

BRICK VENEERS)

10. INSULATION BOARD OR HOUSE WRAP

9. 1X FREIZE BOARD (TO BE USED WITH

1/4" PLYWOOD OR VINYL SOFFIT

12 BRICK WITH BRICK TIES PER
MANUFACTURER'S
SPECIFICATIONS.
13. 1/2" X 12" ANCHOR BOLTS, 6'-0"

O.C., 12" FROM CORNERS.

14. FLASHING WITH WEEP HOLES @

48" O.C. 15. FINISHED GRADE.

16. FOOTING

7. 2 X FASCIA

11. AIR SPACE.

17. COMPACTED EARTH FILL

18. 6 MIL. VAPOR BARRIER

19. 4" CONCRETE SLAB, 3,000 P.S.I. WITH 6" X 6" 10 GA. X 10 GA. WELDED WIRE FABRIC.

20. 1/2" GYPSUM BOARD.

### **FOUNDATION NOTES:**

P.T. SILL PLATE

-16"→

**MONOLITHIC SLAB** 

-P.T. SILL PLATE

1/2" GYPSUM BOARD

1/2" EXPANSION JOINT

**4" CONCRETE PAD** 

1/2" DIA. (MIN. 7" EMBEDMENT)

ANCHOR BOLTS @ 6' O.C.

ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL THE 28 DAY COMPRESSIVE STRENGTH OF ALL FOOTINGS IS 3000 PSI

PROVIDE WATER PROOFING AND PERIMTER DRAINS AS REQUIRED

FOOTING WIDTHS ARE BASED ON A LOAD BEARING SOIL CAPACITY OF 2000 PSI

PROVIDE 6 MIL POLY VAPOR BARRIER TO COVER GROUND IN CRAWL SPACE AND GROUND UNDER POURED CONCRETE

ALL ANCHOR BOLTS TO BE 1/2" X 12" LONG.
ANCHOR BOLTS SHALL BE SPACED AT A
MAXIMUM OF 6' ON CENTER AND NO MORE
THEN 1' FROM EACH CORNER

# 6 5 7 20 8 9 12 11 13 19 18 15 10 17

## **EXTERIOR WALL SECTION**

**GENERAL FRAMING NOTES:** 

ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALLE BE PRESSURE TREATED

FRAMING LUMBER SHALL BE SYP #2 GRADE AND / OR SPRUCE PINE FIR #1 AND / OR KILN DRIED

WHERE PRE-ENGINEERED JOISTS AND TRUSSES ARE USED, MANUFACTURER SHALL PROVIDE DRAWINGS / SCHEMATICS, WHICH SHALL BEAR OF A N.C. ENGINEER

STUDS AND JOISTS SHALL NOT BE CUT TO INSTALL PLUMBING OR WIRING WITHOUT ADDING METAL OR WOOD SIDE PANELS TO STRENGTHEN MEMBER TO ITS ORIGINAL CAPACITY

NAIL MULTIPLE MEMBERS WITH 2 ROWS OF 16d NAILS STAGGERED 32" O.C. AND USE 3 X 16d NAILS 2" IN AT EACH END.

NAIL FLOOR JOISTS TO SILL PLATE WITH WITH 8d TOE NAILS

ALL EXPOSED FRAMING ON PORCHES OR DECKS SHALL BE PRESSURE TREATED

PROVIDE WATERPROOFING AND DRAINS AS REQUIRED

ALL FRAMING TO BE 16" O.C. WALL FRAMING DIMENSIONS ARE BASED ON 2X4 OR 2X6 EXTERIOR WALLS AND 2X4 INTERIOR WALLS. DOULBE / TRIPLE JACK STUDS AS NECESSARY UNDER HEADERS AS REQUIRED

LVL'S TO BE SIZED BY OTHERS (TRUSS MANUFACTURER)

## MINIMUM REQUIREMENTS **BALUSTER SPACING 4" MAXIMUM CLEARANCE ABOVE NOSING 6'8"** MINIMUM CONTINUOUS HANDRAIL 34" TO 38" ABOVE TREAD NOSING **NOSING 11/8"** RISE 8" MAXIMUM TREAD 9" MINIMUM WIDTH OF STAIRS 36" MINIMUM -4" MAXIMUM (MIN. 1 1/8" PART. BD. BULLNOSE TREADS GLUED AND SCREWED 1/2" PLYWOOD PROVIDE MINIMUM 36" CLEAR **RISERS** WIDTH AT STAIRWAYS **STRINGERS**

**STAIR DETAIL** 

(1) #4 REBAR, CONTINUOUS

**LUG FOOTING** 

2 X STUDS @ 16" O.C.

SILL SEAL

1/2" DIA. (MIN. 7" EMBEDMENT)

(ADJUST LOCATIONS AT DOOR

LOCATE 12" FROM PLATE ENDS

INTERIOR WALL

2 X STUDS @ 16" O.C.

2 X PLATE WITH ANCHOR

BOLTS @ 72" O.C.

