29	23	22	42	67	1455	31	39	1859	79
Future Vol, veh/h	118	20	29	23	22	42	67	1455	31	39	1859	79
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	-	-	-	-	-	-	-	-	485	-	-
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	128	22	32	25	24	46	73	1582	34	42	2021	86

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3096	3909	1053	2850	3935	808	2107	0	0	1615	0	0
Stage 1	2148	2148	-	1744	1744	-	-	-	-	-	-	-
Stage 2	948	1761	-	1106	2191	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 5	~ 3	223	~ 8	~ 3	324	257	-	-	400	-	-
Stage 1	~ 49	87	-	90	139	-	-	-	-	-	-	-
Stage 2	280	136	-	224	82	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	223	-	0	324	257	-	-	400	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 49	78	-	90	0	-	-	-	-	-	-	-
Stage 2	-	0	-	124	73	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			11.5	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	257	-	-	-	223	-	400	-	-
HCM Lane V/C Ratio	0.283	-	-	-	0.239	-	0.106	-	-
HCM Control Delay (s)	24.5	11.2	-	-	26.1	-	15.1	-	-
HCM Lane LOS	C	B	-	-	D	-	C	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-	0.9	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	4	25	1	50	9	1578	28	41	1948	41
Future Vol, veh/h	11	0	4	25	1	50	9	1578	28	41	1948	41
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	95	-	-	340	-	145	130	-	185
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	12	0	4	27	1	54	10	1715	30	45	2117	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3085	3942	1059	2883	3942	858	2117	0	0	1715	0	0
Stage 1	2207	2207	-	1735	1735	-	-	-	-	-	-	-
Stage 2	878	1735	-	1148	2207	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 5	3	221	~ 7	3	300	255	-	-	366	-	-
Stage 1	45	81	-	91	140	-	-	-	-	-	-	-
Stage 2	309	140	-	211	81	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 3	3	221	~ 6	3	300	255	-	-	366	-	-
Mov Cap-2 Maneuver	~ 3	3	-	~ 6	3	-	-	-	-	-	-	-
Stage 1	43	71	-	87	135	-	-	-	-	-	-	-
Stage 2	241	135	-	181	71	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2565.2	$ 959.1	0.1	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	255	-	-	3	221	6	102	366	-	-
HCM Lane V/C Ratio	0.038	-	-	3.986	0.02	4.529	0.543	0.122	-	-
HCM Control Delay (s)	19.7	-	-	$ 3490.2	21.$	$ 2760.4	76.1	16.2	-	-
HCM Lane LOS	C	-	-	F	C	F	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.1	4.8	2.5	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	75	49	26	39	78
Future Vol, veh/h	69	75	49	26	39	78
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	75	82	53	28	42	85

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	220	85	127	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	135	-	-	-	-	-
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	768	974	1459	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	740	974	1459	-	-	-
Mov Cap-2 Maneuver	740	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	858	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1459	-	846	-	-
HCM Lane V/C Ratio	0.037	-	0.185	-	-
HCM Control Delay (s)	7.6	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

PROJECTED CONDITIONS WITH TURN LANE IMPROVEMENTS CAPACITY ANALYSES

Intersection	
Int Delay, s/veh	3.9

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	161	1957	1464	1	2	142
Future Vol, veh/h	161	1957	1464	1	2	142
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	175	2127	1591	1	2	154

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1592	0	-	0	3006	796
Stage 1	-	-	-	-	1592	-
Stage 2	-	-	-	-	1414	-
Critical Hdwy	4.14	-	-	-	7.54	6.94
Critical Hdwy Stg 1	-	-	-	-	6.54	-
Critical Hdwy Stg 2	-	-	-	-	6.54	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	408	-	-	-	6	330
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	145	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	408	-	-	-	6	330
Mov Cap-2 Maneuver	-	-	-	-	6	-
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	145	-

Approach	NB	SB	SE
HCM Control Delay, s	1.5	0	78.1
HCM LOS			F

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	408	-	189	-	-
HCM Lane V/C Ratio	0.429	-	0.828	-	-
HCM Control Delay (s)	20.3	0	78.1	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	2.1	-	5.9	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	28	0	1949	1518	37
Future Vol, veh/h	0	28	0	1949	1518	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	140
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	30	0	2118	1650	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	825	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	316	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	316	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	316	-
HCM Lane V/C Ratio	-	0.096	-
HCM Control Delay (s)	-	17.6	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	111	18	28	29	15	77	44	1896	9	33	1498	51
Future Vol, veh/h	111	18	28	29	15	77	44	1896	9	33	1498	51
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	-	-	-	-	-	200	-	-	485	-	140
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	121	20	30	32	16	84	48	2061	10	36	1628	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2834	3866	814	3057	3861	1035	1628	0	0	2071	0	0
Stage 1	1700	1700	-	2161	2161	-	-	-	-	-	-	-
Stage 2	1134	2166	-	896	1700	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 8	~ 3	321	~ 5	~ 4	229	395	-	-	265	-	-
Stage 1	~ 96	146	-	48	85	-	-	-	-	-	-	-
Stage 2	216	85	-	301	146	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 2	321	-	~ 3	229	395	-	-	265	-	-
Mov Cap-2 Maneuver	-	~ 2	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	~ 84	126	-	42	75	-	-	-	-	-	-	-
Stage 2	~ 94	75	-	199	126	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.3	0.4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	395	-	-	-	5	-	265	-	-
HCM Lane V/C Ratio	0.121	-	-	-	10	-	0.135	-	-
HCM Control Delay (s)	15.4	-	-	$ 5459.4		-	20.7	-	-
HCM Lane LOS	C	-	-	-	F	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	8	-	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	9	4	0	22	3	2071	10	23	1569	14
Future Vol, veh/h	25	0	9	4	0	22	3	2071	10	23	1569	14
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	95	-	-	340	-	145	130	-	185
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	27	0	10	4	0	24	3	2251	11	25	1705	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2887	4013	853	3161	4013	1126	1705	0	0	2251	0	0
Stage 1	1755	1755	-	2258	2258	-	-	-	-	-	-	-
Stage 2	1132	2258	-	903	1755	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 7	3	302	~ 4	3	199	369	-	-	225	-	-
Stage 1	88	137	-	42	76	-	-	-	-	-	-	-
Stage 2	216	76	-	299	137	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 6	3	302	~ 4	3	199	369	-	-	225	-	-
Mov Cap-2 Maneuver	~ 6	3	-	~ 4	3	-	-	-	-	-	-	-
Stage 1	87	122	-	42	75	-	-	-	-	-	-	-
Stage 2	188	75	-	257	122	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2034.3	265.9	0	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	369	-	-	6	302	4	199	225	-	-
HCM Lane V/C Ratio	0.009	-	-	4.529	0.032	1.087	0.12	0.111	-	-
HCM Control Delay (s)	14.8	-	-	$ 2760.4	17.3	$ 1588.3	25.5	23	-	-
HCM Lane LOS	B	-	-	F	C	F	D	C	-	-
HCM 95th %tile Q(veh)	0	-	-	4.8	0.1	1.3	0.4	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	123	95	87	75	49	82
Future Vol, veh/h	123	95	87	75	49	82
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	134	103	95	82	53	89

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	369	98	142	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	271	-	-	-	-	-
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	631	958	1441	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	587	958	1441	-	-	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1441	-	706	-	-
HCM Lane V/C Ratio	0.066	-	0.336	-	-
HCM Control Delay (s)	7.7	0	12.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

Intersection	
Int Delay, s/veh	6.5

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	75	1564	1918	0	2	112
Future Vol, veh/h	75	1564	1918	0	2	112
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	82	1700	2085	0	2	122

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2085	0	-	0	3098	1042
Stage 1	-	-	-	-	2085	-
Stage 2	-	-	-	-	1013	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	262	-	-	-	9	226
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	312	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	262	-	-	-	0	226
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	0	-

Approach	NB	SB	SE
HCM Control Delay, s	11.9	0	38.7
HCM LOS			E

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	262	-	226	-	-
HCM Lane V/C Ratio	0.311	-	0.548	-	-
HCM Control Delay (s)	24.8	11.3	38.7	-	-
HCM Lane LOS	C	B	E	-	-
HCM 95th %tile Q(veh)	1.3	-	3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	0	1553	1855	56
Future Vol, veh/h	0	29	0	1553	1855	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	140
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	32	0	1688	2016	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1008	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	239	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	239	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	239	-
HCM Lane V/C Ratio	-	0.132	-
HCM Control Delay (s)	-	22.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0.4	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	20	29	23	22	42	67	1455	31	39	1859	79
Future Vol, veh/h	118	20	29	23	22	42	67	1455	31	39	1859	79
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	-	-	-	-	-	200	-	-	485	-	140
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	128	22	32	25	24	46	73	1582	34	42	2021	86

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3053	3866	1010	2850	3849	808	2021	0	0	1615	0	0
Stage 1	2105	2105	-	1744	1744	-	-	-	-	-	-	-
Stage 2	948	1761	-	1106	2105	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 5	~ 3	238	~ 8	~ 4	324	278	-	-	400	-	-
Stage 1	~ 53	91	-	90	139	-	-	-	-	-	-	-
Stage 2	280	136	-	224	91	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 2	238	-	~ 3	324	278	-	-	400	-	-
Mov Cap-2 Maneuver	-	~ 2	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	~ 39	81	-	66	103	-	-	-	-	-	-	-
Stage 2	136	100	-	127	81	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	278	-	-	-	5	-	400	-	-
HCM Lane V/C Ratio	0.262	-	-	-	10.652	-	0.106	-	-
HCM Control Delay (s)	22.5	-	-	-	$ 5754.7	-	15.1	-	-
HCM Lane LOS	C	-	-	-	F	-	C	-	-
HCM 95th %tile Q(veh)	1	-	-	-	8.4	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	4	25	1	50	9	1578	28	41	1948	41
Future Vol, veh/h	11	0	4	25	1	50	9	1578	28	41	1948	41
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	95	-	-	340	-	145	130	-	185
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	12	0	4	27	1	54	10	1715	30	45	2117	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3085	3942	1059	2883	3942	858	2117	0	0	1715	0	0
Stage 1	2207	2207	-	1735	1735	-	-	-	-	-	-	-
Stage 2	878	1735	-	1148	2207	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 5	3	221	~ 7	3	300	255	-	-	366	-	-
Stage 1	45	81	-	91	140	-	-	-	-	-	-	-
Stage 2	309	140	-	211	81	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 3	3	221	~ 6	3	300	255	-	-	366	-	-
Mov Cap-2 Maneuver	~ 3	3	-	~ 6	3	-	-	-	-	-	-	-
Stage 1	43	71	-	87	135	-	-	-	-	-	-	-
Stage 2	241	135	-	181	71	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2565.2	$ 959.1	0.1	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	255	-	-	3	221	6	102	366	-	-
HCM Lane V/C Ratio	0.038	-	-	3.986	0.02	4.529	0.543	0.122	-	-
HCM Control Delay (s)	19.7	-	-	$ 3490.2	21.$	$ 2760.4	76.1	16.2	-	-
HCM Lane LOS	C	-	-	F	C	F	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.1	4.8	2.5	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	75	49	26	39	78
Future Vol, veh/h	69	75	49	26	39	78
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	75	82	53	28	42	85

