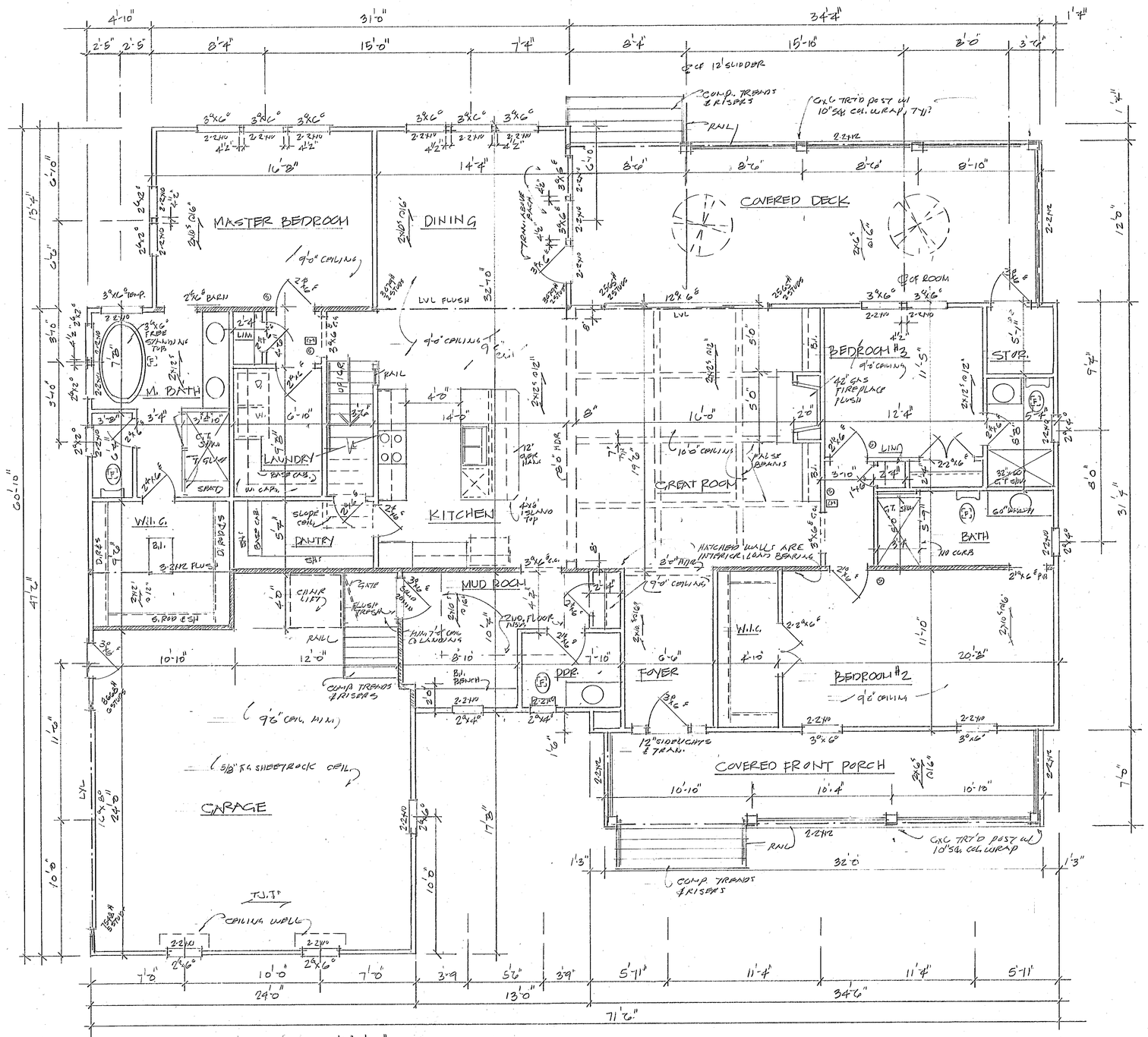
FIRST FLOOR	2417 SQ. FT.
SECOND FLOOR	364 SQ. FT.
GARAGE	616 SQ. FT.
COVERED FRONT PORCH	224 SQ. FT.
COVERED DECK	412 SQ. FT.



FLOOR PLAN 1/4"=1'-0"

9'-0" CEILINGS (10'-0" @ GREAT ROOM) SET WINDOWS @ 6'-6" TYP.

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DATE: 5-19-21

DESIGN BY: CWJ

DRAWN BY: CWJ

Hale Beach Cottage
Sandbridge

JOB NO. 2123

SHEET NO. 1/1

PLAN @ BONUS ROOM 1/4"=1'-0"

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(757) 546-4500 residentialdesigns@verizon.net

DATE: 5-19-21

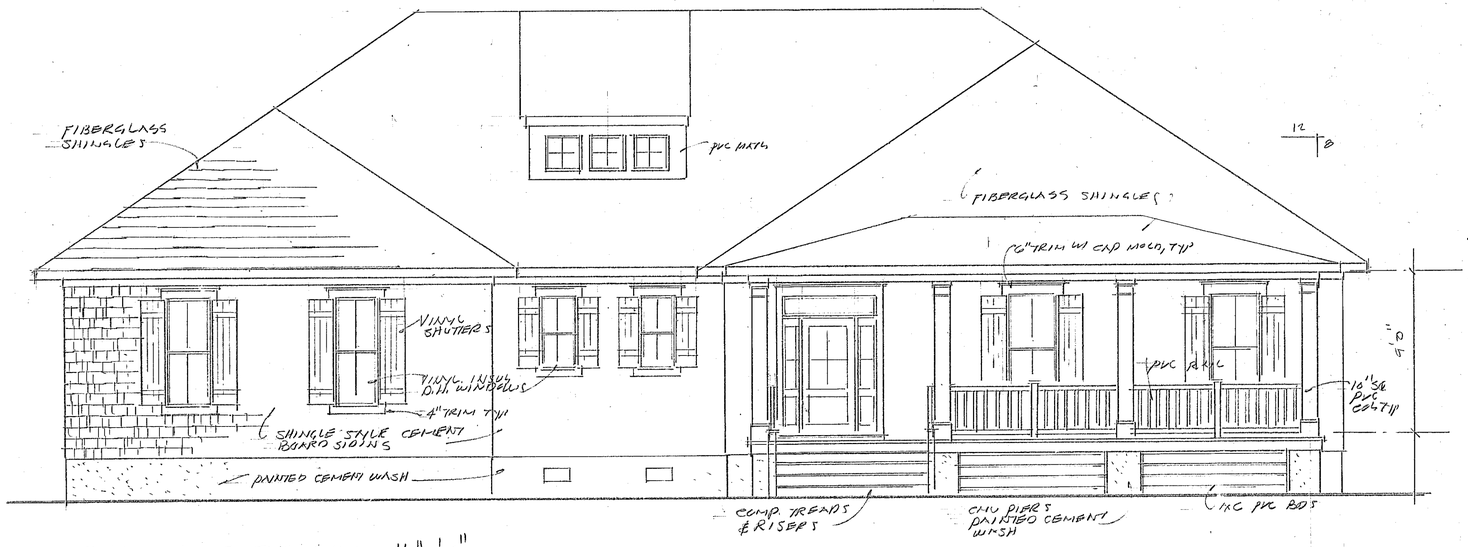
DESIGN BY: CWJ

DRAWN BY: CWJ

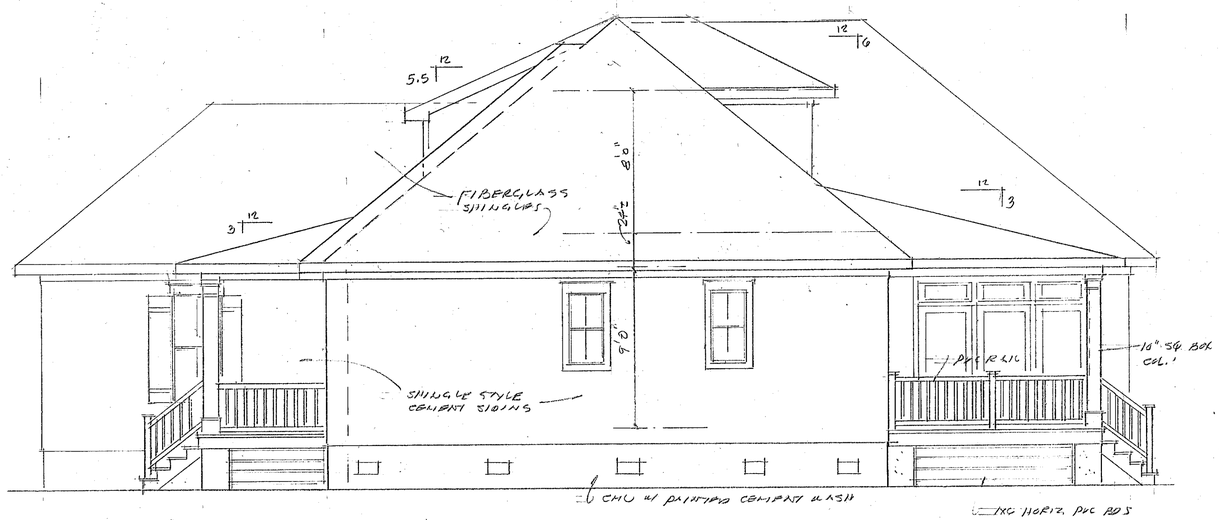
Hale Beach Cottage
Sandbridge

JOB NO. 2123

SHEET NO. 2/7



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



RIGHT SIDE ELEVATION 1/4"=1'-0"

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(757) 546-4500 residentialdesigns@verizon.net

DATE: 5-19-21

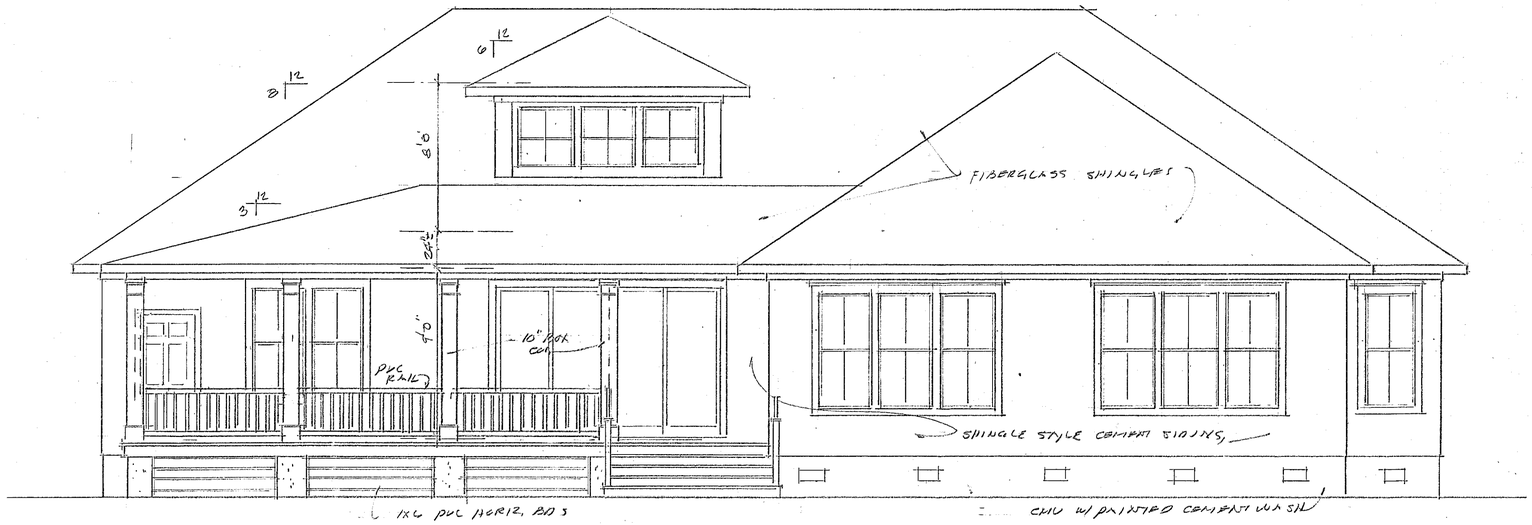
DESIGN BY: CWJ

DRAWN BY: CWJ

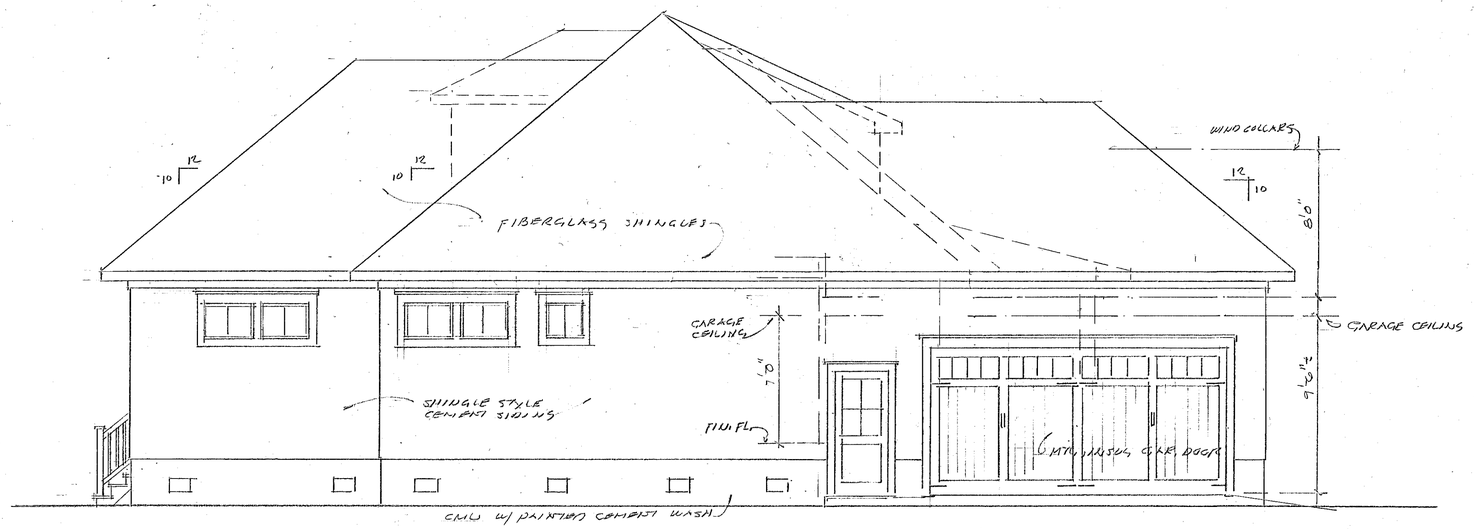
Hale Beach Cottage
Sandbridge

JOB NO. 2123

SHEET NO. 3/7



REAR ELEVATION 1/4"=1'-0"



