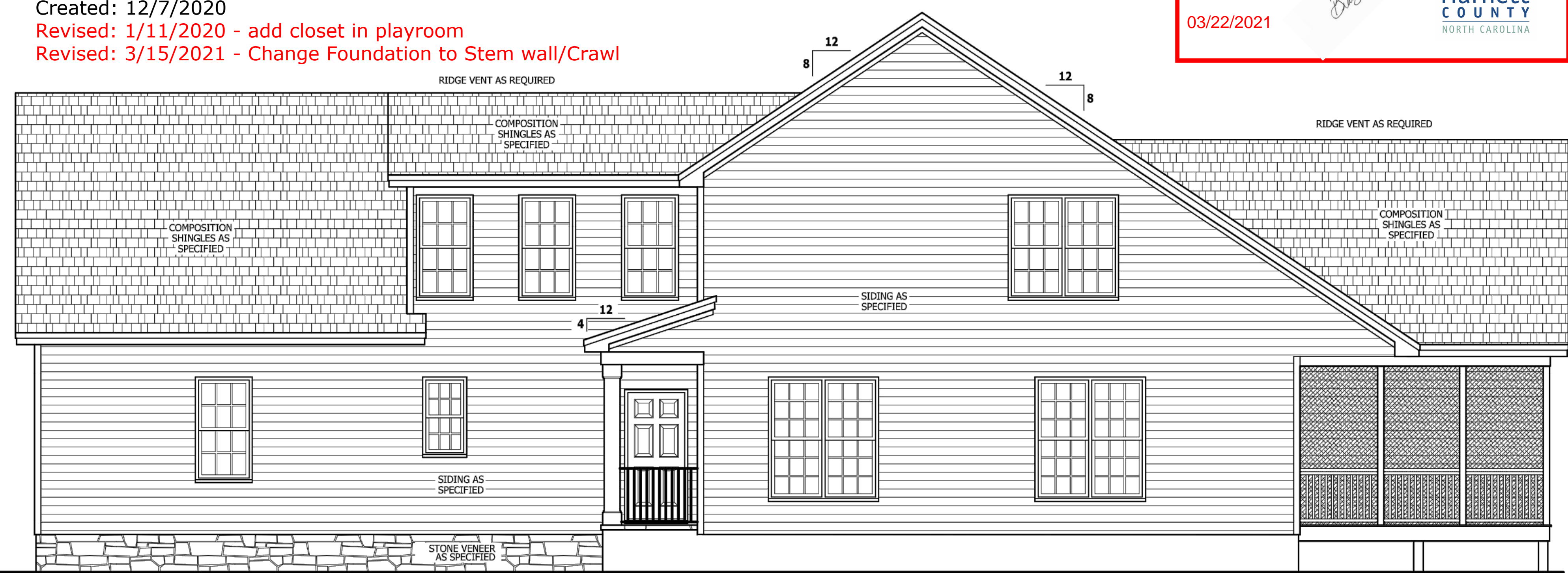


Carriage Circle 1161 - 116 Spruce Hollow Circle, Spring Lake 28390
 Harnett County
 Created: 12/7/2020
 Revised: 1/11/2020 - add closet in playroom
 Revised: 3/15/2021 - Change Foundation to Stem wall/Crawl

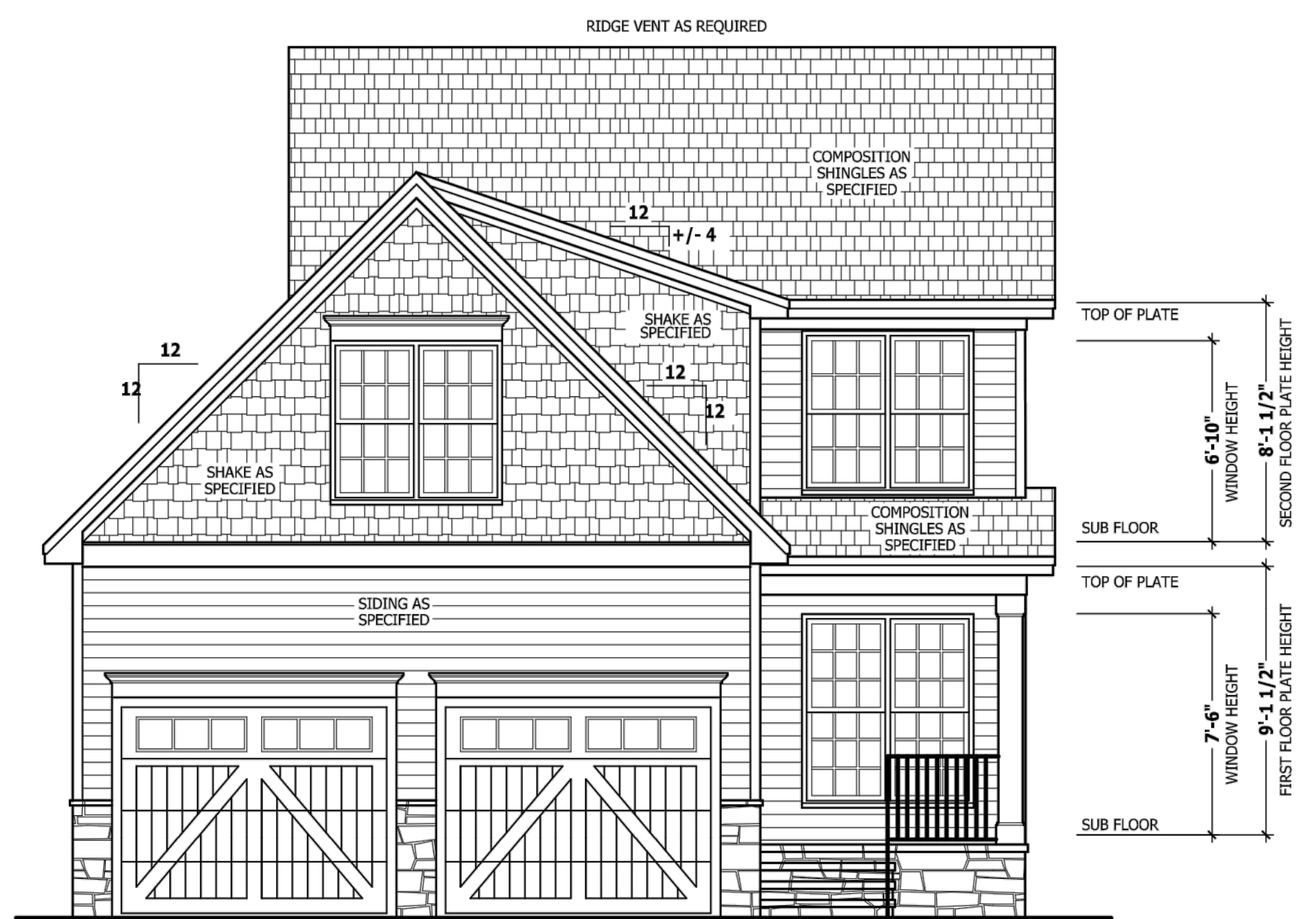
NOTICE TO CONTRACTOR
 All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
 Limited building only review
 Permit holder responsible for full compliance with the code

03/22/2021

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

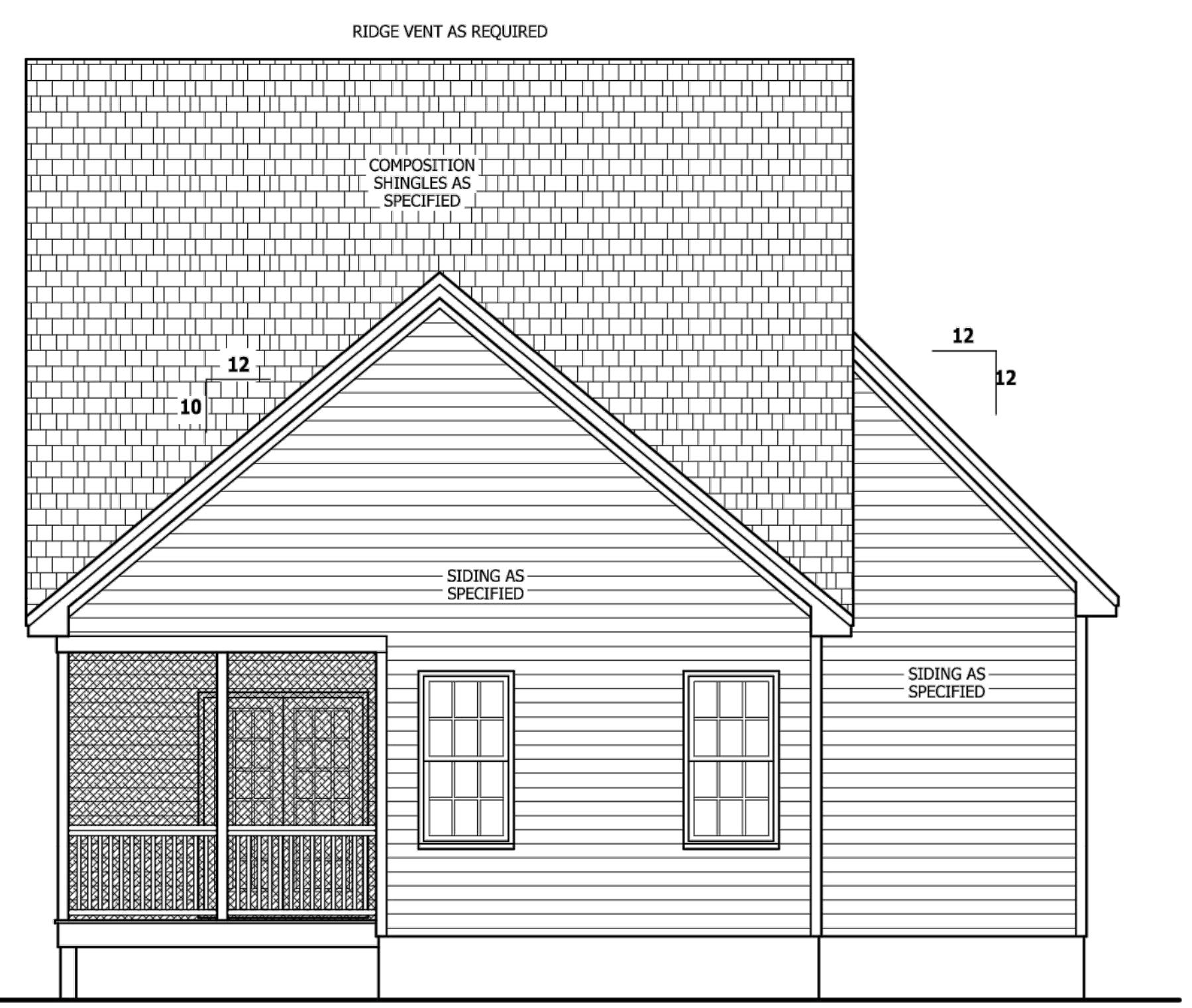


FRONT ELEVATION - A
 SCALE 1/4" = 1'-0"

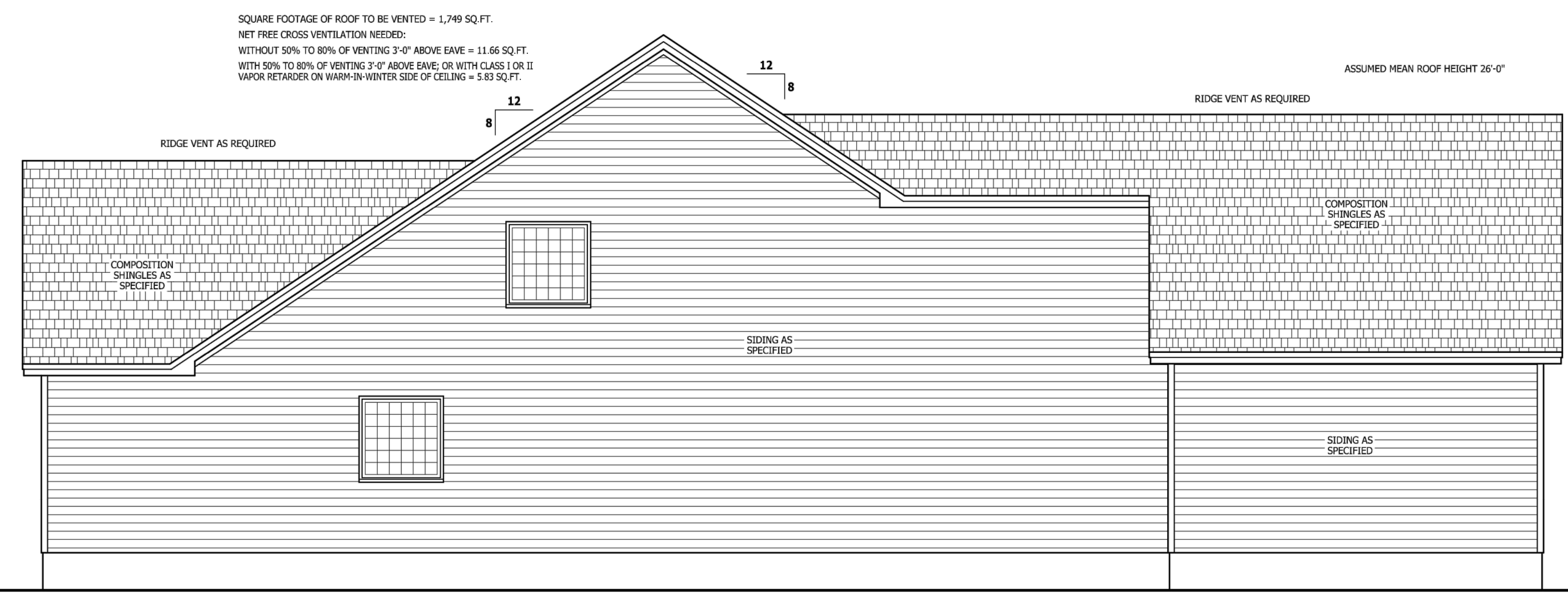
Elevation A
 Garage Left
 Fiber Cement Siding

SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1180 SQ. FT.
SECOND FLOOR	834 SQ. FT.
PLAYROOM	263 SQ. FT.
TOTAL	2277 SQ. FT.
UNHEATED	
GARAGE	462 SQ. FT.
FRONT PORCH	45 SQ. FT.
REAR PORCH	129 SQ. FT.
TOTAL	636 SQ. FT.



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



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

SQUARE FOOTAGE OF ROOF TO BE VENTED = 1,749 SQ. FT.
 NET FREE CROSS VENTILATION NEEDED:
 WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 11.66 SQ. FT.
 WITH 50% TO 80% OF VENTING 3'-0" ABOVE EAVE; OR WITH CLASS I OR II VAPOR RETARDER ON WARM-IN-WINTER SIDE OF CEILING = 5.83 SQ. FT.

PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS. HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTOR PRACTICES AND PROCEDURES. CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION. THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

**THE WATSON II
 ELEVATION - A**

WYNN CONSTRUCTION, INC.
 2550 CAPITOL DR., SUITE 105
 CREEDMOOR, NC 27522

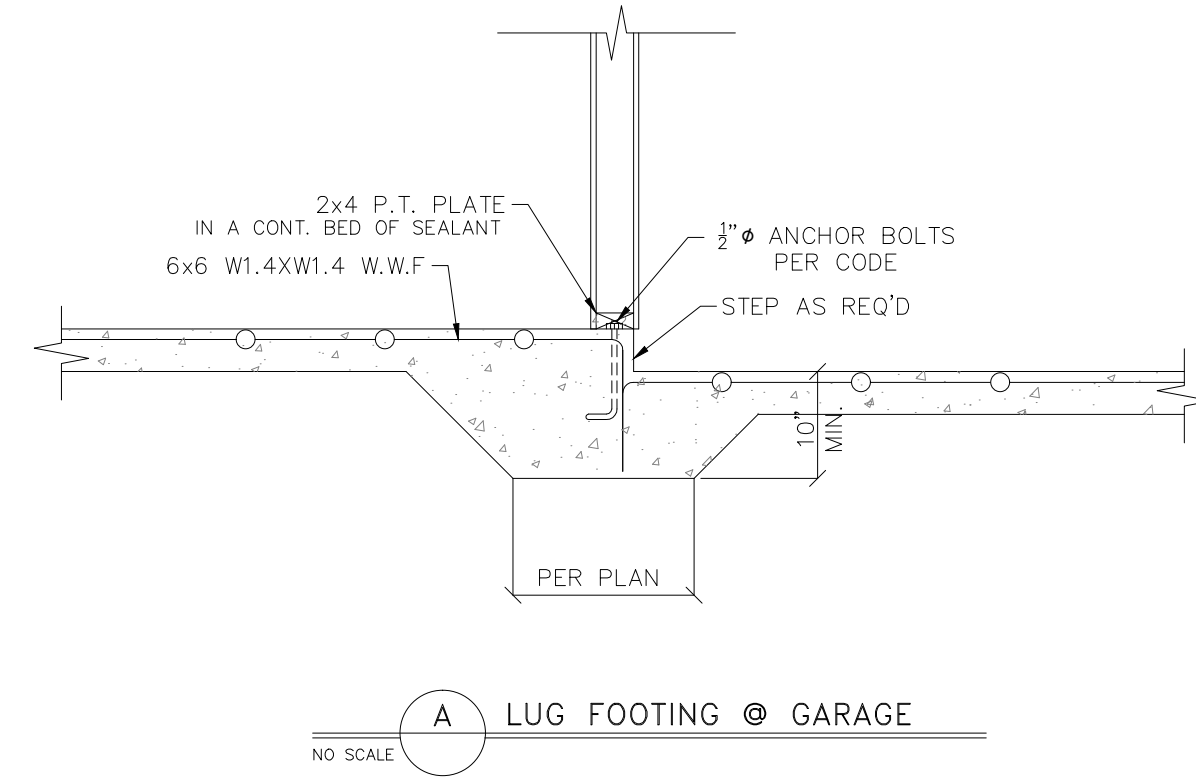
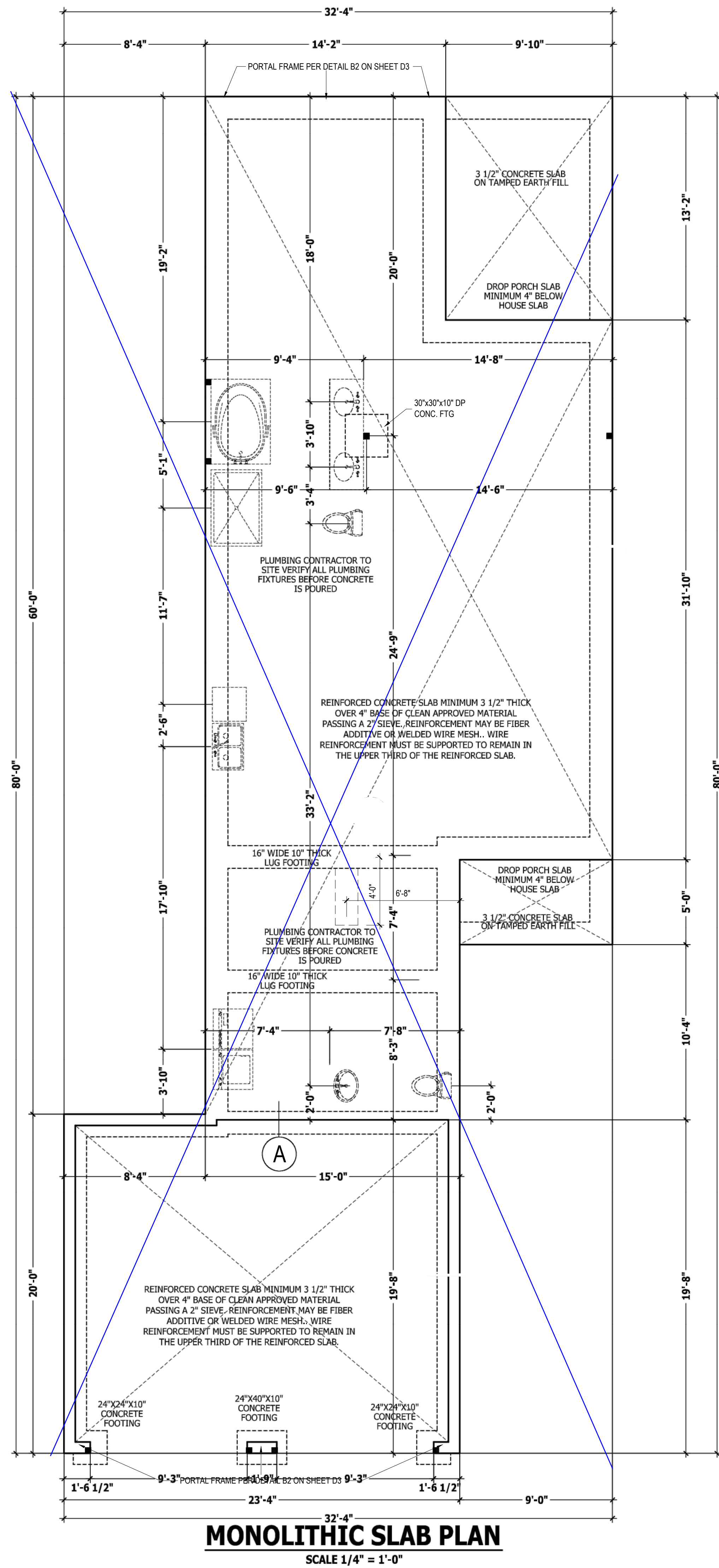
**HAYNES
 HOME PLANS, INC.**
 P.O. Box 702, Wake Forest, NC 27588 919-435-6180 Fax 1-866-691-0386



SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1180 SQ. FT.
SECOND FLOOR	834 SQ. FT.
PLAYROOM	263 SQ. FT.
TOTAL	2277 SQ. FT.
UNHEATED	
GARAGE	462 SQ. FT.
FRONT PORCH	45 SQ. FT.
REAR PORCH	129 SQ. FT.
TOTAL	636 SQ. FT.

