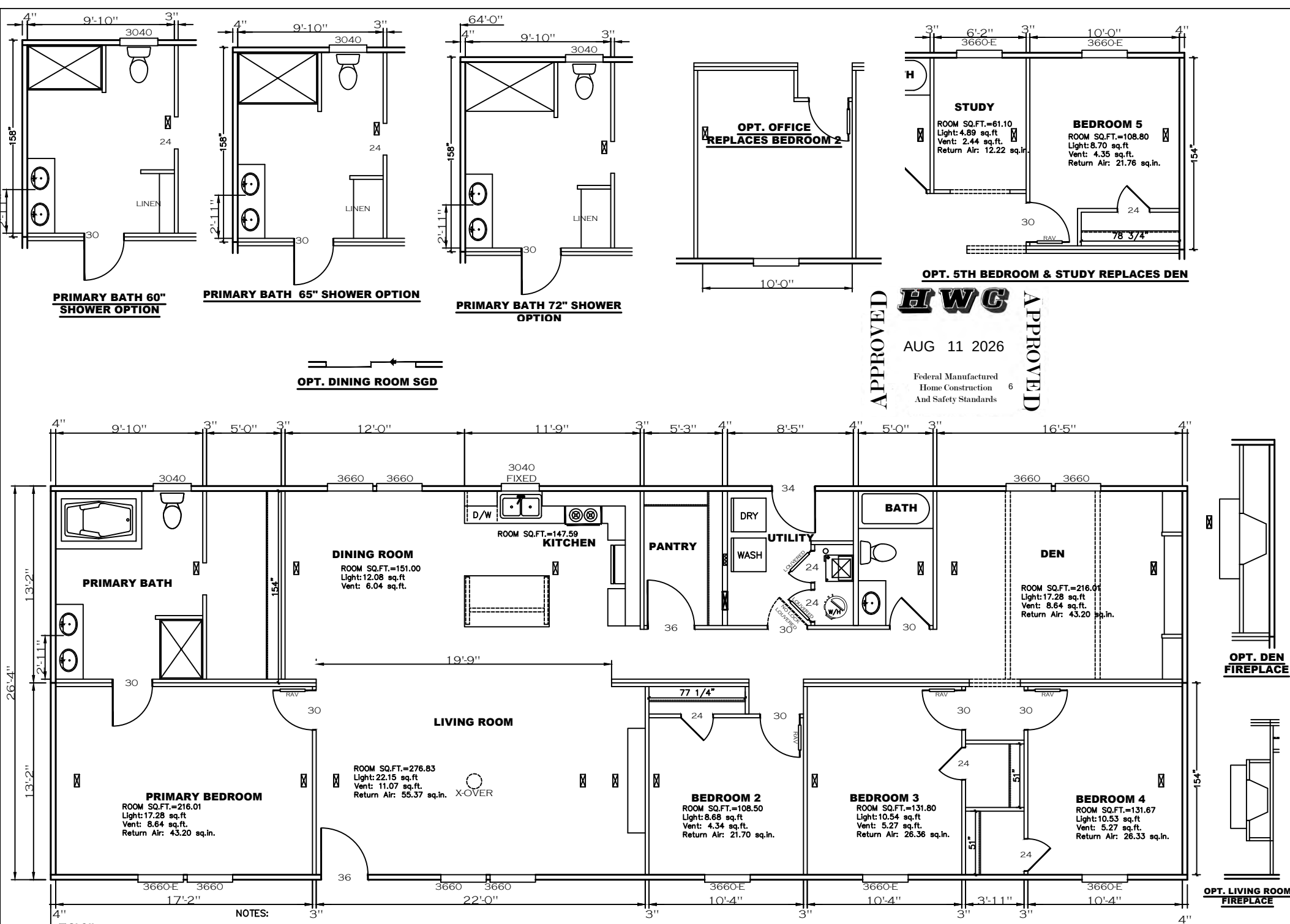




NOTES:

1. LESS THAN 35' FROM ANY BEDROOM TO AN EXIT DOOR.

SHEET:

FP

FLOOR PLAN

Clayton

Clayton - 934
1420 Mountain Rd, Andersonville, TN 37705
PH: 865.494.7800 FAX: 865.494.0243

HILBORN, WERNER, CARTER,
AND ASSOCIATES, INC.
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL. 33756

DRAWING #:

34M407-FP

MODEL #:

MTN28764B

DATE:

8/6/2026

SCALE:

N.T.S.

MODEL:

MOUNTAINEER 76 (28'X76')

SERIES:

MOUNTAINEER

PRODUCT DESIGNER: BRIAN K. RIFFEY

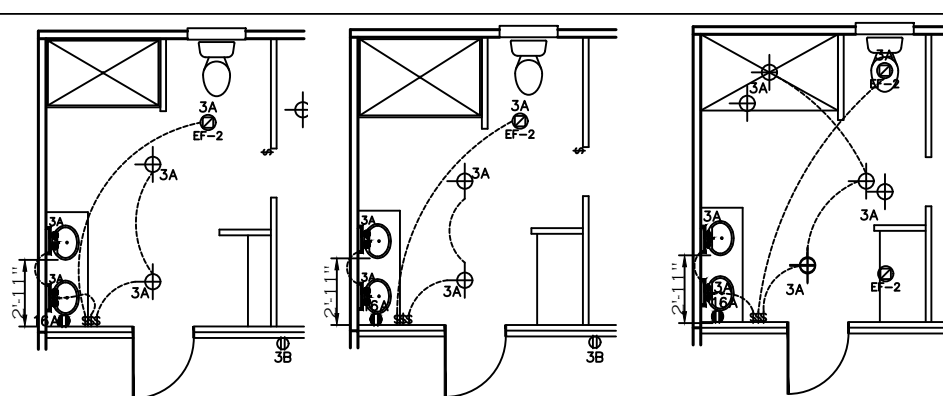
STD PLAN "CONDITIONED": 2,001 FT²

REV. BY:

REV. DATE:

PRINT DATE: 8/11/2026

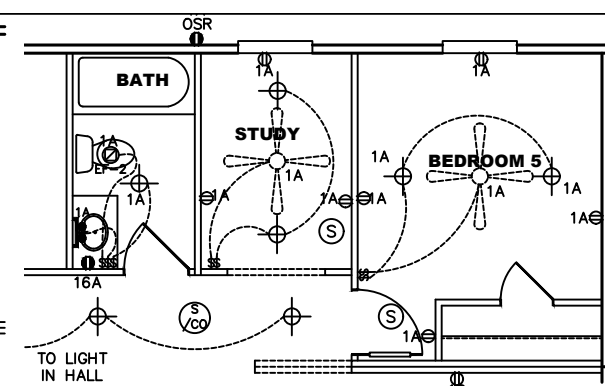
- NOTES:
1. ALL CIRCUITS SHOWN ARE FOR REFERENCE AND MAY BE CHANGED BASED ON OPTIONAL COMPONENTS INSTALLED IN THE HOME.
 2. REFER TO DAPIA MANUAL FOR SYMBOL CHART.
 3. EITHER LIGHT OR RECEPTACLE MUST CONNECT TO SWITCH.
 4. EF-1= 50 CFM EXHAUST FAN REQUIRED FOR THERMAL ZONE III THERMAL ZONES I & II MAY USE FAN OR WINDOW W/1.5 SQ. FT. OPENABLE GLASS.
 5. EF-2= 50 CFM EXHAUST FAN REQUIRED THERMAL ZONE I, II, AND III.
 6. EF-3= 100 CFM RANGE EXHAUST FAN, SWITCH AT HOOD.
 7. EF-4= WHOLE HOUSE VENTILATION REQUIREMENTS PER DAPIA MANUAL.
 8. REFER TO DAPIA MANUAL OR THE MFG. INSTALLATION INSTRUCTIONS FOR PROPER WIRE SIZE AND BREAKER SIZE FOR SPECIFIC APPLIANCE AND MODEL BEING INSTALLED.
 9. ALL SMOKE ALARMS TO BE LOCATED ON THE CEILING.
 10. CARBON MONOXIDE ALARMS ARE ONLY REQUIRED WHEN HOME HAS EITHER FUEL BURNING APPLIANCES, IS GARAGE READY OR IS BASEMENT READY. REFERENCE DAPIA MANUAL FOR ADDITIONAL INFORMATION.
 11. DIMENSIONS SHOWN ON PRINT ARE APPROXIMATE AND TO BE USED ONLY AS A GUIDELINE.
 12. LOUVERED DOORS SERVE AS RETURN AIR VENT.
 13. DISTANCE TO THE SECOND SINK IN PRIMARY BATH VANITY IS UNDER 36".