LEFT SIDE ELEVATION 1/4"=1'-0"

RESIDENTIAL DESIGNS, LTD.
CARROLL W. JOHNSON
Post Office Box 16419 – Chesapeake, Virginia 23328
(757) 546-4599 residentialdesigns@verizon.net

DATE: 5-19-21

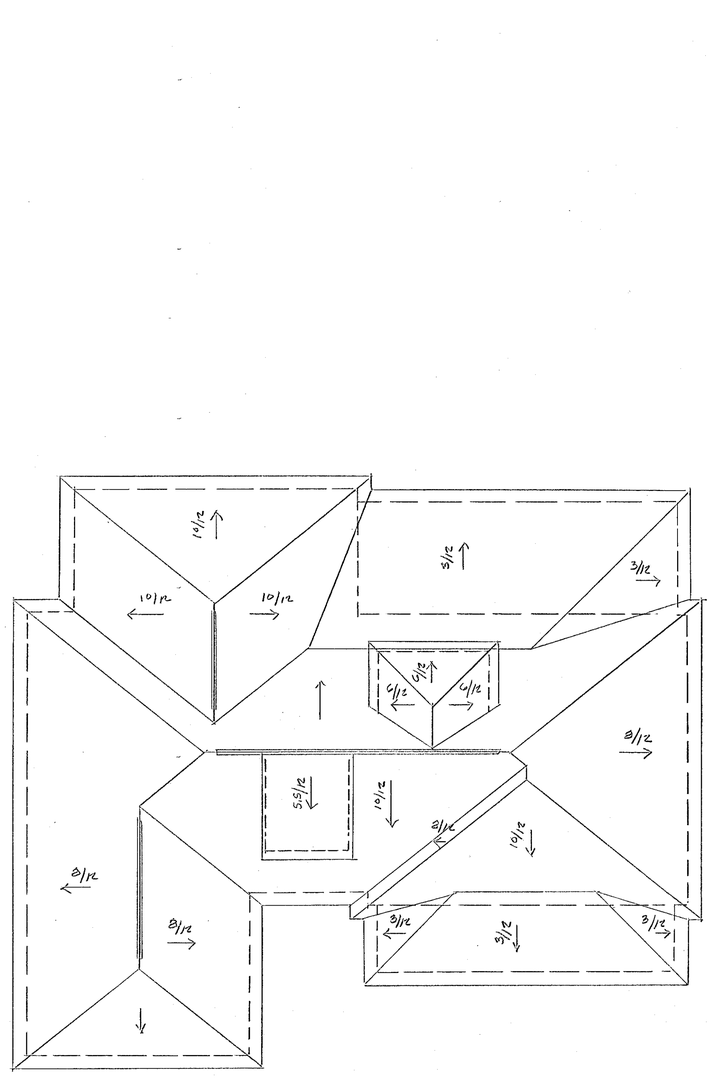
DESIGN BY: CWJ

DRAWN BY: CWJ

Hale Beach Cottage
Sandbridge

JOB NO. 2123

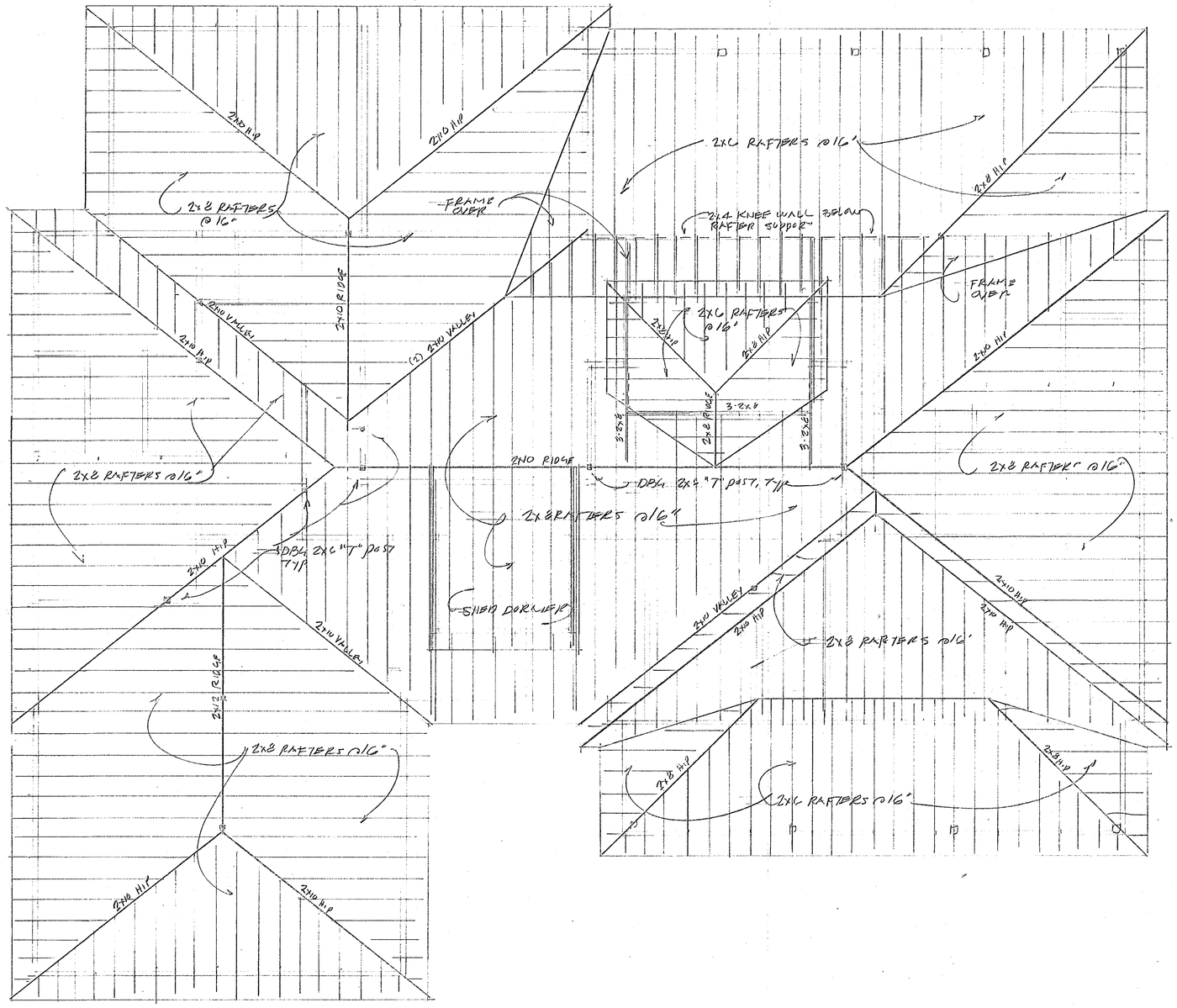
SHEET NO. 4/7



ATTIC VENTING DATA

12.23 SQ.FT. OF VENTING REQ'D. (3662 sq.in. ÷ 300)
PROVIDED 50 LIN. FEET OF RIDGE VENTING
@ 18.5 SQ.IN. PER FOOT (6.172 SQ. FEET)
PROVIDED 250 LIN. FEET OF VENTED
SOFFIT @ 5 SQ.IN. PER FOOT (8.68 SQ. FEET)

TOTAL VENTING PROVIDED = 15.11 SQ.FEET



ROOF FRAMING PLAN 1/4" = 1'-0"

RESIDENTIAL DESIGNS, LTD.
CARROLL W. JOHNSON
Post Office Box 13410 – Chesapeake, Virginia 23328
(757) 546-4200 residentialdesign@verizon.net

