

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

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

03/22/2021




**ELEVATION NOTES:**  
GRADE ELEVATIONS SHOWN DO NOT NECESSARILY REFER TO THIS OR ANY OTHER LOT. THEY ARE FOR DIAGNOSTIC PURPOSES ONLY AND MAY VARY. BUILDER IS RESPONSIBLE FOR ADAPTING THIS PLAN TO SUIT THE EXISTING TOPOGRAPHY OF THE SITE.

ROOF VENTILATION TO BE DETERMINED BY BUILDER AS PER CODE.

ALL EGRESS OR RESCUE WINDOWS FROM SLEEPING ROOMS MUST HAVE A MIN. NET CLEAR OPENING OF 4.0 SQ FT. THE MIN NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 22". THE MIN NET CLEAR OPENING WIDTH SHALL BE 20".

EACH EGRESS WINDOW FROM SLEEPING ROOMS MUST HAVE A SILL HIGHT OF NO MORE THAN 44" FROM THE FLOOR. ALL WINDOW SIZES ARE NOMINAL AND ARE TO BE VERIFIED WITH MANUFACTURER FOR AVAILABILITY AND CONFORMITY TO STATE AND LOCAL CODE REQUIREMENTS.

PORCHES, BALCONIES, OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDRAILS NOT LESS THAN 37" IN HEIGHT.

I ASSUME NO RESPONSIBILITY FOR ANY DISTANCES AFTER START OF CONSTRUCTION.  
CONTRACTOR/BUILDER SHALL CONSULT WITH HOME OWNER ON ALL INTERIOR AND EXTERIOR HOLDINGS, TRIMS, COLORS, FINISHES, CABINET LAYOUTS, AND MANUFACTURERS BEFORE CONSTRUCTION BEGINS.  
ALL BEAMS AND FRAMING MEMBERS ARE SIZED BY OTHERS.

1.1 This plan has been drawn to comply with the 2018 NC Building Code

- 1.2 Minimum Design Loads for Building and Other Structures ASCE 7-95B
- 2 Roof Dead Load 115 P&F
  - 3 Roof Live Load 20 P&F
  - 4 Typical Floor Dead Load 10 P&F
  - 5 Floor Live Loads
    - 5.1 Rooms other than sleeping rooms 40 P&F
    - 5.2 Sleeping Rooms 30 P&F
    - 5.3 Stairs 40 P&F
    - 5.4 Decks 40 P&F
    - 5.5 Exterior Balconies 60 P&F
  - 6 Wind Loads
    - 6.1 Ultimate Design Wind Speeds 15 MPH
    - 6.2 Wind Importance Factor, Iw 1.00
    - 6.3 Exposure B
    - 6.4 Walls (Component and Cladding) 25 P&F
    - 6.5 Roofs (Component and Cladding)
      - 6.5.1 Roof Slopes 2.25/12 to 1/12 34.8 P&F
      - 6.5.2 Roof Slopes 1/12 to 12/12 21 P&F

It is the sole responsibility of the Contractor and/or Builder to conform to all standards, provisions, requirements, methods of construction and use of materials provided in buildings and/or structures as required by NC Uniform Building Code, Local Agencies and in accordance with good engineering practices. Verify all dimensions prior to construction.



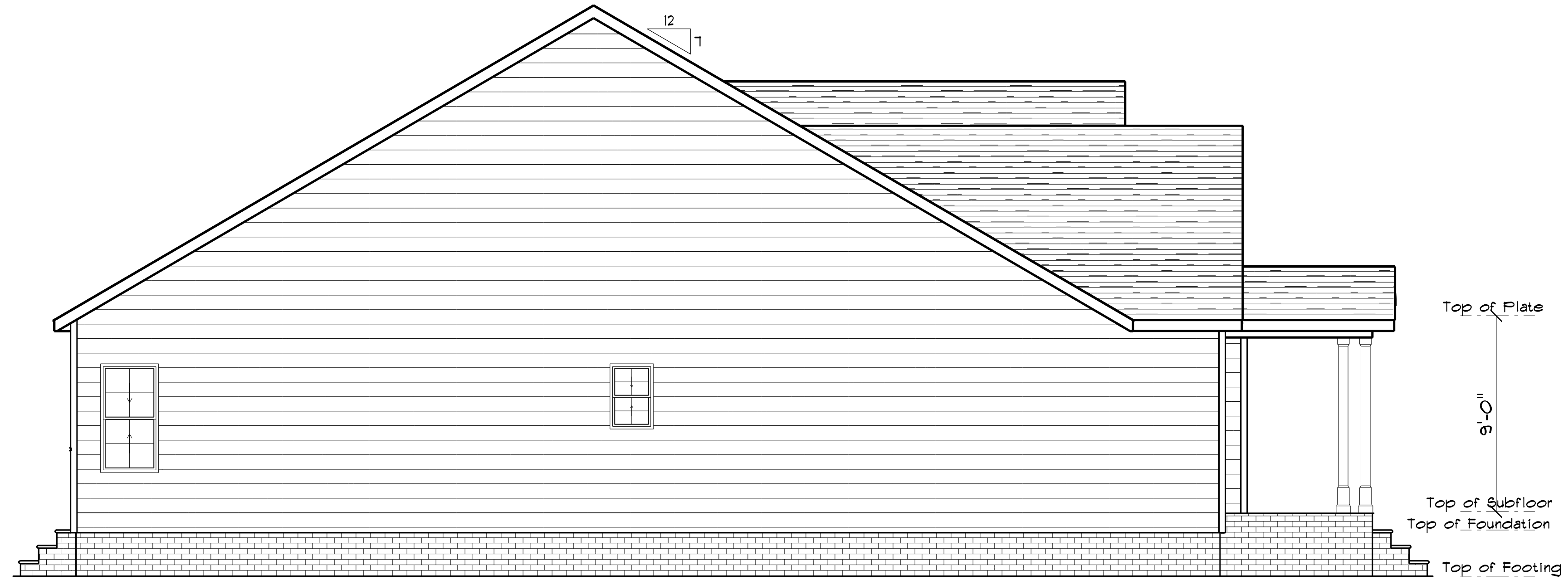
**FENESTRATION CALCULATIONS**

Floor	Height Of Ext. Wall	Area Of Ext. Wall	Ext. Wall
1st			
2nd	9'	2270	2270
other			
		2270	Total Sq. Ft. of Exterior Walls

