

Design Criteria:

DRAWINGS AND SPECIFICATIONS CONFORM TO:

DESIGN CRITERIA:

IRC 2021, LATEST ADDITION, ASCE 7-16

Floor Live Load(psf).....	40
Floor Dead Load(psf).....	15
Roof Load Load(psf).....	20
Roof Dead Load(psf).....	10
Ground Snow Load(psf).....	10
Roof Snow Load(psf).....	8

WIND LOAD

Wind Speed:

ASCE 7-16: 148 MPH - 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: D

Seismic Design Parameters: Ss=0.312, S1=0.114, SDS=0.322, SD1=0.180

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) 60" Simpson CS16 at 6" on each side of each corner connecting 1st to 2nd floor and 2nd to 3rd floor.

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

REINFORCING

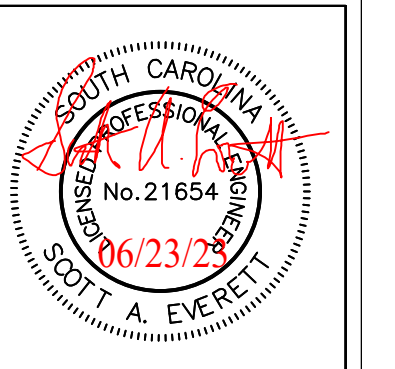
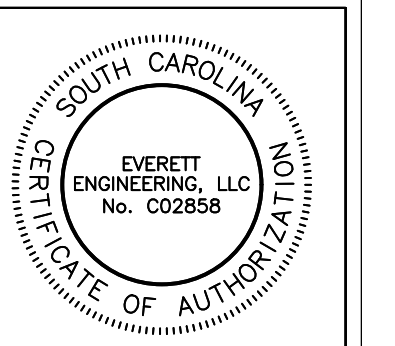
See Horizontal and any Vertical Rebar Requirements specified in each detail.

General Notes/Remarks/Assumptions

1. All work and materials shall be in accordance with the IRC 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

Prepared For:
 Portofino Villas
 Unit 1
 The Villas at 24th Avenue South
 Myrtle Beach, SC
STRUCTURAL DESIGN



Date: 06/23/23

Revision:

SHEET NUMBER

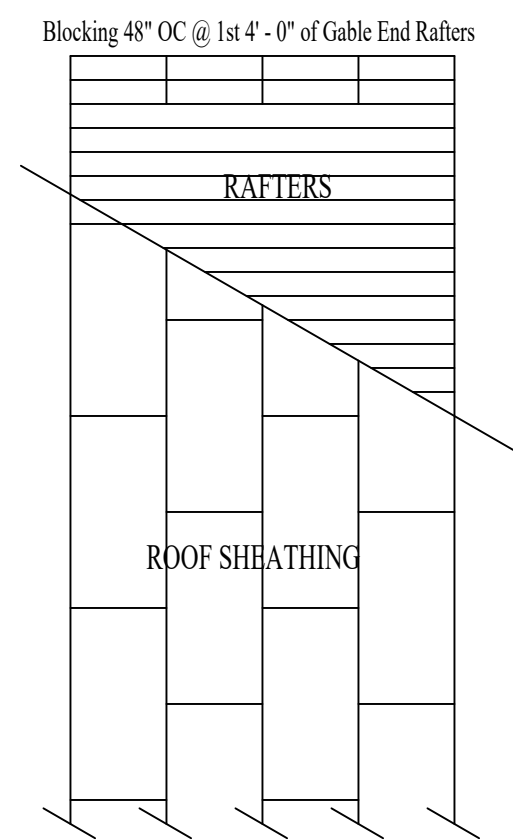
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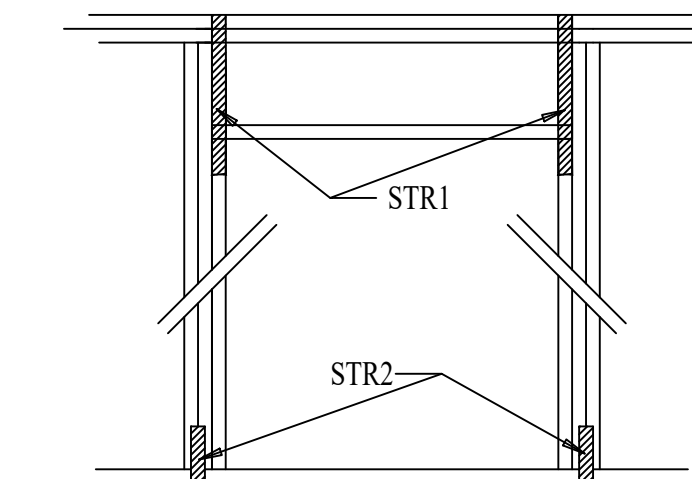
8d COMMON NAILED @ 4" OC EDGE
8d COMMON NAILED @ 6" OC INTERIOR
7/16" OSB ROOF SHEATHING W/ CLIPS
ROOF SHEATHING NAILING SCHEDULE
Block all edges 4" from all gable ends

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

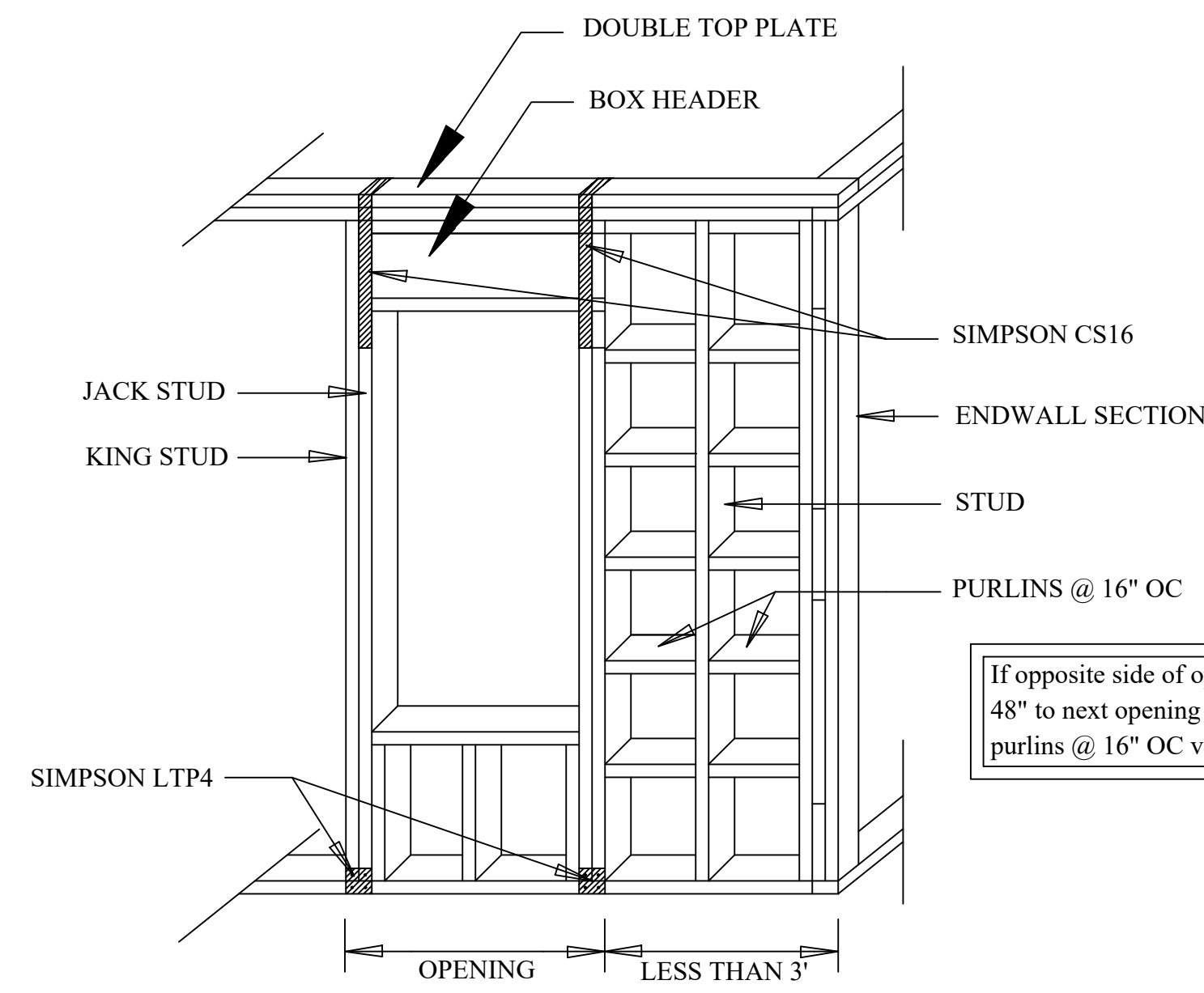


Header Type	Header Size	Number of jack studs	Number of king studs	STR1 each side	STR2 each side
2-2 x10 SYP Box Header	0' to 3'	1	1	(1) Simpson CS16	LTP4 or TP35
2-2 x10 SYP Box Header	>3' to 6'	2	2	(1) Simpson CS16	LTP4 or TP35
2-2 x10 SYP Box Header	>6' to 10'	2	3	(2) Simpson CS16	LTP4 or TP35
LVL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

3 HEADER SPECIFICATIONS SCHEDULE
Scale: NTS

TRUSS HOLDDOWN SCHEDULE		
SIMPSON HOLDDOWN	ALLOWABLE UPLIFT LOAD	
	SPF	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
SPF #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
SPF #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.