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	220	85	127	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	135	-	-	-	-	-
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	768	974	1459	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	740	974	1459	-	-	-
Mov Cap-2 Maneuver	740	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	858	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1459	-	846	-	-
HCM Lane V/C Ratio	0.037	-	0.185	-	-
HCM Control Delay (s)	7.6	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

PROJECTED CONDITIONS
WITH TURN LANE AND TRAFFIC SIGNAL IMPROVEMENTS
CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	18	28	29	15	77	44	1896	9	33	1498	51
Future Volume (veh/h)	111	18	28	29	15	77	44	1896	9	33	1498	51
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	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	121	20	30	32	16	84	48	2061	10	36	1628	55
Adj No. of Lanes	1	1	0	0	1	0	1	2	0	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	255	89	133	91	42	133	270	2415	12	198	2321	1038
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.67	0.67	0.03	0.66	0.66
Sat Flow, veh/h	1290	674	1011	259	318	1009	1774	3612	18	1774	3539	1583
Grp Volume(v), veh/h	121	0	50	132	0	0	48	1009	1062	36	1628	55
Grp Sat Flow(s),veh/h/ln	1290	0	1684	1586	0	0	1774	1770	1860	1774	1770	1583
Q Serve(g_s), s	1.4	0.0	2.1	2.9	0.0	0.0	0.7	34.7	34.8	0.5	23.1	1.0
Cycle Q Clear(g_c), s	7.5	0.0	2.1	6.1	0.0	0.0	0.7	34.7	34.8	0.5	23.1	1.0
Prop In Lane	1.00		0.60	0.24		0.64	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	255	0	222	266	0	0	270	1183	1244	198	2321	1038
V/C Ratio(X)	0.47	0.00	0.22	0.50	0.00	0.00	0.18	0.85	0.85	0.18	0.70	0.05
Avail Cap(c_a), veh/h	379	0	384	415	0	0	321	1200	1261	260	2377	1064
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	30.6	32.3	0.0	0.0	7.8	10.1	10.1	12.7	8.7	4.8
Incr Delay (d2), s/veh	1.4	0.0	0.5	1.4	0.0	0.0	0.3	6.1	5.9	0.4	0.9	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	2.6	0.0	1.0	2.8	0.0	0.0	0.4	18.5	19.4	0.4	11.4	0.4
LnGrp Delay(d),s/veh	34.4	0.0	31.1	33.7	0.0	0.0	8.1	16.1	15.9	13.1	9.6	4.9
LnGrp LOS	C		C	C			A	B	B	B	A	A
Approach Vol, veh/h		171			132			2119			1719	
Approach Delay, s/veh		33.5			33.7			15.9			9.5	
Approach LOS		C			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	57.3		14.9	7.8	56.2		14.9
Change Period (Y+Rc), s	4.0	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	53.5		18.0	5.5	53.0		18.0
Max Q Clear Time (g_c+I1), s	2.5	36.8		9.5	2.7	25.1		8.1
Green Ext Time (p_c), s	0.0	16.0		0.9	0.0	26.0		1.0

Intersection Summary		
HCM 2010 Ctrl Delay		14.5
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	20	29	23	22	42	67	1455	31	39	1859	79
Future Volume (veh/h)	118	20	29	23	22	42	67	1455	31	39	1859	79
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	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	128	22	32	25	24	46	73	1582	34	42	2021	86
Adj No. of Lanes	1	1	0	0	1	0	1	2	0	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	261	80	116	89	65	91	222	2393	51	287	2347	1050
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.05	0.68	0.68	0.04	0.66	0.66
Sat Flow, veh/h	1325	687	999	274	561	784	1774	3543	76	1774	3539	1583
Grp Volume(v), veh/h	128	0	54	95	0	0	73	789	827	42	2021	86
Grp Sat Flow(s),veh/h/ln	1325	0	1686	1619	0	0	1774	1770	1849	1774	1770	1583
Q Serve(g_s), s	2.2	0.0	2.3	1.1	0.0	0.0	1.0	20.7	20.8	0.6	35.5	1.5
Cycle Q Clear(g_c), s	6.4	0.0	2.3	4.2	0.0	0.0	1.0	20.7	20.8	0.6	35.5	1.5
Prop In Lane	1.00		0.59	0.26		0.48	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	261	0	196	245	0	0	222	1195	1249	287	2347	1050
V/C Ratio(X)	0.49	0.00	0.28	0.39	0.00	0.00	0.33	0.66	0.66	0.15	0.86	0.08
Avail Cap(c_a), veh/h	409	0	383	420	0	0	244	1195	1249	338	2391	1070
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	32.0	32.8	0.0	0.0	16.0	7.5	7.5	6.5	10.5	4.8
Incr Delay (d2), s/veh	1.4	0.0	0.8	1.0	0.0	0.0	0.9	1.4	1.3	0.2	3.4	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	2.8	0.0	1.1	2.0	0.0	0.0	1.1	10.3	10.8	0.3	18.0	0.7
LnGrp Delay(d),s/veh	35.0	0.0	32.7	33.8	0.0	0.0	16.8	8.9	8.9	6.7	13.9	4.8
LnGrp LOS	D		C	C			B	A	A	A	B	A
Approach Vol, veh/h		182			95			1689			2149	
Approach Delay, s/veh		34.4			33.8			9.2			13.4	
Approach LOS		C			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	7.5	58.0		13.7	8.5	57.0		13.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.3	53.2		18.0	5.0	53.5		18.0
Max Q Clear Time (g_c+I1), s	2.6	22.8		8.4	3.0	37.5		6.2
Green Ext Time (p_c), s	0.0	27.9		0.8	0.0	15.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

APPENDIX E
TRIP GENERATION CALCULATIONS

TRIP GENERATION
Church Property at Homestead

Apartment – 181 Units

Use ITE Land Use Code 220 and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic – Use the Fitted Curve Equation for Average Daily Traffic on a Weekday

T = 6.06 (X) + 123.56
T = 6.06 (181) + 123.56
T = 1,220

A.M. Peak Hour - Use the Fitted Curve Equation for the AM Peak Hour of the Adjacent Street Traffic (one hour between 7:00 AM and 9:00 AM) on a Weekday

T = 0.49 (X) + 3.73
T = 0.49 (181) + 3.73
T = 92

Enter = 0.20 (92) = 18
Exit = 0.80 (92) = 74

P.M. Peak Hour - Use the Fitted Curve Equation for the PM Peak Hour of the Adjacent Street Traffic (one hour between 4:00 PM and 6:00 PM) on a Weekday

T = 0.55 (X) + 17.65
T = 0.55 (181) + 17.65
T = 117

Enter = 0.65 (117) = 77
Exit = 0.35 (117) = 41

TRIP GENERATION
Church Property at Homestead

Residential Condominium/Townhouse – 108 Units

Use ITE Land Use Code 230 and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic – Use the Fitted Curve Equation for Average Daily Traffic on a Weekday

Ln(T) = 0.87 Ln(X) + 2.46
Ln(T) = 0.87 Ln(108) + 2.46
T = 688

A.M. Peak Hour - Use the Fitted Curve Equation for the AM Peak Hour of the Adjacent Street Traffic (one hour between 7:00 AM and 9:00 AM) on a Weekday

Ln(T) = 0.80 Ln(X) + 0.26
Ln(T) = 0.80 Ln(108) + 0.26
T = 55

Enter = 0.17 (55) = 9
Exit = 0.83 (55) = 46

P.M. Peak Hour - Use the Fitted Curve Equation for the PM Peak Hour of the Adjacent Street Traffic (one hour between 4:00 PM and 6:00 PM) on a Weekday

Ln(T) = 0.82 Ln(X) + 0.32
Ln(T) = 0.82 Ln(55) + 0.32
T = 37

Enter = 0.67 (37) = 25
Exit = 0.33 (37) = 12

TRIP GENERATION
Church Property at Homestead

Office – 9,300 square feet

Use ITE Land Use Code 710 and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic – Use Average Rate for Average Daily Traffic on a Weekday

T = 11.03 (X)
T = 11.03 (9.3)
T = 103

A.M. Peak Hour - Use Average Rate for AM Peak Hour of the Adjacent Street (between 7:00 AM and 9:00 AM)

T = 1.56 (X)
T = 1.56 (9.3)
T = 15

Enter = 0.88 (15) = 13
Exit = 0.12 (15) = 2

P.M. Peak Hour - Use Average Rate for PM Peak Hour of the Adjacent Street (between 4:00 PM and 6:00 PM)

T = 1.49 (X)
T = 1.49 (9.3)
T = 14

Enter = 0.17 (14) = 2
Exit = 0.83 (14) = 12

TRIP GENERATION
Church Property at Homestead

Specialty Retail – 68,300 square feet

Use ITE Land Use Code 826 and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

T = 42.78 (X) + 37.66
T = 42.78 (68.3) + 37.66
T = 2960

AM Peak Hour - Assume the AM Peak Hour of the Adjacent Street (between 7:00 AM and 9:00 AM) is 50% of the PM Peak Hour Trip Generation of the Adjacent Street. Assume directional distribution is similar to that of LUC 820 for AM Peak Hour of the Adjacent Street.

