

## Design Criteria:

DRAWINGS AND SPECIFICATIONS CONFORM TO:

### DESIGN CRITERIA:

IBC 2021, LATEST ADDITION, ASCE 7-16

Floor Live Load(psf).....	100
Floor Dead Load(psf).....	100
Roof Load Load(psf).....	20
Roof Dead Load(psf).....	20
Ground Snow Load(psf).....	10
Roof Snow Load(psf).....	8
Balconies Live Load(psf).....	N/A
Balconies Dead Load(psf).....	N/A

### WIND LOAD

Wind Speed:

ASCE-7-16: 142MPH - Vult (3 second gust)

Importance Factor: 1.0

Exposure Category: B

Internal Pressure Coefficient: +/- 0.18

Component Cladding Wind Pressure: 50 PSF

### SEISMIC DATA

Seismic User Group: II

Site Class: D

Seismic Design Category: C

Seismic Design Parameters:  $S_s=0.315$ ,  $S_1=0.115$ ,  $SDS=0.325$ ,  $SD1=0.182$

Seismic Force Resisting System: LIGHT FRAMED WITH SHEAR WALLS

Analysis Procedure: EQUIVALENT LATERAL FORCE

### GABLE END WALL TO CEILING CONNECTION

Anchor gable truss to top plate of gable end wall with HGA10 @48" OC, apply 2"x4"x8' strut across bottom chords of 4 trusses @ 48" OC across gable, and nail to each bottom chord with 2 10d common nails.

Alternate: Nail 2' of Simpson Coil strap on the roof rafter ceiling struts, extend the coil strap over the gable truss, through the wall OSB, and down the outside of the wall stud @48" OC.

### CORNER HOLD DOWN DEVICE

(1) 1/2" x 12" anchor bolt or 5/8" x 8" Titen HD anchor bolt with 3" washer on each within 8" of each corner.

(1) Simpson HTT5 connectors will be added where shown on the Foundation Plan.

### REINFORCING

See Horizontal and any Vertical Rebar Requirements specified in each detail.

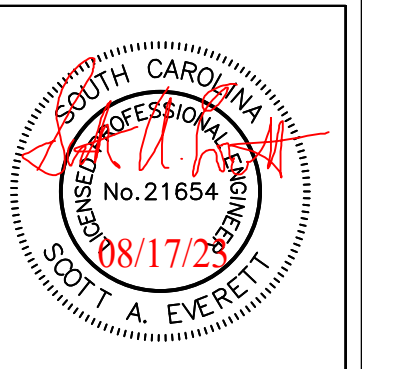
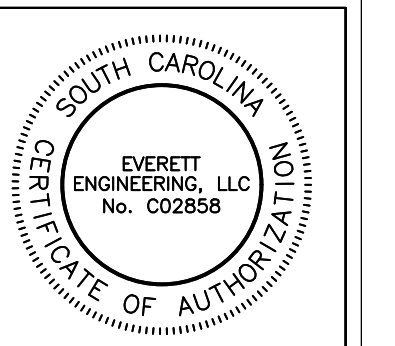
## General Notes/Remarks/Assumptions

