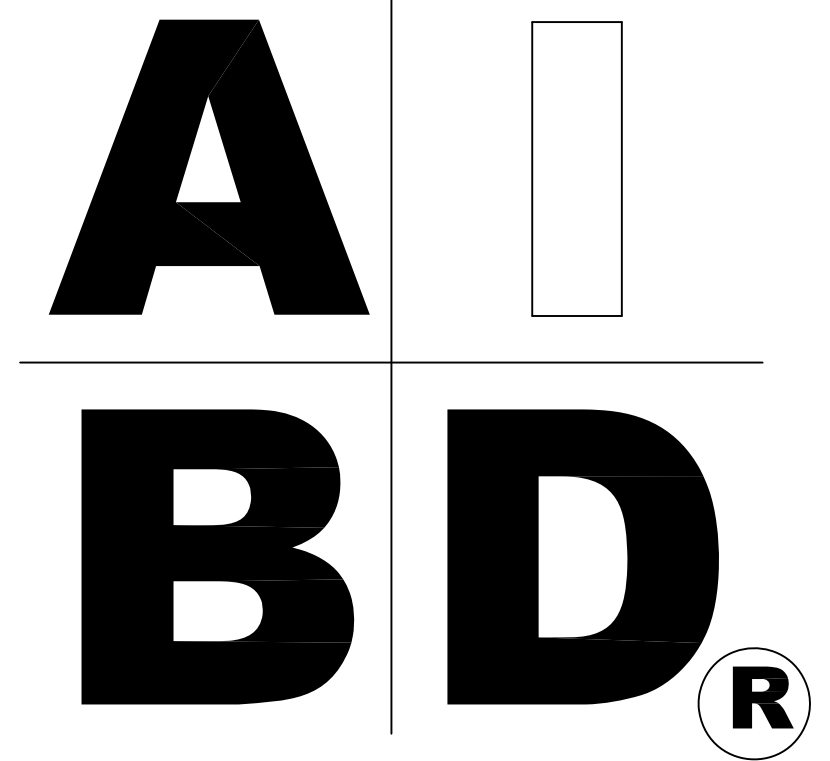


House Plan Zone, LLC

# House Plan Zone, LLC.


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 Email: Sales@HPZplans.com  
 Fax: 1-800-574-1387



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

03/06/2024




## STANDARD ABBREVIATIONS

@	AT	LT.	LIGHT
#	FOUND(S)	LIN.	LINEN
APPROX.	APPROXIMATELY	MANUF.	MANUFACTURER
BASE.	BASEMENT	MAS.	MASONRY
B/T	BETWEEN	MAX.	MAXIMUM
BLK.	BLOCK	MTL.	METAL
BLK'G	BLOCKING	MIN.	MINIMUM
BD.	BOARD	N.I.C.	NOT IN CONTRACT
BRD.	BOARD	O.C.	ON CENTER
BOT.	BOTTOM	O/C	ON CENTER
BLDG.	BUILDING	OFT.	OPTIONAL
CAB.	CABINET	O.S.B.	ORIENTED STRAND BOARD
CLG.	CEILING	OTS	OWNER TO SELECT
CLR.	CLEAR	O.T.S	OWNER TO SELECT
CLOS.	CLOSET	P.G.	PAGE
COL.	COLUMN	PAN.	PANTRY
COLS.	COLUMNS	PL.	PLATE
CONC.	CONCRETE	P.	PLATE
CMU	CONCRETE MASONRY UNIT	PLYND	PLYWOOD
C.U.	CONDENSOR UNIT	PLYND	PLYWOOD
CONN.	CONNECTION	POLY.	POLYETHYLENE
CONT.	CONTINUOUS	PSI	POUNDS PER SQUARE INCH
COVER'G	COVERING	PRE-FAB	PREFABRICATED
CS	CRANL SFACE	RE.	REFERENCE
DECO.	DECORATIVE	REF.	REFRIGERATOR
DET.	DETAIL	REINF.	REINFORCED
DIA.	DIAMETER	R	RESISTANCE
D/W	DISHWASHER	R.A	RETURN AIR
DBL.	DOUBLE	R.A.G	RETURN AIR GRILLE
DF	DOUGLAS FIR	REQ'D	REQUIRED
D	DRYER	SCR.	SCREEN
EA.	EACH	SHLVs.	SHELVES
ELEV.	ELEVATION	SHR.	SHOWER
ENG.	ENGINEER	SHWR.	SHOWER
FT.	FEET	SST.	SIMPSON STRONG TIE
F.F.L.	FINISHED FLOOR LINE	SP	SOUTHERN PINE
FIN.	FINISH	SPECs.	SPECIFICATIONS
F.C.	FIRE CODE	SQ.	SQUARE
FLR.	FLOOR	S.F.	SQUARE FOOTAGE
FTG.	FOOTING	STL.	STEEL
FOUND.	FOUNDATION	THK.	THICK
FND.	FOUNDATION	THK.	THICKNESS
FR.	FREEZER	TBD.	TO BE DETERMINED
GA.	GAUGE	TR.	TRANSOM
GALV.	GALVANIZED	TYP.	TYPICAL
GYP.	GYPsum	U.T.C.	UNDER THE COUNTER
HDR.	HEADER	UTIL.	UTILITY
HVAC	HEATING, VENTILATION & AIR CONDITIONING	VAN.	VANITY
HT.	HEIGHT	VERT.	VERTICAL
HTS	HEIGHTS	WH	WATER HEATER
HORIZ.	HORIZONTAL	W	WASHER
IN	INCHES	WT.	WEIGHT
INCL.	INCLUDE	WIN.	WINDOW
INSUL.	INSULATION	W.M.	WIRE MESH
JT.	JOINT	W	WITH
JST.	JOIST	WD.	WOOD
JSTs.	JOISTS	WFCM	WOOD FRAME CONSTRUCTION MANUAL



## SHEET INDEX:

- 1 COVER SHEET
- 2 FOUNDATION PLAN
- 3 FLOOR PLANS
- 4 EXTERIOR ELEVATIONS
- 5 EXTERIOR ELEVATIONS
- 6 CROSS SECTION & CABINETS
- 7 ROOF PLANS
- 8 ELECTRICAL PLANS

