



The Columbia Historic Zoning Commission will meet on Wednesday, November 19, 2025 at 4:00 PM in Council Chambers on the basement level of City Hall, 700 N. Garden Street, to consider the following:

I. Roll Call

II. Approval of Minutes

1. September 2025 Minutes

III. New Business

1. Request from Henderick, Inc. for exterior alterations approval at [1122 S. High Street](#), being Tax Map 100E Group E Parcel 17, *Athenaeum Historic District*.
2. Request from Drifter Bay Brewing Co. for exterior alterations approval at [305 W. 11th Street, being located at Tax Map 100E Group E Parcels 18 and 18.01](#), *Athenaeum Historic District*.
3. Request from Marlin Allen Lentz for exterior alterations approval at [222 W. 7th Street, located at Tax Map 99A Group J Parcel 42](#), *Downtown Commercial Historic District*.

IV. Other Business

1. Administrative CoA's

V. Adjourn

Anyone requesting accommodations due to disabilities should contact the City's ADA Coordinator at 931-560-1570 prior to the meeting.

The 2025 meeting schedule and Historic District Design Guidelines can be found on the City of Columbia Historic Zoning Commission webpage.

An interactive map showing the boundaries of the historic districts can be found accessed from the City's website.

For other questions, please contact the Department of Development Services at 931-560-1560.

**City of Columbia**  
HISTORICAL ZONING COMMISSION  
September 17, 2025

**TO ORDER:**

Vice-Chairperson George Nuber called the September meeting of the Historic Zoning Commission for the City of Columbia to order at 4:00 p.m. The meeting was held in Council Chambers, at City Hall on the basement level.

**ROLL CALL:** Quorum present and included the following:

Present were: Ms. Lorie Fisher  
Mr. Zach Hooten  
Mr. Michael Lawrence  
Mr. George Nuber  
Mr. James Shannon

Absent were: Ms. Melanie Lucas  
Ms. Autumn Potter

Other attendees: Mr. Robert Archibald, Principal Planner  
Mr. Austin Brass, City Planner  
Ms. Sandra Richardson, Recording Secretary  
Ms. Melissa Sanders, Planner I

**2. APPROVAL OF MINUTES:**

The August meeting minutes were presented for approval. Mr. Shannon moved to approve the minutes, with Mr. Hooten seconding. The minutes were approved with a vote of five to zero.

**3. New Business**

**AGENDA ITEM #3.1**

**Case# 25-0304**

Request from Stephen F. Walker for window replacement approval at 29 Public Square, Downtown Commercial Historic District.



CONTACT INFORMATION

Robert Archibald, Principal Planner, [rarchibald@columbiatn.gov](mailto:rarchibald@columbiatn.gov), 931-560-1536

DOCKET/CASE/APPLICATION NUMBER

**CA 25-0319**

APPLICANT/PROPERTY OWNER

**Henderick Inc./Erica Schlabach**

HEARING DATE

**October 15, 2025**

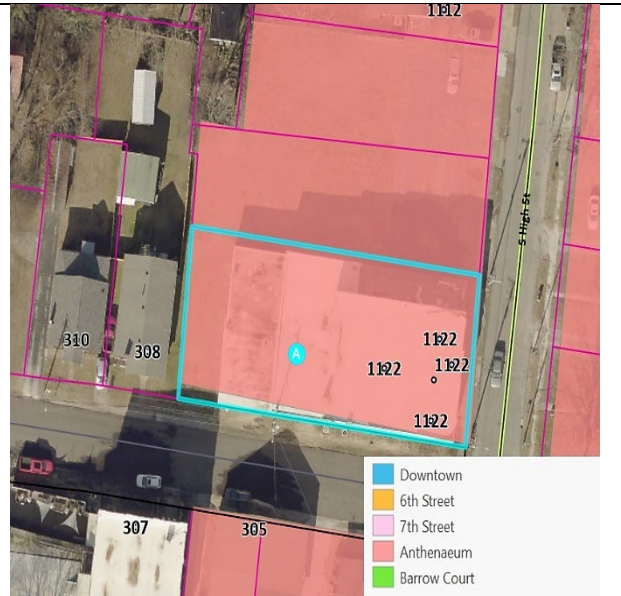
PROPERTY ADDRESS/LOCATION

**1122 S High Street**

**PROJECT DESCRIPTION:** The Certificate of Appropriateness Request is for exterior door replacements

The applicant requests Certificate of Appropriateness to replace all exterior garage doors with aluminum storefront doors, and remove the existing man door on the south elevation.

Specifically, the applicant is requesting approval to replace a total of three (3) overhead garage doors with storefront aluminum doors, and remove the existing man door on the south side. Two of the doors are located on the south side of the building facing W 11<sup>th</sup> Street, and the remaining garage door is on the east elevation facing S High Street.



| EXISTING ZONING | EXISTING LAND USE | SURROUNDING ZONING & LAND USE             | SITE IMPROVEMENTS          | Historic District |
|-----------------|-------------------|---|----------------------------|-------------------|
| SD-LI           | VACANT STRUCTURE  | MIXED/COMMERCIAL, RESIDENTIAL, INDUSTRIAL | EXTERIOR DOOR REPLACEMENTS | ATHENAEUM         |

**STAFF RECOMMENDATION N/A**

APPROVE

APPROVE WITH CONDITIONS

DENY

**Review Status and History:**

|                                 |   |
|---------------------------------|---|
| <i>Submission Status:</i>       | Third request for Certificate of Appropriateness  |
| <i>Previous Approvals:</i>      | CoA 21-0134, Exterior modifications: Aluminum clad windows, door replacement with approved materials, aluminum glass panels for window replacement, and to rebuild existing side deck. Items not approved were proposed awnings and gloss finish for lighting. This work was not started. CoA 24-0426, Exterior modifications: Approved subject to conditions |
| <i>2024 Historic Inventory:</i> | <i>Coca-Cola Bottling Works, circa 1920, 20<sup>th</sup> Century Commercial, recommended eligible</i>   |

## Proposed Alterations

Exterior modifications: Door Replacements and door removal

### Historic District Design Guidelines Referenced:

Staff reviewed the request for consistency with the *City of Columbia Historic Design Guidelines* for the exterior door removal and replacement. Staff comments follow in the next section.

*Objective: Embrace historic precedents in storefront design standards that promote visibility and pedestrian-scaled activity at the street level. – pg. 5-8, Historic District Guidelines.*

#### 5.11 Limit Replacement of Storefront Components to Those Deteriorated Beyond Repair

- b. Where a replacement feature is necessary, designs shall match the original in size, scale, shape, profile, texture, and finish as closely as possible.

#### 5.14 Retain the Location and Character of Historic Storefront Entry Assemblies

- a. The location, size, and proportions of original door openings shall be retained.
- b. Door openings shall not be filled in, reduced, or enlarged.

#### 5.15 Maintain Compatibility When Selecting Replacement Doors

- a. New doors shall fit the original opening. Visibly enlarging or reducing the opening for a new door is prohibited.
- e. Replacement doors shall provide a degree of transparency consistent with historic precedents in the district. Tinted glass is not appropriate.

#### 5.16 Storefront Windows and Transoms

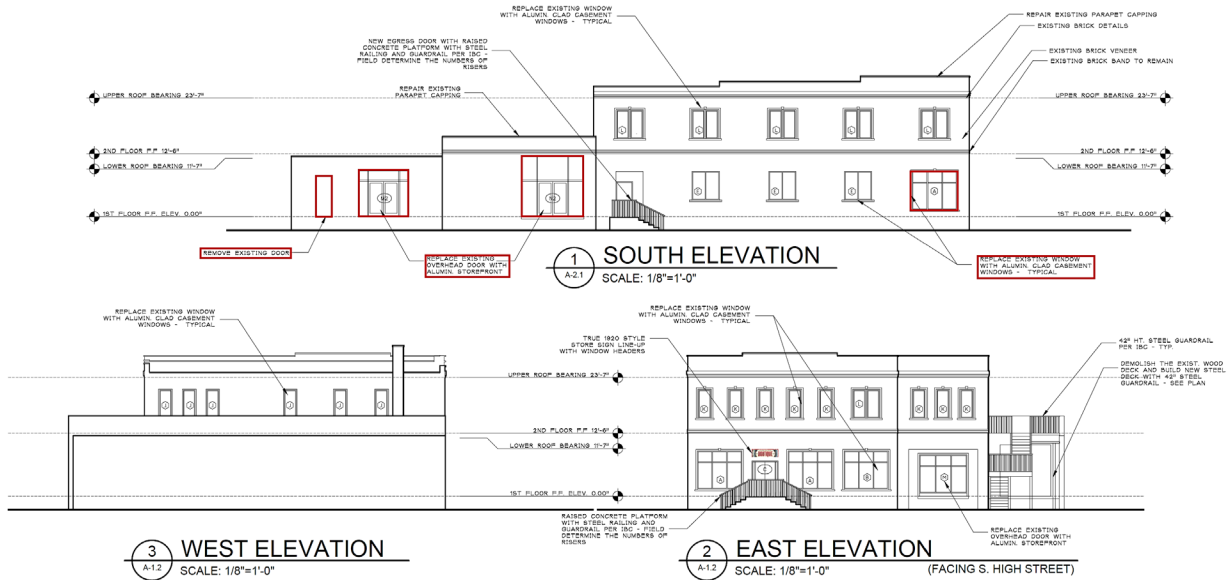
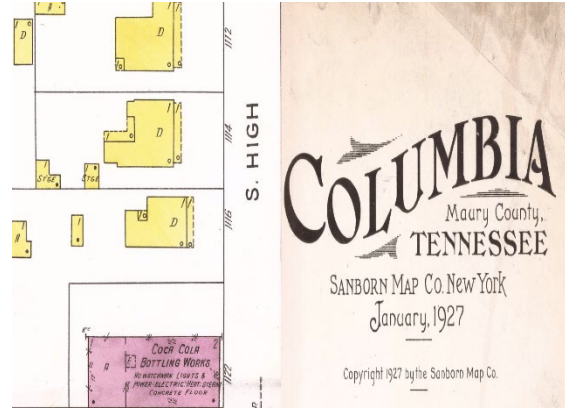
- c. Clear glass shall be used in storefronts. Smoked, tinted, and mirrored glass distort perception of the street wall and are prohibited.

### Staff Analysis:

The applicant has requested approval to replace the three exterior overhead garage doors with an aluminum storefront assembly to meet modern energy efficiency standards and ensure safety, and to remove the existing man door on the south elevation. This modification is part of a larger scope of work that was previously approved in October of 2024 (24-0426) by this Commission for window replacement, exterior deck demolition and reconstruction, and accessibility updates.

The structure located at 1122 S. High Street is a two-story brick commercial/industrial building situated at the intersection of W. 11th Street and S. High Street, within the Athenaeum Historic District and the Columbia Arts District. This building has been vacant for a period of time and is currently being remodeled for repurposing. The 2024 Historic Inventory notes that in the 1938 Columbia City Directory and the 1927

Sanborn map, this building was identified as Coca-Cola Bottling Works. It is recommended as eligible by the latest inventory.



The use of this structure was historically used as an industrial building. During staff review, I was unable to locate any historical photographic evidence on when the overhead garage doors were installed. Staff do not believe that these doors are original, albeit, being used as loading areas, as shown in the historic illustration above. As stated previously, the building is currently being remodeled, and it is proposed to be utilized for commercial purposes. The removal of the overhead garage doors and replacement with storefront assemblies would be suitable and beneficial for the use.

Staff is supportive of this proposal, except for the proposed removal of the single man door on the south elevation.

**§5.14 (b)** of the Historic Design Guidelines states, *“Door openings shall not be filled in, reduced, or enlarged.”* The intent here is that façade openings shall be maintained intact for historical reference and preservation. Although the staff does not support the removal request by the applicant, I would like to note that the south elevation is not the main frontage façade of this structure, and therefore, a secondary elevation façade that has secondary street frontage and is not the main entry/focal point of façade alignment.

**Staff does not make a recommendation and would instead defer to the Historic Commission for a ruling.**

**Recommendation: N/A**

## Motions

### **Motion [Approve].**

Move to find that the proposed restoration/addition conforms to the Historic District Design Guidelines and approve issuance of a Certificate of Appropriateness.

### **Motion [Deny].**

Move to find that the proposed restoration/addition is not compatible with the Historic Guidelines, and deny issuance of a Certificate of Appropriateness [list reasons for denial].

### **Motion [Approve Subject to Conditions]:**

Move to approve issuance of a Certificate of Appropriateness and find that the proposed renovation/addition conforms to the Historic District Design Guidelines subject to the following conditions: [list conditions of approval].

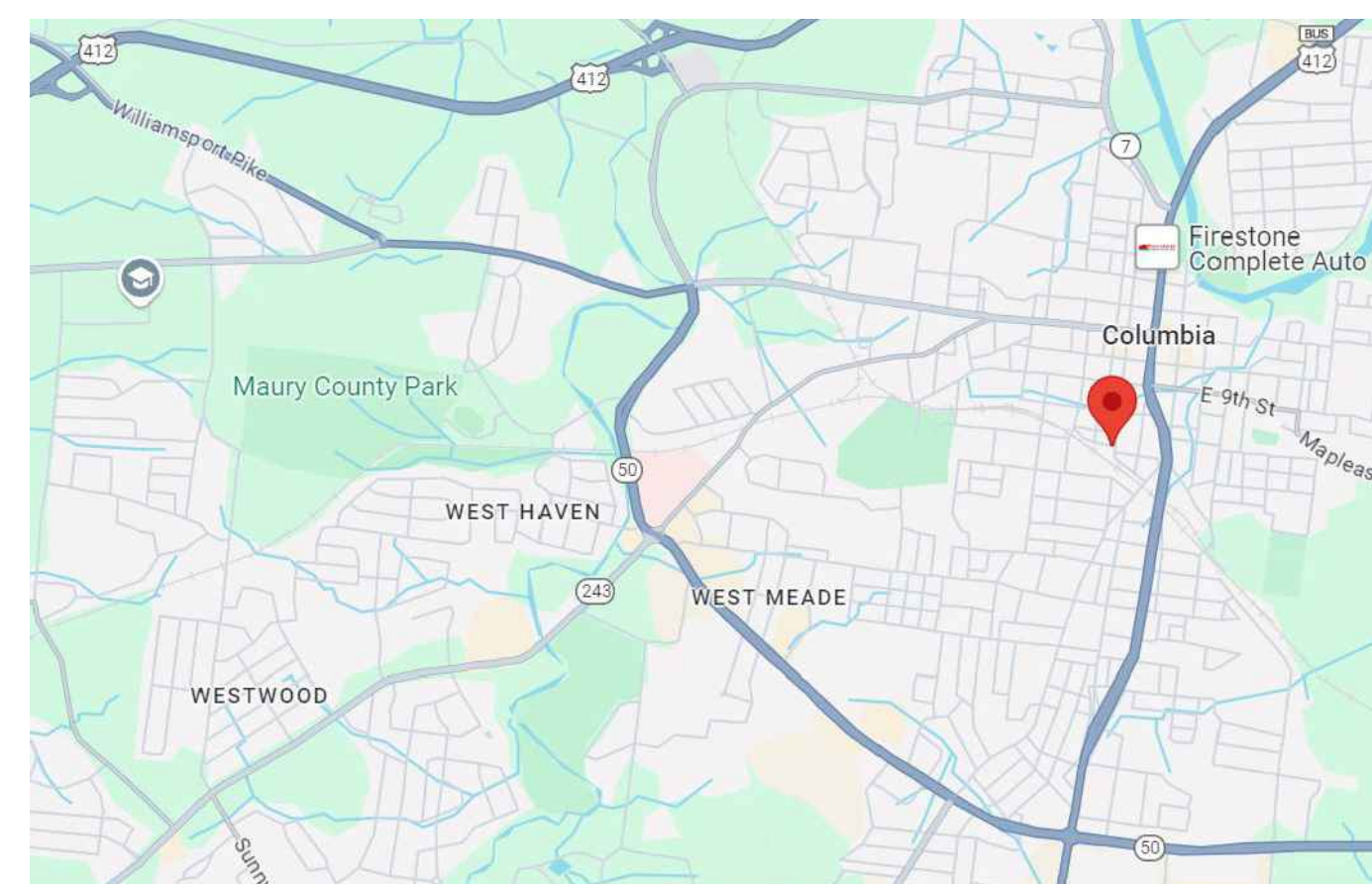
### **Alternative Motion [Defer for Future Consideration].**

Move to find that there is insufficient information to make a decision, defer action on the application, and request that the applicant provide: [list additional information] for review at a future meeting.

# 1122 S. HIGH STREET

Ni Studio, LLC

7884 Heaton Way  
Nashville, TN 37211  
Tel: 615.306.0712  
E-mail:  
nistudio.lic@gmail.com



Vicinity Map

## CODE SUMMARY

- 2019 INTERNATIONAL BUILDING CODE
- 2019 INTERNATIONAL FIRE CODE
- 2019 NFPA LIFE SAFETY CODE
- 2009 INTERNATIONAL ENERGY CONSERVATION CODE
- 2019 INTERNATIONAL MECHANICAL CODE
- 2019 INTERNATIONAL PLUMBING CODE
- 2019 NATIONAL ELECTRICAL CODE

## DRAWING INDEX

- A-1.0 TITLE / SITE LAYOUT
- A-1.1 FIRST FLOOR PLAN
- A-1.2 SECOND FLOOR PLAN
- A-2.1 EXTERIOR ELEVATIONS

## BUILDING INFORMATION

CONSTRUCTION TYPE: II-B  
FULLY SPRINKLED (NFPA 13)

(SPRINKLER SYSTEM IS INSTALLED AS PART OF BUILDING SHELL -  
SPRINKLER DRAWINGS WILL PROVIDED BY LICENSED CONTRACTOR.)

OCCUPANCY TYPE: B (GROUP B)

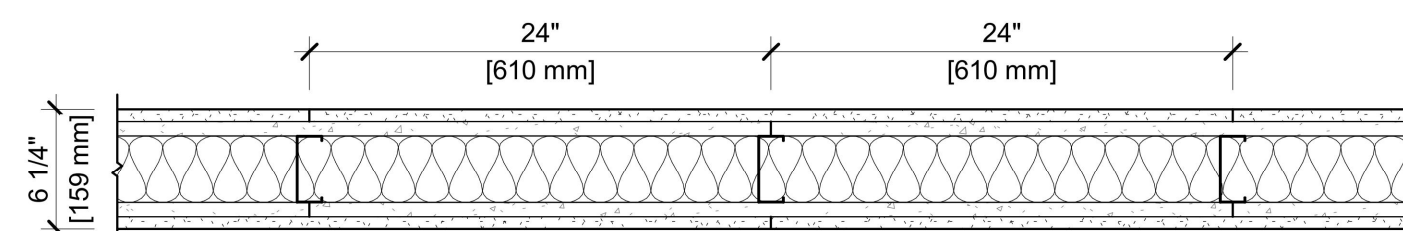
AREA OF CONSTRUCTION:  
TWO STORY : 6,548 + 4180 = 10,728 SF

MAX ALLOWABLE: 100 OCCUPANTS (100 SF / PERSON)  
(MIN. CALCULATED LOAD - CAPACITY  
MAY BE INCREASED UPON REQUEST)

TOTAL EXIT WIDTH REQUIRED: 43x0.2in=15.2 in  
TOTAL EXIT WIDTH PROVIDED: 144 in

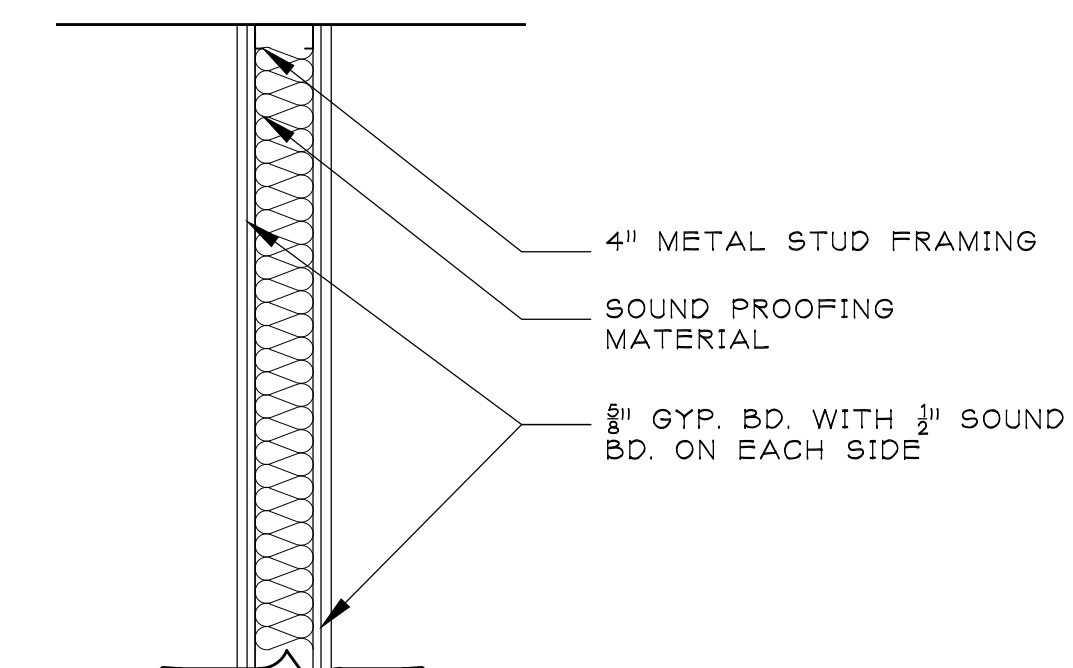
MAXIMUM TRAVEL DISTANCE = 75 FT

**DESIGN NO.** UL V465  
**FIRE RATING:** 2 HOURS  
**STC RATING:** S1-S5  
**SOUND TEST:** ESTIMATED RANGE  
**SYSTEM THICKNESS:** 6-1/4" [159 MM]  
**LOCATION:** INTERIOR  
**FRAMING TYPE:** STEEL STUD (LOAD-BEARING)



### ASSEMBLY REQUIREMENTS:

**GYPSON PANELS:** ONE LAYER 5/8" [15.9 MM] SHEETROCK® GYPSON PANEL (UL TYPE SCX)  
**STRUCTURAL CEMENT-FIBER UNITS:** ONE LAYER 3/4" [19 MM] STRUCTO-CRETE® PANEL (UL TYPES USGSP, STRUCTO-CRETE)  
**STEEL STUDS:** 3-1/2" [89 MM] STEEL STUDS, 20 GA. (0.033"), 24" [610 MM] O.C.  
**INSULATION:** 3-1/2" [89 MM] FIBERGLASS INSULATION  
**STRUCTURAL CEMENT-FIBER UNITS:** ONE LAYER 3/4" [19 MM] STRUCTO-CRETE® PANEL (UL TYPES USGSP, STRUCTO-CRETE)  
**GYPSON PANELS:** ONE LAYER 5/8" [15.9 MM] SHEETROCK® GYPSON PANEL (UL TYPE SCX)



## TYP. INTERIAL WALL SECTION

SCALE: 1"=1'-0"

### GENERAL WALL NOTES:

1. REFER TO APPLICABLE CODES REQUIREMENTS TO ENSURE COMPLIANCE PRIOR TO CONSTRUCTION.
2. FOR THE MOST UP-TO-DATE DETAILS, INCLUDING CONSTRUCTION VARIATIONS, REFER TO THE PUBLISHED DESIGN.
3. WHERE DESIGN NO. INDICATES "PER", THE FIRE RATING IS BASED ON LABORATORY TEST DATA OF THE REFERENCED SIMILARLY CONSTRUCTED ASSEMBLIES.
4. STUD SIZES AND INSULATION THICKNESS ARE MINIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY.
5. STUD AND FASTENER SPACINGS ARE MAXIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY.
6. PANEL ORIENTATION SHALL BE AS SPECIFIED IN THE PUBLISHED DESIGN.
7. FIRE-RATINGS ARE FROM BOTH SIDES UNLESS OTHERWISE STATED.
8. FIRE-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, INCREASE STUD MATERIAL THICKNESS, DECREASE STUD SPACING, DECREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH.
9. WHERE ACOUSTICAL PERFORMANCE IS PROVIDED IN AN ESTIMATED RANGE, THE VALUES ARE BASED ON LABORATORY TEST DATA OF SIMILARLY CONSTRUCTED ASSEMBLIES.
10. SOUND-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, DECREASE STUD MATERIAL THICKNESS, INCREASE STUD SPACING, INCREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH. MODIFICATIONS MUST NOT EXCEED LIMITATIONS OF FIRE RATING.

**USG CGC**  
USG Corporation  
550 West Adams Street  
Chicago, IL 60661 USA  
www.usg.com  
T. 800-USG4YOU

DISCLAIMER: THE USG PRODUCT INFORMATION CONTAINED HEREIN ARE INTENDED FOR USE AS PRODUCT INFORMATION ONLY. IT IS NOT INTENDED TO BE USED AS A SUBSTITUTE FOR THE DESIGN REVIEW AND APPROVAL OF THE DESIGN PROFESSIONAL. THE USER SHALL BE RESPONSIBLE FOR THE SELECTION, SPECIFICATION, AND USE OF PRODUCTS MANUFACTURED BY THE MANUFACTURER OF THE PRODUCTS AND APPROVED SOLELY AS A SUBSTITUTE FOR THE DESIGN REVIEW AND APPROVAL OF THE DESIGN PROFESSIONAL. THE USER SHALL BE RESPONSIBLE FOR THE SELECTION, SPECIFICATION, AND USE OF PRODUCTS MANUFACTURED BY THE MANUFACTURER OF THE PRODUCTS AND APPROVED SOLELY AS A SUBSTITUTE FOR THE DESIGN REVIEW AND APPROVAL OF THE DESIGN PROFESSIONAL. THE USER SHALL BE RESPONSIBLE FOR THE SELECTION, SPECIFICATION, AND USE OF PRODUCTS MANUFACTURED BY THE MANUFACTURER OF THE PRODUCTS AND APPROVED SOLELY AS A SUBSTITUTE FOR THE DESIGN REVIEW AND APPROVAL OF THE DESIGN PROFESSIONAL.

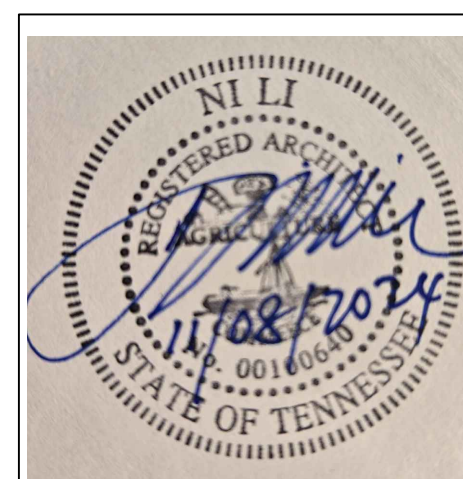
UL V465

**ISSUE RECORD:**  
Revision Date  
10/05/2021 11:56:57 PM

SHEET INFORMATION:

SB-P-2-05

RENOVATION OF  
1122 HIGH STREET COLUMBIA, TN 38401  
HENDERICK Inc. / GENERAL CONTRACTOR  
Attn: Waddell Wright



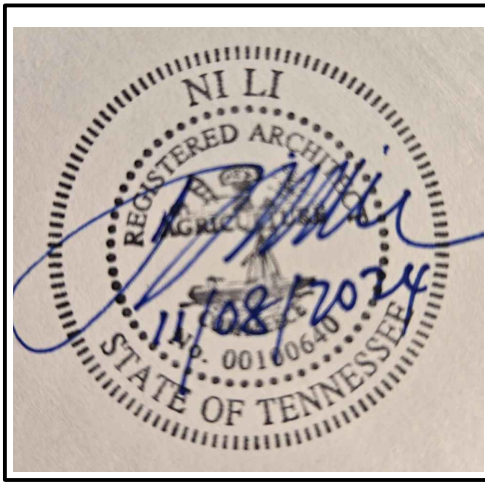
ISSUE DATE:  
11.08.2024

REVISIONS:

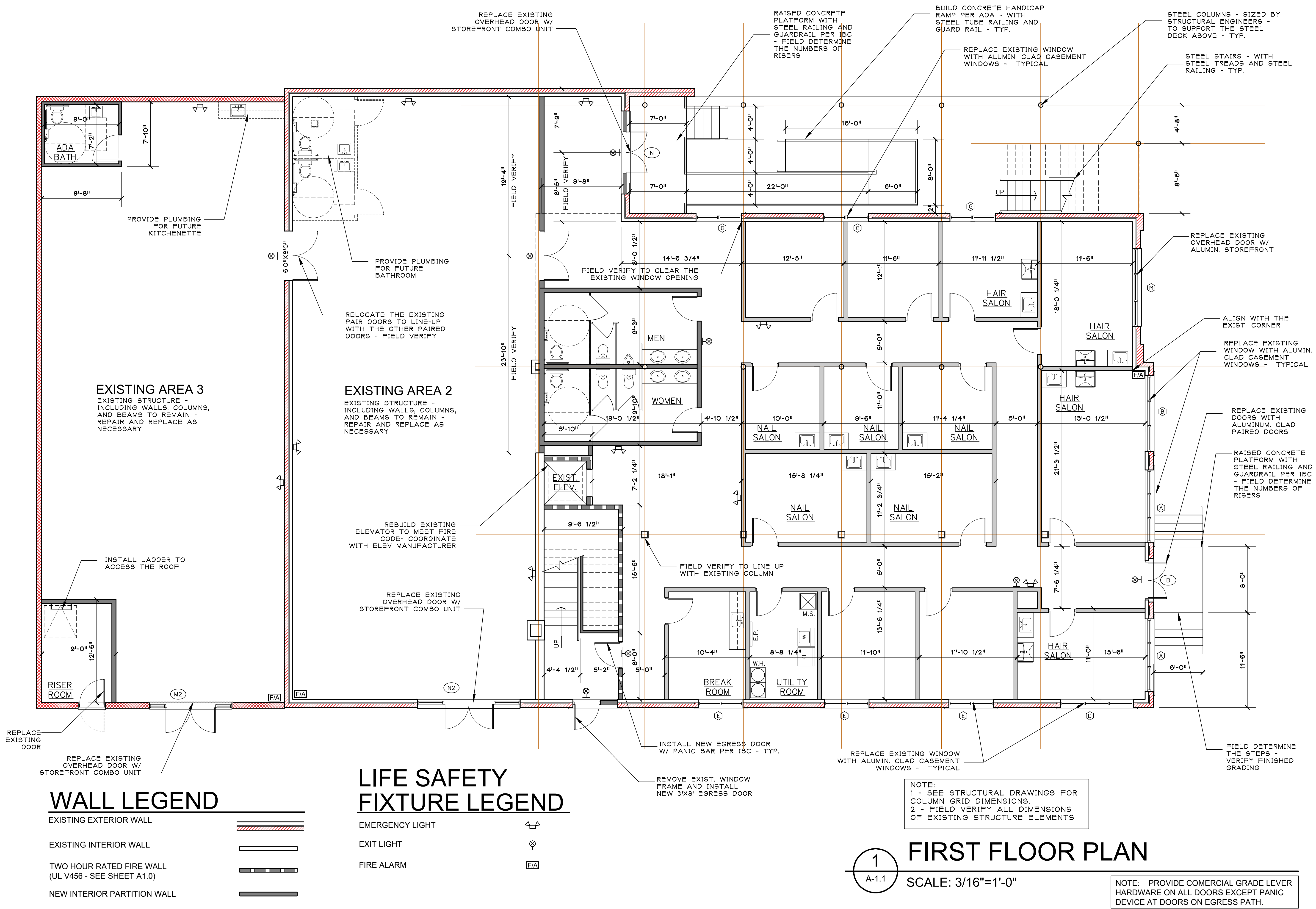
06.25.2025  
07.30.2025  
08.14.2025  
08.19.2025