T = 0.50 (PM Trips)
T = 0.50 (185)
T = 93

Enter = 0.61(93) = 57
Exit = 0.39(93) = 36

PM Peak Hour - Use PM Peak Hour of the Adjacent Street (between 4:00 and 6:00 PM)

T = 2.40(X) +21.48
T = 2.40(68.3) +21.48
T = 185

Enter = 0.44 (185) = 81
Exit = 0.56 (185) = 104

TRIP GENERATION
Church Property at Homestead

High-Turnover (Sit-Down) Restaurant – 9,300 square feet

Use ITE Land Use Code 932 and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic
T = 127.15 (X)
T = 127.15 (9.3)
T = 1183

A.M. Peak Hour - Use average rate for the AM Peak Hour of the Adjacent Street (between 7:00 AM and 9:00 AM)

T = 10.81(X)
T = 10.81 (9.3)
T = 101

Enter = 0.55 (101) = 56
Exit = 0.45 (101) = 45

P.M. Peak Hour - Use average rate for the PM Peak Hour of the Adjacent Street (between 4:00 PM and 6:00 PM)

T = 9.85 (X)
T = 9.85 (9.3)
T = 92

Enter = 0.60 (92) = 55
Exit = 0.40 (92) = 37

TRIP GENERATION
TOTAL SITE GENERATED TRAFFIC

LAND USE	SIZE	DAILY TRAFFIC	GENERATED TRAFFIC			
			AM PEAK HR.		PM PEAK HR.	
			ENTER	EXIT	ENTER	EXIT
Apartments (220)	181 d.u.	1,220	18	74	76	41
Townhomes (230)	108 d.u.	688	9	46	25	12
Office (710)	9,300 s.f.	103	13	2	2	12
Specialty Retail (826)	68,300 s.f.	2,960	57	36	81	104
Restaurant (932)	9,300 s.f.	1,183	56	45	55	37
TOTAL		**6,154**	**153**	**203**	**239**	**206**

TRIP GENERATION
INTERNAL SITE GENERATED TRAFFIC

Assumes: 15% Internal (for Commercial)

LAND USE	SIZE	DAILY TRAFFIC	GENERATED TRAFFIC			
			AM PEAK HR.		PM PEAK HR.	
			ENTER	EXIT	ENTER	EXIT
Apartments (220)	181 d.u.	183	3	11	11	6
Townhomes (230)	108 d.u.	103	1	7	4	2
Office (710)	9,300 s.f.	15	2	0	0	2
Specialty Retail (826)	68,300 s.f.	0	0	0	0	0
Restaurant (932)	9,300 s.f.	0	0	0	0	0
TOTAL		**301**	**6**	**18**	**15**	**10**

TRIP GENERATION
EXTERNAL SITE GENERATED TRAFFIC

Assumes: 15% Internal (for Commercial)

LAND USE	SIZE	DAILY TRAFFIC	GENERATED TRAFFIC			
			AM PEAK HR.		PM PEAK HR.	
			ENTER	EXIT	ENTER	EXIT
Apartments (220)	181 d.u.	1,037	15	63	65	35
Townhomes (230)	108 d.u.	585	8	39	21	10
Office (710)	9,300 s.f.	88	11	2	2	10
Specialty Retail (826)	68,300 s.f.	2,960	57	36	81	104
Restaurant (932)	9,300 s.f.	1,183	56	45	55	37
TOTAL		**5,853**	**147**	**185**	**224**	**196**

TRIP GENERATION
PASS-BY TRAFFIC

LAND USE	SIZE	DAILY TRAFFIC	GENERATED TRAFFIC			
			AM PEAK HR.		PM PEAK HR.	
			ENTER	EXIT	ENTER	EXIT
Apartments (220)	181 d.u.	0	0	0	0	0
Townhomes (230)	108 d.u.	0	0	0	0	0
Office (710)	9,300 s.f.	0	0	0	0	0
Specialty Retail (826)	68,300 s.f.	0	0	0	0	0
Restaurant (932)	9,300 s.f.	0	0	0	0	0
TOTAL		**0**	**0**	**0**	**0**	**0**

TRIP GENERATION
NEW SITE GENERATED TRAFFIC (PRIMARY)

LAND USE	SIZE	DAILY TRAFFIC	GENERATED TRAFFIC			
			AM PEAK HR.		PM PEAK HR.	
			ENTER	EXIT	ENTER	EXIT
Apartments (220)	181 d.u.	1,037	15	63	65	35
Townhomes (230)	108 d.u.	585	8	39	21	10
Office (710)	9,300 s.f.	88	11	2	2	10
Specialty Retail (826)	68,300 s.f.	2,960	57	36	81	104
Restaurant (932)	9,300 s.f.	1,183	56	45	55	37
TOTAL		**5,853**	**147**	**185**	**224**	**196**

APPENDIX F
SIGNAL WARRANT ANALYSIS

DESCRIPTIONS OF TRAFFIC SIGNAL WARRANTS

The *Manual on Uniform Traffic Control Devices* (MUTCD) sets forth nine different warrants that have been developed by the traffic engineering profession to aid in the determination of when a signal is warranted. These warrants present minimum conditions that normally indicate when a traffic signal is justified at a particular location. The MUTCD states that "traffic control signals should not be installed unless one or more of the factors… are met."

Although the MUTCD provides nine different warrants, only four of these are potentially applicable at the intersection under study. These four warrants, described in the MUTCD, are as follows:

Warrant 1A, Minimum Vehicular Volume

The Minimum Vehicular Volume warrant is intended for application where the volume of intersecting traffic is the principal reason for consideration of signal installation. The warrant is satisfied when, for each of any eight hours of an average day, the traffic volumes given below in Table F1 exist on the major street and on the higher volume minor street approach to the intersection.

TABLE F1. MINIMUM VEHICULAR VOLUMES FOR WARRANT 1A

Number of lanes for moving traffic on each approach		Vehicles per hour on major street	Vehicles per hour on higher volume minor approach
Major Street	Minor Street	Total of Both Approaches	One Direction Only
1 Lane	1 Lane	500	150
2 Lanes or more	1 Lane	600	150
2 Lanes or more	2 Lanes or more	600	200
1 Lane	2 Lanes or more	500	200

When the 85th percentile speed of the major street traffic exceeds 40 mph in either an urban or a rural area, or when the intersection lies within the built up area of an isolated community having a population of less than 10,000, the Minimum Vehicular Volume warrant is 70 percent of the requirements stated in Table H1.

Warrant 1B, Interruption of Continuous Traffic

The Interruption of Continuous Traffic warrant applies to operating conditions where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or hazard when entering or crossing the major street. The warrant is satisfied when, for each of any eight hours of an average day, the traffic volumes given below in Table F2 exist on the major street and on the higher volume minor street approach to an intersection. Also, the signal installation shall not seriously disrupt progressive traffic flow.

TABLE F2. MINIMUM VEHICULAR VOLUMES FOR WARRANT 1B

Number of lanes for moving traffic on each approach		Vehicles per hour on major street	Vehicles per hour on higher volume minor approach
Major Street	Minor Street	Total of Both Approaches	One Direction Only
1 Lane	1 Lane	750	75
2 Lanes or more	1 Lane	900	75
2 Lanes or more	2 Lanes or more	900	100
1 Lane	2 Lanes or more	750	100

When the 85th percentile speed of major street traffic exceeds 40 mph in either an urban or a rural area, or when the intersection lies within the built up area of an isolated community having a population of less than 10,000, the Interruption of Continuous Traffic warrant is 70 percent of the requirements above.

In exceptional cases, signals occasionally may be justified where no single warrant is satisfied but where Warrants 1A and 1B are satisfied to the extent of 80 percent or more of the stated values. This warrant is referred to as Warrant 1C (Combination Warrant)

Warrant 2, Four Hour Volume

The Four Hour Volume warrant is satisfied when for each of any four high hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the curves in Figure I1 for the existing combination of approach lanes.

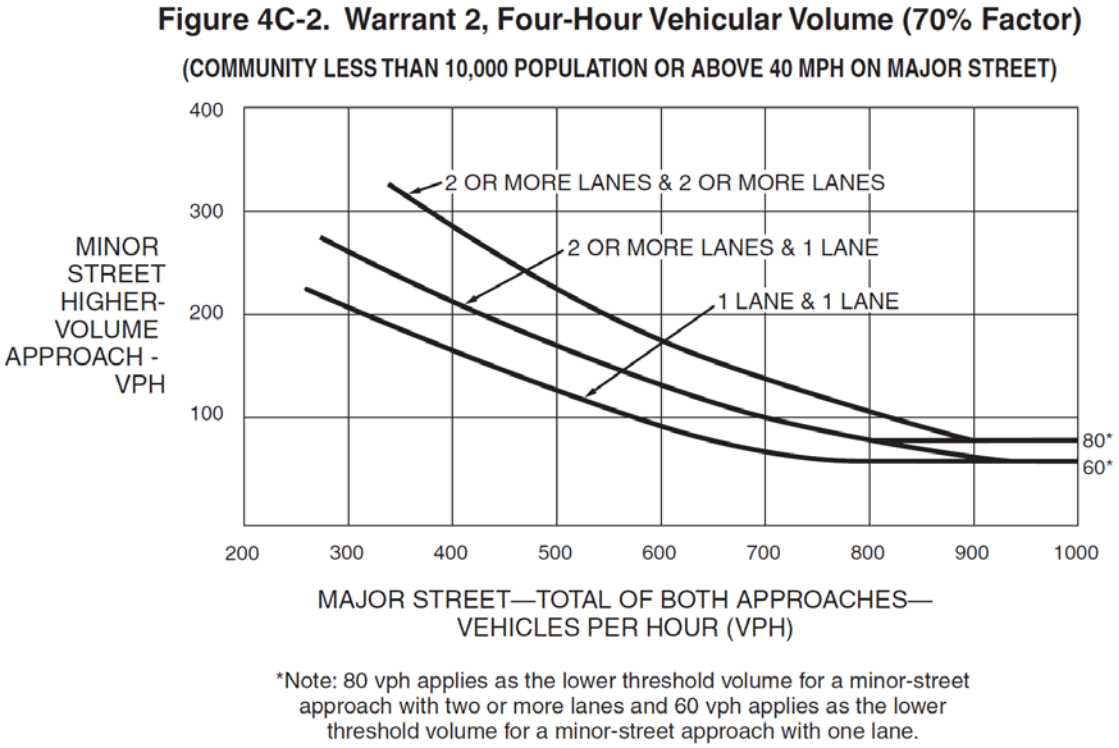


Figure F1. Warrant 2, Four-Hour Vehicular Volume

Warrant 3, Peak Hour Volume

The Peak Hour Volume warrant is intended for application when traffic conditions are such that for one hour of the day, minor street traffic suffers undue traffic delay in entering or crossing the major street. The Peak Hour Volume warrant is satisfied when the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) for one hour (any four consecutive 15 minute periods) of an average day falls above the curve in Figure I2 for the existing combination of approach lanes.

