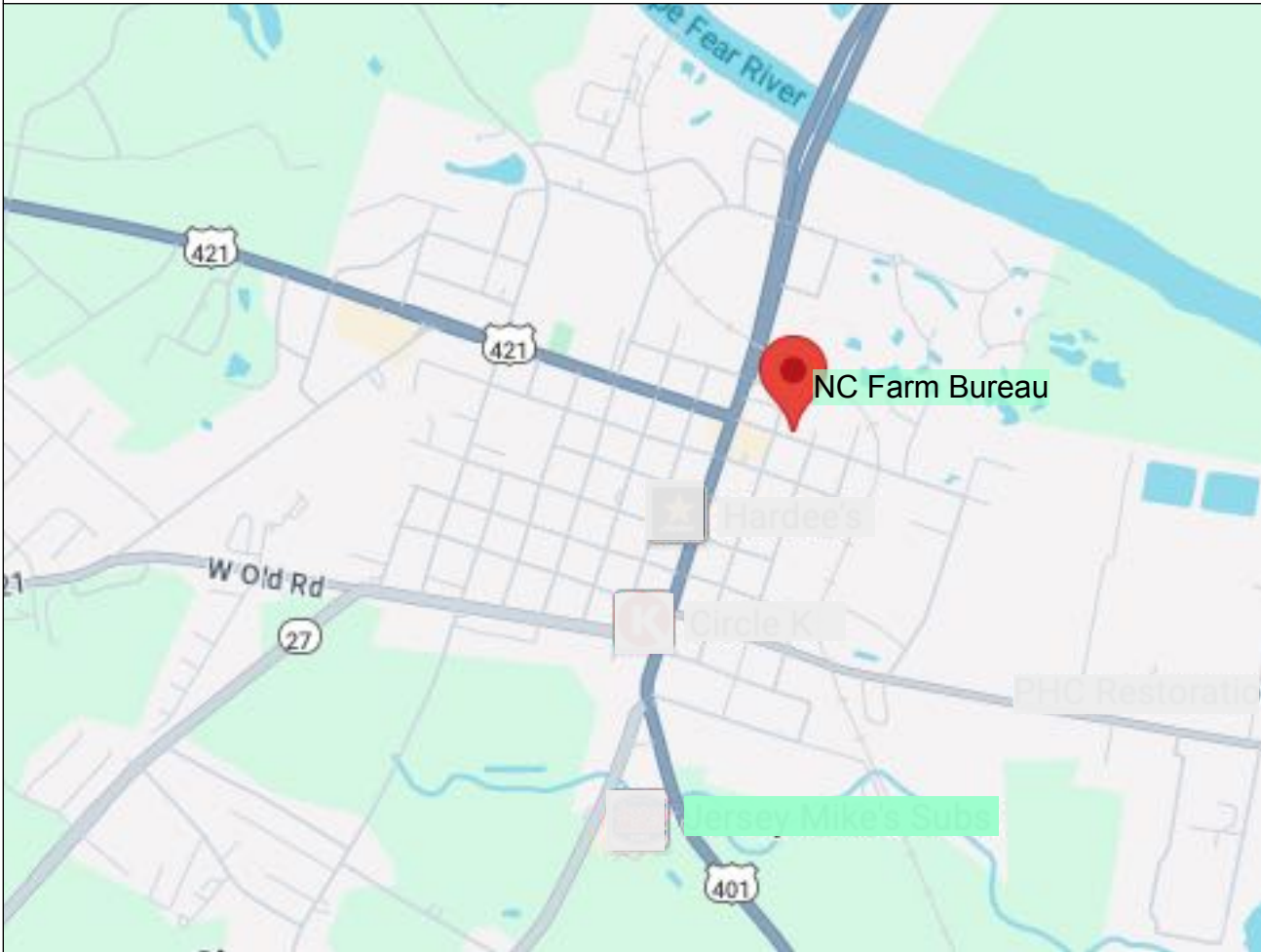


NC FARM BUREAU

Harnett County, 105 E. Front Street  
Lillington, North Carolina 27546

VICINTY MAP



PROJECT DIRECTORY

**OWNER:**  
HARNETT COUNTY FARM BUREAU  
P.O. BOX 369  
LILLINGTON, NC 27546  
910.891.6837  
CONTACT: SHERRIE BYRD  
sherriebyrd@gmail.com

**ARCHITECT:**  
LINEBERRY ARCHITECTURAL GROUP  
P.O. BOX 37456  
RALEIGH, NC 27627  
T: 919.616.1046  
CONTACT: TONY LINEBERRY  
tlineberry@lineberrygroup.com

**STRUCTURAL ENGINEER:**  
DENIS L. LAPAN, PE  
P.O. BOX 2285  
CHAPEL HILL, NC 27515  
T: 919.608.5128  
CONTACT: DEAN LAPAN  
dean@rogerslapan.com

**PLUMBING/MECHANICAL/ELECTRICAL:**  
ENGITECTURE CONSULTING ENGINEERS  
1515 MOCKINGBIRD LANE, SUITE 7108  
CHARLOTTE, NC 28209  
T: 704.287.2193  
CONTACT: GREG WILEY  
greg.wiley@engitecture.com

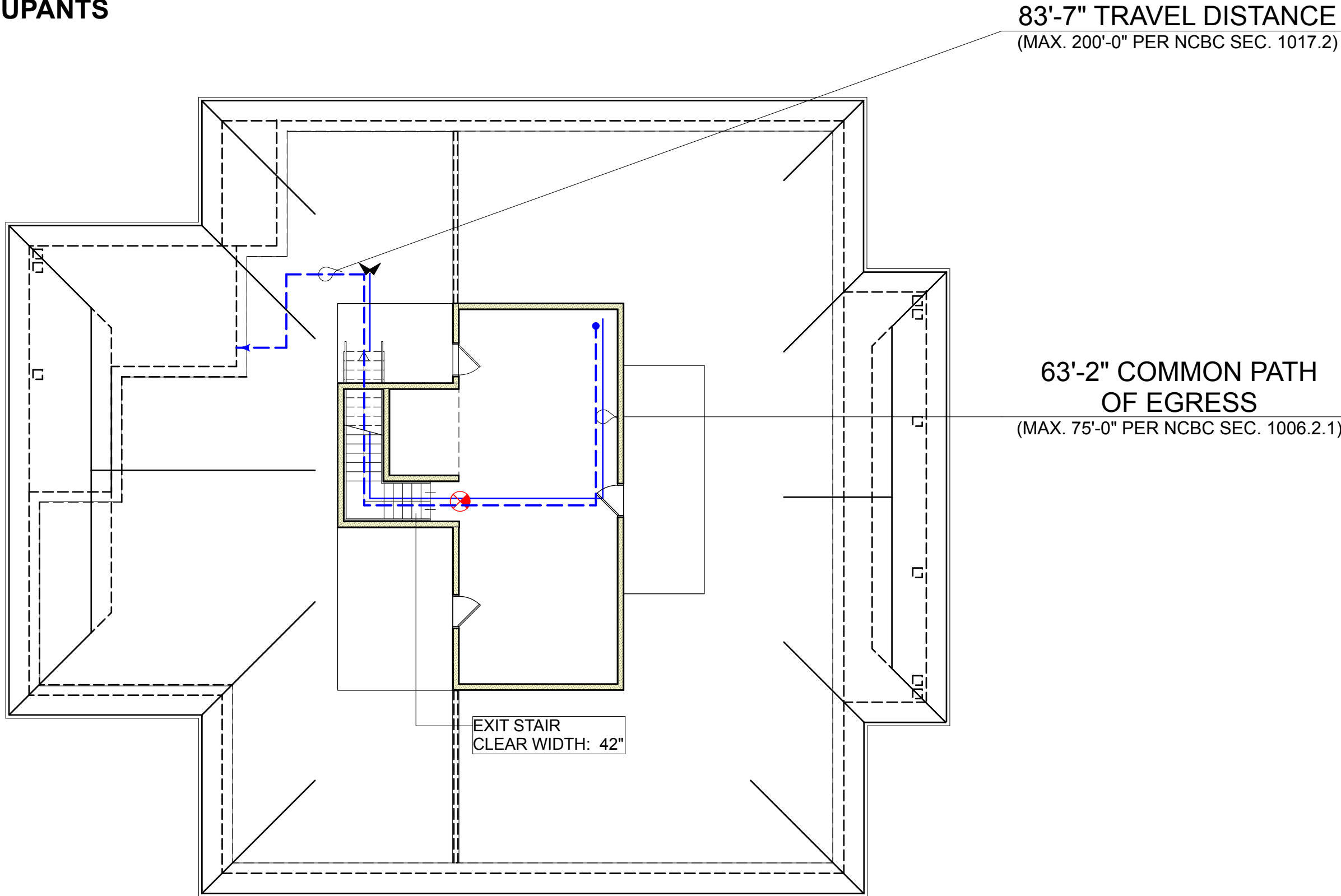
**CIVIL ENGINEER:**  
CURRY ENGINEERING GROUP  
205 S. FUQUAY AVE  
FUQUAY-VARINA, NC 27526  
T: 7919.880.9857  
CONTACT: DON CURRY  
don@curryeng.com

LIFE SAFETY PLAN

EXIT SIGN  
FIRE EXTINGUISHER  
POINT WHERE TWO SEPARATE & DISTINCT PATHS OF EGRESS TRAVEL TO TWO EXITS ARE AVAILABLE  
Scale: 3/32" = 1'-0"

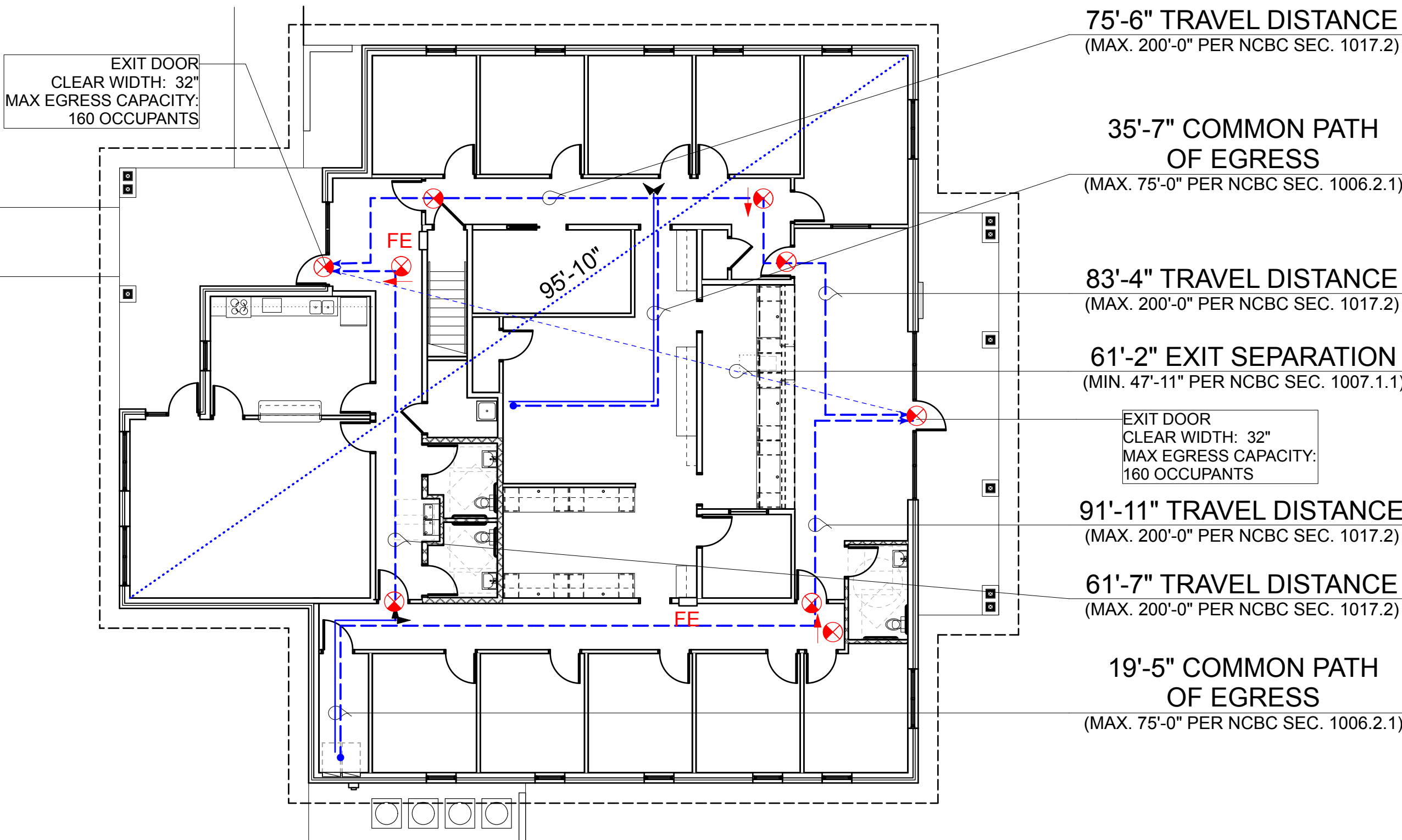
SECOND FLOOR

BUSINESS OCCUPANCY  
652 SF @ 100 GROSS =  
7 OCCUPANTS



FIRST FLOOR

BUSINESS OCCUPANCY  
4,715 SF @ 100 GROSS =  
48 OCCUPANTS



LIST OF DRAWINGS:

DATE	DRAWING NAME
6/3/25	T-1 TITLE SHEET
6/3/25	T-2 CODE SUMMARY

CIVIL DRAWINGS:

UNDER SEPARATE PERMIT

STRUCTURAL DRAWINGS:

5/14/25	S-0	STRUCTURAL NOTES
5/14/25	S-1	FOUNDATION PLAN
5/14/25	S-2	STRUCTURAL DETAILS
5/14/25	S-3	UPPER LEVEL FRAMING PLAN
5/14/25	S-4	ROOF FRAMING PLAN

ARCHITECTURAL DRAWINGS:

6/3/25	A-1	FLOOR PLAN
6/3/25	A-2	ATTIC FLOOR PLAN
6/3/25	A-3	REFLECTED CEILING PLAN
6/3/25	A-4	ROOF PLAN
6/3/25	A-5	FINISH PLAN
6/3/25	A-6	EXTERIOR ELEVATIONS
6/3/25	A-7	EXTERIOR ELEVATIONS
6/3/25	A-8	BUILDING SECTIONS
6/3/25	A-9	WALL SECTIONS
6/3/25	A-10	WALL SECTIONS
6/3/25	A-11	WALL SECTIONS
6/3/25	A-12	ENLARGED PLANS & INTERIOR ELEVATIONS
6/3/25	A-13	DOOR & WINDOW SCHEDULE & ELEVATIONS
6/3/25	A-14	CSR MILLWORK DETAILS
6/3/25	A-15	CSR MILLWORK DETAILS
6/3/25	A-16	DETAILS
6/3/25	A-17	DETAILS

PLUMBING DRAWINGS:

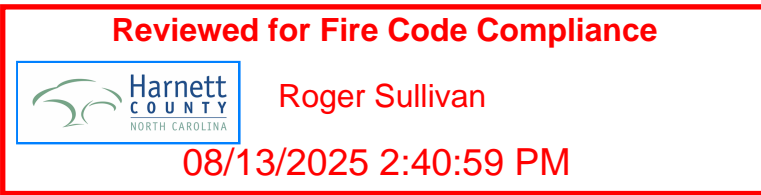
5/15/25	P-1	NOTES & ABBREVIATIONS- PLUMBING
5/15/25	P-2	FIRST FLOOR PLAN- SANITARY & VENT
5/15/25	P-3	FIRST FLOOR PLAN- DOMESTIC WATER
5/15/25	P-4	ATTIC FLOOR PLAN- PLUMBING
5/15/25	P-5	DETAILS- PLUMBING

MECHANICAL DRAWINGS:

5/15/25	M-1	MECHANICAL LEGENDS & SCHEDULES
5/15/25	M-2	SPECIFICATIONS- MECHANICAL
5/15/25	M-3	DETAILS- MECHANICAL
5/15/25	M-4	FIRST FLOOR PLAN- MECHANICAL
5/15/25	M-5	ATTIC FLOOR PLAN- MECHANICAL

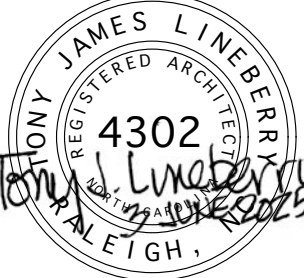
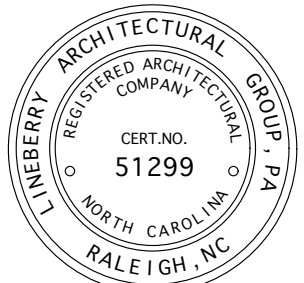
ELECTRICAL DRAWINGS:

5/15/25	E-1	ELECTRICAL NOTES & ABBREVIATIONS
5/15/25	E-2	ELECTRICAL SPECIFICATIONS
5/15/25	E-3	ELECTRICAL DETAILS
5/15/25	E-4	FIRST FLOOR PLAN- LIGHTING
5/15/25	E-5	FIRST FLOOR PLAN- POWER
5/15/25	E-6	ATTIC FLOOR PLAN- ELECTRICAL



NC FARM BUREAU

Harnett County, 105 E. Front Street  
Lillington, North Carolina 27546



Architectural Group PA

LINEBERRY

Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025

T-1

TITLE SHEET



2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)  
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: NC Farm Bureau Harnett County - Lillington  
Address: 105 E. Front Street, Lillington NC Zip Code 27546  
Owner/Authorized Agent: Tony Lineberry Phone # ( 919 ) 786 - 0229 E-Mail: tlineberry@lineberrygroup.com  
Owned By: Private  
Code Enforcement Jurisdiction: City

CONTACT:					
DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural Civil	<u>Lineberry Architectural Group</u>	<u>Tony Lineberry</u>	<u>4302</u>	<u>(919) 786-0229</u>	<u>tlineberry@lineberrygroup.com</u>
		<u>David Revior</u>	<u>26959</u>	<u>(252) 972-7703</u>	<u>drevior@arpiengineers.com</u>
Electrical	<u>Engleclture Consulting Engineers</u>	<u>Greg Wiley</u>	<u>31600</u>	<u>(704) 287-2193</u>	<u>greg.wiley@engleclture.com</u>
Fire Alarm				( )	
Plumbing	<u>MSWG Engineers</u>	<u>Scott Counts</u>	<u>33848</u>	<u>(704) 527-2112</u>	<u>scounts@mswg.com</u>
Mechanical	<u>MSWG Engineers</u>	<u>Scott Counts</u>	<u>33848</u>	<u>(704) 527-2112</u>	<u>scounts@mswg.com</u>
Sprinkler-Standpipe				( )	
Structural	<u>Denis L. LaPan, PE Engineering</u>	<u>Denis LaPan</u>	<u>11294</u>	<u>(919) 608-5128</u>	<u>denl@roserslapan.com</u>
Retaining Walls >5' High				( )	
Other				( )	

(\*Other\* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building

2018 NC EXISTING BUILDING CODE: N/A

CONSTRUCTED: (date) N/A CURRENT OCCUPANCY(S) (Ch. 3): N/A  
RENOVATED: (date) N/A PROPOSED OCCUPANCY(S) (Ch. 3): BUSINESS

OCCUPANCY CATEGORY (Table 1604.5): Current: N/A Proposed: II

BASIC BUILDING DATA

Construction Type: V-B

Sprinklers: No

Standpipes: N/A

Primary Fire District: No

Flood Hazard Area: No

Special Inspections Required: No

Gross Building Area Table			
FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3 <sup>rd</sup> Floor			
2 <sup>nd</sup> Floor		652 sf	652 sf
Mezzanine			
1 <sup>st</sup> Floor		4,715 sf	4,715 sf
Basement			
TOTAL		5,367 sf	5,367 sf

2018 NC Administrative Code and Policies

ALLOWABLE AREA

Primary Occupancy Classification(s): Business

Accessory Occupancy Classification(s): N/A

Incidental Uses (Table 509): N/A

Special Uses (Chapter 4 – List Code Sections): N/A

Special Provisions: (Chapter 5 – List Code Sections): N/A

Mixed Occupancy: No Separation: N/A Exception: N/A

Non-Separated Use (508.3)

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 <sup>4</sup> AREA	(C) AREA FOR FRONTAGE INCREASE <sup>1,5</sup>	(D) ALLOWABLE AREA PER STORY OR UNLIMITED <sup>2,3</sup>
1	Business	4,715 SF	9,000 SF	N/A	9,000 SF
2	Business	652 SF	9,000 SF	N/A	9,000 SF

- <sup>1</sup> Frontage area increases from Section 506.2 are computed thus:  
a. Perimeter which fronts a public way or open space having 20 feet minimum width = \_\_\_\_\_ (F)  
b. Total Building Perimeter = \_\_\_\_\_ (P)  
c. Ratio (F/P) = \_\_\_\_\_ (F/P)  
d. W = Minimum width of public way = \_\_\_\_\_ (W)  
e. Percent of frontage increase  $I_f = 100[F/P - 0.25] \times W/30 =$  \_\_\_\_\_ (%)

<sup>2</sup> Unlimited area applicable under conditions of Section 507.

<sup>3</sup> Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).

<sup>4</sup> The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.

<sup>5</sup> Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40'	26'-8"	
Building Height in Stories (Table 504.4)	2	2	

<sup>1</sup> Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED + (W/ REDUCTION)				
Structural Frame, including columns, girders, trusses		0					
Bearing Walls							
Exterior							
North	>30"	0					
East	>30"	0					
West	>30"	0					
South	>30"	0					
Interior		0					

2018 NC Administrative Code and Policies

Nonbearing Walls and Partitions		0					
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions		0					
Floor Construction Including supporting beams and joists		0					
Floor Ceiling Assembly		0					
Columns Supporting Floors		0					
Roof Construction, including supporting beams and joists		0					
Roof Ceiling Assembly		0					
Columns Supporting Roof		0					
Shaft Enclosures - Exit		N/A					
Shaft Enclosures - Other		N/A					
Corridor Separation		N/A					
Occupancy/Fire Barrier Separation		N/A					
Party/Fire Wall Separation		N/A					
Smoke Barrier Separation		N/A					
Smoke Partition		N/A					
Tenant/Dwelling Unit/ Sleeping Unit Separation		N/A					
Incidental Use Separation		N/A					

\* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
>30"	Unprotected, Non-Sprinklered	No Limit	N/A

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes  
Exit Signs: Yes  
Fire Alarm: No  
Smoke Detection Systems: No  
Carbon Monoxide Detection: No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: T-1

- ☐ Fire and/or smoke rated wall locations (Chapter 7)  
☐ Assumed and real property line locations (if not on the site plan)  
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)  
X Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)  
X Occupant loads for each area

2018 NC Administrative Code and Policies

- X Exit access travel distances (1017)  
X Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))  
☐ Dead end lengths (1020.4)  
X Clear exit widths for each exit door  
X Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)  
X Actual occupant load for each exit door  
☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation  
☐ Location of doors with panic hardware (1010.1.10)  
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)  
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)  
☐ Location of doors equipped with hold-open devices  
☐ Location of emergency escape windows (1030)  
☐ The square footage of each fire area (202)  
☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)  
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS  
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
N/A							

ACCESSIBLE PARKING  
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE	
TOTAL	10	25			2	2

PLUMBING FIXTURE REQUIREMENTS  
(TABLE 2902.1)

USE	WATER CLOSETS			URINALS	LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
	MALE	FEMALE	UNSEX		MALE	FEMALE	UNSEX		REGULAR	ACCESSIBLE
B REQ'D	1	1			1	1			1	1
PROVIDED	1	1	1		1	1	1		1	1

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

Not Required

2018 NC Administrative Code and Policies

ENERGY SUMMARY

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: N/A

Exempt Building: No Provide code or statutory reference: N/A

Climate Zone: 4A

Method of Compliance: Energy Code - Prescriptive  
(If "Other" specify source here)

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)

Description of assembly: Wood trusses w/ 3/4" plywood sheathing, batt insulation & GWB  
U-Value of total assembly: 0.0238  
R-Value of insulation: R-42  
Skylights in each assembly: N/A  
U-Value of skylight: N/A  
total square footage of skylights in each assembly: N/A

Exterior Walls (each assembly)

Description of assembly: Brick veneer, air space, sheathing, wood studs w/ R-20 open cell spray insulation & GWB  
U-Value of total assembly: 0.05  
R-Value of insulation: R-20  
Openings (windows or doors with glazing)  
U-Value of assembly: 0.27  
Solar heat gain coefficient: 0.26  
projection factor: N/A  
Door R-Values: 2.38

Walls below grade (each assembly)

Description of assembly: N/A  
U-Value of total assembly: N/A  
R-Value of insulation: N/A

Floors over unconditioned space (each assembly)

Description of assembly: N/A  
U-Value of total assembly: N/A  
R-Value of insulation: N/A

Floors slab on grade

Description of assembly: Concrete Slab on Grade w/ vapor barrier & R-15 for 24"  
U-Value of total assembly: 0.0667  
R-Value of insulation: R-15 for 24"  
Horizontal/vertical requirement: Not Required  
slab heated: Not Required

2018 NC Administrative Code and Policies

NC FARM BUREAU  
Harnett County, 105 E. Front Street  
Lillington, North Carolina 27546



Architectural Group PA  
ARCHITECTURE - PLANNING - INTERIOR ARCHITECTURE  
P.O. Box 37456, Raleigh, North Carolina 27627  
919 786 0229 C 919 616-1046 lineberrygroup.com

LINEBERRY

Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025

T-2  
CODE  
SUMMARY



STRUCTURAL NOTES AND SPECIFICATIONS

a.) DESIGN LOADS:

2018 NC STATE BUILDING CODE OCCUPANCY II	
IMPORTANCE FACTORS:	
SEISMIC (Ie)-	1.0
SNOW (Is)-	1.0
SNOW:	
GROUND SNOW LOAD-	15 psf
Ce-	1.0
Ct-	1.0
Pf & Ps-	11 psf
ROOF:	
LIVE-	20 psf
DEAD-	
ROOF	6 psf
SHEATHING	2 psf
FRAMING	3 psf
CEILING	3 psf
M & E	3 psf
MISC	3 psf
	20 psf
ATTIC:	
LIVE-	
MECHANICAL	40 psf
WORKROOM	125 psf
DEAD-	
FLOOR	3 psf
FRAMING	3 psf
CEILING	3 psf
M & E	3 psf
MISC	3 psf
	15 psf
SLAB-ON-GRADE:	
LIVE-	100 psf
WIND LOADS PER ASCE 7-10: NOMINAL LOADS	
WIND VELOCITY	117 mph
EXPOSURE	B
LOW-RISE METHOD	
h = 18'-5"	

b.) MAIN WIND FORCE RESISTING SYSTEM

WIND LOADS	
HORIZONTAL	
ZONE 1	+ 17.8 psf
ZONE 4	- 5.5 psf
TOTAL	+ 23.3 psf
COMPONENTS AND CLADDING	
ZONE 1	+16.0/-20.5 psf
ZONE 2	+16.0/-49.7 psf
ZONE 3	+16.0/-56.0 psf
ZONE 4	+26.0/-28.4 psf
ZONE 5	+26.0/-32.7 psf
a = 8'-0"	

SEISMIC LOADS PER ASCE 7-10: NOMINAL LOADS	
Ss	0.183
S1	0.086
SDS-	0.195
SD1-	0.138
SITE CLASS	D ASSUMED
SEISMIC DESIGN CATEGORY	C

EQUIVALENT LATERAL FORCE METHOD  
LIGHT FRAMED WALLS WITH WOOD STRUCTURAL  
PANELS RATED FOR SHEAR RESISTANCE

R = 6.5    Cs = 0.0307

SUMMARY, NOMINAL LOADS	
WIND BASE SHEAR (Vx, kips)	22.3
WIND BASE SHEAR (Vy, kips)	26.8
SEISMIC BASE SHEAR (Vx, kips)	8.2
SEISMIC BASE SHEAR (Vy, kips)	8.2

MISCELLANEOUSE NOTES

- a) MINIMUM ALLOWABLE SOIL BEARING CAPACITY TO BE 3000 psf FOR SHALLOW FOUNDATIONS. A GEOTECHNICAL ENGINEER SHALL VERIFY SOIL BEARING CAPACITY PRIOR TO POURING FOOTINGS..
- b.) GENERAL CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AGAINST WIND AND OTHER SHORT TERM LOADS DURING THE CONSTRUCTION PHASE TO ENSURE SAFE SUPPORT OF THE STRUCTURE.
- c.) THE DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS ELECTRONICALLY OR MANUALLY. COORDINATE STRUCTURAL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- d) FOUNDATIONS – GENERAL
- 1) CONTINUOUS WALL FOOTING SHALL BE POURED MONOLITHICALLY WITH COLUMN FOOTINGS, IF REQUIRED.
- 2) ALL BACKFILL MATERIALS SHALL BE FREE OF DEBRIS. PLACE IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS RECOMMENDATIONS.

CONCRETE

- a) CONCRETE SHALL BE PROPORTIONED, MIXED, PLACED AND TESTED IN ACCORDANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE" AND COMPLY WITH ACI 117, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".
- b) STEEL REINFORCEMENT SHALL MEET THE FOLLOWING SPECIFICATIONS:
- i. REINFORCING BARS: ASTM A615, GRADE 60, DEFORMED
- ii. PLAIN WIRE: ASTM A82, DRAWN
- iii. WELDED WIRE: ASTM A185, DRAWN
- c) ALL PROPOSED ADMIXTURES SHALL BE SUBMITTED WITH THE MIX DESIGNS AND SHALL INCLUDE CERTIFICATION FROM THE MANUFACTURER THAT THE ADMIXTURE IS COMPATIBLE WITH OTHER ADMIXTURES AND MEETS ACI REQUIREMENTS.
- d) CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS:
- | LOCATION | MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS | MAX SLUMP |
|----------|--|-----------|
| FOOTINGS |  |           |
| SLABS    | 3000 psi                               | 4"        |
- e) REINFORCING SHALL MEET CRSI's" MANUAL OF STANDARD PRACTICE" FOR FABRICATION, PLACING AND SUPPORTING OF REINFORCEMENT.
- f) WELDING OF REINFORCING S NOT PERMITTED.
- g) FIELD BENDING OF REINFORCING BARS IS NOT PERMITTED.
- h) CURE CONCRETE FOR AT LEAST SEVEN DAYS BY THE APPROPRIATE METHOD OF MOISTURE CURING, MOISTURE AND COVER CURING, CURING COMPOUND OR OTHER ALLOWED METHOD.
- i) NOTIFY ENGINEER PRIOR TO PLACEMENT OF CONCRETE WHEN EXPECTED AMBIENT TEMPERATURE IS TO BE 40 DEGREES F OR LESS. CONCRETE PROTECTION SHALL BE PROVIDED AS REQUIRED PER ACI 306 COLD WEATHER CONCRETING.

MASONRY - BRICK AND CMU

- a) MASONRY WORK SHALL COMPLY WITH TMS 402/ACI 530/ASCE 5 "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES" FOR MATERIALS AND WORKMANSHIP.
- b) MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE MASONRY UNITS SHALL BE f'm = 1500 psi.
- c) GROUT SHALL CONFORM TO ASTM 476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 psi. GROUT IN ACCORDANCE WITH ACI 530 AND 530.1.
- d) PROVIDE REINFORCING AS SHOWN ON THE DRAWINGS. DOWEL REINFORCING INTO FOUNDATIONS AND FOOTINGS. ALL REINFORCING SHALL CONFORM TO ASTM A615 AND BE GRADE 60.
- e) HORIZONTAL JOINT REINFORCING SHALL BE USED AT 16" o.c. REINFORCING SHALL BE TRUSS OR LADDER TYPE FABRICATED FROM GALVANIZED 9 GAGE WIRE. REINFORCING IS NOT TO EXTEND THROUGH VERTICAL CONTROL JOINTS.
- f) PROVIDE VERTICAL CONTROL JOINTS AS SHOWN ON ARCHITECTURAL DRAWINGS. MAXIMUM SPACING SHALL BE 25'-0".
- g) ALL MORTAR SHALL CONFORM TO ASTM C270 SPECIFICATIONS FOR TYPE M OR S.

WOOD FRAMING

- a) S-P-F REFERS TO #2 SPRUCE-PINE-FIR. S. PINE OR SP REFERS TO #2 SOUTHERN PINE.
- b) PLYWOOD SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE AMERICAN PLYWOOD ASSOCIATION (APA).
- c) ALL WOOD FRAMING IN CONTACT WITH CONCRETE, MASONRY OR STEEL, OR EXPOSED TO WEATHERING SHALL BE PRESSURE PRESERVATIVE TREATED TO RESIST DECAY. USE PRESERVATIVE TREATMENTS RECOMMENDED BY THE PROCESSOR FOR THE SPECIFIC USE.
- d) FASTENERS FOR TREATED LUMBER SHALL BE AS RECOMMENDED BY PROCESSOR AND HARDWARE MANUFACTURER.
- e) ALL CONNECTORS AND BOLTS SHALL BE HOT-DIPPED, GALVANIZED, MINIMUM.
- f) ROOF DIAPHRAGM SHALL BE UNBLOCKED 5/8" NOM. SEE ARCH. FOR TYPE. ATTACHED WITH 8d w/ 1-3/8" MINIMUM PENETRATION IN TRUSS TOP CHORD, NAILS @ 6" o.c. AT PERIMETER AND PANEL EDGES AND 12" o.c. IN PANEL FIELD.
- g) FLOOR DIAPHRAGM SHALL BE 3/4" NOM. T&G STUR-D-FLOOR GLUED TO FRAMING, AND ATTACHED WITH #10 SCREWS @ EDGES AND #10 SCREWS @ 8" o.c. IN PANEL FIELD.
- h) WALL SHEATHING SHALL BE 7/16" NOM. BLOCKED, SEE ARCH. FOR TYPE. ATTACHED WITH 8d w/ 1-3/8" MINIMUM PENETRATION IN STUD, NAILS @ 6' o.c. AT PANEL EDGES AND 12" o.c. IN PANEL FIELD.

ENGINEERED WOOD PRODUCTS

- a) LAMINATED VENEER LUMBER (LVL) MANUFACTURERS PRODUCT DATA, INCLUDING DESCRIPTIONS OF MATERIALS, DIMENSIONS OF PRODUCT, DESIGN PROPERTIES, ALLOWABLE SPANS AND CONSTRUCTION DETAILS SHALL BE SUBMITTED FOR REVIEW.
- b) SUBMIT DRAWINGS INDICATING MEMBER SIZES, TYPES, LOCATIONS AND CONNECTION DETAILS.
- c) HANDLE AND STORE LVL'S IN ACCORDANCE WITH THE MANUFACTURES WRITTEN REQUIREMENTS.
- d) LVL'S SHALL BE 1-3/4" THICK, GRADE 2.0E WITH PLIES AS REQUIRED ON THE PLANS.
- e) INSTALLATION SHALL COMPLY WITH MANUFACTURERS PRODUCT DATA, INLCUDING TECHNICAL BULLETINS, PRODUCT CATALOG WRITTEN INSTALLATION INSTRUCTIONS AND PRODUCT CARTON INSTRUCTIONS.

PREFABRICATED WOOD TRUSSES

- a) ALL LUMBER AND CONNECTIONS SHALL CONFORM TO "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (LATEST EDITION) AND TPI "DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES" (LATEST EDITION).
- b) ROOF TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS, AT A MINIMUM:
- |              |  |
|--------------|--|
| TOP CHORD    | DL= 20 psf PLUS OVERFRAME WEIGHT<br>LL= 20 psf |
| BOTTOM CHORD | DL= 8 psf PLUS MECHANICAL LOADS                |
- c) UPLIFT LOADS SHALL BE DETERMINED BASED ON THE CRITERIA GIVEN IN THE WIND LOAD NOTES.
- d) SHOP DRAWINGS SHALL BE SUBMITTED AND SHALL INDICATE TYPE, SIZE, QUANTITY, SPACING, BRACING, SPLICES, ACCESSORIES AND DETAILS REQUIRED FOR INSTALLATION.
- e) CALCULATIONS SHALL BE SUBMITTED AND SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA. CALCULATIONS SHALL INCLUDE GRAVITY AND UPLIFT REACTIONS FOR COORDINATION WITH THE OTHER STRUCTURAL FRAMING DESIGN.
- f) ALL TRUSS TO TRUSS CONNECTIONS SHALL BE DESIGNED BY THE TRUSS ENGINEER.
- g) TRUSS HURRICANE TIES TO BE SIMPSON H2.5A TYPE. ONE SHALL BE USED AT EACH TRUSS ON TRUSS END BEARING CONDITION AND ONE EACH SIDE OF INTERIOR GIRDER LINE TRUSS BEARING CONDITION.
- h) HEEL BLOCKING, X-BRACING OR OTHER METHODS SHALL BE UTILIZED AND DESIGNED BY THE TRUSS MANUFACTURERE TO DISTRIBUTE 140 PLF ROOF DIAPHRAM LOADS AT TRUSS BEARING.

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Denis L. LaPan, PE, license  
number 11294 dated  
5.14.2025 is on file.