A-1.0

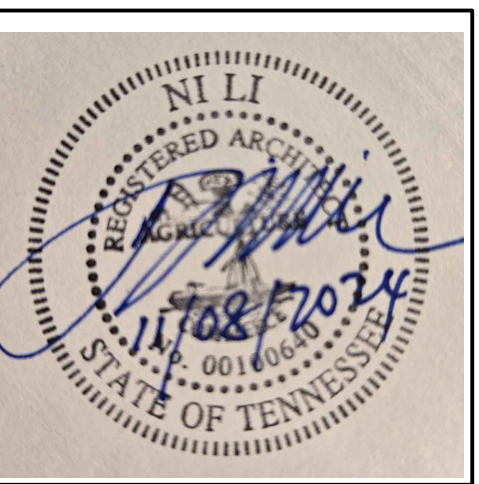
TITLE SHEET



|                           |
|---------------------------|
| ISSUE DATE:<br>11.08.2024 |
| REVISIONS:                |
| 06.25.2025                |
| 07.30.2025                |
| 08.14.2025                |
| 08.19.2025                |

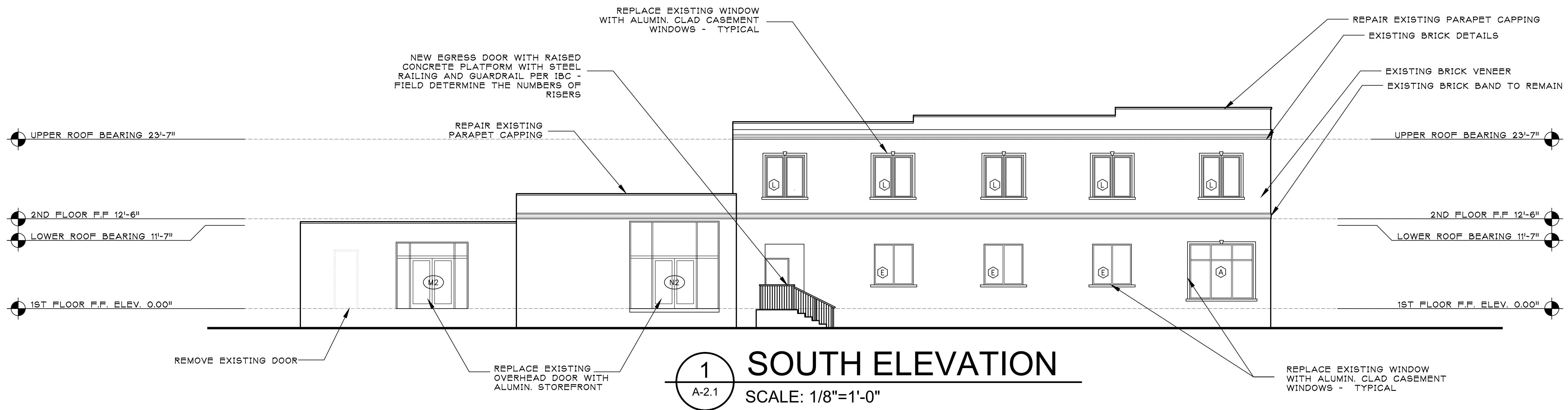




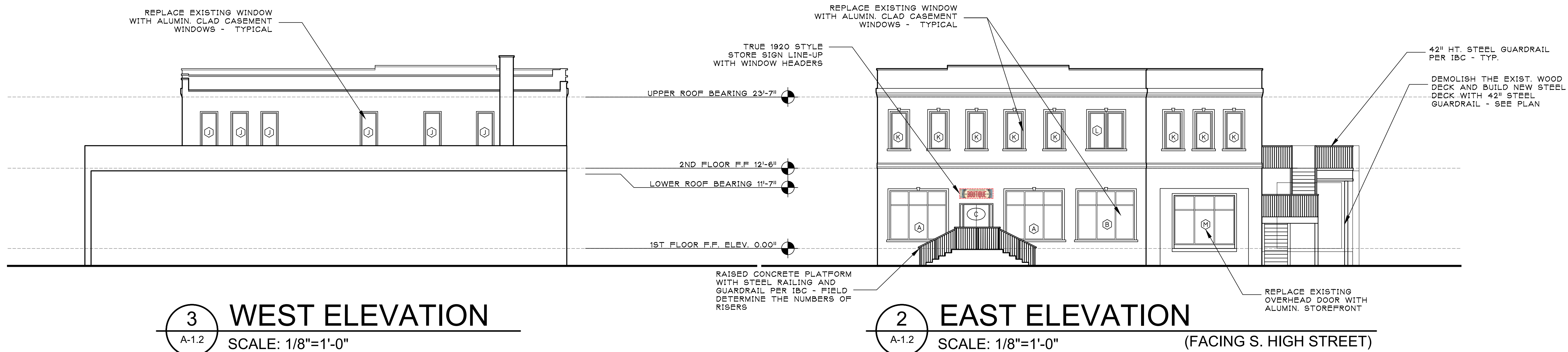


|             |            |
|-------------|------------|
| ISSUE DATE: | 11.08.2024 |
| REVISIONS:  |            |
|             | 06.25.2025 |
|             | 07.30.2025 |
|             | 08.14.2025 |
|             | 08.19.2025 |

**A-2.1**  
EXTERIOR ELEVATIONS

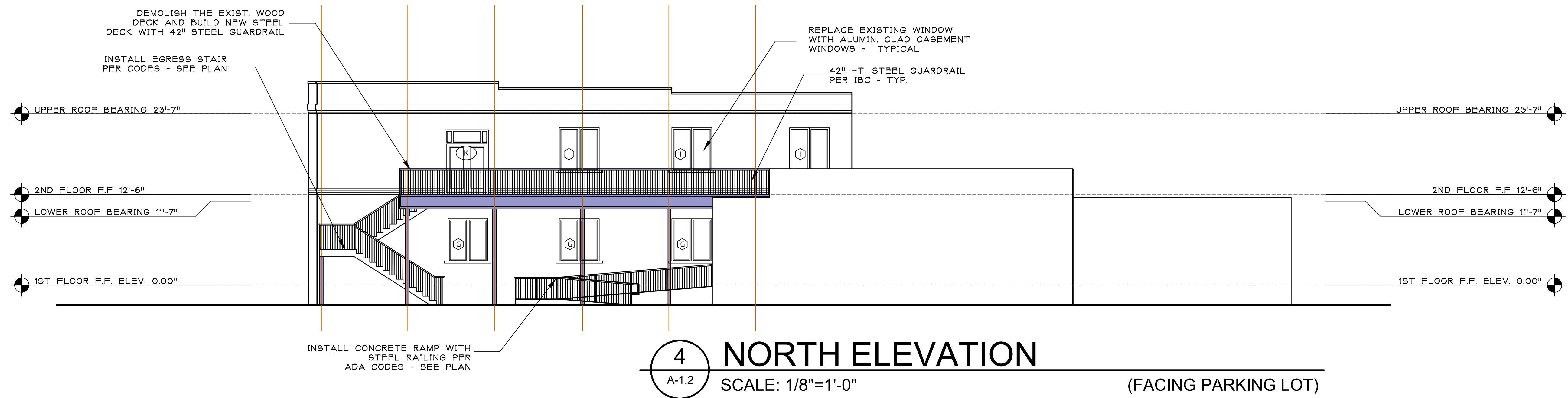


**1 SOUTH ELEVATION**  
A-2.1 SCALE: 1/8"=1'-0"



**2 EAST ELEVATION**  
A-1.2 SCALE: 1/8"=1'-0" (FACING S. HIGH STREET)

**3 WEST ELEVATION**  
A-1.2 SCALE: 1/8"=1'-0"



**4 NORTH ELEVATION**  
A-1.2 SCALE: 1/8"=1'-0" (FACING PARKING LOT)



**SERIES SMI-245 ALUMINUM STOREFRONT SYSTEM.**

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH "ALDORA ALUMINUM & GLASS PRODUCTS" APPROVED DOOR PRODUCTS. LOWER DESIGN PRESSURE FROM STOREFRONT OR DOOR APPROVAL WILL APPLY TO ENTIRE SYSTEM.

CODE REQUIREMENTS FOR SAFEGUARDS MUST BE OBSERVED.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC 2020 7TH EDITION) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE LISTED, SPACED AS SHOWN ON DETAILS ANCHORS EMBEDDED TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IS USED IN THE DESIGN OF ANCHORS INTO WOOD ONLY.

**INSTRUCTIONS:**

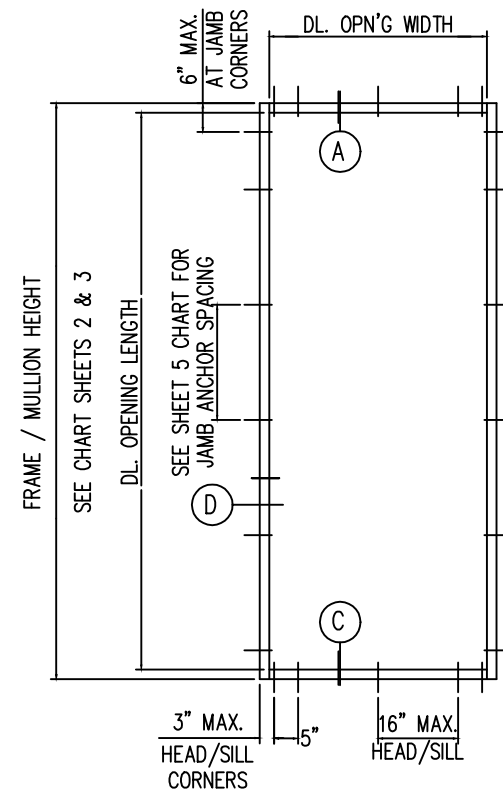
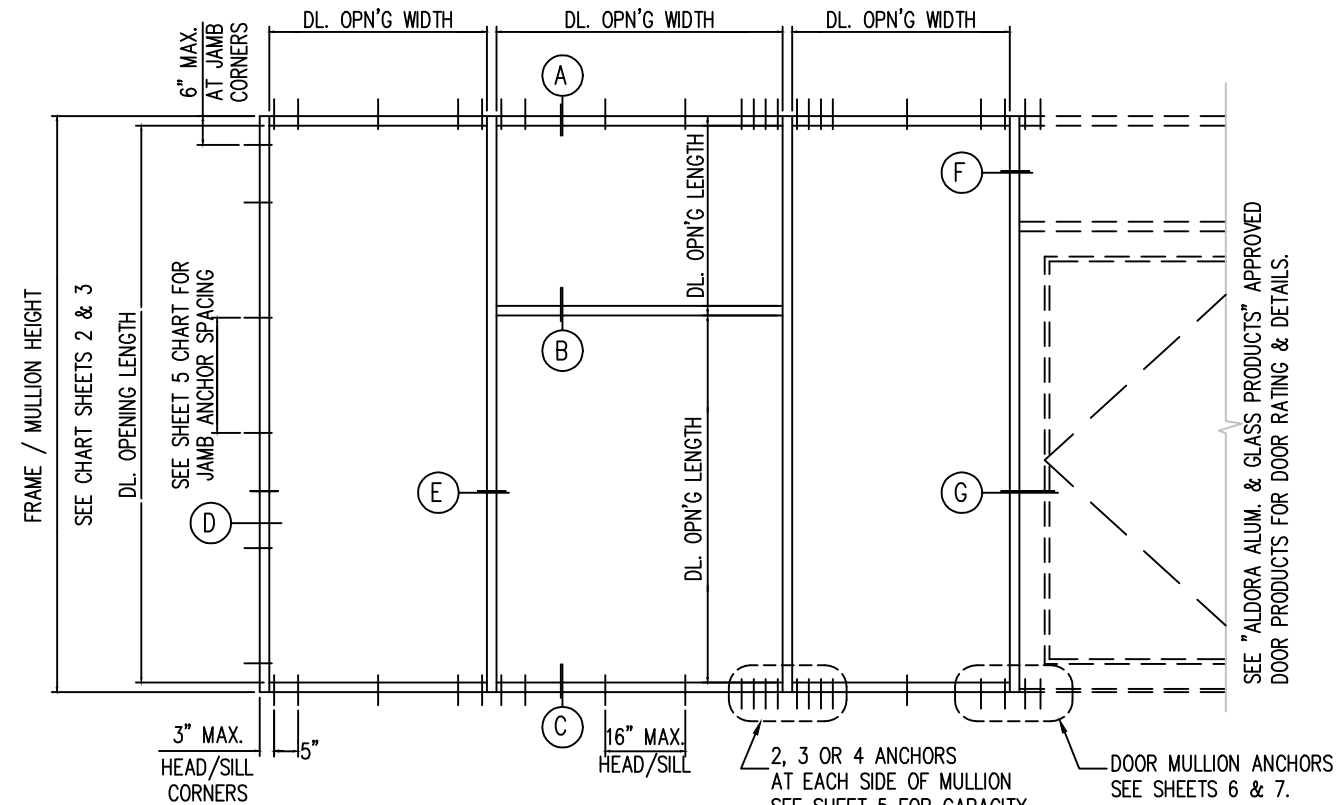
USE CHARTS AS FOLLOWS

**STEP 1.-** DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON THE WIND VELOCITY, BUILDING HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.

**STEP 2.-** CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 2 & 3 FOR STOREFRONT MULLION AND SHEETS 5 & 6 FOR DOOR MULLION. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

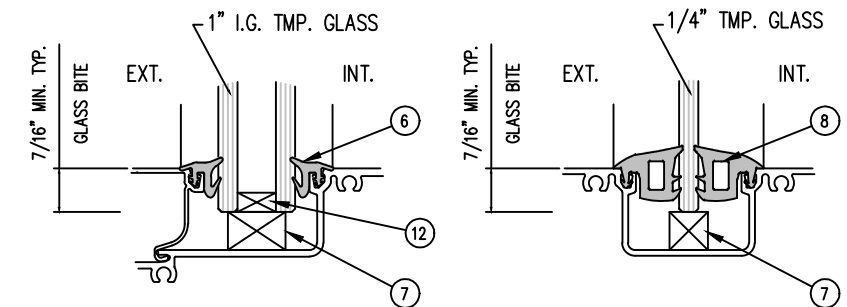
**STEP 3.-** USING CHART ON SHEET 4 SELECT ANCHOR OPTION WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.

**STEP 4.-** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO THE ENTIRE SYSTEM.



**TYPICAL ELEVATIONS**

|   |
|---|
| <b>DESIGN PRESSURES:</b>  |
| MULLIONS - SEE CHARTS ON PAGES 2, 3, 5, & 6.<br>FRAME ANCHORS - SEE CHART ON PAGE 4.  |
| THIS SYSTEM IS NOT RATED FOR IMPACT.  |
| INSTALLATION OF THIS PRODUCT IN THE HVHZ AREA REQUIRES THE USE OF APPROVED SHUTTERS OR EXTERNAL PROTECTION DEVICES COMPLYING WITH HVHZ REQUIREMENTS.<br>INSTALLATION OF THIS SYSTEM OUTSIDE THE HVHZ AREA MUST MEET THE APPLICABLE REQUIREMENTS FOR WIND BORNE DEBRIS PROTECTION. |



**GLASS TYPE -G1**  
1" INSULATED TEMPERED GLASS  
1/4" TEMPERED -  
1/2" AIRSPACE -  
1/4" TEMPERED

**GLASS TYPE -G2**  
1/4" TEMPERED GLASS

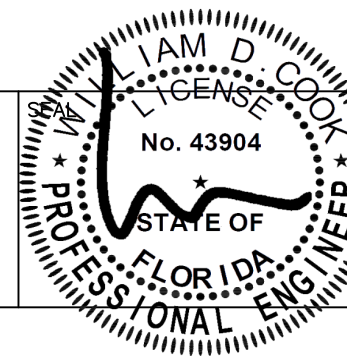
**GLAZING DETAILS**

GLASS TYPES G1 & G2 ARE APPROVED FOR ALL MULLION CONFIGURATIONS SHOWN ON SHEETS 2-5.

|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 1 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |



4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816

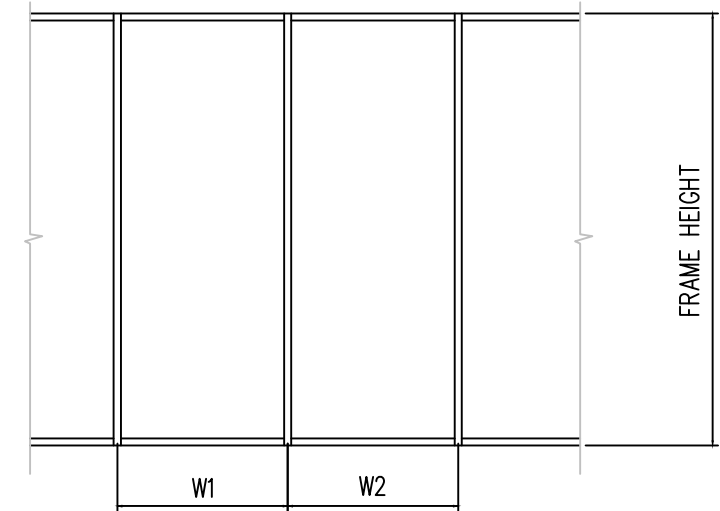


04/19/2021  
William D. Cook, PE  
Cook, PE  
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

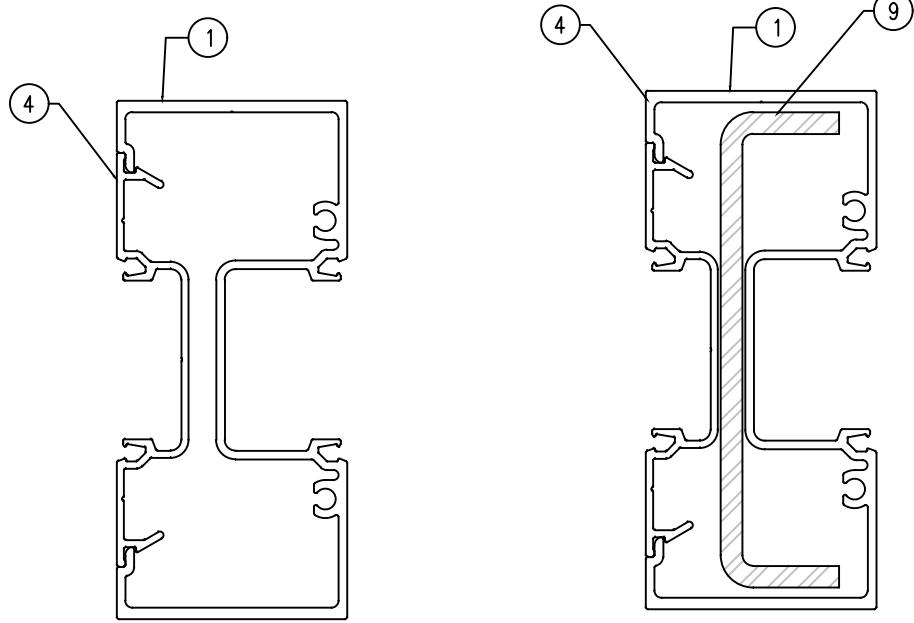
**BROMLEY-COOK ENGINEERING, INC.**  
**STRUCTURAL ENGINEERING SERVICES**  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634

| MULLION LOAD CAPACITY – PSF<br>WITHOUT INTERMEDIATE HORIZONTALS |              |                     |         |                  |         |     |
|---|--------------|---------------------|---------|------------------|---------|-----|
| NOMINAL DIMS.   |              | WITHOUT REINFORCING |         | WITH REINFORCING |         |     |
| WIDTH (W)   | FRAME HEIGHT | EXT.(+)             | INT.(–) | EXT.(+)          | INT.(–) |     |
| 24"   | 66"          | 80                  | 120     | 80               | 120     |     |
| 30"   |              | 80                  | 120     | 80               | 120     |     |
| 36"   |              | 80                  | 120     | 80               | 120     |     |
| 42"   |              | 80                  | 120     | 80               | 120     |     |
| 48"   |              | 80                  | 120     | 80               | 120     |     |
| 54"   |              | 80                  | 120     | 80               | 120     |     |
| 60"   |              | 80                  | 120     | 80               | 120     |     |
| 66"   |              | 80                  | 120     | 80               | 120     |     |
| 72"   |              | 80                  | 120     | 80               | 120     |     |
| 24"   |              | 72"                 | 80      | 120              | 80      | 120 |
| 30"   | 80           |                     | 120     | 80               | 120     |     |
| 36"   | 80           |                     | 120     | 80               | 120     |     |
| 42"   | 80           |                     | 106     | 80               | 120     |     |
| 48"   | 80           |                     | 96.5    | 80               | 120     |     |
| 54"   | 80           |                     | 89.9    | 80               | 120     |     |
| 60"   | 80           |                     | 85.5    | 80               | 120     |     |
| 66"   | 80           |                     | 83.0    | 80               | 120     |     |
| 72"   | 80           |                     | 82.1    | 80               | 120     |     |
| 24"   | 78"          |                     | 80      | 120              | 80      | 120 |
| 30"   |              | 80                  | 120     | 80               | 120     |     |
| 36"   |              | 80                  | 100     | 80               | 120     |     |
| 42"   |              | 80                  | 88.5    | 80               | 120     |     |
| 48"   |              | 80                  | 80.1    | 80               | 120     |     |
| 54"   |              | 74.0                | 74.0    | 80               | 120     |     |
| 60"   |              | 69.8                | 69.8    | 80               | 116     |     |
| 66"   |              | 66.8                | 66.8    | 80               | 111     |     |
| 72"   |              | 65.2                | 65.2    | 80               | 109     |     |
| 24"   |              | 84"                 | 80      | 120              | 80      | 120 |
| 30"   | 80           |                     | 101     | 80               | 120     |     |
| 36"   | 80           |                     | 85.7    | 80               | 120     |     |
| 42"   | 75.2         |                     | 75.2    | 80               | 120     |     |
| 48"   | 67.7         |                     | 67.7    | 80               | 113     |     |
| 54"   | 62.2         |                     | 62.2    | 80               | 104     |     |
| 60"   | 58.2         |                     | 58.2    | 80               | 97.0    |     |
| 66"   | 55.3         |                     | 55.3    | 80               | 92.1    |     |
| 24"   | 90"          |                     | 80      | 108              | 80      | 120 |
| 30"   |              |                     | 80      | 87.4             | 80      | 120 |
| 36"   |              | 74.0                | 74.0    | 80               | 120     |     |
| 42"   |              | 64.8                | 64.8    | 80               | 108     |     |
| 48"   |              | 58.1                | 58.1    | 80               | 96.8    |     |
| 54"   |              | 53.1                | 53.1    | 80               | 88.5    |     |
| 60"   |              | 49.4                | 49.4    | 80               | 82.3    |     |

| MULLION LOAD CAPACITY – PSF<br>WITHOUT INTERMEDIATE HORIZONTALS |              |                     |         |                  |         |      |
|---|--------------|---------------------|---------|------------------|---------|------|
| NOMINAL DIMS.   |              | WITHOUT REINFORCING |         | WITH REINFORCING |         |      |
| WIDTH (W)   | FRAME HEIGHT | EXT.(+)             | INT.(–) | EXT.(+)          | INT.(–) |      |
| 24"   | 96"          | 80.0                | 94.4    | 80               | 120     |      |
| 30"   |              | 76.4                | 76.4    | 80               | 120     |      |
| 36"   |              | 64.7                | 64.7    | 80               | 108     |      |
| 42"   |              | 56.4                | 56.4    | 80               | 94      |      |
| 48"   |              | 50.4                | 50.4    | 80               | 84      |      |
| 54"   |              | 45.9                | 45.9    | 76.5             | 76.5    |      |
| 60"   |              | 42.5                | 42.5    | 70.8             | 70.8    |      |
| 24"   |              | 102"                | 80.0    | 83.4             | 80      | 120  |
| 30"   | 67.4         |                     | 67.4    | 80               | 112     |      |
| 36"   | 56.9         |                     | 56.9    | 80               | 94.9    |      |
| 42"   | 49.6         |                     | 49.6    | 80               | 82.7    |      |
| 48"   | 44.2         |                     | 44.2    | 73.7             | 73.7    |      |
| 54"   | 40.1         |                     | 40.1    | 66.9             | 66.9    |      |
| 24"   | 108"         | 74.3                | 74.3    | 80               | 120     |      |
| 30"   |              | 59.9                | 59.9    | 80               | 99.9    |      |
| 36"   |              | 50.6                | 50.6    | 80               | 84.3    |      |
| 42"   |              | 44.0                | 44.0    | 73.3             | 73.3    |      |
| 48"   |              | 39.1                | 39.1    | 65.2             | 65.2    |      |
| 24"   |              | 114"                | 66.5    | 66.5             | 80      | 111  |
| 30"   | 53.7         |                     | 53.7    | 80               | 89.5    |      |
| 36"   | 45.2         |                     | 45.2    | 75.3             | 75.3    |      |
| 42"   | 39.2         |                     | 39.2    | 65.4             | 65.4    |      |
| 48"   | 34.8         |                     | 34.8    | 58               | 58      |      |
| 24"   | 120"         |                     | 59.9    | 59.9             | 80      | 99.9 |
| 30"   |              | 48.3                | 48.3    | 80               | 80.5    |      |
| 36"   |              | 40.7                | 40.7    | 67.8             | 67.8    |      |
| 42"   |              | 35.2                | 35.2    | 58.7             | 58.7    |      |
| 48"   |              | 31.2                | 31.2    | 52.1             | 52.1    |      |
| 24"   |              | 126"                | 51.2    | 51.2             | 80      | 99.9 |
| 30"   | 41.2         |                     | 41.2    | 80               | 80.5    |      |
| 36"   | 34.6         |                     | 34.6    | 67.8             | 67.8    |      |
| 42"   | 30.4         |                     | 30.4    | 58.7             | 58.7    |      |
| 24"   | 132"         |                     | 45.3    | 45.3             | 75.6    | 75.6 |
| 30"   |              |                     | 36.5    | 36.5             | 60.8    | 60.8 |
| 36"   |              | 30.6                | 30.6    | 51.1             | 51.1    |      |
| 42"   |              | 26.5                | 26.5    | 44.2             | 44.2    |      |
| 24"   |              | 138"                | 39.4    | 39.4             | 65.6    | 65.6 |
| 30"   |              |                     | 31.7    | 31.7             | 52.8    | 52.8 |
| 36"   | 26.6         |                     | 26.6    | 44.3             | 44.3    |      |
| 24"   | 144"         |                     | 34.7    | 34.7             | 57.8    | 57.8 |
| 30"   |              |                     | 27.9    | 27.9             | 46.5    | 46.5 |
| 36"   |              |                     | 23.4    | 23.4             | 39      | 39   |



$$WIDTH (W) = \frac{W1 + W2}{2}$$



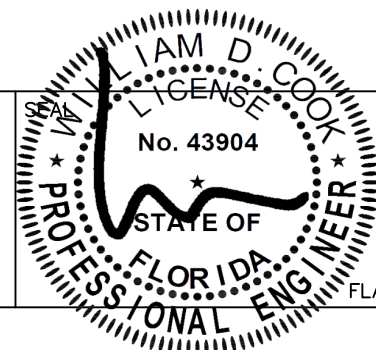
|                    |                    |
|--------------------|--------------------|
| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| 3.421              | 1.52               |

|                                   |                    |                    |
|-----------------------------------|--------------------|--------------------|
|                                   | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| ALUMINUM                          | 3.421              | 1.52               |
| STEEL                             | 2.260              | 1.064              |
| TOTAL<br>Ix ALUM. + Ix STL. X 2.9 | 9.975              |                    |

|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 2 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |



4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816

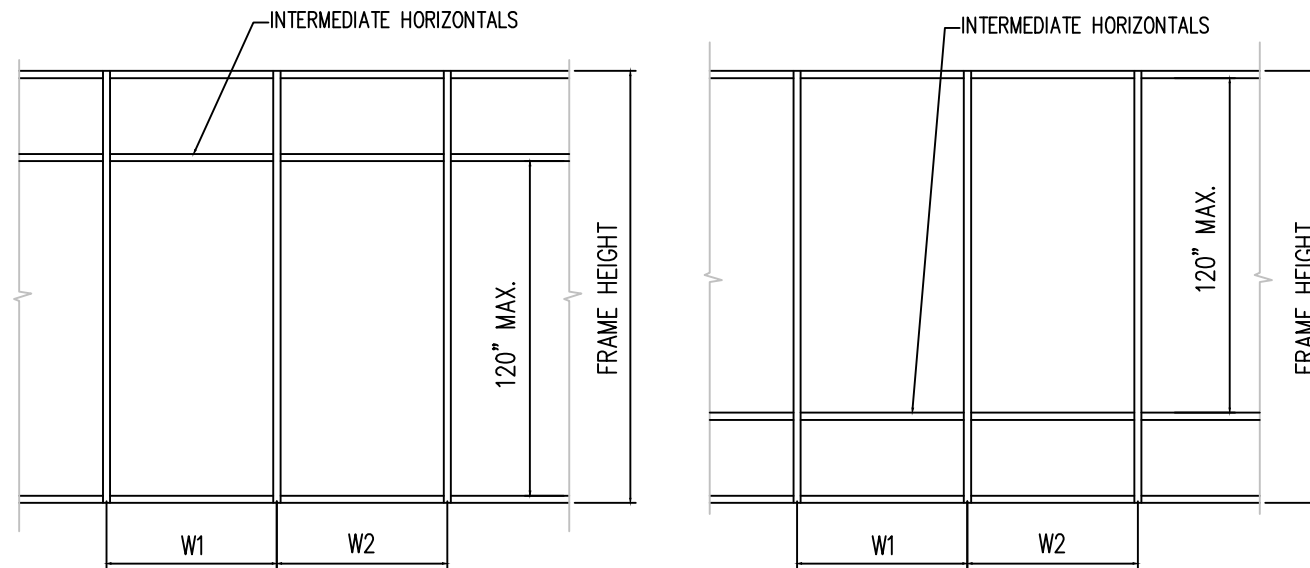


04/19/2021  
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634

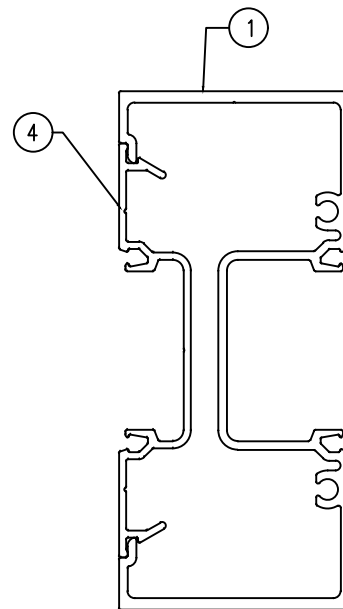
| MULLION LOAD CAPACITY – PSF<br>WITH INTERMEDIATE HORIZONTALS |              |                     |         |                  |         |     |
|--|--------------|---------------------|---------|------------------|---------|-----|
| NOMINAL DIMS.  |              | WITHOUT REINFORCING |         | WITH REINFORCING |         |     |
| WIDTH (W)  | FRAME HEIGHT | EXT.(+)             | INT.(–) | EXT.(+)          | INT.(–) |     |
| 24"  | 60"          | 80                  | 120     | 80               | 120     |     |
| 30"  |              | 80                  | 120     | 80               | 120     |     |
| 36"  |              | 80                  | 120     | 80               | 120     |     |
| 42"  |              | 80                  | 114     | 80               | 120     |     |
| 48"  |              | 80                  | 99.4    | 80               | 120     |     |
| 54"  |              | 80                  | 88.4    | 80               | 120     |     |
| 60"  |              | 80                  | 79.5    | 80               | 120     |     |
| 66"  |              | 80                  | 72.3    | 80               | 117     |     |
| 72"  |              | 66.3                | 66.3    | 80               | 120     |     |
| 24"  |              | 66"                 | 80      | 120              | 80      | 120 |
| 30"  | 80           |                     | 120     | 80               | 120     |     |
| 36"  | 80           |                     | 110     | 80               | 120     |     |
| 42"  | 80           |                     | 93.9    | 80               | 120     |     |
| 48"  | 80           |                     | 82.2    | 80               | 120     |     |
| 54"  | 73           |                     | 73      | 80               | 120     |     |
| 60"  | 65.7         |                     | 65.7    | 80               | 120     |     |
| 66"  | 59.8         |                     | 59.8    | 80               | 120     |     |
| 72"  | 65.2         |                     | 65.2    | 80               | 118     |     |
| 24"  | 72"          |                     | 80      | 120              | 80      | 120 |
| 30"  |              | 80                  | 120     | 80               | 120     |     |
| 36"  |              | 80                  | 110     | 80               | 120     |     |
| 42"  |              | 80                  | 93.9    | 80               | 120     |     |
| 48"  |              | 80                  | 82.2    | 80               | 120     |     |
| 54"  |              | 73                  | 73      | 80               | 120     |     |
| 60"  |              | 65.7                | 65.7    | 80               | 109     |     |
| 66"  |              | 59.8                | 59.8    | 80               | 99.6    |     |
| 72"  |              | 54.8                | 54.8    | 80               | 91.3    |     |
| 24"  |              | 78"                 | 80      | 120              | 80      | 120 |
| 30"  | 80           |                     | 112     | 80               | 120     |     |
| 36"  | 80           |                     | 93.3    | 80               | 120     |     |
| 42"  | 80           |                     | 80      | 80               | 120     |     |
| 48"  | 70           |                     | 70      | 80               | 117     |     |
| 54"  | 62.3         |                     | 62.3    | 80               | 104     |     |
| 60"  | 56           |                     | 56      | 80               | 93.4    |     |
| 66"  | 50.9         |                     | 50.9    | 80               | 84.9    |     |
| 72"  | 46.7         |                     | 46.7    | 77.8             | 77.8    |     |
| 24"  | 84"          |                     | 80      | 120              | 80      | 120 |
| 30"  |              | 80                  | 96.6    | 80               | 120     |     |
| 36"  |              | 80                  | 40.9    | 80               | 120     |     |
| 42"  |              | 69                  | 69      | 80               | 115     |     |
| 48"  |              | 60.4                | 60.4    | 80               | 100     |     |
| 54"  |              | 53.7                | 53.7    | 80               | 89.4    |     |
| 60"  |              | 48.36               | 48.6    | 80               | 80.5    |     |
| 66"  |              | 43.9                | 43.9    | 73.2             | 73.2    |     |
| 24"  |              | 90"                 | 80      | 108              | 80      | 120 |
| 30"  |              |                     | 80      | 87.4             | 80      | 120 |
| 36"  | 74           |                     | 74      | 80               | 120     |     |
| 42"  | 64.8         |                     | 64.8    | 80               | 108     |     |
| 48"  | 58.1         |                     | 58.1    | 80               | 96.8    |     |
| 54"  | 53.1         |                     | 53.1    | 80               | 88.5    |     |
| 60"  | 49.4         |                     | 49.4    | 80               | 82.3    |     |

