

MURPHY GARNOW DESIGN GROUP, INC.
1140-300 KILDARE FARM ROAD

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HALCYON HOMES
COTTON FARM
LOT # 51

DRAWN BY: TWG DATE: 8-2-16 FILE NAME: HH-15-3000

REVISIONS

8-3-17 TWG PLAN

6-25-18 TWG PLAN

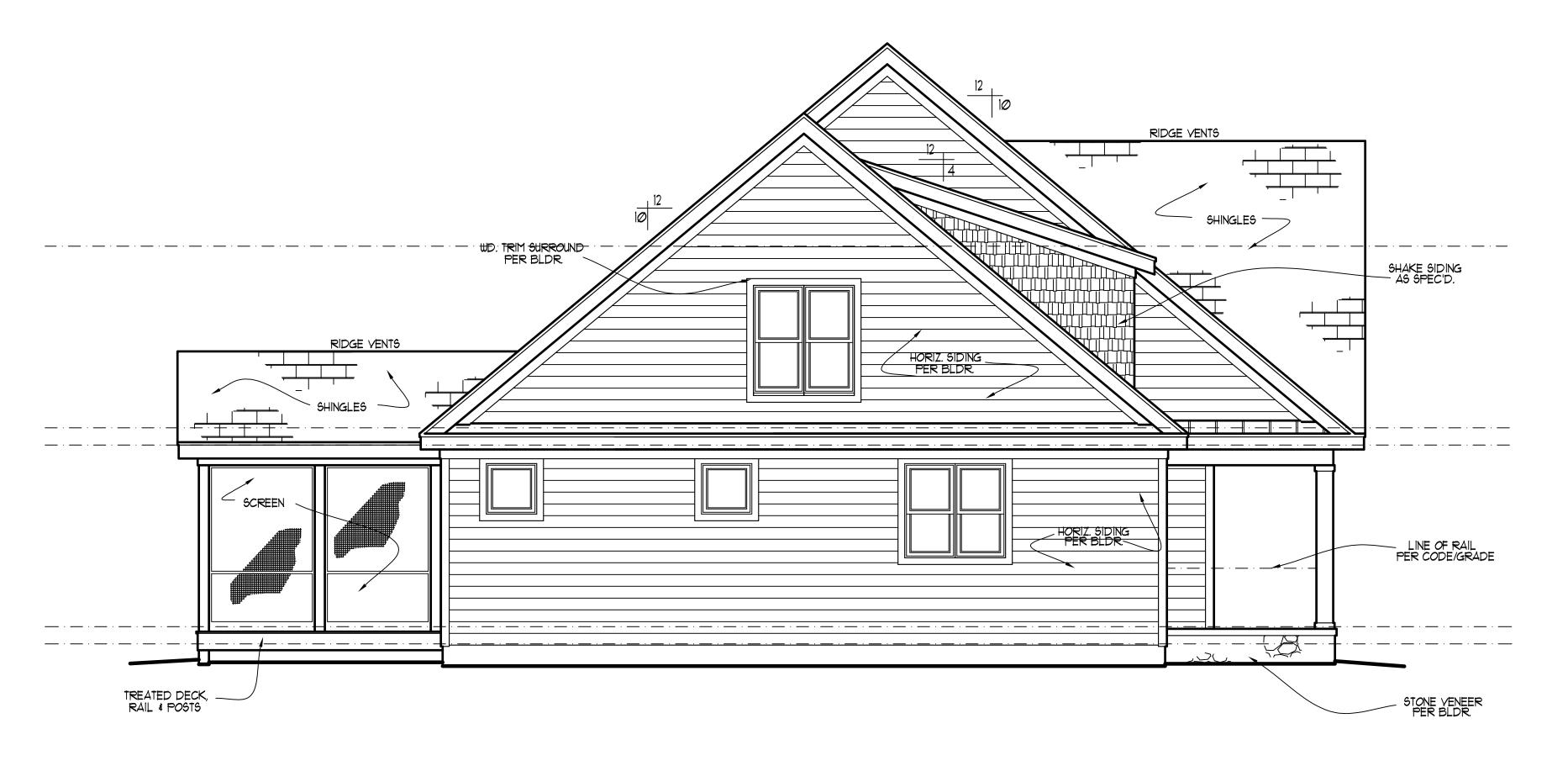
4-25-23 TWG PLAN

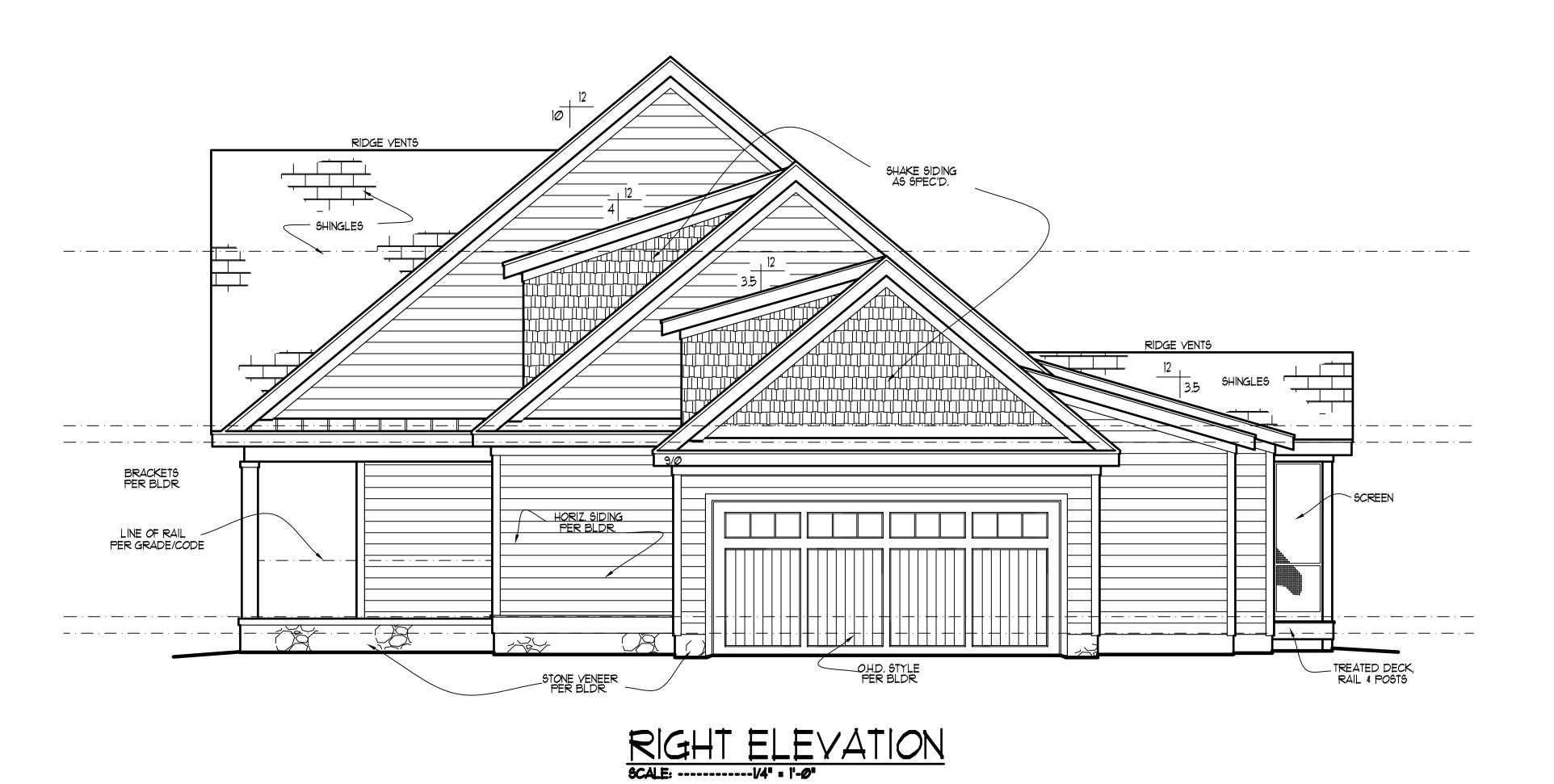
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MURPHY GARNOW DESIGN GROUP,
1140-300 KILDAIRE FARM ROAD
CARY, NORTH CAROLINA 27511

