

# **FRONT ELEVATION**

SCALE 1/8" = 1'-0"

WITH SIDE LOAD OPTION

# **GUARD RAIL NOTES**

#### **SECTION R312**

**R312.1 Where required.** *Guards* shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or *grade* below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a *quard* 

**R312.2 Height.** Required *guards* at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.

### Exceptions:

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.

2. Where the top of the *guard* also serves as a handrail on the open sides of stairs, the top of the *guard* shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

**R312.3 Opening limitations.** Required *guards* shall not have openings from the walking surface to the required *guard* height which allow passage of a sphere 4 inches (102 mm)in diameter.

### **Exceptions:**

The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a *guard*, shall not allow passage of a sphere 6 inches (153 mm) in diameter.
 *Guards* on the open sides of stairs shall not have openings which allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

# **AIR LEAKAGE**

### Section N1102.

**N1102.4.1 Building thermal envelope.** The building thermal envelope shall be durably sealed with an air barrier system to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and

contraction. For all homes, where present, the following shall be caulked, gasketed, weather stripped or otherwise sealed with an air barrier material or solid material consistent with Appendix E-2.4 of this code:

 Blocking and sealing floor/ceiling systems and under knee walls open to unconditioned or exterior space.
 Capping and sealing shafts or chases, including flue shafts.

3. Capping and sealing soffit or dropped ceiling areas.

# PLANS DESIGNED TO THE 2018 NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE

MEAN ROOF HEIGHT: 24'-11"

HEIGHT TO RIDGE: 30'-9"

CLIMATE ZONE	ZONE 3A	ZONE 4A	ZONE 5A
FENESTRATION U-FACTOR	0.35	0.35	0.35
SKYLIGHT U-FACTOR	0.55	0.55	0.55
GLAZED FENESTRATION SHGC	0.30	0.30	0.30
CEILING R-VALUE	38 or 30ci	38 or 30ci	38 or 30ci
WALL R-VALUE	15	15	19
FLOOR R-VALUE	19	19	30
* BASEMENT WALL R-VALUE	5/13	10/15	10/15
** SLAB R-VALUE	0	10	10
* CRAWL SPACE WALL R-VALUE	5/13	10/15	10/19
•	•		

\* "10/13" MEANS R-10 SHEATHING INSULATION OR R-13 CAVITY INSULATION
\*\* INSULATION DEPTH WITH MONOLITHIC SLAB 24" OR FROM INSPECTION GAP TO BOTTOM OF
FOOTING; INSULATION DEPTH WITH STEM WALL SLAB 24" OR TO BOTTOM OF FOUNDATION WALL

,								
DESIGNED FOR WIND SPEED OF 120 MPH, 3 SECOND GUST (93 FASTEST MILE) EXPOSURE "B"								
COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS								
MEAN ROOF	UP T	O 30'	30'-1"	TO 35'	35'-1"	TO 40'	40'-1"	TO 45'
ZONE 1	14.2	-15.0	14.9	-15.8	15.5	-16.4	15.9	-16.8
ZONE 2	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2
ZONE 3	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2
ZONE 4	15.5	-16.0	16.3	-16.8	16.9	-17.4	17.4	-17.9
ZONE 5	15.5	-20.0	16.3	-21.0	16.9	-21.8	17.4	-22.4

DESIGNED FOR WIND SPEED OF 130 MPH, 3 SECOND GUST (101 FASTEST MILE) EXPOSURE "B"								
COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS								
MEAN ROOF	UP T	O 30'	30'-1"	TO 35'	35'-1"	TO 40'	40'-1"	TO 45'
ZONE 1	16.7	-18.0	17.5	-18.9	18.2	-19.6	18.7	-20.2
ZONE 2	16.7	-21.0	17.5	-22.1	18.2	-22.9	18.7	-23.5
ZONE 3	16.7	-21.0	17.5	-22.1	18.2	-22.9	18.7	-23.5
ZONE 4	18.2	-19.0	19.1	-20.0	19.8	-20.7	20.4	-21.3
ZONE 5	18.2	-24.0	19.1	-25.2	19.8	-26.2	20.4	-26.9