Total Fenestration	Total Exterior Walls	Percentage of wall openings
224	2270	10%

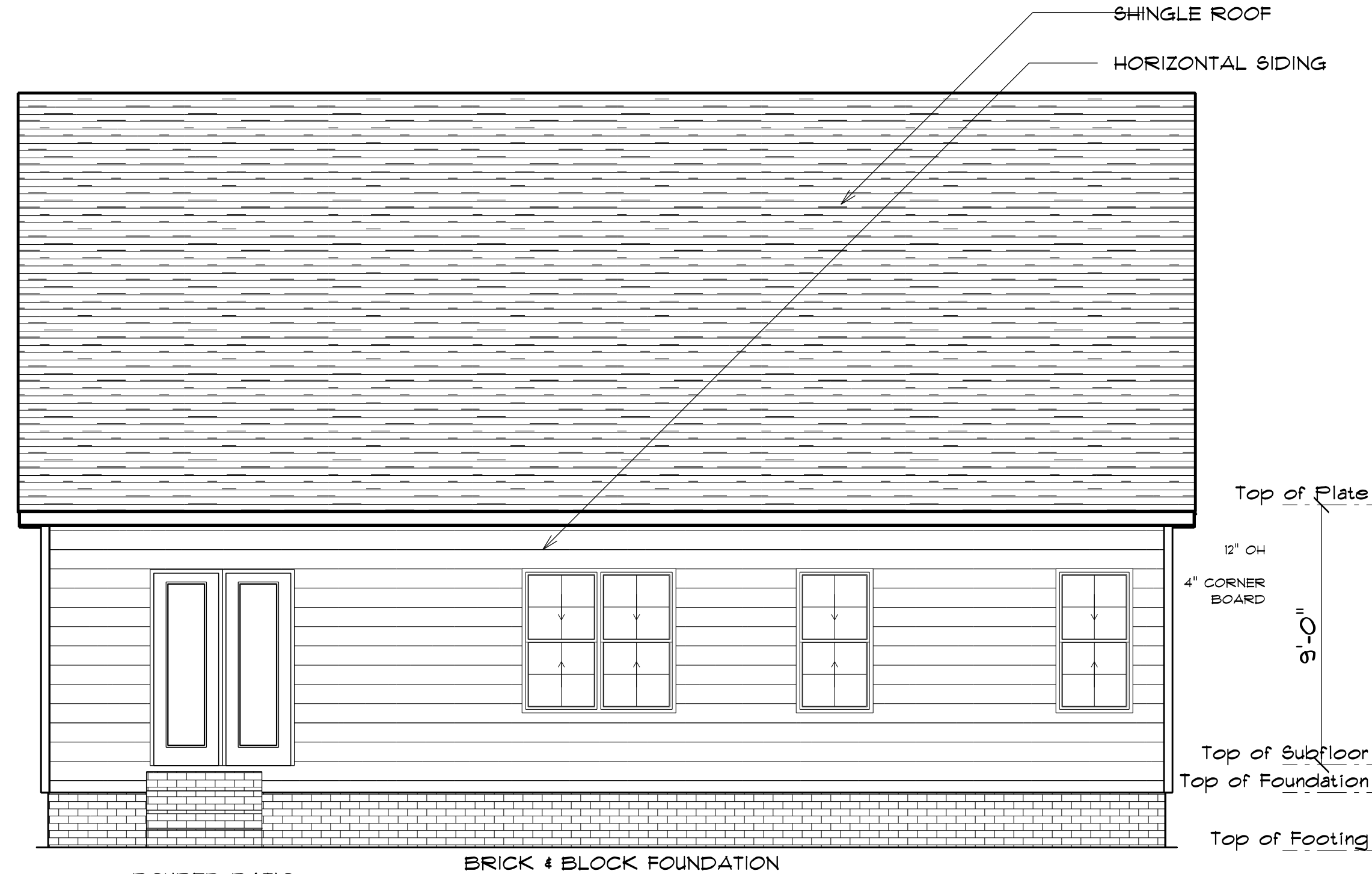
Above Grade Walls Surrounding Heated Space

NOTE:  
 REAR & SIDE WINDOWS MATCH FRONT  
 ALL WINDOWS ARE SINGLE HUNG



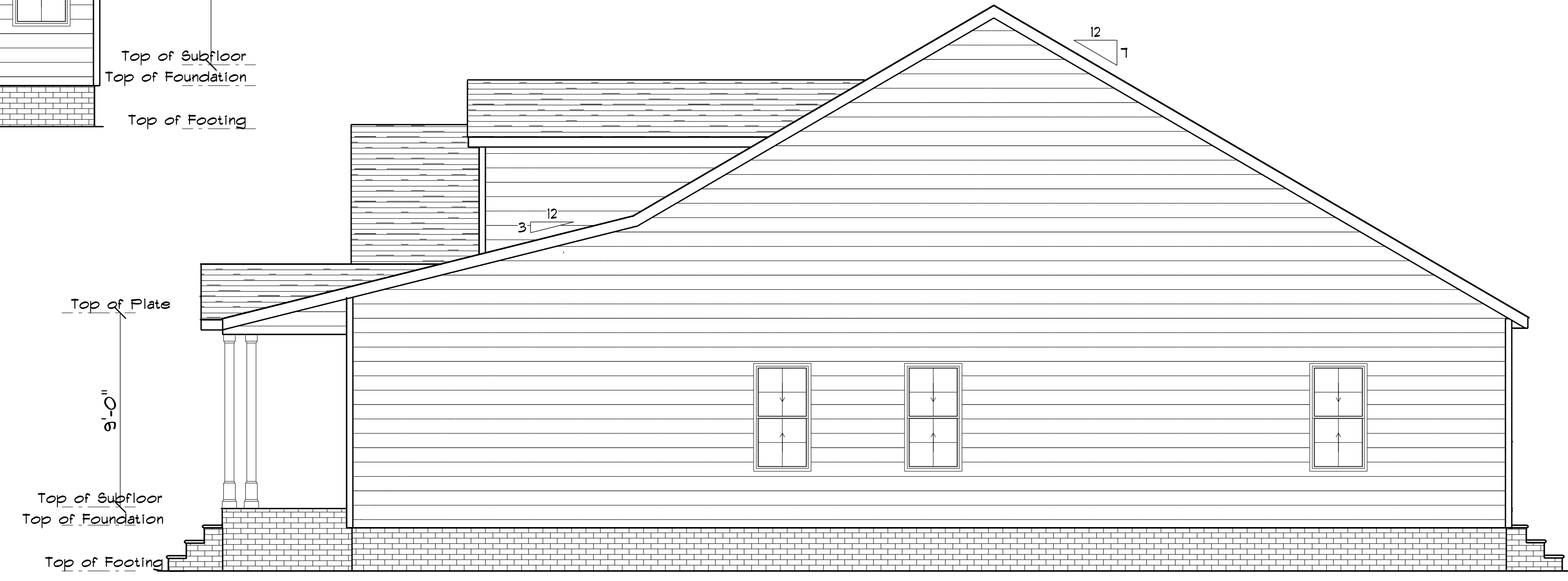
**LEFT ELEVATION**

SCALE: 1" = 1/4"



