

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	0.65	0.65	0.60
GLAZED FENESTRATION SHGC	0.30	0.30	0.30
CEILING R-VALUE	30	38	38
WALL R-VALUE	13	15	19
FLOOR R-VALUE	19	19	30
*BASEMENT WALL R-VALUE	10/13	10/13	10/13
**SLAB R-VALUE	0	0	10
* CRAWLSPACE WALL R-VALUE	5/13	10/13	10/13

* "10/13" Means R-10 Sheathing Insulation or R-13 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

DESIGN PRESSURES FOR DOORS AND WINDOWS							
POSITIVE AND NEGATIVE IN PSF							
MEAN ROOF HEIGHT (FT)							
15	25	35					
15	17	19					
20	23	25					
25	29	32					
	AND NEG, MEAN I 15 15 20	AND NEGATIVE IN PS MEAN ROOF HEIG 15 25 15 17 20 23					

ASSUMED MEAN ROOF HEIGHT 15'3"

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. Anchorage in the 120 and 130 MPH Wind Zones shall be Continuous from the Roof to the footing. 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 large 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 the 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 continuoussoffit vent only.

Square footage of roof to be vented = 2257 Sq. Ft.

Net-Free Cross Ventilation Needed: Without 50% to 80% of Venting 3'0" above Eave = 15.04 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: 7.52 Sq.Ft.

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 Attics without storage Attics with Limited storage Attics with fixed stairs Balconies and Decks

Fire Escapes **Guardrails and Handrails** Guardrail in-fill conponents Passenger vehicle garages Rooms other than sleeping Sleeping rooms Stairs Snow

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 Footina:**

24" wide and 8" thick minimum. 28" wide minimum at brick veneer Must extended 2" Min. 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:

to pier, girder or foundation wall.

Anchor Bolts:

5/8" diameter anchor bolts embedded minimum 7" maximum 4'0" 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.

0ead Load (PSF) 10 10 10	Deflection (LL) L/240 L/360 L/360
10 10 10	L/240 L/360
10 10	L/360
10	
	L/360
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10	L/360
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	10 10 10

designates significant point load and should have solid blocking

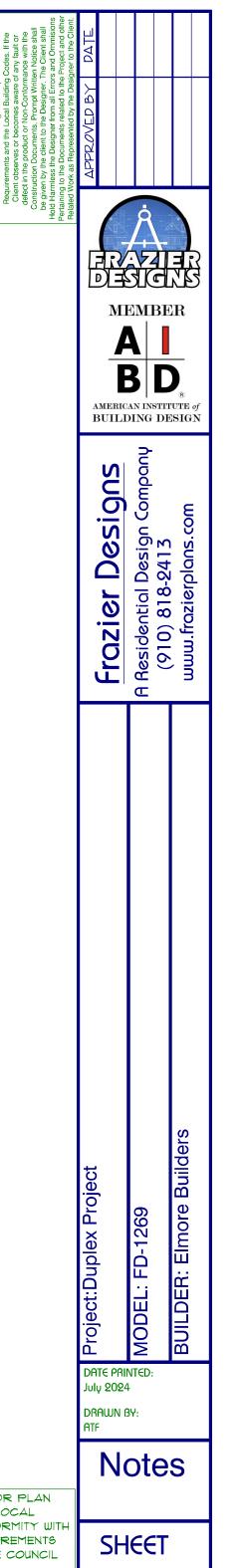
AIR LEAKAGE

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, weather stripped 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

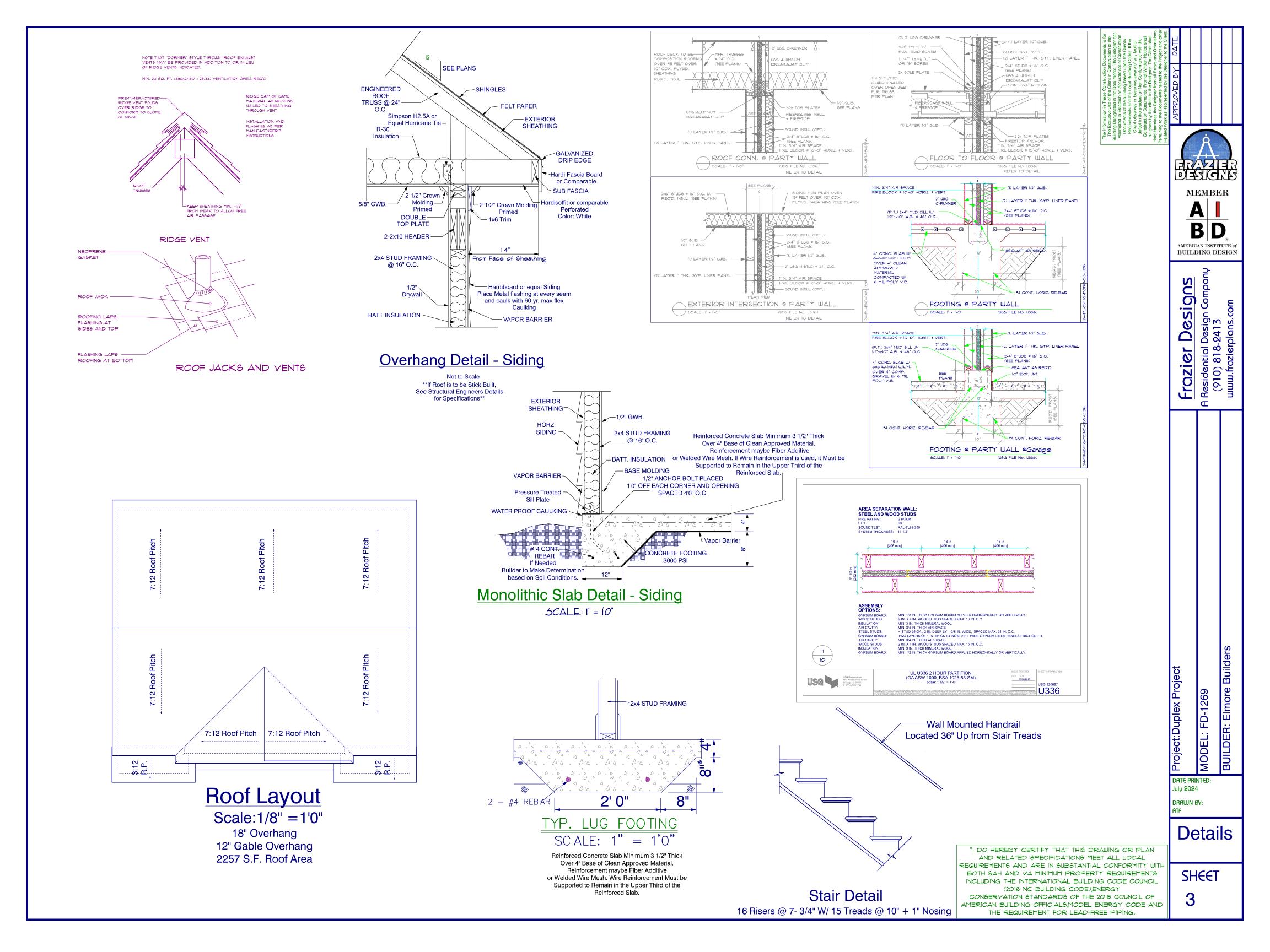
- under knee walls open to unconditoned or exterior space.
- 2. Capping and sealing shafts or chases, including flue shafts. 3. Capping and sealing soffit or dropped ceiling areas.