# **ROOF VENTILATION**

### **SECTION R806**

**R806.1 Ventilation required.** Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7.

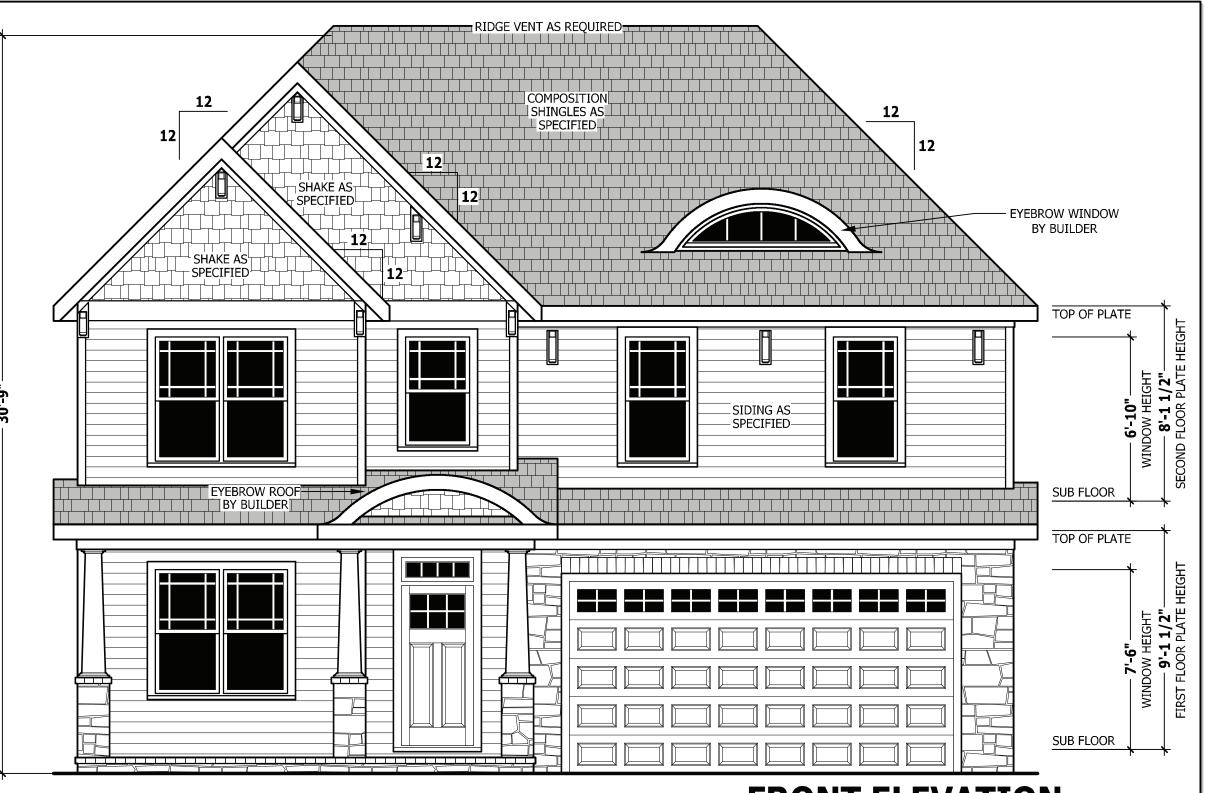
**R806.2 Minimum** area. The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling. **Exceptions:** 

Enclosed attic/rafter spaces requiring less than 1 square foot (0.0929 m2) of ventilation may be vented with continuous soffit ventilation only.

