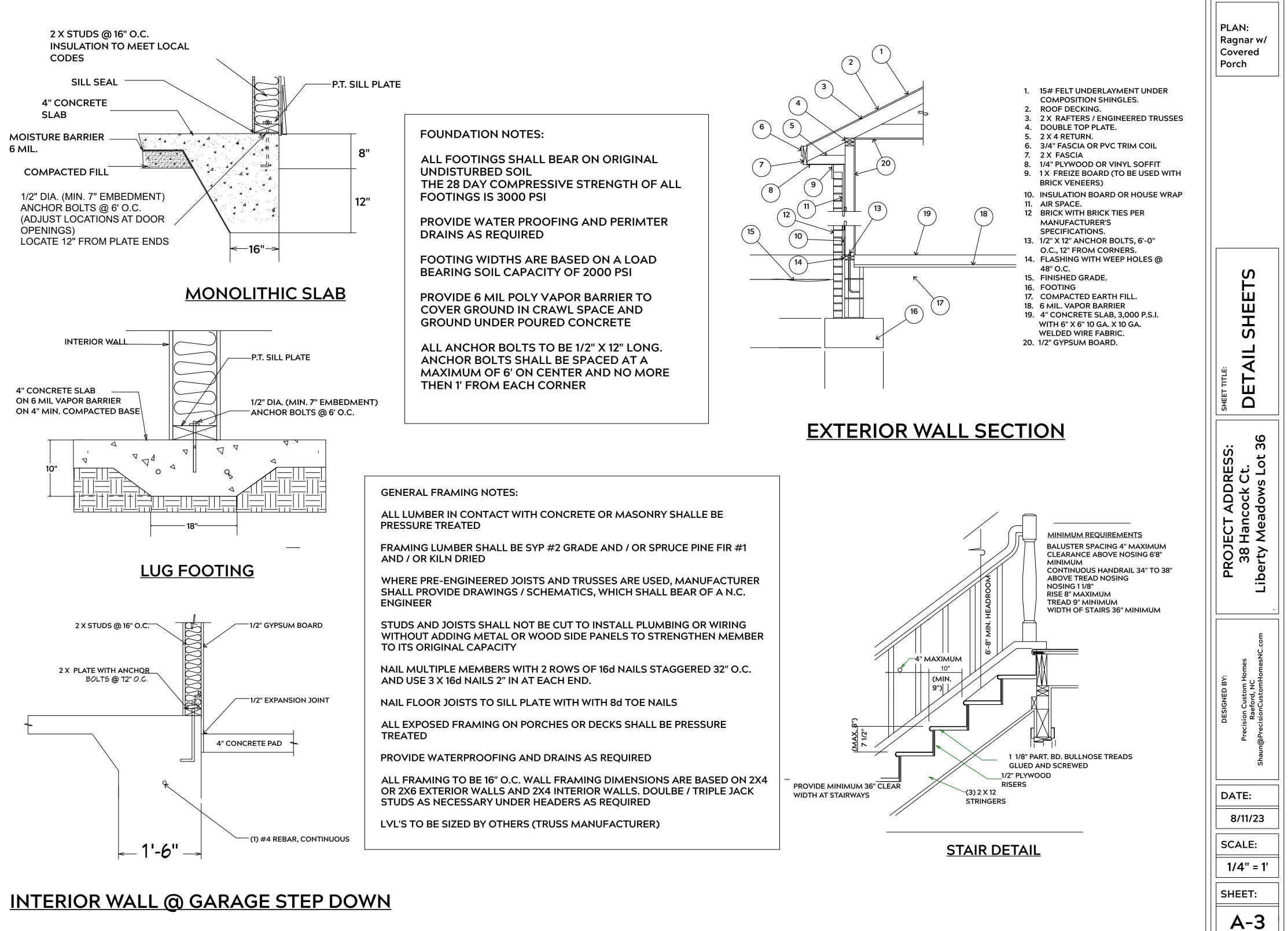


