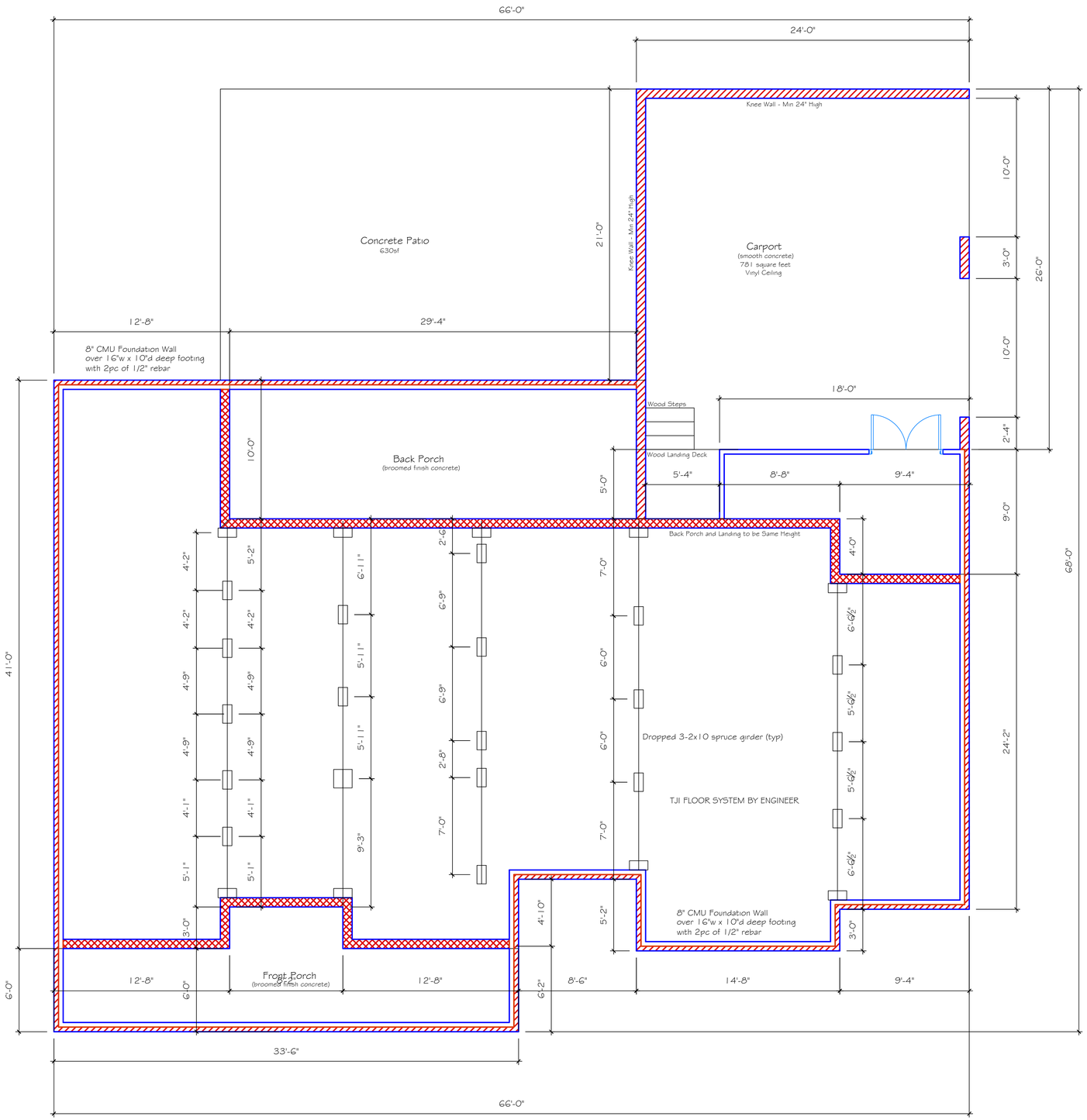


NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

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

12/17/2020

Harnett COUNTY NORTH CAROLINA

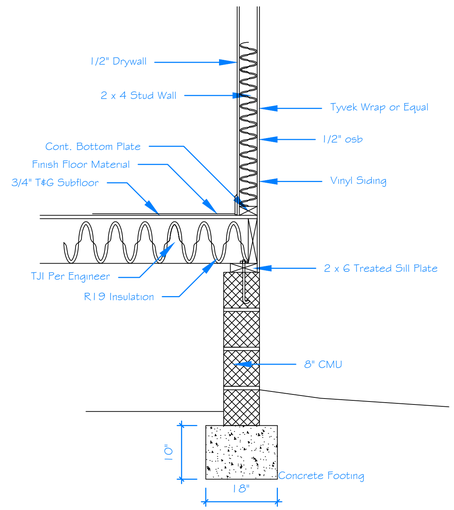
Span Table for Joist and Rafters.

-Floors shall be constructed in accordance with the provisions of Chapter 5 of the NC State Building Code, Sect. R502.2 and Sects R319 and R320.
-Spans for floor joist shall be in accordance with Tables R502.3.1(1) and R502.3.1(2). For other grades and species and for other loading conditions, refer to the AF&PA

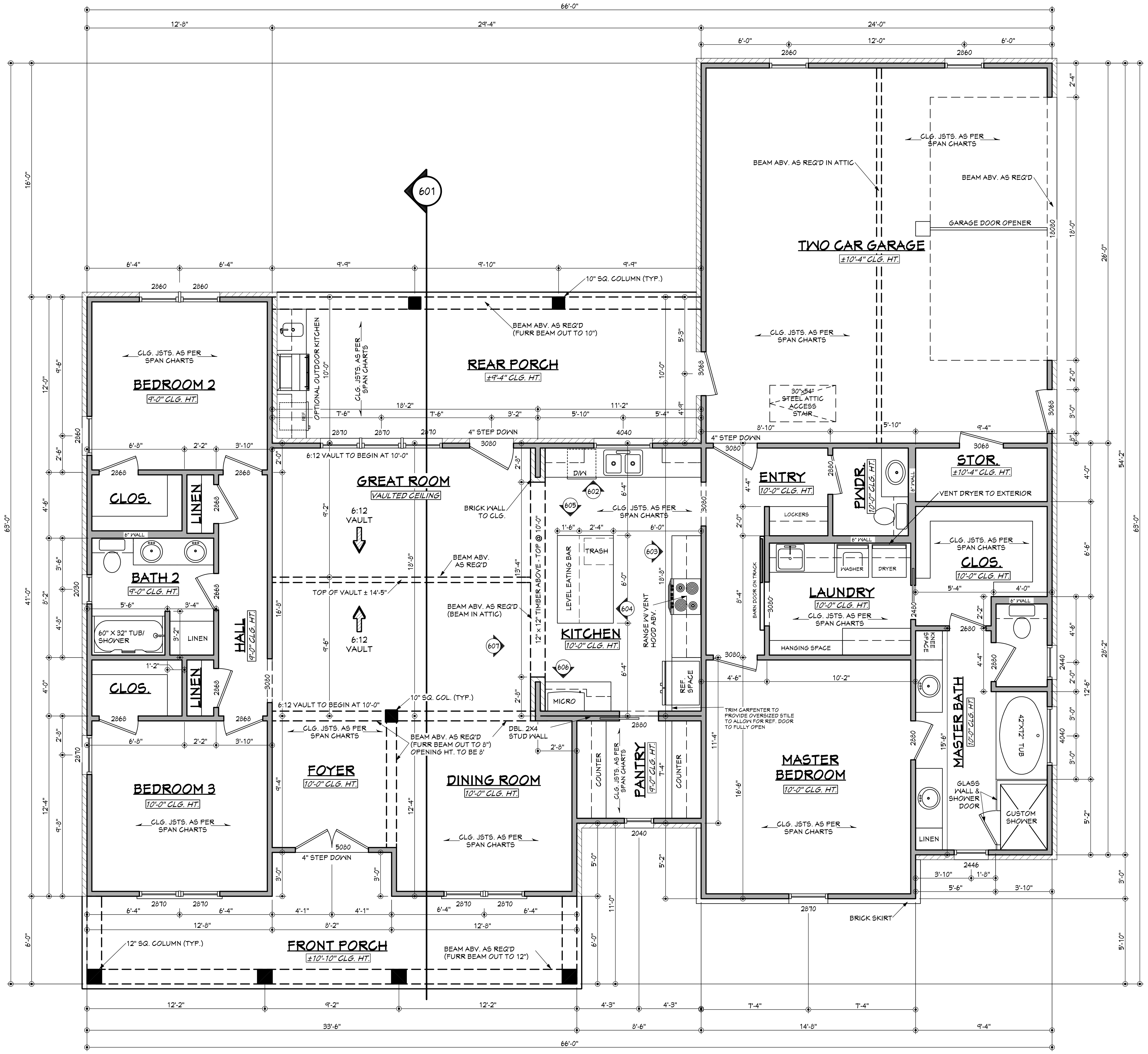
-The allowable span of girders fabricated of dimension lumber shall not exceed the values set forth in Tables R502.5(1) and R502.5(2).

-Local soil conditions and/or local practice may necessitate a more stringent footing and foundation wall design. Consult with local building inspector. Soil design bearing pressure is assumed 2000 psf.
Carry all footings to firm undisturbed bearing:
- 18" x 10" footing for 8" foundation wall .
- 24" x 10" footing for 12" foundation wall.

Pier Footings (Typical Unless Otherwise Notes)
-Provide 1'-8" x 2'-4" x 10" deep concrete footing under 8" x 16" masonry piers.
-Provide 2'-0" square x 10" deep concrete footing with under 16" square masonry piers.
-Grout piers solid with 2500psi concrete (typ).



Foundation Section



NOTE: CONTRACTOR TO LOCATE WATER HEATER AND HVAC UNITS AT SITE.

FLOOR PLAN

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

AREAS:		
AREAS:	2044	S.F. HEATED - NOT INCLUDING MASONRY
	624	S.F. UNHEATED - GARAGE
	293	S.F. UNHEATED - REAR PORCH
	37	S.F. UNHEATED - STORAGE
	226	S.F. UNHEATED - FRONT PORCH
	1180	S.F. UNHEATED - TOTAL
	3224	S.F. TOTAL (WITHOUT MASONRY)

NOTES:

1. ALL DIMENSIONS & SITE CONDITIONS TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
2. ALL FINISHES (INTERIOR & EXTERIOR) TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.
3. VERIFY ALL DOOR AND WINDOW STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION. MANUFACTURER TO SUPPLY ALL ROUGH OPENING SIZES.
4. CONTRACTOR TO VERIFY ALL CLEARANCES OF ALL DOORS, WINDOWS AND OTHER ITEMS THAT ARE CRITICAL, PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO ADAPT PLANS AS REQUIRED TO MEET ALL APPLICABLE CODES AT SITE.
6. ALL BEAMS TO BE SIZED BY A LICENSED STRUCTURAL ENGINEER.
7. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY SHALL HAVE GUARDS NOT LESS THAN 36 INCHES IN HEIGHT. OPEN SIDES OF STAIRS WITH A TOTAL RISE OF MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 34 INCHES IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD. IRC 2018, R312.1.1 & R312.1.2
8. M1305.1.2 APPLIANCES IN ATTICS. ATTICS CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN OPENING AND A CLEAR AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE, BUT NOT LESS THAN 30 INCHES HIGH AND 22 INCHES WIDE AND NOT MORE THAN 20 FEET LONG MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY FROM THE OPENING TO THE APPLIANCE. THE PASSAGEWAY SHALL HAVE CONTINUOUS SOLID FLOORING IN ACCORDANCE WITH CHAPTER 5 NOT LESS THAN 24 INCHES WIDE. A LEVEL SERVICE SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PRESENT ALONG ALL SIDES OF THE APPLIANCE WHERE ACCESS IS REQUIRED. THE CLEAR ACCESS OPENING DIMENSIONS SHALL BE A MINIMUM OF 20 INCHES BY 30 INCHES, AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE.
EXCEPTIONS:
a. THE PASSAGEWAY AND LEVEL SERVICE SPACE ARE NOT REQUIRED WHERE THE APPLIANCE CAN BE SERVICED AND REMOVED THROUGH THE REQUIRED OPENING.
b. WHERE THE PASSAGEWAY IS UNOBSTRUCTED AND NOT LESS THAN 6 FEET HIGH AND 22 INCHES WIDE FOR ITS ENTIRE LENGTH, THE PASSAGEWAY SHALL BE NOT MORE THAN 50 FEET LONG.
9. APPLIANCE ACCESS FOR INSPECTION SERVICE, REPAIR AND REPLACEMENT. APPLIANCES SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, OR ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED OR REPLACED. A LEVEL WORKING SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE. M1305.1.1
10. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES COMPLYING WITH ASTM F 2090 SHALL BE PERMITTED FOR USE ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING. ALL SLEEPING ROOMS TO HAVE AN EXTERIOR ACCESS THROUGH A DOOR OR WINDOW WITH A MINIMUM OF 5.7 SQUARE FEET NET CLEAR OPENING AS PER IRC 2018 R310.2.1. EXCEPTION: GRADE FLOOR OR BELOW GRADE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5 SQUARE FEET. MAXIMUM SILL HEIGHT TO BE 44 INCHES. MINIMUM NET CLEAR OPENING HEIGHT TO BE 24 INCHES. MINIMUM NET CLEAR OPENING WIDTH TO BE 20 INCHES.
11. ALL RETURN AIR GRILLS ARE TO BE LOCATED TO COMPLY WITH SECTION M1602 OF THE IRC 2018.
12. ALL SQUARE FOOTAGE MEASUREMENTS ARE APPROXIMATE AND MAY DIFFER FROM ACTUAL CONSTRUCTED RESIDENCE OR BUILDING.
13. FIRE SPRINKLER SYSTEM TO BE DESIGNED AND INSTALLED (IF REQUIRED BY LOCAL CODES) AS PER THE IRC 2018 AND BY A LICENSED PROFESSIONAL IN THE AREA OF CONSTRUCTION.
14. ALL BATHROOM EXHAUST VENTS SHALL BE VENTED DIRECTLY TO THE EXTERIOR OF THE HOME AND NOT INTO THE ATTIC. IRC 2018, M1505.2

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sales@hpzplans.com
Phone:
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JONATHAN L. BOONE
CERTIFICATION NO. 25-137

Pre-Drawn Plan ID:

BB-2044R

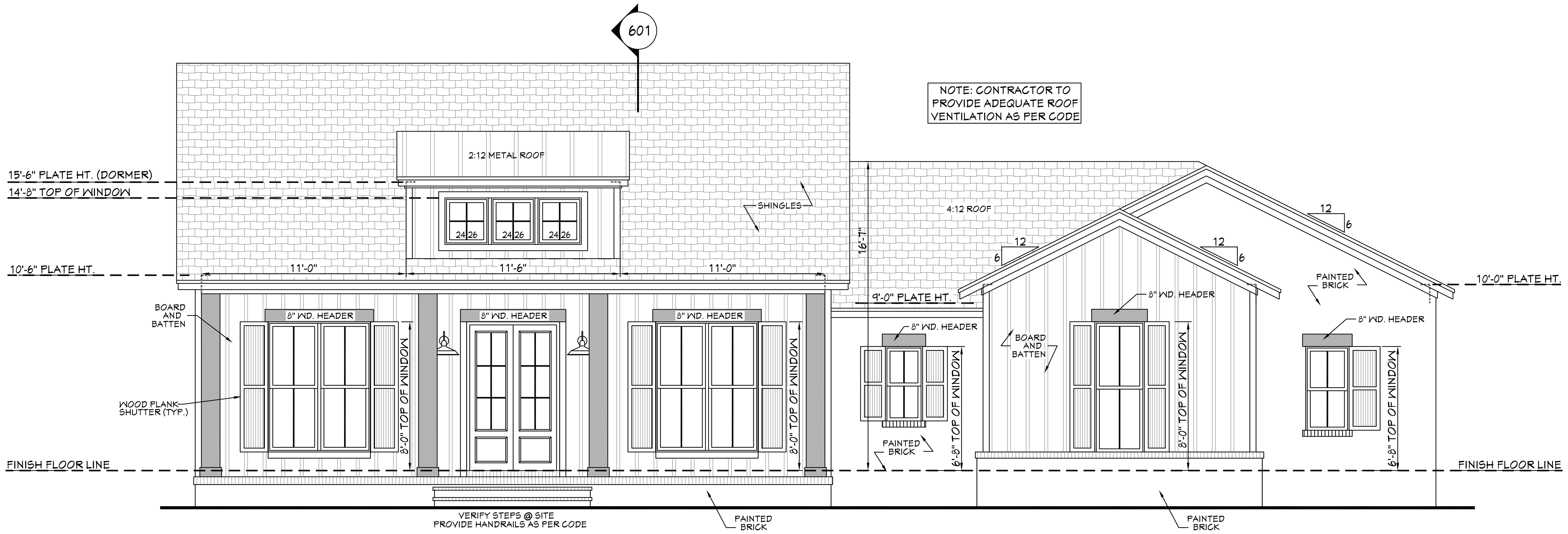
Date: 08.29.19

Drawn By: B.L.L.

Project Name:

SHEET NUMBER

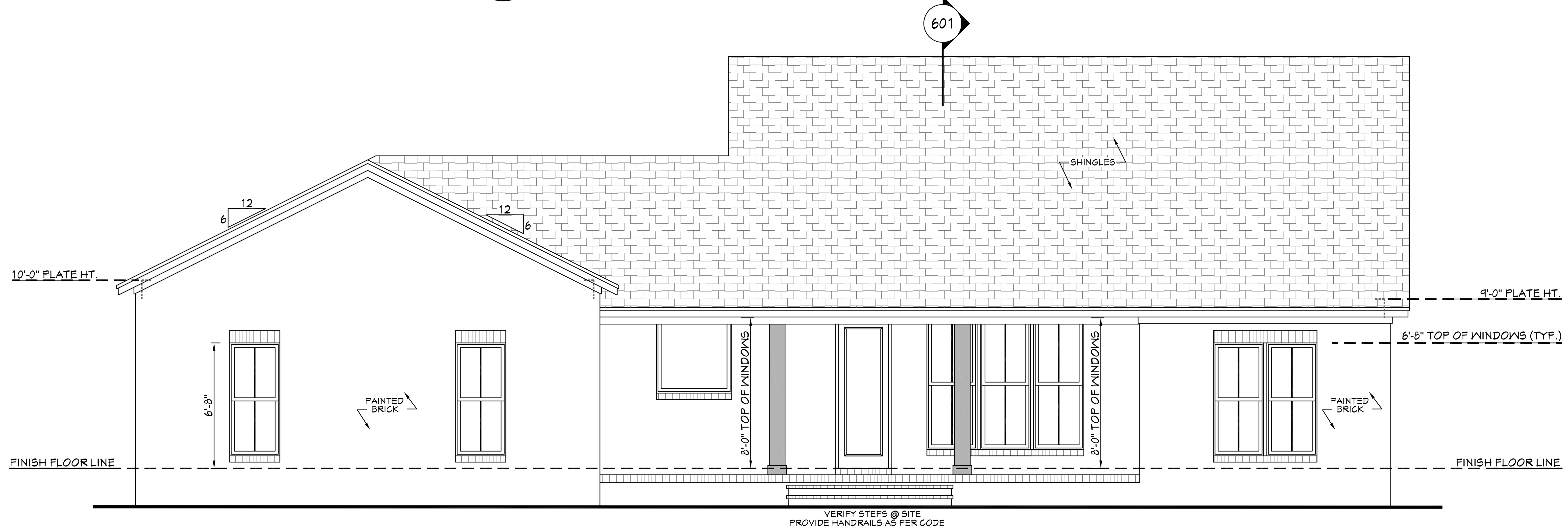
3



FRONT VIEW

401

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



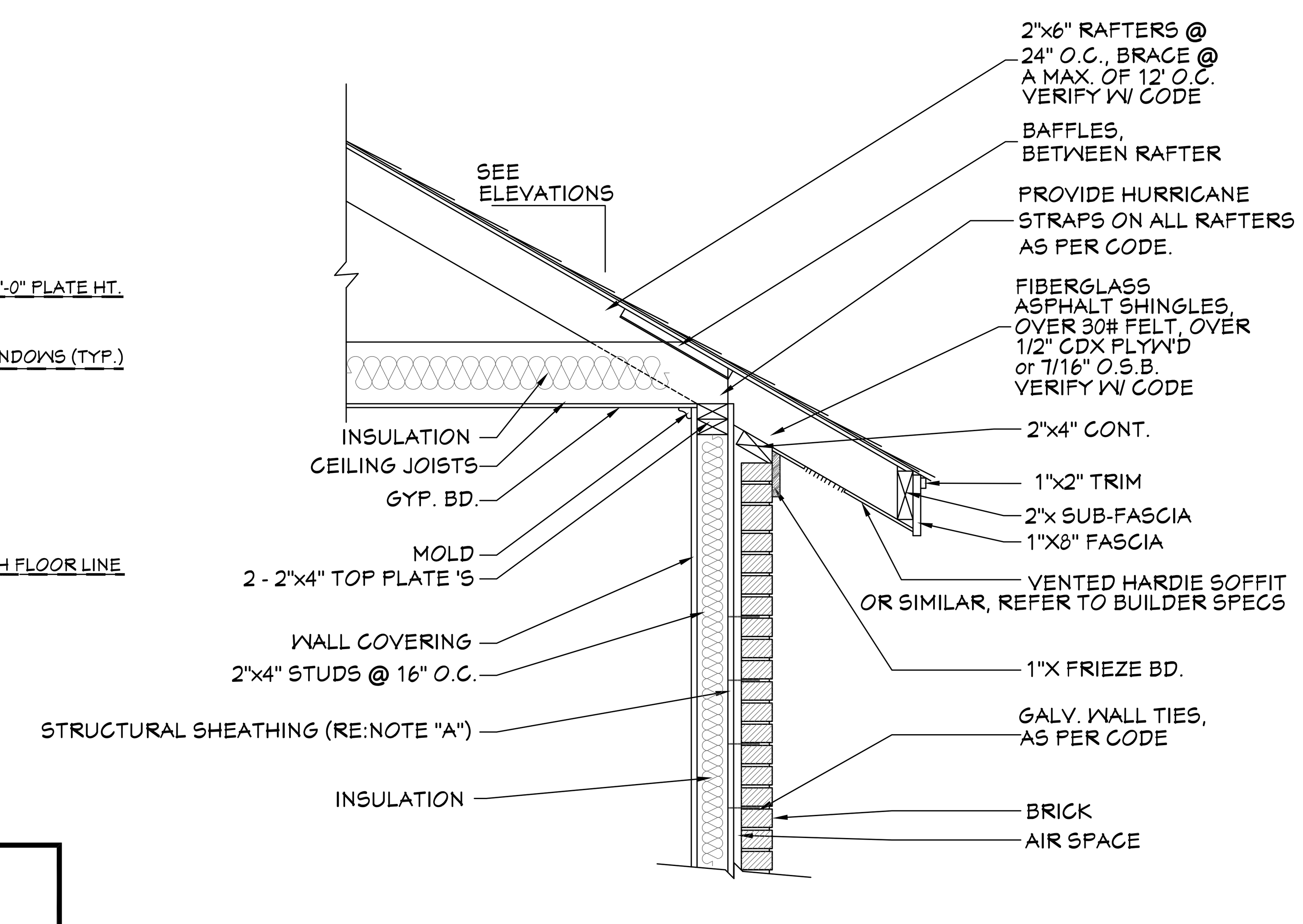
REAR VIEW

402

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.
6. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQ'D BY CURRENT CODES.



NOTE "A": PROVIDE A MINIMUM OF 7/16" STRUCTURAL WOOD PANEL ATTACHED w/ 8d COMMON OR 10d BOX NAILS AT 4" SPACING ON EDGE AND 12" IN FIELD.

NOTE "B": CORNICE DETAIL FOR REFERENCE ONLY. REFER TO BUILDER SPECS FOR ACTUAL MATERIALS.

TYP. CORNICE DETAIL

403

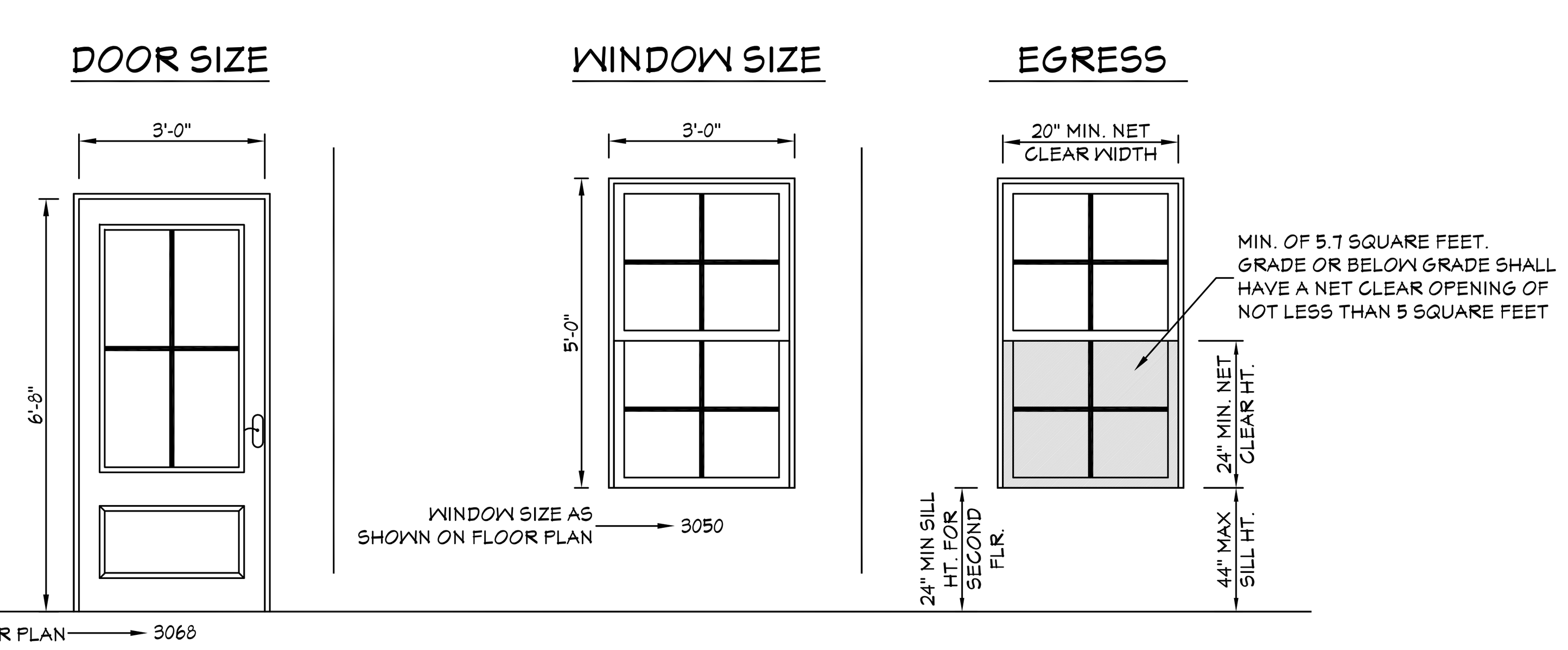
SCALE--3/4"=1'-0"

3068 (DOOR LABEL ON FLOOR PLAN) IS A DOOR THAT IS 3 FT 0 INCHES WIDE BY 6 FEET 8 INCHES TALL. TO FURTHER CLARIFY, THE 3068 LABEL IS TO BE READ AS FEET AND INCHES (WIDTH) AND FEET AND INCHES (HEIGHT)

THE DOOR LABEL IS THE ACTUAL SIZE OF THE DOOR ITSELF, NOT THE ROUGH OPENING SIZE. VERIFY THE ROUGH OPENING SIZE WITH THE DOOR MANUFACTURER CHOSEN AT SITE.

3050 (WINDOW LABEL ON FLOOR PLAN) IS A WINDOW THAT IS 3 FT 0 INCHES WIDE BY 5 FEET 0 INCHES TALL. TO FURTHER CLARIFY, THE 3050 LABEL IS TO BE READ AS FEET AND INCHES (WIDTH) AND FEET AND INCHES (HEIGHT)

THE WINDOW LABEL IS THE ACTUAL SIZE OF THE WINDOW ITSELF, NOT THE ROUGH OPENING SIZE. VERIFY THE ROUGH OPENING SIZE WITH THE WINDOW MANUFACTURER CHOSEN AT SITE.



R311.1 Means of egress. Dwellings shall be provided with a means of egress in accordance with this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the dwelling to the required egress door without requiring travel through a garage. The required egress door shall open directly into a public way or to a yard or court that opens to a public way.