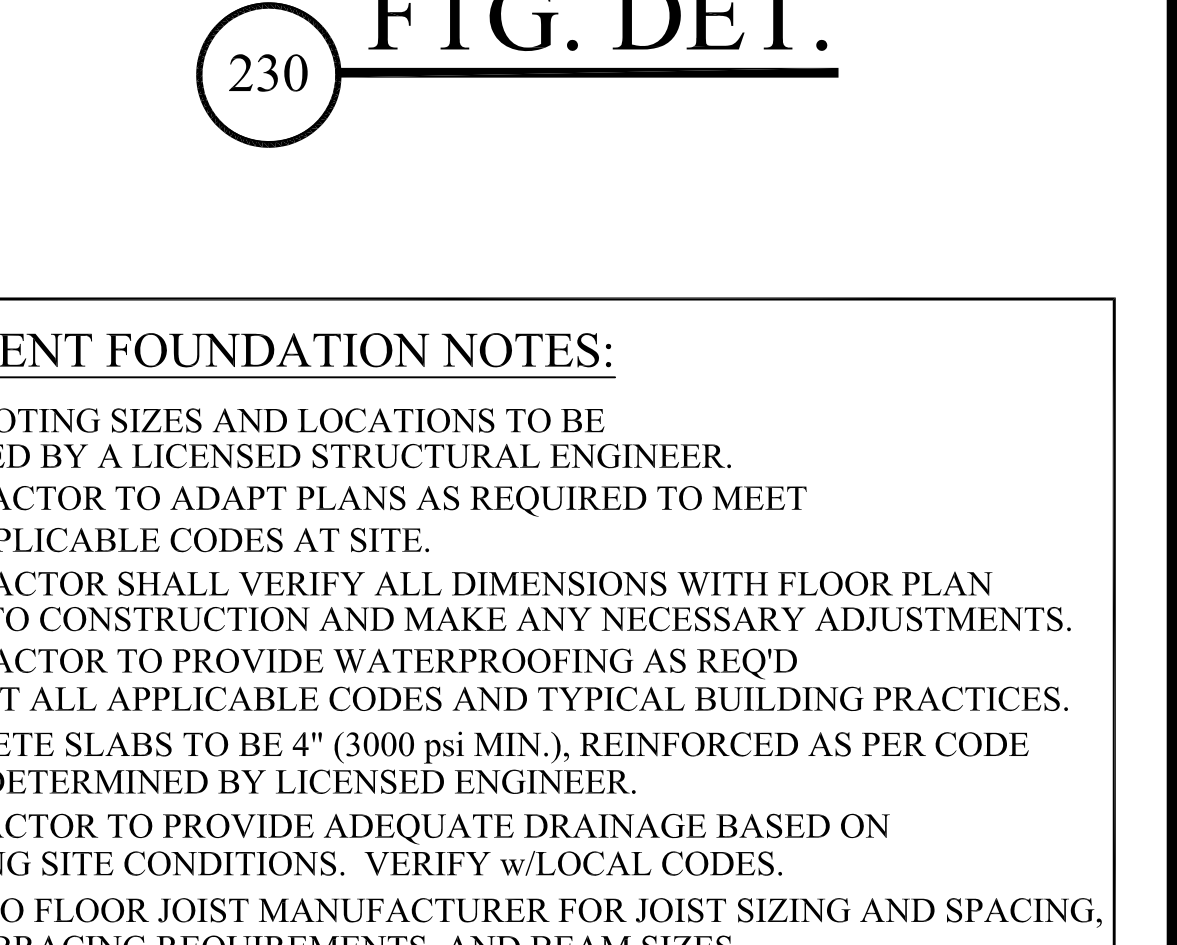
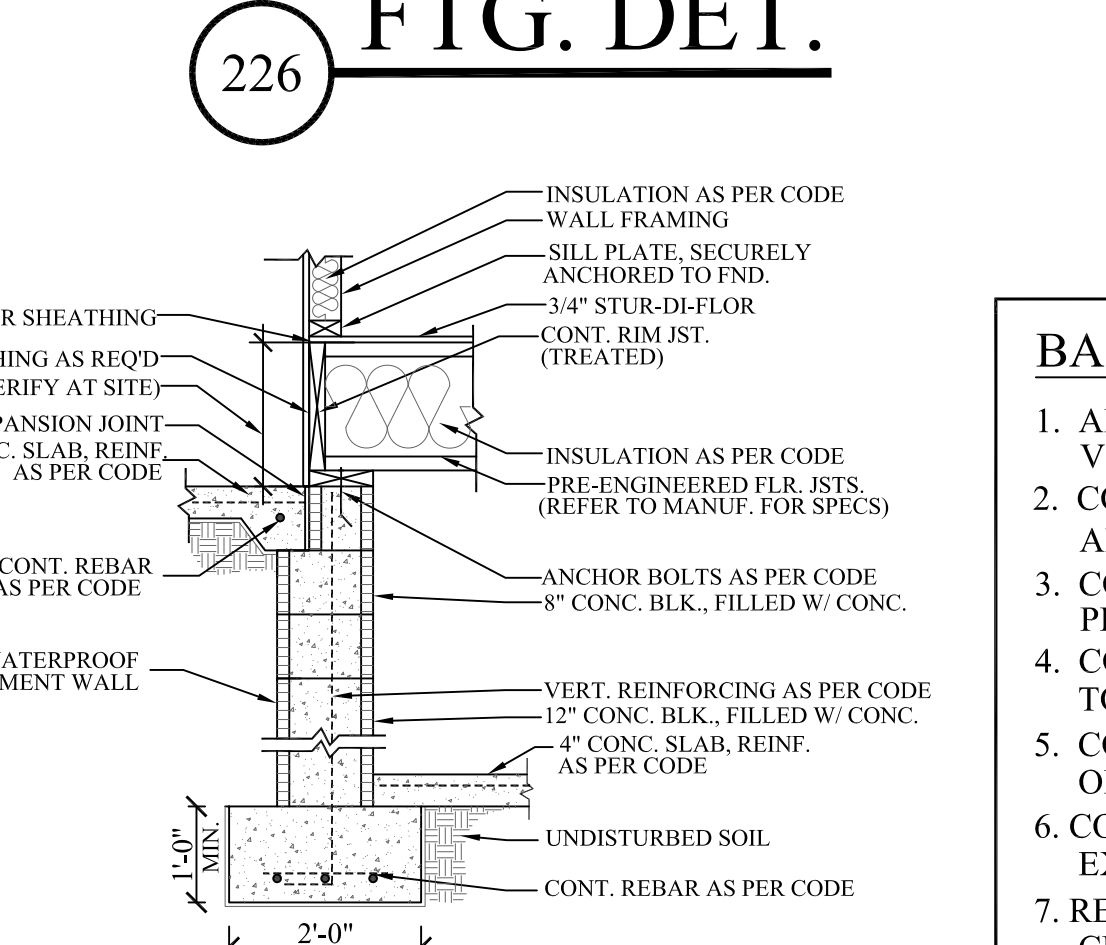
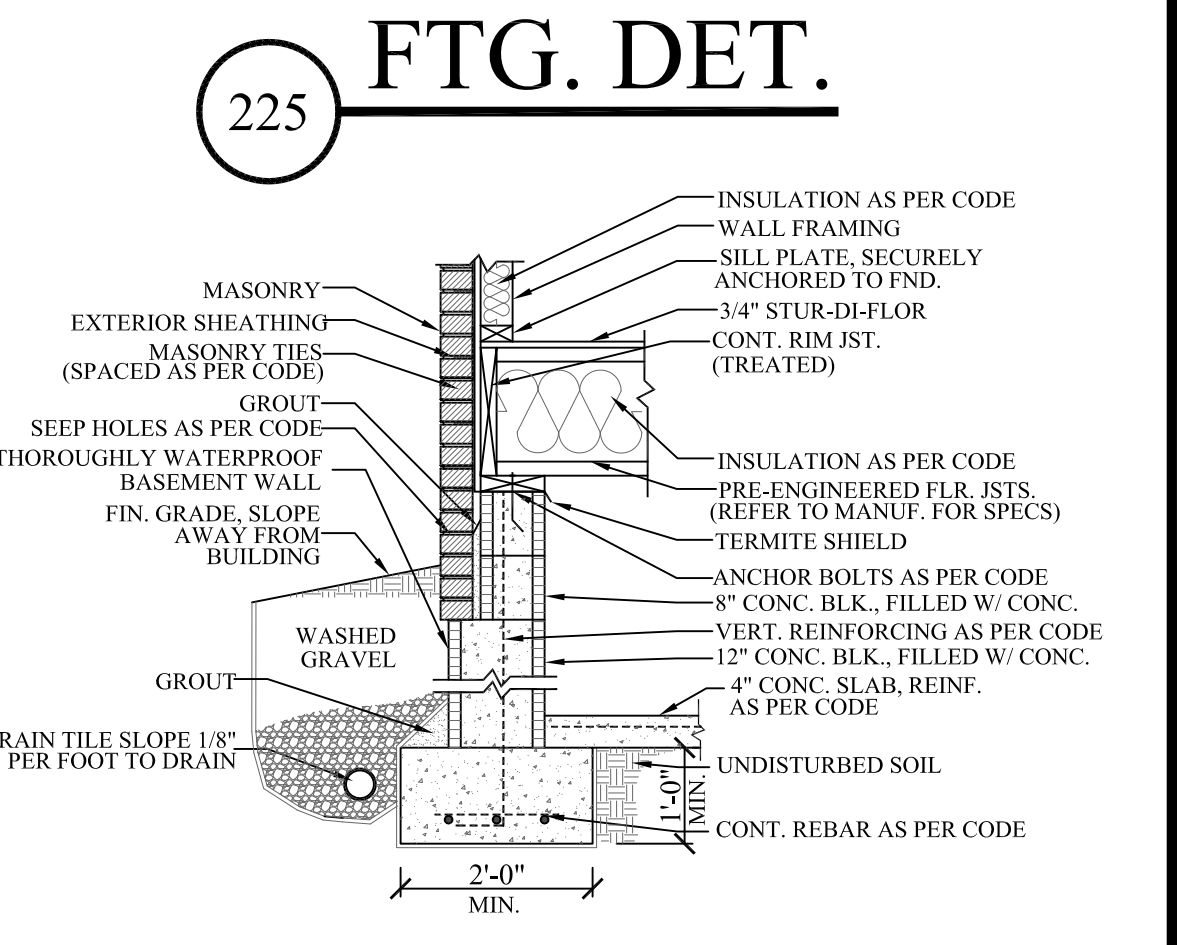
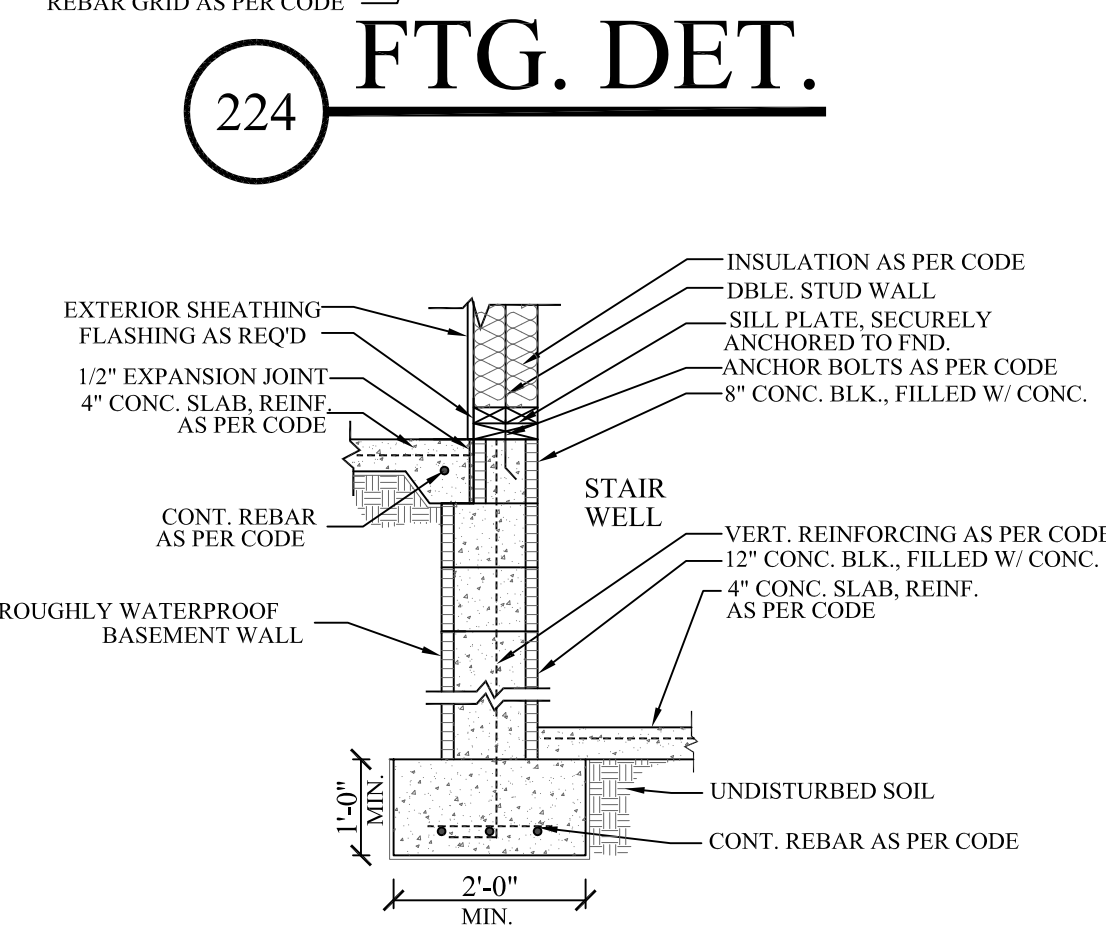
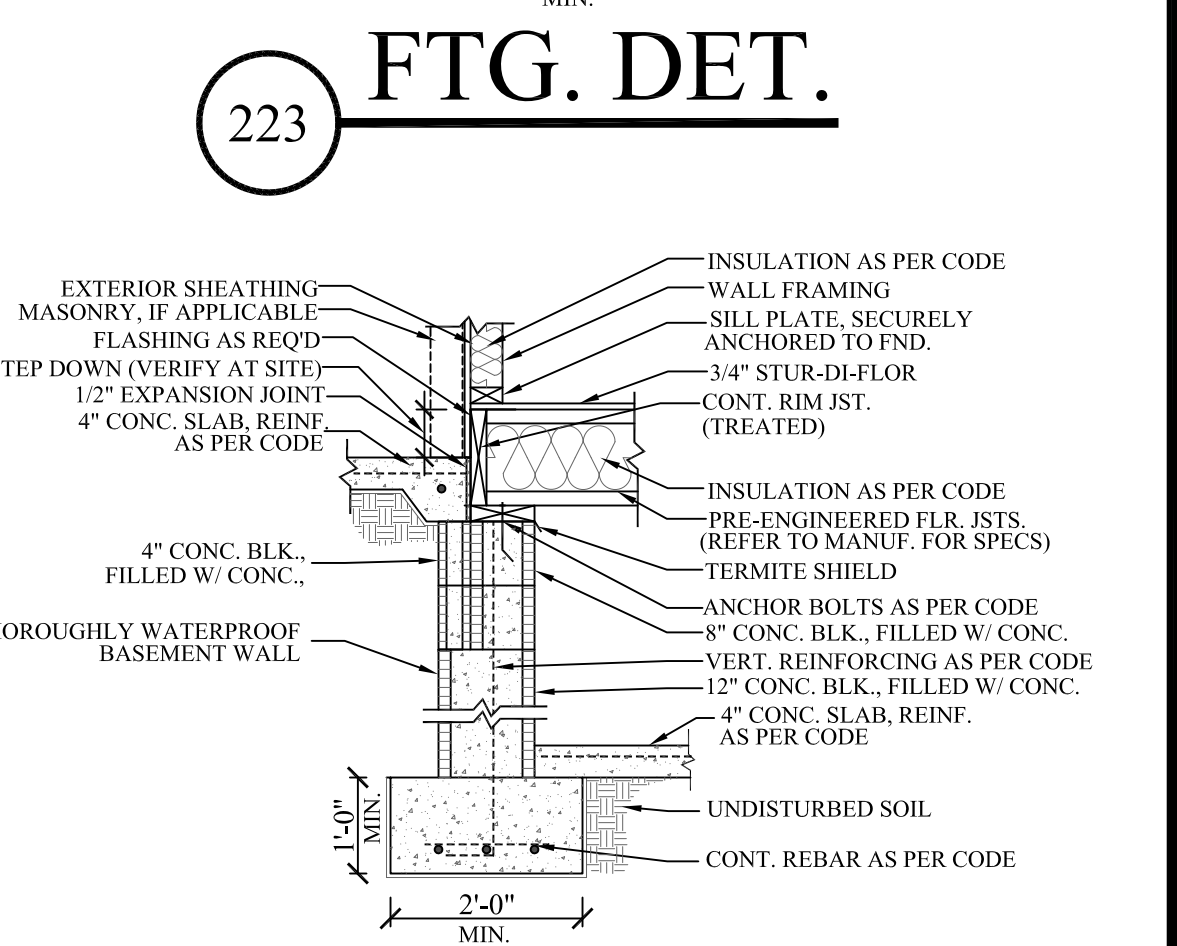
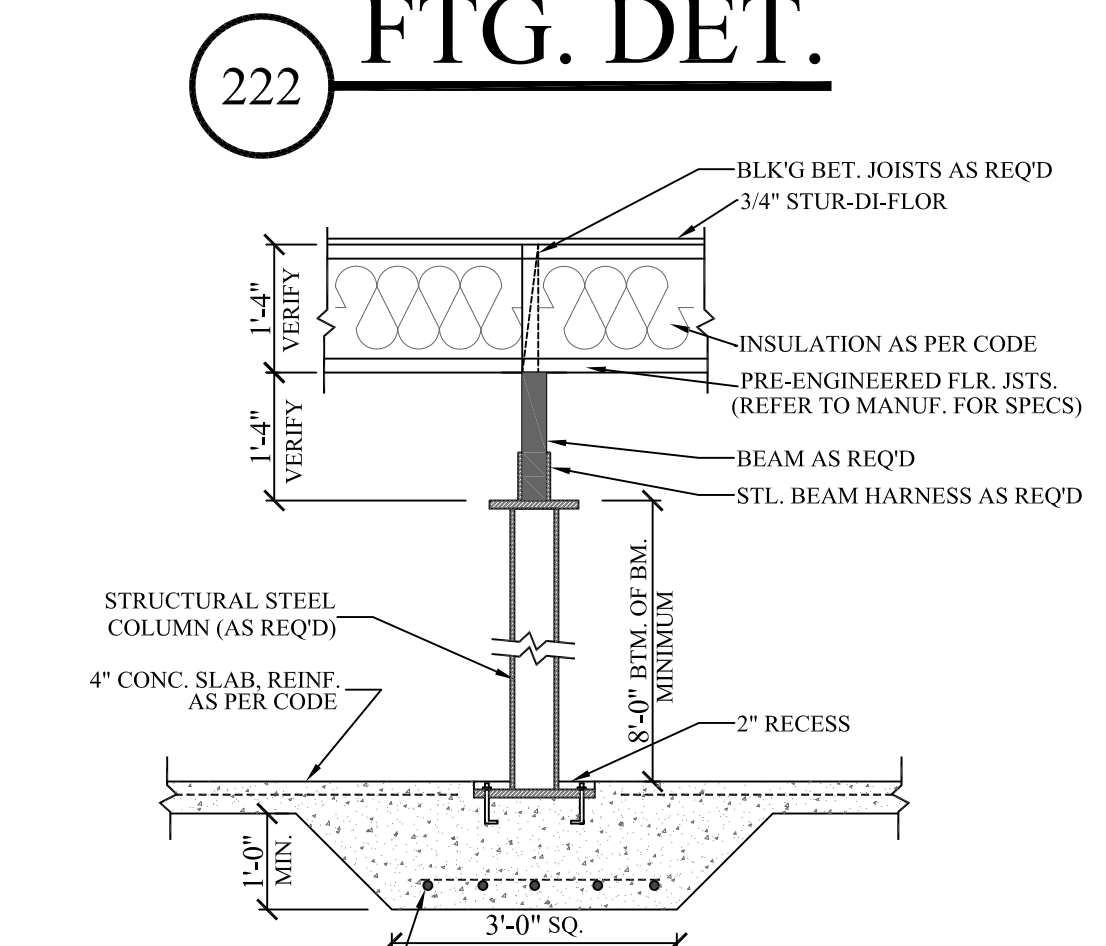
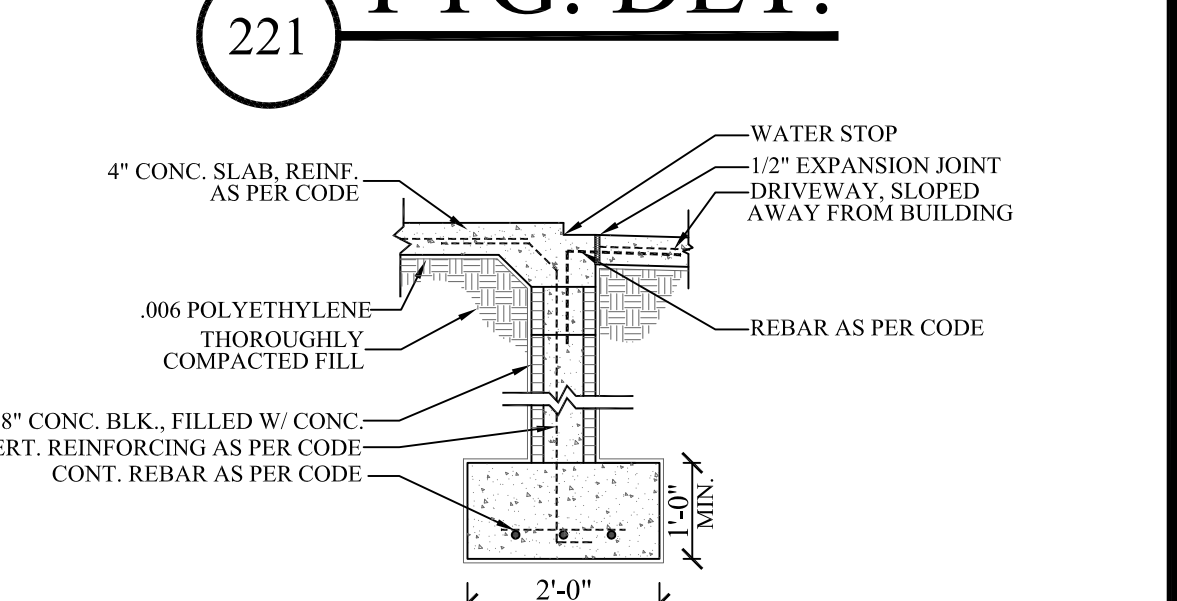
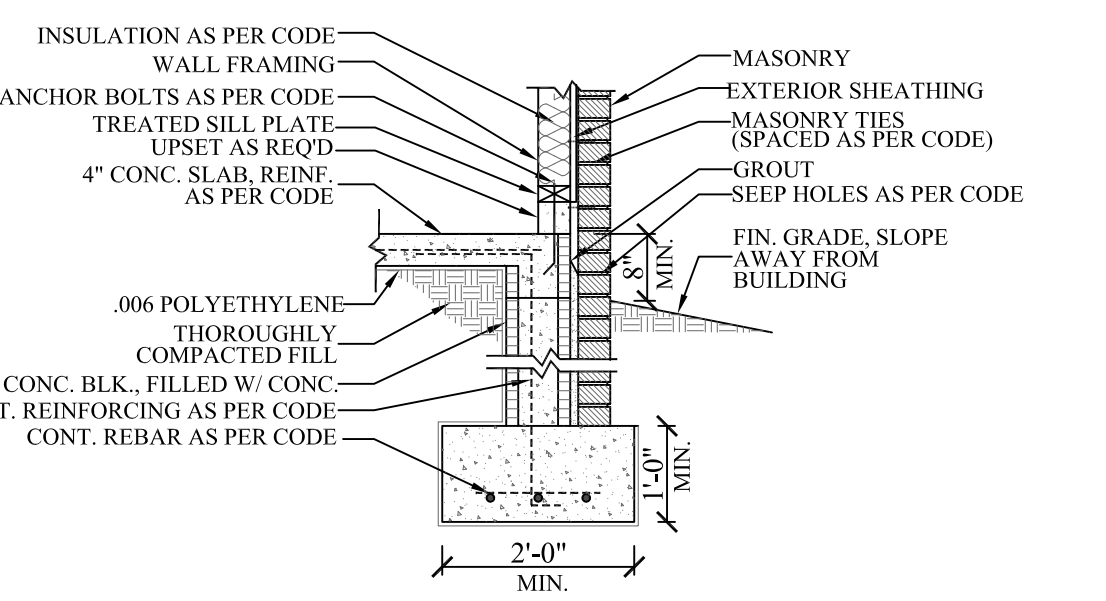
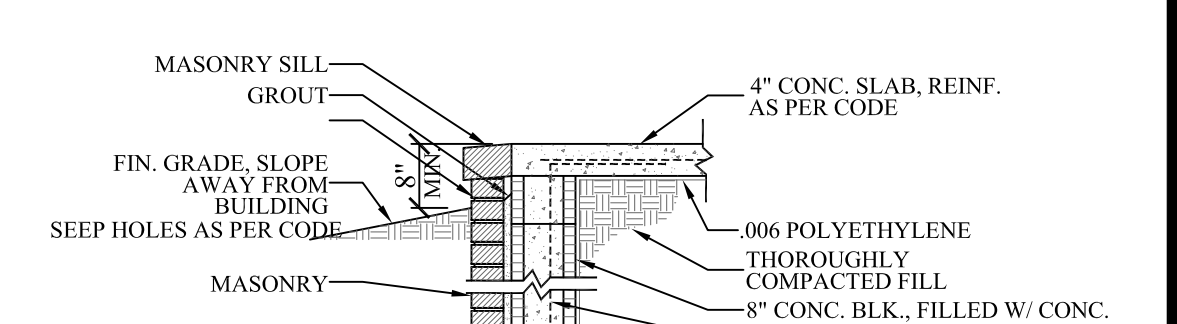
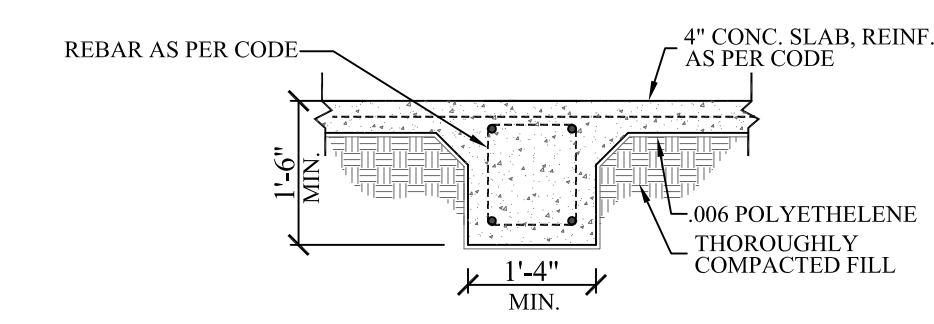
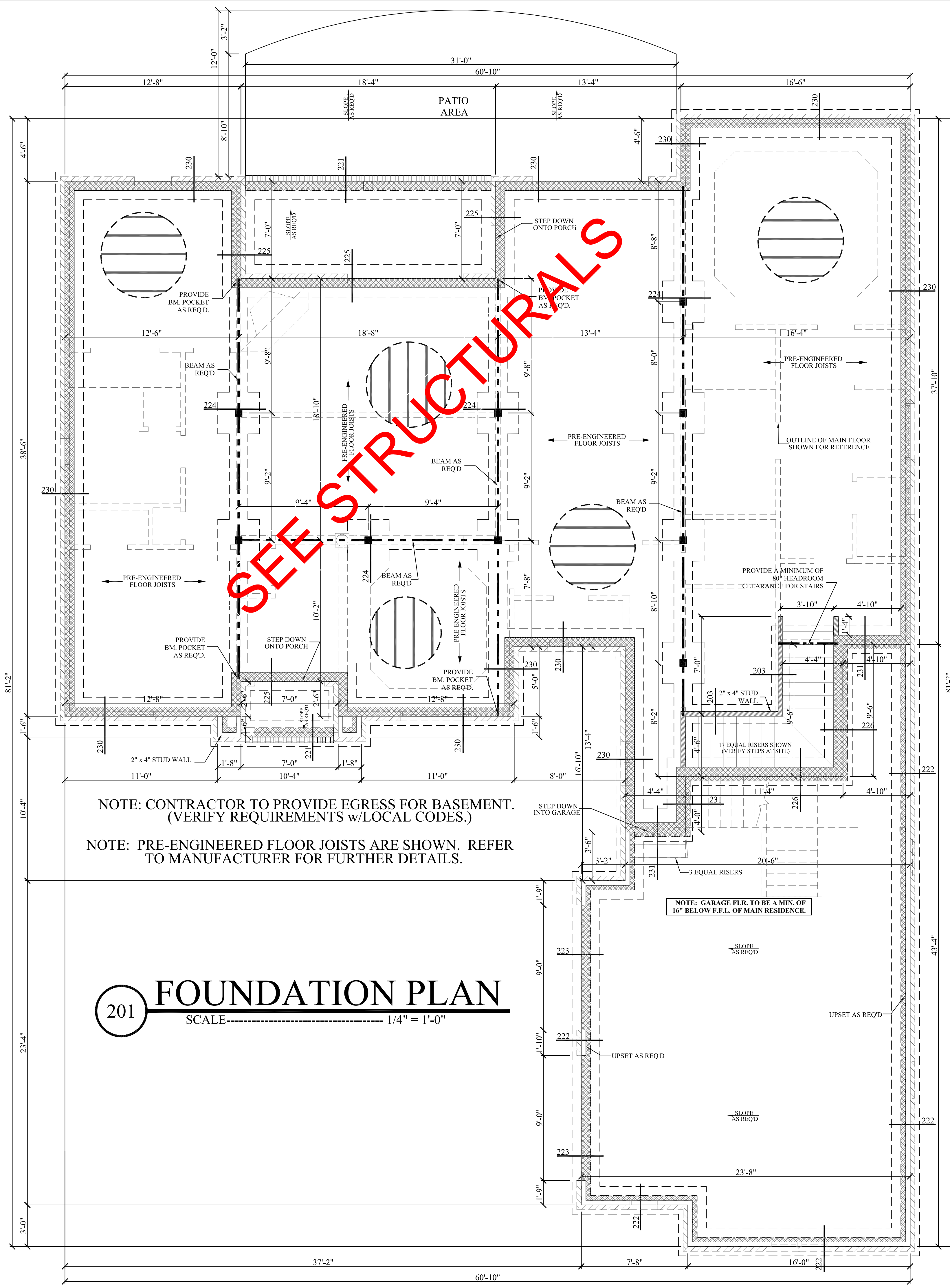
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Date: 05/02/07

Drawn By:

SHEET NUMBER

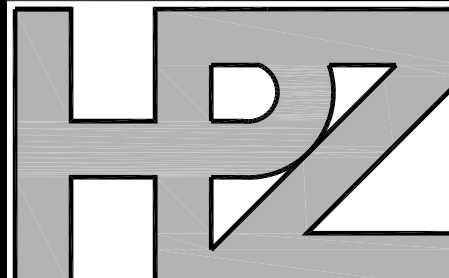
# 1



- BASEMENT FOUNDATION NOTES:**
1. ALL FOOTINGS SIZES AND LOCATIONS TO BE VERIFIED BY A LICENSED STRUCTURAL ENGINEER.
  2. CONTRACTOR TO ADAPT PLANS AS REQUIRED TO MEET ALL APPLICABLE CODES AT SITE.
  3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH FLOOR PLAN PRIOR TO CONSTRUCTION AND MAKE ANY NECESSARY ADJUSTMENTS.
  4. CONTRACTOR TO PROVIDE WATERPROOFING AS REQ'D TO MEET ALL APPLICABLE CODES AND TYPICAL BUILDING PRACTICES.
  5. CONCRETE SLABS TO BE 4" (3000 psi MIN.), REINFORCED AS PER CODE OR AS DETERMINED BY LICENSED ENGINEER.
  6. CONTRACTOR TO PROVIDE ADEQUATE DRAINAGE BASED ON EXISTING SITE CONDITIONS. VERIFY w/LOCAL CODES.
  7. REFER TO FLOOR JOIST MANUFACTURER FOR JOIST SIZING AND SPACING, CROSS BRACING REQUIREMENTS, AND BEAM SIZES.
  8. PROVIDE DOUBLE JOISTS UNDER ALL WALLS RUNNING PARALLEL TO FLOOR JOISTS.

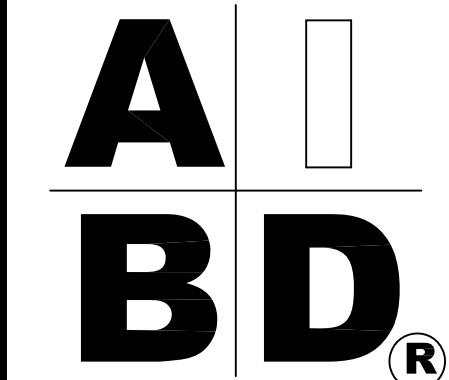






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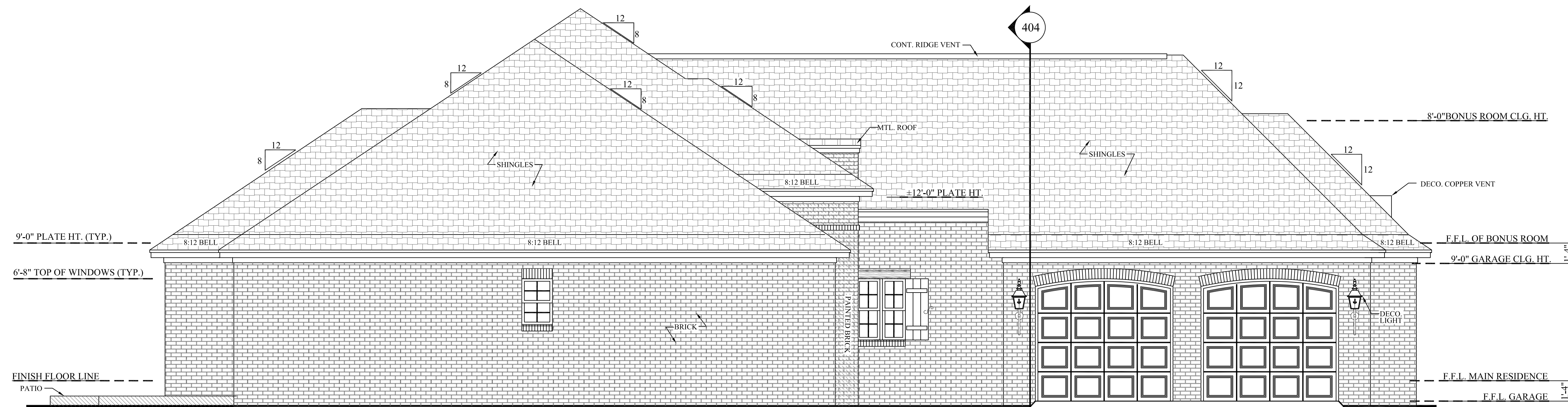


Plan ID:  
**BB-2200**

Date: 05/02/07  
Drawn By: C.T.B.