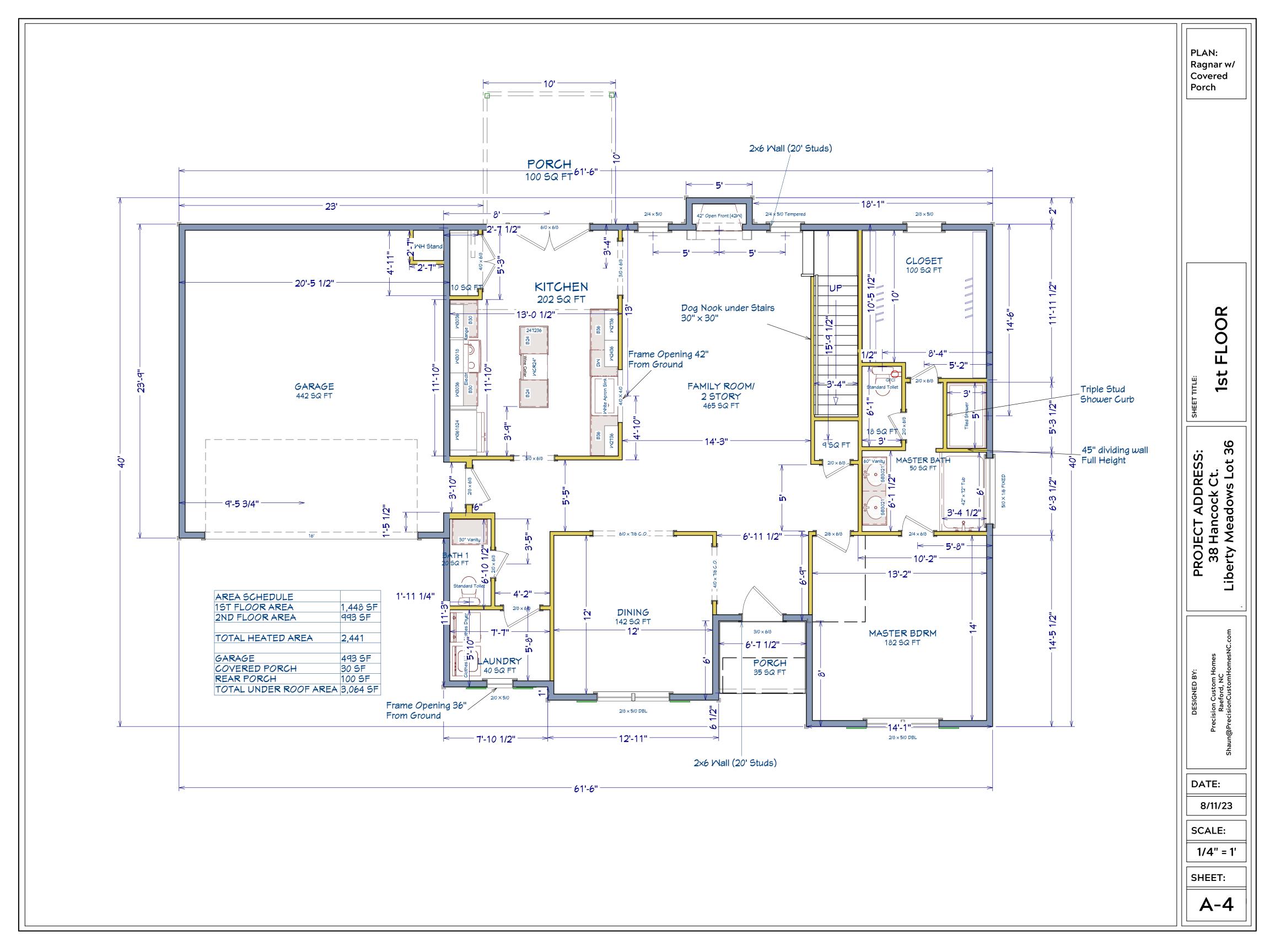
FOUNDATION PLAN Scale: 1/4" = 1'0"