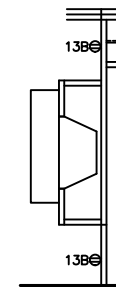
PRIMARY BATH 60\"/>

PRIMARY BATH 65\"/>

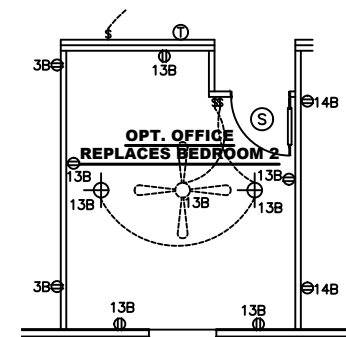
PRIMARY BATH 72\"/>



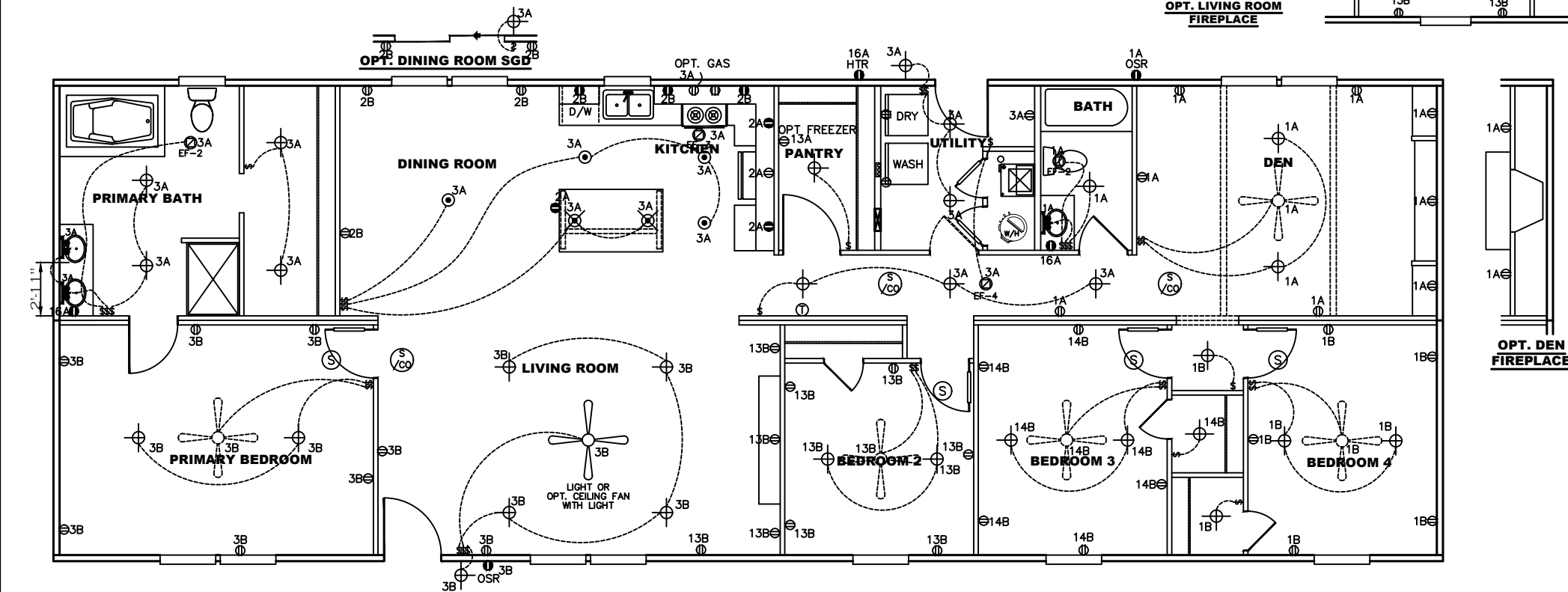
OPT. 5TH BEDROOM & STUDY REPLACES DEN



OPT. LIVING ROOM FIREPLACE



CIRCUIT	CIRCUIT #	WIRE	BREAKER	CIRCUIT	CIRCUIT #	WIRE	BREAKER	CIRCUIT	CIRCUIT #	WIRE	BREAKER
LIGHT/RECEP	1A,1B,3A,3B,13B,14B	14-2	15-SP	WATER HEATER	4A,6B	SEE NOTE #8		BATHROOM	16 A	12-2	20-SP
KITCHEN	2A,2B	12-2	20-SP	RANGE	5B,7A	SEE NOTE #8		OPT G/DISP	9B	SEE NOTE #8	
WASHER	12A	12-2	20-SP	FURNACE	6A,8A,B,10A,B	SEE NOTE #8		OPT SPA/ WP/JAC	11A,B	SEE NOTE #8	
DRYER	5A,7B	SEE NOTE #8		OPT D/WASH	9A	SEE NOTE #8		FREEZER	13 A	SEE NOTE #8	
				SMOKE ALARM	4B	SEE NOTE #8					



SHEET:	EL	ELECTRICAL PLAN	Clayton 1420 Mountain Rd, Andersonville, TN 37705 PH: 865.494.7800 FAX: 865.494.0243	HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1627 SOUTH MYRTLE AVE. CLEARWATER, FL. 33756	DRAWING #: 34M407-EL	MODEL: MOUNTAINEER 76 (28'X76')	STD PLAN "CONDITIONED": 2,001 FT²
PRINT DATE: 8/11/2026					MODEL #: MTN28764B	SERIES: MOUNTAINEER	REV. BY:
					DATE: 8/6/2026	SCALE: N.T.S.	REV. DATE:
						PRODUCT DESIGNER: BRIAN K. RIFFEY	

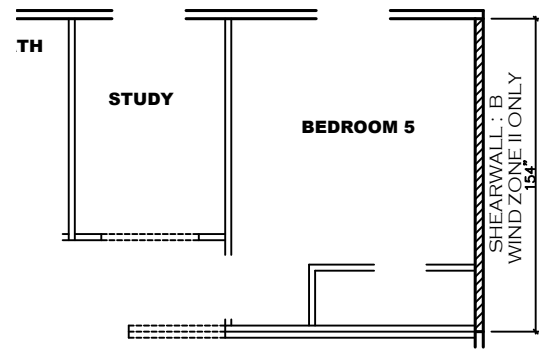
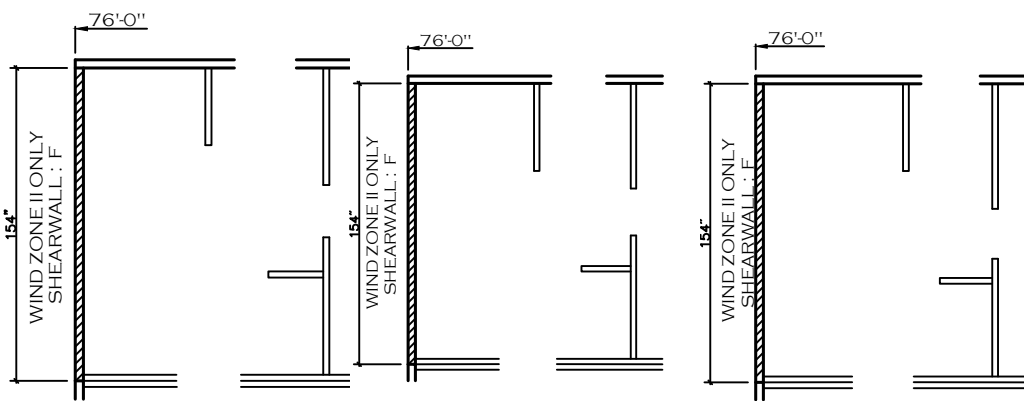
Model # 34M407
Box Width = 158" Double wide
Box Length = 79 ft. 99.5" 12" MIN BEAM
No Skylights
No Porches
Joist Size = #2 sp 2x6 Lags 9Mx3"