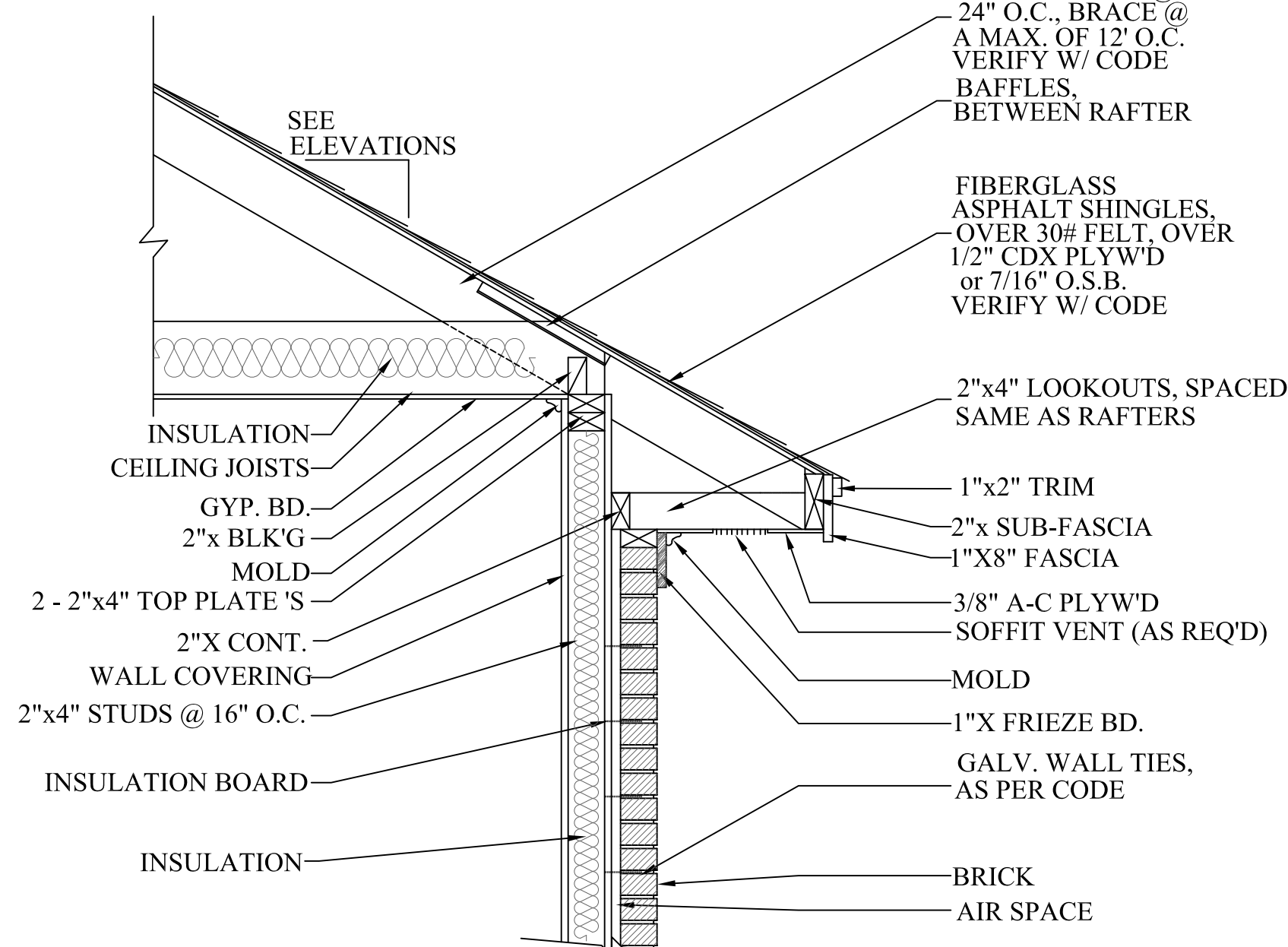
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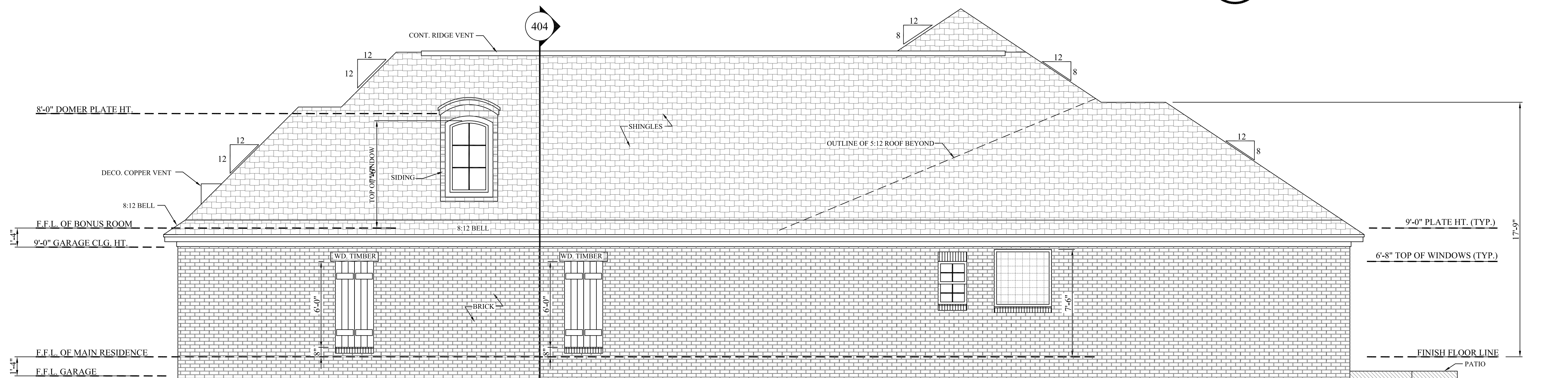


**501 LEFT ELEVATION**  
SCALE-----1/4" = 1'-0"

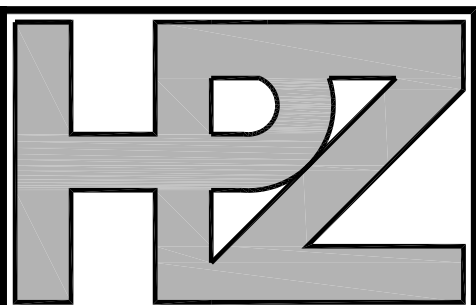
**EXTERIOR ELEVATION NOTES:**  
1. CONTRACTOR TO VERIFY ALL WINDOW AND DOOR STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION.  
2. PROVIDE STEPS AND GUARD RAILS AS PER CODE BASED ON SITE CONDITIONS.  
3. GROUND LINES SHOWN FOR REFERENCE ONLY AND VARY DEPENDING ON SITE CONDITIONS.  
4. ALL FINISH MATERIALS TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.  
5. REFER TO TYPICAL WALL DETAIL FOR FRAMING METHODS AND OTHER MISC. INFORMATION.



**503 TYP. CORNICE DETAIL**  
SCALE-----3/4" = 1'-0"



**502 RIGHT ELEVATION**  
SCALE-----1/4" = 1'-0"

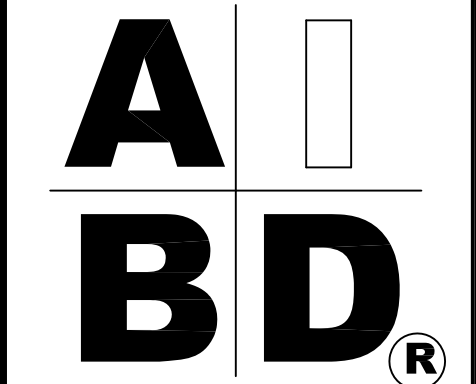


House Plan Zone, LLC

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House Plan Zone, LLC has exercised great care and effort in the development of these plans and the completion of these construction documents. However, the user assumes all responsibility for any damages, including structural failures resulting from errors, omissions or deficiencies in the design. House Plan Zone, LLC highly recommends that these plans be reviewed by a licensed structural engineer in the area of construction, other special conditions required by local building codes. All dimensions to be verified on site prior to construction. Foundation plan shall be verified by a licensed engineer prior to construction.



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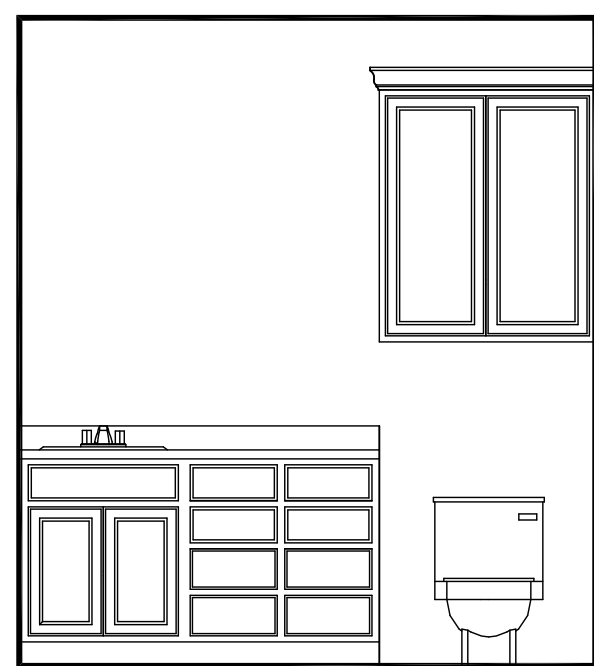
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Date: 05/02/07

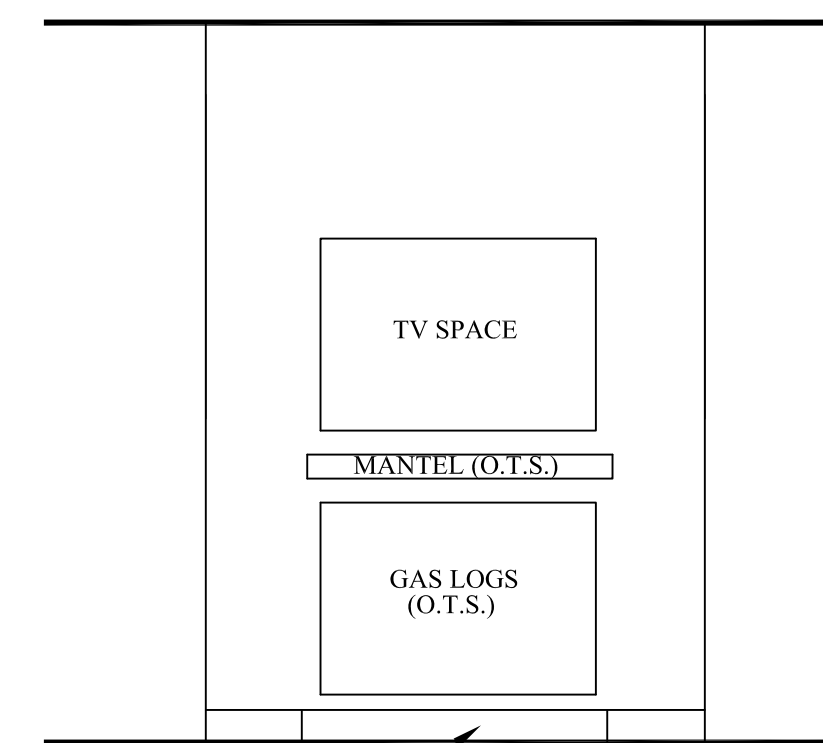
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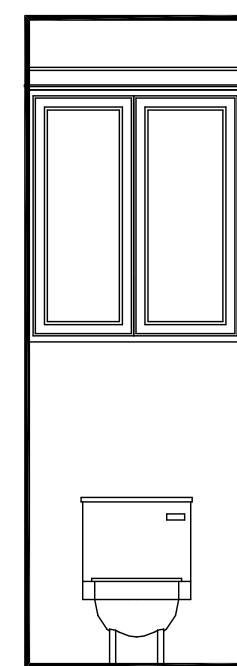
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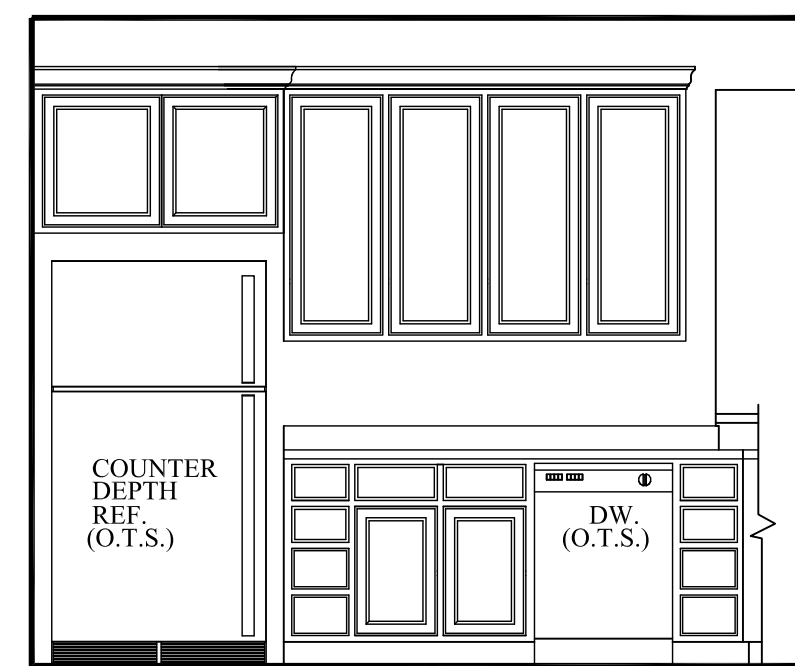
602 BATH 2  
SCALE: 3/8" = 1'-0"



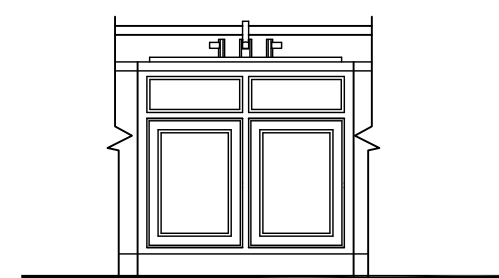
603 GREAT ROOM  
SCALE: 3/8" = 1'-0"



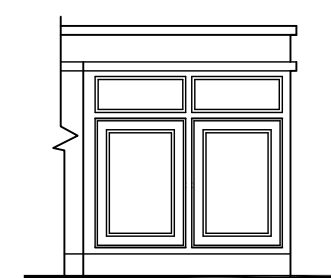
604 POWDER  
SCALE: 3/8" = 1'-0"



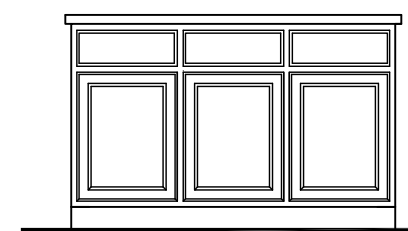
605 KITCHEN  
SCALE: 3/8" = 1'-0"



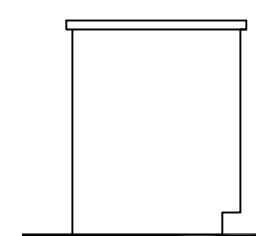
606 KITCHEN  
SCALE: 3/8" = 1'-0"



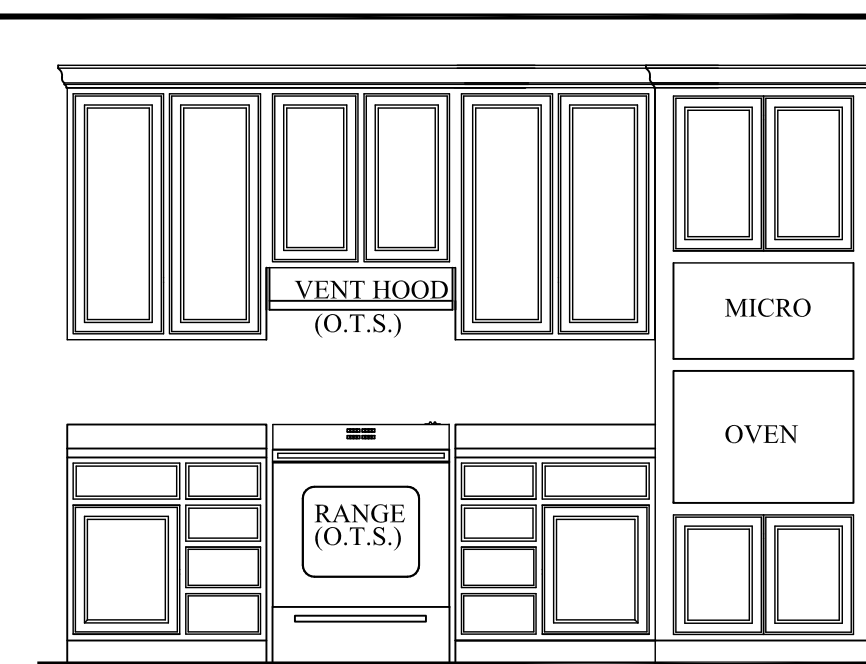
607 KITCHEN  
SCALE: 3/8" = 1'-0"



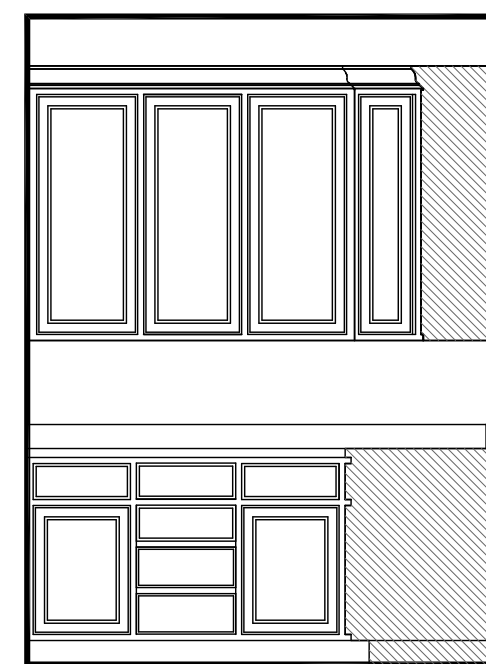
608 KITCHEN  
SCALE: 3/8" = 1'-0"



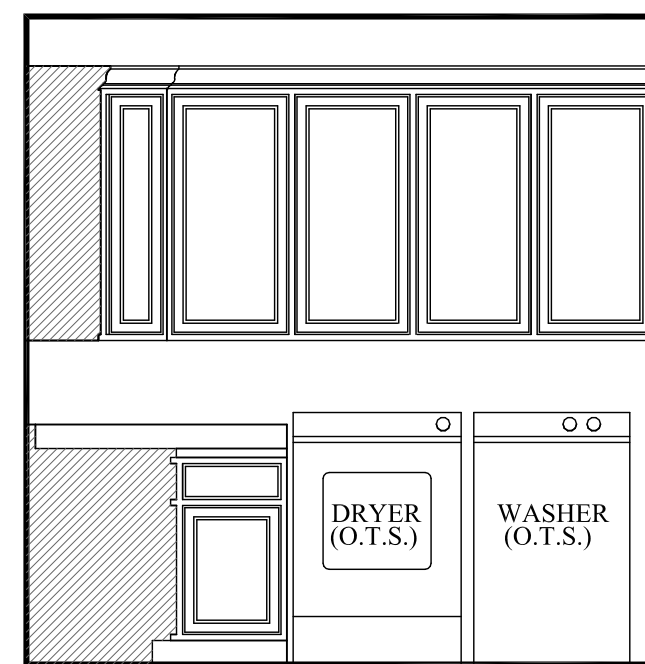
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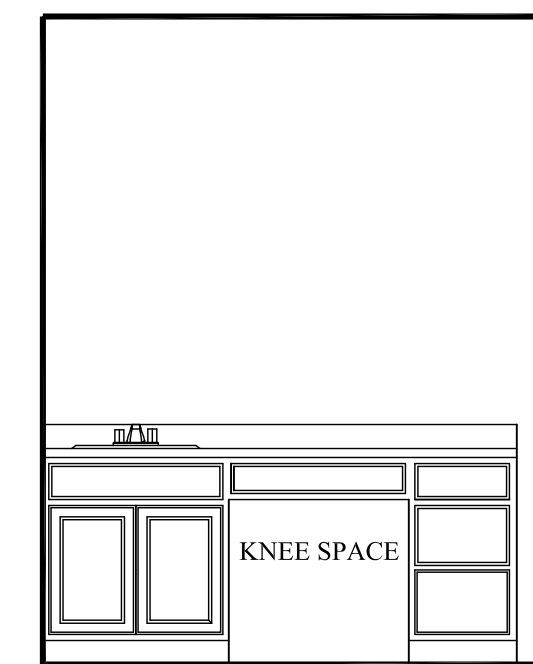
610 KITCHEN  
SCALE: 3/8" = 1'-0"



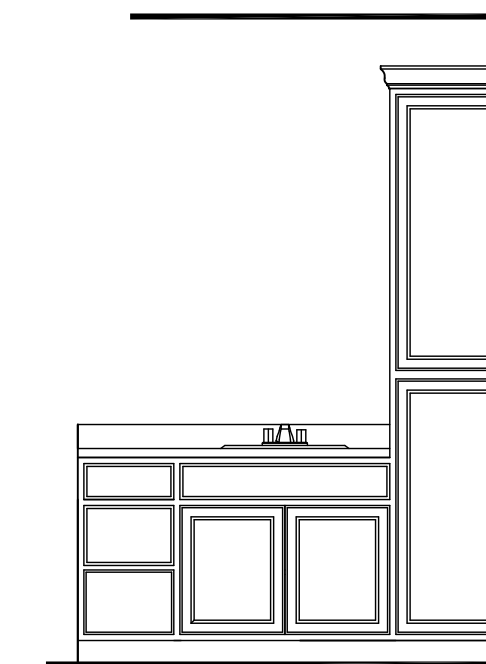
611 UTILITY  
SCALE: 3/8" = 1'-0"