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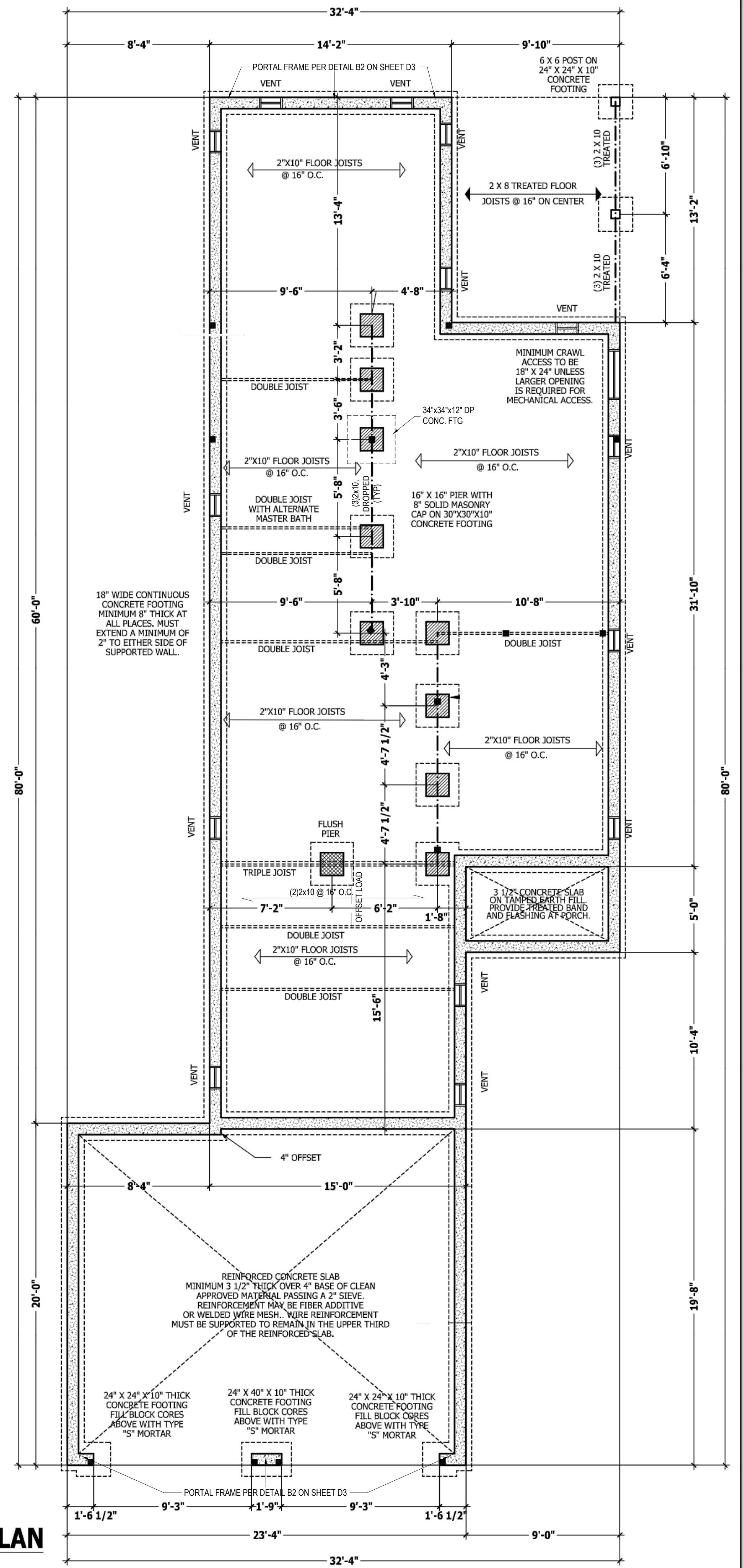
199-72-3900 • 199-73-9688
250 Skiplake Drive • Garner • North Carolina • 27820
www.tyndallengineering.com

Project Number: 1901-010170
*Structural analysis based on NC Residential Building Code 2018
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SQUARE FOOTAGE OF FOUNDATION TO BE VENTED = 1,070 SQ.FT.
WITHOUT CROSS VENTILATION AREA OF VENTING NEEDED = 7.13 SQ.FT.
WITH CROSS VENTILATION AREA OF VENTING NEEDED = .71 SQ.FT.
NOTE: NUMBER OF VENTS NEED WILL VARY DEPENDING ON VENTS USED AND CROSS VENTILATION.

FOUNDATION PLAN

SCALE 1/4" = 1'-0"



PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS. WAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES. CORE AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION. THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

THE WATSON II
FOUNDATION PLANS

WYNN CONSTRUCTION, INC.
2550 CAPITOL DR., SUITE 105
CREEDMOOR, NC 27522

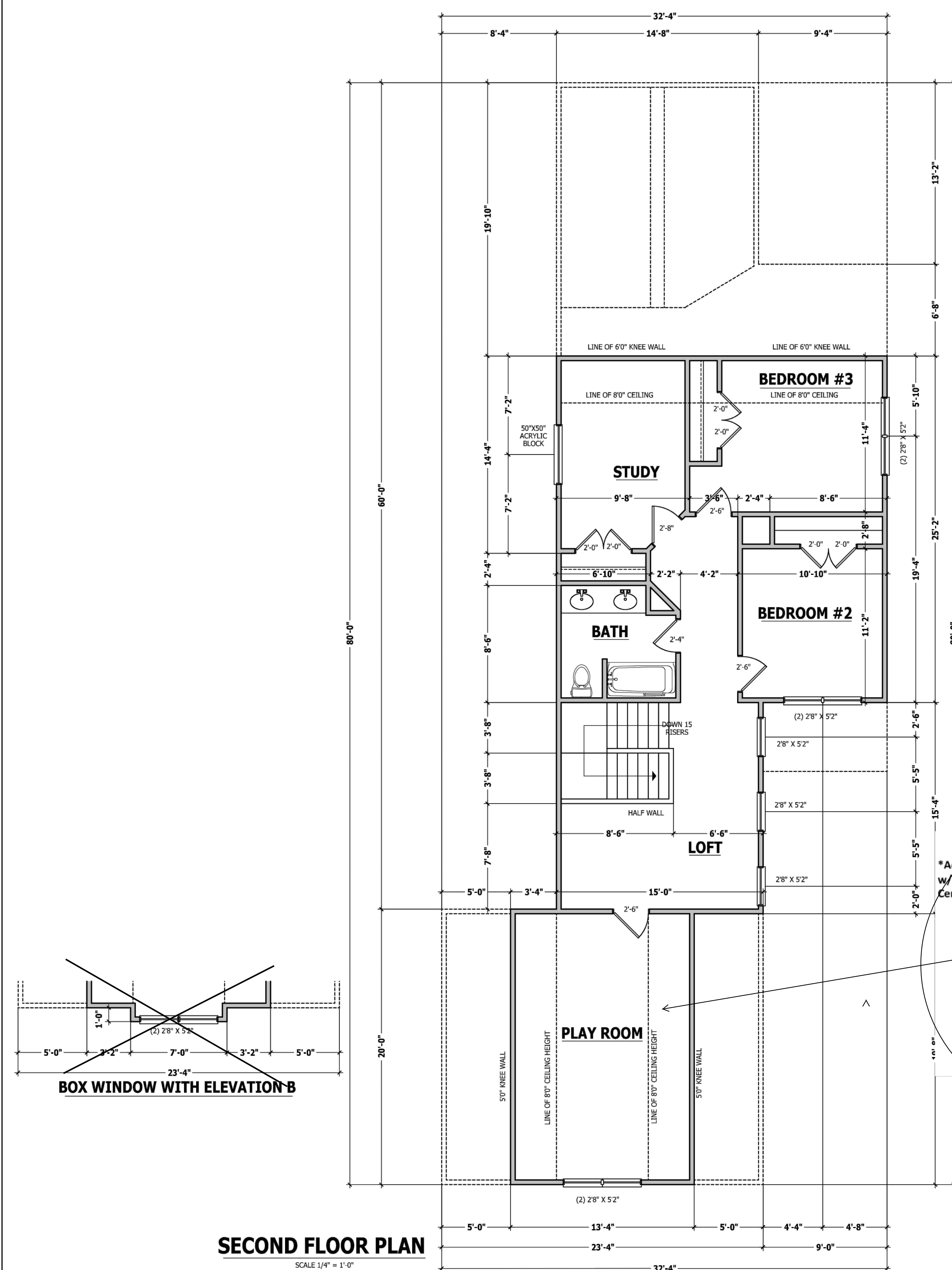
WAYNES
HOME PLANS, INC.



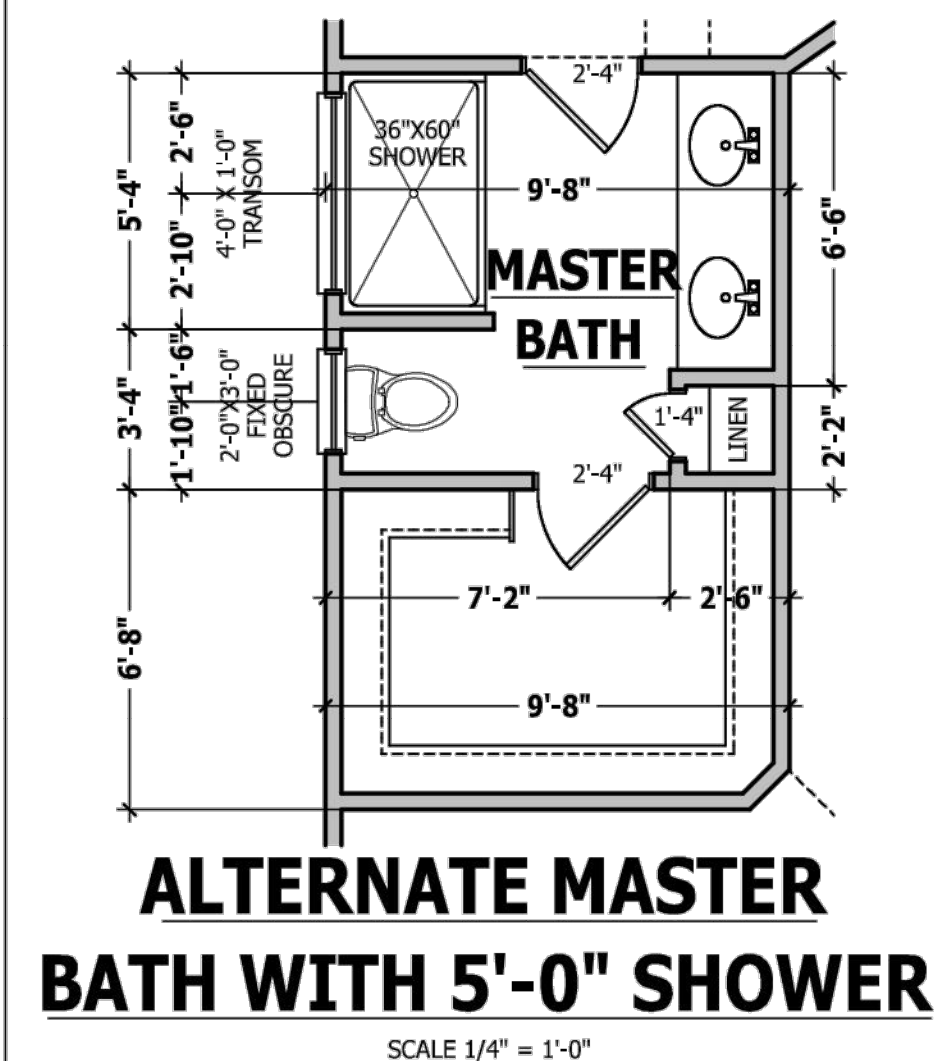
SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1180 SQ. FT.
SECOND FLOOR	834 SQ. FT.
PLANETOTAL	2014 SQ. FT.
TOTAL	2077 SQ. FT.
UNHEATED	
GARAGE	462 SQ. FT.
FRONT PORCH	48 SQ. FT.
REAR PORCH	129 SQ. FT.
TOTAL	639 SQ. FT.

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



ALTERNATE MASTER BATH WITH 5'-0" SHOWER
SCALE 1/4" = 1'-0"

*** Include 5' x 2.5' Closet in Playroom

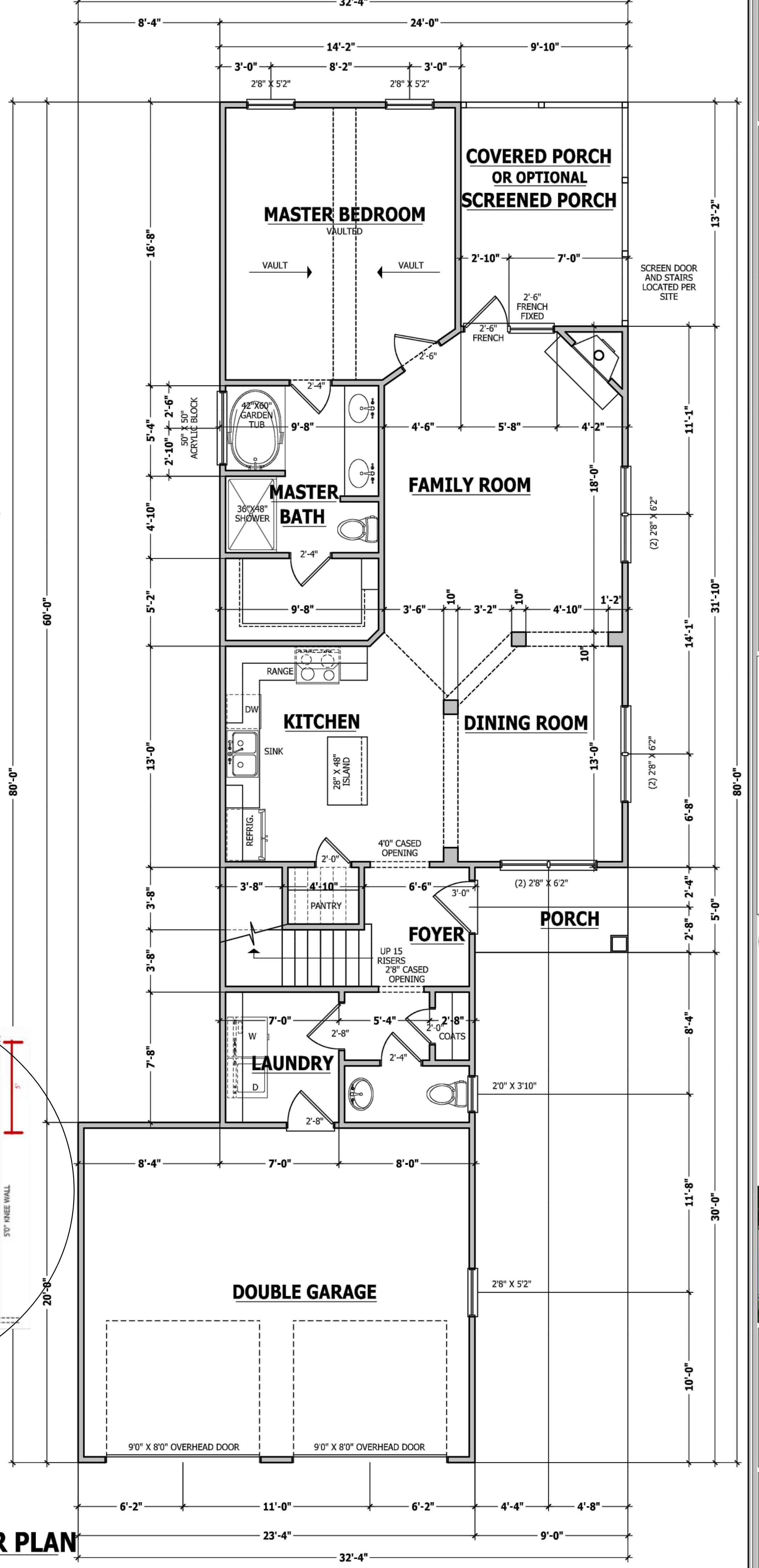
*Add a 5' x 2.5' Closet w/ 2/0 Door, Centered



SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1180 SQ. FT.
SECOND FLOOR	834 SQ. FT.
PLAYROOM	263 SQ. FT.
TOTAL	2277 SQ. FT.
UNHEATED	
GARAGE	462 SQ. FT.
FRONT PORCH	45 SQ. FT.
REAR PORCH	129 SQ. FT.
TOTAL	636 SQ. FT.

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



PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS. HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES. CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION. THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

THE WATSON II
FIRST AND SECOND FLOOR PLANS

WYNN CONSTRUCTION, INC.
2550 CAPITOL DR., SUITE 105
CREEDMOOR, NC 27522

HAYNES
HOME PLANS, INC.
P.O. Box 702, Wake Forest, NC 27888 919-855-8180 FAX 1-866-491-0896



SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1180 SQ. FT.
SECOND FLOOR	834 SQ. FT.
PLAYROOM	263 SQ. FT.
TOTAL	2277 SQ. FT.
UNHEATED	
GARAGE	462 SQ. FT.
FRONT PORCH	45 SQ. FT.
REAR PORCH	129 SQ. FT.
TOTAL	636 SQ. FT.