DENIS L. LaPAN, PE

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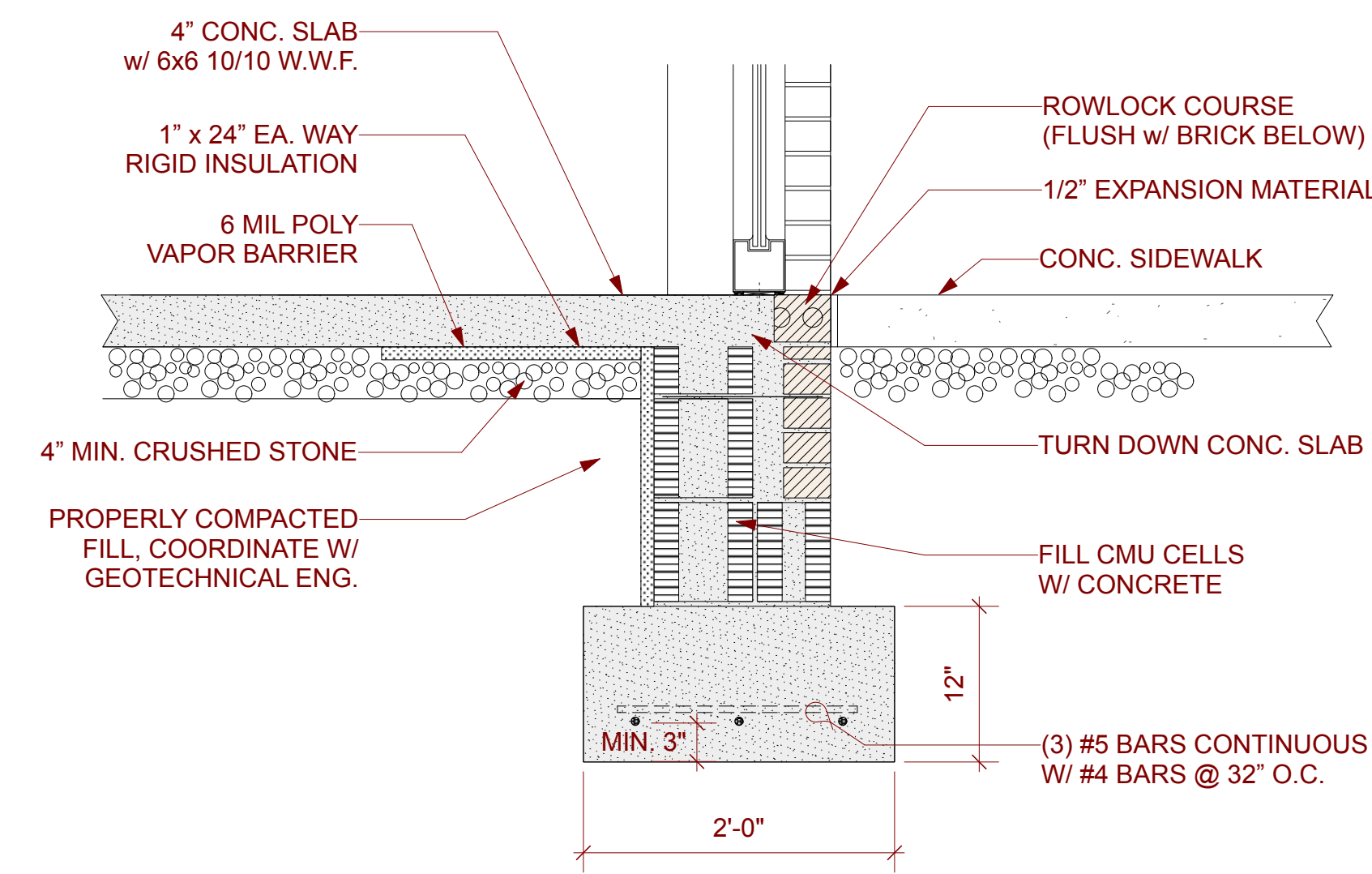
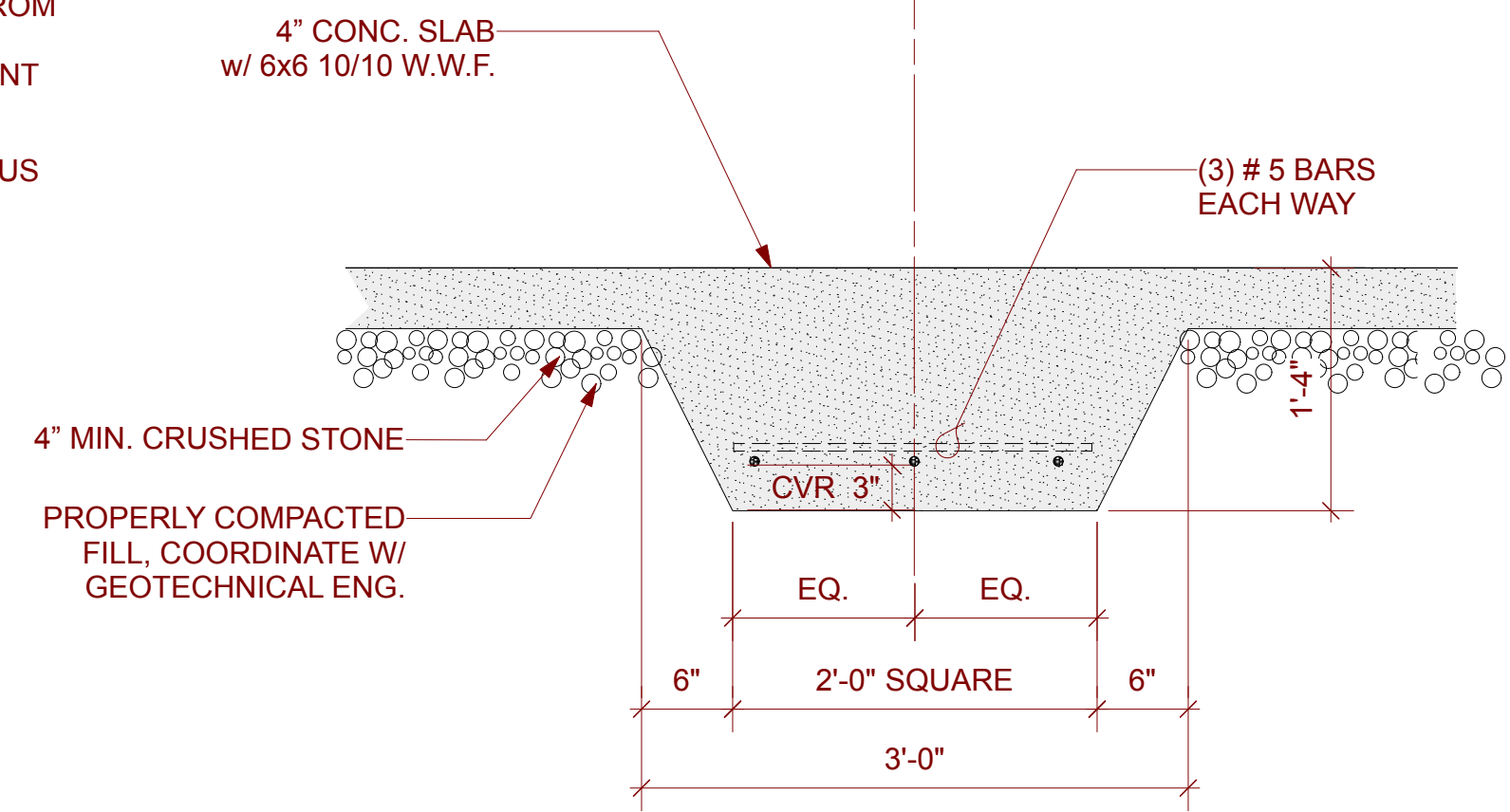
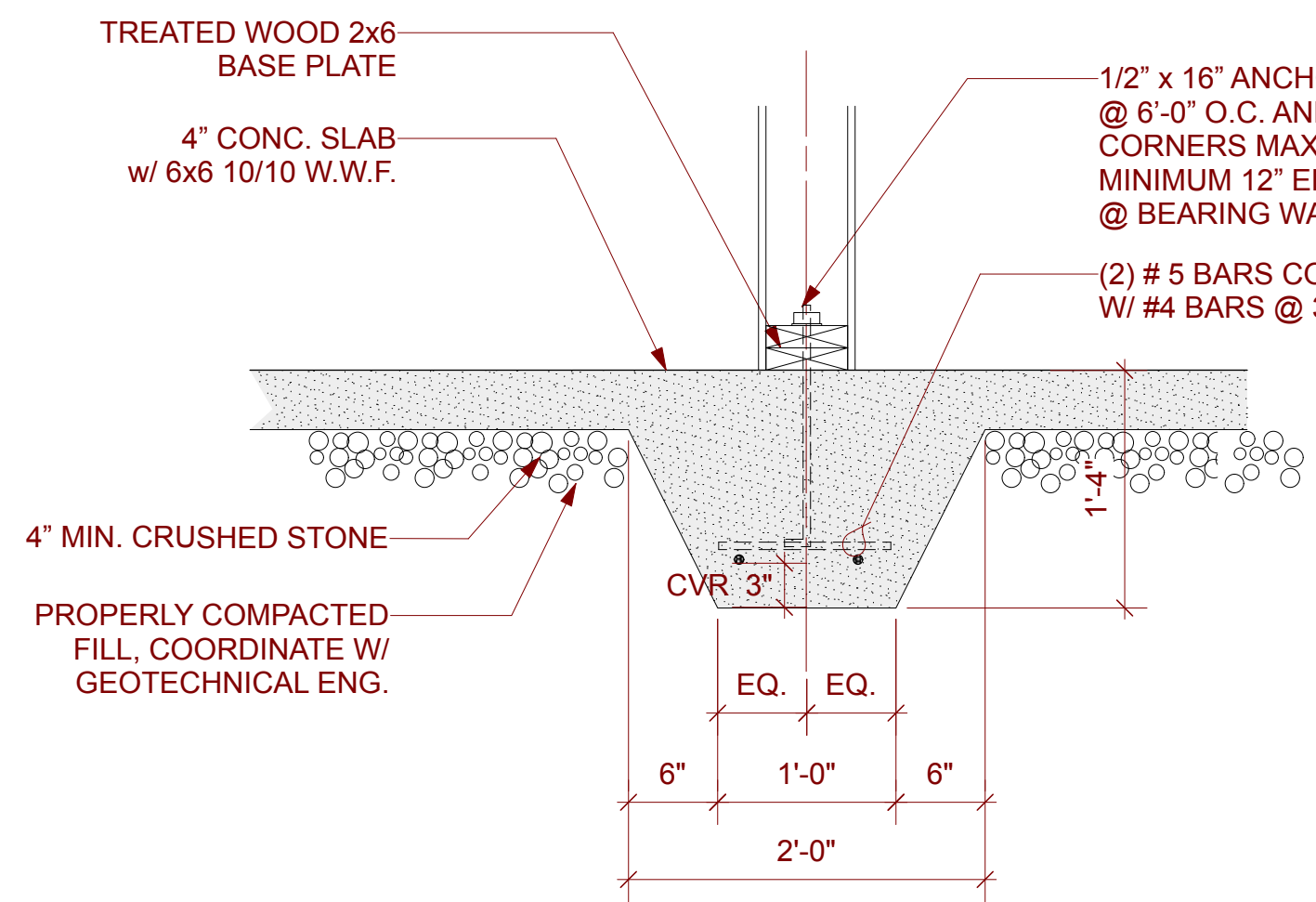
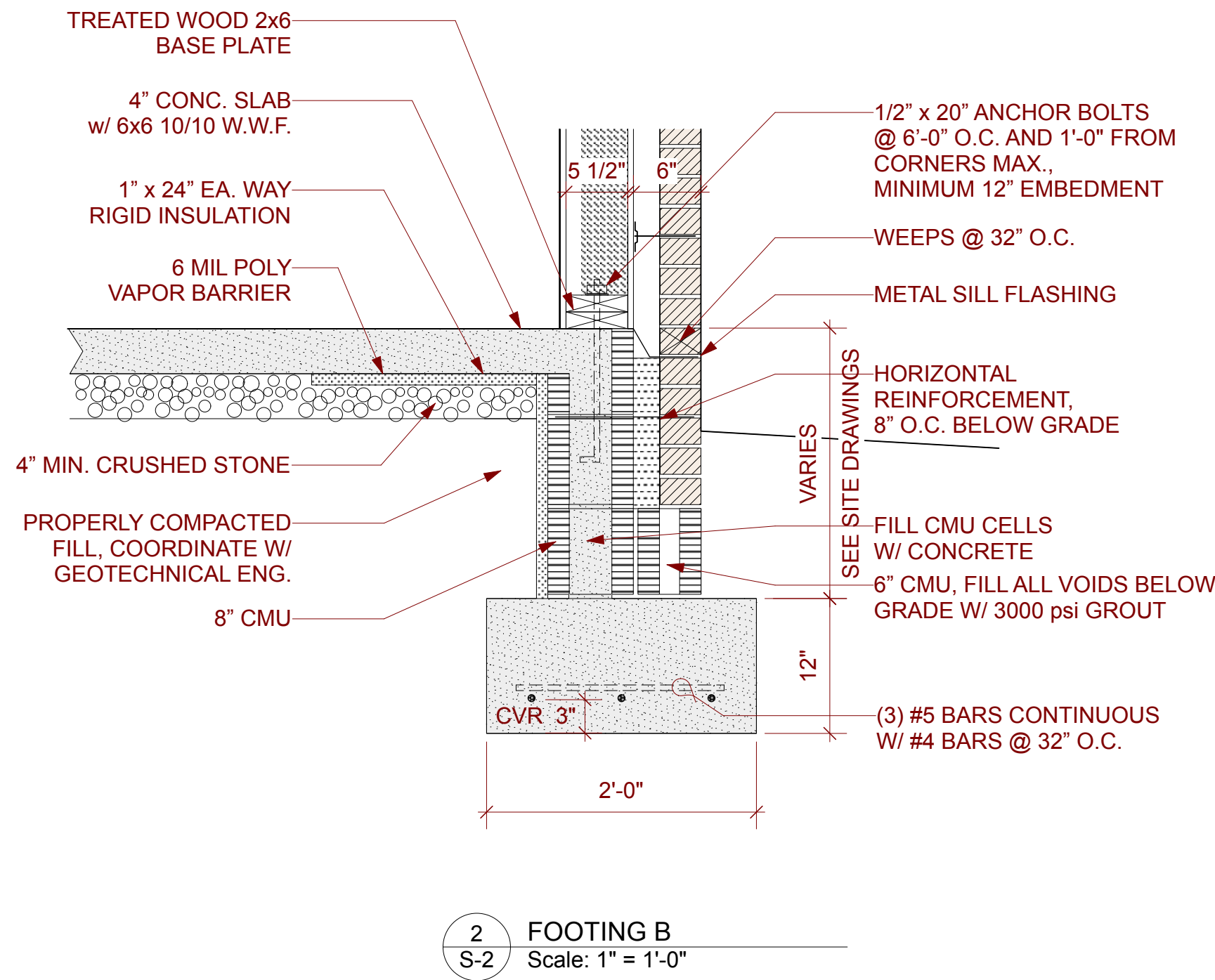
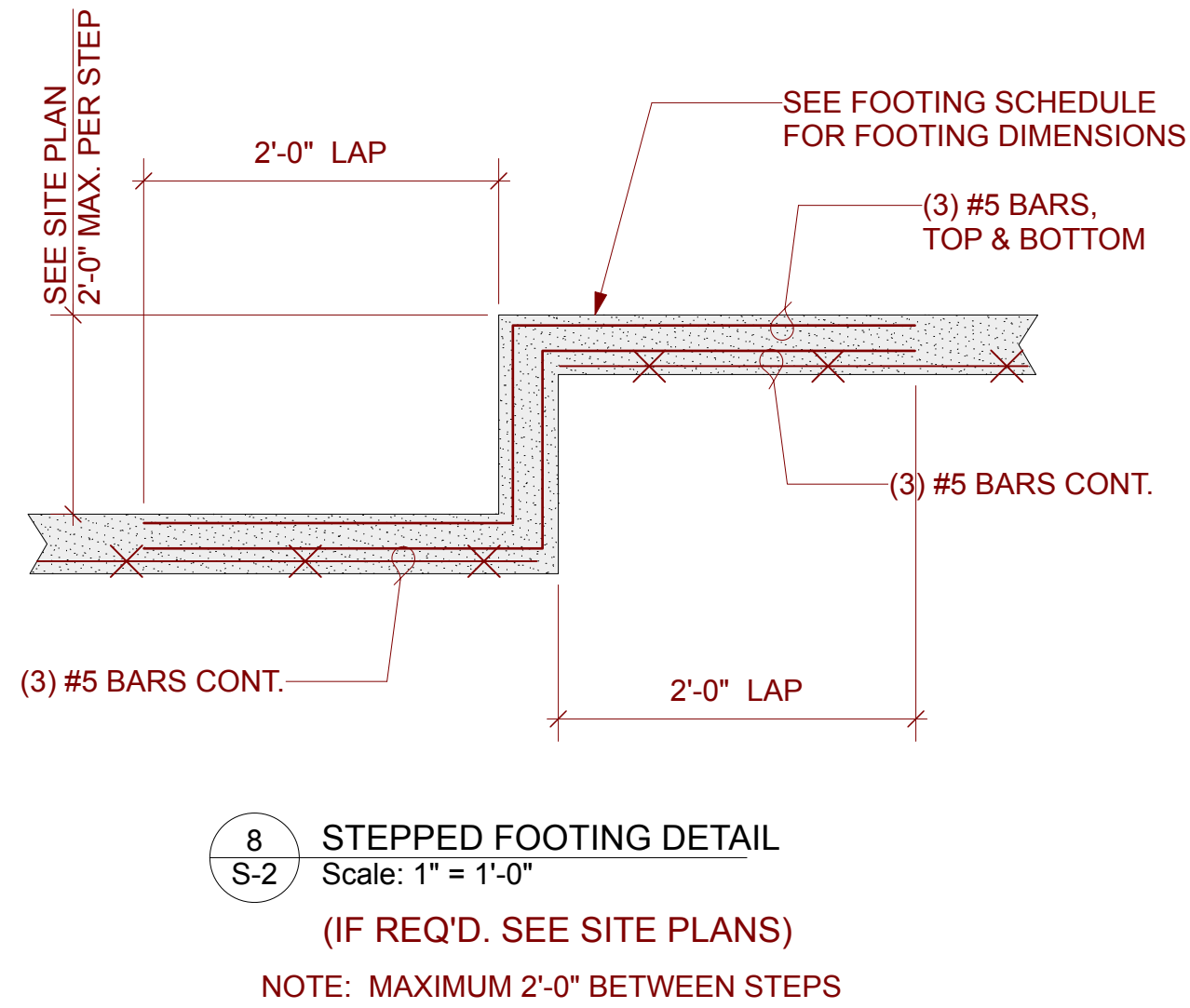
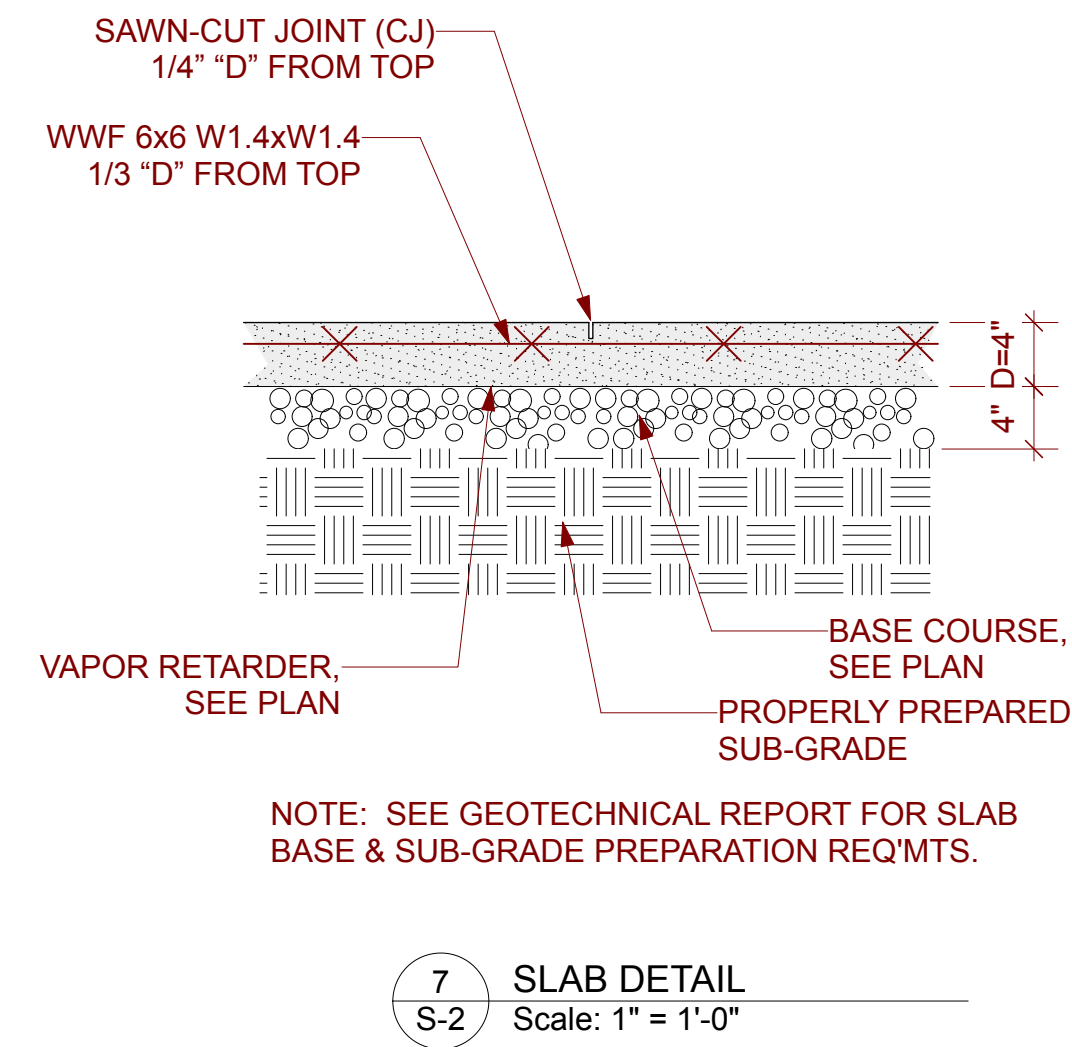
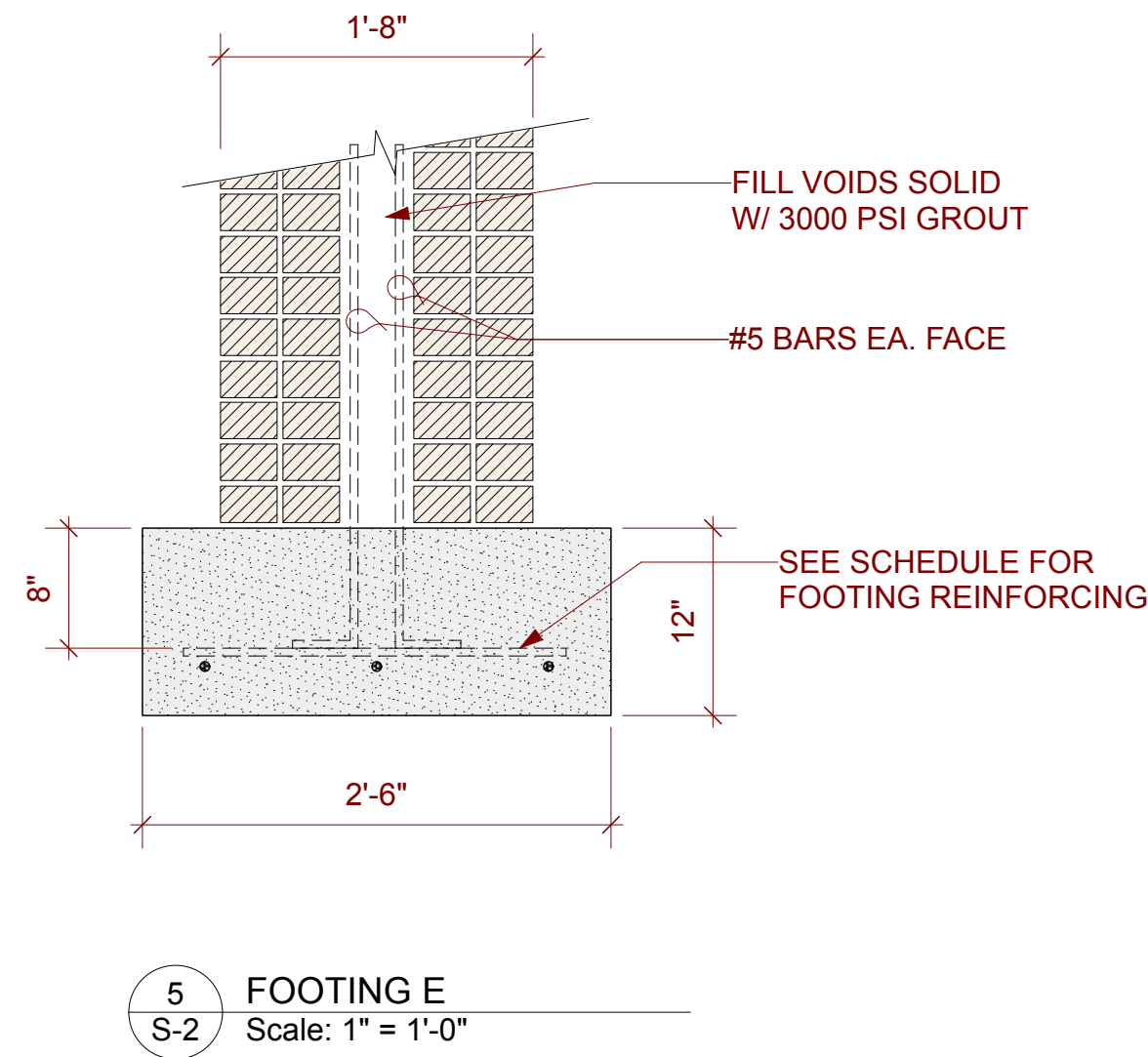
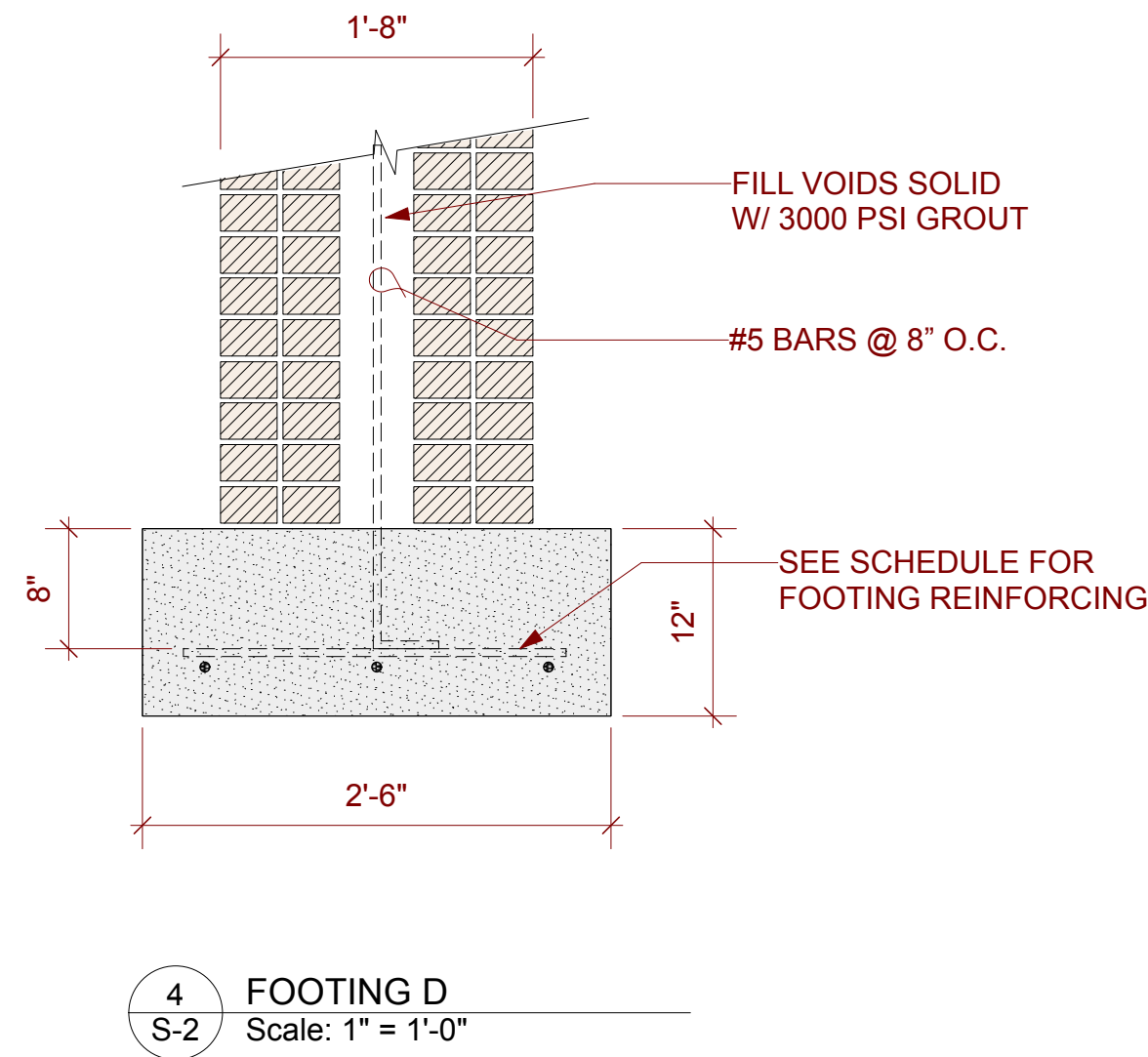
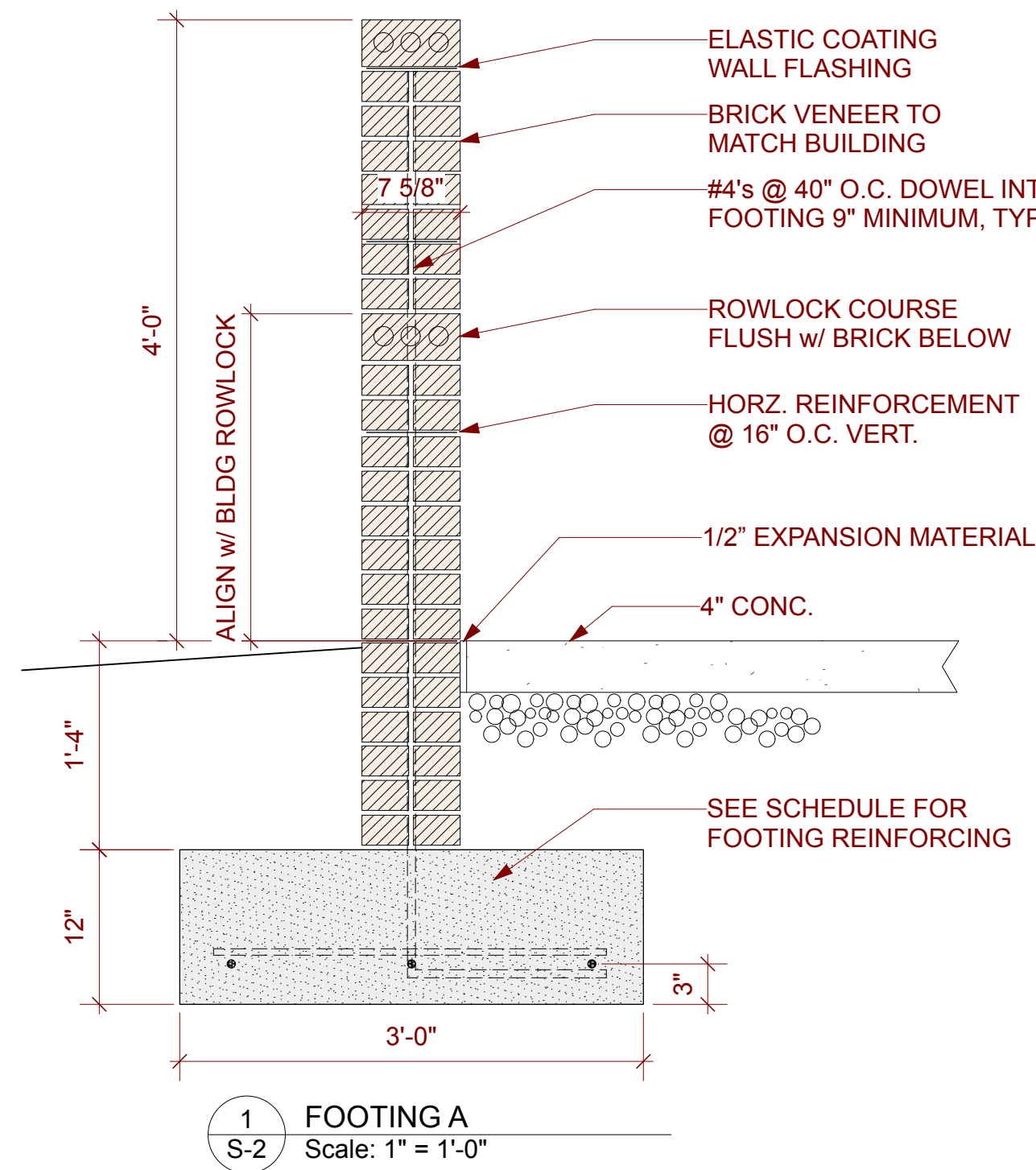
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Date: 14 MAY 2025

S-0  
STRUCTURAL  
NOTES





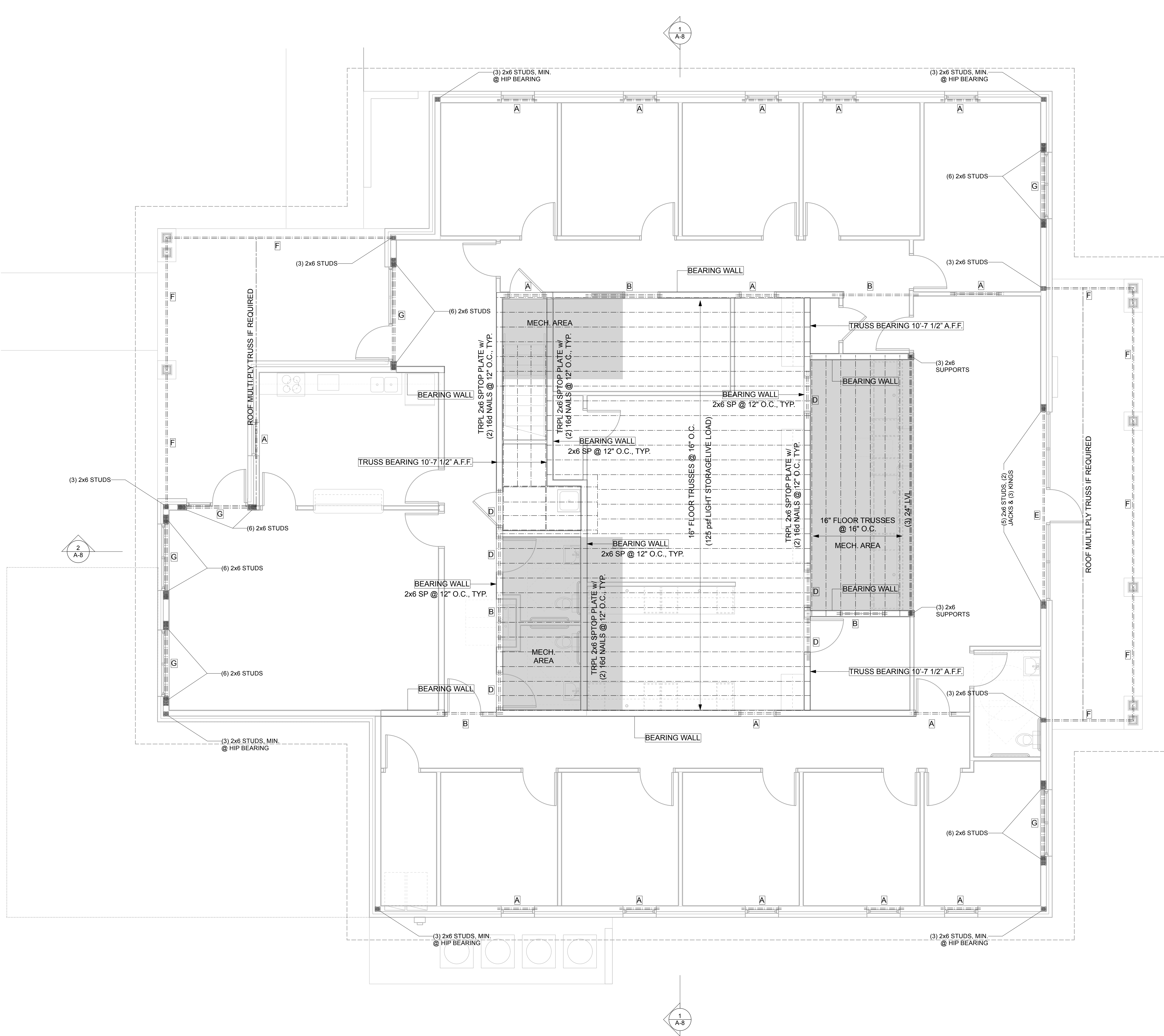




## FOOTING SCHEDULE

MARK	SIZE	REINFORCING	REMARKS
(A)	3'-0" WIDE x 12" DEEP CONTINUOUS FOOTING	3- #5 BARS CONT. W/ #4 BARS @ 32" O.C.	--
(B)	2'-0" WIDE x 12" DEEP CONTINUOUS FOOTING	3- #5 BARS CONT. W/ #4 BARS @ 32" O.C.	--
(C)	2'-0" TOP, 1'-0" BOTTOM x 16" DEEP THICKENED SLAB	2- #5 BARS CONT. W/ #4 BARS @ 32" O.C.	CENTER UNDER ALL LOAD BEARING INTERIOR WALLS
(D)	2'-6" x 4'-0" x 12" DEEP	3- #5 BARS LONG WAYS W/ 5- #5 BARS SHORT WAY	--
(E)	2'-6" x 2'-6" x 12" DEEP	3- #5 BARS EA. WAY	--
(F)	2'-0" x 2'-0" x 1'-4" DEEP	3- #5 BARS EA. WAY	--





LOOSE LINTEL ANGLE SCHEDULE

CLEAR OPENING	LINTEL ANGLE	BEARING LENGTH
0'-1" TO 4'-0"	L4x4x5/16	4" MINIMUM
4'-1" TO 6'-0"	L6x4x5/16 LLV	8" MINIMUM
6'-1" TO 10'-0"	L7x4x3/8 LLV	8" MINIMUM
10'-1" TO 12'-0"	L8x4x1/2 LLV	12" MINIMUM

1. LOOSE LINTELS NOTED ABOVE SUPPORT ONE WYTHE OF BRICK VENEER ONLY.

2. ALL LOOSE LINTELS SHALL BE HOT-DIPPED GALVANIZED.

3. LOOSE LINTELS ARE NOT SHOWN ON THE FRAMING PLANS. SEE ARCHITECTURAL DRAWINGS FOR VENEER OPENING LOCATIONS & SIZES.

BEAM SCHEDULE

A	(2) 2 x 10 SYP
B	(2) 1-3/4" x 9-1/4" LVL
C	NOT USED
D	(3) 2 x 10 SYP
E	(3) 1-3/4" x 16" LVL
F	(3) 1-3/4" x 11-7/8" LVL
G	(3) 1-3/4" x 9-1/4" LVL

NOTE:

1. BEAM DESIGN SHOWN IS BASED UPON SCHEMATIC TRUSS LAYOUTS SHOWN ON S-3 & S-4. ROGERS & LAPAN, PA SHALL VERIFY BEAM DESIGN W/ ACTUAL TRUSS LOADS SUBMITTED BY TRUSS MANUFACTURER PRIOR TO CONSTRUCTION.

2. USE DOUBLE 2x4 AND 2x6 POSTS, MINIMUM AT EACH END OF BEAMS/HEADERS UNLESS OTHERWISE NOTED ON PLAN.

3. SEE A-2 FOR ATTIC WALL OPENING HEADERS.

4. SHADED AREAS TO BE DESIGNED FOR 40 psf MECHANICAL LIVE LOAD AND ACTUAL EQUIPMENT WEIGHT.

5. PROVIDE BLUKHEAD FRAMING @ CSR PER REFER TO ARCH. RCP .

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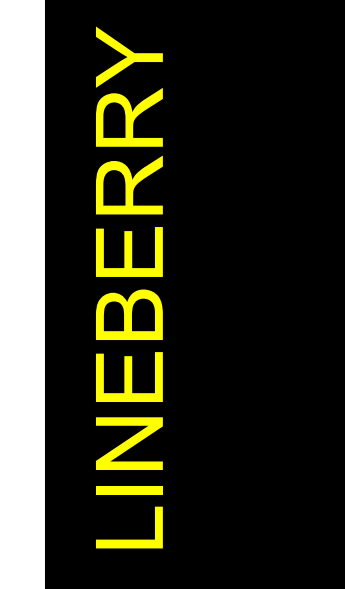
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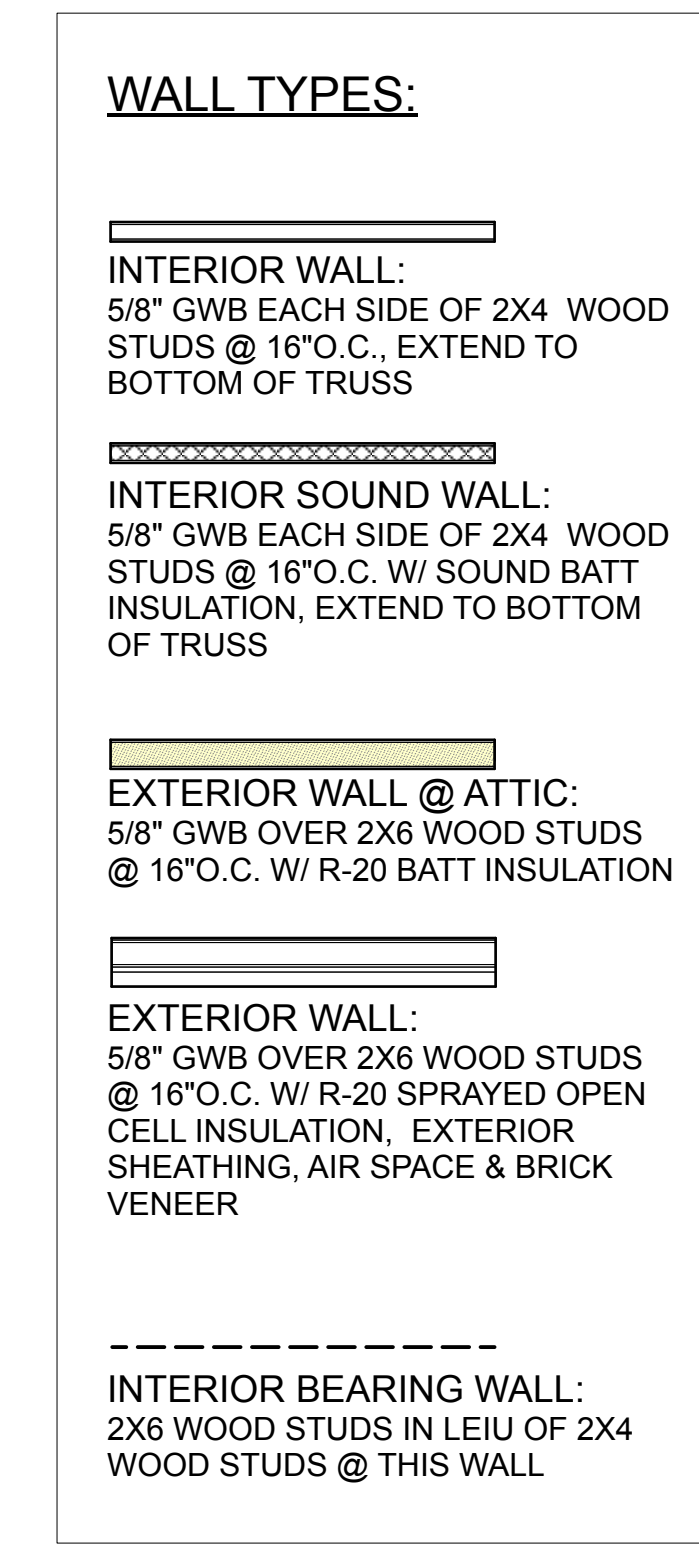
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S-3  
ATTIC FRAMING  
PLAN





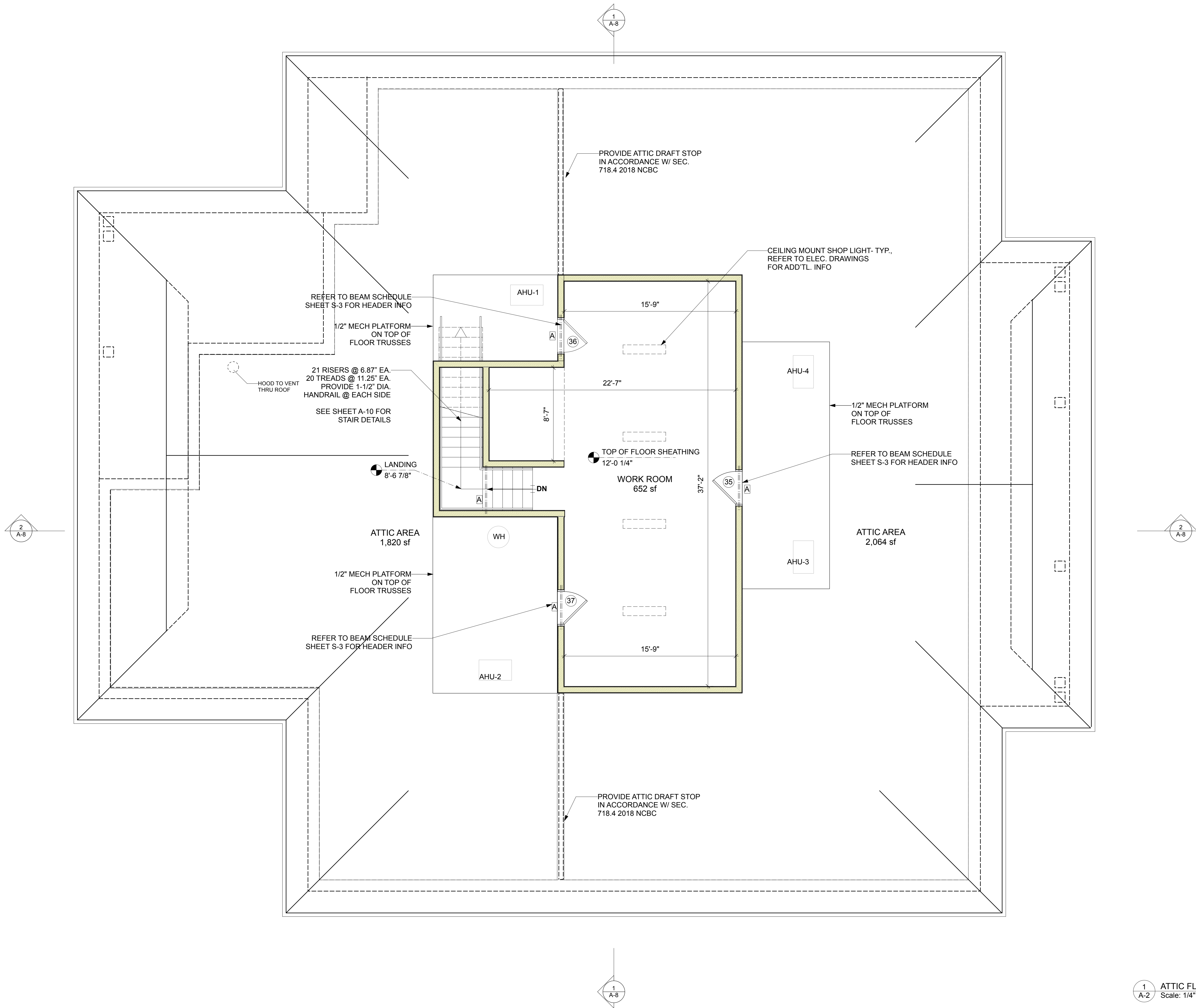




INTERIOR BEARING WALL:  
2X6 WOOD STUDS IN LEIU OF 2X4  
WOOD STUDS @ THIS WALL

7. OFFICE/FILE FURNITURE IS NOT INCLUDED IN CONTRACT. SHOWN FOR REFERENCE ONLY.





**WALL TYPES:**

**INTERIOR WALL:**  
5/8" GWB EACH SIDE OF 2X4 WOOD STUDS @ 16"O.C., EXTEND TO BOTTOM OF TRUSS

**INTERIOR SOUND WALL:**  
5/8" GWB EACH SIDE OF 2X4 WOOD STUDS @ 16"O.C. W/ SOUND BATT INSULATION, EXTEND TO BOTTOM OF TRUSS

**EXTERIOR WALL @ ATTIC:**  
5/8" GWB OVER 2X6 WOOD STUDS @ 16"O.C. W/ R-20 BATT INSULATION

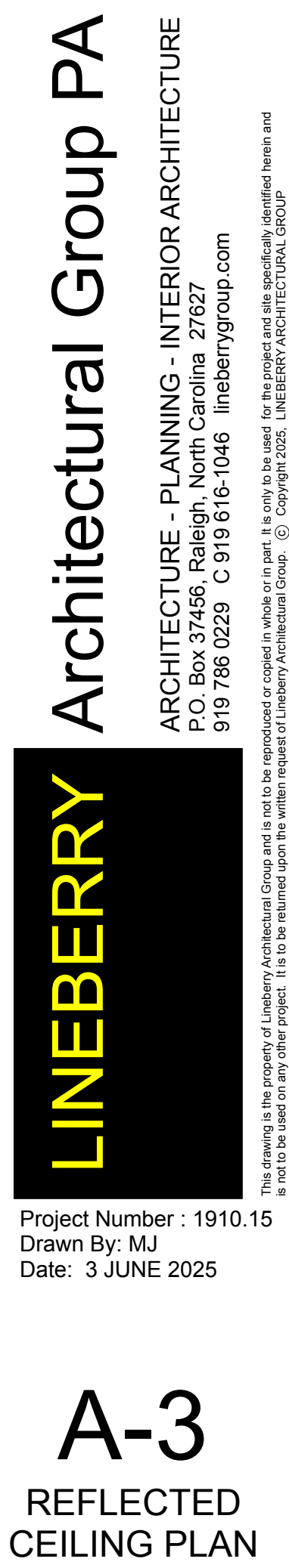
**EXTERIOR WALL:**  
5/8" GWB OVER 2X6 WOOD STUDS @ 16"O.C. W/ R-20 SPRAYED OPEN CELL INSULATION, EXTERIOR SHEATHING, AIR SPACE & BRICK VENEER

**INTERIOR BEARING WALL:**  
2X6 WOOD STUDS IN LEIU OF 2X4 WOOD STUDS @ THIS WALL

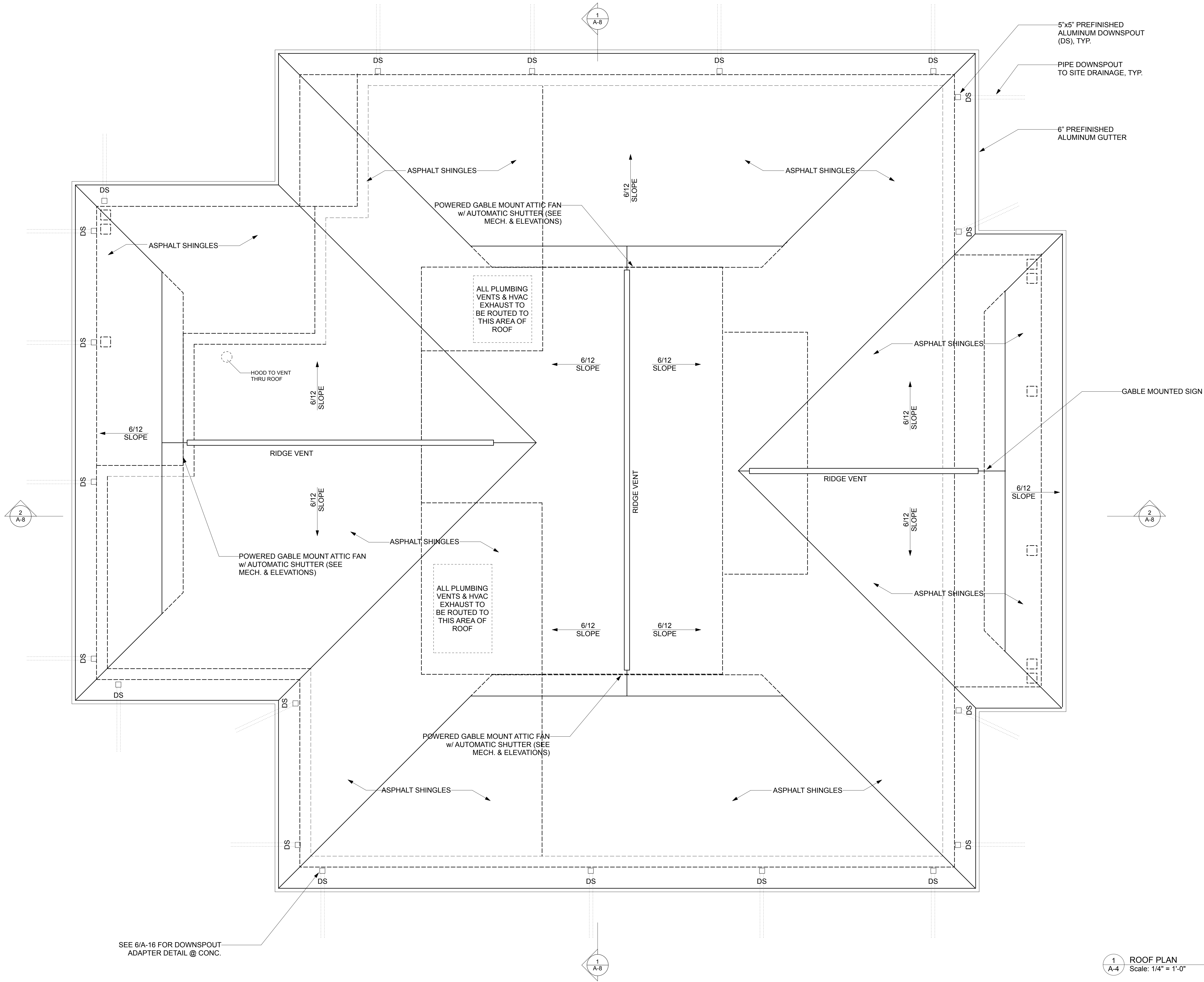
**ATTIC NOTES:**

1. WALLS TO BE LOCATED BASED ON CLEAR CEILING HEIGHT OF 8'-1 1/2" TO FRAMING.
2. 5/8" GWB @ ALL WALLS & CEILING.
3. PROVIDE ATTIC DRAFT STOP IN ACCORDANCE W/ SEC. 718.4 2018 NCBC.
4. GWB WALLS AND CEILINGS ARE TO BE PAINTED, SEE A-5





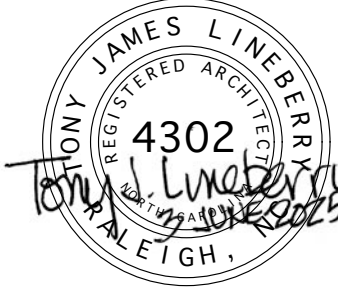




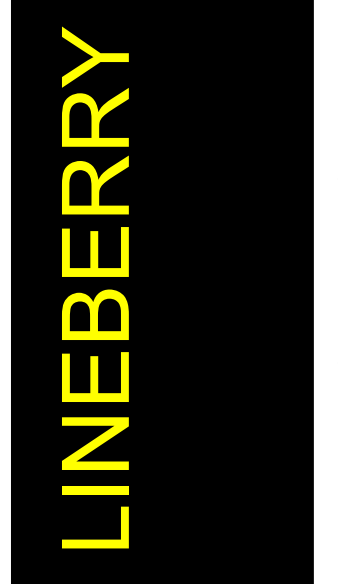
SEE 6/A-16 FOR DOWNSPOUT  
ADAPTER DETAIL @ CONC.

1 ROOF PLAN  
A-4 Scale: 1/4" = 1'-0"

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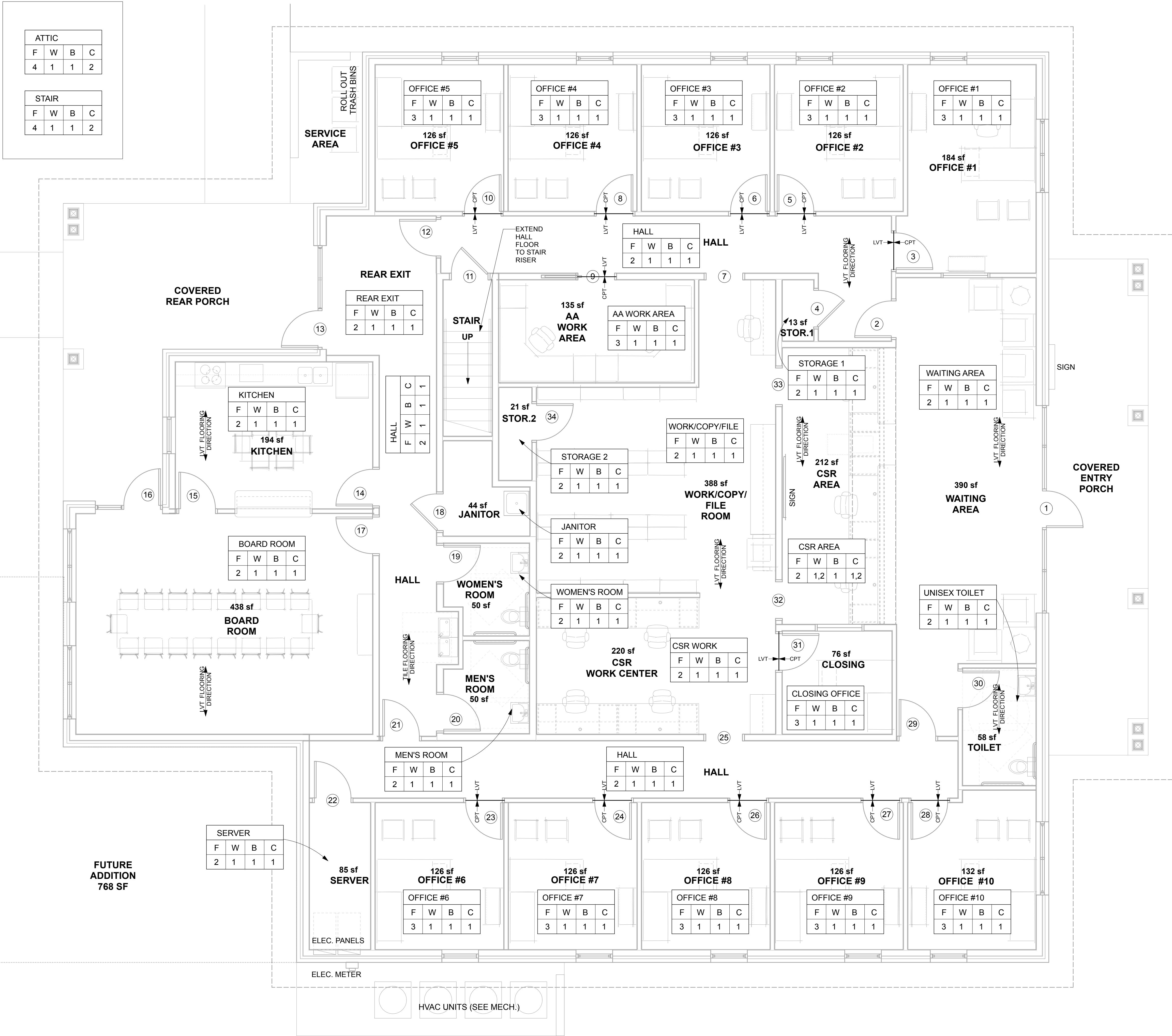
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**A-4**  
ROOF PLAN





FINISH SCHEDULE:	
FLOOR FINISHES:	
F-1	NOT USED
F-2	LUXURY VINYL TILE: MANF: SHAW CONTRACT; STYLE: BRANCHING OUT CORETEC #4256V; COLOR: SMOKY OAK #56516; SIZE: 9"x36"; INSTALLATION: DIRECT GLUE; BRICK PATTERN
F-3	CARPET TILE: MANF: SHAW CONTRACT; STYLE: HABITAT TILE #5T390; COLOR: BRANCH #88760; SIZE: 9" X 36"; INSTALLATION: ASHLAR
F-4	BROADLOOM CARPET: MANF: SHAW CONTRACT; STYLE: GRADIENT #5A153; COLOR: TAUPE #34760;
WALL FINISHES:	
W-1	PAINT #1: SHERWIN WILLIAMS- CASHMERE COLOR: AGREEABLE GRAY #SW 7029; FINISH: EGGSHELL
W-2	PAINT #2: SHERWIN WILLIAMS- CASHMERE COLOR: SYCAMORE TAN #SW 2855; FINISH: EGGSHELL (ACCENT COLOR)
(NOTE: TOILET ROOMS TO RECEIVE EPOXY PAINT)	
BASE FINISHES:	
B-1	THERMOPLASTIC RUBBER BASE: MANF: TARKETT; MILLWORK WALL BASE #MW_XX_F PROFILE: REVEAL 4-1/4"; COLOR:PEPPERCORN #TB1
CEILING FINISHES:	
C-1	ACOUSTIC CEILING TILE: MANF: ARMSTRONG; STYLE:DUNE ANGLED TEGULAR #1774 24"x24" LAY-IN; COLOR: WHITE; 15/16" PRELUDE SUSPENSION GRID
C-2	GWB, PAINTED; SW CEILING WHITE SW #7007
PLASTIC LAMINATE:	
PL-1	MANF: WILSONART; COLOR: VALLEY FORGE ELM #8231K-79
SOLID SURFACE:	
SS-1	MANF: CORIAN; COLOR: LAVA ROCK
CSR MILLWORK:	
PT-4	PAINT #4: SHERWIN WILLIAMS; SEMI-GLOSS COLOR: SYCAMORE TAN #SW 2855
HORIZONTAL BLINDS:	
MANF: HUNTER DOUGLAS CONTRACT; STYLE: EVERWOOD ALTERNATIVE WOOD BLINDS; COLOR: #984 EXTREME WHITE	
DOORS:	
PREFINISHED WOOD VENEER: MANF: MASONITE ARCHITECTURAL; ASPIRO SERIES; SPECIES: WHITE BIRCH (ROTARY); STAIN COLOR: COCOA BEAN; LITE KIT: W-7	
HOLLOW METAL DOOR FRAMES:	
PT-3	PAINT #3: SHERWIN WILLIAMS; SEMI-GLOSS COLOR: SNOWBOUND #SW 7004
WOOD WINDOW SILLS:	
PT-3	PAINT #3: SHERWIN WILLIAMS; SEMI-GLOSS COLOR: SNOWBOUND #SW 7004

- FINISH NOTES:**
1. CAULK PERIMETER @ ALL TRIM, BASE & JAMBS.
  2. PROVIDE TRANSITIONS BETWEEN FLOORING TYPES AS REQ'D, SEE DETAILS ON SHEET A-16.
  3. HORIZONTAL BLINDS TO BE INSTALLED @ ALL EXT. WINDOWS & @ INTERIOR OFFICE WINDOWS.
  4. FURNISH MAINTENANCE STOCK OF EXTRA MATERIALS TO OWNER. DELIVER EXTRA MATERIALS FROM SAME MANUFACTURED LOT AS MATERIALS INSTALLED MIN. TWO BOXES FOR EACH TYPE, COLOR, PATTERN & SIZE INSTALLED. ENCLOSED IN PROTECTIVE PACKAGING W/ APPROPRIATE IDENTIFYING LABELS.
  5. FLOORING TO BE INSTALLED PRIOR TO CSR MILLWORK INSTALLATION.
  6. ALL FURNITURE @ ROOMS WITH LVT FLOORING SHOULD HAVE SOFT GLIDES FOR LVT FLOORING. NOTIFY FURNITURE SUPPLIER TO PROVIDE AS NOTED.

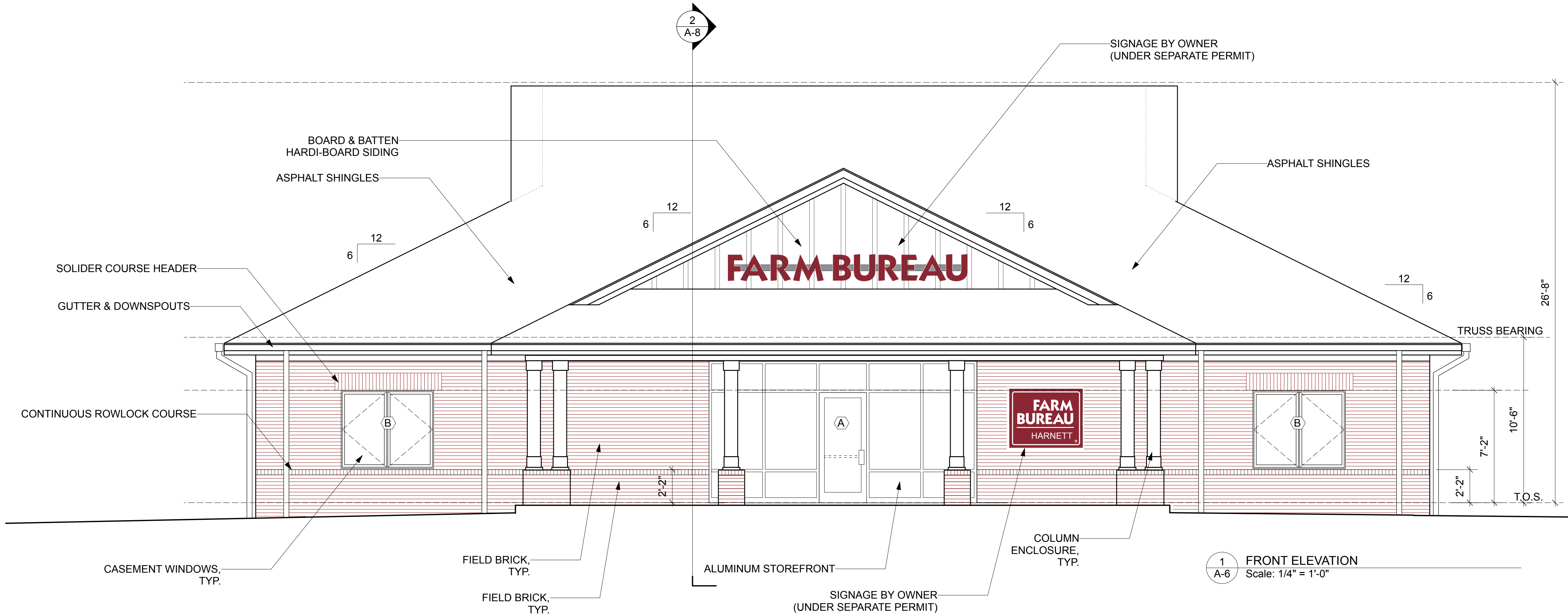
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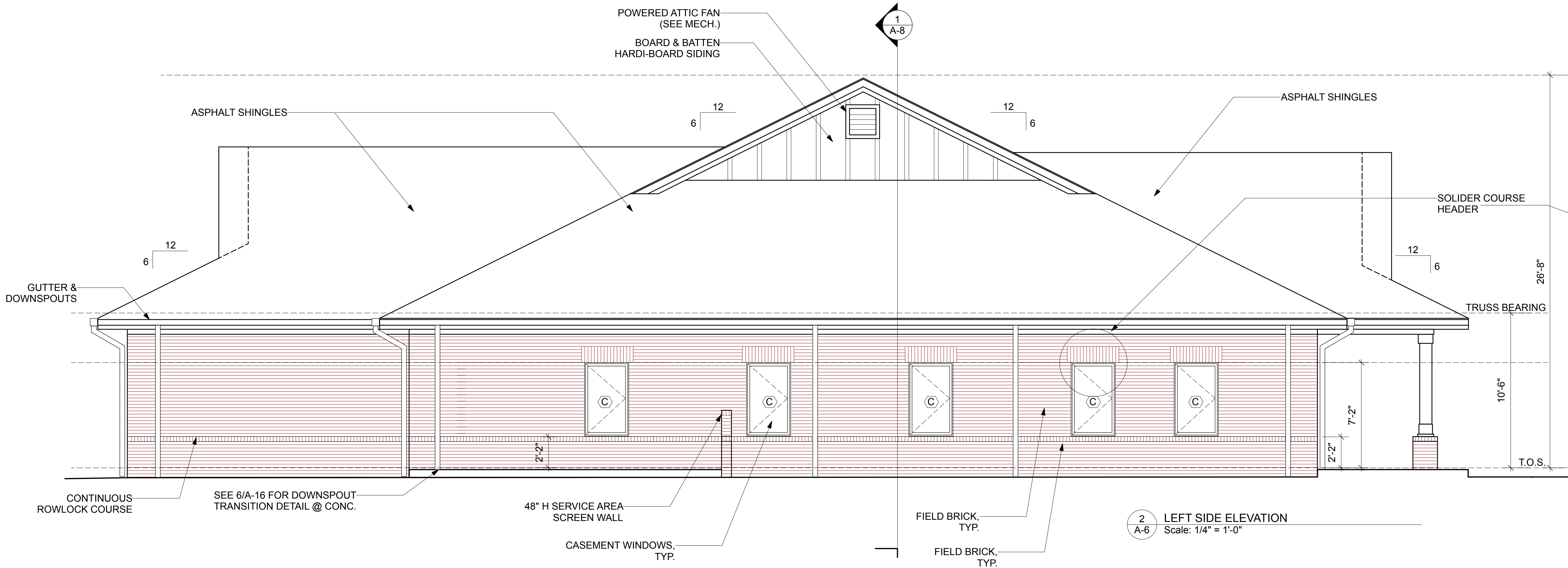
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1 FRONT ELEVATION  
Scale: 1/4" = 1'-0"



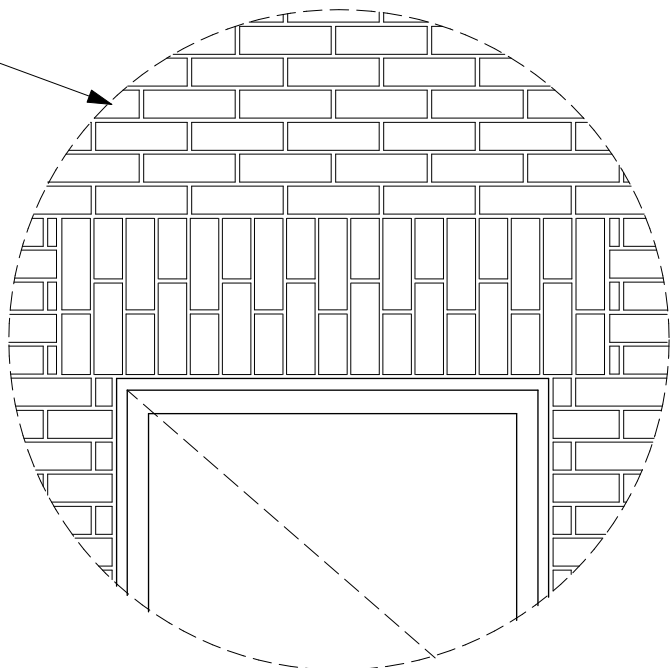
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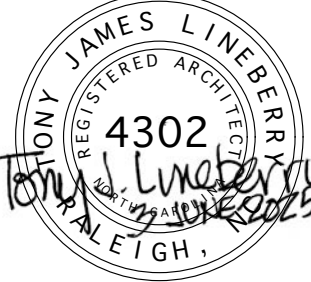
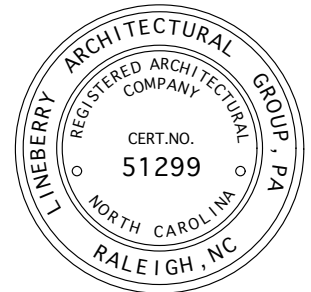
<b>BRICK</b>
BORAL BRICK- RED RANGE WIRE CUT (MODULAR) OR TRIANGLE BRICK- NORTH CAROLINA RED WIRE CUT (MODULAR)
<b>MORTAR</b>
COLOR: KHAKI
<b>ASPHALT SHINGLES</b>
MANF: CERTAINTEED; SYTLE: LANDMARK PRO COLOR: WEATHERED WOOD
<b>ALUMINUM DRIP EDGE</b>
COLOR: WHITE
<b>STOREFRONT</b>
CLEAR ANNOZIZED ALUMINUM FRAMES W/ 1" LOW-E INSULATED GLAZING; TINTED (@ FRONT )
<b>WINDOWS</b>
PELLA IMPERVIA FIBERGLASS CASEMENT INTERIOR FINISH: WHITE, EXTERIOR FINISH: WHITE, HARDWARE FINISH: WHITE, NO GRILLES; PROVIDE W/ NAILING FIN & SCREENS
<b>GUTTER &amp; DOWNSPOUT</b>
GUTTERS: SQUARE BOX PROFILE- MIN 6" DOWNSPOUT: MIN. 5"X5; COLOR: WHITE ALUMINUM
<b>COLUMN ENCLOSURE</b>
HARDIE-TRIM HZ10, CUT TO MATCH COLUMN DETAIL
<b>TRIM BOARDS</b>
HARDIE-TRIM HZ10, SIZES PER DRAWINGS

#### NOTES:

- SUBMIT SAMPLE OF EACH FOR FINAL APPROVAL.
- SEE SHEET A-13 FOR WINDOW & STOREFRONT ELEVATIONS.
- ALL VENT PIPES, ETC. EXTENDING ABOVE THE ROOF SURFACE MUST BE PAINTED A COLOR THAT BLENDS W/ ROOF COLOR.
- ALL EXTERIOR HARDIE TRIM TO BE PAINTED SHERWIN WILLIAMS,COLOR: EXTRA WHITE #7006 E15
- ALL STEEL LINTELS TO BE PAINTED, COLOR TO MATCH ADJACENT BRICK.
- SUBMIT STOREFRONT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.