1. All work and materials shall be in accordance with the IBC 2021.
2. Any variations from these plans should be referred to the Engineer.
3. All building materials shall conform to existing local building codes.
4. All cross-sections, drawings and tables are typical for similar locations where applicable.
5. All dimensions are to be derived from the architectural plans unless otherwise noted on this drawing.
6. Contractor is responsible for adequate construction bracing and any failures due to lack of it.
7. Refer to architectural plans and current code requirements for details not stated in this drawing.
8. Details not included in these drawings shall be governed by current applicable local building codes.
9. No non-standard load(such as equipment, etc.) shall be applied unless otherwise noted in these drawings.
10. All materials for headers and bracing to be #2 SYP @ 19% MC, all wood members in contact with masonry or concrete to be pressure treated .25 CCA.
11. All wood members for studs, bracing, purlins, and plates to be #2 SPF @ 19% MC.
12. All double top plates and sill plates to be #2 SPF. If contacting masonry or concrete, plates to be pressure treated .25 CCA.
13. Manufactured floor trusses and roof trusses shall be installed according to manufacturer's specifications.
14. Floor sheathing to be 3/4" T&G glued and nailed at 6" OC @ edges and 12" OC at interior.
15. All materials below BFE shall be of flood resistant treated type.
16. Sheathing nails shall be .131" shank diameter, (8d common nails) or .148" shank diameter, (10d common nails) as specified.
17. Ceiling diaphragm shall be 5/8" thick gypsum nailed with 5d nails spaced at 7" on the edges and 10" on the interior. Screws can also be used as substitute for nails.
18. Nailing for the double top plate shall be 16d common nails staggered @ 8" OC.
19. Foundation anchors to be within 8" of each sill plate section end and within 8" of each intersection of interior load bearing wall and exterior wall.
20. All internal load bearing walls on raised or monolithic slabs to have a continuous thickened footing per section detail specification.
21. All metal connectors in contact with pressure treated or ACQ wood products must be ZMAX coated or galvanized.
22. All structural storm panels made for all windows to meet IRC R301.2.1.2 of the IRC2021 code or relevant IBC2021 code requirements.
23. Prior to construction, all vegetation, stumps, roots, foreign material, and surficial topsoil shall be removed from the area under the foundation and to a minimum distance of 5 feet beyond the limits of the proposed building. After this striping and clearing has been completed, the exposed natural soils shall be compacted to 95% of Modified Proctor in accordance with ASTM D 1557.
24. All fill material shall be placed in lifts not to exceed 8 inches and shall be compacted to 95% of Modified Proctor in accordance with ASTM D 1557. All fill material shall consist of soil with no more than 10% of the particles passing a #200 sieve and shall be free of vegetation, organic material, construction debris, large rocks, and all foreign material.
25. Groundwater levels shall be controlled to a minimum of 2 feet below the construction level. Groundwater elevations may fluctuate during construction groundwater levels.
26. All footings have been designed for the following soil bearing capacity of 2000 PSF.
27. The outlying perimeter areas of the proposed building shall be graded in such a way as to provide positive drainage away from the Building.
28. A vapor retarder shall be installed underneath the slab consisting of 10 mil minimum polyethylene with joints lapped not less than 6 inches and sealed.
29. All concrete shall have a minimum compressive strength of 3,000 psi at 28 days.
30. All concrete shall be mixed until there is a uniform distribution of materials in accordance with ACI 318.
31. All reinforcing bars that do not require welding shall conform to ASTM-615, Grade 60. All reinforcing bars that are to be welded shall conform to ASTM A706, Grade 60. Welded wire fabric shall conform to ASTM A-185.
32. The rebar in the slab turn down shall be continuous for the entire perimeter of the foundation and shall be lap spliced a minimum of 24" at terminal points in order to maintain continuity.
33. The slab reinforcing including welded wire fabric shall not be cut during or anytime after construction since this reinforcement provides structural stability for the building.
34. Fiber reinforced concrete is an acceptable alternative to a welded-wire fabric. Standard synthetic fibers shall be used.
35. Control joints shall be installed in the foundation at intervals to route any stress cracks.
36. Maintain 3 inches minimum clearance for all rebar, unless otherwise noted.

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 Scott A. Everett, PE  
 165 Everett Place  
 Britton's Neck, SC 29546  
 843-362-2027

City of Conway  
 Environmental Refuse Facility(ERF)  
 Public Restrooms Project  
 Scarborough Alley, Conway, SC  
**STRUCTURAL DESIGN**

Prepared For:



Date: 08/17/23

Revision:

SHEET NUMBER

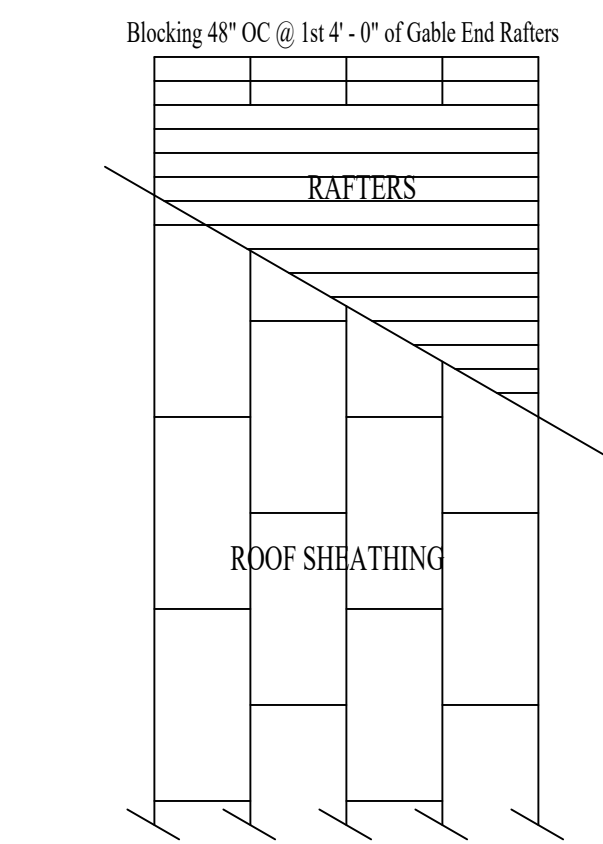
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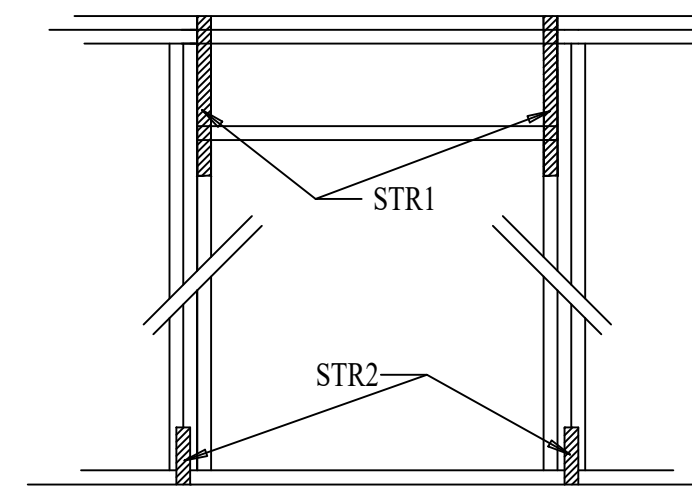
8d COMMON NAILED @ 4" OC EDGE
8d COMMON NAILED @ 6" OC INTERIOR
3/4" ADVANTECH or EQUIVALENT ROOF SHEATHING
ROOF SHEATHING NAILING SCHEDULE
Block all edges 4" from all gable ends

1 ROOF AND WALL SHEATHING SCHEDULE  
Scale: 1/2" = 1'

WALL SHEATHING NAILING SCHEDULE
8d COMMON NAILED @ 4" OC EDGE
8d COMMON NAILED @ 6" OC INTERIOR
7/16" OSB WALL SHEATHING
BLOCK ALL EDGES
Wall sheathing reaches from top of top plate to bottom of bottom plate