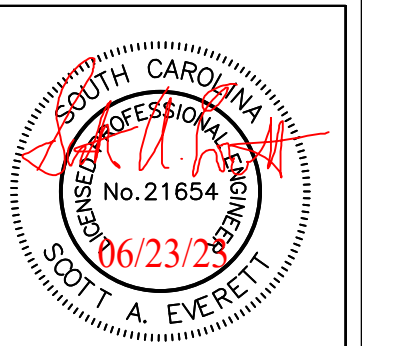
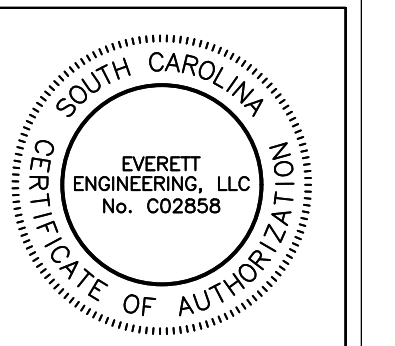
Any stick framed floor joists will be 2"x10" SYP floor joists @ 16" OC attached with Simpson HUS210 hangers or bearing on a 2"x2" ledger.

6 STICK FRAMING DETAILS SCHEDULE
Scale: NTS

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Portofino Villas
Unit 1
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Myrtle Beach, SC
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Prepared For:



Date: 06/23/23

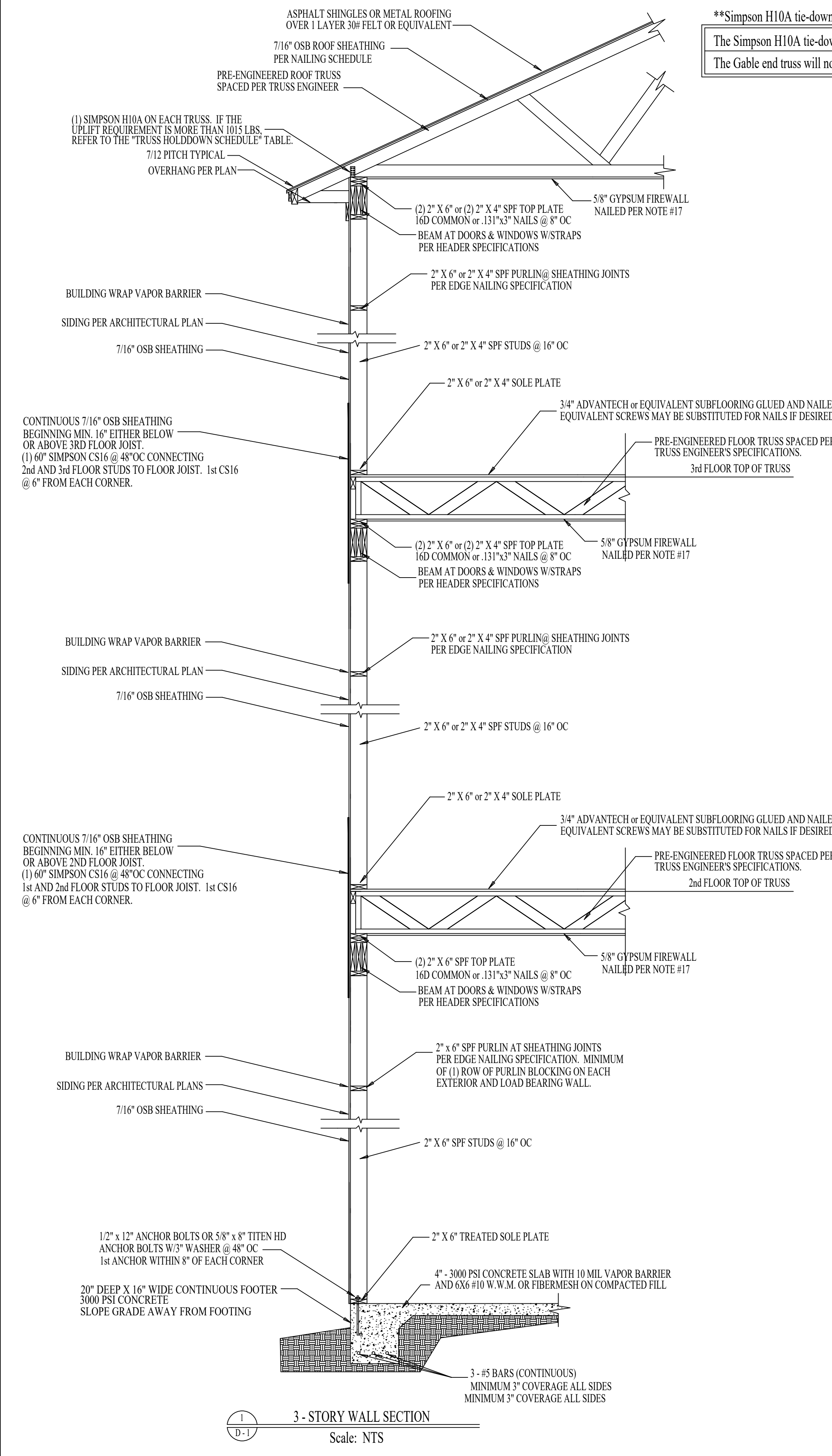
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****Simpson H10A tie-down NOTES****
 The Simpson H10A tie-downs may be installed on the exterior or interior side of the walls.
 The Gable end truss will not have Simpson H10A tie-downs installed on the tie.