R310.2.1 Minimum opening area. Emergency and escape rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m2). The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. The net clear height opening shall be not less than 24 inches (610 mm) and the net clear width shall be not less than 20 inches (508 mm). **Exception:** Grade floor or below grade openings shall have a net clear opening of not less than 5 square feet (0.465 m2).
R310.2.2 Window sill height. Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 44 inches (1118 mm) above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3.
R310.2.3 Window wells. The horizontal area of the window well shall be not less than 9 square feet (0.9 m2), with a horizontal projection and width of not less than 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened. **Exception:** The ladder or steps required by Section R310.2.3.1 shall be permitted to encroach not more than 6 inches (152 mm) into the required dimensions of the window well.

R310.2.3.1 Ladder and steps. Window wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of not less than 12 inches (305 mm), shall project not less than 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the window well.
R312.2 Window fall protection. Window fall protection shall be provided in accordance with Sections R312.2.1 and R312.2.2.
R312.2.1 Window sills. In dwelling units, where the top of the sill of an operable window opening is located less than 24 inches (610 mm) above the finished floor and greater than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, the operable window shall comply with one of the following:
1. Operable windows with openings that will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening where the opening is in its largest opened position.
2. Operable windows that are provided with window fall prevention devices that comply with ASTM F 2090.
3. Operable windows that are provided with window opening control devices that comply with Section R312.2.2.

R312.2.2 Window opening control devices. Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit to less than the area required by Section R310.2.1.

OPENING SIZES/ EGRESS

SCALE-- NTS

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B.L.L.

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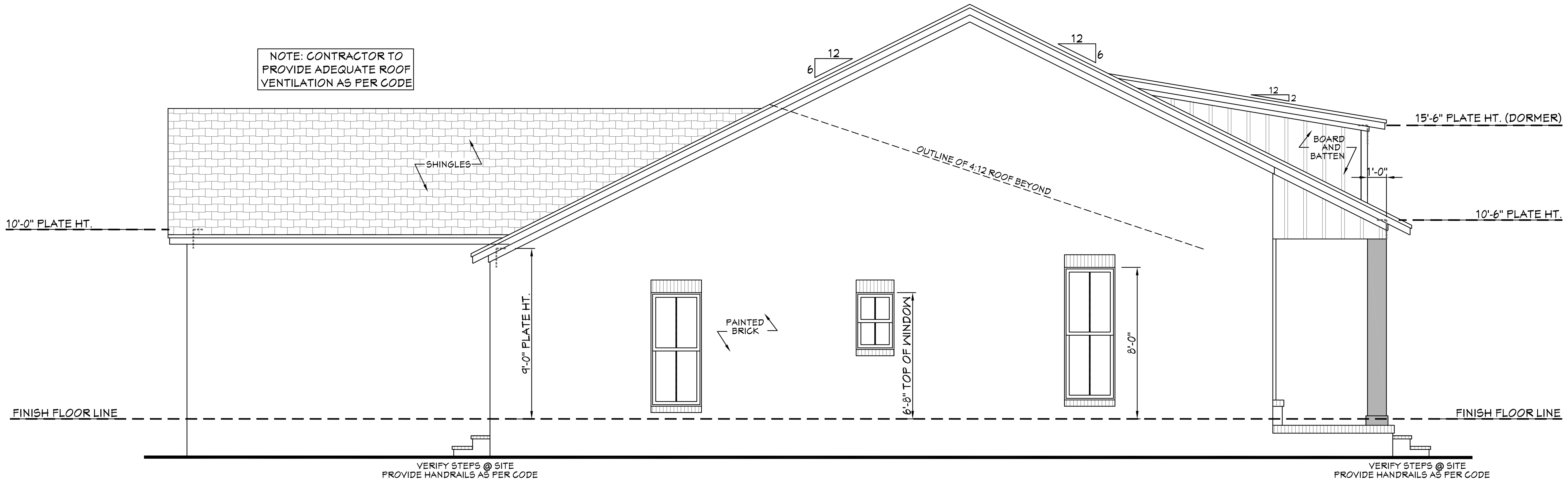
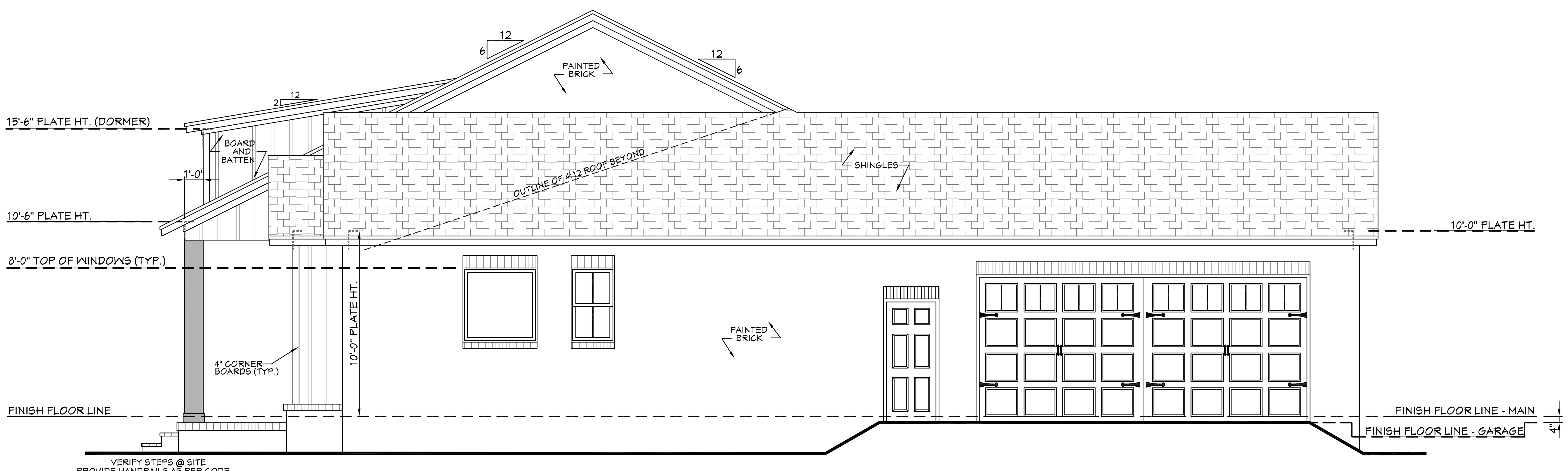
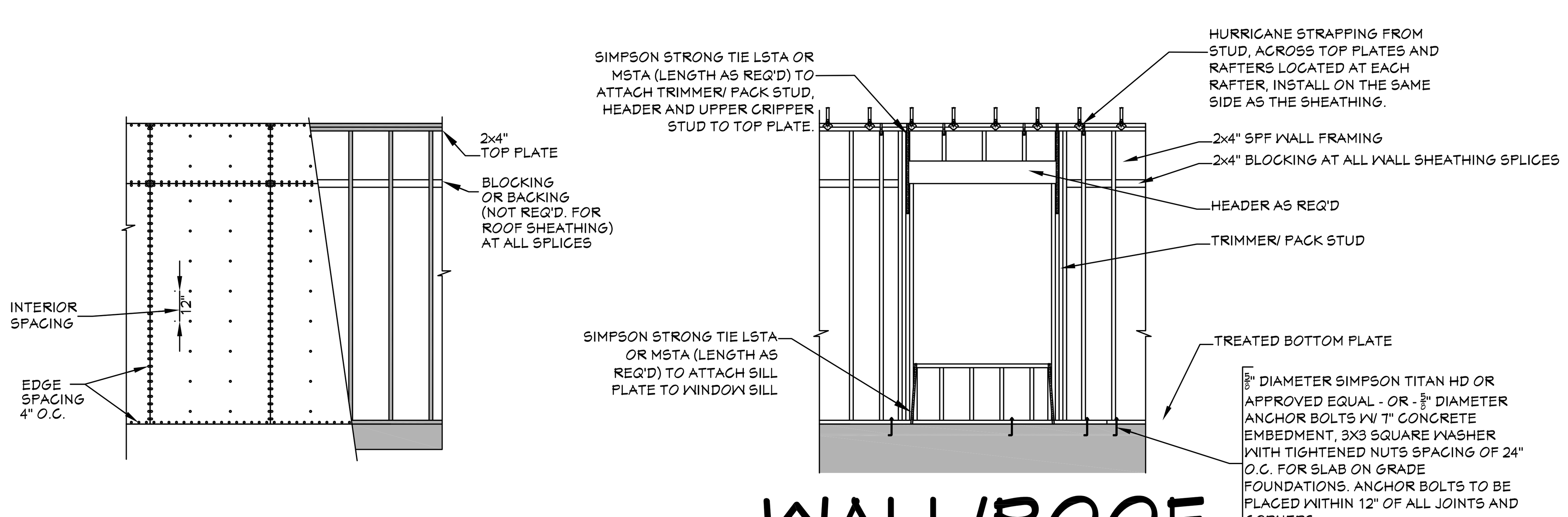


501 **LEFT VIEW**
SCALE------------------------------------ 1/4" = 1'-0"

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.
6. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQ'D BY CURRENT CODES.



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

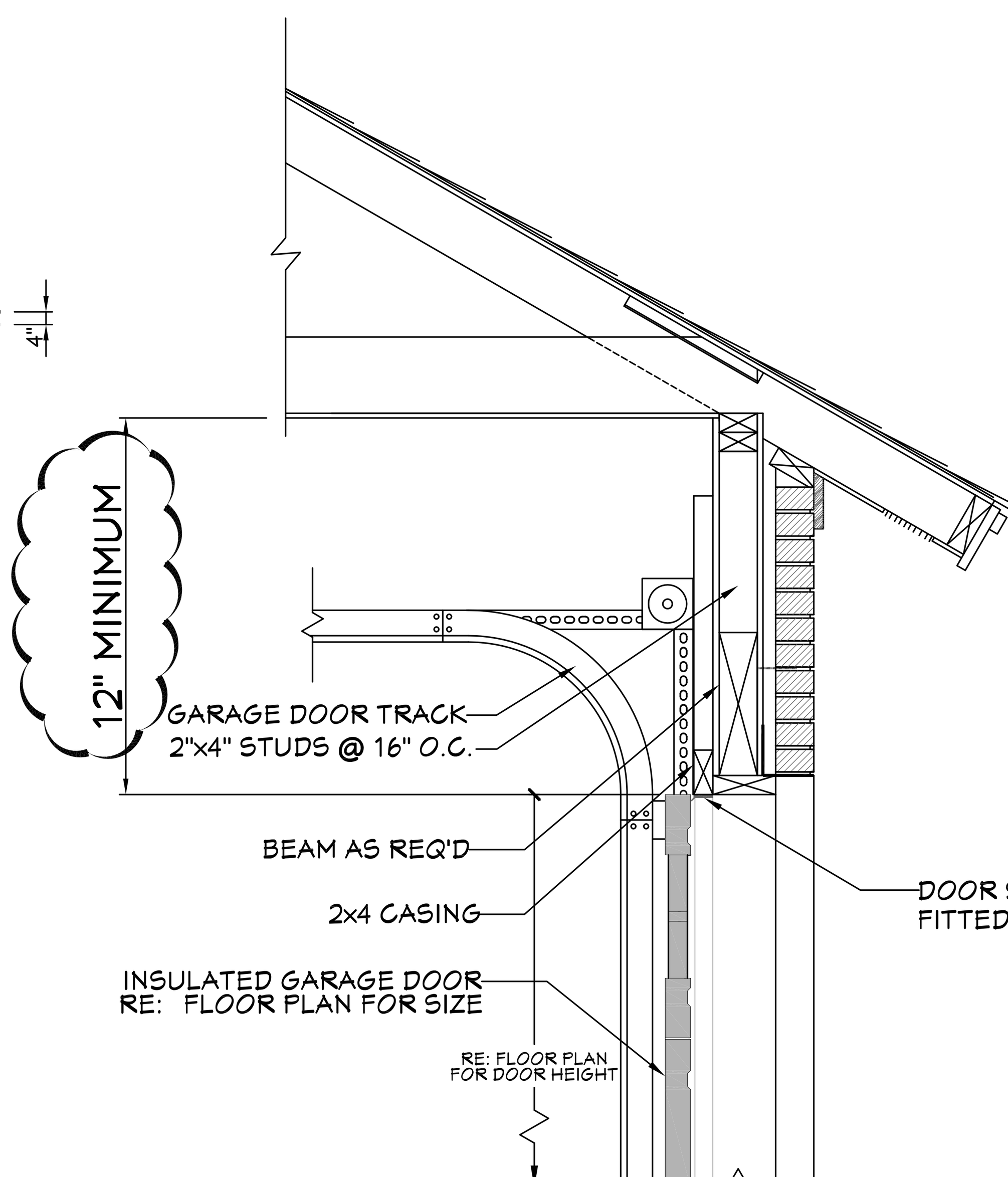


503 **WALL/ROOF FASTENING DETAILS**
SCALE------------------------- 1/4" = 1'-0"

NAIL SIZE SPACING FOR WALL SHEATHING
8d NAILS MIN. OF 7/16" O.S.B. EDGE SPACING = 4" O.C. INTERIOR SPACING = 12" O.C.

NAIL SIZE SPACING FOR ROOF SHEATHING
8d NAILS MIN. OF 7/16" O.S.B. EDGE SPACING = 4" O.C. INTERIOR SPACING = 4" O.C.

NOTES:
1. ALL EXTERIOR SHEATHING TO EXTEND FROM BOTTOM OF BOTTOM PLATE TO THE TOP OF THE TOP PLATES.
2. PROVIDE 2X4 OR GREATER COLLAR TIES ON EACH RAFTER IN THE UPPER THIRD OF ATTIC AND ATTACHED TO RAFTERS WITH 5 - 10d NAILS ON EACH SIDE
3. SHINGLES OR OTHER ROOF MATERIALS TO BE FASTENED AS PER MANUFACTURERS INSTRUCTIONS FOR HIGH WIND APPLICATIONS.
4. EXTERIOR WALL FINISHES TO BE INSTALLED AS PER MANUFACTURERS INSTRUCTIONS BASED ON HIGH WIND APPLICATIONS.



504 **GARAGE DOOR CLEARANCE**
SCALE------------------------------------ N.T.S.

THE INTENT OF THIS DETAIL IS TO SHOW THE MINIMUM REQUIRED DISTANCE FROM THE TOP OF THE GARAGE DOOR OPENING TO THE CEILING OF THE GARAGE.