2 GABLE ROOF FRAMING DETAIL  
Scale: NTS

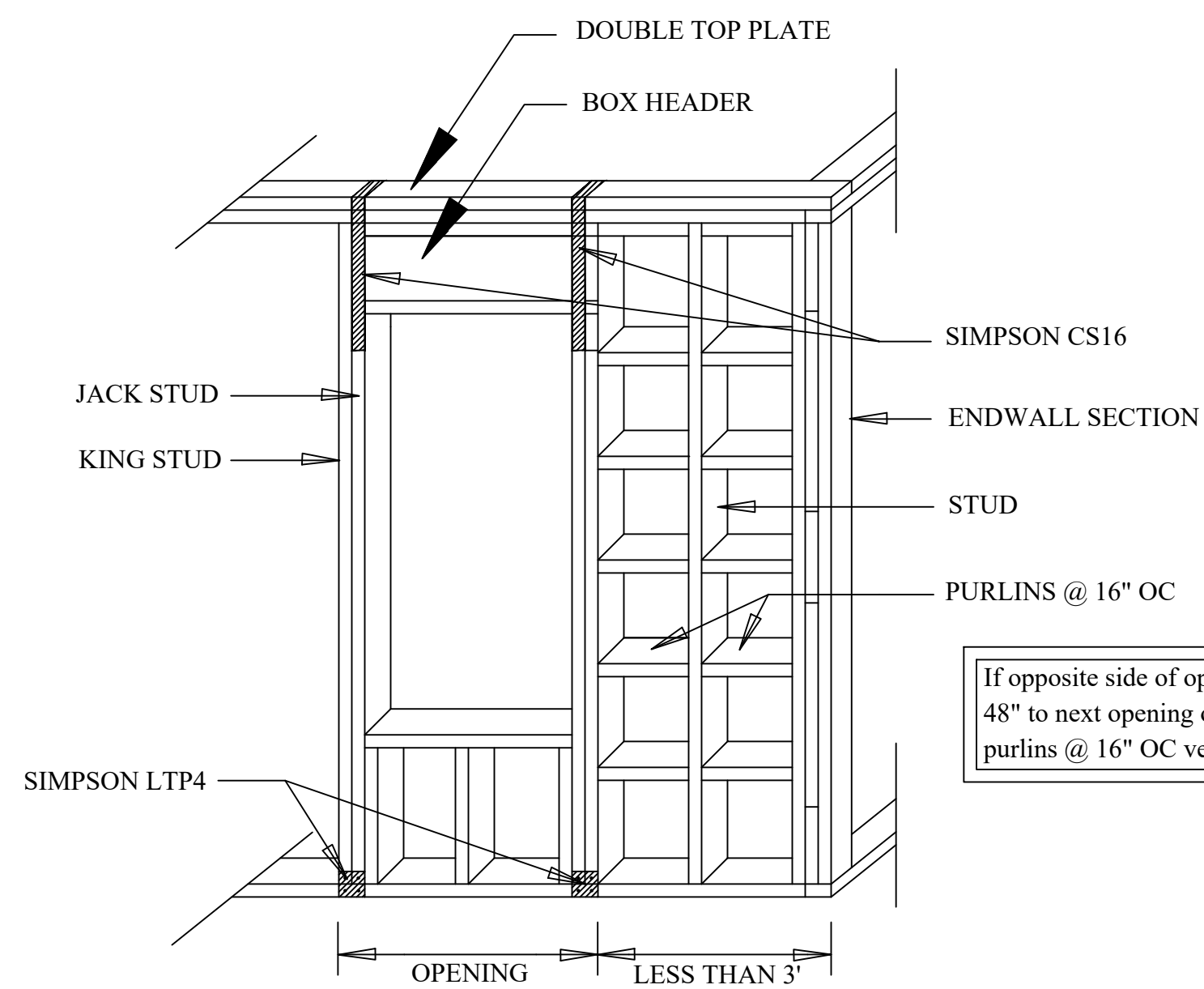


Header Type	Header Size	Number of jack studs	Number of king studs	STR1 each side	STR2 each side
2-2 x10 SYP Box Header	0' to 3'	1	1	(1) Simpson CS16	LTP4 or TP35
2-2 x10 SYP Box Header	>3' to 6'	2	2	(1) Simpson CS16	LTP4 or TP35
2-2 x10 SYP Box Header	>6' to 10'	2	3	(2) Simpson CS16	LTP4 or TP35
LVL as per Engineering	>10' to 16'	4	3	See Engineering	

3 HEADER SPECIFICATIONS SCHEDULE  
Scale: NTS

SIMPSON HOLDOWN	ALLOWABLE UPLIFT LOAD	
	SYP	SYP
H10S	785	910
MTS12	850	990
HTS20	1125	1310
H10A	1015	1340
H14	1050	1465
(2) SDWC15600 SCREWS	1140	1200

4 TRUSS HOLDDOWN SCHEDULE  
Scale: NTS



5 OPENING LESS THAN 3' FROM ENDWALL  
Scale: 1/2" = 1'

### STICK FRAMING DETAILS

CEILING JOIST SPAN TABLE (20psf Live Load, 10psf Dead Load) - minimal storage

Type Lumber	2x6		2x8		2x10		2x12	
	16"OC	24"OC	16"OC	24"OC	16"OC	24"OC	16"OC	24"OC
SYP #2	10'-10"	8'-6"	14'-3"	11'-3"	17'-10"	14'-3"	N/A	N/A
SYP #2	11'-6"	9'-0"	15'-5"	12'-2"	18'-9"	14'-11"	N/A	N/A

RAFTER SPAN TABLE (20psf Live Load, 20psf Dead Load)

Type Lumber	2x6		2x8		2x10		2x12	
	16"OC	24"OC	16"OC	24"OC	16"OC	24"OC	16"OC	24"OC
SYP #2	9'-5"	7'-2"	12'-9"	9'-10"	16'-3"	12'-8"	19'-4"	15'-3"
SYP #2	10'-0"	7'-8"	13'-10"	10'-9"	17'-1"	13'-5"	20'-7"	16'-3"

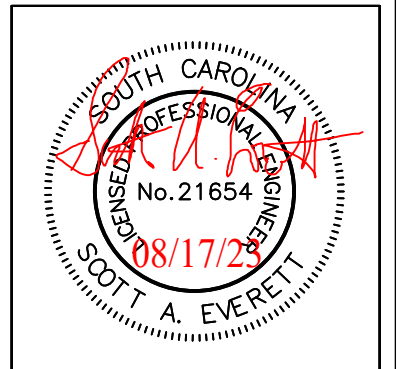
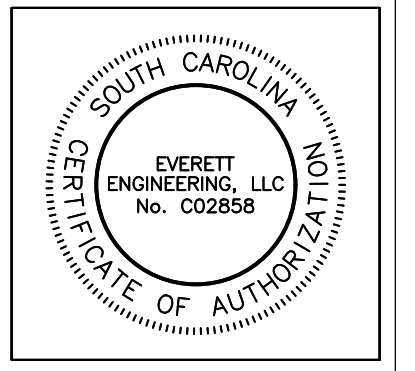
CEILING JOISTS AND RAFTER DETAILS	
The "Stick Framing Details" Table will be used to size the roof rafters and the ceiling joists where added.	
The Ridge Beam size will be one size bigger than the roof rafters used. For example, if the roof rafters are 2"x8", the ridge beam will be 2"x10".	
2" x 4" collar ties will be added on each rafter within the upper 3rd of the roof height.	
Any stick framed floor joists will be 2"x10" SYP floor joists @ 16" OC attached with Simpson HUS210 hangers or bearing on a 2"x2" ledger.	