1
D-1
3-STORY WALL SECTION
Scale: NTS

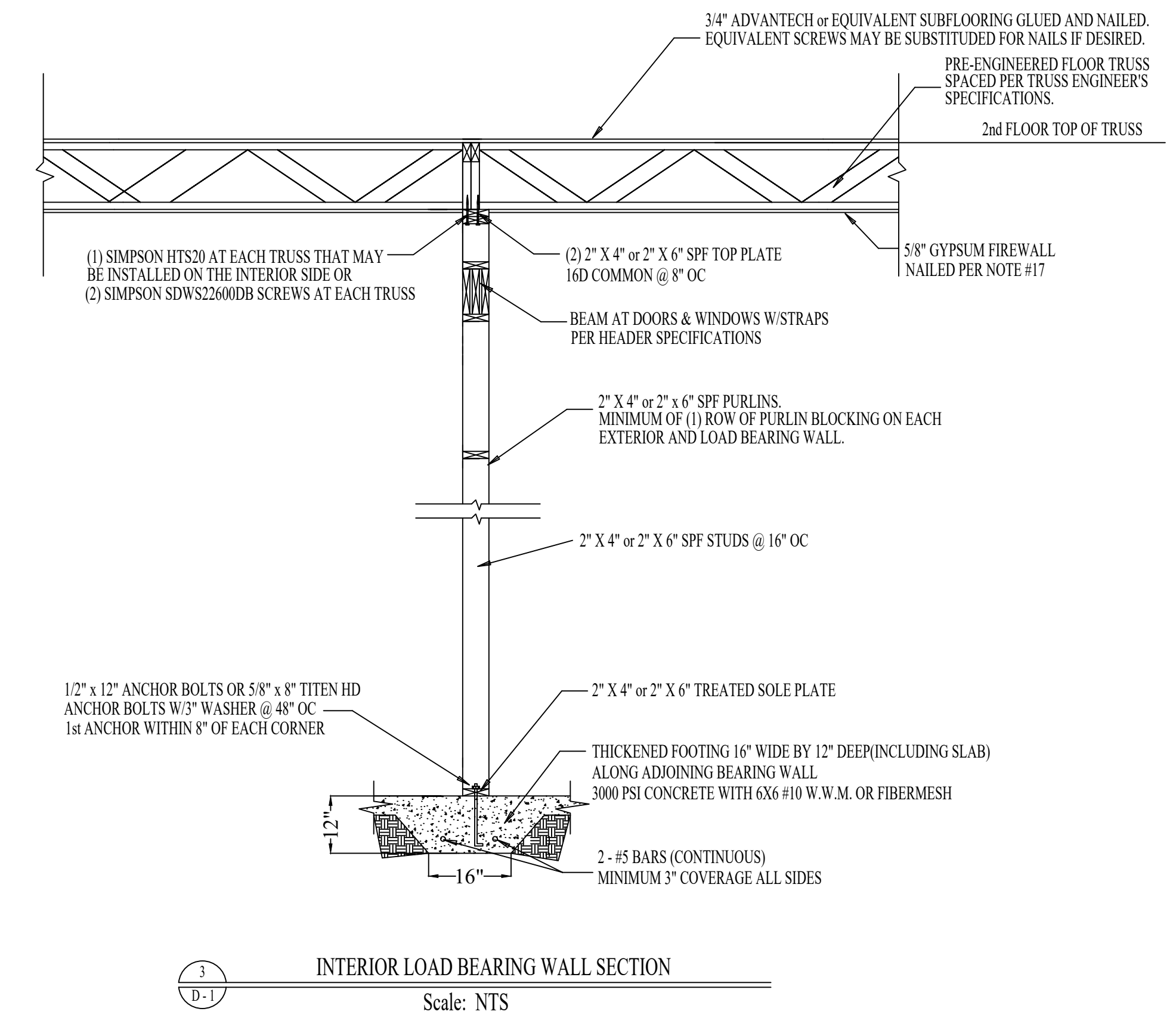
****FRAMING NOTES****

- All load bearing walls exceeding 11'-0" shall require Double 2" x 4" SPF Studs @ 16" OC or 2" x 6" SPF Studs @ 16" OC.
 - End Walls containing cathedral/vaulted ceilings shall be Balloon-Framed.
 - Load bearing walls are shown as specified by the Truss Design. Beams are designed for the Truss Design Loads.
 - See Framing Plans for specified Headers for locations that require larger Headers than those shown in the "HEADER SPECIFICATIONS" Table.
 - A 2"x6" Ledger Board shall be attached to the exterior wall at each supporting wall stud or floor truss end with (3) Simpson SDWC15600 screws to attach the Master Bedroom stick built roof trusses.
 - If a Roof Girder or Floor Girder is placed over any other Window or Door, the Header for that opening shall be a minimum of 3.5"x9-1/4" LVL unless more load requirements are specified by the Truss Engineer.
 - Where internal beams or girders are bearing on walls, solid studding will be added under them for support. (4) 2"x4" or (4) 2"x6" stud packs will be added under each Beam and Girder supporting the Floor System and Roof System. Blocking will be added under these stud packs to transfer the load down to the LVL Beams or Load Bearing Walls on the Ground Floor. This may require blocking through the floor trusses to make a continuous path.
 - Purlin Blocking will be required at some locations shown on the Foundation/Framing per Detail 5/F-1. The locations identified on the Foundation/Framing Plan will be blocked a minimum of (2) stud space sections in each direction. The specifications for openings within 36" of a corner in this Detail 5/F-1 still applies.
- **GARAGE NOTES****
- 5.25"x9-1/4" LVL Header to be used over each 8' Garage Door. The Header may be continuous across both doors requiring (3) Jack studs on each side at the intermediate section. Beam size based on truss design loads. 3 Jack Studs and 3 King Studs to be used on each Beam end. No King Studs required on any Beam end that extends all the way to the adjacent exterior wall.
 - (1) Simpson HTT5 shall be placed on each Beam end. If there is not enough room for the HTT5, (1) PA51 shall be substituted on each Beam end during foundation pour. Use 3 - LSTA18s on each side each Garage Door.
 - Internal GARAGE WALLS adjacent to Living Area and containing Garage Doors to be covered w/ 7/16" OSB nailed per Wall Sheathing Schedule for Shear Requirement.

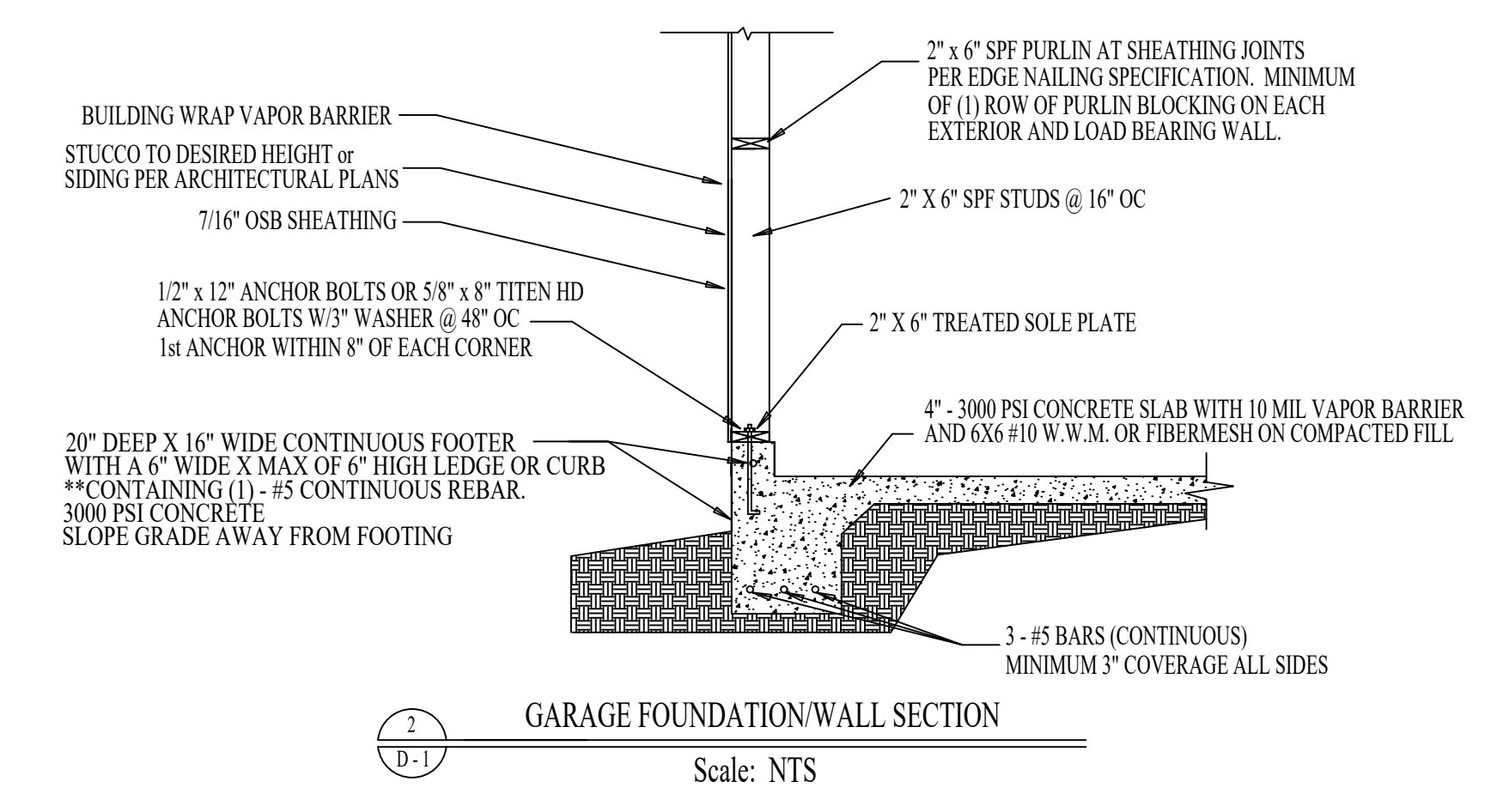
****LOAD TRANSFER NOTES****

THE BUILDER MUST ENSURE THAT ALL LOAD POINTS ABOVE CARRY ALL THE WAY DOWN TO THE FOUNDATION FOR ADEQUATE BEARING AND CONTINUOUS LOAD PATH CONNECTIONS. THIS MAY BE DONE WITH SOLID BLOCKING. CONSULT THE ENGINEER IF THERE ARE QUESTIONS OR CONCERNS.

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3
D-1
INTERIOR LOAD BEARING WALL SECTION
Scale: NTS

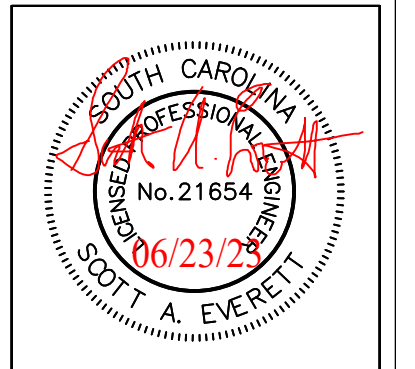
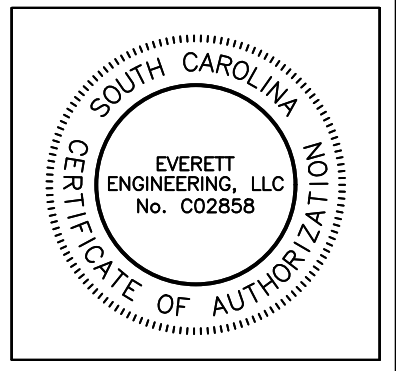