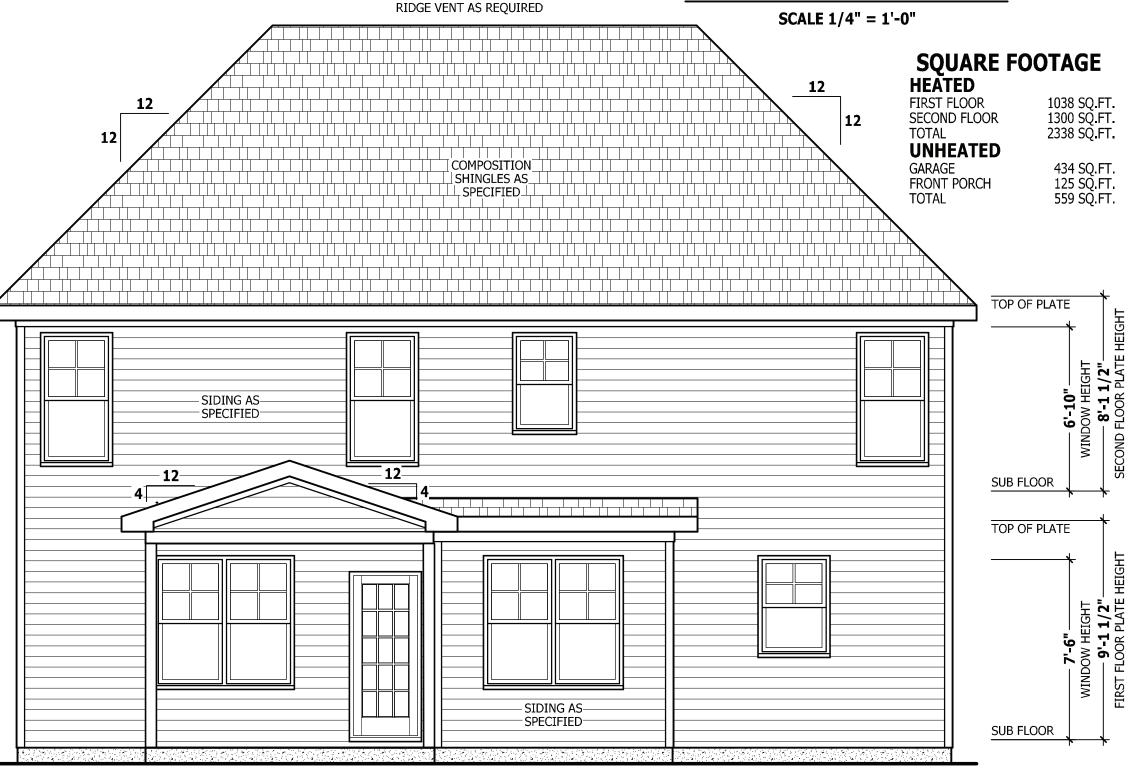
2. Enclosed attic/rafter spaces over unconditioned space may be vented with continuous soffit vent only.

SQUARE FOOTAGE OF ROOF TO BE VENTED = 1,597 SQ.FT. NET FREE CROSS VENTILATION NEEDED:

WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 10.64 SQ.FT. WITH 50% TO 80% OF VENTING 3'-0" ABOVE EAVE; OR WITH CLASS I OR II VAPOR RETARDER ON WARM-IN-WINTER SIDE OF CEILING = 5.32 SQ.FT.







# **REAR ELEVATION**

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

PURCHASER MUST VERIFY ALL
DIMENSIONS AND CONDITIONS
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CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION.

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R ELEVATION

FRONT AND REAR ELE CL-2338

Caving and Development Compa



GARAGE 434 SQ.FT FRONT PORCH 125 SQ.FT TOTAL 559 SQ.FT

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FIRST FLOOR SECOND FLOOR

UNHEATED

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SOURCE OF THE DES

-2338

CL-2338

Cavine and Development Company



 SQUARE FOOTAGE

 HEATED

 FIRST FLOOR
 1038 SQ.FT.

 SECOND FLOOR
 1300 SQ.FT.

 TOTAL
 2338 SQ.FT.

 UNHEATED
 GARAGE
 434 SQ.FT.

 FRONT PORCH
 125 SQ.FT.

 TOTAL
 559 SQ.FT.

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201114B PAGE 2 OF 8 **ATTIC ACCESS** 

are not required to have access.

protrude into the net clear opening.

**WALL THICKNESSES** 

Exterior walls and walls adjacent to a garage area

are drawn as 4" or as noted 2 X 6 are drawn as 6" to include 1/2" sheathing or gypsum. Subtract 1/2" for

**Interior walls** are drawn as 3 1/2" or as noted 2 X 6

**REFER TO SECTIONS R302.5, R302.6, AND R302.7** 

exposed sides of all stairways.

fire-rated doors.

**DWELLING / GARAGE SEPARATION** 

**WALLS.** A minimum 1/2" gypsum board must be installed on all walls supporting

**STAIRS.** A minimum of 1/2" gypsum board must be installed on the underside and

**CEILINGS.** A minimum of 1/2" gypsum must be installed on the garage ceiling if there

are no habitable room above the garage. If there are habitable room above the garage a minimum of 5/8" type X gypsum board must be installed on the garage ceiling. **OPENING PENETRATIONS.** Openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid

or honeycomb core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute

ceilings separating the dwelling from the garage shall be constructed of a minimum No.

26 gage (0.48 mm) sheet steel or other *approved* material and shall have no openings

**DUCT PENETRATIONS.** Ducts in the garage and ducts penetrating the walls or

**OTHER PENETRATIONS.** Penetrations through the separation required in Section

R302.6 shall be protected as required by Section R302.11, Item 4.

floor/ceiling assemblies used for separation required by this section.

are drawn as 5 1/2", and do not include gypsum.

in attics.