6 STICK FRAMING DETAILS SCHEDULE  
Scale: NTS

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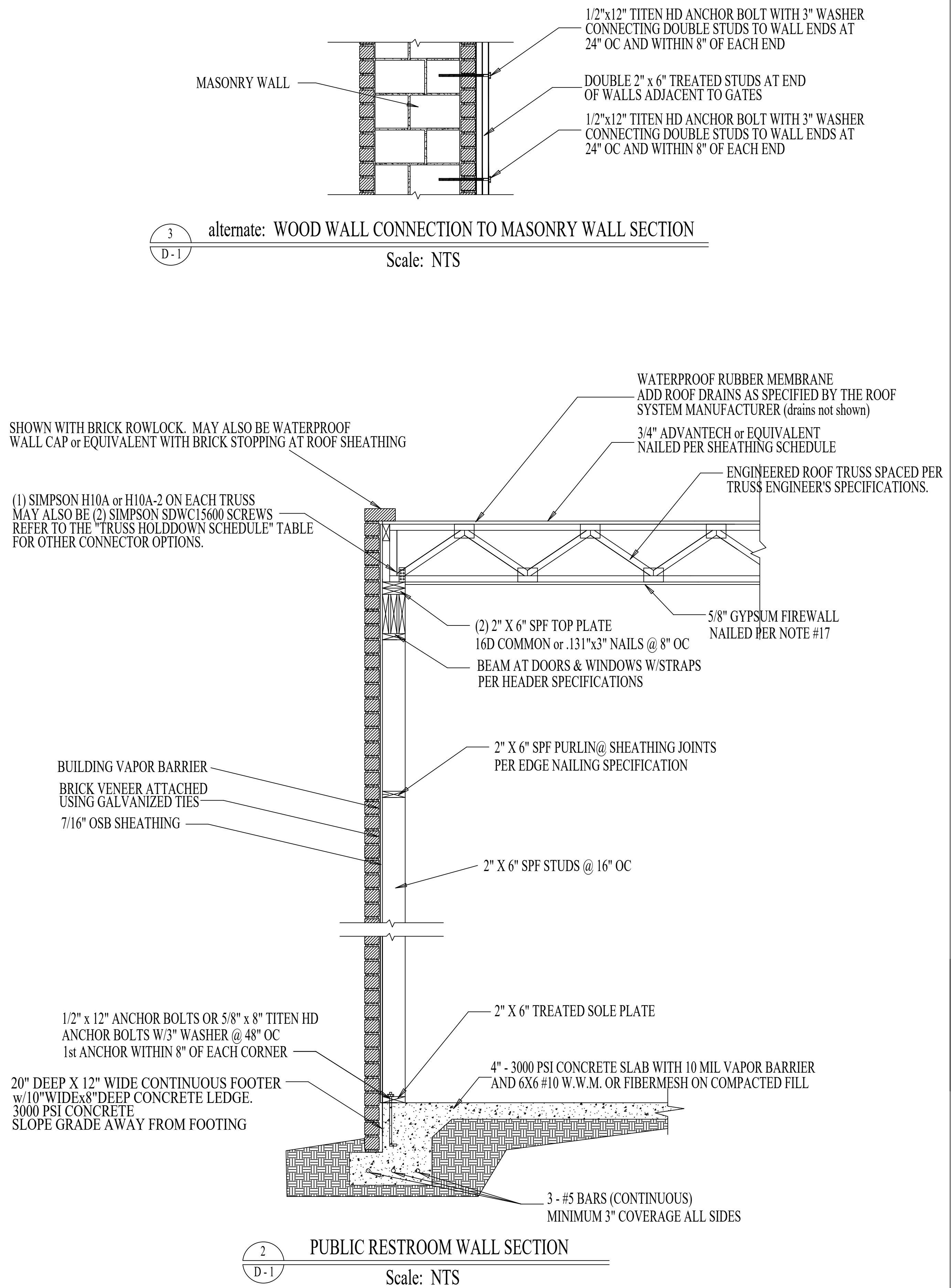