Minimum Joist Spacing 16"
No Offset Box
No Gable End
No Original Corner
No Sunk Floor
No Parapet Roof

Version R14.01

Wind Zone 1 Standard Roof					7/16" Rated Sheathing and Ceiling Board with 15 ga staple @ 6/12 (28x315) Chords: 2x4 SPF #3		90 inch sidewall	
Diaphragm Construction					Top Plate & 2nd Rail: Each spliced w/ 12" glue block			Block Dist: 36"0"
Shearwall	Dist / Htch	Length	PLF	# of Joists	Lags	Notes		
A	0"	112"	250	2	2/1			
E	76"	112"	250	2	2/1			

Wind Zone 2 Standard Roof					7/16" Rated Sheathing and Ceiling Board with 15 ga staple @ 6/12 (28x315) Chords: 2x4 SPF #3		96 inch sidewall	
Diaphragm Construction					Top Plate & 2nd Rail: Each spliced w/ 12" glue block			Block Dist: 36"0"
Shearwall	Dist / Htch	Length	PLF	# of Joists	Lags	Notes		
A	0"	96"	162	2	1/1			
B	0"	96"	162	2	1/1			
C	25'542"	136"	250	2	3/1			
D	36'125"	136"	350	2	4/1			
E	76"	116"	162	2	2/1			
F	76"	116"	162	2	2/1			



OPT. 5TH BEDROOM & STUDY REPLACES DEN

APPROVED

H W G

APPROVED

AUG 11 2026

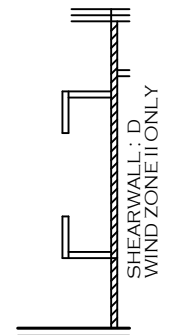
Federal Manufactured
Home Construction
And Safety Standards

