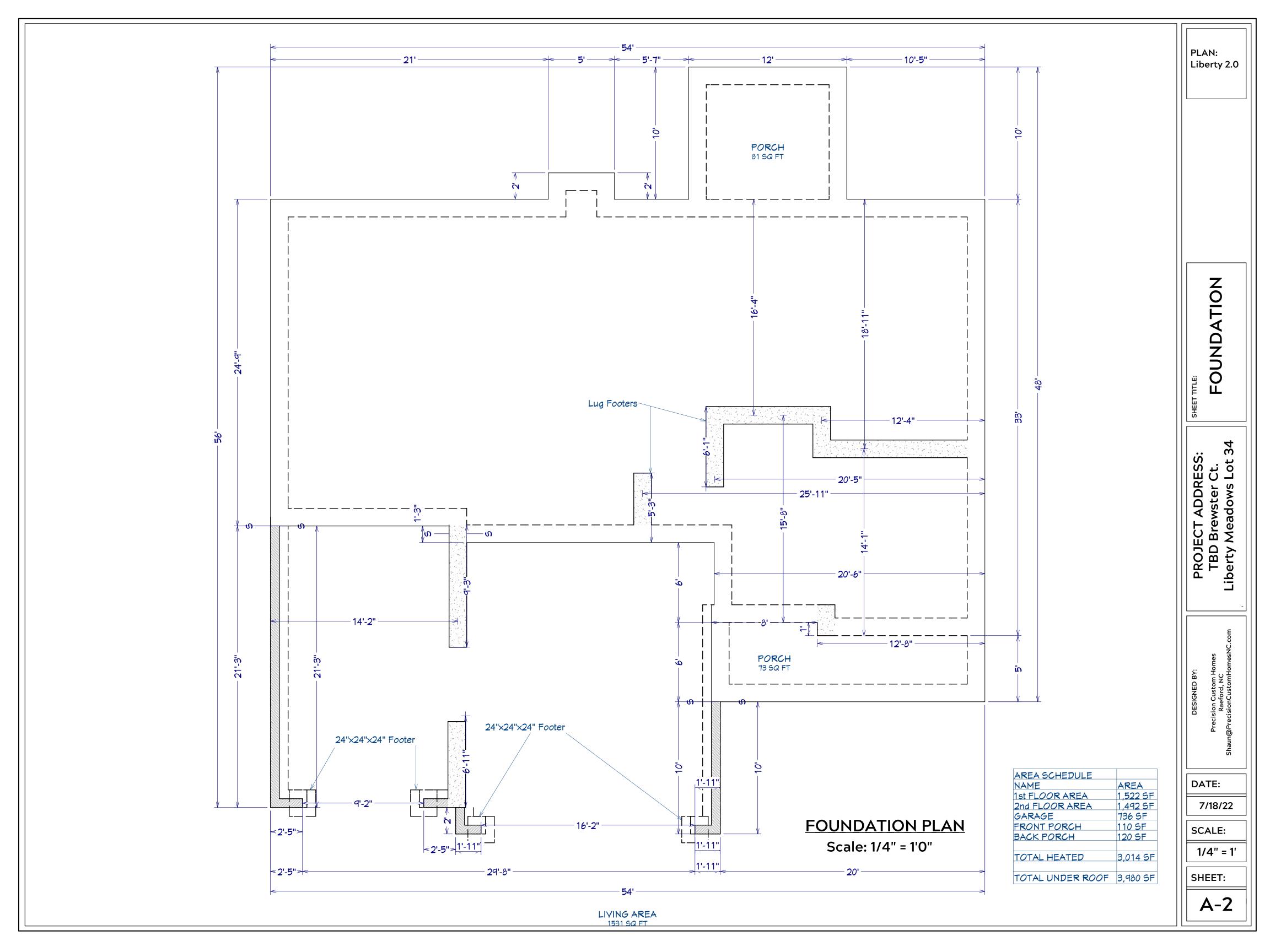