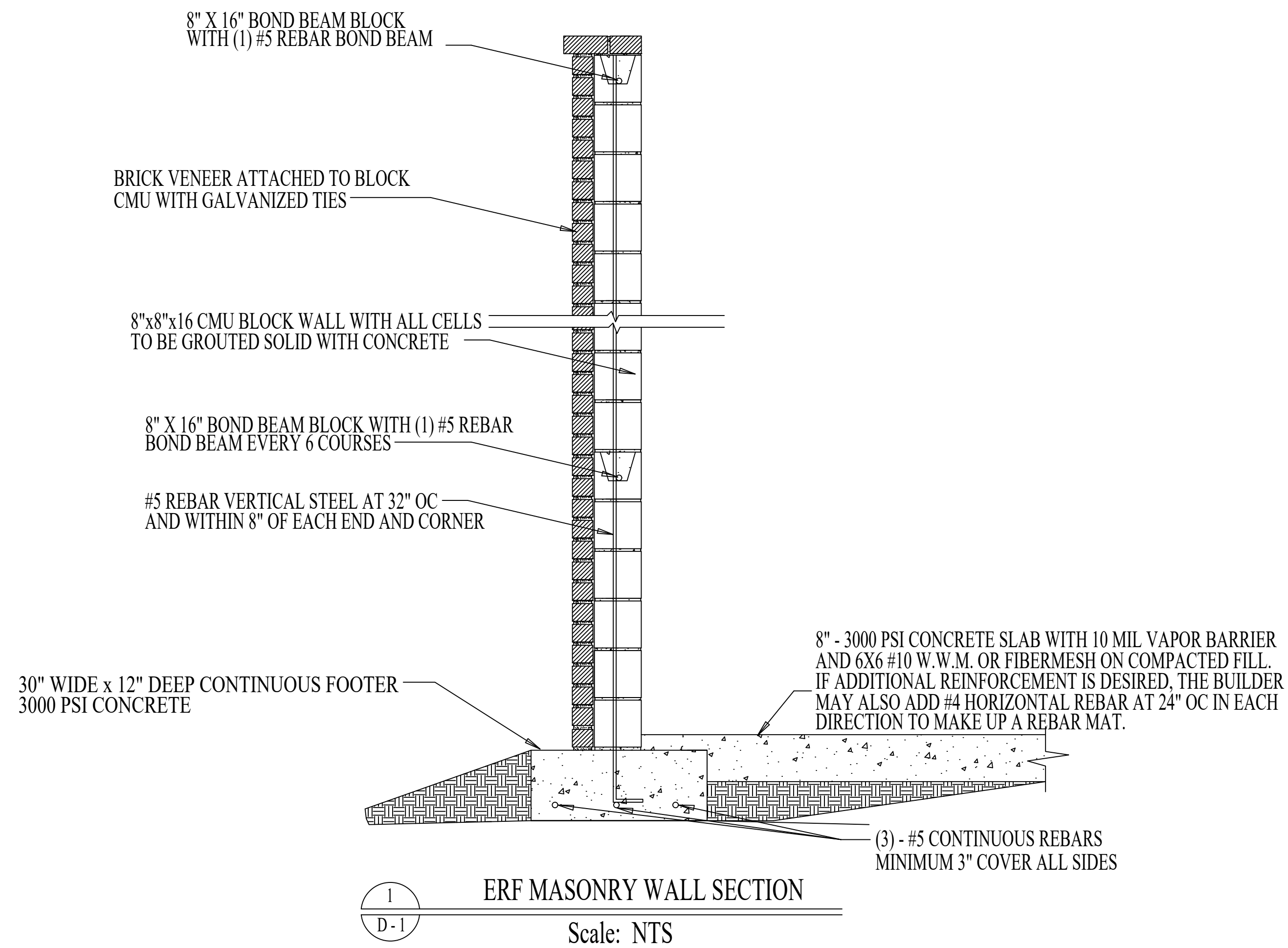
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**\*\*NOTES\*\***