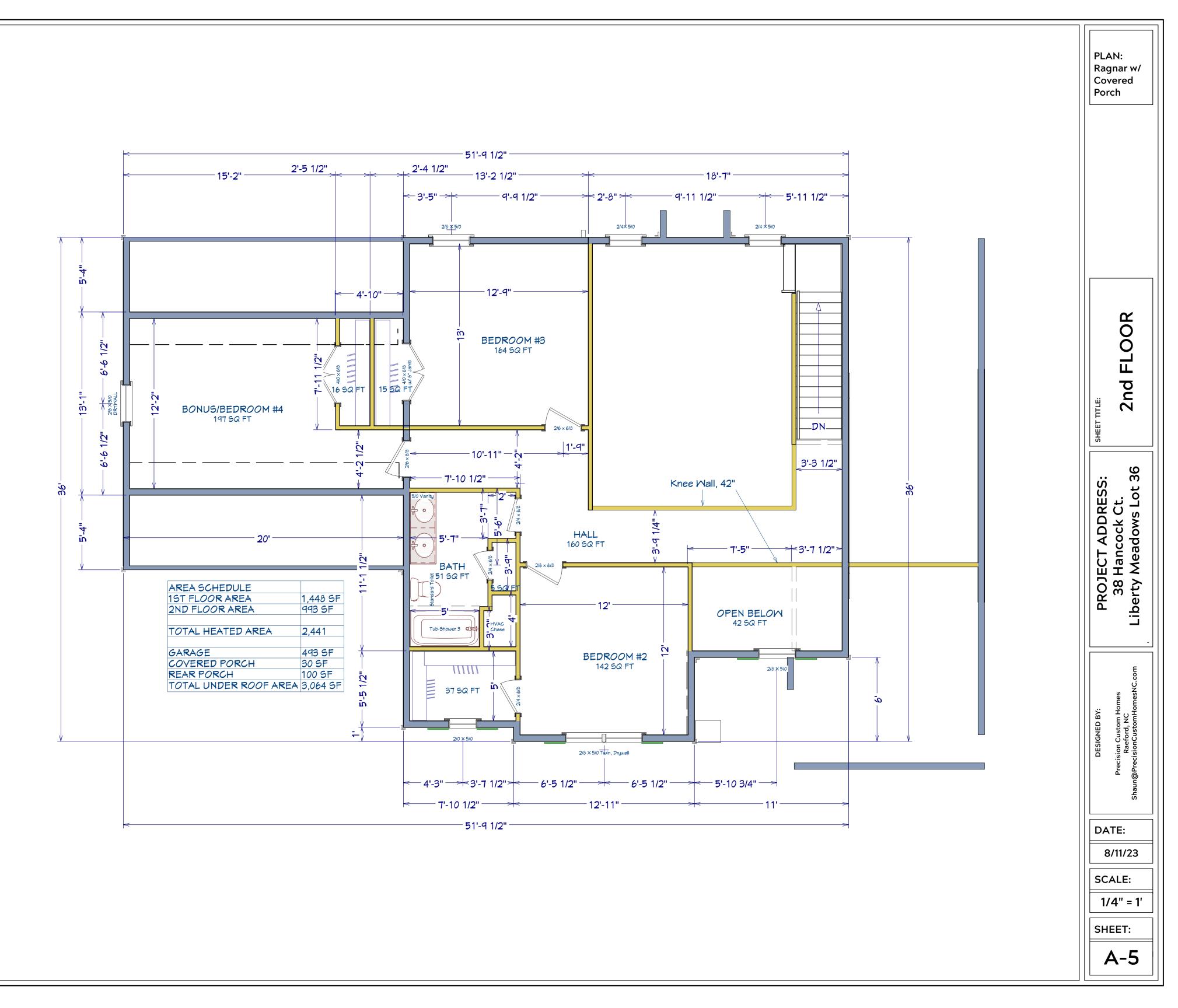