DATE: 5-19-21

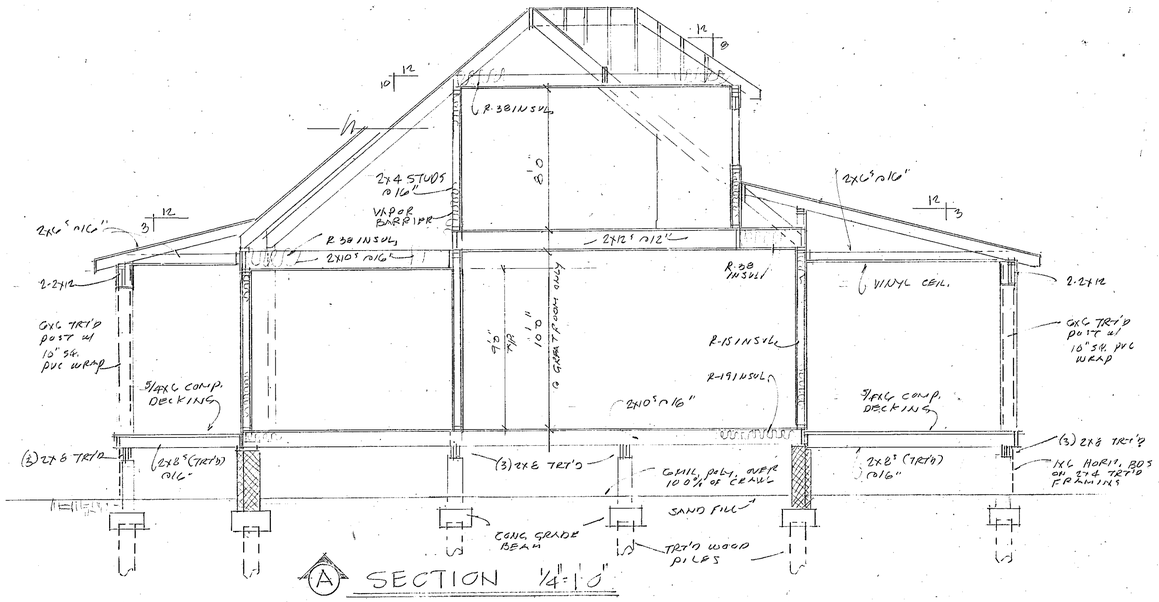
DESIGN BY: CWJ

DRAWN BY: CWJ

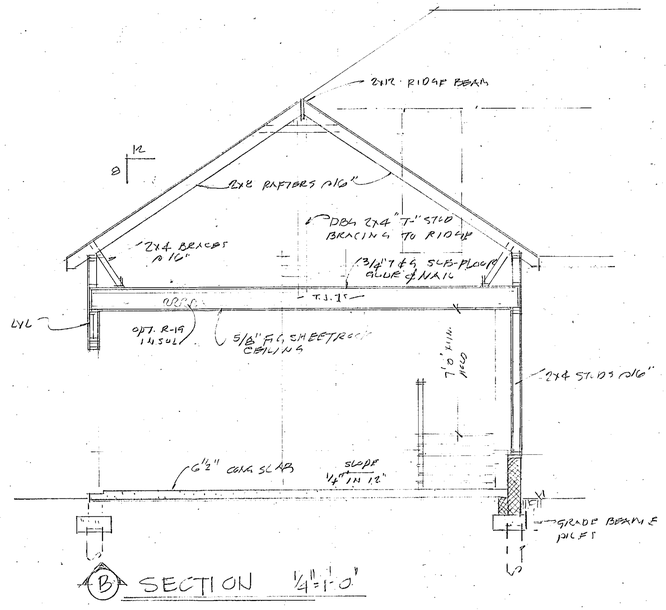
Hale Beach Cottage
Sandbridge

JOB NO. 2123

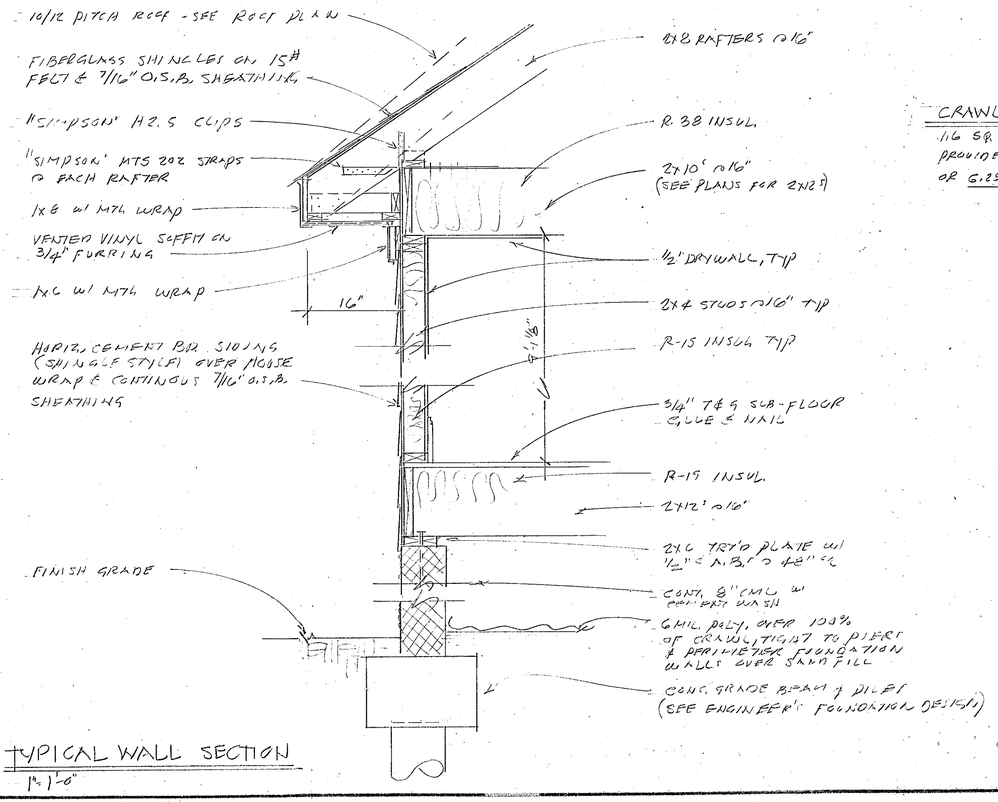
SHEET NO. 5/7



A SECTION 1/4"=1'-0"



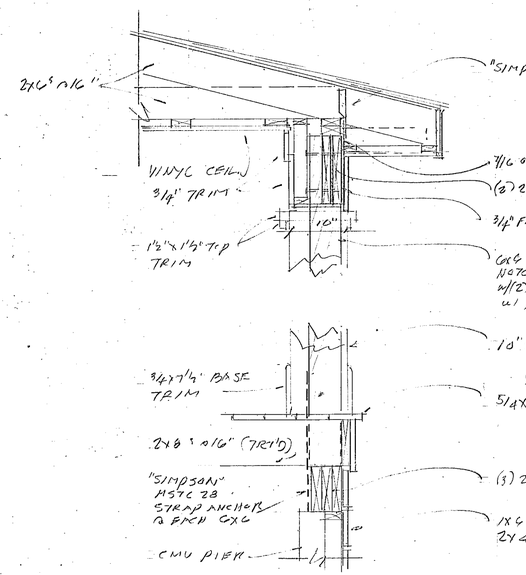
B SECTION 1/4"=1'-0"



TYPICAL WALL SECTION
1"=1'-0"

CRAWL FOUNDATION VENTING DATA

116 SQ. FEET VENTING REQ'D. (2417 sq. ft. ÷ 150)
PROVIDED 12 8"x16" VENTS @ 50 SQ. IN. EACH
OR 6.25 SQ. FEET VENTING PROVIDED



TYPICAL PORCH COLUMN CONNECTION
1"=1'-0"

RESIDENTIAL DESIGNS, LTD.
CARROLL W. JOHNSON
Post Office Box 16439 – Chesapeake, Virginia 23328
(757) 546-4590 reddesinfo@verizon.net

DATE: 5-19-21
DESIGN BY: CWJ
DRAWN BY: CWJ

Hale Beach Cottage
Sandbridge

JOB NO. 2123
SHEET NO. 6/7

GENERAL NOTES

1. Construction materials and installation shall comply with the 2015 edition of The International Residential Code and any applicable regulations of the City.
2. This structure is designed for wind exposure B, 130 MPH.
3. Buildings shall be use group R3 and type of construction shall be 5B.
4. Buildings shall be founded on undisturbed soil having a minimum bearing capacity of 1,500 psf.
   Soil conditions are the responsibility of the contractor.
5. Roof live load 20 p. sf. R. / dead load 10 p. sf per sq. ft.
6. Floor live load 40 # per sq. ft. / dead load 103 per sq. ft.
   20# per sq. ft. / dead load 103 per sq. ft.. (At sleeping areas.)
7. Attic live load 20# per sq. ft. / dead load 10 # per sq. ft.
8. See site plan for finish floor elevation. Min. 12" above flood plain.
9. All bedroom windows shall meet the egress code requirements as set forth
   in the 2015 IRC. With the window open, there shall be a net free area of 5.7 sq. ft.
   for both first and second floor windows. Clear opening height shall be 24" and clear opening width shall be 20". All egress window sills shall not be more than 44" above the floor. Window sills in dwelling units, where the opening of an operable window is located more than 72" above the finished grade or surface below, the lowest part of the clear opening shall be a minimum of 24" above the finished floor of the room in which the window is located. Glazing between the floor and 24" shall be fixed or have openings through which a 4" diameter sphere cannot pass.
10. All windows shall be insulated, having a U value of minimum .35
11. Dimensions shown on floor plans are taken from outside face of sheathing to inside face of studs.
12. Contractor shall verify and check all notes and dimensions shown on plans before starting construction.
13. All concrete footings shall be 3,000 psi placed in virgin soil.
14. See tables R602.7(1) and R602.7(2) for allowable interior and exterior header and girder spans. Interior bearing walls for first and second floors are shaded. See plans for locations. These walls shall be constructed, framed and fire blocked as specified for exterior walls.
15. Interior bearing walls for first and second floors are shaded. See plans for locations. These walls shall be constructed, framed and fire blocked as specified for exterior walls.
16. Maximum height of all 2x4 stud walls not to exceed 10'-0".
17. All stud walls to have a min. 1 ½" dbl. top plate and a single 1 ½" bottom plate.
    Stud walls bearing on concrete slabs to have treated bottom plates.
18. All floor, ceiling, studs and other material to be #2 Southern Pine or better.
19. Provide dbl. Joist below all parallel walls.
20. All exterior plywood sheathing to be laid vertically with no horizontal joints within 12" of floor or ceiling except at rafter bearing and at first floor of slab construction. Sheathing at gable ends to overlap top plate at ceiling line a min. of 12".
21. This structure shall be fully sheathed with ½" plywood and will be fastened to studs as per table R602.3(1).
22. Framing at braced wall lines. A load path for lateral forces shall be provided between floor framing and braced wall panels located above or below a floor, as specified in Section R602.10 Where joist are perpendicular to the braced wall lines above, blocking shall be provided under and in line with the braced wall panels. Where joist are perpendicular to braced wall lines below, blocking shall be provided over and in line with the braced wall panels. Where joist are parallel to braced wall lines above or below, a rim joist or other parallel framing member shall be provided at the wall to permit fastening per Table R602.3(1).
23. The end of wood joist, beams or girders shall have not less than 1 ½" of bearing and not less than 3" of bearing on masonary, except where supported by a 1 x 4 ribbon strip and nailed to an adjacent stud or by an approved metal hanger.
24. Fasteners for pressure treated wood or fire treated wood shall be galvanized or stainless steel.
25. Anchor bolts at slab construction shall be ½" dia. At 6'-0" o/c with a min. of two bolts per plate section with one bolt not more than 12" from corner or less than 7 bolt diameters from end of plate section. Anchor bolts shall extend into masonry a minimum of 7".
26. Cmlf piers at foundations used to support girders shall not be greater in height than four times their least dimension. Unless they are filled solid with type M, S or N mortar. Hollow piers shall be capped with a 4" solid CMU or filled solid with concrete or mortar.
27. Fire blocking shall be provided to cut off concealed draft openings both vertical and horizontal and form an effective fire barrier between stories, between top story and the roof space. Fire blocking shall be provided in wood frame construction in the following locations:
   a. Concealed spaces of a stud wall, including furred spaces.
   b. Vertically at ceiling and floor levels and horizontally at intervals not exceeding 10'-0".
   c. Dropped ceilings and soffits.
   d. Stair stringers at top and bottom of the run.
   e. Around vents, pipes and ducts at ceiling and floor levels with approved materials.
   f. Cornices of a two family dwelling at a line of dwelling unit separation.
28. Where there is unusable space both above and below the concealed space of a floor/ceiling assembly, draft stops shall be installed so that the area concealed does not exceed 1,000 sq. ft.
29. All openings in exterior walls shall have a minimum 25# psf. Positive and minimum 25# psf. negative design rating. Vehicular access doors shall be tested in accordance with either ASTM E 330 or ANSI/ DASMA 108, and shall meet the acceptance criteria of ANSI/DASMA 108.
30. Roof tacus where pitches are from 4/12 to 2/12 shall have two layers of 15# felt. Asphalt shingles shall be installed in accordance with Section R905.2.6.
31. Floor and roof truss plans and details to be provided by truss supplier.
32. Any wall penetrations to mechanical equipment in garage shall be fire stopped as per code.
33. If garage finish floor is below flood plain, flood vents shall be installed as per manufacturer's instructions.
34. Garage ceilings to be finished with one layer of 5/8" Type X sheetrock. Garage walls to be finished with minimum ½" reg. sheetrock.
35. Heating, cooling, electrical and plumbing shall be designed and installed to comply with all applicable codes.
36. All showers and tubs with showers to have non-absorbent wall surfaces. This non-absorbent surface shall extend to a height of not less than 6'-0" above the floor.
37. Provide lighting at all interior and exterior stairs and exterior doors. Where lighting outlets are installed in interior stairways, there shall be a wall switch at each floor level to control the lighting outlet where the stairway has six or more risers. The illumination of exterior stairways shall be controlled from inside the dwelling unit.
38. All exterior doors from heated spaces to be insulated.
39. Smoke detectors shall be installed in and adjacent to all sleeping areas as per code and all wired together. Provide battery backup.
40. Provide a minimum of 3'x3' landing outside of all exterior doors where there are more than three risers required. Landing not required in garage area.
41. Perimeter insulation at concrete slabs to be a minimum R-10 and 24" wide.
42. Weep-holes shall be provided in outside width of masonry walls at a maximum spacing of 33" on center. Weep-holes shall not be less than 3/16" in diameter. Weep-holes shall be located immediately above the flashing.
43. All metal, pre-fabricated gas fireplaces shall be installed as per manufacturer's instructions.
44. All wood used in open decks shall be salt treated.
45. An approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms.
46. A fire extinguisher having a rating of 2-A: 10-B: C or an approved equivalent type of fire extinguisher shall be installed in the kitchen area.
47. Access panels to the attic through the ceiling shall be insulated same as the ceiling and have weather stripping at all edges.
48. Access panels to the attic through the walls shall be insulated same as the wall and have weather stripping at all edges.
49. All roof shingles used in a wind zone of 110 mph or greater are required to be classified using ASTM D3161 CLASS F or ASTM D7158 CLASS G or H. R905.2.4.1.
50. All rafter uplift connectors must be installed per manufacturer installation instructions.
51. All ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.4.1 of the IRC. Verification of compliance with this section shall be in accordance with either Section M1103.2.2.1 or Section M1103.2.2.2. Required thermo envelope must be maintained including all walls, floors, knee walls, ceilings, access / hatches and required fenestration U-factors. M1102.1. Minimum U-factor or 0.35.