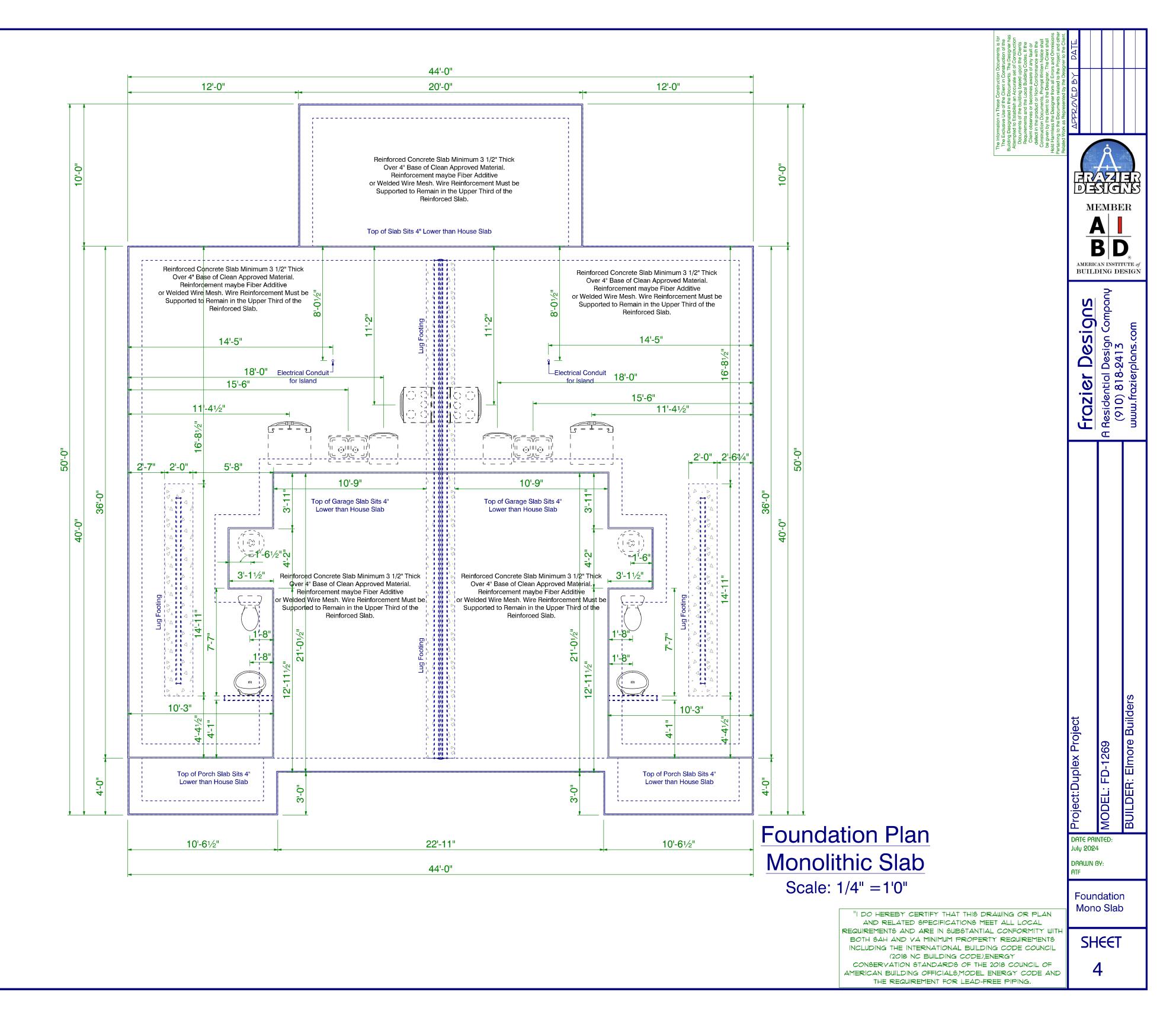


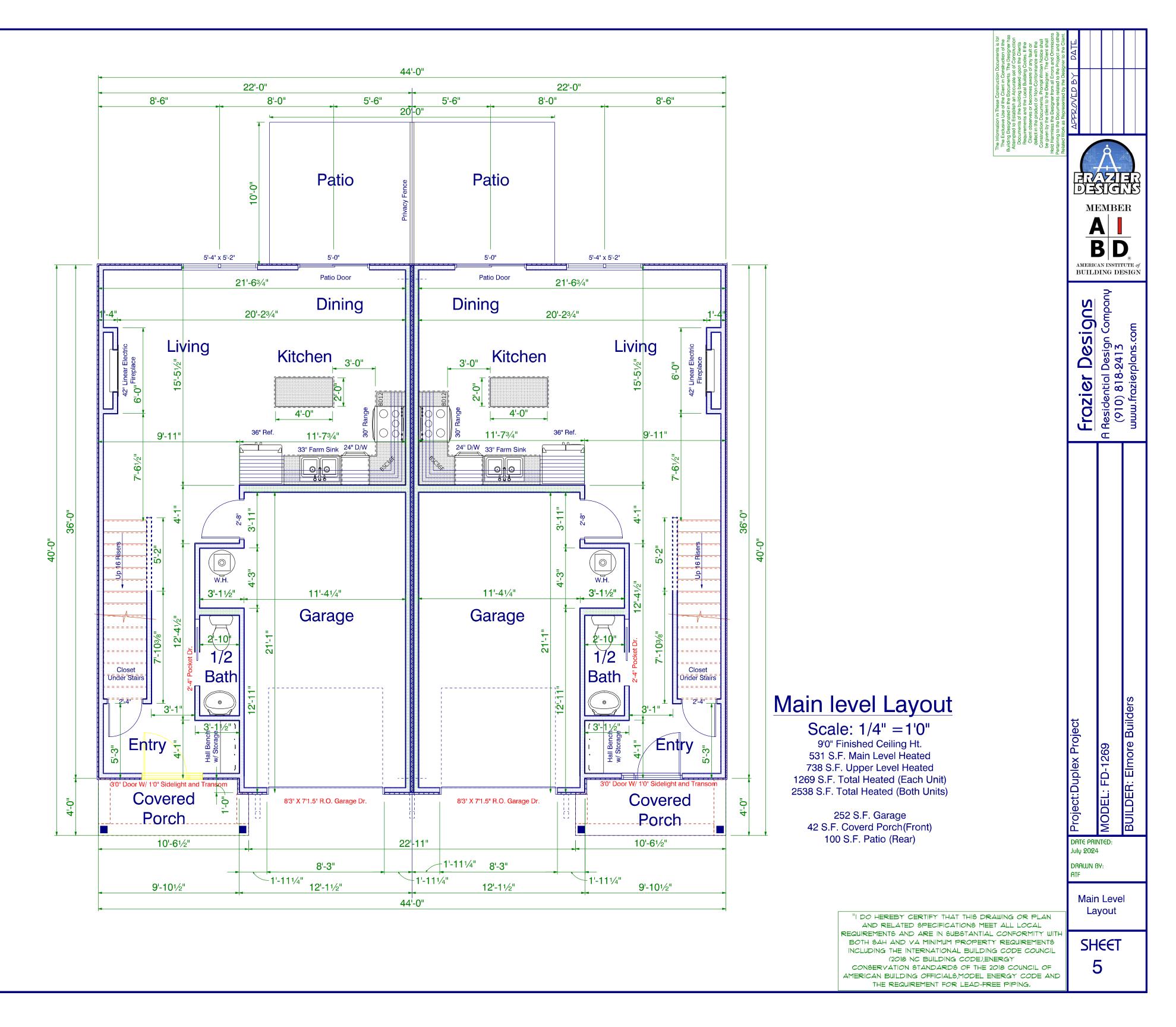