A Bond Beam with #5 horizontal rebar shall be required at the top block and within every 6 courses of block.
All masonry cells will be poured solid with 3000psi pea gravel pump concrete.
The Brick Veneer footer concrete ledge is shown as 10" wide in Detail 2/D-1. This will accommodate the Brick Veneer pilasters being added to the Public Restroom exterior walls at any locations desired.
The ERF Gate 4" Pipe Columns may be connected to the Masonry Wall with 1/2"x8" Titen HD anchor bolts if the Pipe Columns are made with mounting holes. If not, the Pipe Columns will be placed in a 12" round x 24" deep 3000 psi concrete footing. The Gates may also be connected to the side of the Masonry Wall with wood connections. The wood attachments that would be used are shown in the alternate Detail 3/D-1. The City will decide which support method they wish to use.
The protective 6" bollard seamless steel tubing will be poured into a 18" round x 30" deep concrete footer and may be to the height as desired. Locate where desired on-site.
See Detail 1/D-1 for the 8" concrete pad specifications and options.
The dimensions on the foundation plan may be adjusted and finalized in the field.
<b>**FOOTER NOTE FOR TIE IN TO EXISTING**</b>
The new foundation footers shall be tied into the existing footer where they intersect. This shall be done by drilling and epoxying in the continuous rebar extending them into the existing concrete footer with a minimum of 6" embedment.

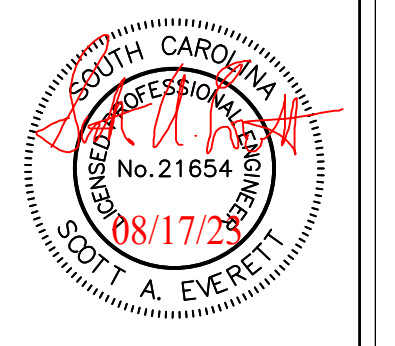
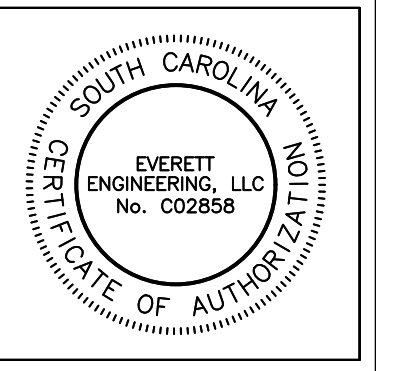