TABLE R602.3(1)
FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a,b]	SPACING AND LOCATION
		Roof	
1	Blocking between ceiling joists or rafters to top plate	4-8d box ($2\frac{1}{2}$" × 0.113"); or 3-8d common ($2\frac{1}{2}$" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
2	Ceiling joists to top plate	4-8d box ($2\frac{1}{2}$" × 0.113"); or 3-8d common ($2\frac{1}{2}$" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail
3	Ceiling joist not attached to parallel rafter, laps over partitions [see Sections R802.3.1; R802.3.2 and Table R802.5.1(9)]	4-10d box (3" × 0.128"); or 3-16d common ($3\frac{1}{2}$" × 0.162"); or 4-3" × 0.131" nails	Face nail
4	Ceiling joist attached to parallel rafter (heel joint) [see Sections R802.3.1 and R802.3.2 and Table R802.5.1(9)]	Table R802.5.2	Face nail
5	Collar tie to rafter, face nail or $1\frac{1}{4}$" × 20 ga. ridge strap to rafter	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter
6	Rafter or roof truss to plate	3-16d box nails ($3\frac{1}{2}$" × 0.135"); or 3-10d common nails (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss
7	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-16d ($3\frac{1}{2}$" × 0.135"); or 3-16d common ($3\frac{1}{2}$" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
8	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	3-16d box ($3\frac{1}{2}$" × 0.135"); or 3-16d common ($3\frac{1}{2}$" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	End nail
		Wall	
9	Stud to stud (not at braced wall panels)	16d common ($3\frac{1}{2}$" × 0.162")	24" o.c. face nail
10	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail
		16d common ($3\frac{1}{2}$" × 0.162")	16" o.c. face nail
11	Built-up header (2" to 2" header with ½" spacer)	16d common ($3\frac{1}{2}$" × 0.162")	16" o.c. each edge face nail
		16d box ($3\frac{1}{2}$" × 0.135")	12" o.c. each edge face nail
12	Continuous header to stud	2-8d box ($2\frac{1}{2}$" × 0.113"); or 4-8d common ($2\frac{1}{2}$" × 0.131"); or 4-10d box (3" × 0.128")	Toe nail
13	Top plate to top plate	16d common ($3\frac{1}{2}$" × 0.162")	16" o.c. face nail
		10d box (3" × 0.128"); or 3" × 0.131" nails	12" o.c. face nail
	Double top plate splice for SDCs A-D, with ceiling braced wall line spacing < 25'	8-16d common ($3\frac{1}{2}$" × 0.162"); or 12-16d box ($3\frac{1}{2}$" × 0.135"); or 12-10d box (3" × 0.078"); or 12-3" × 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)
	Double top plate splice SDCs D_0, D_1 or D_2 and braced wall line spacing ≥ 25'	12-16d ($3\frac{1}{2}$" × 0.135")	

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a,b]	SPACING AND LOCATION
14	Bottom plate to joist, rim joist, band joist or blocking (at braced wall panels)	16d common ($3\frac{1}{2}$" × 0.162"); or 3" × 0.131" nails	16" o.c. face nail
15	Bottom plate to joist, rim joist, band joist or blocking (at braced wall panels)	16d box ($3\frac{1}{2}$" × 0.135"); or 3-16d common ($3\frac{1}{2}$" × 0.162"); or 4-3" × 0.131" nails	12" o.c. face nail
16	Top or bottom plate to stud	4-8d box ($2\frac{1}{2}$" × 0.113"); or 3-16d box ($3\frac{1}{2}$" × 0.135"); or 4-8d common ($2\frac{1}{2}$" × 0.131"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	3 each 16" o.c. face nail 2 each 16" o.c. face nail 4 each 16" o.c. face nail
17	Top plates, laps at corners and intersections	2-16d box ($3\frac{1}{2}$" × 0.135"); or 2-16d common ($3\frac{1}{2}$" × 0.162"); or 3-3" × 0.131" nails	Toe nail
18	1" brace to each stud and plate	2-8d box ($2\frac{1}{2}$" × 0.113"); or 2-8d common ($2\frac{1}{2}$" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples 1" ga.,	End nail
19	1" × 6" sheathing to each bearing	2-8d box ($2\frac{1}{2}$" × 0.113"); or 2-8d common ($2\frac{1}{2}$" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., $1\frac{1}{2}$" long	Face nail
20	1" × 8" and wider sheathing to each bearing	3-8d box ($2\frac{1}{2}$" × 0.113"); or 3-8d common ($2\frac{1}{2}$" × 0.131"); or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., $1\frac{1}{2}$" long	Face nail
		Wider than 1" × 8"	Face nail
		Floor	
21	Joist to sill, top plate or girder	4-8d box ($2\frac{1}{2}$" × 0.113"); or 3-8d common ($2\frac{1}{2}$" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
22	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d common ($2\frac{1}{2}$" × 0.131"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	6" o.c. toe nail
23	1" × 6" subfloor or less to each joist	3-8d box ($2\frac{1}{2}$" × 0.113"); or 2-8d common ($2\frac{1}{2}$" × 0.131"); or 3-10d box (3" × 0.128"); or 2 staples 1",	Face nail
24	2" subfloor to joist or girder	3-16d box ($3\frac{1}{2}$" × 0.135"); or 3-16d common ($3\frac{1}{2}$" × 0.162")	Blind and face nail
25	2" planks (plank & beam—floor & roof)	3-16d box ($3\frac{1}{2}$" × 0.135"); or 2-16d common ($3\frac{1}{2}$" × 0.162")	At each bearing, face nail
26	Band or rim joist to joist	3-16d common ($3\frac{1}{2}$" × 0.162")	End nail
27	Built-up girders and beams, 2-inch lumber layers	20d common (4" × 0.192"); or	Nail each layer as follows: 32" o.c. at top and bottom and staggered.
		10d box (3" × 0.128"); or 3" × 0.131" nails	24" o.c. face nail at top and bottom staggered on opposite sides
		Ann: 3-16d common (4" × 0.192"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Face nail at ends and at each splice
28	Ledger strip supporting joists or rafters	4-16d box ($3\frac{1}{2}$" × 0.135"); or 3-16d common ($3\frac{1}{2}$" × 0.162"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	At each joist or rafter, face nail
29	Stuffing to joist	2-10d (3" × 0.128")	Each end, toe nail
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a,b]	SPACING OF FASTENERS: Edges (inches)[c] / Intermediate supports[c,e] (inches)
	Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing [see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing]		
30	$\frac{3}{8}$" – $\frac{1}{2}$"	6d common (2" × 0.113") nail (subfloor, wall)[f] 8d common ($2\frac{1}{2}$" × 0.131") nail (roof)	6 / 12[g]
31	$\frac{19}{32}$" – 1"	8d common ($2\frac{1}{2}$" × 0.131")	6 / 12
32	$1\frac{1}{8}$" – $1\frac{1}{4}$"	10d common (3" × 0.148") nail; or 8d ($2\frac{1}{2}$" × 0.131") deformed nail	6 / 12
	Other wall sheathing[h]		
33	$\frac{1}{2}$" structural cellulosic fiberboard sheathing	$1\frac{1}{2}$" galvanized roofing nail, $\frac{7}{16}$" head diameter, or 1" crown staple 16 ga., $1\frac{1}{4}$" long	3 / 6
34	$\frac{25}{32}$" structural cellulosic fiberboard sheathing	$1\frac{3}{4}$" galvanized roofing nail, $\frac{7}{16}$" head diameter, or 1" crown staple 16 ga., $1\frac{1}{4}$" long	3 / 6
35	$\frac{1}{2}$" gypsum sheathing[i]	$1\frac{1}{2}$" galvanized roofing nail; staple galvanized, $1\frac{1}{2}$" long; $1\frac{1}{4}$" screws, Type W or S	7 / 7
36	$\frac{5}{8}$" gypsum sheathing[i]	$1\frac{5}{8}$" galvanized roofing nail; staple galvanized, $1\frac{5}{8}$" long; $1\frac{5}{8}$" screws, Type W or S	7 / 7
	Wood structural panels, combination subfloor underlayment[j]		
37	$\frac{3}{4}$" and less	8d deformed (2" × 0.120") nail; or 8d common ($2\frac{1}{2}$" × 0.131") nail	6 / 12
38	$\frac{7}{8}$" – 1"	8d common ($2\frac{1}{2}$" × 0.131") nail; or 8d deformed ($2\frac{1}{2}$" × 0.120") nail	6 / 12
39	$1\frac{1}{8}$" – $1\frac{1}{4}$"	10d common (3" × 0.148") nail; or 8d deformed ($2\frac{1}{2}$" × 0.120") nail	6 / 12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s, 1 ksi = 6.895 MPa.

a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameter larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
b. Staples are 16 gage wire and have a minimum $\frac{7}{16}$-inch on diameter crown width.
c. Nails shall be spaced at not more than 6 inches on center on all supports where spans are 48 inches or greater.
d. Four feet by 8 feet or 4-foot by 9-foot panels shall be applied vertically.
e. Spacing of fasteners not included in this table shall be based on Table R602.3(3).
f. Where the ultimate design wind speed is 130 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. Where the ultimate design wind speed is greater than 130 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridge, eaves and gable end walls; and 6 inches on center in gable end wall framing.
g. Spacing of fasteners shall conform to ASTM C1popular and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C208.
h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeter only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.
i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and two nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.

Header Insulation; Gaps in headers must be insulated to a minimum of R-3.

Wall Corner Cavity; Gaps in corners must be insulated to a minimum of R-3.

TABLE R602.3(3)
REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES[a,b,c]

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL WALL SHEATHING THICKNESS (inches)	MINIMUM NOMINAL PANEL THICKNESS (inches)	MAXIMUM WALL STUD SPACING (inches)	PANEL NAIL SPACING		ULTIMATE DESIGN WIND SPEED V_{ult} (mph)		
Size	Penetration (inches)				Edges (inches o.c.)	Field (inches o.c.)	Wind exposure category		
							B	C	D
6d Common (2.0" × 0.113")	1.5	3/8	7/16	16	6	12	140	115	110
				24	6	12	130	105	100
8d Common (2.5" × 0.131")	1.75	7/16	15/32	16	6	12	170	140	135
				24	6	12	160	135	130

For SI: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.

a. Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
b. Table is based on wind pressure acting toward and away from building surfaces in accordance with Section R301.2. Lateral bracing requirements shall be in accordance with Section R602.10.
c. Wood structural panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood siding rated 16 oc. or 24 oc. shall be permitted as an alternate to panels with a 24/0 span rating. Wall-16 and Plywood siding 16 oc. shall be used with studs spaced not more than 16 inches on center.

TABLE R602.3(4)
ALLOWABLE SPANS FOR PARTICLEBOARD WALL SHEATHING[a]

THICKNESS (inch)	GRADE	STUD SPACING (inches)	
		When siding installed to studs	When siding nailed to sheathing
3/8	M-1 Exterior glue	16	—
1/2	M-2 Exterior glue	16	16

For SI: 1 inch = 25.4 mm.

a. Wall sheathing not exposed to the weather. If the panels are applied horizontally, the end joints of the panel shall be offset so that four panel corners will not meet. All panel edges must be supported. Leave a 1/8 inch gap between panels and nail not less than 3/8 inch from panel edges.

TABLE R602.7(1)
GIRDER SPANS[a] AND HEADER SPANS[b] FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas Fir-larch, Hem-fir, Southern Pine and Spruce-pine-fir[c] and required number of jack studs)

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf)[e]											
		30						50				70	
		Building width[f] (feet)											
		12		24		36		12		24		36	
		Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]
Roof and ceiling	1-2x6	3-9	1	3-1	2	2-7	2	3-5	1	2-8	2	2-4	2
	1-2x8	5-1	2	4-2	2	3-5	2	4-7	2	3-8	2	3-2	2
	1-2x10	6-5	2	5-4	2	4-5	2	5-11	2	4-10	2	4-1	2
	1-2x12	7-1	2	5-9	2	4-7	3	6-4	2	5-3	2	4-5	3
	2-2x4	4-9	1	3-11	1	3-3	2	4-7	1	3-10	1	3-4	2
	2-2x6	6-7	1	5-7	1	4-10	2	6-5	1	5-5	1	4-8	2
	2-2x8	7-7	1	6-7	2	5-6	2	7-5	1	6-3	2	5-3	2
	2-2x10	8-9	2	7-5	2	6-3	2	8-6	2	7-2	2	6-0	2
	2-2x12	9-8	2	8-3	2	7-0	2	9-5	2	8-0	2	6-8	2
	3-2x4	5-8	1	4-8	1	4-0	2	5-6	1	4-7	1	3-11	2
	3-2x6	7-10	1	6-8	1	5-8	2	7-7	1	6-5	1	5-6	2
	3-2x8	9-1	2	7-8	2	6-6	2	8-10	2	7-6	2	6-4	2
	3-2x10	10-5	2	8-10	2	7-6	2	10-1	2	8-7	2	7-2	2
	3-2x12	11-6	2	9-9	2	8-3	2	11-2	2	9-5	2	7-11	2
Roof, ceiling and one clear span floor	1-2x6	3-3	1	2-9	2	2-4	2	3-2	1	2-8	2	2-3	2
	1-2x8	4-6	2	3-10	2	3-2	2	4-4	2	3-8	2	3-1	2
	1-2x10	5-8	2	4-9	2	3-11	2	5-6	2	4-8	2	3-11	2
	1-2x12	6-7	2	5-6	2	4-6	3	6-4	2	5-4	2	4-6	3
	2-2x4	4-3	1	3-6	1	2-11	2	4-1	1	3-5	1	2-11	2
	2-2x6	5-9	1	4-9	1	4-0	2	5-7	1	4-7	1	3-10	2
	2-2x8	7-0	1	5-9	2	4-10	2	6-8	1	5-6	2	4-8	2
	2-2x10	8-3	2	6-10	2	5-8	2	7-10	2	6-6	2	5-5	2
	2-2x12	9-3	2	7-7	2	6-4	2	8-10	2	7-3	2	6-1	2
	3-2x4	5-3	1	4-4	1	3-8	2	5-1	1	4-3	1	3-7	2
	3-2x6	7-3	1	5-11	1	5-1	2	7-0	1	5-9	1	4-11	2
	3-2x8	8-6	2	7-0	2	6-0	2	8-3	2	6-10	2	5-10	2
	3-2x10	9-9	2	8-0	2	6-11	2	9-6	2	7-10	2	6-9	2
	3-2x12	10-8	2	8-9	2	7-7	2	10-5	2	8-7	2	7-4	2
Roof, ceiling and one clear span floor	1-2x6	2-11	2	2-5	2	2-1	2	2-10	2	2-5	2	2-1	2
	1-2x8	4-0	2	3-5	2	2-11	2	3-11	2	3-4	2	2-10	2
	1-2x10	5-1	2	4-3	2	3-8	2	4-11	2	4-2	2	3-6	2
	1-2x12	5-11	2	4-11	2	4-3	3	5-8	2	4-9	2	4-1	3
	2-2x4	3-10	1	3-2	1	2-9	2	3-8	1	3-1	1	2-8	2
	2-2x6	5-2	1	4-3	1	3-8	2	5-0	1	4-2	1	3-7	2
	2-2x8	6-4	1	5-3	2	4-7	2	6-2	1	5-1	2	4-5	2
	2-2x10	7-5	2	6-2	2	5-4	2	7-3	2	6-0	2	5-2	2
	2-2x12	8-4	2	6-11	2	6-0	2	8-1	2	6-8	2	5-9	2
	3-2x4	4-9	1	3-11	1	3-4	2	4-7	1	3-10	1	3-4	2
	3-2x6	6-6	1	5-4	1	4-7	2	6-4	1	5-2	1	4-6	2
	3-2x8	7-8	2	6-4	2	5-5	2	7-5	2	6-1	2	5-3	2
	3-2x10	8-9	2	7-3	2	6-3	2	8-6	2	7-0	2	6-1	2
	3-2x12	9-8	2	8-0	2	6-11	2	9-5	2	7-10	2	6-9	2
Roof, ceiling and two clear span floors	1-2x6	2-6	2	2-2	2	1-11	2	2-5	2	2-2	2	1-11	2
	1-2x8	3-6	2	3-0	2	2-7	2	3-5	2	2-11	2	2-6	2
	1-2x10	4-5	2	3-9	2	3-3	2	4-3	2	3-7	2	3-2	2
	1-2x12	5-1	2	4-4	2	3-9	3	4-11	2	4-2	2	3-7	3
	2-2x4	3-4	1	2-10	1	2-5	2	3-3	1	2-9	1	2-5	2
	2-2x6	4-7	1	3-10	1	3-3	2	4-5	1	3-8	1	3-2	2
	2-2x8	5-7	1	4-8	2	4-0	2	5-5	1	4-6	2	3-11	2
	2-2x10	6-6	2	5-5	2	4-8	2	6-3	2	5-3	2	4-6	2
	2-2x12	7-3	2	5-11	2	5-1	2	7-0	2	5-9	2	5-0	2
	3-2x4	4-2	1	3-6	1	3-0	2	4-0	1	3-5	1	2-11	2
	3-2x6	5-9	1	4-8	1	4-0	2	5-7	1	4-6	1	3-11	2
	3-2x8	6-9	2	5-7	2	4-9	2	6-6	2	5-4	2	4-7	2
	3-2x10	7-8	2	6-4	2	5-5	2	7-5	2	6-2	2	5-3	2
	3-2x12	8-5	2	7-0	2	6-1	2	8-2	2	6-9	2	5-10	2