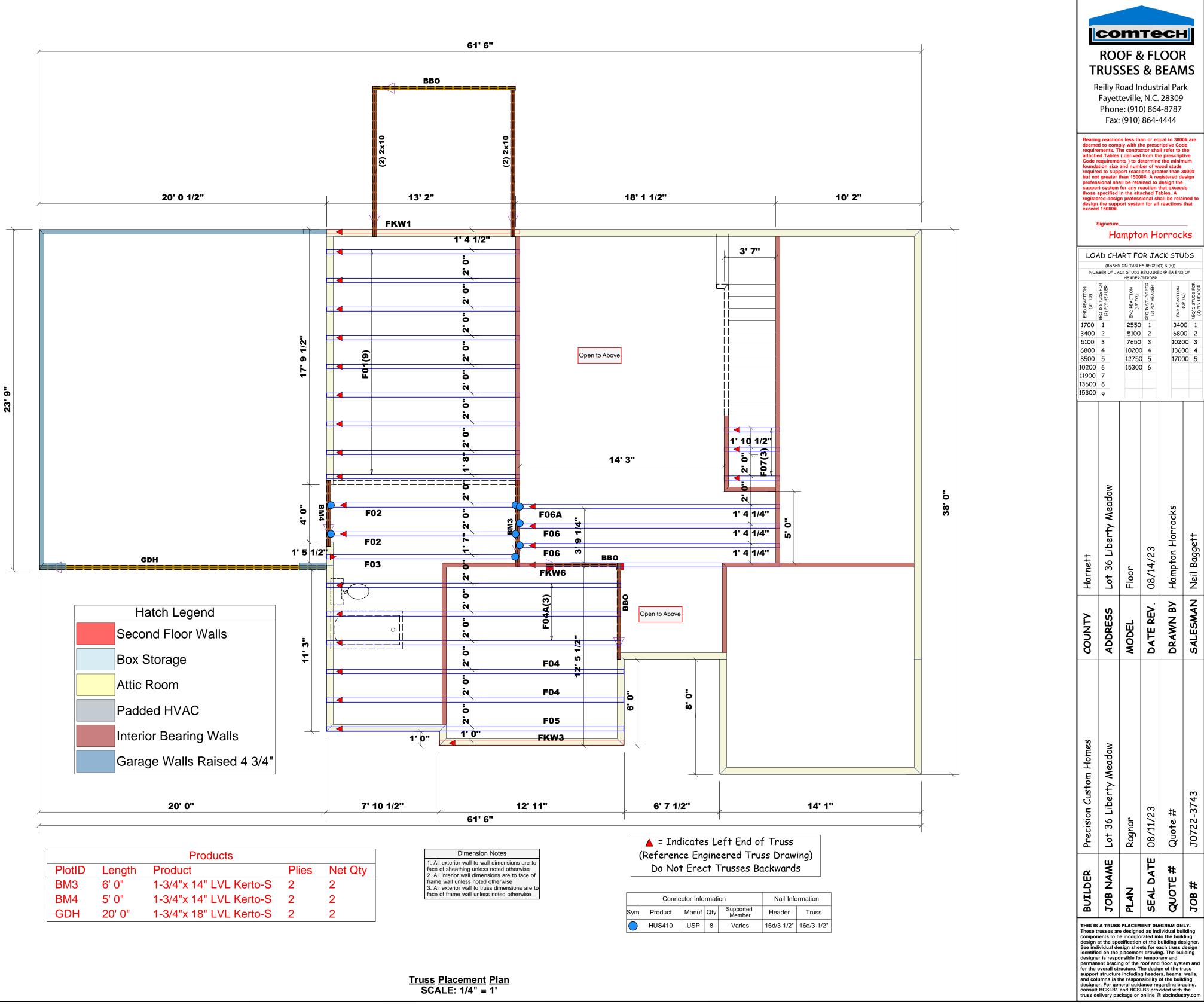
SHEET:

A-2

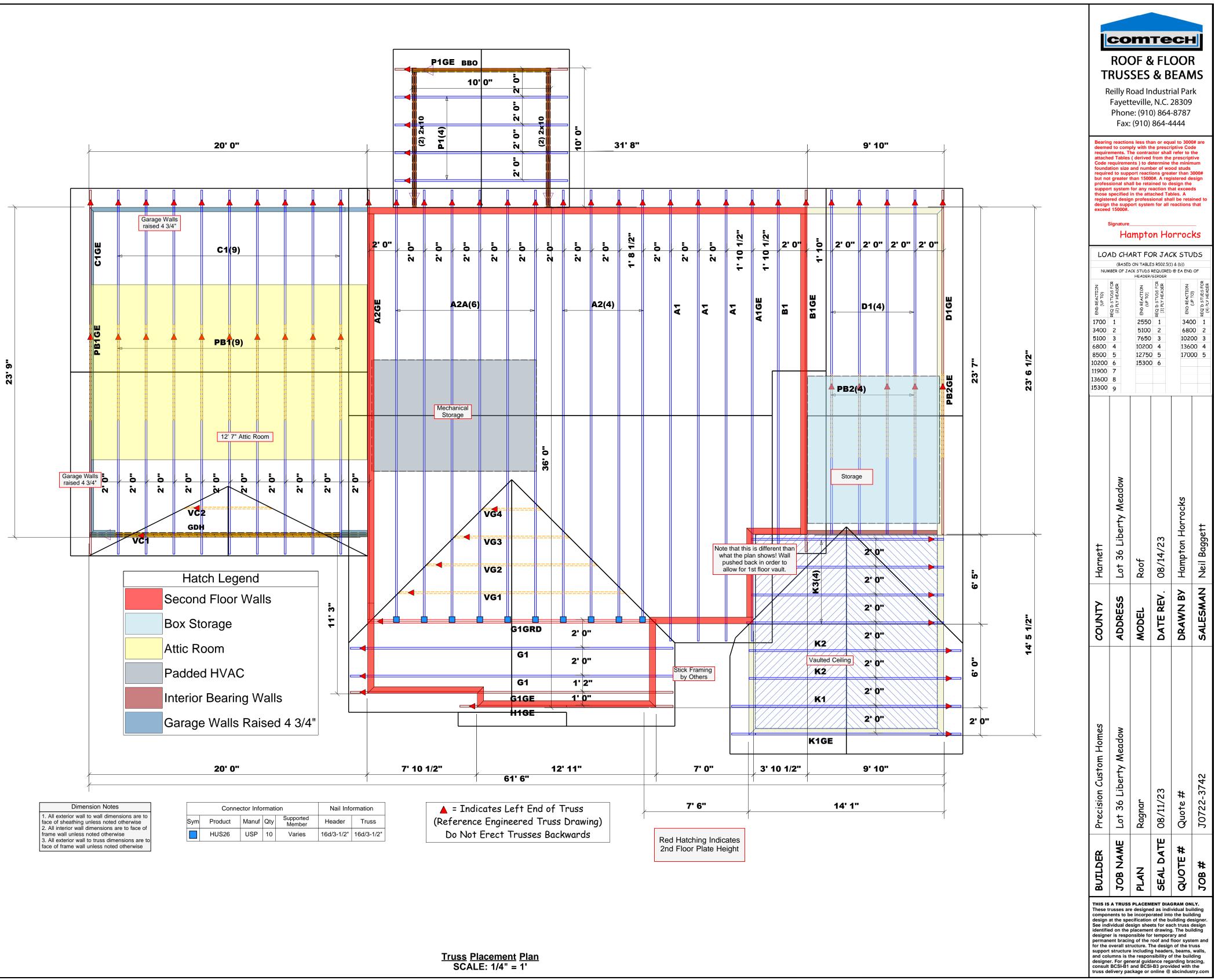








		Products		
PlotID	Length	Product	Plies	Net Qty
BM3	6' 0"	1-3/4"x 14" LVL Kerto-S	2	2
BM4	5' 0"	1-3/4"x 14" LVL Kerto-S	2	2
GDH	20' 0"	1-3/4"x 18" LVL Kerto-S	2	2



North Carolina 2018 - R402.1.5 Total UA

Property

Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab -Liberty Meadows lot 12 Organization

Southern Energy Manager Justin Smith

Inspection Status Results are projected



Builder

SMG Precision Properties

This report is based on a proposed design and does not confirm field enforcement of design elements.

Building UA

Elements	NC Reference	As Designed
Ceilings	51.5	48.9
Above-Grade Walls	209.1	155.3
Windows, Doors and Skylights	100.0	89.4
Slab Floor:	84.7	110.5
Framed Floors	12.6	13.7
Foundation Walls	0.0	0.0
Rim Joists	6.8	5.5
Overall UA (Design must be equal or lower):	464.7	423.3

Requirements

\bigcirc	402.1.5	Total UA alternative compliance passes by 8.9%.	
\bigcirc	402.3.2	Average SHGC: 0.28 Max SHGC: 0.30	
\bigcirc	R402.4.2.2	Air Leakage Testing	Air sealing is 4.80 ACH at 50 Pa. It must not exceed 5.00 ACH at 50 Pa.
\bigcirc	R402.5	Area-weighted average fenestration SHGC	
\bigcirc	R402.5	Area-weighted average fenestration U-Factor	
\bigcirc	R404.1	Lighting Equipment Efficiency	
\bigcirc	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	
\bigcirc	R403.3.1	Duct Insulation	
\bigcirc	403.3.3	Duct Testing	

Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 8.9%.

Name:	Justin Smith	Signature:	Justin Smith