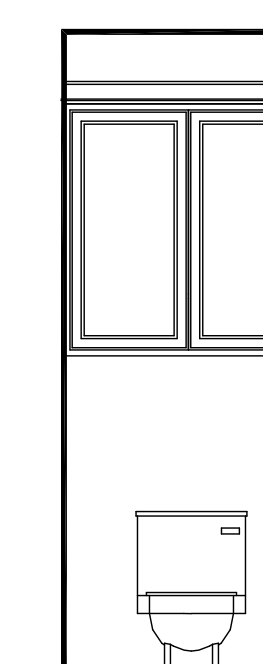
612 UTILITY  
SCALE: 3/8" = 1'-0"



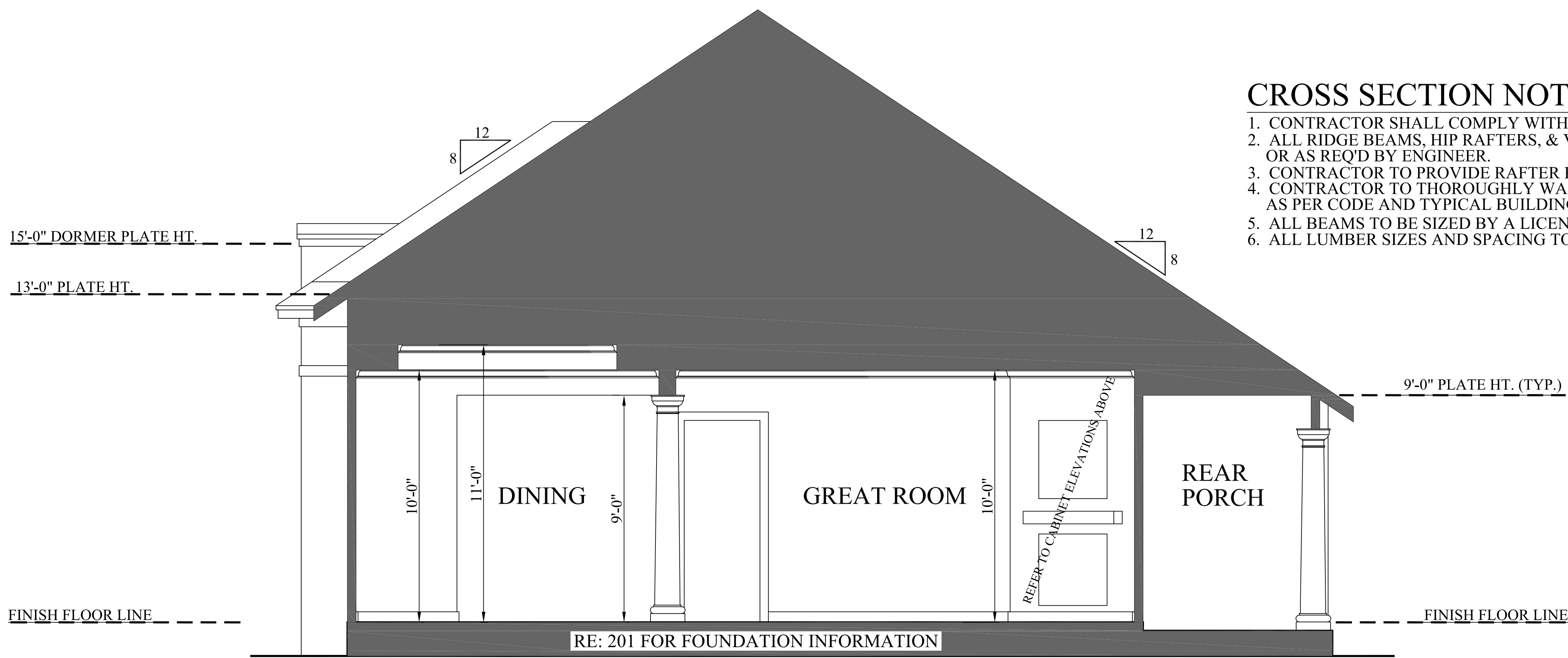
613 MASTER BATH  
SCALE: 3/8" = 1'-0"



614 MASTER BATH  
SCALE: 3/8" = 1'-0"



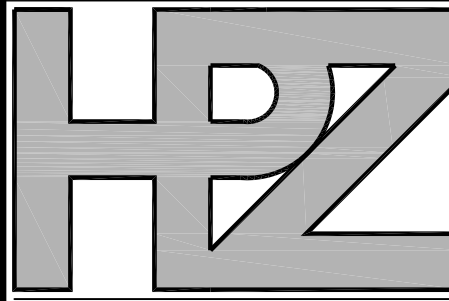
615 MASTER BATH  
SCALE: 3/8" = 1'-0"



601 CROSS SECTION  
SCALE: 3/8" = 1'-0"

CROSS SECTION NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AT SITE.
2. ALL RIDGE BEAMS, HIP RAFTERS, & VALLEY RAFTERS TO BE 2" x 10", OR AS REQ'D BY ENGINEER.
3. CONTRACTOR TO PROVIDE RAFTER BRACING TO MEET APPLICABLE CODES.
4. CONTRACTOR TO THOROUGHLY WATERPROOF ALL EXTERIOR INTERSECTIONS AS PER CODE AND TYPICAL BUILDING PRACTICES.
5. ALL BEAMS TO BE SIZED BY A LICENSED STRUCTURAL ENGINEER.
6. ALL LUMBER SIZES AND SPACING TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.



House Plan Zone, LLC

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House Plan Zone, LLC has exercised great care and effort in the development of these plans and the completion of these construction documents. It is the responsibility of the contractor to verify all dimensions and conditions on site prior to construction. Foundation plan shall be verified by a licensed engineer prior to construction.



Plan ID:

BB-2200

Date: 05/02/07

Drawn By: C.T.B.

SHEET NUMBER

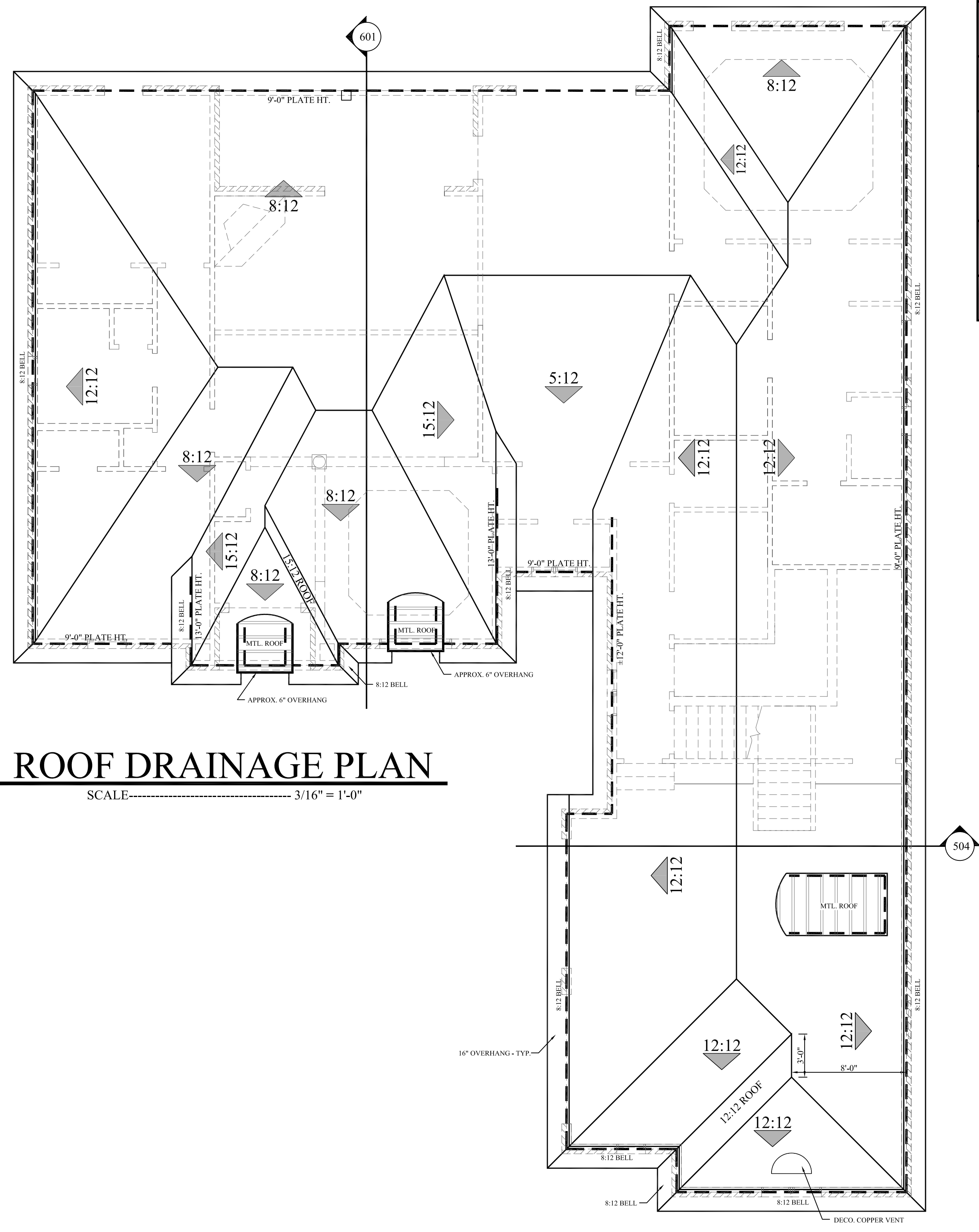
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**RAFTER SPANS**  
TABLE R802.5.1(5) IRC 2003

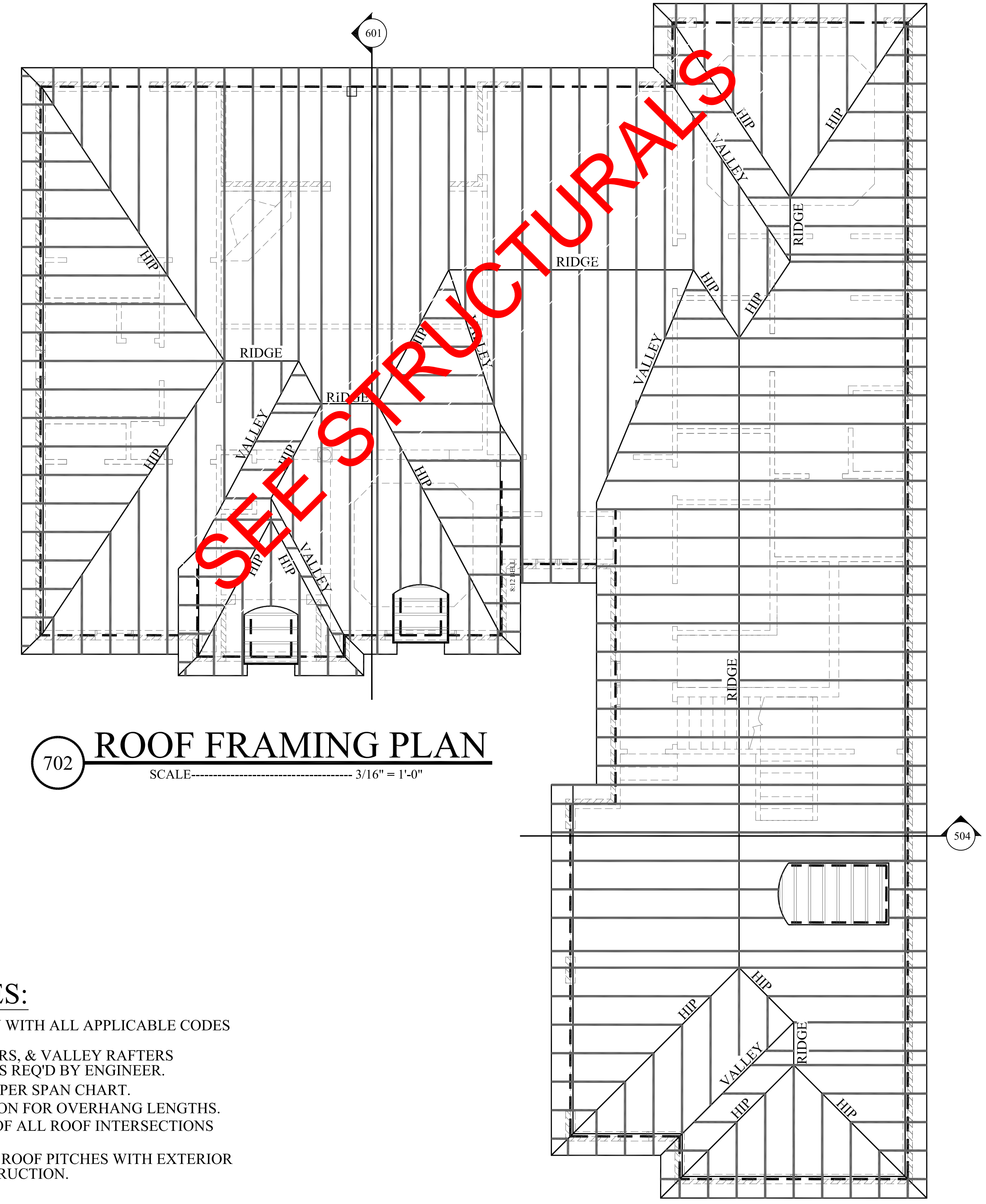
RAFTER SPANS FOR SOUTHERN PINE SPECIES  
(GROUND SNOW LOAD=50psf, CEILING ATTACHED  
TO RAFTERS, L<sub>2</sub>=240) DEAD LOAD = 10psf

SIZE	SPACING (INCHES)	SPANS (MAXIMUM RAFTER SPANS BETWEEN BRACING) (FT.-IN)
2 x 4	12.0	8-7
	16.0	7-10
	19.2	7-4
	24.0	6-10
2 x 6	12.0	13-6
	16.0	12-3
	19.2	11-5
	24.0	10-2
2 x 8	12.0	17-10
	16.0	16-2
	19.2	14-9
	24.0	13-2
2 x 10	12.0	22-3
	16.0	19-3
	19.2	17-7
	24.0	15-9
2 x 12	12.0	XXXXX
	16.0	22-7
	19.2	20-7
	24.0	18-5

REFER TO IRC 2003 OR APPLICABLE CODE FOR ADDITIONAL INFORMATION.



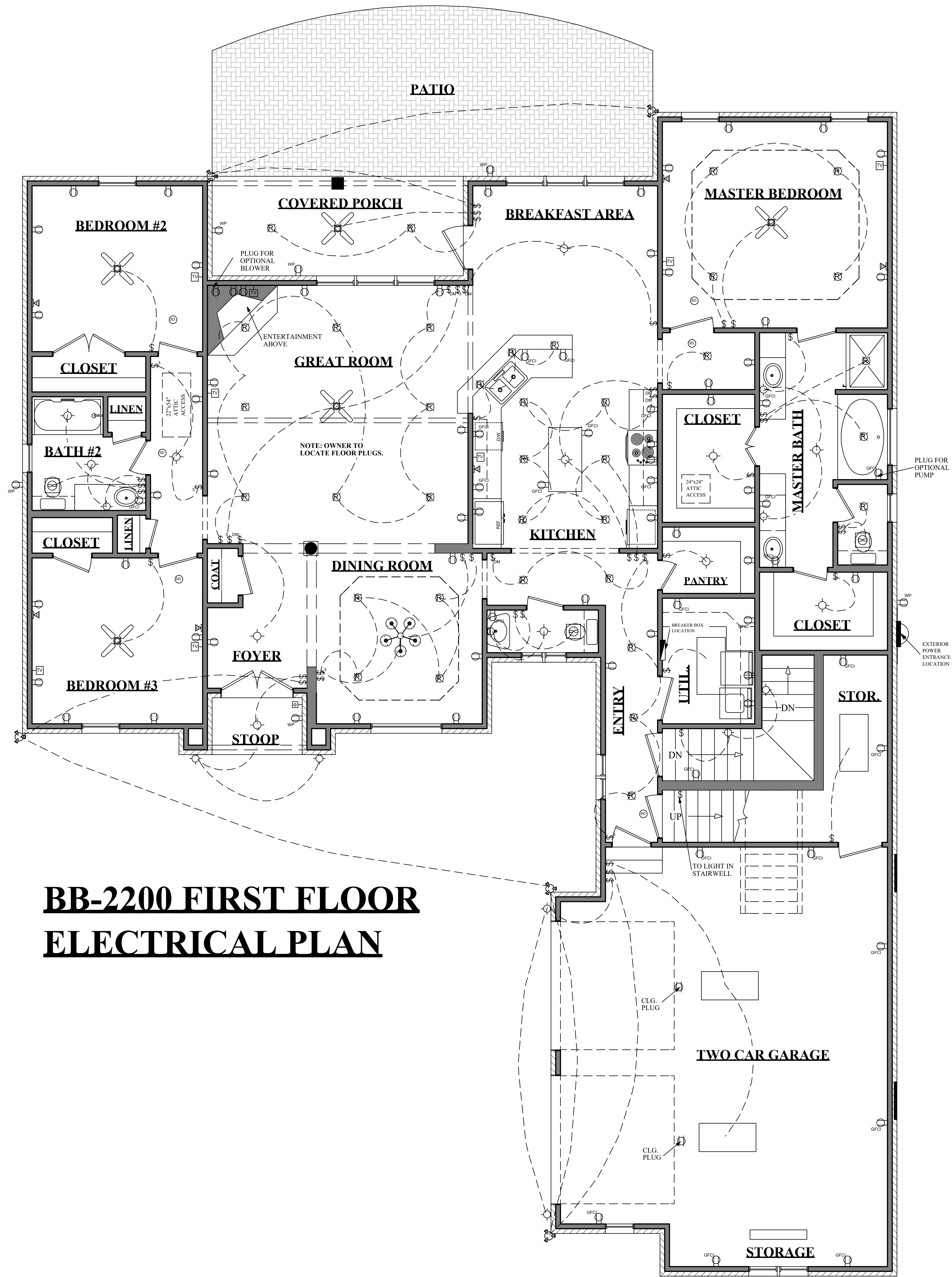
701 ROOF DRAINAGE PLAN  
SCALE: 3/16" = 1'-0"



702 ROOF FRAMING PLAN  
SCALE: 3/16" = 1'-0"

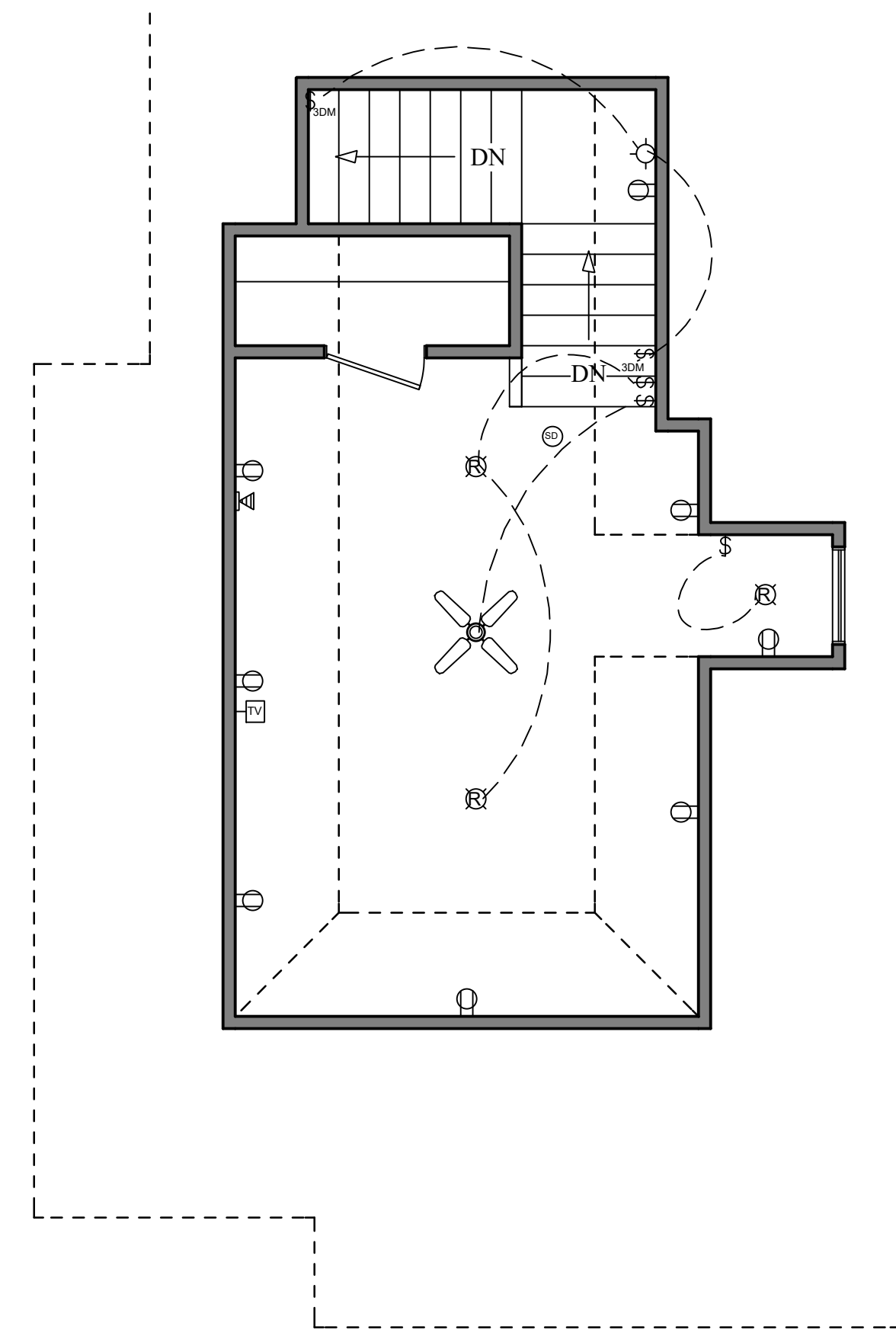
**ROOF PLAN NOTES:**

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AT SITE.
2. ALL RIDGE BEAMS, HIP RAFTERS, & VALLEY RAFTERS TO BE 2" X 10", No.2 S.Y.P. OR AS REQ'D BY ENGINEER.
3. ALL RAFTERS TO BE SIZED AS PER SPAN CHART.
4. REFER TO EXTERIOR ELEVATION FOR OVERHANG LENGTHS.
5. CONTRACTOR TO WATERPROOF ALL ROOF INTERSECTIONS AS PER CODE.
6. CONTRACTOR TO VERIFY ALL ROOF PITCHES WITH EXTERIOR ELEVATIONS PRIOR TO CONSTRUCTION.