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf)[e]											
		30						50				70	
		Building width[f] (feet)											
		12		24		36		12		24		36	
		Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]	Span[d]	NJ[g]
Roof, ceiling and two center-bearing floors	1-2x6	2-3	2	1-10	2	1-7	2	2-2	2	1-9	2	1-7	2
	1-2x8	3-0	2	2-6	2	2-3	2	2-11	2	2-5	2	2-2	2
	1-2x10	3-9	2	3-2	2	2-9	2	3-7	2	3-1	2	2-8	2
	1-2x12	4-3	2	3-7	2	3-2	3	4-1	2	3-5	2	3-0	3
	2-2x4	3-0	1	2-6	1	2-3	2	2-11	1	2-5	1	2-2	2
	2-2x6	4-2	1	3-6	1	3-1	2	4-0	1	3-5	1	3-0	2
	2-2x8	5-1	2	4-4	2	3-9	2	4-11	2	4-2	2	3-8	2
	2-2x10	5-11	2	5-1	2	4-5	2	5-8	2	4-10	2	4-2	2
	2-2x12	6-8	2	5-8	2	4-11	3	6-5	2	5-6	2	4-8	3
	3-2x4	4-0	1	3-5	1	3-0	2	3-10	1	3-4	1	2-11	2
	3-2x6	5-6	1	4-7	1	3-11	2	5-4	1	4-6	1	3-10	2
	3-2x8	6-7	2	5-6	2	4-8	2	6-4	2	5-3	2	4-6	2
	3-2x10	7-6	2	6-4	2	5-5	2	7-3	2	6-1	2	5-2	2
	3-2x12	8-5	2	7-1	2	6-2	2	8-2	2	6-10	2	5-10	2
Roof, ceiling, and two clear-span floors	1-2x6	2-1	2	1-9	2	1-6	2	2-0	2	1-8	2	1-6	2
	1-2x8	2-10	2	2-5	2	2-2	2	2-9	2	2-4	2	2-1	2
	1-2x10	3-6	2	3-0	2	2-7	2	3-4	2	2-11	2	2-6	2
	1-2x12	4-0	2	3-5	2	3-0	3	3-10	2	3-3	2	2-10	3

From: David Hampson
To: residentialdesigns@verizon.net
Subject: Less Thorpe - Hale Beach Cottage
Date: Thursday, May 13, 2021 9:33:25 AM
Attachments: CHESVAYD-2021-165 Less Thorpe Hale Beach Cottage Layout.pdf
CHESVAYD-2021-165 Less Thorpe Hale Beach Cottage Calcs.pdf
CHESVAYD-2021-165 Less Thorpe Hale Beach Cottage ML.pdf

Hi Carroll,

Here you go.

Thanks,
Dave

David B. Hampson | ELP Designer
404 Green Tree Road | Chesapeake, VA 23320
Office: 757-548-1532 x 340 | Mobile: 757-618-4733 | Fax: 757-548-1221
david.hampson@BLDR.com | BLDR.com

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE 2015 EDITION AS ADOPTED BY THE UNIFORM STATEWIDE BUILDING CODE 2018 EDITION.

3. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.

4. SPECIFIC NOTES AND SPECIFIC DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER STRUCTURAL NOTES AND TYPICAL DETAILS.

5. CONSULTANTS' DRAWINGS, INCLUDING STRUCTURAL DRAWINGS, ARE CONSIDERED SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ANY OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN VARIOUS ELEMENTS OF THE CONSULTANTS' DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

6. THE DOCUMENTS DEFINING THE STRUCTURE ARE INSTRUMENTS OF SERVICE PREPARED BY MICHAEL W. SCHOOLEY, P.E. FOR ONE USE ONLY. THE STRUCTURAL DOCUMENTS SHALL NOT BE REPRODUCED, OR COPIED, IN WHOLE OR IN PART BY THE CONTRACTOR OR SUBCONTRACTORS FOR PREPARATION OF SHOP DRAWINGS OR OTHER SUBMITTALS WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

7. LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
   - A) LIVE LOADS
     - SLAB–ON–GRADE 100 PSF
     - SLEEPING ROOMS 30 PSF
     - ROOF 20 PSF
     - DWELLING UNITS 40 PSF
     - PRIVATE BALCONIES 60 PSF
   - B) GROUND SNOW LOAD: 10 PSF
   - C) WIND LOAD:
     - ULTIMATE WIND SPEED 130MPH
     - ALLOWABLE DESIGN WIND SPEED 110MPH
     - WIND EXPOSURE CATEGORY C
     - WIND IMPORTANCE FACTOR 1.1
     - BUILDING RISK CATEGORY II
     - INTERNAL PRESSURE COEFFICIENT 0.18

8. NO MECHANICAL UNITS HAVE BEEN CONSIDERED IN THE STRUCTURAL DESIGN. SUBMIT LOCATION, DIMENSIONS AND OPERATING WEIGHTS OF ANY UNITS WEIGHING MORE THAN 250 POUNDS TO THE STURCTURE ENGINEER FOR APPROVAL, PRIOR TO PLACEMENT.

FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED FOR A BEARING PRESSURE OF 1500 PSF. FOUNDATION BEARING SOILS SHALL BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER TO CONFIRM THE DESIGN BEARING PRESSURE AND THAT THE ASSOCIATED SETTLEMENTS ARE WITHIN GENERALLY ACCEPTED TOLERABLE LIMITS.

2. PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER TO EXPLORE THE EXTENT OF LOOSE, SOFT OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY DESIGN BEARING PRESSURE. THE GEOTECHNICAL ENGINEER WILL PROVIDE DIRECTION FOR CORRECTIVE ACTION WHERE REQUIRED.

3. NO UNBALANCED BACKFILLING SHALL BE DONE AGAINST WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY CONSTRUCTION BRACING OR BY PERMANENT CONSTRUCTION.

4. FROST LINE DEPTH IS 12" BELOW GRADE. BOTTOM OF ALL EXTERIOR FOUNDATIONS SHALL BE A MINIMUM OF 18" BELOW EXTERIOR GRADE ELEVATION.

CAST–IN–PLACE CONCRETE NOTES

1. CAST–IN–PLACE CONCRETE FOR THIS STRUCTURE HAS BEEN DESIGN IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318–05) AND COMMENTARY (ACI 318R–05)".
2. CONCRETE SHALL BE NORMAL WEIGHT AND SHALL OBTAIN 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
   - A. SLAB–ON–GRADE 3500 PSI
   - B. ALL OTHER CONCRETE NOT OTHERWISE NOTED 3000 PSI
3. REINFORCING MATERIALS SHALL BE AS FOLLOWS:
   - A. REINFORCING BARS – ASTM A 615, GRADE 60, DEFORMED.
   - B. WELDED WIRE FABRIC – ASTM A 185, WELDED STEEL WIRE FABRIC. SHEET TYPE – ROLLED TYPE NOT ACCEPTABLE.
4. ALL REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS SHALL GOVERN WHEN IN CONFLICT WITH ACI 318–05.

DRIVEN PILE NOTES:

1. PILE FOUNDATIONS FOR THIS STRUCTURE HAVE BEEN DESIGNED IN ACCORDANCE WITH GENERAL KNOWLEDGE OF THE SURROUNDING AREA, WE STRONGLY RECOMMEND A THE GEOTECHNICAL EXPLORATION REPORT PRIOR TO INSTALLATION OF PILES. WITHOUT THE GEOTECHNICAL EXPLORATION, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PILE LOADS.

2. PILING SHALL COMPLY WITH ASTM D25. PROVIDE SOUTHERN PINE OR DOUGLAS FIR WITH A 8 INCH MINIMUM TIP DIAMETER AND PROVIDE A PRESSURE PRESERVATIVE TREATMENT IN ACCORDANCE WITH AWPA C3.

3. PILE DESIGN CAPACITIES ARE AS FOLLOWS
   - A) COMPRESSION CAPACITY 20 TONS
   - B) TENSION CAPACITY 5 TONS
   - C) LATERAL CAPACITY 5 TONS

4. PILING SHALL BE DRIVEN TO A MAXIMUM TOLERANCE IN ANY DIRECTION OF 3 INCHES PER PILE. WHERE AN INDIVIDUAL PILE IS DRIVEN OUT OF POSITION MORE THAN 3 INCHES IN ANY DIRECTION AND/OR WHERE THE CENTER OF GRAVITY OF A PILE GROUP IS OUT OF POSITION MORE THAN 2 INCHES, THE CONTRACTOR MAY BE REQUIRED TO DRIVE AN ADDITIONAL PILE OR PILES TO COMPENSATE FOR THE ECCENTRICITY OF THE PILE AND/OR PILE GROUP.

5. BASE BID LENGTH SHALL BE 30' BASED

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY FOR THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" ACI 530–05 / ASCE 5–05 / TMS 402–05.

2. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR MASONRY STRUCTURES" ACI 530.1–05 / ASCE 6–05 / TMS 602–05.

3. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE 2 AND BE MADE WITH LIGHTWEIGHT AGGREGATE. THE COMPRESSIVE STRENGTH OF MASONRY, F'm, EXPRESSED AS FORCE PER UNIT OF NET CROSS–SECTIONAL AREA, SHALL BE 1500 PSI AT 28 DAYS.

4. REINFORCING STEEL SHALL COMPLY WITH ASTM A615, GRADE 60, SHOP FABRICATED REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.

5. GROUT SHALL COMPLY WITH ASTM C476 OR IBC TABLE 2103–10, AND SHALL BE PROPORTIONED TO OBTAIN A 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI.

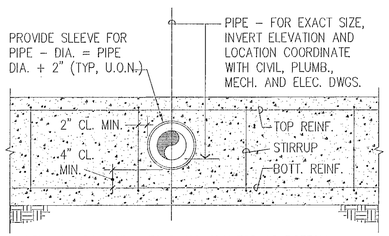
6. MORTAR SHALL COMPLY WITH ASTM C270, TYPE S OR M. AGGREGATE FOR MORTAR SHALL COMPLY WITH ASTM C144. AGGREGATE FAILING TO COMPLY WITH ASTM C144 GRADATION REQUIREMENTS MAY BE USED PROVIDED THE MORTAR CAN BE PREPARED TO COMPLY WITH THE AGGREGATE RATIO, WATER RETENTION, AND COMPRESSIVE STRENGTH REQUIREMENTS OF THE PROPERTY SPECIFICATIONS OF ASTM C270. USE TYPE M BELOW GRADE AND TYPE S ABOVE GRADE.

7. PROVIDE VERTICAL REINFORCING BARS OF THE GIVEN SIZE AND SPACING SHOWN. LAP REINFORCING AT ALL SPLICES AS FOLLOWS:
   - #3 –19" #6 –52" #9 –119"
   - #4 –25" #7 –67"
   - #5 –31" #8 –93"

8. PROVIDE REBAR DOWELS OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM FOUNDATION. DOWELS SHALL HAVE STANDARD ACI HOOKS.