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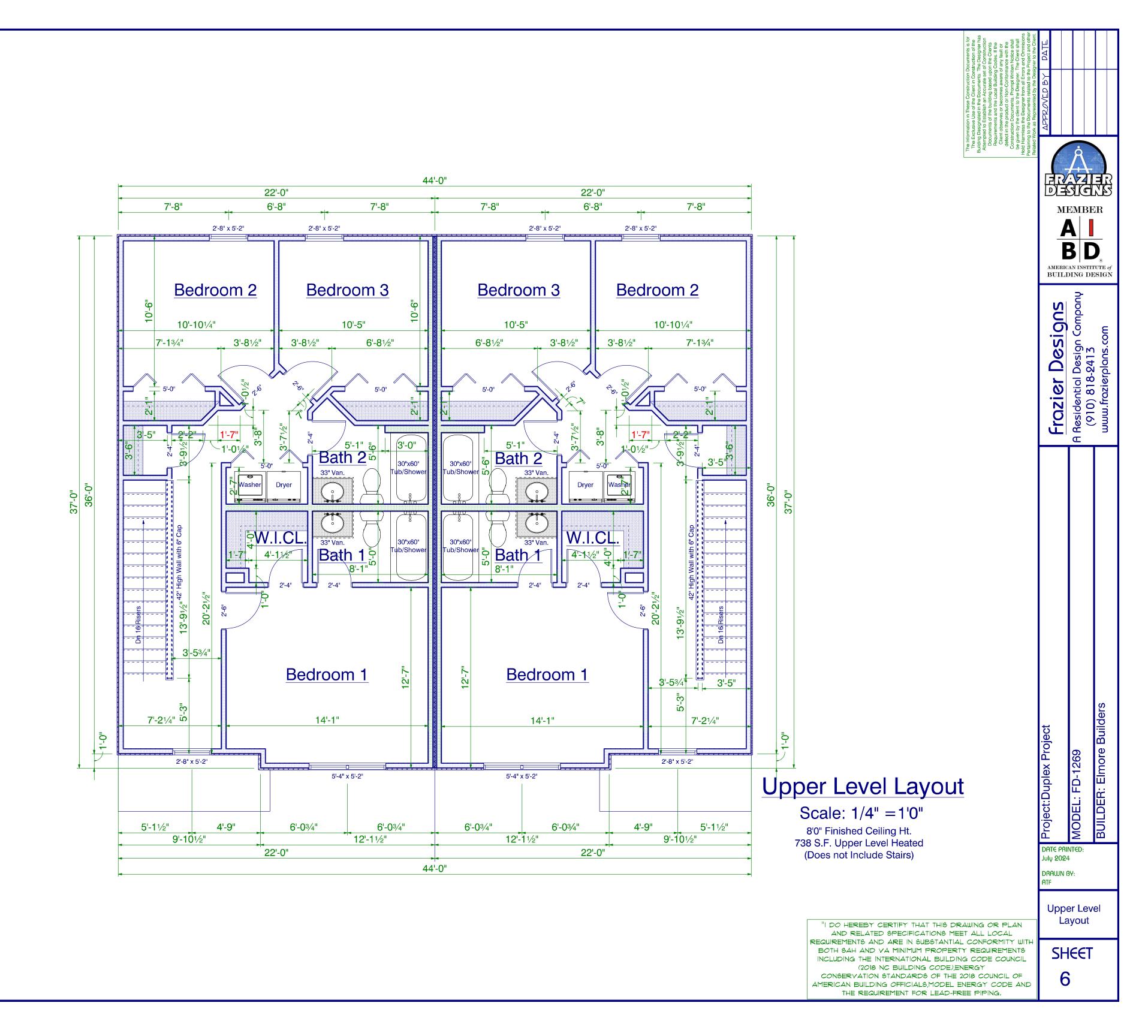
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