2
D-1
GARAGE FOUNDATION/WALL SECTION
Scale: NTS

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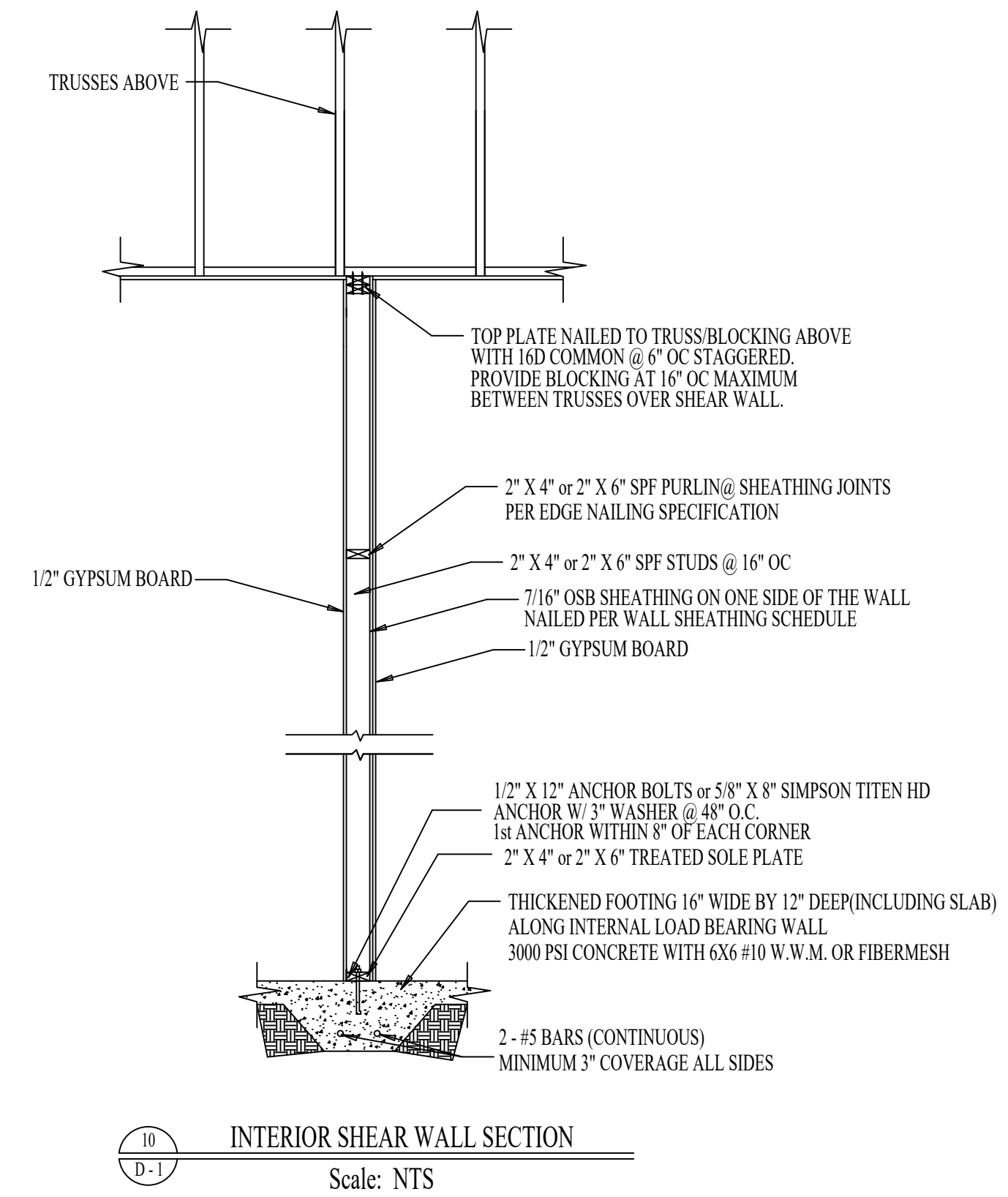
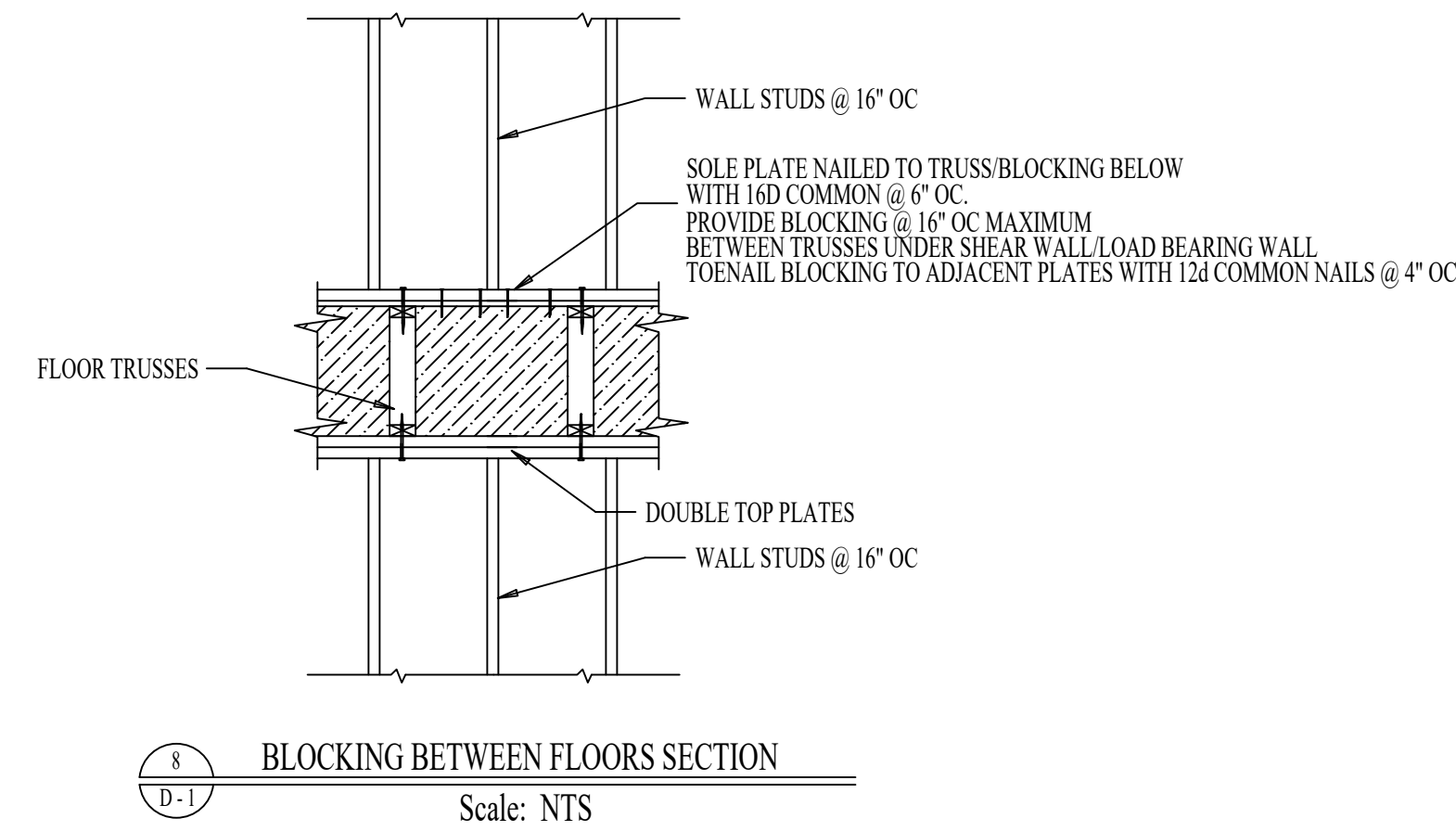
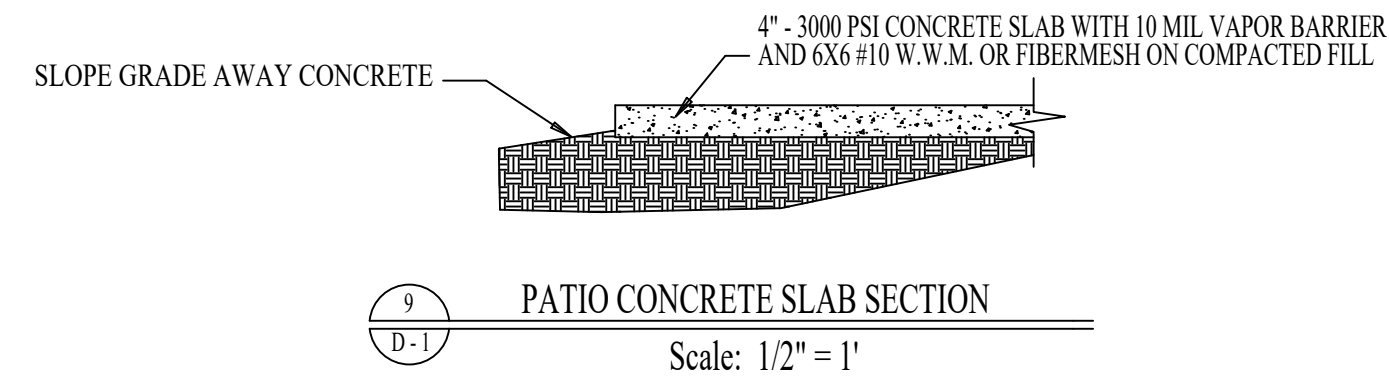
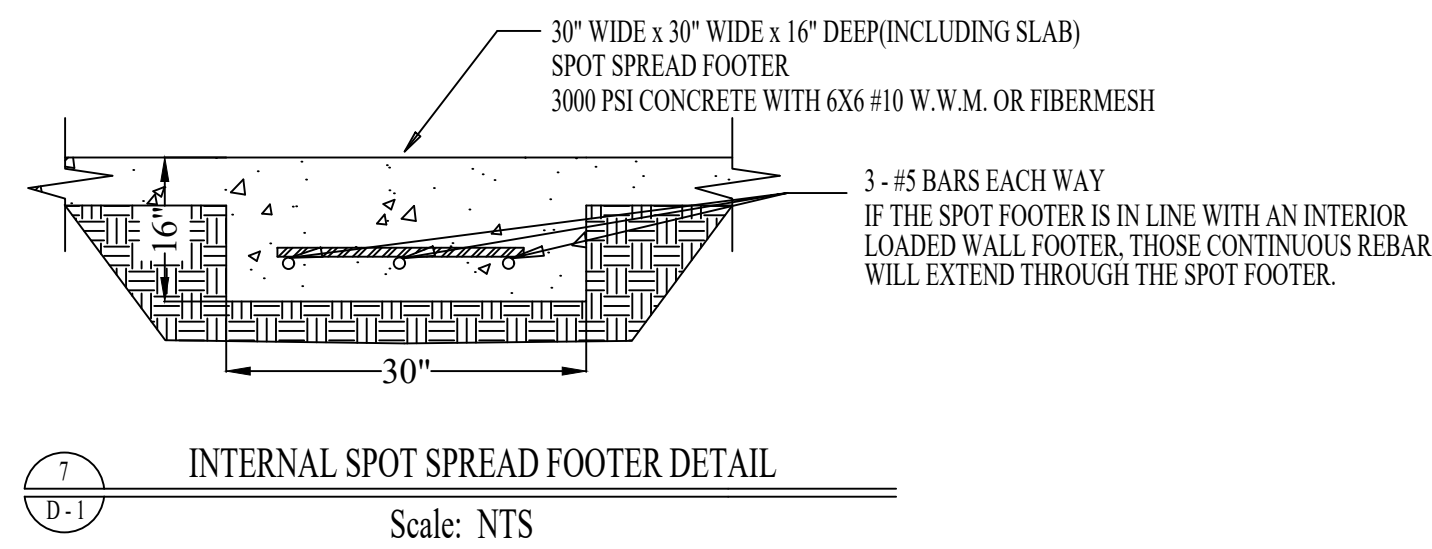