**R807.1 Attic access.** An attic access opening shall be provided to attic areas that exceed 400 square feet (37.16 m2) and have

a vertical height of 60 inches (1524 mm) or greater. The net clear opening shall not be less than 20 inches by 30 inches (508 mm by 762 mm) and shall be located in a hallway or other

unobstructed headroom in the attic space shall be provided at

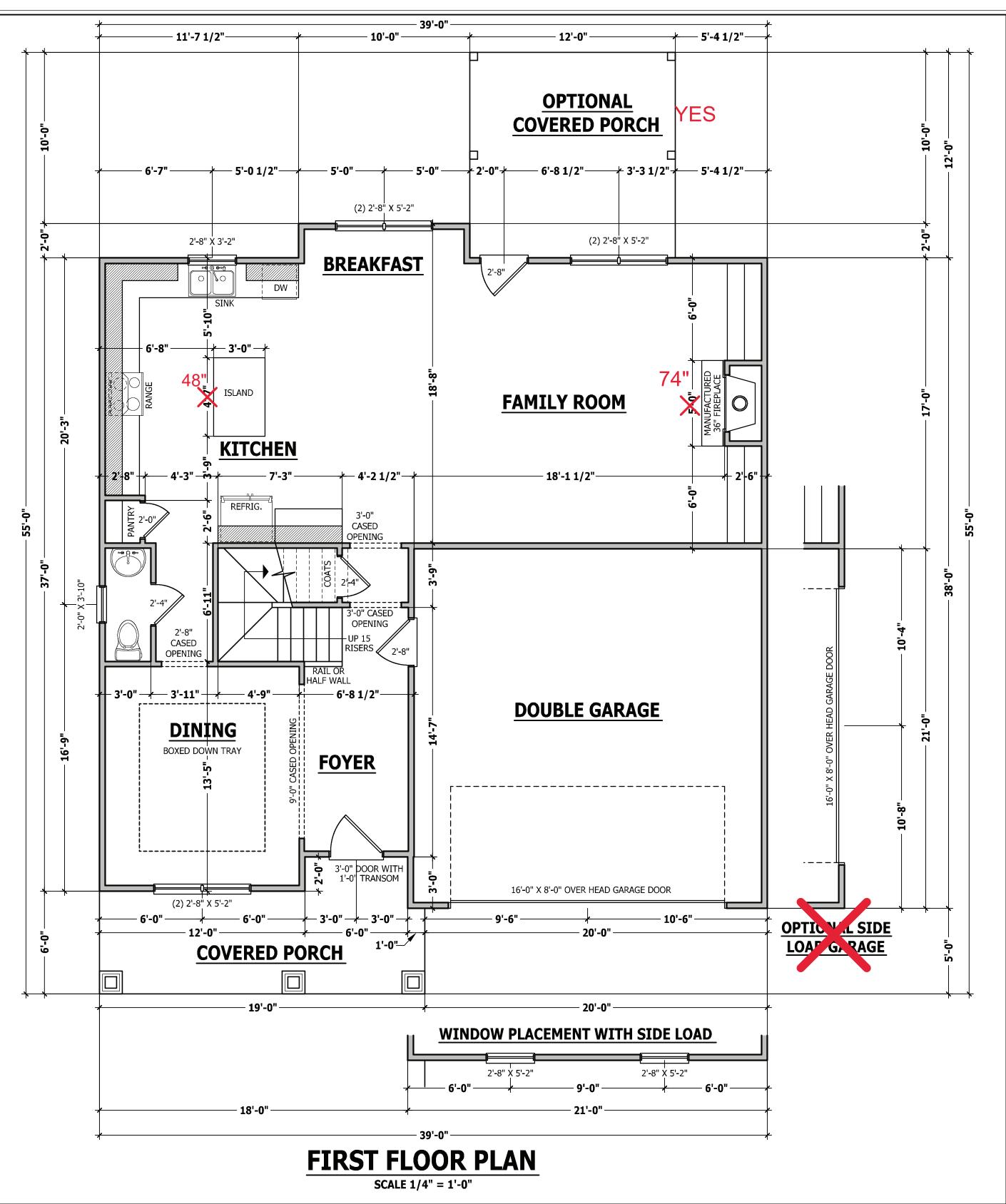
some point above the access opening. See Section M1305.1.3

for access requirements where mechanical equipment is located

1. Concealed areas not located over the main structure including porches, areas behind knee walls, dormers, bay windows, etc.