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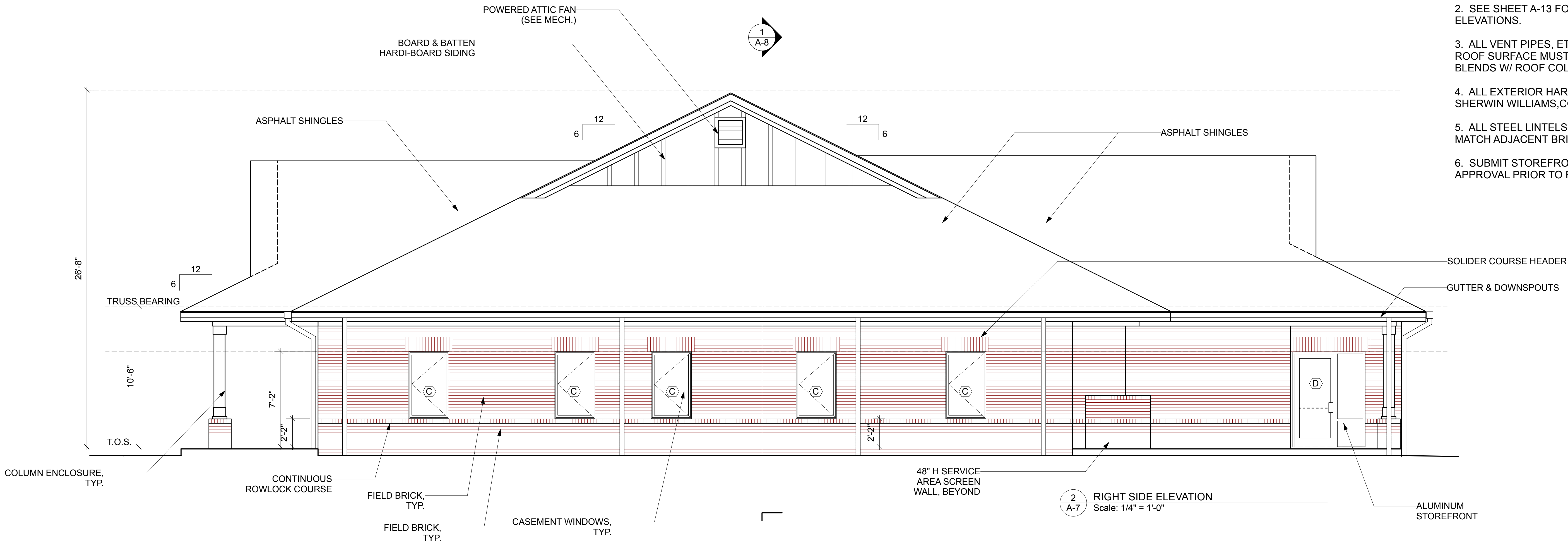
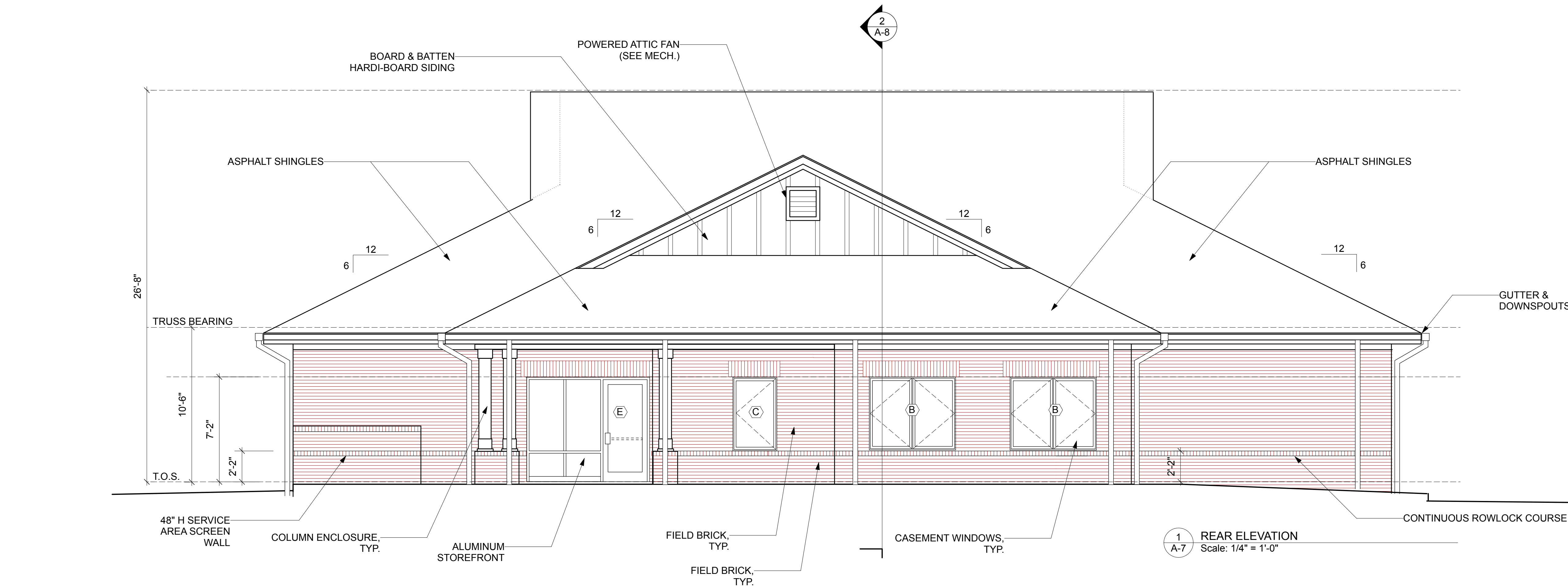
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**A-6**  
EXTERIOR  
ELEVATIONS





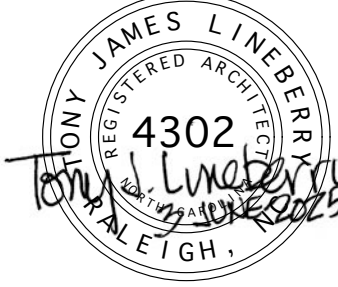
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COLOR: KHAKI
<b>ASPHALT SHINGLES</b>
MANF: CERTAINTED; SYTLE: LANDMARK PRO COLOR: WEATHERED WOOD
<b>ALUMINUM DRIP EDGE</b>
COLOR: WHITE
<b>STOREFRONT</b>
CLEAR ANNODIZED ALUMINUM FRAMES W/ 1" LOW-E INSULATED GLAZING; TINTED (@ FRONT )
<b>WINDOWS</b>
PELLA IMPERVIA FIBERGLASS CASEMENT INTERIOR FINISH: WHITE, EXTERIOR FINISH: WHITE, HARDWARE FINISH: WHITE, NO GRILLES; PROVIDE W/ NAILING FIN & SCREENS
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<b>COLUMN ENCLOSURE</b>
HARDIE-TRIM HZ10, CUT TO MATCH COLUMN DETAIL
<b>TRIM BOARDS</b>
HARDIE-TRIM HZ10, SIZES PER DRAWINGS

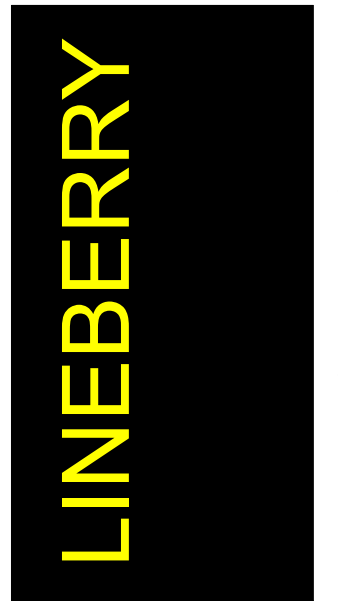
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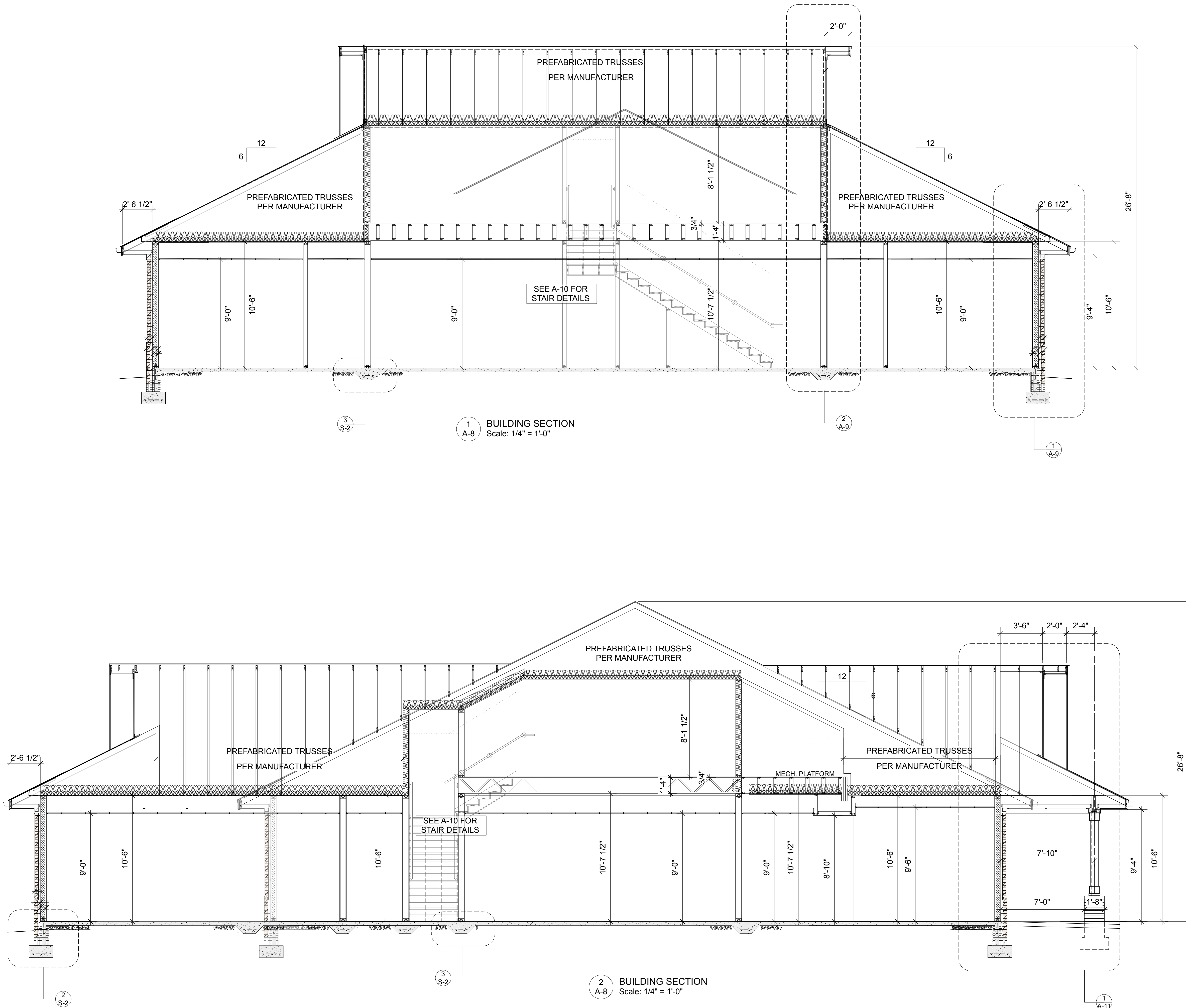
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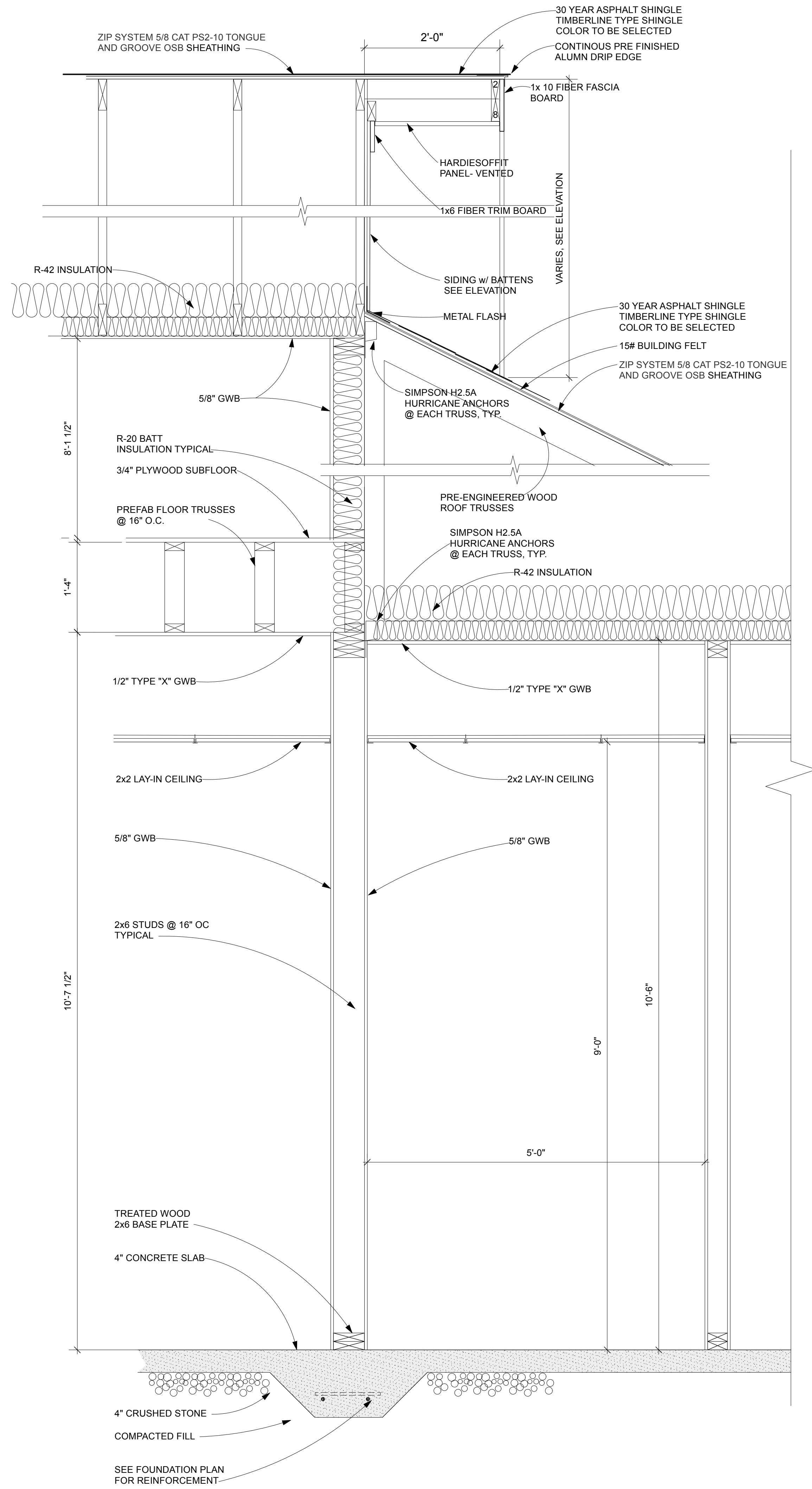
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**A-7**  
EXTERIOR  
ELEVATIONS

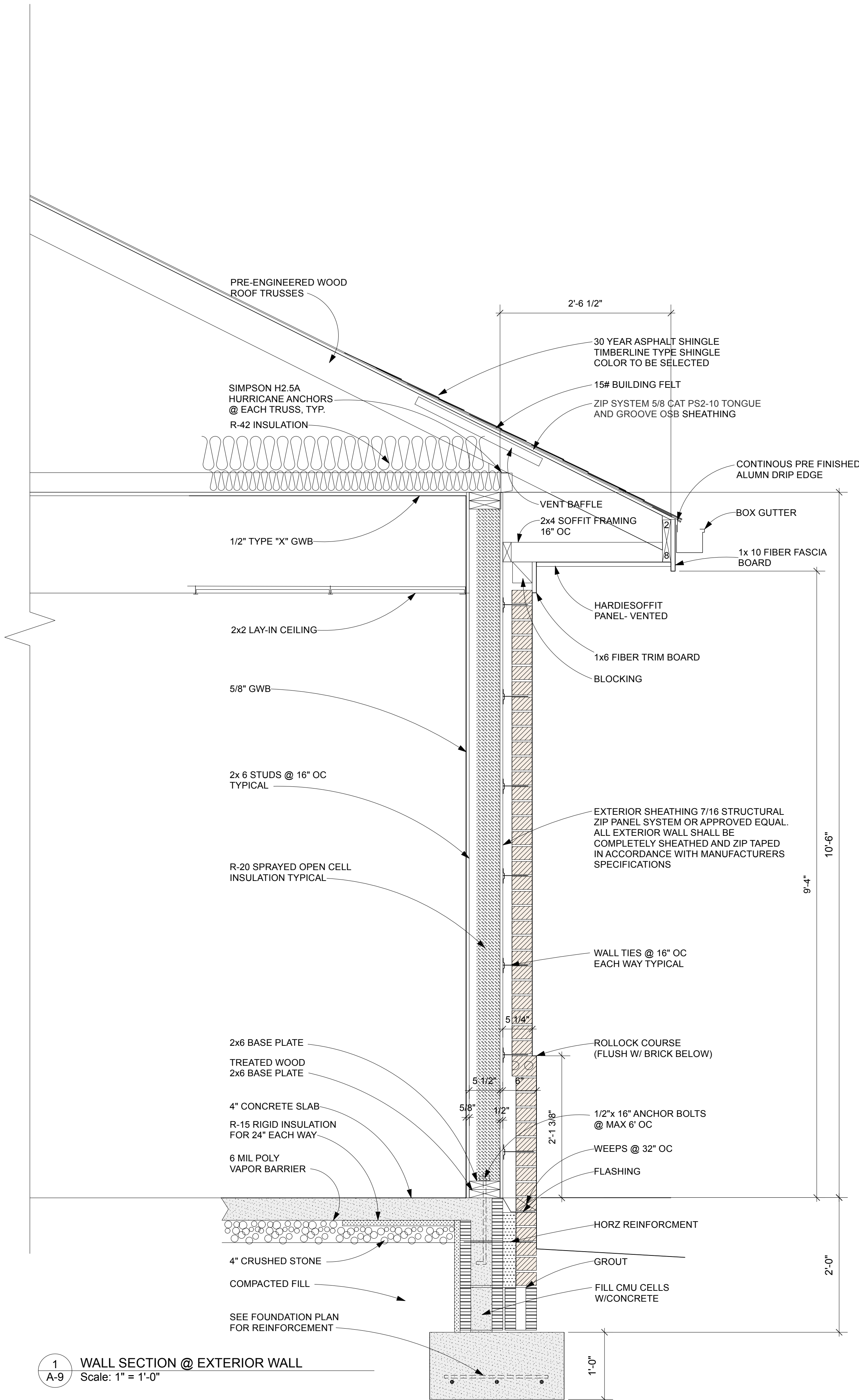




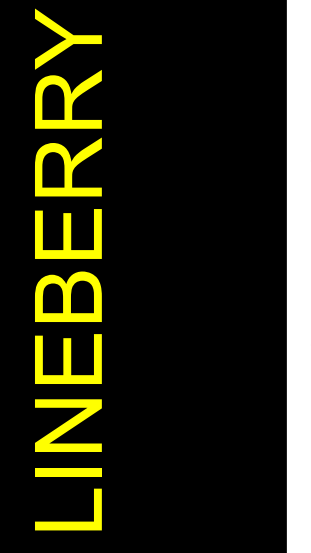
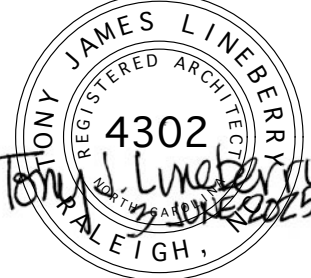
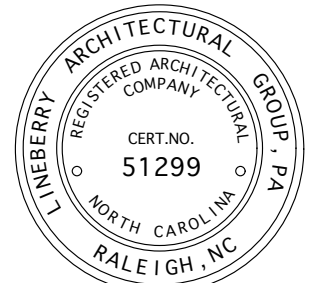




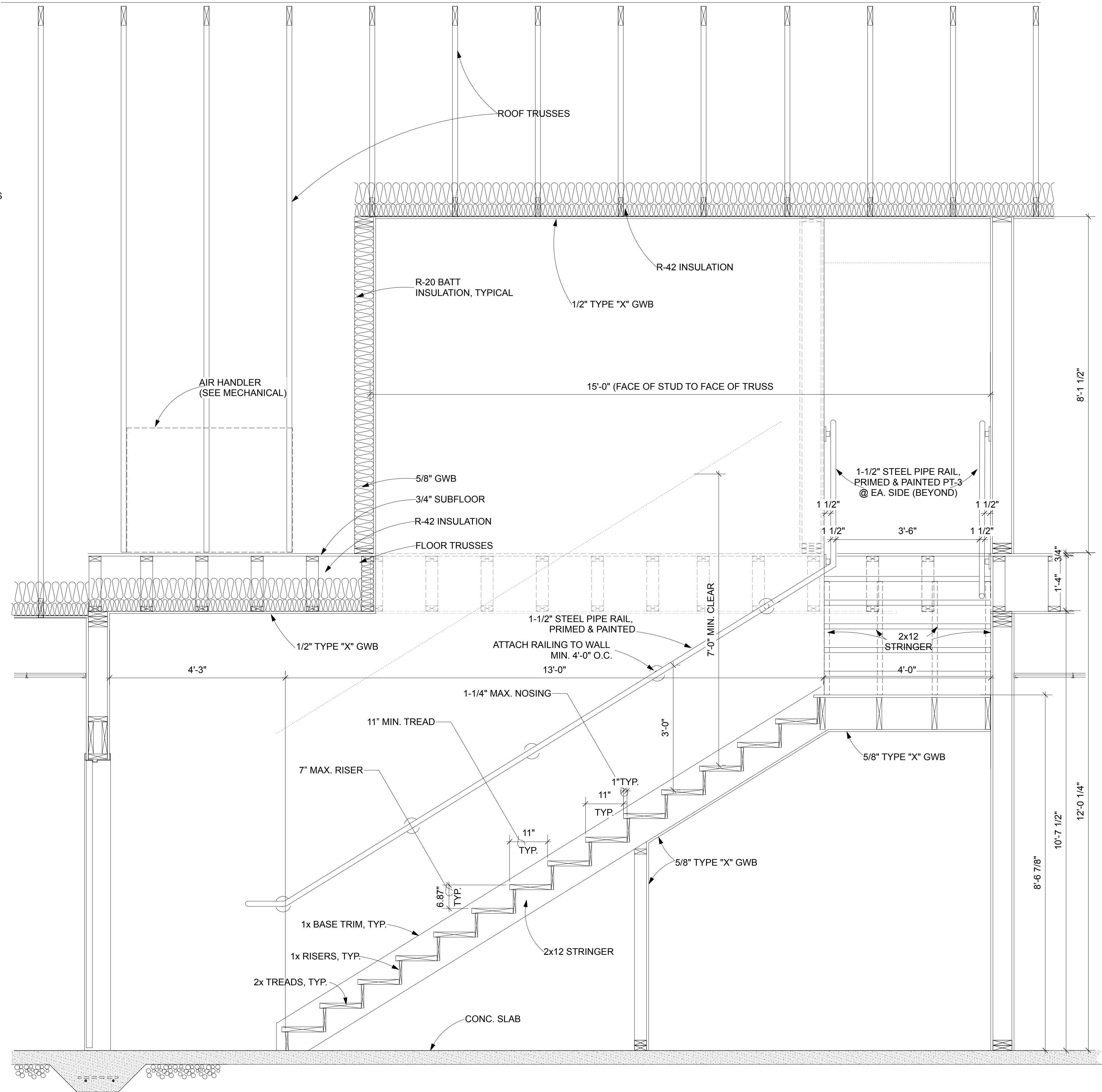
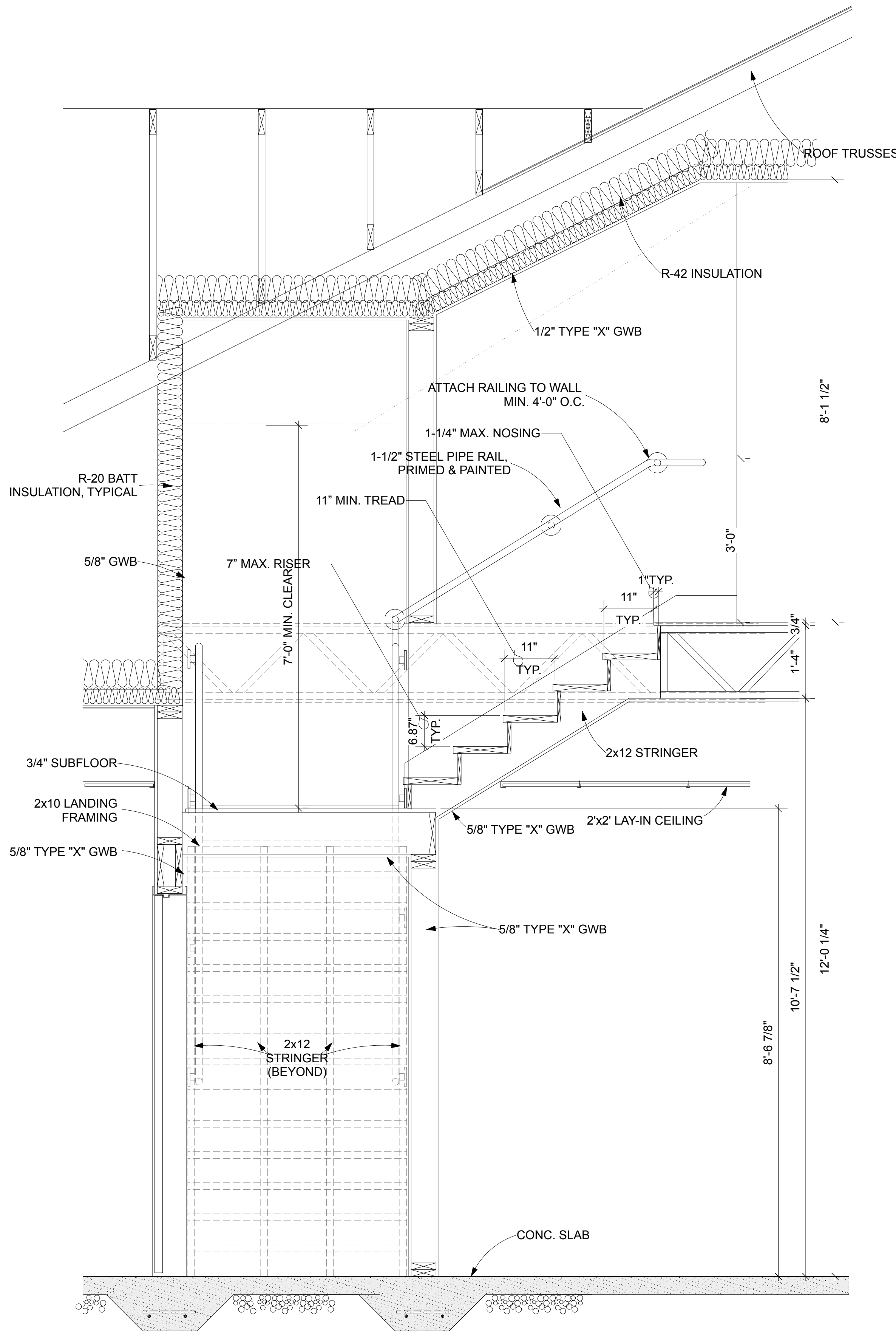
2 WALL SECTION @ INTERIOR BEARING WALL  
Scale: 1" = 1'-0"



1 WALL SECTION @ EXTERIOR WALL  
Scale: 1" = 1'-0"



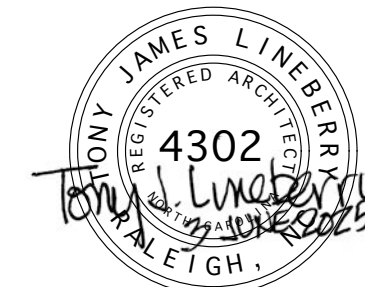




1 WALL SECTION @ STAIRS  
A-10 Scale: 3/4" = 1'-0"



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Lillington, North Carolina 27546



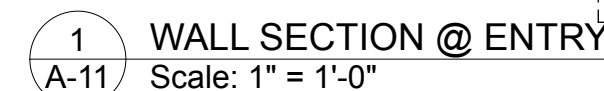
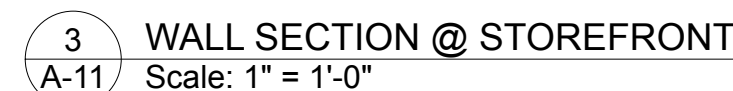
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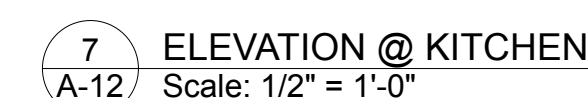
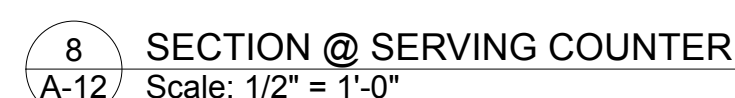
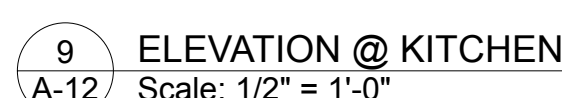
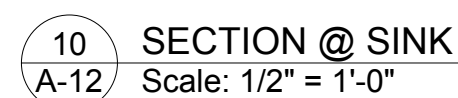
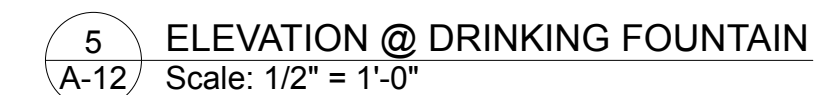
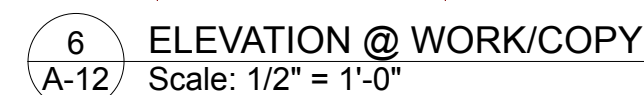
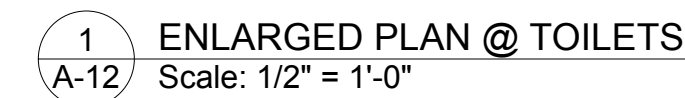
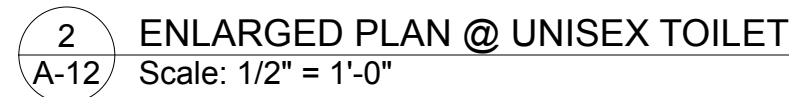
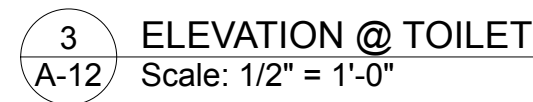
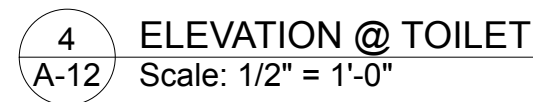
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Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025  
Updated: 2 MAY 2024

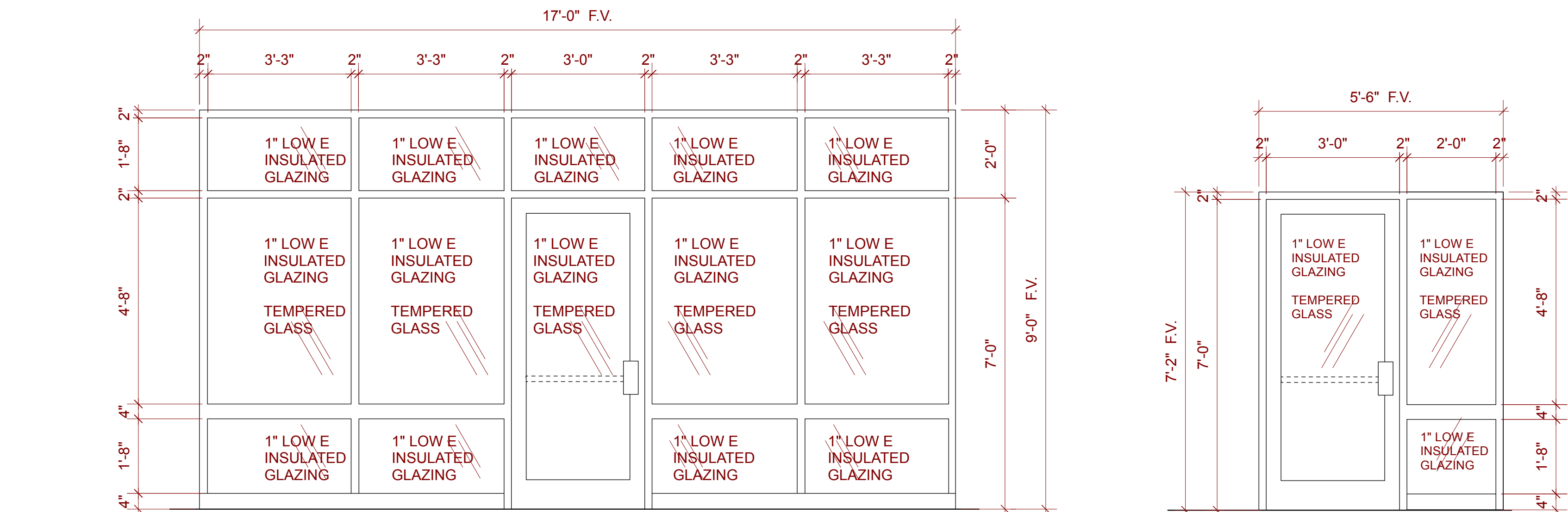
A-11  
WALL SECTION





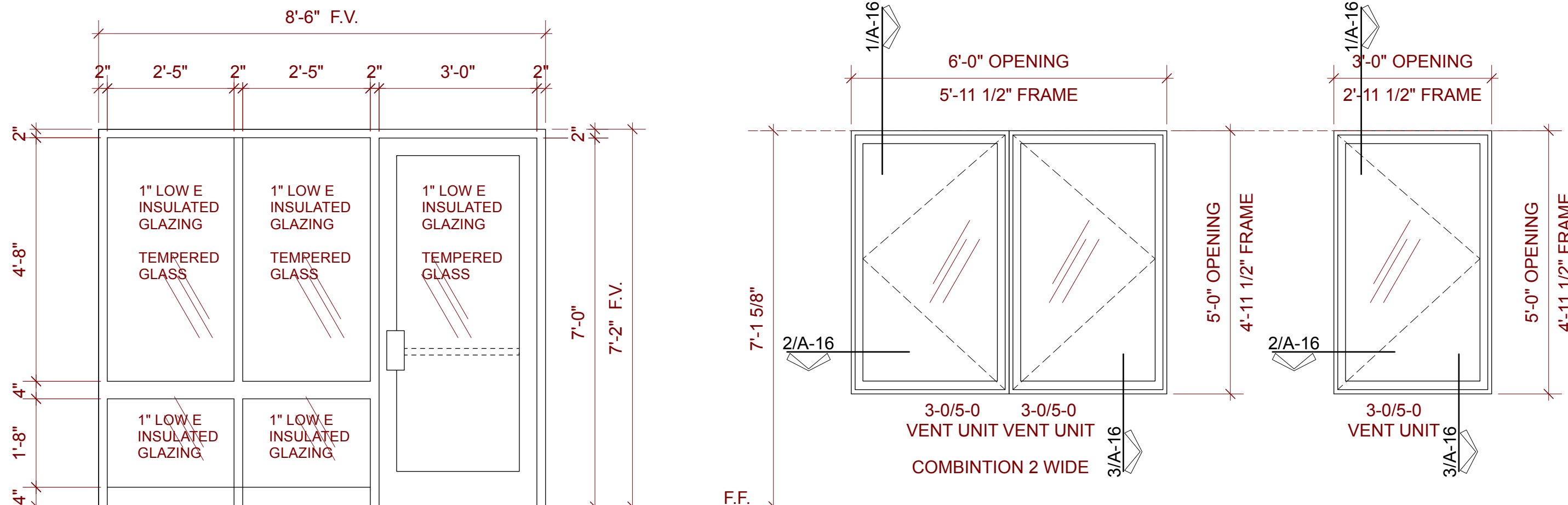






A DOOR TYPE  
Scale: 1/2" = 1'-0"

D DOOR TYPE  
Scale: 1/2" = 1'-0"



WINDOWS:

PELLA IMPERVIA  
FIBERGLASS CASEMENT

INTERIOR FINISH: WHITE  
EXTERIOR FINISH: WHITE  
HARDWARE FINISH: WHITE

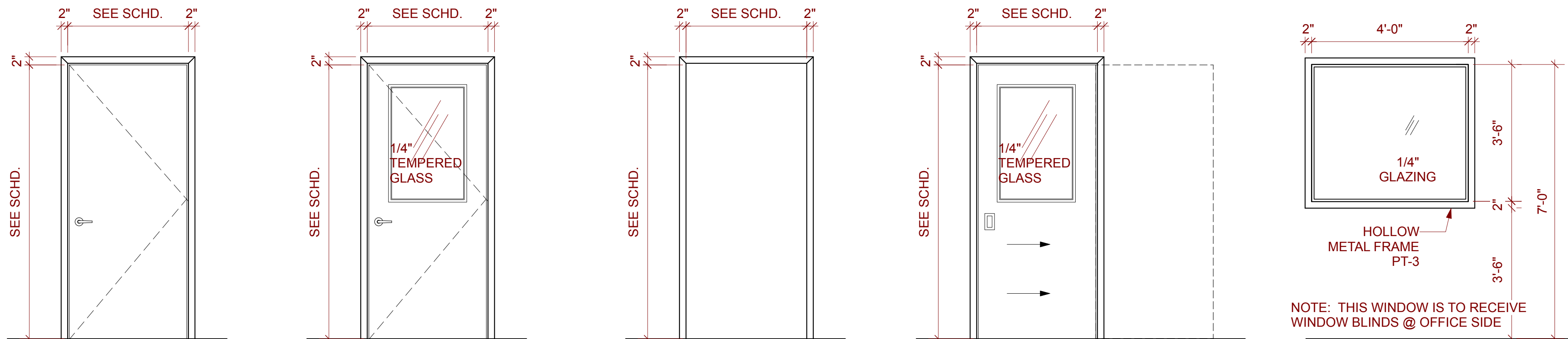
NO GRILLES  
PROVIDE W/ NAILING FIN &  
SCREENS

VERIFY OPENING SIZE W/  
MANUFACTURER

E DOOR TYPE  
Scale: 1/2" = 1'-0"

B WINDOW TYPE  
Scale: 1/2" = 1'-0"

C WINDOW TYPE  
Scale: 1/2" = 1'-0"



F DOOR TYPE  
Scale: 1/2" = 1'-0"

G DOOR TYPE  
Scale: 1/2" = 1'-0"

H DOOR TYPE  
Scale: 1/2" = 1'-0"

I DOOR TYPE  
Scale: 1/2" = 1'-0"

1 ELEVATION @ AM OFFICE #1  
Scale: 1/2" = 1'-0"

DOOR SCHEDULE:

NO:	ROOM NAME:	DOOR:				FRAME:		FIRE RATING	HARDWARE
		SIZE	TYPE	MAT'L	FINISH	MAT'L	FINISH		
1	EXTERIOR/WAITING	3'-0" X 7'-0"	A	ALUM.	ANODIZED	ALUM.	ANODIZED	--	P, CS, CL, PPB, WS, TH, DPL
2	HALL	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, COL, CS, S
3	OFFICE #1	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
4	STORAGE 1	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, OHS, PS, S
5	OFFICE #2	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
6	OFFICE #3	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
7	WORK/FILE ROOM	3'-0" X 7'-0" X CASED	H	--	--	HM	PT-3	--	--
8	OFFICE #4	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
9	AA WORK AREA	3'-0" X 7'-0" X 1-3/4"	I	SCWD-1	ST-1	HM	PT-3	--	SDH, SC, FP, EP
10	OFFICE #5	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
11	ATTIC STAIR	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, CS, PS, TH, WS, S
12	HALL	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, COL, CS, S
13	REAR EXIT/EXTERIOR	3'-0" X 7'-0"	D	ALUM.	ANODIZED	ALUM.	ANODIZED	--	P, CS, CL, PPB, WS, TH, DPL
14	KITCHEN	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
15	KITCHEN	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
16	BOARD RM/EXTERIOR	3'-0" X 7'-0"	D	ALUM.	ANODIZED	ALUM.	ANODIZED	--	P, CS, CL, PPB, WS, TH, DPL
17	BOARD ROOM	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
18	JANITOR	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, OHS, PS, S
19	WOMEN'S ROOM	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, WB, PRL, CS, S
20	MEN'S ROOM	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, WB, PRL, CS, S
21	HALL	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, COL, CS, S
22	SERVER	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
23	OFFICE #6	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
24	OFFICE #7	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
25	CSR WORK CENTER	3'-0" X 7'-0" X CASED	H	--	--	HM	PT-3	--	--
26	OFFICE #8	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
27	OFFICE #9	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
28	OFFICE #10	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
29	HALL	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, COL, CS, S
30	TOILET	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, WB, PRL, CS, S
31	CLOSING	3'-0" X 7'-0" X 1-3/4"	G	SCWD-1	ST-1	HM	PT-3	--	H, WB, PS, S
32	CSR AREA	3'-0" X 7'-0" X CASED	H	--	--	HM	PT-3	--	--
33	CSR AREA	3'-0" X 7'-0" X CASED	H	--	--	HM	PT-3	--	--
34	STORAGE 2	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, OHS, PS, S
35	UNFINISHED ATTIC	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, OHS, PS, TH, WS, S
36	UNFINISHED ATTIC	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, OHS, PS, TH, WS, S
37	UNFINISHED ATTIC	3'-0" X 7'-0" X 1-3/4"	F	SCWD-1	ST-1	HM	PT-3	--	H, OHS, PS, TH, WS, S

GENERAL NOTES:

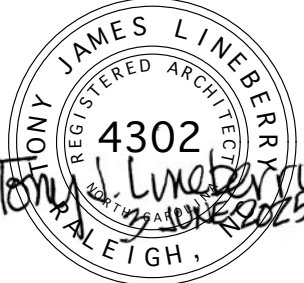
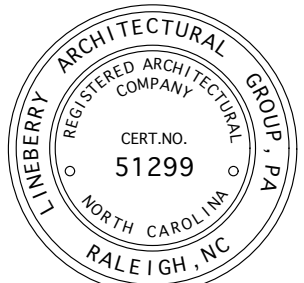
- ALL DOOR HANDLES TO BE SCHLAGE "ND" SERIES- ATHENS, SATIN CHROMIUM PLATED FINISH #626; UNO.
- ALL WOOD DOORS TO BE MASONITE ARCHITECTURAL ASPIRO SERIES PREFINISHED WOOD VENEER DOORS (SEE FINISH SCHEDULE).
- SUBMIT DOOR, FRAME & HARDWARE FOR ARCHITECT'S APPROVAL PRIOR TO ORDERING. NOTE: DOORS ARE A LONG LEAD ITEM.
- ALL HARDWARE TO BE SATIN CHROMIUM FINISH # 626

DOOR SCHEDULE LEGEND:

H	HINGES
HS	HEAVY DUTY HINGE STOP
P	PIVOT
AFB	AUTOMATIC FLUSH BOLTS
CS	SURFACE MOUNTED CLOSER
CL	CYLINDER LOCK
PBL	NARROW STILE PUSHBUTTON LOCK
DL	DUMMY LOCK
FS	FLOOR STOP
PRL	PRIVACY LOCK
SRL	STORAGE ROOM LOCK
COL	CORRIDOR LOCK
PS	PASSAGE LOCK SET
PPB	PUSH BAR/PULL HANDLE
OL	OFFICE LOCKSET
OHS	OVERHEAD STOP
EL	ENTRANCE LOCKSET
MC	MAGNETIC CATCH
S	SILENCERS
TH	THRESHOLD
WS	WEATHERSTRIPING
WB	WALL BUMPER
DLP	PULL/PUSH DEAD LATCH PADDLE
SDH	SLIDING DOOR HARDWARE
SC	SOFT CLOSE
FP	FLUSH PULL
EP	EDGE PULL
SCWD-1	SOLID CORE WOOD (SEE FINISH SCHEDULE)
ST-1	PREFINISHED WOOD VENEER (SEE FINISH SCHEDULE)
PT-3	PAIN (SEE FINISH SCHEDULE)
HM	HOLLOW METAL
ALUM.	ALUMINUM STOREFRONT
ANODIZED	CLEAR ANODIZED

NC FARM BUREAU

Harnett County, 105 E. Front Street  
Lillington, North Carolina 27546



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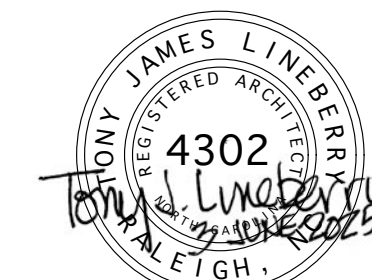
Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025