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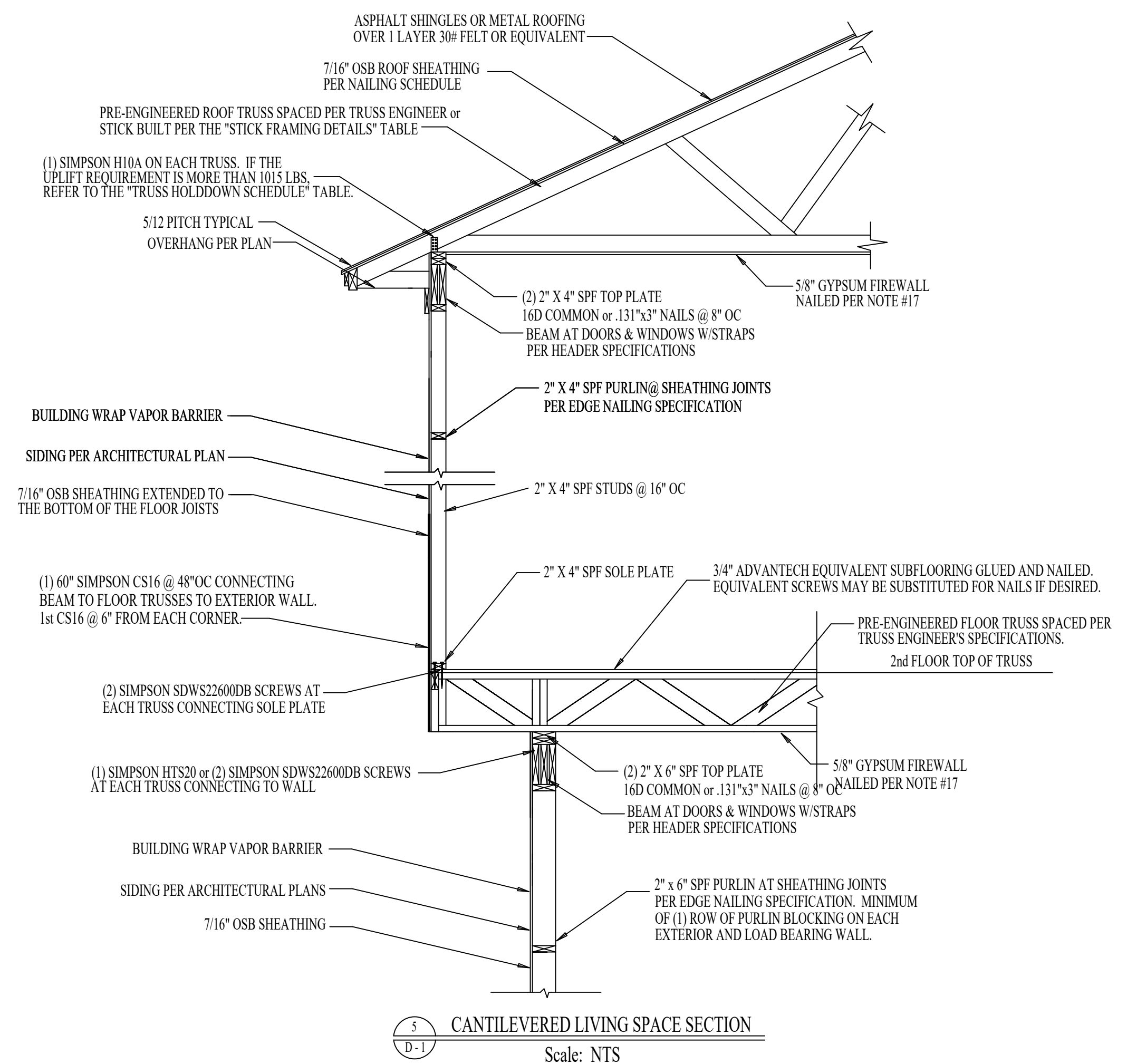
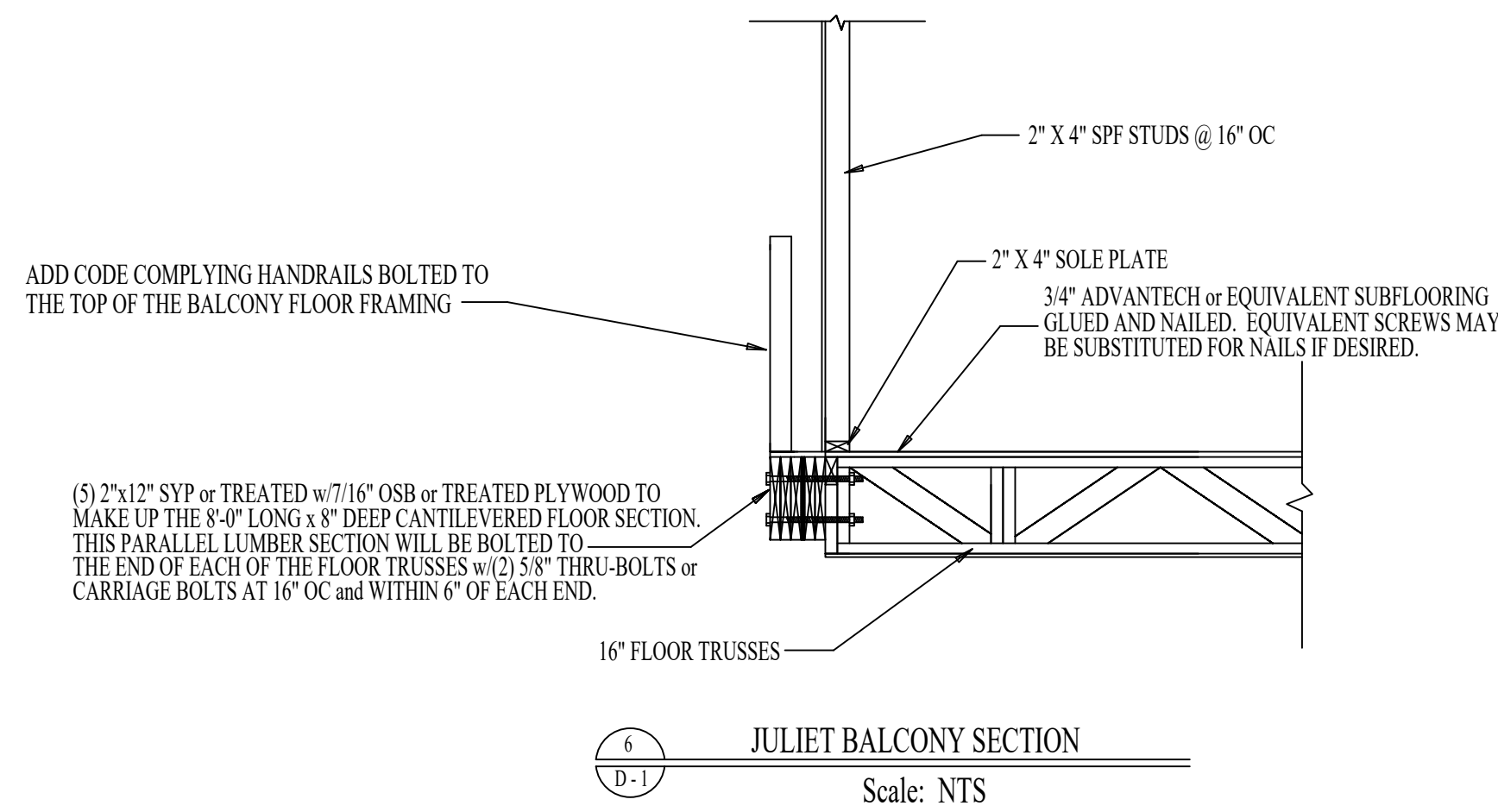
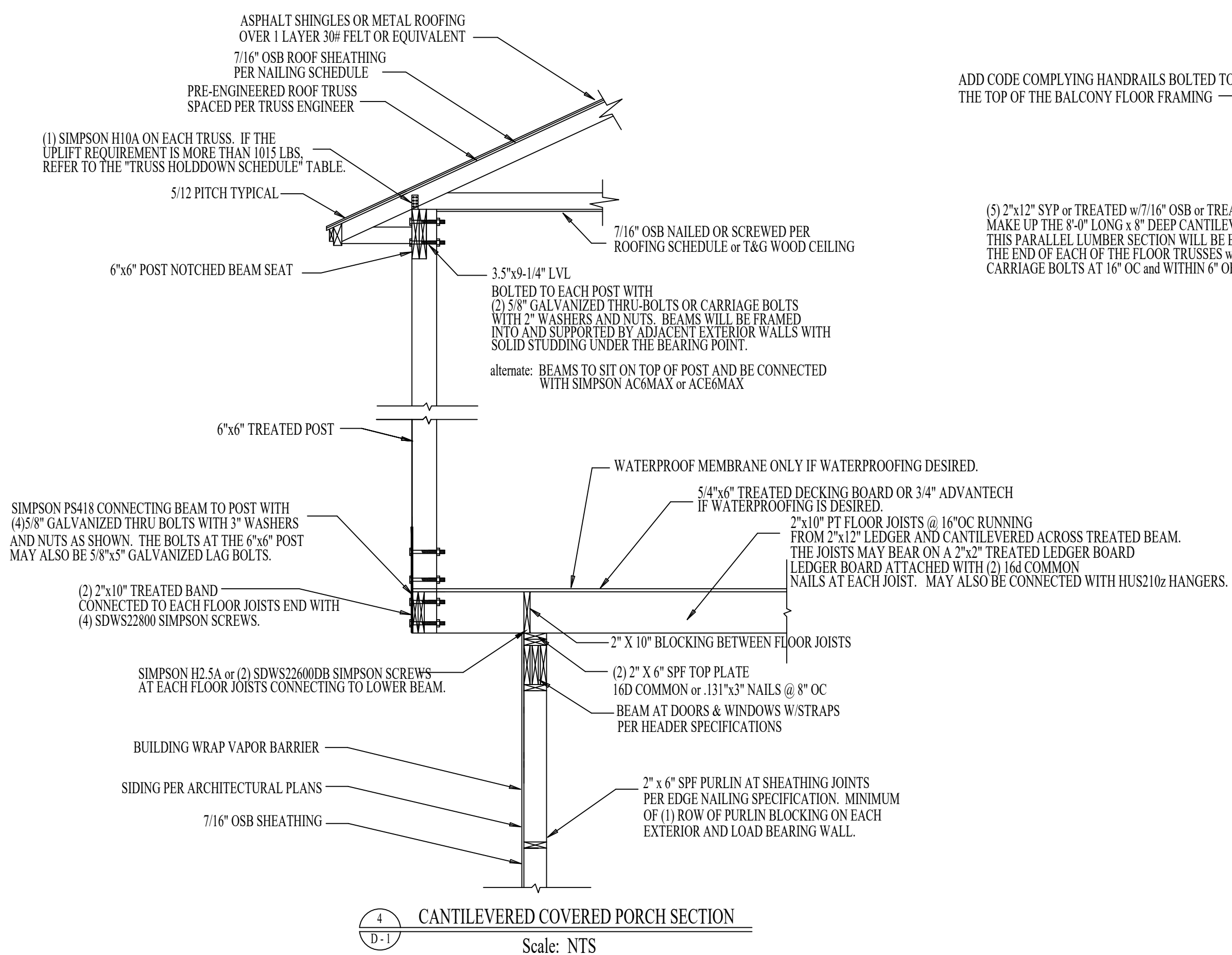
****PORCH/DECK/BALCONY NOTES****