**REAR ELEVATION**

SCALE: 1" = 1/4"



**RIGHT ELEVATION**

SCALE: 1" = 1/4"



OPENING SCHEDULE			
SIZE	COUNT	LIBRARY NAME	R.O. SIZE
2'-4" x 4'-0"	2	Window/Single Hung	R.O. 28" x 48"
2'-8" x 5'-0"	6	Window/Single Hung	R.O. 32" x 60-1/2"
2'-8" x 5'-0" Dbl	2	Window/Single Hung	R.O. 64-1/2" x 60-1/2"
2'-0" x 3'-0"	1	Window/Single Hung	R.O. 24" x 36"

**GENERAL FRAMING NOTES:**

ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED

FRAMING LUMBER SHALL BE SYP #2 GRADE AND/OR SPRUCE PINE FIR #1 AND/OR #2, KILN DRIED.

WHERE PRE-ENGINEERED JOISTS ARE USED, JOIST MANUFACTURER SHALL PROVIDE SHOP DRAWINGS, WHICH BEAR SEAL OF A N.C. ENGINEER.

STUDS AND JOISTS SHALL NOT BE CUT TO INSTALL PLUMBING OR WIRING WITHOUT ADDING METAL OR WOOD SIDE PANELS TO STRENGTHEN THE MEMBER TO ITS ORIGINAL CAPACITY.

NAIL MULTIPLE MEMBERS WITH 2 ROWS OF 16d NAILS STAGGERED 32" OC AN USE 3-16d NAIL 2" IN AT EACH END. DOUBLE ALL STUDS UNDER ROOF POST DOWNS UNO.

NAIL FLOOR JOISTS TO SILL PLATE WITH 8d TOE NAILS.

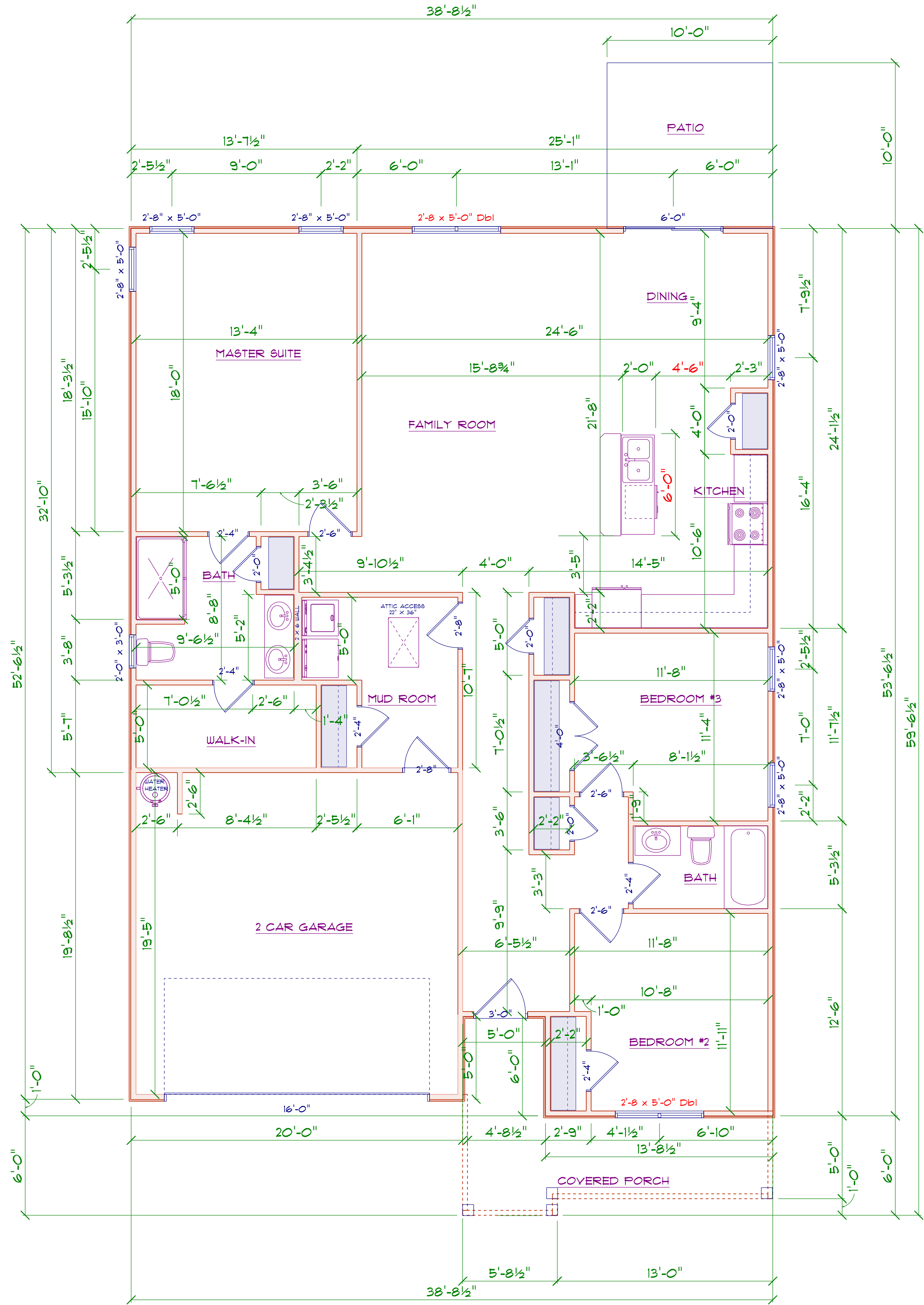
ALL EXPOSED FRAMING ON PORCHES AND DECKS SHALL BE PRESSURE TREATED.

PROVIDE WATERPROOFING AND DRAINS AS REQUIRED.

ALL FRAMING TO BE 16" OC UNO. WALL FRAMING DIMENSIONS ARE BASED ON 2 X 4 STUDS UNO. DOUBLE STUDS UNDER ALL HEADERS.