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**THE WATSON II
STRUCTURAL PLANS**

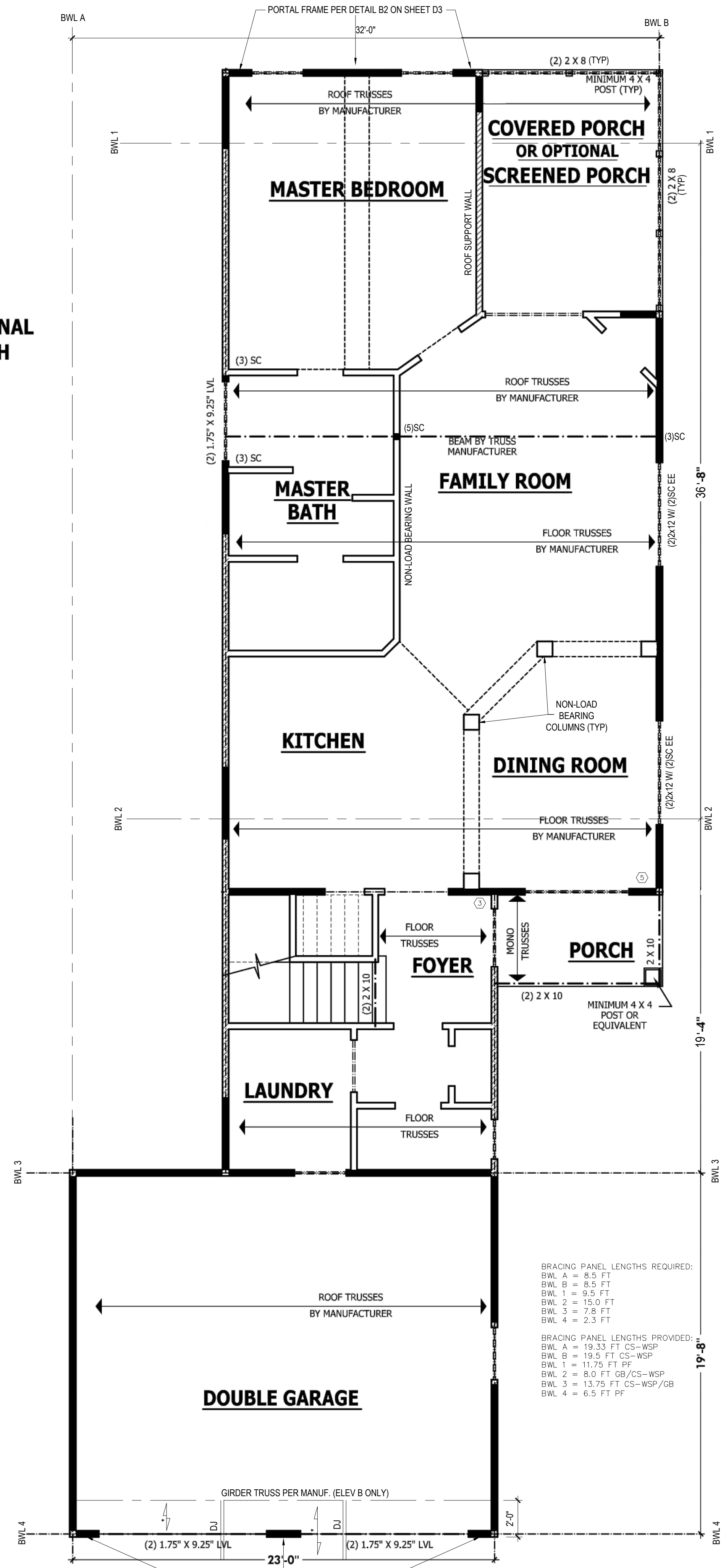
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2550 CAPITOL DR., SUITE 105
CREEDMOOR, NC 27522

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HOME PLANS, INC.**
P.O. Box 702, Wake Forest, NC 27788 919-435-4180 Fax 1-866-491-0595



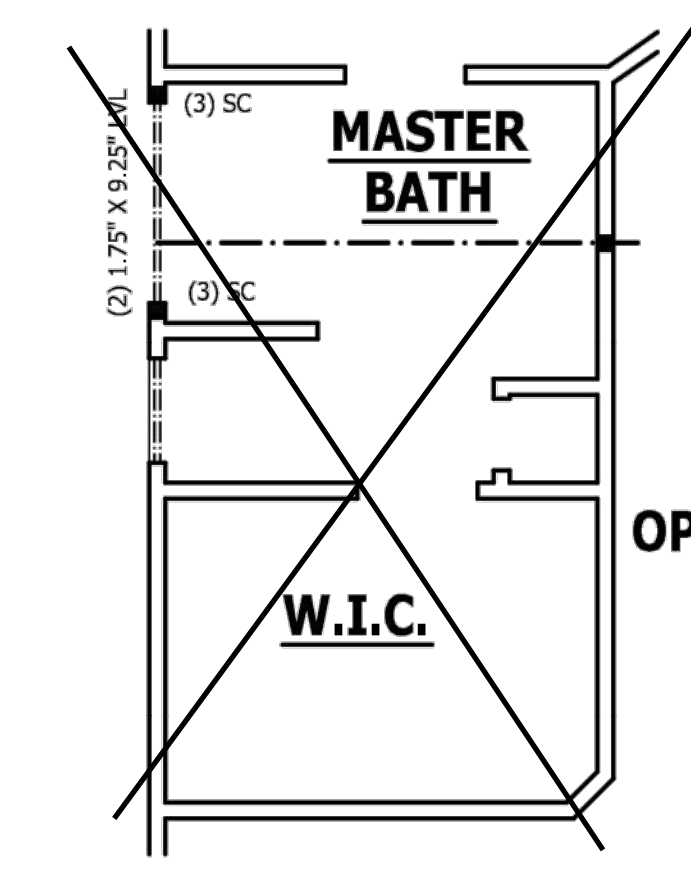
SQUARE FOOTAGE

HEATED	FIRST FLOOR	1180 SQ. FT.
HEATED	SECOND FLOOR	850 SQ. FT.
HEATED	LOFT	227 SQ. FT.
HEATED	PLAYROOM	203 SQ. FT.
HEATED	TOTAL	2460 SQ. FT.
UNHEATED	SCREENED PORCH	450 SQ. FT.
UNHEATED	FRONT PORCH	450 SQ. FT.
UNHEATED	REAR PORCH	125 SQ. FT.
UNHEATED	TOTAL	695 SQ. FT.



BRACING PANEL LENGTHS REQUIRED:
BWL A = 8.5 FT
BWL B = 8.5 FT
BWL 1 = 9.5 FT
BWL 2 = 15.0 FT
BWL 3 = 7.8 FT
BWL 4 = 2.3 FT

BRACING PANEL LENGTHS PROVIDED:
BWL A = 19.33 FT CS-WSP
BWL B = 19.5 FT CS-WSP
BWL 1 = 11.75 FT PF
BWL 2 = 8.0 FT GB/CS-WSP
BWL 3 = 13.75 FT CS-WSP/GB
BWL 4 = 6.5 FT PF



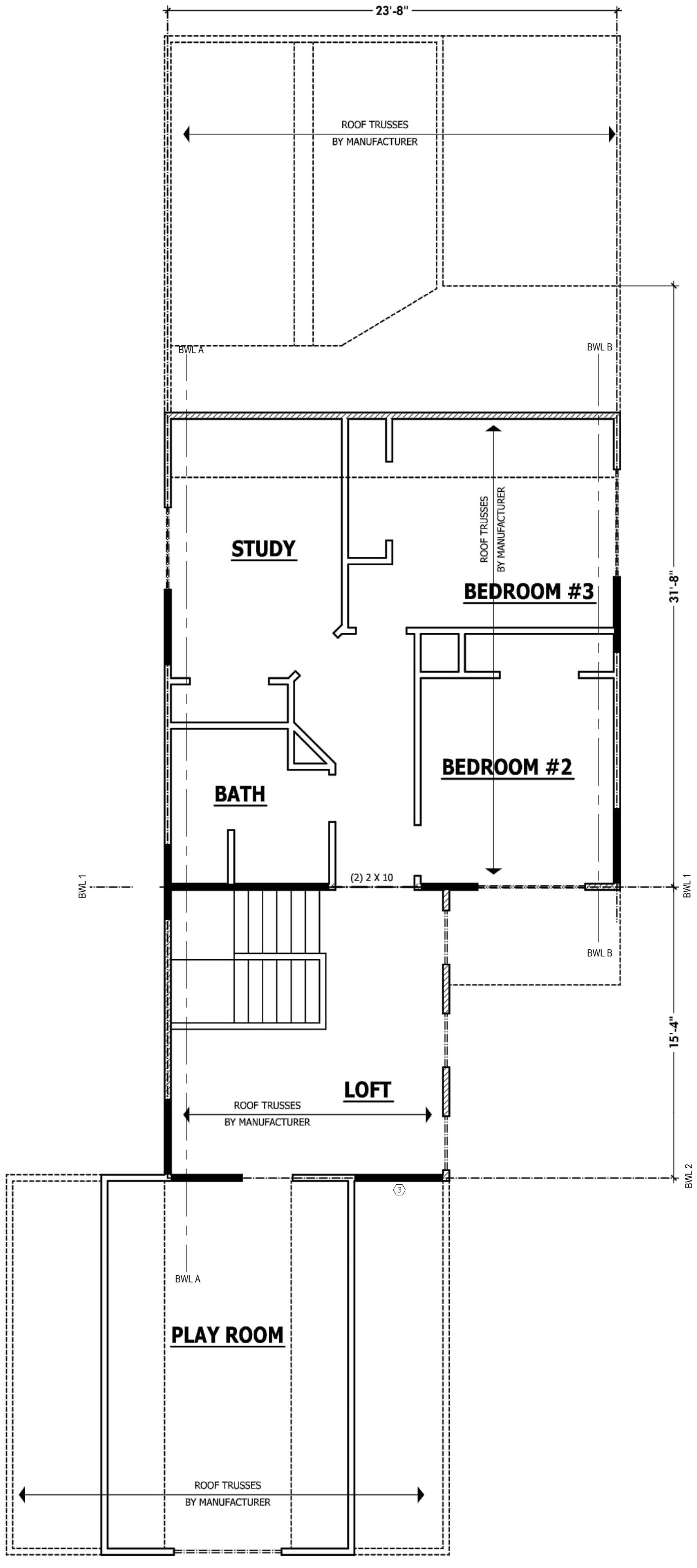
DESIGN LOADS

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
FLOOR (primary)	40	10	L/240
FLOOR (secondary)	40	10	L/240
ATRIC. (w/ storage)	20	10	L/240
ATRIC. (no access)	10	5	L/180
EXTERNAL BALCONY	40	10	L/240
ROOF	20	10	L/240
ROOF TRUSS	20	10	L/240

WIND LOAD BASED ON 120 MPH (EXPOSURE B)
SEISMIC BASED ON SEISMIC ZONES A, B & C

- STRUCTURAL NOTES:**
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, P.A. IS NOT RESPONSIBLE FOR DIMENSIONS AND SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
 - ALL LUMBER SHALL BE SYP #2 (UNG). ALL LVL LUMBER TO BE 1 1/2" WIDE NOMINAL EACH SINGLE MEMBER AND F_b = 2600 PSI, E = 1.9M PSI (E = LEVEL MICROLAM). ALL LVL LUMBER IS TO BE 1.55E (F_b = 2325 PSI).
 - ALL LOAD BEARING EXTERIOR WINDOW HEADERS WITH MAXIMUM SPAN OF 6'-4" SHOULD BE (2) 2x10 w/ (1) 2x4 KING STUD AND (1) 2x4 JACK STUD NAILED TOGETHER w/ (2) 10d @ 8" O.C. PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6" MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6", OTHERWISE REFER TO TABLE R602.7(1).
 - ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLE R602.7(2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS (UNO).
 - REFER TO 2018 NC BUILDING CODE SECTION R602 FOR CONSTRUCTION OF ALL WALLS OVER 10'-0" IN HEIGHT.
 - ALL STRUCTURAL STEEL SHALL BE ASTM A992 GRADE 50 F_y = 50 KSI MIN. (UNO)
 - ALL EXTERIOR LUMBER TO BE #2 SYP PT
 - ALL CONCRETE, f_c = 3000 PSI MIN.
 - PRESUMPTIVE BEARING CAPACITY = 2000 PSF
 - 1/2" ANCHOR BOLTS SPACED AT MAXIMUM OF 6'-0" O.C. AND NOT MORE THAN 12" FROM THE CORNER. THERE SHALL BE A MINIMUM OF (2) BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY.
 - PSL COLUMNS DESIGNED WITH MAX. HEIGHT OF 9'-0" (UNO)
 - PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
 - PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.4 OF THE 2018 IRC.
 - MAXIMUM MASONRY PIER HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
 - UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
 - METAL HANGERS SHALL BE SIMPSON OR APPROVED EQUAL.

- STRUCTURAL SHEATHING NOTES:**
- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
 - WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NRC.
 - BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
 - REFERENCE FIGURE R602.10.4.3 OF THE 2018 NRC.
 - INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)
 - 1/2" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'-0" (ISOLATED PANELS) OR 4'-0" (CONTINUOUS SHEATHING) SECURE w/ 5d COOLER NAILS (OR EQUAL PER TABLE R702.3.5) SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C. AT INTERMEDIATE SUPPORTS
 - 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE w/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
 - 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE w/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
 - EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS-WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
 - ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8". SHEATHING SHALL BE SECURED WITH MINIMUM 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND SPACED AT 12" O.C. AT INTERMEDIATE SUPPORTS.
 - MINIMUM BRACED WALL PANEL LENGTHS WITH CS-WSP METHOD SHALL BE AS FOLLOWS:
 - 24" ADJACENT TO OPENINGS NOT MORE THAN 67% OF WALL HEIGHT
 - 30" ADJACENT TO OPENINGS GREATER THAN 67% AND LESS THAN 85% OF WALL HEIGHT
 - 48" FOR OPENINGS GREATER THAN 85% OF WALL HEIGHT
 - SHEATH INTERIOR & EXTERIOR
 - FOR CS-WSP METHOD, A MINIMUM 24" BRACED WALL PANEL CORNER RETURN SHALL BE PROVIDED AT BOTH ENDS OF A BRACED WALL LINE IN ACCORDANCE WITH FIGURE R602.10.3(4), IN LIEU OF A CORNER RETURN, EITHER A MIN. 48" BRACED WALL PANEL SHALL BE PROVIDED AT THE CORNER OR A HOLD-DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FRAMING BELOW.
 - MINIMUM 800# HOLD-DOWN DEVICE



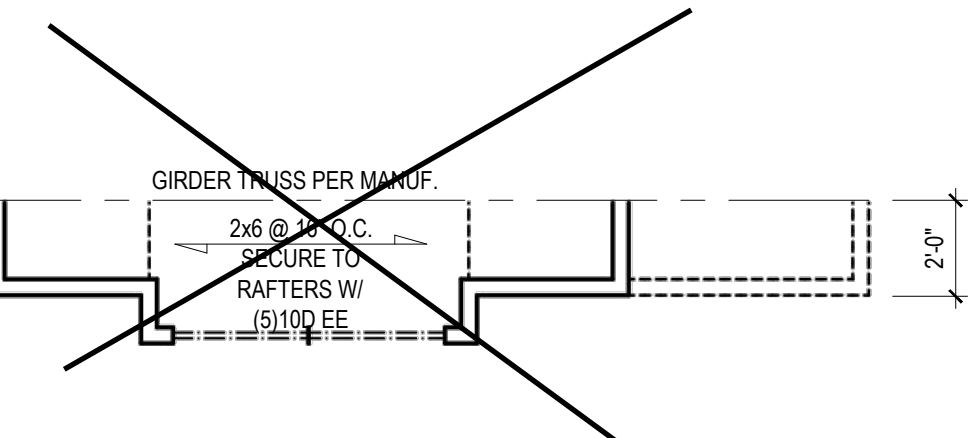
**TYNDALL
ENGINEERING & DESIGN, P.A.**

300 S. 31st Ave. • Garner, N.C. 27520
919-773-3800 • 919-773-8858
www.tyndallengineering.com

Project Number: 1901-010170
* Structural analysis based on NC Residential Building Code 2018
The Engineer's seal applies only to structural components on this document. The seal does not include construction means, methods, techniques, procedures, or safety precautions. Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering's Liability.

BRACING PANEL LENGTHS REQUIRED:
BWL A = 2.6 FT
BWL B = 2.6 FT
BWL 1 = 1.8 FT
BWL 2 = 1.8 FT

BRACING PANEL LENGTHS PROVIDED:
BWL A = 30.75 FT CS-WSP
BWL B = 16.5 FT CS-WSP
BWL 1 = 4.17 FT GB
BWL 2 = 6.88 FT GB/WSP



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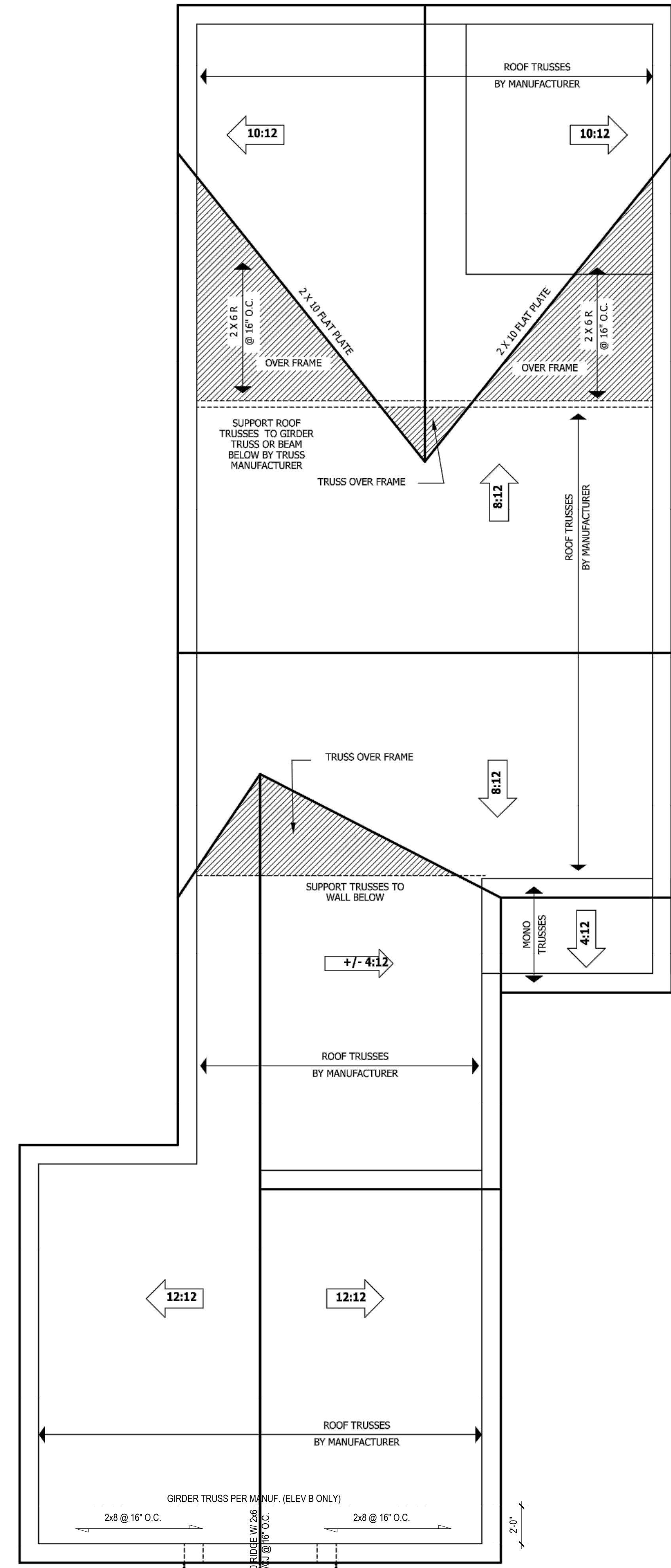
THE WATSON II ROOF PLANS

WYNN CONSTRUCTION, INC.
2550 CAPITOL DR., SUITE 105
CREEDMOOR, NC 27522

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P.O. Box 702, Wake Forest, NC 27588 919-485-4180 Fax 1-866-491-0866

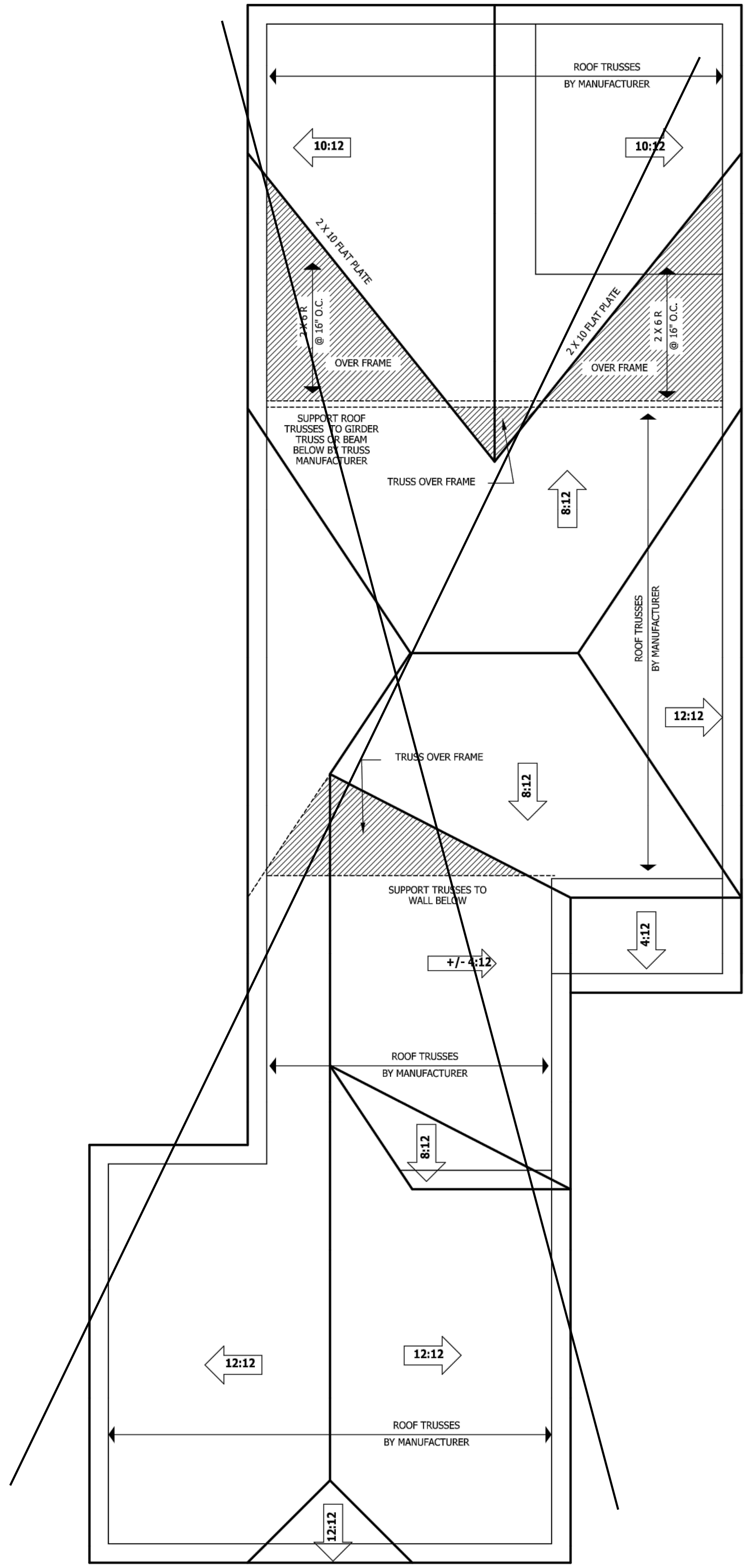


SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1889 SQ. FT.
SECOND FLOOR	881 SQ. FT.
PLAYROOM	283 SQ. FT.
TOTAL	3053 SQ. FT.
UNHEATED	
CARAGE	462 SQ. FT.
FRONT PORCH	45 SQ. FT.
REAR PORCH	129 SQ. FT.
TOTAL	636 SQ. FT.