A-13

DOOR & WINDOW  
SCHEDULE



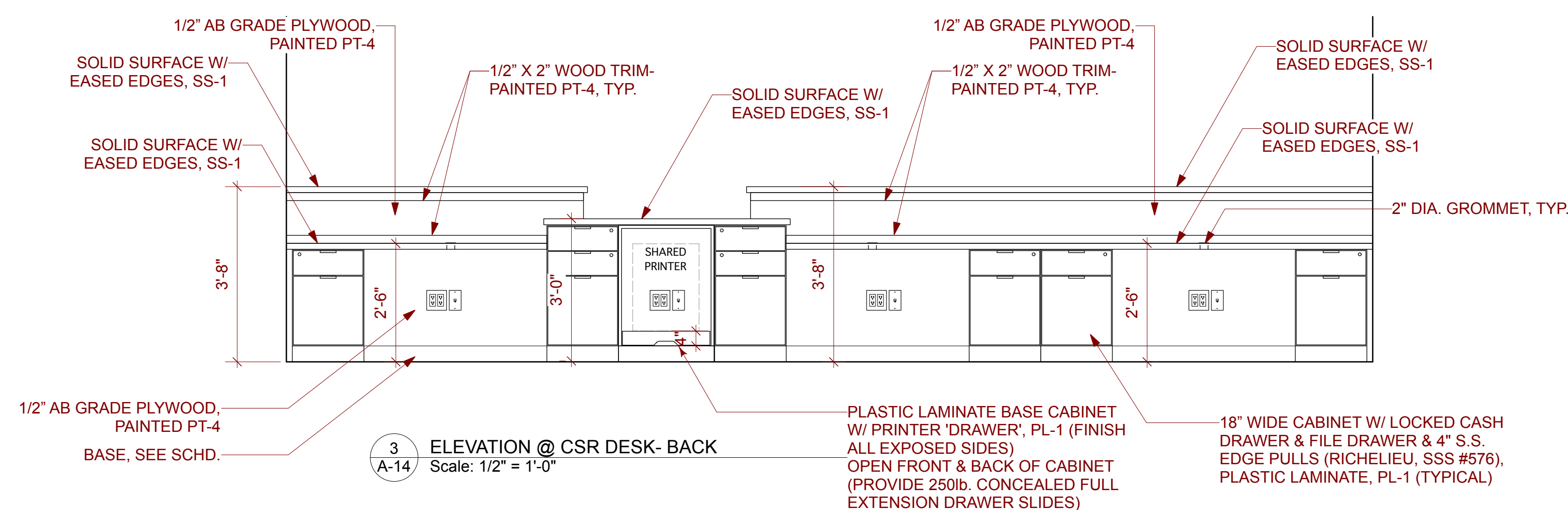
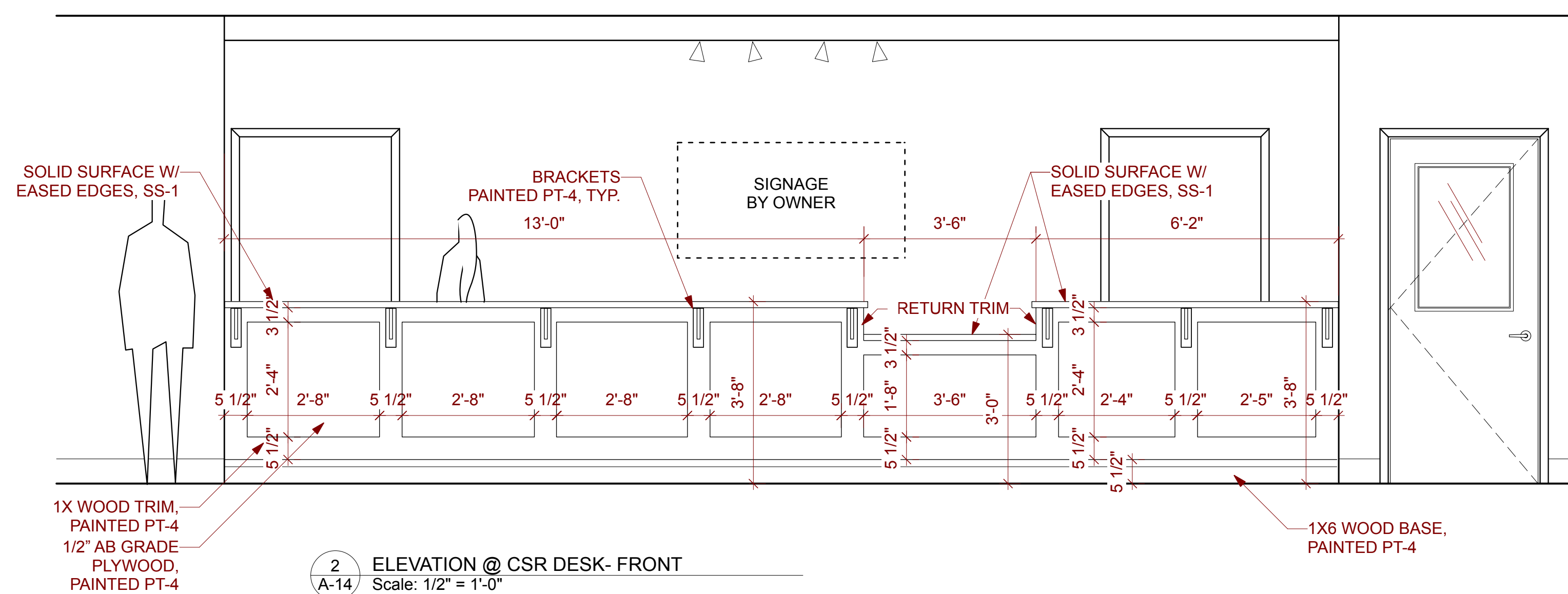
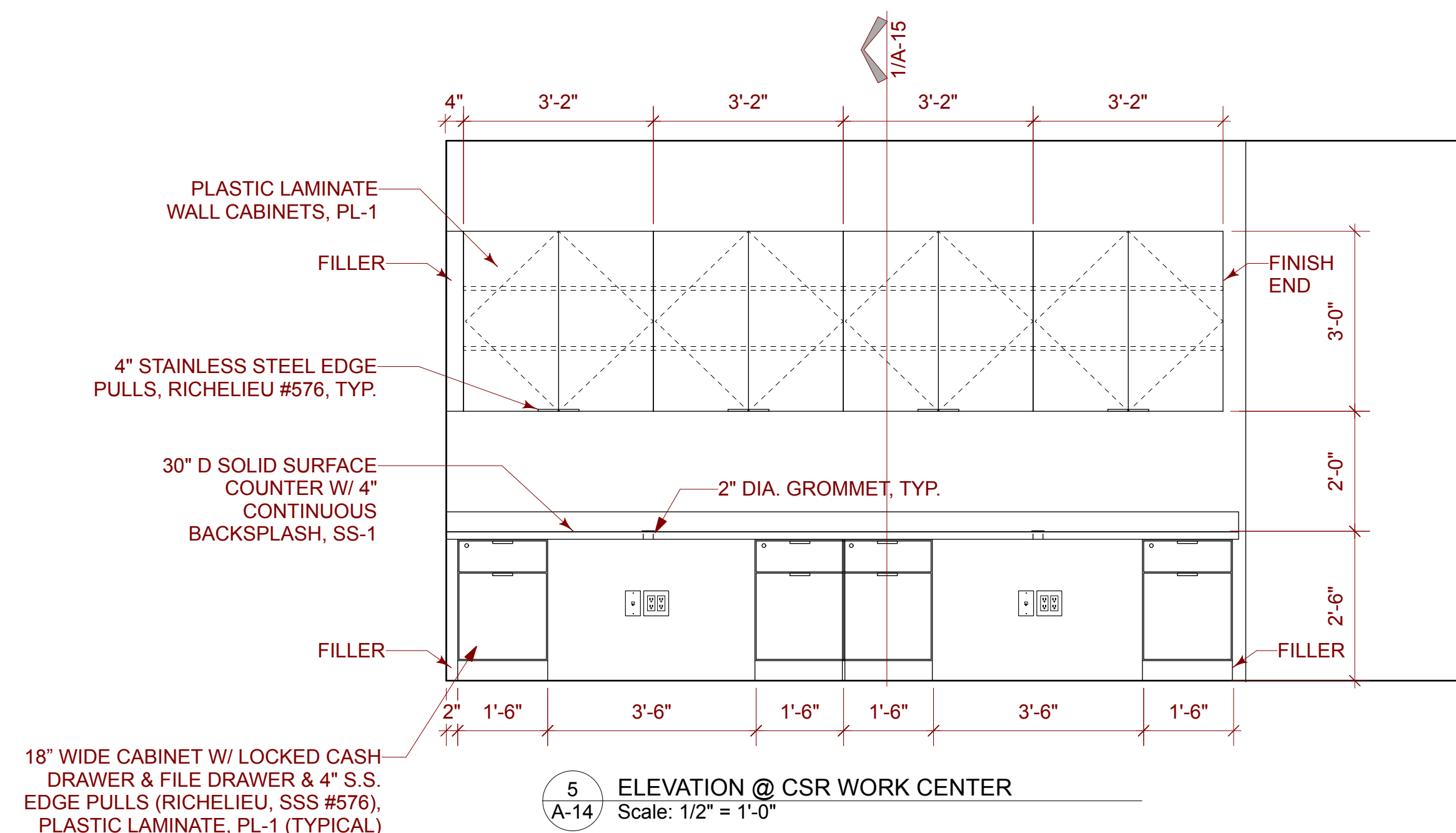
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Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025

A-14  
CSR MILLWOLF



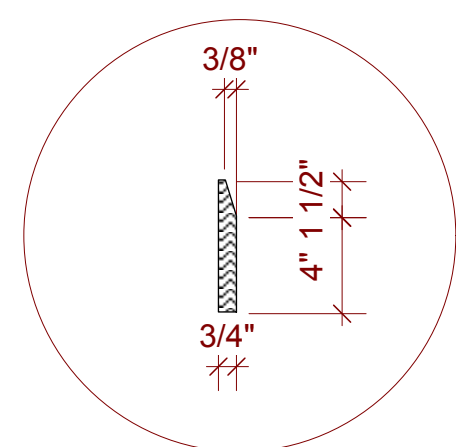


1. DOOR HINGES ARE TO BE HEAVY DUTY CONCEALED, SELF CLOSING ADJUSTABLE HINGES; CHROME FINISH.

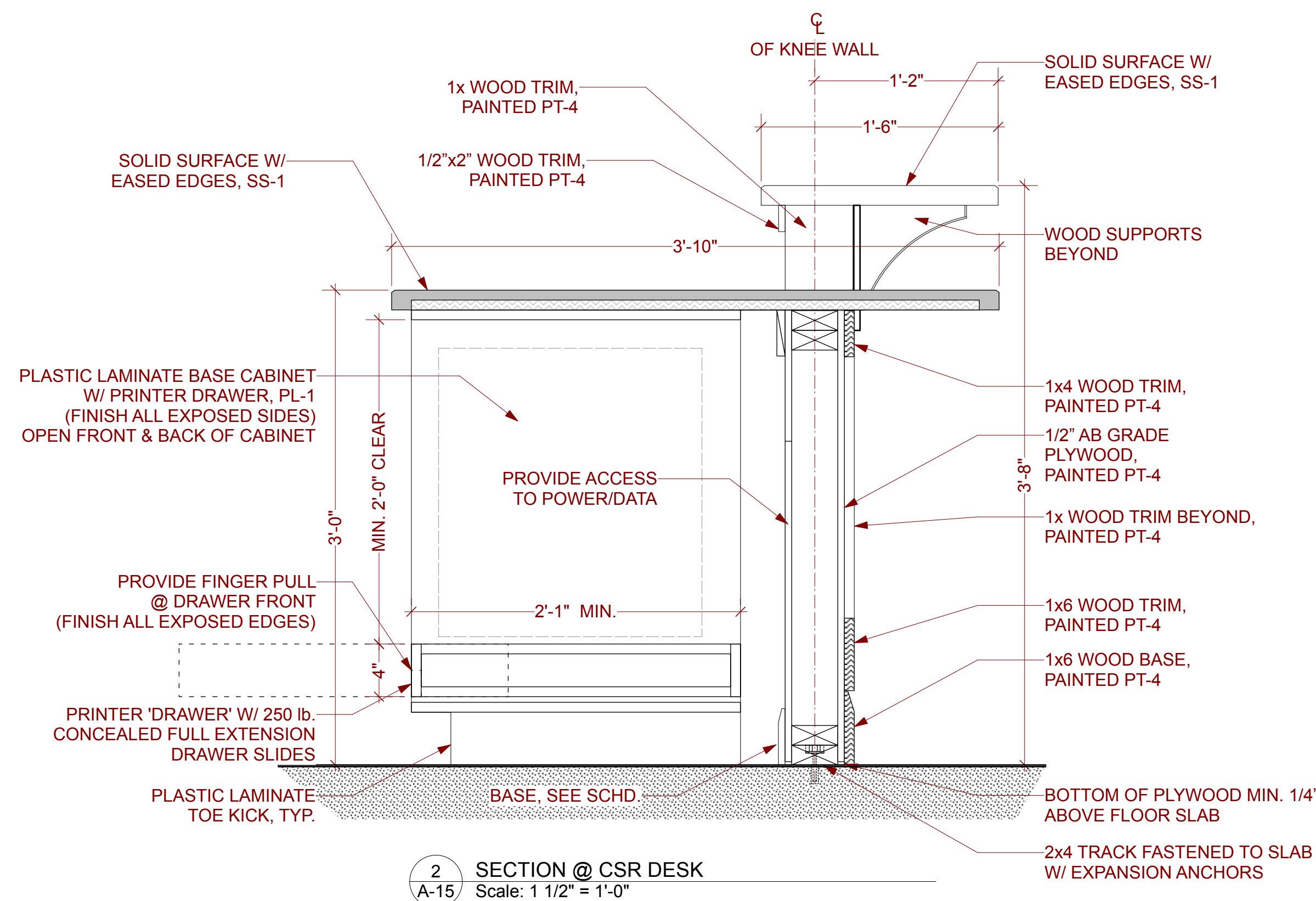
3. ALL CABINETS ARE TO HAVE 3/4" PLYWOOD SUBSTRATE CONSTRUCTION & WHITE MELAMINE FINISH ON INTERIOR SURFACES.

5. FLOORING IS TO BE INSTALLED PRIOR TO CSR MILLWORK INSTALLATION.

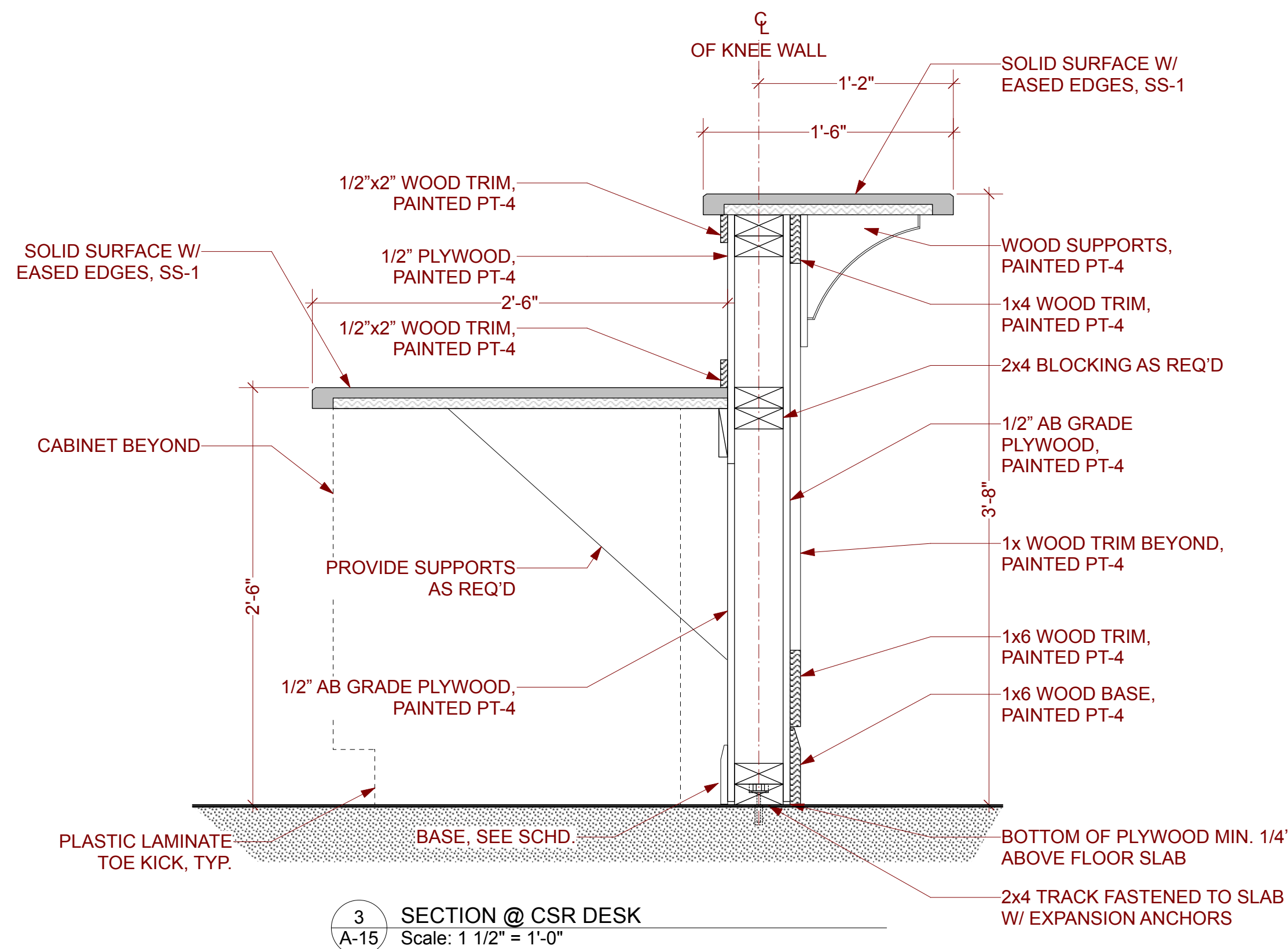
**7. SHOP DRAWINGS FOR MILLWORK TO BE APPROVED PRIOR TO FABRICATION.**



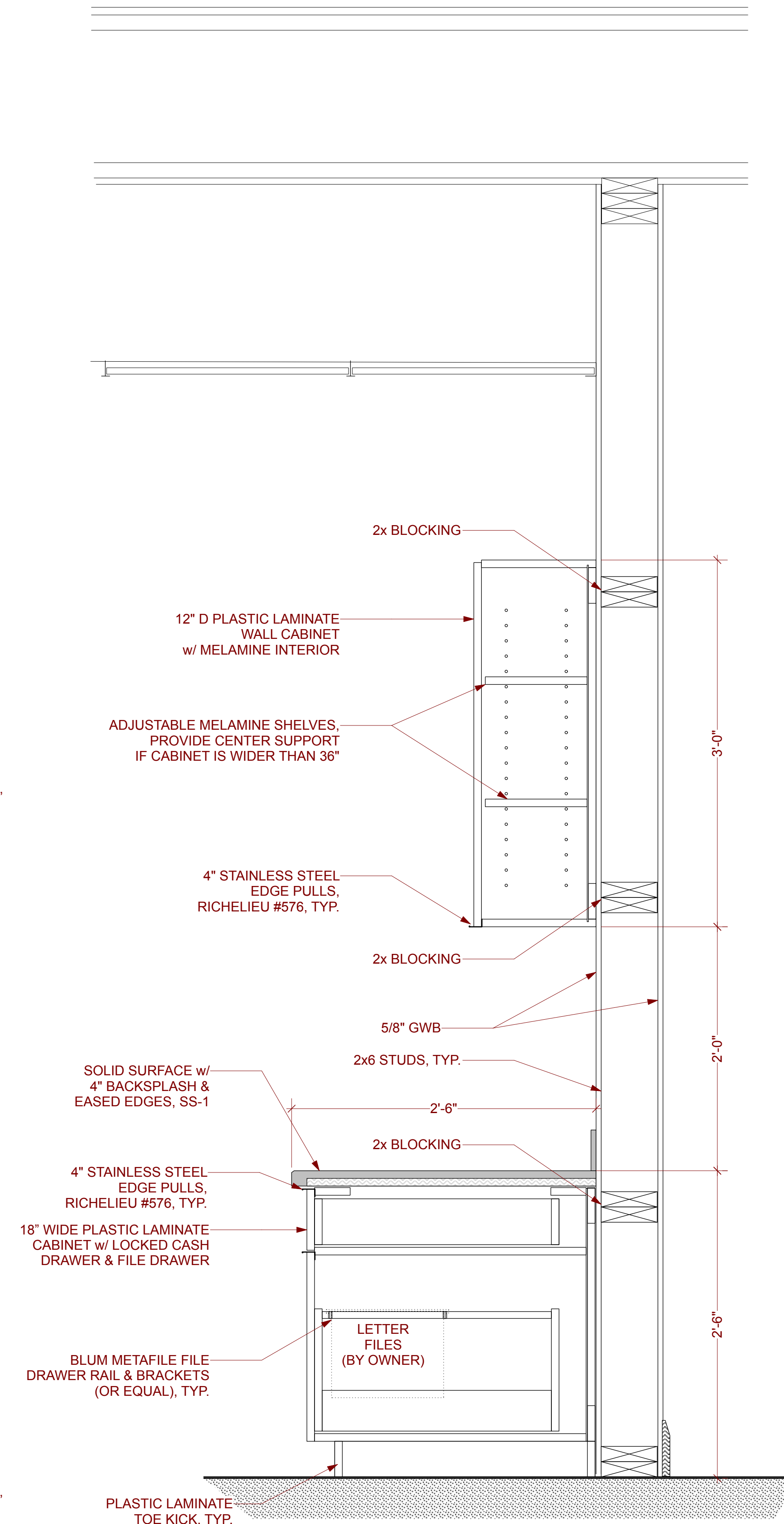
4 1x6 WOOD BASE DETAIL  
A-15 Scale: 1 1/2" = 1'-0"



2 SECTION @ CSR DESK  
A-15 Scale: 1 1/2" = 1'-0"



3 SECTION @ CSR DESK  
A-15 Scale: 1 1/2" = 1'-0"



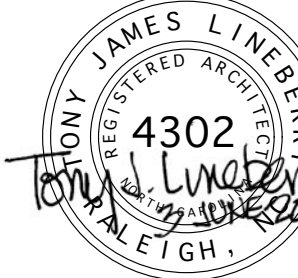
1 SECTION @ CSR WORK CENTER  
A-15 Scale: 1 1/2" = 1'-0"

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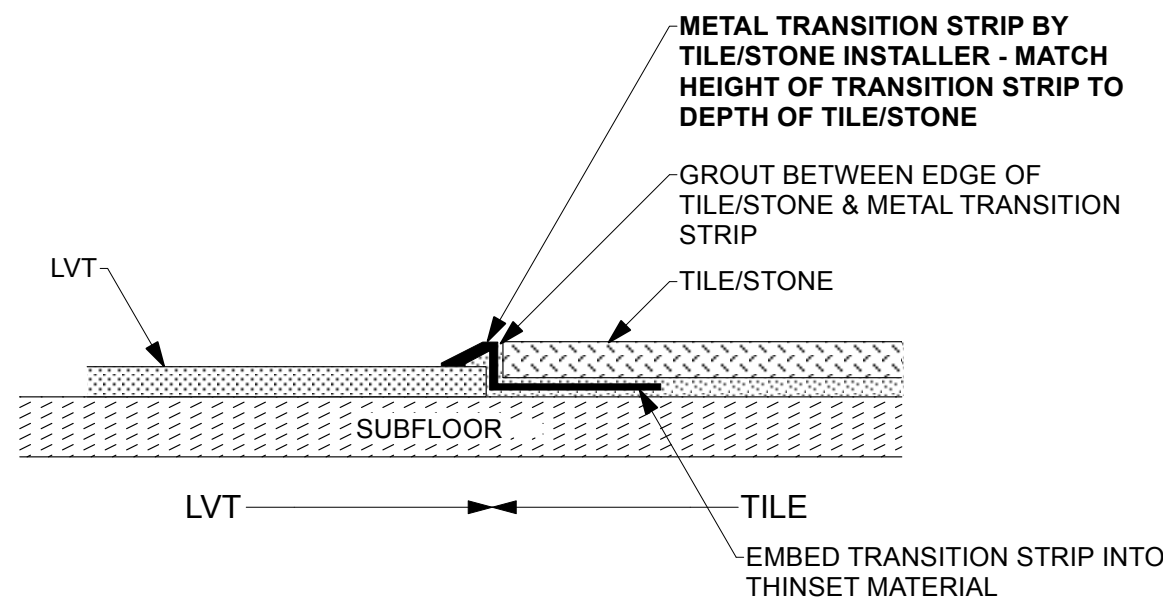
# NC FARM BUREAU

**Darnett County, 105 E. Front Street  
Lillington, North Carolina 27546**

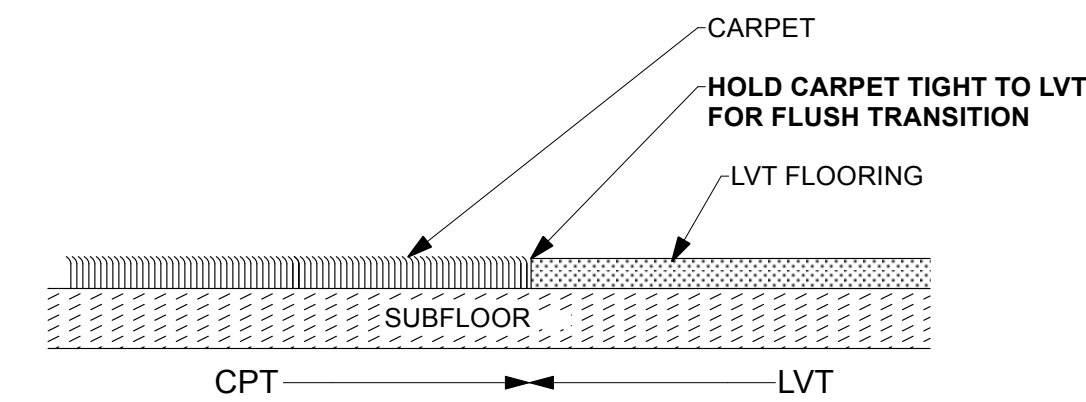
Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025

A-15  
CSR MILLWORK

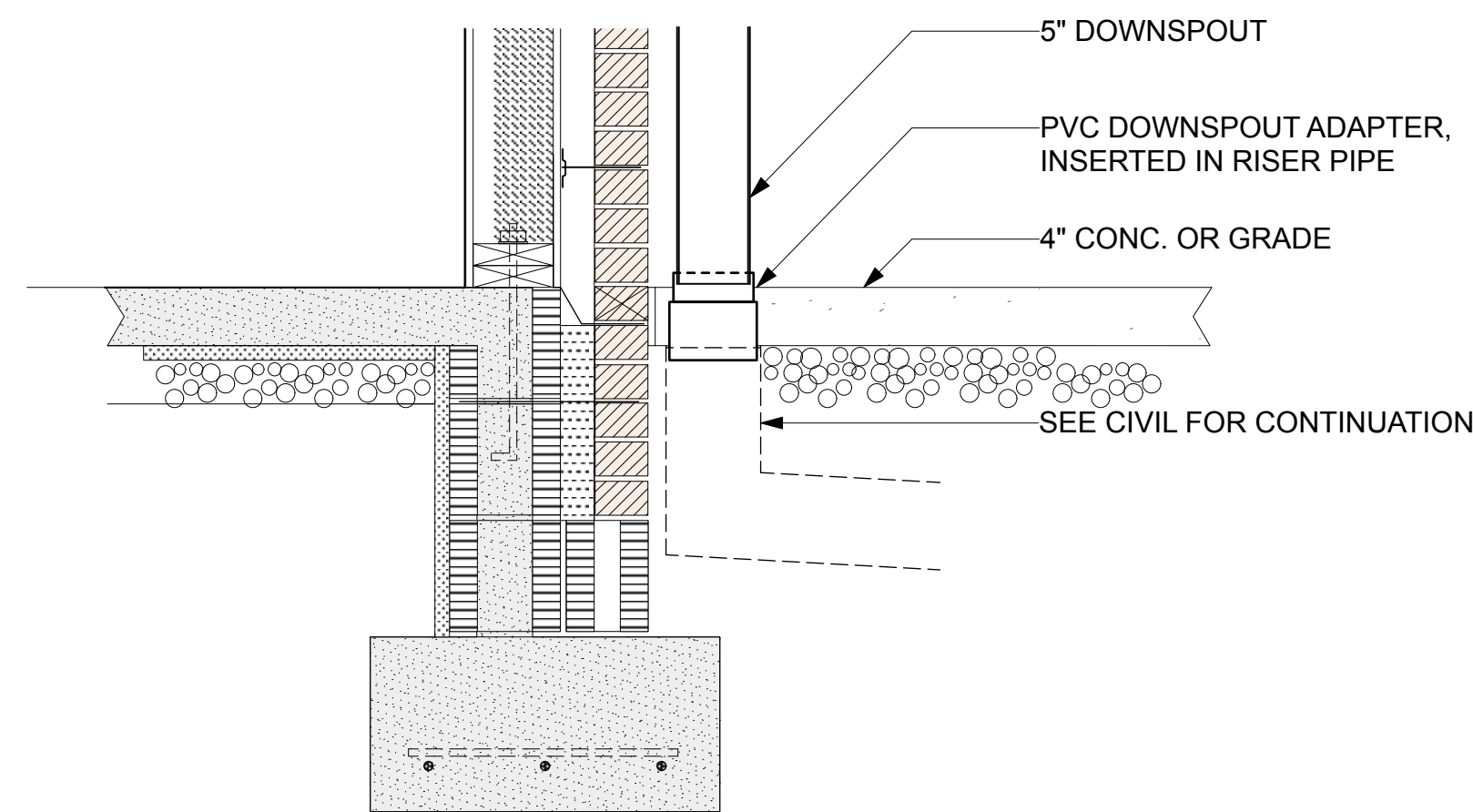




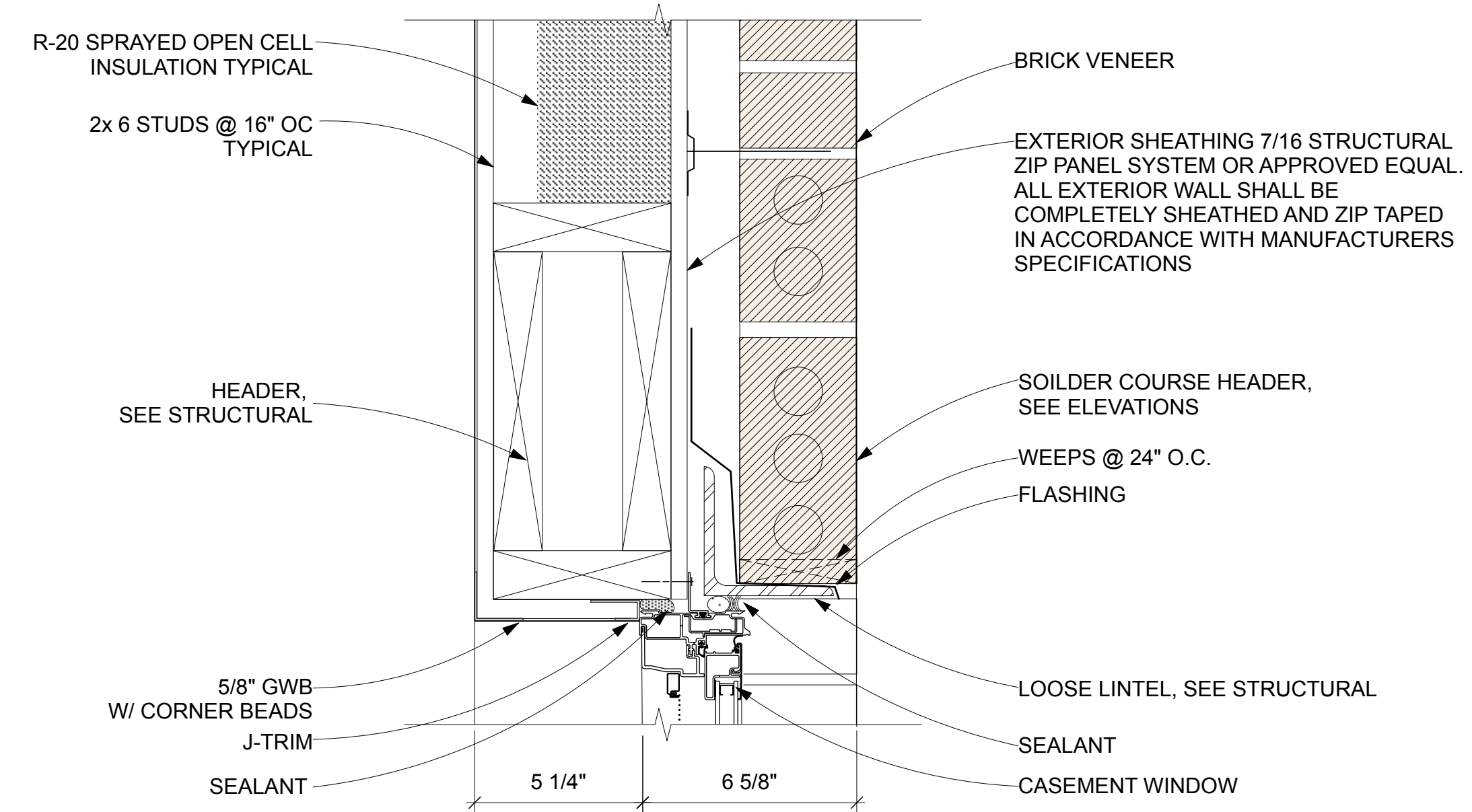
4 EDGE DETAIL - TILE/STONE TO LVT  
A-16



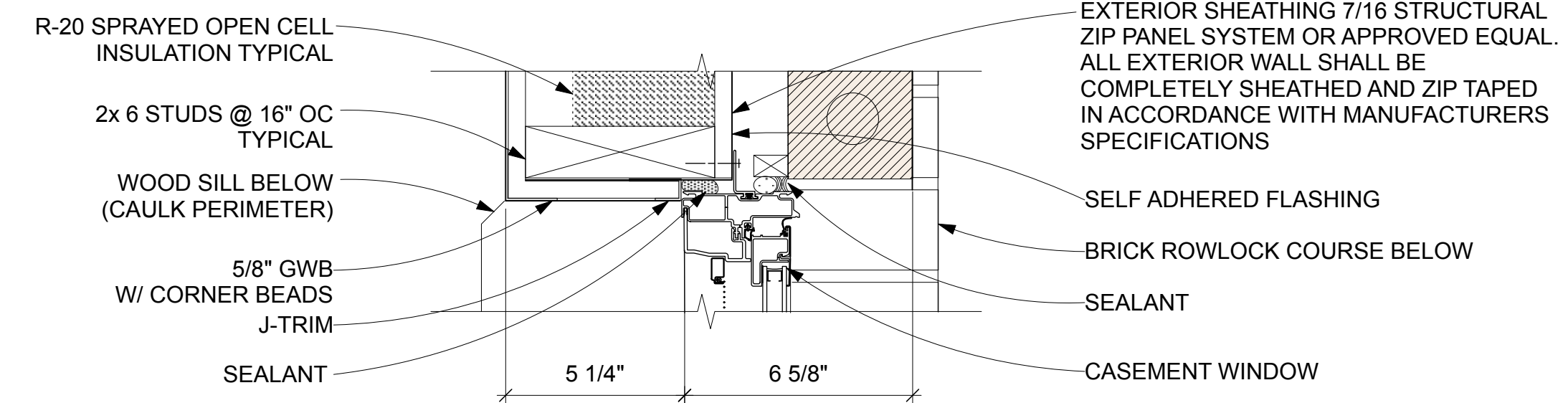
5 EDGE DETAIL - LVT TO CARPET  
A-16



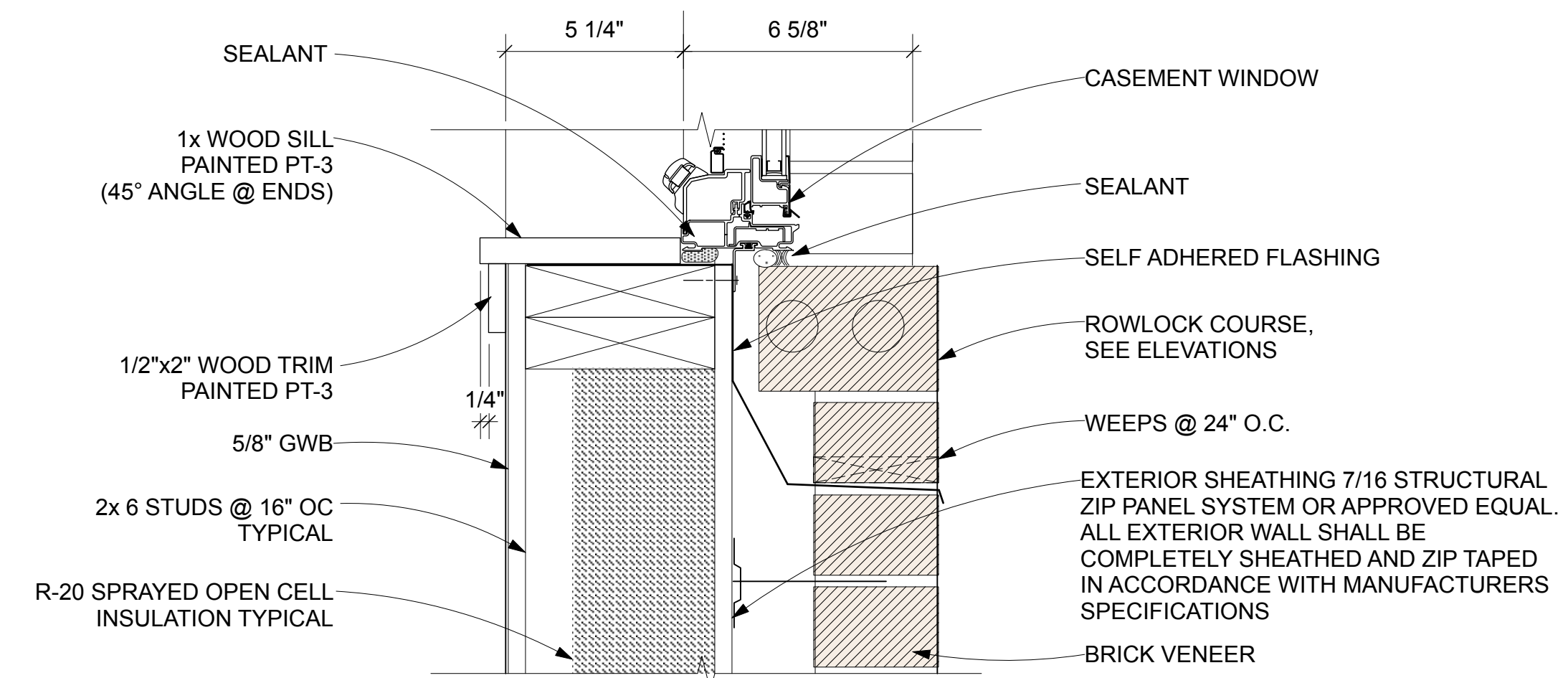
6 DOWNSPOUT TRANSITION DETAIL  
A-16 Scale: 1" = 1'-0"



1 HEAD @ WINDOW  
A-16 Scale: 3" = 1'-0"

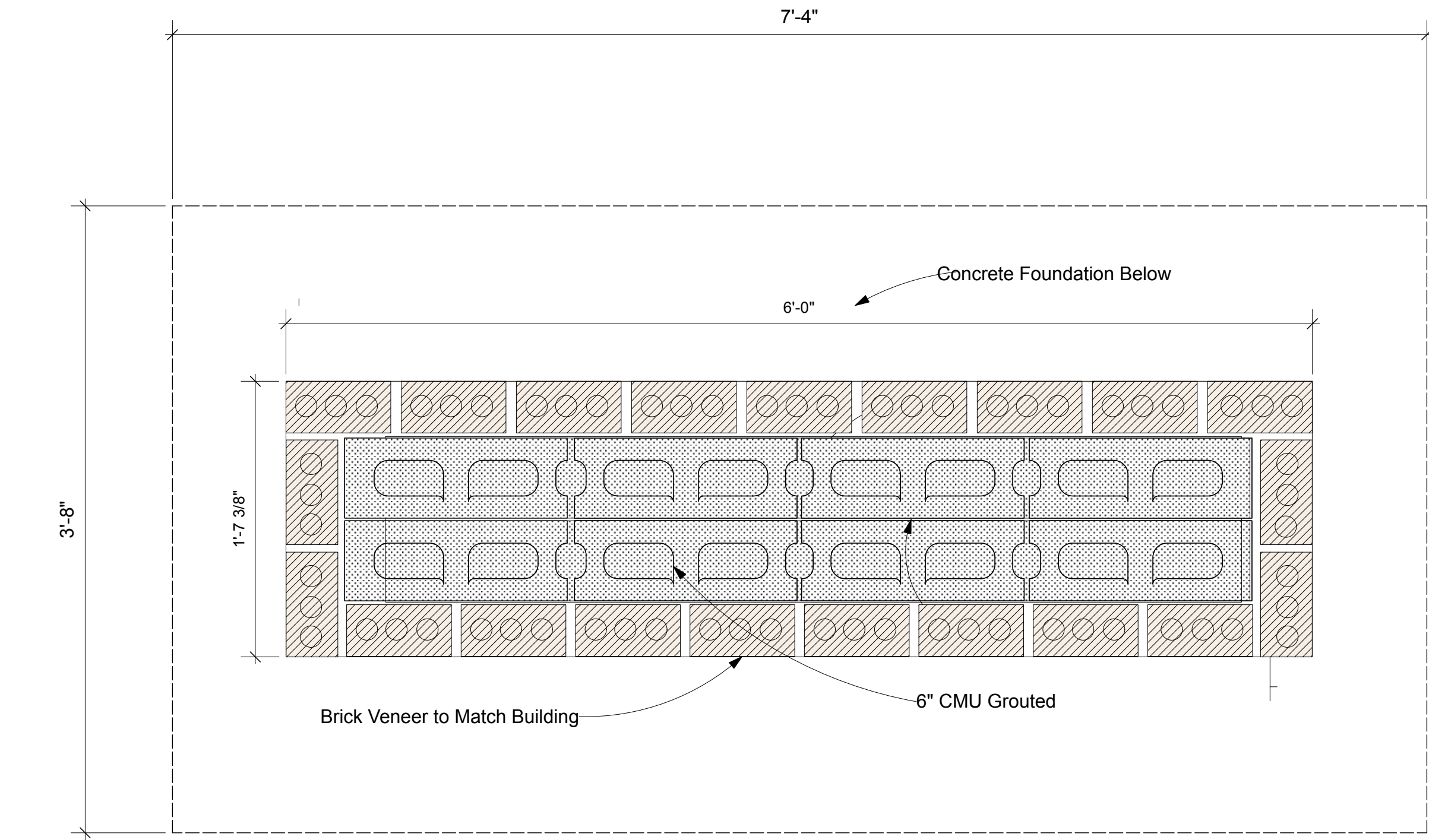


2 JAMB @ WINDOW  
A-16 Scale: 3" = 1'-0"



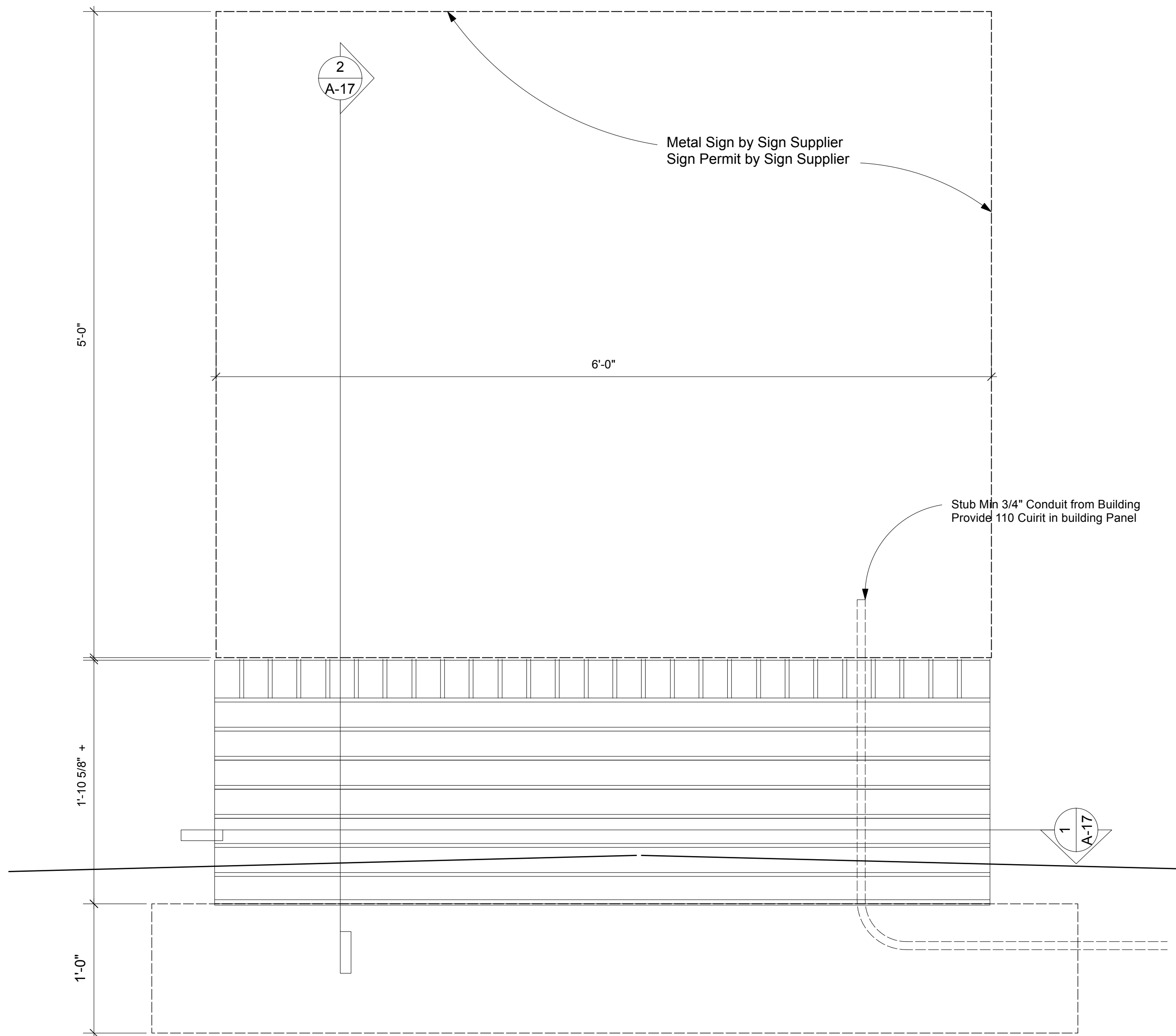
3 SILL @ WINDOW  
A-16 Scale: 3" = 1'-0"



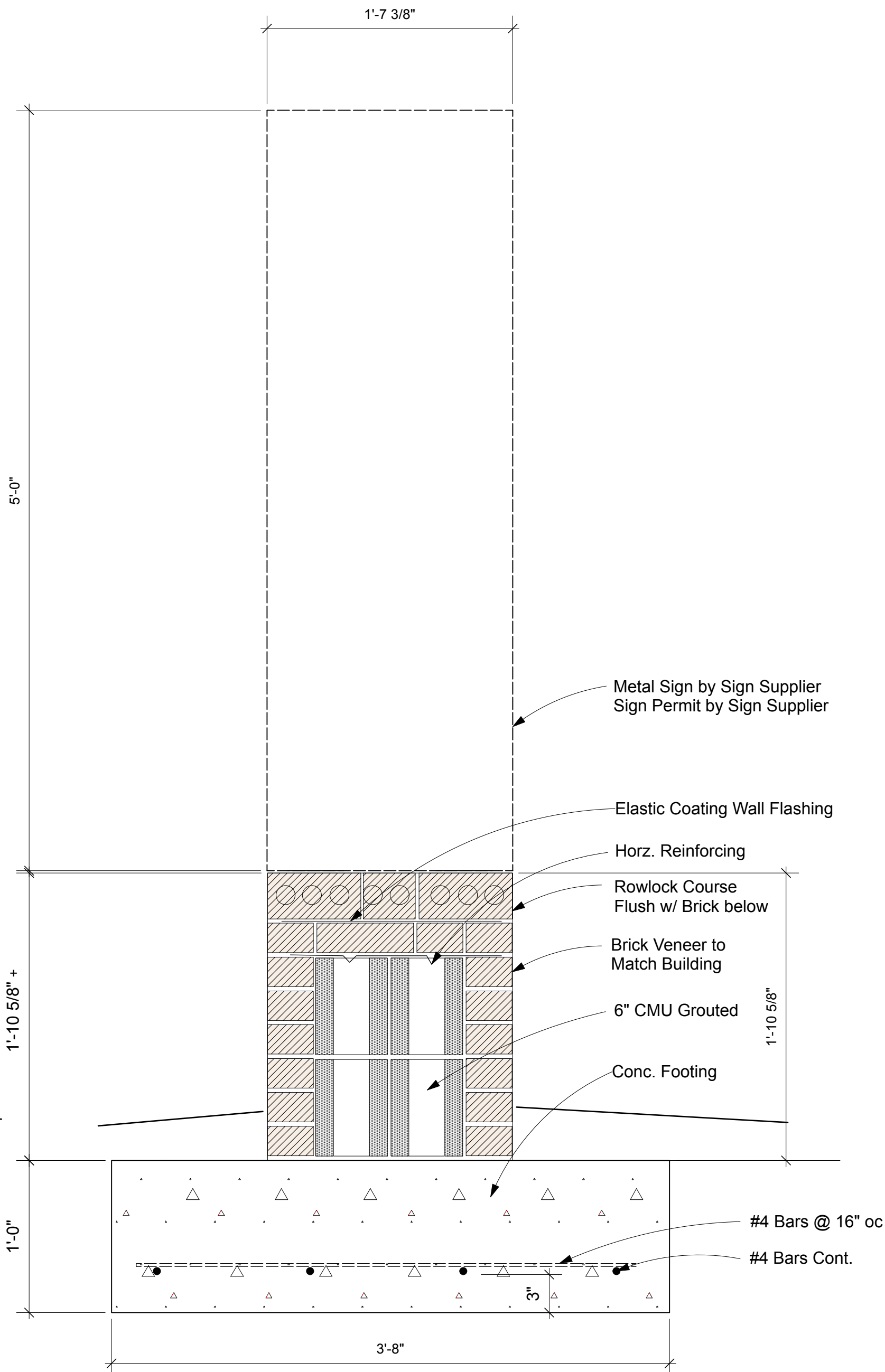


1  
A-17 Plan Section Thru Base of Sign  
Scale: 1 1/2" = 1'-0"

NOTE:  
SIGN MANUFACTURER TO PROVIDE  
SHOP DRAWINGS FOR ARCHITECT'S  
APPROVAL PRIOR TO FABRICATION

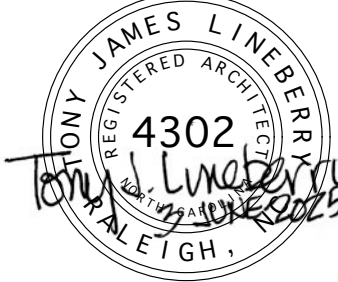


3  
A-17 Sign Base Elevation  
Scale: 1 1/2" = 1'-0"



2  
A-17 Sign Base Section  
Scale: 1 1/2" = 1'-0"

**NC FARM BUREAU**  
Harnett County, 105 E. Front Street  
Lillington, North Carolina 27546



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**LINEBERRY**

Project Number : 1910.15  
Drawn By: MJ  
Date: 3 JUNE 2025

**A-17**  
DETAILS



PLUMBING GENERAL NOTES				
<b>GENERAL REQUIREMENTS:</b> 1. THE P.C. SHALL FURNISH AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS, AND FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK. 2. ALL WORK IS SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND ALL OTHER APPLICABLE CODES. THE P.C. SHALL COORDINATE WITH G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AND ANY BONDING OR INSURANCE REQUIREMENTS. 3. ALL PLUMBING FIXTURES AND PLUMBING SYSTEM EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, VALVES, STOPS, TAILPIECES, TRAPS, FAUCETS, STRAINERS, ETC. REGARDLESS OF PRESENCE ON PLANS. SEE FIXTURE SCHEDULE. 4. ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE. IF LONGER, EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT. 5. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL PERMIT. 6. DO NOT SCALE DRAWINGS FOR MEASUREMENT. 7. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND MANUFACTURER'S MODEL NUMBER. IF A CONFLICT IS PRESENT BETWEEN DESCRIPTION AND MODEL NUMBER, THE EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN THE CASE OF A CONFLICT BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT. 8. THE P.C. IS RESPONSIBLE FOR CLARIFYING ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED WITH THE G.C. PRIOR TO SUBMITTING A BID. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK. 9. ALL QUESTIONS SHALL BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND SHALL BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER. 10. THE P.C. SHALL REVIEW THE COMPLETE DRAWING SET. THE P.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN AND WORK IMPLIED. UNLESS OTHERWISE NOTED FINAL PLUMBING CONNECTION TO ALL EQUIPMENT, FIXTURES, ETC. IS THE RESPONSIBILITY OF THE P.C.		3. THE P.C. SHALL COORDINATE WITH THE G.C. AND ARCHITECTURAL PLANS TO ENSURE NECESSARY BACKINGS/SUPPORTS ARE INSTALLED TO ALLOW INSTALLATION OF PLUMBING FIXTURES. 4. THE PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE PLUMBING WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ELECTRICAL CONNECTIONS, ETC.). 5. PIPING SHALL BE COORDINATED WITH ALL STRUCTURAL FOOTINGS AND FOUNDATIONS. PIPE SHOULD BE OFFSET TO AVOID CONTACT WITH FOOTINGS AND FOUNDATION WALLS. IF PIPING MUST RUN UNDERNEATH A FOOTING OR THROUGH A FOUNDATION WALL, THE PIPE MUST BE INSTALLED WITH A RELIEVING ARCH OR IN A PIPE SLEEVE. 6. THE P.C. SHALL REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.  <b>EXECUTION:</b> 1. THE P.C. SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING PLUMBING EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED. THE P.C. SHALL CONTACT THE ARCHITECT AND ENGINEER IF A CONFLICT EXISTS BETWEEN THESE PLANS AND MANUFACTURER INSTRUCTIONS. 2. THE P.C. SHALL BE RESPONSIBLE FOR EXECUTING ALL CODE REQUIRED TESTS AND INSPECTIONS INCLUDING, BUT NOT LIMITED TO, LEAK & PRESSURE TESTING OF SANITARY, VENT, AND DOMESTIC WATER PIPING AND SANITIZING OF WATER PIPING. 3. ENSURE PIPING LOCATED ON EXTERIOR WALLS (OR OTHER WALLS EXPOSED TO FREEZING CONDITIONS) IS INSTALLED ON WARM-SIDE OF WALL INSULATION. 4. ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE. 5. SUPPORT ALL PIPING IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK. 6. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER AND IN ACCORDANCE WITH THE APPLICABLE ENERGY CONSERVATION CODE. 7. CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS. PROVIDE CLEANOUTS AS PLANS INDICATED AND AT THE BASE OF ALL WASTE STACKS, AT EVERY FOUR 45 DEGREE TURNS, AT EVERY 100 FEET. CLEANOUTS SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS. 8. DOMESTIC WATER BRANCH LINES SERVING MORE THAN ONE (1) FIXTURE SHALL INCLUDE A SHUT-OFF VALVE, LABEL VALVE AND LOCATE AS CLOSE TO RISER/MAIN AS POSSIBLE. 9. VALVES NOT DIRECTLY AT EQUIPMENT SHALL BE LABELED INDICATING THE FIXTURE OR AREA SERVED. 10. THE WATER HEATER SHALL BE FILLED WITH WATER AND PURGED AS SOON AS INSTALLED OR IN NO EVENT LATER THAN ELECTRIC HOOK-UP. 11. COPPER PIPING SHALL BE PROTECTED AGAINST CONTACT WITH MASONRY OR DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, AND CLIPS SHALL BE COPPER OR COPPER PLATED, WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZE HANGERS WITH OTHER PIPING, SATISFACTORY AND PERMANENT ELECTROLYTIC ISOLATION MATERIAL SHALL PROTECT THE COPPER AGAINST CONTACT WITH OTHER METALS. 12. WHERE COPPER PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE COPPER OR RED BRASS. WHERE COPPER MUST BE CONCEALED IN A MASONRY PARTITION OR AGAINST MASONRY, CONTACT SHALL BE PREVENTED BY COATING THE COPPER HEAVILY WITH ASPHALTIC ENAMEL AND PROVIDING 1/8" ASPHALT SATURATED FELT BETWEEN THE PIPE AND MASONRY. 13. ALL PIPE INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, WALLS, AND PARTITIONS. PIPE INSULATION SHALL BE MITERED AT ELBOWS AND TEES TO ENSURE COMPLETE COVERAGE OF PIPING. 14. PROVIDE QUARTER TURN SHUT-OFF VALVES ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE, APPLIANCE, OR MECHANICAL EQUIPMENT. 15. VACUUM BREAKERS SHALL BE PROVIDED FOR ALL FIXTURES TO WHICH HOSES MAY BE ATTACHED. VACUUM BREAKERS SHALL BE PERMANENTLY ATTACHED. 16. THE P.C. SHALL PROVIDE WATER HAMMER PROTECTION ON ALL WATER DISTRIBUTION PIPING SERVING EQUIPMENT WITH QUICK-CLOSING VALVES (ICE MAKERS, FLUSH VALVES, WATER COOLERS, ETC.) SEE WATER HAMMER ARRESTOR ARRESTOR SCHEDULE. 17. ACCESS DOORS SHALL BE PROVIDED FOR ALL VALVES AND DEVICES REQUIRING ACCESS WHEN LOCATED IN WALLS OR ABOVE INACCESSIBLE CEILING CONSTRUCTION. ACCESS DOORS SHALL BE FIRE RATED WHERE INSTALLED IN FIRE RATED ASSEMBLIES. 18. THE P.C. SHALL BE RESPONSIBLE FOR PROTECTING ALL PLUMBING EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK THE PLUMBING CONTRACTOR SHALL CLEAN, WASH, ETC. ALL ITEMS AND EQUIPMENT WITHIN THE SCOPE OF WORK AND LEAVE ALL ITEMS BRIGHT AND CLEAN.		
<b>DIVISION OF WORK:</b> 1. ALL ROOF PENETRATIONS, FLASHING, ETC. SHALL BE PERFORMED BY ROOFING CONTRACTOR. 2. ALL LOW VOLTAGE WIRING RELATED TO PLUMBING EQUIPMENT AND SYSTEMS IS THE RESPONSIBILITY OF THE P.C. ALL HIGH VOLTAGE CONNECTIONS TO PLUMBING EQUIPMENT, INCLUDING DISCONNECTS SHALL BE PROVIDED AND INSTALLED BY THE E.C. 3. THE G.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS RELATED TO PLUMBING SYSTEM WITH THE EXCEPTION OF CLEANOUT COVERS BY THE P.C. THE P.C. SHALL BE RESPONSIBLE FOR COMMUNICATING SIZE AND LOCATION OF ALL REQUIRED ACCESS DOORS TO THE G.C. 4. THE P.C. SHALL EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF PLUMBING EQUIPMENT & SYSTEMS. 5. THE G.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY WATER HEATER PLATFORMS, EITHER FLOOR/WALL MOUNTED OR SUSPENDED. THE P.C. SHALL COMMUNICATE ALL REQUIREMENTS TO THE G.C. PRIOR TO PERFORMING WORK.				
<b>MATERIALS:</b> 1. ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SHOWN OR SPECIFIED. 2. PIPING MATERIALS AND FITTINGS SHALL BE AS FOLLOWS: A. WASTE, VENT & STORM (BELOW SLAB); PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS. B. WASTE, VENT & STORM (ABOVE SLAB - NON RETURN AIR PLENUM WHEN EXPLICITLY ALLOWED BY OWNER); PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS. C. WASTE, VENT & STORM (ABOVE SLAB - RETURN AIR PLENUM); HUBLESS CAST IRON. JOINTS SHALL BE MADE WITH NEOPRENE COUPLINGS AND STAINLESS STEEL CLAMPS CONFORMING TO CISPI STANDARD 310 AND MARKED WITH NSF OR ASTM C 1540. D. DOMESTIC WATER (BELOW SLAB -3" AND BELOW); TYPE 'K' COPPER WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS. E. DOMESTIC WATER (BELOW SLAB -1/2" & 3/4" ONLY); TYPE 'K' COPPER TUBING, CONTINUOUS WITH NO JOINTS. F. DOMESTIC WATER (ABOVE SLAB 3" OR LESS ); TYPE 'L' COPPER WITH SWEATED SOCKET FITTINGS. THREADED FITTINGS MAY BE USED AT VALVES, FIXTURES & SIMILAR. G. DOMESTIC WATER (ABOVE SLAB 4" AND LARGER); TYPE 'L' COPPER WITH ROLLED GROVED JOINTS AND FITTINGS. H. NATURAL GAS: SCHEDULE 40 BLACK STEEL COMPLYING WITH ANSI B36.10. ALL GAS COCKS SHALL MEET ANSI B16.33 3. ALL DOMESTIC WATER PIPING SHALL BE INSULATED IN ACCORDANCE WITH THE APPLICABLE ENERGY CONSERVATION CODE. INSULATION SHALL BE PERFORMED MINERAL FIBER PIPE INSULATION WITH AN ALL SERVICE JACKET (ASJ) AND SELF-SEALING LAP (SSL). INSULATION SHALL HAVE A THERMAL CONDUCTIVITY NOT EXCEEDING 0.27 BTU-IN/(HR-FT <sup>2</sup> -F) OR IN ACCORDANCE WITH LOCAL CODES, WHICHEVER IS MORE STRINGENT. 4. PROVIDE HANGERS AND SUPPORTS APPROVED FOR USE BY APPLICABLE PLUMBING CODE.				
<b>COORDINATION:</b> 1. INVERT ELEVATIONS SHALL BE VERIFIED PRIOR TO BEGINNING WORK. THE P.C. SHALL ENSURE PROPER SLOPES OF ALL SANITARY PIPING CAN BE MAINTAINED. THE P.C. SHALL CONTACT THE ARCHITECT AND ENGINEER IMMEDIATELY IF A PROBLEM/ISSUE IS DISCOVERED. 2. THE P.C. SHALL COORDINATE THE LOCATION OF ALL ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR & M.C. THE P.C. AND M.C. SHALL COORDINATE PLUMBING VENT LOCATIONS TO ENSURE THAT NO PLUMBING VENTS ARE LOCATED WITHIN 10' OF ANY OUTSIDE AIR INTAKES.				