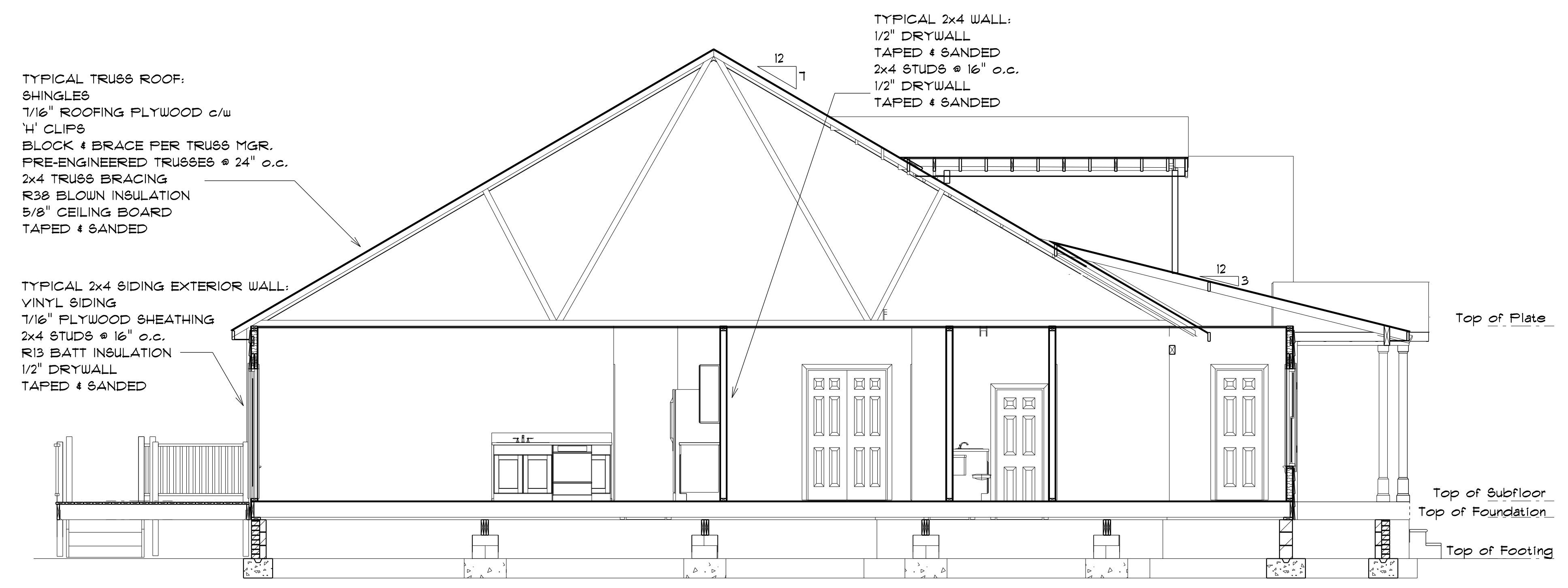
LVL'S AND TJI'S TO BE SIZED BY OTHERS

EXTERIOR WALLS IN LIVING AREAS ARE 2 X 4



**FLOOR PLAN**  
SCALE: 1" = 1/4"

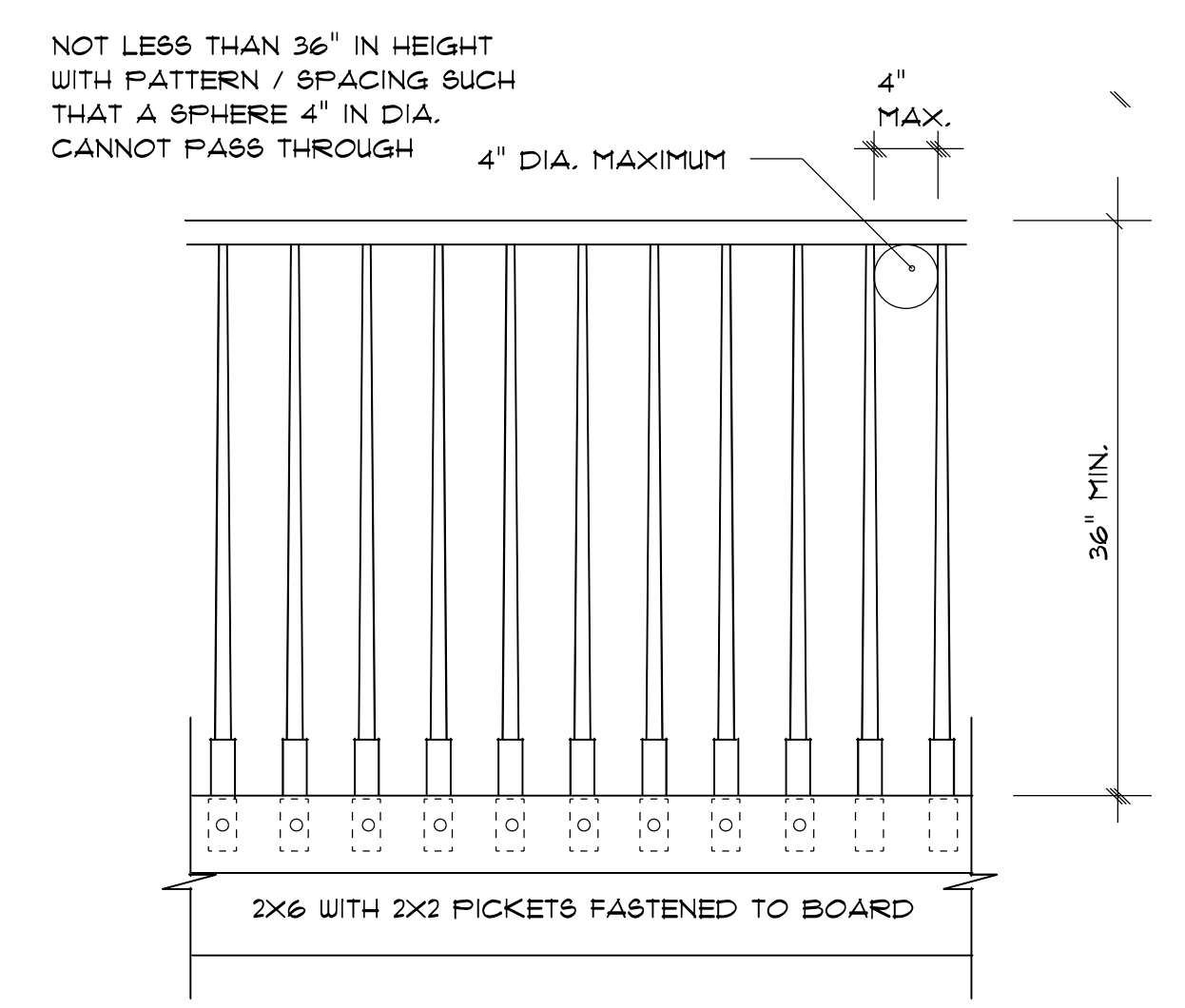
AREA SCHEDULE	
NAME	AREA
Heated Floor Area	1651.4 sq ft.
Garage	399.1 sq ft.
Covered Porch	128.3 sq ft.
Deck	101.0 sq ft.