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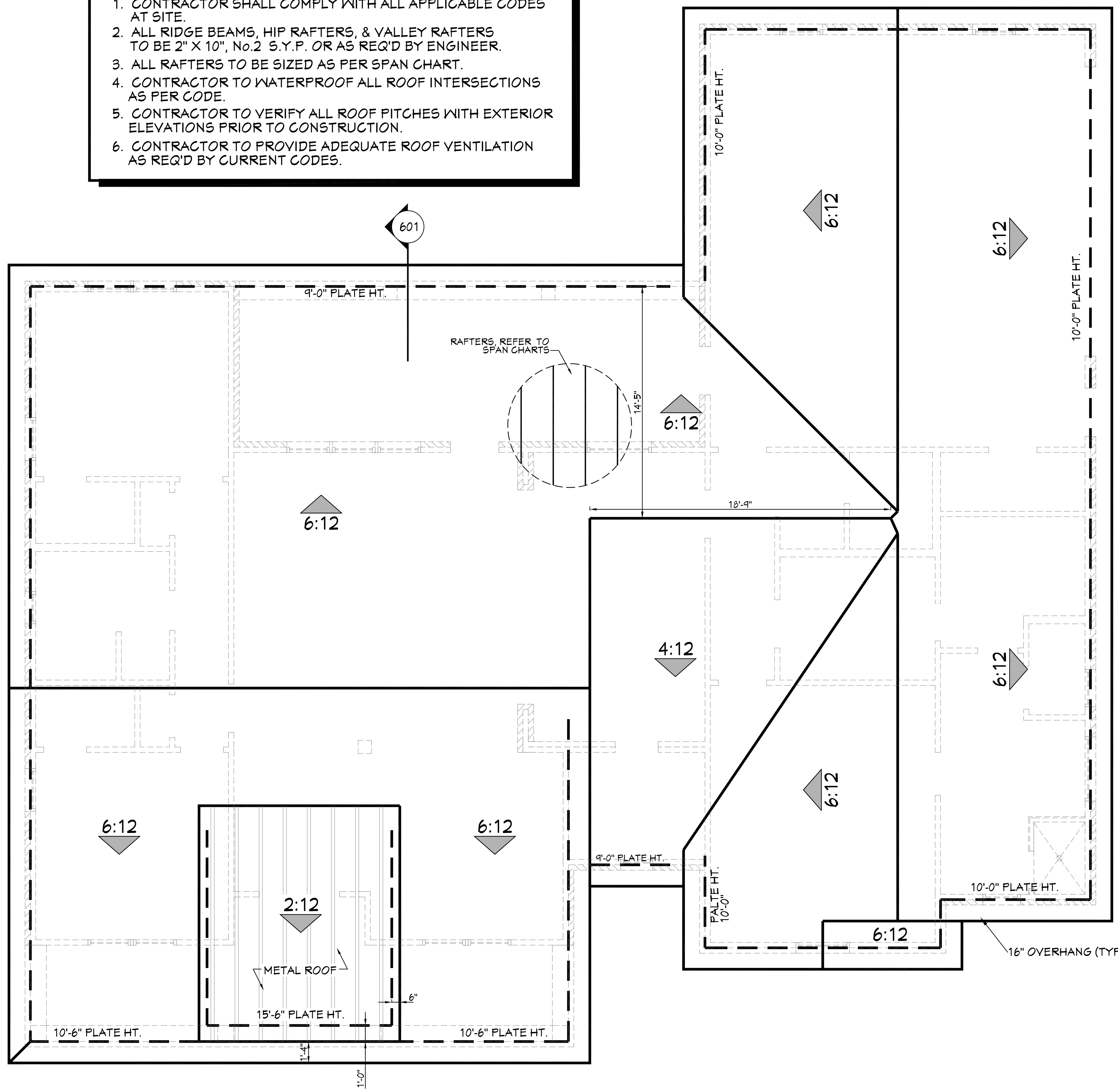
5

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. CONTRACTOR TO WATERPROOF ALL ROOF INTERSECTIONS AS PER CODE.
5. CONTRACTOR TO VERIFY ALL ROOF PITCHES WITH EXTERIOR ELEVATIONS PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQ'D BY CURRENT CODES.



701 ROOF PLAN

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

HIP/ VALLEY CONVERSION

IF COMMON RAFTER ROOF PITCH IS...			THEN HIP/ VALLEY RAFTER ROOF PITCH BECOMES...	
RISE/ RUN	SLOPE		RISE/ RUN	SLOPE
1/12	5°		1/17	3°
2/12	10°		2/17	7°
3/12	14°		3/17	10°
4/12	18°		4/17	13°
5/12	23°		5/17	16°
6/12	27°		6/17	19°
7/12	30°		7/17	22°
8/12	34°		8/17	25°
9/12	37°		9/17	28°
10/12	40°		10/17	30°
11/12	42°		11/17	33°
12/12	45°		12/17	35°

CONVERSION CHART FOR SIMPLE ROOFS ONLY. CHART DOES NOT APPLY FOR DUAL PITCH ROOFS.

RAFTER LENGTH CHART

ROOF PITCH		FACTOR
3/12		1.05
4/12		1.07
5/12		1.10
6/12		1.14
7/12		1.17
8/12		1.20
9/12		1.25
10/12		1.30
11/12		1.35
12/12		1.40
14/12		1.54
16/12		1.70

MULTIPY HORIZONTAL SPAN OF MEMBER BY FACTOR. CHOOSE APPROPRIATE FACTOR BY ROOF PITCH.

CEILING JOIST SPANS

CEILING JOIST SPANS FOR SOUTHERN PINE SPECIES
(UNINHABITABLE ATTICS WITH LIMITED STORAGE, LIVE LOAD = 20psf, L/△=240) DEAD LOAD = 10psf)

IF HABITABLE ATTIC SPACE IS DESIRED, REFER TO THE INTERNATIONAL RESIDENTIAL CODE, SPAN TABLES.

SIZE	SPACING (INCHES)	VISUALLY GRADED #2 SOUTHERN PINE (MAXIMUM CEILING JOIST SPANS) (FT. - IN.)
2 x 4	12.0	9-3
	16.0	8-0
	19.2	7-4
	24.0	6-7
2 x 6	12.0	13-11
	16.0	12-0
	19.2	11-0
	24.0	9-10
2 x 8	12.0	17-7
	16.0	15-3
	19.2	13-11
	24.0	12-6
2 x 10	12.0	20-11
	16.0	18-1
	19.2	16-6
	24.0	14-9

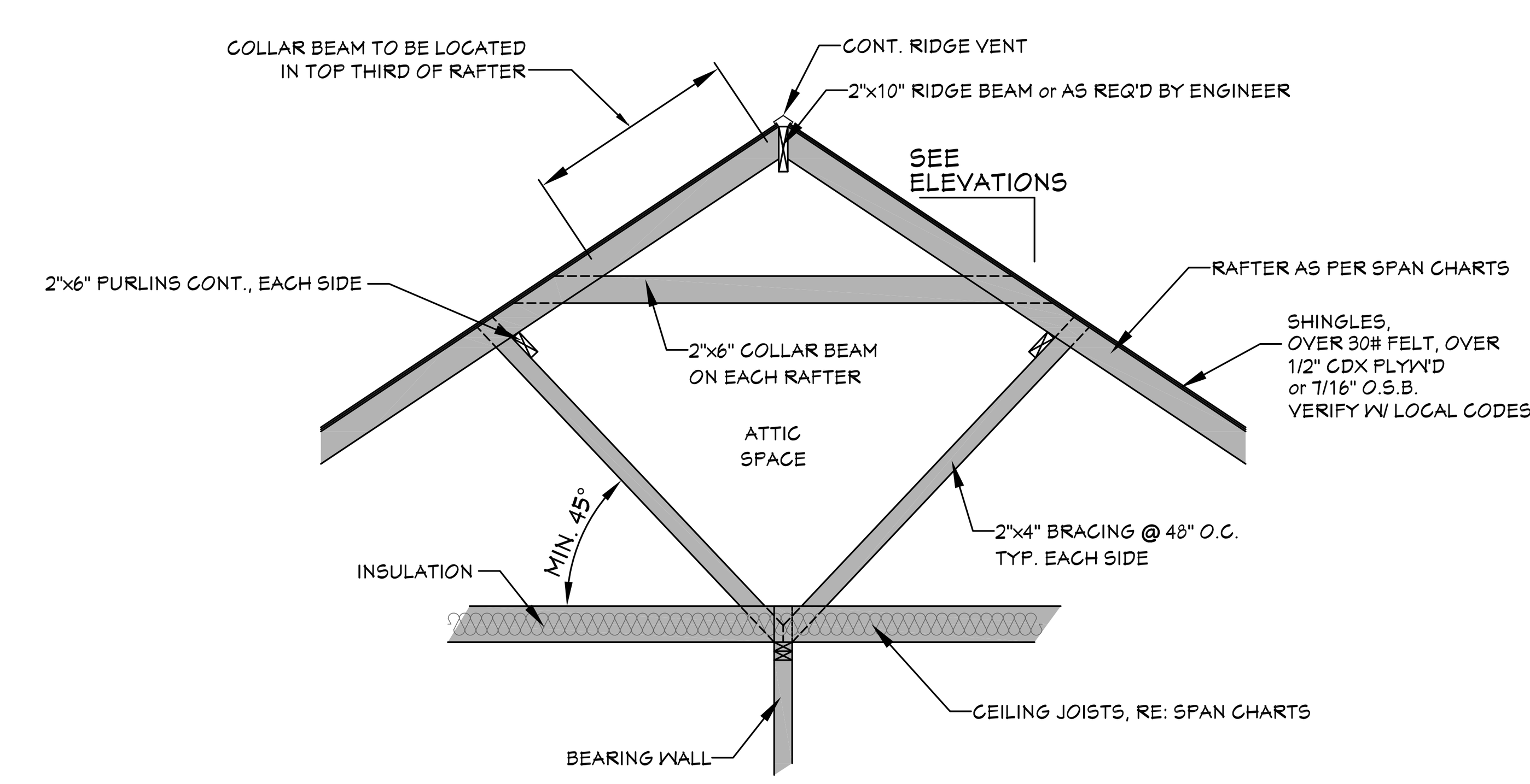
NOTES:
The above tables are based on the IRC 2018 TABLE R802.5.1(2)

RAFTER SPANS

RAFTER SPANS FOR SOUTHERN PINE SPECIES
LIVE LOAD=30psf , L/△=180 DEAD LOAD = 10psf

SIZE	SPACING (INCHES)	SPANS (MAXIMUM RAFTER SPANS BETWEEN BRACING) (FT. - IN.)
2 x 6	12.0	12-11
	16.0	11-2
	19.2	10-2
	24.0	9-2
2 x 8	12.0	16-4
	16.0	14-2
	19.2	12-11
	24.0	11-7
2 x 10	12.0	19-5
	16.0	16-10
	19.2	15-4
	24.0	13-9
2 x 12	12.0	22-10
	16.0	19-10
	19.2	18-1
	24.0	16-2

NOTES:
The above tables are based on the IRC 2018 TABLE R802.4.1(3)



702 TYP. ROOF BRACING

SCALE-------------------------- N.T.S.

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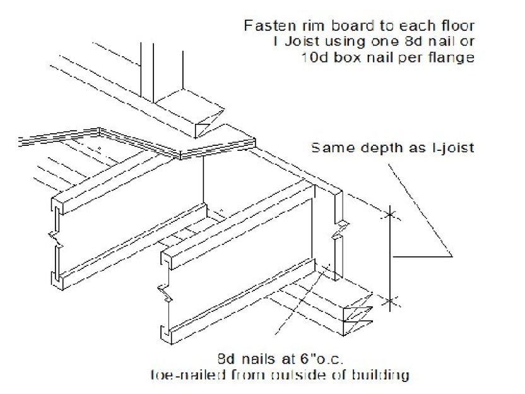
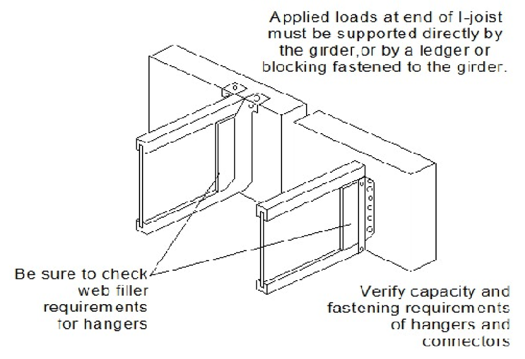
A1 RIM BOARD

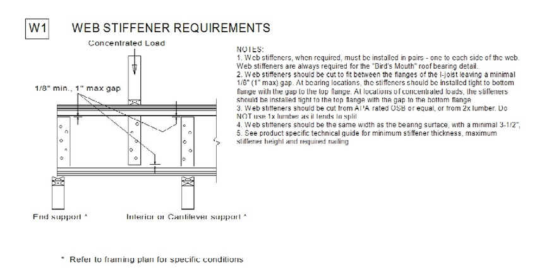


F2 Hanger Detail

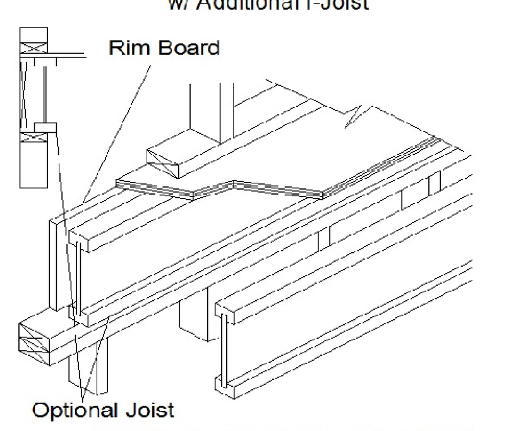


Use of flat bearings or non-sloped hangers with sloped members is acceptable provided that the member pitch is less than or equal to 1/2" rise for 12" of run (0.5:12) or 2.39° degrees. Hanger design is the responsibility of the designer.