**BB-2200 FIRST FLOOR  
ELECTRICAL PLAN**

**BB-2200 BONUS  
ELECTRICAL PLAN**



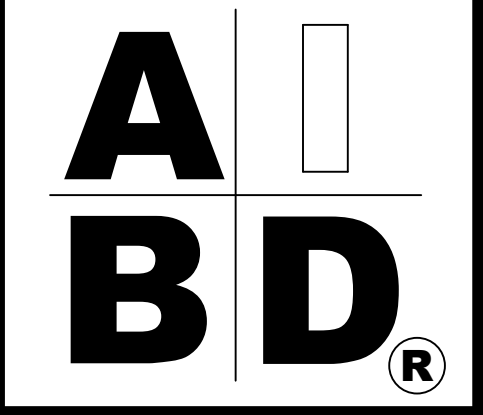
ELECTRICAL SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	110 VOLT OUTLET
[Symbol]	GROUND FAULT PROTECTED OUTLET
[Symbol]	WEATHERPROOF OUTLET
[Symbol]	220 VOLT RECEPTACLE
[Symbol]	FLOOR OUTLET (OWNER TO LOCATE)
[Symbol]	CEILING HUNG FIXTURE
[Symbol]	OVERHANG MOUNTED FLOODLIGHTS
[Symbol]	WALL MOUNTED FLOODLIGHTS
[Symbol]	RECESSED CEILING FIXTURE
[Symbol]	FLUORESCENT LIGHT
[Symbol]	CARBON MONOXIDE DETECTOR
[Symbol]	SMOKE DETECTOR
[Symbol]	SWITCH
[Symbol]	THREE WAY SWITCH
[Symbol]	FOUR WAY SWITCH
[Symbol]	DIMMER SWITCH (OWNER TO LOCATE)
[Symbol]	DOOR ACTIVATED SWITCH
[Symbol]	CATS NETWORKING JACK (OWNER TO LOCATE)
[Symbol]	TELEPHONE OUTLET (OWNER TO LOCATE)
[Symbol]	TELEVISION OUTLET (OWNER TO LOCATE)
[Symbol]	DOORBELL BUTTON (CONTRACTOR TO LOCATE)
[Symbol]	THERMOSTAT (CONTRACTOR TO LOCATE)
[Symbol]	CEILING EXHAUST FAN, VENT TO EXTERIOR
[Symbol]	CEILING EXHAUST FAN w/LIGHT, VENT TO EXT.
[Symbol]	AUDIO SPEAKERS
[Symbol]	CEILING FAN w/LIGHT
[Symbol]	TRACK LIGHTING (OWNER TO LOCATE)
[Symbol]	WALL SCOSNE (OWNER TO LOCATE)
[Symbol]	CHANDELIER
[Symbol]	UNDER COUNTER LIGHTING
[Symbol]	EMERGENCY LIGHTING/ EXIT SIGN

**ELECTRICAL NOTES:**  
 1. ALL WORK SHALL COMPLY WITH ALL CODES APPLICABLE AT SITE.  
 2. SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: EACH SLEEPING ROOM, OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING BASEMENTS AND HABITABLE ATTICS. WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN A DWELLING THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE UNIT. SMOKE ALARMS SHALL BE HARD WIRED WITH A BATTERY BACK UP.  
 3. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS WITHIN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLING UNITS WITH ATTACHED GARAGES.  
 4. A 125 VOLT, SINGLE PHASE, 15-20 AMPERE RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HEATING, AIR CONDITIONING AND REFRIGERATION EQUIPMENT. THE RECEPTACLE SHALL BE LOCATED ON THE SAME LEVEL AND WITHIN 25 FEET OF THE EQUIPMENT. THE RECEPTACLE OUTLET SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE HVAC EQUIPMENT DISCONNECTING MEANS.



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Plan ID:  
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Drawn By: J.L.B.

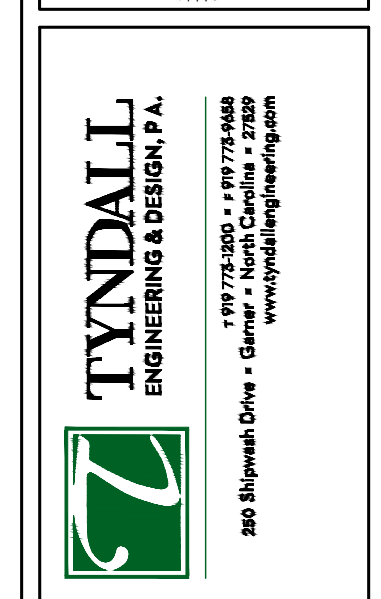
SHEET NUMBER

**8**

House Plan Zone, LLC has exercised great care and effort in the development of these plans and the completion of these construction documents. It is the responsibility of the contractor to verify all dimensions, materials, and specifications shown on these plans. House Plan Zone, LLC is not responsible for any damages, including structural failures resulting from errors, omissions or deficiencies in the design. House Plan Zone, LLC highly recommends that these plans be reviewed by a licensed structural engineer in the area of construction, and other special conditions required by local building codes. All dimensions to be verified on site prior to construction. Foundation plan shall be verified by a licensed engineer prior to construction.



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



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 www.tyndallengineering.com

CLIENT: SOUTHEASTERN INTERIORS  
 PROJECT: BYRD RESIDENCE

# FOUNDATION PLAN

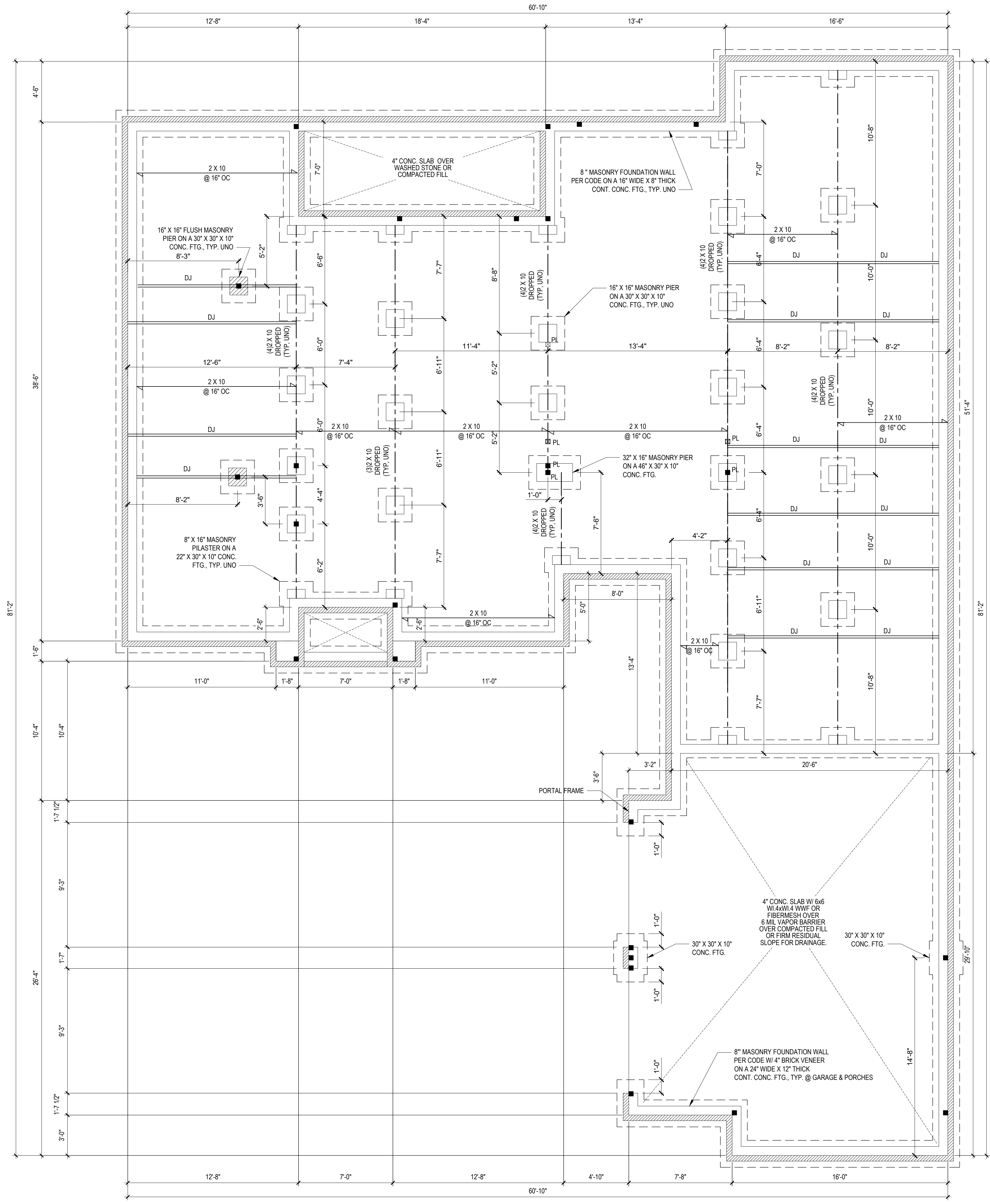
Project #: 2101-010252B  
 Date: 2/23/2022  
 Engineered by: AM  
 DWG. Checked by: PAT  
 Scale: SEE PLAN

REVISIONS		
No.	Date	Remarks

Sheet Number  
**S1**  
 1 of 7

DESIGN LOADS	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
FLOOR (primary)	40	10	L/360	L/240
FLOOR (secondary)	40	10	L/360	L/240
ATTIC w/ storage	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	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 CONTRACTORS 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 (UNO)  
 ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2600 PSI, E = 1.9M PSI  
 (I.E. LEVEL MICROLAM)  
 ALL LSL LUMBER IS TO BE 1.55E (Fb = 2325 PSI)  
 ALL LOAD BEARING EXTERIOR WINDOW HEADERS ARE TO BE (2) 2x10 w/ (1) 2x4 JACK STUD (U.N.O.) AND KING STUDS PER TABLE R602.7.5. AND TOGETHER w/ (2) 10d NAILS @ 8" O.C., PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-8". MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6". OTHERWISE REFER TO TABLES R602.7(1) AND R602.7(2).
  - ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLES R602.7(1) AND 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  
 Fy = 50 KSI MIN. (UNO)
  - ALL EXTERIOR LUMBER TO BE #2 SYP PT
  - ALL CONCRETE, fc = 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.

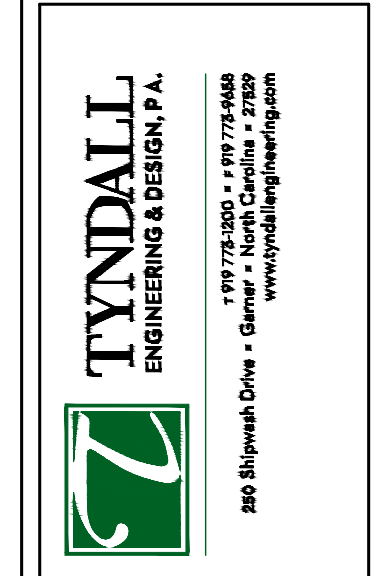


\*NOTE: SECURE 4-PLY W/ 1/2" THRU-BOLTS @ 24" O.C.

**FOUNDATION PLAN**  
 1/4" = 1'-0"

FILENAME: Z:\RESIDENTIAL\ENR\2021 STRUCTURAL PROJECTS\2101-010252B\001\_PLS\101-010252B\_LENS\_SWDG\_B6\_PRENCE\_TYNDALL\_VST\_PLOT\_ENR2/23/2022 2:41 PM

\*Engineers seal 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 Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.  
 \*Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.



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CLIENT: SOUTHEASTERN INTERIORS  
 PROJECT: BYRD RESIDENCE

**1ST FLOOR HEADER  
 2ND FLOOR FRAMING**

Project #: 2101-010252B  
 Date: 2/23/2022  
 Engineered by: AM  
 DWG. Checked by: PAT  
 Scale: SEE PLAN

REVISIONS		
No.	Date	Remarks

Sheet Number  
**S2**  
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**DESIGN LOADS**

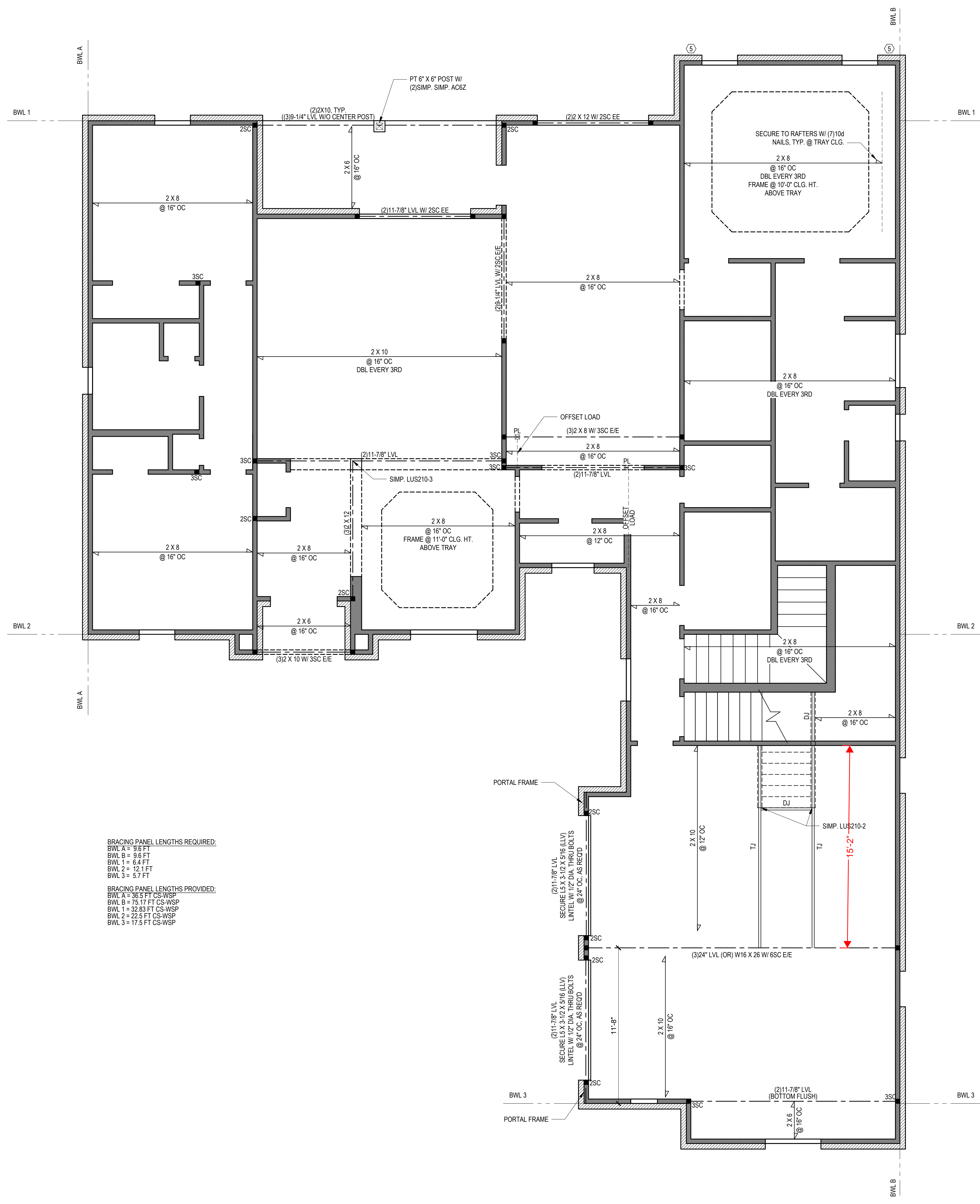
	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
FLOOR (primary)	40	10	L/360	L/240
FLOOR (secondary)	40	10	L/360	L/240
ATTIC w/ storage	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF	20	10	L/240	L/180
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	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 (UNO)  
 ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2600 PSI, E = 1.9M PSI (I.E. LEVEL MICROLAM)  
 ALL LSL LUMBER IS TO BE 1.55E (F<sub>b</sub> = 2325 PSI)  
 ALL LOAD BEARING EXTERIOR WINDOW HEADERS ARE TO BE (2) 2x10 w/ (1) 2x4 JACK STUD (U.N.O.) AND KING STUDS PER TABLE R602.7.5 AND TOGETHER w/ (2) 10d NAILS @ 8" O.C., PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-8", MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6". OTHERWISE REFER TO TABLES R602.7(1) AND R602.7(2).
- ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLES R602.7(1) AND 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<sub>y</sub> = 50 KSI MIN. (UNO)
- ALL EXTERIOR LUMBER TO BE #2 SYP PT
- ALL CONCRETE, f<sub>c</sub> = 3000 PSI MIN.
- PRESUMPTIVE BEARING CAPACITY = 2000 PSF
- 1/2" Ø 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.