Organization:	Southern Energy Management	Digitally signed:	8/9/22 at 11:16 AM

North Carolina 2018 Prescriptive compliance results calculated using Ekotrope RATER's energy and code compliance algorithm, including appropriate amendments. Ekotrope RATER is a RESNET Accredited HERS Rating Tool. All results are based on data entered by Ekotrope users. Ekotrope disclaims all liability for the information shown on this report.

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Builder SMG Precision Properties Inspection Status Results are projected



General Building Informat	ion	
Number Of Bedrooms	4	
Number Of Floors	2	
Conditioned Floor Area [sq. ft.]	2,441	
Has Electric Vehicle Ready Space	No	
Unconditioned, attached garage?	Yes	
Conditioned Volume [cu. ft.]	24,363	
Total Units in Building	1	
Residence Type	Single family detached	
Number of Floors in Building		
Floor Number	-	
Model	Ragnar	
Community	Liberty Meadows	
RESNET/IECC 2006 Climate Zone	4A	
IECC 2021 Climate Zone	3A	

Foundation Wall

None Present

Foundation Wall Library List

Slab								
Name	E Library Type	e Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
slab	Uninsulated	175	On Grade	1	0	1,448.0 ft²	Exposed Exterior	Conditioned Space

Slab Library I	List						
Name	Wall Construction Type	Slab Completely Insulated? Ins	Underslab sulation Width [ft] Insul	Perimeter ation Depth [ft]	Perimeter Insulation R Value	Thermal Break	Effective R-value
Uninsulated	Wood Frame / Other	No	0	0	0	No	0.00