W1 WEB STIFFENER REQUIREMENTS

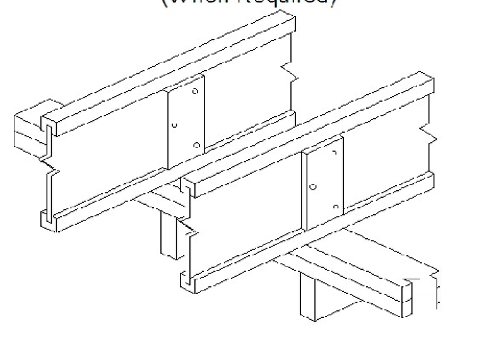


A7i SOLID RIM AS START JOIST w/ Additional I Joist



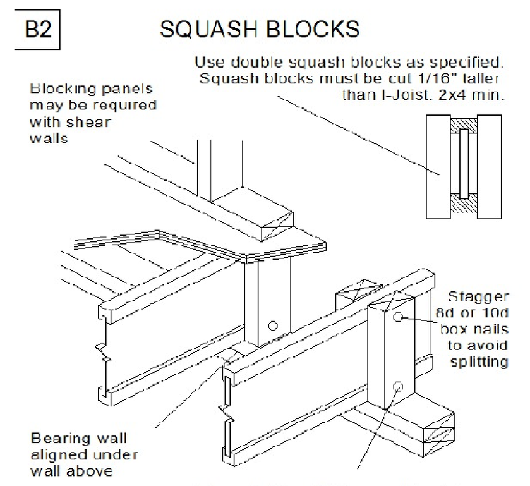
Must be sized to match adjacent joist

B1 WEB STIFFENERS AT INTERIOR SUPPORT (When Required)

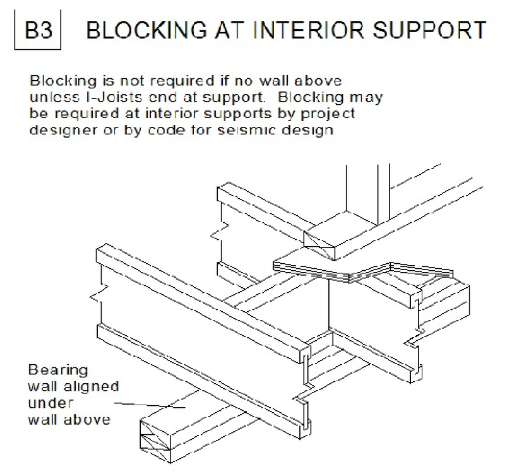


Verify stiffener requirements

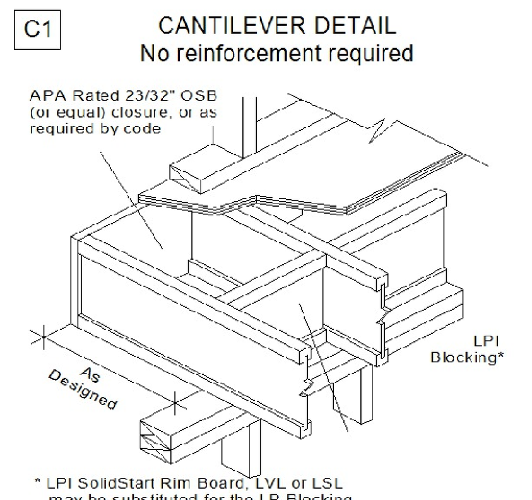
B2 SQUASH BLOCKS

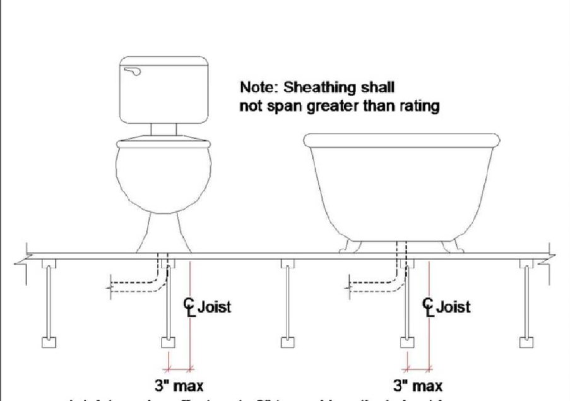


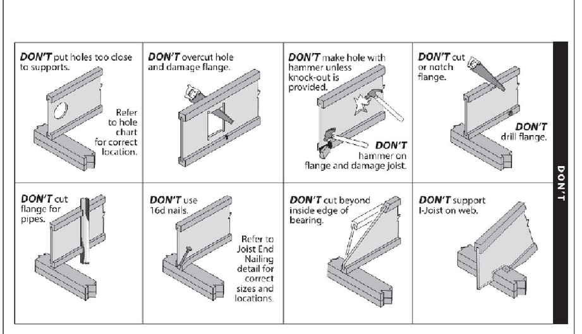
B3 BLOCKING AT INTERIOR SUPPORT



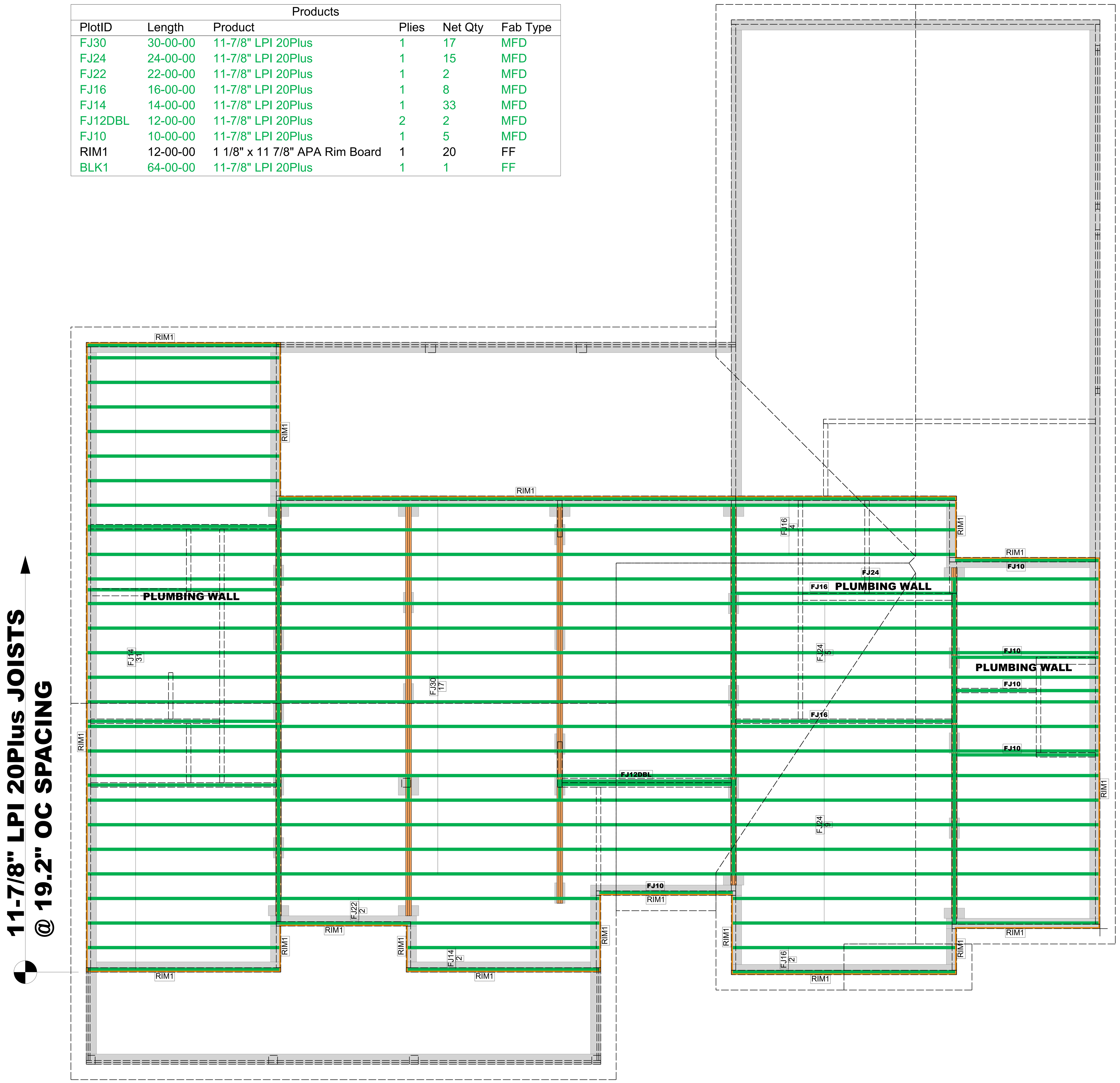
C1 CANTILEVER DETAIL
No reinforcement required







Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
FJ30	30-00-00	11-7/8" LPI 20Plus	1	17	MFD
FJ24	24-00-00	11-7/8" LPI 20Plus	1	15	MFD
FJ22	22-00-00	11-7/8" LPI 20Plus	1	2	MFD
FJ16	16-00-00	11-7/8" LPI 20Plus	1	8	MFD
FJ14	14-00-00	11-7/8" LPI 20Plus	1	33	MFD
FJ12DBL	12-00-00	11-7/8" LPI 20Plus	2	2	MFD
FJ10	10-00-00	11-7/8" LPI 20Plus	1	5	MFD
RIM1	12-00-00	1 1/8" x 11 7/8" APA Rim Board	1	20	FF
BLK1	64-00-00	11-7/8" LPI 20Plus	1	1	FF



U. S. LUMBER

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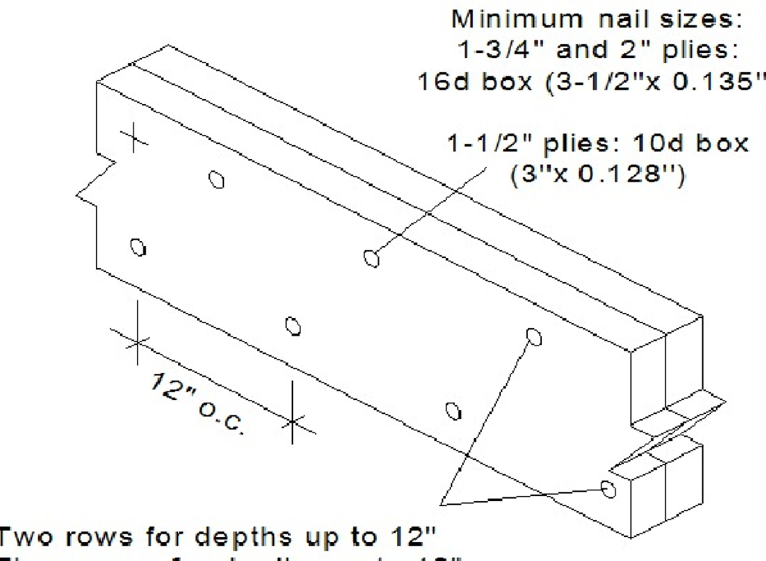
- No loads other than the weight of the erectors are to be imposed on the structure before it is permanently sheathed.
- After sheathing, do not overload joists with construction materials exceeding design loads.
- LP SolidStart I-Joists, LP SolidStart LVL & LP SolidStart LSL beams must be used under dry, covered and well ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%.

P1 TOP LOADED BEAM-NAILED CONNECTION
(See Connection Assemblies for more details)

Minimum nail sizes:
1-3/4" and 2" plies: 16d box (3-1/2"x 0.135")
1-1/2" plies: 10d box (3"x 0.128")



Two rows for depths up to 12"
Three rows for depths up to 18"

Framing is applied to top of the beam so that each ply carries an equal load

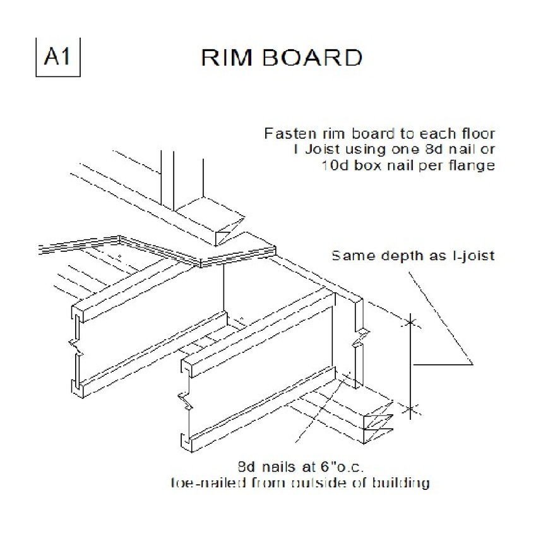
Customer Name:
BRAD CUMMINGS

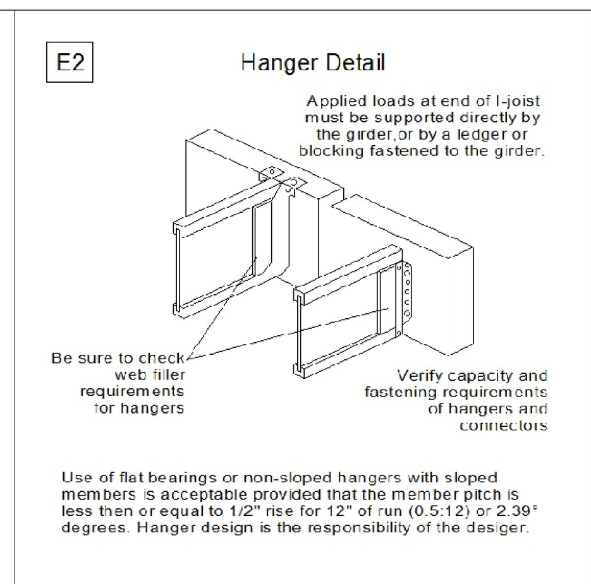
Job Name:
BURGESS/SPRING HILL CHURCH RD.