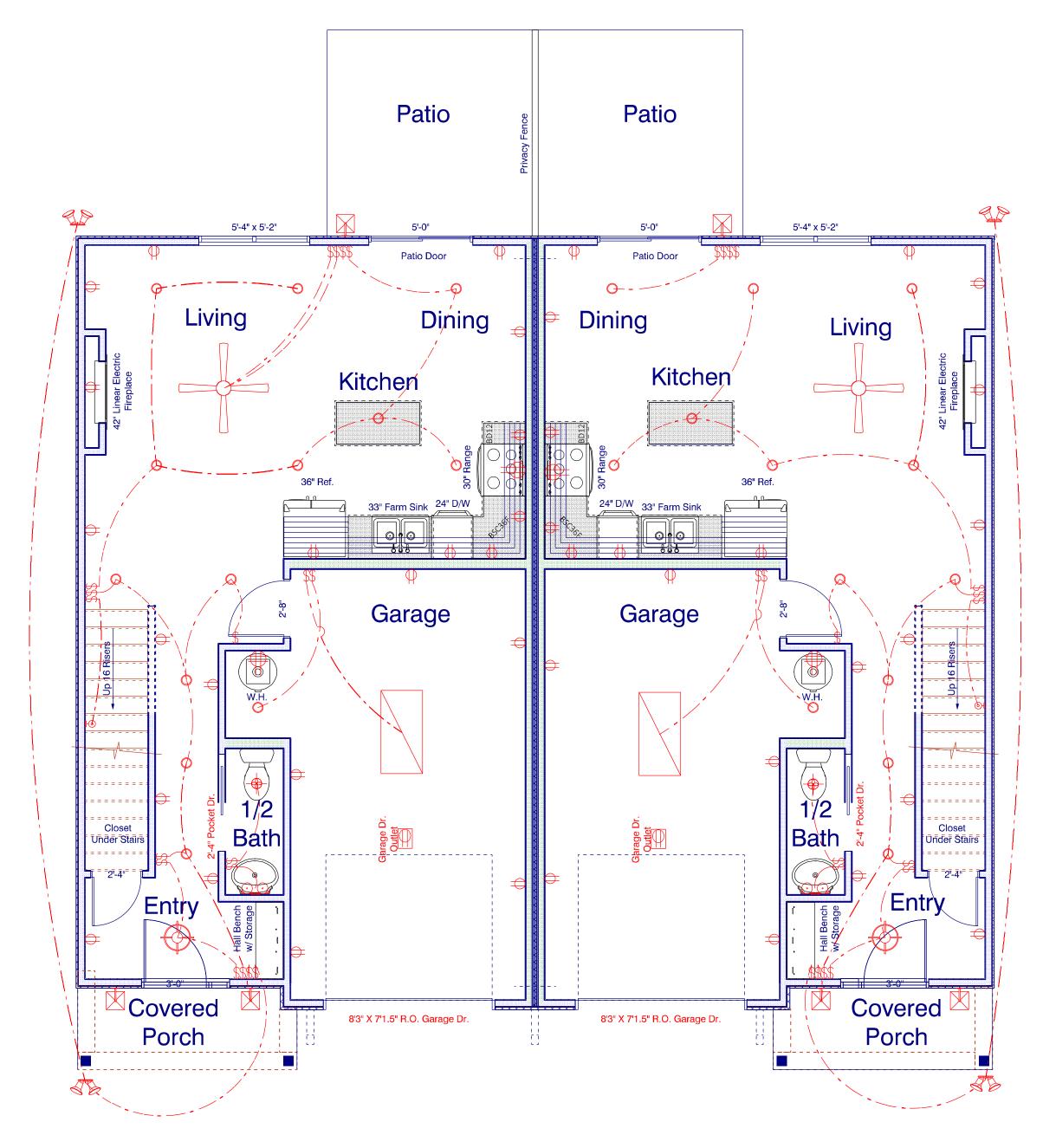
THE REQUIREMENT FOR LEAD-FREE PIPING.