6

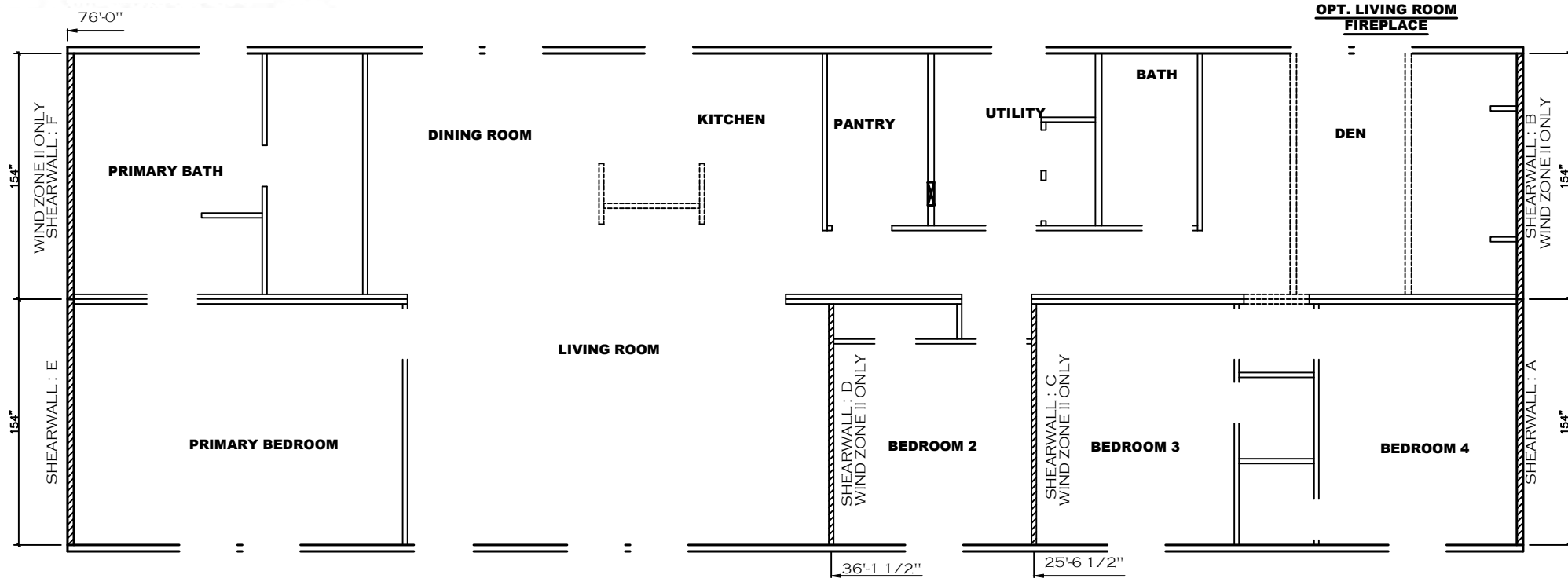
PRIMARY BATH 65" SHOWER OPTION

PRIMARY BATH 60" SHOWER OPTION

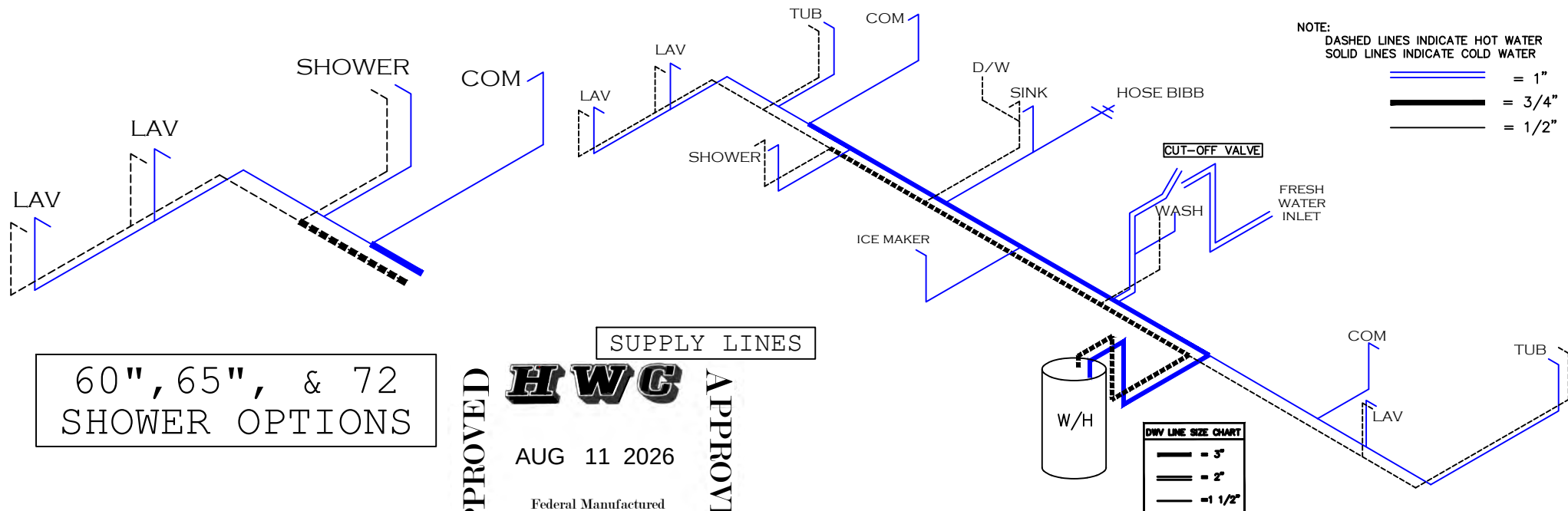
PRIMARY BATH 72" SHOWER OPTION



OPT. LIVING ROOM FIREPLACE



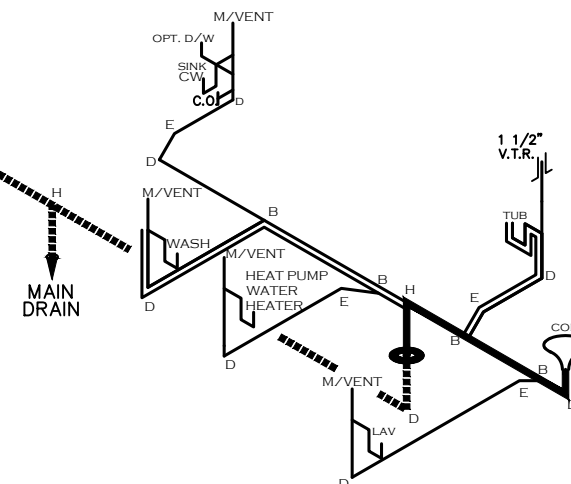
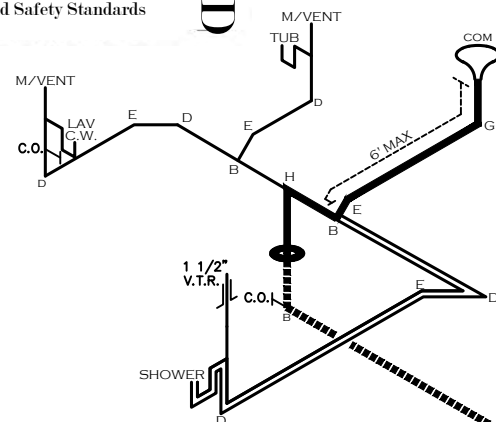
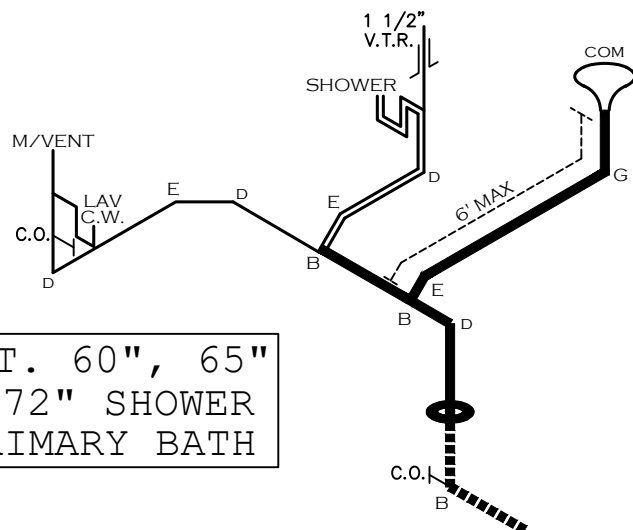
SHEET: SW		SHEARWALL PLAN		Clayton Clayton - 934 1420 Mountain Rd, Andersonville, TN 37705 PH: 865.494.7800 FAX: 865.494.0243		HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756		DRAWING #: 34M407-SW MODEL #: MTN287648 DATE: 8/6/2026 SCALE: N.T.S.		MODEL: MOUNTAINEER 76 (28'X76') SERIES: MOUNTAINEER PRODUCT DESIGNER: BRIAN K. RIFFEY		STD PLAN "CONDITIONED": 2,001 FT² REV. BY: REV. DATE:	
-----------	--	----------------	--	--	--	---	--	---	--	---	--	---	--



DWV LINE SIZE CHART	
==	= 3"
==	= 2"
==	= 1 1/2"

SHIP LOOSE CHART	
PARTS SHIPPED LOOSE W/HOME (TO BE INSTALLED IN FIELD)	
QUANTITY	DESCRIPTION
1	③ 3"x3"x3" LONG TURN T-Y/CLEANOUT
1	④ 3" DBL ELL
2	3" COUPLING
1	1.5" COUPLING
1	⑤ 3" LONG SWEEP 1/4 BEND
1	⑥ 1.5" LONG SWEEP 1/4 BEND
1	1.5" ABS PIPE 20'
1	APPROVED CEMENT
3.5	3" ABS PIPE 20'
varies	SUPPORT STRAPS

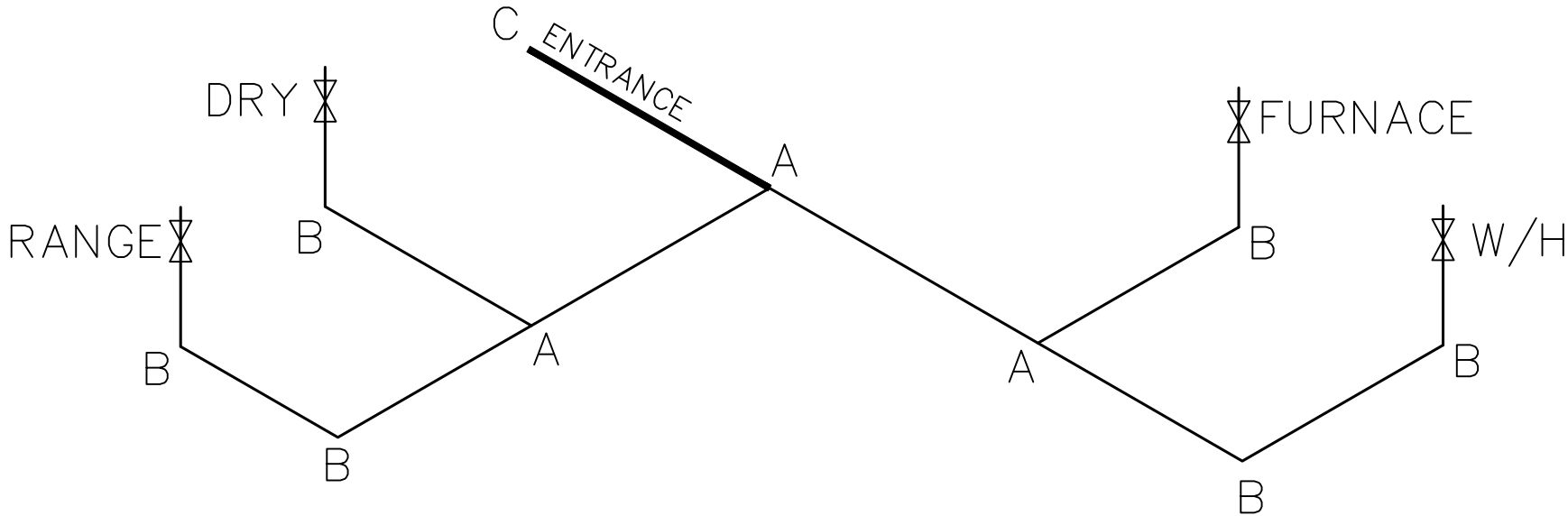
LEGEND	
A	SHORT TURN T-Y
B	LONG TURN T-Y
C	1/4 BEND
D	LONG SWEEP 1/4 BEND
E	45 ELL
F	DBL. SANITARY TEE
G	4x3 CLOSET ELL
H	DOUBLE ELL
I	22 1/2" ELL
J	45° Y
K	LONG TURN STREET ELBOW
L	45 FTG ELL



SHEET: WL	D.W.V. & SUPPLY LINES PLAN	Clayton Clayton - 934 1420 Mountain Rd, Andersonville, TN 37705 PH: 865.494.7800 FAX: 865.494.0243	HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1627 SOUTH MYRTLE AVE. CLEARWATER, FL. 33756	DRAWING #: 34M407-WL MODEL #: MTN28764B DATE: 8/6/2026	SCALE: N.T.S.	MODEL: MOUNTAINEER 76 (28'X76') SERIES: MOUNTAINEER PRODUCT DESIGNER: BRIAN K. RIFFEY	STD. PLAN "CONDITIONED": 2,001 FT² REV. BY: REV. DATE:
-----------	----------------------------	---	--	--	---------------	---	--