A 2" x 12" Treated Ledger Board shall be attached to the exterior wall at each adjacent floor truss end or adjacent floor truss vertical riser with (4) Simpson SDWC15600 screws. If a LVL Beam is adjacent, the Ledger Board shall be attached with (4) Simpson SDWC15600 screws at 24" OC and within 6" of each end.

The Porch Balcony Design Load is assuming basic lightweight banisters and lightweight floor covering. If heavy floor covering and banisters are used, the Engineer shall be consulted for appropriate wood member specification changes.

At any locations where the (2) 2"x12" PT Beam has to be hung, a Simpson HGUS210-2 or HUC212-2z
At any locations where the (3) 2"x12" PT Beam has to be hung, a Simpson HGUS210-3 or HUC212-3z

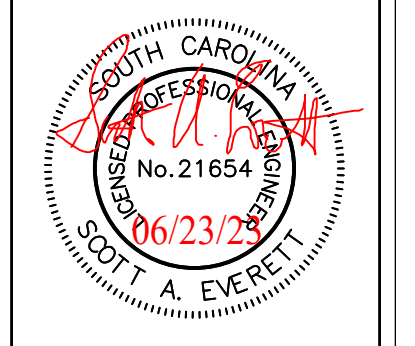
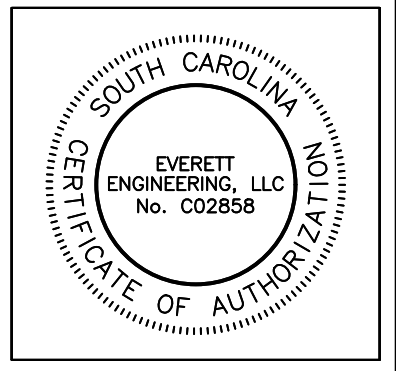
At all of the elevated Porches/Balconies, IRC2021, Section 312 Code complying Guard Rails and Rail Post shall be attached.



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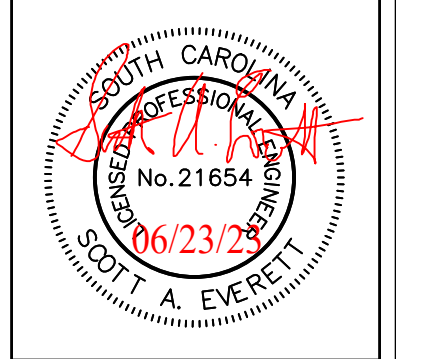
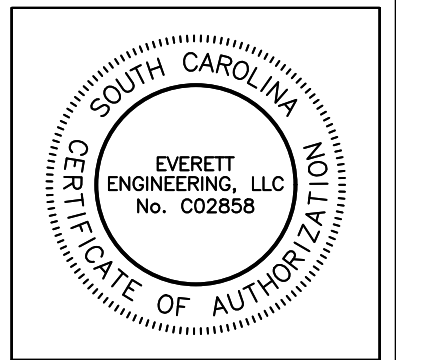