9. PROVIDE STANDARD 9 GAGE LADDER TYPE HORIZONTAL JOINT REINFORCING IN CMU WALLS AT 16"ON–CENTER. JOINT REINFORCING SHALL COMPLY WITH ASTM A951 AND BE HOT–DIPPED GALVANIZED ACCORDING TO ASTM A153, CLASS B.

10. GROUT ALL CELLS SOLID BELOW GRADE.



UNDER NO CIRCUMSTANCES SHALL ANY TOP OR BOTTOM REINFORCING OR STIRRUPS BE DISCONTINUED TO PLACE PIPE SLEEVES. WHERE SLEEVES CANNOT BE PLACED IN ACCORDANCE WITH THIS DETAIL (OR SHIFTED TO SUIT) IMMEDIATELY CONTACT THE ARCHITECT. NO PIPE SLEEVES ARE ALLOWED IN PILE CAPS OR WITHIN 3'–0" OF GRADE BEAM SUPPORTS.

TYPICAL PIPE SLEEVE THRU GRADE BEAM DETAIL

NOT TO SCALE

ROUGH CARPENTRY NOTES:

1. ROUGH CARPENTRY FOR THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE NATIONAL FOREST PRODUCTS ASSOCIATION (NFPA) "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION".

2. UNLESS OTHERWISE NOTED, ALL NAILING SHALL CONFORM TO THE "FASTENING SCHEDULE" SHOWN IN TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE 2009 EDITION.

3. WOOD FRAMING MEMBERS SHALL COMPLY WITH DS20 "AMERICAN SOFTWOOD LUMBER STANDARD" AND THE FOLLOWING REQUIREMENTS:
   - A) MOISTURE CONTENT –SEASONED, WITH 19 PERCENT MAXIMUM MOISTURE CONTENT.
   - B) GRADE –NO. 2.
   - C) SPECIES –SOUTHERN PINE GRADED UNDER SPIB RULES.

4. CONSTRUCTION PANELS SHALL COMPLY WITH PS 1 "U.S. PRODUCT STANDARD FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD" FOR PLYWOOD CONSTRUCTION PANELS AND THE FOLLOWING REQUIREMENTS:
   - A) EXTERIOR WALL AND SHEARWALL WALL SHEATHING: ½", APA RATED SHEATHING, EXPOSURE 1 EXPOSURE DURABILITY CLASSIFICATION.
   - B) ROOF SHEATHING: ½", APA RATED PLYWOOD SHEATHING, EXTERIOR EXPOSURE DURABILITY CLASSIFICATION.

5. WOOD FRAMING MEMBERS PERMANENTLY EXPOSED TO THE WEATHER AND SILL PLATES AROUND THE BUILDING PERIMETER SHALL BE PRESERVATIVE–TREATED IN ACCORDANCE WITH THE BUILDING CODE. WOOD FRAMING MEMBERS IN DIRECT CONTACT WITH CONCRETE, MASONRY OR GROUT SHALL BE PRESERVATIVE– TREATED IN ACCORDANCE WITH THE BUILDING CODE.

6. STEEL PLATE CONNECTORS SHALL COMPLY WITH ASTM A36 SPECIFICATIONS (Fy=36 KSI). BOLTS CONNECTING WOOD MEMBERS SHALL COMPLY WITH ASTM A307 COMMON STEEL BOLTS, AND SHALL BE 3/4" DIAMETER UNLESS OTHERWISE SPECIFIED.

7. METAL FRAMING ANCHORS SHALL COMPLY WITH ASTM A653 GRADE A (STRUCTURAL QUALITY). ANCHORS SHALL BE CAPABLE OF SUPPORTING THE REACTIONS SHOWN.

8. PROVIDE BRIDGING FOR ALL FLOOR JOISTS AND ROOF RAFTERS WITHOUT DIRECTLY APPLIED CEILING. MAXIMUM SPACING SHALL BE 8'–0" UNLESS OTHERWISE NOTED.

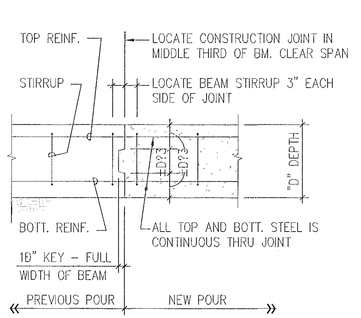
9. PROVIDE DOUBLE JOISTS UNDER ALL PARTITIONS WHICH RUN PARALLEL WITH JOISTS, AND UNDER ALL CONCENTRATED LOADS FROM FLOORS ABOVE PROVIDE MULTIPLE STUDS WHERE INDICATED ON THE PLANS.

10. PROVIDE HEADERS OF THE SAME CROSS SECTION AS JOISTS OR RAFTERS TO FRAME AROUND ALL OPENINGS TO SUPPORT SHEATHING UNLESS OTHERWISE NOTED OR DETAILED ON THE DRAWINGS.

11. UNLESS OTHERWISE NOTED, ATTACH BLOCKING AND NAILERS TO STEEL FRAMING USING 3/16" DIAMETER POWDER ACTUATED FASTENERS AT 12" ON–CENTER OR ½" DIAMETER BOLTS AT 24" ON–CENTER STAGGER FASTENERS TO ALTERNATE SIDES OF BEAM WEB.

12. WHERE MULTIPLE FRAMING MEMBERS ARE INDICATED, SCAB CONTINGENT MEMBERS TOGETHER WITH 16d NAILS AT 12" ON–CENTER, ALTERNATING AT 2 INCHES FROM EACH EDGE.

13. LIGHT GAGE METAL CONNECTORS (HANGERS, SCREWS, ETC..) ARE SPECIFIED AS SIMPSON STRONG TIE BRAND, OTHER CODE APPROVED MANUFACTURERS MAY BE USED AS DIRECT SUBSTITUTES (EG: USP, FASTEN MASTER)



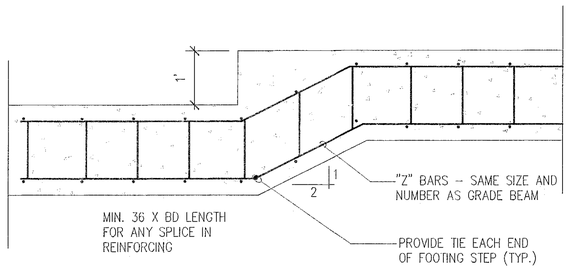
CONCRETE GRADE BEAM CONSTRUCTION JOINT DETAIL

NOT TO SCALE

FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

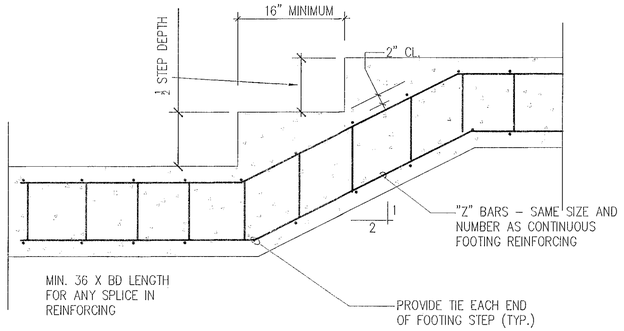
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING OF FASTENERS	
JOIST TO SILL OR GIRDER, TOE NAIL	3–8d (2–1/2"x 0.113)	----------	
1"x 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2–10d (2–1/2"x 0.113) 2 staples, 1 3/4"	----------	
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2–16d (3 1/2"x 0.135")	----------	
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d (3 1/2"x 0.135")	16"o.c.	
TOP OR SOLE PLATE TO STUD, END NAIL	2–16d (3 1/2"x 0.135")	----------	
STUD TO SOLE PLATE, TOE NAIL	2–16d (3 1/2"x 0.135")	----------	
DOUBLE STUDS, FACE NAIL	10d (3"x 0.128")	12"o.c.	
DOUBLE TO PLATES, FACE NAIL	10d (3"x 0.128")	12"o.c.	
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	3–16d (3 1/2"x 0.135")	16"o.c.	
DOUBLE TOP PLATES, MINIMUM 36" OFFSET OF END JOINTS, FACE NAIL IN LAPPED AREA	12–16d (3 1/2"x 0.135")	----------	
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	3–8d (2–1/2"x 0.113)	----------	
RIM JOIST TO TOP PLATE, TOE NAIL	8d (2–1/2"x 0.113)	6"o.c.	
TOP PLATES, LAPS AT CORNERS AND AND INTERSECTIONS, FACE NAIL	4–10d (3"x 0.128")	----------	
BUILT–UP HEADER, TWO PIECES WITH 1/2" SPACER	16d (3 1/2"x 0.135")	12"o.c. along each edge	
CONTINUED HEADER, TWO PIECES	16d (3 1/2"x 0.135")	12"o.c. along each edge	
CEILING JOISTS TO PLATE, TOE NAIL	3–12d (2–1/2"x 0.113)	----------	
CONTINUOUS HEADER TO STUD, TOE NAIL	4–12d (2–1/2"x 0.113)	----------	
CEILING JOIST, LAPS OVER PARITIONS, FACE NAIL	5–10d (3"x 0.128")	----------	
CEILING JOIST TO PARALLEL RAFTERS, FACE NAIL	5–10d (3"x 0.128")	----------	
RAFTER TO PLATE, TOE NAIL	2–16d (3 1/2"x 0.135")	----------	
1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2–8d (2–1/2"x 0.113) 2 staples, 1 3/4"	----------	
1"x 6" SHEATHING TO EACH BEARING, FACE NAIL	2–8d (2–1/2"x 0.113) 2 staples, 1 3/4"	----------	
1"x 8" SHEATHING TO EACH BEARING, FACE NAIL	2–8d (2–1/2"x 0.113) 3 staples, 1 3/4"	----------	
WIDER THAN 1"x 8" SHEATHING TO EACH BEARING, FACE NAIL	3–8d (2–1/2"x 0.113) 4 staples, 1 3/4"	----------	
BUILT–UP CORNER STUDS	10d (3"x 0.128")	12"o.c.	
BUILT–UP CORNER GIRDERS AND BEAMS, 2" LUMBER LAYERS	10d (3"x 0.128")	* See note at bottom of schedule	
2" PLANKS	2–16d (3 1/2"x 0.135")	At each bearing	
ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS: TOE NAIL	4–16d (3 1/2"x 0.135")	----------	
FACE NAIL	3–16d (3 1/2"x 0.135")	----------	
RAFTER TIES TO RAFTERS, FACE NAIL	5–10d (2–1/2"x 0.113)	----------	
COLLAR TIE TO RAFTER, FACE NAIL, OR 1 1/4"x 20 GAGE RIDGE STRAP	3–10d (3"x 0.128")	----------	
5/16" – 1/2" PLYWOOD	8d (2"x 0.113") nail (subfloor, wall) / 8d (2–1/2"x 0.131") nail (roof)	6"o.c.(edges)	12"o.c. (field)
19/32" – 1" PLYWOOD	10d (2–1/2"x 0.131") nail (roof)	6"o.c.(edges)	12"o.c. (field)
1/2" GYPSUM SHEATHING	1 1/2" galv. roof nail; 6d (2"x0.131")nail; staple galv. 1 1/2". 1 1/4" screw, type W or S	4"o.c.(edges)	8"o.c. (field)
5/8" GYPSUM SHEATHING	1 3/4" galv. roof nail; 6d (2"x0.131")nail; staple galv. 1 5/8". 1 5/8" screw, type W or S	4"o.c.(edges)	8"o.c. (field)
3/4" AND LESS SUBFLOOR UNDERLAYMENT TO FRAMING	8d (2–1/2"x 0.131") nail	6"o.c.(edges)	12"o.c. (field)
7/8" – 1" SUBFLOOR UNDERLAYMENT TO FRAMING	10d (2–1/2"x 0.131") nail	6"o.c.(edges)	12"o.c. (field)
1 1/8" – 1 1/4" SUBFLOOR UNDERLAYMENT TO FRAMING	12d (3"x 0.148") nail	6"o.c.(edges)	12"o.c. (field)

* NAIL EACH LAYER AS FOLLOWS: 32" o.c. AT TOP AND BOTTOM AND STAGGERED. TWO NAILS AT ENDS AT EACH SPLICE



TYPICAL STEPPED GRADE BEAM (12" OR LESS)

NOT TO SCALE



TYPICAL STEPPED GRADE BEAM (12" TO 24")