CYON HOMES
COTTON FARM
LOT # 51

DRAWN BY: TWG DATE: 8-2-16

FILE NAME: **HH-15-3000**

REVISIONS

8-3-17 TWG PLAN

TWG PLAN

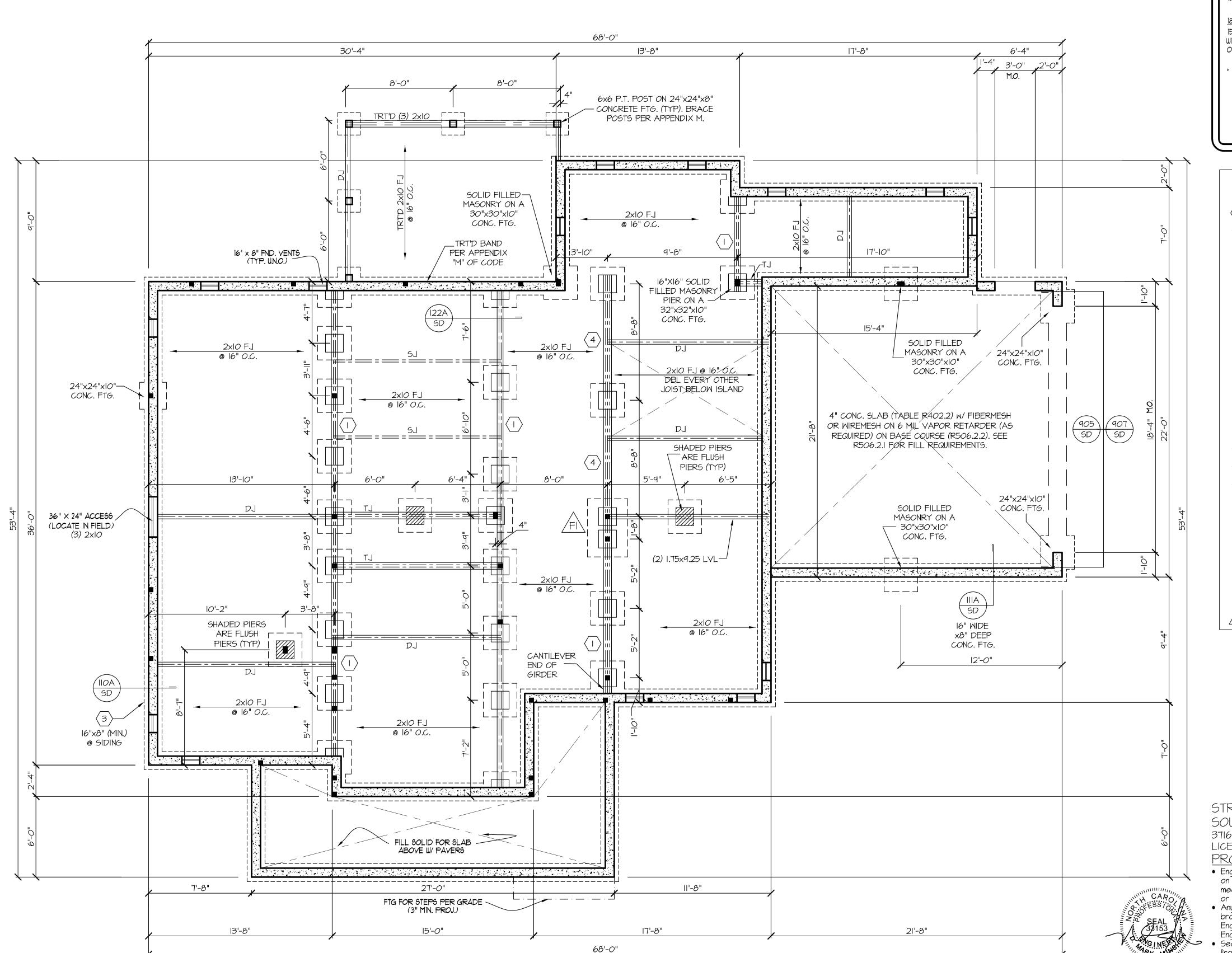
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FND. VENTILATION

1872 = 12.48 SQ. FT. REQUIRED*

1872 = 1.24 SQ. FT. REQUIRED*

WITH APPROVED VAPOR RETARDER MATERIAL AND OPENINGS PLACED FOR CROSS VENTILATION

* ONE VENTILATION OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING

FOUNDATION STRUCTURAL NOTES NC (2018 NCRC): Wind: 115-120 mph - CRAWL

(I.) (3)2x10 SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.