ROOF PLAN WITH ELEVATIONS A & B

SCALE 1/4" = 1'-0"



ROOF PLAN WITH ELEVATION C

SCALE 1/4" = 1'-0"



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919-773-2800 • 919-773-9668
www.tyndallengineering.com
Project Number: 1901-010170
* Structural analysis based on NC Residential Building Code 2018
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STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.

2) DESIGN LOADS:

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
ALL FLOORS	40	10	L/360	L/240
ATTIC (w/ walk up stairs)	30	10	L/360	L/240
ATTIC (pull down access)	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF	20	10	L/240	L/180
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	SEISMIC ZONES A, B & C			

- 3) MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
- 4) CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE. (U.N.O.)
- 5) MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R404 OF 2018 NC BUILDING CODE FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT.
- 6) ALL FRAMING LUMBER SHALL BE SYP #2 (Fb = 800 PSI, BASED ON 2x10) UNO. ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL. ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2600 PSI, E = 1.9M PSI (U.N.O.) ALL LSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2325 PSI, E = 1.6M PSI (U.N.O.) ALL PSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2400 PSI, E = 1.8M PSI (U.N.O.)
- 7) ALL LOAD BEARING EXTERIOR HEADERS SHALL BE AT (2) 2x10. (U.N.O.) REFER TO TABLE R602.7(1) & (2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS UNLESS SPECIFICALLY NOTED ON PLANS.
- 8) ALL STRUCTURAL STEEL W-SHAPES (I-BEAMS) SHALL BE ASTM A992 GRADE 50. ALL STEEL ANGLES, PLATES, AND C-CHANNELS SHALL BE ASTM A36. ALL STEEL PIPE SHALL BE ASTM A53 GRADE B.
- 9) STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3'-1/2" AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO (2) LAG SCREWS (1/2" x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOISTS ARE TOE NAILED TO THE SOLE PLATES, AND THE SOLE PLATES ARE NAILED OR BOLTED TO THE BEAM FLANGES @ 48" O.C.
- 10) PROVIDE ANCHOR BOLT PLACEMENT PER SECTION 403.1.6: 1/2" ANCHOR BOLTS SPACED AT 6'-0" O.C. AND PLACED 12" FROM THE END OF EACH PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY. THE BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. THERE SHALL BE A MINIMUM TWO ANCHOR BOLTS PER PLATE SECTION.
- 11) FOUNDATION DRAINAGE--DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF NC BUILDING CODE.
- 12) WALL AND ROOF CLADDING VALUES:
WALL CLADDING SHALL BE DESIGNED FOR 28.0 POUNDS PER SQUARE FOOT (LBS/SQFT) OR GREATER POSITIVE AND NEGATIVE PRESSURE. ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:
39.0 LBS/SQFT FOR ROOF PITCHES 0/12 TO 1.5/12
36.0 LBS/SQFT FOR ROOF PITCHES 1.5/12 TO 6/12
18.0 LBS/SQFT FOR ROOF PITCHES 6/12 TO 12/12
**MEAN ROOF HEIGHT 30'-0" OR LESS
- 13) FOR ROOF SLOPES FROM 2/12 THROUGH 4/12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER.
- 14) REFER TO SECTION R602.3 FOR FRAMING OF ALL WALLS OVER 10'-0" IN HEIGHT.
- 15) PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.3 OF THE 2018 IRC.
- 16) UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
- 17) REFER TO TABLE N1102.1 FOR PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA.
- 18) PSL COLUMNS DESIGNED WITH MAXIMUM HEIGHT OF 9'-0" (U.N.O.)
- 19) PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
- 20) MAXIMUM MASONRY PEIR HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
- 21) IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, PA IS NOT RESPONSIBLE FOR DIMENSION OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.

CLIMATE ZONES	FENESTRATION U-FACTOR ^a	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{c,d}	CEILING ^e R-VALUE	WOOD FRAMED WALL R-VALUE	MASS WALL R-VALUE ¹	FLOOR R-VALUE	BASEMENT ² WALL R-VALUE	SLAB ³ R-VALUE AND DEPTH	CRAWL SPACE ⁴ WALL R-VALUE
3	0.35	0.55	0.30	38 or 30 cont ¹	15 or 13 + 2.5 ^h	5/13 or 5/10 cont ¹	19	5/13 ¹	0	5/13
4	0.35	0.55	0.30	38 or 30 cont ¹	15 or 13 + 2.5 ^h	5/13 or 5/10 cont ¹	19	10/15	10	10/15
5	0.35	0.55	NR	38 or 30 cont ¹	19 ^g or 13 + 2.5 ^h or 15 + 3 ^h	13/17 or 13/12.5 cont ¹	30 ^g	10/15	10	10/15

TABLE N1102.1 CLIMATE ZONES 3-5

NO SCALE

a. R-VALUES ARE MINIMUM U-FACTORS AND SHGC ARE MAXIMUM. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE VALUE SPECIFIED IN THE TABLE.

b. THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SOLAR HEAT GAIN COEFFICIENT (SHGC) COLUMN APPLIES TO ALL GLAZED FENESTRATION.

c. "10/15" MEANS R-10 CONTINUOUS INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-15 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.

d. FOR MONOLITHIC SLAB INSULATION SHALL BE APPLIED FROM THE INSULATION GAGE DOWNWARD TO THE BOTTOM OF THE FOOTING OR A MAXIMUM OF 24" BELOW GRADE WHOSEVER IS LESS. FOR FLOATING SLAB INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL OR 4" BELOW GRADE WHOSEVER IS LESS. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS.

e. SELECTED

f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.2 AND TABLE N1101.7.

g. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY. R-19 MINIMUM.

h. THE FIRST VALUE IS CAVITY INSULATION, THE SECOND VALUE IS CONTINUOUS INSULATION. SO "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. "15+3" MEANS R-15 CAVITY INSULATION PLUS R-3 INSULATED SHEATHING. IF STRUCTURAL SHEATHING COVERS 25% OR LESS OF THE EXTERIOR INSULATING SHEATHING IS NOT REQUIRED WHERE THE STRUCTURAL SHEATHING IS USED. IF STRUCTURAL SHEATHING COVERS MORE THAN 25 PERCENT OF THE EXTERIOR, SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2. "13 + 2.5" MEANS R-13 CAVITY INSULATION PLUS R-2.5 SHEATHING.

i. FOR MASS WALLS, THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR MASS WALL.

j. IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A U-FACTOR NO GREATER THAN 0.55 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.

k. IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A SHGC NO GREATER THAN 0.70 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.

l. R-50 SHALL BE DELIVERED TO SATISFY THE CEILING INSULATION REQUIREMENT, WHEREVER THE FULL HEIGHT OF UNCOMPRESSED R-50 INSULATION EXTENDS OVER THE WALL TOP PLATE OF THE RAFTER OR OTHER INSULATION IS REQUIRED WHERE INSULATION EXIST OR INSULATION MUST EXTEND TO EITHER THE INSULATION BATT OR WITHIN 1/2" OF THE ATTIC ROOF DECK.

m. TABLE VALUE REQUIRED EXCEPT FOR ROOF EDGE WHERE THE SPACE IS LIMITED BY THE PITCH OF THE ROOF, THERE THE INSULATION MUST FULL THE SPACE UP TO THE AIR BATTLE.

n. 1/2" FIBERGLASS BATTS COMPRESSED AND INSTALLED IN A NOMINAL 2" 6 FRAMING CAVITY IS DEEMED TO COMPLY. FIBERGLASS BATTS RATED R-19 OR HIGHER COMPRESSED AND INSTALLED IN A 2-1/2" WALL IS NOT DEEMED TO COMPLY.

o. BASEMENT WALL MEETING THE MINIMUM MASS WALL SPECIFIC HEAT CONTENT REQUIREMENT MAY USE THE MASS WALL R-VALUE AS THE MINIMUM REQUIREMENT.

DEFINITIONS FOR COMMON ABBREVIATIONS

ALT = ALTERNATE	MAX = MAXIMUM
CANT = CANTILEVER	MIN = MINIMUM
CJ = CEILING JOIST	NOM = NOMINAL
CMU = CONCRETE MASONRY UNIT	O.C. = ON CENTER
COL = COLUMN	PL = PLATE
CONC = CONCRETE	PT = PRESSURE TREATED
CONT = CONTINUOUS	REIN = REINFORCED
CT = COLLAR TIE	REQD = REQUIRED
DBL = DOUBLE	RJ = ROOF JOIST
Dia = DIAMETER	RS = ROOF SUPPORT
DJ = DOUBLE JOIST	SC = STUD COLUMN
DR = DOUBLE RAFTER	SCH = SCHEDULE
EA = EACH	SPEC = SPECIFIED
EE = EACH END	THK = THICK
FJ = FLOOR JOIST	TJ = TRIPLE JOIST
FND = FOUNDATION	TRTD = TREATED
FTG = FOOTING	TYP = TYPICAL
GALV = GALVANIZED	UNO = UNLESS NOTED OTHERWISE
HORIZ = HORIZONTAL	W = WIDE FLANGE BEAM
HT = HEIGHT	WWF = WELDED WIRE FABRIC
MANUF = MANUFACTURER	XJ = EXTRA JOIST

1) MAXIMUM HEIGHT OF DECK SUPPORT POSTS AS FOLLOWS:

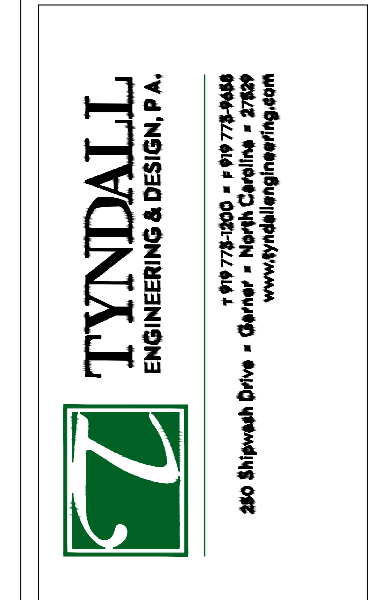
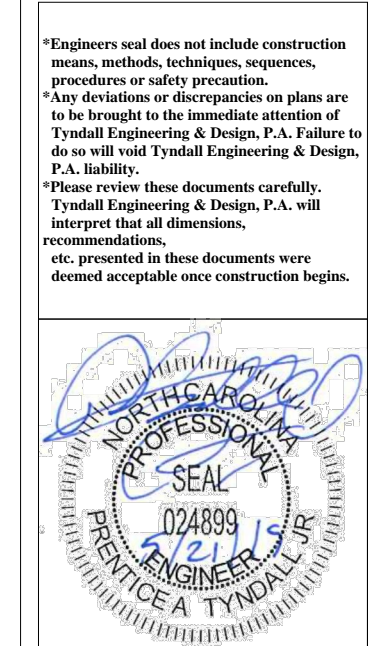
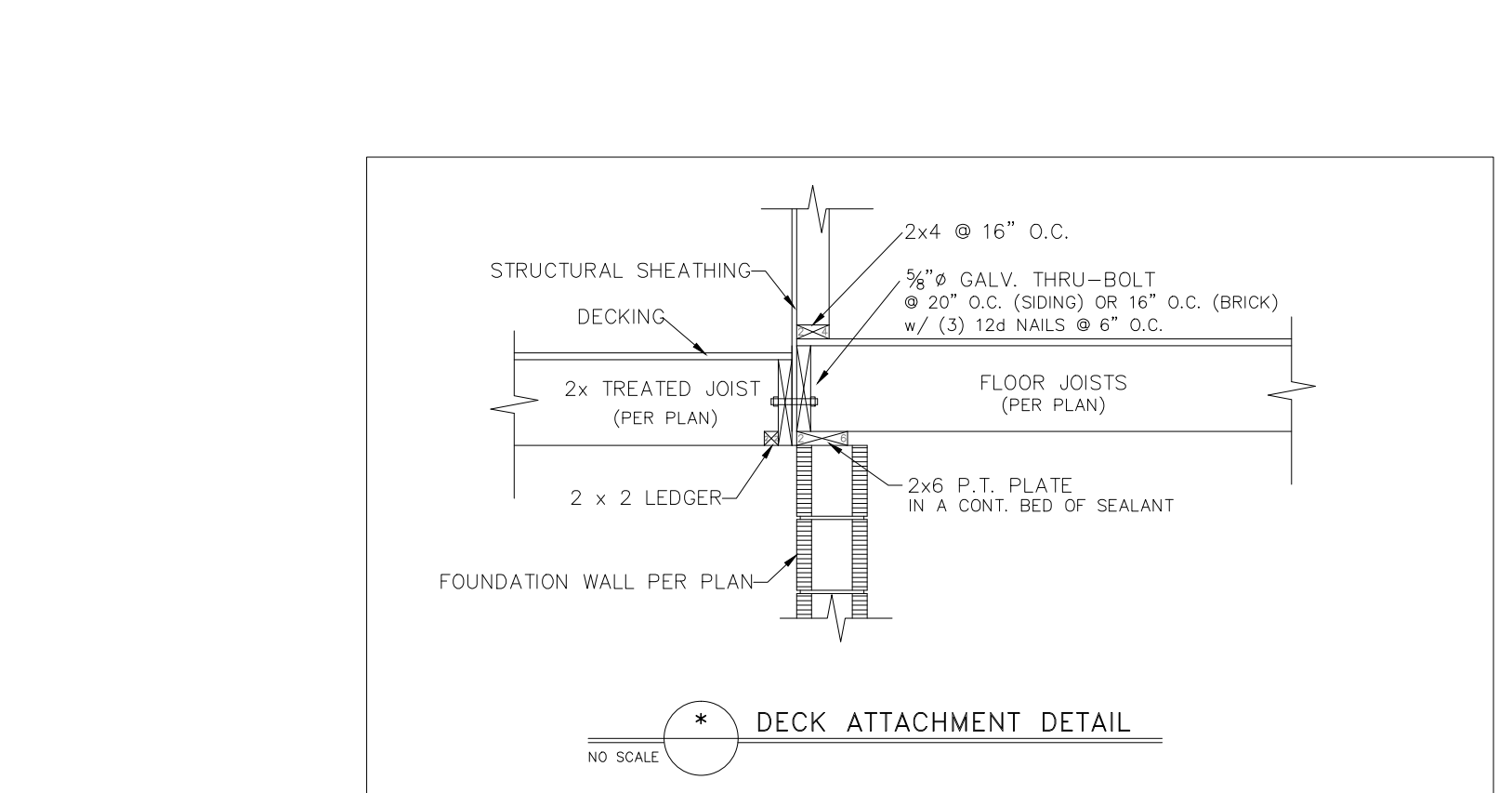
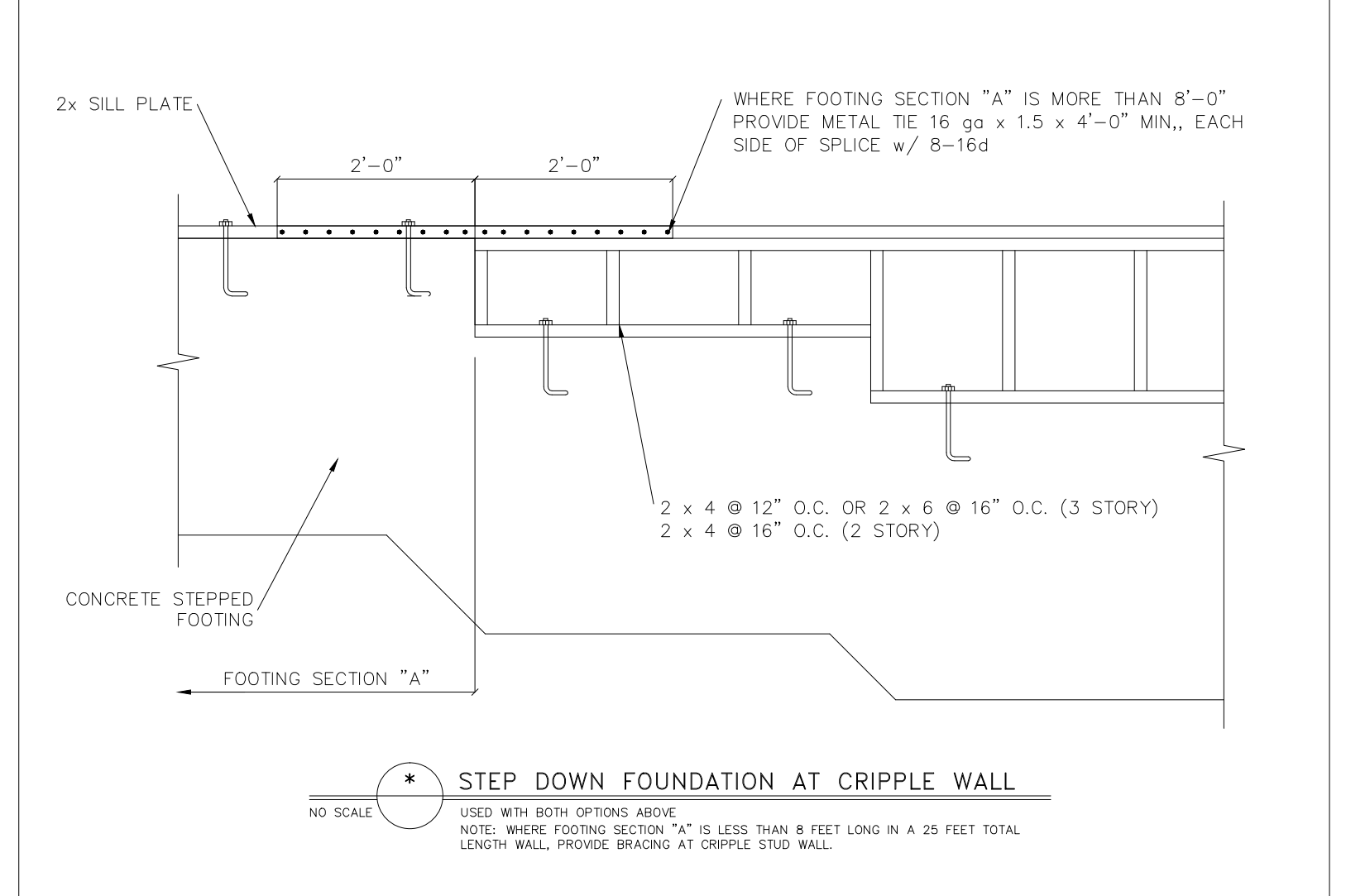
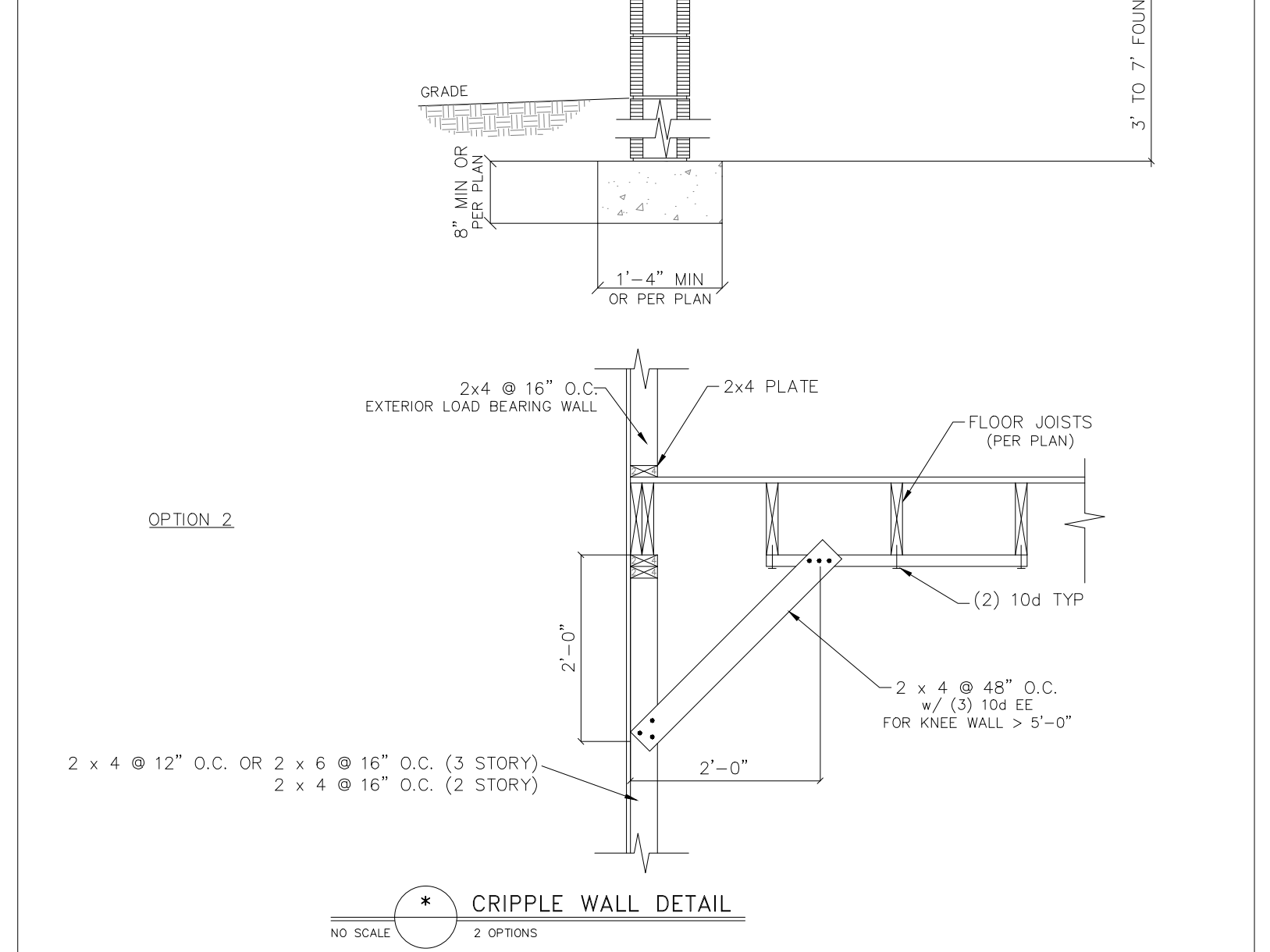
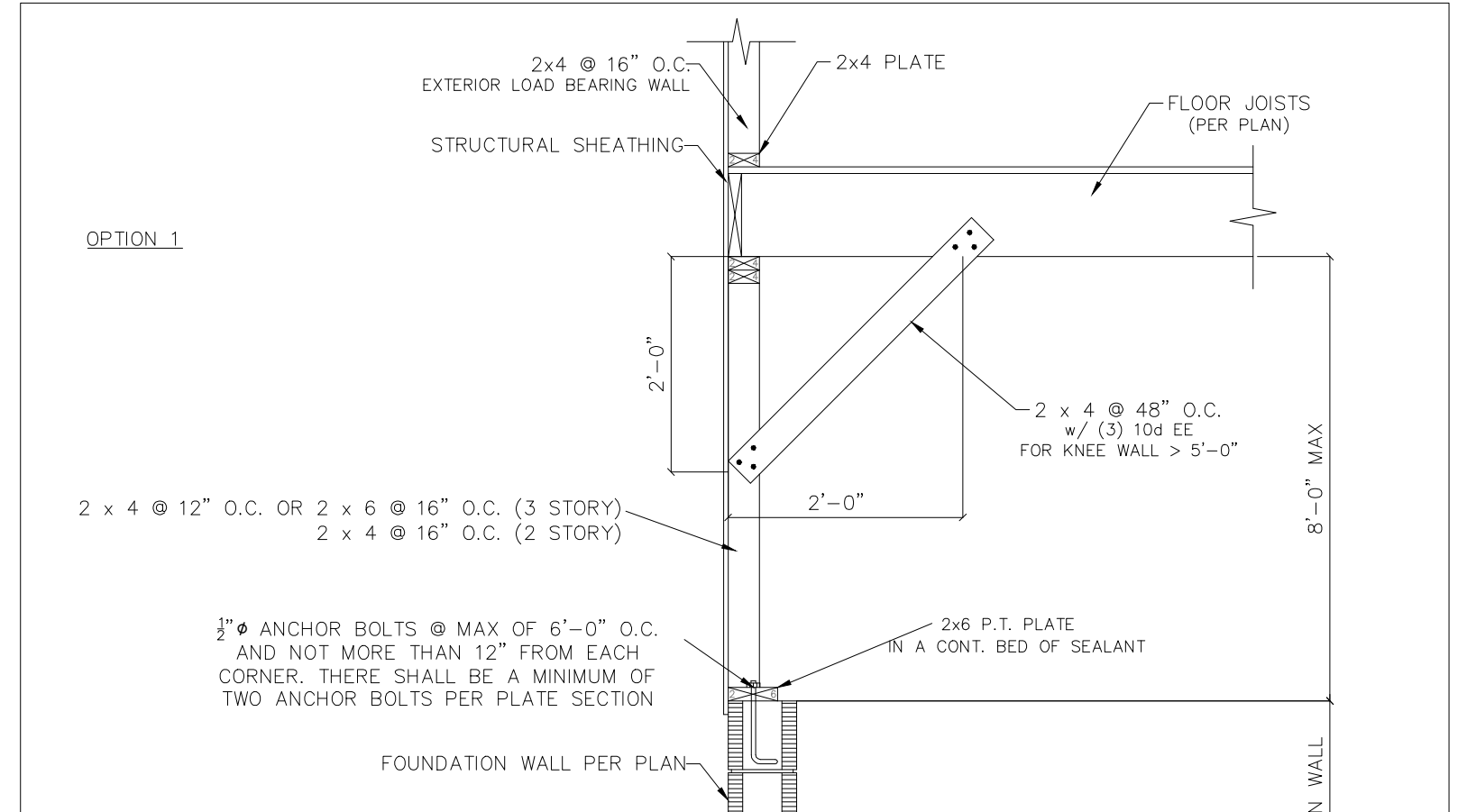
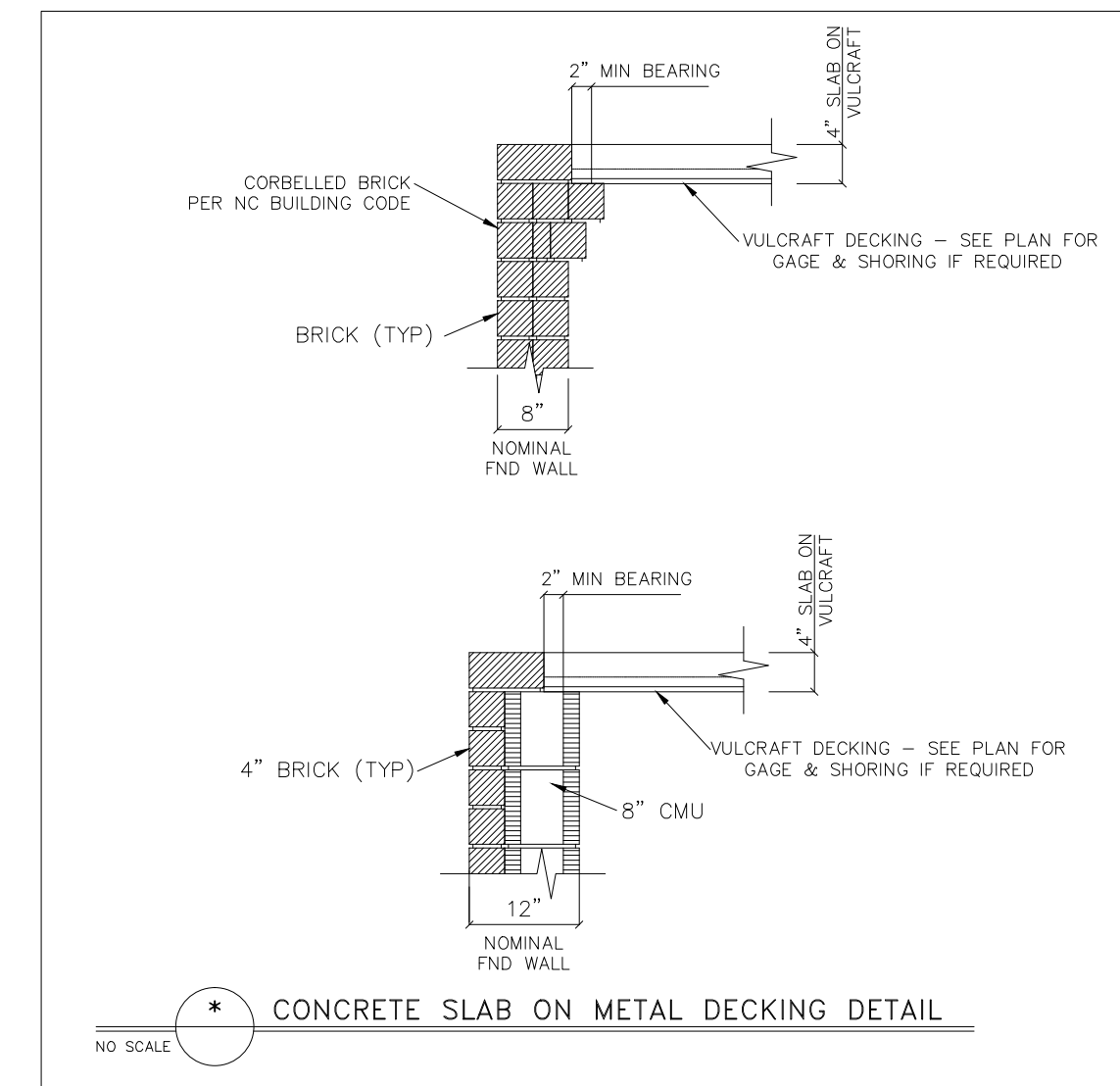
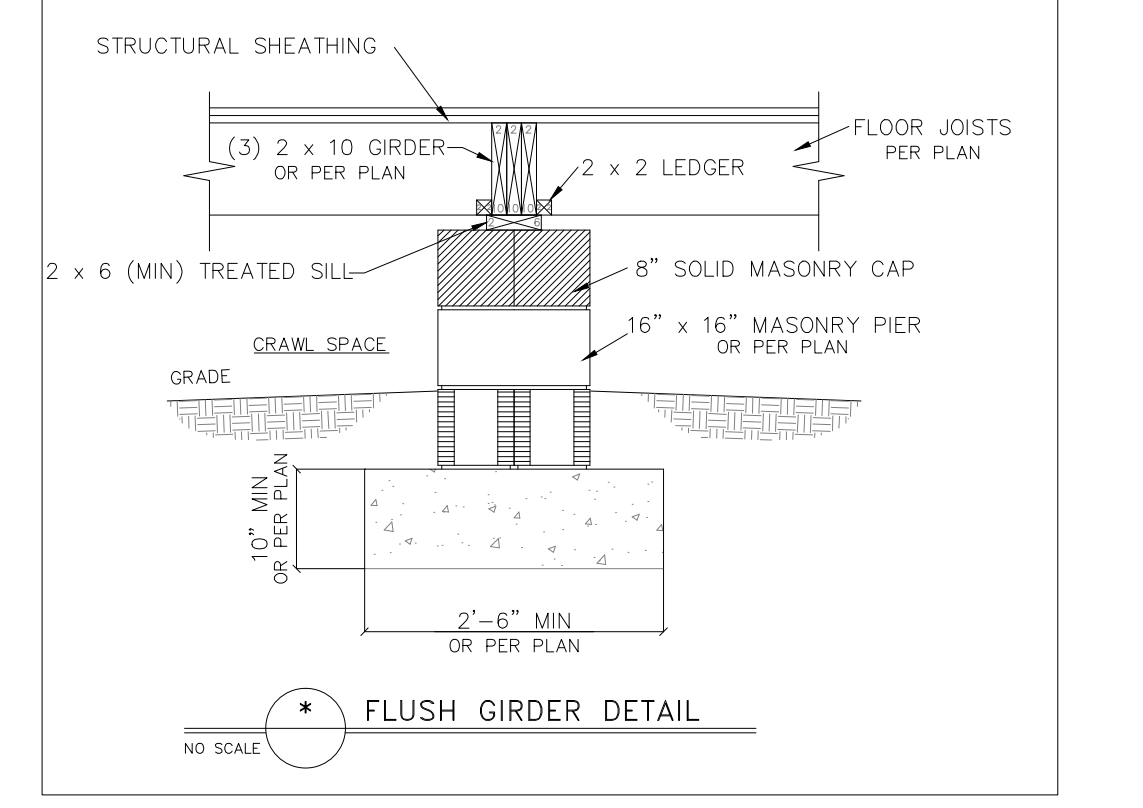
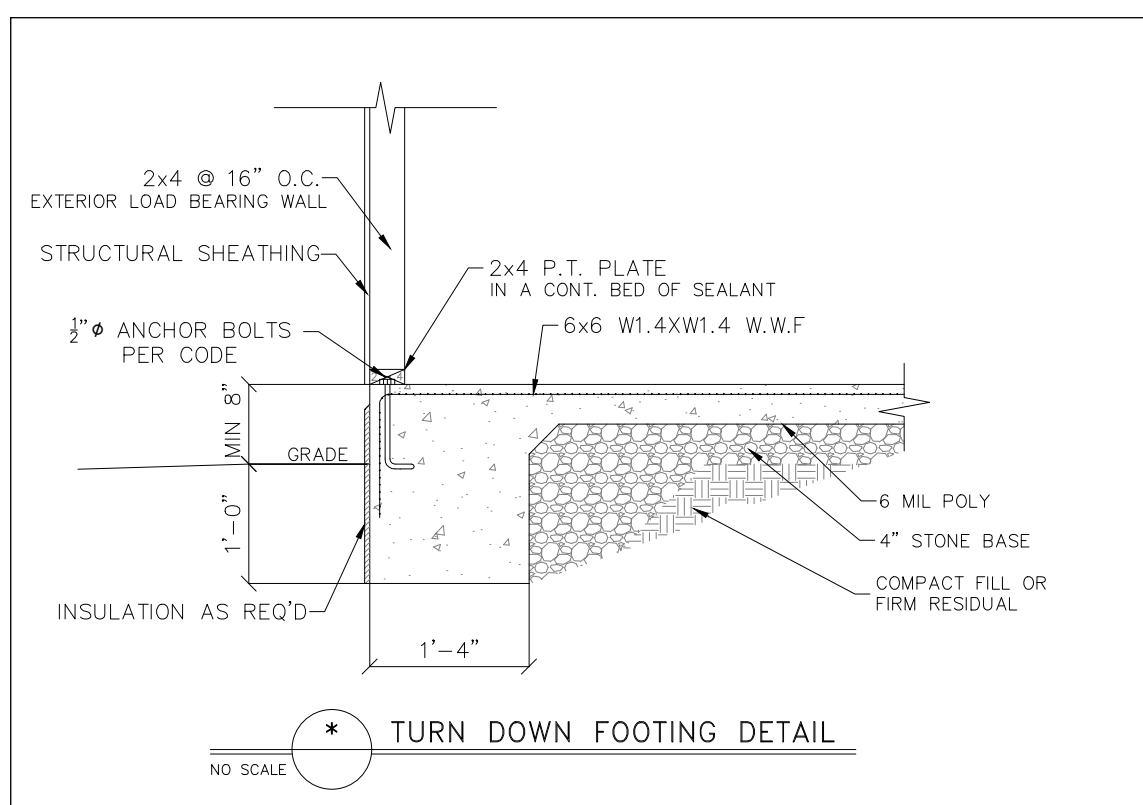
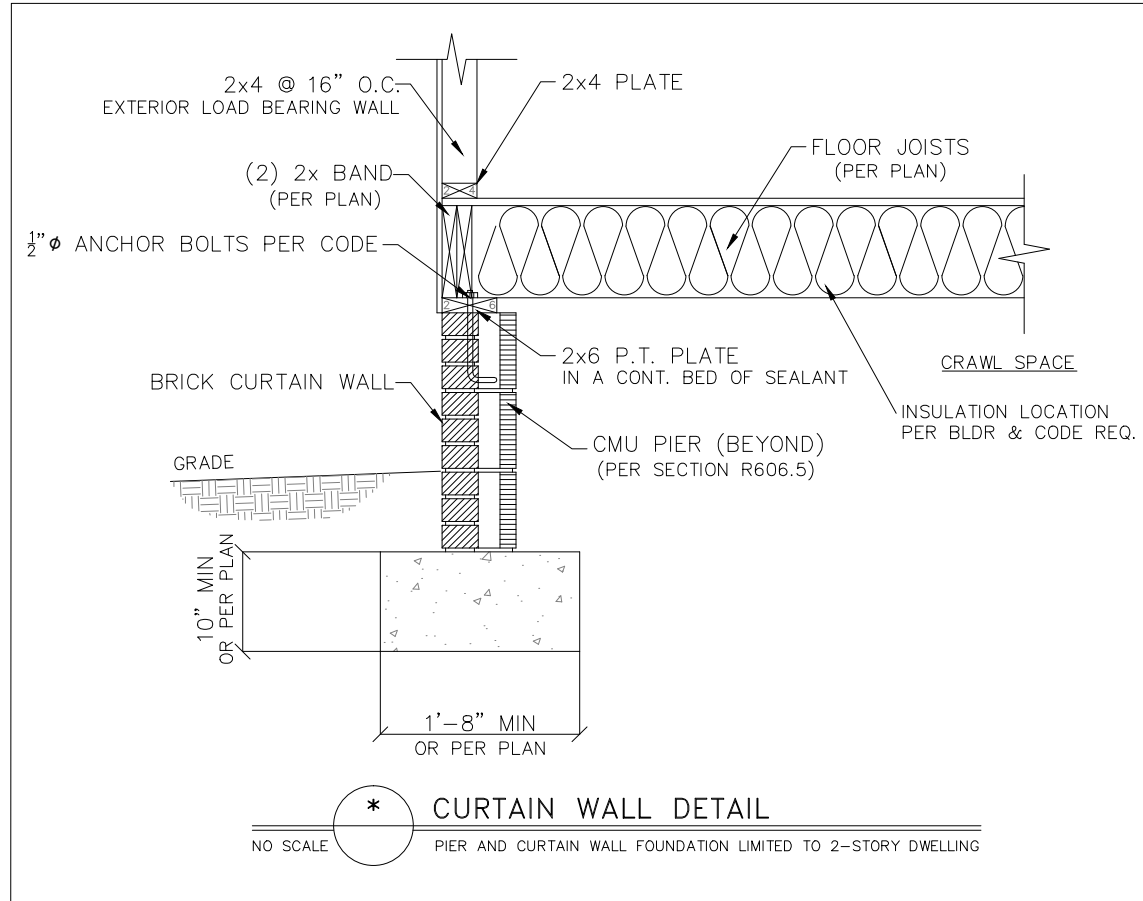
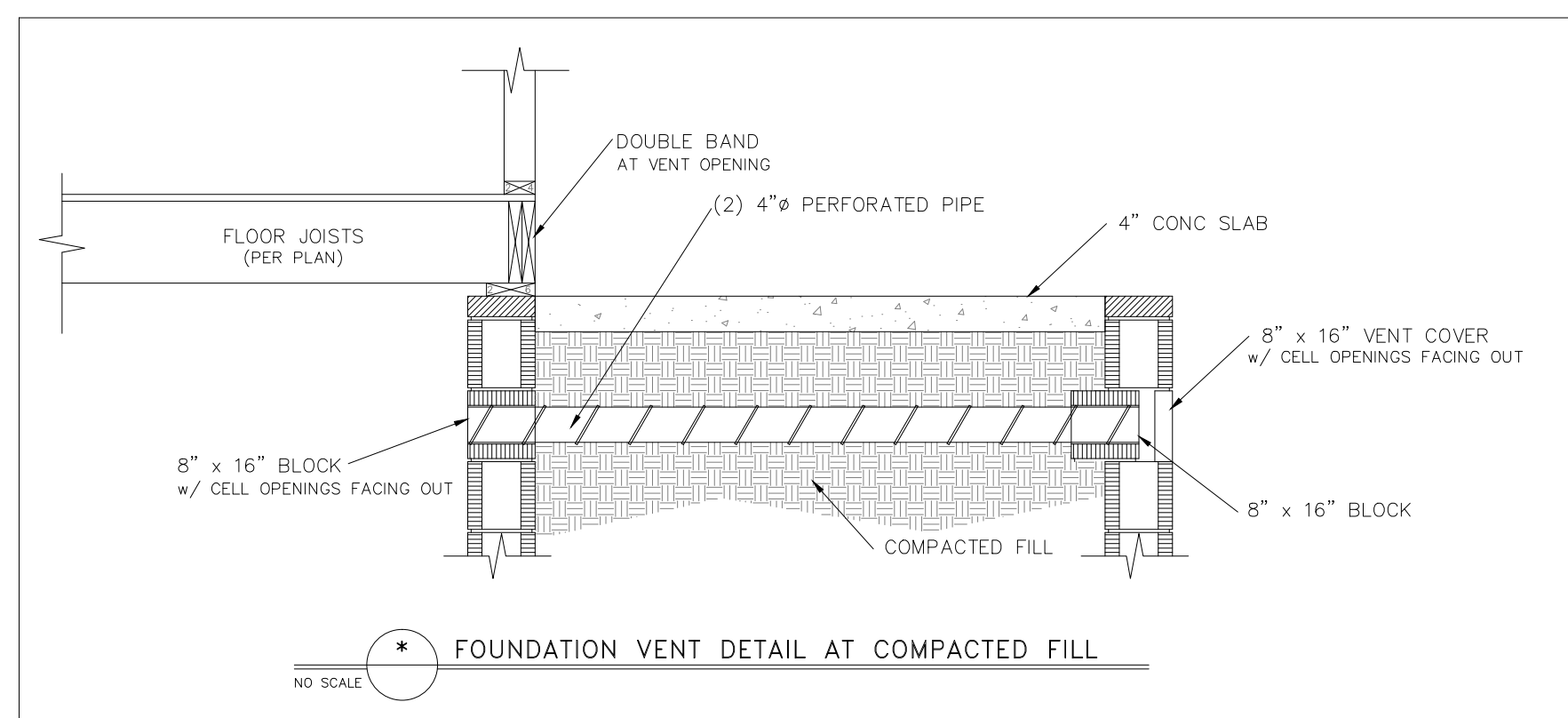
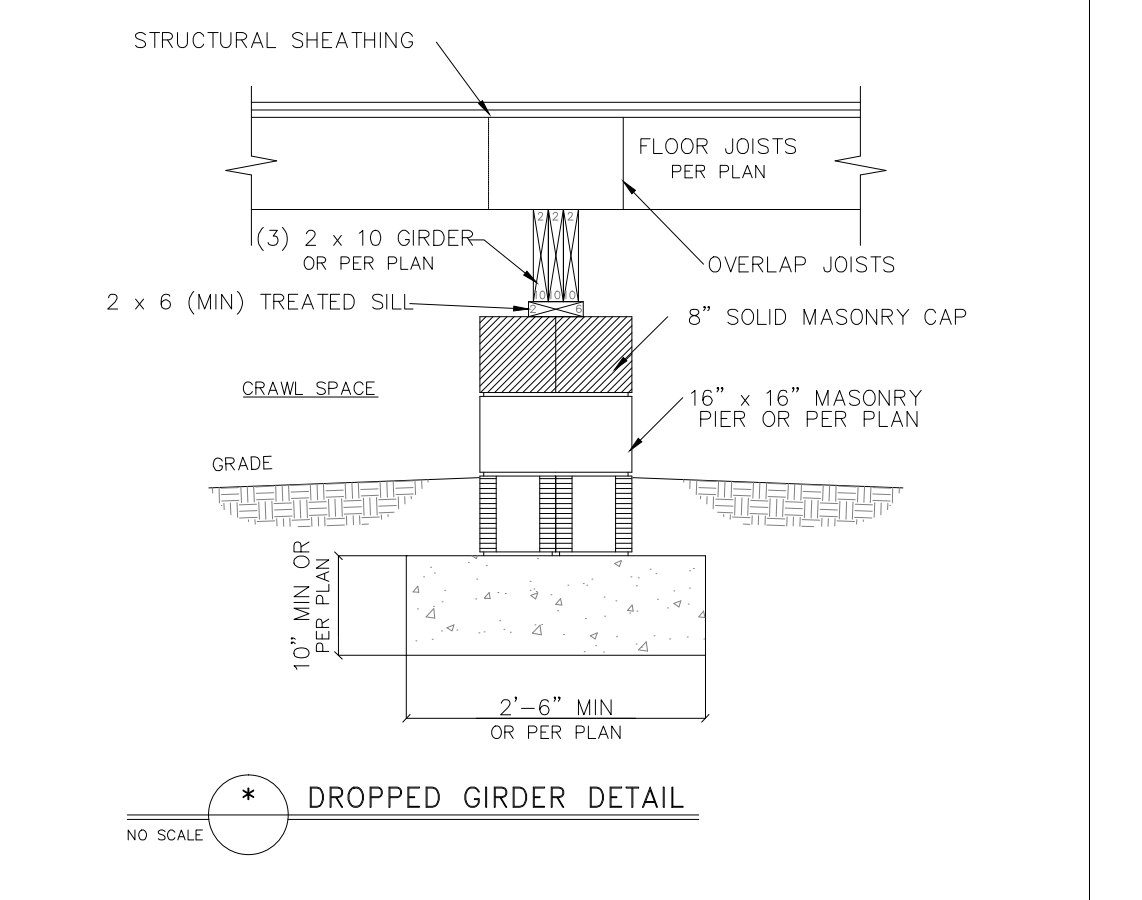
POST SIZE	MAX. POST HEIGHT**
4 x 4	8'-0"
6 x 6	20'-0"
***	OVER 20'-0"

* THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS. MAXIMUM TRIBUTARY AREA IS BASED ON 128 TOTAL SQUARE FEET WHICH MAY BE LOCATED AT DIFFERENT LEVELS.

** FROM TOP OF FOOTING TO BOTTOM OF GIRDER

*** DECKS WITH POST HEIGHTS OVER 20'-0" SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

- 2) DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THESE METHODS:
- A. THE DECK FLOOR HEIGHT IS LESS THAN 4'-0" AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION (4) ABOVE. LATERAL BRACING IS NOT REQUIRED.
- B. 4 x 4 WOOD KNEE BRACES MAY BE PROVIDED ON EACH COLUMN IN BOTH DIRECTIONS. THE KNEE BRACES SHALL ATTACH TO EACH POST AT A POINT NOT LESS THAN 1/3 OF THE POST LENGTH FROM THE TOP OF THE POST, AND THE BRACES SHALL BE ANGLED BETWEEN 45° AND 60° FROM THE HORIZONTAL. KNEE BRACES SHALL BE BOLTED TO THE POST AND GIRDER WITH ONE 5/8" HOT DIPPED GALVANIZED BOLT AT EACH END OF THE BRACE.
- C. FOR FREESTANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POSTS IN ACCORDANCE WITH THE FOLLOWING:
- | POST SIZE | MAX. TRIBUTARY AREA | MAX. POST HEIGHT | EMBEDMENT DEPTH | CONCRETE DIAMETER |
|-----------|---------------------|------------------|-----------------|-------------------|
| 4 x 4 | 48 SQ. FT. | 4'-0" | 2'-6" | 1'-0" |
| 6 x 6 | 120 SQ. FT. | 6'-0" | 3'-6" | 1'-8" |
- D. 2 x 6 DIAGONAL VERTICAL CROSS BRACING MAY BE PROVIDED IN TWO (2) PERPENDICULAR DIRECTIONS FOR FREESTANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS. THE 2 x 6s SHALL BE ATTACHED TO THE POSTS WITH ONE 5/8" HOT DIPPED GALVANIZED BOLT AT EACH END OF EACH BRACING MEMBER.
- E. FOR EMBEDMENT OF PILES IN COASTAL REGIONS, SEE CHAPTER 46.