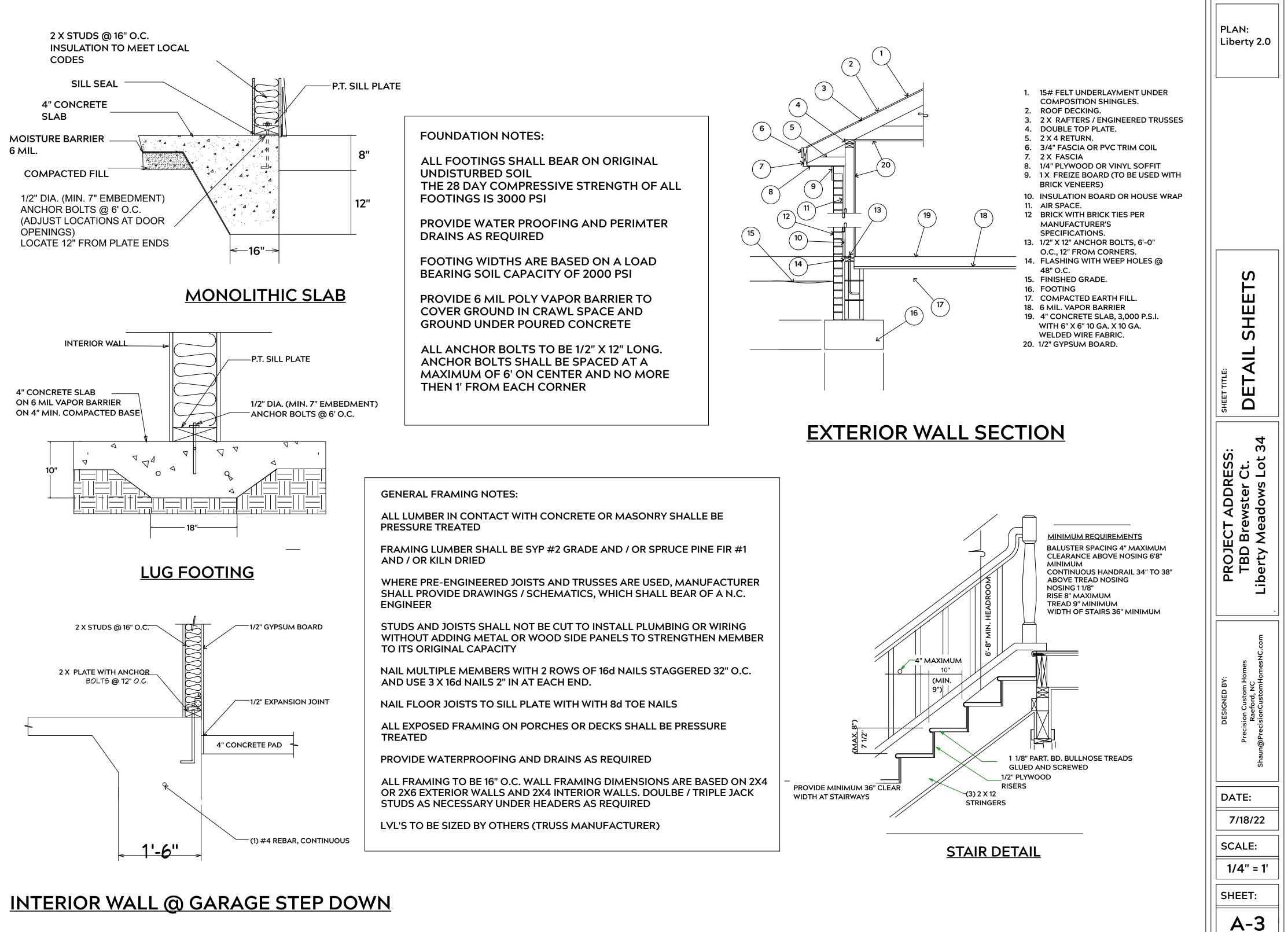