**SECTION A**  
SCALE: 1" = 1/4"

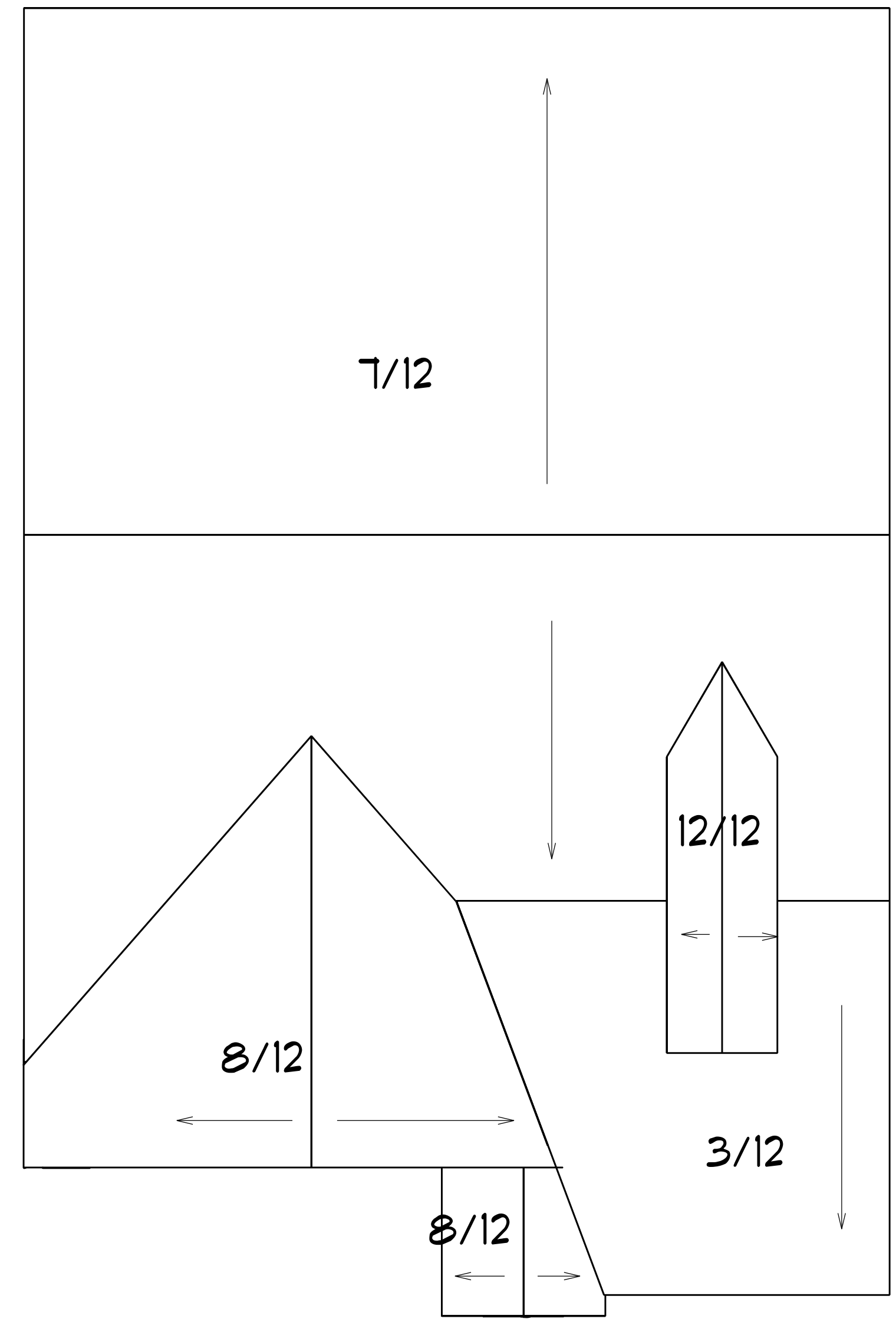


**DORMER DETAIL PLAN**  
SCALE: 1" = 1/4"

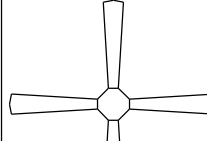












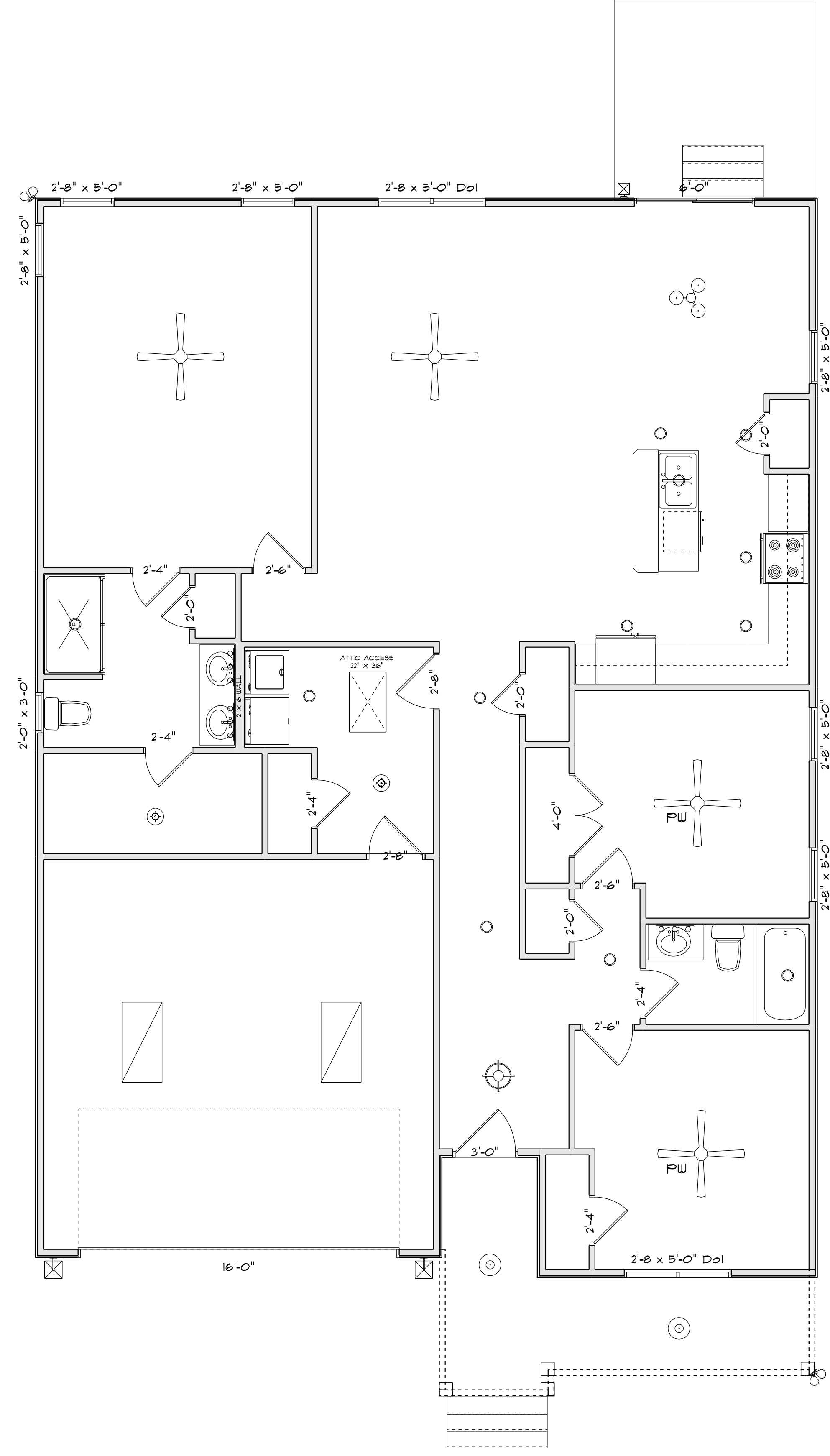
**DECK RAILING DETAIL**

HANDGRIP PORTION OF ALL HANDRAILS SHALL NOT BE LESS THAN 1-1/4" NOR MORE THAN 2" IN CROSS SECTIONAL DIMENSION, OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE



**ROOF PLAN**  
SCALE: 1" = 1/8"

ELECTRICAL LEGEND		
ELECTRICAL	COUNT	SYMBOL
ceiling fan	2	
7" led disk light	12	
outdoor ceiling light	2	
foyer light	1	
dinning room light	1	
10" led disk light	2	
fluorescent light	2	
coach light	2	
small coach light	2	
flood light	2	
vanity light	3	



**ROOF TRUSS NOTES:**

DO NOT CUT, DRILL, NOTCH, OR OTHERWISE DAMAGE TRUSSES. Contact your BFS Representative for assistance PRIOR TO modifying any truss.

Espanol - (NO CORTE, PERFORE, HAGA MUASCAS O DANE DE CUALQUIER OTRA MANERA LAS TRUSSES (CERCHAS DE MADERA). Contacte a su representante de BFS para asistencia ANTES de realizar cualquier modificación.)

- This Truss Placement Diagram is intended to serve as a guide for truss installation. This Diagram has been prepared by a Truss Technician and is not an engineered drawing.
- The responsibilities of the Owner, Building Designer, Contractor, Truss Designer, and Truss Manufacturer shall be as defined by the TPI 1 National Standard.
- The wood components shown on this diagram are to be used in dry service (moisture content < 19%) and non-toxic environmental applications. The metal plates and hangers are galvanized to the G60 Standard unless noted otherwise.
- Refer to the Truss Design Drawings for specific information about each individual truss design.
- The Truss Technician shall provide Truss-to-Truss Connection Requirements. Any special or other connection shall be the responsibility of the Building Designer.
- The Truss Placement Diagram and Truss Design Drawings are the property of Builders FirstSource and may not be reused or reproduced in part or in total under any circumstances without prior written authorization.