Electrical Layout Drawn as Approximation See Electrician for Exact Layout and Specs.

ELECTRICAL L		
ELECTRICAL	COUNT	SYMBOL
ceiling fan globe 01	2	
can light 6inch	26	0
ceiling light 05	2	\bigcirc
fluorescent light 2 x 4	2	
exterior craftsman light fixture	6	
spotlight double with motion detector	4	
Garage Dr Outlet	2	Garage Dr. Outlet
4 prong 240V Outlet	4	\bigoplus
outlet	42	\bigcirc
switch	2	\$
switch double	6	\$\$
switch quad	4	\$\$\$\$
switch triple	2	\$\$\$
wall sconce 02	2	ହ
Exhaust Fan w light	2	-
wall mounted 02 2 lights	2	\odot

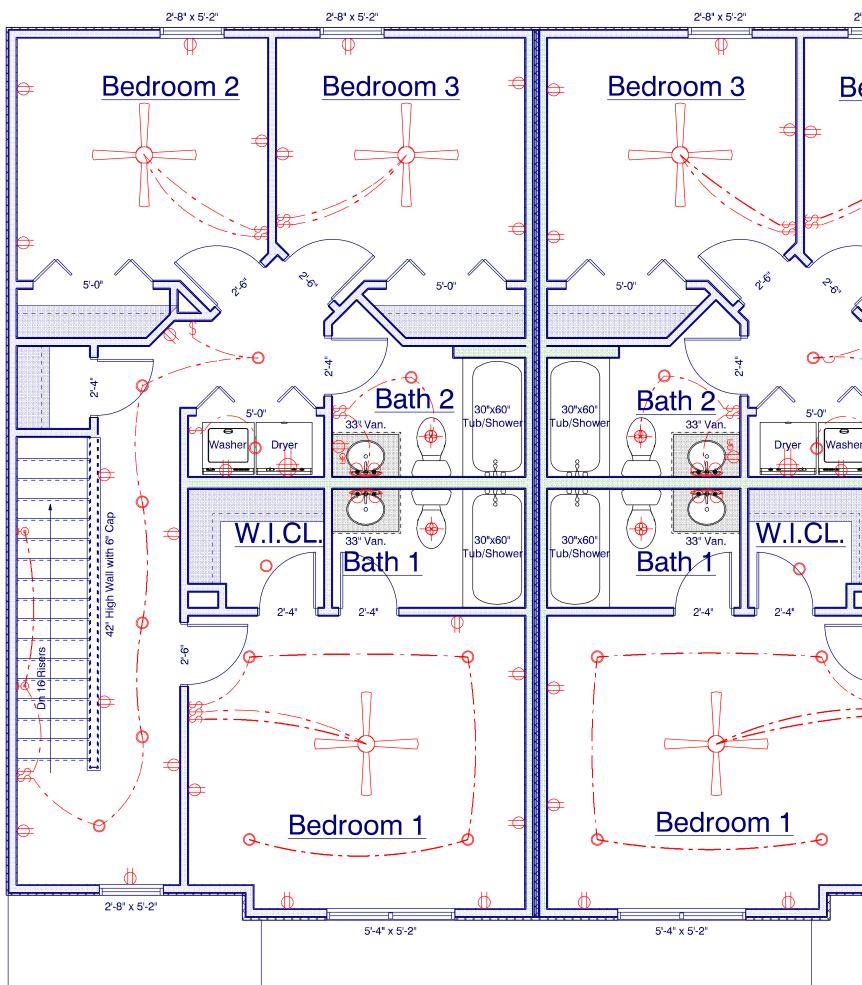
Main level Electrical

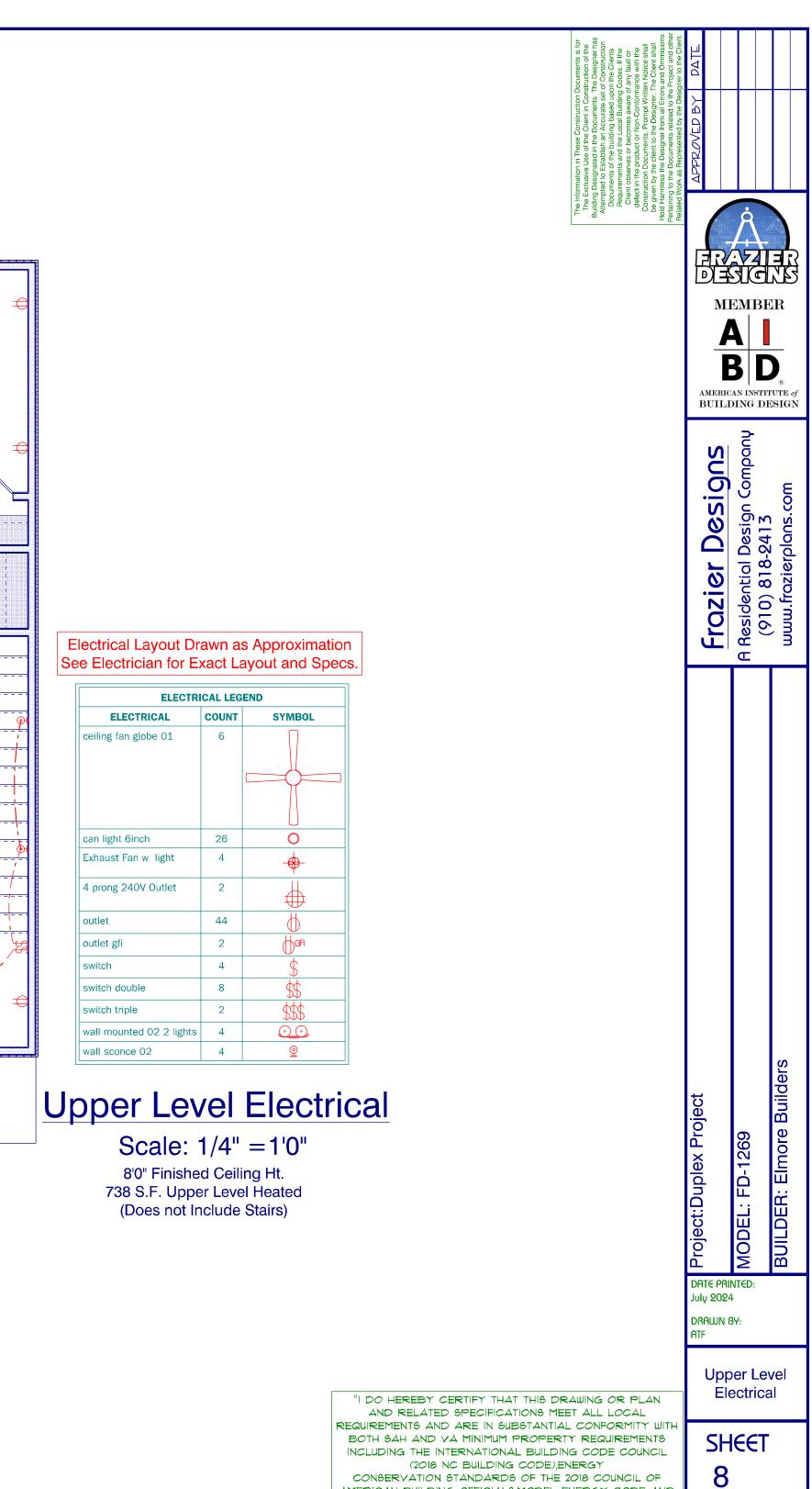
Scale: 1/4" = 1'0"

9'0" Finished Ceiling Ht. 531 S.F. Main Level Heated 738 S.F. Upper Level Heated 1269 S.F. Total Heated (Each Unit) 2538 S.F. Total Heated (Both Units)

> 252 S.F. Garage 42 S.F. Coverd Porch(Front) 100 S.F. Patio (Rear)