LEGEND		APPLIANCE BTU's RATINGS MAX. INPUT	
SYM	FITTINGS		
A	TEE	FURNACE	70,000 BTU'S
B	90 ELL	W/H	42,000 BTU'S
X	VALVE	RANGE	54,000 BTU'S
C	CAP	DRYER	30,000 BTU'S

MDL=30'



- NOTES:
- 1) ALL PIPE IS 3/4" I.D.CAST (EXCEPT WHERE NOTED OTHERWISE)
 - 2) MDL=MAX. DETERMINED LENGTH OF PIPE
 - 3) FITTING MAY BE ADDED OR SUBTRACTED TO TRAVERSE VARIATIONS IN AXLE QUANTITY, PLACEMENT, AND FRAME TYPE.
 - 4) INLET LOCATION MAY VARY TO STAY WITHIN MAX. DETERMINED LENGTH

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards

APPROVED

GAS LINE SIZE CHART	
	= 1"
	= 3/4"

SHEET:	GL	GAS LINE PLAN	 Clayton - 934 1420 Mountain Rd, Andersonville, TN 37705 PH: 865.494.7800 FAX: 865.494.0243	HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1627 SOUTH MYRTLE AVE. CLEARWATER, FL. 33756	DRAWING #:	34M407-GL	MODEL:	MOUNTAINEER 76 (28'x76')	STD. PLAN "CONDITIONED":	2,001 FT*
					MODEL #:	MTN28764B	SERIES:	MOUNTAINEER	REV. BY:	
					DATE:	8/6/2026	SCALE:	N.T.S.	PRODUCT DESIGNER:	BRIAN K. RIFFEY



Building Analysis

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ1
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ1

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

APPROVED

H W C

APPROVED

Design Conditions

Location:

GA 36
Elevation: 1010 ft
Latitude: 34°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

26
-
-
15.0

Cooling

92
16 (M)
74
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
44
50
39.9

Cooling

75
17
50
33.6

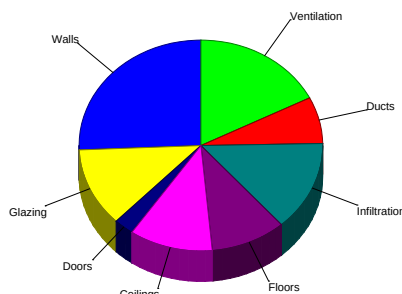
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
0

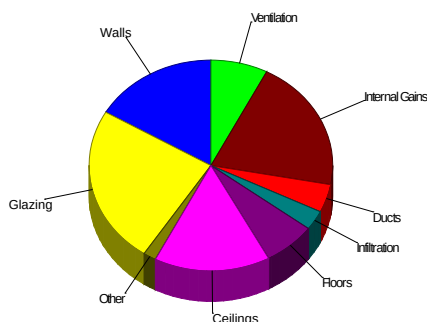
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.6	5072	25.7
Glazing	13.2	2392	12.1
Doors	13.1	521	2.6
Ceilings	1.1	2195	11.1
Floors	1.0	1976	10.0
Infiltration	1.7	2731	13.8
Ducts		1414	7.2
Piping		0	0
Humidification		0	0
Ventilation		3468	17.5
Adjustments		0	0
Total		19770	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.0	2891	16.6
Glazing	23.3	4221	24.2
Doors	7.5	297	1.7
Ceilings	1.3	2686	15.4
Floors	0.6	1210	6.9
Infiltration	0.3	520	3.0
Ducts		753	4.3
Ventilation		1320	7.6
Internal gains		3550	20.3
Blower		0	0
Adjustments		0	0
Total		17448	100.0



Latent Cooling Load = 3501 Btuh

Overall U-value = 0.057 Btuh/ft²-°F, Window / Floor Area = 9.0 %

Data entries checked.



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ1.rup Calc = MJ8 Front Door faces: E

2026-Aug-11 13:56:12

Page 1



Component Constructions
Entire House
CMH Manufacturing Appalachia

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Job: 34M407-FDJ-TZ1
Date: Aug 10, 2026
By: BRIAN RIFFEY



APPROVED

APPROVED

Project Information

AUG 11 2026

For: 34M407-FDJ-TZ1

Federal Manufactured
Home Construction 6
And Safety Standards

Design Conditions

Location:

GA 36
Elevation: 1010 ft
Latitude: 34°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

26
-
-
15.0

Cooling

92
16 (M)
74
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
44
50
39.9

Cooling

75
17
50
33.6

Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
0

Construction descriptions

Walls

CMH - DW - R-13 Wall - THP-502 DOE: Frm wall, vnl ext, 3/8" wood
shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c.
stud

Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n	212	0.082	13.0	3.58	758	2.04	432
e	512	0.082	13.0	3.58	1831	2.04	1044
s	212	0.082	13.0	3.58	758	2.04	432
w	483	0.082	13.0	3.58	1725	2.04	983
all	1419	0.082	13.0	3.58	5072	2.04	2891

Partitions

(none)

Windows

Clayton - Thermopane Low-E: Clayton - Thermopane Low-E; 50%
blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht
Clayton - Theropanel Low-E DOE: Clayton - Therompane Low-E DOE;
50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht

e	8	0.350	0	15.3	126	26.2	217
e	8	0.300	0	13.1	108	21.7	179
e	60	0.300	0	13.1	785	21.7	1305
w	105	0.300	0	13.1	1373	21.7	2284
all	173	0.300	0	13.1	2266	21.7	3768

Doors

CMH - Standard Door DOE: CMH - Standard Door -Solid no strom DOE

e	19	0.300	0	13.1	253	7.45	144
w	20	0.300	0	13.1	268	7.45	153
all	40	0.300	0	13.1	521	7.45	297

Ceilings

CMH - DW - 158 box R-38 - THP2823: Attic ceiling, asphalt shingles roof
mat, r-38 ceil ins, 1/2" gypsum board int fnsh

2014	0.025	38.0	1.09	2195	1.33	2686
------	-------	------	------	------	------	------

Floors

CHM - DW - R-22 FW THP-161: Flr floor, frm flr, 6" thkns, vinyl flr fnsh,
r-21 ext ins, amb ovr

2014	0.045	22.0	0.98	1976	0.60	1210
------	-------	------	------	------	------	------



Project Summary

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ1
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ1

Notes: Duct Capacity 27100 BTUH

APPROVED

HWC

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards

6

Design Information

Weather: GA 36

Winter Design Conditions

Outside db 26 °F
Inside db 70 °F
Design TD 44 °F

Ventilation Method MJ8

Heating Summary

Structure 14888 Btuh
Ducts (R-8.0) 1414 Btuh
Central vent (75 cfm) 3468 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 19770 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 0

	Heating	Cooling
Area (ft ²)	2014	2014
Volume (ft ³)	16112	16112
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	59	30

Heating Equipment Summary

Make Smart Comfort
Trade 15 SEER2 HP
Model R5H5S31*K*AAA*
AHRI ref 217702206

Efficiency 7.8 HSPF2
Heating input
Heating output 29600 Btuh @ 47°F
Temperature rise 30 °F
Actual air flow 933 cfm
Air flow factor 0.057 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat
Capacity balance point = 19 °F

Backup: Smart Comfort
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 34 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 15375 Btuh
Ducts (R-8.0) 753 Btuh
Central vent (75 cfm) 1320 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 16855 Btuh

Latent Cooling Equipment Load Sizing

Structure 1651 Btuh
Ducts 197 Btuh
Central vent (75 cfm) 1653 Btuh
Outside air
Equipment latent load 3501 Btuh

Equipment Total Load (Sen+Lat) 20356 Btuh
Req. total capacity at 0.70 SHR 2.0 ton