ANCHOR BOLTS @ 6' O.C.

CODES

**4" CONCRETE** 

**SLAB** 

**MOISTURE BARRIER** 

OPENINGS)

**4" CONCRETE SLAB** 

ON 6 MIL VAPOR BARRIER

ON 4" MIN. COMPACTED BASE

COMPACTED FILL

6 MIL.

**INSULATION TO MEET LOCAL** 

INTERIOR WALL @ GARAGE STEP DOWN

PLAN:

Liberty 2.0

TAIL SHEETS

PROJECT ADDRESS: Liberty Meadows Lot 14 TBD Edes Ct.

> Precision Custom Homes Raeford, NC @PrecisionCustomHomesNC.com

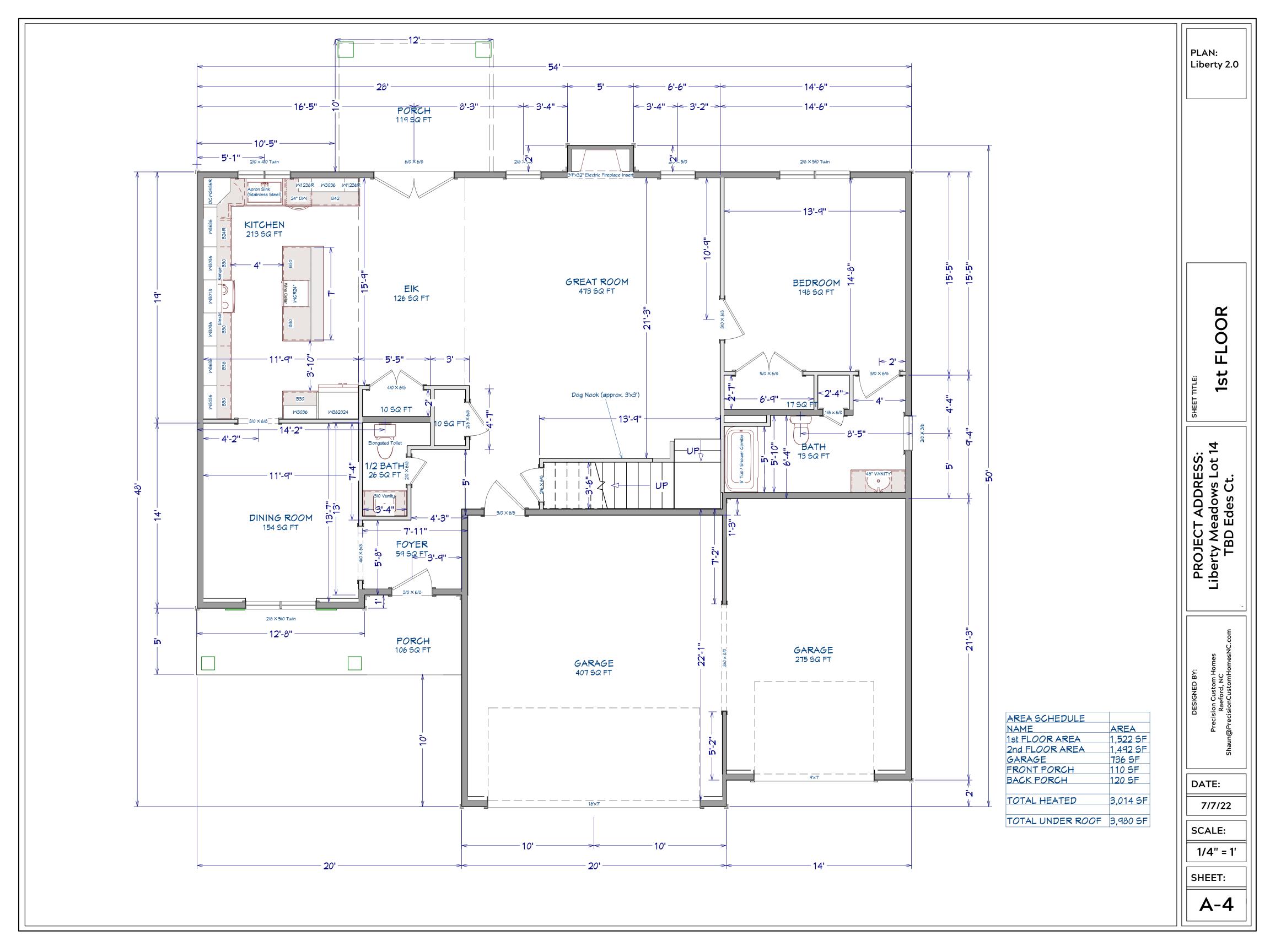
DATE:

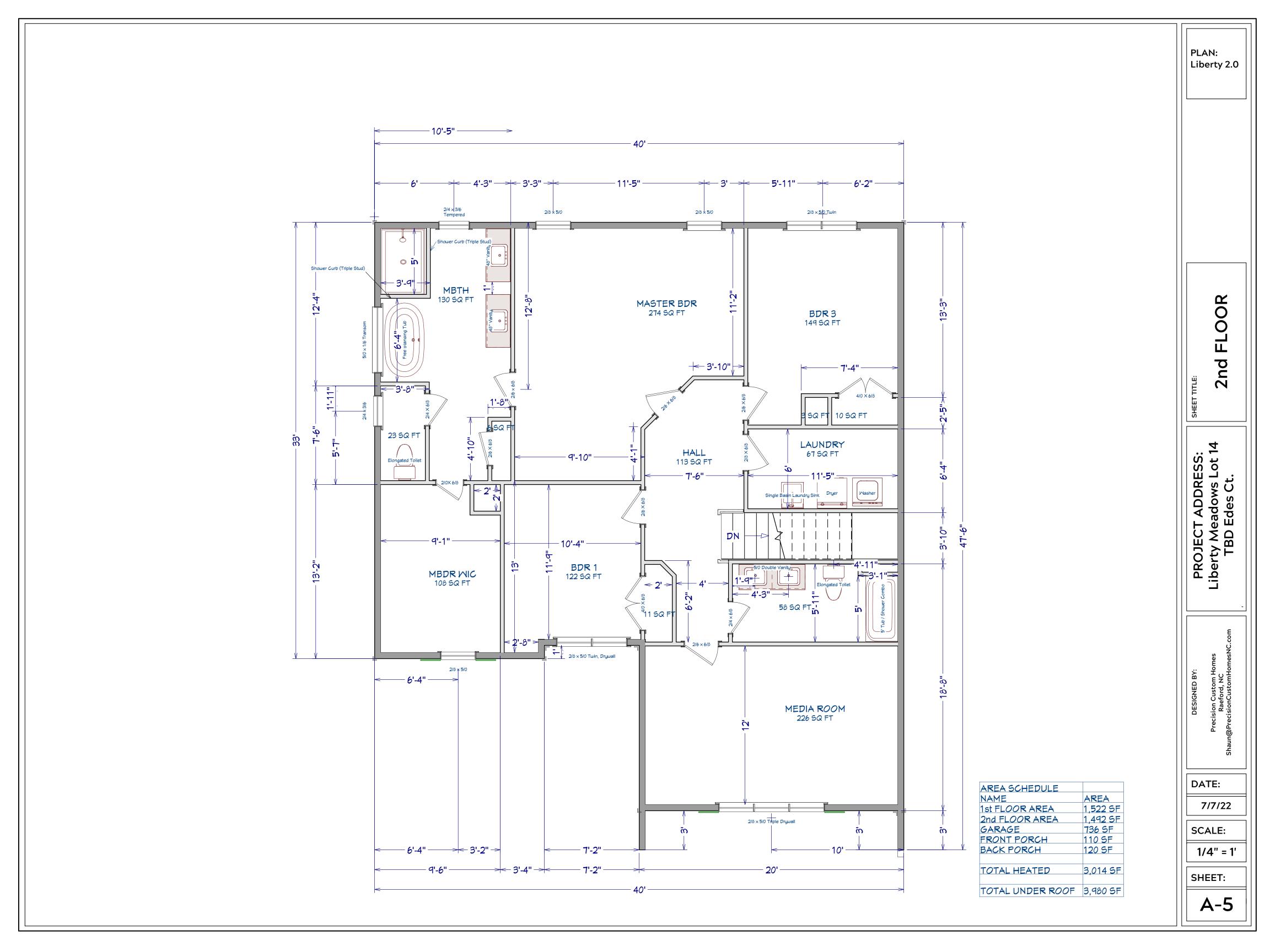
7/7/22

SCALE: 1/4" = 1'

SHEET:

**A-3** 





#### North Carolina 2018 - R402.1.5 Total UA

**Property** 

Cameron, NC 28326 Model: Liberty

Community: Liberty Meadows

Organization

Southern Energy Manager Justin Smith

Inspection Status
Results are projected



Builder

**SMG Precision Properties** 

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

#### 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

	402.1.5	Total UA alternative compliance passes by 8.3%.	
	402.3.2	Average SHGC: 0.28 Max SHGC: 0.30	
	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	
	R402.5	Area-weighted average fenestration U-Factor	
$\bigcirc$	R404.1	Lighting Equipment Efficiency	
	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	
$\bigcirc$	R403.3.1	Duct Insulation	
	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

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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	Library Type	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?			Perimeter Insulation R Value	Thermal Break	Effective R-value
Uninsulated	Wood Frame / Other	No	0	0	0	No	0.00

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Framed Floo	r				
Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
over garage	R 19, 16"OC G1 Carpet	0	Above Grade	371.0 ft²	Unconditioned, attached garage

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

Rim Joist			
Name	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

Rim Joist Library I	List
Name	e Effective Insulation R-value
R 19 G1, 16"OC	17.30

Wall				
Name	Library Type	Surface Color	Surface Area	Location
1st floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	1,242.0 ft²	Exposed Exterior
1st floor garage	R 19 Adv. Framing G1 16" O.C	Medium	360.0 ft²	Unconditioned, attached garage
2nd floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	1,016.0 ft²	Exposed Exterio
2nd floor attic	R 19 Adv. Framing G1 16" O.C	Medium	352.0 ft²	Attio

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SMG Precision Properties



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

Inspection Status

Results are projected

Glazing									
Name	Library Type	Wall Assignment	Foundation Wall Assignment	ls Operable	Overhang Depth	Overhang Ft To 0 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 ft²
left 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	North	15.7 ft²
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 ft²
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**

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Liberty Meadows lot 14

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SMG Precision Properties

Inspection Status Results are projected



Opaque Doo	r							
Name	Library Type	Wall Assignment	Foundation Wall Assignment		Solar Absorptance		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 ft²	Unconditioned, attached garage

Opaque Door Library List		
N	lame	Effective U-factor
Fiberglass	R-5	0.200

Roof Insulati	on					
Name	Library Type	Attic Exterior Area [ft²]	Clay or Concrete Roof Tiles		Surface Area	Location
attic	R 38 Attic BLOWN FG G1 2x10 24"OC NO Radiant Barrier	2,782.71	No	Dark	1,893.0 ft²	Attic

Roof Insulation	Library 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	ss
2170 CFM at 50 Pa	Blower-door tested	4	4

#### **Mechanical Ventilation**

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Justin Smith

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Builder

None Present

SMG Precision Properties



Liberty Weadows for 14					
Lighting					
% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting	% Exterior LED Lighting	% Garage Fluorescent Lighting	% Garage LED Lighting
0	90	0	0	0	0
Onsite Genera					
	•	None Present			
Onsite Genera	ation Library List	:			
	,	None Present			
Solar Generat	tion				
	١	None Present			
Dehumidifier					
	ı	None Present			
Dehumidifier					
	,	None Present			
Whole House	Fan				

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SMG Precision Properties

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#### Whole House Fan Library List

Conditioning	Equipment					
Name	Library Type	Serial Number	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	Location
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				
Residential Water Heater				
Electric				
Hydronic Delivery (Radiant)				
0.95 Energy Factor				
50				
40				
0.98				
	Residential Water Heater Electric Hydronic Delivery (Radiant) 0.95 Energy Factor 50 40			

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SMG Precision Properties

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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 [ft²]	410.94
Return Duct Area [ft²]	152.2
Leakage to Outdoors	60 CFM @ 25Pa (3.94 / 100 ft²)
Total Leakage	60 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	100
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

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SMG Precision Properties





Distribution System	
Distribution Type	Forced Air
Heating Equipment	2nd floor heat pump
Cooling Equipment	2nd floor heat pump
Sa. Feet Served	1.492
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft²]	402.84
Return Duct Area [ft²]	149.2
Leakage to Outdoors	59 CFM @ 25Pa (3.95 / 100 ft2)
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

LIV/AC	Cradina
TVAC	Grading

HVAC Grading Not Conducted

Ceiling Fan		
Has Ceiling Fan	No	
Cfm Per Watt	100	

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SMG Precision Properties





Water Distribution	
Water Fixture Type	Low-flow
Use Default Hot Water Pipe Length	No
Hot Water Pipe Length [ft]	89
At Least R3 Pipe Insulation?	No
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	20
Drain Water Heat Recovery?	No