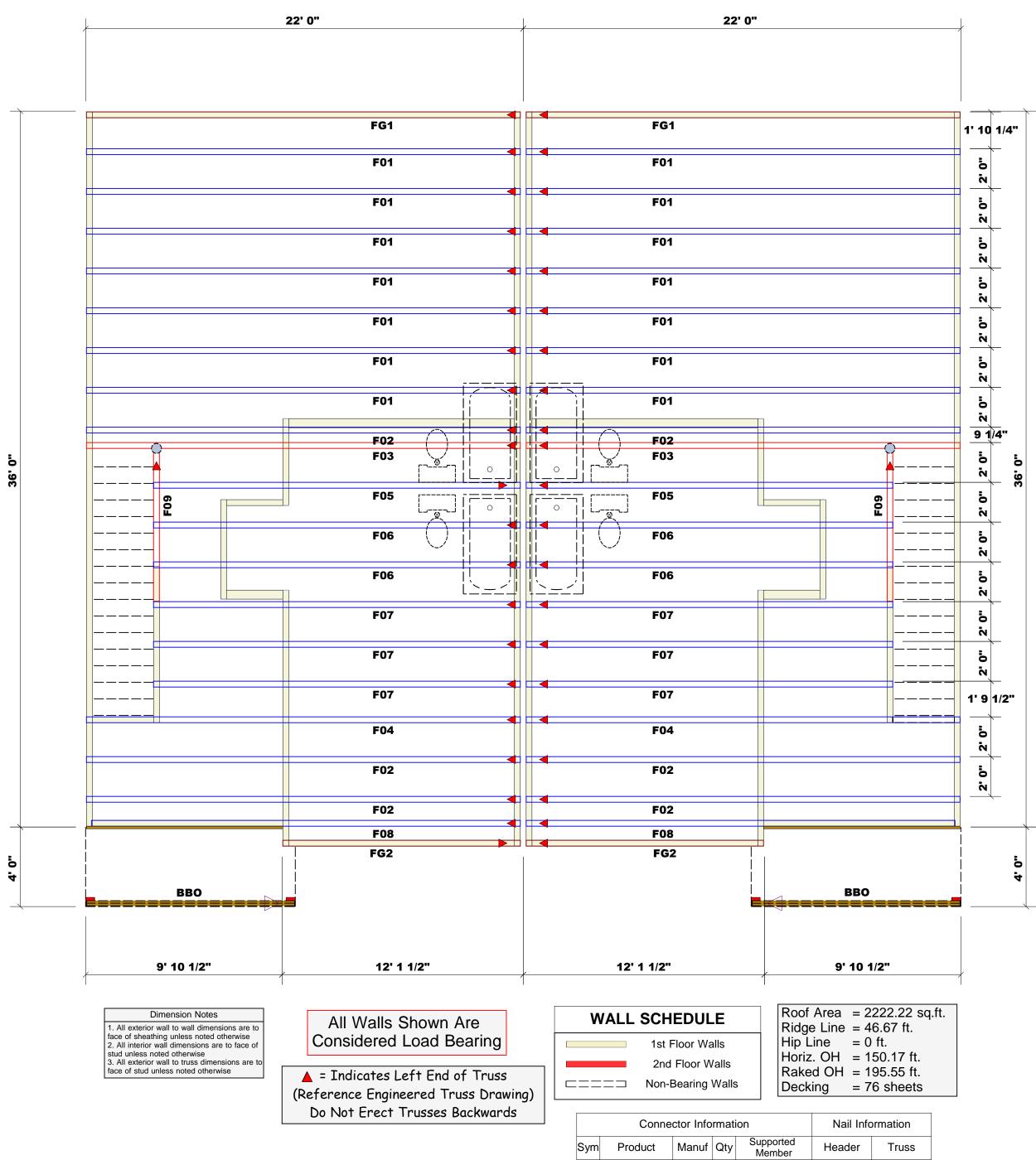
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pproximation	The In The In The Buildin Attern Cic Cic Cic Pee giv Pertainin Pertainin	AMERIC		R TUTE of
SYMBOL O		Frazier Designs	A Residential Design Company (010) 818-0413	www.frazierplans.com
Image Dr. Garage Dr. Outlet Image Dr. <		oject		: Elmore Builders
Heated Each Unit) Both Units) (Front) ar)		Project:Duplex Project	MODEL: FD-1269	BUILDER: Elmore
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AND RELATED SPECIFICATIONS ME REQUIREMENTS AND ARE IN SUBSTANTIA BOTH SAH AND VA MINIMUM PROPER INCLUDING THE INTERNATIONAL BUILDI (2018 NC BUILDING CODE),E CONSERVATION STANDARDS OF THE AMERICAN BUILDING OFFICIALS,MODEL THE REQUIREMENT FOR LEAD-FI	ET ALL LOCAL AL CONFORMITY WITH TY REQUIREMENTS NG CODE COUNCIL ENERGY 2018 COUNCIL OF ENERGY CODE AND	SH	IEET 7	