SCHEDULE OF EQUIPMENT SERVICE PROVISIONS				
FIXTURE DESIGNATION	DRAIN	VENT	WATER SUPPLY	
			CW	HW
EW-1	1-1/2"	1-1/2"	1/2"	-
HB-1	-	-	3/4"	-
LV-1	2"	1-1/2"	1/2"	1/2"
KS-1	4"	2"	1/2"	-
SS-1	3"	1-1/2"	1/2"	1/2"
WC-1	3"	2"	1/2"	-
WSB-1	-	-	1/2"	-

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE													
TAG	FIXTURE	TYPE	MANUFACTURER	MODEL NUMBER	MATERIAL	STYLE	FAUCET/VALVE				DRAIN		REMARKS
							MANUFACTURER MODEL NO.	SPOUT	HANDLES	CENTERS	TYPE	SIZE	
WC-1	WATER CLOSET	FLUSH TANK	AMERICAN STANDARD	270AA.101	VITREOUS CHINA	ADA ELONGATED	-	-	-	-	-	-	BRASSCRAFT OCR1912DL FLOOR PROVIDE OPEN FRONT SEAT WITH NO LID RIM HEIGHT SHALL BE 16.5" AFF TO MEET ADA REQUIREMENTS
LV-1	LAVATORY	WALL MOUNTED	AMERICAN STANDARD	0355.012	VITREOUS CHINA	ADA D-SHAPE	CFG 407171H	CENTER	LEVER	4" O.C. 3-HOLE	GRID	1-1/2"	BRASSCRAFT OCR1912A WALL PROVIDE WITH WALL BRACKET AND 0.5 GPM STRAINER. MOUNT AT ADA HEIGHT.
KS-1	SINK (31.75" x 16.5")	UNDER MOUNT	ELKAY	ELUHAD3216554	STAINLESS STEEL	ADA 2-BOWL	CFG 40511	CENTER	WRIST BLADE	4" O.C. 3-HOLE	CRUMB CUP	1-1/2"	BRASSCRAFT OCR1912A COUNTER PROVIDE WITH OFFSET DRAIN, REAR CENTER. BOWL DEPTH = 5-3/8"
HB-1	HOSE BIBB	STRAIGHT	ZURN	Z1346	BRONZE	FREEZE PROOF	-	-	-	-	-	-	WALL VERIFY WALL DEPTH/. PROVIDE WITH VACUUM BREAKER. LOOSE KEY TYPE.
SS-1	SERVICE SINK	WALL MOUNT	AMERICAN STANDARD	7692.008	ENAMELED CAST IRON	ONE PIECE 22x18	AMERICAN STANDARD 8350.235	CENTER	2	8" 2-HOLE	GRID	3"	- WALL PROVIDE WITH WALL HANGER AND RIM GUARD.
EW-1	ELECTRIC WATER COOLER	BI-LEVEL	ELKAY	EMABFTL8LC	STAINLESS VINYL	ADA	-	-	-	-	-	-	BRASSCRAFT G2CR19 WALL 120V, 4.0 AMPS. HFC-134A. PROVIDE WITH HANGER BRACKET. MOUNT AT ADA HEIGHT.
GCO-1	GRADE CLEANOUT	ADJUST.	ZURN	CO-2450	PVC	NICKEL COVER	-	-	-	-	-	-	GRADE COORDINATE INSTALLATION WITH CONCRETE POUR.
WCO-1	WALL CLEANOUT	TEE	CHARLOTTE PIPE	PVC-445	PVC	FLUSH PLUG	-	-	-	-	-	-	WALL PROVIDE WITH ZURN CO-2530 WALL COVER. PROVIDE WITH PVC PLUG WITH TREADED TAP.
WSB-1	WATER SUPPLY BOX	METAL	OATEY	386XX	STEEL	RECESSED	-	-	-	-	-	-	WALL PROVIDE WITH QUARTER TURN VALVE, WATER HAMMER ARRESTOR, AND FACEPLATE.
WH-1	WATER HEATER	ELECTRIC	STATE WATER HEATERS	PCE 20 10MSA	GLASS LINED	UPRIGHT	-	-	-	-	-	-	PLATFORM 20 GALLON CAP., 1.5KW HEATING ELEMENT, 120V/1Ø, 8GPH RECOVERY AT 80°F RISE. SET DISCHARGE TO 140°F, INSTALL THERMOSTATIC MIXING VALVE TMV-1.
PLUMBING FIXTURE AND EQUIPMENT SCHEDULE NOTES: 1. ALL FIXTURE COLORS & FINISHES TO BE APPROVED BY OWNER & ARCHITECT BEFORE PURCHASING. 2. PROVIDE P-TRAP AND SUPPLY LINE SAFETY COVERS FOR ALL ADA SINK AND LAVATORY INSTALLATIONS. 3. WATER CLOSET HANDLES TO BE LOCATED ON "WIDE SIDE" OF STALL FOR ADA FIXTURES. 4. SEE DETAIL SHEET FOR ADDITIONAL ITEMS TO BE PROVIDED/INSTALLED W/ FIXTURES LISTED ABOVE.													

WATER HAMMER ARRESTOR SCHEDULE		
FIXTURE UNITS	UNIT SIZE (CONN. SIZE)	MFG & MODEL (OR EQUAL)
IND. FIXTURE	SEE FIXTURE SCHEDULE	SIOUX CHIEF "MINI-RESTER"
1-11	A (1/2")	SIOUX CHIEF "HYDRA-RESTER"
12 - 32	B (3/4")	SIOUX CHIEF "HYDRA-RESTER"
33-60	C (1")	SIOUX CHIEF "HYDRA-RESTER"
WATER HAMMER ARRESTOR NOTES: 1. LOCATE SHOCK ARRESTORS IN ACCESSIBLE LOCATION OR PROVIDE SIOUX CHIEF BRAND ARRESTORS ONLY. 2. SEE PLAN, RISERS, SCHEDULES FOR ARRESTER LOCATIONS. IF LOCATION NOT INDICATED INSTALL IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.		

VALVE SCHEDULE		
TAG	DESCRIPTION	MFG & MODEL (OR EQUAL)
BV-1	FULL-PORT BALL VALVE	WATTS LFB6081
BV-2	BALANCING VALVE	BELL & GOSSETT CB (CIRCUIT SETTER PLUS, W/ TEST PORTS)
CV-1	BRONZE CHECK VALVE	WATTS CV
TMV-1	THERMO. MIX. VALVE	WATTS LFMVM (0.5 TO 20 GPM; 1.2" TO 1") SET TO 110°F DISCHARGE
VALVE SCHEDULE NOTES: 1. SEE PLAN FOR SIZE, VALVE SIZE TO EQUAL LINE SIZE. 2. BALL VALVES TO INCLUDE REMOVABLE HANDLES. 3. IF AVAILABLE, VALVES MAY BE THREADED OR SWEATED CONNECTIONS. USE EXTREME CARE AND LOW TEMP SOLDER TO PROTECT VALVE SEATS IF SWEATED CONNECTIONS ARE USED. 4. TMV-1 SHALL COMPLY WITH ASSE 1070.		

INSULATION SCHEDULE						
PIPING SYSTEM	FLUID TEMPERATURE RANGE	RUN OUTS UP TO 1"	1-1/4" TO 2"	2-1/2" TO 4"	5" TO 6"	8" AND LARGER
DOMESTIC COLD WATER	40-60	1/2"	1/2"	1/2"	1/2"	1/2"
DOMESTIC HOT WATER	105 OR GREATER	1/2"	1"	1-1/2"	1-1/2"	1-1/2"

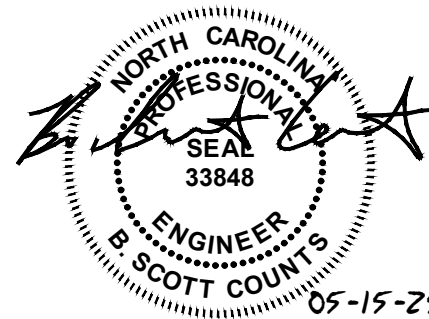
PLUMBING ABBREVIATIONS			
AAV	AIR ADMITTANCE VALVE	HR	HOUR
ADA	AMERICANS WITH DISABILITIES ACT	HW	DOMESTIC HOT WATER
AFF	ABOVE FINISHED FLOOR	HWR	DOMESTIC HOT WATER RETURN
BFP	BACKFLOW PREVENTER	IN.	INCH(ES)
BTU	BRITISH THERMAL UNIT	KW	KILOWATT
BTU/HR	BRITISH THERMAL UNIT PER HOUR	LV	LAVATORY
CAP.	CAPACITY	MAX.	MAXIMUM
CO	CLEANOUT	MBH	ONE THOUSAND BTU/HR
CV	CHECK VALVE	M.C.	MECHANICAL CONTRACTOR
CW	DOMESTIC COLD WATER	MIN.	MINIMUM
DEMO	DEMOLISH OR DEMOLITION	N/A	NOT APPLICABLE
DIA.	DIAMETER	NTS	NOT TO SCALE
DVV	DRAIN, WASTE, AND VENT	P.C.	PLUMBING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR	PSI	POUNDS PER SQUARE INCH
ET	EXPANSION TANK	S	SINK
°F	DEGREES FAHRENHEIT	TEMP.	TEMPERATURE
FCO	FLOOR CLEANOUT	TMV	THERMOSTATIC MIXING VALVE
FT	FOOT OR FEET	TYP.	TYPICAL
GAL.	GALLON(S)	V	VOLT
G.C.	GENERAL CONTRACTOR	W	WATT
GPH	GALLONS PER HOUR	WC	WATER CLOSET
GPM	GALLONS PER MINUTE	WH	WATER HEATER
HP	HORSEPOWER	WHA	WATER HAMMER ARRESTOR

BACK FLOW PREVENTER ASSEMBLY REQUIREMENTS			
TYPE OF EQUIPMENT ON SYSTEM	METHOD OF CROSS CONNECTION CONTROL	MANUFACTURE AND MODEL NUMBER	REMARKS
WATER SERVICE	REDUCED PRESSURE ZONE ASSEMBLY	WATTS LF-919-QT	LEAD FREE CAST COPPER WITH QUATER TURN
1. CONTRACTOR SHALL PROVIDE INDIVIDUAL BACKFLOW PREVENTERS FOR EACH PIECE OF EQUIPMENT. 2. EACH BACKFLOW PREVENTER MUST HAVE TESTING PORTS. 3. BRONZE BODIED BACKFLOW PREVENTERS ARE PERMISSABLE IF ALLOWED BY LOCAL CODES.			

PLUMBING DRAWING SYMBOLS	
	FULL PORT QUARTER TURN BALL VALVE
	CHECK VALVE
	GLOBE VALVE
	PRESSURE REDUCING VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	STRAINER
	WATER HAMMER ARRESTOR
	UNION
	PRESSURE GAUGE
	INLINE PUMP
	FLOOR DRAIN
	KEY NOTE TAG

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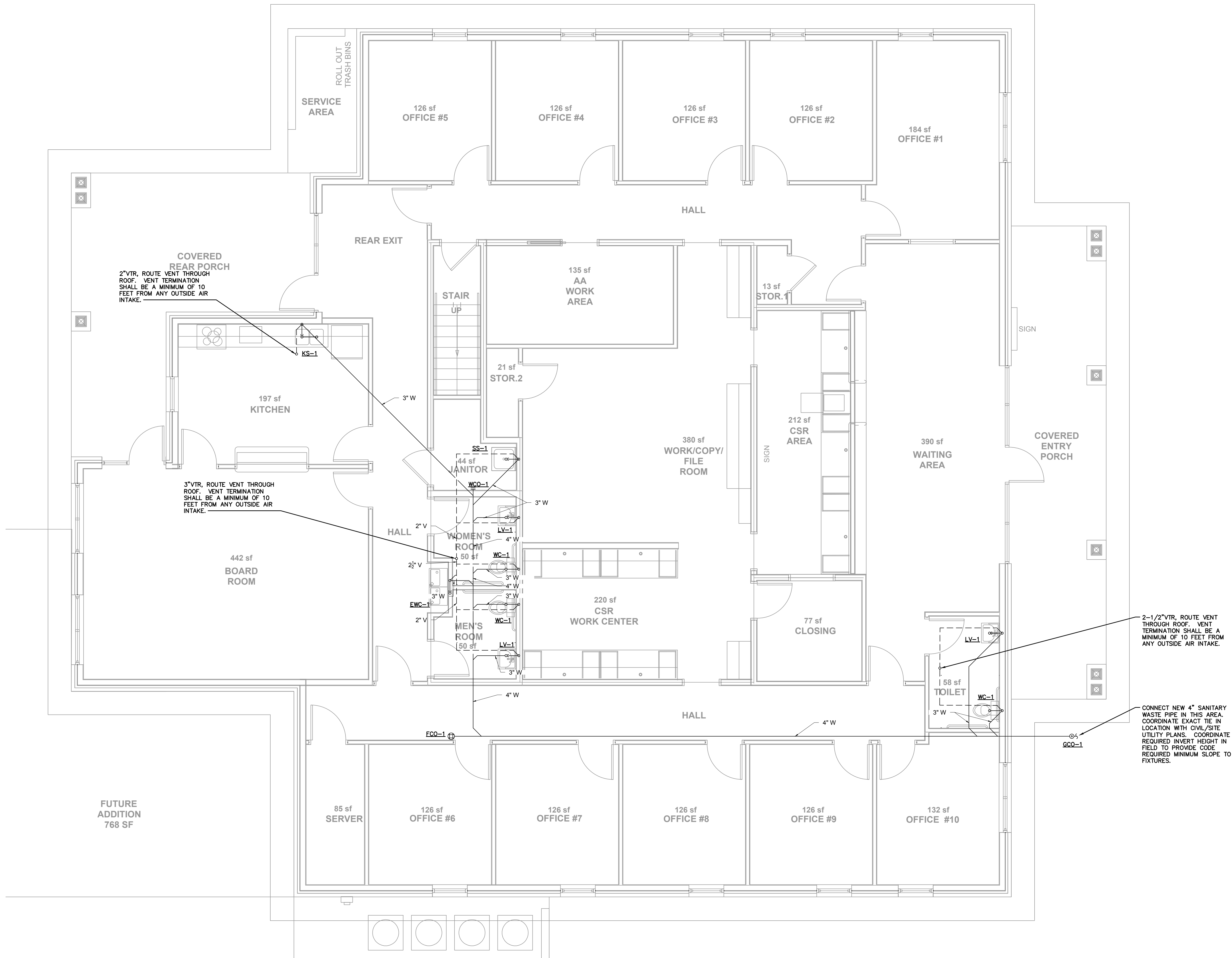
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LINEBERRY

Project Number : 1910.15  
Drawn By: BSC  
Date: 15 MAY 2025  
ISSUE FOR CONSTRUCTION

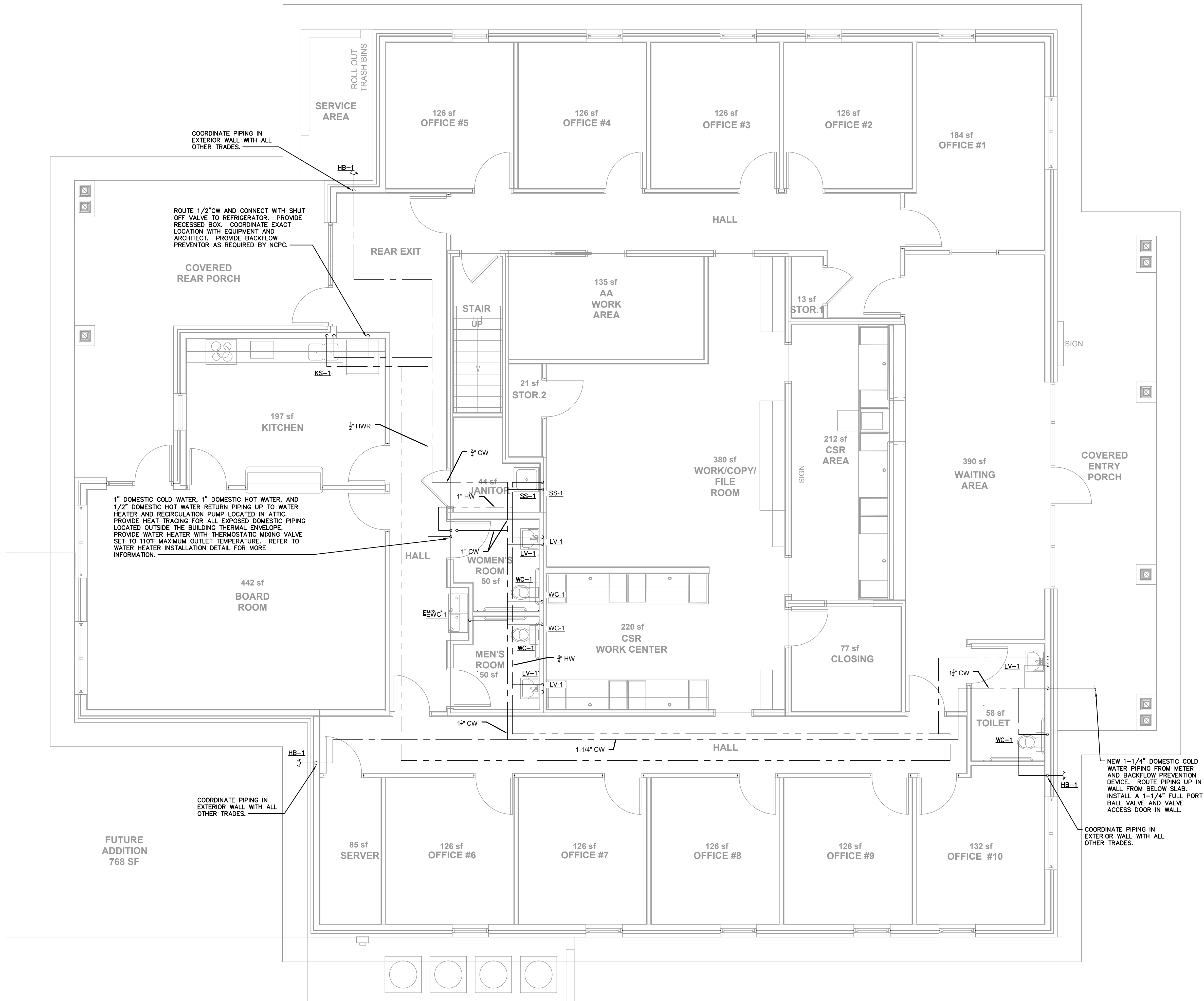
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NOTES &  
ABBREVIATIONS -  
PLUMBING



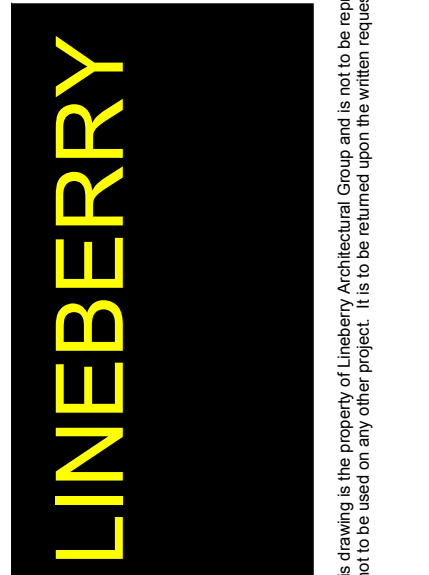
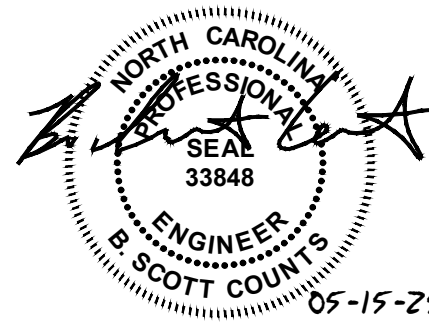


1 FLOOR PLAN – WASTE AND VENT  
SCALE: 1/4" = 1'-0"

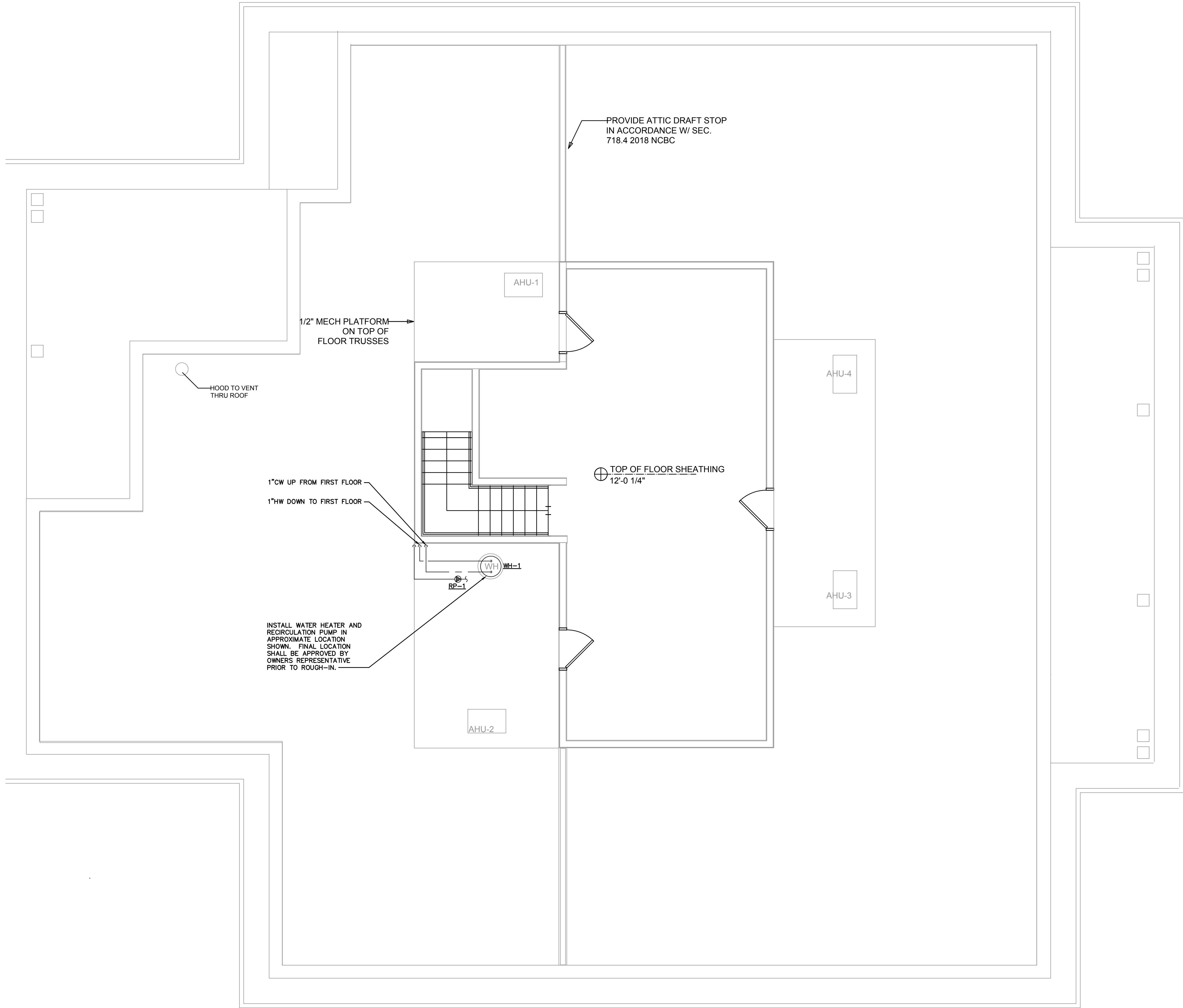




1 FLOOR PLAN – WATER  
SCALE: 1/4" = 1'-0"

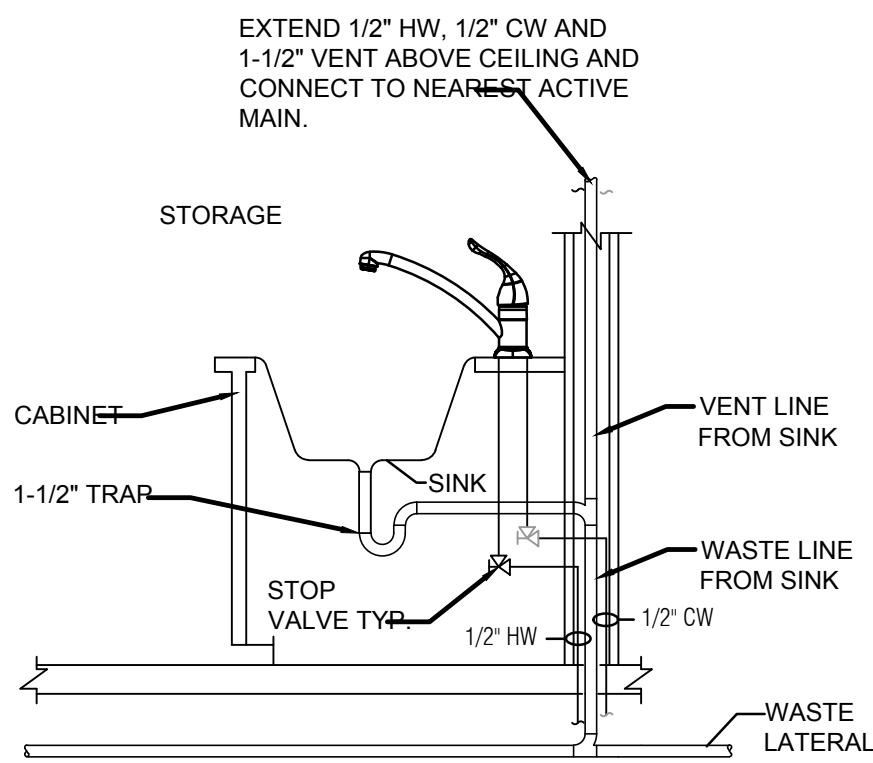




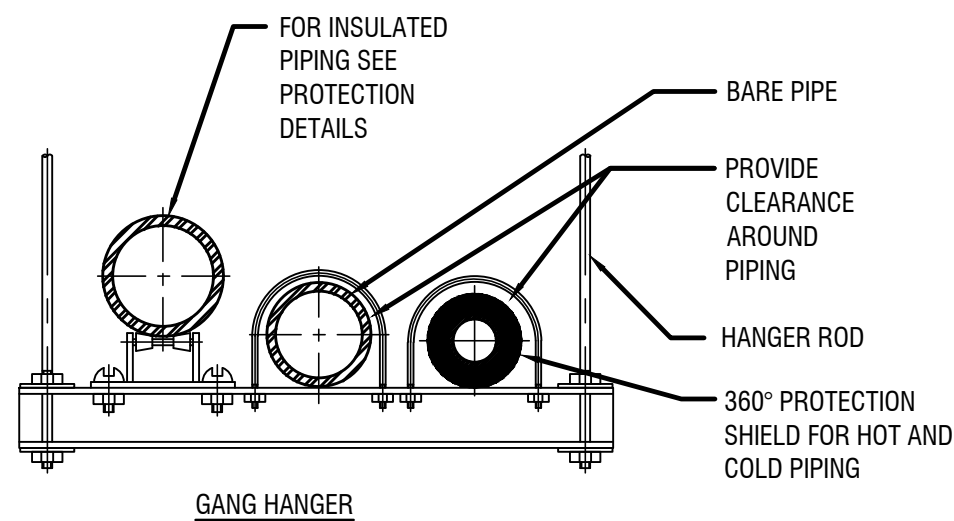
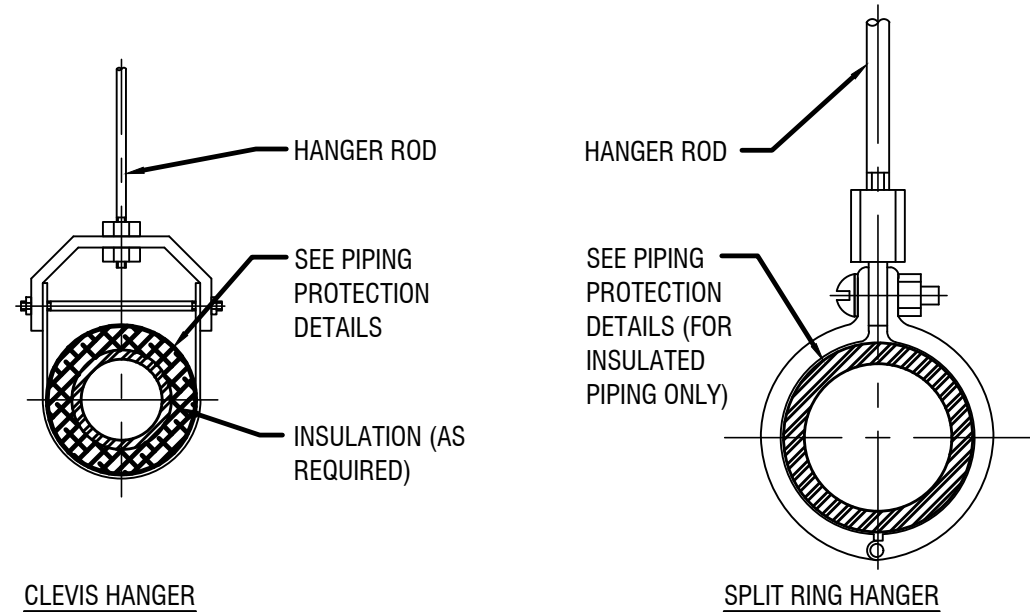


1 ATTIC PLAN – WATER  
SCALE: 1/4" = 1'-0"

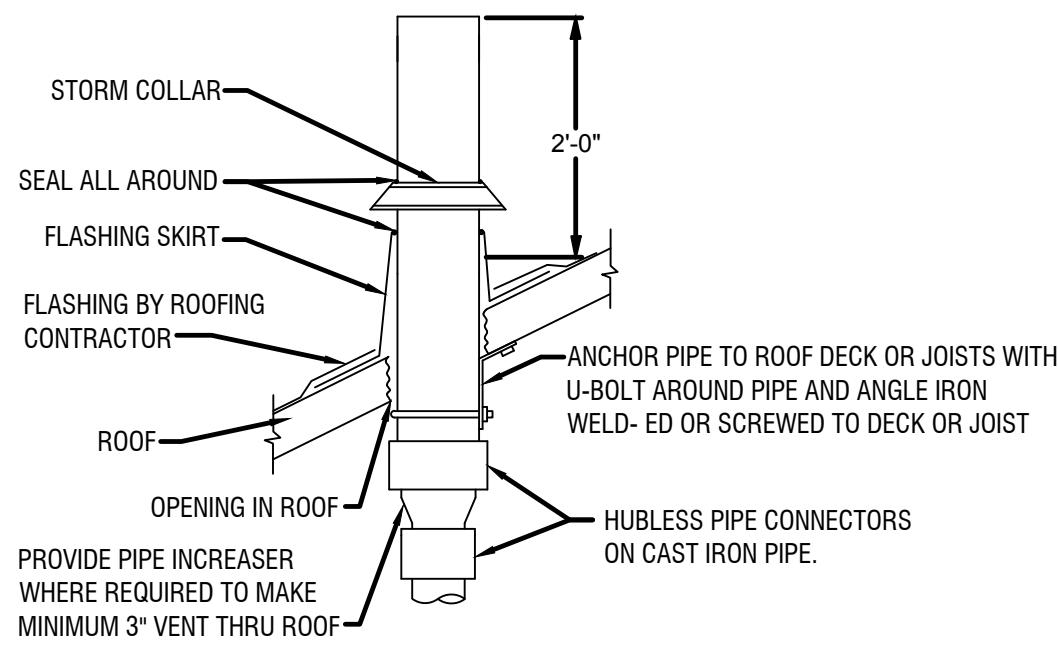




1 COUNTERTOP SINK DETAIL  
NOT TO SCALE

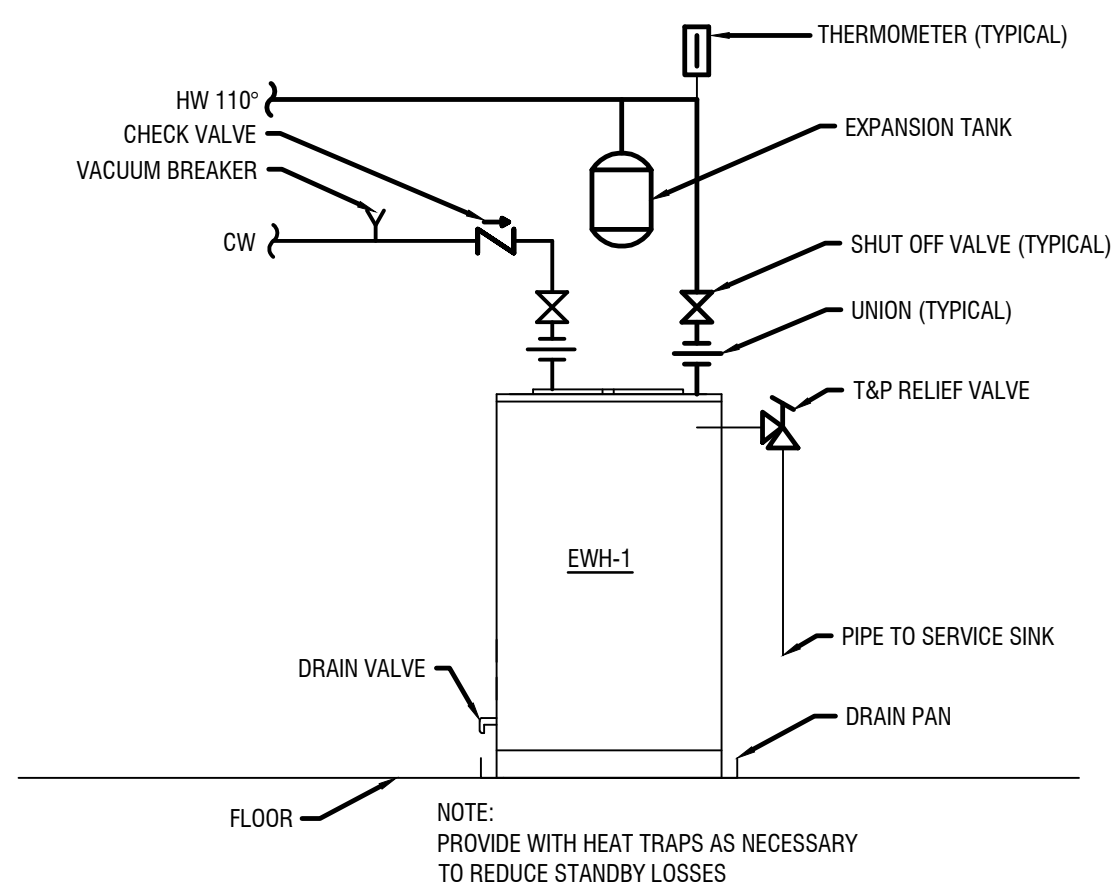


5 PIPE HANGER AND SUPPORT DETAILS  
NOT TO SCALE

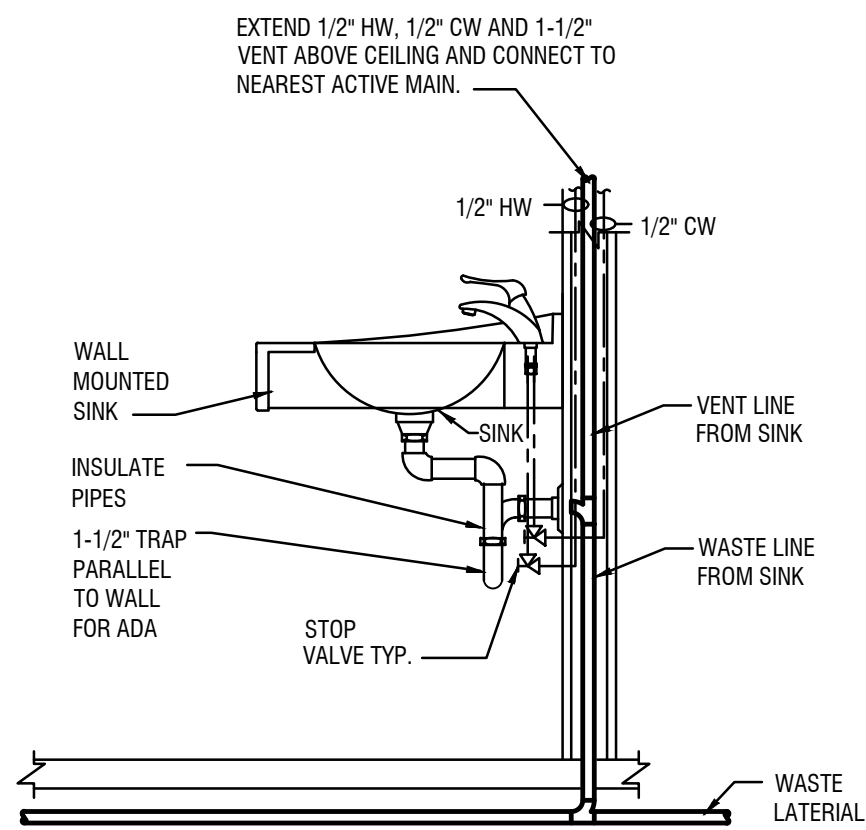


- COMMENTS:
1. REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS.
  2. LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR ONE FOOT FROM ANY VERTICAL SURFACE.
  3. LOCATE VTR MINIMUM 18" FROM PARAPET, EXPANSION JOINT, EQUIPMENT CURB, ETC. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS.

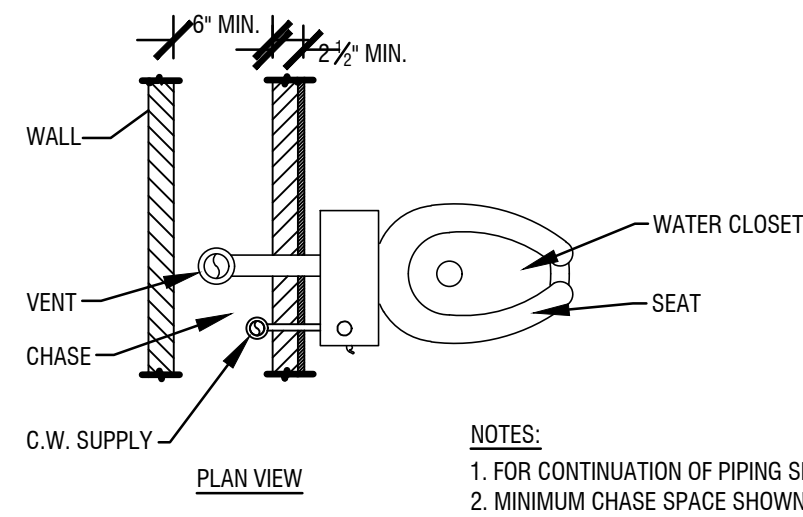
2 VENT THRU ROOF DETAIL  
NOT TO SCALE



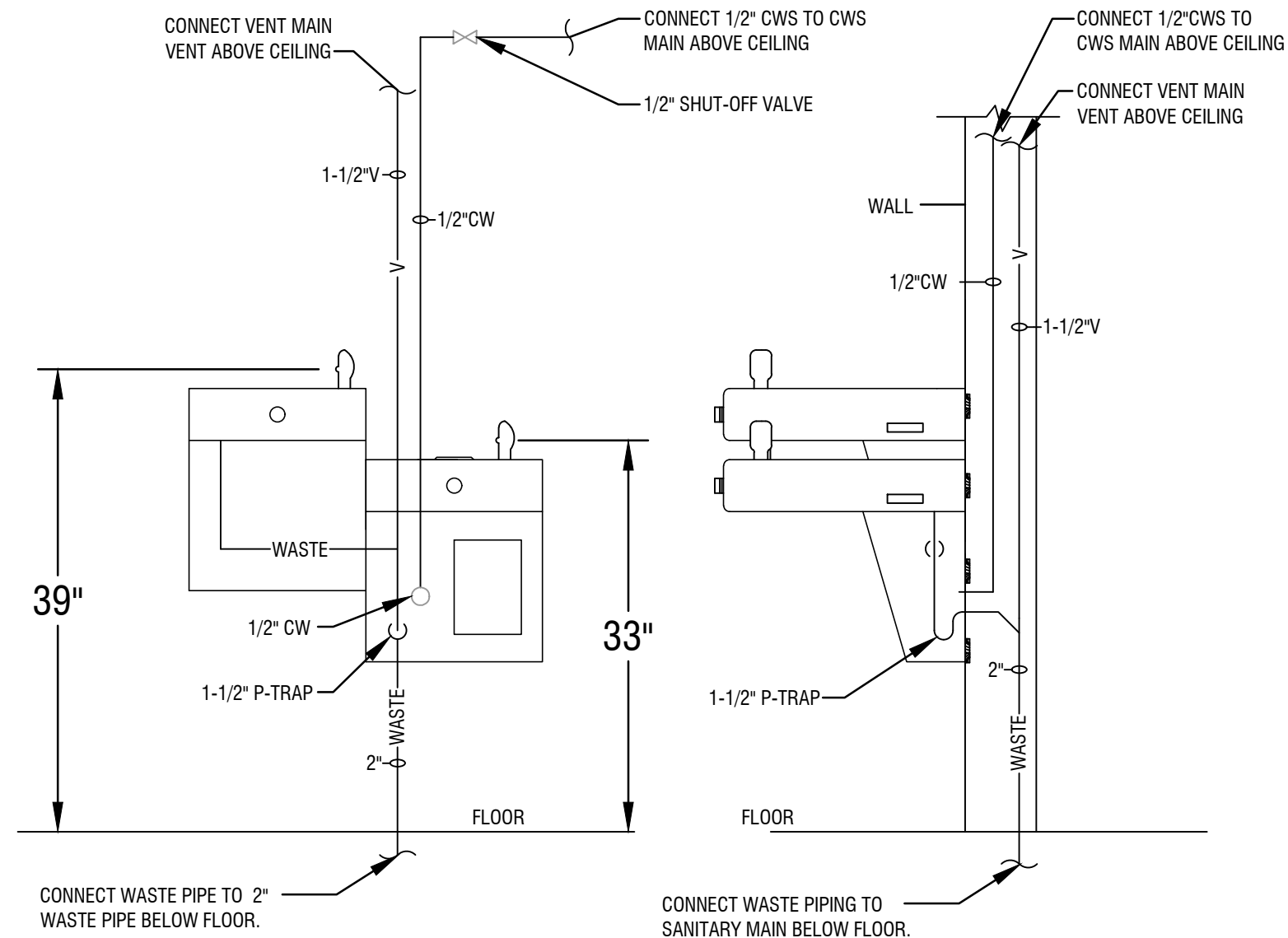
6 ELECTRIC WATER HEATER DETAIL  
NOT TO SCALE



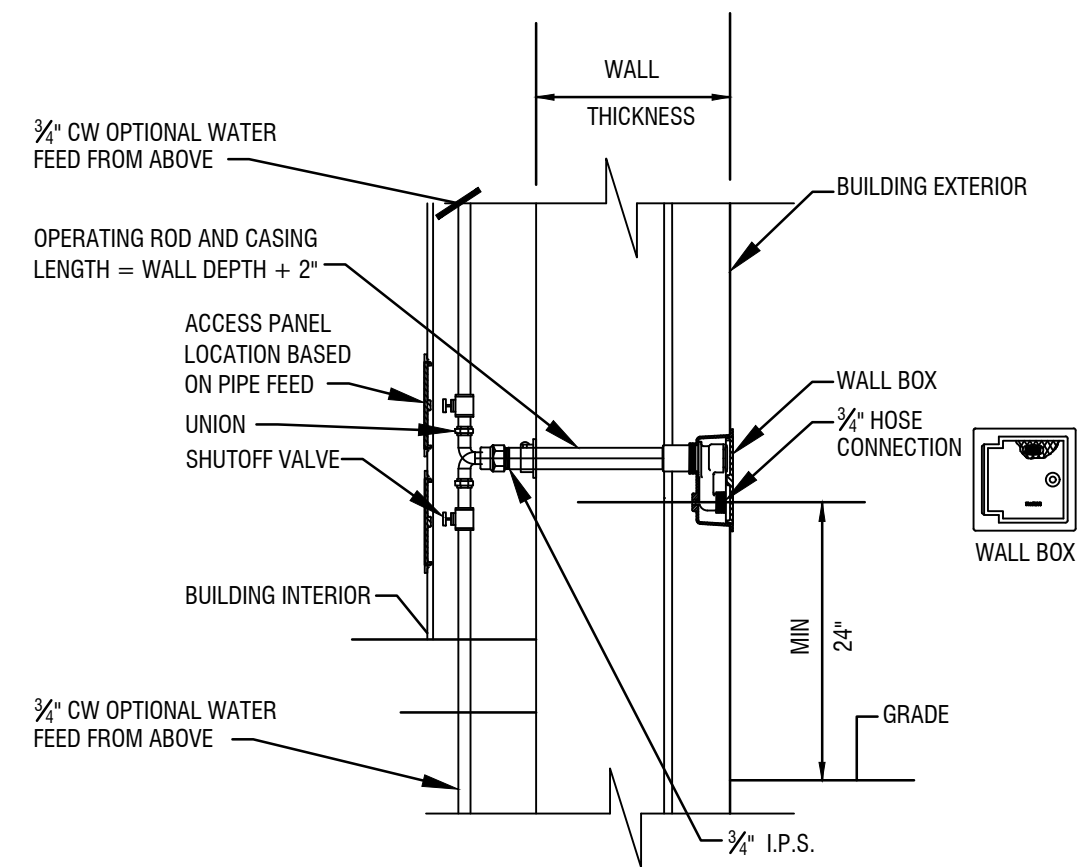
3 ADA LAVATORY DETAIL  
NOT TO SCALE



7 FLOOR MOUNTED WATER CLOSET DETAIL  
NOT TO SCALE



4 DUAL HEIGHT ADA WATER COOLER  
NOT TO SCALE



8 EXTERIOR WALL HYDRANT DETAIL  
NOT TO SCALE

- NOTES:
1. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL FIXTURES.
  2. PROVIDE OFFSET TRAP AND TRUEBRO MODEL 102 INSULATION KIT, PLUMBEREX MODEL PRO-2000 OR MCGUIRE PWV8902 PREWRAPPED CAST P-TRAP ASSEMBLY KIT ON ALL ADA LAVATORIES AND/OR SINKS.
  3. PROVIDE CARRIERS FOR ALL WALL MOUNTED FIXTURES. FOR LAVATORIES: SINGLE HANGER FOR BLOCK WALLS; FOR GYPBOARD WALL, PROVIDE FLOOR-MOUNT ARM CARRIERS (CONCEALED OR EXPOSED PER MFR'S REQUIREMENTS).
  4. EQUAL CHINA FIXTURE BY AMERICAN STANDARD, ZURN & SLOAN.
  5. EQUAL TOILET SEAT BY BEMIS, OLSONITE & BENEKE.
  6. EQUAL FLUSH VALVES BY ZURN & TOTO.
  7. TOP OF FLUSH VALVE SHALL BE LOCATED MINIMUM 3" BELOW BOTTOM OF GRAB BAR. P.C. TO CUT OUTLET TUBE AS REQUIRED.
  8. FLUSH VALVE MECHANISM SHALL BE LOCATED OPPOSITE OF HAND RAIL AS PER ADA REQUIREMENT.
  9. EQUAL FAUCETS BY SYMMONS, CHICAGO FAUCETS, DELTA, MOEN & AMERICAN STANDARD.
  10. EQUAL STAINLESS STEEL SINK BY FRANKE & JUST.
  11. PROVIDE WALL HANGER AND RIM GUARD.
  12. EQUAL SHOWER TRIM BY LEONARDO & SPEAKMAN (PROVIDE SHOWER PAN AS REQ'D PER CODE SECTION 417.4 & 417.5: SEE ARCH DWGS/SPECS FOR DETAILS).
  13. EQUAL WATER COOLER/DRINKING FOUNTAIN BY HALSEY TAYLOR, SUNROC, HAWS & ELKAY.
  14. EQUAL MOP BASIN BY SWANSTONE, E.L.MUSTEE.
  15. WHEN ASTERISK (\*) PREFIX IS USED, PROVIDE TRAP PRIMER AND PIPE 1/2" LINE BELOW SLAB TO FLOOR DRAIN.
  16. EQUAL FAUCETS BY CHICAGO FAUCETS, T&S, ELKAY, ZURN & AMERICAN STANDARD. SINGLE SINK = RIGID SPOUT, DOUBLE SINK = RESTRICTED SPOUT.
  17. EQUAL CAST IRON LAVATORIES BY CECO & ZURN.
  18. ACCESSORY APRON MAY BE OMITTED IF WATER COOLER IS RECESSED.
  19. PROVIDE INTEGRAL CHECK STOPS AT ALL WALL FAUCETS.
  20. EQUAL SPECIALTY FIXTURE BY GATEY, SIOUX CHIEF.
  21. MANUFACTURERS LISTED ARE FOR BASIS OF TYPE, STYLE, AND QUALITY; ACCEPTABLE EQUALS MAY BE SUBMITTED TO THE ARCHITECT/OWNER FOR APPROVAL.