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

2nd floor ambient

2nd floor attic

R 19 Adv. Framing G1 16" O.C

R 19 Adv. Framing G1 16" O.C

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Builder SMG Precision Properties

ramed Floor					
Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
over garage	R 19, 16"OC G1 Carpet	0	Above Grade	268.0 ft²	Unconditioned, attached garage

Rim Joist			
Name	E Library Type	Surface Area	Location
1st floor ambient	R 19 G1, 16"OC	102.0 ft²	Exposed Exterior
1st floor garage	R 19 G1, 16"OC	20.0 ft²	Unconditioned, attached garage

Rim Joist Libr	-				
	Name	Effective Insulation R-\	/alue		
R 19 G1,	16100	4	7.30		
K 19 G I,	18 00	1	7.30		
Wall					
Name	L	ibrary Type	Surface Color	Surface Area	Location
1st floor ambient	R 19 Adv. Framing	31 16" O.C	Medium	1,359.0 ft²	Exposed Exterior
1st floor garage	R 19 Adv. Framing	G1 16" O.C	Medium	243.0 ft ²	Unconditioned, attached garage

Medium

Medium

816.0 ft²

584.0 ft2

Attic

Exposed Exterior

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

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Inspection Status Results are projected



Builder SMG Precision Properties

Wall Library List	
Nar	me Effective R-value
R 19 Adv. Framing G1 16" O.	.C 17.492

Glazing

Name	Library Type	Wall Assignment	Foundation Wall Assignment	ls Operable	Overhang Depth	Overhang Ft To Top	Overhang Ft To Bottom	Orientation	Surface Area
front 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	East	50.1 ft²
front unshaded	33/28	1st floor ambient		Yes	0	0	0	East	63.4 ft²
left unshaded	33/28	1st floor ambient		Yes	0	0	0	South	7.5 ft²
rear 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	West	36.7 ft ²
rear unshaded	33/28	1st floor ambient		Yes	0	0	0	West	76.7 ft ²
right 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	North	13.4 ft²

Glazing Libra	ary List		
Name	Shgc	U-factor	,
33/28	0.28	0.330	

Skylight

None Present

Skylight Library List

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Builder SMG Precision Properties

Name	Library Type	Wall Assignment	Foundation Wall Assignment		Solar Absorptance	Surface Color	Surface Area	Location
front entry	Fiberglass R-5	1st floor ambient		0.9	0.75	Medium	20.0 ft²	Exposed Exterior
garage entry	Fiberglass R-5	1st floor garage		0.9	0.75	Medium	18.0 ft²	Unconditioned, attached garage



f Insulatio	n					
Name	Library Type	Attic Exterior Area [ft ²]	Clay or Concrete Roof Tiles	Surface Color	Surface Area	Location
attic	R 38 Attic BLOWN FG G1 2x10 24"OC NO Padiant Barrier	2,522.52	No	Dark	1,716.0 ft²	Attic

Roof Insulation Libra	ary List	
Name	Has Radiant Barrier	Effective R-value
R 38 Attic BLOWN FG G1 2x10 24"OC NO	No	35.115

Whole House Infiltration				
Infiltration	Measurement Type	Shelter Class		
1949 CFM at 50 Pa	Blower-door tested	4		
l				

Mechanical Ventilation

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Builder SMG Precision Properties

Lighting					
% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting) % Garage Fluorescent Lighting	% Garage LED Lighting
0	90	0	0	0	0

Onsite Generation	
	None Present

Onsite Generation Library List	
--------------------------------	--

None Present

Solar Generation

None Present

Dehumidifier

None Present

Dehumidifier Library List

None Present

Whole House Fan

Property

Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Whole House Fan Library List

None Present

Organization

Justin Smith Builder

Southern Energy Management

SMG Precision Properties

Conditioning Equipment

Name	Library Type	Serial Number	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	
1st floor heat pump	z 24k 14 SEER 8.2hspf		59%	59%	0%	Attic
2nd floor heat pump	z 24k 14 SEER 8.2hspf		41%	41%	0%	Attic
Water Heating	z 50 gal. 0.95 EF Elec		0%	0%	100%	Unconditioned Garage