(2) CONCRETE BLOCK PIER SIZE SHALL BE:

UP TO 32" UP TO 5'-0" 8xl6 UP TO 48" UP TO 9'-0" UP TO 64" UP TO 12'-0" 24x24 UP TO 96"

• WITH 30" x 30" x 10" CONCRETE FOOTING, UNO. (3) WALL FOOTING AS FOLLOWS

DEPTH: 8" - UP TO 2 STORY 10" - 3 STORY

16" - UP TO 2 STORY 20" - 3 STORY 16" - I STORY 20" - 2 STORY 24" - 3 STORY

 FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO CODE TABLE R404.I.I (I THRU 4) NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

(4) 2xIO SPF #2 OR SYP #2 GIRDER

(5) (2) 1.75x9.25 LVL OR LSL GIRDER

(6) (3) 1.75×9.25 LVL OR LSL GIRDER

7. "" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

8. ABBREVIATIONS: "SJ" = SINGLE JOIST

"DJ" = DOUBLE JOIST • "TJ" = TRIPLE JOIST

9. ADJUST SUBFLOOR THICKNESS OR JOIST SPACING

AS REQ'D FOR FLOOR FINISH MATERIALS. 16"x16" SOLID FILLED MASONRY PIERS <u>/FI\</u> ON A 52"x36"x12" CONC. FTG.

> FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DRIVE RALEIGH, NC 27609 LICENSE: C-4772, PHONE: 919-878-1617 PROJECT #: 23-1396

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or safety precautions.

• Any deviations or discrepancies on plans are to be brought to the immediate attention of Southern Engineers. Failure to do so will void Southern Engineer's liability.

Seal is valid for a project permitted within one year from date of seal.

Use of these plans constitutes approval of terms and conditions as defined in the customer agreement.

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

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MURPHY

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8-2-16 FILE NAME: **HH-15-3000**

REVISIONS
8-3-17 TWG PLAN
TWG PLAN

4-25-23 TWG PLAN

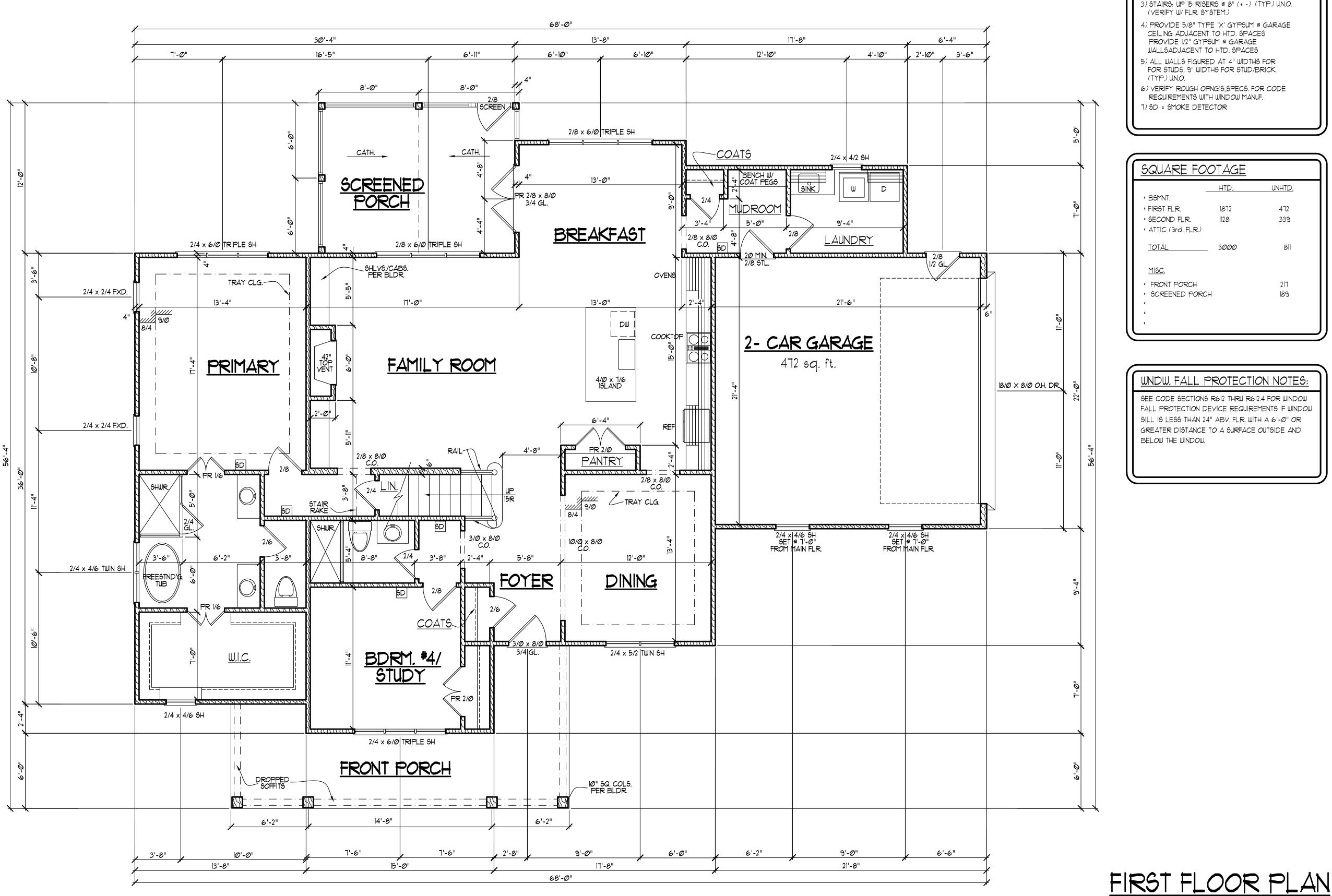
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FIRST FLOOR NOTES:

- 1) 9'-0" CLG. HGT. (TYP.) U.N.O.
- 2) SET WINDOWS @ 8'-0" A.F.F. (TYP.) U.N.O. 3) STAIRS: UP 15 RISERS @ 8" (+ -) (TYP.) UN.O. (VERIFY W/ FLR. SYSTEM.)
- 4) PROVIDE 5/8" TYPE 'X' GYPSUM @ GARAGE CEILING ADJACENT TO HTD. SPACES PROVIDE 1/2" GYPSUM @ GARAGE
- WALLSADJACENT TO HTD. SPACES 5) ALL WALLS FIGURED AT 4" WIDTHS FOR FOR STUD/5, 9" WIDTHS FOR STUD/BRICK
- (TYP.) U.N.O. 6) VERIFY ROUGH OPNG'S, SPECS. FOR CODE
- REQUIREMENTS WITH WINDOW MANUF. 1) SD = SMOKE DETECTOR

SOLARE FOOTAGE

ı	SQUARE FOOTAGE		
		HTD.	UNHTD.
ı	* BSMNT.		
ı	* FIRST FLR.	1872	472
ı	* SECOND FLR.	1128	339
ı	* ATTIC (3rd. FLR.)		
	<u> 10</u> 1AL	_ 3000	811
	MISC.		
1	* FRONT PORCH		217
1	* SCREENED PORCH		189
1	*		

WNDW. FALL PROTECTION NOTES:

SEE CODE SECTIONS R612 THRU R612.4 FOR WINDOW FALL PROTECTION DEVICE REQUIREMENTS IF WINDOW SILL IS LESS THAN 24" ABV. FLR. WITH A 6'-0" OR GREATER DISTANCE TO A SURFACE OUTSIDE AND BELOW THE WINDOW.