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

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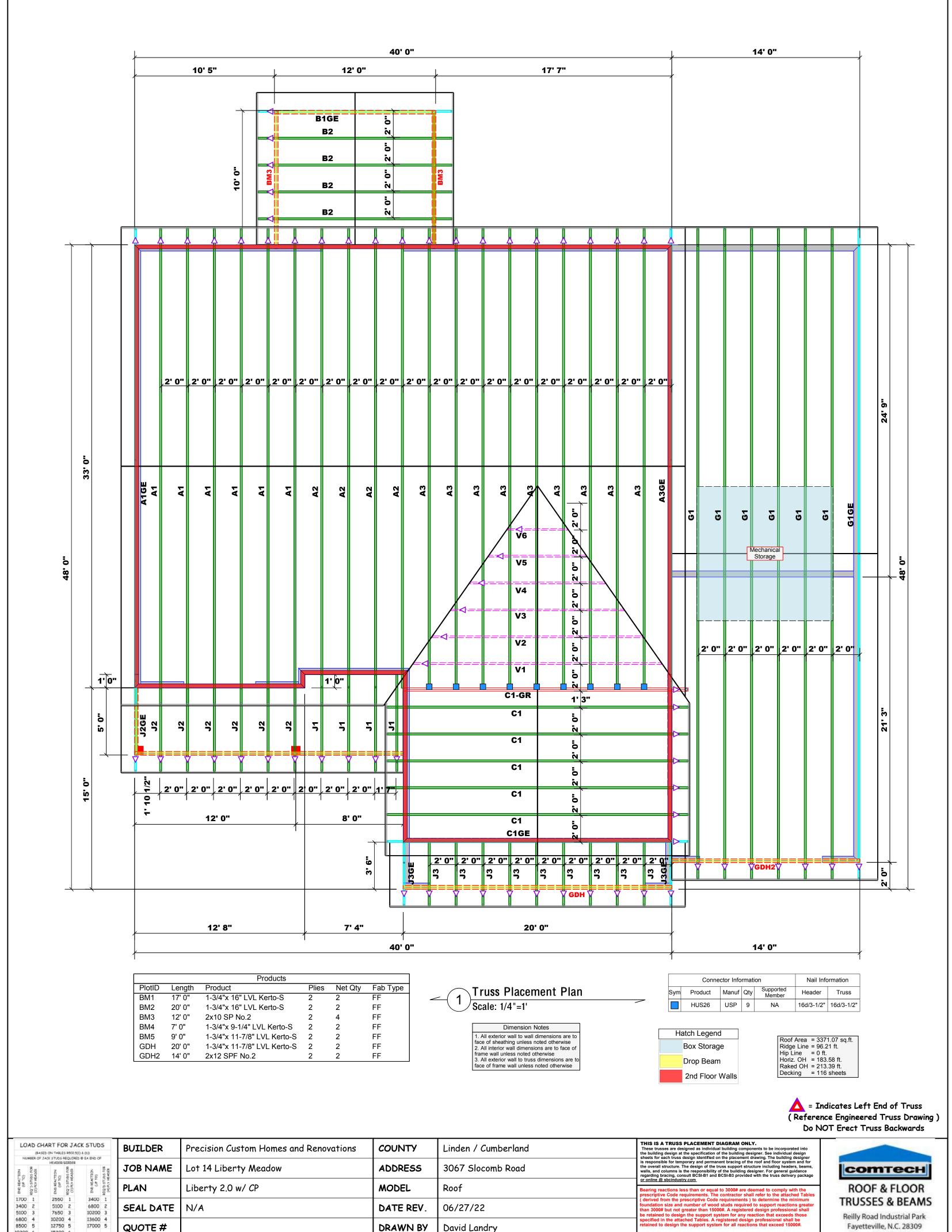


Appliances and Controls	
Thermostat Cooling Setpoint	* * * * 75.0
Thermostat Heating Setpoint	* * * * 70.0
Range/Oven Fuel	Electric
Convection Oven?	No
Induction Range?	No
Range/Oven Outside Conditioned Space?	No
Refrigerator Consumption	538 kWh/Year
Refrigerator Outside Conditioned Space?	No

#### **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 %



DRAWN BY

SALESMAN

David Landry

Neil Baggett

6800 4

8500 5

10200 6

13600 8

15300 9

11900 7

10200 4

12750 5

15300 6

13600 4

17000 5

QUOTE #

J1121-6492

JOB#

Reilly Road Industrial Park Fayetteville, N.C. 28309 Phone: (910) 864-8787 Fax: (910) 864-4444

David Landry