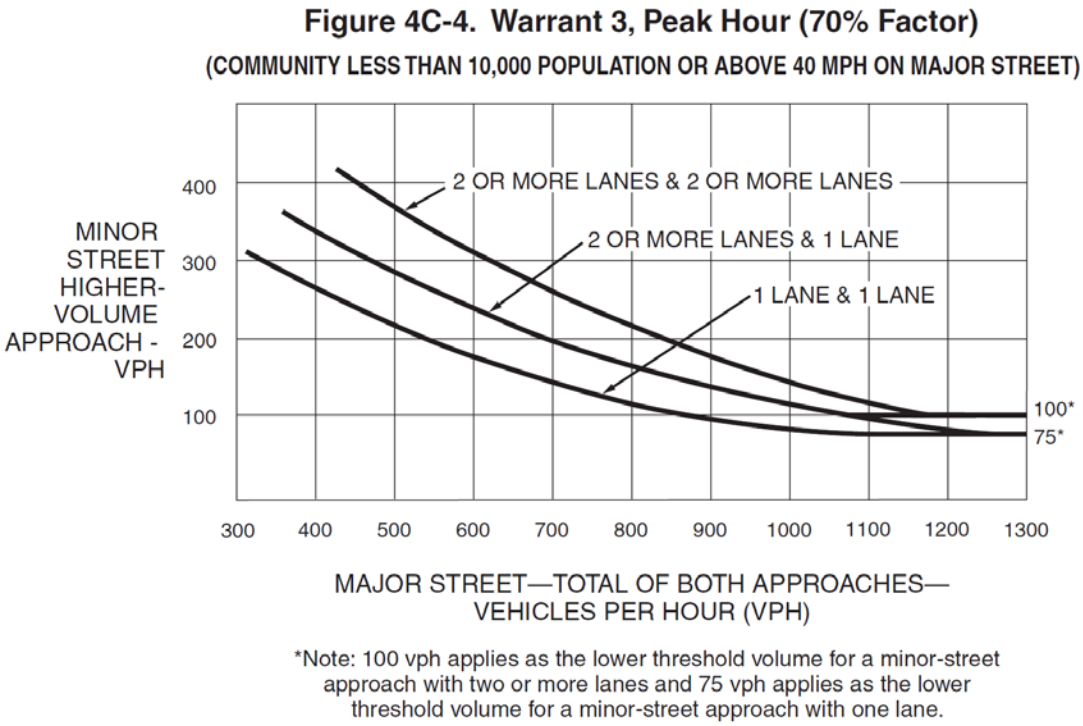


Figure F2. Warrant 3, Peak-Hour Vehicular Volume

APPENDIX G
TURN LANE WARRANT ANALYSIS

LEFT TURN LANE WARRANT ANALYSES
(Based on Harmelink Methodology)
Projected Conditions
Nashville Highway and Site Access #1
Northbound (AM Peak Hour)

4-lane roadway

INPUT

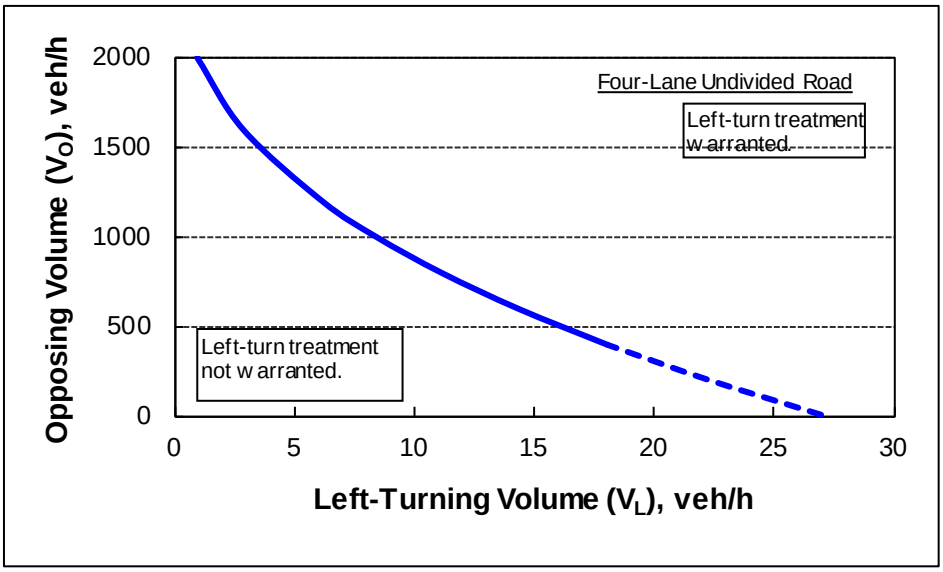
Variable	Value
Left-turning volume (V_L), veh/h:	44
Advancing volume (V_A), veh/h:	1949
Opposing volume (V_O), veh/h:	1582

OUTPUT

Variable	Message
Opposing volume (Vo) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

LEFT TURN LANE WARRANT ANALYSES
(Based on Harmelink Methodology)
Projected Conditions
Nashville Highway and Site Access #1
Northbound (PM Peak Hour)

4-lane roadway

INPUT

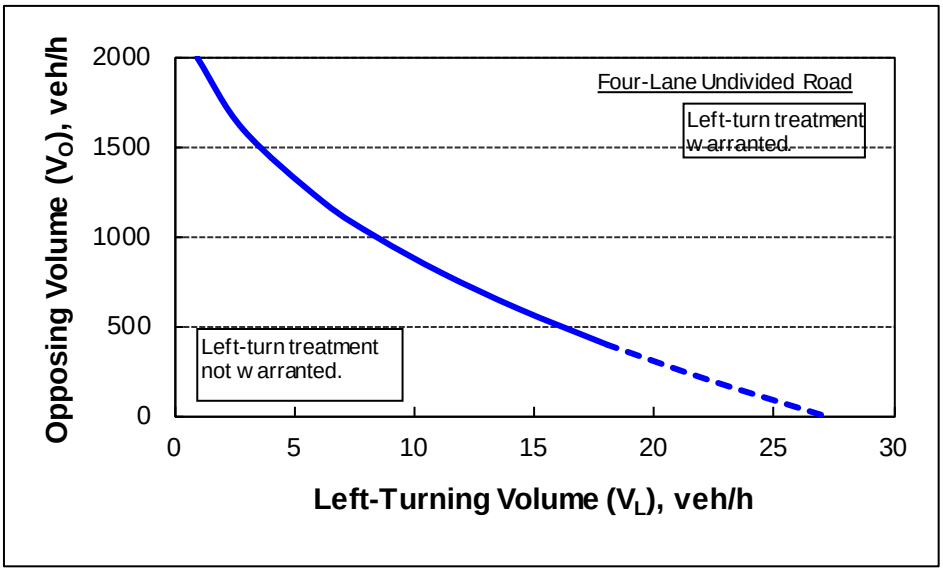
Variable	Value
Left-turning volume (V_L), veh/h:	67
Advancing volume (V_A), veh/h:	1553
Opposing volume (V_O), veh/h:	1977

OUTPUT

Variable	Message
Opposing volume (Vo) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0

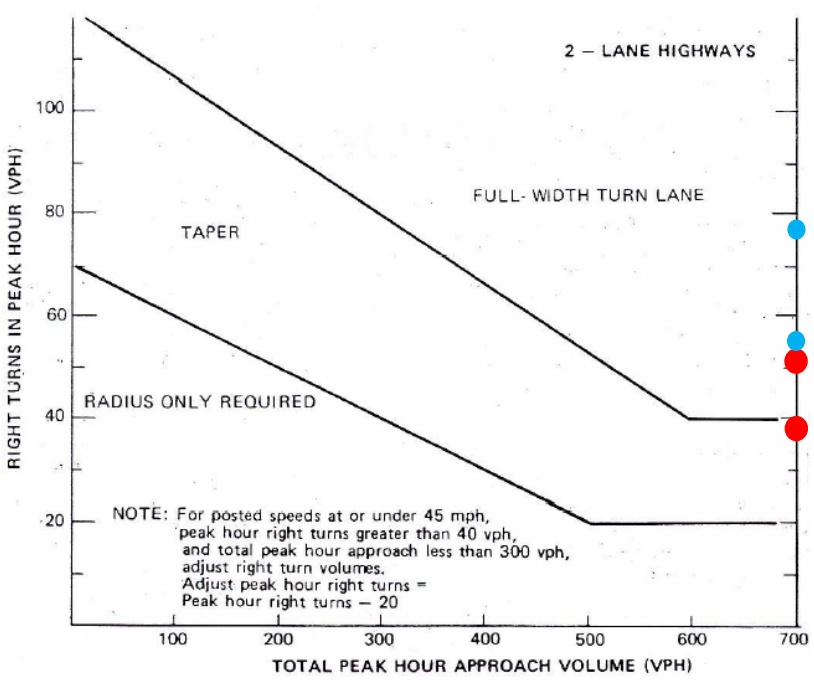


Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

RIGHT TURN LANE WARRANT ANALYSES
(Based on Intersection Channelization Design Guide)

Intersection Approach	AM Peak Hour			PM Peak Hour		
	V_R*	V_A*	Warrant Met?	V_R*	V_A*	Warrant Met?
Southbound Nashville Highway at Site Access #1	51	1,582	Yes	79	1,977	Yes
Southbound Nashville Highway at Site Access #2	37	1,555	Yes	56	1,911	Yes

* V_R = Right Turn Volumes, V_A = Advancing Volumes



A right turn lane is warranted on Nashville Highway at both site accesses based on projected traffic volumes.