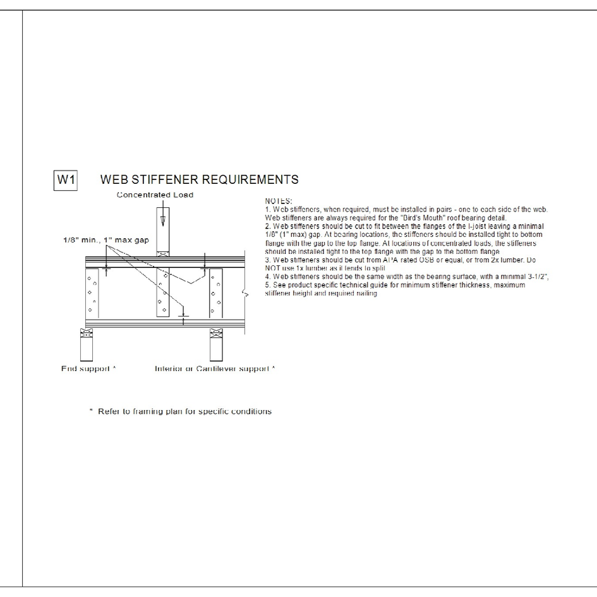
Designer:
Tony Huneycutt

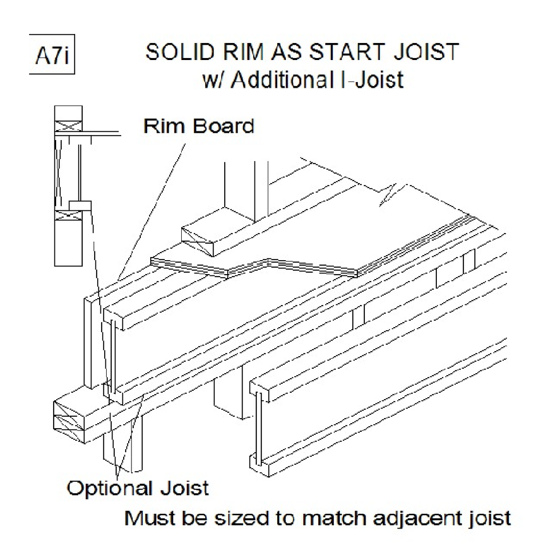
Salesman:
EDDIE BAUER

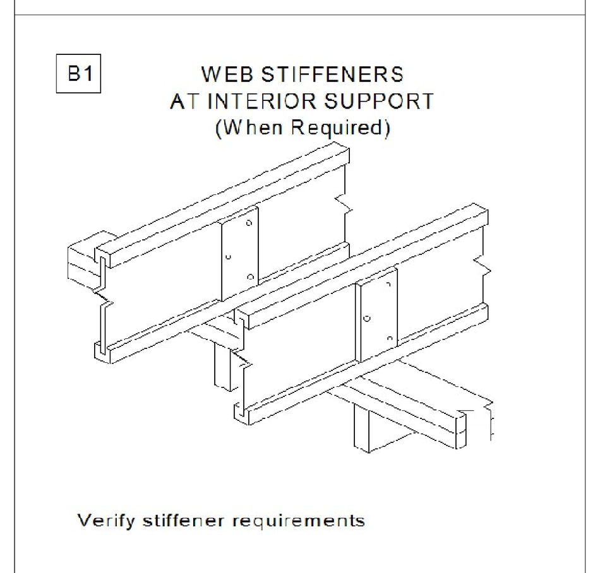
Scale:1/4" = 1'	Date:10/13/20	1ST FLOOR

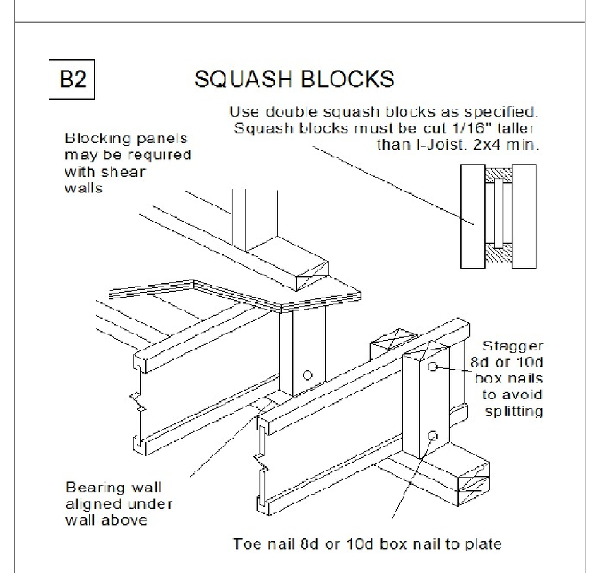


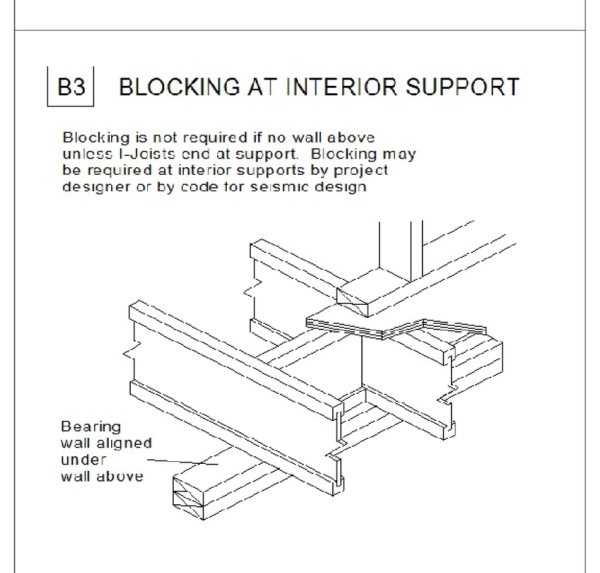

F2
Hanger Detail
Applied loads at end of I-joist must be supported directly by the girder, or by a ledger or blocking fastened to the girder.
Be sure to check web filler requirements for hangers
Verify capacity and fastening requirements of hangers and connectors
Use of flat bearings or non-sloped hangers with sloped members is acceptable provided that the member pitch is less than or equal to 1/2" rise for 12" of run (0.5:12) or 2.39° degrees. Hanger design is the responsibility of the designer.

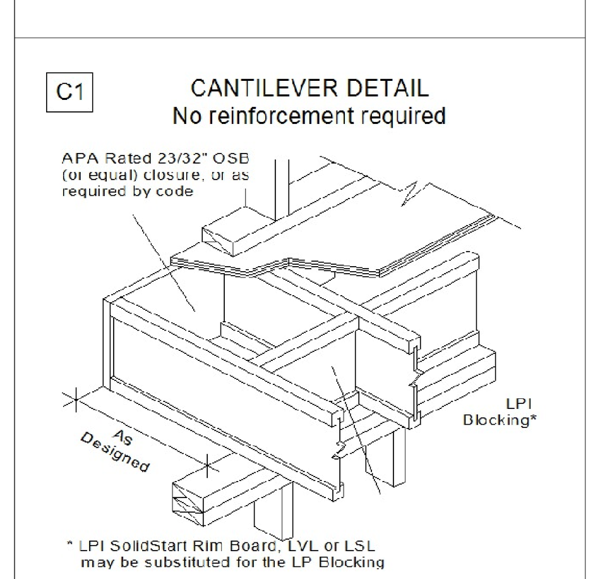


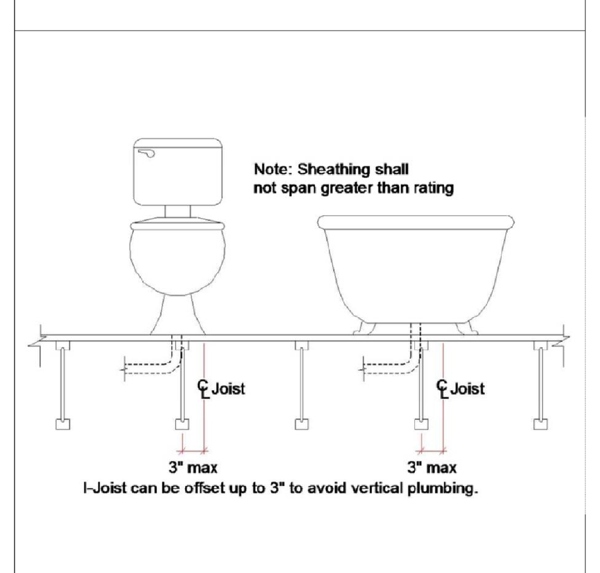


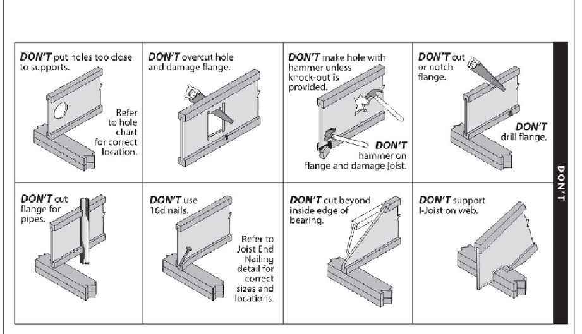




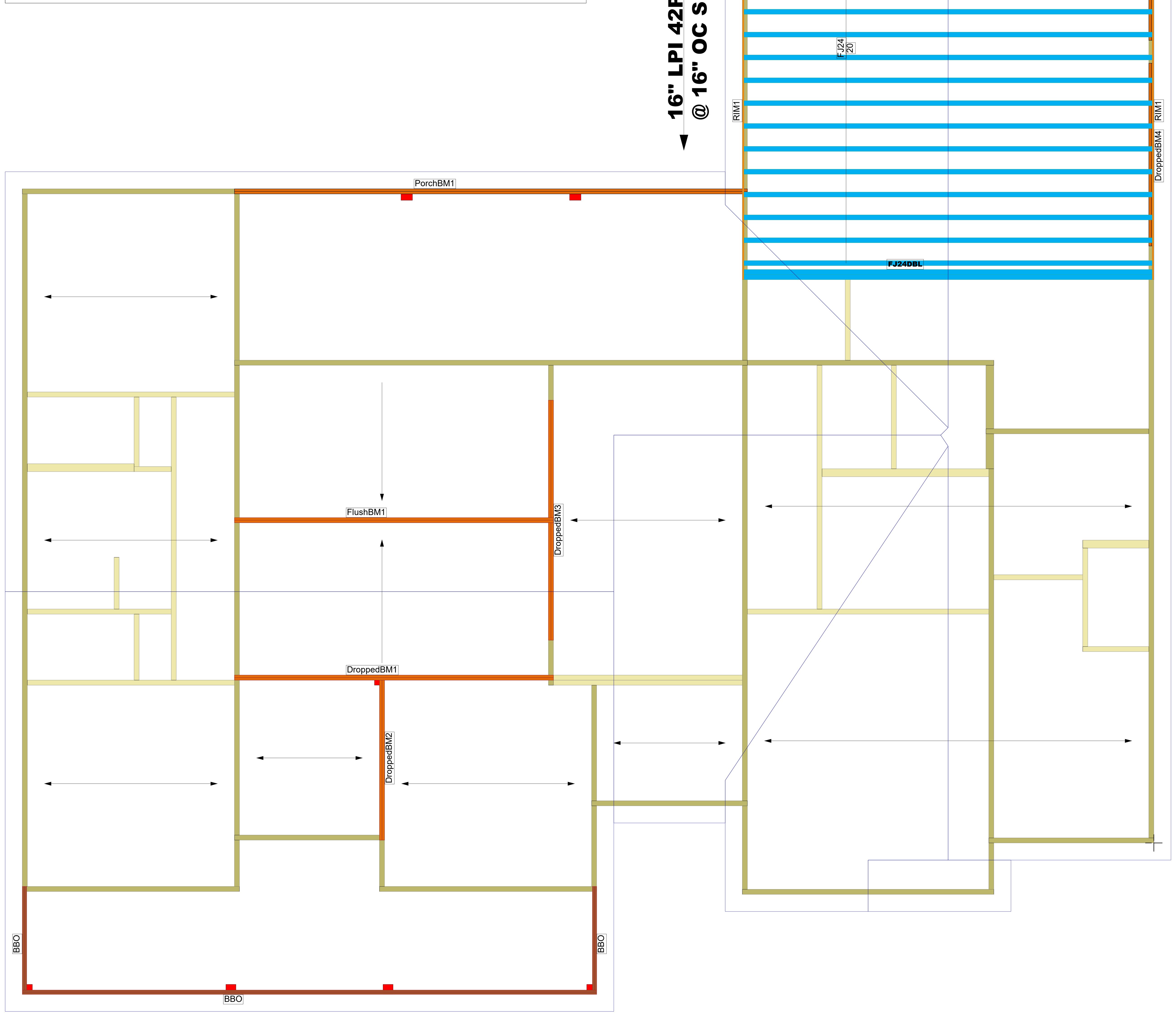








Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
FJ24	24-00-00	16" LPI 42Plus	1	20	MFD
FJ24DBL	24-00-00	16" LPI 42Plus	2	2	MFD
PorchBM1	30-00-00	1-3/4X9-1/4 LP-LVL 2900Fb-2.0E	2	2	MFD
DroppedBM1	20-00-00	1-3/4X9-1/4 LP-LVL 2900Fb-2.0E	2	2	MFD
DroppedBM2	10-00-00	1-3/4X9-1/4 LP-LVL 2900Fb-2.0E	2	2	MFD
FlushBM1	20-00-00	1-3/4X14 LP-LVL 2900Fb-2.0E	2	2	MFD
DroppedBM3	14-00-00	1-3/4X14 LP-LVL 2900Fb-2.0E	2	2	MFD
DroppedBM4	12-00-00	1-3/4X14 LP-LVL 2900Fb-2.0E	2	4	MFD
RIM1	12-00-00	1 1/8" x 16" APA Rim Board	1	7	FF



LP BUILDING SOLUTIONS

U. S. LUMBER

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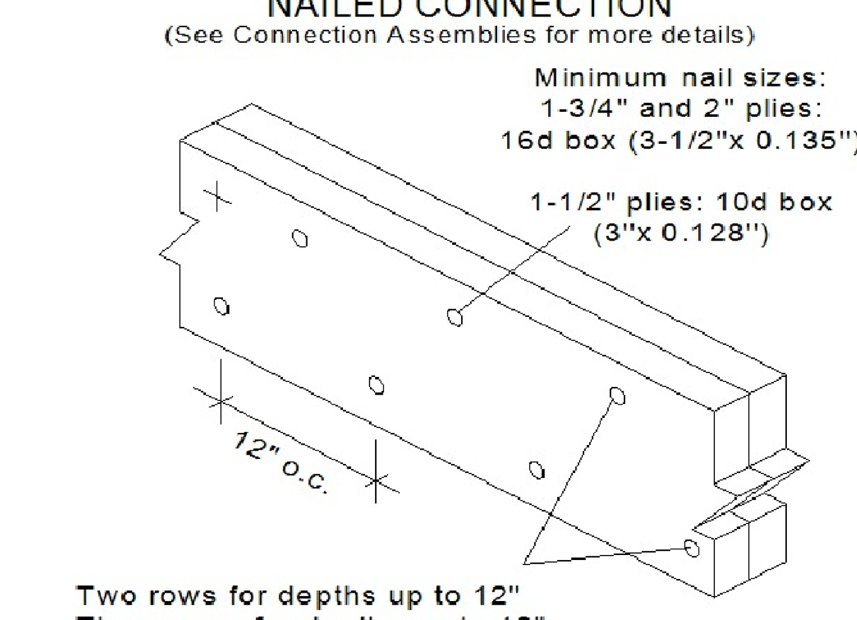
P1

TOP LOADED BEAM-
NAILED CONNECTION
(See Connection Assemblies for more details)



Two rows for depths up to 12"
Three rows for depths up to 18"

Framing is applied to top of the beam so that each ply carries an equal load

Customer Name:
BRAD CUMMINGS

Job Name:
BURGESS/SPRING HILL CHURCH RD.