2. Pull down stair treads, stringers, handrails, and hardware may

readily accessible location. A 30-inch (762 mm) minimum



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> **PLAN** FLOOR

M 3 2 **FIRST** 

SQUARE FOOTAGE
HEATED
FIRST FLOOR 1038 SQ.FT
SECOND FLOOR 1300 SQ.FT TOTAL Unheated

Garage Front Porch

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# **STRUCTURAL NOTES**

All construction shall conform to the latest requirements of the 2018 North Carolina Residential Building Code, plus all local codes and regulations. This document in no way shall be construed to supersede the code.

JOB SITE PRACTICES AND SAFETY: Haynes Home Plans, Inc. assumes no liability for contractors practices and procedures or safety program. Haynes Home Plans, Inc. takes no responsibility for the contractor's failure to carry out the construction work in accordance with the contract documents. All members shall be framed, anchored, and braced in accordance with good construction practice and the building code.

DESIGN LOADS	LIVE LOAD	DEAD LOAD	DEFLECTION
USE	(PSF)	(PSF)	(LL)
Attics without storage	10		L/240
Attics with limited storage	20	10	L/360
Attics with fixed stairs	40	10	L/360
Balconies and decks	40	10	L/360
Fire escapes	40	10	L/360
Guardrails and handrails	200		
Guardrail in-fill components	50		
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40		L/360
Snow	20		

FRAMING LUMBER: All non treated framing lumber shall be SPF #2 (Fb = 875 PSI) or SYP #2 (Fb = 750 PSI) and all treated lumber shall be SYP #2 (Fb = 750 PSI) unless noted other wise.

#### **ENGINEERED WOOD BEAMS:**

Laminated veneer lumber (LVL) = Fb=2600 PSI, Fv=285 PSI, E=1.9x106 PSI Parallel strand lumber (PSL) = Fb=2900 PSI, Fv=290 PSI, E=2.0x106 PSI Laminated strand lumber (LSL) Fb=2250 PSI, Fv=400 PSI, E=1.55x106 PSI Install all connections per manufacturers instructions.

TRUSS AND I-JOIST MEMBERS: All roof truss and I-joist layouts shall be prepared in accordance with this document. Trusses and I-joists shall be installed according to the manufacture's specifications. Any change in truss or I-joist layout shall be coordinated with Haynes Homes Plans, Inc. LINTELS: Brick lintels shall be 3 1/2" x 3 1/2" x 1/4" steel angle for up to 6'-0" span. 6" x 4" x 5/16" steel angle with 6" leg vertical for spans up to 9'-0" unless noted otherwise. 3 1/2" x 3 1/2" x 1/4" steel angle with 1/2" bolts at 2'-0" on center for spans up to 18'-0" unless noted otherwise. **FLOOR SHEATHING:** OSB or CDX floor sheathing minimum 1/2" thick for 16" on center joist spacing, minimum 5/8" thick for 19.2" on center joist spacing, and minimum 3/4" thick for 24" on center joist spacing. **ROOF SHEATHING:** OSB or CDX roof sheathing minimum 3/8" thick for 16" on center rafters and 7/16" for 24" on center rafters. **CONCRETE AND SOILS:** See foundation notes.

# **ROOF TRUSS REQUIREMENTS**

**TRUSS DESIGN.** Trusses to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Haynes Home Plan, Inc. attention before construction begins. KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown furred down 10" from roof decking for insulation. If for any reason the truss manufacturer fails to meet or exceed designated heel heights, finished knee wall heights, or finished ceiling heights shown on these drawings the finished square footage may vary. Any discrepancy must be brought to Haynes Home Plans, Inc. attention, so a suitable solution can be reached before construction begins. Any variation due to these conditions not being met is the reasonability of the truss manufacturer.

ANCHORAGE. All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on the truss schematics. **BEARING.** All trusses shall be designed for bearing on SPF #2 plates or ledgers unless noted otherwise.

Plate Heights & Floor Systems. See elevation page(s) for plate heights and floor system thicknesses.

### **ATTIC ACCESS**

### **SECTION R807**

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Interior walls are drawn as 3 1/2" or as noted 2 X 6 are drawn as 5 1/2", and do not include gypsum.