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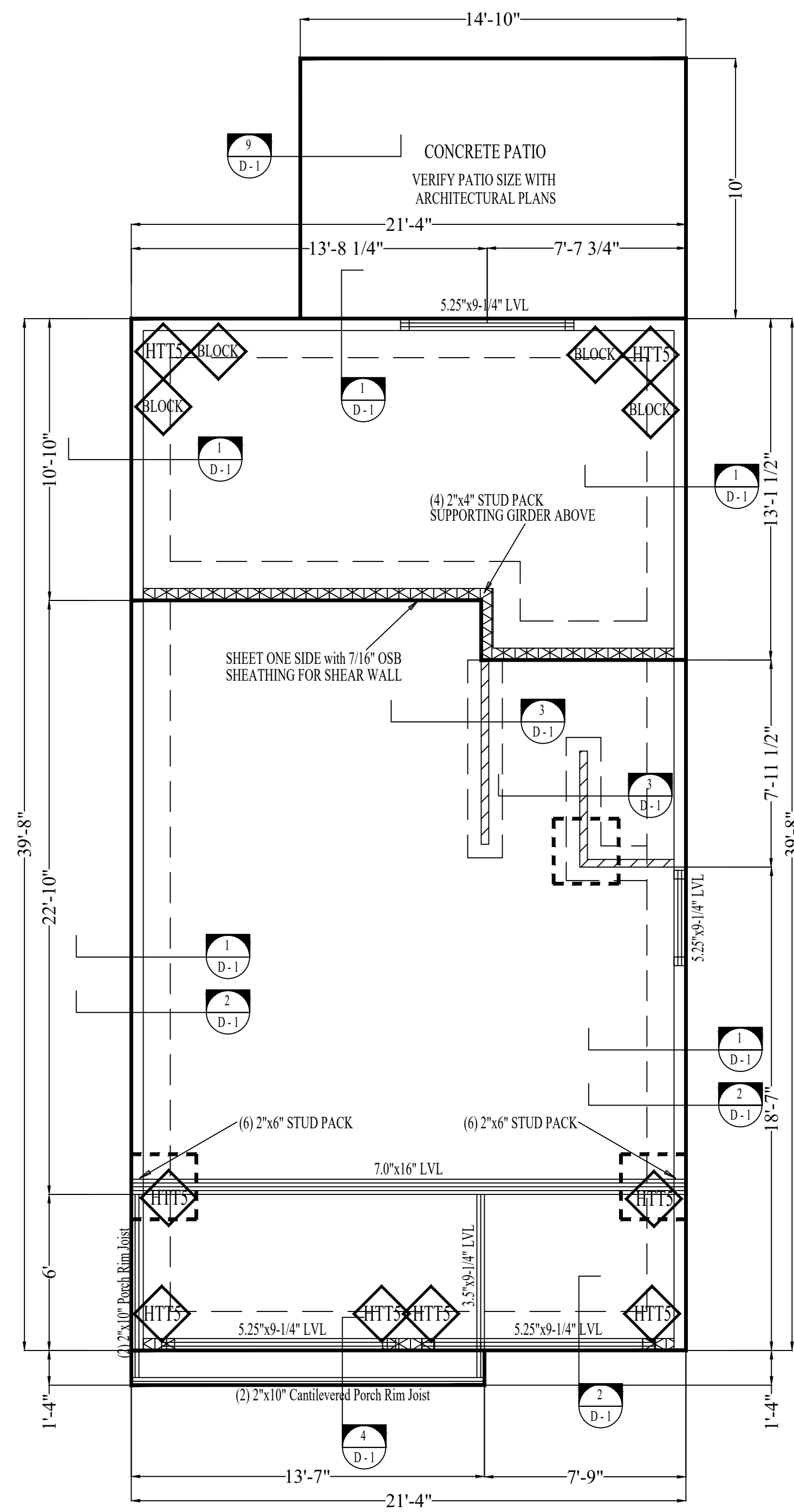
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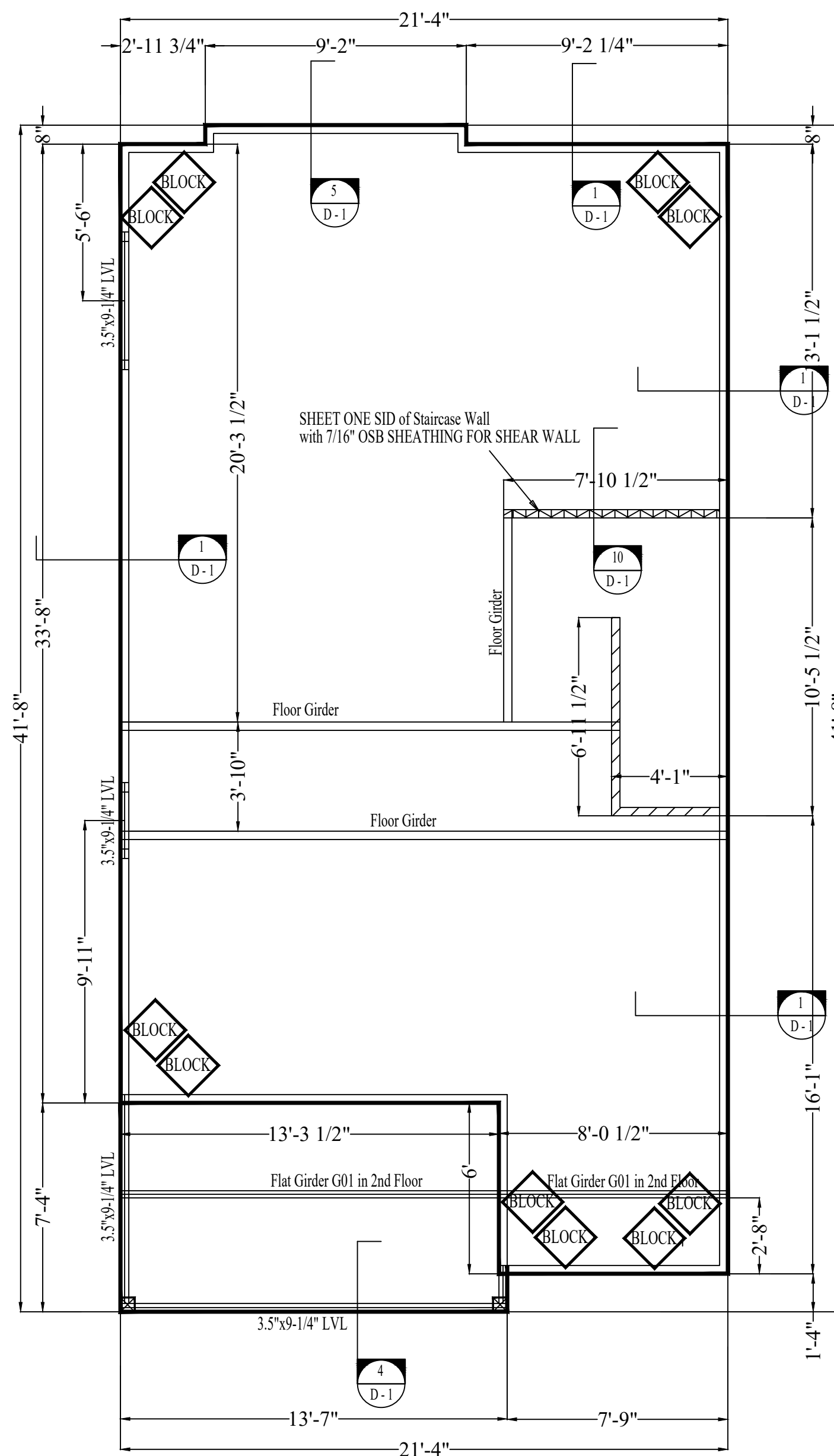
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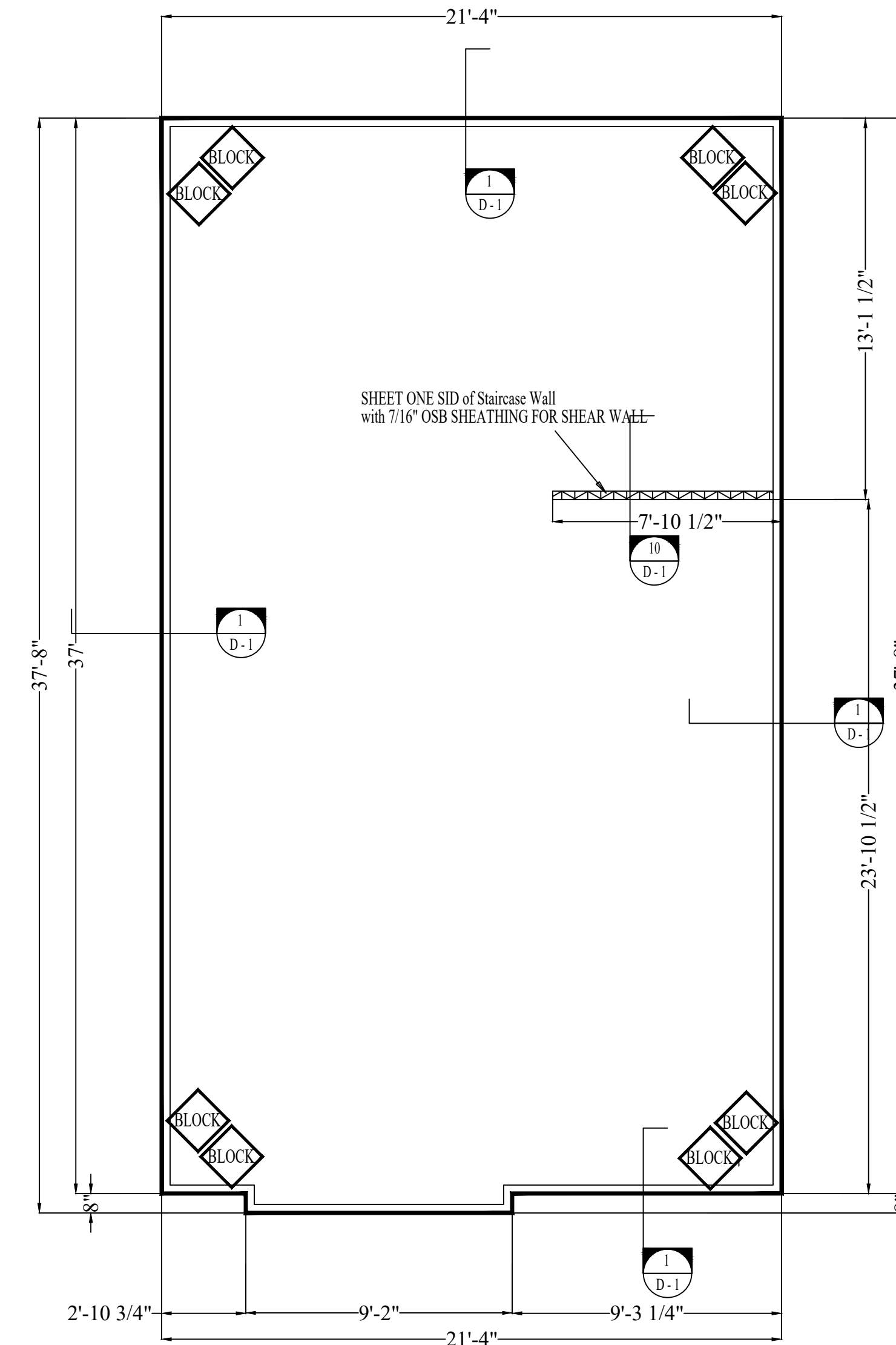
FOUNDATION PLAN AND 1st FLOOR FRAMING PLAN