November 7, 2023
Mr. Andrew Wiseman
Catalyst Design Group
5100 Tennessee Ave
Nashville, TN 37209
Sent via email: awiseman@catalyst-dg.com
RE: Water Availability Letter
Villages of Carters Creek
2425 Highway 31
Columbia, Maury County, TN

Dear Mr. Wiseman:

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 gas station with convenience store and car wash. CPWS has evaluated the projected water demands for the proposed development in the water system hydraulic model and is able to meet a fire-flow capacity of 2,000 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 the North and South ends of the property.
- A minimum size 8-inch diameter water main will be installed to loop between the existing 8-inch mains on each end of the property.
- Domestic and fire protection service will be provided through a single fire-rated ultrasonic meter for each lot.
- Since the proposed lane is a private drive, any new hydrants required will be private hydrants on the customer side of the meter.
- Irrigation, if any, was not included in the below fee estimates. If required, it will be provided on a separate 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:

- 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 (32.6 SFUs)	$13,562.00

- 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: $7,000 per 6" ultra-sonic fire-rate meter (2 meters)	$14,000.00
Impact Fee: $25,000 per 2" meter equivalent (2 meters)	$50,000.00
Total Meter and Impact Fees Due =	**$64,000.00**

- 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 23-054

HYDRANT FLOW ANALYSIS

HYDRANT # & LOCATION: 0810 Nashville Hwy

DATE: 11/7/2023

MODEL BY: Inflo Design Group, LLC

SYS. DEMAND Max Day

DURATION: 2

WATER SUPPLIED BY: Columbia Power and Water Systems

PURPOSE OF TEST: Villages at Carters Creek

MODEL DATA

FLOW HYDRANT(S)	0810	n/a	n/a
GPM:	**1300**	0	0

TOTAL FLOW DURING SIMULATION: **1300** GPM

GAUGE HYDRANT

HYDRANT # & LOCATION:

Hydrant 0810

STATIC 92 PSI RESIDUAL: 86 PSI

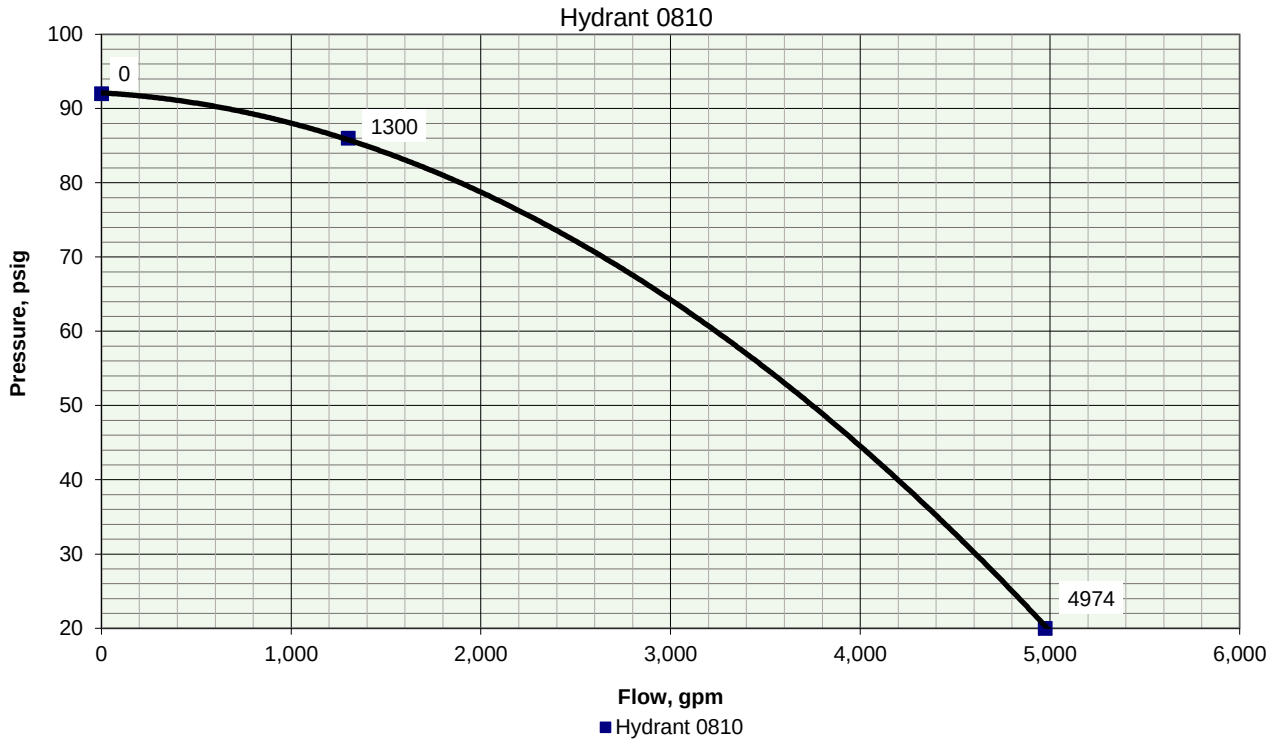
STATIC _____ PSI RESIDUAL: _____ PSI

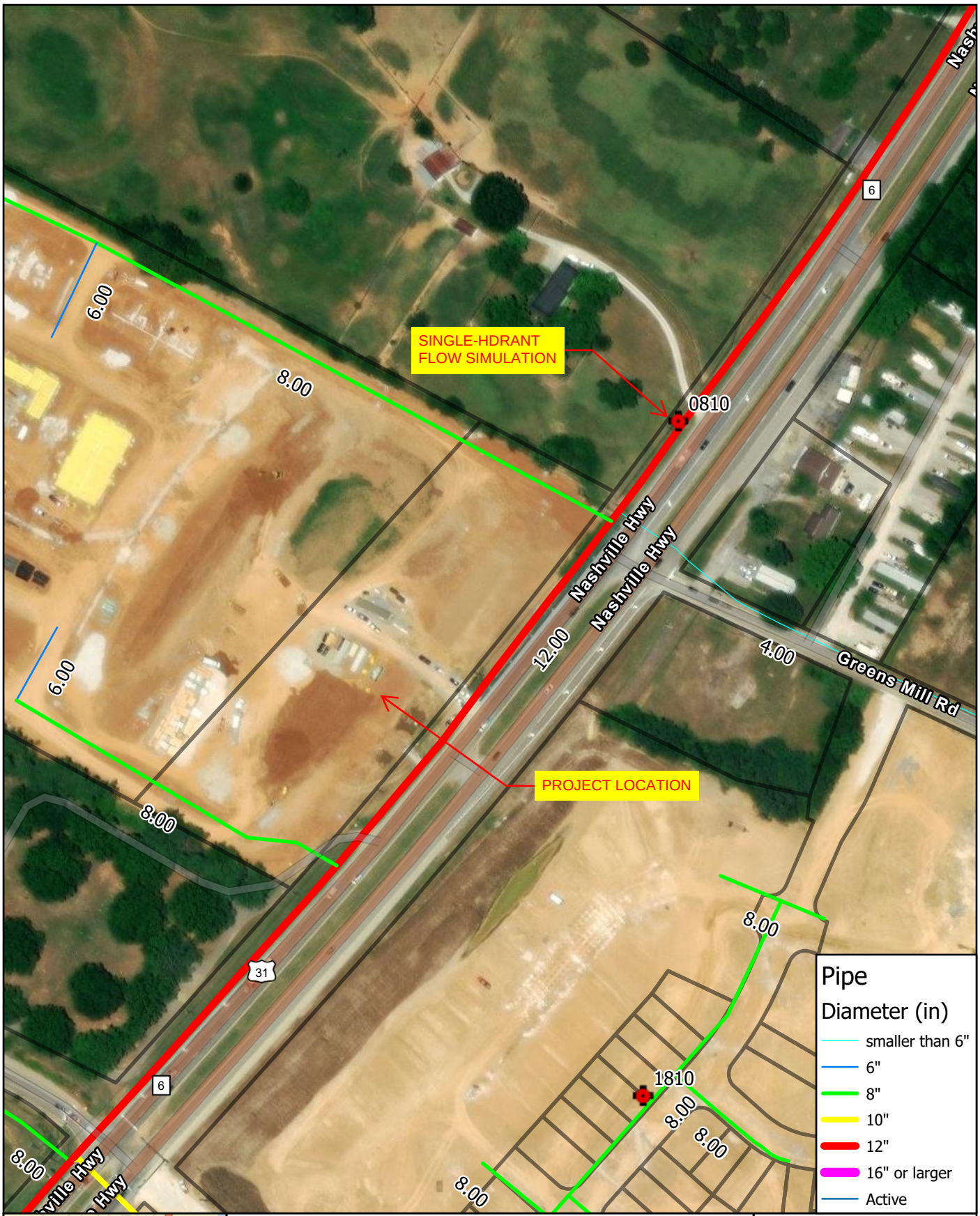
RESULTS: AT 20 PSI RESIDUAL

CONDITION 1 **4974** GPM

CONDITION 2 **---** GPM

REMARKS: Performance based on service elevations of 685' and current CPWS water infrastructure and does not account for additional losses associated with development piping.







Flow Test Location Map

Esri Community Maps Contributors, Tennessee STS GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

2023

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 100 200 Feet

0 0.02 0.04 Miles

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 10/3/2023
Name: Andrew Wiseman
Phone: 6156891147
Email: awiseman@catalyst-dg.com
Address/Parcel ID: 2425 Nashville Highway, 051 02203 000
Property Type: ○ Residential
◉ Commercial
○ Industrial
Construction Type: wood frame
Enclosed Area (ft²): car wash (4,900 SF) Gas Station (5,300 SF)

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: _____

Water System Demand without Sprinkler Credit

Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: _____ gpm Duration: _____ hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: _____

Average spacing between hydrants: _____ft.

Maximum distance from frontage to hydrant: _____ ft.

Water System Demand with Sprinkler Credit

Fire flow requirements (International Fire Code Appendix B)

Fire Flow: _____ gpm Duration: _____ hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: _____

Average spacing between hydrants: _____ft.

Maximum distance from frontage to hydrant: _____ ft.