Cooling Equipment Summary

Make Smart Comfort
Trade 15 SEER2 HP
Cond R5H5S31*K*AAA*
Coil FEVB0036***+NAVA53601CK
AHRI ref 217702206
Efficiency 12.5 EER2, 15.5 SEER2
Sensible cooling 19600 Btuh
Latent cooling 8400 Btuh
Total cooling 28000 Btuh
Actual air flow 933 cfm
Air flow factor 0.058 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.83

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ1.rup Calc = MJ8 Front Door faces: E

2026-Aug-11 13:56:12

Page 1



Duct System Summary

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ1
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ1

APPROVED

HWC

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.175 in/100ft	0.175 in/100ft
Actual air flow	933 cfm	933 cfm
Total effective length (TEL)	171 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BATH-A	h 935	53	45	0.750	5.0	0x0	VIFx	5.0	35.0	st1
BEDROOM 2	c 1417	74	82	0.226	6.0	0x0	VIFx	22.9	110.0	st4
BEDROOM 3	c 1332	67	77	0	0	0x0	VIFx	0	0	
BEDROOM 4	h 1488	106	86	0	0	0x0	VIFx	0	0	
DEN	h 1076	62	49	0.556	5.0	0x0	VIFx	19.0	35.0	st1
DEN-A	h 1076	62	49	0.706	5.0	0x0	VIFx	7.5	35.0	st1
KITCHEN/DINING	c 1551	72	90	0.426	5.0	0x0	VIFx	35.5	35.0	st3
KITCHEN/DINING-A	c 1551	72	90	0.566	5.0	0x0	VIFx	18.0	35.0	st3
LIVING ROOM	c 1404	64	81	0.220	6.0	0x0	VIFx	26.4	110.0	st4
LIVING ROOM-A	c 1404	64	81	0.194	6.0	0x0	VIFx	44.4	110.0	st4
PRIMARY BATH	h 1871	107	66	0.380	6.0	0x0	VIFx	44.0	35.0	st3
PRIMARY BED	c 1176	66	68	0.175	5.0	0x0	VIFx	61.4	110.0	st4
PRIMARY BED-A	c 1176	66	68	0.191	4.4	5x5	ShMt	46.9	110.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	250	245	0.380	514	5.0	5 x 14	ShtMetl	st2
st4	Peak AVF	333	380	0.175	783	5.0	5 x 14	ShtMetl	
st1	Peak AVF	177	144	0.556	364	5.0	5 x 14	ShtMetl	
st2	Peak AVF	333	380	0.175	913	5.0	5 x 12	VinIFlx	



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ1.rup Calc = MJB Front Door faces: E

2026-Aug-11 13:56:12

Page 1

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	933	933	0	0	0	0	0x 0		VIFx	

APPROVED

H W G

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

APPROVED



Manual S Compliance Report
Entire House
CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ1
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ1

APPROVED



APPROVED

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

Cooling Equipment

Design Conditions

Outdoor design DB:	91.6°F	Sensible gain:	17448 Btuh	Entering coil DB:	76.4°F
Outdoor design WB:	73.6°F	Latent gain:	3501 Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	20949 Btuh		
Indoor RH:	50%	Estimated airflow:	933 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Smart Comfort	Model:	R5H5S31*K*AAA*+FEVB0036**++NAVA53601CK
Actual airflow:	933 cfm		
Sensible capacity:	22389 Btuh	128% of load	
Latent capacity:	4762 Btuh	136% of load	
Total capacity:	27151 Btuh	130% of load	SHR: 82%

Heating Equipment

Design Conditions

Outdoor design DB:	26.4°F	Heat loss:	19770 Btuh	Entering coil DB:	66.4°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Smart Comfort	Model:	R5H5S31*K*AAA*+FEVB0036**++NAVA53601CK
Actual airflow:	933 cfm		
Output capacity:	21711 Btuh	110% of load	Capacity balance: 19 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:	Smart Comfort	Model:	
Actual airflow:	933 cfm		
Output capacity:	10.0 kW	173% of load	Temp. rise: 34 °F

Meets all requirements of ACCA Manual S.



Right-Suite® Universal 2025 25.0.05 RSU55710

2026-Aug-11 13:56:12

Page 1

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ1.rup Calc = MJ8 Front Door faces: E



APPROVED

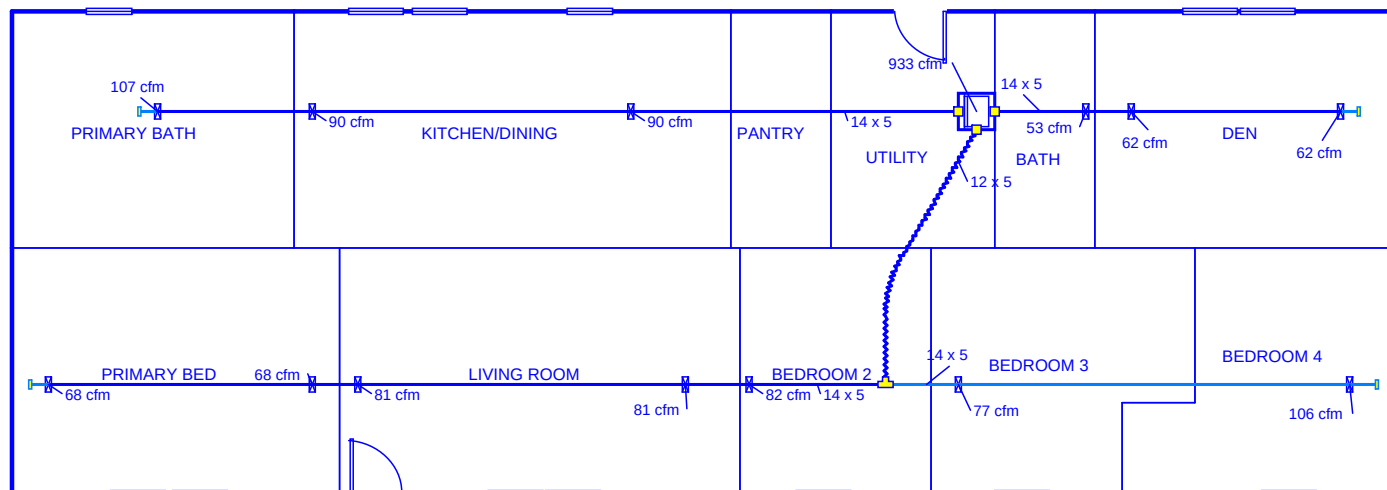
HWC

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

Level 1



Job #: 34M407-FDJ-TZ1
Performed by BRIAN RIFFEY for:
34M407-FDJ-TZ1

CMH Manufacturing Appalachia

1420 Mountain Road
Maryville, TN 37705
Phone: 865-494-7800 Ext 257 Fax: 865-494-0243
www.claytonhomes.com

Scale: 1 : 127

Page 1
Right-Suite® Universal 2025
25.0.05 RSU55710
2026-Aug-11 13:57:10

...RGY STANDARDS\34M407-FDJ-TZ1

CLAYTON HOME BUILDING GROUP

Model Number	MTN2876AB	Drawing Number	34M407 HEATLOSS-TZ1	Version 29
Serial Number	X	Model Name	MOUNTAINEER	

BOX SIZE: 26.33 ft. x 76 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-22 FW	R-13	R-38
DAPIA PAGE	THP-161	THP-502	THP-2823
U VALUE (BTUH/SQ.FT.-F)	0.0445	0.0817	0.0250

**THIS INSULATION COMBINATION COMPLIES WITH
ZONE 1 PRESCRIPTIVE ZERH REQUIREMENTS**

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
12	0
14	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

APPROVED

HWC

AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards 6

APPROVED

Window Glass Area:

Doors:

	Area	U Value	UA
Front	21.63	0.300	6.49
Rear	19.37	0.300	5.81
Other Door	40.00	0.300	12.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	156.00	0.300	46.80
Option	0.00	0.300	0.00
Net: Floor	2001.33	0.045	89.06
Wall	1400.33	0.082	114.41
Ceiling	2001.33	0.0280	56.04
Th. Zone 1: Ext. Duct	78.50	0.242	18.98
Th. Zone 2: Ext. Duct	78.50	0.223	17.48
Th. Zone 3: Ext. Duct	78.50	0.206	16.14
Overhead TZ 1: Supply	0.00	0.000	0.00
Overhead TZ 2: Supply	0.00	0.000	0.00
Overhead TZ 3: Supply	0.00	0.00	0.00