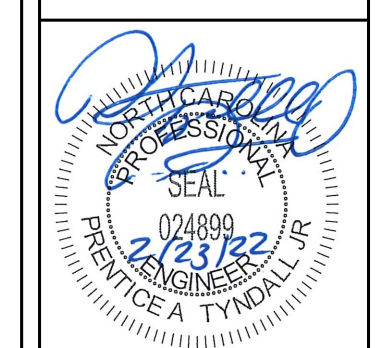
**STRUCTURAL SHEATHING NOTES**

- 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 NCRC.
- 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.
- 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
- 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



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

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Client: **SOUTHEASTERN INTERIORS**  
 Project: **BYRD RESIDENCE**

**2ND FLOOR HEADER**  
**2ND FLR. CLG. FRAMING**

Project #: 2101-010252B  
 Date: 2/23/2022  
 Engineered By: AM  
 DWG. Checked By: PAT  
 Scale: SEE PLAN

REVISIONS		
No.	Date	Remarks

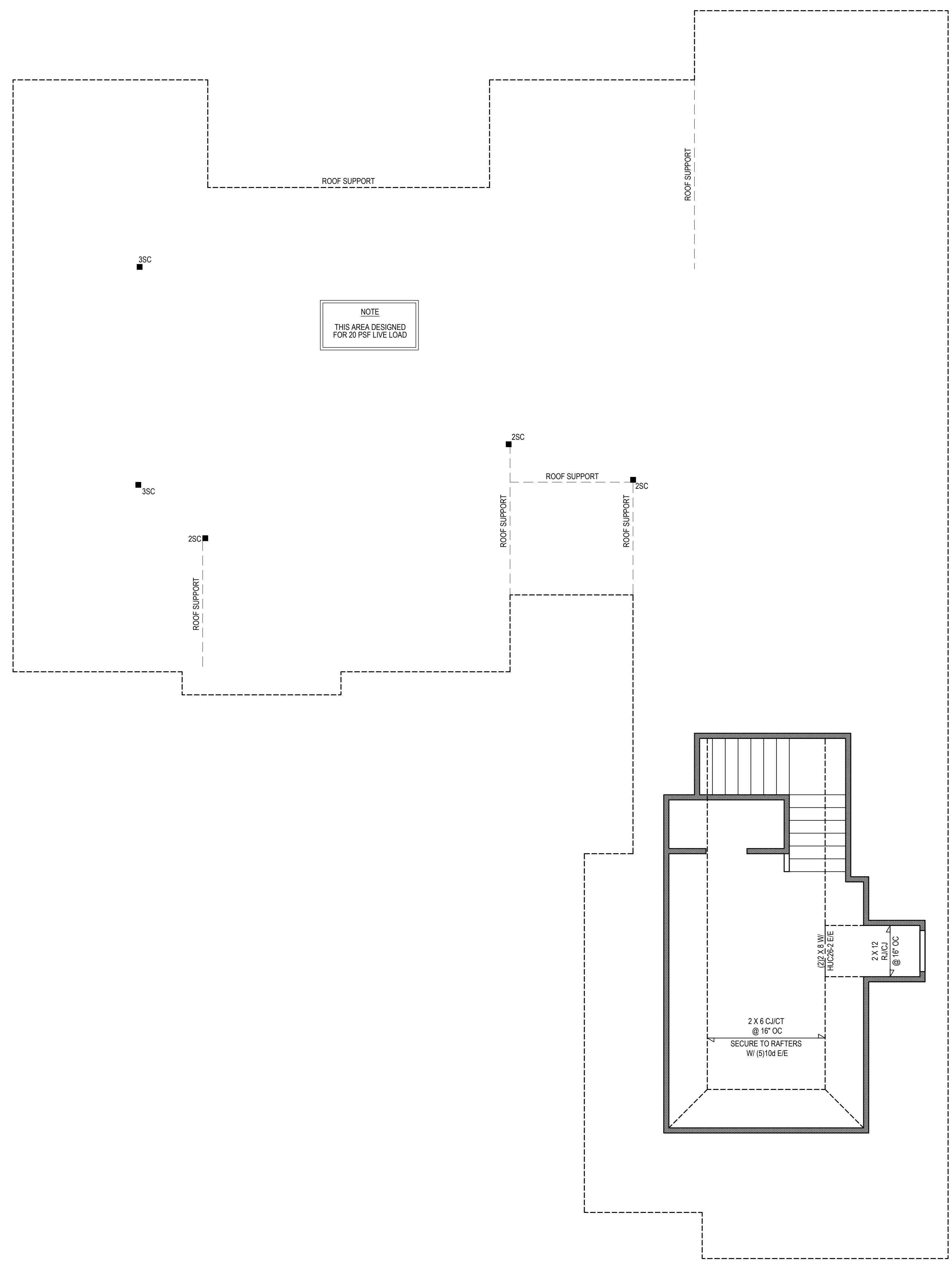
Sheet Number  
**S3**  
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**DESIGN LOADS**

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
FLOOR (primary)	40	10	L/360	L/240
FLOOR (secondary)	40	10	L/360	L/240
ATTIC w/ storage	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	BASED ON SEISMIC ZONES A, B & C			

**STRUCTURAL NOTES:**

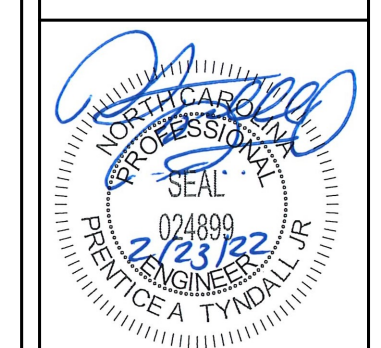
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- ALL L.V.L LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2600 PSI, E = 1.9M PSI (I.E. LEVEL MICROLAM)  
 ALL L.S.L LUMBER IS TO BE 1.55E (F<sub>b</sub> = 2325 PSI)  
 ALL LOAD BEARING EXTERIOR WINDOW HEADERS ARE TO BE (2) 2x10 w/ (1) 2x4 JACK STUD (U.N.O.) AND KING STUDS PER TABLE R602.7.5. AND TOGETHER w/ (2) 10d NAILS @ 8" O.C., PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-8", MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6". OTHERWISE REFER TO TABLES R602.7(1) AND R602.7(2).
- ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLES R602.7(1) AND R602.7(2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS (U.N.O.)
- 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<sub>y</sub> = 50 KSI MIN. (U.N.O.)
- ALL EXTERIOR LUMBER TO BE #2 SYP PT
- ALL CONCRETE, f<sub>c</sub> = 3000 PSI MIN.
- PRESUMPTIVE BEARING CAPACITY = 2000 PSF
- 1/2" Ø 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" (U.N.O.)
- 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.



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

FILENAME: Z:\RESIDENTIAL ENR\2021 STRUCTURAL PROJECTS\2101-010252B - MICHEL WEAVER - PLAN (B)-2020\2101-010252B\ENR\S3.DWG; DATE: 2/23/2022 2:41 PM

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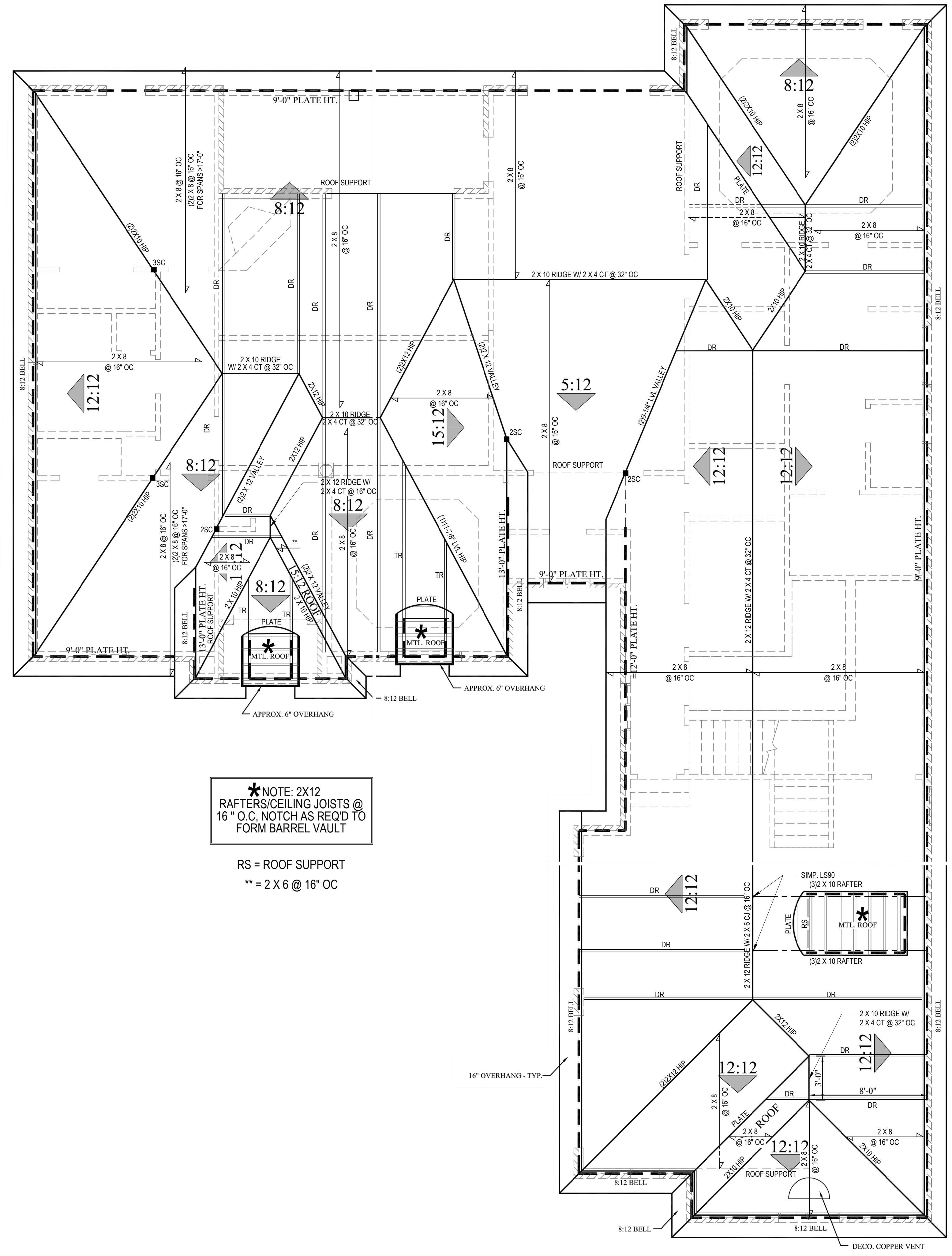
Client: **SOUTHEASTERN INTERIORS**  
Project: **BYRD RESIDENCE**

# ROOF PLAN

Project #: 2101-010252B  
Date: 2/23/2022  
Engineered By: AM  
DWG. Checked By: PAT  
Scale: SEE PLAN

REVISIONS		
No.	Date	Remarks

Sheet Number  
**S4**  
4 of 7



**\*NOTE: 2X12 RAFTERS/CEILING JOISTS @ 16" O.C. NOTCH AS REQ'D TO FORM BARREL VAULT**

RS = ROOF SUPPORT  
\*\* = 2 X 6 @ 16" O.C.

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

FILENAME: Z:\\_RESIDENTIAL\_EMS\2021 STRUCTURAL PROJECTS\2101-010252B\2101-010252B\_ELEMS\_S4.DWG BY: PRENTICE TYNDALL LAST PLOT DATE: 2/23/2022 2:41 PM

**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.
- 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			
- MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE (U.N.C.)
- MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R602.3 FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT.
- ALL FRAMING LUMBER SHALL BE SYP #2 (F<sub>b</sub> = 800 PSI, BASED ON 2x10) (U.N.) UNLESS OTHERWISE NOTED. ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL. ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2000 PSI, E = 1.9M PSI (U.N.O.) ALL LVL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2325 PSI, E = 1.8M PSI (U.N.O.) ALL PSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2400 PSI, E = 1.8M PSI (U.N.O.)
- 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.
- 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 60.
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3/4" 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.
- 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.
- FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF NC BUILDING CODE.
- 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 WALLS BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS: 39.0 LBS/SQFT FOR ROOF PITCHES 0/12 TO 1/12 36.0 LBS/SQFT FOR ROOF PITCHES 1/12 TO 6/12 18.0 LBS/SQFT FOR ROOF PITCHES 6/12 TO 12/12 \*MEAN ROOF HEIGHT 3/4" OR LESS
- FOR ROOF SLOPES FROM 2/12 THROUGH 4/12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER.
- REFER TO SECTION R602.3 FOR FRAMING OF ALL WALLS OVER 10'-0" IN HEIGHT.
- PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.3 OF THE 2018 NRC.
- UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
- REFER TO TABLE N1102.1 FOR PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA
- PSL COLUMNS DESIGNED WITH MAXIMUM HEIGHT OF 9'-0" (U.N.O.)
- PROVIDE A MINIMUM OF 50# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
- MAXIMUM MASONRY PER HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
- 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.

**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	FL = POINT LOAD
CONC = CONCRETE	PT = PRESSURE TREATED
CONT = CONTINUOUS	REINF = REINFORCED
CT = COLLAR TIE	REQD = REQUIRED
DBL = DOUBLE	RJ = ROOF JOIST
DM = 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
FTD = 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"

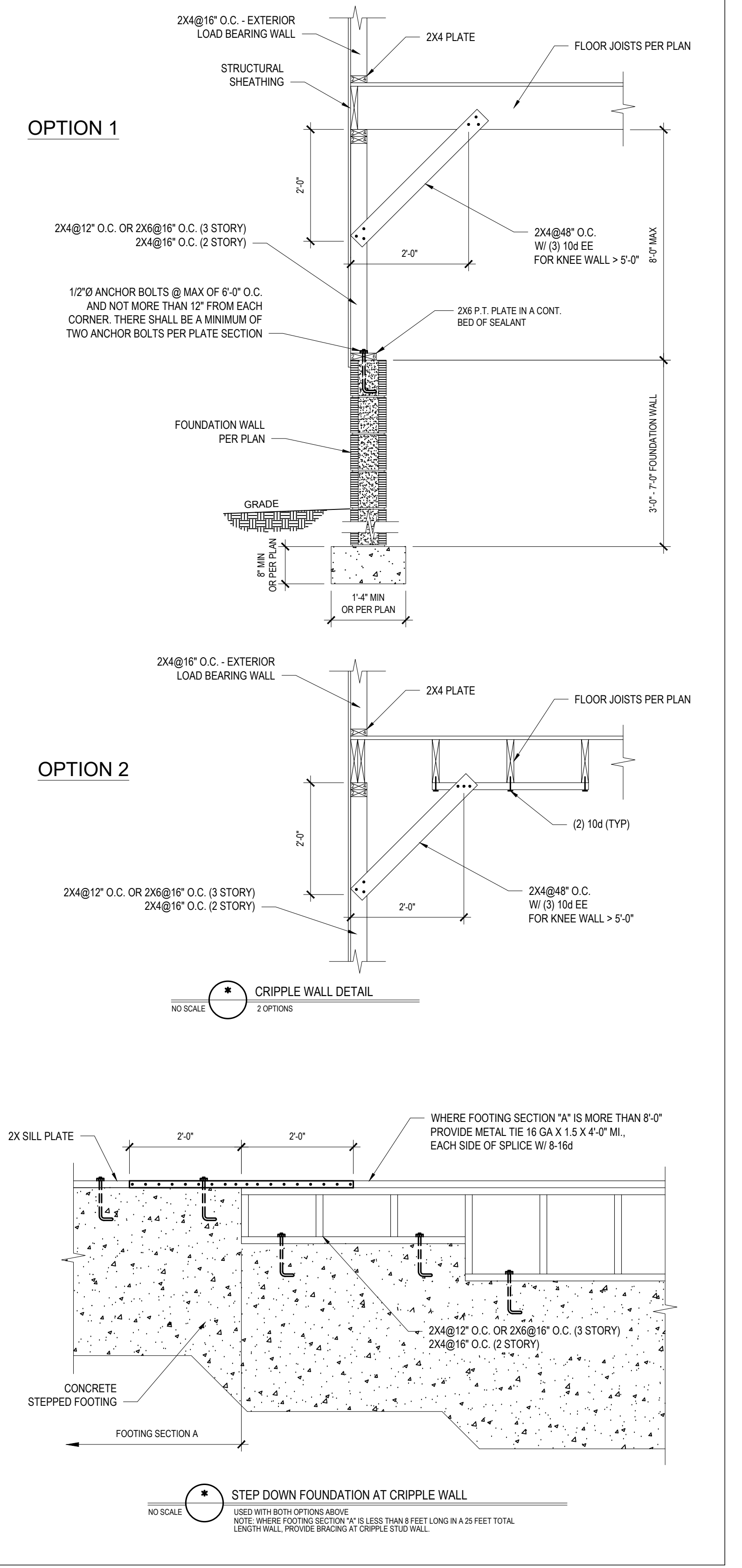
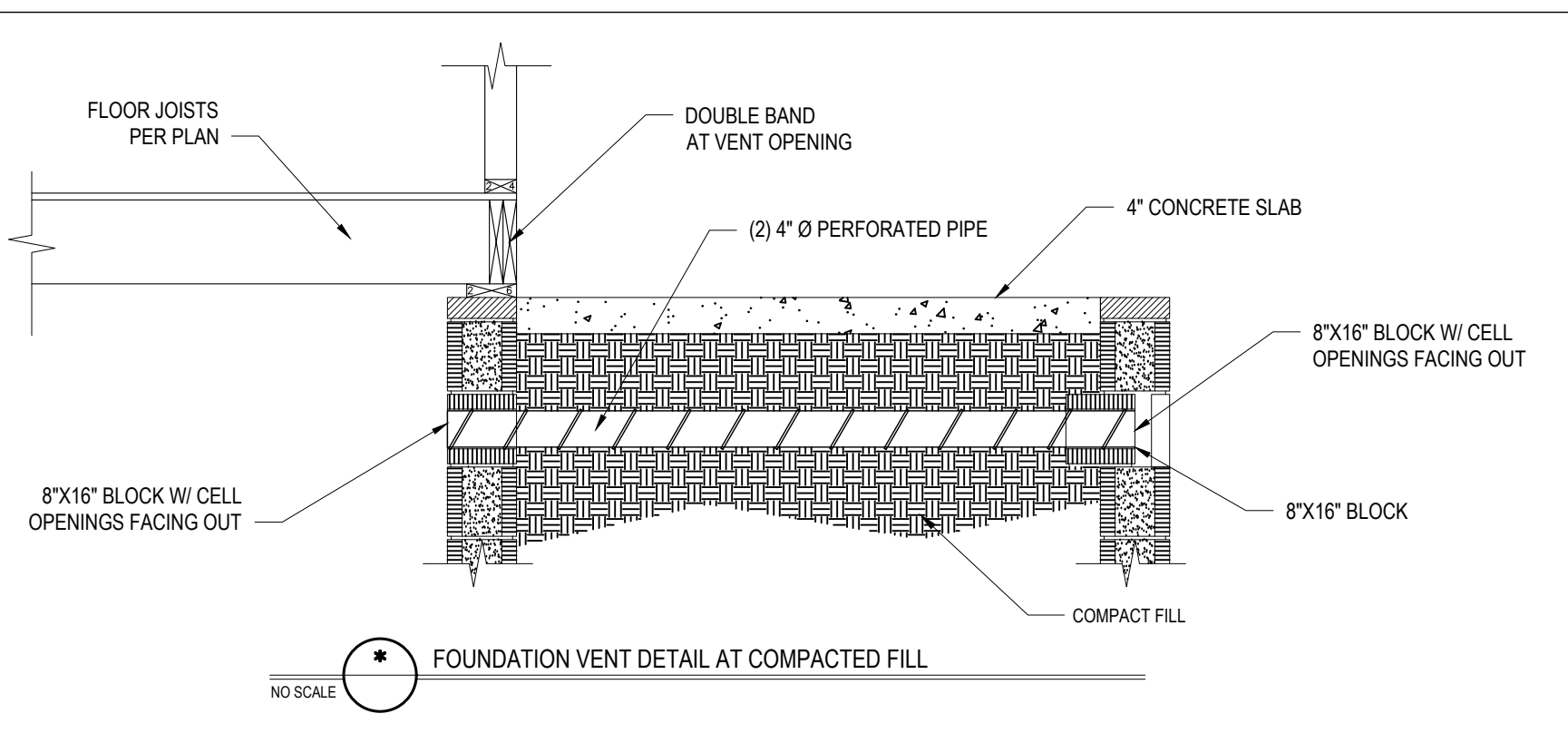
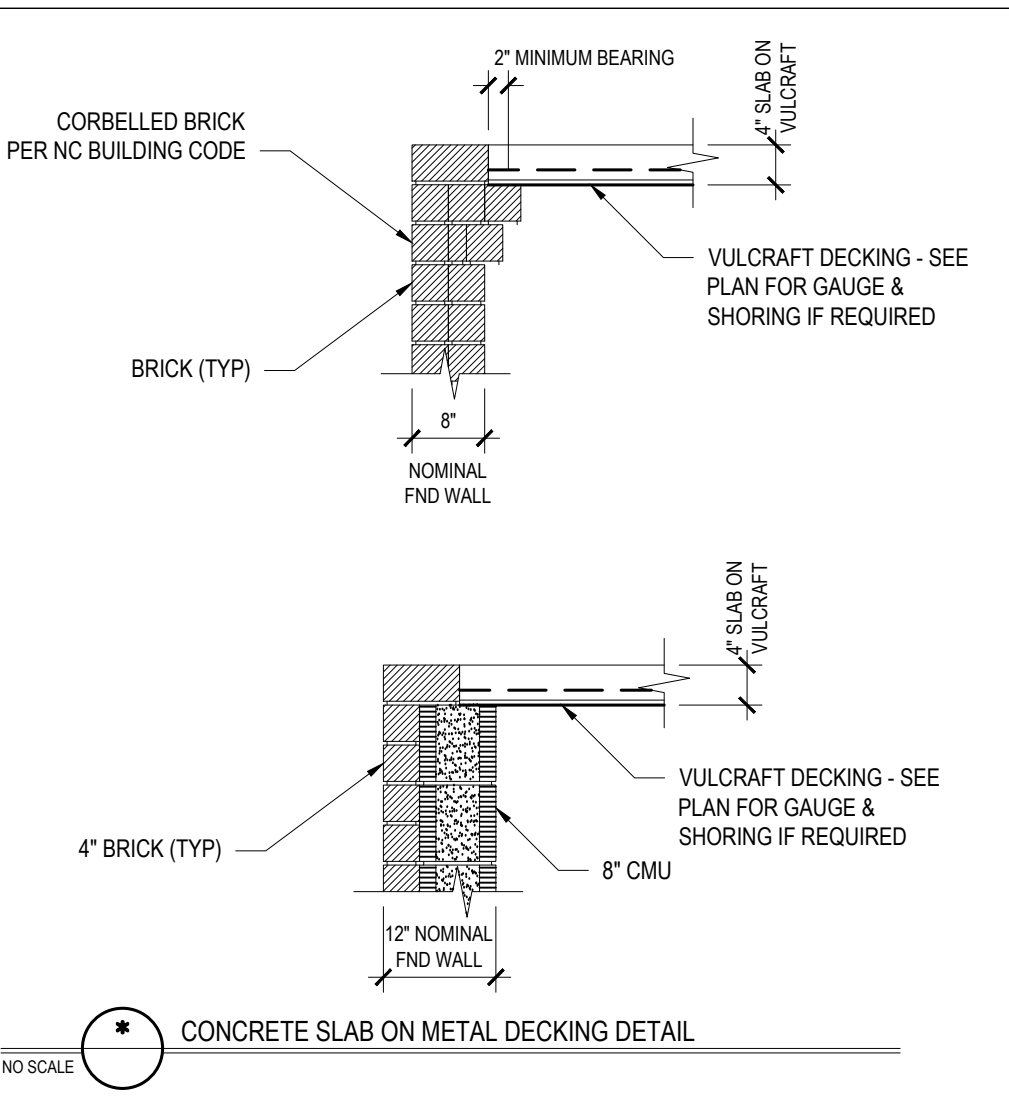
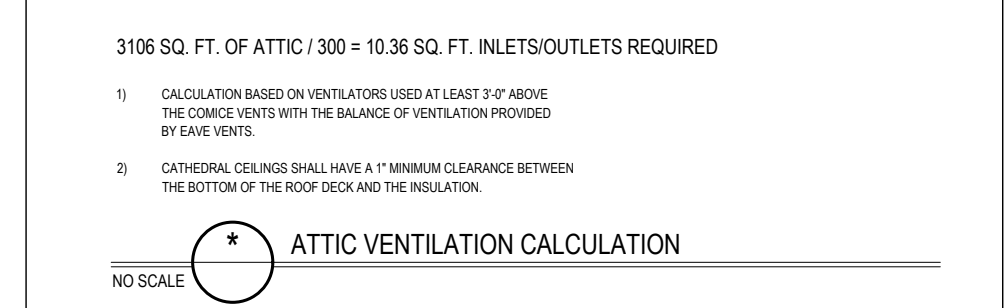
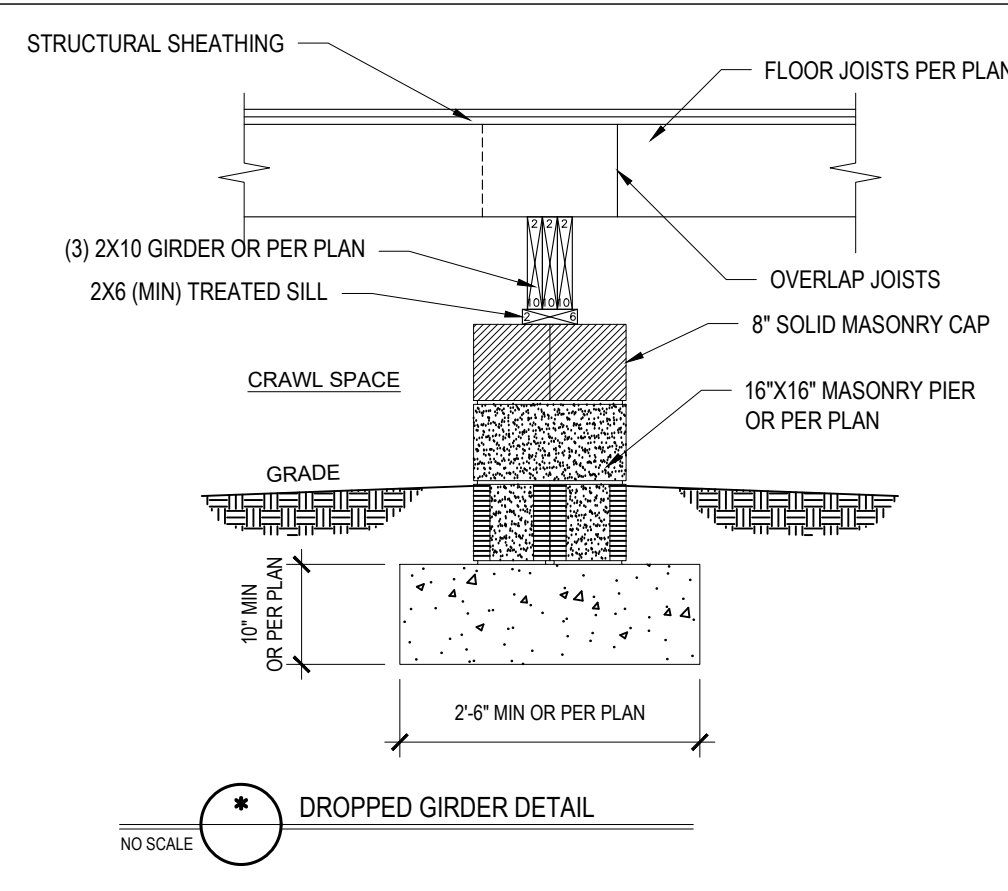
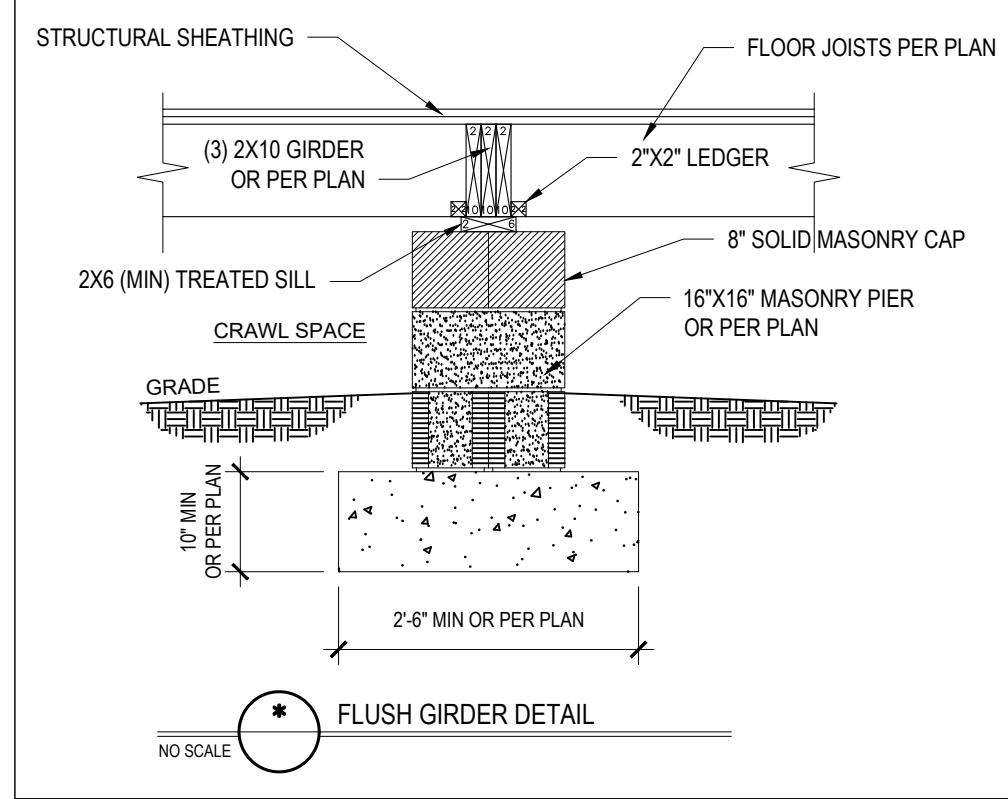
\* THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS. MAXIMUM TRIBUTARY AREA IS BASED ON 128 TOTAL SQUARE FEET WHICH MAY BE LOCATED AT DIFFERENT LEVELS.  
\*\* FROM TOP OF FOOTING TO BOTTOM OF GIRDER.  
\*\*\* DECKS WITH POST HEIGHTS OVER 20'-0" SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

2) DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THESE METHODS:

- 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.
- 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.
- 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"

- 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 6 SHALL BE ATTACHED TO THE POSTS WITH ONE 5/8" HOT DIPPED GALVANIZED BOLT AT EACH END OF EACH BRACING MEMBER.
- FOR EMBEDMENT OF PILES IN COASTAL REGIONS, SEE CHAPTER 46.



CLIMATE ZONES	FENESTRATION U-FACTOR <sup>a</sup>	SKYLIGHT U-FACTOR <sup>b</sup>	GLAZED FENESTRATION SHGC <sup>c,d,e</sup>	CEILING R-VALUE <sup>f</sup>	WOOD FRAMED WALL R-VALUE <sup>g</sup>	MASS WALL R-VALUE <sup>h</sup>	FLOOR R-VALUE <sup>i</sup>	BASEMENT WALL R-VALUE <sup>j,k</sup>	SLAB R-VALUE AND DEPTH <sup>l</sup>	CRAWL SPACE WALL R-VALUE <sup>m</sup>
3	0.35	0.55	0.30	38 or 30 cont <sup>1</sup>	15 or 13 + 2.5 <sup>h</sup>	5/13 or 5/10 cont <sup>2</sup>	19	5/13 <sup>1</sup>	0	5/13
4	0.35	0.55	0.30	38 or 30 cont <sup>1</sup>	15 or 13 + 2.5 <sup>h</sup>	5/13 or 5/10 cont <sup>2</sup>	19	10/15	10	10/15
5	0.35	0.55	NR	38 or 30 cont <sup>1</sup>	19, or 13 + 5 <sup>h</sup> or 15 + 3 <sup>h</sup>	13/17 or 13/12.5 cont <sup>2</sup>	30 <sup>9</sup>	10/15	10	10/19

**TABLE N1102.1 CLIMATE ZONES 3-5**

\* R-VALUES ARE MINIMUM. U-FACTORS AND SHGC ARE MAXIMUMS. 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 R-VALUE SPECIFIED IN THE TABLE.

<sup>1</sup> THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SQUARE-HEAT-GAIN COEFFICIENT (SHGC) COLUMN APPLIES TO ALL GLAZED FENESTRATION.

<sup>2</sup> 100% MEANS R-15 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.

<sup>3</sup> FOR MASONRIC SLAB INSULATION SHALL BE APPLIED FROM THE INSPECTION GAP COMMAND TO THE BOTTOM OF THE FOOTING OR MINIMUM 2\"/>

2072 SQ. FT. OF CRAWL SPACE / 150 = 14 SQ. FT. OF REQ'D VENTILATION WITHOUT CROSS VENTILATION  
14 SQ. FT. OF VENTILATION REQ'D / 0.88 SQ.FT. PER VENT = 16 VENTS REQ'D (BASED ON 8\"/>

OR

2072 SQ. FT. OF CRAWL SPACE / 1500 = 1.38 SQ. FT. OF REQ'D VENTILATION WITH CROSS VENTILATION  
1.38 SQ. FT. OF VENTILATION REQ'D / 0.88 SQ.FT. PER VENT = 1.57 VENTS REQ'D (BASED ON 8\"/>

1) VENT LOCATIONS MAY VARY FROM THOSE SHOWN ON PLAN, HOWEVER VENTS SHALL BE PLACED TO PROVIDE ADEQUATE VENTILATION TO ALL CORNERS AND TO PREVENT DEAD-SPACES.

2) THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/100 OF THE CRAWL SPACE GROUND AREA WHERE THE REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS VENTILATION OF THE CRAWL SPACE. THE INSTALLATION OF OPTIMAL LOADERS SHALL NOT BE PROHIBITED. ONE FOUNDATION VENT SHALL BE WITHIN 1 FEET OF EACH CORNER OF THE BUILDING. TO PREVENT BANANAS ENTER WHEN THE CRAWL SPACE IS FLOOD, IT IS REQUIRED TO PROVIDE THE SMALL FOUNDATION WALLS MAY BE CONSTRUCTED WITHOUT WALL VENT OPENINGS. VENT DAMS SHALL BE PROVIDED WHEN THE BOTTOM OF THE FOUNDATION VENT OPENINGS IS LESS THAN 4 INCHES ABOVE THE FINISHED EXTERIOR GRADE.

WALL VENTED CRAWL SPACES REQUIRE FULL COVERAGE GROUND VAPOR RETARDERS.

**CRAWL SPACE VENTILATION CALCULATION**

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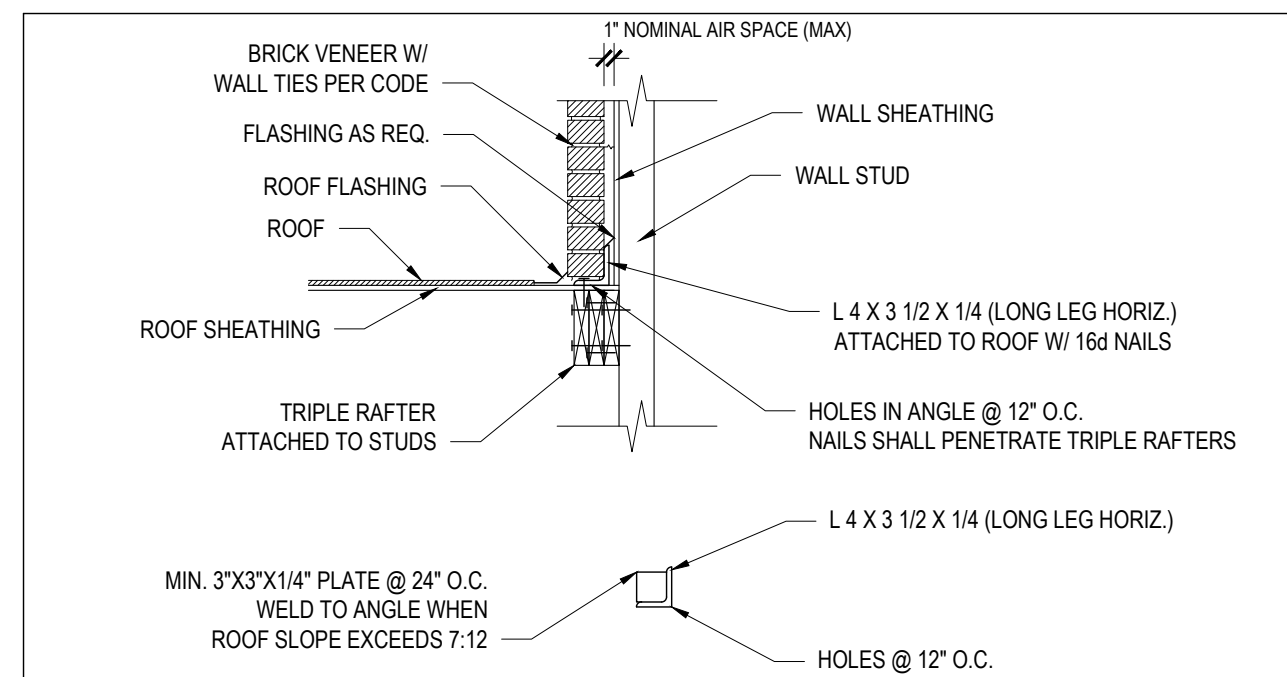
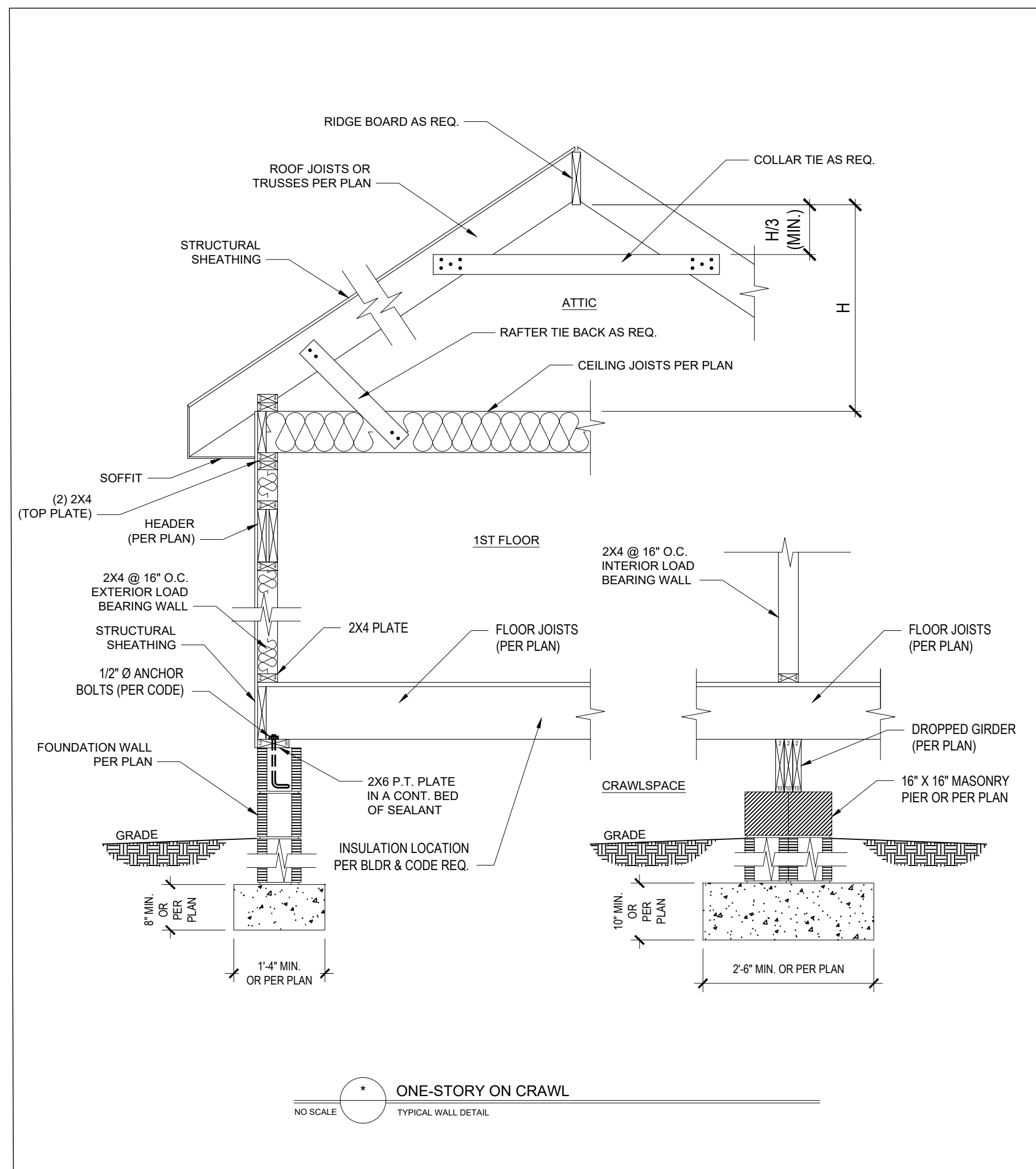
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**STANDARD DETAILS**

Project #: 2101-010252B  
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DWG. Checked by: PAT  
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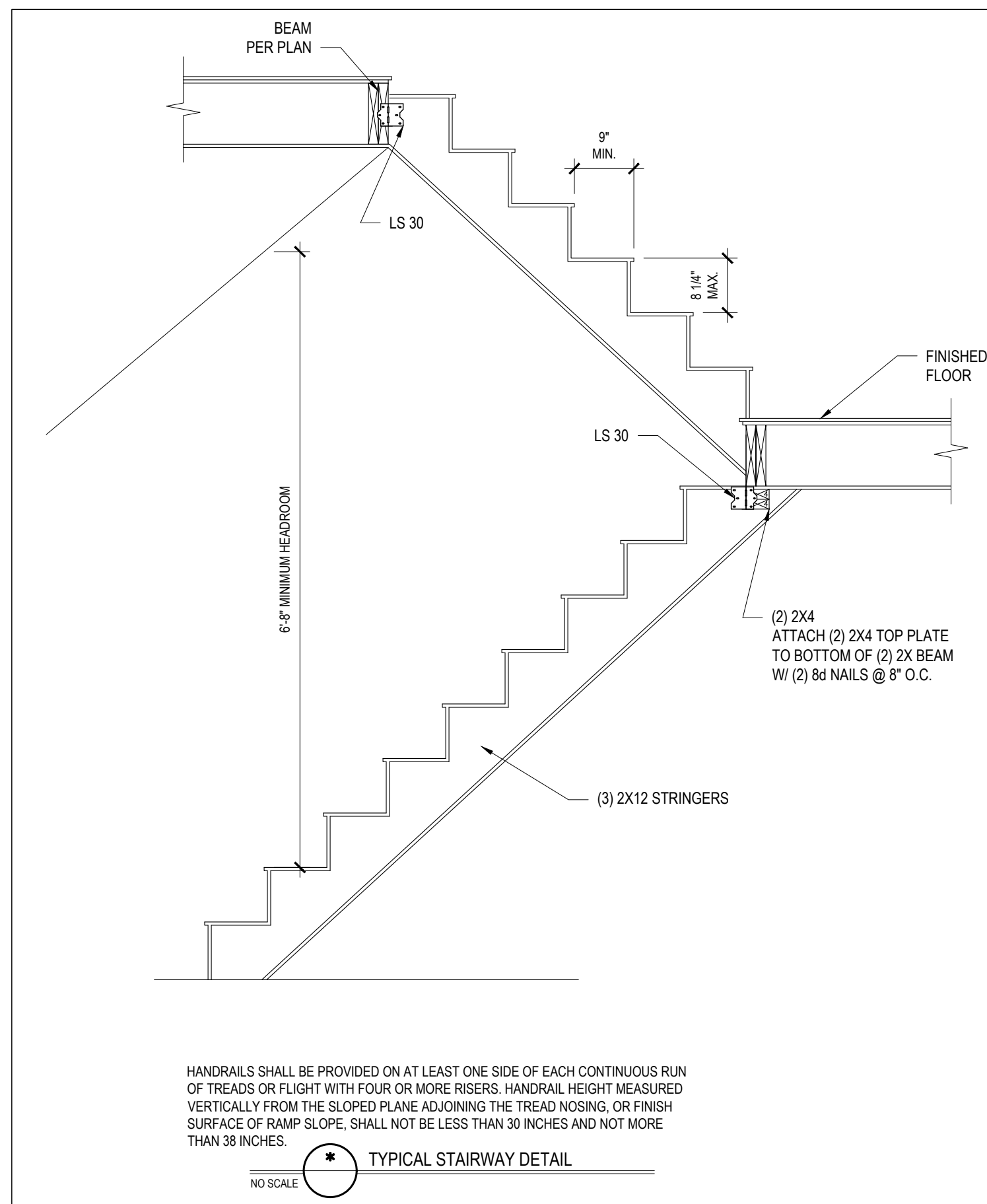