NOT TO SCALE

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COMMONWEALTH OF VIRGINIA
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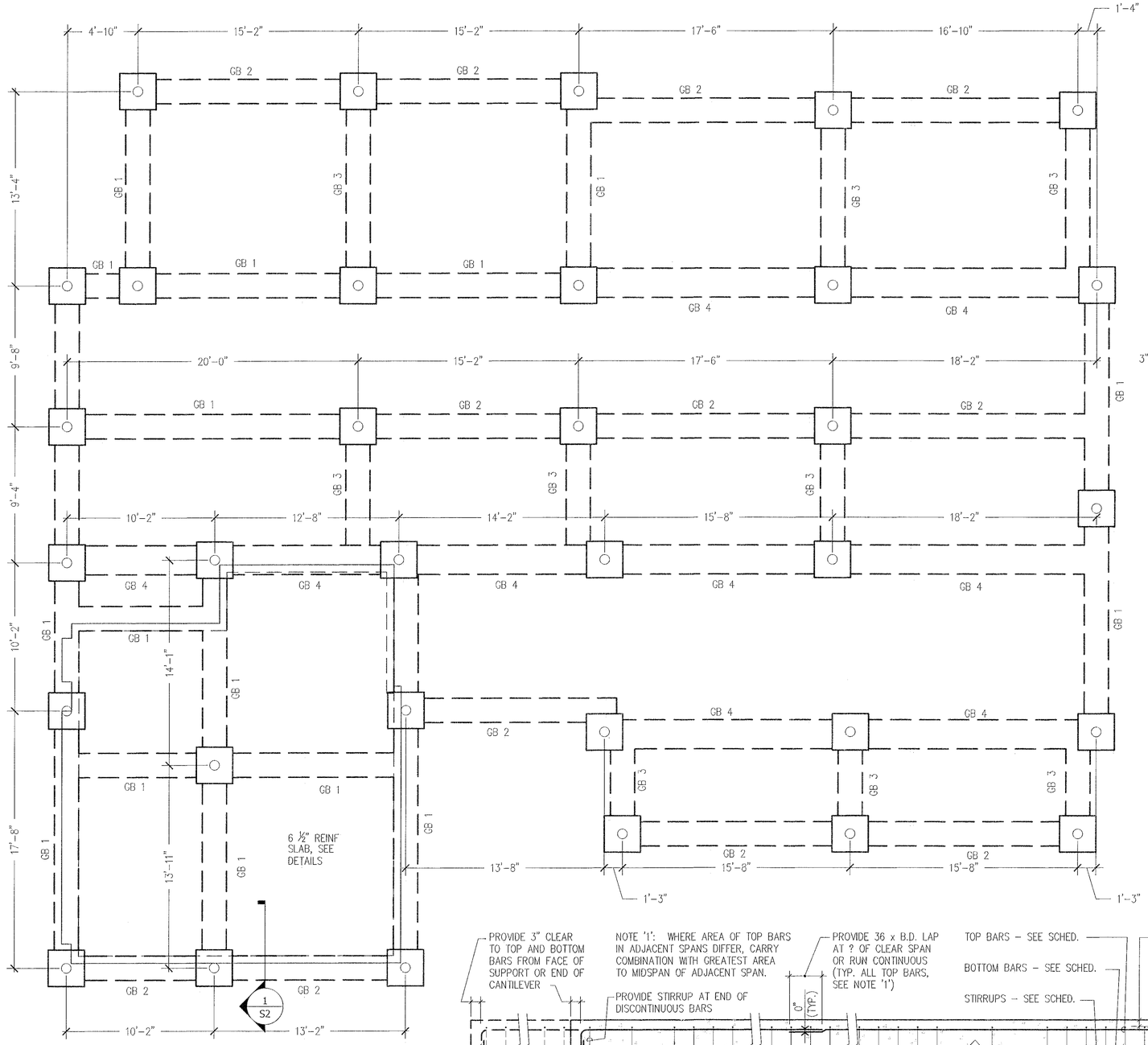
05/18/21
PROFESSIONAL ENGINEER

GENERAL NOTES
2709 BLUEBILL DRIVE
VIRGINIA BEACH, VIRGINIA

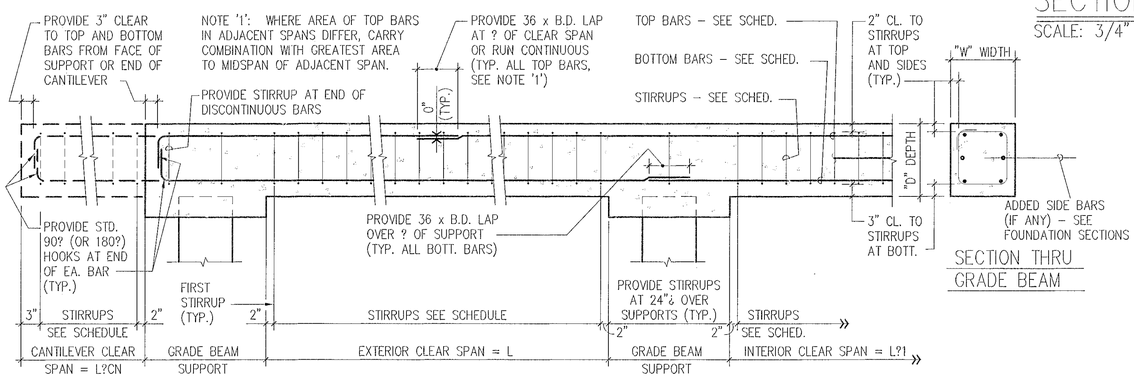
DATE: 05/18/21

SHEET: S1

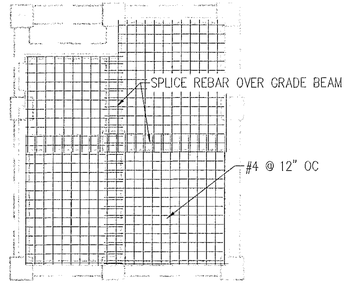


PILE LAYOUT
SCALE: 1/4" = 1'-0"

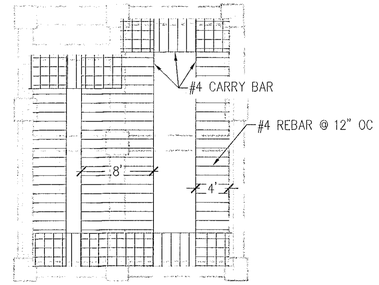
CONCRETE GRADE BEAM SCHEDULE									
MARK	"W" WIDTH (IN.)	"D" DEPTH (IN.)	TOP BARS		BOTTOM BARS		STIRRUPS		REMARKS
			QUAN.	SIZE	QUAN.	SIZE	SIZE	SPA.	
GB 1	20	20	3	#7	3	#7	#4	8"	---
GB 2	20	20	2	#7	2	#7	#4	8"	---
GB 3	20	16	2	#7	2	#7	#4	8"	---
GB 4	24	20	3	#7	3	#7	#4	8"	---



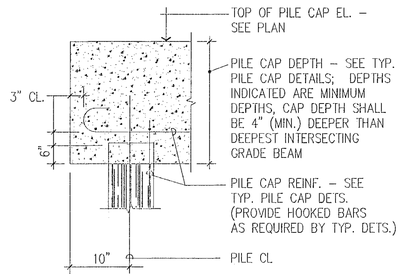
TYPICAL CONCRETE GRADE BEAM DETAIL
NOT TO SCALE



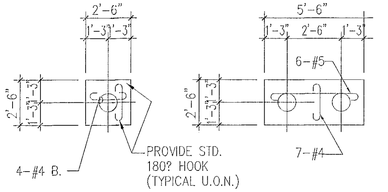
BOTTOM SLAB REBAR LAYOUT
SCALE: 1/8" = 1'-0"



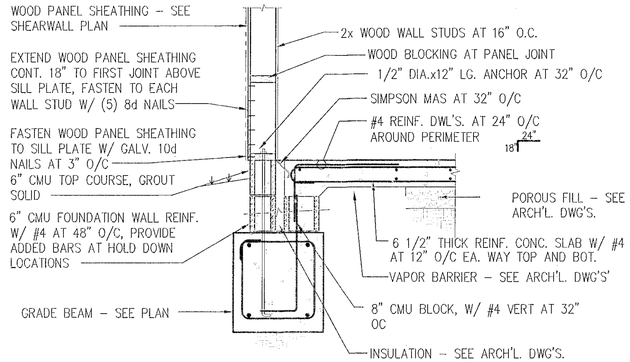
TOP SLAB REBAR LAYOUT
SCALE: 1/8" = 1'-0"



TYPICAL PILE EMBEDMENT DETAIL
NOT TO SCALE



TYPICAL PILE CAP DETAIL
NOT TO SCALE



SECTION
SCALE: 3/4" = 1'-0"

1
S2

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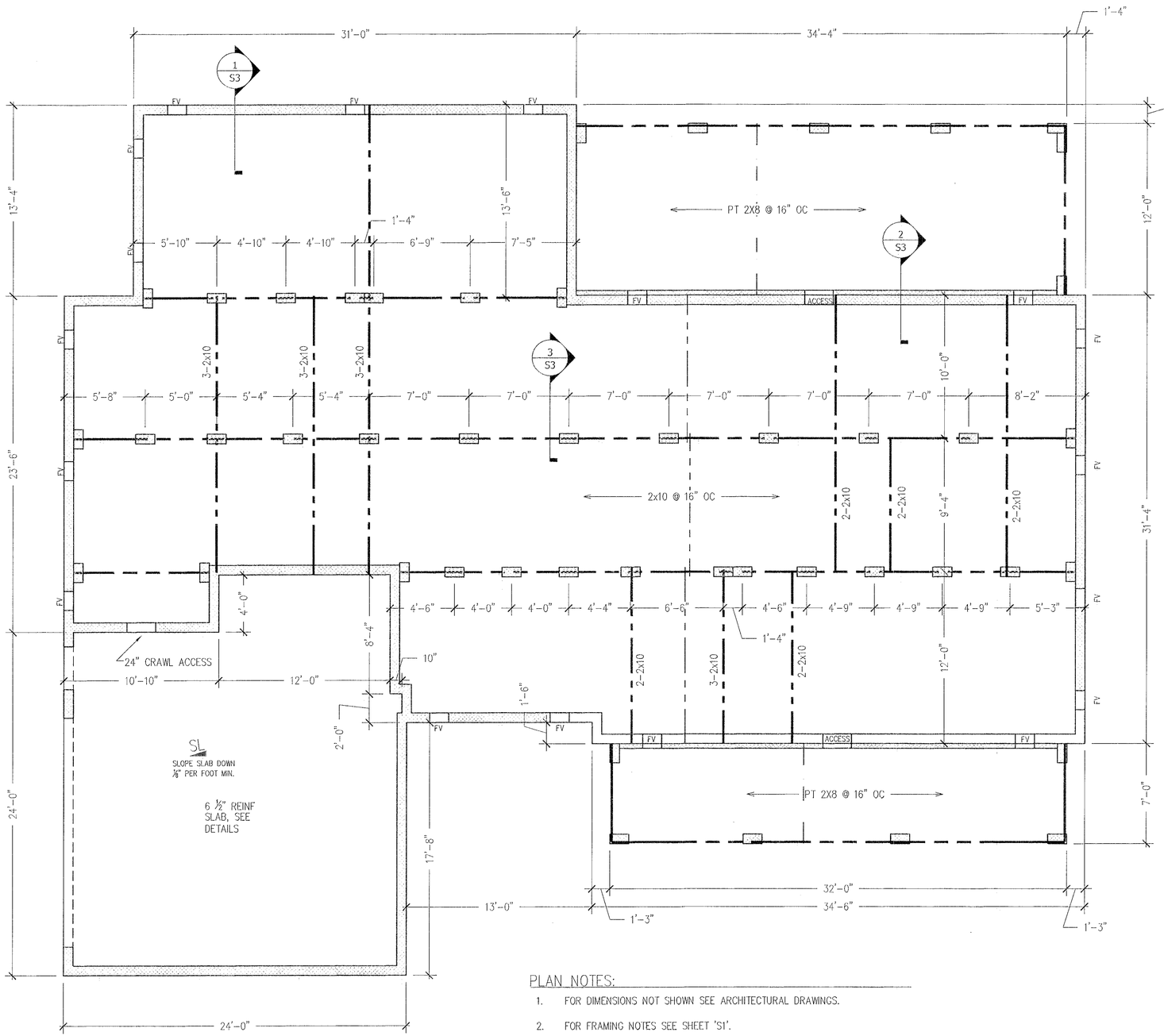
PILE AND GRADE BEAMS
2709 BLUEBILL DRIVE
VIRGINIA BEACH, VIRGINIA

DATE:
05/18/21

SHEET:
S2

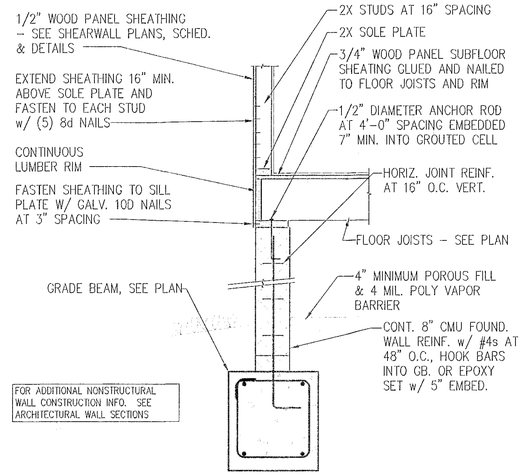


1ST FLOOR FRAMING PLAN

SCALE: 1/4" = 1'-0"

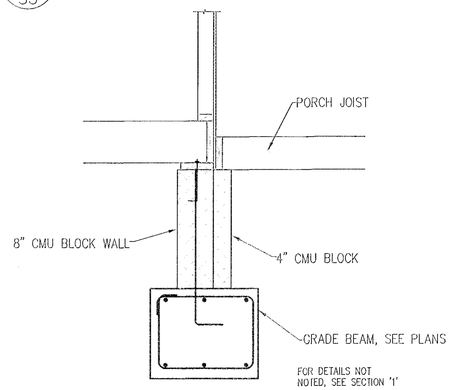
PLAN NOTES:

1. FOR DIMENSIONS NOT SHOWN SEE ARCHITECTURAL DRAWINGS.
2. FOR FRAMING NOTES SEE SHEET 'S1'.
3. JOISTS ARE #2 SYP 2X10 @ 16" ON CENTER.
4. POINT LOADS AS SHOWN AS (X.XK) ON PLAN. FOR ADDITIONAL FRAMING INFORMATION SEE SECTIONS AND DETAILS ON THIS SHEET.
5. ALL GIRDERS ARE KILN DRIED PRESSURE TREATED TRIPLE 2X8'S UNLOESS OTHERWISE NOTED.
6. SEE ARCH. PLANS FOR CRAWL SPACE DETAILS AND FOUNDATION VENTS.