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TWG PLAN

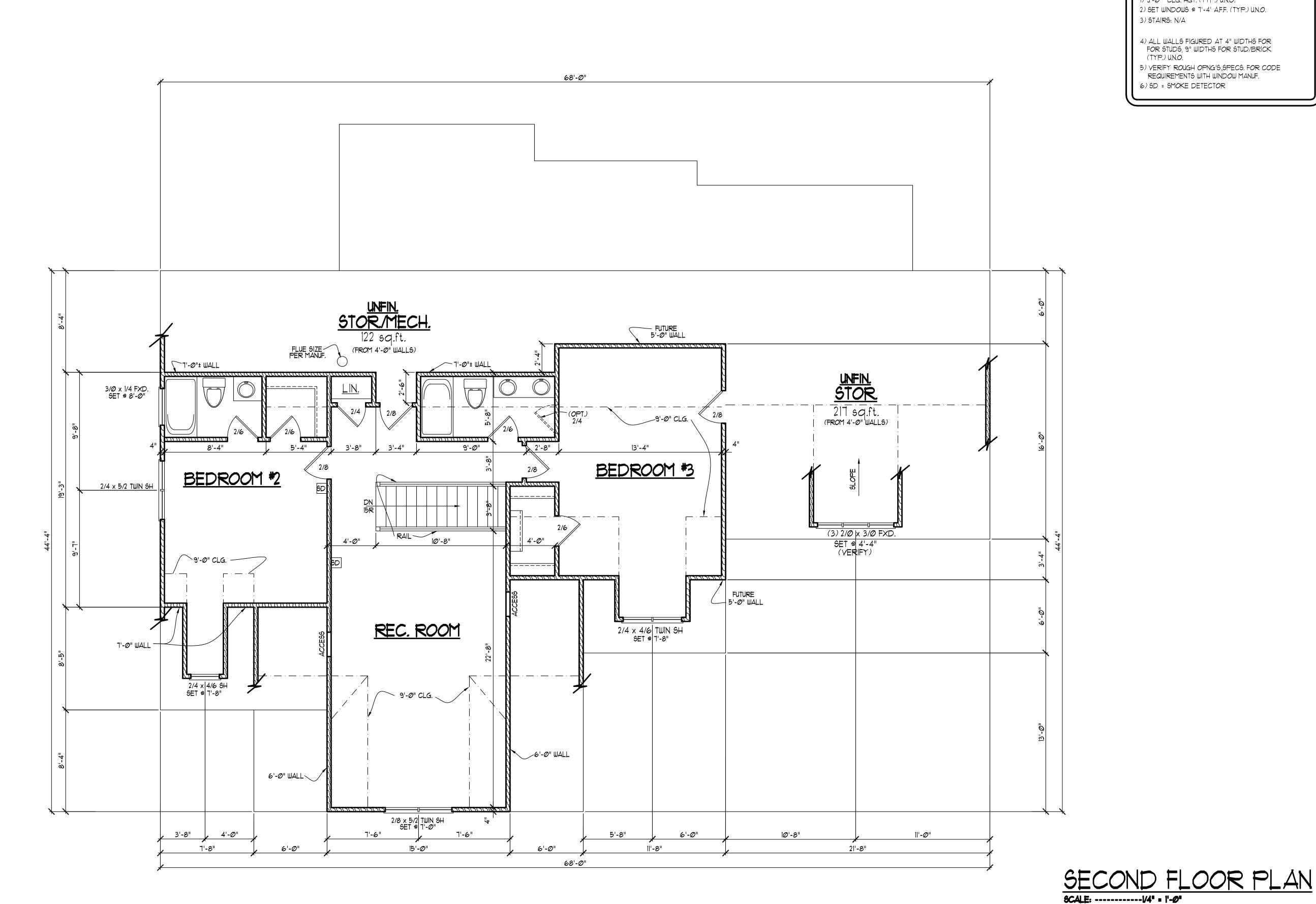
4-25-23 TWG PLAN

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SECOND FLOOR NOTES:

1) 9'-0" CLG. HGT. (TYP.) U.N.O. 2) SET WINDOWS @ 7'-4' A.F.F. (TYP.) U.N.O. 3) STAIRS: N/A

4) ALL WALLS FIGURED AT 4" WIDTHS FOR FOR STUDS, 9" WIDTHS FOR STUD/BRICK (TYP.) U.N.O.