Fire Plan Reviewer: _____ Date: _____

CITY OF COLUMBIA

TENNESSEE

WASTEWATER DEPARTMENT

15 November 2023

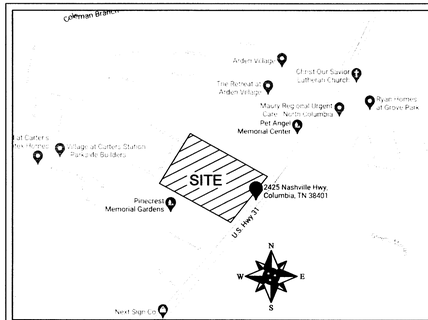
Collin Aufhammer
Nash Spring Hill, JV
500 W 5th St., STE #700
Austin, TX 78701

RE: Villages of Cater's Creek - Retail Outparcels, Address: 2425 Nashville Hwy, Columbia TN

Collin,

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



VICINITY MAP (NOT TO SCALE)

GENERAL NOTES:

1. THIS PROPERTY IS LOCATED IN ZONE "X" AREA OF MINIMAL FLOODING AS PER FEMA FLOOD MAP 47119C0180E WITH AN EFFECTIVE DATE ON 04/16/2007.
2. PROPERTY CURRENTLY ZONED: CRS-PUD
3. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY EFFECT THE USE OR DEVELOPMENT OF THE PARCEL.
4. THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS, OR ENTITY, IF ANY, NAMED HEREON. THIS DOES NOT EXTEND TO ANY UNNAMED PERSON WITHOUT AN EXPRESS WRITTEN CONSENT BY THE SURVEYOR.
5. HEREON PROPERTY IS SUBJECT TO THE RESTRICTIONS AND REGULATIONS SET FORTH BY THE CITY OF COLUMBIA PLANNING COMMISSION.
6. NO LIABILITY WILL BE ACCEPTED BEYOND THAT OF THE FOUR (4) YEAR STATUTE OF LIMITATIONS (T.C.A. 28-3-114 & T.C.A. 28-3-202) ORIGINATING FROM THE FIELD DATE SHOWN HEREON.
7. THE ENTIRETY OF THE EASTERLY PROPERTY BOUNDARY IS CONTIGUOUS WITH THE BOUNDARY OF NASHVILLE HIGHWAY WITHOUT GAPS, GORES, OR OVERLAPS.
8. THIS PROPERTY SURVEYED AND SHOWN HEREON IS THE SAME PROPERTY AS DESCRIBED IN THE TITLE COMMITMENT BEARING ORDER NO. 211613, WITH AN EFFECTIVE DATE OF AUGUST 5, 2021, PREPARED BY OLD REPUBLIC TITLE INSURANCE COMPANY.
9. NO ABOVE GROUND ENCROACHMENTS OF BUILDINGS, STRUCTURES OR OTHER IMPROVEMENTS FROM THE SUBJECT PROPERTY ONTO THE ADJOINING PROPERTIES OR FROM ADJOINING PROPERTIES ONTO THE SUBJECT PROPERTY OBSERVED IN THE PROCESS OF CONDUCTING THE SURVEY EXCEPT THE POND LOCATED ON THE SOUTHEAST CORNER OF THE PROPERTY.
10. NO EVIDENCE OF RECENT EARTH MOVING WORK OR BUILDING CONSTRUCTION WAS OBSERVED AT THE TIME OF SURVEY.
11. THE SURVEYOR HAS NOT BEEN ADVISED OF ANY DESIGNATED WETLAND AREAS ON THE PROPERTY.
12. NO CEMETERIES OR BURIAL GROUNDS WERE OBSERVED ON THE PROPERTY AT THE TIME OF SURVEY.
13. THE SUBJECT PROPERTY ABUTS AND HAS DIRECT, PHYSICAL ACCESS TO NASHVILLE HIGHWAY (A.K.A. HIGHWAY 31), A PUBLIC DEDICATED RIGHT-OF-WAY.
14. BASE INFORMATION WAS TAKEN FROM A SURVEY PREPARED BY OHM ADVISORS, DATED 9/17/2021, CATALYST DESIGN GROUP AND ANY OTHER OF THEIR CONSULTANTS SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY AND/OR COMPLETENESS OF THAT INFORMATION SHOW HEREON OR ANY ERRORS OR OMISSIONS RESULTING FROM SUCH.

EXISTING LEGEND

- IRON PIN (FOUND-NOTED)
- CONCRETE MONUMENT (FOUND-NOTED)
- IRON PIN (SET) 5/8" IRON REBAR, 24" IN LENGTH WITH YELLOW CAP LABELED "OHM ADVISORS"
- WATER VALVE
- POWER UTILITY POLE
- WATER METER
- LIGHT POLE/YARD LIGHT
- CLEAN OUT
- STORM DRAIN INLET
- STORM MANHOLE
- SANITARY MANHOLE
- FIRE HYDRANT
- GUY WIRE ANCHOR
- YARD DRAIN
- IRRIGATION CONTROL VALVE
- SIGN
- ELECTRICAL BOX
- GAS METER
- GAS VALVE
- ELECTRIC METER
- SUBJECT PROPERTY LINE
- ADJOINING PROPERTY LINE
- EASEMENT
- FENCE
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND GAS LINE
- STORM SEWER LINE
- WATER LINE
- M.B.S.L. (MINIMUM BUILDING SETBACK LINE)

PROPOSED LEGEND

- STORM PIPE & CATCH BASIN
- STORM PIPE & CURB INLET
- STORM PIPE & MANHOLE
- STORM PIPE & HEADWALL
- SEWER PIPE & MANHOLE
- SEWER FORCE MAIN
- WATERLINE
- SEWER PUMP STATION
- PUBLIC UTILITY EASEMENT
- PRIVATE DRAINAGE EASEMENT

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 R2761, page 1144, 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.

11/29/21
Date

Owner / Andy Pastor

Executive Vice President
Title (if action for partnership or corporation)

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
Columbia, Tennessee

12/14/21
Date

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 the current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Director of Wastewater Department
Columbia, Tennessee

12/08/2021
Date

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 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
Columbia, Tennessee

12/14/21
Date

Certificate of Approval of Subdivision Name and Street Names

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

Crystal Gideon
Maury County E911

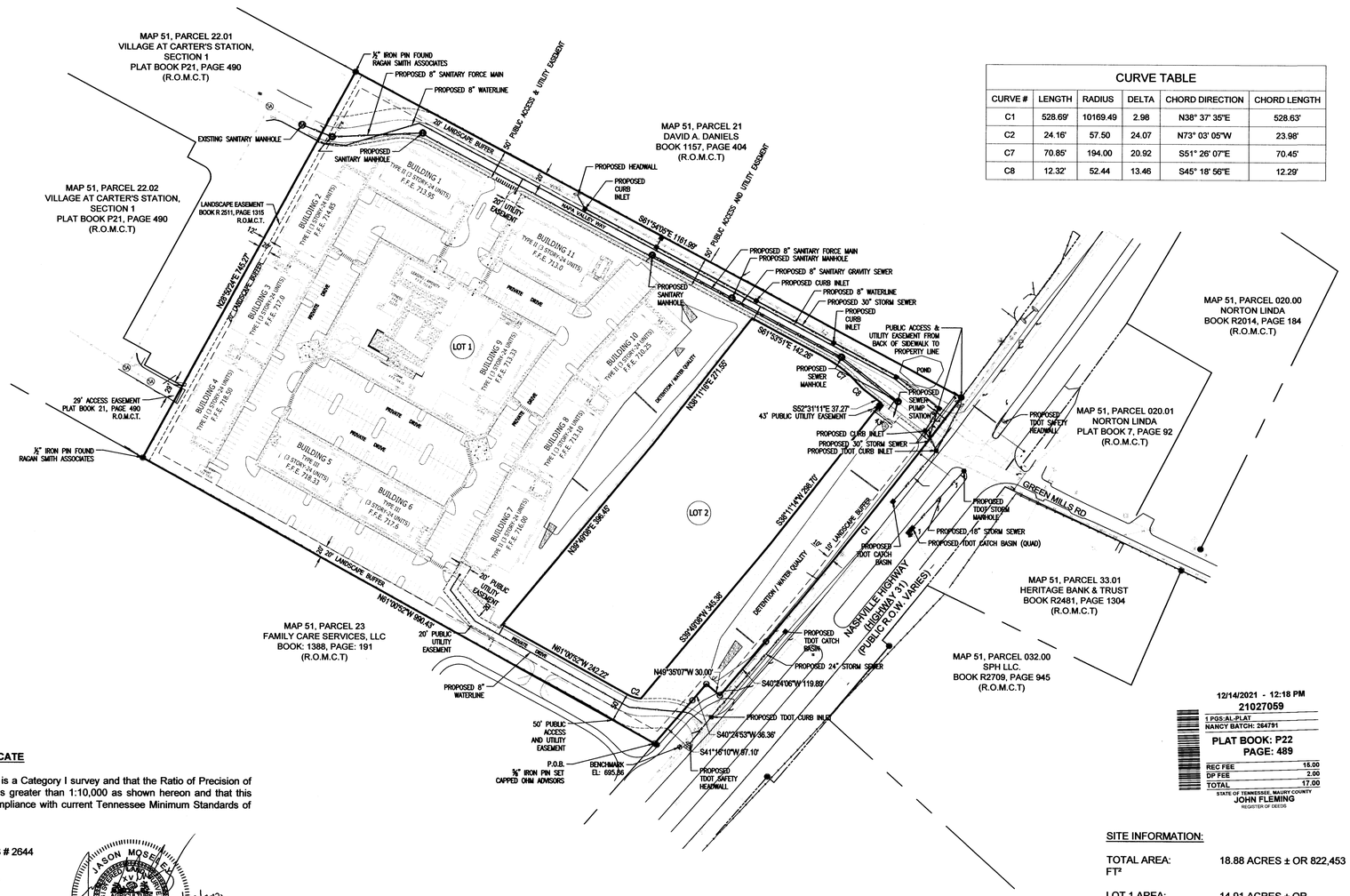
12-16-21
Date

Certificate of Approval of Water System

I hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Village's at Carter's Creek 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.

12/13/21
Date

Tony Kelly
Name, Title, Agency of Authorized Approving Agent



SURVEYORS CERTIFICATE

I hereby certify that this is a Category I survey and that the Ratio of Precision of the unadjusted survey is greater than 1:10,000 as shown hereon and that this survey was done in compliance with current Tennessee Minimum Standards of Practice.