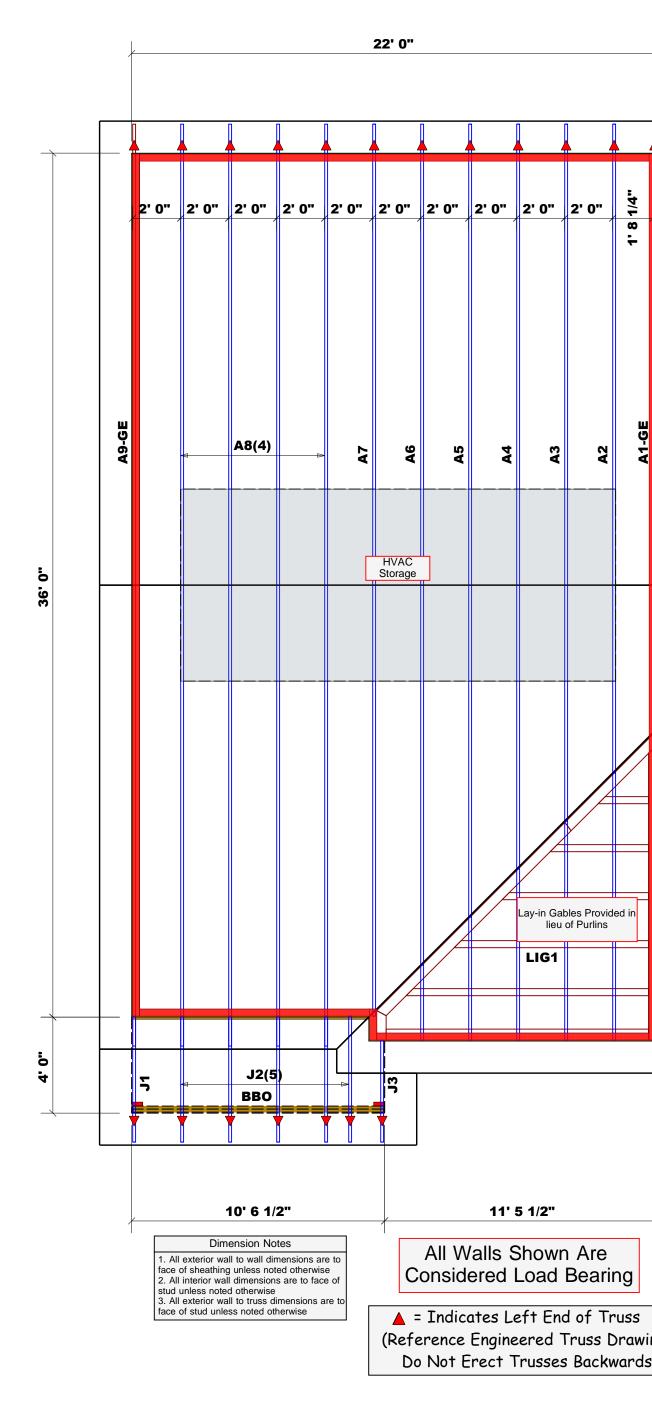




CONSERVATION STANDARDS OF THE 2018 COUNCIL OF AMERICAN BUILDING OFFICIALS, MODEL ENERGY CODE AND THE REQUIREMENT FOR LEAD-FREE PIPING.