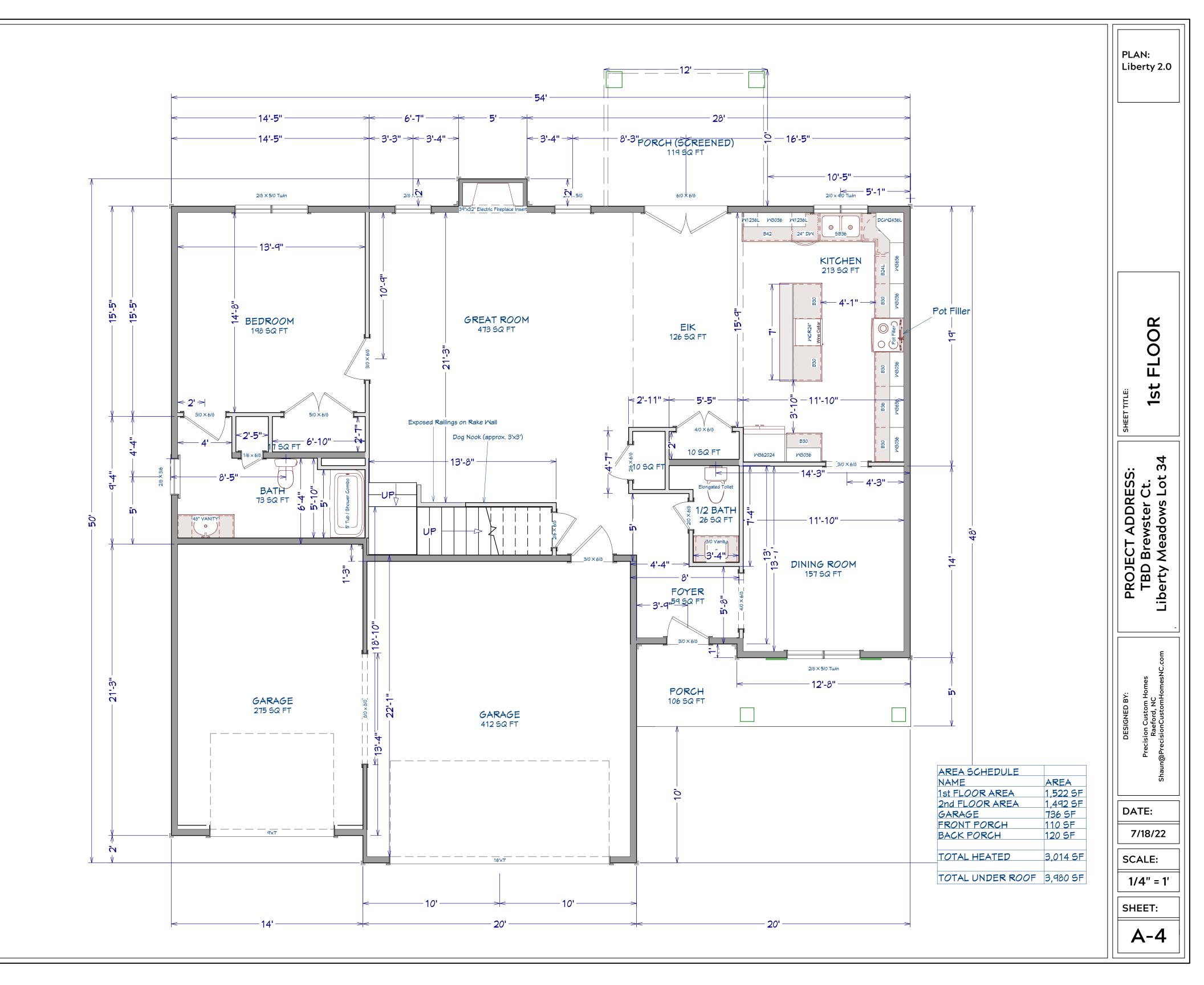