ALLOWABLE SPANS FOR LINTELS SUPPORTING MASONRY VENEER

SIZE OF ANGLE (1,3)	NO STORY ABOVE (5)	1 STORY ABOVE (5)	2 STORIES ABOVE (5)	# OF 1/2\" (OR EQUIV.) REINFORCING BARS IN REINFORCED LINTEL (2,4,5)
L 3 x 3 x 1/4	6'-0"	4'-6"	3'-0"	1
L 4 x 3 x 1/4	8'-0"	6'-0"	4'-6"	1
L 5 x 3 1/2 x 5/16	10'-0"	8'-0"	6'-0"	2
L 6 x 3 1/2 x 5/16	14'-0"	9'-6"	7'-0"	2
2L 5 x 3 1/2 x 5/16	20'-0"	12'-0"	9'-6"	4

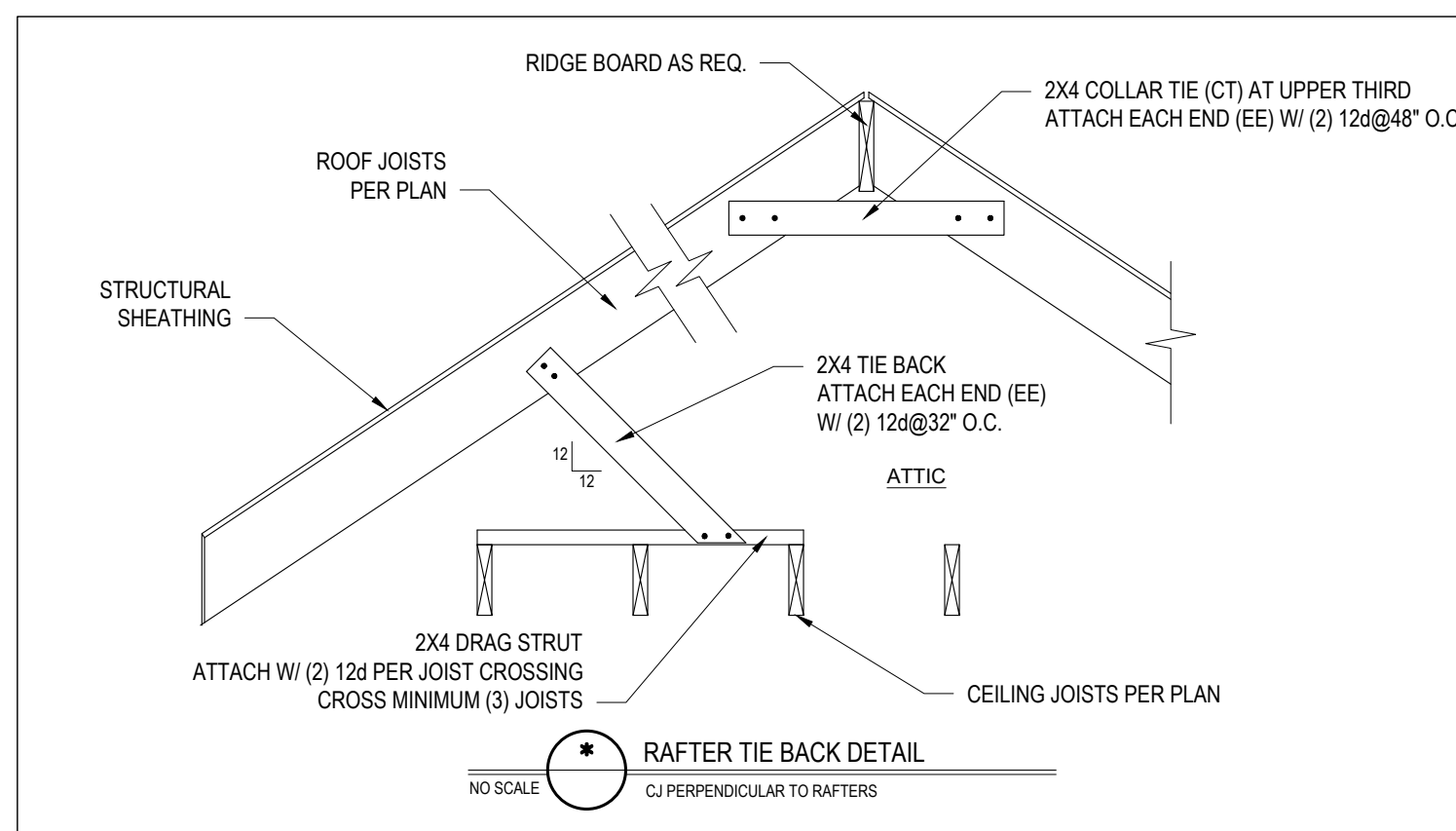
- LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
- DEPTH OF REINFORCED LINTELS SHALL NOT BE LESS THAN 8" AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8" INTO THE SUPPORT.
- STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES. OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS SHALL BE PERMITTED TO BE USED.
- EITHER STEEL ANGLE OR REINFORCED LINTEL SHALL SPAN OPENING.
- SPANS OVER 4'-0" SHALL BE SHORED UP UNTIL CURED.

NO SCALE \* MASONRY VENEER SUPPORT FIG 703.8.3.1

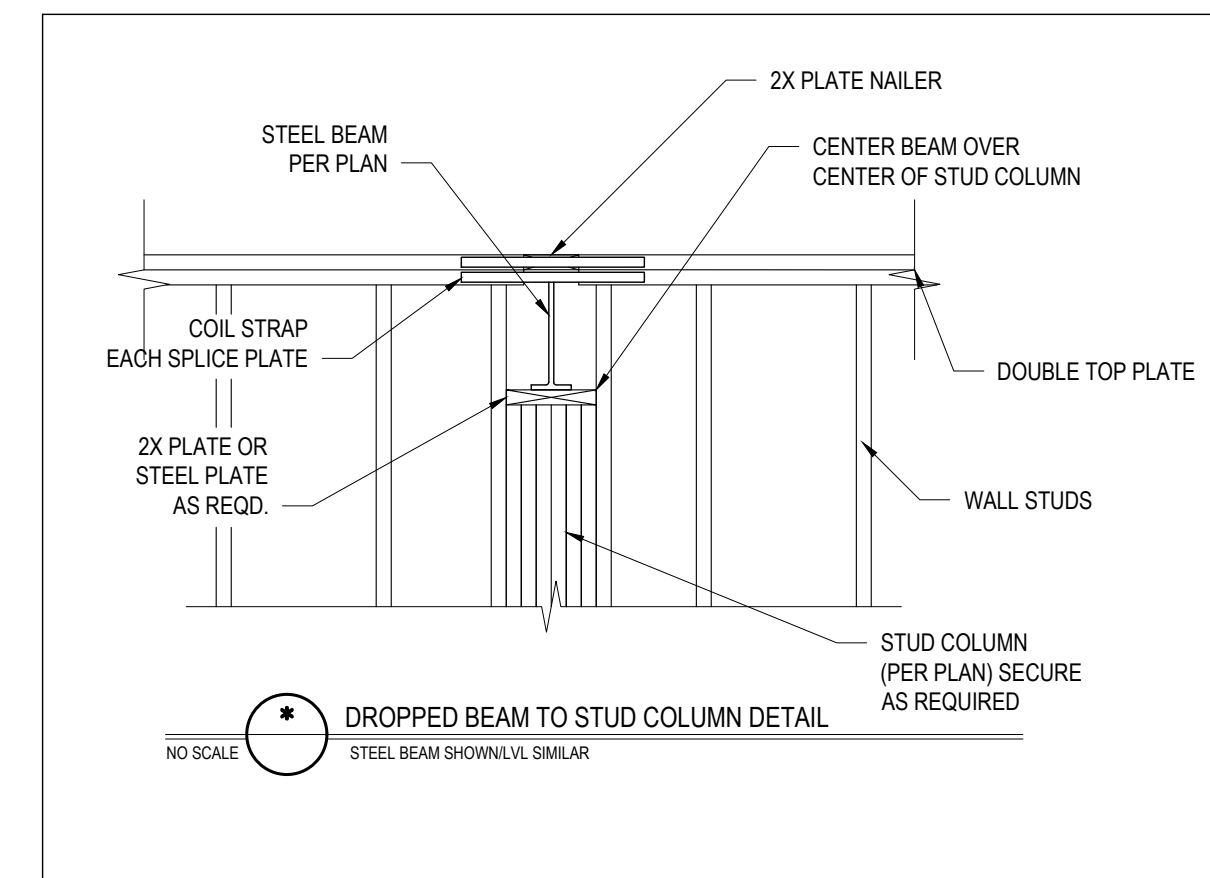


HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS. HANDRAIL HEIGHT MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL NOT BE LESS THAN 30 INCHES AND NOT MORE THAN 38 INCHES.

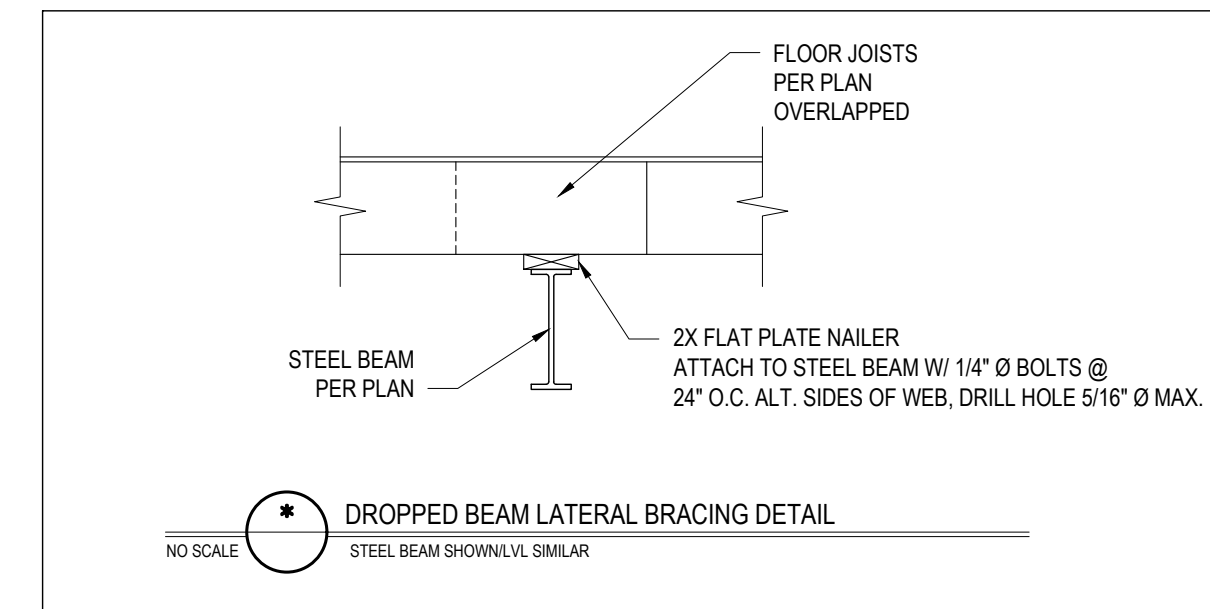
NO SCALE \* TYPICAL STAIRWAY DETAIL



NO SCALE \* RAFTER TIE BACK DETAIL



NO SCALE \* DROPPED BEAM TO STUD COLUMN DETAIL



NO SCALE \* DROPPED BEAM LATERAL BRACING DETAIL

\*Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precautions.  
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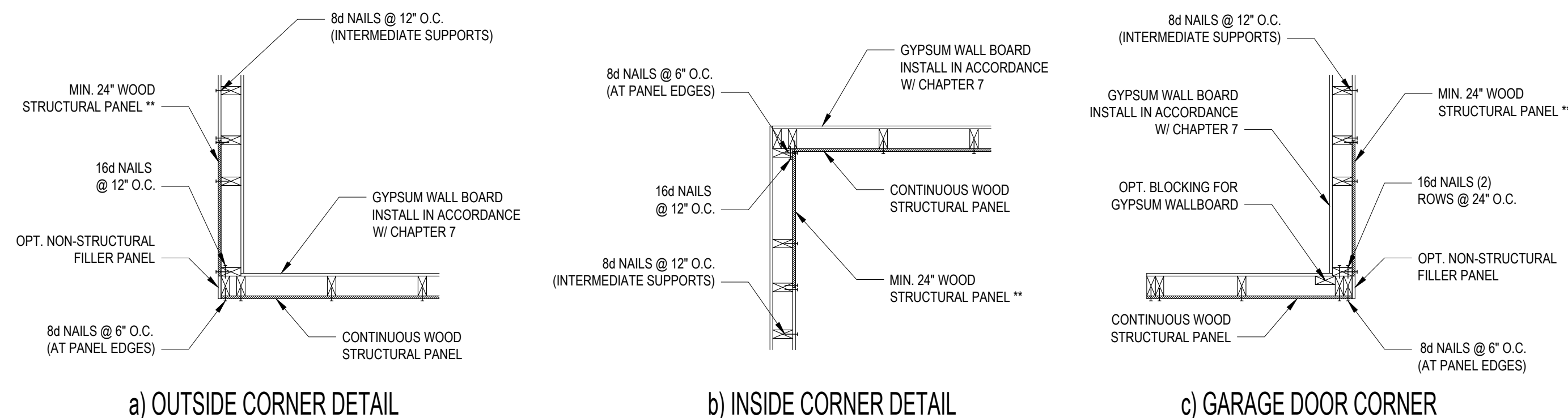
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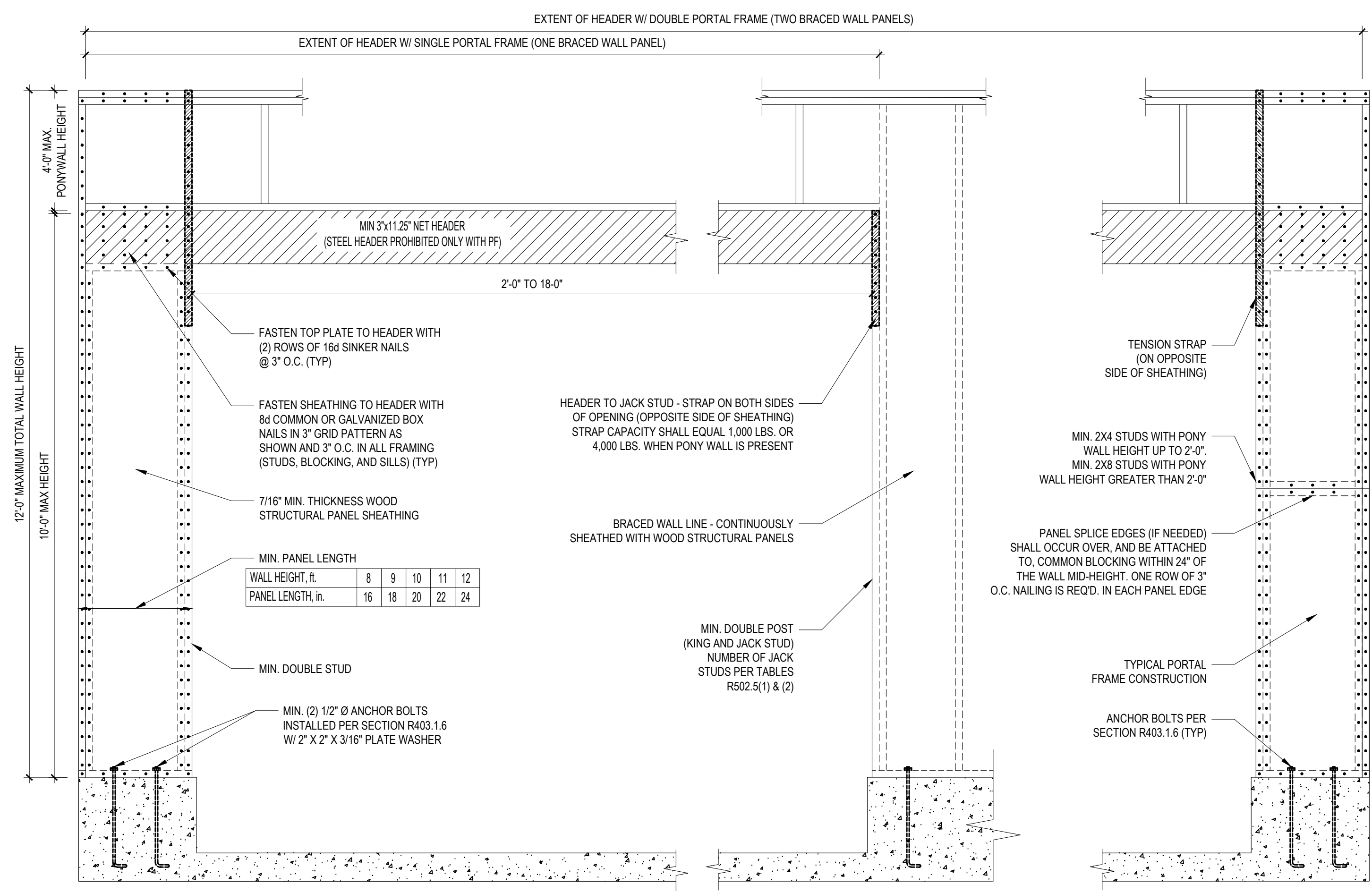
**B1: TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING**  
NO SCALE

- 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 R602.10.3 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).
  - 12\"/>

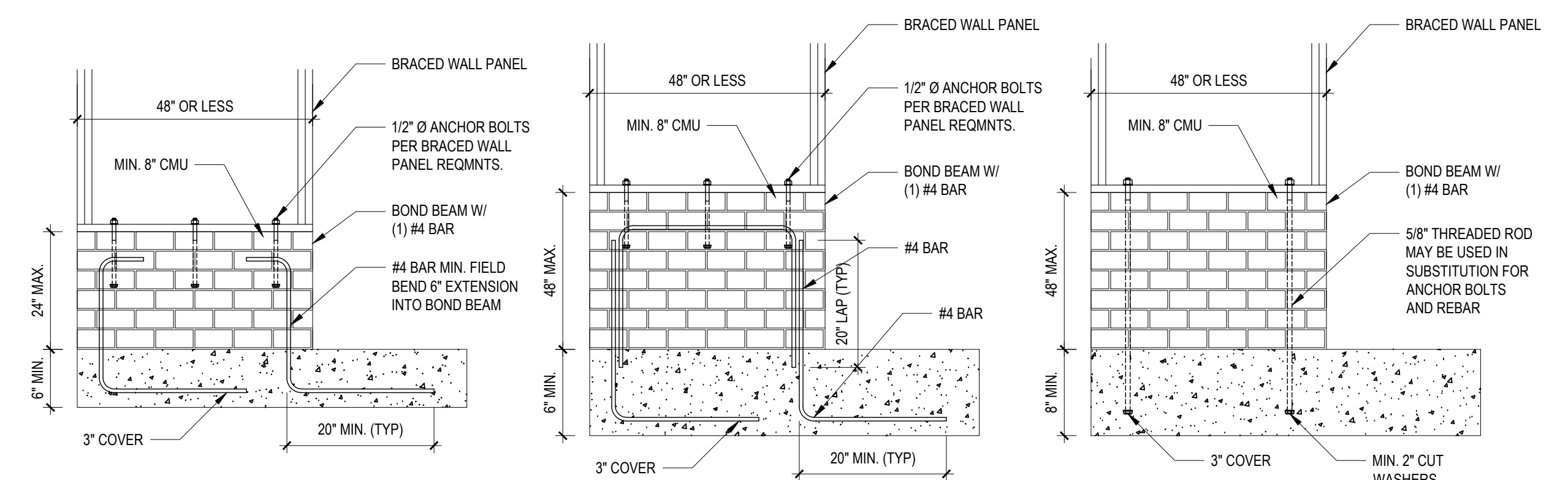
**REQUIRED BRACED WALL PANEL CONNECTIONS**

METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6\"/>	

**B3: BRACE WALL PANEL CONNECTIONS**  
NO SCALE

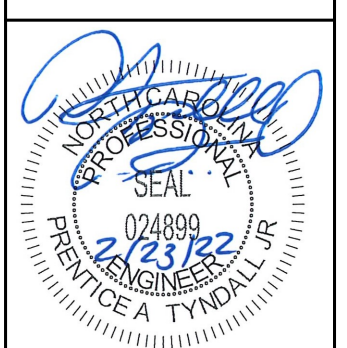


**B2: METHOD CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME**  
FIGURE R602.10.1



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

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