NON-DUCTED MINI-SPLIT HEAT PUMP SCHEDULE

Unit Tag	Area Served	CFM	Fan Motor			Cooling Performance				Heating Performance			Outdoor Unit							Refrigerant Piping						Mitsubishi Indoor Unit	Mitsubishi Outdoor Unit	Remarks	
			Watts	Volts	Phase	EAT	BTU Total	BTU Sensible	Efficiency SEER	EAT	BTU Total	Efficiency COP	Unit Tag	Weight	Fan		MCA	Fuse Size	Volts	Phase	Design Pipe Length (ft)	Design Elevation Between Units (ft)	Design # of Bends	Mfg. Max Pipe Length (ft)	Mfg. Max Elevation Between Units (ft)				Mfg Max # of Bends
															No.	Watts													
MSAH-A	ATTIC STORAGE	375	30	DC	1	80/67	12,000	8,760	21.1	70	18,000	3.1	MSHP-A	100	1	51	16	20	208	1	85	15	6	100	100	15	PKA-AL12NL	PUZ-AK12NL	1-10

- REFER TO APPROVED MANUFACTURER LIST FOR ACCEPTABLE EQUAL MANUFACTURERS. COORDINATE POWER REQUIREMENTS FOR ALL SUBSTITUTIONS.
- MECHANICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND LOCAL CODES.
- WIRED REMOTE CONTROLLER.
- REFRIGERANT LINES AND ACCESSORIES FOR R-454B AS RECOMMENDED BY MANUFACTURER.
- PROVIDE FACTORY CONDENSATE PUMP POWERED FROM AIR HANDLER. ROUTE 3/4" PUMPED CONDENSATE ALONG REFRIGERANT LINE-SET TO OUTDOOR UNIT.
- VARIABLE SPEED, INVERTER DRIVEN.
- INDOOR UNIT IS POWERED BY OUTDOOR UNIT. COORDINATE SUBSTITUTE MANUFACTURER ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- PROVIDE ACCESSORIES AS REQUIRED TO ALLOW FOR LOW AMBIENT COOLING DOWN TO 18°F.
- PROVIDE WITH MANUFACTURER'S 5-YEAR WARRANTY.
- MAXIMUM PIPING LENGTH, MAXIMUM HEIGHT DIFFERENCE BETWEEN INDOOR AND OUTDOOR UNIT, AND THE MAXIMUM # OF BENDS ARE BASED ON BASIS OF DESIGN MANUFACTURER'S EQUIPMENT CUTSHEET. MECHANICAL CONTRACTOR SHALL CONFIRM WITH ALL SUBSTITUTE EQUIPMENT THAT THE MANUFACTURER'S INSTALLATION GUIDELINES FOR MAXIMUM PIPE LENGTH, MAXIMUM ELEVATION BETWEEN INDOOR AND OUTDOOR UNITS, AND MAXIMUM NUMBER OF BENDS MEET OR EXCEED THE REQUIREMENTS FOR INSTALLATION OF REFRIGERANT PIPING.

SPLIT SYSTEM HEAT PUMP SCHEDULE

Unit Tag	SEER (EER)	COP @47 DEG. F	SA CFM	OA CFM	ESP	Air Handling Unit										DX Coil Performance			Heating Performance		Electrical Data (Outdoor Unit)										Remarks				
						Fan Motor			Electric Heating Coil						MCA	MOCP	Trane Model	EAT	MBH Total	MBH Sens.	EAT	LAT	Capacity MBH@47 F	Fan		Compressor			Volts	Phase		MCA	MOCP	Trane Model	
						HP	Volts	Phase	kW	Steps	Volts	Phase	EAT	LAT										No.	FLA	No.	LRA	RLA							
AH-1/HP-1	14.25	3.88	1000	165	0.4	1/2	208	1	7.2	1	208	1	70	92	49	50	STEM6D03A	80/67	30	22.5	70	86.4	30	1	0.64	1	71	10.4	208	1	16	25	5TWR030A1000A	1 - 10	
AH-2/HP-2	14.25	3.88	1000	210	0.4	1/2	208	1	7.2	1	208	1	70	92	49	50	STEM6D03A	80/67	30	22.5	70	86.4	30	1	0.64	1	71	10.4	208	1	16	25	5TWR030A1000A	1 - 10	
AH-3/HP-3	14.25	3.88	800	125	0.4	1/2	208	1	5.76	1	208	1	70	95	40	40	STEM6D03A	80/67	24	18	70	86.4	24	1	0.64	1	59	9.1	208	1	13	20	5TWR024A1000A	1 - 10	
AH-4/HP-4	14.25	3.88	600	80	0.4	1/3	208	1	3.6	1	208	1	70	90	25	25	STEM6D02A	80/67	18	13.5	70	86.4	18	1	0.64	1	47.5	7.8	208	1	12	20	5TWR018A1000A	1 - 10	

- REFER TO APPROVED MANUFACTURER LIST FOR ACCEPTABLE EQUAL MANUFACTURERS. COORDINATE POWER REQUIREMENTS FOR ALL SUBSTITUTIONS.
- MECHANICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND LOCAL CODES.
- CONTRACTOR SHALL VERIFY SERVICE CLEARANCES FOR ALL SUBSTITUTIONS.
- SINGLE POINT ELECTRICAL CONNECTION AT AIR HANDLING UNIT UNLESS TWO CIRCUITS SHOWN ON SCHEDULE.
- FOR LINE SETS BETWEEN 50 AND 175 FEET, INCLUDE THE FOLLOWING:

CRANKCASE HEATER

COMPRESSOR START ASSIST CAPACITOR AND RELAY

LIQUID - LINE SOLENOID VALVE OR HARD SHUTOFF TVX
- PROVIDE MANUFACTURER'S REMOTE THERMOSTAT WITH TEMPERATURE/HUMIDITY SENSOR FOR COOLING/HEATING/DEHUMIDIFICATION.
- R-454B REFRIGERANT, REFRIGERANT LINES AND ACCESSORIES PER UNIT MFG. RECOMMENDATIONS.
- AIR HANDLER CONVERTIBLE FOR VERTICAL / HORIZONTAL INSTALLATION.
- UNIT SHALL BE INSTALLED ON STAND IN CLOSET.
- PROVIDE OVERFLOW DRAIN PAN BELOW UNIT WITH MICROSWITCH TO SHUT OFF UNIT PRIOR TO PAN OVERFLOW.

https://mswgengineers.sharepoint.com/sites/Projects/Shared Documents/25-045 NCFB Harnett Co - Lillington/0

5/29/2025

APPROVED MANUFACTURER LISTING - MECHANICAL

THE FOLLOWING MANUFACTURER'S LISTING (ALPHABETICALLY ORDERED) IS PROVIDED FOR BIDDING PURPOSES AND DOES NOT IMPLY OR PROVIDE A GUARANTEE OF SUBMITTAL APPROVAL. ALL ITEMS SUBMITTED SHALL MEET OR EXCEED THE MINIMUM SPECIFIED DESIGN AND QUALITY CRITERIA IN THIS SET OF CONSTRUCTION DOCUMENTS. ANY BIDDER THAT INTENDS TO SUBMIT USING A MANUFACTURER NOT LISTED BELOW MAY REQUEST A PRIOR APPROVAL IN ACCORDANCE WITH THE ENTIRETY OF THE PROJECT BID DOCUMENTS, REFER TO THE ARCHITECT'S GENERAL CONDITIONS AND BIDDING REQUIREMENTS.

THE BIDDER IS RESPONSIBLE FOR INCLUDING ALL COSTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT, INCLUDING BUT NOT LIMITED TO, CODE AND MANUFACTURER'S REQUIRED MAINTENANCE AND ACCESS CLEARANCE, COORDINATION WITH ALL OTHER BUILDING TRADES, AND INSTALLATION OF DUCTWORK, PIPING, ETC. BIDDER SHALL BEAR RESPONSIBILITY FOR ALL ASSOCIATED COSTS AND ADDITIONAL COSTS RESULTING FROM SUBSTITUTED ITEMS SHALL NOT BE CONSIDERED FOR APPROVAL AFTER BIDS ARE AWARDED.

ITEM	MANUFACTURER'S
AIR DISTRIBUTION	CARNES, METAL*AIRE, NAILOR, PRICE, TITUS, TUTTLE & BAILEY
FANS	COOK, GREENHECK, PENN, TWIN CITY
ROOF HOODS	CARNES, COOK, GREENHECK
SPLIT SYSTEM HEAT PUMPS	CARRIER, DAIKIN-MCQUAY, JCI/YORK, TRANE

FAN SCHEDULE

Unit Tag	Area Served	CFM	ESP (IN.)	Fan RPM	Sones	Drive	BHP	HP (Watts)	Volts	Phase	Manufacturer	Model	Weight (lbs)	Remarks
EF-1	WOMEN'S ROOM	75	0.25	-	-	DIRECT	0.01	-	115	1	GREENHECK	SP-A125	-	1,3,6,7
EF-2	MEN'S ROOM	75	0.25	-	-	DIRECT	0.01	-	115	1	GREENHECK	SP-A125	-	1,3,6,7
EF-3	TOILET	75	0.25	-	-	DIRECT	0.01	-	115	1	GREENHECK	SP-A125	-	1,3,6,7
EF-4	SERVER	140	0.25	-	-	DIRECT	0.03	-	115	1	GREENHECK	SP-A190	-	1,3,6,8
EF-5	JANITOR	75	0.25	-	-	DIRECT	0.01	-	115	1	GREENHECK	SP-A125	-	1,3,6,7
AV-1	ATTIC	300	0.25	978	4	DIRECT	0.05	1/20	115	1	GREENHECK	SS1-12-432-E	24	1,3,4,6,9
AV-2	ATTIC	300	0.25	978	4	DIRECT	0.05	1/20	115	1	GREENHECK	SS1-12-432-E	24	1,3,4,6,9
AV-3	ATTIC	300	0.25	978	4	DIRECT	0.05	1/20	115	1	GREENHECK	SS1-12-432-E	24	1,3,4,6,9

- REFER TO APPROVED MANUFACTURER LIST FOR ACCEPTABLE EQUAL MANUFACTURERS. COORDINATE POWER REQUIREMENTS FOR ALL SUBSTITUTIONS.
- STARTER BY E.C. / DISCONNECT BY MFG.
- PROVIDE BIRDSCREEN AND BACKDRAFT DAMPER.
- PROVIDE MANUFACTURER'S ROOF CURB.
- PROVIDE 277V STEP-DOWN TRANSFORMER AS REQUIRED.
- UNIT MOUNTED SOLID STATE SPEED CONTROL.
- INTERLOCK WITH SPACE LIGHTING CONTROLS, COORDINATE WITH ELECTRICAL CONTRACTOR.
- WALL MOUNTED THERMOSTAT, COORDINATE WITH ELECTRICAL CONTRACTOR.
- PROVIDE WITH MANUFACTURER SUPPLIED ELECTRONIC VARIABLE SPEED CONTROL AND ADJUSTABLE THERMOSTAT TO TURN FAN ON AT 75F.

GRILLE & DIFFUSER SCHEDULE

SYM	TYPE	USE	MAXIMUM PRESSURE DROP	NECK SIZE	FRAME SIZE	FINISH	FRAME	PRICE MODEL NO	REMARKS
CD	PERFORATED 4-WAY	SUPPLY	0.1	SEE PLANS	24X24	OFF WHITE	RMK 3	PDF	1-5, 7, 12
RAG	PERFORATED	RETURN	0.1	SEE PLANS	24X24	OFF WHITE	RMK 3	PRRF	1-3, 5, 7, 12
SR	DOUBLE DEFLECTION REGISTER	SUPPLY	0.1	SEE PLANS	RMK 4	RMK 5	RMK 3	520D	1-4, 8, 9
RR	SIDEWALL GRILLE	RETURN	0.1	SEE PLANS	RMK 4	RMK 5	RMK 3	530	1-4, 8, 9
TG	PERFORATED	RETURN	0.1	SEE PLANS	24X24	OFF WHITE	RMK 3	PRRF	1-3, 5, 7, 12

- REMARKS
- REFER TO APPROVED MANUFACTURER LIST FOR ACCEPTABLE EQUAL MANUFACTURERS.
  - SYMBOL EXPLANATION: \*##/CFM = SYM/CFM
  - FRAME TYPES: PROVIDE FRAME SUITABLE FOR CEILING INSTALLATION, REFER TO ARCHITECTURAL REFLECTED CEILING PLANS.
  - ADJUSTABLE: HORIZONTAL/VERTICAL - "PIANO HINGE" DEVICE.
  - FINISH SHALL MATCH ADJACENT SURFACES, PAINT ALL INSIDE VISIBLE SURFACES FLAT BLACK.
  - OBD IF USED AS SUPPLY OR EXHAUST.
  - ALL ALUMINUM CONSTRUCTION (INCLUDING BACKPAN) AND INSULATED BACK TO PREVENT CONDENSATION.
  - VOLUME EXTRACTOR WHERE SHOWN ON PLANS.
  - VERTICAL FRONT BLADES.
  - PROVIDE FULLY INSULATED PLENUM BOOT WITH DUCT COLLARS.
  - REFER TO PLANS FOR NECK SIZE
  - PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

☐ Prescriptive ☐ Energy Cost Budget

Thermal Zone: Harnett County, North Carolina (4A)

Exterior Design Conditions

Winter Dry Bulb: 18  
Summer Dry Bulb: 91

Interior Design Conditions

Winter Dry Bulb: 70  
Summer Dry Bulb: 75  
Relative Humidity: 50%

Building Heating Load: 117 MBH

Building Cooling Load: 161 MBH

Mechanical Space Conditioning System

Unitary:	
Description of Unit:	Refer to HVAC Equipment Schedules
Heating Efficiency:	Refer to HVAC Equipment Schedules
Cooling Efficiency:	Refer to HVAC Equipment Schedules
Heat Output of Unit:	Refer to HVAC Equipment Schedules
Cooling Output of Unit:	Refer to HVAC Equipment Schedules

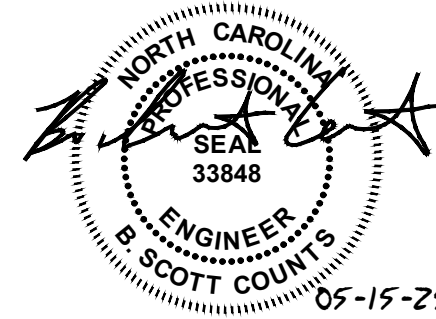
List Equipment Efficiencies:

Equipment Schedules with Motors (Mechanical Systems)

Motor Horsepower:	Comply w/ 2018 NC Energy Conservation Code
Number of Phases:	Comply w/ 2018 NC Energy Conservation Code
Minimum Efficiency:	Comply w/ 2018 NC Energy Conservation Code
Motor Type:	Comply w/ 2018 NC Energy Conservation Code
Number of Poles:	Comply w/ 2018 NC Energy Conservation Code

Designer Statement:

To the best of my knowledge and belief, the design of this building complies with the 2018 North Carolina Energy Conservation Code. The requirements of Section C406 are met through the Subsection C406.3 (Reduced Lighting Power Density).



Architectural Group PA

LINEBERRY

Project Number : 1910.15  
Drawn By: BSC  
Date: 15 MAY 2025  
ISSUE FOR CONSTRUCTION

M-1

MECHANICAL  
LEGENDS AND  
SCHEDULES



SCOPE

THE CONTRACTOR SHALL COORDINATE THE WORK AND EQUIPMENT OF THIS DIVISION WITH THE WORK AND EQUIPMENT SPECIFIED ELSEWHERE IN ORDER TO ASSURE A COMPLETE AND SATISFACTORY INSTALLATION. WORK SUCH AS EXCAVATION, BACKFILL, CONCRETE, FLASHING, WIRING, ETC., WHICH IS REQUIRED BY THE WORK OF THIS SECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE SECTION OF THE SPECIFICATIONS.

IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE".

THE WORD "PROVIDE" MEANS FURNISH, FABRICATED, COMPLETE, INSTALL, ERECT, INCLUDING LABOR AND INCIDENTAL MATERIALS NECESSARY TO COMPLETE IN PLACE AND READY FOR OPERATION OR USE THE ITEM REFERRED TO OR DESCRIBED HEREIN AND/OR SHOWN OR REFERRED TO ON THE CONTRACT DRAWINGS.

EQUIPMENT APPLICATION AND PERFORMANCE

THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL BE RESPONSIBLE TO SEE THAT EQUIPMENT SUPPLIED IS CORRECT FOR THE INTENDED APPLICATION AND WILL PERFORM WITHIN THE LIMITS OF CAPACITY, NOISE, LIFE EXPECTANCY, PRESSURE DROP AND SPACE LIMITATIONS INTENDED FOR THAT EQUIPMENT AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIFICATIONS. THE SHOP DRAWINGS SHALL SHOW THE CAPACITY AND OPERATING CHARACTERISTICS OF THE EQUIPMENT.

WHERE THE CONTRACTOR PROPOSES TO USE AN ITEM OF EQUIPMENT OTHER THAN THAT SPECIFIED OR DETAILED ON THE DRAWINGS, WHICH REQUIRES ANY REDESIGN OF THE STRUCTURE, PARTITIONS, FOUNDATIONS, PIPING, WIRING OR ANY OTHER PART OF THE MECHANICAL, ELECTRICAL, OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN, AND ALL NEW DRAWINGS AND DETAILING REQUIRED THEREFORE, SHALL BE PREPARED BY THE SUBCONTRACTOR AT HIS OWN EXPENSE AND SUBMITTED FOR APPROVAL BY THE ARCHITECT.

WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUANTITY AND ARRANGEMENT OF DUCTWORK, PIPING, WIRING, CONDUIT, AND EQUIPMENT FROM THAT SPECIFIED OR INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY SUCH DUCTWORK, PIPING, STRUCTURAL SUPPORTS, INSULATION, CONTROLLERS, MOTORS, STARTERS, ELECTRICAL WIRING AND CONDUIT, AND ANY OTHER ADDITIONAL EQUIPMENT REQUIRED BY THE SYSTEM, AT NO ADDITIONAL COST TO THE OWNER.

DIELECTRIC CONNECTIONS

DIELECTRIC CONNECTIONS SHALL BE USED AT ANY POINTS WITHIN THE PIPING SYSTEMS WHERE DISSIMILAR METALS MEET. CAREFUL ATTENTION SHALL BE GIVEN TO SUPPORT BRACKETS AND HANGERS TO SELECT PROPER MATERIALS TO AVOID DISSIMILAR METAL CONTACT AT THESE POINTS.

DUTIES OF CONTRACTOR

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS CALLED FOR IN THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS, AND MUST FURNISH THE APPARATUS COMPLETE IN EVERY RESPECT. ANYTHING CALLED FOR IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS OR SHOWN ON THE DRAWINGS AND NOT CALLED FOR IN THE SPECIFICATIONS MUST BE FURNISHED BY THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THE DETAILS OF THE CONSTRUCTION OF THE BUILDING. WORK UNDER THESE SPECIFICATIONS INSTALLED IMPROPERLY OR WHICH REQUIRES CHANGING DUE TO IMPROPER READING OR INTERPRETATION OF BUILDING PLANS SHALL BE CORRECTED AND CHANGED AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.

CONDITIONS SOMETIMES OCCUR WHICH REQUIRE CERTAIN CHANGES IN DRAWINGS AND SPECIFICATIONS. IN THE EVENT THAT SUCH CHANGES IN DRAWINGS AND SPECIFICATIONS ARE NECESSARY, THE SAME ARE TO BE MADE BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER, PROVIDING SUCH CHANGES DO NOT REQUIRE FURNISHING MORE MATERIALS, OR PERFORMING MORE LABOR THAN THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS DEMANDS. IT IS UNDERSTOOD THAT WHILE THE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE CONTRACTOR IS HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEM ACCORDING TO THE TRUE INTENT AND MEANING OF THE DRAWINGS. ANYTHING NOT ENTIRELY CLEAR IN THE DRAWINGS AND SPECIFICATION WILL BE FULLY EXPLAINED IF APPLICATION IS MADE TO THE ARCHITECT. SHOULD, HOWEVER, CONDITIONS ARISE WHERE IN THE JUDGMENT OF THE CONTRACTOR CERTAIN CHANGES WILL BE ADVISABLE, THE CONTRACTOR WILL COMMUNICATE WITH THE ARCHITECT AND SECURE HIS APPROVAL OF THESE CHANGES BEFORE GOING AHEAD WITH THE WORK.

THE RIGHT TO MAKE ANY RESPONSIBLE CHANGE IN LOCATION OF APPARATUS, EQUIPMENT, ROUTING OF PIPING UP TO THE TIME OF ROUGHING IN, IS RESERVED BY THE ARCHITECT WITHOUT INVOLVING ANY ADDITIONAL EXPENSE TO THE OWNER.

IT SHALL BE THE DUTY OF PROSPECTIVE CONTRACTORS TO VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH JOB CONDITIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF ADDITIONAL WORK NECESSITATED BY, OR CHANGES IN PLANS REQUIRED BECAUSE OF EVIDENT JOB CONDITIONS, THAT ARE NOT INDICATED ON THE DRAWINGS.

CODES, RULES, PERMITS AND FEES

ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

ALL MATERIALS AND EQUIPMENT FOR THE ELECTRICAL PORTION OF THE MECHANICAL SYSTEM SHALL BEAR THE APPROVAL LABEL, AND SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE **NORTH CAROLINA** STATE BUILDING CODE, AND REQUIREMENTS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION.

COOPERATION WITH OTHER TRADES

THIS CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.

WHERE THE WORK OF THE CONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR MAY INTERFERE WITH THE WORK OF OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF SO DIRECTED BY THE ARCHITECT, THE CONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS AND SECTIONS AT A SUITABLE SCALE NOT LESS THAN 3/8" = 1'-0", CLEARLY SHOWING HOW HIS WORK IS TO BE INSTALLED IN RELATION TO THE WORK OF OTHER TRADES. IF THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATION WITH OTHER TRADES, OR SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE THE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.

THE CONTRACTOR SHALL FURNISH TO OTHER TRADES, AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, SETTING PLANS, AND SHOP DETAILS FOR THE PROPER INSTALLATION OF WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK.

SAFETY REQUIREMENTS

ALL SYSTEMS SHALL BE INSTALLED SO AS TO BE SAFE OPERATING AND ALL MOVING PARTS SHALL BE COVERED WHERE SUBJECT TO HUMAN CONTACT. ALL ROUGH EDGES OF EQUIPMENT AND MATERIALS SHALL BE MADE SMOOTH.

ALL SAFETY CONTROLS SHALL BE CHECKED UNDER THE SUPERVISION OF THE ARCHITECT'S REPRESENTATIVE AND EIGHT (8) COPIES OF TEST DATE SHOWING SETTING AND PERFORMANCE OF SAFETY CONTROLS SHALL BE SUBMITTED TO THE ARCHITECT. ALL PRESSURE VESSELS SHALL BE ASME STAMPED AND SHALL HAVE STAMPED RELIEF VALVES. WATER HEATERS SHALL BE PROVIDED WITH ASME STAMPED T & P RELIEF VALVE.

CONCEALED PIPE

IN GENERAL, ALL PIPES IN FINISHED SPACES SHALL BE RUN CONCEALED IN FLOORS, WALLS, PARTITIONS AND ABOVE CEILINGS. UNLESS OTHERWISE NOTED, ALL PIPE SHALL RUN INSIDE THE INSULATED PERIMETER OF THE BUILDING.

PROTECTION

THE CONTRACTOR SHALL PROTECT ALL WORK AND MATERIAL FROM DAMAGE AND SHALL BE LIABLE FOR ALL DAMAGE DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL ALL CONSTRUCTION IS FINALLY INSPECTED, TESTED AND ACCEPTED. HE SHALL PROTECT WORK AGAINST THEFT, INJURY OR DAMAGE; AND SHALL CAREFULLY STORE MATERIAL AND EQUIPMENT RECEIVED ON SITE WHICH IS NOT IMMEDIATELY INSTALLED. HE SHALL CLOSE OPEN ENDS OF WORK INCLUDING PIPE, DUCT, OR EQUIPMENT WITH TEMPORARY COVERS OR PLUGS DURING STORAGE AND CONSTRUCTION TO PREVENT ENTRY OF OBSTRUCTING MATERIALS OR DUST AND DEBRIS.

PROVIDE A PROTECTIVE COVERING OF NOT LESS THAN 0.004" THICK VINYL SHEETING (OR A SIMILAR APPROVED MATERIAL) TO BE USED IN COVERING ALL ITEMS OF EQUIPMENT, IMMEDIATELY AFTER THE EQUIPMENT HAS BEEN SET IN PLACE, (OR IF IN A PLACE OF STORAGE WITHIN THE BUILDING UNDER CONSTRUCTION) TO PREVENT THE ACCUMULATION OF DIRT, SAND, CEMENT, PLASTER, PAINT OR OTHER FOREIGN MATERIALS FROM COLLECTING ON THE EQUIPMENT AND/OR FOULING WORKING PARTS.

CLEANING

CLEAN FROM ALL EXPOSED INSULATION AND METAL SURFACES GREASE, DEBRIS OR OTHER FOREIGN MATERIAL.

EQUIPMENT SERVICEABILITY

ALL EQUIPMENT SHALL BE SERVICEABLE. ALL EQUIPMENT SHALL BE INSTALLED SO THAT IT CAN BE REMOVED. ALL EQUIPMENT IN OR CONNECTED TO PIPING SYSTEMS SHALL HAVE VALVES TO ISOLATE THIS EQUIPMENT FROM THE PIPING SYSTEM. THIS INCLUDES, BUT NOT NECESSARILY LIMITED TO CONTROL VALVES, WATER HEATERS, SENSORS, SWITCHES, PUMPS, TRAPS AND STRAINERS. UNIONS (SCREWED OR FLANGED) SHALL BE PROVIDED SO THAT ALL EQUIPMENT IS REMOVABLE.

ACCEPTANCE OF EQUIPMENT

CONTRACTOR SHALL MAKE ALL NECESSARY TESTS, TRIAL OPERATION BALANCING AND BALANCE TESTS, ETC., AS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER TO PROVE THAT ALL WORK UNDER THESE PLANS AND SPECIFICATION IS IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. OIL BURNERS, GAS BURNERS, AND WATER CHILLERS SHALL BE STARTED BY A REPRESENTATIVE OF THE EQUIPMENT MANUFACTURER. ALL COSTS OF THESE PROCEDURES SHALL BE BORNE BY THIS CONTRACTOR.

UPON COMPLETION OF ALL WORK THE SYSTEM SHALL BE TESTED TO DETERMINE IF ANY EXCESS NOISE OR VIBRATION IS APPARENT DURING OPERATION OF THE SYSTEM. IF ANY SUCH OBJECTIONS ARE DETECTED IN THE SYSTEM OR NOISY EQUIPMENT FOUND, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING SAME. DUCTS, PLENUMS AND CASINGS SHALL BE CLEANED OF ALL DEBRIS AND BLOWN FREE OF ALL PARTICLES OF RUBBISH AND DUST BEFORE INSTALLING OUTLET FACES. EQUIPMENT SHALL BE WIPED CLEAN WITH ALL TRACES OF OIL, DUST, DIRT AND PAINT SPOTS REMOVED. TEMPORARY FILTERS SHALL BE PROVIDED FOR ALL FANS THAT ARE OPERATED DURING CONSTRUCTION AND AFTER ALL CONSTRUCTION DIRT HAS BEEN REMOVED FROM THE BUILDING, NEW FILTERS SHALL BE INSTALLED. BEARINGS SHALL BE LUBRICATED AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. ALL CONTROL VALVES AND EQUIPMENTS SHALL BE ADJUSTED TO SETTING INDICATED. FANS SHALL BE ADJUSTED TO THE SPEED INDICATED BY THE MANUFACTURER TO MEET SPECIFIED CONDITIONS.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THE COMPLETE MECHANICAL SYSTEM AGAINST DEFECT DUE TO FAULTY MATERIALS, FAULTY WORKMANSHIP OR FAILURE DUE TO NEGLIGENCE OF THE CONTRACTOR. THIS GUARANTEE WILL EXCLUDE NORMAL WEAR AND TEAR, MAINTENANCE LUBRICATION, REPLACEMENT OF EXPENDABLE COMPONENTS, OR ABUSE. THE GUARANTEE PERIOD SHALL BEGIN ON THE DATE OF THE FINAL ACCEPTANCE AND SHALL CONTINUE FOR A PERIOD OF 12 MONTHS DURING WHICH TIME THE CONTRACTOR SHALL MAKE GOOD SUCH DEFECTIVE WORKMANSHIP AND MATERIALS AND ANY DAMAGE RESULTING THERE FROM, WITHIN A REASONABLE TIME OF NOTICE GIVEN BY THE OWNER. REFRIGERATION COMPRESSORS SHALL HAVE A FIVE (5) YEAR WARRANTY.

DUCTWORK

LOW-PRESSURE DUCTWORK SHALL BE CONSTRUCTED OF ZINC COATED SHEET STEEL AND SHALL CONFORM TO THE 1ST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS –METAL AND FLEXIBLE, 1985 AS FOLLOWS:

RECTANGULAR DUCT: 1" W.G. PRESSURE CLASS – TABLE 1–4.

ROUND DUCT: 2" W.G. PRESSURE CLASS – TABLE 3–2.

ALL DUCTWORK MUST BE SEALED IN ACCORDANCE WITH SEAL CLASS C AS DEFINED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS–METAL AND FLEXIBLE, 1985.

DUCT HANGERS AND SUPPORTS SHALL CONFORM TO THOSE SHOWN IN TABLES 4–1 AND 4–2 OF SMACNA HVAC DUCTWORK 1985, 1ST EDITION.

DUCT AIR BALANCING DAMPERS

MANUAL VOLUME DAMPERS WITH LOCKING QUADRANTS SHALL BE PROVIDED AT EACH SUPPLY, RETURN, AND OUTSIDE AIR BRANCH DUCT AND/OR TAKE-OFF TO FACILITATE COMPLETE BALANCING OF THE HVAC SYSTEMS WHETHER EXPLICITLY SHOWN ON PLANS AND DETAILS OR NOT.

DUCTWORK INSTALLATION:

ALL DUCTWORK SHALL BE PROVIDED IN A NEAT WORKMANLIKE MANNER. THE DUCTS SHALL BE PROPERLY BRACED AND REINFORCED. ALL SLIP JOINTS SHALL BE MADE IN THE DIRECTION OF FLOW. ALL DUCTS SHALL BE TRUE TO THE DIMENSION INDICATED AND SHALL BE STRAIGHT AND SMOOTH ON THE INSIDE WITH NEATLY FINISHED AIRTIGHT JOINTS. THE DUCTS SHALL BE SECURELY ANCHORED INTO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER AND SHALL BE COMPLETELY FREE FROM VIBRATION UNDER ALL CONDITIONS OF OPERATION. ALL SUPPLY, RETURN FRESH–AIR AND EXHAUST SYSTEMS SHALL BE COMPLETELY BALANCED.

NO DUCT TRANSFORMATION SHALL BE OF A RATIO LESS THAN FOUR TO ONE AND WHERE POSSIBLE, SHALL BE OF A RATIO OF SIX TO ONE. NO LESS THAN THREE VERTICAL SPLITTERS SHALL BE PROVIDED WHERE THESE RATIOS CANNOT BE MET. NO ELBOW SHALL HAVE A THROAT CENTER LINE RADIUS OF LESS THAT ONE AND ONE–HALF TIMES THE DUCT WIDTH AT THE TURN. ALL TURNS OF LESS THAN THIS AMOUNT IN RECTANGULAR DUCT SHALL BE PROVIDED WITH DUCT TURNING VANES OF STANDARD DESIGN. SPLITTERS OR MULTI-BLADE VOLUME DAMPERS, WHERE INDICATED, SHALL BE PROVIDED IN ALL BRANCH.

TURNING VANES SHALL BE PROVIDED AT ALL TEES AND SQUARE ELBOWS. TURNING VANES SHALL BE FACTORY FABRICATED AND DESIGNED IN ACCORDANCE WITH THE SMACNA OR ASHRAE GUIDE FOR FORMED VANES. THE FIRST SET OF TURNING VANES ON THE LEAVING SIDE OF FANS SHALL BE OF THE ACOUSTICAL TYPE TO AID IN THE ELIMINATION OF UNIT NOISE WITH THE EXCEPTION OF ROOM FAN COIL UNITS.

SPLITTER DAMPERS AND VOLUME EXTRACTORS SHALL BE PROVIDED IN ALL LOW VELOCITY DUCTWORK FOR PROPER AIR DISTRIBUTION. EACH DAMPER SHALL BE PROVIDED, LUBRICATED BEARINGS AT BOTH ENDS OF THE SHAFTS, ADJUSTMENTS QUADRANT, AND LOCKING DEVICES AND SHALL BE CONSTRUCTED OF GALVANIZED IRON OR STEEL SHEET ONE GAUGE HEAVIER THAN THE DUCT IN WHICH THEY ARE INSTALLED. ACCESS DOORS SHALL BE LOCATED AT ALL SPLITTER DAMPERS.

HANDHOLES OF NOT LESS THAN 6" X 6" SHALL BE PROVIDED AT ALL POINTS WHERE ACCESS IS REQUIRED. MANHOLES OF NOT LESS THAN 18" X 24" SHALL BE PROVIDED AT ALL POINTS WHERE IT IS NECESSARY TO CLEAN OR REMOVE PARTS OF EQUIPMENT. ALL ACCESS DOORS AND HANDHOLES SHALL BE RUBBER GASKETED INSULATED TYPE WITH FRAME AND LATCHES.

ALL DUCTWORK MUST BE SEALED IN ACCORDANCE WITH SEAL CLASS C AS DEFINED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE, 2015.

DUCT HANGERS AND SUPPORTS:

DUCT HANGERS AND SUPPORTS SHALL CONFORM TO THOSE SHOWN IN TABLES 4–1 AND 4–2 OF SMACNA HVAC DUCTWORK 1985, 1ST EDITION.

DUCT LEAKAGE TEST:

AFTER INSTALLATION AND PRIOR TO INSULATING, THE CONTRACTOR SHALL PERFORM A DUCT LEAKAGE TEST ON ALL DUCTWORK. CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS IN ADVANCE OF TEST. DUCT LEAKAGE TEST SHALL BE IN ACCORDANCE WITH THE CURRENT ENERGY CODE. TOTAL LEAKAGE OF THE SYSTEM SHALL NOT EXCEED THE CALCULATED LEAKAGE IN ACCORDANCE WITH THE CURRENT ENERGY CODE.

THE CONTRACTOR MAY AT HIS OPTION TEST PORTIONS OF THE DUCT SYSTEM IN LIEU OF TESTING THE ENTIRE SYSTEM AT ONCE. IF THE SYSTEM IS TESTED IN SECTIONS, THE LEAKAGE RATES SHALL BE ADDED TO GIVE THE PERFORMANCE OF THE WHOLE SYSTEM.

THE AIR LEAKAGE AT THE TEST PRESSURE SHALL BE MEASURED BY A CALIBRATED OFFICE TYPE FLOW METER. THE ORIFICE FLOW MEASUREMENT DEVICE MUST HAVE INDIVIDUALLY CALIBRATED AGAINST A PRIMARY STANDARD, AND THIS CALIBRATED CURVE PERMANENTLY ATTACHED TO THE ORIFICE TUBE ASSEMBLY.

LEAKAGE CONCENTRATED AT ONE POINT MAY RESULT IN OBJECTIONABLE NOISE EVEN IF THE SYSTEM PASSES THE LEAKAGE RATE CRITERIA. NOISE SOURCES MUST BE CORRECTED TO THE SATISFACTION OF THE ENGINEER.

DUCT INSULATION

INSULATION SHALL BE OWENS–CORNING, CERTAIN–TEED/ST. GOBAIN, MANVILLE OR APPROVED EQUIVALENT. ADHESIVES SHALL BE AS MANUFACTURED BY 3–M FOSTER OR INSULATION MANUFACTURER. INSULATION SHALL HAVE COMPOSITE (INSULATION, JACKET AND ADHESIVE) FIRE AND SMOKE HAZARD RATING AS TESTED BY ASTM E–84, NOT EXCEEDING FLAME SPREAD –25 AND SMOKE DEVELOPED –50.

ALL VAPOR BARRIERS AND JOINTS SHALL BE SEALED TO PREVENT CONDENSATION. CLEAN AND DRY ALL DUCTWORK BEFORE INSTALLING INSULATION. ALL WELD JOINTS SHALL BE WIRE BRUSHED AND GIVE ONE (1) COAT OF RED LEAD BEFORE INSULATING. STAPLES WILL NOT BE PERMITTED IN INSULATION.

ALL INDOOR CONCEALED SUPPLY AIR, RETURN AIR, AND OUTSIDE AIR DUCTS UNLESS NOTED OTHERWISE ON PLANS SHALL BE INSULATED BY WRAPPING WITH 2" THICK, MINIMUM INSTALLED R VALUE = 6.0 FIBERGLASS WITH VAPOR BARRIER JACKET WITH JOINTS OVERLAPPED A MINIMUM OF TWO INCHES. INSULATION SHALL BE ADHERED TO DUCT WITH NON–COMBUSTIBLE INSULATION BONDING ADHESIVE APPLIED IN 4" STRIPS, 8" ON CENTER. ALL JOINTS SHALL BE SECURED WITH FLARE DOOR STAPLES ON 3" CENTERS THROUGH ALL LAPS OVER DUCT TAPE.

ALL OUTDOOR EXPOSED SUPPLY AIR, RETURN AIR, AND OUTSIDE AIR DUCTS UNLESS NOTED OTHERWISE ON PLANS SHALL BE INSULATED WITH MINIMUM 2" THICK RIGID POLYSTYRENE INSULATION, MINIMUM INSTALLED R VALUE = 8.0. COVER WITH TWO LAYERS OF GLASSFAB AND WHITE MASTIC. PROVIDE FINISHED OUTER ENCLOSURE OF STAMPED ALUMINUM SHEET METAL.

CONTROLS

REFER TO EQUIPMENT SCHEDULES.

TESTING AND BALANCING

WORK SHALL BE PERFORMED BY TECHNICIANS COMPETENT IN THE TRADE OF TESTING AND BALANCING ENVIRONMENTAL SYSTEMS AND SHALL BE DONE IN AN ORGANIZED MANNER UTILIZING APPROPRIATE TEST AND BALANCE FORMS. ALL EQUIPMENT SHALL BE BALANCED TO WITHIN +/- 10% OF THE SCHEDULED VALUE. TEST AND BALANCE TECHNICIANS SHALL BE A SUB–CONTRACTOR TO THE HVAC CONTRACTOR AND SHALL BE CERTIFIED BY EITHER AABC OR NEBB.

INSTRUMENTS FOR USE IN THE TEST AND BALANCING PROCEDURES SHALL BE OF FIRST QUALITY AND BE ACCURATELY CALIBRATED AT THE TIME OF USE. ALL FIELD INSTRUMENTS USED IN THE BALANCE SHOULD HAVE BEEN CALIBRATED AT LEAST WITHIN THE PREVIOUS THREE MONTHS.

STARTING DATE FOR MECHANICAL SYSTEM SHALL BE SCHEDULED WELL IN ADVANCE OF EXPECTED COMPLETION DATE AND SHALL BE ESTABLISHED A MINIMUM OF TWO WEEKS PRIOR TO ACCEPTANCE DATE. THE SYSTEM SHALL BE IN FULL OPERATION WITH ALL EQUIPMENT FUNCTIONAL PRIOR TO ACCEPTANCE DATE.

PERFORMANCE READINGS SHALL BE TAKEN AND RECORDED ON ALL AIR DISTRIBUTION DEVICES AND THE SYSTEM SHALL BE BALANCED OUT PRIOR TO ACCEPTANCE. BALANCING OF THE SYSTEM SHALL BE ACCOMPLISHED WITH SUPPLY AIR, RETURN AIR, AND OUTSIDE AIR DUCT DAMPERS AND ONLY MINOR ADJUSTMENTS MADE WITH GRILLE DAMPERS. RECORD AND SUBMIT RESULTS IN TABLE FORM ALONG SIDE OF SCHEDULED QUANTITIES.

ALL UNITS SHALL BE CHECKED OUT THOROUGHLY AND THE INFORMATION RECORDED ON EACH MACHINE. CHECK SHEETS SHALL BE INCLUDED IN OPERATING AND MAINTENANCE INSTRUCTIONAL MANUAL.

CONDENSATE DRAIN PIPING

CONDENSATE DRAIN LINES ROUTED THROUGH RETURN AIR PLENUMS SHALL BE TYPE K COPPER CONFORMING TO ASTM B88. ALL OTHER CONDENSATE DRAIN LINES SHALL BE SCHEDULE 40 PVC CONFORMING TO ASTM D 2665. UNLESS SHOWN OTHERWISE ON PLANS, ROUTE CONDENSATE DRAINS FROM ROOFTOP UNITS TO NEAREST ROOF DRAIN AND ROUTE CONDENSATE DRAINS FROM INDOOR AIR HANDLING UNITS TO NEAREST FLOOR DRAIN, FLOOR SINK, OR HUB DRAIN AND PROVIDE A MINIMUM 1" AIR GAP. COORDINATE DRAIN LOCATIONS WITH PLUMBING CONTRACTOR. ALL CONDENSATE DRAIN LINES SHALL BE ROUTED IN A NEAT MANNER AND SO AS TO NOT CREATE A TRIPPING HAZARD.

REFRIGERANT PIPING

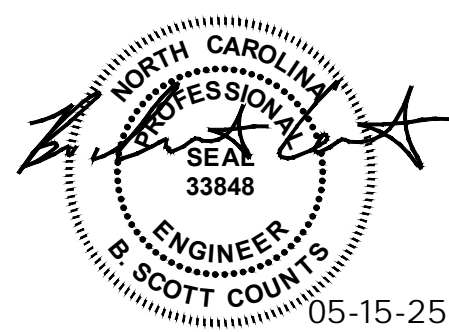
CONNECT SPLIT SYSTEM AIR HANDLING UNITS TO HEAT PUMPS WITH REFRIGERANT PIPING, TYPE "K" HARD DRAWN COPPER "ACR" TUBING WITH WROUGHT COPPER SWEAT FITTINGS. ALL JOINTS ARE TO BE MADE WITH HARD SOLDER SUCH AS "SIL–FOS" OR "SILVER SOLDER."

PIPE INSULATION – REFRIGERANT SUCTION PIPING – FLEXIBLE FOAMED ELASTOMERIC PLASTIC TUBING WITH A DENSITY OF 6 LBS./CF, K OF 0.27 @ 70 DEGREES F., SELF–EXTINGUISHING, AND A WATER VAPOR TRANSMISSION OF LESS THAN 0.05 PERM IN., FLAME SPREAD RATING 25 OR LESS, SMOKE DEVELOPED RATING OF 50 OR LESS (ASTM E84–75). REFRIGERANT PIPING EXPOSED TO THE OUTDOORS SHALL BE ENCLOSED IN AN ALUMINUM OUTER ENCLOSURE.

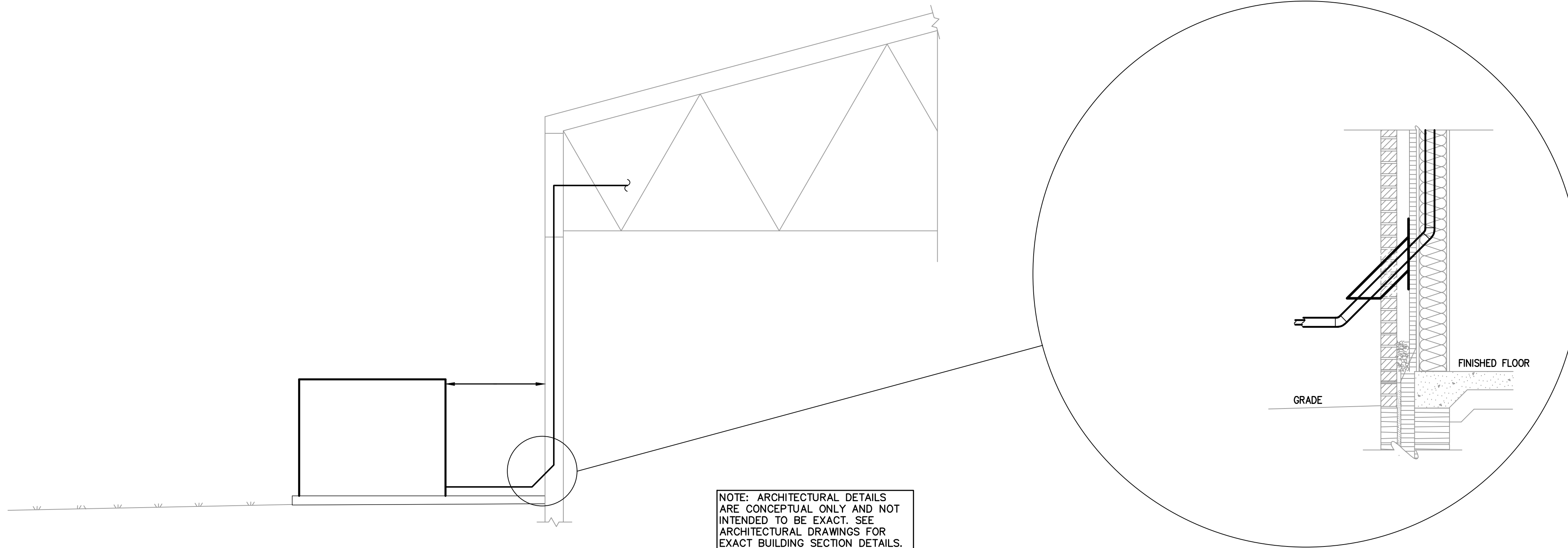
HANGERS

ALL PIPING SHALL BE SUPPORTED ON NOT LESS THAN 10' CENTERS AND WITHIN 30" OF EACH CHANGE OF DIRECTION EXCEPT THAT PIPING 1 1/4" SIZE AND SMALLER SHALL BE SUPPORTED ON 8' 0" CENTERS.

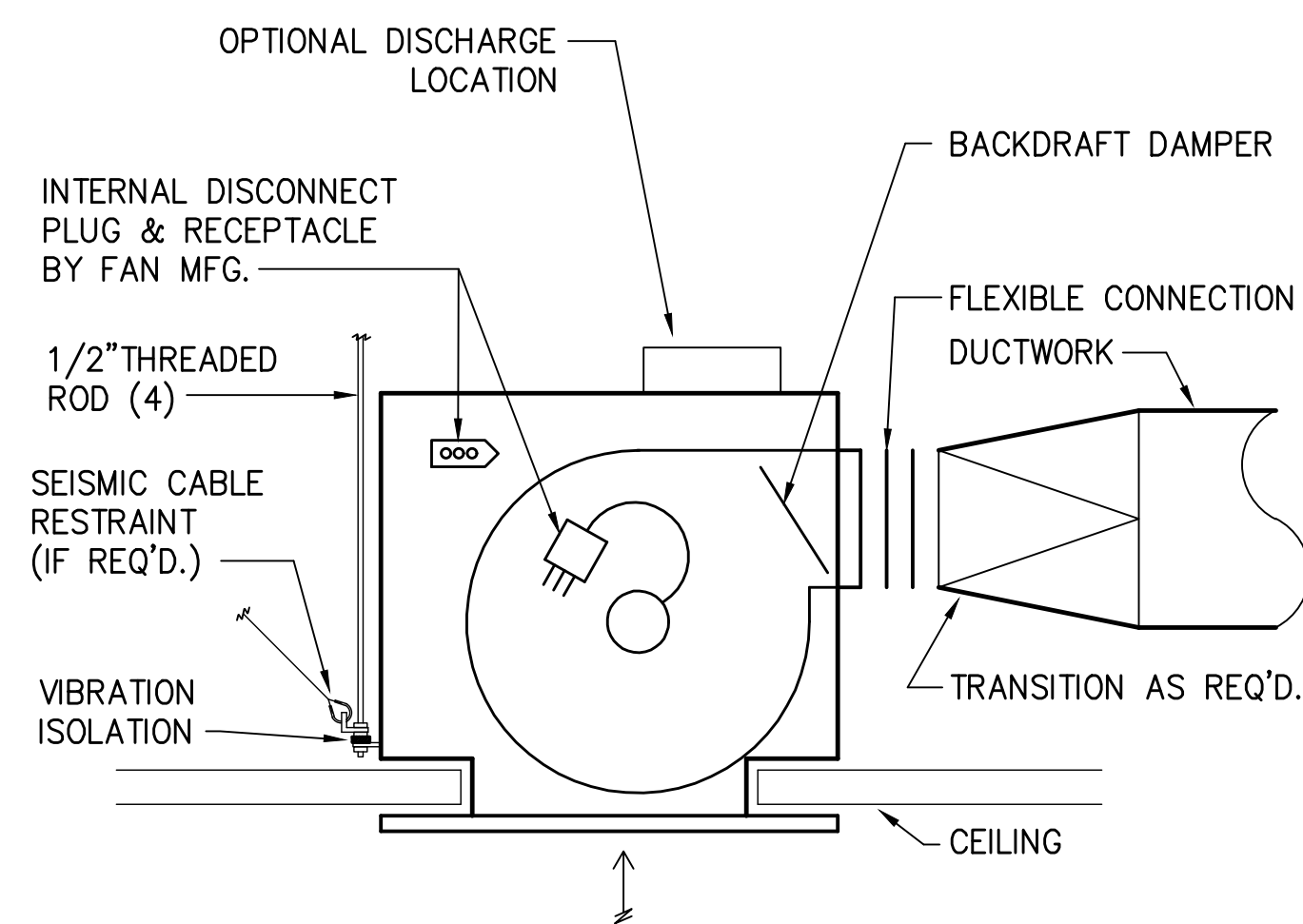
PIPE HANGERS SHALL BE SUPPORTED BY MEANS OF IRON HANGER RODS FROM THE BUILDING CONSTRUCTION OR FROM STRUCTURAL STEEL MEMBERS, AND IN AN APPROVED MANNER. WHERE REQUIRE, PIPING SHALL BE HUNG FROM ANGLE IRON CLIPS OR SUITABLE BRACKETS ATTACHED TO SIDES OF MASONRY CONSTRUCTION.