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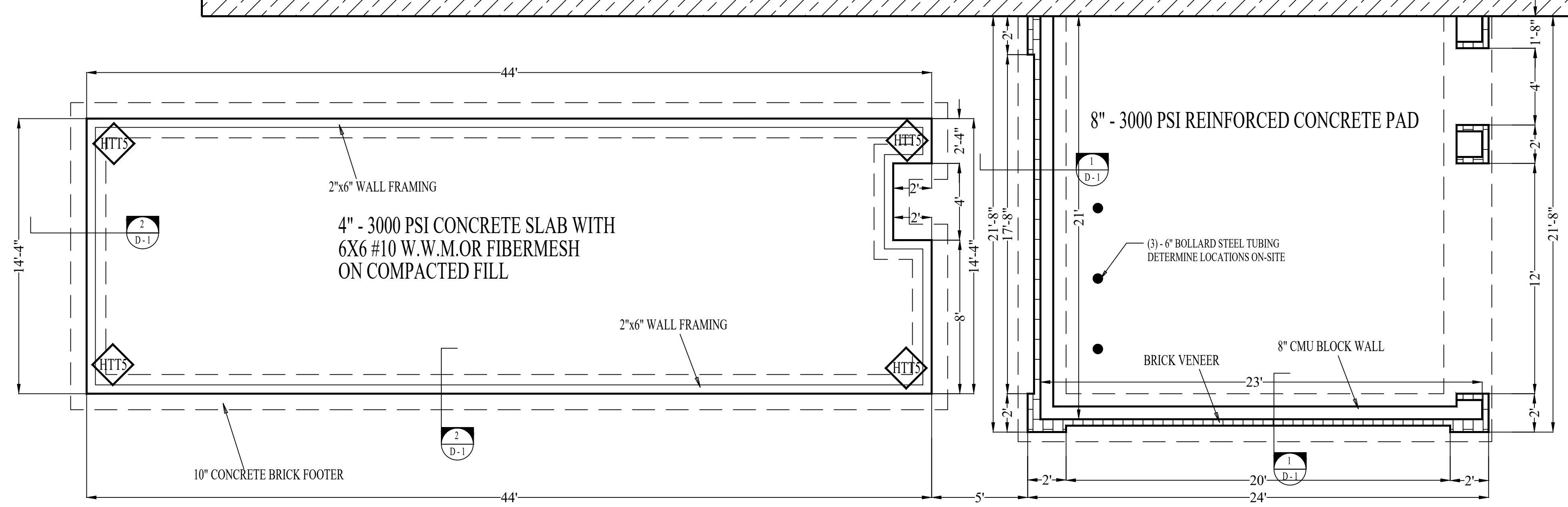
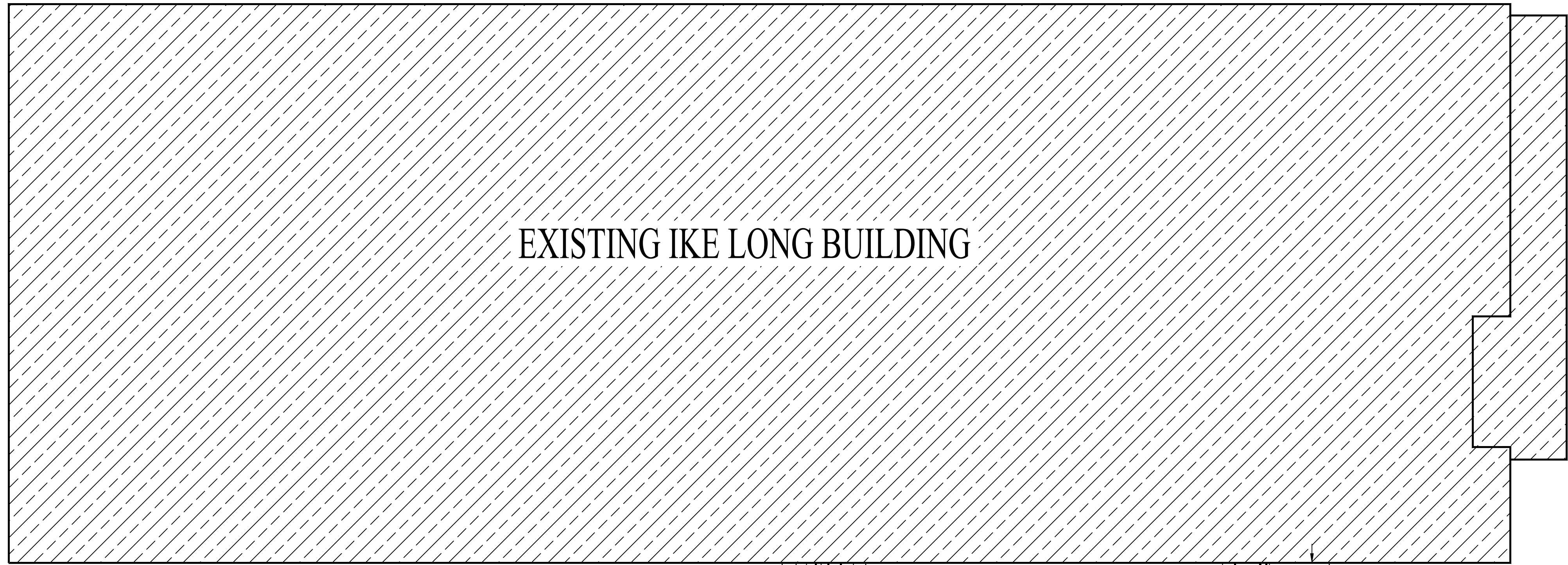
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FOUNDATION PLAN  
Scale: 1/4" = 1'

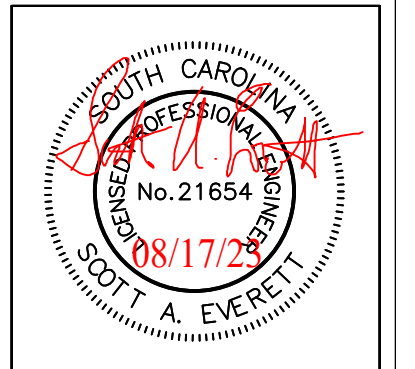
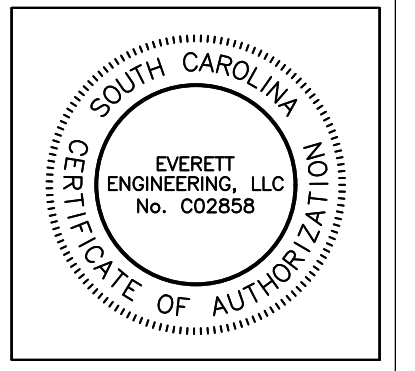
\*\*ALL DIMENSIONS TO BE VERIFIED WITH ARCHITECTURAL PLAN AND ON-SITE.\*\*  
\*\*BRICK VENEER NOT SHOWN ON THE PUBLIC RESTROOM FOUNDATION.\*\*

 INSTALL (1) SIMPSON HTS5

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