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	399.8
Th. Zone 2	223.3
Th. Zone 3	0.0

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	ZERH / EStar 3.0 Compliant	Heatloss BTUH/F
1	11	349.59	0.061	OK	492.90
2	0	348.08	0.061	OK	491.40
3	-14	346.74	0.061	NG	490.00

Design Temperatures	
Furnace Heating Temp (F)	Economy Outdoor Temp (F)
1	22
-13	12
-34	-3
-11	13
-52	-15
-92	-44

10kW
12kW
15kW
40k Gas
60k Gas
80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH					
1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054



Building Analysis
Entire House
CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ2
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ2

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

APPROVED

H W C

APPROVED

Design Conditions

Location:

TN 25
Elevation: 962 ft
Latitude: 36°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

21
-
-
15.0

Cooling

90
18 (M)
73
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
49
50
43.6

Cooling

75
15
50
33.6

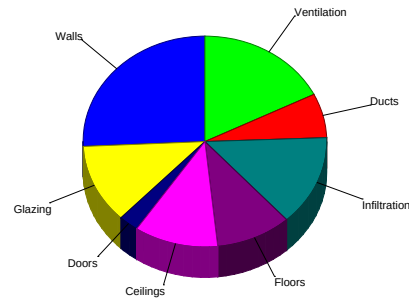
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
0

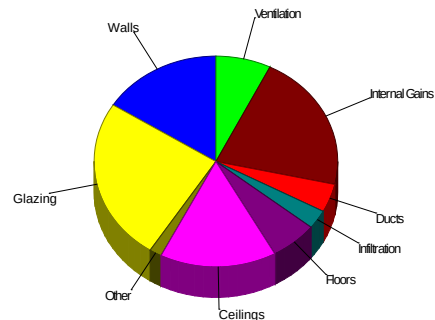
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.0	5700	25.7
Glazing	14.8	2688	12.1
Doors	14.7	586	2.6
Ceilings	1.2	2467	11.1
Floors	1.1	2220	10.0
Infiltration	1.9	3075	13.9
Ducts		1501	6.8
Piping		0	0
Humidification		0	0
Ventilation		3904	17.6
Adjustments		0	0
Total		22141	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.9	2681	16.0
Glazing	23.0	4182	24.9
Doors	6.9	276	1.6
Ceilings	1.3	2596	15.5
Floors	0.5	1047	6.2
Infiltration	0.3	483	2.9
Ducts		733	4.4
Ventilation		1227	7.3
Internal gains		3550	21.2
Blower		0	0
Adjustments		0	0
Total		16774	100.0



Latent Cooling Load = 3504 Btuh

Overall U-value = 0.057 Btuh/ft²-°F, Window / Floor Area = 9.0 %

Data entries checked.



Component Constructions
Entire House
CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ2
 Date: Aug 10, 2026
 By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ2



AUG 11 2026

Federal Manufactured
 Home Construction 6
 And Safety Standards

APPROVED

APPROVED

Design Conditions

Location:			Indoor:	Heating	Cooling
TN 25			Indoor temperature (°F)	70	75
Elevation: 962 ft			Design TD (°F)	49	15
Latitude: 36°N			Relative humidity (%)	50	50
Outdoor:			Moisture difference (gr/lb)	43.6	33.6
Heating	Cooling		Infiltration:		
Dry bulb (°F)	21	90	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Walls

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
CMH - DW - R-13 Wall - THP-502 DOE: Frm wall, vnl ext, 3/8" wood	n	212	0.082	13.0	4.02	852	1.89	401
shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c.	e	512	0.082	13.0	4.02	2058	1.89	968
stud	s	212	0.082	13.0	4.02	852	1.89	401
	w	483	0.082	13.0	4.02	1939	1.89	912
	all	1419	0.082	13.0	4.02	5700	1.89	2681

Partitions

(none)

Windows

Clayton - Thermopane Low-E: Clayton - Thermopane Low-E; 50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht	e	8	0.350	0	17.1	141	25.8	213
Clayton - Theropanel Low-E DOE: Clayton - Therompane Low-E DOE; 50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht	e	8	0.300	0	14.7	121	21.3	176
	e	60	0.300	0	14.7	882	21.3	1281
	w	105	0.300	0	14.7	1544	21.3	2242
	all	173	0.300	0	14.7	2547	21.3	3699

Doors

CMH - Standard Door DOE: CMH - Standard Door -Solid no strom DOE	e	19	0.300	0	14.7	284	6.91	134
	w	20	0.300	0	14.7	301	6.92	142
	all	40	0.300	0	14.7	586	6.91	276

Ceilings

CMH - DW - 158 box R-38 - THP2823: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		2014	0.025	38.0	1.23	2467	1.29	2596
--	--	------	-------	------	------	------	------	------

Floors

CHM - DW - R-22 FW THP-161: Flr floor, frm flr, 6" thkns, vinyl flr fnsh, r-21 ext ins, amb ovr		2014	0.045	22.0	1.10	2220	0.52	1047
---	--	------	-------	------	------	------	------	------



Project Summary
Entire House
CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ2
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ2

Notes: Duct Capacity 31100 BTUH

APPROVED

HWC

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

APPROVED

Design Information

Weather: TN 25

Winter Design Conditions

Outside db 21 °F
Inside db 70 °F
Design TD 49 °F

Ventilation Method MJ8

Heating Summary

Structure 16737 Btuh
Ducts (R-8.0) 1501 Btuh
Central vent (75 cfm) 3904 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 22141 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 0

	Heating	Cooling
Area (ft ²)	2014	2014
Volume (ft ³)	16112	16112
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	59	30

Heating Equipment Summary

Make Smart Comfort
Trade 15 SEER2 HP
Model R5H5S24*K*AAA*
AHRI ref 214277579

Efficiency 7.8 HSPF2
Heating input
Heating output 23200 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 787 cfm
Air flow factor 0.043 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat
Capacity balance point = 24 °F

Backup: Smart Comfort
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 90 °F
Inside db 75 °F
Design TD 15 °F
Daily range M
Relative humidity 50 %
Moisture difference 34 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 14814 Btuh
Ducts (R-8.0) 733 Btuh
Central vent (75 cfm) 1227 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.95
Equipment sensible load 16002 Btuh

Latent Cooling Equipment Load Sizing

Structure 1652 Btuh
Ducts 196 Btuh
Central vent (75 cfm) 1656 Btuh
Outside air
Equipment latent load 3504 Btuh

Equipment Total Load (Sen+Lat) 19507 Btuh
Req. total capacity at 0.70 SHR 1.9 ton

Cooling Equipment Summary

Make Smart Comfort
Trade 15 SEER2 HP
Cond R5H5S24*K*AAA*
Coil FEVB0036***+NAVA53601CK
AHRI ref 214277579
Efficiency 12.0 EER2, 15.5 SEER2
Sensible cooling 16520 Btuh
Latent cooling 7080 Btuh
Total cooling 23600 Btuh
Actual air flow 787 cfm
Air flow factor 0.051 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.83

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ2.rup Calc = MJ8 Front Door faces: E

2026-Aug-11 14:02:41

Page 1



Duct System Summary

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ2
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ2