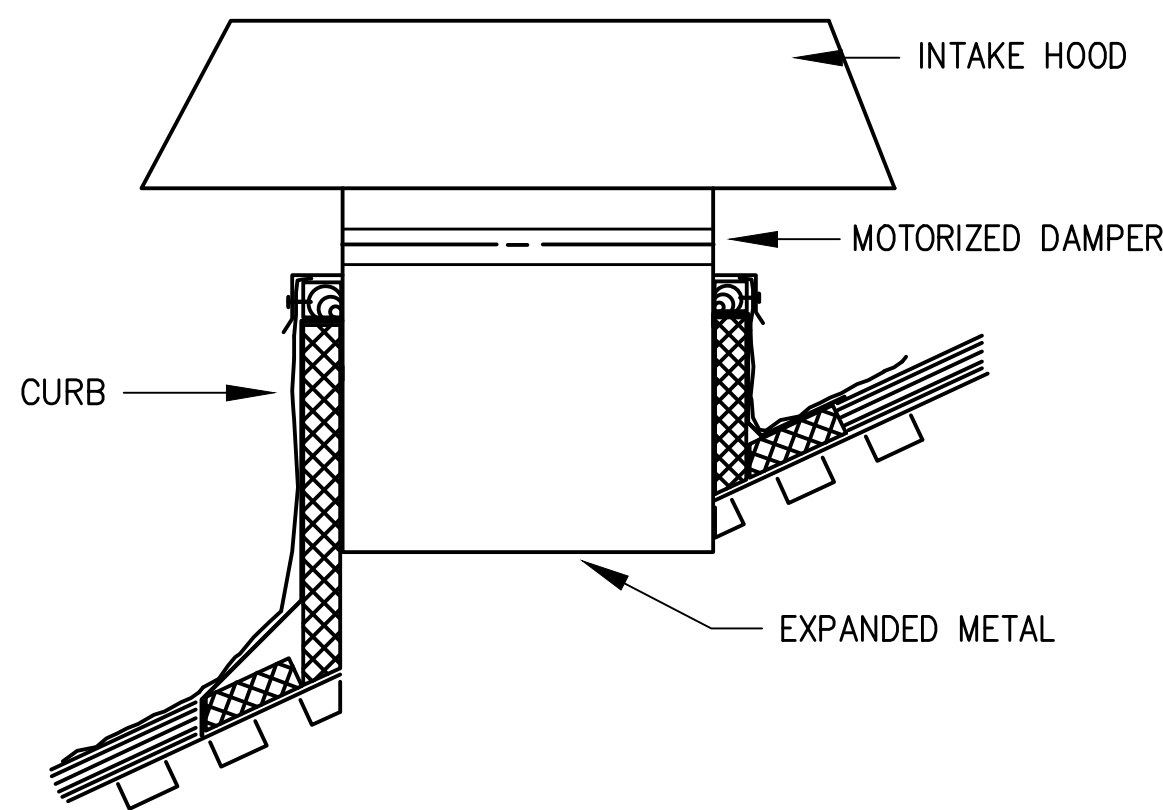




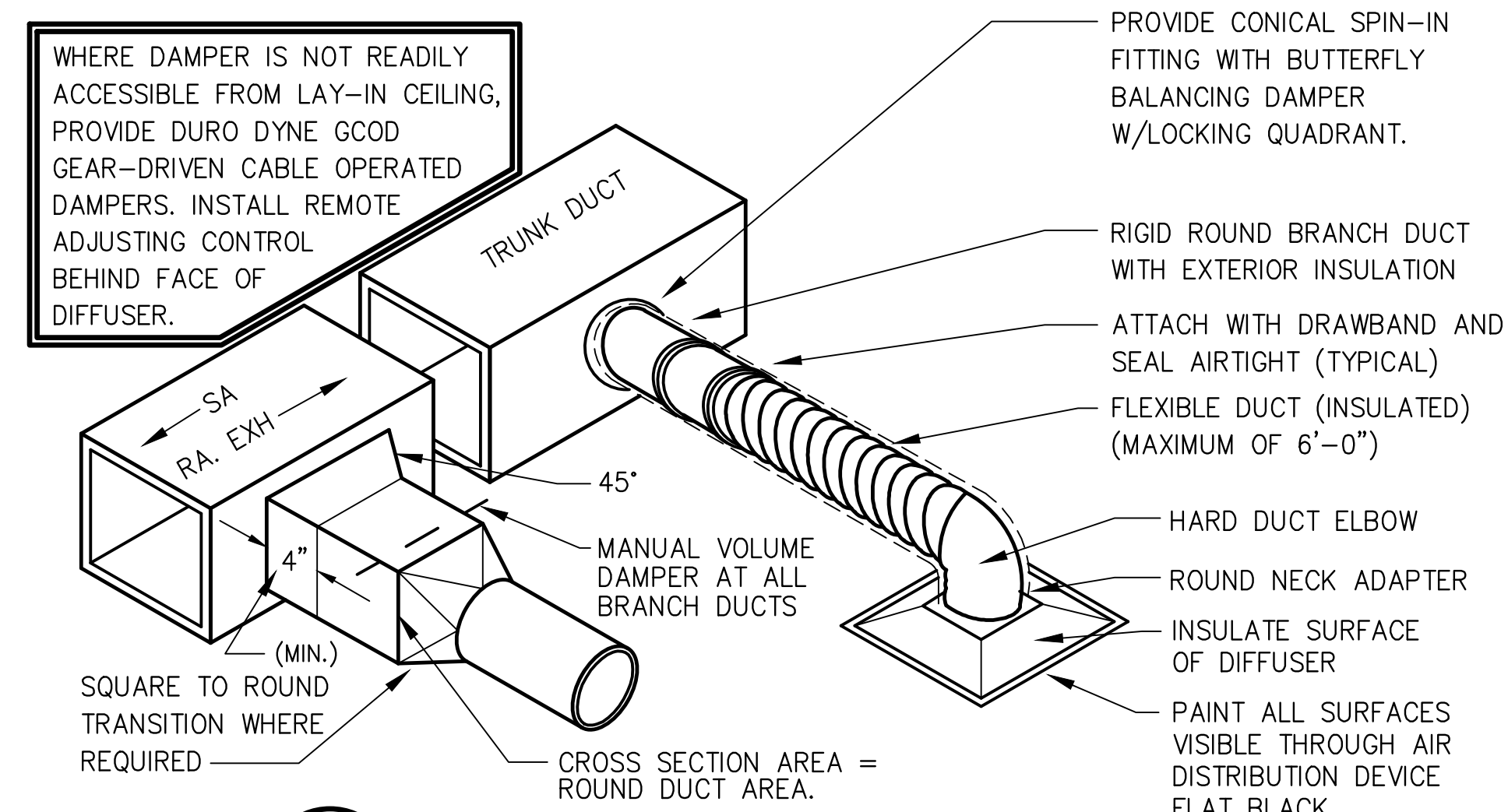
**1** CONDENSING UNIT ON GRADE AND REFRIGERANT PIPING DETAIL  
NTS



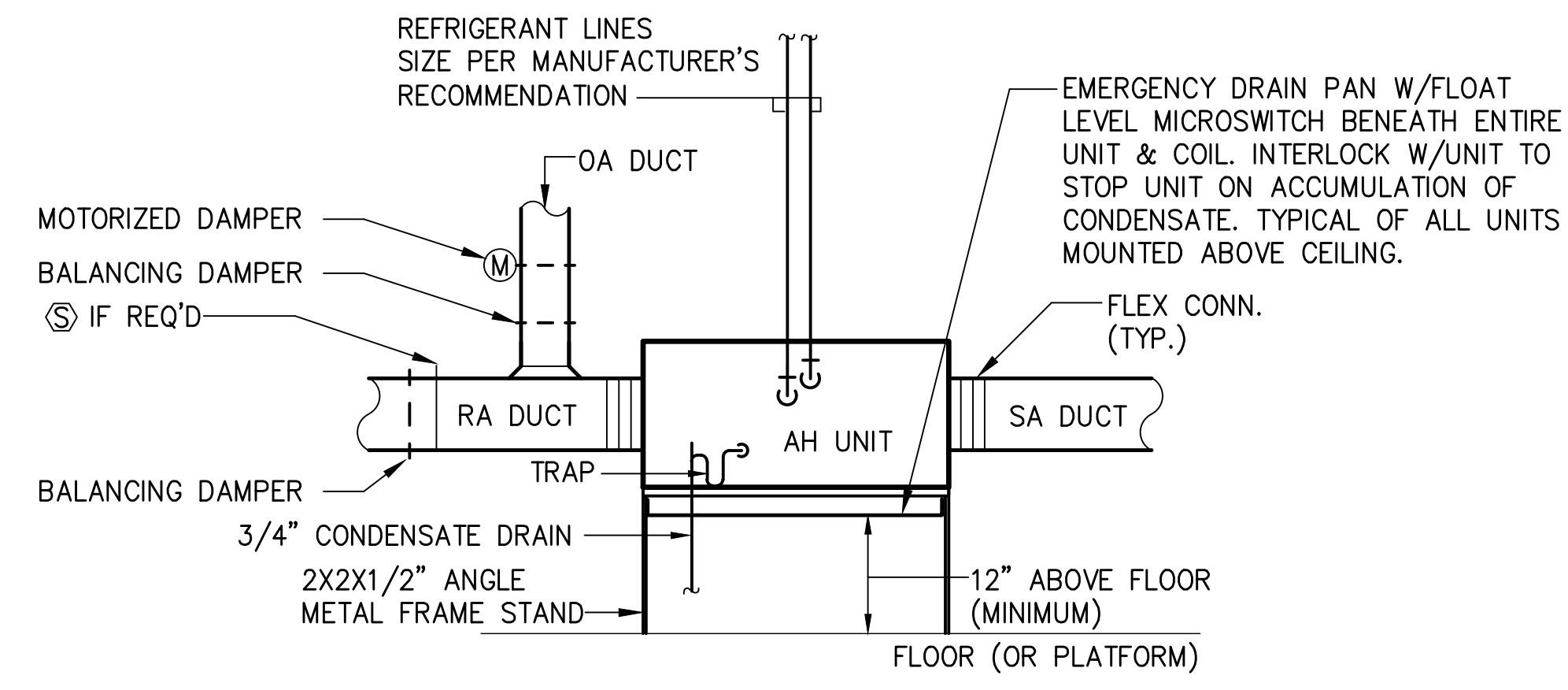
**3** CEILING EXHAUST FAN DETAIL  
NTS



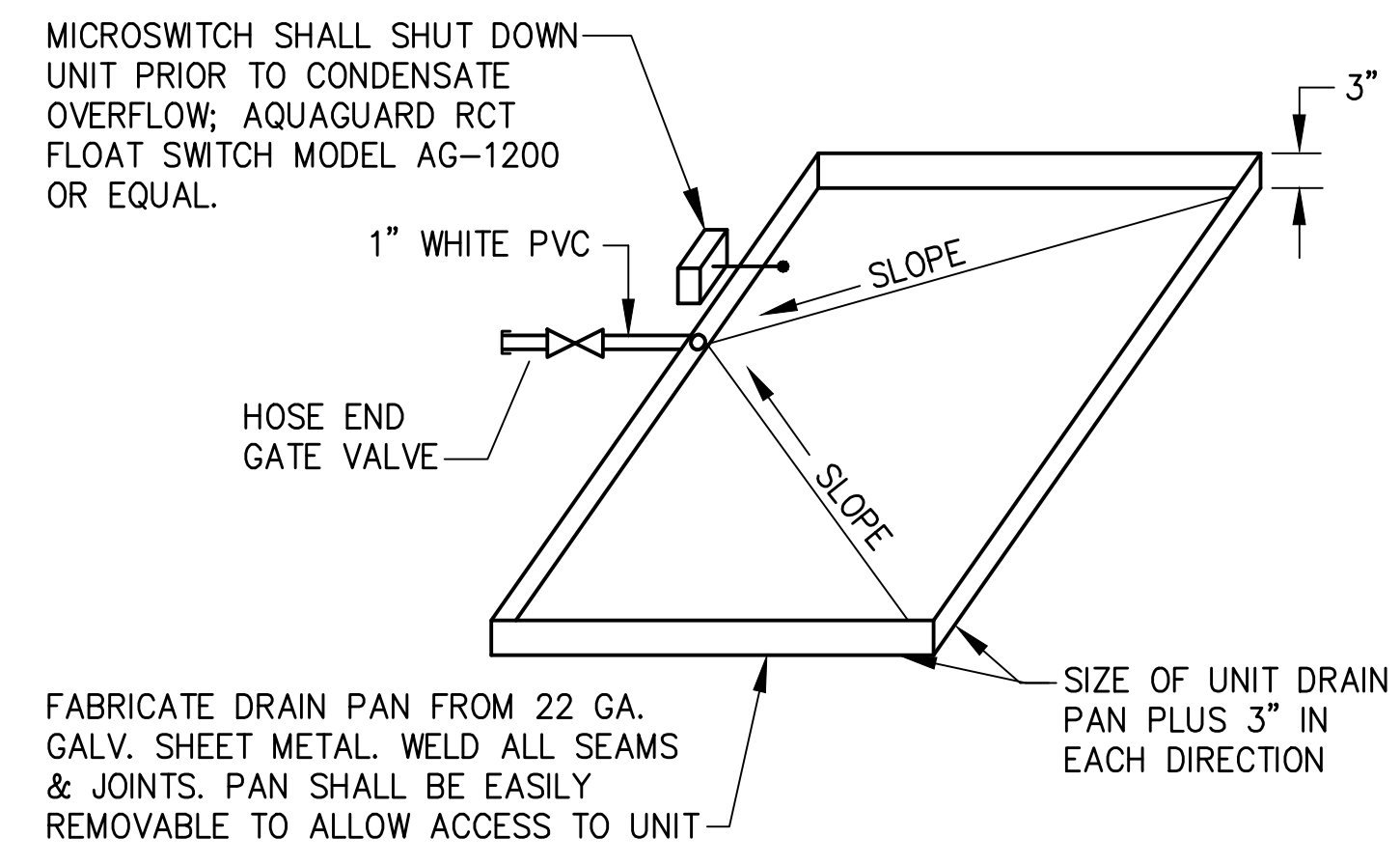
**6** SLOPED ROOF INTAKE HOOD DETAIL  
NTS



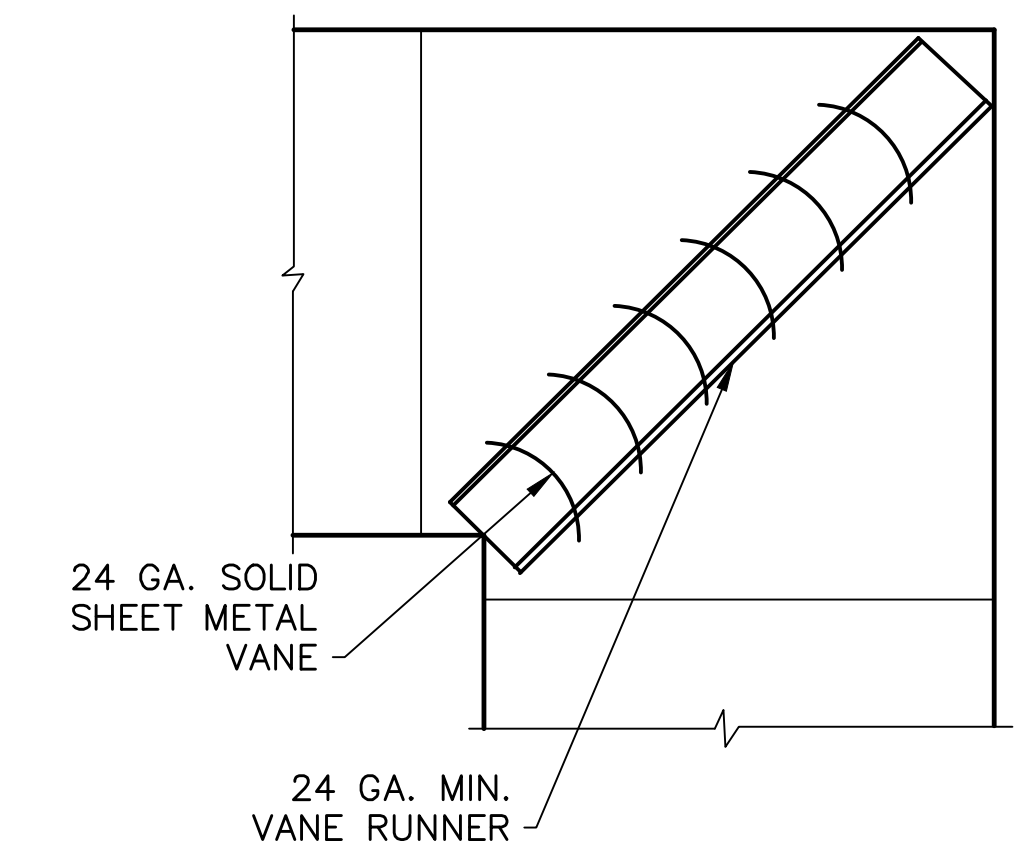
**4** DUCT TAKE-OFF DETAIL  
NTS  
NOTE: DAMPERS NOT REQUIRED FOR MEDIUM PRESSURE DUCTWORK



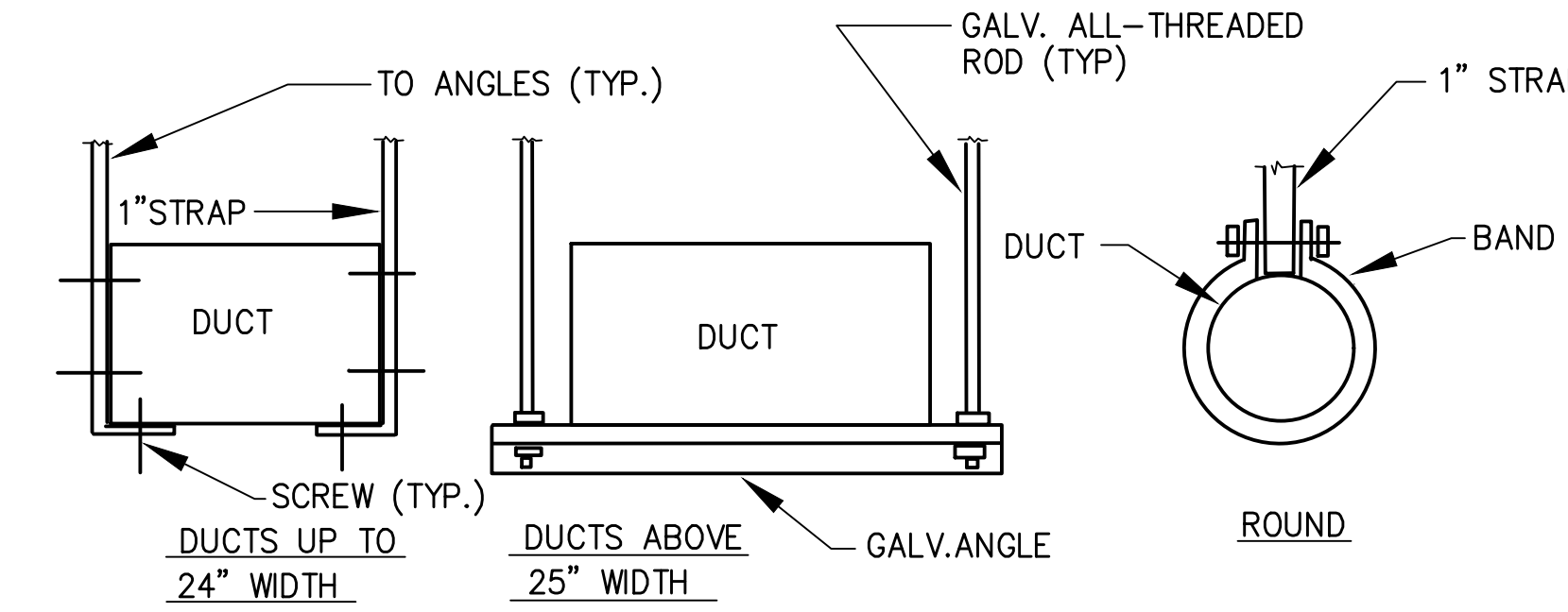
**7** HORIZONTAL AIR HANDLER DETAIL  
NTS



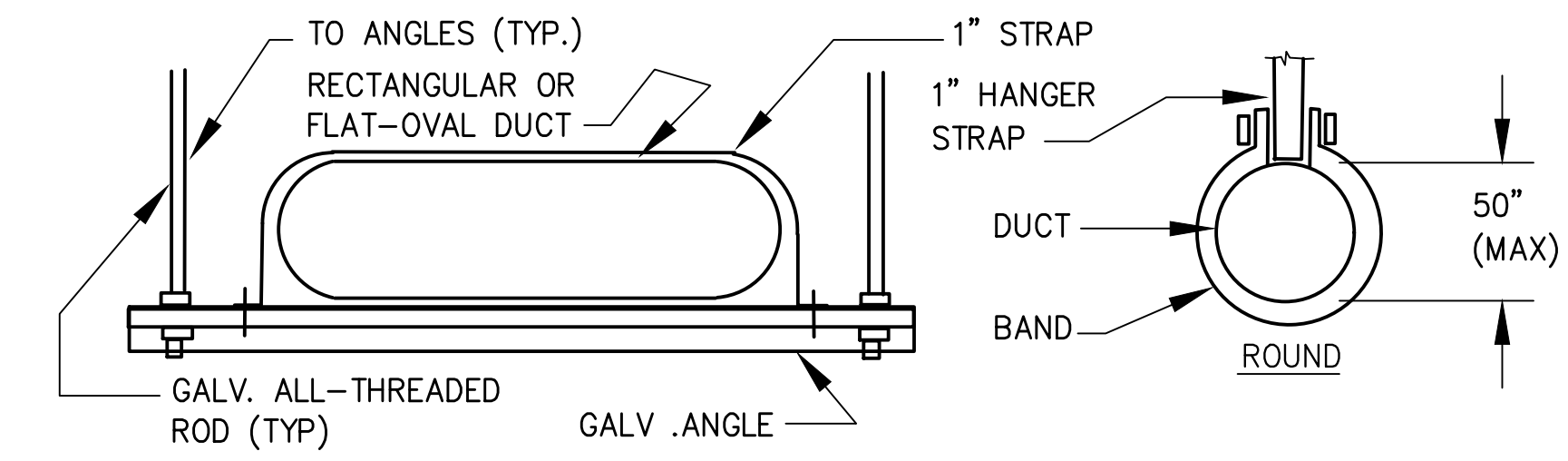
**2** AUXILIARY DRAIN PAN DETAIL  
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**5** TURNING VANE DETAIL  
NTS  
PERMITTED ONLY WHERE RADIUS ELL WILL NOT FIT.



**LOW PRESSURE DUCTWORK**



**MEDIUM PRESSURE DUCTWORK**

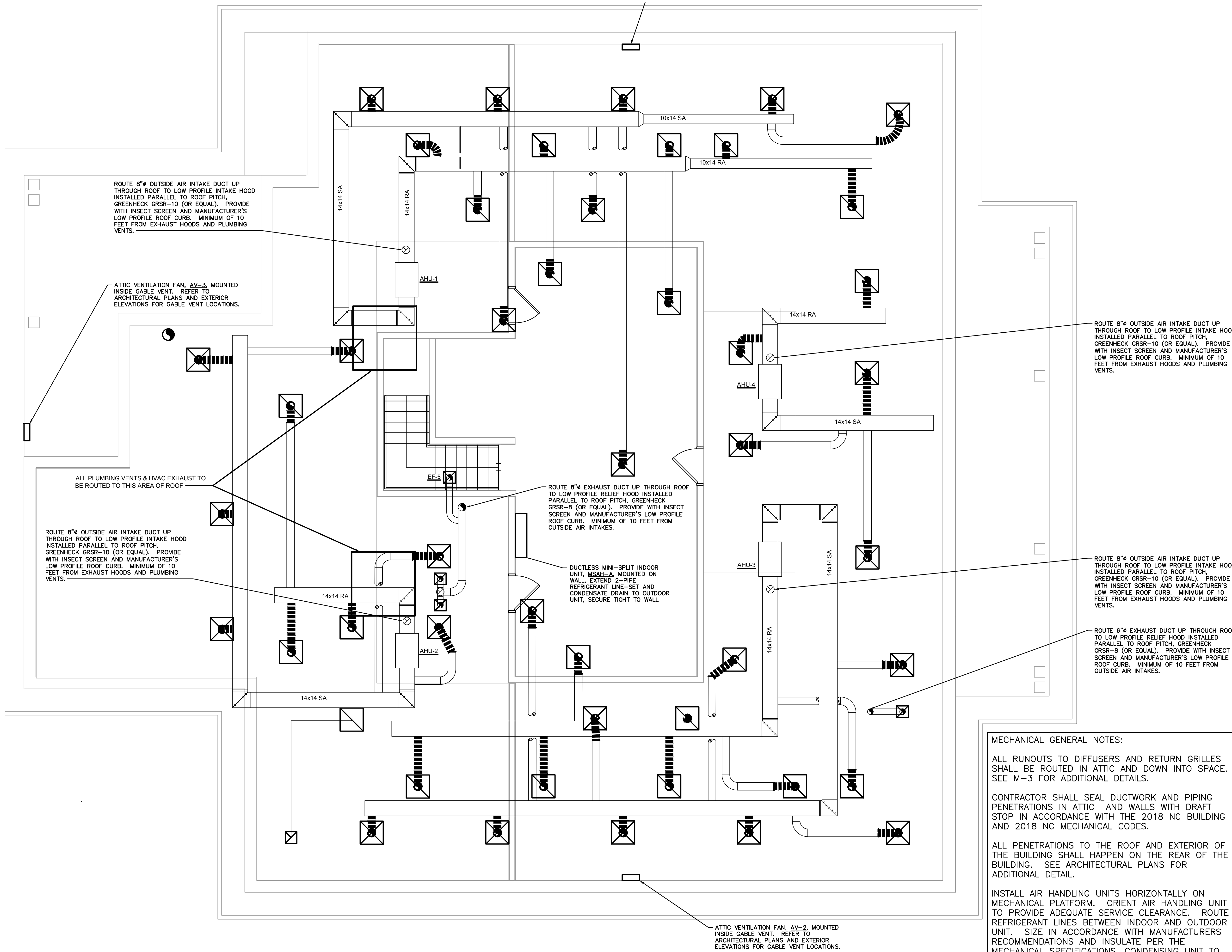
**8** DUCTWORK HANGER DETAILS  
NTS





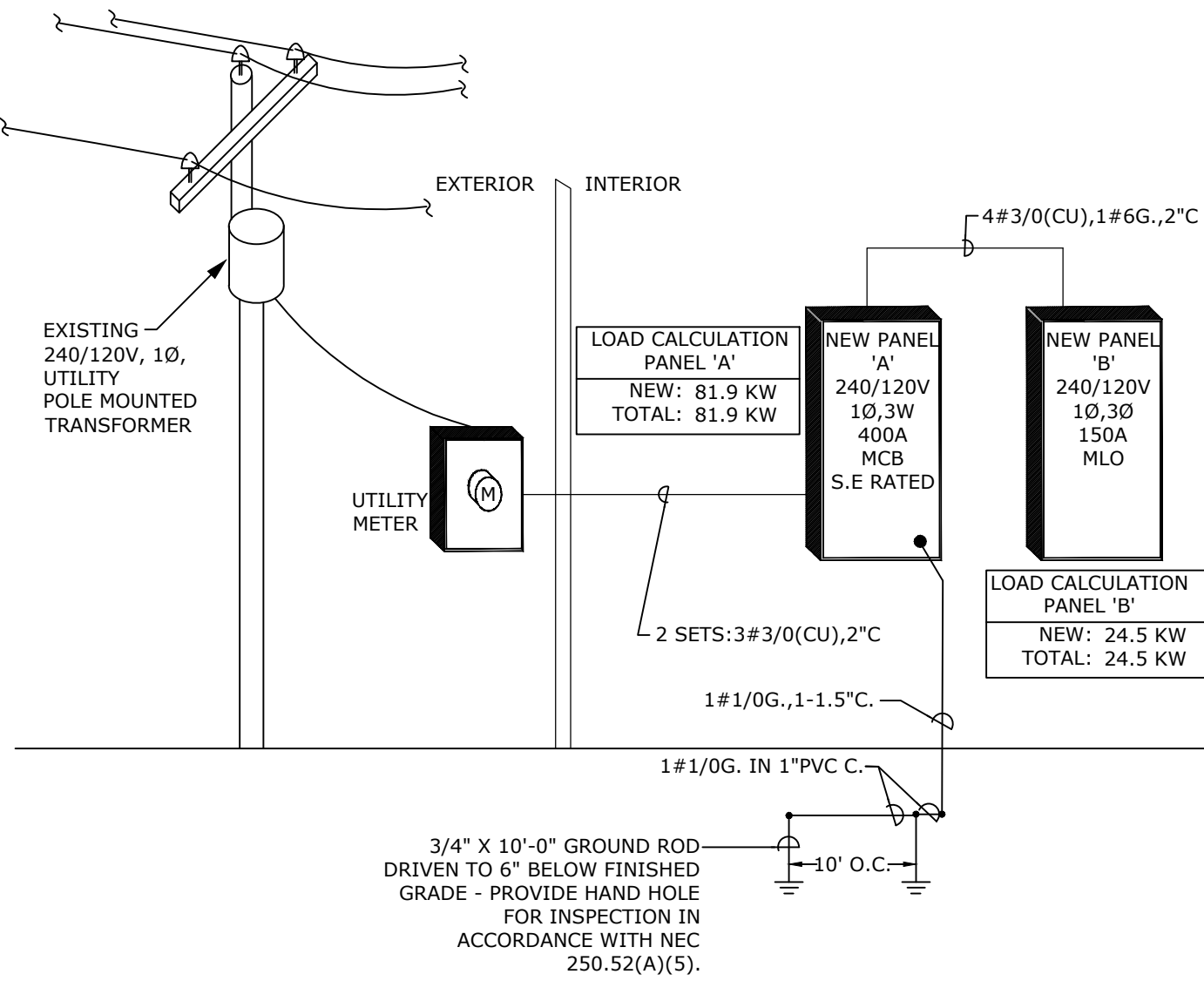
**M-4**  
FIRST FLOOR PLAN  
- MECHANICAL





1 ATTIC FLOOR PLAN - MECHANICAL  
M-5 SCALE: 1/4" = 1'-0"





1 POWER RISER DIAGRAM  
E-1 SCALE: 1/4" = 1'-0"

- GENERAL NOTES  
(APPLIES TO THIS SHEET ONLY)
- PROVIDE AND INSTALL CT METER CABINET IF REQUIRED BY UTILITY FOR THIS APPLICATION. METER BY UTILITY.
  - PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT PER NEC 110.24.
  - UTILITY TRANSFORMER SPECIFICATIONS UNKNOWN AT TIME OF DESIGN. DESIGN IS BASED ON 20,800AIC. E.C. TO VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS HIGHER THAN INDICATED, CONTACT ENGINEER FOR FAULT CURRENT FOR ELECTRICAL PANEL(S).
  - PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S) PER NEC 110.26.
  - ELECTRICAL PANEL(S) SHALL BE INSTALLED PER NEC 110.26.
  - ELECTRICAL CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD IF 208 VOLT, 3 PHASE POWER IS AVAILABLE AT THIS SITE PRIOR TO ORDERING OF ANY EQUIPMENT.

## GENERAL ELECTRICAL NOTES:

- THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT NECESSARILY SHOW EVERY FITTING AND DETAIL. ALL WORK SHALL BE COMPLETED SO THE JUNCTION BOXES AND COMPONENTS WILL BE ACCESSIBLE FOR SERVICING.
- ALL ELECTRICAL WORK PERFORMED DURING THIS SCOPE OF WORK SHALL COMPLY WITH ALL LOCAL BUILDING CODES, LAWS, REGULATIONS, ORDINANCES, AND THE REQUIREMENTS OF THE 2017 NATIONAL ELECTRICAL CODE. ALL WORK SHALL COMPLY WITH ANY OWNER SPECIFICATIONS NOT CALLED OUT IN THIS SET OF DRAWINGS.
- WHERE ELECTRICAL CONTINUITY TO EXISTING TO REMAIN RECEPTACLES/LIGHTS/EQUIPMENT IS DISRUPTED BY DEMOLITION DURING THIS SCOPE OF WORK, RECONNECT THE DEVICE TO THE CIRCUIT IT WAS CONNECTED TO BEFORE DEMOLITION TOOK PLACE UNLESS THE DRAWINGS SHOW OTHERWISE.
- ALL CONDUCTORS SHALL BE COPPER WITH TYPE "THHN" OR "THW" INSULATION. USE "THHN" FOR #10 OR SMALLER CONDUCTORS. USE "THW" FOR CONDUCTORS #8 OR LARGER.
- THE MINIMUM WIRE SIZE SHALL BE #12 A.W.G.
- ALL PENETRATIONS THRU RATED WALLS, FLOORS AND CEILINGS SHALL BE FIRE STOPPED PER N.E.C. 300-21 AND NFPA 221.
- PROVIDE GROUNDING AS REQUIRED BY N.E.C..
- WHERE MOUNTING HEIGHTS ARE SHOWN ON THE DRAWINGS, THE MEASUREMENT IS TO BE TAKEN FROM THE CENTERLINE OF THE DEVICE.
- TYPICAL CONDUIT SIZES ARE 3/4" EMT WITH #212, 1#12G. AWG UNLESS OTHERWISE NOTED.
- A #12 GROUND SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE GROUNDED AT THE PANEL THAT FEEDS THE EQUIPMENT.
- CONTRACTOR SHALL PROVIDE A PANEL SCHEDULE DIRECTORY LOCATED ON THE INSIDE COVER OF THE ELECTRICAL PANEL. ALL CIRCUITS, SPARES, AND SPACES SHALL BE CORRECTLY LABELED.
- ALL BRANCH CIRCUIT HOMERUN CONDUCTORS SHALL BE PROVIDED WITH A SEPERATE INSULATED #12 AWG EQUIPMENT GROUNDING CONDUCTOR.
- IF THE GENERAL CONTRACTOR DOES ANY WORK THAT CAUSES DISRUPTION TO ANY ELECTRICAL CIRCUITS OR SYSTEMS, THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL REMAINING WORKING DEVICES ON THAT CIRCUIT AS REQUIRED TO ENSURE PROPER WORKING SYSTEM.
- BUILDING CODE SECTION 705.4 SHALL BE MET WITH ELECTRICAL DEVICES TO BE INSTALLED IN RATED WALLS.
- ALL ELECTRICAL MATERIALS, DEVICES, AND EQUIPMENT SHALL BE LISTED BY UL OR OTHER STATE APPROVED THIRD PARTY TESTING AGENCY.
- FIRE RATED SLEEVES SHALL BE PROVIDED AND ALL FIRESTOPPING SHALL BE PROVIDED AS REQUIRED BY CODE WHEN CABLING IS ROUTED THROUGH A FIRE RATED PARTITION. BLANK COVERS SHALL BE INSTALLED ON RINGS.
- ALL ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE AFTER BEING INSTALLED. CONTRACTOR SHALL NOT INSTALL TRIM AND COVER PLATES UNTIL AFTER ALL FINISHES TO ARCHITECTURAL ELEMENTS HAVE BEEN COMPLETED.
- MOUNT ALL DISCONNECT SWITCHES TO STRUCTURE. DISCONNECTS SHALL NOT BE MOUNTED TO DUCTWORK OR MECHANICAL EQUIPMENT.
- ANY CABLING TO BE INSTALLED DURING THIS SCOPE OF WORK THAT IS ROUTED THROUGH ANOTHER TENANT SPACE OR COMMON AREA SHALL BE ENCLOSED IN CONDUIT.
- ALL LIGHT FIXTURE SHALL BE CLEANED, AND FULLY FUNCTIONAL AT MOVE-IN. THIS INCLUDES RE-LAMPING.

- CONTRACTOR SHALL PROVIDE AND INSTALL NAMEPLATE FOR ALL RECEPTACLES AND POWERED DEVICES. INFORMATION ON NAMEPLATE SHALL INCLUDE ELECTRICAL PANEL AND CIRCUIT NUMBER FROM WHICH DEVICE IS POWERED.
- WHERE TWO SWITCHES OR MORE (INCLUDING DIMMERS) ARE LOCATED NEXT TO EACH OTHER, CONTRACTOR SHALL PROVIDE AND INSTALL A SINGLE SWITCHPLATE TO PROVIDE A NEATER APPEARANCE.
- MC CABLE IS NOT ALLOWED WHERE VISIBLE TO THE END USER.
- ALL CONDUCTORS #1 AND UNDER SHALL BE RATED FOR 60 DEGREES CELSIUS. ALL CONDUCTORS LARGER THAN #1 SHALL BE RATED FOR 75 DEGREES CELSIUS.
- ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE NOTED. SERVICE ENTRANCE FEEDERS MAY BE ALUMINUM BUT SIZED PER NEC 2017 IF ALUMINUM IS UTILIZED.

## MOUNTING HEIGHT NOTES:

- WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES MUST BE MOUNTED MOUNTED NO LOWER THAN 80" AFF TO BOTTOM OF DEVICE AND NO HIGHER THAN 96" TO TOP OF THE DEVICE. CONTRACTOR SHALL MOUNT THESE DEVICES AT 88" TO THE MIDDLE OF THE DEVICE UNLESS FIELD CONDITIONS DO NOT ALLOW TO MOUNT AT THIS HEIGHT. IF THE DEVICE CAN NOT BE LOCATED BETWEEN 80" AND 96", CONTACT ENGINEER IMMEDIATELY FOR SOLUTION.
- MOUNT CENTER LINE OF EXIT SIGN 24" ABOVE DOOR WHERE CEILING IS OVER 12'-0" AFF OR TO STRUCTURE WHERE NO CEILING IS PRESENT. IF CEILING IS 12'-0" AFF OR UNDER, CONTRACTOR SHALL MOUNT CENTER LINE OF EXIT SIGN 12" BELOW CEILING.
- WALL MOUNTED TELEPHONES, FIRE ALARM PULL STATIONS, AND LIGHT SWITCHES SHALL BE MOUNTED AT 48" AFF TO TOP OF THE DEVICE.
- ALL RECEPTACLES SHALL BE MOUNTED AT 18" AFF TO THE CENTER LINE OF THE DEVICE UNLESS OTHERWISE NOTED.
- THE NEAREST EDGE OF ALL CEILING MOUNTED SMOKE OR HEAT DETECTORS SHALL BE LOCATED NO LESS THAN 4" FROM THE WALL.

ELECTRICAL SYMBOL LEGEND	
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
	DUPLEX RECEPTACLE. MOUNT AT 18" AFF UNLESS OTHERWISE NOTED.
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION AND WEATHERPROOF HOUSING
	QUADRAPLEX RECEPTACLE. MOUNT AT 18" AFF UNLESS OTHERWISE NOTED.
	TELE/COMMUNICATIONS JACK (CONTRACTOR SHALL PROVIDE AND INSTALL JUNCTION BOX CONNECTED TO PULLSTRING TO UP ABOVE ACCESSIBLE CEILING)
	WALL MOUNTED STANDARD COMMERCIAL GRADE TOGGLE LIGHT SWITCH (SWITCH SHALL BE TYPE RECOMMENDED BY LIGHTING MANUFACTURER TO OPERATE THE LIGHTING TYPE WITH FEATURES AS SELECTED/PROVIDED) PROVIDE AND INSTALL ACCESSORIES REQUIRED FOR FULL OPERATION OF DEVICE.
	WALL MOUNTED OCCUPANCY SENSOR / LIGHT SWITCH COMBINATION UNIT (SWITCH SHALL BE TYPE RECOMMENDED BY LIGHTING MANUFACTURER TO OPERATE THE LIGHTING TYPE WITH FEATURES AS SELECTED/PROVIDED) BASIS OF DESIGN IS GREENGATE 'OSW-P-010-W' WIRED FOR SINGLE POLE OPERATION. EQUALS ALLOWED ARE NLIGHT, SENSOR SWITCH, WATTSTOPPER, LEVITON, OR OTHER PREAPPROVED EQUAL. SET TIMEOUT TO MAXIMUM LENGTH OF TIMEOUT. PROVIDE AND INSTALL ACCESSORIES REQUIRED FOR FULL OPERATION OF DEVICE.
	WALL MOUNTED STANDARD COMMERCIAL GRADE THREE-WAY TOGGLE LIGHT SWITCH (SWITCH SHALL BE TYPE RECOMMENDED BY LIGHTING MANUFACTURER TO OPERATE THE LIGHTING TYPE WITH FEATURES AS SELECTED/PROVIDED) PROVIDE AND INSTALL ACCESSORIES REQUIRED FOR FULL OPERATION OF DEVICE.
	WALL MOUNTED DIMMING LIGHT SWITCH (SWITCH SHALL BE TYPE RECOMMENDED BY LIGHTING MANUFACTURER TO OPERATE THE LIGHTING TYPE WITH FEATURES AS SELECTED/PROVIDED) BASIS OF DESIGN IS GREENGATE 'OSW-P-010' WIRED FOR SINGLE POLE OPERATION. EQUALS ALLOWED ARE NLIGHT, SENSOR SWITCH, WATTSTOPPER, LEVITON, OR OTHER PREAPPROVED EQUAL. SET TIMEOUT TO MAXIMUM LENGTH OF TIMEOUT. PROVIDE AND INSTALL ACCESSORIES REQUIRED FOR FULL OPERATION OF DEVICE.
	WALL MOUNTED DIMMING LIGHT SWITCH (SWITCH SHALL BE TYPE RECOMMENDED BY LIGHTING MANUFACTURER TO OPERATE THE LIGHTING TYPE WITH FEATURES AS SELECTED/PROVIDED) BASIS OF DESIGN IS GREENGATE 'WBSD-010SLD' WIRED FOR 3-WAY OPERATION. EQUALS ALLOWED ARE NLIGHT, SENSOR SWITCH, WATTSTOPPER, LEVITON, OR OTHER PREAPPROVED EQUAL. SET TIMEOUT TO MAXIMUM LENGTH OF TIMEOUT. PROVIDE AND INSTALL ACCESSORIES REQUIRED FOR FULL OPERATION OF DEVICE.
	DUAL TECHNOLOGY OCCUPANCY SENSOR (AUTO-ON/AUTO-OFF). GREENGATE SERIES 'OAC-DT-2000' OR EQUAL BY NLIGHT, WATTSTOPPER, LEVITON, SENSOR SWITCH OR OTHER PREAPPROVED EQUAL. MOUNT IN CEILING. SET TIMEOUT TO MAXIMUM LENGTH OF TIMEOUT. ARROWS DENOTES ORIENTATION OF DEVICE SO THE WIDER PORTION OF THE COVERAGE AREA EXTENDS IN THE DIRECTION OF THE ARROWS
	ABOVE ACCESSIBLE CEILING MOUNTED POWER PACK. GREENGATE 'SP20' SERIES OR EQUAL BY SENSOR SWITCH, WATTSTOPPER, LEVITON, NLIGHT. WHERE THERE ARE TWO POWER PACKS IN A ROOM/AREA, ONE POWER PACK IS TO CONTROL ONE OF THE LIGHTING ZONES AND THE OTHER POWER PACK(S) SHALL CONTROL THE OTHER(S). POWER PACKS SHALL BE PROVIDED WITH DEFAULT MODES TO MATCH DEFAULTS OF SWITCHES THAT ARE TO BE PAIRED WITH SENSORS.
	120/208V ELECTRICAL PANELBOARD
	JUNCTION BOX
	CONCEALED CONDUIT
	CONCEALED CONDUIT IN FLOOR OR UNDERGROUND
	CIRCUIT HOMERUN TO PANEL; EACH ARROWHEAD = 1 CIRCUIT
	HASH MARKS ACROSS CONDUIT INDICATE THE NUMBER OF #12 CONDUCTORS (# OF PHASES + NEUTRAL AND SHORT WIRE INDICATES THE GROUND) UNLESS OTHERWISE NOTED. NO HASH MARKS INDICATE TWO #12 CONDUCTORS.
	LIGHT FIXTURE (LETTER NEXT TO LIGHT SIGNIFIES LIGHTING TYPE - REFER TO LIGHTING FIXTURE SCHEDULE)
	EXIT SIGN (COORDINATE ARROWS AND FACES WITH DRAWINGS)
	EMERGENCY "BUG EYE" LIGHT FIXTURE
	COMBINATION EXIT SIGN / EMERGENCY "BUG EYE" LIGHT FIXTURE
	TELEVISION. REFER TO DETAIL 6/E-3 FOR FURTHER INFORMATION ON INSTALLATION. CONTRACTOR SHALL INSTALL AT MOUNTING HEIGHTS SHOWN ON E1/THIS DRAWING UNLESS OTHERWISE NOTED.
	JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	MOTOR WITH HORSEPOWER NOTED ('F' DENOTES 'FRACTIONAL')
	3-GANG CAST IRON FLOOR BOX WITH QUADRAPLEX RECEPTACLE AND DATA/COMMUNICATIONS JACKS. NUMBER NEXT TO DEVICE INDICATES NUMBER OF DATA/COMMUNICATIONS JACKS IN BOX. BASIS OF DESIGN IS LEGRAND EVOLUTION SERIES. PROVIDE COVER PLATES AND FLANGES AS REQUIRED. COORDINATE EXACT LOCATION AND COVER FINISH WITH ARCHITECT.
	"XX" DENOTES INCHES TO MOUNT CENTERLINE OF DEVICE ABOVE FINISHED FLOOR. "XX" SHALL BE SUBSTITUTED WITH NUMBER OF INCHES ABOVE FINISHED FLOOR TO MOUNT DEVICE.
	ABOVE COUNTER
	NIGHT LIGHT
	EMPTY CONDUIT
	MOTORATED SWITCH RATED AT 120V, 20A
	DISCONNECT SWITCH (FRAME/POLES/FUSE) - IF NO FUSE SIZE IS INDICATED, THEN PROVIDE NON-FUSED DISCONNECT

## MECHANICAL EQUIPMENT SCHEDULE

DESCRIPTION	QUANTITY	VOLTAGE	PHASE	HORSEPOWER	AMPS	KILOWATTS	MSCP	CIRCUIT NUMBER	BREAKER/FUSE	FEEDER	NOTES
AH-1	1	208	1		49		50	A-2,4	50/2	2#6(CU),1#10,.75"C	60AF
AH-2	1	208	1		49		50	A-6,8	50/2	2#6(CU),1#10G,.75"C	60AF
AH-3	1	208	1		40		40	A-10,12	40/2	2#8(CU),1#10G,.75"C	60AF
AH-4	1	208	1		25		25	A-14,16	25/2	2#10(CU),1#10G,.75"C	30AF
HP-1	1	208	1		16		25	A-18,20	25/2	2#10(CU),1#10G,.75"C	30AF
HP-2	1	208	1		16		25	A-22,24	25/2	2#12(CU),1#12G,.75"C	30AF
HP-3	1	208	1		13		20	A-26,28	20/2	2#12(CU),1#12G,.75"C	30AF
HP-4	1	208	1		12		20	A-30,32	20/2	2#12(CU),1#12G,.75"C	30AF
AV1/AV2/AV3	1	120	1		20		20	A-40	20/1	2#12(CU),1#12G,.75"C	
EF-1/2/3/4/5	1	120	1		20		20	-	20/1	2#12(CU),1#12G,.75"C	SEE MECHANICAL SHEET M-5 FOR CONTROLS
WH-1	1	208	1		5		30	A-34,36	30/2	2#12(CU),1#12G,.75"C	30AF
MSAH-1/MSHP-1	1	208	1		16		20	A-33,35	20/2	2#12(CU),1#12G,.75"C	30AF MSHP-A POWERS MSAH-A
NOTES:											
1	COORDINATE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN.										
2	COORDINATE EXACT CONNECTION TYPE WITH MANUFACTURER PRIOR TO ROUGH-IN AND FURNISH ACCORDINGLY.										
3	PROVIDE HACR TYPE BREAKER FOR CONNECTION TO THIS EQUIPMENT TYPE										
4	COORDINATE ALL POWER REQUIREMENTS WITH EQUIPMENT BEFORE ROUGH-IN. IF DIFFERENT THAN INDICATED ABOVE, NOTIFY ELECTRICAL ENGINEER WITH POWER REQUIREMENTS TO PROVIDE SOLUTION.										

## ELECTRICAL SHEET LIST

E-1	ELECTRICAL NOTES, LEGENDS & SCHEDULES
E-2	ELECTRICAL SPECIFICATIONS
E-3	ELECTRICAL DETAILS
E-4	FLOOR PLAN - LIGHTING
E-5	FLOOR PLAN - POWER
E-6	ATTIC PLAN - ELECTRICAL

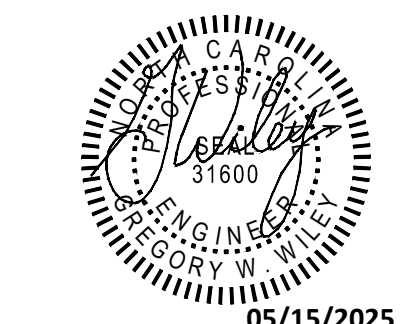
NEW PANEL B																											
		VOLTAGE: 120/ 240 1 PHASE, 3 WIRE				AMPS: 150 MLO TOTAL LOAD: 24.5 KVA				MOUNTING: SURFACE AIC RATING: 10,000																	
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	BREAKER	PHASE		BREAKER	LOAD (KVA)							CIRCUIT DESCRIPTION	No.							
								TRIP	P	A	B	P	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT								
1	KITCHEN COUNTER REC		0.18					20	1	0.36		1	20					0.18		FILE REC	2						
3	KITCHEN REC		0.54					20	1		1.26	1	20					0.72		CSR REC	4						
5	MICROWAVE						1.50	20	1	2.22		1	20					0.72		CSR REC	6						
7	FRIDGE						0.60	20	1		1.32	1	20					0.72		CSR REC	8						
9	RANGE						2.50			3.76		1	20					1.26		ATTIC REC	10						
11							2.50	50	2		3.04	1	20					0.54		BOARD ROOM REC	12						
13	BOARD RM REC		0.90					20	1	2.10		1	20						1.20	GABLE SIGN	14						
15	SERVER - IT REC		0.72					20	1		1.22	1	20			0.50				RANGE HOOD	16						
17	ELEC RM REC		0.36					20	1	1.86		1	20	1.50						FILE RM COPIER	18						
19	EXTERIOR REC		0.36					20	1		1.08	1	20					0.72		WORK CENTER REC	20						
21	EW/C/BATH REC		0.90					20	1	0.90		1	20							SPARE	22						
23	OFFICE 8/9 REC		0.90					20	1		0.90	1	20							SPARE	24						
25	OFFICE 10/11 REC		0.90					20	1	0.90		1	20							SPARE	26						
27	OFFICE 11/12 REC		1.08					20	1		1.08	1	20							SPARE	28						
29	OFFICE 7/FILE REC		0.72					20	1	0.72		1	20							SPARE	30						
31	OFFICE 1/2 REC		0.90					20	1		0.90	1	20							SPARE	32						
33	OFFICE 2/3 REC		0.90					20	1	0.90		1	20							SPARE	34						
35	OFFICE 4/5 REC		0.90					20	1		0.90	1	20							SPARE	36						
37	OFFICE 6/FILE REC		0.90					20	1	0.90		1	20							SPARE	38						
39	WAITING/PORCH REC		1.08					20	1		1.08	1	20							SPARE	40						
41	FILES RM REC		0.36					20	1	0.36		1	20							SPARE	42						
		LOADS W/ NEC 220 DEMAND FACTORS (KVA)							TOTAL		14.98	12.78						8.60	0.00	0.00	0.50	17.46	1.20	CONNECTED KVA	27.76		
		CONT	RCPT	MTR	A/C	KITCH	MISC			NEC 220 DEMAND FACTORS													PANEL NOTES				
		A PHASE							CONTINUOUS: 125% LOAD													1. <del>XX</del>					





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Drawn By: GW  
Date : 9 APRIL 2025  
ISSUE FOR CONSTRUCTION