Client: CAPITAL CITY HOMES

Project: THE WATSON II PLAN GARAGE LEFT

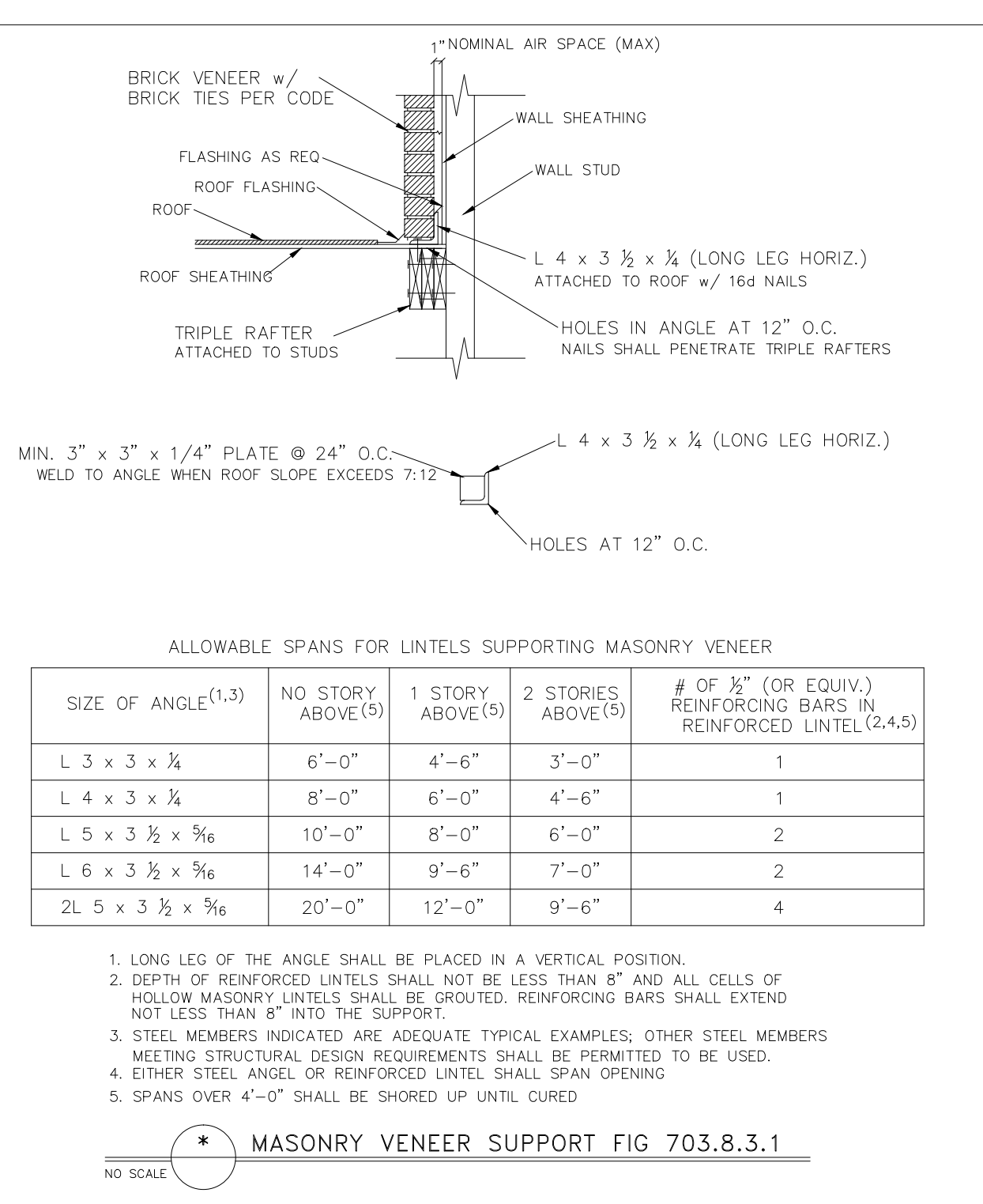
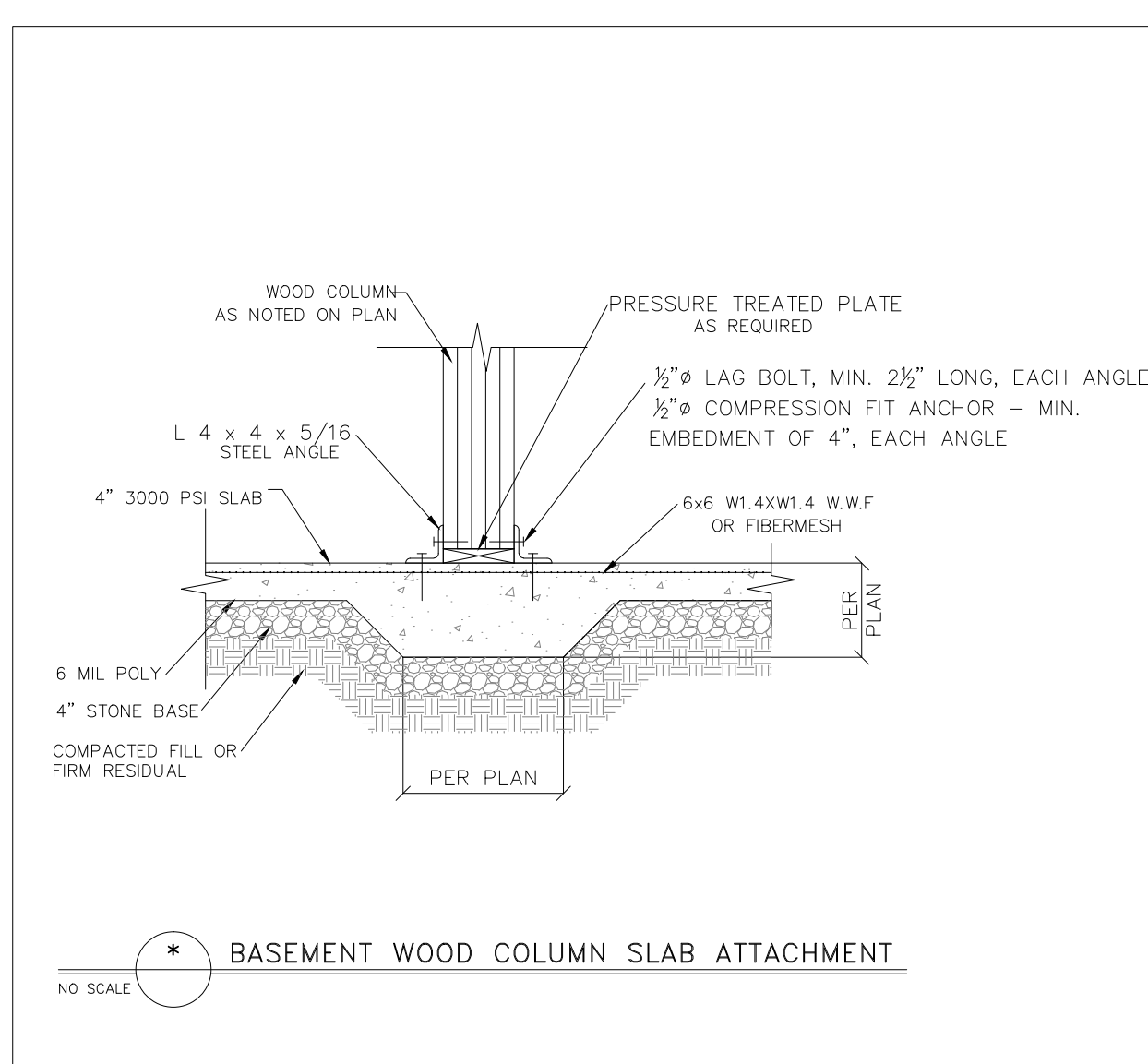
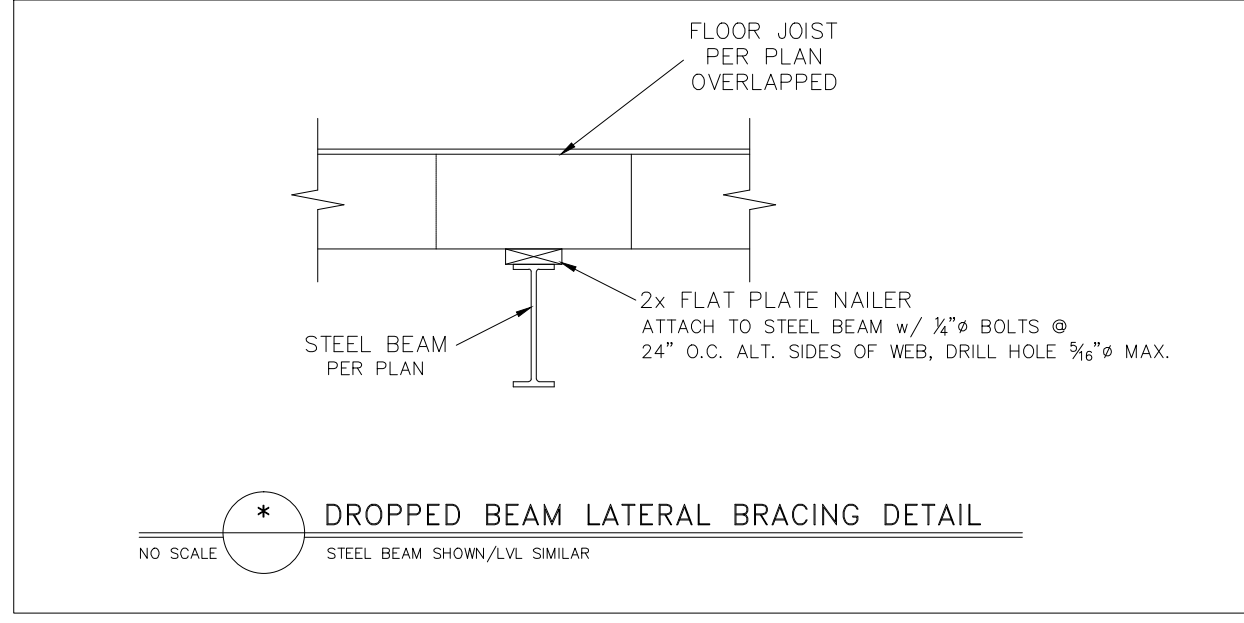
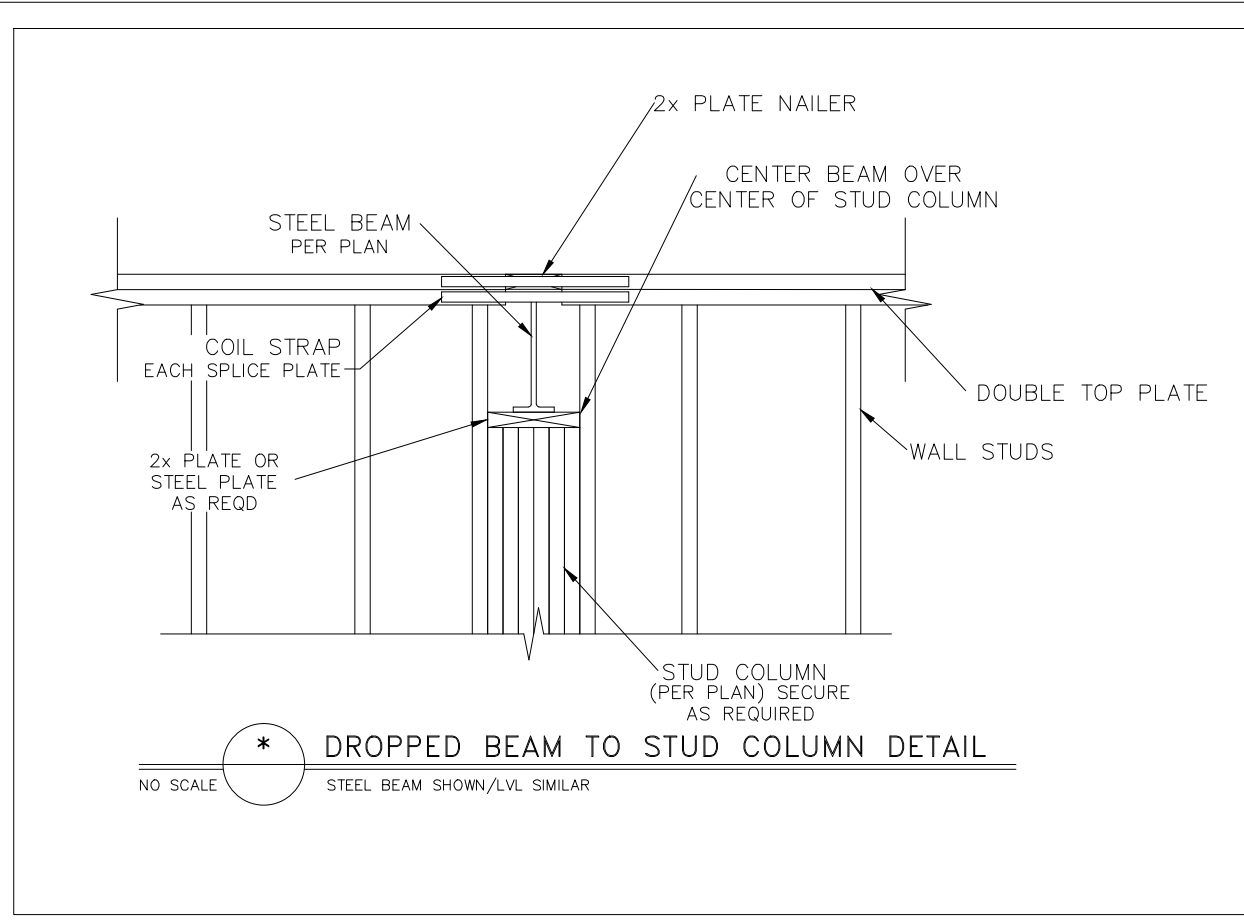
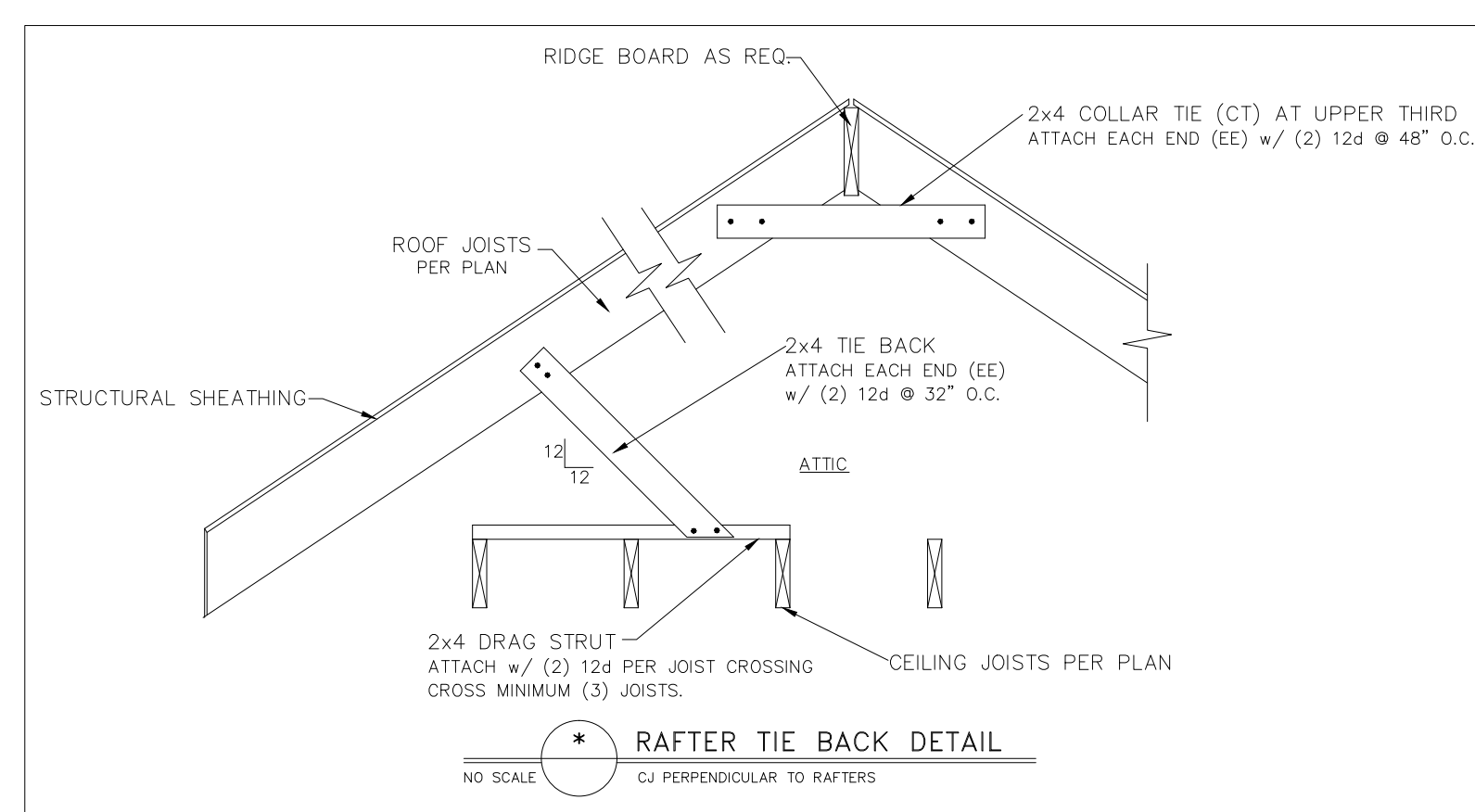
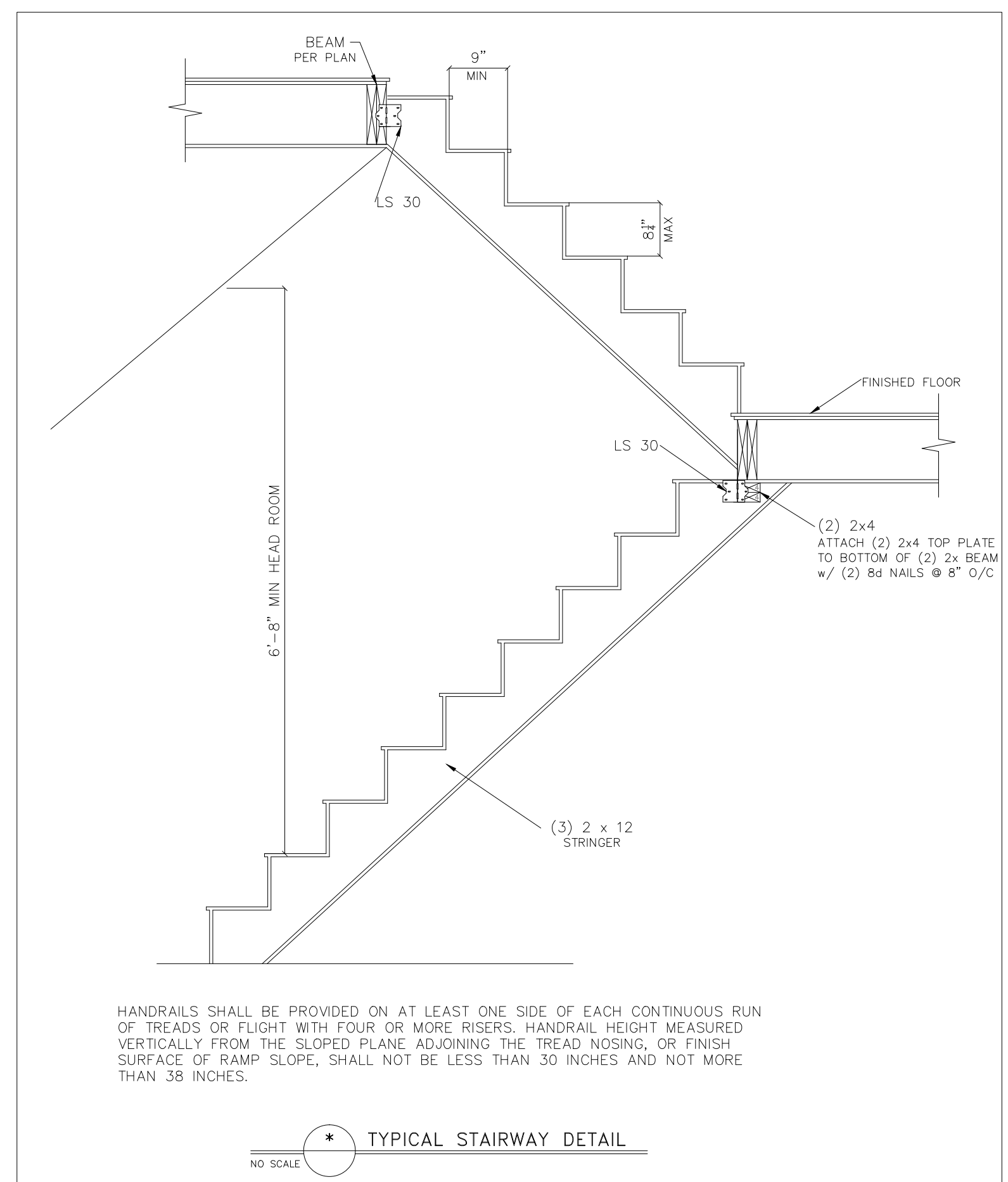
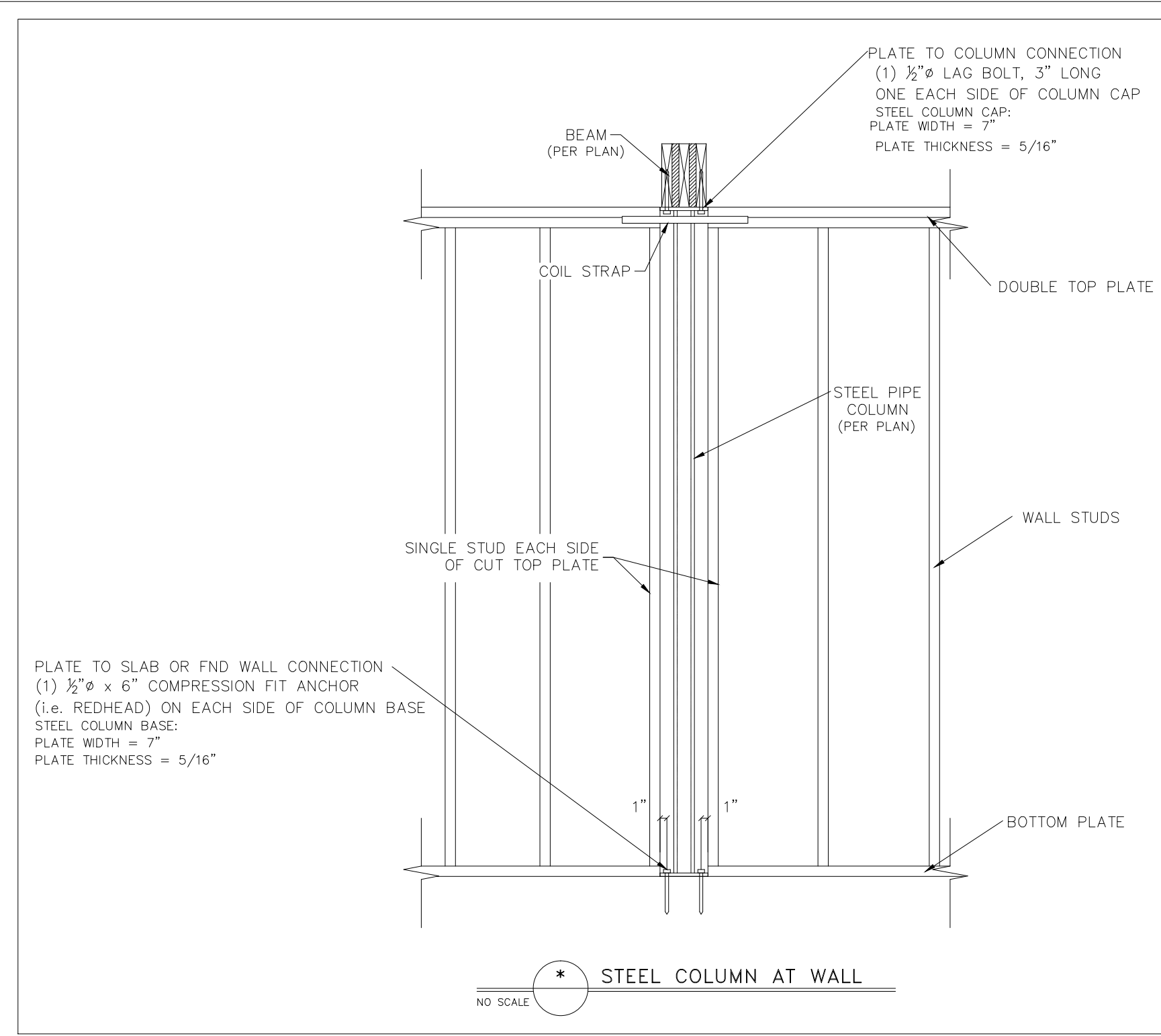
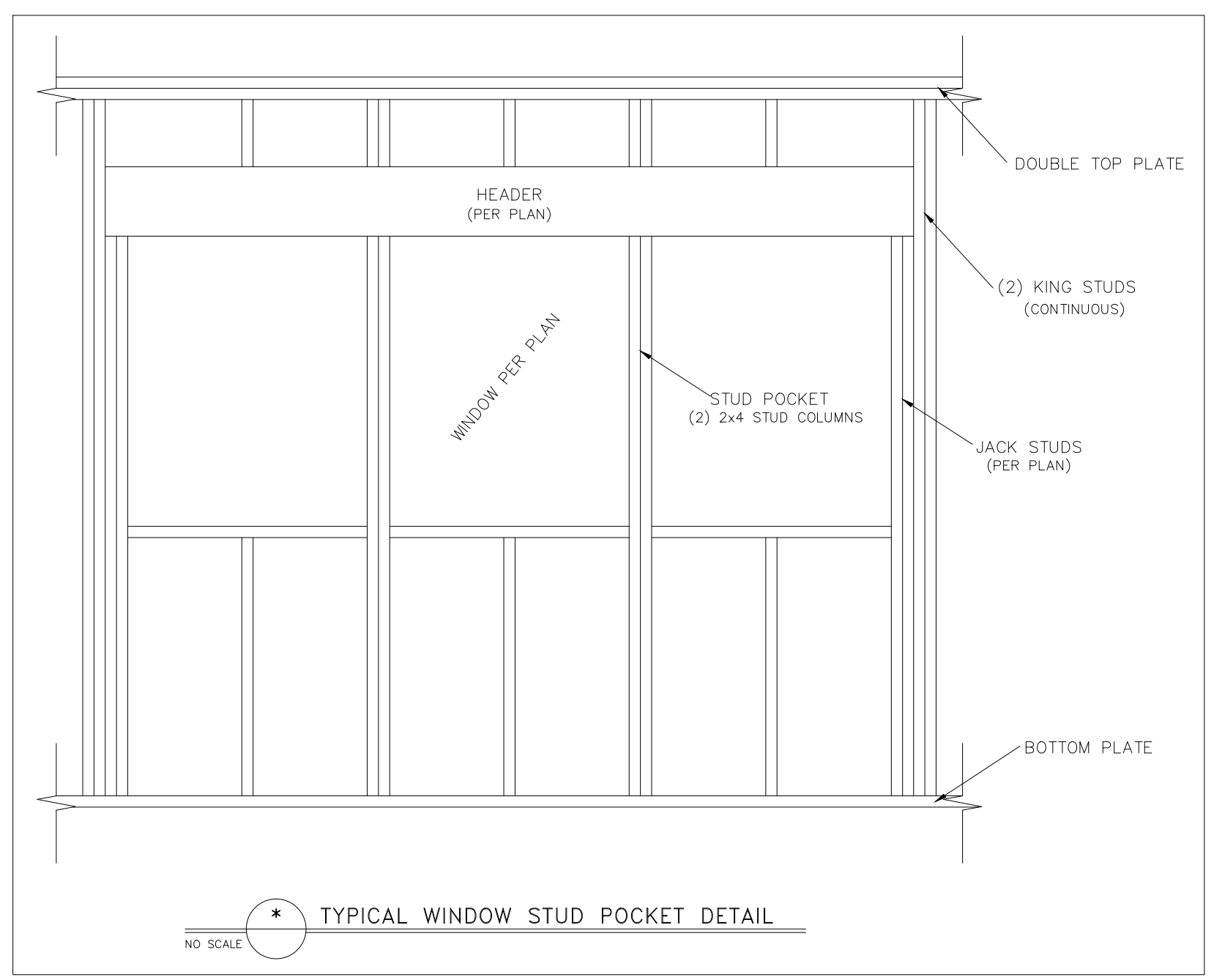
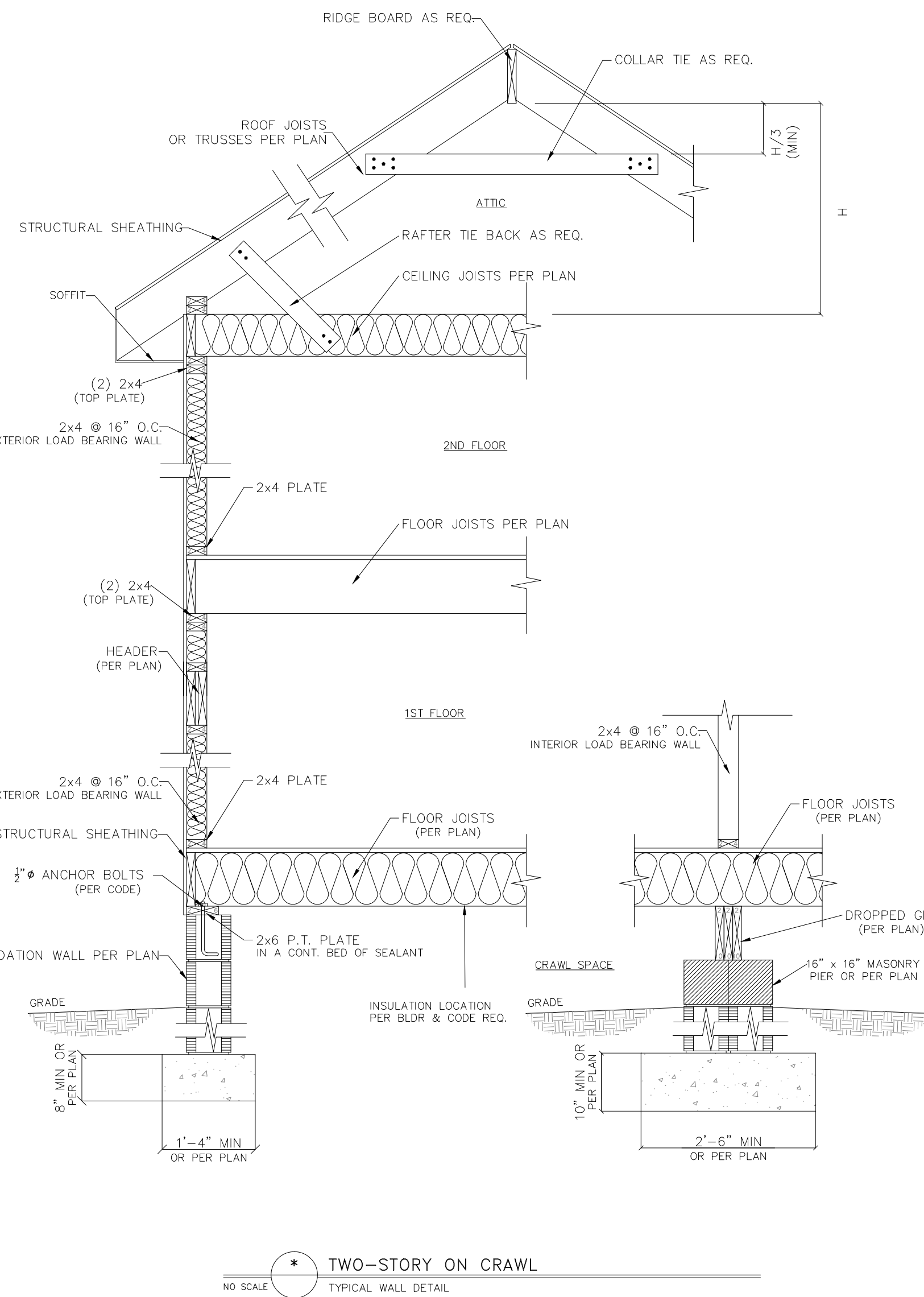
STANDARD DETAILS

Project #: 1901-010170
Date: 5/20/19
Drawn/Design By: JWA
DWG. Checked By: PTIH
Scale: NOT TO SCALE