5) VERIFY ROUGH OPNG'S,SPECS. FOR CODE REQUIREMENTS WITH WINDOW MANUF. 6) SD = SMOKE DETECTOR

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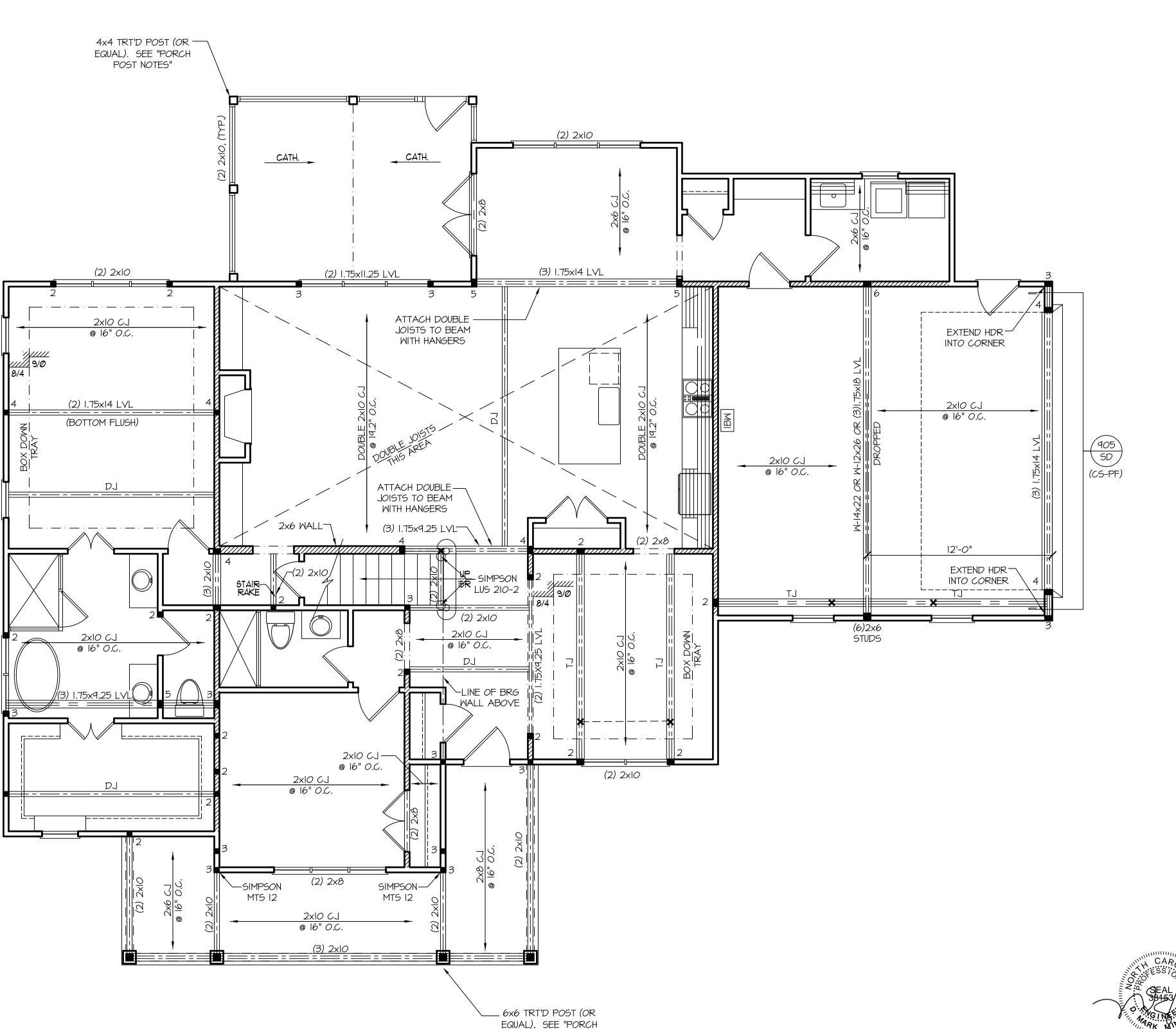
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TWG PLAN
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POST NOTES"

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FRAMING NOTES

NC (2018 NCRC): Wind: 115-120 mph

- BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP: CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.
- EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (MSP) (EXPOSURE B: 1/16". EXPOSURE C: 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
- WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE, BLOCK AT ROOF PER SECTION R602,10,4,5 AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL BE SPLICED ALONG CONTINUOUS BAND OR THE WSP SHEATHING MAY BE SPLICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES. (MINIMUM 12" BEYOND FLOOR BREAK) OR OTHER APPROVED METHOD.
- "HD" = HOLDOWN: HOLD-DOWN DEVICE (NOTED AS "HD" ON PLANS) SHALL BE AN 800 POUND CAPACITY ASSEMBLY AS NOTED ON PLANS. SEE DETAILS FOR HD ASSEMBLY.
- **GROUND/FIRST FLOOR: USE "HD HOLD-DOWN DETAIL" ON SD SHEET **UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON
- CS20 OR CSHP20 STRAP DOWN ACROSS THE BAND AND DOWN TO A STUD BELOW OR HEADER BELOW. EXTEND STRAP 7" MIN ALONG EACH STUD (OR HEADER) AND ATTACH EACH END W/ (7) 8d NAILS.
- INTERIOR BRACED WALL: (NOTED AS "IBM" ON PLANS) ATTACH 1/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.
- INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH 1/6" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP AS REQUIRED. ATTACH OPPOSITE SIDE WITH I/2" GB WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" OC ALONG THE EDGES AND AT INTERMEDIATE

HEADER/BEAM & COLUMN NOTES

- ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (I) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOI COMMENTARY "KING STUDS AT WALL OPENINGS" REVISED 1-9-2020:
- •• UP TO 3' SPAN: (I) KING STUD OVER 3' UP TO 6' SPAN: (2) KING STUDS OVER 6' UP TO 9' SPAN: (3) KING STUDS OVER 9' UP TO 12' SPAN: (4) KING STUDS
- OVER 12' UP TO 15' SPAN: (5) KING STUDS

PORCH POST NOTES:

- 4X4 (6x6) TRT'D POST (OR EQUAL). ATTACH TRUSSES (RAFTERS) AT PORCH WITH HURRICANE CONNECTORS.
- POST CAP: SIMPSON AC4-MAX (AC6-MAX) POST CAP AT CORNER: (2) SIMPSON LCE4 (MITER HEADER AT CORNER). HIGH WIND; ADD (1)
- POST BASE: SIMPSON ABU44 (ABU66). 3.I. <u>MONO</u>: %" ANCHOR (EMBED 7")
- 3.2. <u>CMU</u>: %" ANCHOR (EXTEND TO FOOTING -HIGH WIND ONLY) POST BASE: WOOD FOUNDATION: (2) SIMPSON CSI6 STRAPS AT POSTS. EXTEND 12" ONTO
- NOTE: THE ABOVE CONNECTORS ARE SUGGESTIONS. EQUIVALENT CONNECTORS THAT MEET THE REQUIREMENTS OF THE NO RESIDENTIAL BUILDING CODE, LOCAL CODES, AND/OR ARE APPROVED BY THE BUILDING INSPECTOR MAY BE SUBSTITUTED.

EACH POST (UPPER AND LOWER) OR TO GIRDER.