Scale: 1/4" = 1'



2nd FLOOR FRAMING PLAN

Scale: 1/4" = 1'



3rd FLOOR FRAMING PLAN

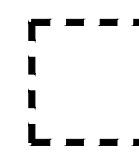


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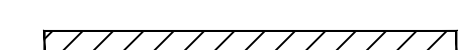
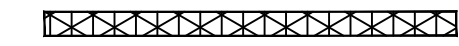
VERIFY ALL BEAM AND TRUSS LOCATIONS WITH FINAL TRUSS DESIGN

ALL DIMENSIONS TO BE VERIFIED WITH ARCHITECTURAL PLAN.

VERIFY WITH TRUSS ENGINEER FOR FOUNDATION INTERNAL LOADING LOCATIONS
 SOME INTERNAL LOADING LOCATIONS ARE SHOWN ON THIS FOUNDATION PLAN, BUT
 DEPENDING ON THE TRUSS DESIGN, MORE OR LESS MAY BE REQUIRED. CONSTRUCT LOAD
 BEARING FOOTING PER DETAIL 3/D-1.

FOUNDATION DIMENSIONS REPRESENT OUTSIDE OF WALLS

-  30"x30"x16" DEEP SPOT FOOTER PER DETAIL 7/D-1
-  BLOCKING PER DETAIL 5/F-1
-  INSTALL (1) SIMPSON HTTS

-  INTERIOR LOAD BEARING WALL
-  SHEAR WALL WITH 7/16" OSB SHEATHING NAILED PER THE WALL SHEATHING SCHEDULE DETAIL 1/F-1

2021 IRC Wind Design Summary Sheet

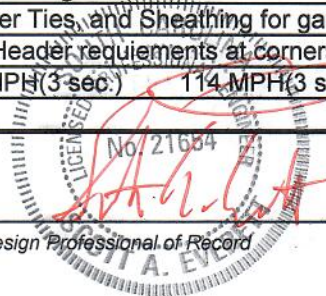
Permit _____ Date 06/23/23

Name _____ Location Unit 1, The Villas @ 24th Avenue S, Myrtle Beach, SC

Elevation _____ Plan Name Portofino Villas

Required?	Yes	No	Comments
Opening Protection	X		Structural Panels (First Two Floors Only)
	X		Impact Glass
Builder Preference	X		Approved Shutter System
		X	Site Located within 1 mile of "Mean High Water Line"
		X	Site Located In Wind Born Debris Region
Minimum DP Rating	X		Window DP Zone #4 DP50 Zone #5 DP50
Perimeter Fdn Details	X		Type Wire/Fiber
	X		Ftg Depth Width
	X		Horiz Reinforcing Strength Concrete
		X	Masonry Width Height Vert. Rebar
		X	Bond Beam Required
Interior Footings	X		Interior Loads Anchor Details
See Truss Design	X		Size Footing Depth Rebar
Perimeter Anchors	X		Corner Holdowns-Type Locations
	X		Wall Anchors - Type Spacing
	X		Wall Anchors @ Garage Doors-Type Locations
	X		Wall Anchors at Perimeter Windows/Doors-Type
	X		Anchors @ Shoe Plate Butt Joints-Type Spacing
		X	Alternate Detail @ Butt Joints
	X		Washer Size If Applicable
Exterior Wall	X		Wall Stud Mat'l LxWxH @ Spacing
	X		Sheathing Type Thickness
	X		Nail Edge Space Interior Space Diameter
	X		Sheathing Laps for Gable or Connector Ties
	X		Laps Between Floors
	X		Blocking @ Joints
	X		Sheathing Connection From Sill to Top Plates
		X	Sheathing Not From Shoe to Top Plate/Alternate Tie Method
	X		Dragstrut Mat'l and Size Nail Size Spacing
		X	Horizontal Strapping/Bay Windows
Roof/Floor/Ceiling	X		Rafter Tie Uplift and Lateral
	X		Roof Sheathing Material Thickness
	X		Nail Edge Space Interior Space Diameter
	X		Ceiling Diaphragm For Gable End or Balloon Framing
	X		Ceiling Diaphragm For Porches/Carports-Mat'l
	X		Nail Size Edge Spacing Interior Spacing
		X	Balloon Framing For Gable End to Roof Deck
	X		Balloon Framing To Bottom of Vaulted Truss/Alternate Tie Method
	X		Valley Ties
	X		Dormers Attached By Strapping
	X		Truss of Rafter Ties For Interior Loads
	X		Floor Sheathing-Type and Thickness
	X		Edge Spacing Interior Spacing
Headers	X		Req'd Studs(0-3') (3'-6') (6'-10')
	X		Req'd Jacks (0-6') (6'-10')
	X		Req'd ties for Jacks, Studs and Headers
Porch Columns	X		Size & Anchor Methods & Footing Size
Garage Portal Frame	X		Hold downs, Header, Header Ties, and Sheathing for garage doors
Min. Shear Wall Detail	X		Blocking, Sheathing, and Header requirements at corners.
Design Wind Speed	X		104 MPH(3 sec.) 110 MPH(3 sec.) 114 MPH(3 sec.)
Ultimate Wind Speed	X		150 MPH(3 sec.)

Design Professional _____
 Must Be Sealed and Signed by Design Professional of Record



This information must be on the drawing documents not attached to plans.

The following Compliance statements must be on the drawings:

2009 International Energy Conservation Code

Statement of acknowledgement of duct sealing section 403.2.2.

Statement of acknowledgement of building envelope air tightness and insulation installation shall comply with one of the following option section 402.4.2.1 or 402.4.2.2.

Statement of acknowledgement of energy-conserving measures for pool per section 403.9.1 through 403.9.3

Envelope Summary		
List the R-Value for the following Components:		
Flat Ceiling/Roof: R-30	Foundation Slab: n/a	Basement Continuous: n/a
Exterior Wall: R-13/R-19	Cantilevered Floor: n/a	Crawlspace Continuous: n/a
Attic Kneewall: R-13	Slope/Vault Ceiling: R-30	Floors over Unconditioned Space: n/a
Basement Stud Wall: n/a	Above Grade Mass Wall: n/a	Other Insulation: n/a
Crawlspace Stud Wall: n/a	Attic Kneewall Sheathing: n/a	
Fenestration Components:		
Window U-factor: 0.32	Window SHGC: 0.25	
Skylight U-factor: n/a	Skylight SHGC: n/a	
Glazed Door U-factor: n/a	Opaque Door U-factor (<50% glazed): 0.30	
Mechanical Summary		
Water heater energy factor: <u>0.75</u> Ef	Fuel type: <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Other	
Number of heating and cooling systems: <u>1</u>	Programmable Thermostats <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Heating system type (choose one):		
<input type="checkbox"/> Gas: _____ AFUE	<input checked="" type="checkbox"/> Air-source heat pump: <u>9.0</u> HSPF	
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Efficiency: <u>14</u> seer	
Unit sizing per M1401.3 IRC manual J is included.		
Unit 1 ton _____ Unit 2 ton <u>2.5</u> ton Unit 3 ton _____ Unit 4 ton _____		
Miscellaneous		
<input type="checkbox"/> Wood-burning fireplace (Gasketed doors & outdoor combustion air)	<input checked="" type="checkbox"/> Lighting equipment (min. 50% of lamps shall be high-efficacy lamps).	
<input type="checkbox"/> Pool Heater switching	<input type="checkbox"/> Time switches	<input type="checkbox"/> Pool Covers
Air Sealing and Insulation Option (choose one)		
<input type="checkbox"/> Testing Option Blower door	<input checked="" type="checkbox"/> Visual Inspection	
Duct Sealing (choose one)		
<input checked="" type="checkbox"/> Post-Construction Test	<input type="checkbox"/> Rough-in Test	
Along with the Mandatory Requirements one of the following methods must be used (choose one)		
<input checked="" type="checkbox"/> Prescriptive Methods	<input type="checkbox"/> Simulated Performance Method (ie. ResCheck)	