- In some cases, field framing may be required to achieve the final appearance shown on the Construction Documents.
- Field framing, including valley rafters, installed over roof trusses shall have a knee brace from the rafter to the truss top chord at intervals of 48" on center (O.C.) or less. Stagger knee braces from adjacent rafters such that the load is distributed uniformly over multiple truss locations and not concentrated at one location or along one truss.
- Truss Top Chords shall be fully sheathed or have lateral bracing (purlins) spaced at 24" O.C. or less. Truss Bottom Chord Bracing shall not exceed the maximum shown on the Truss Design Drawing. Field framed bottom chord floor or ceiling attachments shall be spaced at 24" O.C. or less. Proper Bracing prevents buckling of individual truss members due to design loads.
- This Placement Diagram is based upon the supporting structure being structurally adequate, dimensionally correct, square, plumb, and level to adequately support the trusses. The foundation design, structural member sizing, load transfer, bearing conditions, and the structure's compliance with the applicable building code are the responsibility of the Owner, Building Designer, and Contractor.
- If Piggyback Trusses are included in this project, refer to the Mitek Piggyback Connection Detail applicable for the project details and wind load category.
- The Contractor shall follow the SBCA TTB Partition Separation Prevention and Solutions for truss attachment to non-load bearing walls and carefully complete these details to avoid gypsum wall board related issues.

**WARNING:**

TRUSSES MUST BE BRACED DURING INSTALLATION. FAILURE TO DO SO MAY RESULT IN INJURY OR DEATH.

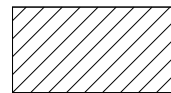
Espanol - (TRUSSES (CERCHAS) DEBERAN TENER UN SOPORTE DURANTE LA INSTALACION. NO HACERLO PODRIA RESULTAR EN LESIONES O MUERTE.)