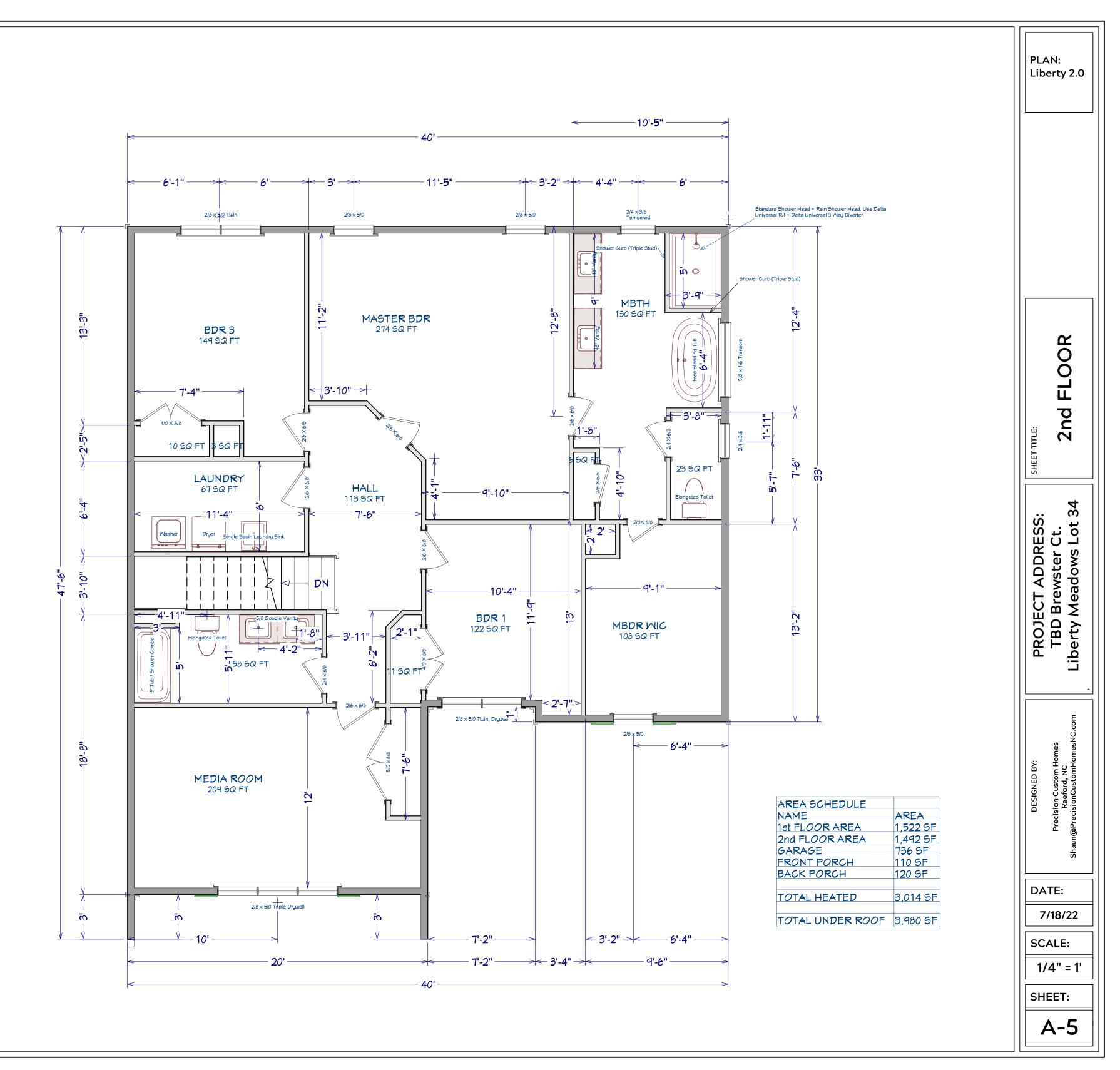
LEFT ELEVATION

Scale: 1/8" = 1'0"









## North Carolina 2018 - R402.1.5 Total UA

### Property

Cameron, NC 28326 Model: Liberty Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab -Liberty Meadows lot 14 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	56.8	53.9
Above-Grade Walls	203.3	151.0
Windows, Doors and Skylights	115.3	103.5
Slab Floor:	86.5	112.9
Framed Floors	17.4	19.0
Foundation Walls	0.0	0.0
Rim Joists	8.4	6.8
Overall UA (Design must be equal or lower):	487.7	447.1

### Requirements

$\bigcirc$	402.1.5	Total UA alternative compliance passes by 8.3%.	
$\bigcirc$	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 8.3%.

Name:	Justin Smith	Signature:	Justin Smith
Organization:	Southern Energy Management	Digitally signed:	8/9/22 at 11:20 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: Liberty Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Builder SMG Precision Properties

General Building Information	
Number Of Bedrooms	3
Number Of Floors	2
Conditioned Floor Area [sq. ft.]	3,014
Has Electric Vehicle Ready Space	No
Unconditioned, attached garage?	Yes
Conditioned Volume [cu. ft.]	27,126
Total Units in Building	1
Residence Type	Single family detached
Number of Floors in Building	-
Floor Number	-
Model	Liberty
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	178	On Grade	1	0	1,522.0 ft²	Exposed Exterior	Conditioned Space

Slab Library List									
Name	Wall Construction Type	Slab Completely Insulated? In	Underslab sulation Width [ft]	Perimeter Insulation 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: Liberty Community: Liberty Meadows

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

Builder SMG Precision Properties

Framed Floor					
Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
over garage	R 19, 16"OC G1 Carpet	0	Above Grade	371.0 ft <sup>2</sup>	Unconditioned, attached
					garage

Framed Floor Library List						
Name	Effective R-value					
R 19, 16"OC G1 Carpet	19.566					

