Plans Designed to the 2018 NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE

CLIMATE ZONE	ZONE 3	ZONE 4	ZONE 5
FENESTRATION U-FACTOR	0.35	0.35	0.35
SKYLIGHT U-FACTOR	0.55	0.65	0.60
GLAZED FENESTRATION SHGC	0.30	0.30	NR
CEILING R-VALUE	30	38	38
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	0	10
* CRAWLSPACE WALL R-VALUE	5/13	10/15	10/15

* "10/15" Means R-10 Sheathing Insulation or R-15 Cavity Insulation
** Insulation Depth with Monolithic Slab 18" 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"

DESIGN PRESSURES FOR DOORS AND WINDOWS POSITIVE AND NEGATIVE IN PSF			
	MEAN ROOF HEIGHT (FT)		
VELOCITY (MPH)	15	25	35
115	15	17	19
120	20	23	25

ASSUMED MEAN ROOF HEIGHT 10'4"

AIR LEAKAGE

Section N1102.4

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,weatherstripped or otherwise sealed with an air barrier material or solid material consistent with Appendix E-2.4 of this code:

1. Blocking and sealing floor/ceiling systems and under knee walls open to unconditoned or exterior space.
2. Capping and sealing shafts or chases, including flue shafts.
3. Capping and sealing soffit or dropped ceiling areas.

STRUCTURAL NOTES

All construction shall conform t 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 supercede the code.

Job Site Practices And Safety:

Frazier Designs assumes no liability for contractors practices and procedures or safety program. Frazier Designs 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

USE	Live Load (PSF)	Dead Load (PSF)	Deflection (LL)
Attics without storage	10	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 conponents	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 otherwise.

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 = 1.55 x 106 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 Manufacturers specifications. Any Change in Truss or I-Joist Layout shall be cooridinated with Frazier Designs.

Lintels:

Brick Lintels Shall be 3 1/2" x 3 1/2" x 1/4" Steel angle for up to 6'0" Span and 6" x 4" x 5/16" Steel angle with 6" leg vertical for spans up to 9'0" unless noted otherwise.

Concrete and Soils:

See Foundation Notes.

Foundation Structural Notes

120 MPH wind zone (1 1/2 to 2 1/2 story)

Continuous Footing:

16" wide and 8" thick minimum. 20" wide minimum at brick veneer. Must extended 2" to either side of supported wall.

Girders:

(2) 2x8 girder unless noted otherwise.

Piers:

8" x 16" piers with 8" solid masonry cap on 16" x 24" x 8" concrete footing with maximum pier height of 64" with hollow masonry and 160" with solid masonry unless otherwise noted.

Point Loads:

designates significant point load and should have solid blocking to pier, girder or foundation wall.

Anchor Bolts:

1/2" diameter anchor bolts embedded minimum 7" maximum 6'0" on center, within 12" of plate ends, and minimum two anchor bolts per plate.

Concrete:

Concrete shall hae a minimum 28 day strength of 3000 psi and maximum 5" slump. Air entrained in Table 402.2. All concrete shall be in accordance with ACI standards. All samples for pumping shall be taken from the exit end of the pump.

Lug Footings:

Lug Footings shall be 2'0" wide x 1'0" depth and shall run continuously underneath any wall that is deemed to be load bearing. See Detail for specs.

Soils:

Allowable soil bearing pressure assumed to be 2000 PSF. The Contractor must contact a geotechnical engineer and a structural engineer if unsatisfactory subsurface conditions are encountered. The surface area adjacent to be foundation wall shall be provided with adequate drainage, and shall be graded so as to drain surface water away from foundation walls.

Roof Truss Requirements

TRUSS DESIGN.

Trusses, if used, to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Frazier Designs attention before contruction 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 meetor 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 Frazier Designs Attention, so that a suitable solution can be reached before construction begins. Any variation due to these conditions not being met is the responsibility 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 and Floor Systems.

See Elevation page(s) for plate heights and floor system thicknesses.

ROOF VENTILATION

Section R806

R806.1 Ventilation required.

Enclosed Attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of the roof rafters shall have a a cross ventilation for each seperate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shallhave a least dimesion of 1/16 inch (1.6mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4" inch (6.4mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of 1/16 insh(1.6mm) minimum and 1/4 inch (6.4mm) 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 thearea 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 th be ventilated at least 3 feet (914mm) 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 my 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:

1. 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 continuussoffit vent only.

Square footage of roof to be vented = 922 Sq. Ft.
Net-Free Cross Ventilation Needed:
Without 50% to 80% of Venting 3'0" above Eave= 6.15 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: 3.07 Sq.Ft.

The Information In These Construction Documents is for The Exclusive Use of the Client in Construction of the Building Described in the Contract. The Designer has Attempted to Establish an Accurate set of Construction Documents that will Satisfy Applicable Building Code Requirements and the Local Building Codes. If the Client observes or becomes aware of any fault or defect in these documents or any deviation from the Construction Documents, Prompt Written Notice shall be given by the Client to the Designer. The Client shall Hold Harmless the Designer from all Claims and Liabilities Pertaining to the Documents related to the Project and other Related Work as Represented by the Designer to the Client.

APPROVED BY	DATE

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Notes

SHEET 2