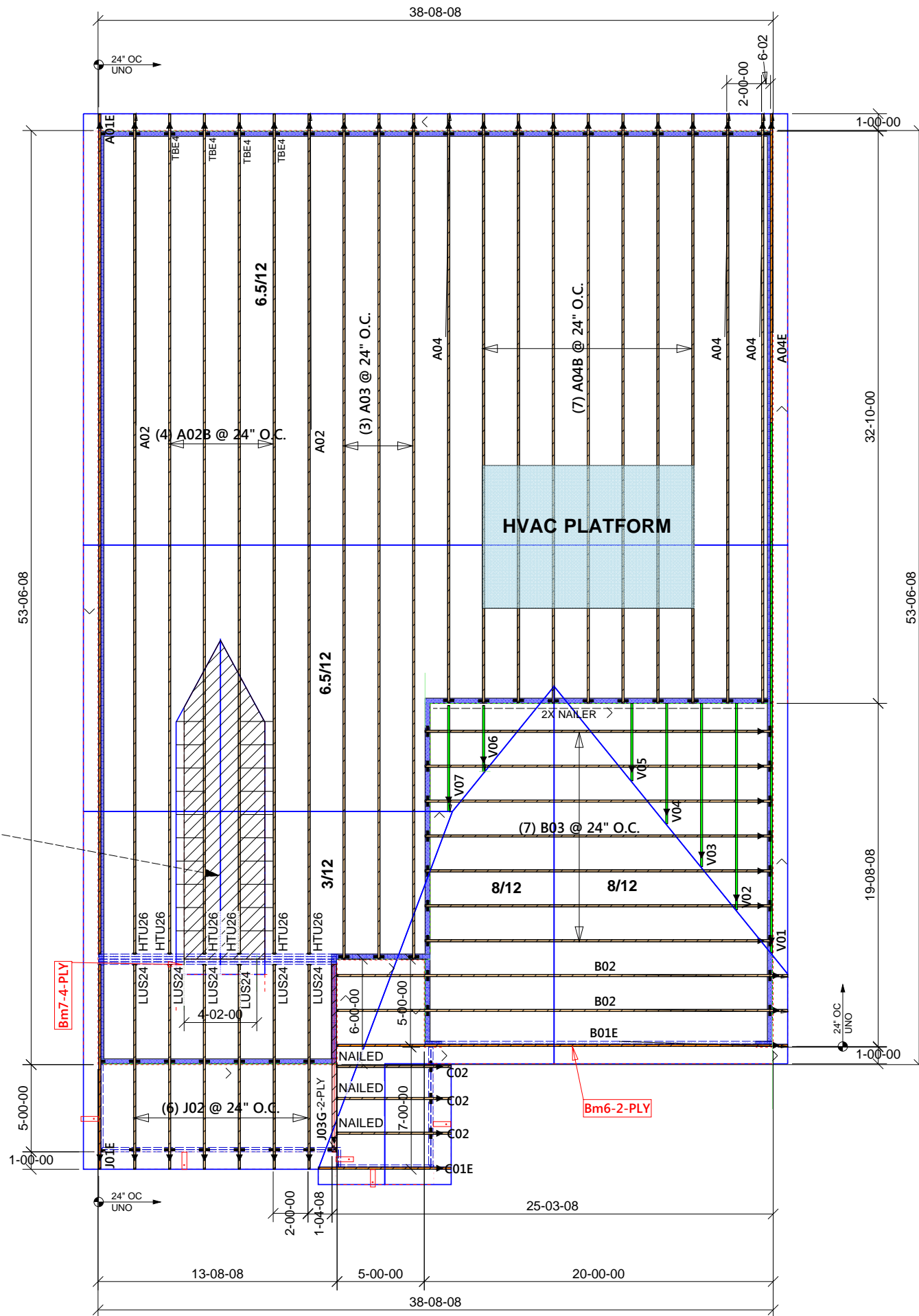
- Trusses shall be installed in a safe manner meeting all code, local, OSHA, TPI, and BCSI Specifications. Failure to follow these specifications may result in injury or death.
- Buildings under construction are vulnerable to high winds and present a possible safety hazard. The Contractor is responsible for recognizing adverse weather conditions and shall take appropriate action to prevent injury or death.
- BCSI INSTRUCTIONS SHALL BE FOLLOWED:**  
 BCSI-B1 = Safe Truss Handling and Installation  
 BCSI-B2 = Installation and Temporary Restraint  
 BCSI-B3 = Permanent Restraint  
 BCSI-B4 = Safe Construction Loading  
 BCSI-B5 = Truss Damage and Modification Guidelines  
 BCSI-B7 = Floor Truss Installation  
 BCSI-B8 = Toe-Nailed Connections  
 BCSI-B9 = Multi-Ply Girders  
 BCSI-B10 = Post Frame Truss Installation  
 BCSI-B11 = Fall Protection
- Follow TPI Requirements for Long Span Trusses (>60').

**TOTAL ROOF AREA  
2759.97 SQ FT**

PlotID	Length	Product	Plies	Net Qty
Bm6-2-PLY	20-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2
Bm7-4-PLY	14-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	4	4

Truss Connector Total List		
Manuf	Product	Qty
Simpson	HTU26	6
Simpson	LUS24	6
	NAILED	3
	One H2.5A	65
	TBE4	8

 HATCHED AREA: DORMERS PER PLANS  
 - TRUSSES D1E & D01 @ 24" O.C., FROM FRONT OF DORMER WALL - REAR.  
 - 2x BLOCKING BETWEEN TRUSSES (as indicated) TO SUPPORT DORMER WALLS



Until the building is completely erected in accordance with plans, the trusses may be unstable and present a safety hazard. Truss instability may increase with building width, height, and length. Buildings under construction are vulnerable to high winds and present a possible safety hazard. It is the responsibility of the contractor and framer to recognize adverse weather conditions and take prompt and appropriate action to protect life and prevent injury. Prior to setting trusses, refer to Building Component Safety Information (BCSI) document produced by SBCA and TPI. Follow BCSI Specifications for Erection and Bracing.

**Builders FirstSource**  
Albemarle, NC

Customer Name: LAMCO  
 Subdivision: .  
 Lot#: .  
 Plan Name: Ellington - ROOF  
 MISC NOTES: .

Revisions:

Job Number

Drawn By: AJC

DATE: 4/24/2019

Page Number  
1 of 1

No Scale

File Name 1363263

**BM7-4 (Roof Beam)**

Dry | 1 span | No cant.