Jason Moseley, TN RLS # 2644
OHM Advisors
209 10th Avenue South,
Suite 154
Nashville, TN 37203
(615)-649-5264

JASON MOSELEY — 2644 — REGISTERED LAND SURVEYOR — STATE OF TENNESSEE — DEPARTMENT OF AGRICULTURE — COMMERCE & INSURANCE — TENNESSEE NO. 2644

12/15/2021

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	528.69'	10169.49	2.98	N38° 37' 35"E	528.63'
C2	24.16'	57.50	24.07	N73° 03' 05"W	23.98'
C7	70.85'	194.00	20.92	S51° 26' 07"E	70.45'
C8	12.32'	52.44	13.46	S45° 18' 56"E	12.29'

SITE INFORMATION:

TOTAL AREA: 18.88 ACRES ± OR 822,453 FT²

LOT 1 AREA: 14.91 ACRES ± OR 649,524FT²

LOT 2 AREA: 3.97 ACRES ± OR 172,929 FT²

IMPERVIOUS AREA: 8.04 ACRES ±

PERVIOUS AREA: 10.85 ACRES ±

OHM ADVISORS
209 10th AVENUE SOUTH
SUITE 116
NASHVILLE, TN 37203
615-649-5264

N
W E
S

TENNESSEE GRID NORTH
HORIZONTAL DATUM = NAD83
VERTICAL DATUM= NAVD88
GNSS REFERENCE STATION : TN37

GRAPHIC SCALE 1"= 100'
100' 0 100'

A MAJOR PLAT OF VILLAGES AT CARTER'S CREEK

COLUMBIA, MAURY COUNTY, TENNESSEE

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REVISION TABLE

1.	10/15/2021	REVISIONS FROM TECHNICAL AND DIVISION COMMENTS

12/14/2021 - 12:18 PM
21027059
1 PGS:AL-PLAT
NANCY BATCH: 264791
PLAT BOOK: P22
PAGE: 489

REC FEE	15.00
DP FEE	2.00
TOTAL	17.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

SURVEY ORDERED BY: CERCO DEVELOPMENT, INC.
500 WEST 5TH ST, SUITE 700
AUSTIN, TX 78701

PROPERTY ADDRESS: 2425 NASHVILLE HWY
COLUMBIA, TENNESSEE 37174

PROPERTY OWNER: OP II NASH 2425 NASHVILLE HWY LAND LP
500 W 5TH ST #700
AUSTIN, TEXAS 78701

DEED REFERENCE: BOOK R2761, PAGE 1144, R.O.M.C.T.
PLAT REFERENCE: N/A
TAX MAP: 51 GROUP: PARCEL: 22
COLUMBIA, MAURY COUNTY, TENNESSEE

OHM PROJECT#: 1231-21-0020

DRAWN BY: ES	DATE: 10/15/2021
FIELD WORK: ES/SS/TB/MH	DATE: 6/25/2021

"P:\1000_1999\1231210020_Villages_At_Carter_Creek_Plat_Survey\VILLAGES CARTER CREEK FINAL PLAT.dwg"

SHEET 1 OF 1

October 16, 2023

Kevin McCarthy
City Planner
City of Columbia
700 N Garden St
Columbia TN, 38401

Re: Villages at Carter's Creek – Retail Out Parcel Rezoning
Columbia, TN

To Whom it May Concern:

Please let this letter serve as a description of proposed rezoning description and policy compliance statement.

Zoning Description:

The purpose of this request for rezoning is to request a more appropriate straight rezoning and to cancel a portion of the existing PUD on this parcel in order to hopefully attract less specialized type development required by the current PUD and avoid updating to the PUD to current zoning requirements if changes are made. Our intent is for this portion of the property to remain as commercial/retail as originally envisioned along the highway 31 corridor. However, the requested CD-4C would allow a greater variety of potential uses allow the greatest flexibility to a prospective commercial developments.

Comprehensive Plan Compliance Statement:

To the best our knowledge and based on our pre-application meeting, the CD-4C would be appropriate within the Suburban Corridor land use policy. We feel that we are meeting the character area intent within the transition from Suburban to Urban to provide a mix of uses and that the CD-4C would comply under the Comprehensive Plan and Article 3 of the zoning ordinance. The site is unique in that it was master planned with commercial use in mind such that it will have access control with the existing infrastructure on to Nashville highway and will have additional pedestrian connectivity to the developments within the PUD.

The conceptual site plan that has been included with this request indicates potential for a carwash and a convenience store with gas for preliminary review. We feel that there is a multitude of potential uses and opportunity for development with the updated zoning. We have provided the original PUD Traffic Impact study for additional documentation that this site was designed for 68,300 SF of retail and 9,300 SF of restaurant. The recommended improvements are currently under construction.

Thank you for your consideration of this request.

Best Regards,

Catalyst Design Group

Andrew Wisemen, PE
Principal | Project Manager

October 16, 2023

Kevin McCarthy
City Planner
City of Columbia
700 N Garden St
Columbia TN, 38401

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Columbia, TN

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Thank you for your consideration of this request.

Best Regards,

Catalyst Design Group

Andrew Wisemen, PE
Principal | Project Manager

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	Villages of Carter's Creek, 2425 Nashville Hwy, Columbia, TN		
	TAX MAP: 55	GROUP:	PARCEL: 22.03
SUMMARY OF NATURE OF REQUEST AND WORK	Requesting the concurrent review and approval of a cancellation of the exiting PUD on the property and Rezoning to CD-4C. This site lies within the suburban Corridor, per the Pre-App this site would meet the comprehensive plan as CD-4C.		

DATE OF PRE-APPLICATION CONFERENCE	8/30	*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: existing PUD abandonment **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) Villages of Carters creek (Retail Parcels) ☒ Total Number of Lots 1 ☒ Total acreage 3.97 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	Andrew Wiseman	PHONE	615-689-1147
ADDRESS	5100 Tennessee Ave. , Nashville, TN 37209	EMAIL	awiseman@catalyst-dg.com

PROPERTY OWNER NAME	Nash Spring Hill JV, LP Nelson Crowe	PHONE	512-682-5500
ADDRESS	500 W 5TH ST STE #700 AUSTIN TX 78701	EMAIL	ncrowe@endeavor-re.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.

APPLICANT NAME	APPLICANT SIGNATURE	DATE

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	

Design Review Zoning Text Amendment

Project #:	23-0528	Location:	N/A
Applicant:	Kevin C. McCarthy, AICP	Case Type(s):	Text Amendment
Staff Planner:	Kevin C. McCarthy, AICP	Proposed Use:	N/A

SUMMARY

The applicant, the Zoning Administrator, requests to amend the text of Ordinance 4400, the zoning ordinance for the City of Columbia. This request was originally part of a larger package of quarterly Zoning Text Amendments. This proposal relates to the Architectural Design Review Team. The Planning Commission directed staff to separate this topic from the others for discrete consideration. Two alternative proposals are presented to for consideration by the Planning Commission.

- The Zoning Administrator proposes amendments to the text of the Ordinance at **§ 8.3.6** and **§ 8.5.15**.
- Staff requests that the Planning Commission provide policy recommendation related to the continued use of a stand-alone Architectural Design Review Team.
    - Alternative One changes the name of the Design Review Team, increases its size, and provides for the election of officers.
    - Alternative Two dissolves the Design Review Team, designates the Planning Commission as the city's design review entity, delegates some authority to the Zoning Administrator, and provides for alternative compliance.
    - Both proposals add a process for appeal related to design review.
- The Planning Commission is a **recommending body** for zoning text amendments. The City Council is the decision-making authority.
- The staff comments section details the proposed changes, which are provided in the agenda packet in ~~strikethroughs~~ and underlines.
- Planning Commission may recommend adoption of the proposed text, modify the proposal, or decline the request.
- Templates are provided at the end of the report to assist the Planning Commission in crafting properly formatted motions.

REVIEW PROCESS

Section **8.5.16** of the Zoning Ordinance directs the Planning Commission to review and make a recommendation on all proposed changes to the text of the Ordinance. The Planning Commission is the recommending body for text amendments under **§ 8.3.3.B.2** of the Zoning Ordinance.

Section **8.5.18.C** of the Zoning Ordinance requires that Planning Commission determine that the proposed changes are consistent with the comprehensive plan.

8.5.18.G of the Zoning Ordinance establishes the review criteria for approval of all changes to the text of the Ordinance:

a. *The extent to which the proposed Zoning Ordinance Amendment is consistent with the remainder of this Ordinance, including, specifically, any purpose and intent statements;*
b. *The extent to which the proposed Zoning Ordinance Amendment represents a new idea not considered in this Ordinance, or represents a revision necessitated by changing circumstances over time;*
c. *Whether or not the proposed Zoning Ordinance Amendment corrects an error in this Ordinance; and*
d. *Whether or not the proposed Zoning Ordinance Amendment revises this Ordinance to comply with state or federal statutes or case law.*

The criteria for City Council action on a Zoning Ordinance Amendment at § 8.5.18.J.4 are identical to the criteria for Planning Commission review at 8.5.18.G.3.

COMMENTARY FROM PROFESSIONAL PLANNING STAFF

Planning staff requests that the Planning Commission recommend its preferred policy for design review. The City of Columbia utilizes a stand-alone Design Review Team. Under the previous zoning ordinance, the Team was composed of staff and citizen members. The scope of the team was wide ranging. The scope of the Design Review Team is currently more limited. The Team now has only three members and no chair. Items reviewed by the Team are subsequently reviewed by the Planning Commission.

Alternative One

The text amendment improves the functioning of the Architectural Design Review Team. Upon the request of the Architectural Design Review Team, the Zoning Administrator proposes amendments to the text of the Ordinance at **§ 8.3.6** and **§ 8.5.15**. The proposed revisions include organizational changes which will resemble other review boards. The changes also clarify the

timing of design review. Finally, the proposal reiterates that decisions of the Design Review Team are appealable to the Planning Commission, as provided by state statute. The Planning Commission may also consider alternatives to the current stand-alone design review process.

Specific revisions to **§ 8.3.6** and **§ 8.5.15** provided in the proposed text amendment include:

- Modification of the name from Design Review Team to Design Review Commission in order to mimic the terminology of the enabling legislation (See proposed text amendment L2);
- An increase in the number of members in order to replace the *ex oficio* staff positions which served Design Review Team under the previous ordinance, and create a voting quorum greater than two individuals (L12 – L20);
- Provide for the election of a chair and other officers. Currently, planning staff facilitate the meetings (L24-L27);
- Clarification that design review must occur prior to Planning Commission consideration of a related request (L50 – L52, L74 – L76);
- Establishes that property owners may appeal decisions of the Design Review Team to the Planning Commission, mirroring the enabling legislation (L123 – L124);
- Renumbers paragraphs throughout the text; and
- Corrects terminology throughout the document.