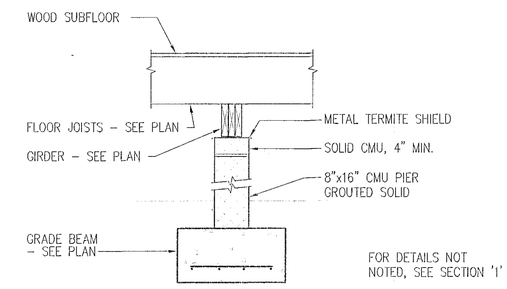
1/S3 SECTION

Scale: 3/4" = 1'-0"



2/S3 SECTION

Scale: 3/4" = 1'-0"



3/S3 SECTION

Scale: 3/4" = 1'-0"

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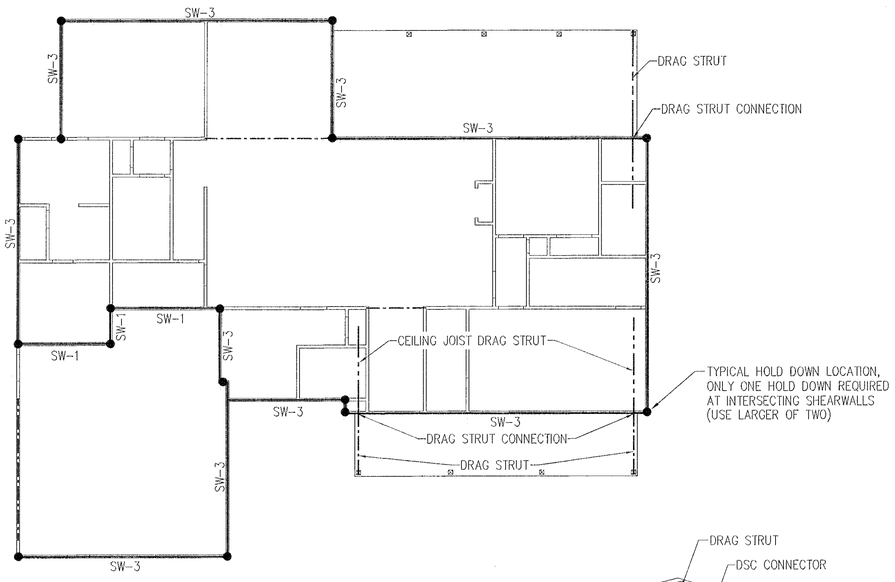
FIRST FLOOR FRAMING PLAN

2709 BLUEBILL DRIVE
VIRGINIA BEACH, VIRGINIA

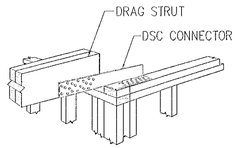
DATE: 05/18/21

SHEET: S3

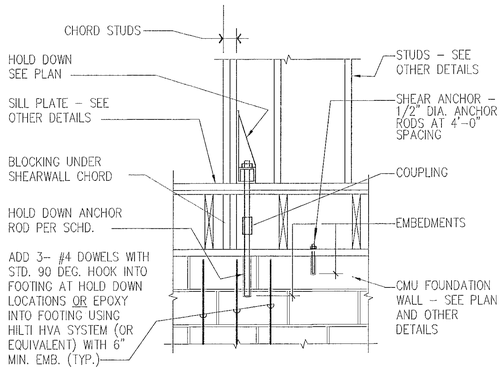


FIRST FLOOR SHEARWALL PLAN

SCALE: 1/8" = 1'-0"

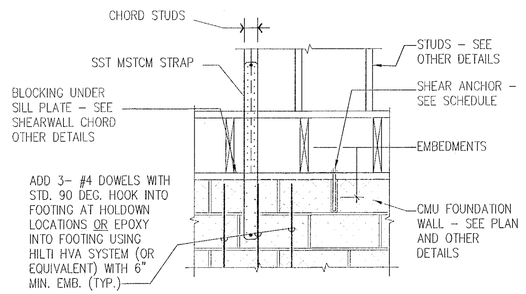


DRAG STRUT WITH DSC5 CONNECTOR DETAIL



HOLD DOWN AT FOUNDATION DETAIL

NOT TO SCALE



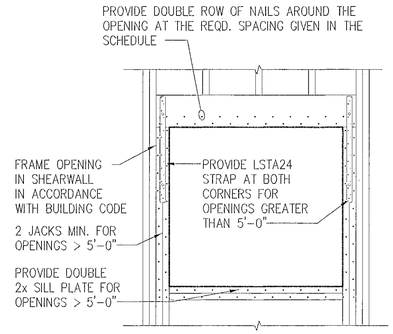
HOLD DOWN AT FOUNDATION DETAIL

NOT TO SCALE

HOLD DOWN OPTIONS

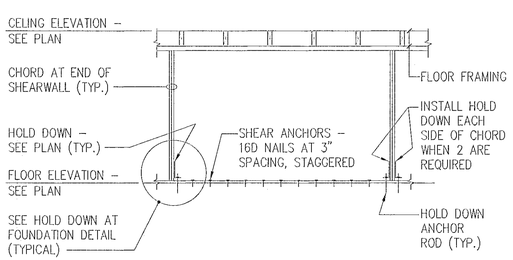
MARK	TYP. HOLD DOWN	FLAT STRAP	COIL STRAP (INCH REQ.)	STRAP TO BEAM	THREADED ROD	MASONRY STRAP
SW-1	HDU5	MSTC66	CMSTC16 (66")	MSTC66B3	5/8" ø	MSTCM60
SW-2	HDU8	MSTC78	CMSTC14 (78")	HST2 *	7/8" ø	N/A
SW-3	HDU4	MSTC52	CMSTC16 (52")	MSTC48B3	5/8" ø	MSTCM40
SW-4	HDU2	MSTC40	CS14 (40")	MSTC48B3	5/8" ø	MSTCM36
SW-5	HDU5	MSTC66	CMSTC16 (66")	MSTC66B3	5/8" ø	MSTCM60

* HST2 IS LIMITED USE, ONLY TO BE USED IF SPECIFIED ON PLANS
NOTE: ADDITIONAL OPTIONS MAYBE AVAILABLE DEPENDING ON LOAD REQUIREMENTS AND FIELD CONDITIONS.



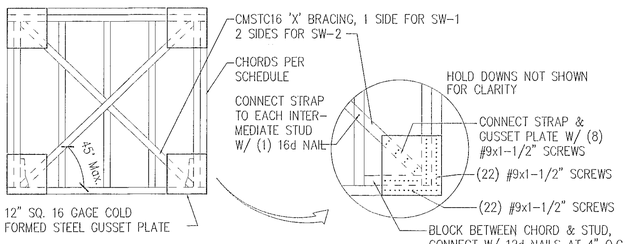
TYPICAL OPENING IN SHEAR WALL SHEATHING DETAIL

NOT TO SCALE



TYPICAL ONE STORY SHEARWALL ELEVATION

NOT TO SCALE



SHEARWALL WITH CMSTC STRAP DETAIL

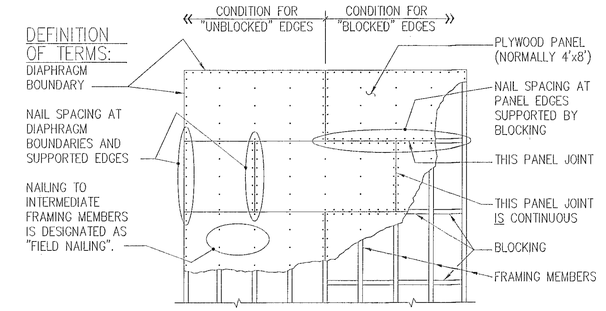
NOT TO SCALE

SHEARWALL SCHEDULE

MARK	SHEATHING PANEL TYPE(S)	BLOCKED PANEL EDGES	FASTENERS AT PANEL EDGES	CHORD STUDS (MINIMUM NUMBER AND SIZE)	HOLD DOWN (SEE NOTES 4 AND 5) TYPE	HOLD DOWN (SEE NOTES 4 AND 5) MIN. ANCHOR ROD EMB.	SHEAR ANCHORS TYPE	SHEAR ANCHORS MIN. EMB.	REMARKS
SW-1	7/16" APA RATED SHEATHING — OR — SIMPSON CMSTC-16 STRAP	YES	8d AT 4"O.C.	3 - 2x4	HDU5 OR MSTC66	5/8" DIA (7" EMB.)	16d NAILS AT 4"o.c.	1"	CONT.
		YES	8d AT 4"O.C.						
SW-2	7/16" APA RATED SHEATHING DS — OR — SIMPSON CMSTC-16 STRAP DS	YES	8d AT 4"O.C.	4 - 2x4	HDU8 OR CMST12	7/8" DIA (10" EMB.)	16d NAILS AT 2"o.c.	1"	CONT.
		YES	8d AT 4"O.C.						
SW-3	7/16" APA RATED SHEATHING	YES	8d AT 4"O.C.	3 - 2x4	HDU4 OR MSTC52	5/8" DIA (7" EMB.)	16d NAILS AT 8"o.c.		Perforated
SW-4	5/8" CWB, DS	YES	6d AT 7"O.C. COOLER NAILS	2 - 2x4	HDU2 OR MSTC40	5/8" DIA (7" EMB.)	16d NAILS AT 8"o.c.	1"	CONT.
SW-5	7/16" APA RATED SHEATHING DS	YES	8d AT 4"O.C.	4 - 2x4	HDU5 OR MSTC66	5/8" DIA (7" EMB.)	16d NAILS AT 2"o.c.	1"	Perforated

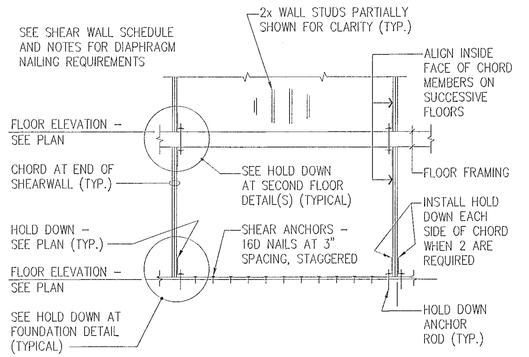
SHEARWALL SCHEDULE NOTES:

1. SEE FRAMING PLAN(S) FOR SHEARWALL LOCATIONS AND MINIMUM LENGTHS.
2. SEE "TYPICAL SHEARWALL DETAILS" ON THIS SHEET FOR ADDITIONAL INFORMATION.
3. "DS" INDICATES SHEARWALL SHEATHING REQUIRED ON BOTH SIDES OF WALL. "SS" INDICATES SHEARWALL SHEATHING REQUIRED ON ONE SIDE OF WALL. GWB = GYPSUM WALL BOARD
4. HOLD DOWN ANCHORS SHALL BE AS MANUFACTURED BY "SIMPSON STRONG TIE CO.", OR EQUIVALENT.
5. ANCHOR RODS SHALL BE EPOXIED USING HILTI HVA SYSTEM OR EQUIV. ANCHOR ROD DIAMETER SHALL BE IN ACCORDANCE WITH THE SPECIFIED HOLD DOWN TYPE.
6. SHEATHING PANELS CAN BE INSTALLED WITH LONG DIMENSION EITHER PARALLEL OR PERPENDICULAR TO STUDS. FIELD NAILING SHALL BE AT 12" ON CENTER
7. PROVIDE LST24 STRAP TIE CORNER REINFORCING AT OPENINGS.
8. FASTEN CMSTC-16 STRAP TO SHEARWALL CHORDS PER DETAIL
9. DOUBLE LVL UNDER ALL HOLD DOWNS NOT OVER A WALL, UNLESS OTHERWISE NOTED. SECOND FLOOR HOLD DOWNS OVER A WALL BELOW, SHALL HAVE CHORD AND HOLD DOWN TO FOUNDATION.
10. INSTALL SOLID BLOCKING BETWEEN JOIST UNDER PERPENDICULAR SHEAR WALLS ABOVE, INSTALL DOUBLE JOIST UNDER PARALLEL SHEAR WALLS.



TYPICAL PLYWOOD DIAPHRAGM DETAIL

NOT TO SCALE



TYPICAL 2 STORY SHEARWALL ELEVATION

NOT TO SCALE

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STRUCTURAL ENGINEERING

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COMMONWEALTH OF VIRGINIA
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05/18/21
PROFESSIONAL ENGINEER

SHEARWALL PLAN AND DETAILS
2709 BLUEBILL DRIVE
VIRGINIA BEACH, VIRGINIA

DATE: 05/18/21

SHEET: S4