July 10, 2019 07:28:30

BC CALC® Member Report

Build 7082

Job name: Ellington

File name:

Address:

Description:

City, State, Zip:

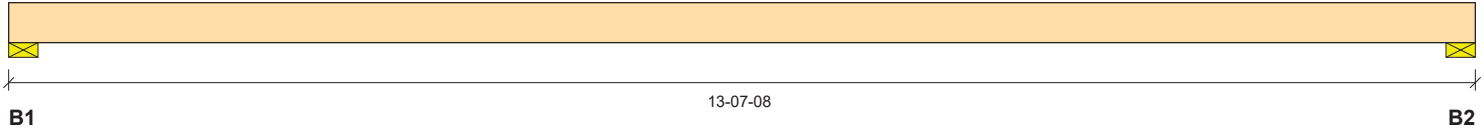
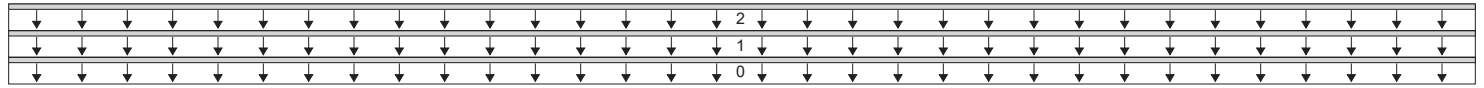
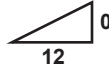
Specifier:

Builder: LAMCO

Designer:

Code reports: ESR-1040

Company: BFS



Total Horizontal Product Length = 13-07-08

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		5474 / 0			5310 / 0
B2, 3-1/2"		5474 / 0			5310 / 0

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-07-08	Top		24				00-00-00
1	A02 Trusses	Unf. Lin. (lb/ft)	L	00-00-00	13-07-08	Top		734			734	n/a
2	J02 Trusses	Unf. Lin. (lb/ft)	L	00-00-00	13-07-08	Top		46			46	n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	34305 ft-lbs	64.5 %	125%	4	06-09-12
End Shear	8756 lbs	44.4 %	125%	4	01-03-06
Total Load Deflection	L/288 (0.548")	62.4 %	n/a	4	06-09-12
Live Load Deflection	L/586 (0.27")	41.0 %	n/a	5	06-09-12
Max Defl.	0.548"	54.8 %	n/a	4	06-09-12
Span / Depth	13.3				

**Bearing Supports**

Bearing	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 7"	10785 lbs	n/a	58.7 %	Unspecified
B2	Wall/Plate 3-1/2" x 7"	10785 lbs	n/a	58.7 %	Unspecified

**Cautions**

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

**Notes**

- Design meets Code minimum (L/180) Total load deflection criteria.
- Design meets Code minimum (L/240) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Calculations assume member is fully braced.
- BC CALC® analysis is based on IBC 2009.
- Design based on Dry Service Condition.
- Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.
- Bolts are assumed to be Grade A307 or Grade 2 or higher.
- Member has no side loads.



**BM7-4 (Roof Beam)**

Dry | 1 span | No cant.

July 10, 2019 07:28:30

BC CALC® Member Report

Build 7082

Job name: Ellington

File name:

Address:

Description:

City, State, Zip:

Specifier:

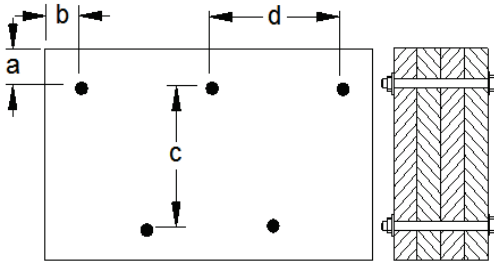
Builder: LAMCO

Designer:

Code reports: ESR-1040

Company: BFS

**Connection Diagram: Full Length of Member**



a minimum = 2"      c = 7-7/8"  
 b minimum = 2-1/2"      d = 24"

Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.  
 Bolts are assumed to be Grade A307 or Grade 2 or higher.  
 Member has no side loads.  
 Connectors are: 1/2 in. Staggered Through Bolt

**Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

**BM6-2 (Roof Beam)**

Dry | 1 span | No cant.

July 10, 2019 07:26:27

BC CALC® Member Report

Build 7082

Job name: Ellington

File name:

Address:

Description:

City, State, Zip:

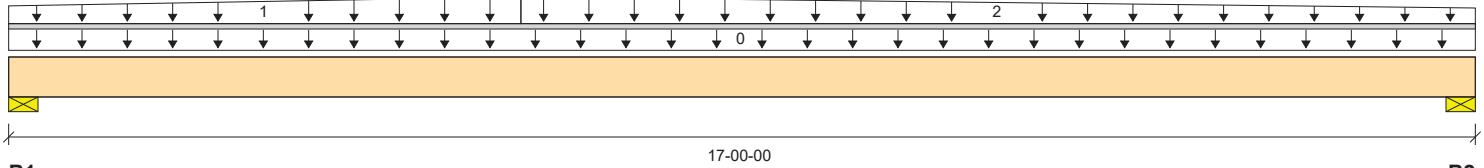
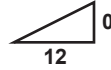
Specifier:

Builder: LAMCO

Designer:

Code reports: ESR-1040

Company: BFS



Total Horizontal Product Length = 17'-00"

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		959 / 0			
B2, 3-1/2"		893 / 0			

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	17-00-00	Top	12					00-00-00
1	Gable	Trapezoidal (lb/ft)	L	00-00-00	05-11-04	Top	80					n/a
2	Gable	Trapezoidal (lb/ft)	L	05-11-04	17-00-00	Top	120					n/a
							70					

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3954 ft-lbs	20.6 %	90%	0	08-02-05
End Shear	920 lbs	12.9 %	90%	0	01-03-06
Total Load Deflection	L/806 (0.246")	22.3 %	n/a	2	08-06-00
Live Load Deflection	L/999 (0.048")	n/a	n/a	5	08-06-00
Max Defl.	0.246"	24.6 %	n/a	2	08-06-00
Span / Depth	16.7				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	1228 lbs	n/a	13.4 %	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	1163 lbs	n/a	12.7 %	Unspecified

**Cautions**

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**Notes**

Design meets Code minimum (L/180) Total load deflection criteria.  
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 Design meets arbitrary (1") Maximum Total load deflection criteria.  
 Calculations assume member is fully braced.  
 BC CALC® analysis is based on IBC 2009.  
 Design based on Dry Service Condition.  
 Member has no side loads.

BC CALC® Member Report

Dry | 1 span | No cant.

July 10, 2019 07:26:27

Build 7082

Job name: Ellington

File name:

Address:

Description:

City, State, Zip:

Specifier:

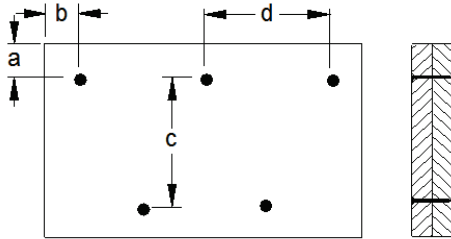
Builder: LAMCO

Designer:

Code reports: ESR-1040

Company: BFS

**Connection Diagram: Full Length of Member**



a minimum = 2"      c = 7-7/8"  
 b minimum = 3"      d = 24"

Member has no side loads.  
 Connectors are: 16d Sinker Nails

**Disclosure**

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