| MULLION LOAD CAPACITY – PSF<br>WITH INTERMEDIATE HORIZONTALS |              |                     |         |                  |         |      |      |
|--|--------------|---------------------|---------|------------------|---------|------|------|
| NOMINAL DIMS.  |              | WITHOUT REINFORCING |         | WITH REINFORCING |         |      |      |
| WIDTH (W)  | FRAME HEIGHT | EXT.(+)             | INT.(–) | EXT.(+)          | INT.(–) |      |      |
| 24"  | 96"          | 80                  | 94.4    | 80               | 120     |      |      |
| 30"  |              | 76.4                | 76.4    | 80               | 120     |      |      |
| 36"  |              | 64.7                | 64.7    | 80               | 108     |      |      |
| 42"  |              | 56.4                | 56.4    | 80               | 94      |      |      |
| 48"  |              | 50.4                | 50.4    | 80               | 84      |      |      |
| 54"  |              | 45.9                | 45.9    | 76.5             | 76.5    |      |      |
| 60"  |              | 42.5                | 42.5    | 70.8             | 70.8    |      |      |
| 24"  |              | 102"                | 80      | 83.4             | 80      | 120  |      |
| 30"  |              |                     | 67.4    | 67.4             | 80      | 112  |      |
| 36"  |              |                     | 56.9    | 56.9             | 80      | 94.9 |      |
| 42"  | 49.6         |                     | 49.6    | 80               | 82.7    |      |      |
| 48"  | 44.2         |                     | 44.2    | 73.7             | 73.7    |      |      |
| 54"  | 40.1         |                     | 40.1    | 66.9             | 66.9    |      |      |
| 24"  | 108"         |                     | 74.3    | 74.3             | 80      | 120  |      |
| 30"  |              |                     | 59.9    | 59.9             | 80      | 99.9 |      |
| 36"  |              |                     | 50.6    | 50.6             | 80      | 84.3 |      |
| 42"  |              |                     | 44      | 44               | 73.3    | 73.3 |      |
| 48"  |              | 39.1                | 39.1    | 65.2             | 65.2    |      |      |
| 24"  |              | 114"                | 66.5    | 66.5             | 80      | 111  |      |
| 30"  |              |                     | 53.7    | 53.7             | 80      | 89.5 |      |
| 36"  |              |                     | 45.2    | 45.2             | 75.3    | 75.3 |      |
| 42"  |              |                     | 39.2    | 39.2             | 65.4    | 65.4 |      |
| 48"  |              |                     | 34.8    | 34.8             | 58      | 58   |      |
| 24"  | 120"         |                     | 59.9    | 59.9             | 80      | 99.9 |      |
| 30"  |              |                     | 48.3    | 48.3             | 80      | 80.5 |      |
| 36"  |              |                     | 40.7    | 40.7             | 67.8    | 67.8 |      |
| 42"  |              |                     | 35.2    | 35.2             | 58.7    | 58.7 |      |
| 48"  |              |                     | 31.2    | 31.2             | 52.1    | 52.1 |      |
| 24"  |              | 126"                | 51.2    | 51.2             | 80      | 99.9 |      |
| 30"  |              |                     | 41.2    | 41.2             | 80      | 80.5 |      |
| 36"  |              |                     | 34.6    | 34.6             | 67.8    | 67.8 |      |
| 42"  |              |                     | 30.4    | 30.4             | 58.7    | 58.7 |      |
| 24"  |              |                     | 132"    | 45.3             | 45.3    | 75.6 | 75.6 |
| 30"  | 36.5         |                     |         | 36.5             | 60.8    | 60.8 |      |
| 36"  | 30.6         |                     |         | 30.6             | 51.1    | 51.1 |      |
| 42"  | 26.5         |                     |         | 26.5             | 44.2    | 44.2 |      |
| 24"  | 138"         |                     |         | 39.4             | 39.4    | 65.6 | 65.6 |
| 30"  |              |                     |         | 31.7             | 31.7    | 52.8 | 52.8 |
| 36"  |              | 26.6                |         | 26.6             | 44.3    | 44.3 |      |
| 24"  |              | 144"                |         | 34.7             | 34.7    | 57.8 | 57.8 |
| 30"  |              |                     |         | 27.9             | 27.9    | 46.5 | 46.5 |
| 36"  |              |                     |         | 23.4             | 23.4    | 39   | 39   |



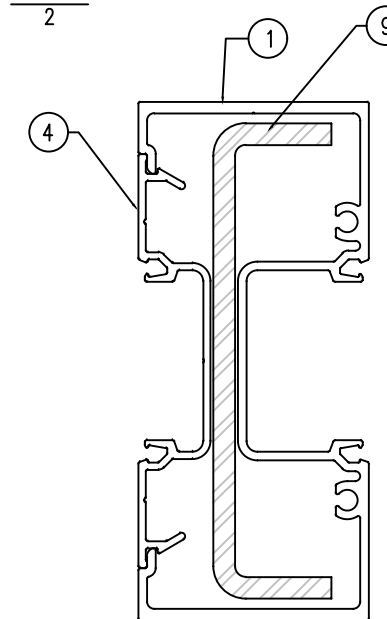
MAX. SPACING BETWEEN HORIZONTALS ≤ 120 INCHES

$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



MULLION  
W / O REINFORCING

| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|--------------------|--------------------|
| 3.421              | 1.52               |



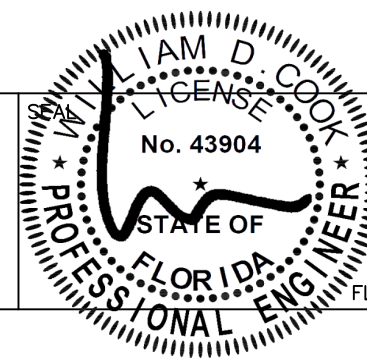
MULLION  
W / REINFORCING

|                                  | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|----------------------------------|--------------------|--------------------|
| ALUMINUM                         | 3.421              | 1.52               |
| STEEL                            | 2.260              | 1.064              |
| TOTAL<br>Ix ALUM. + Ix STL X 2.9 | 9.975              |                    |

|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 3 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |



4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816



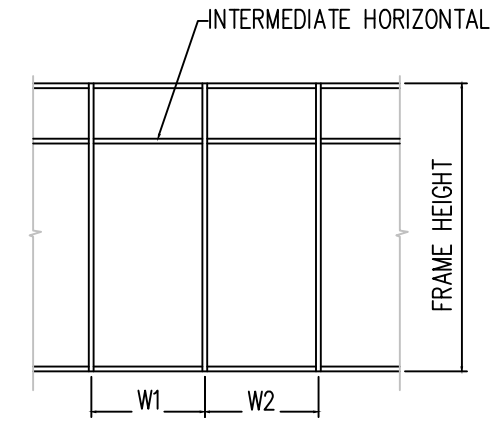
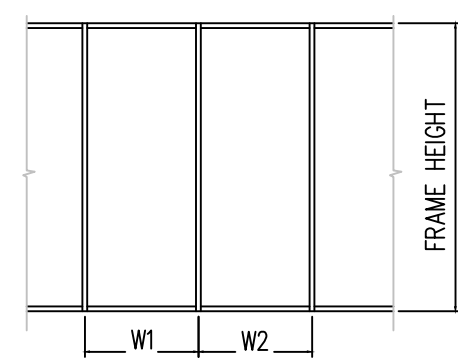
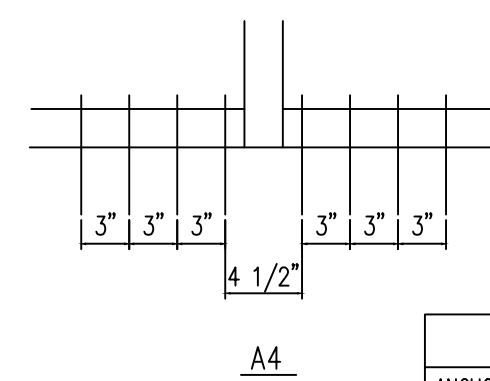
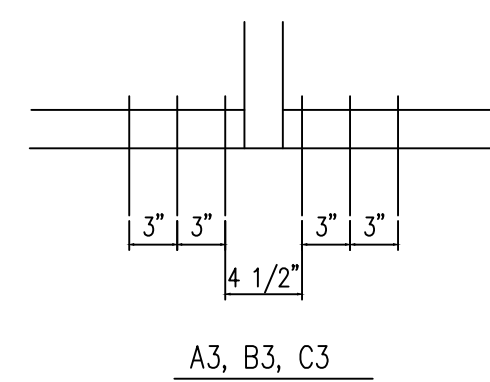
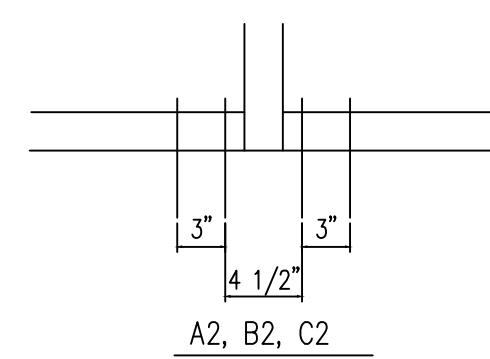
04/19/2021

WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634

| ANCHOR LOAD CAPACITY – PSF<br>EXT. (+) & INT. (-) |              |                  |       |       |                |       |     |
|---|--------------|------------------|-------|-------|----------------|-------|-----|
| NOMINAL DIMS.                                     |              | ANCHORS TYPE "A" |       |       | TYPE "B" & "C" |       |     |
| WIDTH (W)   | FRAME HEIGHT | A2               | A3    | A4    | B2/C2          | B3/C3 |     |
| 24"   | 60"          | 120              | 120   | 120   | 120            | 120   |     |
| 30"   |              | 115              | 120   | 120   | 120            | 120   |     |
| 36"   |              | 96.5             | 120   | 120   | 120            | 120   |     |
| 42"   |              | 82.7             | 120   | 120   | 120            | 120   |     |
| 48"   |              | 72.4             | 108   | 120   | 120            | 120   |     |
| 54"   |              | 64.4             | 96.6  | 120   | 120            | 120   |     |
| 60"   |              | 57.9             | 86.8  | 115.8 | 108            | 120   |     |
| 66"   |              | 52.6             | 78.9  | 105.2 | 98.6           | 120   |     |
| 72"   |              | 48.3             | 72.4  | 96.6  | 90.4           | 120   |     |
| 24"   |              | 66"              | 120   | 120   | 120            | 120   | 120 |
| 30"   | 105          |                  | 120   | 120   | 120            | 120   |     |
| 36"   | 87.7         |                  | 120   | 120   | 120            | 120   |     |
| 42"   | 75.2         |                  | 112.8 | 120   | 120            | 120   |     |
| 48"   | 65.8         |                  | 98.7  | 120   | 120            | 120   |     |
| 54"   | 58.5         |                  | 87.7  | 117   | 109.5          | 120   |     |
| 60"   | 52.6         |                  | 78.9  | 105.2 | 98.6           | 120   |     |
| 66"   | 47.9         |                  | 71.8  | 95.8  | 89.6           | 120   |     |
| 72"   | 43.9         |                  | 65.8  | 87.8  | 82.2           | 118   |     |
| 24"   | 72"          |                  | 120   | 120   | 120            | 120   | 120 |
| 30"   |              | 96.5             | 120   | 120   | 120            | 120   |     |
| 36"   |              | 80.4             | 120   | 120   | 120            | 120   |     |
| 42"   |              | 68.9             | 103.3 | 120   | 120            | 120   |     |
| 48"   |              | 60.3             | 90.4  | 120   | 113            | 120   |     |
| 54"   |              | 53.6             | 80.4  | 107.2 | 100.4          | 120   |     |
| 60"   |              | 48.2             | 42.3  | 96.4  | 90.4           | 120   |     |
| 66"   |              | 43.9             | 65.8  | 87.6  | 82.2           | 120   |     |
| 72"   |              | 40.2             | 60.3  | 80.4  | 75.3           | 120   |     |
| 24"   |              | 78"              | 111.4 | 120   | 120            | 120   | 120 |
| 30"   | 89.1         |                  | 120   | 120   | 120            | 120   |     |
| 36"   | 74.2         |                  | 11.3  | 120   | 120            | 120   |     |
| 42"   | 63.6         |                  | 95.4  | 120   | 119.2          | 120   |     |
| 48"   | 55.7         |                  | 83.5  | 11.4  | 104.3          | 120   |     |
| 54"   | 49.5         |                  | 74.2  | 99    | 92.7           | 120   |     |
| 60"   | 44.5         |                  | 66.7  | 89    | 83.4           | 116   |     |
| 66"   | 40.5         |                  | 60.7  | 81    | 75.9           | 111   |     |
| 72"   | 37.1         |                  | 55.6  | 74.2  | 69.5           | 109   |     |
| 24"   | 84"          |                  | 103.4 | 120   | 120            | 120   | 120 |
| 30"   |              | 82.7             | 120   | 120   | 120            | 120   |     |
| 36"   |              | 69               | 103.5 | 120   | 120            | 120   |     |
| 42"   |              | 56.1             | 88.6  | 115   | 110.7          | 120   |     |
| 48"   |              | 51.7             | 77.5  | 100   | 96.8           | 113   |     |
| 54"   |              | 46               | 69    | 89.4  | 86.1           | 104   |     |
| 60"   |              | 41.4             | 62.1  | 80.5  | 77.5           | 97    |     |
| 66"   |              | 37.6             | 56.4  | 73.2  | 70.4           | 92.1  |     |
| 24"   |              | 90"              | 96.5  | 120   | 120            | 120   | 120 |
| 30"   |              |                  | 77.2  | 115.8 | 120            | 120   | 120 |
| 36"   | 64.3         |                  | 96.4  | 120   | 120            | 120   |     |
| 42"   | 55.2         |                  | 82.6  | 108   | 103.3          | 108   |     |
| 48"   | 48.2         |                  | 72.3  | 96.4  | 90.4           | 96.8  |     |
| 54"   | 42.9         |                  | 64.3  | 85.8  | 80.3           | 88.5  |     |
| 60"   | 38.6         |                  | 57.9  | 77.2  | 72.3           | 82.3  |     |

| ANCHOR LOAD CAPACITY – PSF<br>EXT. (+) & INT. (-) |              |                  |       |       |                |       |      |      |
|---|--------------|------------------|-------|-------|----------------|-------|------|------|
| NOMINAL DIMS.                                     |              | ANCHORS TYPE "A" |       |       | TYPE "B" & "C" |       |      |      |
| WIDTH (W)   | FRAME HEIGHT | A2               | A3    | A4    | B2/C2          | B3/C3 |      |      |
| 24"   | 96"          | 90.5             | 120   | 120   | 120            | 120   |      |      |
| 30"   |              | 72.4             | 108.6 | 120   | 120            | 120   |      |      |
| 36"   |              | 60.3             | 90.4  | 108   | 108            | 108   |      |      |
| 42"   |              | 51.7             | 77.5  | 94    | 94             | 94    |      |      |
| 48"   |              | 45.2             | 67.8  | 84    | 84             | 84    |      |      |
| 54"   |              | 40.2             | 60.3  | 76.5  | 75.3           | 76.5  |      |      |
| 60"   |              | 36.2             | 54.3  | 70.8  | 67.8           | 70.8  |      |      |
| 24"   |              | 102"             | 85.2  | 120   | 120            | 120   | 120  |      |
| 30"   |              |                  | 68.1  | 102.2 | 112            | 112   | 112  |      |
| 36"   |              |                  | 57.8  | 86.7  | 94.9           | 94.9  | 94.9 |      |
| 42"   | 48.7         |                  | 73.1  | 82.7  | 82.7           | 82.7  |      |      |
| 48"   | 42.6         |                  | 63.9  | 73.7  | 73.7           | 73.7  |      |      |
| 54"   | 37.8         |                  | 56.7  | 66.9  | 66.9           | 66.9  |      |      |
| 24"   | 108"         |                  | 80.4  | 120   | 120            | 120   | 120  |      |
| 30"   |              |                  | 64.3  | 96.4  | 99.9           | 99.9  | 99.9 |      |
| 36"   |              |                  | 53.6  | 80.4  | 84.3           | 84.3  | 84.3 |      |
| 42"   |              |                  | 46    | 69    | 73.3           | 73.3  | 73.3 |      |
| 48"   |              | 40.2             | 60.3  | 65.2  | 65.2           | 65.2  |      |      |
| 24"   |              | 114"             | 76.2  | 111   | 111            | 111   | 111  |      |
| 30"   |              |                  | 60.9  | 89.5  | 89.5           | 89.5  | 89.5 |      |
| 36"   |              |                  | 50.8  | 75.3  | 75.3           | 75.3  | 75.3 |      |
| 42"   |              |                  | 43.5  | 65.2  | 65.4           | 65.4  | 65.4 |      |
| 48"   |              |                  | 38.1  | 57.1  | 58             | 58    | 58   |      |
| 24"   | 120"         |                  | 72.4  | 99.9  | 99.9           | 99.9  | 99.9 |      |
| 30"   |              |                  | 57.9  | 80.5  | 80.5           | 80.5  | 80.5 |      |
| 36"   |              |                  | 48.2  | 67.8  | 67.8           | 67.8  | 67.8 |      |
| 42"   |              |                  | 41.4  | 58.7  | 58.7           | 58.7  | 58.7 |      |
| 48"   |              |                  | 36.2  | 52.1  | 52.1           | 52.1  | 52.1 |      |
| 24"   |              | 126"             | 68.9  | 99.9  | 99.9           | 99.9  | 99.9 |      |
| 30"   |              |                  | 55.2  | 80.5  | 80.5           | 80.5  | 80.5 |      |
| 36"   |              |                  | 46    | 67.8  | 67.8           | 67.8  | 67.8 |      |
| 42"   |              |                  | 39.4  | 58.7  | 58.7           | 58.7  | 58.7 |      |
| 24"   |              |                  | 132"  | 65.8  | 75.6           | 75.6  | 75.6 | 75.6 |
| 30"   | 52.6         |                  |       | 60.8  | 60.8           | 60.8  | 60.8 |      |
| 36"   | 43.9         |                  |       | 51.1  | 51.1           | 51.1  | 51.1 |      |
| 42"   | 37.6         |                  |       | 44.2  | 44.2           | 44.2  | 44.2 |      |
| 24"   | 138"         |                  |       | 63.9  | 65.6           | 65.6  | 65.6 | 65.6 |
| 30"   |              |                  |       | 50.4  | 52.8           | 52.8  | 52.8 | 52.8 |
| 36"   |              | 41.9             |       | 44.3  | 44.3           | 44.3  | 44.3 |      |
| 24"   |              | 144"             |       | 57.8  | 57.8           | 57.8  | 57.8 | 57.8 |
| 30"   |              |                  |       | 46.5  | 46.5           | 46.5  | 46.5 | 46.5 |
| 36"   |              |                  |       | 39    | 39             | 39    | 39   | 39   |



$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION  
A2 = (2) ANCHORS TYPE "A" AT EACH SIDE OF THE MULLION  
A3 = (3) ANCHORS TYPE "A" AT EACH SIDE OF THE MULLION  
A4 = (4) ANCHORS TYPE "A" AT EACH SIDE OF THE MULLION  
B2 = (2) ANCHORS TYPE "B" AT EACH SIDE OF THE MULLION  
B3 = (3) ANCHORS TYPE "B" AT EACH SIDE OF THE MULLION  
C2 = (2) ANCHORS TYPE "C" AT EACH SIDE OF THE MULLION  
C3 = (3) ANCHORS TYPE "C" AT EACH SIDE OF THE MULLION  
ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

| JAMB ANCHOR SPACING CHART |                       |                                 |                                 |
|---------------------------|-----------------------|---------------------------------|---------------------------------|
| ANCHOR TYPE               | DESIGN PRESSURE (PSF) | WIDTHS ≤ 48" MAX. SPACING (IN.) | WIDTHS > 48" MAX. SPACING (IN.) |
| A                         | <50                   | 21                              | 14                              |
|                           | 50 TO 80              | 13                              | 9                               |
|                           | >80                   | 9                               | 6                               |
| B                         | <50                   | 24                              | 24                              |
|                           | 50 TO 80              | 24                              | 18                              |
|                           | >80                   | 17                              | 11                              |
| C                         | <50                   | 24                              | 24                              |
|                           | 50 TO 80              | 24                              | 16                              |
|                           | >80                   | 15                              | 10                              |

PROJECT NAME: SMI 245 SERIES STOREFRONT SYSTEM

DRAWING NUMBER: SMI-245-PA-1

SHT. 4 OF 10

DRAW BY: M.G.

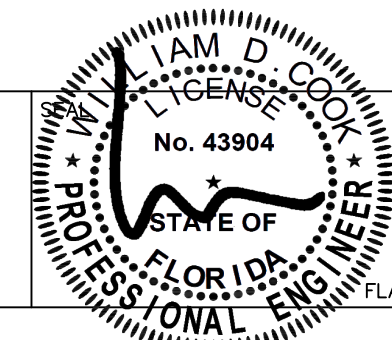
SCALE:

PRODUCT APPROVAL NO.: FL 35263.1

DATE: 04/08/2021



4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816

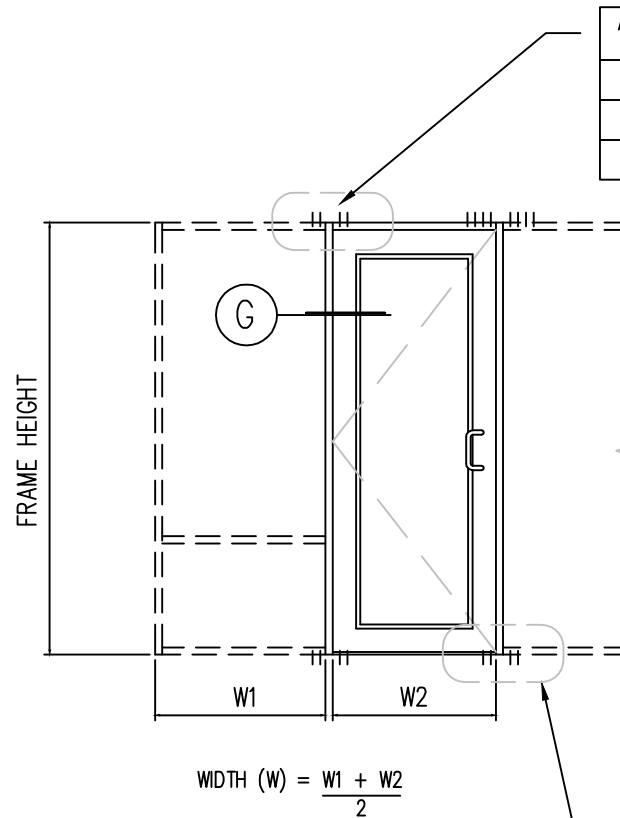


04/19/2021

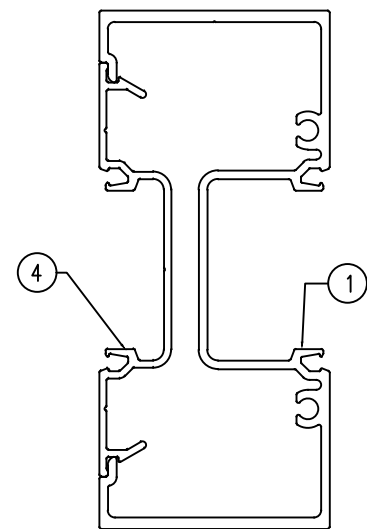
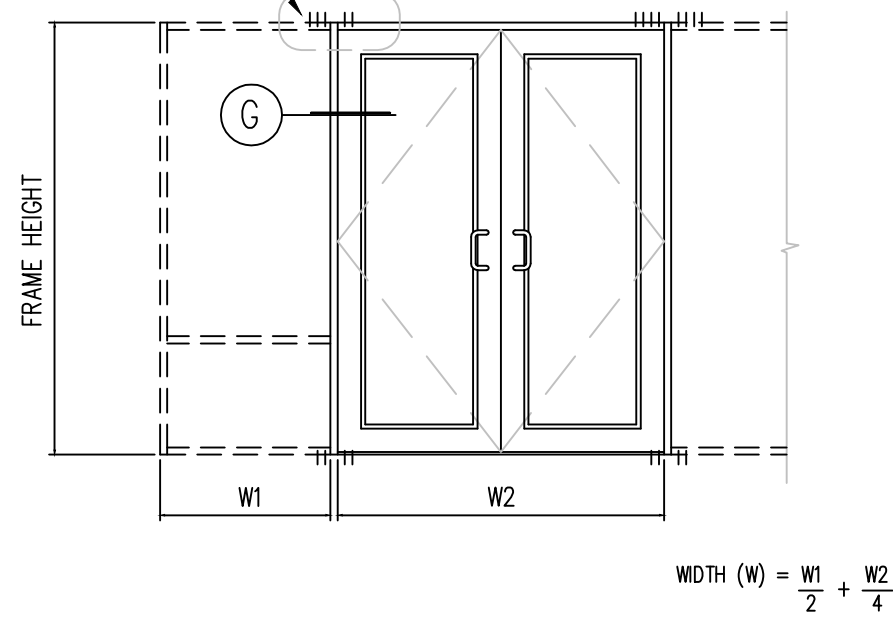
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

**BROMLEY-COOK ENGINEERING, INC.**  
**STRUCTURAL ENGINEERING SERVICES**  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634

| DOOR MULLION LOAD CAPACITY - PSF |                        |                   |                   |
|----------------------------------|------------------------|-------------------|-------------------|
| WIDTH (W)<br>INCHES              | FRAME HEIGHT<br>INCHES | WITHOUT REINF.    | WITH REINF.       |
|                                  |                        | EXT.(+) & INT.(-) | EXT.(+) & INT.(-) |
| 30"                              | 80"                    | 106               | 120               |
| 36"                              |                        | 88.7              | 120               |
| 42"                              |                        | 76.1              | 120               |
| 48"                              |                        | 66.5              | 111               |
| 54"                              |                        | 59.2              | 98.6              |
| 60"                              | 84"                    | 53.2              | 88.7              |
| 30"                              |                        | 80                | 120               |
| 36"                              |                        | 80                | 120               |
| 42"                              |                        | 69                | 115               |
| 48"                              |                        | 60.4              | 100               |
| 54"                              | 90"                    | 53.7              | 89.4              |
| 60"                              |                        | 48.3              | 80.5              |
| 30"                              |                        | 68.2              | 120               |
| 36"                              |                        | 56.8              | 117               |
| 42"                              |                        | 48.7              | 100.2             |
| 48"                              | 96"                    | 42.6              | 87.6              |
| 54"                              |                        | 37.9              | 77.9              |
| 60"                              |                        | 42.1              | 70.1              |
| 30"                              |                        | 73.9              | 120               |
| 36"                              |                        | 61.6              | 120               |
| 42"                              | 102"                   | 52.8              | 103               |
| 48"                              |                        | 46.2              | 77                |
| 54"                              |                        | 41.1              | 68.5              |
| 60"                              |                        | 37                | 61.6              |
| 30"                              |                        | 65.5              | 109               |
| 36"                              | 108"                   | 54.6              | 100               |
| 42"                              |                        | 46.8              | 78                |
| 48"                              |                        | 40.9              | 68.2              |
| 54"                              |                        | 36.4              | 60.7              |
| 60"                              |                        | 32.7              | 54.6              |
| 30"                              | 114"                   | 58.4              | 97.4              |
| 36"                              |                        | 48.7              | 81.2              |
| 42"                              |                        | 41.7              | 69.5              |
| 48"                              |                        | 36.5              | 60.9              |
| 54"                              |                        | 32.5              | 54.1              |
| 60"                              | 120"                   | 29.2              | 48.7              |
| 30"                              |                        | 52.4              | 87.4              |
| 36"                              |                        | 43.7              | 72.8              |
| 42"                              |                        | 37.4              | 62.4              |
| 48"                              |                        | 32.8              | 54.6              |
| 54"                              | 120"                   | 29.2              | 48.5              |
| 60"                              |                        | 26.2              | 43.7              |
| 30"                              |                        | 47.3              | 78.9              |
| 36"                              | 120"                   | 39.4              | 65.7              |
| 42"                              |                        | 33.8              | 56.3              |
| 48"                              |                        | 29.6              | 49.3              |
| 54"                              |                        | 26.3              | 43.8              |
| 60"                              | 120"                   | 23.6              | 39.4              |

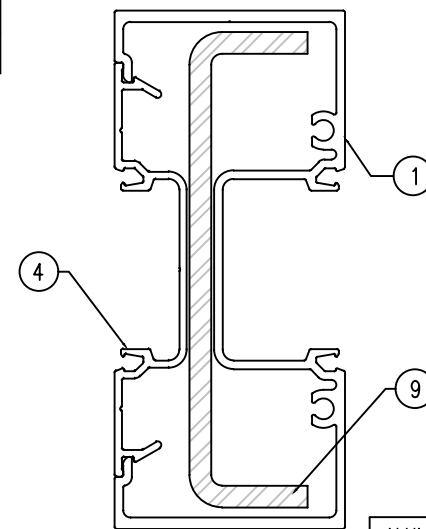


| ANCHOR TYPES | TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD |
|--------------|---|
| A            | 8   |
| B            | 5   |
| C            | 4   |



| lx IN <sup>4</sup> | Sx IN <sup>3</sup> |
|--------------------|--------------------|
| 3.421              | 1.52               |

| ANCHOR TYPE | TOTAL NO. OF ANCHORS AT DOOR MULLION SILL |
|-------------|---|
| B           | 4   |

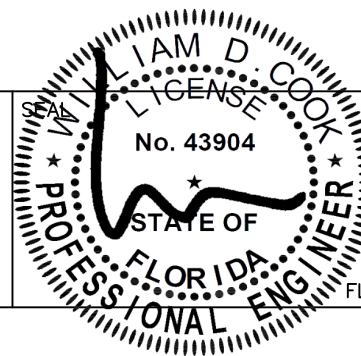


|                                   | lx IN <sup>4</sup> | Sx IN <sup>3</sup> |
|-----------------------------------|--------------------|--------------------|
| ALUMINUM                          | 3.421              | 1.52               |
| STEEL                             | 2.260              | 1.064              |
| TOTAL<br>lx ALUM. + lx STL. X 2.9 | 9.975              |                    |

|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 5 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |



4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816



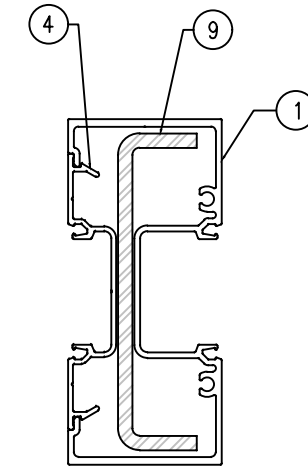
04/19/2021  
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634

| DOOR MULLION LOAD CAPACITY |                      |                  |                 |                      |
|----------------------------|----------------------|------------------|-----------------|----------------------|
| NOMINAL DIMS.              |                      |                  |                 | LOADS - PSF          |
| DOOR WIDTH<br>W2           | SIDELITE WIDTH<br>W1 | DOOR HEIGHT<br>A | FRAME SPAN<br>L | EXT. (+)<br>INT. (-) |
| 60"                        | 30"                  | 84"              | 96"             | 83.8                 |
|                            | 36"                  |                  |                 | 78.8                 |
|                            | 42"                  |                  |                 | 74.3                 |
|                            | 48"                  |                  |                 | 70.3                 |
| 54"                        | 66.8                 |                  |                 |                      |
| 30"                        | 74.3                 |                  |                 |                      |
| 36"                        | 70.3                 |                  |                 |                      |
| 42"                        | 66.8                 |                  |                 |                      |
| 72"                        | 48"                  | 63.5             |                 |                      |
|                            | 54"                  | 60.6             |                 |                      |
|                            | 30"                  | 76.5             |                 |                      |
|                            | 36"                  | 71.9             |                 |                      |
| 60"                        | 42"                  | 84"              | 102"            | 67.8                 |
|                            | 48"                  |                  |                 | 64.2                 |
|                            | 54"                  |                  |                 | 60.9                 |
|                            | 30"                  |                  |                 | 67.8                 |
| 36"                        | 64.2                 |                  |                 |                      |
| 42"                        | 60.9                 |                  |                 |                      |
| 48"                        | 65                   |                  |                 |                      |
| 54"                        | 55.3                 |                  |                 |                      |
| 60"                        | 30"                  | 84"              | 108"            | 67.8                 |
|                            | 36"                  |                  |                 | 63.7                 |
|                            | 42"                  |                  |                 | 60.1                 |
|                            | 48"                  |                  |                 | 56.9                 |
| 54"                        | 54                   |                  |                 |                      |
| 30"                        | 60.1                 |                  |                 |                      |
| 36"                        | 56.9                 |                  |                 |                      |
| 42"                        | 54                   |                  |                 |                      |
| 72"                        | 48"                  | 51.4             |                 |                      |
|                            | 54"                  | 49               |                 |                      |
|                            | 30"                  | 60               |                 |                      |
|                            | 36"                  | 56.4             |                 |                      |
| 60"                        | 42"                  | 84"              | 114"            | 53.2                 |
|                            | 48"                  |                  |                 | 50.4                 |
|                            | 54"                  |                  |                 | 47.8                 |
|                            | 30"                  |                  |                 | 53.2                 |
| 36"                        | 50.4                 |                  |                 |                      |
| 42"                        | 47.8                 |                  |                 |                      |
| 48"                        | 45.5                 |                  |                 |                      |
| 54"                        | 43.4                 |                  |                 |                      |
| 60"                        | 30"                  | 84"              | 120"            | 47.9                 |
|                            | 36"                  |                  |                 | 51                   |
|                            | 42"                  |                  |                 | 48.1                 |
|                            | 48"                  |                  |                 | 45.5                 |
| 54"                        | 43.2                 |                  |                 |                      |
| 30"                        | 48.1                 |                  |                 |                      |
| 36"                        | 45.5                 |                  |                 |                      |
| 42"                        | 43.2                 |                  |                 |                      |
| 72"                        | 48"                  | 41.1             |                 |                      |

| DOOR MULLION LOAD CAPACITY |                      |                  |                 |                      |
|----------------------------|----------------------|------------------|-----------------|----------------------|
| NOMINAL DIMS.              |                      |                  |                 | LOADS - PSF          |
| DOOR WIDTH<br>W2           | SIDELITE WIDTH<br>W1 | DOOR HEIGHT<br>A | FRAME SPAN<br>L | EXT. (+)<br>INT. (-) |
| 60"                        | 30"                  | 90"              | 102"            | 77.9                 |
|                            | 36"                  |                  |                 | 73.2                 |
|                            | 42"                  |                  |                 | 69                   |
|                            | 48"                  |                  |                 | 65.3                 |
| 54"                        | 62                   |                  |                 |                      |
| 30"                        | 69                   |                  |                 |                      |
| 36"                        | 65.3                 |                  |                 |                      |
| 42"                        | 62                   |                  |                 |                      |
| 72"                        | 48"                  | 59               |                 |                      |
|                            | 54"                  | 56.3             |                 |                      |
|                            | 30"                  | 69.7             |                 |                      |
|                            | 36"                  | 64.6             |                 |                      |
| 60"                        | 42"                  | 90"              | 108"            | 61                   |
|                            | 48"                  |                  |                 | 57.7                 |
|                            | 54"                  |                  |                 | 54.8                 |
|                            | 30"                  |                  |                 | 61                   |
| 36"                        | 57.7                 |                  |                 |                      |
| 42"                        | 54.8                 |                  |                 |                      |
| 48"                        | 52.1                 |                  |                 |                      |
| 54"                        | 49.7                 |                  |                 |                      |
| 60"                        | 30"                  | 90"              | 114"            | 60.7                 |
|                            | 36"                  |                  |                 | 57.1                 |
|                            | 42"                  |                  |                 | 53.8                 |
|                            | 48"                  |                  |                 | 51                   |
| 54"                        | 48.4                 |                  |                 |                      |
| 30"                        | 53.8                 |                  |                 |                      |
| 36"                        | 50.9                 |                  |                 |                      |
| 42"                        | 48.4                 |                  |                 |                      |
| 72"                        | 48"                  | 46               |                 |                      |
|                            | 54"                  | 43.9             |                 |                      |
|                            | 30"                  | 55               |                 |                      |
|                            | 36"                  | 51.7             |                 |                      |
| 60"                        | 42"                  | 90"              | 120"            | 48.8                 |
|                            | 48"                  |                  |                 | 46.3                 |
|                            | 54"                  |                  |                 | 43.9                 |
|                            | 30"                  |                  |                 | 48.8                 |
| 36"                        | 46.3                 |                  |                 |                      |
| 42"                        | 43.9                 |                  |                 |                      |
| 48"                        | 41.7                 |                  |                 |                      |

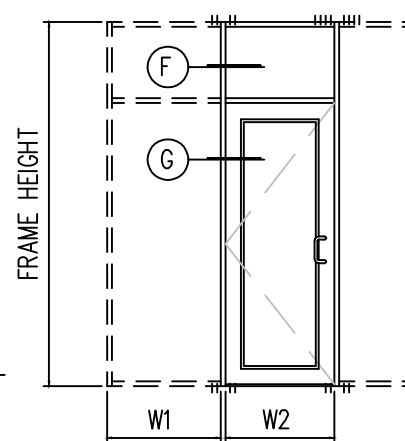
| DOOR MULLION LOAD CAPACITY |                      |                  |                 |                      |
|----------------------------|----------------------|------------------|-----------------|----------------------|
| NOMINAL DIMS.              |                      |                  |                 | LOADS - PSF          |
| DOOR WIDTH<br>W2           | SIDELITE WIDTH<br>W1 | DOOR HEIGHT<br>A | FRAME SPAN<br>L | EXT. (+)<br>INT. (-) |
| 60"                        | 30"                  | 96"              | 108"            | 69.7                 |
|                            | 36"                  |                  |                 | 65.5                 |
|                            | 42"                  |                  |                 | 61.8                 |
|                            | 48"                  |                  |                 | 58.5                 |
| 54"                        | 55.5                 |                  |                 |                      |
| 30"                        | 61.8                 |                  |                 |                      |
| 36"                        | 58.5                 |                  |                 |                      |
| 42"                        | 55.5                 |                  |                 |                      |
| 72"                        | 48"                  | 52.8             |                 |                      |
|                            | 54"                  | 50.4             |                 |                      |
|                            | 30"                  | 61.9             |                 |                      |
|                            | 36"                  | 58.2             |                 |                      |
| 60"                        | 42"                  | 96"              | 114"            | 54.9                 |
|                            | 48"                  |                  |                 | 52                   |
|                            | 54"                  |                  |                 | 49.4                 |
|                            | 30"                  |                  |                 | 54.9                 |
| 36"                        | 52                   |                  |                 |                      |
| 42"                        | 49.4                 |                  |                 |                      |
| 48"                        | 47                   |                  |                 |                      |
| 54"                        | 44.8                 |                  |                 |                      |
| 60"                        | 30"                  | 96"              | 120"            | 55.7                 |
|                            | 36"                  |                  |                 | 52.3                 |
|                            | 42"                  |                  |                 | 49.4                 |
|                            | 48"                  |                  |                 | 46.7                 |
| 54"                        | 44.3                 |                  |                 |                      |
| 30"                        | 49.4                 |                  |                 |                      |
| 36"                        | 46.7                 |                  |                 |                      |
| 42"                        | 44.3                 |                  |                 |                      |
| 72"                        | 48"                  | 42.2             |                 |                      |



MULLION  
W / REINFORCING

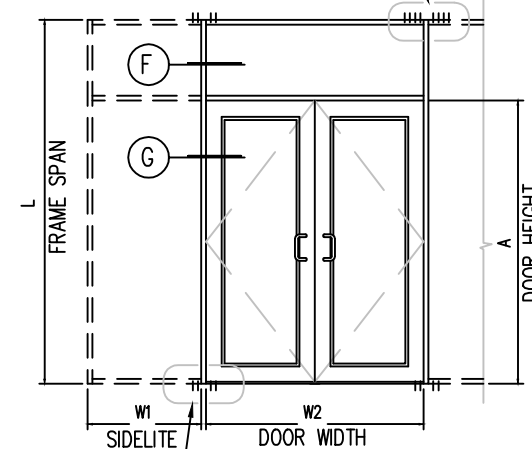
|                                   | 1x IN ^4 | Sx IN ^3 |
|-----------------------------------|----------|----------|
| ALUMINUM                          | 3.421    | 1.52     |
| STEEL                             | 2.260    | 1.064    |
| TOTAL<br>1x ALUM. + 1x STL. X 2.9 | 9.975    |          |

| ANCHOR TYPES | TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD |
|--------------|---|
| A            | 8   |
| B            | 5   |
| C            | 4   |



$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

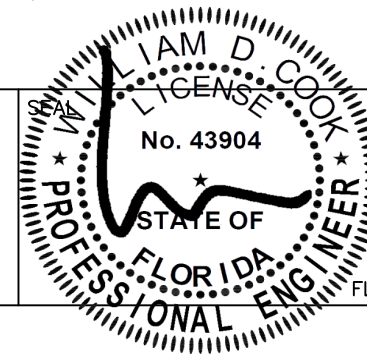
| ANCHOR TYPE | TOTAL NO. OF ANCHORS AT DOOR MULLION SILL |
|-------------|---|
| B           | 4   |



|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 6 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |



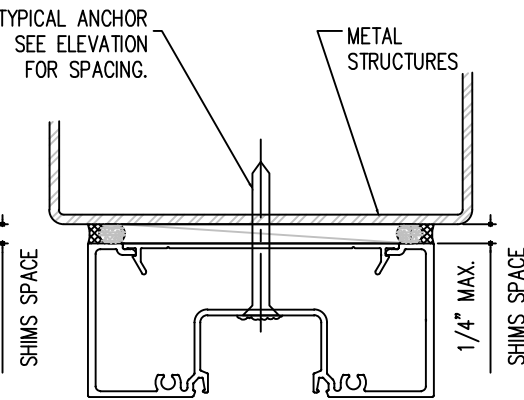
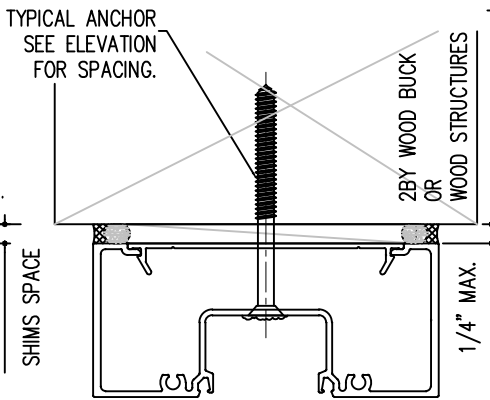
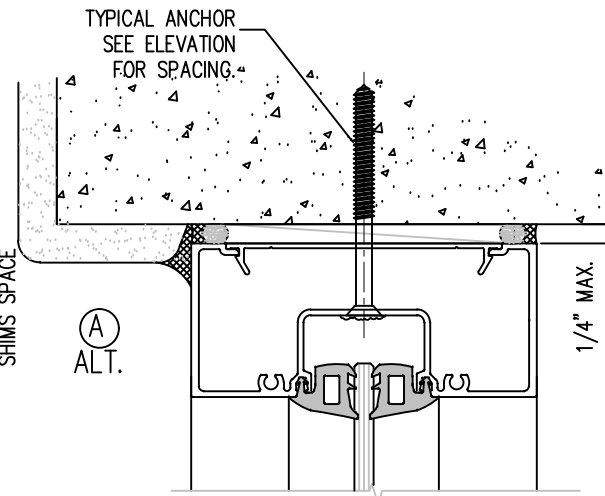
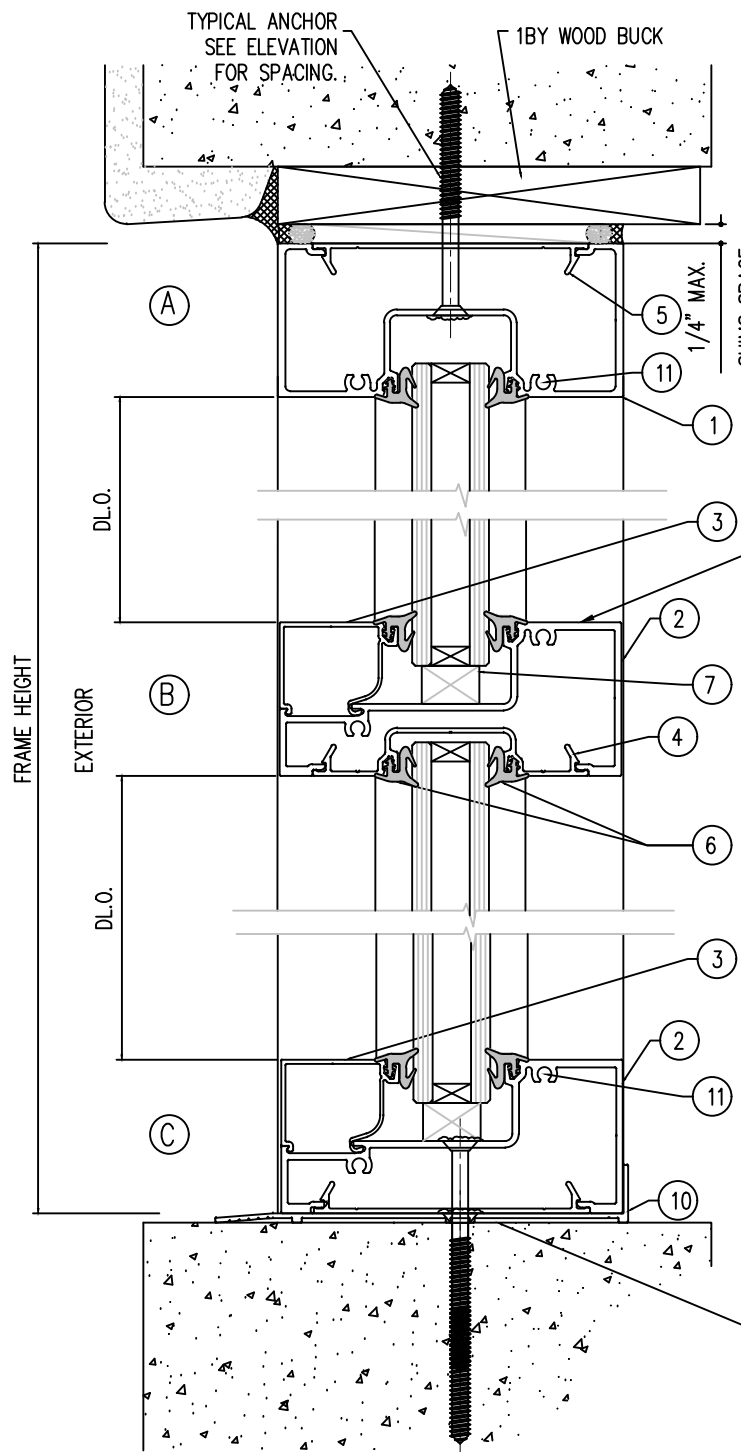
4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816



04/19/2021

WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634



LIMIT MAX. DESIGN LOADS FOR HORIZONTAL AS FOLLOWS

| HORIZ. SPAN MAX. | LOAD CAPACITY - PSF |
|------------------|---------------------|
| 24"              | 120                 |
| 36"              | 79.2                |
| 48"              | 44.5                |
| 60"              | 28.5                |
| 72"              | 19.8                |

1BY OR 2BY WOOD BUCKS AND METAL STRUCTURE NOT BY "ALDORA ALUMINUM AND GLASS PRODUCTS" MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER TO THE BUILDING STRUCTURE.

**TYPICAL ANCHORS:**

SEE ELEVATION FOR SPACING

**TYPE "A"**

1/4" DIA. ULTRACON BY "DeWalt" (Fu= 177 KSI, Fy= 155 KSI) INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-3/8" MIN. PENETRATION INTO WOOD THRU 1BY WOOD BUCKS INTO CONCRETE OR MASONRY WITH 1-1/4" MIN. EMBED. INTO THE CONC. OR MASONRY.

ANCHOR EDGE DISTANCES  
 INTO CONCRETE = 2-1/2" MIN.  
 INTO THE WOOD STRUCTURE = 1" MIN.

**TYPE "B"**

1/4" DIA. ULTRACON BY "DeWalt" (Fu= 177 KSI, Fy= 155 KSI) DIRECTLY INTO CONCRETE OR MASONRY WITH 1-1/4" MIN. EMBED INTO CONC. OR MASONRY

ANCHOR EDGE DISTANCES  
 INTO CONCRETE = 2-1/2" MIN.

**TYPE "C"**

#14 SMS OR SELF DRILLING SCREWS ST/ST (GRADE 2 CRS) INTO METAL STRUCTURES  
 STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)  
 ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)  
 (STEEL IN CONTACT WITH THE ALUMINUM TO BE PLATED OR PAINTED)

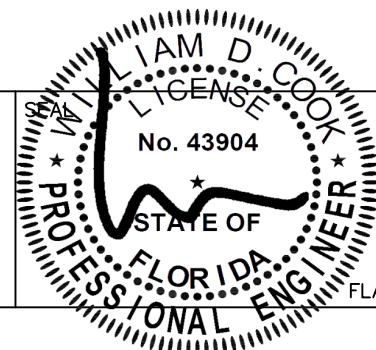
ANCHOR EDGE DISTANCES  
 INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 psi MIN.  
 C-90 HOLLOW/ FILLED BLOCK AT JAMBS f'm = 2000 PSI. MIN.

|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 7 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |

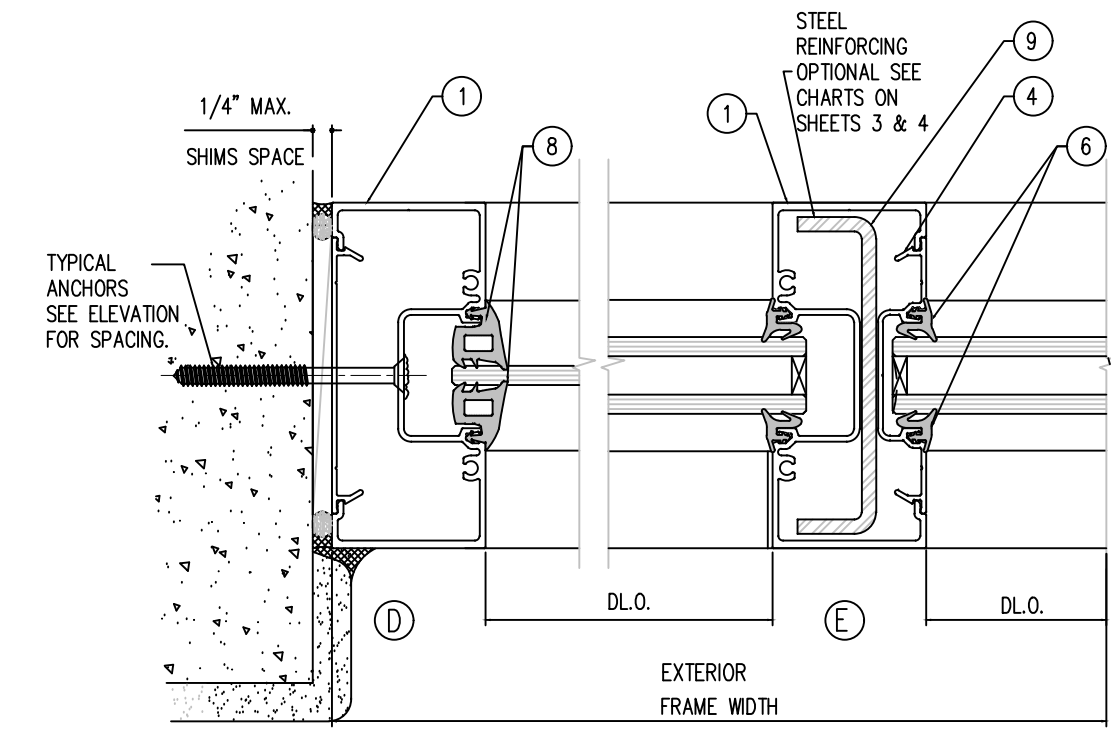
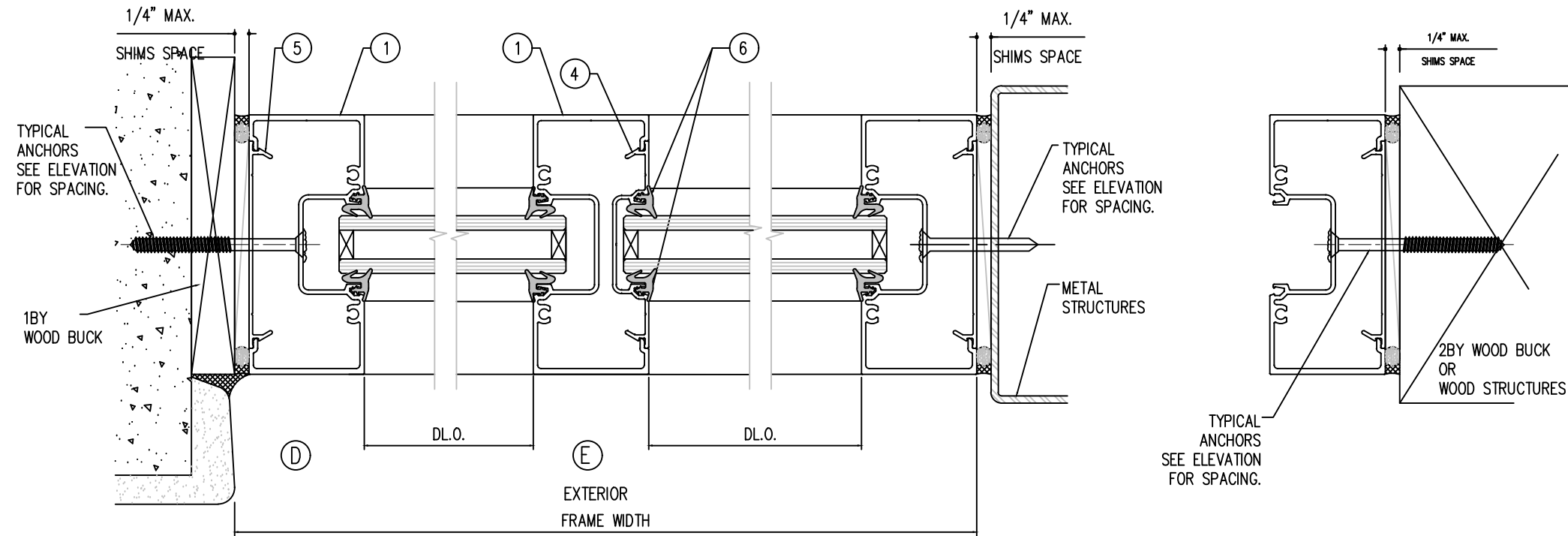


4250 CORAL RIDGE DRIVE  
 CORAL SPRINGS, FL 33065  
 PHONE: 954-784-6900  
 FAX: 954-688-9816



04/19/2021  
 WILLIAM D. COOK P.E.  
 FLA P.E. #43904, FLA S.I. #2008

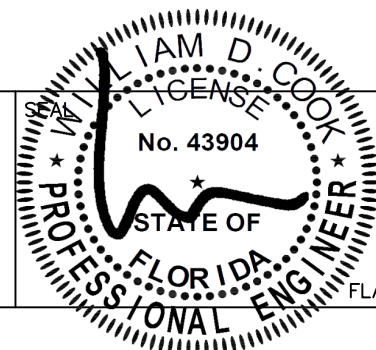
**BROMLEY-COOK ENGINEERING, INC.**  
 STRUCTURAL ENGINEERING SERVICES  
 5440 N.W. 33RD AVENUE SUITE 100  
 FORT LAUDERDALE, FLORIDA 33309  
 TEL: (954) 772-4624 FAX: (954) 772-4634



|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 8 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |

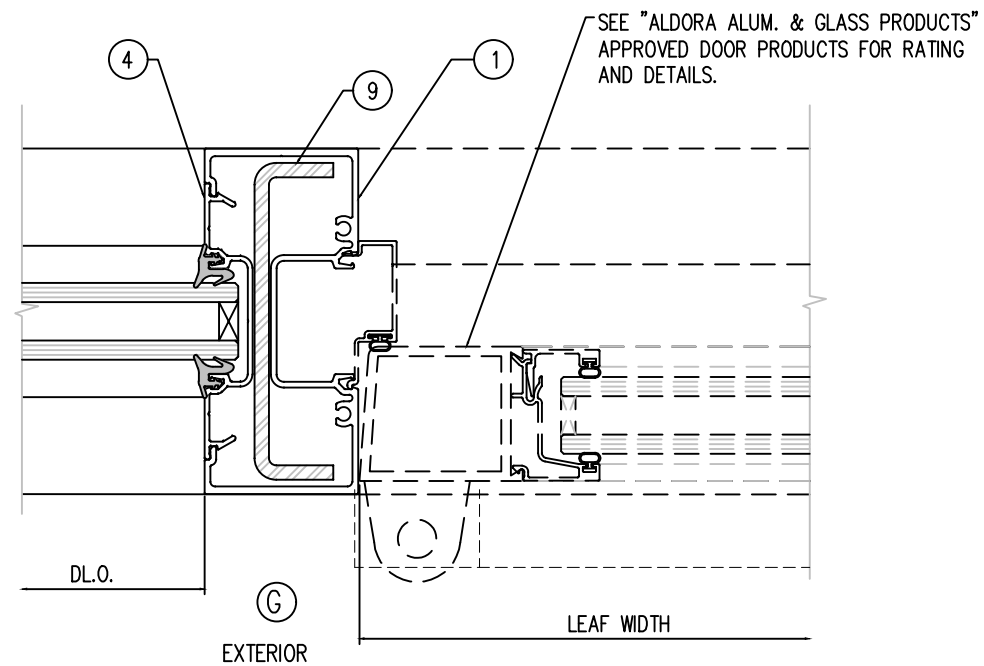
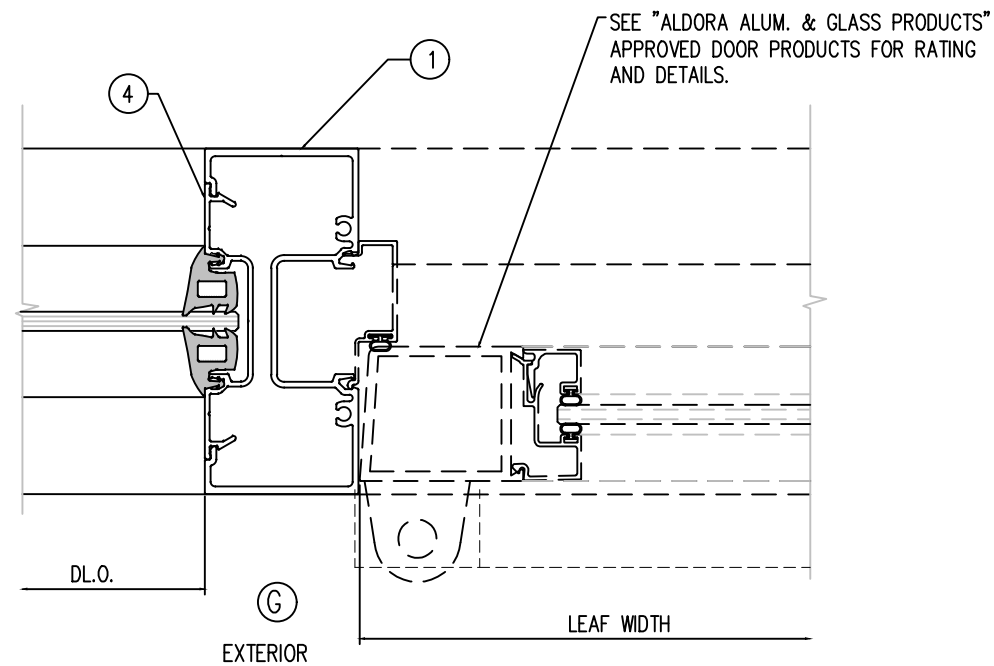
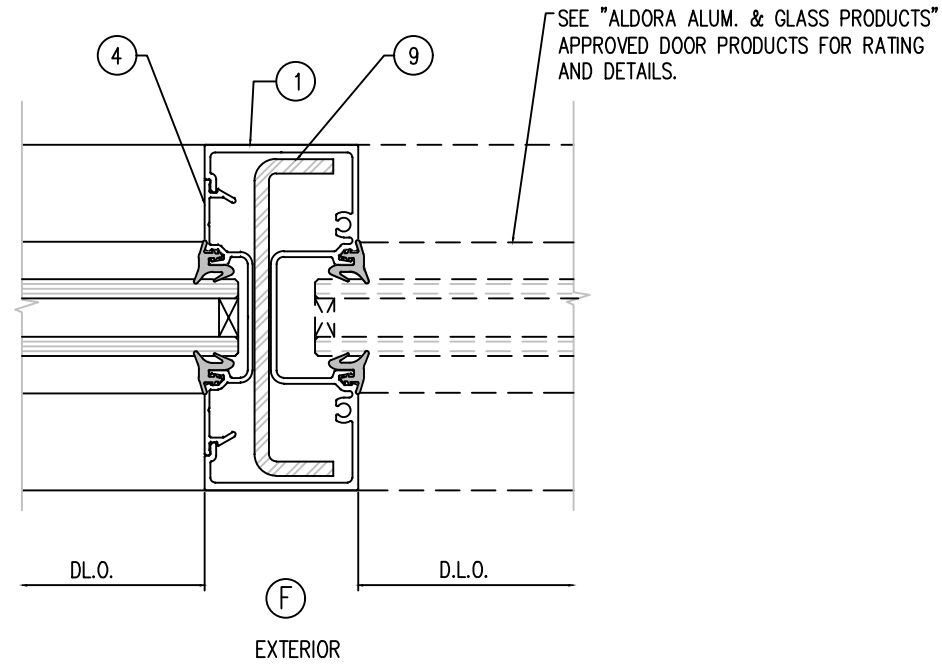
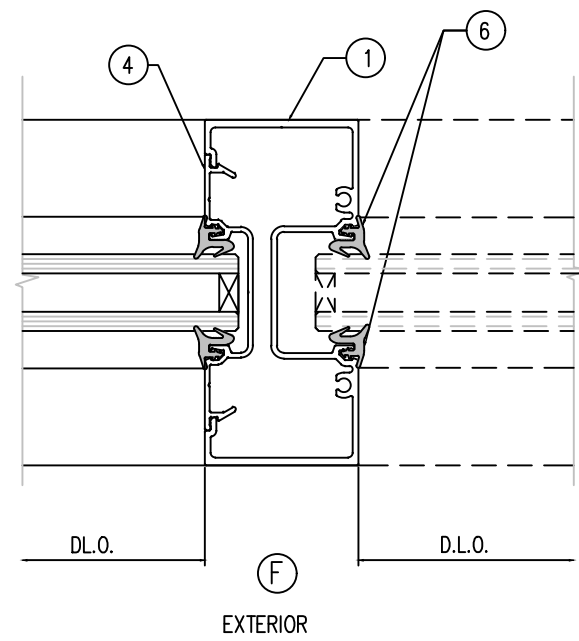


4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816



04/19/2021  
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

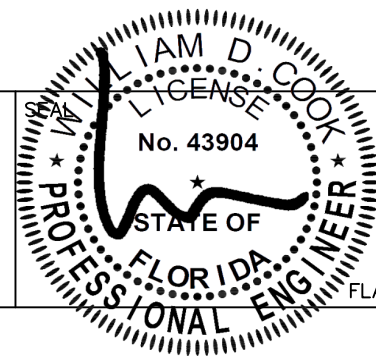
**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634



|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 9 OF 10                                      | SCALE:           | DATE:<br>04/08/2021                 |

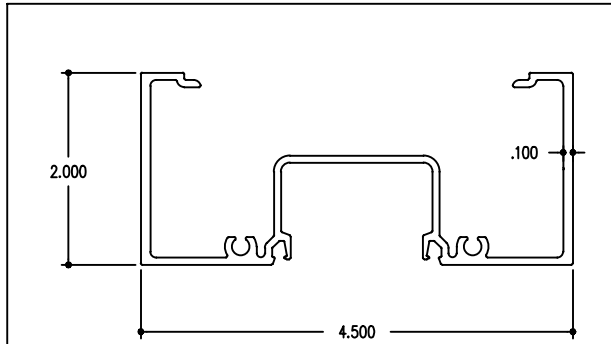


4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816

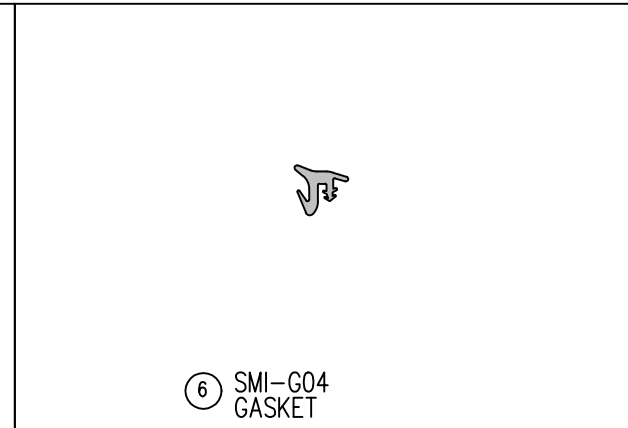


04/19/2021  
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

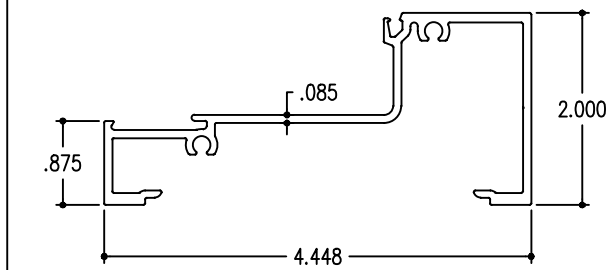
**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634



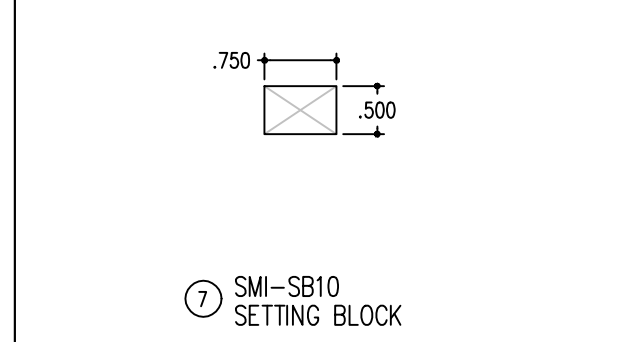
① SMI-213  
HEAD, JAMB AND MULLION.