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DRIVE RALEIGH, NC 27609 LICENSE: C-4772, PHONE: 919-878-1617 PROJECT #: 23-1396

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FIRST FLOOR CEILING STRUCTURAL PLAN SCALE: ----- 1/4" = 1'-0"

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FILE NAME: **HH-15-3000**

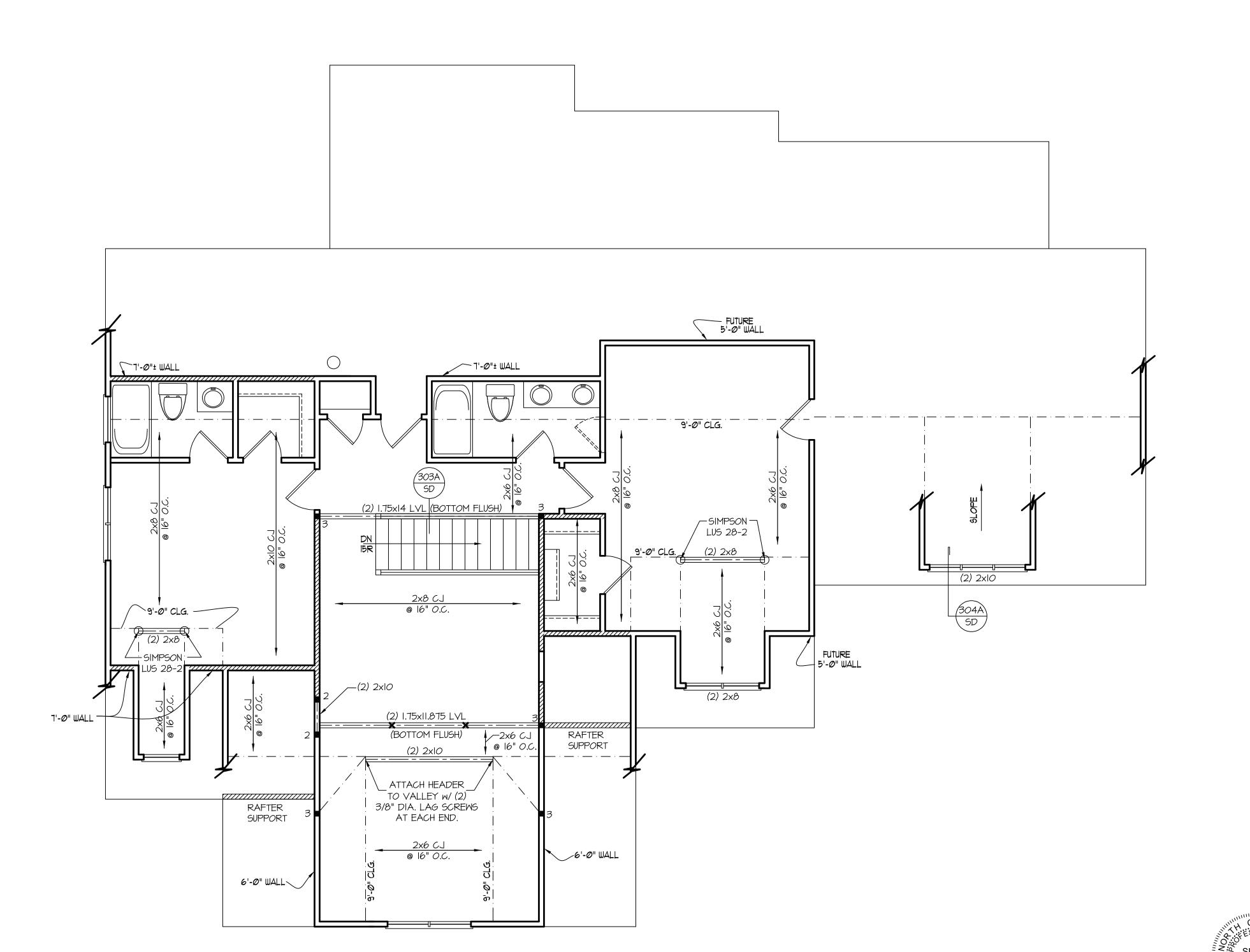
8-3-17 TWG PLAN 4-25-23 TWG PLAN

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HEADER/BEAM & COLUMN NOTES

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FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

FILE NAME: **HH-15-3000**

DRAWN BY: TWG

REVISIONS

8-3-11 TWG PLAN

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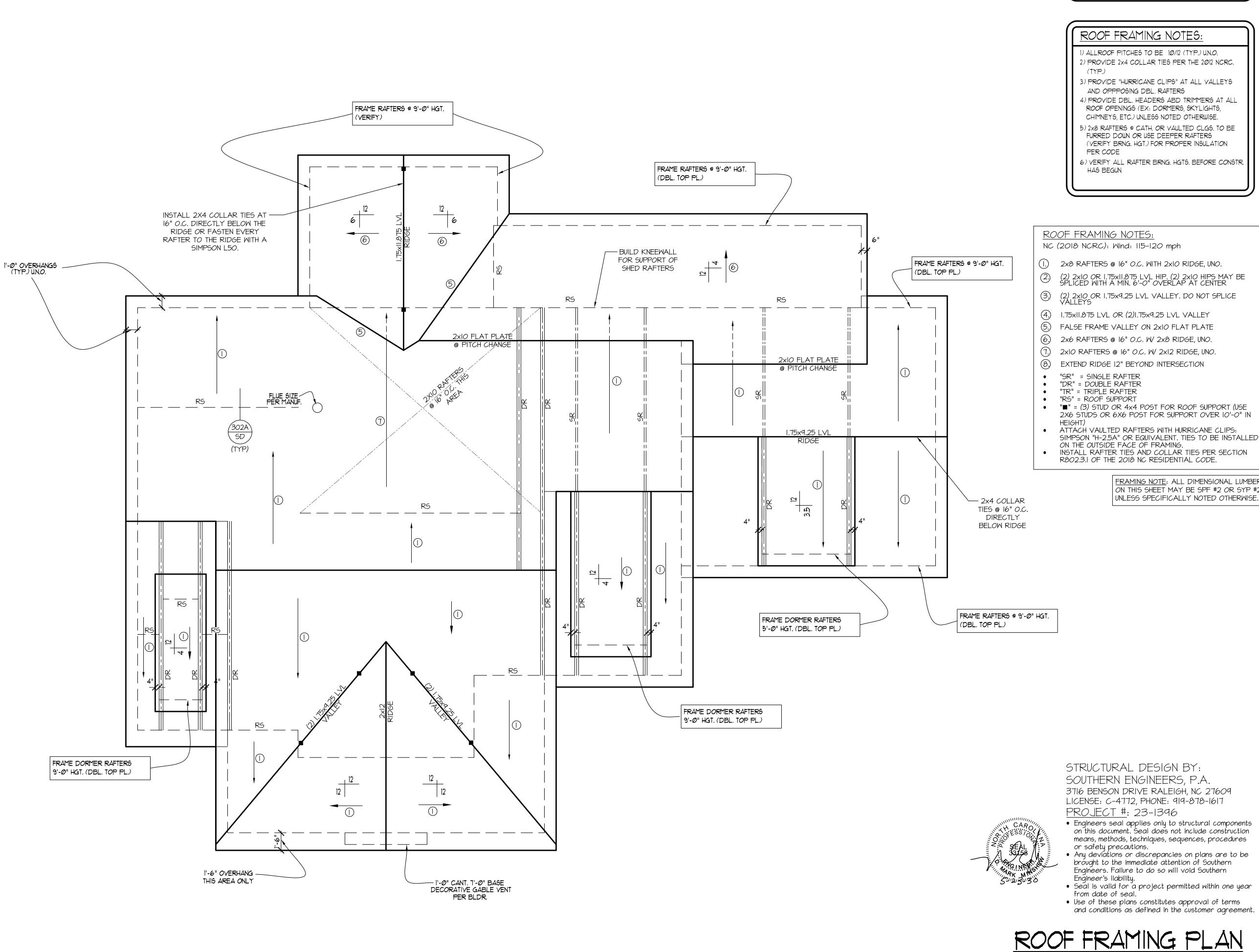
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2) PROVIDE 2x4 COLLAR TIES PER THE 2012 NCRC.