Equipment Type: z 24k 14 SEER 8.2hspf

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	PSC (Single Speed)
Heating Efficiency	8.2 HSPF
Heating Capacity [kBtu/h]	24
Backup Fuel Type	Electric
Switchover Temperature [°F]	0
Backup Heating Efficiency	1 COP
Use default Supplemental Heat	Yes
Cooling Efficiency	14 SEER
Cooling Capacity [kBtu/h]	24

Equipment Type: z 50 gal. 0.95 EF Elec				
Equipment Type	Residential Water Heater			
Fuel Type	Electric			
Distribution Type	Hydronic Delivery (Radiant)			
Hot Water Efficiency	0.95 Energy Factor			
Tank Capacity (gal.)	50			
Hot Water Capacity [kBtu/h]	40			
Recovery Efficiency	0.98			

Inspection Status Results are projected



Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Distribution System

Distribution Type	Forced Air
Heating Equipment	1st floor heat pump
Cooling Equipment	1st floor heat pump
Sq. Feet Served	1,448
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft ²]	390.96
Return Duct Area [ft²]	144.8
Leakage to Outdoors	57 CFM @ 25Pa (3.94 / 100 ft ²)
Total Leakage	57 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Attic (well vented)
Percent Supply Area	70
Percent Return Area	70
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	30
Percent Return Area	30
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

Organization

Justin Smith Builder

Southern Energy Management

SMG Precision Properties

Inspection Status Results are projected



Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Distribution System

Distribution Type	Forced Air
Heating Equipment	2nd floor heat pump
Cooling Equipment	2nd floor heat pump
Sq. Feet Served	993
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft ²]	268.11
Return Duct Area [ft ²]	99.3
Leakage to Outdoors	39 CFM @ 25Pa (3.93 / 100 ft ²)
Total Leakage	39 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Attic (well vented)
Percent Supply Area	100
Percent Return Area	100
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

Organization

Justin Smith Builder

SMG Precision Properties

HVAC Grading

HVAC Grading Not Conducted

Ceiling Fan

Has Ceiling Fan Cfm Per Watt

No 100

Inspection Status Southern Energy Management Results are projected



Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Water Distribution

Low-flow
No
89
No
No
20
No

Builder

SMG Precision Properties

Clothes Dryer

Cef	3 01
Fuel Type	Electric
Field Utilization	Timer Controls
Is Outside Conditioned Space	No
Clothes Dryer Available	Yes
Defaults Type	HERS Reference

Clothes Washer

Label Energy Rating	153 kWh/Year
Annual Gas Cost	\$12.00
Electric Rate	\$0.11/kWh
Gas Rate	\$1.22/Therm
Capacity	3.31
Imef	2.1547
Defaults Type	Custom
Load Type	Front-load
Loads Per Week	6
Is Outside Conditioned Space	No
Clothes Washer Available	Yes

Dishwasher	
Dishwasher Efficiency	270 kWh
Dishwasher Size	Standard
Annual Gas Cost	\$22.23
Electric Rate	\$0.12/kWh
Gas Rate	\$1.09/Therm
Is Outside Conditioned Space	No

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

SMG Precision Properties

Inspection Status Results are projected



Appliances and Controls	
Thermostat Cooling Setpoint	* * * * 75.0
Thermostat Heating Setpoint	* * * * 70.0
Range/Oven Fuel	Electric
Convection Oven?	No
Induction Range?	No
Range/Oven Outside Conditioned Space?	No
Refrigerator Consumption	538 kWh/Year
Refrigerator Outside Conditioned Space?	No

Builder

Notes

Initial Inputs _____MS 07/01/22__

-confirm HVAC specs -confirm water heater specs -confirm ventilation entry, modeled as air cycler -modeled to worst case orientation -confirm cfl lighting %