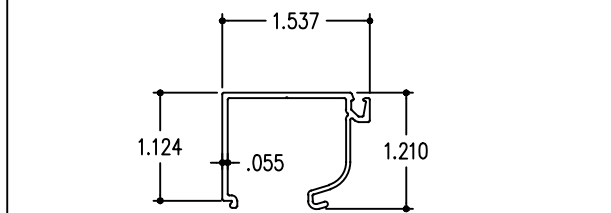
⑥ SMI-G04  
GASKET



② SMI-214  
SILL, INTERM. HORIZONTAL.



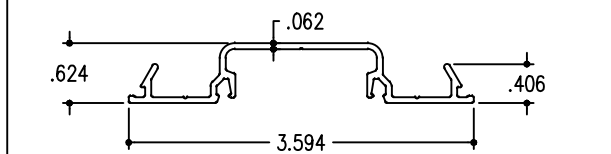
⑦ SMI-SB10  
SETTING BLOCK



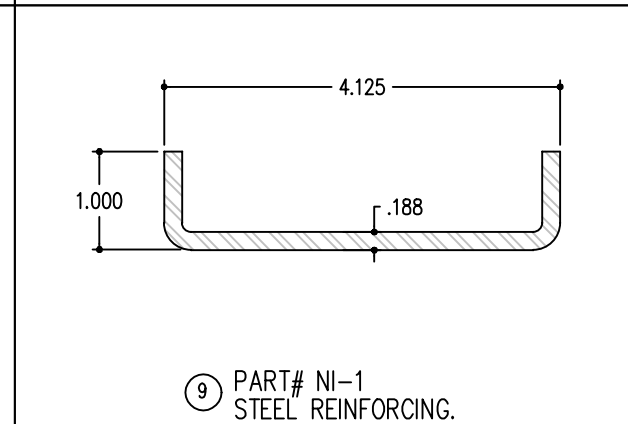
③ SMI-216  
GLASS STOP.



⑧ SMI-G08  
GASKET

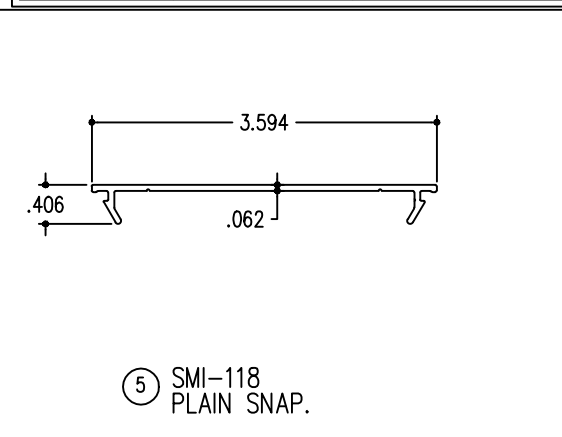


④ SMI-217  
POCKET FILLER.

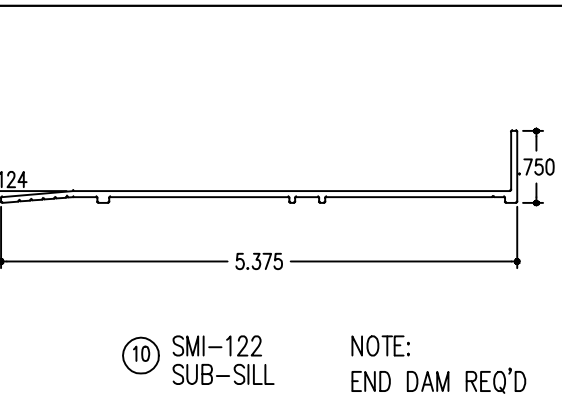


⑨ PART# NI-1  
STEEL REINFORCING.

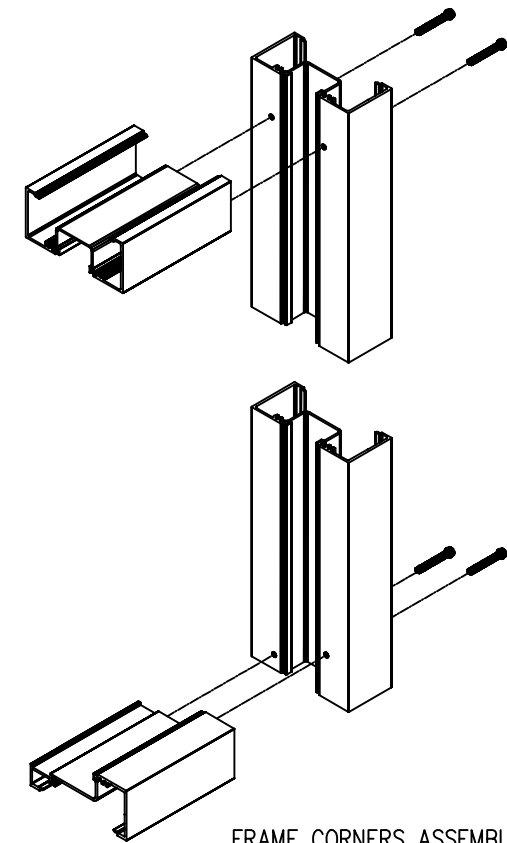
| BILL OF MATERIALS |                  |           |   |           |                              |
|-------------------|------------------|-----------|---|-----------|------------------------------|
| ITEM #            | PART #           | REQ'D     | DESCRIPTION   | MATERIAL  | MANF. / SUPPLIER / REMARKS   |
| 1                 | SMI-213          | AS REQ'D  | HEAD, JAMB AND MULLION                              | 6063-T6   | -                            |
| 2                 | SMI-214          | AS REQ'D  | SILL, INTERM. HORIZONTAL.                           | 6063-T6   | -                            |
| 3                 | SMI-216          | AS REQ'D  | GLASS STOP.   | 6063-T6   | -                            |
| 4                 | SMI-217          | AS REQ'D  | POCKET FILLER.                                      | 6063-T6   | -                            |
| 5                 | SMI-118          | AS REQ'D  | PLAIN SNAP.   | 6063-T6   | -                            |
| 6                 | SMI-G04          | AS REQ'D  | GASKET  | EPDM      | GLAZING RUBBER PRODUCTS.     |
| 7                 | SMI-SB10         | 2 PER GL. | SETTING BLOCKS (1/2" X 3/4" X 2" LG.)               | EPDM      | TRESCO.                      |
| 8                 | SMI-G08          | AS REQ'D  | GASKET  | EPDM      | GLAZING RUBBER PRODUCTS.     |
| 9                 | NI-1             | OPTIONAL  | REINFORCING CHANNEL (1" X 4 1/8" X 1" X 3/16" THK.) | STEEL     | -                            |
| 10                | SMI-122          | AS REQ'D  | SUB-SILL  | 6063-T6   | -                            |
| 11                | #12 X 1 1/2" LG. | 2/CORNER  | ASSEMBLY SCREWS                                     | ST. STEEL | HEX. HEAD SHEET METAL SCREW. |
| 12                | SPACER BAR       | AS REQ'D  | LPX AIR SPACER                                      | ALUM.     | ALLMETAL                     |



⑤ SMI-118  
PLAIN SNAP.



⑩ SMI-122  
SUB-SILL  
NOTE:  
END DAM REQ'D

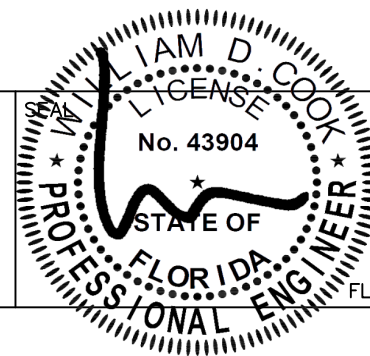


FRAME CORNERS ASSEMBLY  
NOTE: SEAL JOINTS DURING ASSEMBLY

|   |                  |                                     |
|---|------------------|-------------------------------------|
| PROJECT NAME:<br>SMI 245 SERIES STOREFRONT SYSTEM |                  |                                     |
| DRAWING NUMBER:<br>SMI-245-PA-1                   | DRAW BY:<br>M.G. | PRODUCT APPROVAL NO.:<br>FL 35263.1 |
| SHT. 10 OF 10                                     | SCALE:           | DATE:<br>04/08/2021                 |



4250 CORAL RIDGE DRIVE  
CORAL SPRINGS, FL 33065  
PHONE: 954-784-6900  
FAX: 954-688-9816



04/19/2021  
WILLIAM D. COOK P.E.  
FLA P.E. #43904, FLA S.I. #2008

**BROMLEY-COOK ENGINEERING, INC.**  
STRUCTURAL ENGINEERING SERVICES  
5440 N.W. 33RD AVENUE SUITE 100  
FORT LAUDERDALE, FLORIDA 33309  
TEL: (954) 772-4624 FAX: (954) 772-4634

- 1.0 Product Manufacturer:** Aldora Aluminum and Glass Products, Inc.  
4250 Coral Ridge Drive  
Coral Springs, FL 33065
- 2.0 Product Model:** SMI-245 Thermal Storefront
- 3.0 Operator Type:** Storefront Glazed Wall Window Wall (GWWW)
- 4.0 Simulation Size:** 2000mm (w) x 2000mm (h) (Standard NFRC size)
- 5.0 Simulation Type:** ANSI/NFRC 100/200/500 Thermal Simulation
- 6.0 Framing Type:** Thermally Improved painted aluminum (AU) all members. Main frame is Thermally Broken (thermal break > 0.21") however closures are Thermally Improved, and proximity of aluminum of overlap area of main frames and closures, leads to components calculated as AU.
- 7.0 Sash Type:** Not applicable
- 8.0 Grilles:** Not applicable
- 9.0 Weatherstripping:** Not applicable
- 10.0 Hardware:** None modeled.
- 11.0 Edge-of-Glass Construction:** Glazed with interior and exterior EPDM glazing gaskets
- 12.0 I.G. Spacer Type:** Standard generic .016" thick aluminum box spacer with .022" PIB primary seal to glass and .060" hot melt butyl secondary seal, with spacer located at glass edge
- 13.0 I.G. Gas Fill Method:** Single-probe.
- 14.0 Grouping:** Grouping per ANSI/NFRC 100 Section 4.2.4 was performed on the following items:
- Center-of-Glazing: tint options were grouped with clear glass options, see Glazing and Simulation Results section below, group leaders are indicated with gray background color in chart
  - Spacers: No grouping utilized.
  - Dividers: No grouping utilized.
  - Frame: No grouping utilized.
- 15.0 Simulation Software:** Simulations were performed using NFRC-approved simulation programs WINDOW7.4 and THERM7.4, in accordance with current versions of ANSI/NFRC 100-2020, ANSI/NFRC 200-2020, and ANSI/NFRC 500-2020.
- 16.0 Drawings:** This report is incomplete if not accompanied by component and assembly drawings of the indicated product, provided by Aldora, totaling 2 pages, bearing the initialed stamp of Turner Engineering & Consulting, Inc.
- 17.0 Simulation Results:** Whole-product U-factor, SHGC, VT, and CR results are shown in the Glazing and Simulation Results Summary table below. Complete simulation output may be found in the Upload sheet bearing the same report number as this report.
- 18.0 Validation Option:** Not applicable for this informational report.
- 19.0 Compliance and Disclaimer Statements:** This report shall not be reproduced, except in full, without the approval of TE&C. This report relates only to the fenestration products simulated. All rounding was performed per NFRC 601, NFRC Unit and Measurement Policy. Ratings values included in this report are for submittals to an NFRC-licensed IA and are not meant to be used directly for labeling purposes. Only those values identified on a valid Certification of Authorization (CA) by an

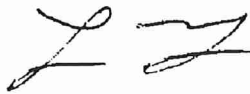
NFRC licensed Inspection Agency (IA) are to be used for labeling purposes. The values included in this report are not considered in compliance with ANSI/NFRC 100, ANSI/NFRC 200, and/or ANSI/NFRC 500 unless the associated validation test requirements have been satisfied, as applicable. The Condensation Resistance results obtained from this report are for controlled laboratory conditions and do not include the effects of air movement through the specimen, solar radiation, and the thermal bridging that may occur due to the specific design and construction of the fenestration system opening. All simulations performed in this report were conducted in full compliance with all NFRC requirements by Turner Engineering & Consulting, Inc. TE&C does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products simulated or tested at TE&C. TE&C is not owned, operated or controlled by any company manufacturing or distributing products it simulates or tests. This report is only intended for the use of the entity named in section 1.0 of this report. A copy of this report will be retained at TE&C for a period of five (5) years.

**20.0 Glazing and Simulation Results Summary:**

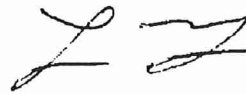
| Descrip.  | Product Number | Pane IDs             | Pane Thickness         | Gap / Fill   | Surface / Emissivity | Tint | Grid Type / Size | U-factor | SHGC | VT   | CR |
|---|----------------|----------------------|------------------------|--------------|----------------------|------|------------------|----------|------|------|----|
| SNX-62/27 On Clr 6mm - 1/2 Air - 6mm Clr            | 001            | #1: 3413<br>#2: 103  | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.02          | CL   | N                | 0.42     | 0.25 | 0.54 | 32 |
| SN68 On Clr 6mm - 1/2 Air - 6mm Clr                 | 002            | #1: 3110<br>#2: 103  | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.039         | CL   | N                | 0.43     | 0.34 | 0.60 | 32 |
| SN68 On Clr 6mm - 1/2 Air - 6mm Pilk Bronze         |                | #1: 3110<br>#2: 4112 | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.039         | BZ   | N                | 0.43     | 0.33 | 0.34 | 32 |
| SN68 On Clr 6mm - 1/2 Air - 6mm Pilk Grey           |                | #1: 3110<br>#2: 4127 | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.039         | GY   | N                | 0.43     | 0.33 | 0.30 | 32 |
| EA Hard Coat On Clr 6mm - 1/2 Air - 6mm Clr         | 003            | #1: 9924<br>#2: 103  | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.157         | CL   | N                | 0.46     | 0.56 | 0.65 | 32 |
| EA Hard Coat On Clr 6mm - 1/2 Air - 6mm Pilk Bronze |                | #1: 9924<br>#2: 4112 | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.157         | BZ   | N                | 0.46     | 0.53 | 0.36 | 32 |
| EA Hard Coat On Clr 6mm - 1/2 Air - 6mm Pilk Grey   |                | #1: 9924<br>#2: 4127 | #1: 0.236<br>#2: 0.236 | 0.528<br>AIR | #2:<br>0.157         | GY   | N                | 0.46     | 0.53 | 0.32 | 32 |

**21.0 Simulator:** Lucas A. Turner, P.E.

**22.0 Simulator in Responsible Charge:** Lucas A. Turner, P.E., attests to the technical accuracy and content of this report.



\_\_\_\_\_  
Simulator Signature

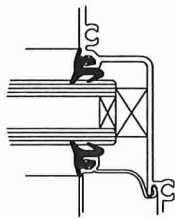
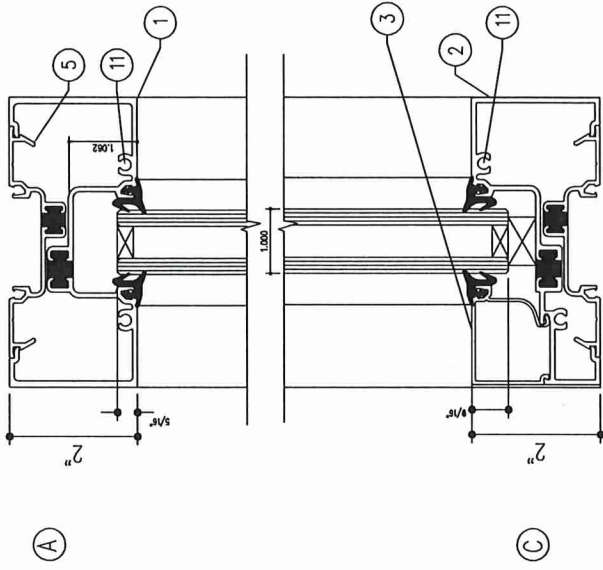
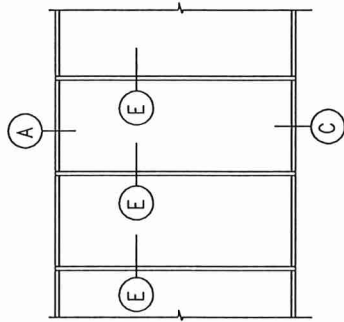


\_\_\_\_\_  
Simulator in Responsible Charge Signature

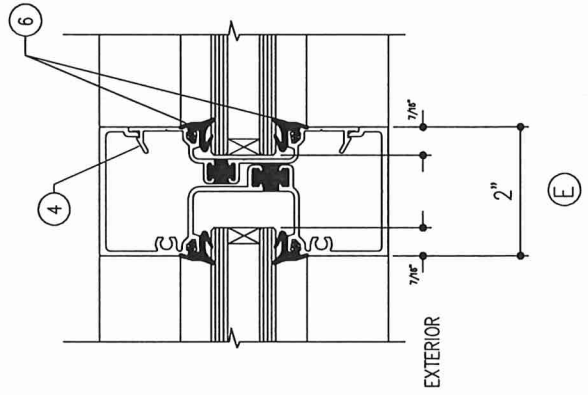
## **Drawing Appendix**

**Following drawings and data provided  
by Client, totaling 2 pages**

SERIES SMI-245 THERMAL ALUMINUM STOREFRONT SYSTEM.

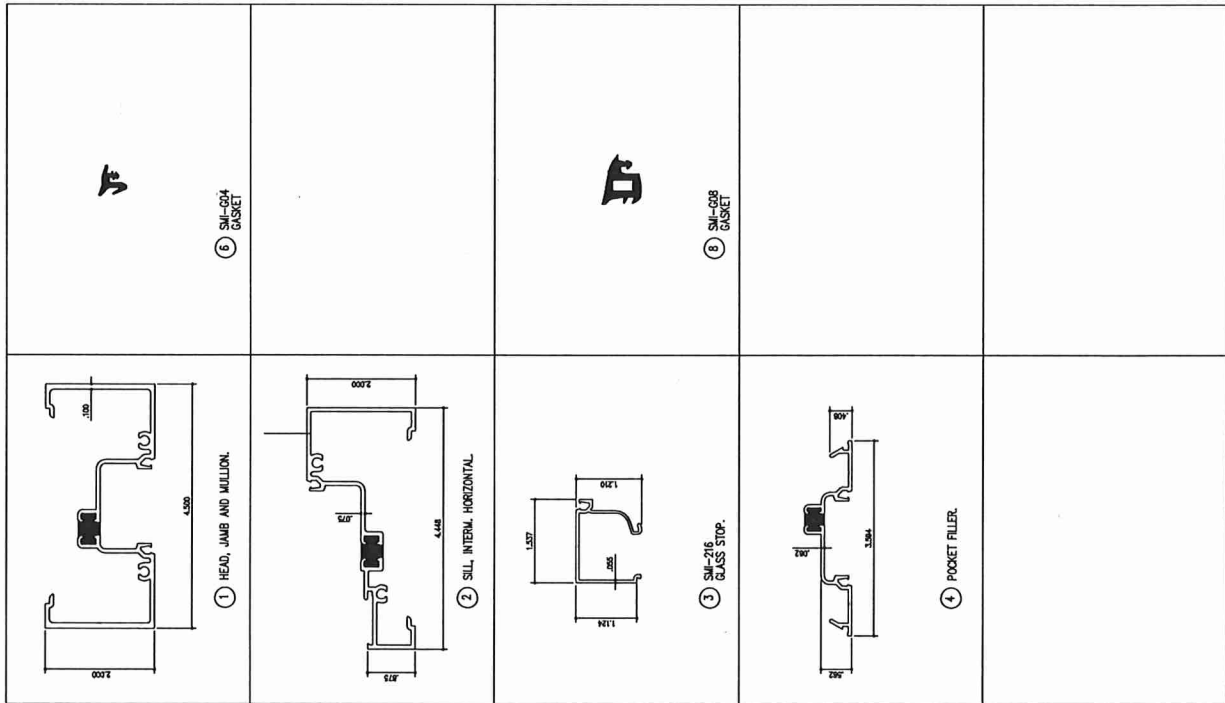


Typical Glazing Detail



BILL OF MATERIALS

| ITEM # | REQ'D    | DESCRIPTION                | MATERIAL | MANF. / SUPPLIER / REMARKS |
|--------|----------|----------------------------|----------|----------------------------|
| 1      | AS REQ'D | HEAD, JAMB AND MULLION     | 6063-T6  | -                          |
| 2      | AS REQ'D | SILL, INTERNAL, HORIZONTAL | 6063-T6  | -                          |
| 3      | AS REQ'D | GLASS STOP.                | 6063-T6  | -                          |
| 4      | AS REQ'D | POCKET FILLER.             | 6063-T6  | -                          |
| 6      | AS REQ'D | GASKET                     | EPDM     | GLAZING RUBBER PRODUCTS.   |
|        |          |                            | EPDM     | TREMO.                     |
| 8      | AS REQ'D | GASKET                     | EPDM     | GLAZING RUBBER PRODUCTS.   |



# Henderick, Inc.

General Contractor

August 21, 2025

Attention: Historic Zoning Commission  
Columbia Development Services  
700 North Garden St

Subject: 1122 High St.  
Columbia, TN 38401

## Project Description:

This project involves the restoration and modernization of a historic building located at 1122 High St. Columbia, TN. The owner is aiming to preserve its architectural integrity while enhancing its safety, energy efficiency, and functionality. The building is currently in a state of disrepair, particularly the windows, doors, and an elevated deck, all of which require significant work to meet current safety and sustainability standards.

## Scope of Work:

- All Garage Doors: The non-historic garage doors will be replaced with new, energy-efficient aluminum storefront doors that complement the building's overall aesthetic and meet historical standards.

This comprehensive renovation will not only preserve the historic character of the building but also ensure it meets modern safety and energy standards, making it a sustainable and safe space for future use.

Should you have any questions or require clarifications, please do not hesitate to contact me at your convenience. My contact information is 615-668-2213 and [waddell@henderickinc.com](mailto:waddell@henderickinc.com)

Sincerely,



Waddell Wright, CEO, CCIM, CPM  
Henderick, Inc  
General Contractor

[www.henderickinc.com](http://www.henderickinc.com)

700 8<sup>th</sup> Ave S.  
2<sup>nd</sup> Floor, Suite 202  
Nashville, TN 37203



305 West 11<sup>th</sup>. Existing Primary Elevation



Existing Primary Elevation - Carport Area



Create walls to match existing siding around the back area.  
This will shield the new boiler on all 3 exposed sides.  
There will be 2 fixed louvers on the left wall and a door on the front wall.



Existing Secondary Elevation



Shown with wall extended to screen boiler equipment in the back of the carport, match existing siding



View from S. High Street - shows example of 7' tall 12" boiler vent. Also shows 30" tall 2" return vent, and 30" tall 3" blowdown vent which may not be required depending on final equipment selection.

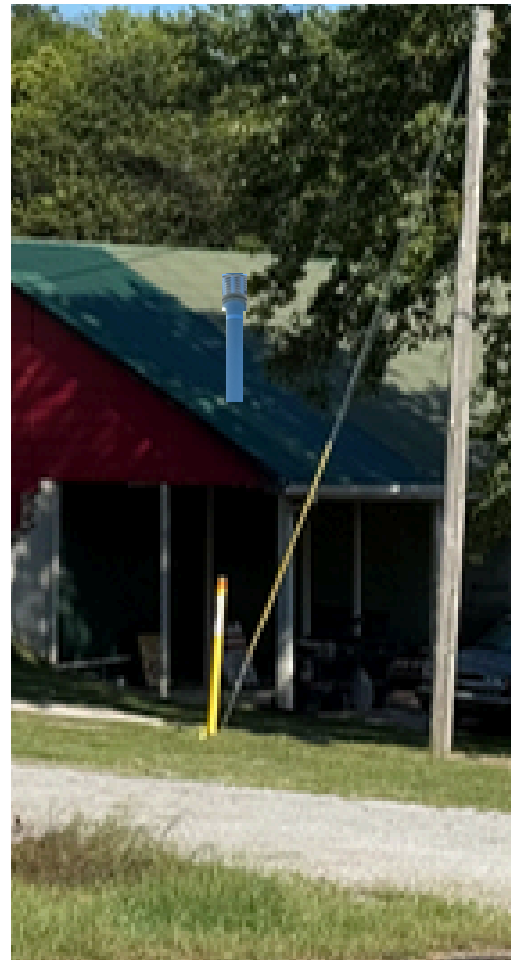


View from S. High Street - shows example of 7' tall 12" boiler vent. Also shows 30" tall 2" return vent, and 30" tall 3" blowdown vent which may not be required depending on final equipment selection.

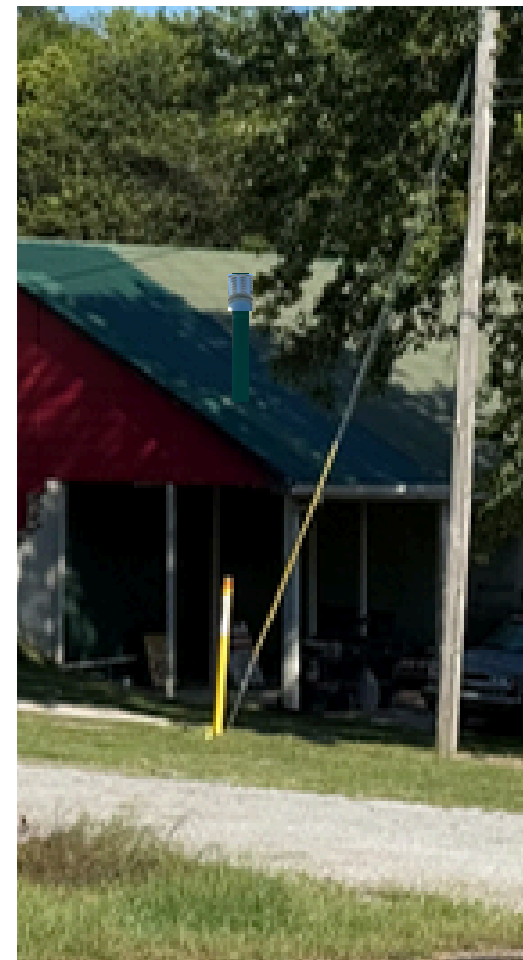


View from 11th Street - shows example of 30" tall 8" brewing evaporation vent which will have an exhaust fan.