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- 4) PROVIDE DBL. HEADERS ABD TRIMMERS AT ALL
- (VERIFY BRNG. HGT.) FOR PROPER INSULATION
- 6) VERIFY ALL RAFTER BRNG. HGTS. BEFORE CONSTR.

- "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT (USE 2X6 STUDS OR 6X6 POST FOR SUPPORT OVER 10'-O" IN

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

- SIMPSON "H-2.5A" OR EQUIVALENT. TIES TO BE INSTALLED

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

> DRAWN BY: TWG 8-2-16

FILE NAME: HH-15-3000

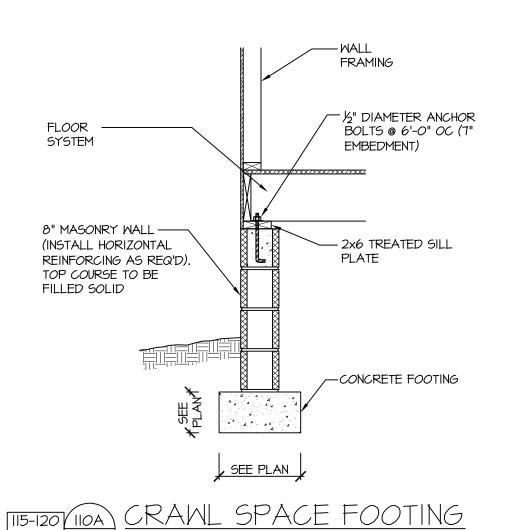
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TWG PLAN 4-25-23 TWG PLAN

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NOTE: AT INTERMEDIATE WALL

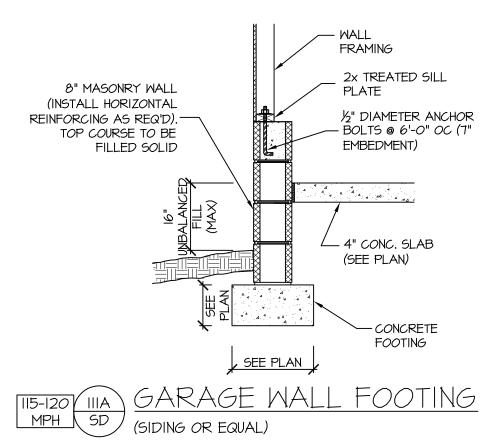
SEGMENTS BETWEEN OPENINGS, THE

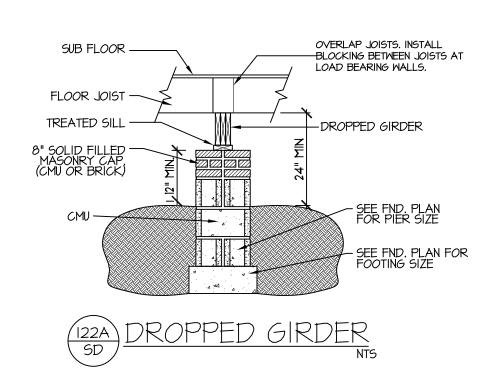
THE STUD COLUMN ON EACH END OF

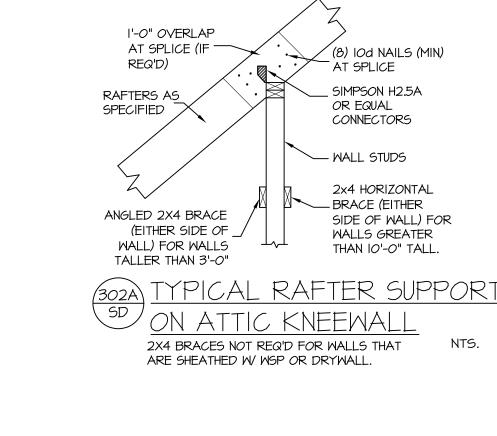
STRAPS SHALL BE INSTALLED AT

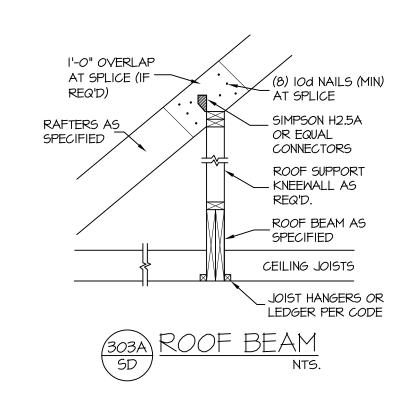
MIN. 3"xII.25" HEADER. SEE PLAN

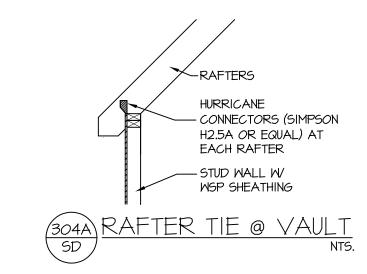
THE WALL SEGMENT.