Alternative Two

The enabling legislation allows municipalities to appoint their Planning Commission to act as the design review commission. This is a common practice among Middle Tennessee cities. In 2024, Planning staff intends to recommend changes to the Ordinance which will permit opportunities for alternative compliance to some design standards under limited circumstances approved by the design review commission. Eliminating the stand-alone body and appointing the Planning Commission as the design review entity may streamline the review process and clarify the decision-making authority for all elements of a site development plan. On the other hand, retaining a stand-alone Architectural Design Review Team allows for more focused review of façade design.

The Planning Commission may recommend approval of the other text amendments, decline to act on the changes to **§ 8.3.6** and **§ 8.5.15,** and direct staff to prepare an alternative text amendment designating the Planning Commission as the City's design review entity.

SAMPLE MOTIONS

Approve: Move to find, based on the analysis provided by city staff, that the criteria listed in section **8.5.18** of the City of Columbia Zoning Ordinance have been satisfied and recommend approval of the proposed text amendment.

Deny: Move to recommend denial of the requested text amendment having found, based on the analysis provided by city staff, that the criteria listed in section **8.5.18** of the City of Columbia Zoning Ordinance are not satisfied [*list specific reasons for denial and provide direction to staff*].

Defer: Move to find that there is insufficient information to decide, defer the matter to the next regularly scheduled meeting of the Planning Commission, and direct staff to provide: [*list additional information*] for review at a future meeting.

Proposed Zoning Text Amendment

Additions are Underlined
~~Deletions are Strikethrough~~

§ 8.3.6 Architectural Design Review ~~Team~~Commission (p. 399)

Tennessee cities are authorized to designate their Planning Commission as the Design Review Commission. An alternative to these changes.

TCA 6-54-133 uses the phrase "Design Review Commission."

A. Creation There is hereby created the Architectural Design Review ~~Team~~Commission for the purpose of reviewing Development applications that are subject to design review pursuant to this Ordinance.

B. Membership.

1. The Architectural Design Review ~~Team~~Commission shall be composed of the following:
    a. Current president of the Maury Alliance or City Chamber of Commerce, or their designee; and
    b. ~~Two~~ Four citizen members, appointed by the City Council, one who should be a registered architect or landscape architect, and ~~the other~~one who should be the owner of a Business registered in the City, and which citizen members shall serve staggered two-year terms, with a maximum of three consecutive terms.

The Design Review Team requested additional members in its 2022 annual report. The current composition creates a quorum of two with no resolution for a tie.

C. Vacancies**.**

Any vacancy in the membership shall be filled for the unexpired term in the same manner as the initial appointment.

D. Election of Officers

The Design Review Commission shall elect from its members its own chairman and other officers deemed appropriate to carry out its purpose

~~**D.**~~**E.** Removal.

The City Council may remove and replace any member which it has appointed for cause.

~~**E.**~~**F.** Meetings.

Meetings shall be held on an as-needed basis.

~~**F.**~~**G.** Rules of Procedure.

The Architectural Design Review ~~Team shall~~Commission shall adopt rules of procedure, which shall include at a minimum the following:

1. An affirmative vote of a majority of the eligible members of the Architectural Design Review ~~Team~~Commission present and voting shall be required for all recommendations; and
2. Failure of the Architectural Design Review ~~Team~~Commission to meet or to review a particular application within 30 days of the submittal of such application to the ~~Team~~Commission shall be deemed to be a recommendation of approval by the ~~Team~~Commission.

~~**G.**~~**H.** Powers & Duties

1. The Architectural Design Review ~~Team~~Commission shall be responsible for reviewing and making recommendations to the applicable Decision Making Authority regarding proposals for Site Development Plan, Building Permit, or Planned Unit Development approval.

The previous zoning ordinance established a design review team partially composed of staff, including the City Planner who chaired the meetings. Currently, the body has no chair. The Design Review Team requested this change in its 2022 annual report.

2. Review by the Architectural Design Review ~~Team~~Commission shall be limited to the criteria established within this Ordinance.
3. As necessary, the Architectural Design Review ~~Team~~Commission shall periodically review and make recommendations regarding any necessary changes to the Building Facade Regulations within this Ordinance.

~~**H.**~~**I.** Annual Report.

The Architectural Design Review ~~Team~~Commission shall prepare an annual report and submit it to the City Council. The annual report shall include a comprehensive review of the activities and actions of the Architectural Design Review ~~Team~~Commission and any ~~other~~ recommendations for changes to this Ordinance.

§ 8.5.15 Design Review (p. 437)

A. Intent.

Design Review by the Architectural Design Review ~~Team~~Commission is intended to protect the physical character of the City through additional review of certain proposed Developments meeting certain criteria.

B. Applicability.

Prior to issuance of a Building Permit, approval of a Site Development Plan or Preliminary Planned Unit Development Master Plan, Design Review shall be required for the following:

1. Design of all Buildings and Structures within a Special District; and
2. Design of all Buildings and Structures Buildings within a Planned Unit Development District.

C. Pre-Application Conference.

Applicants for Development requiring Design Review are encouraged to schedule a pre-application conference in accordance with Section 8.5.4.B.

D. Action by Architectural Review ~~Team~~Commission.

All reviews by the Architectural Design Review ~~Team~~Commission shall be in accordance with the following procedures:

1. Upon receipt of an application for Design Review which in the judgment of the Zoning Administrator is sufficiently complete to enable the Architectural Design Review ~~Team~~Commission to conduct a review, the Zoning Administrator shall set a meeting for initial review as soon as reasonably possible, but in no case later than 30 calendar days after receipt of a complete application.
2. Applicants are encouraged (but not required) to begin the process with a conceptual presentation of the project to the Architectural Design Review ~~Team~~Commission at the initial review meeting.
3. In cases where the Architectural Design Review ~~Team~~Commission deems it necessary, it may hold a public hearing concerning the application. Such hearing shall be advertised in accordance with Section 8.5.4.D.2, Published Notice.

E. Approval Authority.

For all applications that include Buildings ~~that~~ which are subject to Design Review, the Architectural Design Review ~~Team~~Commission shall make a recommendation to approve or deny a proposal.

F. Design Review Criteria.

1. In their consideration, the Architectural Design Review ~~Team~~Commission shall consider the following:

a. Compatibility with the surrounding Structures; and

2. Compliance with applicable design standards and requirements of this Ordinance or ~~the~~ any applicable Development Plan or Master PUD Development Plan.
3. In rendering a decision, the Architectural Design Review ~~Team~~ Commission shall be limited to the consideration of the design features and materials of construction of each Building or other Structure. The Architectural Design Review ~~Team~~ Commission shall not be permitted to consider aspects of a proposal not specifically related to the design features and/ or materials of construction of a Building or other Structure.
4. Any affected property owner may appeal a decision of the Design Review Commission to the Planning Commission.

This provision mirrors the language in TCA § 6-54-133.

Proposed Zoning Text Amendment

Additions are Underlined
~~Deletions are Strikethrough~~

§ 8.3.6 Architectural Design Review ~~Team~~Commission (p. 399)

A. ~~Creation.~~ There is hereby created the Architectural Design Review ~~Team~~Commission for the purpose of reviewing Development applications that are subject to design review pursuant to this Ordinance.

B. As authorized by T.C.A. Section 6-54-133, the Columbia Municipal Planning Commission is designated the city's Architectural Design Review Commission, with the authority to develop, adopt, and apply general guidelines for the exterior appearance of properties within the City of Columbia. ~~Membership.~~

C. In addition to the design standards incorporated in this ordinance, the Planning Commission may develop and adopt exterior appearance guidelines that are applicable throughout the city as well as exterior appearance guidelines that are applicable only to specified areas within the city.

~~**C.** Removal.~~

~~The City Council may remove and replace any member which it has appointed for cause.~~

~~**D.** Meetings.~~

~~Meetings shall be held on an as-needed basis.~~

~~**E.** Rules of Procedure.~~

~~The Architectural Design Review Team shall shall adopt rules of procedure, which shall include at a minimum the following:~~

~~1. An affirmative vote of a majority of the eligible members of the Architectural Design Review Team present and voting shall be required for all recommendations; and~~

Tennessee cities are authorized to designate their Planning Commission as the Design Review Commission.

TCA 6-54-133 uses the phrase "Design Review Commission."

~~2. Failure of the Architectural Design Review Team to meet or to review a particular application within 30 days of the submittal of such application to the Team shall be deemed to be a recommendation of approval by the Team.~~

~~F.~~D. Powers & Duties

1. The ~~Architectural Design Review~~Planning ~~Team~~Commission shall be responsible for reviewing ~~and making recommendations regarding~~ proposals for Site Development Plan, Building Permit, or Planned Unit Development approval for compliance with the applicable architectural design standards.

2. The Planning Commission may approve alternative materials and methods of compliance which, in the determination of the Planning Commission, provide aesthetic value which meets or exceeds the prescribed standards.

~~1.~~3. The Zoning Administrator may approve alternative materials and methods of compliance with design standards for existing structures and Site Development Plans for which the Zoning Administrator is the Decision-Making Authority. The alternative means of compliance must provide aesthetic value which meets or exceeds the prescribed standards. The Zoning Administrator may refer any determination of alternative compliance to the Planning Commission. Any property owner may appeal the Zoning Administrator's determination to the Planning Commission. The appeal shall be by a written notice to the Zoning Administrator, stating: the guideline at issue; the alternative compliance proposed; and, the owner's reasons for seeking relief from the guideline. The appeal shall be treated as a site development plan for purposes of assessing fees and application requirements.

~~2. Review by the Architectural Design Review Teamshall be limited to the criteria established within this Ordinance.~~

~~3. As necessary, the Architectural Design Review Team shall periodically review and make recommendations regarding any necessary changes to the Building Facade Regulations within this Ordinance.~~

E. Appeals

1. Any property owner affected by the guidelines for exterior appearance may appeal a decision under those guidelines to the City Council. The appeal shall be by a written notice to the Zoning Administrator, stating: the guideline at issue; the alternative compliance proposed; and, the owner's reasons for seeking relief from the guideline. The appeal shall be treated as a site development plan for purposes of assessing fees and application requirements.
2. The decision of the City Council shall be final and binding.

~~G.~~F. Annual Report.

The Architectural Design Review ~~Team~~Commission shall prepare an annual report and submit it to the City Council. The annual report shall include a comprehensive review of the activities and actions of the Architectural Design Review ~~Team~~Commission and any ~~other~~ recommendations for changes to this Ordinance.

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