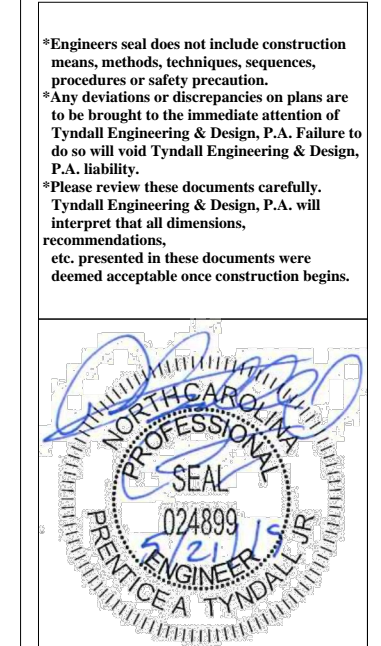
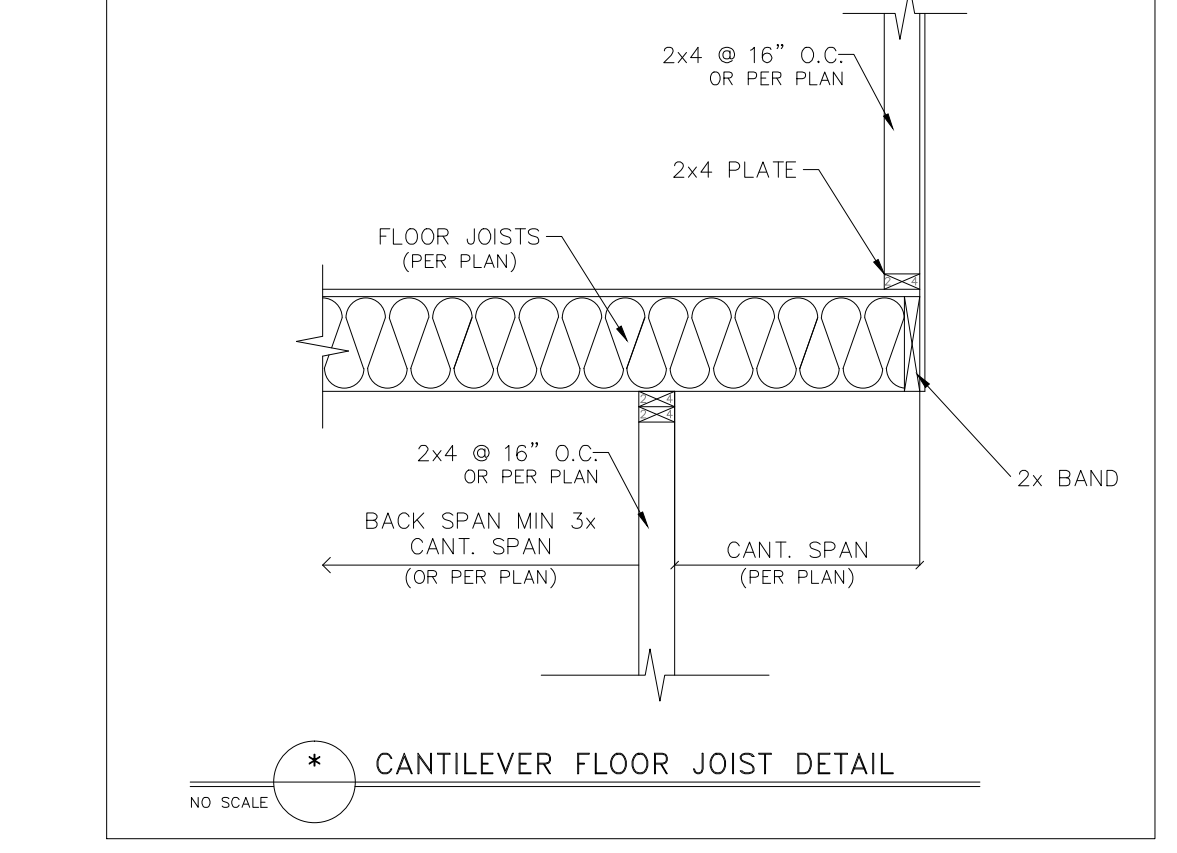
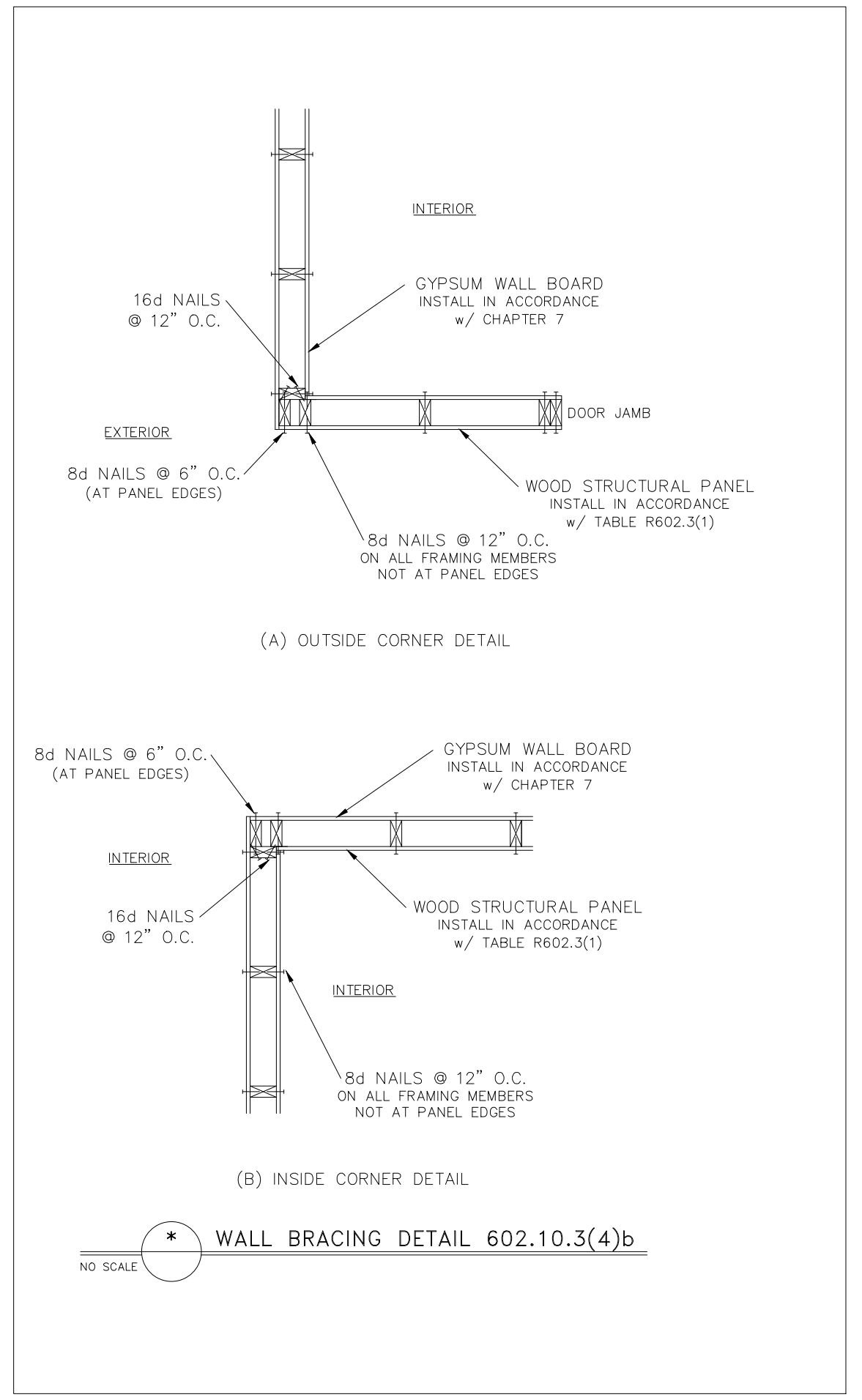
REVISIONS

No.	Date	Remarks

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HARDWARE CROSS-REFERENCE CHART	
SIMPSON STRONG-TIE	USP STRUCTURAL CONNECTORS
PRODUCT NUMBER	PRODUCT NUMBER
A35	MPA1
ABE	PAE
CBSQ	CBSQ
CCO	KCCO
CMSTC16	CMSTC16
CS	RS
H1	RT15
H2.5A	RT7A
H10	RT16
HDQ8-SDS3	UPHD8
HOU2-SDS2.5	PHD2
HOU5-SDS2.5	PHD5
HETA	HTA
HGAM10KTA	HGAM
HHD014-SDS2.5	UPHD14
HTS	HTW
HTT	HTT
HUS	HUS
LTA1	LPTA
LTHJA26	HJC26
LTP4	MP4F
LUS	JUS
MAS	FA3
MSTAM	MSTAM
PC	PCM
PHD-SDS3	PHD
SSP	RSPT6
STC	TR1
STHD	STAD



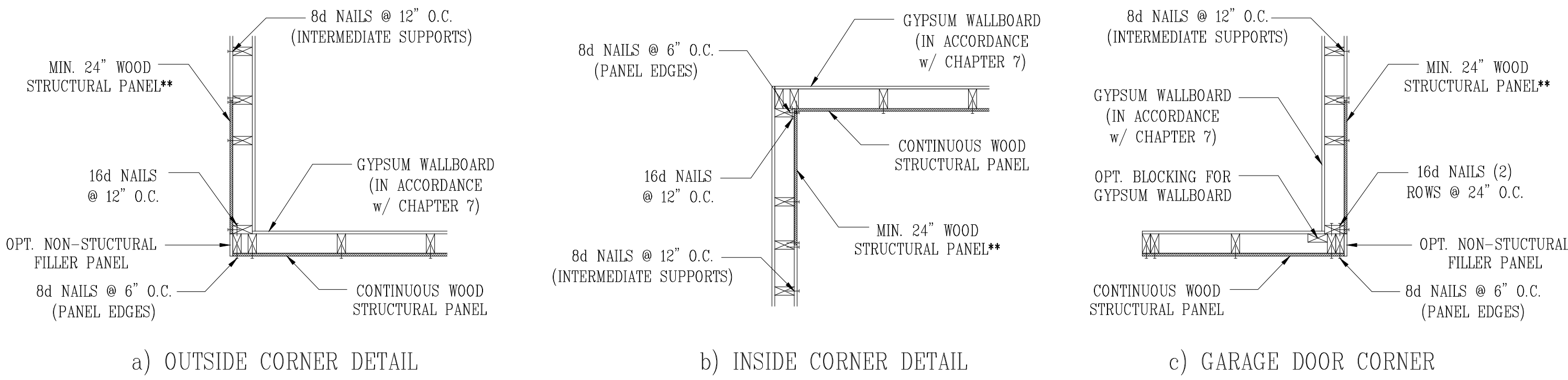
TYNDAL
ENGINEERING & DESIGN, P.A.
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Charlotte, NC 28215
704.775.7444
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Client: **CAPITAL CITY HOMES**
Project: **THE WATSON II PLAN GARAGE LEFT**

STANDARD DETAILS

Project #:	1901-010170	
Date:	5/20/19	
Drawn/Design By:	JWA	
DWG. Checked By:	PTII	
Scale:	NOT TO SCALE	
REVISIONS		
No.	Date	Remarks

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of 3



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B1: TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING
NO SCALE

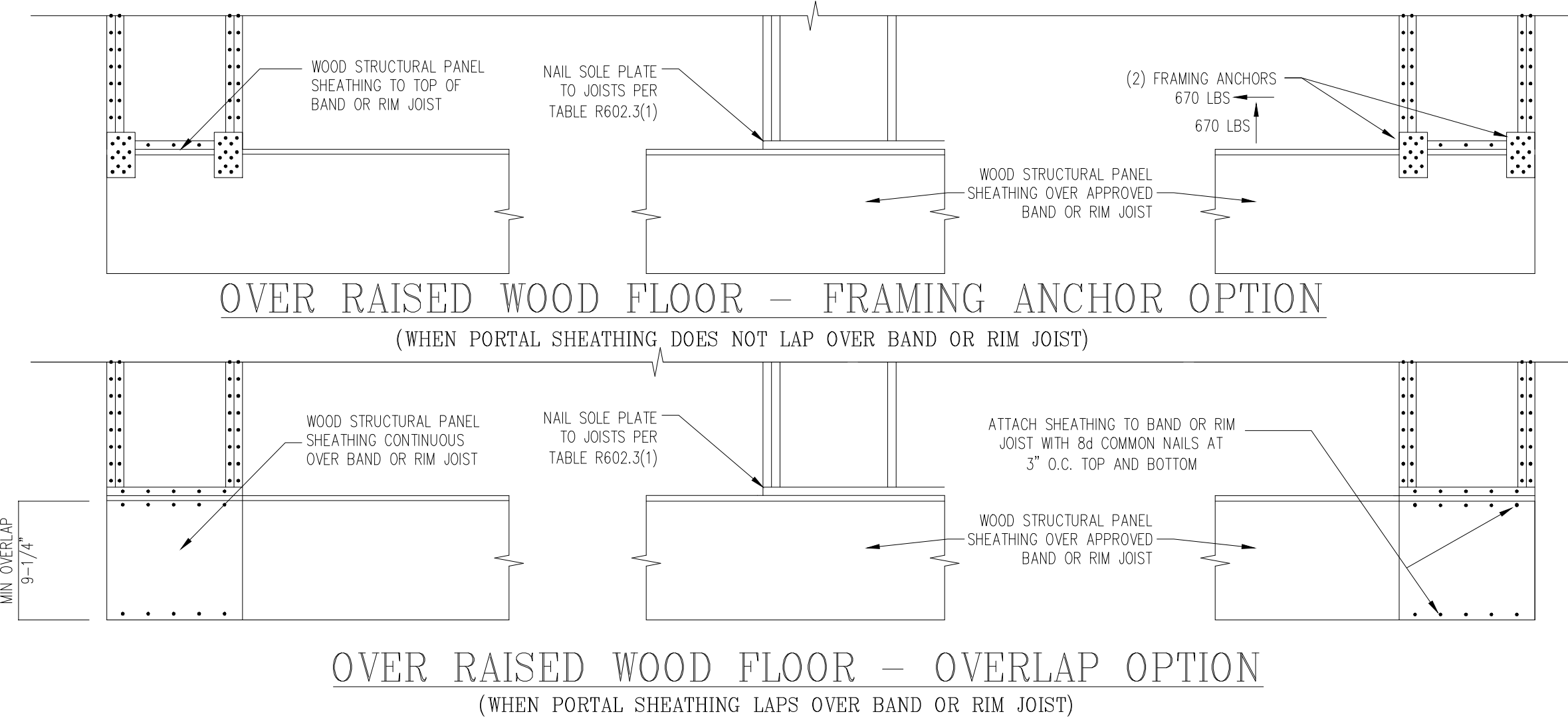
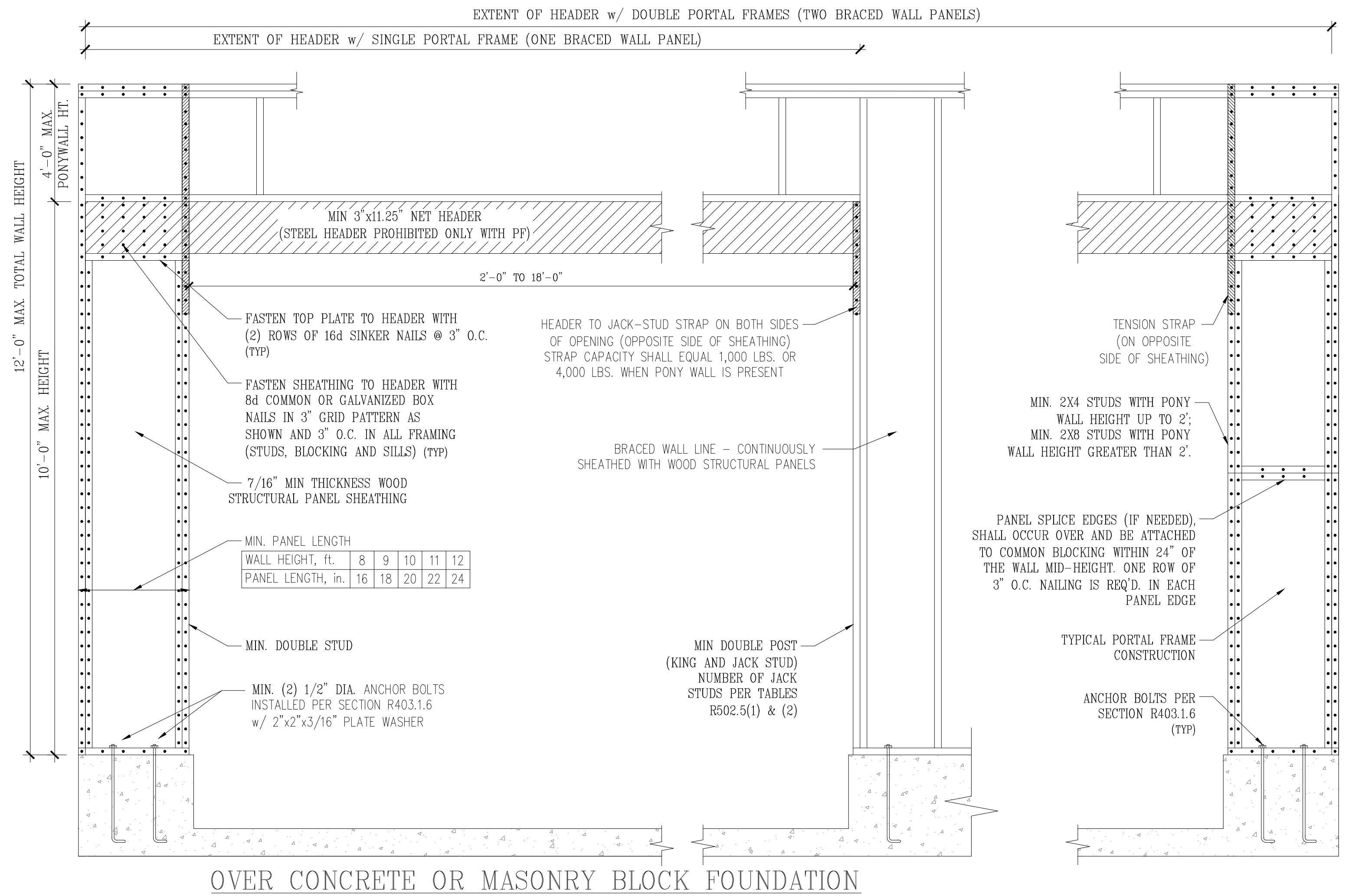
STRUCTURAL SHEATHING NOTES

- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
- WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NCR.
- BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS, INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
 - REFERENCE FIGURE R602.10.4.3 OF THE 2018 NCR.
- INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)
 - 1/2\"/>
 - 3/8\"/>
- EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS-WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
- ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8\"/>
- MINIMUM BRACED WALL PANEL LENGTHS WITH CS-WSP METHOD SHALL BE AS FOLLOWS:
 - 24\"/>
 - 30\"/>
 - 48\"/>
- SEATH INTERIOR & EXTERIOR
- FOR CS-WSP METHOD, A MINIMUM 24\"/>

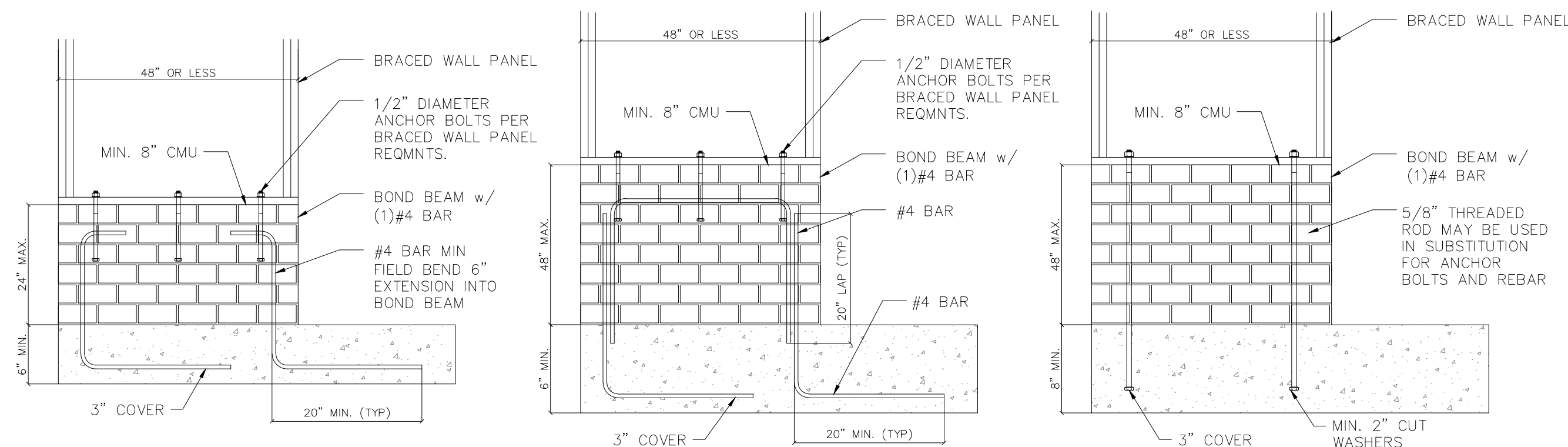
REQUIRED BRACED WALL PANEL CONNECTIONS				
METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAIL** @ 7" O.C.	5d COOLER NAIL** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.

**OR EQUIVALENT PER TABLE R702.3.5

B3: BRACE WALL PANEL CONNECTIONS
NO SCALE

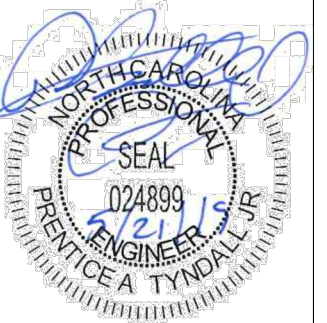


B2: METHOD CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME
FIGURE R602.10.1



B4: MASONRY STEM WALL SUPPORTING BRACED WALL PANELS
FIGURE R602.10.4.3 OF THE 2018 NCR
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

*Engineers and does not include construction means, methods, techniques, sequences, procedures or safety precautions.
Any deviations or discrepancies on plans are to be brought to the immediate attention of Tynndall Engineering & Design, P.A. Failure to do so will void Tynndall Engineering & Design, P.A. liability.
Please review these documents carefully. Tynndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable under construction codes.



TYNDALL
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Client: CAPITAL CITY HOMES
Project: THE WATSON II PLAN GARAGE LEFT

SHEATHING DETAILS

Project #: 1901-010170
Date: 5/20/19
Drawn/Design By: JWA
DWG. Checked By: PTH
Scale: NOT TO SCALE

REVISIONS		
No.	Date	Remarks

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