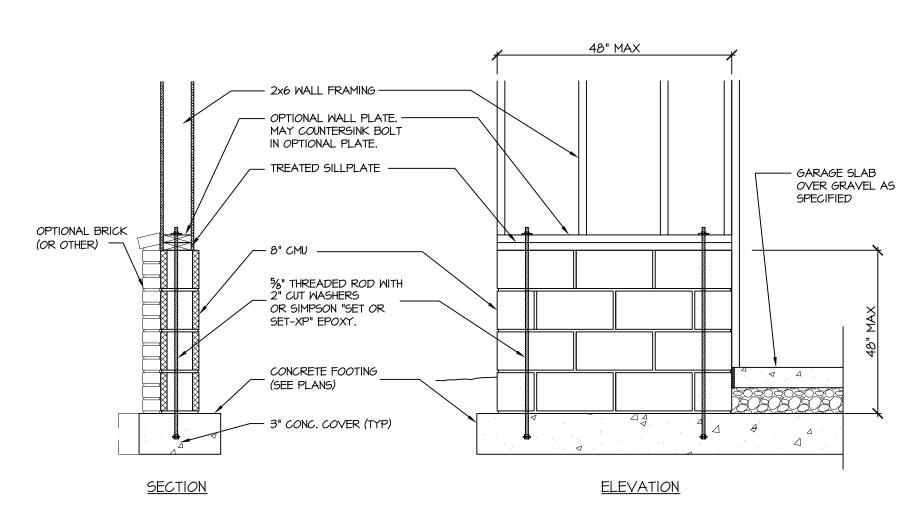












GARAGE 'WING WALL' REINFORCING PER IRC FIGURE R602.10.4.3



NC (2018 NCRC): Wind: 115-120 mph

- I. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS AND HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIER & GIRDER SYSTEM, FOOTING, AND PILING SYSTEM. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. ALL REQUIREMENTS FOR PROFESSIONAL CERTIFICATION SHALL BE PROVIDED BY THE APPROPRIATE PROFESSIONAL. SOUTHERN ENGINEERS, P.A. CERTIFIES ONLY THE STRUCTURAL COMPONENTS AS SPECIFICALLY STATED.
- 2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE 2018 NO RESIDENTIAL CODE, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK, NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.
- 3. DESIGN LOADS (LISTED AS: LIVE LOAD, DEAD LOAD, DEFLECTION)
- ROOMS OTHER THAN SLEEPING ROOMS: (40 PSF, IO PSF, L/360) SLEEPING ROOMS: (30 PSF, IO PSF, L/360)
- ATTIC WITH PERMANENT STAIR: (40 PSF, IO PSF, L/360)
- ATTIC WITHOUT PERMANENT STAIR: (20 PSF, IO PSF, L/360) ATTIC WITHOUT STORAGE: (10 PSF, 10 PSF, L/240)
- STAIRS: (40 PSF, I0 PSF, L/360)
- DECKS AND EXTERIOR BALCONIES: (40 PSF, IO PSF, L/360)
- PASSENGER VEHICLE GARAGES: (50 PSF, IO PSF, L/360)

SNOW: (20 PSF)

4. WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL

PANELS. SEE FRAMING NOTES FOR THICKNESS AND NAILING REQUIREMENTS.

- 5. SEE APPENDIX M (DCA6) FOR EXTERIOR DECK REQUIREMENTS INCLUDING ATTACHMENTS FOR LATERAL LOADS.
- 6. CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINED PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP. CONTROL JOINTS IN SLABS SHALL BE SPACED ON A GRID OF +-30 TIMES THE DEPTH (D). CONTROL JOINTS SHALL BE SAWCUT TO A DEPTH OF I/D. (I.E. 4" CONCRETE SLABS SHALL HAVE 4" DEEP CONTROL JOINTS SAWCUT IN SLAB ON A +-10'-0" x +-10'-0" GRID).
- 7. ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
- 8. ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 875 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP # 2. PLATE MATERIAL MAY BE SPF # 3 OR SYP #3 (Fc(perp) =
- 9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.9xI0 PSI. 9.1. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0xI0 PSI. 9.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55xIO PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
- IO. ALL ROOF TRUSS AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH THE SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURE'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
- II. ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. ALL STEEL TUBING SHALL BE ASTM A500.
- 12. REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.
- 13. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A325) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.
- 14. BRICK LINTELS (WHEN REQUIRED) SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO 9'-0". SEE PLANS FOR SPANS OVER 9'-0". SEE ALSO SECTION R703.8.3 LINTELS.
- 15. METAL CONNECTORS REFERENCED ON PLANS CORRESPOND TO SIMPSON STRONG-TIE BRAND. CONNECTORS OF EQUAL OR BETTER CAPACITY ARE ACCEPTABLE. CORROSION RESISTANCE PER CODE AND AS RECOMMENDED BY MANUFACTURER.

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8-3-17 TWG PLAN

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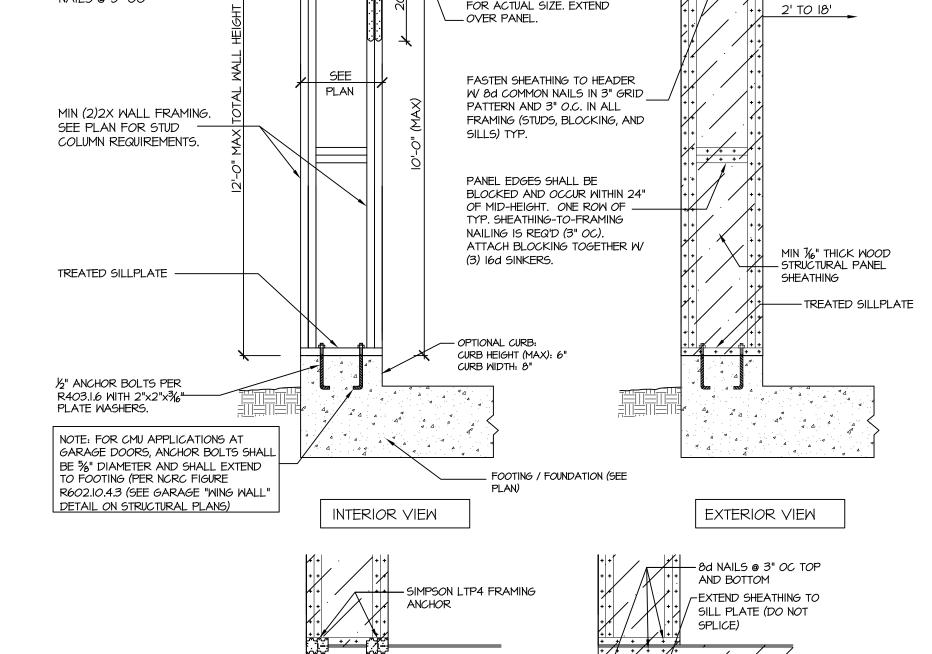
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STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DRIVE RALEIGH, NC 27609 LICENSE: C-4772, PHONE: 919-878-1617 PROJECT #: 23-1396

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STRUCTURAL DETAILS



(2) SIMPSON CSI6 STRAP-

TO WALL TOP PLATE AND

WITH 8d NAILS. (EXTEND

EXTEND 20" UNDER

(2) ROWS OF 16d-

NAILS @ 3" OC

HEADER).

<u>CS-PF: CONTINUOUS PORTAL FRAME CONSTRUCTION</u> DETAIL AND APPLICATION BASED ON NORC FIGURE R602.10.1 - PORTAL FRAME CONSTRUCTION

CS-PF - OVER WOOD FLOOR

MSP OVERLAP OPTION

FRAMING ANCHOR OPTION