Rim Joist			
Name	e Library Type	Surface Area	Location
1st floor ambient	R 19 G1, 16"OC	127.0 ft²	Exposed Exterior
1st floor garage	R 19 G1, 16"OC	25.0 ft²	Unconditioned, attached garage



1st floor garage	R 19 Adv. Framing G1 16" O.C	Mealum	360.0 TI <sup>2</sup>	Unconditioned, attached garage
2nd floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	1,016.0 ft²	Exposed Exterior
2nd floor attic	R 19 Adv. Framing G1 16" O.C	Medium	352.0 ft²	Attic

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

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Builder SMG Precision Properties

Wall Library Li	ist	
	Name	Effective R-value
R 19 Adv. Framing G1	16" O.C	17.492

### Glazing

Name	Library Type	Wall Assignment	Foundation Wall Assignment	is 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	West	66.8 ft²
front shaded	33/28	1st floor ambient		Yes	5	2	7	West	26.7 ft <sup>2</sup>
left 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	North	15.7 ft <sup>2</sup>
rear 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	East	61.6 ft²
rear shaded	33/28	1st floor ambient		Yes	10	2	9	East	40.0 ft <sup>2</sup>
rear unshaded	33/28	1st floor ambient		Yes	0	0	0	East	69.4 ft²
right unshaded	33/28	1st floor ambient		Yes	0	0	0	South	9.3 ft²

Glazing Library List			
Name	Shgc	U-factor	
33/28	0.28	0.330	

## Skylight

None Present

## **Skylight Library List**

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

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

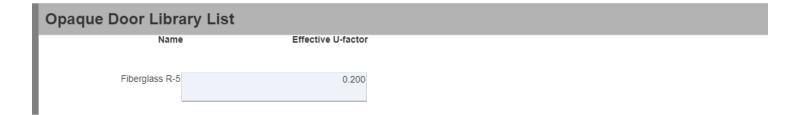
Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Builder SMG Precision Properties

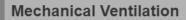
Name	Library Type	Wall Assignment	Foundation Wall Assignment		Solar Absorptance	Surface Color	Surface Area	Location
front entry	Fiberglass R-5	1st floor ambient		0.9	0.75	Medium	20.0 ft²	Exposed Exterior
garage entry	Fiberglass R-5	1st floor garage		0.9	0.75	Medium	20.0 ft <sup>2</sup>	Unconditioned, attached garage



f Insulatio	n					
Name	Library Type	Attic Exterior Area [ft <sup>2</sup> ]	Clay or Concrete Roof Tiles	Surface Color	r Surface Area	Location
attic	R 38 Attic BLOWN FG G1 2x10 24"OC NO Padiant Barrier	2,782.71	No	Dark	1,893.0 ft²	Attic

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

Whole House Infiltration				
Infiltration	Measurement Type	Shelter Class		
2170 CFM at 50 Pa	Blower-door tested	4		



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

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

Organization Southern Energy Management Justin Smith

Inspection Status Results are projected



Builder SMG Precision Properties

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

Onsite Generation
None Present

None Present

Solar Generation

None Present

## Dehumidifier

None Present

**Dehumidifier Library List** 

None Present

Whole House Fan

### Property

Cameron, NC 28326 Model: Liberty Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

### 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		50%	50%	0%	Attic
2nd floor heat pump	z 24k 14 SEER 8.2hspf		50%	50%	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: Liberty Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

## **Distribution System**

Distribution Type	Forced Air
Heating Equipment	1st floor heat pump
Cooling Equipment	1st floor heat pump
Sa. Feet Served	1,522
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft <sup>2</sup> ]	410.94
Return Duct Area [ft <sup>2</sup> ]	152.2
Leakage to Outdoors	60 CFM @ 25Pa (3.94 / 100 ft <sup>2</sup> )
Total Leakage	60 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

SMG Precision Properties

Inspection Status Southern Energy Management Results are projected



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

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

### **Distribution System**

Distribution Type	Forced Air
Heating Equipment	2nd floor heat pump
Cooling Equipment	2nd floor heat pump
Sq. Feet Served	1,492
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft <sup>2</sup> ]	402.84
Return Duct Area [ft²]	149.2
Leakage to Outdoors	59 CFM @ 25Pa (3.95 / 100 ft <sup>2</sup> )
Total Leakage	59 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

SMG Precision Properties

Builder

### **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: Liberty Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

### 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: Liberty Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 14 - CZ 3 slab - ecoSelect Liberty Meadows lot 14

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 %