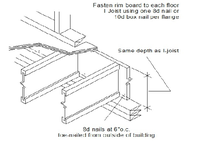
Designer:
Tony Huneycutt

Salesman:
EDDIE BAUER

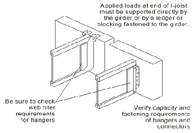
Scale:1/4" = 1'	Date:10/13/20	2ND FLOOR

BMC

A1 RIM BOARD



E2 Hanger Detail



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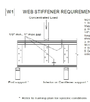
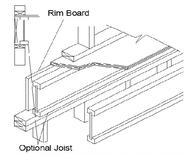
W1 WEB STIFFENER REQUIREMENTS

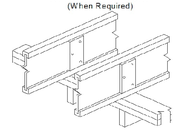


* Refer to framing plan for specific conditions

A7i SOLID RIM AS START JOIST w/ Additional I-Joist

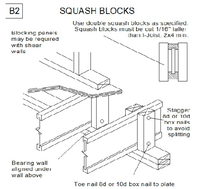


B1 WEB STIFFENERS AT INTERIOR SUPPORT (When Required)



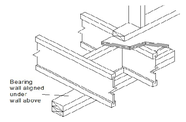
Verify stiffener requirements

B2 SQUASH BLOCKS

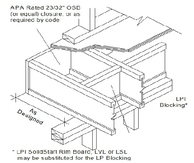


B3 BLOCKING AT INTERIOR SUPPORT

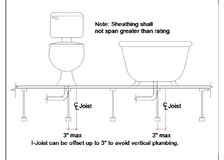
Blocking is not required if no wall above unless I-Joists are at support. Blocking may be required at interior supports by project designer or by code for seismic design

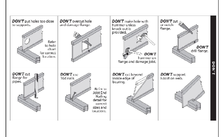


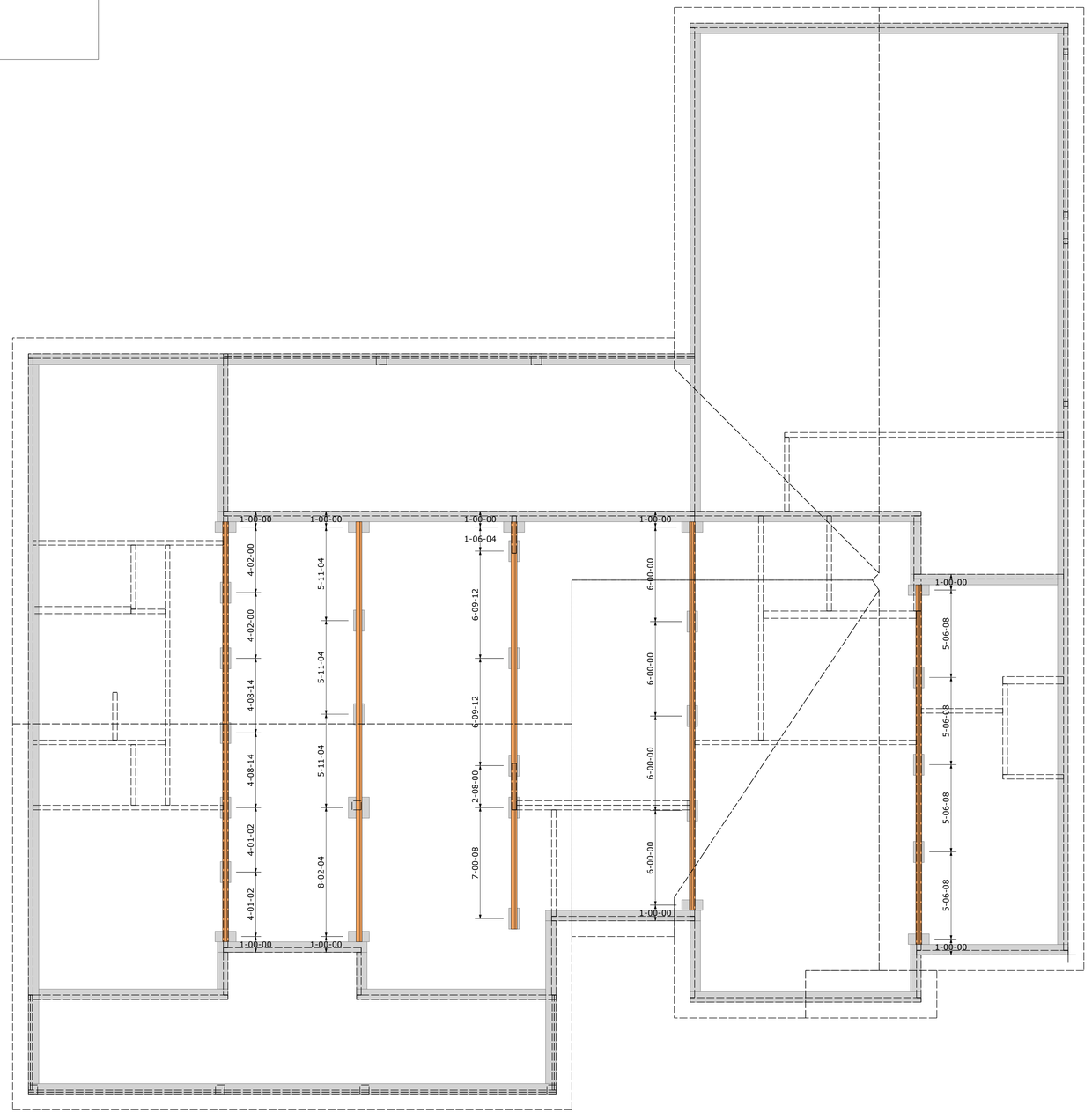
C1 CANTILEVER DETAIL No reinforcement required



* LPI SolidStart Rim Board, LVL or LSL may be substituted for the LP Blocking







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U. S. LUMBER

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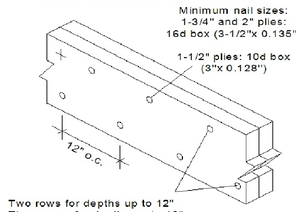
P1 TOP LOADED BEAM- NAILED CONNECTION

(See Connection Assemblies for more details)



Two rows for depths up to 12"
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BRAD CUMMINGS

Job Name:
BURGESS/SPRING HILL CHURCH RD.

Designer:
Tony Huneycutt

Salesman:
EDDIE BAUER

Scale:1/4" = 1'	Date:10/13/20	1ST FLOOR

BMC

BRAD CUMMINGS **BMC/LOCUST LUMBER/SOUTHERN PINES**
BURGESS/SPRING HILL CHURCH RD. **SALESMAN:EDDIE BAUER**

FIRST FLOOR FRAMING

1642	LF	12IJ	11-7/8" LPI 20Plus JOISTS			17/30' 15/24' 2/22' 8/16'	3	4926
						33/14' 2/12' 5/10' + 64' BLKG		
20	PCS	12RIM12	1-1/8" x 11-7/8" x 12' RIM BOARD				43.3	866

5792

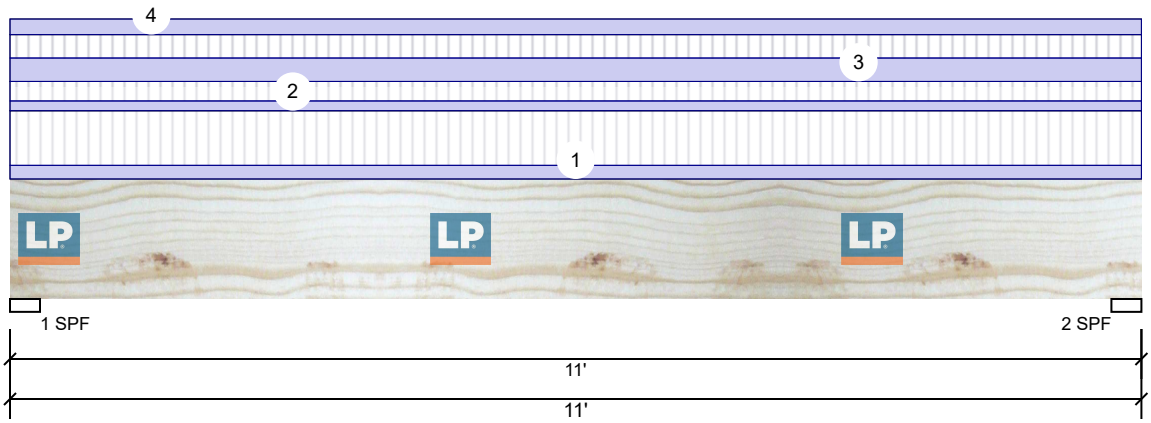
BONUS ROOM EWP

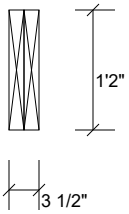
528	LF	16IJHD	16" LPI 42Plus JOISTS			22/24'	4.5	2376
7	PCS	16RIM12	1-1/8" x 16" x 12' RIM BOARD				58.8	411.6
120	LF	9LVL	1-3/4" x 9-1/4" LVL			2/30' 2/20' 2/10'	4.2	504
116	LF	14LVL	1-3/4" x 14" LVL			2/20' 2/14' 4/12'	6.4	742.4

4034

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

10' Garage Door Header LP-LVL 2900Fb-2.0E 1.750" X 14.000" 2-Ply - PASSED Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	600	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	2750	1837	0	0	0
2	2750	1837	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	88%	1837 / 2750	4587	L	D+L
2 - SPF	3.500"	88%	1837 / 2750	4587	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11585 ft-lb	5'6"	27029 ft-lb	0.429 (43%)	D+L	L
Shear	3423 lb	1'4 3/4"	9310 lb	0.368 (37%)	D+L	L
LL Defl inch	0.103 (L/1227)	5'6"	0.264 (L/480)	0.390 (39%)	L	L
TL Defl inch	0.172 (L/735)	5'6"	0.211 (L/600)	0.820 (82%)	D+L	L

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.069", Long Term = 0.103"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top must be continuously braced.
7 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	70 PLF	280 PLF	0 PLF	0 PLF	0 PLF	Floor Load
2	Uniform			Top	50 PLF	100 PLF	0 PLF	0 PLF	0 PLF	Attic Load
3	Uniform			Top	120 PLF	120 PLF	0 PLF	0 PLF	0 PLF	Roof Load
4	Uniform			Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Brick Load
	Self Weight				14 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

This design is valid until 10/31/2021

Manufacturer Info

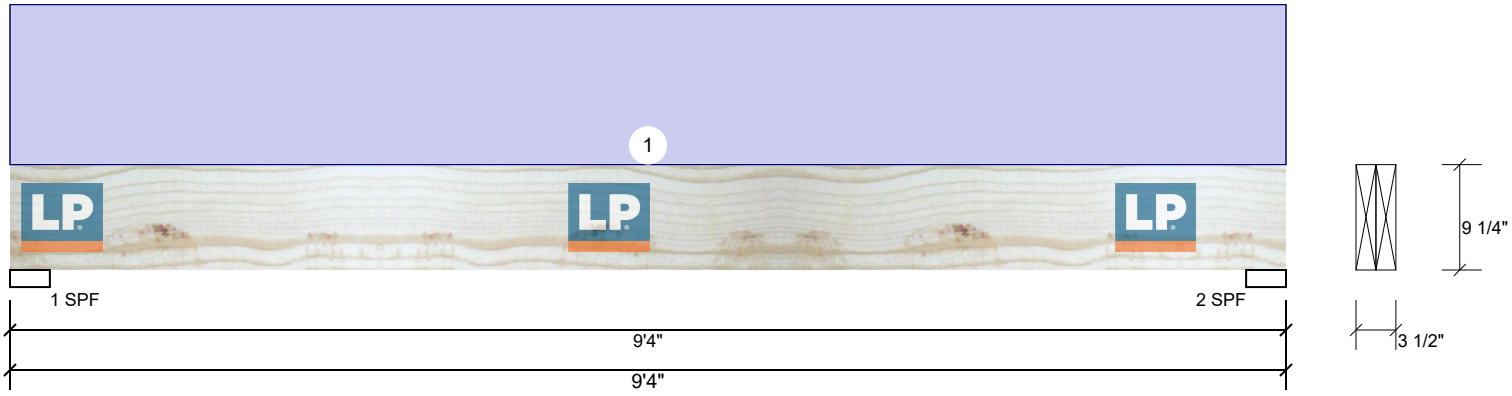
Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

BMC/Locust Lumber Company
312 E. Main Street, North Carolina 28127
704-888-4411

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

Dining Room Header LP-LVL 2900Fb-2.0E 1.750" X 9.250" 2-Ply - PASSED

Level: Level



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Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	627	0	0	0
2	0	627	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	12%	627 / 0	627	Uniform	D
2 - SPF	3.500"	12%	627 / 0	627	Uniform	D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1322 ft-lb	4'8"	11174 ft-lb	0.118 (12%)	D	Uniform
Shear	492 lb	1'	5536 lb	0.089 (9%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.045 (L/2351)	4'8"	0.444 (L/240)	0.100 (10%)	D	Uniform

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.045", Long Term = 0.068"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top braced at bearings.
7 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Ceiling Joists
	Self Weight				9 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

This design is valid until 10/31/2021

Manufacturer Info

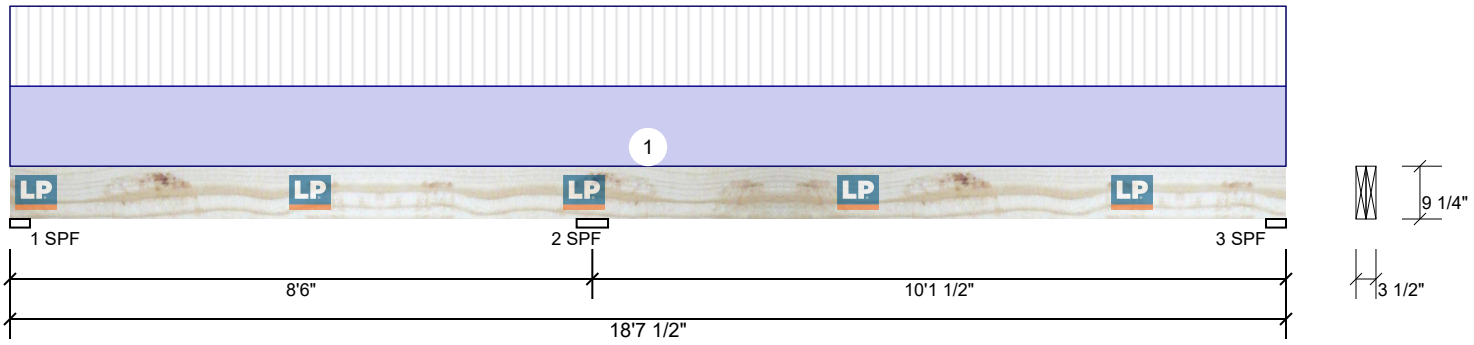
Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