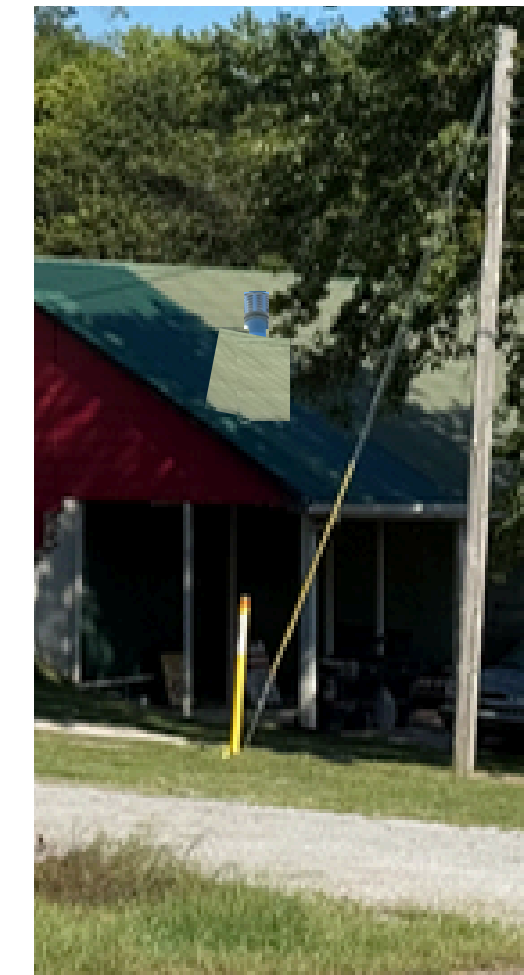
Discussion of Vent Screening Options



1. Exposed (typical)



2. Painted



3. Green Sheet Metal Case

Discussion of 30" vent v. 7' vent



# Materials and Roof Vent Specs

## Siding

Siding will be overlapped 12" Hardie Board to match existing

## Roof Vents

Boiler Vent - 12" diameter galvanized with cap - 7' roof clearance (2' + 5' on 6/12 pitch roof)

Condensate Return Evaporation Vent - 2" diameter galvanized with cap - 30" roof clearance

(Potential) Blowdown Evaporation Vent - 3" diameter galvanized with cap - 30" roof clearance

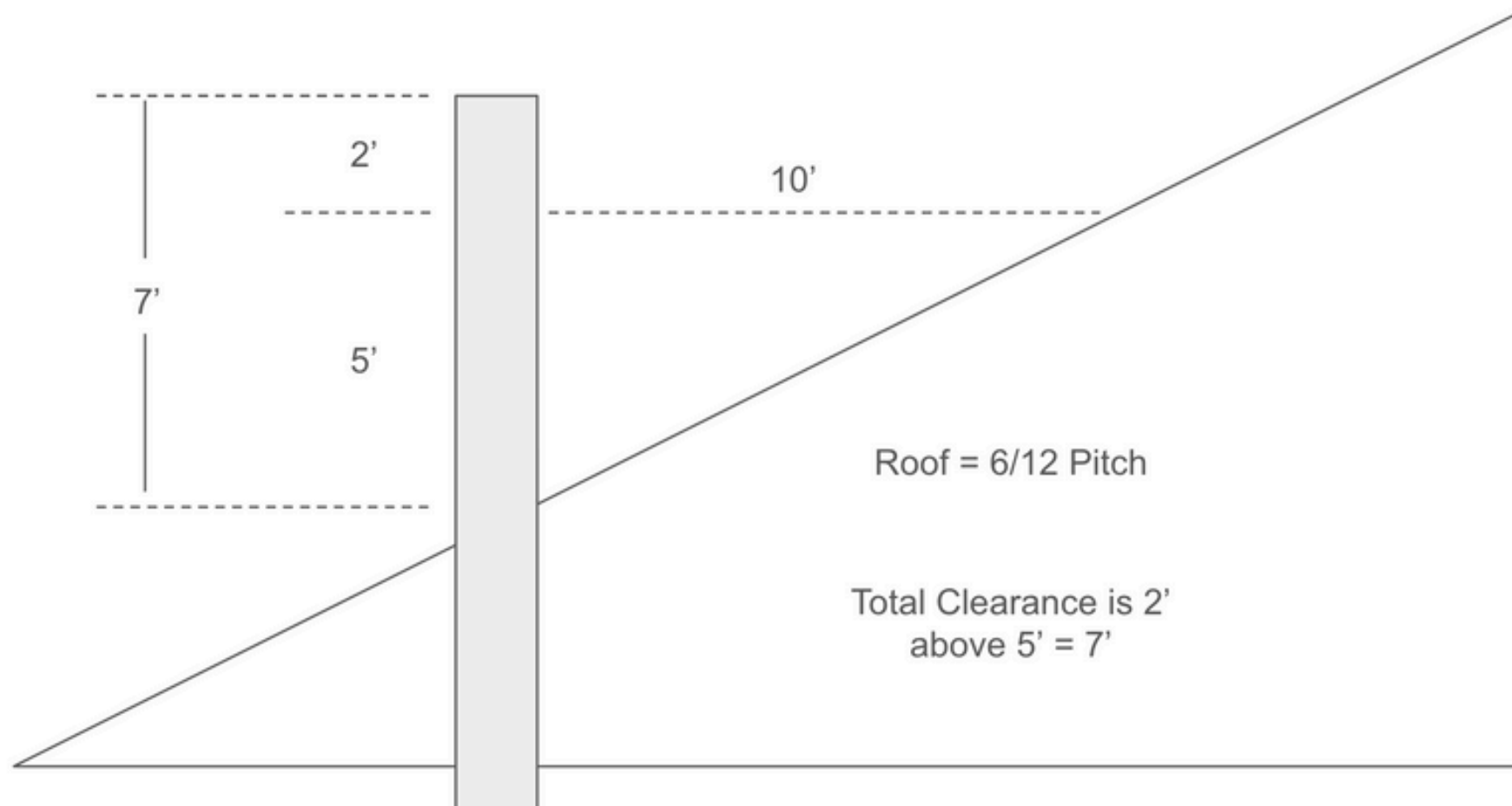
Brewing Evaporation Vent - 8" diameter stainless steel with fan/cap - 30" roof clearance



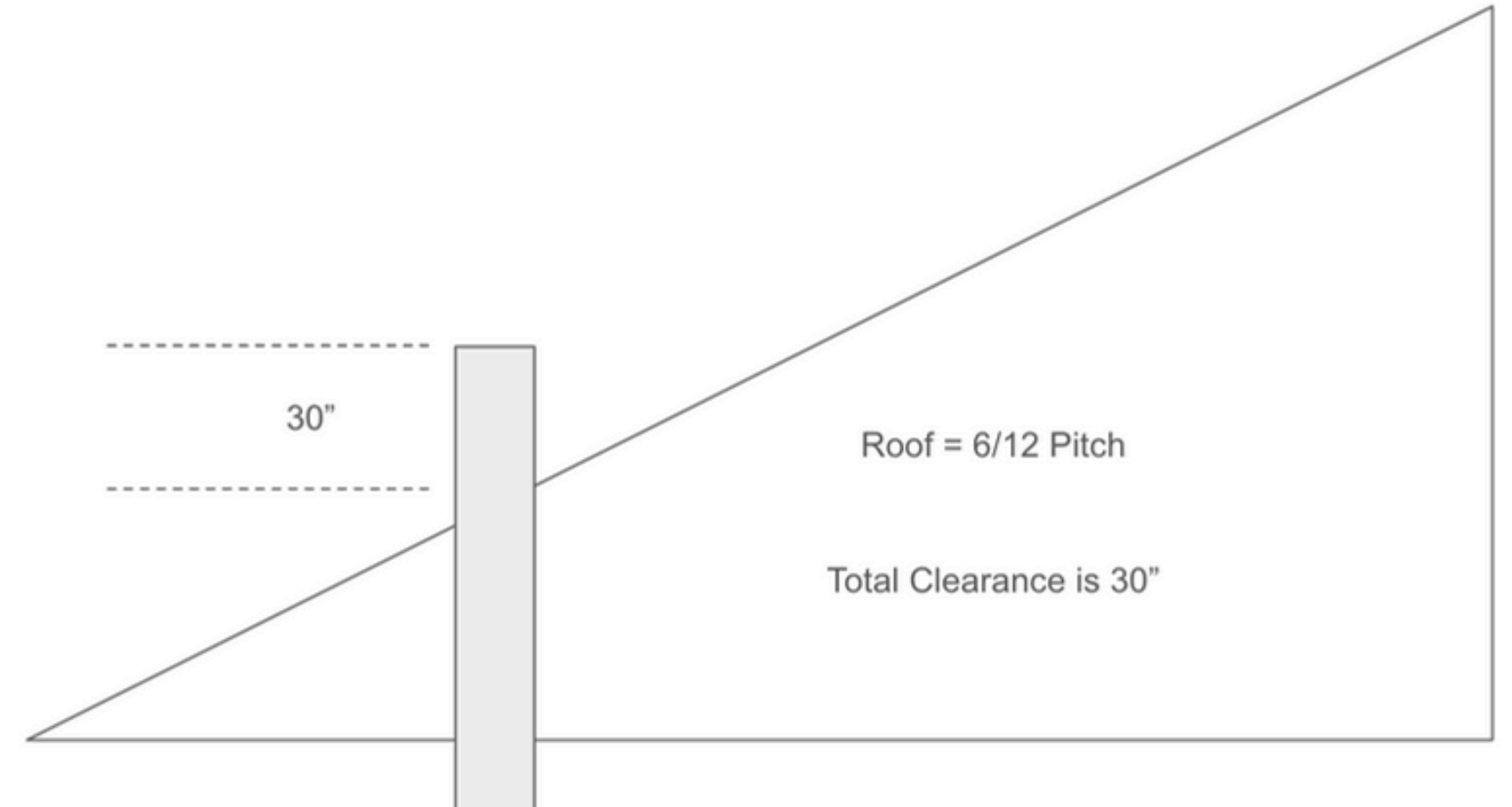
Similar Vent example from CAB

# Roof Vent Clearance

Boiler Flue Vent



Other Evaporation Vents



CONTACT INFORMATION

Robert Archibald, Principal Planner, [rarchibald@columbiatn.gov](mailto:rarchibald@columbiatn.gov), 931-560-1536

DOCKET/CASE/APPLICATION NUMBER

**CA 25-0362**

APPLICANT/PROPERTY OWNER

**Jordan Young/Jeff & Geri Cox**

HEARING DATE

**November 19, 2025**

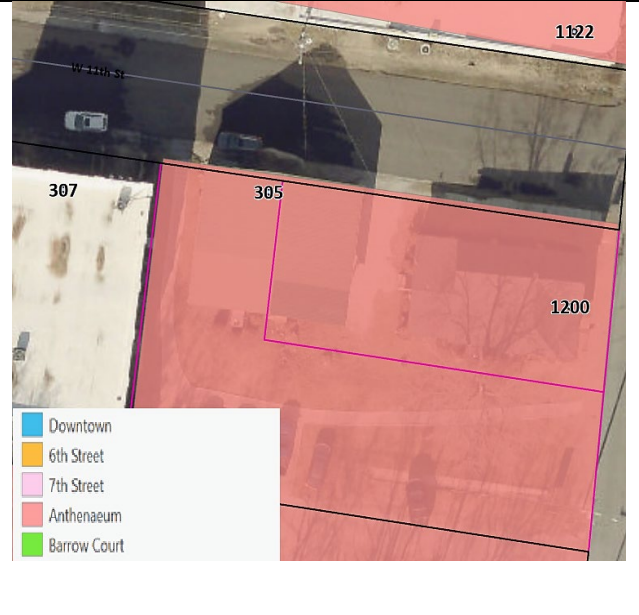
PROPERTY ADDRESS/LOCATION

**305 W 11<sup>th</sup> Street**

**PROJECT DESCRIPTION:** The Certificate of Appropriateness Request is for exterior alterations/additions

The applicant requests Certificate of Appropriateness to add exhaust vents and siding.

The applicant is seeking approval to add exhaust vents to the roof of the structure on both the east and west sides. Additionally, the applicant requests permission to construct a wall with siding and an entrance on the north side (W 11th side), as well as walls on the east side (S High side) and the south side (RR side) to enclose a portion of the carport area of the existing structure for operational equipment. These proposed changes are intended to accommodate a new use at this location.



| EXISTING ZONING | EXISTING LAND USE | SURROUNDING ZONING & LAND USE             | SITE IMPROVEMENTS              | Historic District |
|-----------------|-------------------|---|--------------------------------|-------------------|
| SD-LI           | COMMERCIAL        | MIXED/COMMERCIAL, RESIDENTIAL, INDUSTRIAL | EXTERIOR ALTERATIONS/ADDITIONS | ATHENAEUM         |

**STAFF RECOMMENDATION N/A**

APPROVE

APPROVE WITH CONDITIONS

DENY

**Review Status and History:**

|                                 |  |
|---------------------------------|--|
| <i>Submission Status:</i>       | First request for Certificate of Appropriateness   |
| <i>Previous Approvals:</i>      | N/A  |
| <i>2024 Historic Inventory:</i> | <i>Ragland Potter &amp; Company Wholesale Grocery Garage, c. 1920, no noted architectural style. Originally a warehouse/outbuilding for the wholesale grocery store at 307 W 11<sup>th</sup> Street.</i> |

## Proposed Alterations

Exterior alterations/additions: Siding, door, and roof exhaust

### Historic District Design Guidelines Referenced:

Staff reviewed the request for consistency with the *City of Columbia Historic Design Guidelines* for the exterior alterations/additions. Staff comments follow in the next section.

#### 5.6 Minimize the Visual Impacts of Rooftop Additions and Equipment

- b. Skylights, vents, rooftop gardens, rooftop decks, and rooftop mechanical equipment such as air-handling units shall be placed toward the rear elevation or in inconspicuous locations where they will not detract from the character of the building. Installation on a façade roof slope or flat roof near the front face of the building is prohibited.

#### 5.22 Design New Openings to be as Inconspicuous as Possible

- a. New openings shall be limited to minimally visible side elevations and rear elevations.
- b. New openings shall be compatible with the rhythm, size, and proportions of existing openings.

#### 6.13 Additions, Location

- c. Additions shall be located so that they do not detract from, obscure, or require removal of character-defining features.

#### 6.14 Visual Impact and Compatibility

- a. Additions shall be compatible with the style, size, scale, setback, and massing of the original building.
- c. Additions shall be visually compatible with and subordinate to the original building. Additions shall be scaled so that they do not visually diminish the original building. Additions shall be of equal or less height than the original building.
- h. Door and window openings shall conform to the proportions, size, and rhythm of openings on the original building. Contemporary interpretation of historic door and window openings is encouraged. Replication can convey a false sense of history and is therefore prohibited.
- j. Finishes and details shall be compatible with the original building in scale, profile, and texture.

#### 7.20 Place Modern Systems and Equipment in Locations that Minimize Their Impact

- b. Roof-mounted mechanical or utility equipment, antenna, and satellite dishes shall be located toward the rear of secondary elevations or at the rear elevation to minimize their visibility from the right-of-way. If the equipment will still be visible from the right-of-way, it shall be shielded behind screening to reduce its visibility.

**Staff Analysis:**

The structure located at 305 W 11<sup>th</sup> Street was originally a warehouse/outbuilding for the wholesale grocery store at 307 W 11<sup>th</sup> Street. The structure has been altered with aluminum siding on the north elevation and expansion of the roof to accommodate the carport to the east, but the original common bond brick is exposed on the west elevation. A portion of this structure is now a part of 1200 S High Street. The most recent updated Historic Inventory Survey indicated the construction of this building is circa 1920, but no architectural styling is noted.

The structure in question was connected to the existing 1923 Ragland-Potter & Company Wholesale Grocery by a 1907 brick building that was unfortunately demolished in 1985 due to significant fire damage. As shown in the photo below, the original Ragland-Potter & Company Wholesale Grocery is visible to the left of the CAB Building. Based on the construction dates noted in the historic inventory, staff members believe that the current structure under review was originally used for storage by the 1907 grocery company before the construction of the circa 1923 CAB building, which is recognized as the Ragland-Potter & Company Wholesale Grocery store.



Although not currently listed as contributing, the historic relevance of this structure deems it to be recommended eligible. As a result, any proposed changes should be given careful consideration.

The applicant is proposing these changes to accommodate a newly proposed business, which would add benefit to the surrounding area and the ARTS District. As included in the packet, the changes the applicant is submitting, if approved, would result in the addition of three walls and an entrance door facing W 11<sup>th</sup> Street being constructed at the rear portion of the existing carport (previously altered). Also, the addition of operational equipment (exhausts) from the roof line is shown on both the east and west slopes of the metal roof. The applicant has also included three illustrations for screening of these exhausts for consideration.



CITY OF COLUMBIA, TENNESSEE  
 HISTORIC ZONING COMMISSION  
 STAFF REPORT



Existing Primary Elevation - Carport Area



Create walls to match existing siding around the back area.  
 This will shield the new boiler on all 3 exposed sides.  
 There will be 2 fixed louvers on the left wall and a door on the front wall.



Existing Secondary Elevation



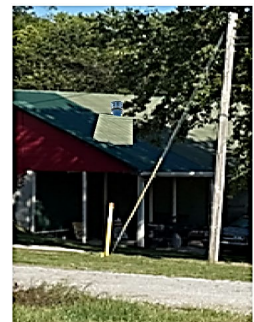
Shown with wall extended to screen boiler equipment in the back of the carport, match existing siding



1. Exposed (typical)



2. Painted



3. Green Sheet Metal Case

Staff is supportive of the proposed additions, but would like the Historic Commission to consider a couple of items that could be included as conditions upon approval. They are as follows:

**§6.14 VISUAL IMPACT AND COMPATIBILITY**

- h. Door and window openings shall conform to the proportions, size, and rhythm of openings on the original building. Contemporary interpretation of historic door and window openings is encouraged. Replication can convey a false sense of history and is therefore prohibited.



*Proposed new opening for boiler room*



*Existing facade*

*Staff suggests the Historic Commission require the applicant to install a similar door in the new wall that would mirror the existing façade door to provide a more visually aesthetic façade from the Frontage.*

**§7.20 Place Modern Systems and Equipment in Locations that Minimize Their Impact**

- b. Roof-mounted mechanical or utility equipment, antenna, and satellite dishes shall be located toward the rear of secondary elevations or at the rear elevation to minimize their visibility from the right-of-way. If the equipment will still be visible from the right-of-way, it shall be shielded behind screening to reduce its visibility.



*Staff suggest that if feasible, the applicant relocate the exhaust from the front to closer to the rear of the structure to soften the projection from the Frontage.*

The aforementioned suggested conditions presented by staff should be considered in their motion if the Commission deems these revisions to comply with the Historic Guidelines. Staff does not make a recommendation regarding the types of screening proposed by the applicant, and instead defers to the ruling of the Commission.



**Recommendation: Approval with Conditions**

**Motions**

**Motion [Approve].**

Move to find that the proposed restoration/addition conforms to the Historic District Design Guidelines and approve issuance of a Certificate of Appropriateness.

**Motion [Deny].**

Move to find that the proposed restoration/addition is not compatible with the Historic Guidelines, and deny issuance of a Certificate of Appropriateness [list reasons for denial].

**Motion [Approve Subject to Conditions]:**

Move to approve issuance of a Certificate of Appropriateness and find that the proposed renovation/addition conforms to the Historic District Design Guidelines subject to the following conditions: [list conditions of approval].

**Alternative Motion [Defer for Future Consideration].**

Move to find that there is insufficient information to make a decision, defer action on the application, and request that the applicant provide: [list additional information] for review at a future meeting.

CONTACT INFORMATION

Robert Archibald, Principal Planner, [rarchibald@columbiatn.gov](mailto:rarchibald@columbiatn.gov), 931-560-1536

DOCKET/CASE/APPLICATION NUMBER

**CA 25-0302**

APPLICANT/PROPERTY OWNER

**Marlin Lentz/Columbia First United Methodist Church**

HEARING DATE

**November 19, 2025**

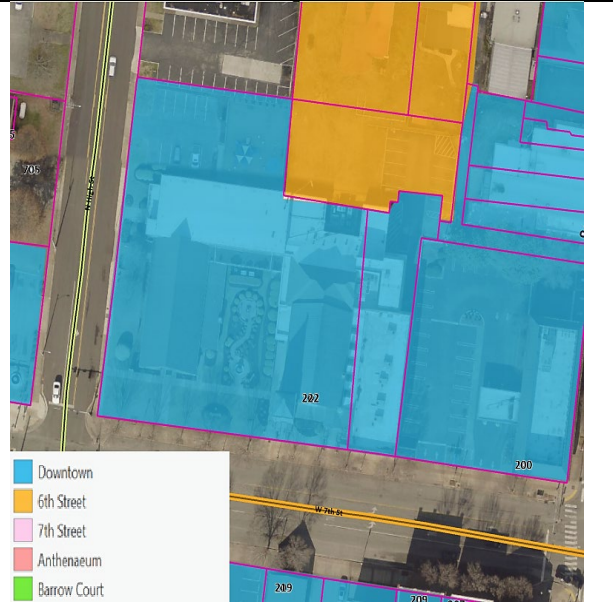
PROPERTY ADDRESS/LOCATION

**222 W 7<sup>th</sup> Street**

**PROJECT DESCRIPTION:** The Certificate of Appropriateness Request is for roof replacement

The applicant requests Certificate of Appropriateness to replace a standing seam copper roof with a standing seam metal roof.

The applicant is requesting approval to replace a large section of the roof over the sanctuary due to wind damage. The proposed replacement is a standing seam metal roof in the same color as the adjacent roof on the Fellowship Hall. The existing roof, which has been damaged, is currently a standing seam copper roof. This replacement will involve a change in materials.



| EXISTING ZONING | EXISTING LAND USE  | SURROUNDING ZONING & LAND USE            | SITE IMPROVEMENTS | Historic District   |
|-----------------|--------------------|--|-------------------|---------------------|
| CD-5            | RELIGIOUS FACILITY | MIXED/COMMERCIAL, RESIDENTIAL, RELIGIOUS | ROOF REPLACEMENT  | DOWNTOWN COMMERCIAL |

**STAFF RECOMMENDATION**

**APPROVE**

APPROVE WITH CONDITIONS

DENY

**Review Status and History:**

|                                    |   |
|------------------------------------|---|
| <i>Submission Status:</i>          | Seventh request for Certificate of Appropriateness  |
| <i>Previous Approvals/Denials:</i> | 14-14: N High St entrance restoration; 16-0016: demo of block structure; 20-0075: Ext. door replacement, recommended approval with condition (Fiberglass wood grain textured replacement); 21-0233: Roof replacement, approved; 23-0075: sidewalk awnings and canopy on side and rear of building, approved; 23-0373: Ext. door replacement, approved |
| <i>2024 Historic Inventory:</i>    | <i>First United Methodist Church, Gothic Revival/Romanesque Revival, circa 1876, IL (Individually Listed)</i>   |



## Proposed Alterations

Roof replacement

### Historic District Design Guidelines Referenced:

Staff reviewed the request for consistency with the *City of Columbia Historic Design Guidelines* for the roof replacement. Staff comments follow in the next section.

*Objective: Maintain cornices, parapets, and related building components as character-defining features that contribute to visual interest in the district.*

#### 5.1 Retain Original Roof Configurations

- a. The original shape, pitch, and configuration of a visible roof shall be retained. Buildings with flat or sloped roofs not visible from the right-of-way shall not be altered to have a roof shape incompatible with the building's historic character.
- b. Functional and decorative features such as cornices, parapets, and cresting give a roof its character and shall be retained. Removing features that contribute to the roof's character is prohibited.

#### 5.2 Maintain Compatibility When Replacing Visible But Deteriorated Roofing

- a. Historic roof features shall be retained and protected when repairing or replacing deteriorated roofing materials.
- b. Visible but deteriorated roofing shall be replaced with materials appropriate to the style and age of the building and compatible with the original material in color, texture, pattern, finish, size, and composition. Replacing specialty materials such as slate, tile, or wooden shingles in-kind or with dimensional contemporary materials is strongly encouraged. Dark asphalt, fiberglass, or composite shingles are most appropriate on sloped roofs in the absence of historic roofing materials.

### Staff Analysis:

The applicant has requested approval to replace the existing copper standing seam roof covering over the sanctuary due to wind damage. The proposed replacement is a standing seam metal roof that would match the existing roof covering on the Fellowship Hall. The steeple portion of the Sanctuary will retain the copper roofing.

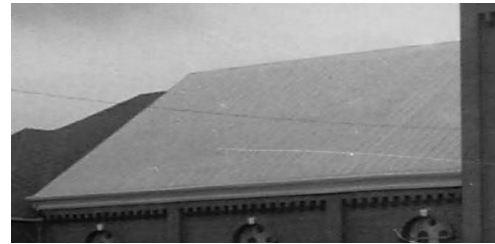
*The Romanesque Revival style church (Figure 1) is a brick-framed structure with flanking towers on the south elevation (front) and a coursed ashlar cut limestone foundation. The southwest tower is 3 stories tall, and the southeast entrance tower is 1 story tall with double-leaf doors. Both towers have corner buttresses, a pyramidal tin roof, and arched openings. The main walls of the sanctuary have buttresses. The front gable end has a rose window, and below the molded wooden cornice is dogtooth brick corbeling. The side elevations (east and west) bays are separated by buttresses and 3 bays wide with stained glass memorial windows set in arched openings with brick voussoirs and center keystones. Below the eaves is a wooden cornice with brick corbeling below the cornice.<sup>i</sup>*



Figure 1 Photo of the First United Methodist Church of Columbia, c. 1984

Although sheet metal was used in the late 19<sup>th</sup> Century for roof covering, among the organic materials used on historic buildings, the most common are perhaps the sheet metals: lead, copper, zinc, tin plate, terne plate, and galvanized iron.<sup>ii</sup>

The previous Historic Inventory of this structure identified the roofing material as “standing-seam tin.” Staff does not have any information on when the copper roof covering was installed, but it is inferred from the insets below that the original roof covering was standing-seam tin on the main structure, and tin shingling on the tower.



This is further affirmed by the 1984 Historic Inventory, as seen in the following excerpts:

*The church is a large rectangular brick hall church with flanking entrance towers on the south elevation. It is constructed of a pale red brick, laid in common bond for the lower courses and stretcher bond above. The building rests atop a dressed stone water table on a foundation of rough-faced, coursed ashlar cut limestone, and is topped with a steep gabled roof of standing-seam tin... and the main elevation of the church faces south to West Seventh (Market) Street. This facade is flanked by the two square towers. The entry tower at the southeast corner is only one story high and has a gabled roof; the southwestern tower is three stories high, strengthened by corner buttresses and topped with a tall pyramidal tin shingle roof.<sup>iii</sup>*

Additionally, according to the Preservation Brief noted in this staff report, *alternatives to be considered as a replacement for tin are lead-coated copper, terne-coated steel, and aluminum/zinc-coated steel can successfully replace tin...*<sup>iv</sup>

Staff is supportive of this proposal as presented. The replacement will mirror the adjacent roof covering of the Fellowship Hall, reducing the existing distinguishing aesthetic difference while still maintaining the architectural integrity of the structure.

Documents associated with endnotes are located in the packet for reference by the Historic Zoning Commission.

**Recommendation: Approve**

**Motions**

**Motion [Approve].**

Move to find that the proposed restoration/addition conforms to the Historic District Design Guidelines and approve issuance of a Certificate of Appropriateness.

**Motion [Deny].**

Move to find that the proposed restoration/addition is not compatible with the Historic Guidelines, and deny issuance of a Certificate of Appropriateness [list reasons for denial].

**Motion [Approve Subject to Conditions]:**

Move to approve issuance of a Certificate of Appropriateness and find that the proposed renovation/addition conforms to the Historic District Design Guidelines subject to the following conditions: [list conditions of approval].

**Alternative Motion [Defer for Future Consideration].**

Move to find that there is insufficient information to make a decision, defer action on the application, and request that the applicant provide: [list additional information] for review at a future meeting.

---

<sup>i</sup> 1984 Historic Inventory NR Nomination, Richard Quinn

<sup>ii</sup> NPS Preservation Brief, Sarah M. Sweetser, Architectural Historian, Technical Preservation Services Division

<sup>iii</sup> 1984 Historic Inventory NR Nomination, Richard Quinn

<sup>iv</sup> NPS Preservation Brief, Sarah M. Sweetser, Architectural Historian, Technical Preservation Services Division

Columbia FUMC  
Main Campus  
222 West 7th Street  
Columbia, TN 38401

Dear: David Barnett

Thank you for the opportunity to provide a quote on the above referenced project. We are grateful and look forward to the chance to work for you. Should you have any questions, please feel free to contact me at anytime.

Scope of Work: Includes approximately 7,650 sq. ft.

- Perform all work according to OSHA regulations
- Remove existing copper roofing down to existing substrate
- Remove and replace damaged decking on a unit cost basis (below)
- Supply and install high temp ice and water shield across the entire roof deck
- Supply and install a new MRS 1500 System 16" wide 24 ga metal roof panel
- Supply and install new rake, eave and transition metal, color to match metal by owner
- Supply and install new ridge vent where appropriate, and ridge cap, color to match panels as chosen by owner
- Flash all penetrations to meet manufacturer's specifications
- Price to include removal and disposal of existing components and cleanup complete





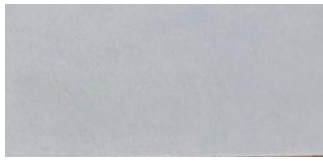
t.

k

l panels as chosen

o match metal

of jobsite when





# METAL ROOFING Systems, Inc

Faster. Smarter. Better. Period.

## SPEC DATA

### 1. PRODUCT NAME

COOLR Kynar 500® / Hylar 5000® Coated Galvalume Steel or Aluminum, Architectural Sheet Metal, Flashing, Roofing

### 2. MANUFACTURER

Metal Roofing Systems, Inc.  
7687 Mikron Dr  
Stanley, NC 28164  
Phone: 704-820-3110  
Fax: 704-820-0113

### 3. PRODUCT DESCRIPTION

Structural Grade 50, extra smooth, Galvalume steel or Aluminum, coated with 70% Kynar 500 / Hylar 5000 fluorocarbon coating, 1.0 ± 0.1 mil total dry film thickness including primer. The reverse side is coated with a primer and off white backer with a total of .5 mil dry film for additional protection. A strippable film is available upon request to protect the finished surface during shipping, handling and fabrication. **(The protective film must be removed immediately after installation.)**

**Basic use COOLR** is manufactured for use in general building applications, such as copings, gravel stops, flashings, mansards, fascia's, soffits, standing seam, batten seam and flat seam roofing applications.

**Limitations:** Because COOLR is a prefinished material, care must be exercised during fabrication and erection to avoid damage to the surface. The performance of the material in the field depends substantially on the integrity of the paint film, and in Galvalume steel, on the underlying coating of aluminum-zinc being intact. Care must be taken to avoid scratching or marring the finish. Therefore, COOLR should not be used in areas of high abrasion or where it will be subject to mechanical damage.

### Composition and Materials:

COOLR consists of Structural Grade 50 Galvalume steel of prime quality manufactured per ASTM A 792 or Aluminum Association specification sheet, alloy and temper 3003-H14 or 3105 H-14, as manufactured per ASTM B 209, coated with 70% Kynar 500 / Hylar 5000 (polyvinylidene fluoride resin) fluorocarbon applied over an appropriate primer. An exterior off white backer coat is applied to the reverse side for additional protection.

**Sizes:** Galvalume steel is available in 24 GA, 48" sheet and in 48", 44", 40", 24", 22", 20" and 16" standard coil widths. 22 GA. bare steel is available to paint in 44" and 48" coils. Galvalume steel is available in 26 GA in 48" sheet and in 48", 40", 24", 20" and 16" standard coil widths. Aluminum is available in .032 48" sheet and 48", 40", 23.75", 20" and 15.833" standard coil widths. Aluminum is available in .040 and .050 48" sheet and 48", 23.75" and 15.833" standard coil widths.

**Colors:** There are 44 standard colors: Aged Copper, Ash Gray, Burgundy, Champagne Metallic, Charcoal gray, Colonial Red, Copper Metallic, Dark Bronze, Dove Gray, Evergreen, Hartford Green, Hemlock Green, Mansard Brown, Matte Black, Medium Bronze, Patina Green, Pre-weathered Galvalume, Regal Blue, Regal Red, Regal White, Sandstone, Sierra Tan, Silver Metallic, Slate Blue, Slate Gray, Solar White, Stone White, Surrey Beige, Terra Cotta, Cor-Ten AZP® Raw, Copper-Ten™ Raw, Galv-Ten™ Raw.

**26 GA Low Gloss Colors:** Antique Black, Black, Burgundy, Colonial Red, Dark Bronze, Dark Gray, Evergreen, Regal White, Seal Brown, Sierra Tan, Slate Gray, Terra Cotta. Custom colors are available in both steel and aluminum.

**Finish:** Smooth, dull matte, low to medium gloss, depending on color.

**Applicable Standards:** ASTM A 792 structural quality steel, sheet and coil, coated (Galvalume) by the hot dipping process or ASTM B 209 Aluminum sheet 3105-H24 alloy and temper.