2'-8" x 5'-2" Bedroom 2 5'-0" -------------Ø 2'-8" x 5'-2"

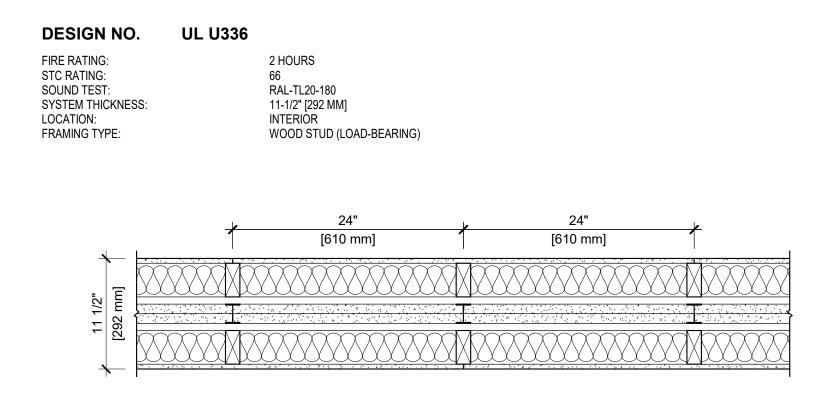




MSH422 USP 2 Varies

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1.8 1/4"	2' 0"	2' 0"	2' 0"	2' 0"	2' 0"	2' 0"	2' 0"	2' 0"	2' 0"	2' 0"	×	
	A2	A3	A4	A5	AG	A7		A8(4)		-	A9-GE	
				[HVAC Storage							36' 0"
La	y-in Gables lieu of Pu	Provided in urlins										
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		11' 5	1/2"			<u> </u>	<u>li</u> 1	<u> </u> 0' 6 1/2'	•	<u>U</u>		J
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	Sym		luct	tor Inform Manuf USP	Qty Si	upported Member Varies	н	Nail Inforn eader 0d/3"	mation Truss 10d/3"			

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online @ Bearing deemed requirem attached reactions 15000# retained reaction Tables./ retained	and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#. Signature Anthony Williams							
CITY / CO . Coats / Harnett	44 N Carrie Street / Coats, NC	Roof & Floor	2/4/25	DRAWN BY Anthony Williams	SALES REP. Anthony Williams			
СІТУ / СО.	ADDRESS	MODEL	DATE REV . 2/4/25	DRAWN BY	SALES REP.			
Elmore Builders	44 N Carrie Street	Duplex	TBD	B0125-0233 & 0234	J0125-0233 & 0234			
BUILDER	JOB NAME	PLAN	SEAL DATE	QUOTE #	JOB #			
LOA	1700 1 2550 1 3400 1 3400 2 5100 2 6800 2 5100 3 7650 3 10200 3 6800 4 10200 4 13600 4 8500 5 12750 5 17000 5 10200 6 15300 6							



ASSEMBLY REQUIREMENTS:

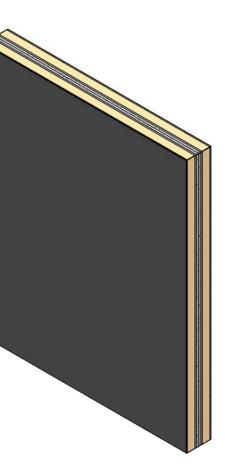
GYPSUM PANELS: WOOD STUDS: INSULATION: AIR SPACE: STEEL STUDS: GYPSUM PANELS: AIR SPACE: WOOD STUDS: INSULATION: GYPSUM PANELS: ONE LAYER 1/2" [12.7 MM] SHEETROCK® ULTRALIGHT GYPSUM PANEL 2" X 4" [38 X 89 MM] WOOD STUDS, 24" [610 MM] O.C. 3" [76 MM] FIBERGLASS INSULATION 3/4" [19 MM] AIR SPACE 2" [51 MM] H-STUDS, 24" [610 MM] O.C. TWO LAYERS 1" [25.4 MM] SHEETROCK® GYPSUM LINER PANELS (UL TYPE SLX) 3/4" [19 MM] AIR SPACE 2" X 4" [38 X 89 MM] WOOD STUDS, 24" [610 MM] O.C. 3" [76 MM] FIBERGLASS INSULATION ONE LAYER 1/2" [12.7 MM] SHEETROCK® ULTRALIGHT GYPSUM PANEL

GEN	ERAL WALL NOTES:
1.	REFER TO APPLICABLE CODES REQUIRE
2.	FOR THE MOST UP-TO-DATE DETAILS, IN
3.	WHERE DESIGN NO. INDICATES "PER", TH
	SIMILARLY CONSTRUCTED ASSEMBLIES.
4.	STUD SIZES AND INSULATION THICKNESS
5.	STUD AND FASTENER SPACINGS ARE MA
6.	PANEL ORIENTATION SHALL BE AS SPEC
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8.	FIRE-RATINGS ARE MAINTAINED WITH ON
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	INSULATION THICKNESS UP TO CAVITY D
9.	WHERE ACOUSTICAL PERFORMANCE IS
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10.	SOUND-RATINGS ARE MAINTAINED WITH
	DECREASE STUD MATERIAL THICKNESS,
	INSULATION THICKNESS UP TO CAVITY D



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REMENTS TO ENSURE COMPLIANCE PRIOR TO CONSTRUCTION.

INCLUDING CONSTRUCTION VARIATIONS, REFER TO THE PUBLISHED DESIGN. THE FIRE RATING IS BASED ON LABORATORY TEST DATA OF THE REFERENCED S.

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UNLESS OTHERWISE STATED.

ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, S, DECREASE STUD SPACING, DECREASE FASTENER SPACING, INCREASE (DEPTH.

IS PROVIDED IN AN ESTIMATED RANGE, THE VALUES ARE BASED ON ...Y CONSTRUCTED ASSEMBLIES.

TH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, SS, INCREASE STUD SPACING, INCREASE FASTENER SPACING, INCREASE (DEPTH. MODIFICATIONS MUST NOT EXCEED LIMITATIONS OF FIRE RATING.

<u>ISSUE</u> RECORD:

Revision Date

SHEET INFORMATION:

SN-AS-2-02

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