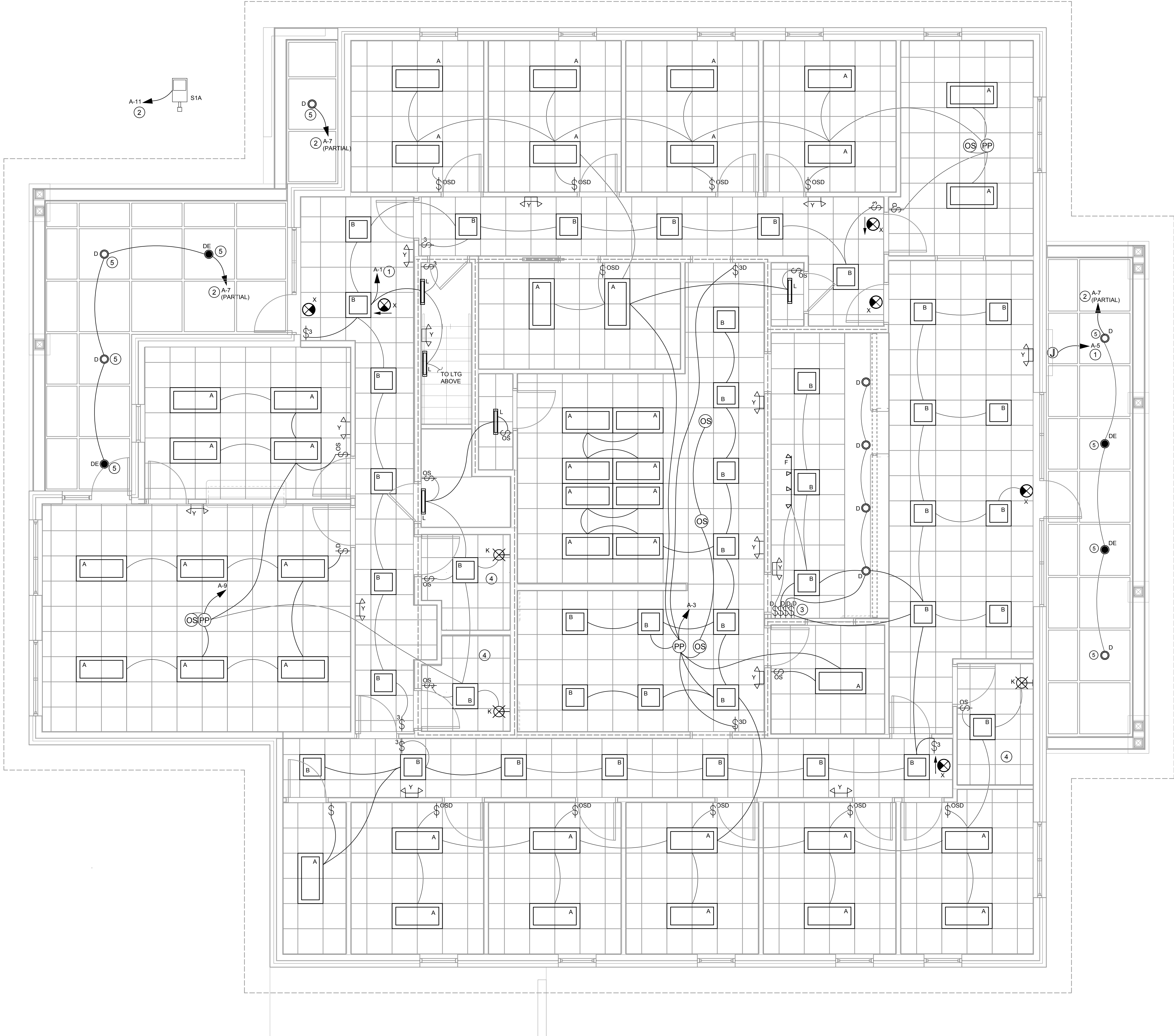
E-2  
SPECIFICATIONS  
- ELECTRICAL

GENERAL SPECIFICATIONS				EQUIPMENT WIRING			
<p>A. THE WORK COVERED BY THESE SPECIFICATIONS CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, MATERIALS AND SUPPLIES AS NECESSARY FOR THE COMPLETE AND SATISFACTORY OPERATING ELECTRICAL SYSTEMS AS SHOWN ON THE PLANS.</p> <p>B. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE, NFPA, STATE BUILDING CODE, AND ANY OTHER LOCAL REQUIREMENTS THAT MAY APPLY. CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS, FEES, INSPECTIONS, ETC.</p> <p>C. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTION FEES.</p> <p>D. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY THE UNDERWRITERS LABORATORIES, INC. OR BY A STATE APPROVED THIRD PARTY TESTING AGENCY FOR THE USE INTENDED WHERE A STANDARD FOR SUCH MATERIALS AND USE EXISTS. ALL ITEMS OF THE SAME TYPE AND RATING SHALL BE IDENTICAL AND OF THE SAME MANUFACTURER.</p> <p>E. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CATALOG DATA IN ELECTRONIC FORMAT (PDF) FOR ALL ELECTRICAL ITEMS IN THE SCOPE OF WORK, INCLUDING, BUT NOT LIMITED TO, RACEWAYS, BOXES, FITTINGS, CONDUCTORS, LUMINAIRES, LAMPS, BALLASTS, WIRING DEVICES, SAFETY SWITCHES, DISCONNECTS, TRANSFORMERS, PANELBOARDS, FIRE ALARM, TELECOMMUNICATIONS, ETC. FOR APPROVAL AS APPLICABLE FOR THE PROJECT. ONE COMPLETE SET OF APPROVED SUBMITTALS SHALL BE MAINTAINED AT THE JOB SITE.</p> <p>F. ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT TO COMPLY WITH THE BASIS OF DESIGN, INCLUDING PROVIDING MAINTENANCE ACCESS, CLEARANCE, CONDUIT, WIRING, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, METHODS, ETC., SHALL BE INCLUDED IN THE ORIGINAL BASE BID. NO ADDITIONAL COSTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT WILL BE APPROVED AFTER BIDS HAVE BEEN ACCEPTED AND ALL COSTS WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. CREDITS SHALL BE GIVEN TO THE OWNER WHERE SUCH EQUIPMENT AND METHODS RESULT IN LESS EXPENSE TO THE CONTRACTOR.</p> <p>G. ONE COMPLETE SET OF THE LATEST CONSTRUCTION PLANS OF ALL TRADES SHALL BE MAINTAINED AT THE JOB SITE. IN ADDITION, ALL ADDENDUMS, BULLETINS, AND/OR SKETCHES SHALL BE INCORPORATED INTO THE ON-SITE CONSTRUCTION PLANS AS THE JOB PROGRESSES.</p> <p>H. COMPLETELY ADEQUATE HOUSING SHALL BE PROVIDED FOR ALL MATERIALS STORED ON JOB SITE. ONLY CONDUIT MAY BE STORED OUTSIDE, BUT NOT IN CONTACT WITH THE GROUND.</p> <p>I. THE CONDUIT AND NEUTRAL SYSTEM SHALL BE GROUNDED AT THE MAIN SERVICE EQUIPMENT. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED PER NEC 250.</p> <p>J. PROVIDE AN INTERSYSTEM BONDING TERMINATION DEVICE AT THE MAIN ELECTRICAL SERVICE PER NEC 250.94.</p> <p>K. WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED. FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.</p> <p>L. PROVIDE ALL CUTTING AND PATCHING FOR INSTALLATION OF WORK AND REPAIR ANY DAMAGE DONE.</p> <p>M. THE ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND MATERIALS (UNLESS OTHERWISE NOTED), EXCEPT FOR CONTROL WIRING FOR EQUIPMENT NOT PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING FOR SUCH EQUIPMENT SHALL BE PROVIDED BY THE RESPECTIVE DISCIPLINE.</p> <p>N. ALL ELECTRICAL JUNCTION BOXES, SWITCHGEAR, CABLING, LOW VOLTAGE CABINETS, EMERGENCY RECEPTACLES, ETC. SHALL BE LABELED ACCORDING TO PANEL AND CIRCUIT NUMBER.</p> <p>O. UPON COMPLETION OF WORK, CONTRACTOR SHALL PRESENT ENGINEER WITH CERTIFICATE OF APPROVAL FROM LOCAL INSPECTOR AND/OR AUTHORITY HAVING JURISDICTION BEFORE WORK WILL BE APPROVED FOR FINAL PAYMENT.</p> <p>P. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR EFFECTIVE THE DATE THE PROJECT IS ACCEPTED BY THE OWNER. ANY IMPERFECT MATERIALS OR WORKSMANSHIP SHALL BE REPLACED WITHOUT ADDED COST TO THE PROJECT.</p> <p>Q. IT SHALL NOT BE THE INTENT OF ISSUED PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL NECESSARY ITEMS FOR A COMPLETE AND OPERATING SYSTEM.</p> <p>R. THE WORD "PROVIDE" MEANS THAT THIS CONTRACTOR SHALL FURNISH, FABRICATE, ERECT, CONNECT, AND COMPLETELY INSTALL SYSTEMS IN PROPER OPERATING CONDITION. ALL LABOR, PRODUCT OPTIONS, ACCESSORIES AND INCIDENTAL MATERIALS REQUIRED SHALL BE INCLUDED AS PART OF THIS WORK TO COMPLETE THE INSTALLATION.</p> <p>S. THE WORD "CONNECT" MEANS THAT THIS CONTRACTOR SHALL PROVIDE (SEE DEFINITION ABOVE) ALL DISCONNECTING MEANS, OVERCURRENT PROTECTION AND WIRING REQUIRED TO PLACE THE EQUIPMENT AND SYSTEMS IN PROPER OPERATING CONDITION AND TO COMPLY WITH ALL CODE REQUIREMENTS.</p> <p>T. CONTRACTOR SHALL COORDINATE THE ROUGH-IN OF ALL OUTLET LOCATIONS WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS, AND MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.</p> <p>U. ELECTRICAL CONTRACTOR SHALL NOT SCALE PLANS. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, UNLESS OTHERWISE NOTED.</p> <p>V. IF DURING THE COURSE OF WORK, THE CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC, OR OTHER CODES OR REQUIREMENTS, THE CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.</p> <p>W. WHERE THERE ARE CONFLICTS BETWEEN THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL BRING THE ISSUE TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK OR ORDERING ANY MATERIALS. NO ADDITIONAL COSTS SHALL BE WARRANTED WITHOUT A CHANGE TO THE PROJECT SCOPE.</p> <p>X. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PROVIDING TEMPORARY POWER AND LIGHTING FOR ALL TRADES. AT NO TIME SHALL EXISTING BUILDING POWER SYSTEMS BE UTILIZED WITHOUT WRITTEN PERMISSION FROM THE OWNER.</p> <p>Y. COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL SERVICE WITH THE POWER COMPANY. WHERE MORE THAN ONE SERVICE IS SUPPLIED TO A BUILDING, PROVIDE IDENTIFICATION AT EACH SERVICE PER NEC 220-2(e).</p> <p>Z. COORDINATE LOCATION AND REQUIREMENTS FOR TELEPHONE SERVICE WITH THE TELEPHONE COMPANY.</p>				<p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. ELECTRICAL CONNECTIONS TO EQUIPMENT</p> <p>PART 2 PRODUCTS</p> <p>2.01 MANUFACTURERS</p> <p>A. CORDS AND CABLES: NEMA WD 6; MATCH RECEPTACLE CONFIGURATION AT OUTLET PROVIDED FOR EQUIPMENT.</p> <p>1. COLORS: CONFORM TO NEMA WD 1.</p> <p>2. CORD CONSTRUCTION: NFPA 70, TYPE SO, MULTICONDUCTOR FLEXIBLE CORD WITH IDENTIFIED EQUIPMENT GROUNDING CONDUCTOR, SUITABLE FOR USE IN DAMP LOCATIONS.</p> <p>PART 3 EXECUTION</p> <p>3.01 EXAMINATION</p> <p>A. VERIFY THAT EQUIPMENT IS READY FOR ELECTRICAL CONNECTION, WIRING, AND ENERGIZATION.</p> <p>3.02 INSTALLATION</p> <p>A. ELECTRICAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS.</p> <p>B. MAKE CONDUIT CONNECTIONS TO EQUIPMENT USING FLEXIBLE CONDUIT. USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERLIGHT CONNECTORS IN DAMP OR WET LOCATIONS.</p> <p>C. CONNECT HEAT PRODUCING EQUIPMENT USING WIRE AND CABLE WITH INSULATION SUITABLE FOR TEMPERATURES ENCOUNTERED.</p> <p>D. PROVIDE RECEPTACLE OUTLET TO ACCOMMODATE CONNECTION WITH ATTACHMENT PLUG.</p> <p>E. PROVIDE DRYER AND CASH WARE FIELD-SUPPLIED ATTACHMENT PLUG IS REQUIRED.</p> <p>F. INSTALL SUITABLE STRAIN-RELIEF CLAMPS AND FITTINGS FOR CORD CONNECTIONS AT OUTLET BOXES AND EQUIPMENT CONNECTION BOXES.</p> <p>G. INSTALL DISCONNECT SWITCHES, CONTROLLERS, CONTROL STATIONS, AND CONTROL DEVICES TO COMPLETE EQUIPMENT WIRING REQUIREMENTS.</p> <p>H. INSTALL TERMINAL BLOCK JUMPS TO COMPLETE EQUIPMENT WIRING REQUIREMENTS.</p> <p>I. INSULATE INTERCONNECTING CONDUIT AND WIRING BETWEEN DEVICES AND EQUIPMENT TO COMPLETE EQUIPMENT WIRING REQUIREMENTS.</p> <p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. INTERIOR LUMINAIRES AND ACCESSORIES.</p> <p>B. BALLASTS.</p> <p>C. LAMPS.</p> <p>D. LUMINAIRE ACCESSORIES.</p> <p>PART 2 PRODUCTS</p> <p>2.01 LUMINAIRES</p> <p>A. FURNISH PRODUCTS AS INDICATED IN SCHEDULE INCLUDED ON THE DRAWINGS.</p> <p>B. BALLASTS AND CONTROL UNITS</p> <p>A. FLUORESCENT BALLASTS: ANST C82.1, HIGH POWER FACTOR TYPE ELECTROMAGNETIC BALLAST, SUITABLE FOR LAMPS SPECIFIED.</p> <p>1. VOLTAGE: AS INDICATED ON LIGHTING FIXTURE SCHEDULE.</p> <p>2.03 LAMPS</p> <p>A. MANUFACTURERS:</p> <p>1. GE LIGHTING MODEL</p> <p>2. PHILIPS LIGHTING CO.</p> <p>PART 3 EXECUTION</p> <p>3.01 INSTALLATION</p> <p>A. INSTALL FIXTURES SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 500 (COMMERCIAL LIGHTING).</p> <p>B. INSTALL SUSPENDED LUMINAIRES AND EXIT SIGNS USING PENDANTS SUPPORTED FROM SWIVEL HANGERS. PROVIDE PENDANT LENGTH REQUIRED TO SUSPEND LUMINAIRE AT INDICATED HEIGHT.</p> <p>C. SUPPORT LUMINAIRES LARGER THAN 2 X 4 FOOT (600 X 1200 MM) SIZE INDEPENDENT OF CEILING FRAMING.</p> <p>D. LOCATE RECESSED CEILING LUMINAIRES AS INDICATED ON RECESSED CEILING PLAN.</p> <p>E. INSTALL RECESSED CEILING LUMINAIRES ACCESSORIES AND FIRESTOPPING MATERIALS TO MEET REGULATORY REQUIREMENTS FOR FIRE RATING.</p> <p>F. INSTALL CLIPS TO SECURE RECESSED GRID-SUPPORTED LUMINAIRES IN PLACE.</p> <p>G. INSTALL ACCESSORIES FURNISHED WITH EACH LUMINAIRE.</p> <p>H. CONNECT LUMINAIRES AND EXIT SIGNS TO BRANCH CIRCUIT OUTLETS PROVIDED UNDER SECTION 16138 USING FLEXIBLE CONDUIT.</p> <p>I. MAKE WIRING CONNECTIONS TO BRANCH CIRCUIT USING BUILDING WIRE WITH INSULATION SUITABLE FOR TEMPERATURES ENCOUNTERED. SWITCHES SHOWN ON PLANS SHALL BE BY EATON.</p> <p>J. BOND PRODUCTS AND METAL ACCESSORIES TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.</p> <p>K. INSTALL SPECIFIED LAMPS IN EACH EMERGENCY LIGHTING UNIT, EXIT SIGN, AND LUMINAIRE.</p> <p>3.02 FIELD QUALITY CONTROL</p> <p>A. INSPECT EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR PROPER CONNECTION AND OPERATION.</p> <p>3.03 CLEANING</p> <p>A. CLEAN ELECTRICAL PARTS TO REMOVE CONDUCTIVE AND DELETERIOUS MATERIALS.</p> <p>B. REMOVE DIRT AND DEBRIS FROM ENCLOSURES.</p> <p>C. CLEAN FINISHES AND TOUCH UP DAMAGE.</p> <p>3.04 DEMONSTRATION AND INSTRUCTIONS</p> <p>A. DEMONSTRATE LUMINAIRE OPERATION FOR MINIMUM OF TWO HOURS.</p> <p>3.05 PROTECTION</p> <p>A. RELAX LUMINAIRES THAT HAVE FAILED LAMPS AT SUBSTANTIAL COMPLETION.</p> <p>3.06 SCHEDULE - SEE DRAWINGS</p> <p>DISCONNECTS</p> <p>2.1. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE IN NEMA 1 ENCLOSURES, UNLESS OTHERWISE NOTED, FUSED OR NON-FUSED AS INDICATED. SWITCHES SHOWN ON PLANS SHALL BE BY EATON.</p> <p>2.2. SQUARE-D, GENERAL ELECTRIC, OR APPROVED EQUAL. WHERE FED FROM A LOAD CENTER, GENERAL-DUTY SWITCHES SHALL BE PERMITTED.</p> <p>2.3. FUSES LESS THAN 60A SHALL BE CLASS RKS, DUAL-ELEMENT, TIME-DELAY WITH INDICATION.</p> <p>2.4. FUSES GREATER THAN 60A SHALL BE CLASS J, DUAL-ELEMENT, TIME-DELAY WITH INDICATION.</p> <p>PANELBOARDS</p> <p>1.01 PANELBOARDS SHALL BE PROVIDED AS MANUFACTURED BY EATON, SQUARE-D, GENERAL ELECTRIC, SIEMENS, OR APPROVED EQUAL. ALL NEW EQUIPMENT FOR THE PROJECT SHALL BE BY THE SAME MANUFACTURER. LOAD CENTER TYPE PANELBOARDS SHALL BE USED WHERE THE PANELBOARD SERVES A DWELLING UNIT ONLY.</p> <p>1.02 ALL BUSBARS, INCLUDING NEUTRAL AND GROUND, SHALL BE CORRUGATED.</p> <p>1.03 ALL BREAKERS SHALL BE AUTOMATIC THERMAL-MAGNETIC TYPE MOLDED CASE BOLT-ON TYPE, CALIBRATED FOR 40 DEGREE C, OR AMBIENT COMPENSATION, UNLESS OTHERWISE NOTED.</p> <p>1.04 SINGLE CONVENIENCE RECEPTACLES.</p> <p>1.05 PANELS SHALL HAVE FULL SIZE EQUIPMENT GROUNDING BARS AND NEUTRAL BARS, EXCEPT WHERE INDICATED TO BE 200%.</p> <p>1.06 ALL PANELBOARD AND BREAKER LUGS SHALL BE SIZED AND RATED PER THE CONDUCTOR SIZE AND MATERIAL.</p> <p>1.07 LIGHTING AND APPLIANCE PANELS (100A-600A) SHALL HAVE FRONT ACCESSIBLE HINGED DOOR-IN-DOOR COVERS WITH DEAD FRONT, SHALL BE 20" WIDE MINIMUM WITH MINIMUM 4" WIDE WIRING GUTTERS.</p> <p>1.08 DISTRIBUTION PANELS (600A-1200A) SHALL HAVE FRONT ACCESSIBLE DEAD FRONT COVERS.</p> <p>1.09 PROVIDE HANDLE LOCK-ON DEVICES FOR ALL CIRCUIT BREAKERS CONNECTED TO EMERGENCY, EXIT, NIGHT LIGHTING, FIRE ALARM, TELEPHONE BORDERS, AND SECURITY SYSTEMS.</p> <p>1.10 BREAKERS USED FOR SWITCHING SHALL BE SWITCHING DUTY (SWD) RATED.</p> <p>1.11 BREAKERS USED FOR HEATING, AIR-CONDITIONING AND/OR REFRIGERATION SHALL BE HICK RATED.</p> <p>1.12 GROUND-Fault CIRCUIT-INTERRUPTER (GFCI) PROTECTION FOR PERSONS SHALL BE PROVIDED IN ALL LOCATIONS PER NEC 210.8, WHERE A DEVICE LOCATION IS NOT ACCESSIBLE, THE GFCI PROTECTION SHALL BE PROVIDED WITH THE BREAKER SERVING THE DEVICE.</p> <p>1.13 ALL OVERCURRENT DEVICES WHICH COMPRISE THE EMERGENCY SYSTEM OR LEGALLY REQUIRED STANDBY SYSTEM SHALL BE SELECTIVELY COORDINATED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MANUFACTURER DOCUMENTATION INDICATING COMPLIANCE WITH THE SELECTIVE COORDINATION REQUIREMENTS PER THE NEC.</p> <p>FIRE STOPPING</p> <p>1.01 ALL PENETRATIONS OF RATED ASSEMBLIES SHALL BE SEALED WITH RATED MATERIALS MEETING ASTM E-814.</p> <p>1.02 PROVIDE FIRESTOPPING DEVICES (OR SYSTEMS) WHICH HAVE BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E-814. INSTALL THE DEVICES (OR SYSTEMS) IN ACCORDANCE WITH THE CONDITIONS OF THEIR LISTING. PROVIDE THE APPROPRIATE DEVICE(S) OR SYSTEM(S) WITH AN R RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED.</p> <p>1.03 DEVICES (AND/OR SYSTEMS) SHALL BE BY HILTI, 3M OR EQUIVALENT.</p> <p>ELECTRICAL COORDINATION WITH OTHER TRADES</p> <p>1.01 THE ELECTRICAL CONTRACTOR SHALL CONNECT AND/OR PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS APPLICABLE TO THE PROJECT, INCLUDING BUT NOT LIMITED TO, MECHANICAL, PLUMBING, FIRE PROTECTION AND SUPPRESSION, AND OTHER TRADES PRIOR TO INSTALLATION.</p> <p>1.02 THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONNECTIONS PRIOR TO ROUGH-IN USING APPROVED CATALOG SHEETS AND SHOP DRAWINGS.</p> <p>1.03 THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANUAL MOTOR STARTER SWITCHES, DISCONNECT SWITCHES, RECEPTACLES, ETC. TO MECHANICAL AND PLUMBING EQUIPMENT. ALL STARTER AND OTHER THAN MANUAL STARTER SWITCHES, SHALL BE PROVIDED BY OTHERS, BUT INSTALLED BY THE ELECTRICAL CONTRACTOR.</p> <p>1.04 ALL DISCONNECT SWITCHES AND FUSE SIZES SHALL BE COORDINATED WITH SHOP DRAWINGS PRIOR TO ORDERING OR INSTALLING. ANY EQUIPMENT INSTALLED INCORRECTLY BECAUSE OF LACK OF COORDINATION WILL BE REMOVED AND INSTALLED CORRECTLY AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.</p> <p>1.05 THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT RUNS AND LIGHT FIXTURE LOCATIONS ABOVE THE CEILING WITH OTHER TRADES PRIOR TO INSTALLATION.</p> <p>1.06 ALL DUCT SMOKE DETECTORS SHALL BE PROVIDED AND CONNECTED BY THE ELECTRICAL CONTRACTOR, BUT INSTALLED BY THE MECHANICAL CONTRACTOR.</p> <p>1.07 THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY OUTLETS FOR HEAT TAP CONNECTIONS FOR MECHANICAL SYSTEMS. PROVIDE CLASS B (30mA) GFCI PROTECTION ON THE BREAKER SERVING THE HEAT TAP.</p> <p>1.08 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 120V POWER AT EACH HVAC UNIT HAVING A CONTROLS POWER SUPPLY. CIRCUITS (S) SHALL BE RATED FOR A MAXIMUM OF 10 HVAC UNITS PER CIRCUIT. COORDINATE ALL LOCATIONS WITH THE MECHANICAL CONTRACTOR.</p>			
<p>PART 2 PRODUCTS</p> <p>2.01 MANUFACTURERS</p> <p>A. COOPER POWER SYSTEMS;</p> <p>B. FRAMATOME CONNECTORS INTERNATIONAL;</p> <p>C. LIGHTNING MASTER CORPORATION;</p> <p>2.02 ELECTRODES</p> <p>A. ROD ELECTRODES: COPPER.</p> <p>1. DIAMETER: 3/4 INCH (19 MM).</p> <p>2. LENGTH: 9 FEET (1500 MM).</p> <p>B. ACTIVE ELECTRODES: METALLIC-SALT-FILLED COPPER-TYPE ELECTRODE.</p> <p>1. SHAPE: STRAIGHT.</p> <p>2. LENGTH: 8 FEET (2400 MM).</p> <p>3. CONNECTOR: U-BOLT PRESSURE PLATE.</p> <p>C. FOUNDATION ELECTRODES: 2/0 AWG.</p> <p>2.03 CONNECTORS AND ACCESSORIES</p> <p>A. MECHANICAL CONNECTORS: BRONZE.</p> <p>B. WIRE: STRANDED COPPER.</p> <p>C. GROUNDING ELECTRODE CONDUCTOR: SIZE TO MEET NFPA 70 REQUIREMENTS.</p> <p>D. GROUNDING WELD.</p> <p>1. WELL PIPE: 8 INCH (200 MM) BY 24 INCH (600 MM) LONG CLAY TILE PIPE WITH BELLED END.</p> <p>2. WELD COVER: CAST IRON WITH LEGEND "GROUND" EMBOSSED ON COVER.</p> <p>PART 3 EXECUTION</p> <p>3.01 EXAMINATION</p> <p>A. VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.</p> <p>B. VERIFY THAT FINAL BACKFILL AND COMPACTION HAS BEEN COMPLETED BEFORE DRIVING ROD ELECTRODES.</p> <p>3.02 INSTALLATION</p> <p>A. INSTALL GROUND ELECTRODES AT LOCATIONS INDICATED. INSTALL ADDITIONAL ROD ELECTRODES AS REQUIRED TO ACHIEVE SPECIFIED RESISTANCE TO GROUND.</p> <p>B. PROVIDE GROUNDING WELL PIPE WITH COVER AT EACH ROD LOCATION. INSTALL WELL PIPE TOP FLUSH WITH FINISHED GRADE.</p> <p>C. INSTALL 4 AWG BARE COPPER WIRE IN FOUNDATION FOOTING WHERE INDICATED.</p> <p>D. PROVIDE GROUNDING ELECTRODE CONDUCTOR AND CONNECT TO REINFORCING STEEL IN FOUNDATION FOOTING WHERE INDICATED. BOND STEEL TOGETHER.</p> <p>E. PROVIDE BONDING TO MEET REQUIREMENTS DESCRIBED IN QUALITY ASSURANCE.</p> <p>F. BOND TOGETHER METAL SIDING NOT ATTACHED TO GROUNDING STRUCTURE; BOND TO GROUND.</p> <p>G. EQUIPMENT GROUNDING CONDUCTOR: PROVIDE SEPARATE, INSULATED CONDUCTOR WITH EACH FEEDER AND BRANCH CIRCUIT RACEWAY. TERMINATE EACH END ON SUITABLE LUG, BUS, OR BUSHING.</p> <p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. CONDUIT AND EQUIPMENT SUPPORTS.</p> <p>B. ANCHORS AND FASTENERS.</p> <p>1.02 QUALITY ASSURANCE</p> <p>A. CONFORM TO REQUIREMENTS OF NFPA 70.</p> <p>C. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.</p> <p>PART 2 EXECUTION</p> <p>2.01 INSTALLATION</p> <p>A. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT ELECTRICAL SYSTEM COMPONENTS, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.</p> <p>B. CONDUIT SHALL NOT FASTER SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR STRUCTURAL MEMBERS.</p> <p>2. OBTAIN PERMISSION FROM ARCHITECT BEFORE DRILLING OR CUTTING STRUCTURAL MEMBERS.</p> <p>C. RIGIDLY WELD SUPPORT MEMBERS OR USE HEXAGON-HEAD BOLTS TO PRESENT NEAT APPEARANCE WITH ADEQUATE STRENGTH AND RIGIDITY. USE SPRING LOCK WASHERS UNDER ALL NUTS.</p> <p>D. INSTALL SURFACE MOUNTED CABINETS AND PANELBOARDS WITH MINIMUM OF FOUR ANCHORS.</p> <p>E. IN WET AND DAMP LOCATIONS USE STEEL CHANNEL SUPPORTS TO STAND CABINETS AND PANELBOARDS 1 INCH (25 MM) OFF WALL.</p> <p>F. USE SPLIT METAL CHANNEL TO BRIDGE STUDS ABOVE AND BELOW CABINETS AND PANELBOARDS RECESSED IN HOLLOW PARTITIONS.</p> <p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. NAMEPLATES AND LABELS.</p> <p>B. WIRE AND CABLE MARKERS.</p> <p>C. CONDUIT MARKERS.</p> <p>D. FIELD-PAINTED IDENTIFICATION OF CONDUIT.</p> <p>1.02 SUBMITTALS</p> <p>A. MANUFACTURER'S INSTRUCTIONS: INDICATE APPLICATION CONDITIONS AND LIMITATIONS OF USE STIPULATED BY PRODUCT TESTING AGENCY SPECIFIED UNDER QUALITY ASSURANCE. INCLUDE INSTRUCTIONS FOR STORAGE, HANDLING, PROTECTION, EXAMINATION, PREPARATION AND INSTALLATION OF PRODUCT.</p> <p>1.03 QUALITY ASSURANCE</p> <p>A. CONFORM TO REQUIREMENTS OF NFPA 70.</p> <p>B. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN.</p> <p>PART 2 PRODUCTS</p> <p>2.01 NAMEPLATES AND LABELS</p> <p>A. NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, BLACK LETTERS ON WHITE BACKGROUND.</p> <p>B. LOCATIONS:</p> <p>1. EACH ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT ENCLOSURE.</p> <p>2.02 CONDUIT MARKERS</p> <p>A. CONDUIT MARKERS: PROVIDE FURNISH MARKERS FOR EACH CONDUIT LONGER THAN 6 FEET (2 M).</p> <p>B. SPACING: 20 FEET (6 M) ON CENTER.</p> <p>2.03 UNDERGROUND WARNING TAPE</p> <p>A. DESCRIPTION: 4 INCH (100 MM) WIDE PLASTIC TAPE, DETECTABLE TYPE COLORED RED WITH SUITABLE WARNING LEGEND DESCRIBING BURIED ELECTRICAL LINES.</p> <p>PART 3 EXECUTION</p> <p>3.01 INSTALLATION</p> <p>A. INSTALL NAMEPLATES AND LABELS PARALLEL TO EQUIPMENT LINES.</p> <p>B. SECURE NAMEPLATES TO EQUIPMENT FRONT USING SCREWS.</p> <p>C. SECURE NAMEPLATES TO INSIDE SURFACE OF DOOR ON PANELBOARD THAT IS RECESSED IN FINISHED LOCATIONS.</p> <p>D. IDENTIFY UNDERGROUND CONDUITS USING UNDERGROUND WARNING TAPE. INSTALL ONE TAPE PER TRENCH AT 3 INCHES (75 MM) BELOW FINISHED GRADE.</p> <p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. CONDUIT, FITTINGS AND CONDUIT BODIES.</p> <p>1.02 SUBMITTALS</p> <p>A. PRODUCT DATA: PROVIDE FOR METALLIC CONDUIT, FLEXIBLE METALLIC CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT, METALLIC TUBING, NONMETALLIC CONDUIT, FLEXIBLE NONMETALLIC CONDUIT, NONMETALLIC TUBING, FITTINGS, AND CONDUIT BODIES.</p> <p>B. PROJECT RECORD DOCUMENTS: ACCURATELY RECORD ACTUAL ROUTING OF CONDUITS LARGER THAN 2 INCHES (50.8 MM).</p> <p>1.03 QUALITY ASSURANCE</p> <p>A. CONFORM TO REQUIREMENTS OF NFPA 70.</p> <p>B. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN.</p> <p>1.04 DELIVERY, STORAGE, AND HANDLING</p> <p>A. INCLUDE INSUIT ON SITE. INSPECT FOR DAMAGE.</p> <p>B. PROTECT CONDUIT FROM CORROSION AND ENTRANCE OF DEBRIS BY STORING ABOVE GRADE. PROVIDE APPROPRIATE COVERING.</p> <p>C. PROTECT PVC CONDUIT FROM SUNLIGHT.</p> <p>PART 2 PRODUCTS</p> <p>2.01 CONDUIT REQUIREMENTS</p> <p>A. CONDUIT SIZE: COMPLY WITH NFPA 70.</p> <p>B. MINIMUM SIZE: 3/4 INCH (13 MM) UNLESS OTHERWISE SPECIFIED.</p> <p>B. UNDERGROUND INSTALLATIONS:</p> <p>1. MORE THAN 5 FEET (1.5 METERS) FROM FOUNDATION WALL: USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, OR PLASTIC COATED CONDUIT.</p> <p>2. WITHIN 5 FEET (1.5 METERS) FROM FOUNDATION WALL: USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, PLASTIC COATED CONDUIT, OR THICKWALL NONMETALLIC CONDUIT.</p> <p>3. IN OR UNDER SLAB ON GRADE: USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, OR PLASTIC COATED CONDUIT.</p> <p>C. MINIMUM SIZE: 3/4 INCH (19 MM).</p> <p>D. OUTDOOR LOCATIONS ABOVE GRADE: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, OR ELECTRICAL METALLIC TUBING.</p> <p>E. IN SLAB ABOVE GRADE:</p> <p>1. USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, OR THICKWALL NONMETALLIC CONDUIT IN SLAB.</p> <p>2. MAXIMUM SIZE CONDUIT IN SLAB: 3/4 INCH (19 MM); 1/2 INCH (13 MM) FOR CONDUITS CROSSING EACH OTHER.</p> <p>E. WET AND DAMP LOCATIONS: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, THICKWALL NONMETALLIC CONDUIT, OR NONMETALLIC TUBING.</p>				<p>DRY LOCATIONS</p> <p>1. CONCEALED: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, THICKWALL NONMETALLIC CONDUIT, OR NONMETALLIC TUBING.</p> <p>2. EXPOSED: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, OR THICKWALL NONMETALLIC CONDUIT.</p> <p>PART 2 METAL CONDUIT</p> <p>A. RIGID STEEL CONDUIT: ANST C80.1.</p> <p>B. RIGID ALUMINUM CONDUIT: ANST C80.5.</p> <p>C. INTERMEDIATE METAL CONDUIT (IMC): RIGID STEEL.</p> <p>D. FITTINGS AND CONDUIT BODIES: NEMA FB 1; MATERIAL TO MATCH CONDUIT.</p> <p>2.03 ELECTRICAL METALLIC TUBING (EMT)</p> <p>A. DESCRIPTION: ANST C80.3; GALVANIZED TUBING.</p> <p>B. FITTINGS AND CONDUIT BODIES: NEMA FB 1; STEEL OR MALLEABLE IRON COMPRESSION TYPE.</p> <p>PART 3 EXECUTION</p> <p>3.01 EXAMINATION</p> <p>A. VERIFY THAT FIELD MEASUREMENTS ARE AS SHOWN ON DRAWINGS.</p> <p>B. VERIFY ROUTING AND TERMINATION LOCATIONS OF CONDUIT PRIOR TO ROUGH-IN.</p> <p>C. CONDUIT ROUTING IS SHOWN ON DRAWINGS IN APPROXIMATE LOCATIONS UNL.</p> <p>3.02 INSTALLATION</p> <p>A. INSTALL CONDUIT SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.</p> <p>B. INSTALL STEEL CONDUIT AS SPECIFIED IN NECA 101.</p> <p>C. ARRANGE SUPPORTS TO PREVENT MISALIGNMENT DURING WIRING INSTALLATION.</p> <p>D. SUPPORT CONDUIT USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, AND SPLIT HANGERS.</p> <p>E. GROUP RELATED CONDUITS; SUPPORT USING CONDUIT RACK. CONDUIT RACK USING STEEL CHANNEL; PROVIDE SPACE ON EACH FOR 25 PERCENT ADDITIONAL CONDUITS.</p> <p>F. FASTEN CONDUIT SUPPORTS TO BUILDING STRUCTURE AND SURFACES UNDER PROVISIONS OF SECTION 16070.</p> <p>G. DO NOT SUPPORT CONDUIT WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE WIRE USED FOR TEMPORARY SUPPORTS.</p> <p>H. DO NOT ATTACH CONDUIT TO CEILING SUPPORT WIRES.</p> <p>I. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND PRESENT NEAT APPEARANCE.</p> <p>J. ROUTE EXPOSED CONDUIT PARALLEL AND PERPENDICULAR TO WALLS.</p> <p>K. ROUTE CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS.</p> <p>L. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT.</p> <p>M. MAINTAIN ADEQUATE CLEARANCE BETWEEN CONDUIT AND PIPING.</p> <p>N. CUT CONDUIT SQUARE USING SAW OR PIPECUTTER; DE-BURR CUT ENDS.</p> <p>O. BRING CONDUIT TO SHOULDER OF FITTINGS; FASTEN SECURELY.</p> <p>P. INSTALL NO MORE THAN EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN BOXES. USE CONDUIT BODIES TO MAKE 180 DEGREE SHARP CHANGES IN DIRECTION, AS AROUND BENDS. USE HYDRAULIC ONE SHOT BENDER TO FABRICATE BENDS IN METAL CONDUIT LARGER THAN 2 INCH (50.8 MM) SIZE.</p> <p>Q. AVOID MOISTURE TRAPS; PROVIDE JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN CONDUIT SYSTEM.</p> <p>R. PROVIDE SUITABLE FITTINGS TO ACCOMMODATE EXPANSION AND DEFLECTION WHERE CONDUIT CROSSES SEISMIC.</p> <p>S. PROVIDE SUITABLE PLUG STRING IN EACH EMPTY CONDUIT EXCEPT SLEEVES AND NIPPLES.</p> <p>T. USE SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.</p> <p>SUPPORTS</p> <p>A. ALL EQUIPMENT SHALL BE ADEQUATELY SUPPORTED FROM STRUCTURE.</p> <p>B. INSERTS IN MASONRY SHALL BE LEAD OR FIBER IN DRILLED HOLES, OR CAST IN PLACE.</p> <p>C. NAILS OR POWER ACTUATED FASTENERS SHALL NOT BE USED.</p> <p>D. EMT/IMC/RGS SUPPORTS SHALL BE A MAXIMUM OF 8'-0" APART AND A MAXIMUM OF 3'-0" FROM BOXES.</p> <p>E. LIGHTING FIXTURES MOUNTED IN OR ON CEILING SHALL BE SUPPORTED FROM STRUCTURE VIA 12 GAUGE STEEL WIRE.</p> <p>F. PROVIDE A MINIMUM OF FOUR WIRES, ONE ATTACHED TO EACH CORNER OF THE FIXTURE. RECESSED CEILING LIGHT FIXTURES SHALL BE SUPPORTED THE SAME. DO NOT SUPPORT RACEWAY OR FIXTURES FROM CEILING GRID OR DUCT WORK. USE U.L. LISTED GRID CLIPS ON ALL LAY-IN FIXTURES.</p> <p>BOXES</p> <p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. PULL AND JUNCTION BOXES.</p> <p>1.02 SUBMITTALS</p> <p>A. PROJECT RECORD DOCUMENTS: RECORD ACTUAL LOCATIONS AND MOUNTING HEIGHTS OF OUTLET, PULL, AND JUNCTION BOXES ON PROJECT RECORD DOCUMENTS.</p> <p>PART 2 EXECUTION</p> <p>2.01 INSTALLATION</p> <p>A. INSTALL BOXES SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.</p> <p>B. INSTALL IN LOCATIONS AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND AS REQUIRED BY NFPA 70.</p> <p>C. ORIENT BOXES TO ACCOMMODATE WIRING DEVICES ORIENTED AS SPECIFIED IN SECTION 16140.</p> <p>D. MAINTAIN HEADROOM AND PRESENT NEAT MECHANICAL APPEARANCE.</p> <p>E. ALIGN ADJACENT WALL MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.</p> <p>F. SUPPORT BOXES INDEPENDENTLY OF CONDUIT, EXCEPT CAST BOX THAT IS CONNECTED TO TWO RIGID METAL CONDUITS BOTH OF WHICH ARE SUPPORTED WITHIN 12 INCHES (305 MM) OF BOX.</p> <p>G. USE GANG BOX WHERE MORE THAN ONE DEVICE IS MOUNTED TOGETHER. DO NOT USE SECTIONAL BOX.</p> <p>PART 1 GENERAL</p> <p>1.01 SECTION INCLUDES</p> <p>A. WALL SWITCHES.</p> <p>B. RECEPTACLES.</p> <p>C. DEVICE PLATES AND DECORATIVE BOX COVERS.</p> <p>1.02 SUBMITTALS</p> <p>A. PRODUCT DATA: PROVIDE MANUFACTURER'S CATALOG INFORMATION SHOWING DIMENSIONS, COLORS, AND CONFIGURATIONS.</p> <p>1.03 QUALITY ASSURANCE</p> <p>A. CONFORM TO REQUIREMENTS OF NFPA 70.</p> <p>B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.</p> <p>C. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.</p> <p>PART 2 PRODUCTS</p> <p>2.01 MANUFACTURERS</p> <p>A. COOPER WIRING DEVICES:</p> <p>B. GE INDUSTRIAL:</p> <p>C. LEVITON MANUFACTURING, INC.</p> <p>2.02 WALL SWITCHES</p> <p>A. WALL SWITCHES: HEAVY DUTY, AC ONLY GENERAL-USE SNAP SWITCH, COMPLYING WITH NEMA WD 6 AND WD 1.</p> <p>1. BODY AND HANDLE: FINISH/COLOR SHALL BE SELECTED BY ARCHITECT. PROVIDE PLASTIC WITH TOGGLE HANDLE.</p> <p>2. RATINGS: MATCH BRANCH CIRCUIT AND LOAD CHARACTERISTICS.</p> <p>B. SWITCH TYPES: SINGLE POLE, DOUBLE POLE, AND 3-WAY.</p> <p>2.03 RECEPTACLES</p> <p>A. RECEPTACLES: HEAVY DUTY, COMPLYING WITH NEMA WD 6 AND WD 1.</p> <p>1. DEVICE BODY: FINISH/COLOR TO BE SELECTED BY ARCHITECT. DEVICE SHALL BE MADE OF PLASTIC.</p> <p>2. CONFIGURATION: NEMA WD 6, TYPE AS SPECIFIED AND INDICATED.</p> <p>B. CONVENIENCE RECEPTACLE: TYPE 510 20.</p> <p>C. SINGLE CONVENIENCE RECEPTACLES.</p> <p>D. DUPLEX CONVENIENCE RECEPTACLES.</p> <p>E. GFCI RECEPTACLES: CONVENIENCE RECEPTACLE WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER TO MEET REGULATORY REQUIREMENTS.</p> <p>2.04 WALL PLATES</p> <p>A. DECORATIVE COVER PLATES: FINISH/COLOR TO BE SELECTED BY ARCHITECT. SMOOTH PLASTIC.</p> <p>B. JUMBO COVER PLATES: COORDINATE DEVICE COLOR WITH ARCHITECT, SMOOTH PLASTIC.</p> <p>C. WEATHERPROOF COVER PLATES: GASKETED CAST METAL WITH HINGED.</p> <p>PART 3 EXECUTION</p> <p>3.01 EXAMINATION</p> <p>A. VERIFY THAT OUTLET BOXES ARE INSTALLED AT PROPER HEIGHT.</p> <p>B. VERIFY THAT WALL OPENINGS ARE NEATLY CUT AND WILL BE COMPLETELY COVERED BY WALL PLATES.</p> <p>C. VERIFY THAT BRANCH CIRCUIT WIRING INSTALLATION IS COMPLETED, TESTED, AND READY FOR CONNECTION TO WIRING DEVICES.</p> <p>3.02 PREPARATION</p> <p>A. PROVIDE EXTENSION RINGS TO BRING OUTLET BOXES FLUSH WITH FINISHED SURFACE.</p> <p>B. CLEAN DEBRIS FROM OUTLET BOXES.</p> <p>3.03 INSTALLATION</p> <p>A. INSTALL SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.</p> <p>B. INSTALL DEVICES PLUMB AND LEVEL.</p> <p>C. INSTALL SWITCHES WITH OFF POSITION DOWN.</p> <p>D. INSTALL RECEPTABLES WITH GROUNDING POLE ON TOP.</p> <p>E. CONNECT WIRING DEVICE GROUNDING TERMINAL TO OUTLET BOX WITH BONDING JUMPER.</p> <p>F. INSTALL DECORATIVE PLATES ON SWITCH, RECEPTACLE, AND BLANK OUTLETS IN FINISHED AREAS.</p> <p>G. CONNECT WIRING DEVICES BY WRAPPING CONDUCTOR AROUND SCREW TERMINAL.</p> <p>H. INSTALL PROTECTIVE RINGS ON ACTIVE FLUSH COVER SERVICE FITTINGS.</p> <p>3.04 INTERFACE WITH OTHER PRODUCTS</p> <p>A. INSTALL WALL SWITCH 48 INCHES (1.2 M) ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.</p> <p>B. INSTALL CONVENIENCE RECEPTACLE 18 INCHES (450 MM) ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.</p> <p>C. INSTALL CONVENIENCE RECEPTACLE 6 INCHES (150 MM) ABOVE COUNTER UNLESS OTHERWISE NOTED ON DRAWINGS.</p> <p>D. INSTALL TELEPHONE JACK 18 INCHES (450 MM) ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.</p> <p>E. INSTALL TELEPHONE JACK FOR SERVICE-TO TELEPHONE TO POSITION TOP OF TELEPHONE AT 54 INCHES (1.4 M) ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.</p> <p>F. INSTALL TELEPHONE JACK FOR FORWARD-REACH WALL TELEPHONE TO</p>			





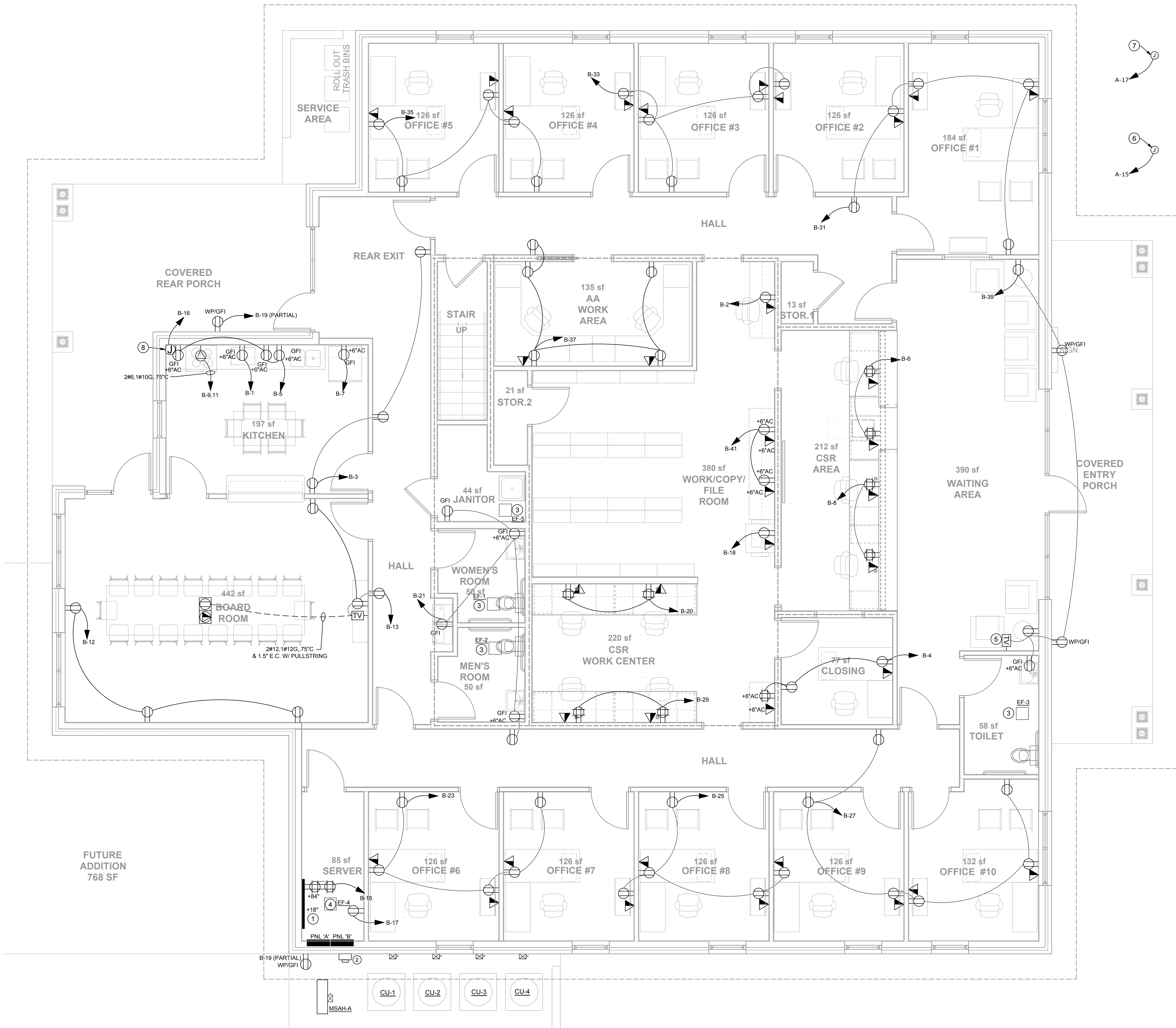




- GENERAL NOTES:  
(APPLIES TO 1/THIS DRAWING ONLY)
1. CONNECT ALL TYPE "X" AND "Y" LIGHTS TO NEAREST LIGHTING CIRCUIT SERVING THIS AREA AHEAD OF LOCAL SWITCHING.
  2. COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCHITECTURAL PLANS PRIOR TO ROUGH-IN.
  3. REFER TO E-6 FOR ATTIC PLAN.
- LEGEND NOTES:  
(APPLIES TO 1/THIS DRAWING ONLY)
1. ROUTE CIRCUIT THROUGH TIMELOCK.
  2. ROUTE CIRCUIT THROUGH PHOTOCELL.
  3. PROVIDE PLACARD AT EACH SWITCH INDICATING AREA CONTROLLED FOR THIS LIGHT SWITCH.
  4. INTERLOCK EXHAUST FAN WITH LIGHTS IN THIS ROOM. EXHAUST FAN SHALL BE CONTROLLED FROM OCCUPANCY SENSOR THAT SERVES THE LIGHTS IN THIS ROOM.
  5. COORDINATE EXACT FIXTURE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT.

1 FIRST FLOOR PLAN - LIGHTING  
E-4 SCALE: 1/4" = 1'-0"

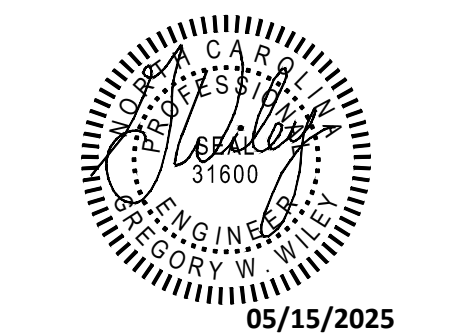




- GENERAL NOTES:  
(APPLIES TO ALL DRAWINGS ON THIS SHEET)
- COORDINATE EXACT LOCATION FOR DEVICES WITH ARCHITECTURAL PLANS AND OWNER PRIOR TO ROUGH-IN.
  - REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON DRAWING E0.1 FOR ELECTRICAL CONNECTIONS FOR ALL MECHANICAL EQUIPMENT SHOWN ON THIS DRAWING.
  - REFER TO DRAWING E-6 FOR ATTIC PLAN.
  - CONNECT ALL TYPE 'X' AND 'Y' LIGHTS TO NEAREST LIGHTING CIRCUIT SERVING THIS AREA AHEAD OF LOCAL SWITCHING.
- LEGEND NOTES:  
(APPLIES TO ALL DRAWINGS ON THIS SHEET)
- PROVIDE FIRE RATED PLYWOOD TELEPHONE BACKBOARD. PROVIDE #6 CU BONDING WIRE TO BUILDING GROUNDING SYSTEM AND (2) 4\"/>

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Charlotte, NC 28209  
704-287-2193



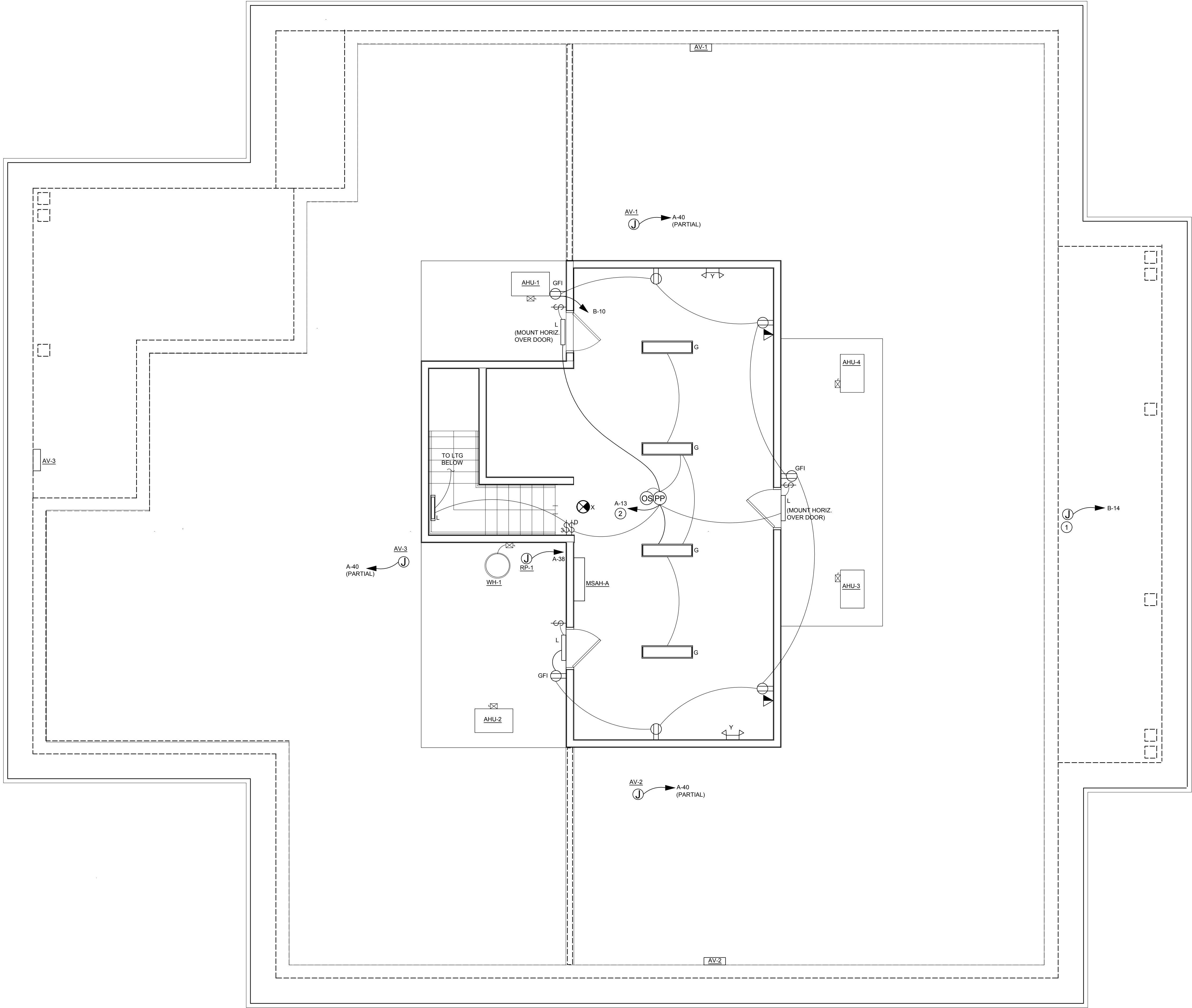
**LINEBERRY Architectural Group PA**  
ARCHITECTURE - PLANNING - INTERIOR ARCHITECTURE  
P.O. Box 37456, Raleigh, North Carolina 27627  
919 786 0229 C 919 616-1046 lineberrygroup.com

**LINEBERRY**  
Project Number : 1910.15  
Drawn By: GW  
Date: 9 APRIL 2025  
ISSUE FOR CONSTRUCTION

**E-5**  
FIRST FLOOR PLAN  
- POWER

1 FIRST FLOOR PLAN - POWER  
E-5 SCALE: 1/4" = 1'-0"





GENERAL NOTES:  
(APPLIES TO 1/THIS DRAWING ONLY)

1. CONNECT ALL TYPE 'X' AND 'Y' LIGHTS TO NEAREST LIGHTING CIRCUIT SERVING THIS AREA AHEAD OF LOCAL SWITCHING.
2. COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCHITECTURAL PLANS PRIOR TO ROUGH-IN.
3. REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON DRAWING E1 FOR ELECTRICAL CONNECTIONS FOR ALL MECHANICAL EQUIPMENT SHOWN ON THIS DRAWING.

KEYED NOTES:  
(APPLIES TO ALL DRAWINGS ON THIS SHEET)

- ① PROVIDE AND INSTALL WEATHER PROOF JUNCTION BOX FOR GABLE SIGN. COORDINATE EXACT LOCATION WITH ARCHITECT.
- ② ROUTE CIRCUIT THROUGH TIMECLOCK.





**Harnett**  
COUNTY  
NORTH CAROLINA



Emergency Services Department

www.harnett.org

## Application for Plan Review

Application # \_\_\_\_\_ - \_\_\_\_\_

Date Received: 7-18-25 Received By: \_\_\_\_\_

Name of Project: NCFB Lillington

Physical Address of Project: 105 E. Front St.  
Lillington, NC 27546

Plans Submitted By: Abbey Gurkin

Project Phone: (919) 625-0674

Contact Person/Address: James Gurkin  
8213 Old US 421  
Lillington, NC 27546

Contact Email: james@gurkinconstruction.com

Contact Phone: (919) 625-7307 (\_\_\_\_) - \_\_\_\_ - \_\_\_\_

Contractor's Name/Info: Gurkin Construction Group, Inc  
8213 Old US 421  
Lillington, NC 27546

Contractor's Phone: (919) 625-7307

- Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.
- Status checks may be conducted on plan reviews by visiting the website <http://htweb.harnett.org/Click2GovBP/Index.jsp> or by calling the Harnett County Central Permitting Office (910-893-7525, Option #2), or the Harnett County Fire Marshal's Office (910-893-7580).
- Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.