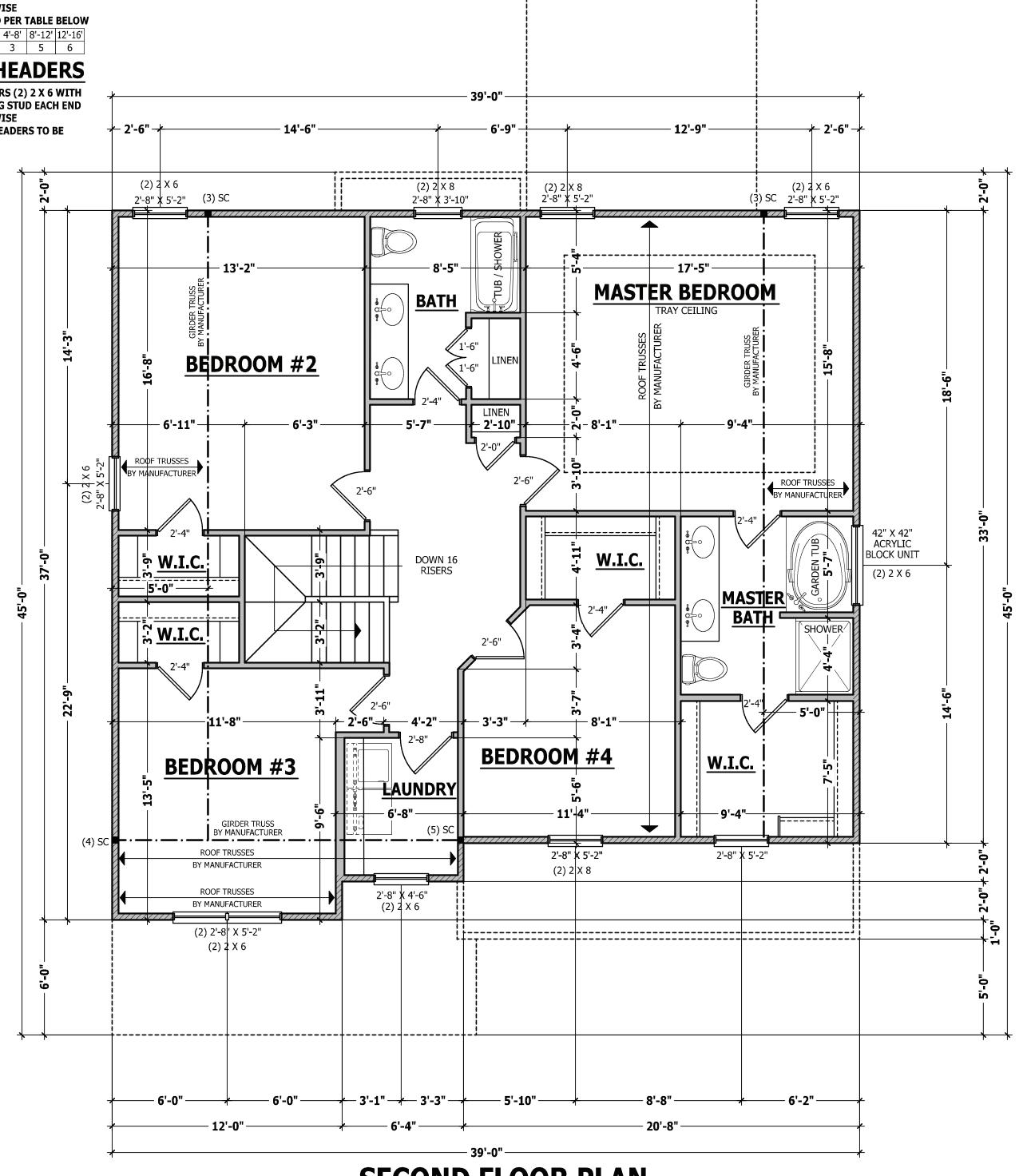
# **EXTERIOR HEADERS**

- (2) 2 X 6 WITH 1 JACK STUD EACH END **UNLESS NOTED OTHERWISE** 

- KING STUDS EACH END PER TABLE BELOW HEADER SPAN < 3' 3'-4' 4'-8' 8'-12' 12'-16' KING STUD(S) 1 2 3 5 6

### **INTERIOR HEADERS**

- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END **UNLESS NOTED OTHERWISE**
- NON LOAD BEARING HEADERS TO BE **LADDER FRAMED**



**BRACING NOT SHOWN ON UPPER STORY PER** R602.10.3.2 (5) & (6) **SECOND FLOOR PLAN** 

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> > **PLAN** FLOOR m SECOND

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SQUARE FOOTAGE HEATED UNHEATED Garage Front Porch

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