BMC/Locust Lumber Company
312 E. Main Street, North Carolina 28127
704-888-4411

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

Header @ Foyer LP-LVL 2900Fb-2.0E 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	313	342	0	0	0
2	1135	1240	0	0	0
3	415	453	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	14%	337 / 389	727	L_	D+L
2 - SPF	5.500"	29%	1249 / 1143	2391	LL	D+L
3 - SPF	3.500"	17%	449 / 450	899	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2210 ft-lb	8'6"	12416 ft-lb	0.178 (18%)	D+L	LL
Pos Moment	1732 ft-lb	14'3 15/16"	12416 ft-lb	0.140 (14%)	D+L	_L
Shear	1097 lb	9'3 1/4"	6151 lb	0.178 (18%)	D+L	LL
LL Defl inch	0.036 (L/3257)	13'8 9/16"	0.247 (L/480)	0.150 (15%)	L	_L
TL Defl inch	0.067 (L/1769)	13'9 15/16"	0.495 (L/240)	0.140 (14%)	D+L	_L

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.031", Long Term = 0.046"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top braced at bearings.
7 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	100 PLF	100 PLF	0 PLF	0 PLF	0 PLF	Roof/Ceiling load from Great Room
	Self Weight				9 PLF					

Notes

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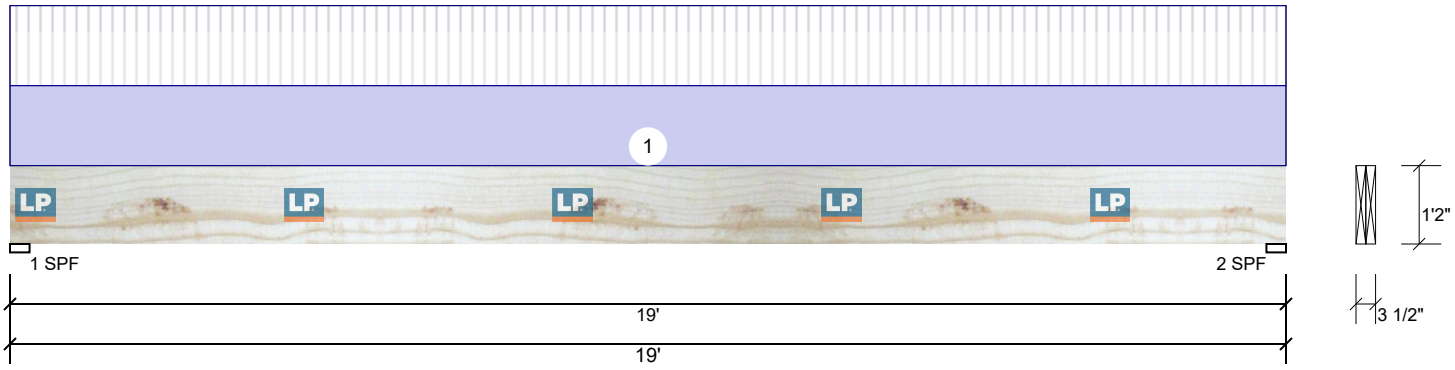
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

BMC/Locust Lumber Company
312 E. Main Street, North Carolina 28127
704-888-4411

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

Ridge Beam in Great Room **LP-LVL 2900Fb-2.0E** **1.750" X 14.000"** **2-Ply - PASSED**

Level: Level



Member Information

Type:	Girder	Application:	Roof
Plies:	2	Slope:	0/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	480	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	Not Checked
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1805	1938	0	0	0
2	1805	1938	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	72%	1938 / 1805	3743	L	D+L
2 - SPF	3.500"	72%	1938 / 1805	3743	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16933 ft-lb	9'6"	27029 ft-lb	0.626 (63%)	D+L	L
Shear	3193 lb	1'4 3/4"	9310 lb	0.343 (34%)	D+L	L
LL Defl inch	0.335 (L/664)	9'6 1/16"	0.464 (L/480)	0.720 (72%)	L	L
TL Defl inch	0.694 (L/320)	9'6 1/16"	0.927 (L/240)	0.750 (75%)	D+L	L

Design Notes

1. Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2. Dead Load Deflection: Instant = 0.360", Long Term = 0.539"
3. Girders are designed to be supported on the bottom edge only.
4. Multiple plies must be fastened together as per manufacturer's details.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at a maximum of 7'2 5/8" o.c.
7. Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	190 PLF	190 PLF	0 PLF	0 PLF	0 PLF	Roof Load
	Self Weight				14 PLF					

Notes

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This design is valid until 10/31/2021

Manufacturer Info

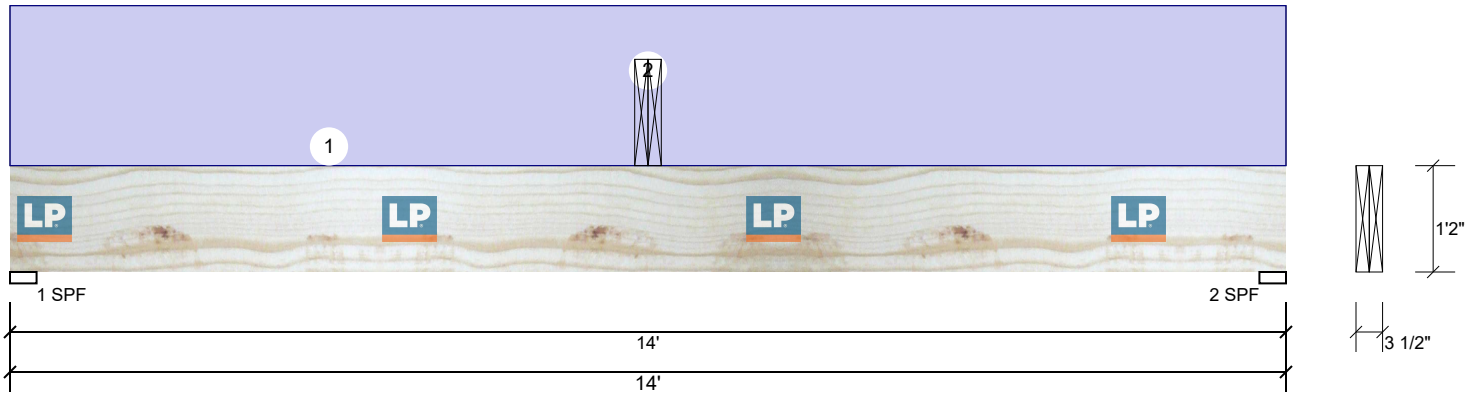
Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

BMC/Locust Lumber Company
312 E. Main Street, North Carolina 28127
704-888-4411

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

Hdr. @ kit/Great Room LP-LVL 2900Fb-2.0E 1.750" X 14.000" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	903	1767	0	0	0
2	903	1767	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	51%	1767 / 902	2670	L	D+L
2 - SPF	3.500"	51%	1767 / 903	2670	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15286 ft-lb	7'	27029 ft-lb	0.566 (57%)	D+L	L
Shear	2511 lb	12'7 1/4"	9310 lb	0.270 (27%)	D+L	L
LL Defl inch	0.115 (L/1411)	7' 1/16"	0.339 (L/480)	0.340 (34%)	L	L
TL Defl inch	0.299 (L/544)	7' 1/16"	0.677 (L/240)	0.440 (44%)	D+L	L

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.184", Long Term = 0.276"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top must be continuously braced.
7 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Ceiling joists over Kitchen
2	Point	7-0-0		Top	1938 lb	1805 lb	0 lb	0 lb	0 lb	Ridge Beam in Great Room Brg 2
	Bearing Length	0-3-8								
	Self Weight				14 PLF					

Notes

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This design is valid until 10/31/2021

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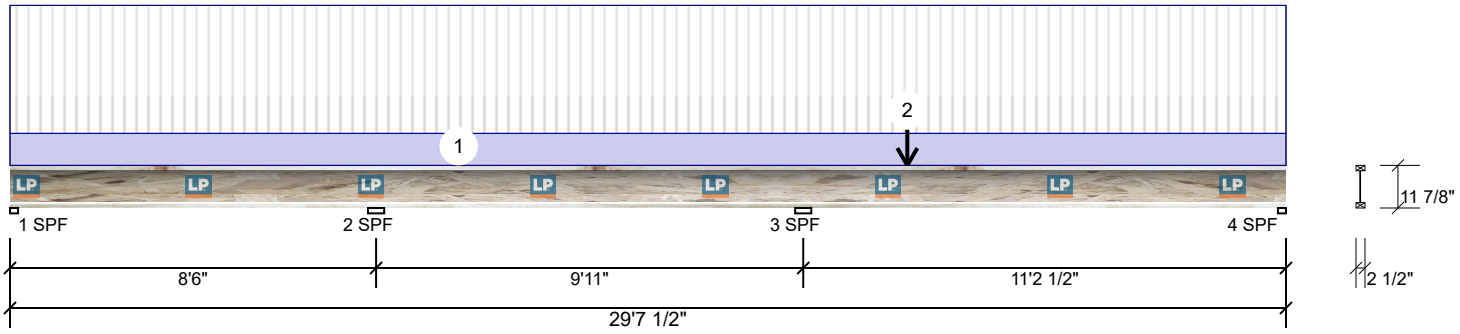
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

BMC/Locust Lumber Company
312 E. Main Street, North Carolina 28127
704-888-4411

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

Joists under Pantry-DR wall LPI 20Plus 11.875" - PASSED

Level: Level



Member Information

Type:	Joist	Application:	Floor
Spacing:	19.2" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	220	57	0	0	0
2	614	142	0	0	0
3	765	287	0	0	0
4	296	88	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.250"	31%	58 / 261	319	L_L	D+L
2 - SPF	4.500"	34%	137 / 700	837	LL_	D+L
3 - SPF	4.500"	45%	292 / 813	1105	_LL	D+L
4 - SPF	2.250"	39%	86 / 319	405	L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1133 ft-lb	18'5"	3755 ft-lb	0.302 (30%)	D+L	_LL
Pos Moment	974 ft-lb	24'6 3/4"	3755 ft-lb	0.260 (26%)	D+L	L_L
Shear	624 lb	18'5"	1485 lb	0.420 (42%)	D+L	_LL
LL Defl inch	0.068 (L/1967)	24'2 1/16"	0.277 (L/480)	0.240 (24%)	L	L_L
TL Defl inch	0.090 (L/1485)	24'1 1/16"	0.554 (L/240)	0.160 (16%)	D+L	L_L

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.022", Long Term = 0.033"
3 Top flange must be laterally braced at a maximum of 9'3" o.c.
4 Bottom flange must be laterally braced at a maximum of 8'7" o.c.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-7-3	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor Load
2	Point	20-10-0		100 lb	0 lb	0 lb	0 lb	0 lb	Bearing Wall Above
	Bearing Length	0-3-0							

Notes

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This design is valid until 10/31/2021

Manufacturer Info

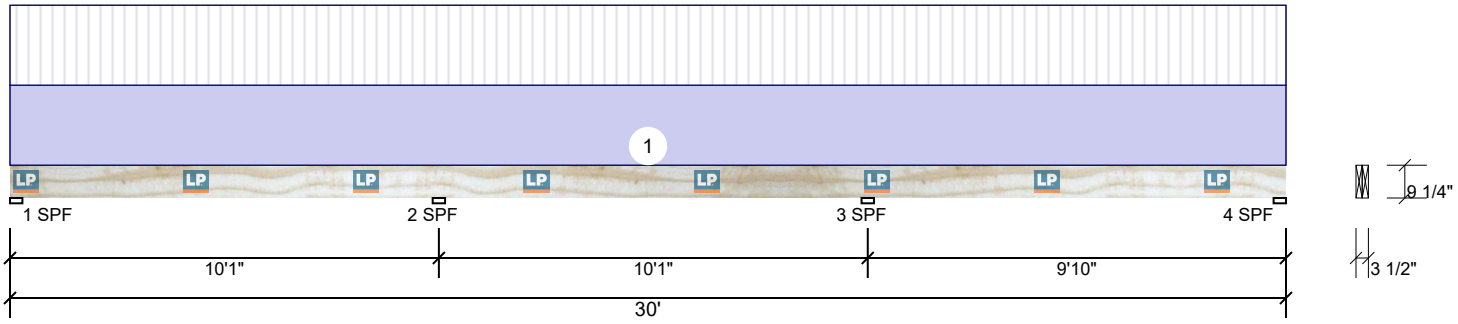
Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L238, ICC-ES: ESR-1305, LADBS: RR-25099, Florida: FL15401

BMC/Locust Lumber Company
312 E. Main Street, North Carolina
28127
704-888-4411

Client:	Brad Cummings	Date:	10/13/2020
Project:		Input by:	
Address:		Job Name:	Spring Hill Church Rd
		Project #:	

Rear Porch Header LP-LVL 2900Fb-2.0E 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	498	537	0	0	0
2	1322	1424	0	0	0
3	1295	1394	0	0	0
4	485	523	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	21%	535 / 559	1094	L_L	D+L
2 - SPF	3.500"	55%	1425 / 1431	2857	LL_	D+L
3 - SPF	3.500"	54%	1396 / 1412	2808	_LL	D+L
4 - SPF	3.500"	21%	522 / 549	1071	L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2677 ft-lb	10'1"	12416 ft-lb	0.216 (22%)	D+L	LL_
Pos Moment	2158 ft-lb	4'4 11/16"	12416 ft-lb	0.174 (17%)	D+L	L_L
Shear	1308 lb	9'3 3/4"	6151 lb	0.213 (21%)	D+L	LL_
LL Defl inch	0.047 (L/2503)	4'11 11/16"	0.246 (L/480)	0.190 (19%)	L	L_L
TL Defl inch	0.084 (L/1415)	4'10"	0.493 (L/240)	0.170 (17%)	D+L	L_L

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.036", Long Term = 0.055"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top braced at bearings.
7 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	120 PLF	0 PLF	0 PLF	0 PLF	Roof/Ceiling Load
	Self Weight				9 PLF					

Notes

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704-888-4411