### 4. KYNAR PAINT TECHNICAL DATA

- ASTM D 968, Method A - Abrasion / Falling Sand
- ASTM D 4587 & ASTM G 154 - Accelerated Weathering
- ASTM D 3359, Method B - Adhesion of Coating by Tape Test
- ASTM D 1308 - Chemical Pollution
- ASTM B 117 - Salt spray
- ASTM D 5894 - Cyclic Salt Fog UV
- ASTM G 7 - Exterior Durability
- ASTM D 4145 - Flexibility T-Bend
- ASTM D 522 - Formability



- ASTM D 4585 - Humidity, Cleveland Condensing
- ASTM D 2247 - Humidity
- ASTM D 2794 - Impact Resistance
- ASTM D 3363 - Pencil Hardness
- ASTM D 523 - Specular Gloss
- ASTM E 84 - Surface Burning
- ASTM D 1735 - Water Resistance of Coating using Fog Apparatus
- ASTM D 822, G 152 & G153 - Weatherometer

Test results available upon request.

### 5. INSTALLATION

Install using recommended installation details.

### 6. WARRANTY

A 40 Year, non-prorated paint warranty covering color fade, chalking and film integrity is available at no additional cost and is issued on a per project basis upon request. A 25 Year 6 month, Galvalume warranty covering corrosion is available at no additional cost and is issued on a per project basis upon request. A 5 - 35 year Standard Weathertight Warranty and a 10 - 35 year No Dollar Limit Warranty is available for a fee on a per project basis. A Weathertight Warranty application must be submitted to Sheffield Metals Internationals' Technical Department for approval prior to installation of the roof system, warranty terms are in 5 year increments.













First United  
Methodist Church



# 4 PRESERVATION BRIEFS

## Roofing for Historic Buildings

Sarah M. Sweetser



U.S. Department of the Interior  
National Park Service  
Cultural Resources  
Heritage Preservation Services



HABS

### Significance of the Roof

A weather-tight roof is basic in the preservation of a structure, regardless of its age, size, or design. In the system that allows a building to work as a shelter, the roof sheds the rain, shades from the sun, and buffers the weather.

During some periods in the history of architecture, the roof imparts much of the architectural character. It defines the style and contributes to the building's aesthetics. The hipped roofs of Georgian architecture, the turrets of Queen Anne, the Mansard roofs, and the graceful slopes of the Shingle Style and Bungalow designs are examples of the use of roofing as a major design feature.

But no matter how decorative the patterning or how compelling the form, the roof is a highly vulnerable element of a shelter that will inevitably fail. A poor roof will permit the accelerated deterioration of historic building materials—masonry, wood, plaster, paint—and will cause general disintegration of the basic structure. Furthermore, there is an urgency involved in repairing a leaky roof since such repair costs will quickly become prohibitive. Although such action is desirable as soon as a failure is discovered, temporary patching methods should be carefully chosen to prevent inadvertent damage to sound or historic roofing materials and related features. Before any repair work is performed, the historic value of the materials used on the roof should be understood. Then a complete internal and external inspection of the roof should be planned to determine all the causes of failure and to identify the alternatives for repair or replacement of the roofing.

### Historic Roofing Materials in America

**Clay Tile:** European settlers used clay tile for roofing as early as the mid-17th century; many pantiles (S-curved tiles), as well as flat roofing tiles, were used in Jamestown, Virginia. In some cities such as New York and Boston, clay was popularly used as a precaution against such fire as those that engulfed London in 1666 and scorched Boston in 1679.

Tiles roofs found in the mid-18th century Moravian settlements in Pennsylvania closely resembled those found in Germany. Typically, the tiles were 14–15" long, 6–7" wide with a curved butt. A lug on the back allowed the tiles to hang on the lathing without nails or pegs. The tile surface was usually scored with finger marks to promote drainage. In the Southwest, the tile roofs of the Spanish missionaries (mission tiles) were first manufactured (ca. 1780) at the Mission San Antonio de Padua in California. These semicircular tiles were



*Repairs on this pantile roof were made with new tiles held in place with metal hangers. (Main Building, Ellis Island, New York)*

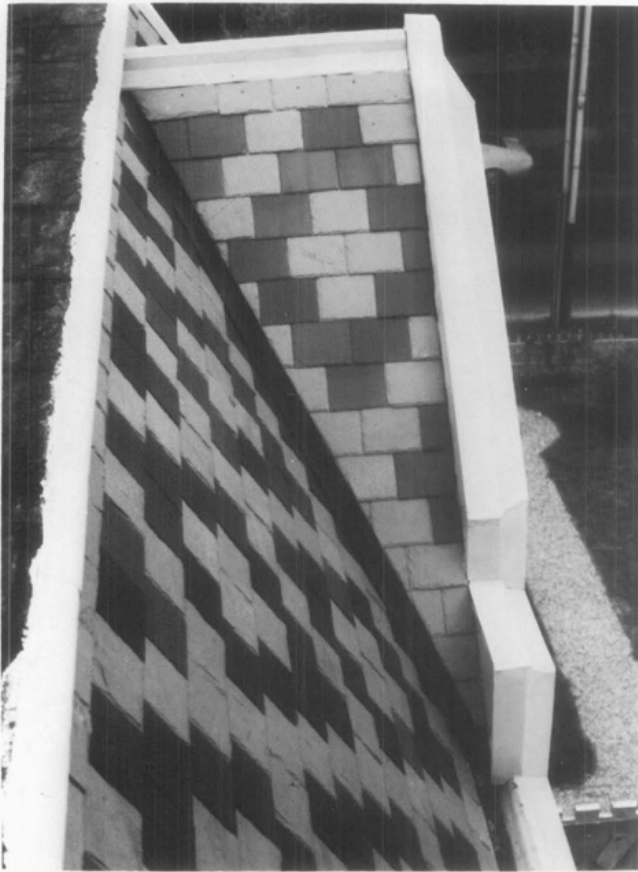
made by molding clay over sections of logs, and they were generally 22" long and tapered in width.

The plain or flat rectangular tiles most commonly used from the 17th through the beginning of the 19th century measured about 10" by 6" by 1/2", and had two holes at one end for a nail or peg fastener. Sometimes mortar was applied between the courses to secure the tiles in a heavy wind.

In the mid-19th century, tile roofs were often replaced by sheet-metal roofs, which were lighter and easier to install and maintain. However, by the turn of the century, the Romanesque Revival and Mission style buildings created a new demand and popularity for this picturesque roofing material.

**Slate:** Another practice settlers brought to the New World was slate roofing. Evidence of roofing slates have been found also among the ruins of mid-17th-century Jamestown. But because of the cost and the time required to obtain the material, which was mostly imported from Wales, the use of slate was initially limited. Even in Philadelphia (the second largest city in the English-speaking world at the time of the Revolution) slates were so rare that "The Slate Roof House" distinctly referred to William Penn's home built late in the 1600s. Sources of native slate were known to exist along the eastern seaboard from Maine to Virginia, but difficulties in inland transportation limited its availability to the cities, and contributed to its expense. Welsh slate continued to be imported until the development of canals and railroads in the mid-19th century made American slate more accessible and economical.

Slate was popular for its durability, fireproof qualities, and



*The Victorians loved to use different colored slates to create decorative patterns on their roofs, an effect which cannot be easily duplicated by substitute materials. Before any repair work on a roof such as this, the slate sizes, colors, and position of the patterning should be carefully recorded to assure proper replacement. (Ebenezer Maxwell Mansion, Philadelphia, Pennsylvania, photo courtesy of William D. Hershey)*

aesthetic potential. Because slate was available in different colors (red, green, purple, and blue-gray), it was an effective material for decorative patterns on many 19th-century roofs (Gothic and Mansard styles). Slate continued to be used well into the 20th century, notably on many Tudor revival style buildings of the 1920s.

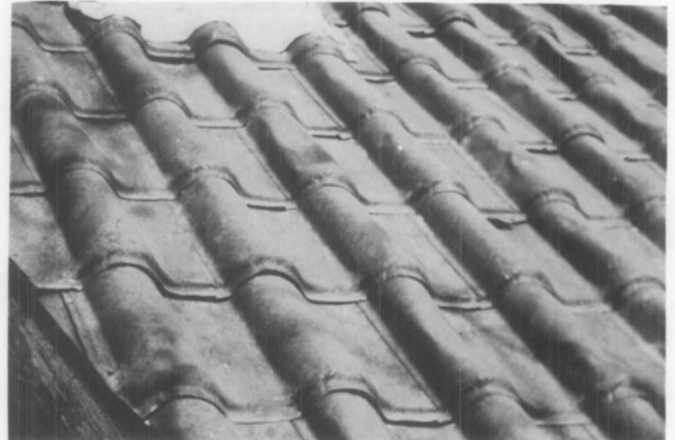
**Shingles:** Wood shingles were popular throughout the country in all periods of building history. The size and shape of the shingles as well as the detailing of the shingle roof differed according to regional craft practices. People within particular regions developed preferences for the local species of wood that most suited their purposes. In New England and the Delaware Valley, white pine was frequently used: in the South, cypress and oak; in the far west, red cedar or redwood. Sometimes a protective coating was applied to increase the durability of the shingle such as a mixture of brick dust and fish oil, or a paint made of red iron oxide and linseed oil.

Commonly in urban areas, wooden roofs were replaced with more fire resistant materials, but in rural areas this was not a major concern. On many Victorian country houses, the practice of wood shingling survived the technological advances of metal roofing in the 19th century, and near the turn of the century enjoyed a full revival in its namesake, the Shingle Style. Colonial revival and the Bungalow styles in the 20th century assured wood shingles a place as one of the most fashionable, domestic roofing materials.

**Metal:** Metal roofing in America is principally a 19th-century phenomenon. Before then the only metals commonly



*Replacement of particular historic details is important to the individual historic character of a roof, such as the treatment at the eaves of this rounded butt wood shingle roof. Also note that the surface of the dormer was carefully sloped to drain water away from the side of the dormer. In the restoration, this function was augmented with the addition of carefully concealed modern metal flashing. (Mount Vernon, Virginia)*



*Galvanized sheet-metal shingles imitating the appearance of pantiles remained popular from the second half of the 19th century into the 20th century. (Episcopal Church, now the Jerome Historical Society Building, Jerome, Arizona, 1927)*

used were lead and copper. For example, a lead roof covered "Rosewell," one of the grandest mansions in 18th-century Virginia. But more often, lead was used for protective flashing. Lead, as well as copper, covered roof surfaces where wood, tile, or slate shingles were inappropriate because of the roof's pitch or shape.

Copper with standing seams covered some of the more notable early American roofs including that of Christ Church (1727-1744) in Philadelphia. Flat-seamed copper was used on many domes and cupolas. The copper sheets were imported from England until the end of the 18th century when facilities for rolling sheet metal were developed in America.

Sheet iron was first known to have been manufactured here by the Revolutionary War financier, Robert Morris, who had a rolling mill near Trenton, New Jersey. At his mill Morris produced the roof of his own Philadelphia mansion, which he started in 1794. The architect Benjamin H. Latrobe used sheet iron to replace the roof on Princeton's "Nassau Hall," which had been gutted by fire in 1802.

The method for corrugating iron was originally patented in England in 1829. Corrugating stiffened the sheets, and allowed greater span over a lighter framework, as well as reduced installation time and labor. In 1834 the American architect William Strickland proposed corrugated iron to cover his design for the market place in Philadelphia.

Galvanizing with zinc to protect the base metal from rust was developed in France in 1837. By the 1850s the material was used on post offices and customhouses, as well as on train sheds and factories. In 1857 one of the first metal roofs in the



Repeated repair with asphalt, which cracks as it hardens, has created a blistered surface on this sheet-metal roof and built-in gutter, which will retain water. Repairs could be made by carefully heating and scraping the surface clean, repairing the holes in the metal with a flexible mastic compound or a metal patch, and coating the surface with a fibre paint. (Roane County Courthouse, Kingston, Tennessee, photo courtesy of Building Conservation Technology, Inc.)

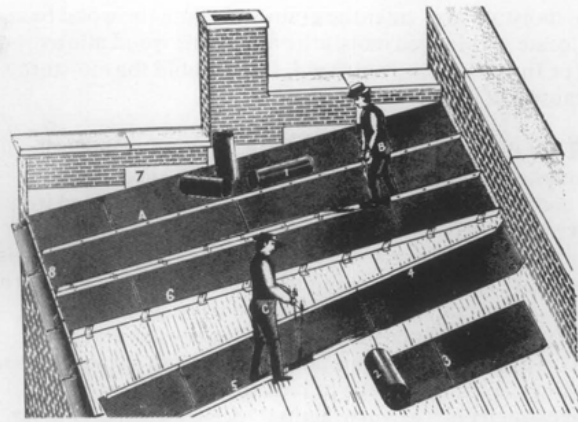
South was installed on the U.S. Mint in New Orleans. The Mint was thereby "fireproofed" with a 20-gauge galvanized, corrugated iron roof on iron trusses.

Tin-plate iron, commonly called "tin roofing," was used extensively in Canada in the 18th century, but it was not as common in the United States until later. Thomas Jefferson was an early advocate of tin roofing, and he installed a standing-seam tin roof on "Monticello" (ca. 1770-1802). The Arch Street Meetinghouse (1804) in Philadelphia had tin shingles laid in a herringbone pattern on a "piazza" roof.

However, once rolling mills were established in this country, the low cost, light weight, and low maintenance of tin plate made it the most common roofing material. Embossed tin shingles, whose surfaces created interesting patterns, were popular throughout the country in the late 19th century. Tin roofs were kept well-painted, usually red; or, as the architect A. J. Davis suggested, in a color to imitate the green patina of copper.

Terne plate differed from tin plate in that the iron was dipped in an alloy of lead and tin, giving it a duller finish. Historic, as well as modern, documentation often confuses the two, so much that it is difficult to determine how often actual "terne" was used.

Zinc came into use in the 1820s, at the same time tin plate was becoming popular. Although a less expensive substitute for lead, its advantages were controversial, and it was never widely used in this country.



A Chicago firm's catalog dated 1896 illustrates a method of unrolling, turning the edges, and finishing the standing seam on a metal roof.



Tin shingles, commonly embossed to imitate wood or tile, or with a decorative design, were popular as an inexpensive, textured roofing material. These shingles  $8\frac{3}{8}$  inch by  $12\frac{1}{2}$  inch on the exposed surface) were designed with interlocking edges, but they have been repaired by surface nailing, which may cause future leakage. (Ballard House, Yorktown, Virginia, photo by Gordie Whittington, National Park Service)

**Other Materials:** Asphalt shingles and roll roofing were used in the 1890s. Many roofs of asbestos, aluminum, stainless steel, galvanized steel, and lead-coated copper may soon have historic values as well. Awareness of these and other traditions of roofing materials and their detailing will contribute to more sensitive preservation treatments.

### Locating the Problem

#### Failures of Surface Materials

When trouble occurs, it is important to contact a professional, either an architect, a reputable roofing contractor, or a craftsman familiar with the inherent characteristics of the particular historic roofing system involved. These professionals may be able to advise on immediate patching procedures and help plan more permanent repairs. A thorough examination of the roof should start with an appraisal of the existing condition and quality of the roofing material itself. Particular attention should be given to any southern slope because year-round exposure to direct sun may cause it to break down first.

**Wood:** Some historic roofing materials have limited life expectancies because of normal organic decay and "wear." For example, the flat surfaces of wood shingles erode from exposure to rain and ultraviolet rays. Some species are more hardy than others, and heartwood, for example, is stronger and more durable than sapwood.

Ideally, shingles are split with the grain perpendicular to

the surface. This is because if shingles are sawn across the grain, moisture may enter the grain and cause the wood to deteriorate. Prolonged moisture on or in the wood allows moss or fungi to grow, which will further hold the moisture and cause rot.

**Metal:** Of the inorganic roofing materials used on historic buildings, the most common are perhaps the sheet metals: lead, copper, zinc, tin plate, terne plate, and galvanized iron. In varying degrees each of these sheet metals are likely to deteriorate from chemical action by pitting or streaking. This can be caused by airborne pollutants; acid rainwater; acids from lichen or moss; alkalis found in lime mortars or portland cement, which might be on adjoining features and washes down on the roof surface; or tannic acids from adjacent wood sheathings or shingles made of red cedar or oak.

Corrosion from "galvanic action" occurs when dissimilar metals, such as copper and iron, are used in direct contact. Corrosion may also occur even though the metals are physically separated; one of the metals will react chemically against the other in the presence of an electrolyte such as rainwater. In roofing, this situation might occur when either a copper roof is decorated with iron cresting, or when steel nails are used in copper sheets. In some instances the corrosion can be prevented by inserting a plastic insulator between the dissimilar materials. Ideally, the fasteners should be a metal sympathetic to those involved.

Iron rusts unless it is well-painted or plated. Historically this problem was avoided by use of tin plating or galvanizing. But this method is durable only as long as the coating remains intact. Once the plating is worn or damaged, the exposed iron will rust. Therefore, any iron-based roofing material needs to be undercoated, and its surface needs to be kept well-painted to prevent corrosion.

One cause of sheet metal deterioration is fatigue. Depending upon the size and the gauge of the metal sheets, wear and metal failure can occur at the joints or at any protrusions in the sheathing as a result from the metal's alternating movement to thermal changes. Lead will tear because of "creep," or the gravitational stress that causes the material to move down the roof slope.

**Slate:** Perhaps the most durable roofing materials are slate and tile. Seemingly indestructible, both vary in quality. Some slates are hard and tough without being brittle. Soft slates are more subject to erosion and to attack by airborne and rain-

water chemicals, which cause the slates to wear at nail holes, to delaminate, or to break. In winter, slate is very susceptible to breakage by ice, or ice dams.

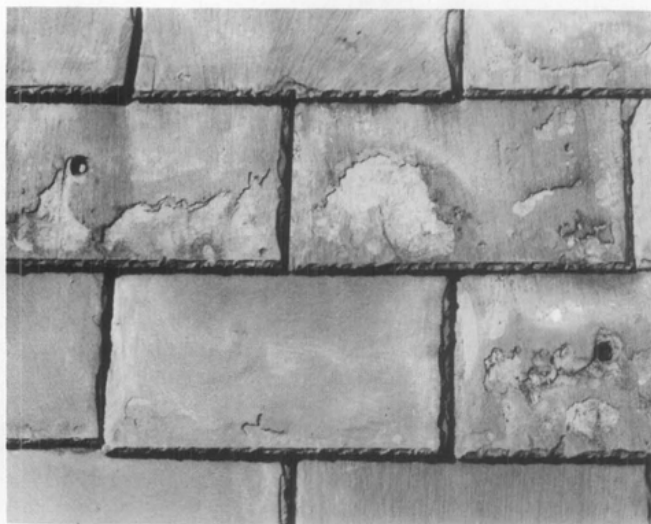
**Tile:** Tiles will weather well, but tend to crack or break if hit, as by tree branches, or if they are walked on improperly. Like slates, tiles cannot support much weight. Low quality tiles that have been insufficiently fired during manufacture, will craze and spall under the effects of freeze and thaw cycles on their porous surfaces.

#### Failures of Support Systems

Once the condition of the roofing material has been determined, the related features and support systems should be examined on the exterior and on the interior of the roof. The gutters and downspouts need periodic cleaning and maintenance since a variety of debris fill them, causing water to back up and seep under roofing units. Water will eventually cause fasteners, sheathing, and roofing structure to deteriorate. During winter, the daily freeze-thaw cycles can cause ice floes to develop under the roof surface. The pressure from these ice floes will dislodge the roofing material, especially slates, shingles, or tiles. Moreover, the buildup of ice dams above the gutters can trap enough moisture to rot the sheathing or the structural members.

Many large public buildings have built-in gutters set within the perimeter of the roof. The downspouts for these gutters may run within the walls of the building, or drainage may be through the roof surface or through a parapet to exterior downspouts. These systems can be effective if properly maintained; however, if the roof slope is inadequate for good runoff, or if the traps are allowed to clog, rainwater will form pools on the roof surface. Interior downspouts can collect debris and thus back up, perhaps leaking water into the surrounding walls. Exterior downspouts may fill with water, which in cold weather may freeze and crack the pipes. Conduits from the built-in gutter to the exterior downspout may also leak water into the surrounding roof structure or walls.

Failure of the flashing system is usually a major cause of roof deterioration. Flashing should be carefully inspected for failure caused by either poor workmanship, thermal stress, or metal deterioration (both of flashing material itself and of the fasteners). With many roofing materials, the replacement of flashing on an existing roof is a major operation, which may require taking up large sections of the roof surface. Therefore, the installation of top quality flashing material on



*This detail shows slate delamination caused by a combination of weathering and pollution. In addition, the slates have eroded around the repair nails, incorrectly placed in the exposed surface of the slates. (Lower Pontalba Building, New Orleans, photo courtesy of Building Conservation Technology, Inc.)*



*Temporary stabilization or "mothballing" with materials such as plywood and building paper can protect the roof of a project until it can be properly repaired or replaced. (Narbonne House, Salem, Massachusetts)*



*These two views of the same house demonstrate how the use of a substitute material can drastically affect the overall character of a structure. The textural interest of the original tile roof was lost with the use of asphalt shingles. Recent preservation efforts are replacing the tile roof. (Frank House, Kearney, Nebraska, photo courtesy of the Nebraska State Historical Society, Lincoln, Nebraska)*

a new or replaced roof should be a primary consideration. Remember, some roofing and flashing materials are not compatible.

Roof fasteners and clips should also be made of a material compatible with all other materials used, or coated to prevent rust. For example, the tannic acid in oak will corrode iron nails. Some roofs such as slate and sheet metals may fail if nailed too rigidly.

If the roof structure appears sound and nothing indicates recent movement, the area to be examined most closely is the roof substrate—the sheathing or the battens. The danger spots would be near the roof plates, under any exterior patches, at the intersections of the roof planes, or at vertical surfaces such as dormers. Water penetration, indicating a breach in the roofing surface or flashing, should be readily apparent, usually as a damp spot or stain. Probing with a small pen knife may reveal any rot which may indicate previously undetected damage to the roofing membrane. Insect infestation evident by small exit holes and frass (a sawdust-like debris) should also be noted. Condensation on the underside of the roofing is undesirable and indicates improper ventilation. Moisture will have an adverse effect on any roofing material; a good roof stays dry inside and out.

### Repair or Replace

Understanding potential weaknesses of roofing material also requires knowledge of repair difficulties. Individual slates can be replaced normally without major disruption to the rest of the roof, but replacing flashing on a slate roof can require substantial removal of surrounding slates. If it is the substrate or a support material that has deteriorated, many surface materials such as slate or tile can be reused if handled carefully during the repair. Such problems should be evaluated at the outset of any project to determine if the roof can be effectively patched, or if it should be completely replaced.

Will the repairs be effective? Maintenance costs tend to multiply once trouble starts. As the cost of labor escalates, repeated repairs could soon equal the cost of a new roof.

The more durable the surface is initially, the easier it will be to maintain. Some roofing materials such as slate are expensive to install, but if top quality slate and flashing are used, it will last 40–60 years with minimal maintenance. Although the installation cost of the roof will be high, low maintenance needs will make the lifetime cost of the roof less expensive.

### Historical Research

In a restoration project, research of documents and physical investigation of the building usually will establish the roof's history. Documentary research should include any original plans or building specifications, early insurance surveys, newspaper descriptions, or the personal papers and files of people who owned or were involved in the history of the building. Old photographs of the building might provide evidence of missing details.

Along with a thorough understanding of any written history of the building, a physical investigation of the roofing and its structure may reveal information about the roof's construction history. Starting with an overall impression of the structure, are there any changes in the roof slope, its configuration, or roofing materials? Perhaps there are obvious patches or changes in patterning of exterior brickwork where a gable roof was changed to a gambrel, or where a whole upper story was added. Perhaps there are obvious stylistic changes in the roof line, dormers, or ornamentation. These observations could help one understand any important alteration, and could help establish the direction of further investigation.

Because most roofs are physically out of the range of careful scrutiny, the "principle of least effort" has probably limited the extent and quality of previous patching or replacing, and usually considerable evidence of an earlier roof surface remains. Sometimes the older roof will be found as an underlayment of the current exposed roof. Original roofing may still be intact in awkward places under later features on a roof. Often if there is any unfinished attic space, remnants of roofing may have been dropped and left when the roof was being built or repaired. If the configuration of the roof has been changed, some of the original material might still be in place under the existing roof. Sometimes whole sections of the roof and roof framing will have been left intact under the higher roof. The profile and/or flashing of the earlier roof may be apparent on the interior of the walls at the level of the alteration. If the sheathing or lathing appears to have survived changes in the roofing surface, they may contain evidence of the roofing systems. These may appear either as dirt marks, which provide "shadows" of a roofing material, or as nails broken or driven down into the wood, rather than pulled out during previous alterations or repairs. Wooden headers in the roof framing may indicate that earlier chimneys or skylights have been removed. Any metal ornamentation that might have existed may be indicated by anchors or unusual markings along the ridge or at other edges of the roof. This primary

evidence is essential for a full understanding of the roof's history.

Caution should be taken in dating early "fabric" on the evidence of a single item, as recycling of materials is not a mid-20th-century innovation. Carpenters have been reusing materials, sheathing, and framing members in the interest of economy for centuries. Therefore, any analysis of the materials found, such as nails or sawmarks on the wood, requires an accurate knowledge of the history of local building practices before any final conclusion can be accurately reached. It is helpful to establish a sequence of construction history for the roof and roofing materials; any historic fabric or pertinent evidence in the roof should be photographed, measured, and recorded for future reference.

During the repair work, useful evidence might unexpectedly appear. It is essential that records be kept of any type of work on a historic building, before, during, and after the project. Photographs are generally the easiest and fastest method, and should include overall views and details at the gutters, flashing, dormers, chimneys, valleys, ridges, and eaves. All photographs should be immediately labeled to insure accurate identification at a later date. Any patterning or design on the roofing deserves particular attention. For example, slate roofs are often decorative and have subtle changes in size, color, and texture, such as a gradually decreasing coursing length from the eave to the peak. If not carefully noted before a project begins, there may be problems in replacing the surface. The standard reference for this phase of the work is *Recording Historic Buildings*, compiled by Harley J. McKee for the Historic American Buildings Survey, National Park Service, Washington, D.C., 1970.

#### Replacing the Historic Roofing Material

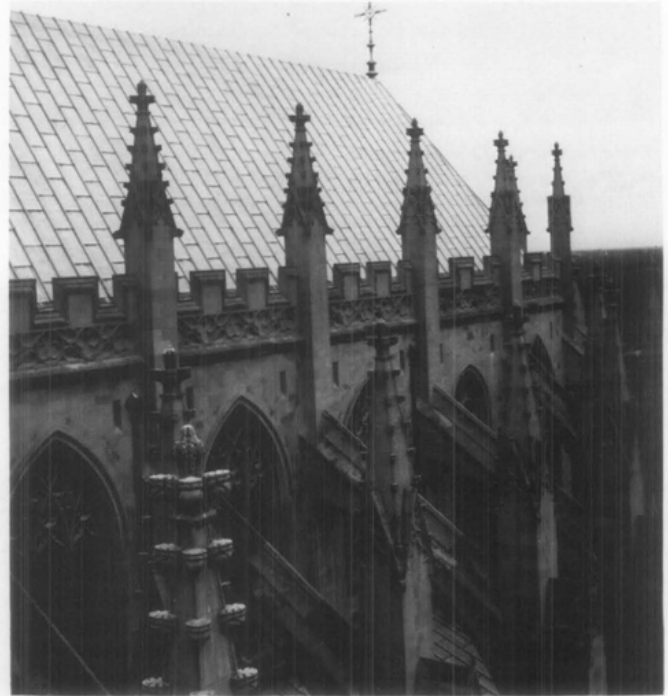
Professional advice will be needed to assess the various aspects of replacing a historic roof. With some exceptions, most historic roofing materials are available today. If not, an architect or preservation group who has previously worked with the same type material may be able to recommend suppliers. Special roofing materials, such as tile or embossed metal shingles, can be produced by manufacturers of related products that are commonly used elsewhere, either on the exterior or interior of a structure. With some creative thinking and research, the historic materials usually can be found.



*Because of the roof's visibility, the slate detailing around the dormers is important to the character of this structure. Note how the slates swirl from a horizontal pattern on the main roof to a diamond pattern on the dormer roofs and side walls. (18th and Que Streets, NW, Washington, D.C.)*

6

**Craft Practices:** Determining the craft practices used in the installation of a historic roof is another major concern in roof restoration. Early builders took great pride in their work, and experience has shown that the "rustic" or irregular designs commercially labeled "Early American" are a 20th-century invention. For example, historically, wood shingles underwent several distinct operations in their manufacture including splitting by hand, and smoothing the surface with a draw knife. In modern nomenclature, the same item would be a "tapersplit" shingle which has been dressed. Unfortunately, the rustic appearance of today's commercially available "handsplit" and re-sawn shingle bears no resemblance to the hand-made roofing materials used on early American buildings.



*Good design and quality materials for the roof surface, fastenings, and flashing minimize roofing failures. This is essential on roofs such as on the National Cathedral where a thorough maintenance inspection and minor repairs cannot be done easily without special scaffolding. However, the success of the roof on any structure depends on frequent cleaning and repair of the gutter system. (Washington, D.C., photo courtesy of John Burns, A.I.A.)*

Early craftsmen worked with a great deal of common sense; they understood their materials. For example they knew that wood shingles should be relatively narrow; shingles much wider than about 6" would split when walked on, or they may curl or crack from varying temperature and moisture. It is important to understand these aspects of craftsmanship, remembering that people wanted their roofs to be weather-tight and to last a long time. The recent use of "mother-goose" shingles on historic structures is a gross underestimation of the early craftsman's skills.

**Supervision:** Finding a modern craftsman to reproduce historic details may take some effort. It may even involve some special instruction to raise his understanding of certain historic craft practices. At the same time, it may be pointless (and expensive) to follow historic craft practices in any construction that will not be visible on the finished product. But if the roofing details are readily visible, their appearance should be based on architectural evidence or on historic prototypes. For instance, the spacing of the seams on a standing-seam metal roof will affect the building's overall scale and should therefore match the original dimensions of the seams.

Many older roofing practices are no longer performed because of modern improvements. Research and review of specific detailing in the roof with the contractor before beginning the project is highly recommended. For example, one early craft practice was to finish the ridge of a wood shingle roof with a roof "comb"—that is, the top course of one slope of the roof was extended uniformly beyond the peak to shield the ridge, and to provide some weather protection for the raw horizontal edges of the shingles on the other slope. If the "comb" is known to have been the correct detail, it should be used. Though this method leaves the top course vulnerable to the weather, a disguised strip of flashing will strengthen this weak point.

Detail drawings or a sample mock-up will help ensure that the contractor or craftsman understands the scope and special requirements of the project. It should never be assumed that the modern carpenter, slater, sheet metal worker, or roofer will know all the historic details. Supervision is as important as any other stage of the process.



*Special problems inherent in the design of an elaborate historic roof can be controlled through the use of good materials and regular maintenance. The shape and detailing are essential elements of the building's historic character, and should not be modified, despite the use of alternative surface materials. (Gamwell House, Bellingham, Washington)*

#### **Alternative Materials**

The use of the historic roofing material on a structure may be restricted by building codes or by the availability of the materials, in which case an appropriate alternative will have to be found.

Some municipal building codes allow variances for roofing materials in historic districts. In other instances, individual variances may be obtained. Most modern heating and cooking is fueled by gas, electricity, or oil—none of which emit the hot embers that historically have been the cause of roof fires. Where wood burning fireplaces or stoves are used, spark arrestor screens at the top of the chimneys help to prevent flaming material from escaping, thus reducing the number of fires that start at the roof. In most states, insurance rates have been equalized to reflect revised considerations for the risks involved with various roofing materials.

In a rehabilitation project, there may be valid reasons for replacing the roof with a material other than the original. The historic roofing may no longer be available, or the cost of obtaining specially fabricated materials may be prohibitive. But

the decision to use an alternative material should be weighed carefully against the primary concern to keep the historic character of the building. If the roof is flat and is not visible from any elevation of the building, and if there are advantages to substituting a modern built-up composition roof for what might have been a flat metal roof, then it may make better economic and construction sense to use a modern roofing method. But if the roof is readily visible, the alternative material should match as closely as possible the scale, texture, and coloration of the historic roofing material.

Asphalt shingles or ceramic tiles are common substitute materials intended to duplicate the appearance of wood shingles, slates, or tiles. Fire-retardant, treated wood shingles are currently available. The treated wood tends, however, to be brittle, and may require extra care (and expense) to install. In some instances, shingles laid with an interlay of fire-retardant building paper may be an acceptable alternative.

Lead-coated copper, terne-coated steel, and aluminum/zinc-coated steel can successfully replace tin, terne plate, zinc, or lead. Copper-coated steel is a less expensive (and less durable) substitute for sheet copper.

The search for alternative roofing materials is not new. As early as the 18th century, fear of fire cause many wood shingle or board roofs to be replaced by sheet metal or clay tile. Some historic roofs were failures from the start, based on over-ambitious and naive use of materials as they were first developed. Research on a structure may reveal that an inadequately designed or a highly combustible roof was replaced early in its history, and therefore restoration of a later roof material would have a valid precedent. In some cities, the substitution of sheet metal on early row houses occurred as soon as the rolled material became available.

Cost and ease of maintenance may dictate the substitution of a material wholly different in appearance from the original. The practical problems (wind, weather, and roof pitch) should be weighed against the historical consideration of scale, texture, and color. Sometimes the effect of the alternative material will be minimal. But on roofs with a high degree of visibility and patterning or texture, the substitution may seriously alter the architectural character of the building.

#### **Temporary Stabilization**

It may be necessary to carry out an immediate and temporary stabilization to prevent further deterioration until research can determine how the roof should be restored or rehabilitated, or until funding can be provided to do a proper job. A simple covering of exterior plywood or roll roofing might provide adequate protection, but any temporary covering should be applied with caution. One should be careful not to overload the roof structure, or to damage or destroy historic evidence or fabric that might be incorporated into a new roof at a later date. In this sense, repairs with caulking or bituminous patching compounds should be recognized as potentially harmful, since they are difficult to remove, and at their best, are very temporary.

#### **Precautions**

The architect or contractor should warn the owner of any precautions to be taken against the specific hazards in installing the roofing material. Soldering of sheet metals, for instance, can be a fire hazard, either from the open flame or from overheating and undetected smoldering of the wooden substrate materials.

Thought should be given to the design and placement of any modern roof appurtenances such as plumbing stacks, air vents, or TV antennas. Consideration should begin with the placement of modern plumbing on the interior of the building, otherwise a series of vent stacks may pierce the roof membrane at various spots creating maintenance problems as well as aesthetic ones. Air handling units placed in the attic space will require vents which, in turn, require sensitive design. Incorporating these in unused chimneys has been very successful

in the past.

Whenever gutters and downspouts are needed that were not on the building historically, the additions should be made as unobtrusively as possible, perhaps by painting them out with a color compatible with the nearby wall or trim.

### Maintenance

Although a new roof can be an object of beauty, it will not be protective for long without proper maintenance. At least twice a year, the roof should be inspected against a checklist. All changes should be recorded and reported. Guidelines should be established for any foot traffic that may be required for the maintenance of the roof. Many roofing materials should not be walked on at all. For some—slate, asbestos, and clay tile—a self-supporting ladder might be hung over the ridge of the roof, or planks might be spanned across the roof surface. Such items should be specifically designed and kept in a storage space accessible to the roof. If exterior work ever requires hanging scaffolding, use caution to insure that the anchors do not penetrate, break, or wear the roofing surface, gutters, or flashing.

Any roofing system should be recognized as a membrane that is designed to be self-sustaining, but that can be easily damaged by intrusions such as pedestrian traffic or fallen tree branches. Certain items should be checked at specific times. For example, gutters tend to accumulate leaves and debris during the spring and fall and after heavy rain. Hidden gutter screening both at downspouts and over the full length of the gutter could help keep them clean. The surface material would require checking after a storm as well. Periodic checking of the underside of the roof from the attic after a storm or winter freezing may give early warning of any leaks. Generally, damage from water or ice is less likely on a roof that has good flashing on the outside and is well ventilated and insulated on the inside. Specific instructions for the maintenance of the different roof materials should be available from the architect or contractor.

### Summary

The essential ingredients for replacing and maintaining a historic roof are:

- Understanding the historic character of the building and being sympathetic to it.
- Careful examination and recording of the existing roof and any evidence of earlier roofs.
- Consideration of the historic craftsmanship and detailing and implementing them in the renewal wherever visible.
- Supervision of the roofers or maintenance personnel to assure preservation of historic fabric and proper understanding of the scope and detailing of the project.
- Consideration of alternative materials where the original cannot be used.
- Cyclical maintenance program to assure that the staff understands how to take care of the roof and of the particular trouble spots to safeguard.

With these points in mind, it will be possible to preserve the architectural character and maintain the physical integrity of the roofing on a historic building.

This Preservation Brief was written by Sarah M. Sweetser, Architectural Historian, Technical Preservation Services Division. Much of the technical information was based upon an unpublished report prepared under contract for this office by John G. and Diana S. Waite. Some of the historical information was from Charles E. Peterson, FAIA, "American Notes," *Journal of the Society of Architectural Historians*.

The illustrations for this brief not specifically credited are from the files of the Technical Preservation Services Division.

This publication was prepared pursuant to Executive Order 11593, "Protection and Enhancement of the Cultural Environment," which directs the Secretary of the Interior to "develop and make available to Federal agencies and State and local governments information concerning professional methods and tech-



Decorative features such as cupolas require extra maintenance. The flashing is carefully detailed to promote run-off, and the wooden ribbing must be kept well-painted. This roof surface, which was originally tin plate, has been replaced with lead-coated copper for maintenance purposes. (Lyndhurst, Tarrytown, New York, photo courtesy of the National Trust for Historic Preservation)

niques for preserving, improving, restoring and maintaining historic properties." The Brief has been developed under the technical editorship of Lee H. Nelson, AIA, Chief, Preservation Assistance Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Comments on the usefulness of this information are welcome and can be sent to Mr. Nelson at the above address. This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the author and the National Park Service are appreciated. February 1978.

Additional readings on the subject of roofing are listed below.

- Boaz, Joseph N., ed. *Architectural Graphic Standards*. New York: John Wiley and Sons, Inc., 1970. (Modern roofing types and detailing)
- Briggs, Martin S. *A Short History of the Building Crafts*. London: Oxford University Press, 1925. (Descriptions of historic roofing materials)
- Bulletin of the Association for Preservation Technology*. Vol. 2 (nos. 1-2) 1970. (Entirely on roofing)
- Holstrom, Ingmar; and Sandstrom, Christina. *Maintenance of Old Buildings: Preservation from the Technical and Antiquarian Standpoint*. Stockholm: National Swedish Building Research, 1972. (Contains a section on roof maintenance problems)
- Insall, Donald. *The Care of Old Buildings Today*. London: The Architectural Press, 1972. (Excellent guide to some problems and solutions for historic roofs)
- Labine, R.A. Clem. "Repairing Slate Roofs." *The Old House Journal* 3 (no. 12, Dec. 1975): 6-7.
- Lefler, Henry. "A Birds-eye View." *Progressive Architecture*. (Mar. 1977), pp. 88-92. (Article on contemporary sheet metal)
- National Slate Association. *Slate Roofs*. Reprint of 1926 edition, now available from the Vermont Structural Slate Co., Inc., Fairhaven, VT 05743. (An excellent reference for the many designs and details of slate roofs)
- Peterson, Charles E. "Iron in Early American Roofs." *The Smithsonian Journal of History* 3 (no. 3). Edited by Peter C. Welsh. Washington, D.C.: Smithsonian Institution, 1968, pp. 41-76.
- Waite, Diana S. *Nineteenth Century Tin Roofing and its Use at Hyde Hall*. Albany: New York State Historic Trust, 1971.
- . "Roofing for Early America." *Building Early America*. Edited by Charles E. Peterson. Radnor, Penn.: Chilton Book Co., 1976.

**United States Department of the Interior  
National Park Service**

**National Register of Historic Places  
Inventory—Nomination Form**

For NPS use only  
received **AUG 1 1984**  
date entered **AUG 30 1984**

See instructions in *How to Complete National Register Forms*  
Type all entries—complete applicable sections

**1. Name**

historic First United Methodist Church of Columbia  
and/or common Same

**2. Location**

street & number 222 W. <sup>7th</sup> Seventh Street N/A not for publication  
city, town Columbia N/A vicinity of  
state Tennessee code 047 county Maury code 119

**3. Classification**

|   |  |   |  |   |
|---|--|---|--|---|
| <b>Category</b>                                 | <b>Ownership</b>                               | <b>Status</b>                                       | <b>Present Use</b>                     |   |
| <input type="checkbox"/> district               | <input type="checkbox"/> public                | <input checked="" type="checkbox"/> occupied        | <input type="checkbox"/> agriculture   | <input type="checkbox"/> museum               |
| <input checked="" type="checkbox"/> building(s) | <input checked="" type="checkbox"/> private    | <input type="checkbox"/> unoccupied                 | <input type="checkbox"/> commercial    | <input type="checkbox"/> park                 |
| <input type="checkbox"/> structure              | <input type="checkbox"/> both                  | <input type="checkbox"/> work in progress           | <input type="checkbox"/> educational   | <input type="checkbox"/> private residence    |
| <input type="checkbox"/> site                   | <b>Public Acquisition</b>                      | <b>Accessible</b>                                   | <input type="checkbox"/> entertainment | <input checked="" type="checkbox"/> religious |
| <input type="checkbox"/> object                 | <input checked="" type="checkbox"/> in process | <input checked="" type="checkbox"/> yes: restricted | <input type="checkbox"/> government    | <input type="checkbox"/> scientific           |
|   | <input type="checkbox"/> being considered      | <input type="checkbox"/> yes: unrestricted          | <input type="checkbox"/> industrial    | <input type="checkbox"/> transportation       |
|   |  | <input type="checkbox"/> no                         | <input type="checkbox"/> military      | <input type="checkbox"/> other:               |

**4. Owner of Property**

name Bishop Edward L. Tullis  
street & number Scarritt College  
city, town Nashville N/A vicinity of state Tennessee

**5. Location of Legal Description**

courthouse, registry of deeds, etc. Maury County Courthouse  
street & number Public Square  
city, town Columbia state Tennessee

**6. Representation in Existing Surveys**

title Maury County Survey has this property been determined eligible?  yes  no  
date 1983  federal  state  county  local  
depository for survey records Tennessee Historical Commission  
city, town Nashville state Tennessee

## 7. Description

|  |                                       |   |   |
|--|---------------------------------------|---|---|
| <b>Condition</b>                         |                                       | <b>Check one</b>                            | <b>Check one</b>                                  |
| <input type="checkbox"/> excellent       | <input type="checkbox"/> deteriorated | <input type="checkbox"/> unaltered          | <input checked="" type="checkbox"/> original site |
| <input type="checkbox"/> good            | <input type="checkbox"/> ruins        | <input checked="" type="checkbox"/> altered | <input type="checkbox"/> moved                    |
| <input checked="" type="checkbox"/> fair | <input type="checkbox"/> unexposed    |   | date _____  |

### Describe the present and original (if known) physical appearance

Situated on the north side of West Seventh Street a block and a half west of the Maury County Courthouse, the First Methodist Church of Columbia is the best example of Romanesque Revival ecclesiastical architecture of Maury County and one of the finest in South Central Tennessee. The massive brick church, built in 1875 by Anthony Gholson after a plan by architect W. K. Dobson, is one of the largest and most prominent buildings in downtown Columbia.

The church is a large rectangular brick hall church with flanking entrance towers on the south elevation. It is constructed of a pale red brick, laid in common bond for the lower courses and stretcher bond above. The building rests atop a dressed stone water table on a foundation of rough-faced coursed ashlar cut limestone, and is topped with a steep gabled roof of standing-seam tin.

The main elevation of the church faces south to West Seventh (Market) Street. This facade is flanked by the two square towers. The entry tower at the southeast corner is only one story high and has a gabled roof; the southwestern tower is three stories high, strengthened by corner buttresses and topped with a tall pyramidal tin shingle roof. The upper two levels feature paired, arched openings. The second story openings are filled in with brick and the third story arches feature wide louvered panels. This tower contains an 1800 pound bell cast in Cincinnati; the bell is supposedly mounted in a precarious manner and is not used today. At the base of each tower heavy six-panel wooden double-leaf doors with rounded arch tops provide access to the sanctuary; they are reached by coursed stone steps.

Behind the towers the main church walls, supported by brick wall buttresses, rise to the steep gable peak of the church sanctuary. The main feature of this front is the large rose window in the center of the wall. This window memorializes President James K. Polk, and local tradition holds that the outside wooden frame which forms a twelve-pointed star pattern is constructed from boards taken from Polk's old home, which stood two blocks to the west. Higher on the wall is a small opening framed by a six-pointed star with the date of the church's construction, "1875". At the southwest corner, above the entry tower, a octagonal bartizon tower projects from the corner. A corbel table of dogtooth brick follows the eaves of the roof below a molded wooden cornice, and is also featured on the two towers. A small enclosed one-story shed section with three rounded arch stained glass windows was added to the front of the church in the late 1960s; this section is constructed of a pale brick matching the original structure, and is not recognizable from the street as an addition. At the top of the high gable peak is a simple wooden finial topped with a wooden ball.

The east and west sides of the sanctuary are each three bays deep. The bays are separated by plain brick wall buttresses and the brick corbel table and wooden cornice continue along both sides. In the center of each bay is a stained glass memorial window; the windows are set in rounded arch openings under radiating brick voussoirs with keystones and dressed stone sills. The double windows are separated by molded wooden tracery. On the east side, stone steps lead down to double-leaf diagonal batten doors opening into a basement or crypt. On the west side, the lower part of the rear bay is covered in part by an entrance to a modern education building addition.

**United States Department of the Interior  
National Park Service**

**National Register of Historic Places  
Inventory—Nomination Form**

First United Methodist Church of Columbia  
Continuation sheet

Item number 7

For NPS use only  
received  
date entered

Page 2

The sanctuary was extensively remodeled in late 1967 and early 1968; at this time the original pews and chancel furniture were replaced, and the rear shed section was added to provide for additional space. The sanctuary does retain its original stained-glass windows and cove ceiling.

The building is in good shape overall, despite being sandblasted about 1970. There has been some damage from the intrusion of water at the top of the southwest tower.

A Sunday School at the immediate rear of the building was added in 1904 and remodeled in 1915; it is included in the nomination as a contributing part of the building. This section is two stories tall and is topped with a high hipped roof of composition shingles. At least five other major buildings and additions have been constructed along or joining the sanctuary, but are excluded from the nomination, as they are not integral parts of the historic structure and lack historical significance or architectural merit.

# 8. Significance

| Period  | Areas of Significance—Check and justify below    |   |   |  |
|---|--|---|---|--|
| <input type="checkbox"/> prehistoric          | <input type="checkbox"/> archeology-prehistoric  | <input type="checkbox"/> community planning     | <input type="checkbox"/> landscape architecture | <input checked="" type="checkbox"/> religion |
| <input type="checkbox"/> 1400-1499            | <input type="checkbox"/> archeology-historic     | <input type="checkbox"/> conservation           | <input type="checkbox"/> law                    | <input type="checkbox"/> science             |
| <input type="checkbox"/> 1500-1599            | <input type="checkbox"/> agriculture             | <input type="checkbox"/> economics              | <input type="checkbox"/> literature             | <input type="checkbox"/> sculpture           |
| <input type="checkbox"/> 1600-1699            | <input checked="" type="checkbox"/> architecture | <input type="checkbox"/> education              | <input type="checkbox"/> military               | <input type="checkbox"/> social/humanitarian |
| <input type="checkbox"/> 1700-1799            | <input type="checkbox"/> art                     | <input type="checkbox"/> engineering            | <input type="checkbox"/> music                  | <input type="checkbox"/> theater             |
| <input checked="" type="checkbox"/> 1800-1899 | <input type="checkbox"/> commerce                | <input type="checkbox"/> exploration/settlement | <input type="checkbox"/> philosophy             | <input type="checkbox"/> transportation      |
| <input type="checkbox"/> 1900-                | <input type="checkbox"/> communications          | <input type="checkbox"/> industry               | <input type="checkbox"/> politics/government    | <input type="checkbox"/> other (specify)     |
|   |  | <input type="checkbox"/> invention              |   |  |

**Specific dates** 1873-76 **Builder/Architect** W.K. Dobson, Architect; Anthony Gholson, builder

**Statement of Significance (in one paragraph)**

The First Methodist Church in Columbia, Tennessee is nominated under National Register criteria A and C for its local significance to Columbia and Maury County in ecclesiastical architecture and for its associations with the establishment and growth of Methodism in Columbia. The 1876 brick building reflects the transition between the Gothic and Romanesque Revival styles of architecture, and is important in tracing the evolution of the styles. The First Methodist Church is the mother church of the city; the congregation was organized in 1820, and a Methodist church has stood on the present site since 1836.

Soon after settlement began, preachers came to the frontier. On September 14, 1807, the Western Conference of the Methodist Episcopal Church created the Duck River Circuit, and appointed Zadock Thackston as the first preacher. Thackston arrive in Maury County two months prior to its creation in November of the same year. Methodists in the area organized class meetings and camp meetings, summer affairs of continuous preaching and fellowship. In 1812, Tennessee Methodists organized the Tennessee Conference of the Methodist Episcopal Church at Fountain Head, Tennessee, near the present community of Portland. The Conference had sixty-one preachers and 22,699 members.

In 1820, Columbia citizens heard Thomas Madden preach at a camp meeting at Peter's Camp Ground and arranged for the Conference to send him to Columbia as minister. During his pastorate, a frame church was erected on South Main Street near Ninth. According to Nathan Vaught, who worked on the church, "The Church building was to be 50 ft. long and 35 ft. wide with a gallery across one end."

By 1836, the congregation had outgrown the frame building, only fifteen years after their organization. They purchased a lot at Market and High from David Looney for \$1,000. Vaught was contractor in charge of the carpentry work, and again described the new brick building: --"The audience room measures 60 ft. by 44 ft. inside and 22 ft. to the ceiling, with a gallery across one end extending a short distance on either side." The church was described as a handsome structure with a large basement for a Sunday School.

In 1851 the Methodists established a female college in Columbia, which operated until 1863 when Federal troops burned all the frame buildings and confiscated Corinthian Hall for a hospital. A second school, Halycon Hall, opened in 1854, and also was closed in 1863.

During the Civil War, the Methodists continued to meet, though on a limited basis. Immediately after the war the Tennessee Conference appointed Confederate veteran J. P. McFerrin for a stint as pastor. He was returned to Columbia in 1873, and was minister when, on the morning of April 4, 1874, a workman repairing the roof accidentally set the church afire, and it was destroyed. According to the local paper, "its steeple tottered and fell and its bell was silenced." The congregation met the next night and began plans for a new church on the same site.

## 9. Major Bibliographical References

Garrett, Jill. "The New Methodist Church", (Columbia) Daily Herald Supplement, 15 Sept., 1973  
Jackson, Mrs. John Blair, et al. History of First Methodist Church, Columbia, TN  
1820-1984. Columbia: 1984.

## 10. Geographical Data

Acree of nominated property less than 1 acre

Quadrangle name Columbia, TN

Quadrangle scale 1:24,000

UTM References

|   |           |               |                |   |      |         |          |
|---|-----------|---------------|----------------|---|------|---------|----------|
| A | <u>16</u> | <u>496710</u> | <u>3941080</u> | B |      |         |          |
|   | Zone      | Easting       | Northing       |   | Zone | Easting | Northing |
| C |           |               |                | D |      |         |          |
| E |           |               |                | F |      |         |          |
| G |           |               |                | H |      |         |          |

**Verbal boundary description and justification** Because of the amount of alterations and additions made to this building and site, the nominated property includes only the land upon which the building sits.

**List all states and counties for properties overlapping state or county boundaries**

|       |            |      |            |        |            |      |            |
|-------|------------|------|------------|--------|------------|------|------------|
| state | <u>N/A</u> | code | <u>N/A</u> | county | <u>N/A</u> | code | <u>N/A</u> |
| state | <u>N/A</u> | code | <u>N/A</u> | county | <u>N/A</u> | code | <u>N/A</u> |

## 11. Form Prepared By

name/title Richard Quin, Historic Preservation Planner  
organization South Central TN Development District date 4-84  
street & number P. O. Box 1346 telephone (615) 381-2040  
city or town Columbia state Tennessee

## 12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national  state  local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

Deputy  
State Historic Preservation Officer signature Herbert E. Huger  
title Executive Director, Tennessee Historical Commission date 7/24/84

For NPS use only

I hereby certify that this property is included in the National Register

Entered in the  
National Register

date 8/30/84

for Delores Byer  
Keeper of the National Register

Attest:

date

Chief of Registration

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Inventory—Nomination Form

First United Methodist Church of Columbia

Continuation sheet

Item number 8

Page 2

For NPS use only

received

date entered

The construction of the new church is well documented, as Alfred Horsely, a member of the church, was editor of the weekly Columbia Herald and Mail. In August 1875, W. K. Dodson was announced as the architect for the new church. Anthony Gholson began the foundation and brick work in March, 1876, and completed it six months later. Nathan Vaught once again recorded details of the construction: "the foundation of the building is of the following dimensions, the audience room is 70 ft. long and 41 ft. wide inside, and 28 ft. 8 in. to the ceiling. The front is put up in the modern style, with two towers one of which is one story high, the other is three stories high to accomodate a fine bell and a spire to rest on."

In April, 1876, the new cornerstone was laid in an impressive ceremony. Members of the congregation and friends met at the Masonic Hall and marched to the new church. The procession was headed by the Columbia Helicon Silver Band, followed by two ministers, Judge John V. Wright, the speaker for the day, the Sunday School teachers and children. The Blue Lodge of Free and Accepted Masons, and Knights Templar in full regalia. At the church, places of honor at the corners of the building were given to a Mrs. Porter, a long-time member of the church, and the 76-year old Nathan Vaught, builder of the 1837 church. Miss Ida Jamison, organist, played for the group; the Rev. John Hamilton read a prayer, and the Rev. Dr. H. A. Jones of the Cumberland Presbyterian Church read the lesson, followed by Judge Wright's address. Articles were presented for deposit in the cornerstone, including two one-hundred dollar Confederate interest-bearing notes, presented by Edward Kuhn, who gave them so that "in coming ages when the building would crumble and fall under the weight of rolling years, the people might know by these mementoes that a people had suffered and fallen in a cause they believed to be just." As the band played the grand "Old Hundredth", the ceremony ended and the crowd dispersed. Jesse and Gus Powell painted the roof of the building in July; Sherrill and Sons plastered the walls, and one thousand dollars was raised for carpet by August.

Memorial windows to honor Dr. A. W. Smith, Sarah Ann Hamilton, the Revs. A. L. P. Green and Isaac Milner, Dr. Thomas Maddin, and the Children of a Dr. Young. A large rose window in memory of James K. Polk was placed high on the south wall in October, 1876. In the center is a likeness of Polk with the inscription "James K. Polk, 10th President of the United States." (Polk was eleventh president, and joined the Methodist church only on his deathbed.) Over the center of the window is a white dove descending; on the right a sword and scales of justice; on the left a square and compass; and below an open Bible. Local folklore holds that the wooden frame was made from lumber from Polk's old house, which stood a block and a half to the west, but this story cannot be confirmed. The stained-glass windows drew protest; old members decried the windows as the work of "new-fangled Methodists." But the controversy was settled when the Rev. J. B. McFerrin spoke out in favor of the Polk window.

Nathan Vaught led the subscription for the new bell, which arrived in August 1877 and was placed in a temporary housing in front of the church. Members of the congregation took turns ringing the bell all night long! The bell was cast in Cincinnati and weighed 1,800 pounds. With the aid of the tackle of Columbia engineer F. M. Vaughn, the bell was placed in the tower in April 1878. Sadly, the Methodists seldom if ever ring the bell today.

**United States Department of the Interior  
National Park Service**

**National Register of Historic Places  
Inventory—Nomination Form**

For NPS use only

received

date entered

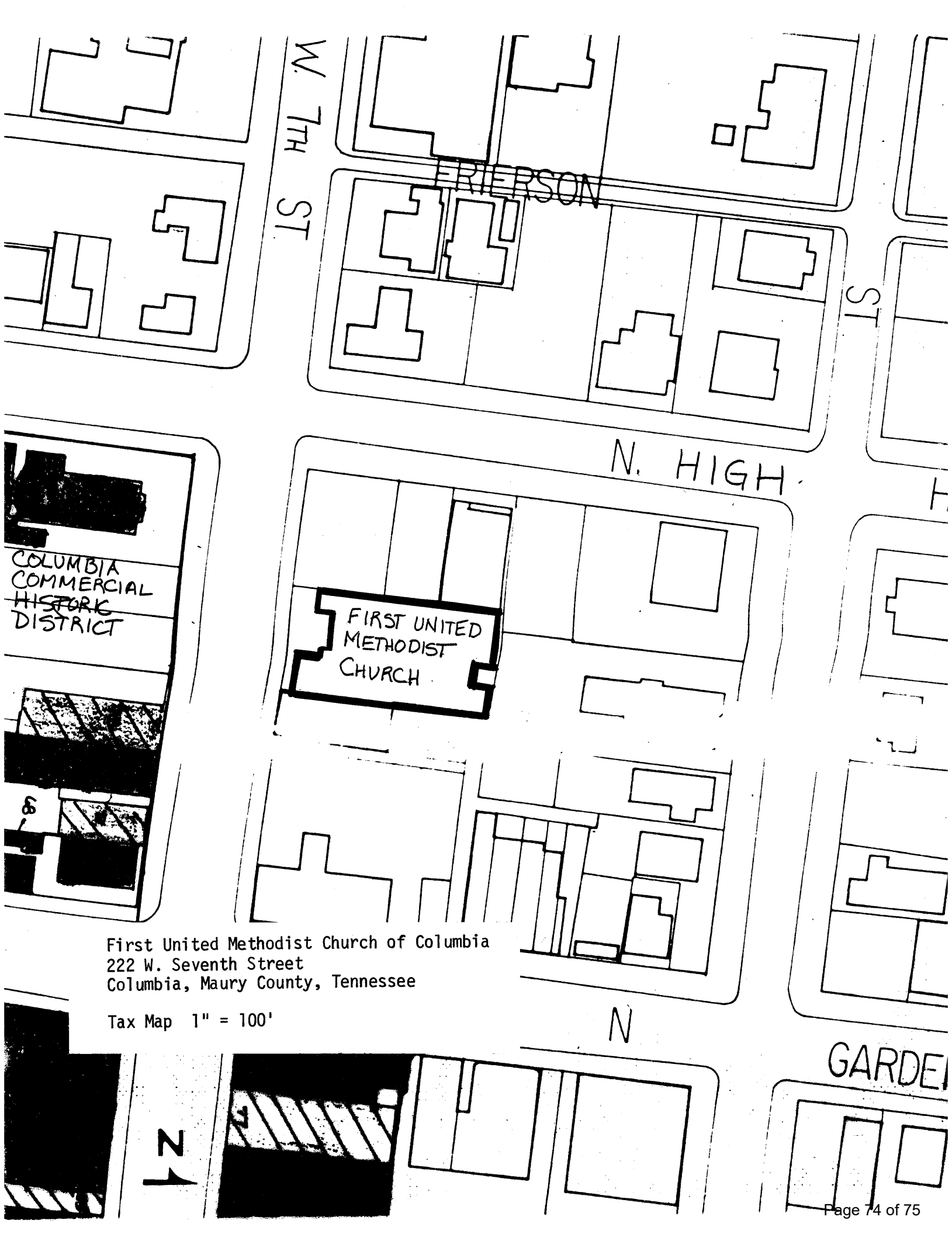
Continuation sheet First United Methodist Church of Columbia Item number 8

Page 3

The congregation has grown steadily over the years. In 1859, 204 members were recorded; in 1880 the number was 363; in 1904, 450; and in 1920, the number was 873. By 1945 the congregation had grown to 1,346, and in 1983 the congregation numbered 1,364 members. It should be noted that three other Methodist Churches were established in Columbia during this time. The name of the church was also evolved. In 1820 the church is simply recorded as the "Methodist Church." In 1845, after the Southern Church was formed, the title became "Methodist Episcopal Church, South", which was changed in 1885 to the "First Methodist Episcopal Church, South." After union with the other branches of the church in 1939, the word "South" was dropped. In 1968, after consolidation with the United Brethren, the church was renamed "The First United Methodist Church of Columbia."

Additions have continuously been made to the church. In 1904 a Sunday School annex was constructed on the northeast side of the church; this section was remodeled in 1915 and again in 1941, when a second floor was added. The parsonage on North High Street was razed and replaced with a modern Education building. The interior of the sanctuary was renovated and given its present appearance in late 1967 and early 1968. The most recent addition is the large Fellowship Hall to the west of the sanctuary, a large steeply gabled brick structure which replicates the cornice and some details of the original structure. It was completed in 1982 during the pastorate of the Rev. Robert H. Lewis, Jr., and was dedicated on November 28th of that year.

Architecturally, the building exhibits the characteristics of two revival styles of architecture. The steep gable, traceried stained-glass windows, and pointed arch window frames reflect the lingering Gothic Revival, and the round headed doors, dogtooth brick cornices, and doubled rounded arch bell louver windows in the west tower convey the influence of the prevailing Romanesque Revival. Although the interior has been extensively remodeled, it retains its original plan and features an interesting ceiling and the fine stained-glass memorial windows. The additions to the building are quite extensive, but do not intrude on the original 1876 church building.



W. 7TH ST

RIPLEYSON

N. HIGH

S

H

COLUMBIA  
COMMERCIAL  
HISTORIC  
DISTRICT

FIRST UNITED  
METHODIST  
CHURCH

First United Methodist Church of Columbia  
222 W. Seventh Street  
Columbia, Maury County, Tennessee

Tax Map 1" = 100'

N

N

GARDE



# Historic Zoning Commission Certificate of Appropriateness

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

**PROJECT LOCATION:** 421 W 7th St  
**HISTORIC DISTRICT:** 7th Street

|         | OWNER INFORMATION: | APPLICANT INFORMATION: |
|---------|--------------------|------------------------|
| NAME    | Maybe Holdings LLC | Needle and Grain       |
| ADDRESS | 808 S High St      | 1001 Hillcrest Avenue  |
|         | Columbia, TN 38401 | Columbia, TN 38401     |
| PHONE   |                    | (931) 797-4348         |
| EMAIL   |                    | BRYSONLEACH@GMAIL.COM  |

| NEW CONSTRUCTION:                                   | EXTERIOR ALTERATION:                               | DEMOLITION:                                  |
|---|--|--|
| <input type="checkbox"/> Primary Structure/Addition | <input type="checkbox"/> Facade                    | <input type="checkbox"/> Primary Structure   |
| <input type="checkbox"/> Accessory Structure        | <input type="checkbox"/> Accessory Structure       | <input type="checkbox"/> Accessory Structure |
| <input type="checkbox"/> Garage/Carport             | <input type="checkbox"/> Garage/Carport            | <input type="checkbox"/> Garage/Carport      |
| <input checked="" type="checkbox"/> New Sign        | <input type="checkbox"/> Revision to Existing Sign | <input type="checkbox"/> Sign                |
| <input type="checkbox"/> _____                      | <input type="checkbox"/> _____                     | <input type="checkbox"/> _____               |

**CONDITIONS OF APPROVAL:** Approved as submitted.

- Black Acrylic 3/8" thick wall signage attached to front wall of situated to the right of the entrance door along the entablature of the parapet wall above the tenant space.
- Removal of non-conforming cabinet
- Size is limited to 26.25-sf as submitted
- Note: Wall signage on any one façade is limited to 40-sq or 90-sf per building



**UNAPPROVED/SPECIFICALLY EXCLUDED WORK:**

DATE OF HISTORIC ZONING COMMISSION ADMINISTRATIVE **APPROVAL**/DENIAL: 10/23/2025

Autumn Potter

HISTORIC ZONING COMMISSION CHAIR

Robert Archibald

ZONING ADMINISTRATOR

Per §13-7-409 of the Tennessee Code Annotated: Anyone who may be aggrieved by any final order or judgment of the Historic Zoning Commission may have such order or judgment reviewed by the courts by the procedure of statutory certiorari, as provided in Tennessee Code Annotated Title 27, Chapter 8.