APPROVED

HWG

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.175 in/100ft	0.175 in/100ft
Actual air flow	787 cfm	787 cfm
Total effective length (TEL)	171 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BATH-A	h 1046	45	38	0.750	5.0	0x0	VIFx	5.0	35.0	st1
BEDROOM 2	c 1370	62	69	0.226	5.0	0x0	VIFx	22.9	110.0	st4
BEDROOM 3	c 1288	57	65	0	0	0x0	VIFx	0	0	
BEDROOM 4	h 1427	89	72	0	0	0x0	VIFx	0	0	
DEN	h 1204	52	41	0.556	5.0	0x0	VIFx	19.0	35.0	st1
DEN-A	h 1204	52	41	0.706	5.0	0x0	VIFx	7.5	35.0	st1
KITCHEN/DINING	c 1504	60	76	0.426	5.0	0x0	VIFx	35.5	35.0	st3
KITCHEN/DINING-A	c 1504	60	76	0.566	5.0	0x0	VIFx	18.0	35.0	st3
LIVING ROOM	c 1364	54	69	0.220	5.0	0x0	VIFx	26.4	110.0	st4
LIVING ROOM-A	c 1364	54	69	0.194	5.0	0x0	VIFx	44.4	110.0	st4
PRIMARY BATH	h 2093	90	54	0.380	5.0	0x0	VIFx	44.0	35.0	st3
PRIMARY BED	c 1137	56	58	0.175	5.0	0x0	VIFx	61.4	110.0	st4
PRIMARY BED-A	c 1137	56	58	0.191	4.2	5x5	ShMt	46.9	110.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	211	207	0.380	434	5.0	5 x 14	ShtMetl	st2
st4	Peak AVF	281	323	0.175	664	5.0	5 x 14	ShtMetl	
st1	Peak AVF	149	120	0.556	307	5.0	5 x 14	ShtMetl	
st2	Peak AVF	281	323	0.175	774	5.0	5 x 12	VinIFlx	



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ2.rup Calc = MJB Front Door faces: E

2026-Aug-11 14:02:41

Page 1

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	787	787	0	0	0	0	0x 0		VIFx	





Manual S Compliance Report

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ2
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ2

APPROVED



AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards

6

APPROVED

Cooling Equipment

Design Conditions

Outdoor design DB:	90.4°F	Sensible gain:	16774	Btuh	Entering coil DB:	76.5°F
Outdoor design WB:	73.3°F	Latent gain:	3504	Btuh	Entering coil WB:	63.6°F
Indoor design DB:	75.0°F	Total gain:	20278	Btuh		
Indoor RH:	50%	Estimated airflow:	787	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Smart Comfort	Model:	R5H5S24*K*AAA*+FEVB0036**++NAVA53601CK	
Actual airflow:	787	cfm		
Sensible capacity:	19371	Btuh	115% of load	
Latent capacity:	4444	Btuh	127% of load	
Total capacity:	23815	Btuh	117% of load	SHR: 81%

Heating Equipment

Design Conditions

Outdoor design DB:	21.0°F	Heat loss:	22141	Btuh	Entering coil DB:	65.2°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Smart Comfort	Model:	R5H5S24*K*AAA*+FEVB0036**++NAVA53601CK	
Actual airflow:	787	cfm		
Output capacity:	23200	Btuh	105% of load	Capacity balance: 24 °F
Supplemental heat required:	0	Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip			
Manufacturer:	Smart Comfort	Model:		
Actual airflow:	787	cfm		
Output capacity:	10.0	kW	154% of load	Temp. rise: 34 °F

Meets all requirements of ACCA Manual S.



Right-Suite® Universal 2025 25.0.05 RSU55710

2026-Aug-11 14:02:41

Page 1

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ2.rup Calc = MJ8 Front Door faces: E



APPROVED

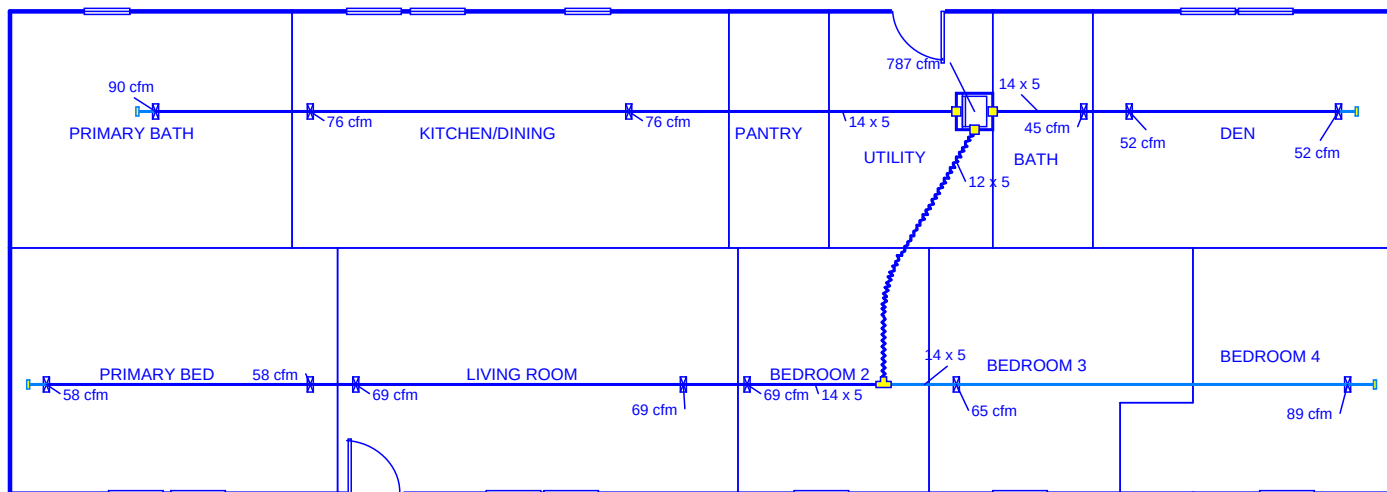
H W G

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

Level 1



Job #: 34M407-FDJ-TZ2
Performed by BRIAN RIFFEY for:
34M407-FDJ-TZ2

CMH Manufacturing Appalachia

1420 Mountain Road
Maryville, TN 37705
Phone: 865-494-7800 Ext 257 Fax: 865-494-0243
www.claytonhomes.com

Scale: 1 : 127

Page 1
Right-Suite® Universal 2025
25.0.05 RSU55710
2026-Aug-11 14:03:30
...RGY STANDARDS\34M407-FDJ-TZ

CLAYTON HOME BUILDING GROUP

Model Number	MTN2876AB	Drawing Number	34M407 HEATLOSS-TZ2	Version 29
Serial Number	X	Model Name	MOUNTAINEER	

BOX SIZE: 26.33 ft. x 76 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-22 FW	R-13	R-38
DAPIA PAGE	THP-161	THP-502	THP-2823
U VALUE (BTUH/SQ.FT.-F)	0.0445	0.0817	0.0250

**THIS INSULATION COMBINATION COMPLIES WITH
ZONE 1 PRESCRIPTIVE ZERH REQUIREMENTS**

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
12	0
14	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

APPROVED

HWC

AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards

APPROVED

Window Glass Area:

Doors:

	Area	U Value	UA
Front	21.63	0.300	6.49
Rear	19.37	0.300	5.81
Other Door	40.00	0.300	12.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	156.00	0.300	46.80
Option	0.00	0.300	0.00
Floor	2001.33	0.045	89.06
Wall	1400.33	0.082	114.41
Ceiling	2001.33	0.0280	56.04
Ext. Duct	78.50	0.242	18.98
Ext. Duct	78.50	0.223	17.48
Ext. Duct	78.50	0.206	16.14
Supply	0.00	0.000	0.00
Supply	0.00	0.000	0.00
Supply	0.00	0.00	0.00

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	399.8
Th. Zone 2	223.3
Th. Zone 3	0.0

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	ZERH / EStar 3.0 Compliant	Heatloss BTUH/F
1	11	349.59	0.061	OK	492.90
2	0	348.08	0.061	OK	491.40
3	-14	346.74	0.061	NG	490.00

Design Temperatures	
Furnace Heating Temp (F)	Economy Outdoor Temp (F)
1	22
-13	12
-34	-3
-11	13
-52	-15
-92	-44

10kW
12kW
15kW
40k Gas
60k Gas
80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH					
1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054



Building Analysis

Entire House

CMH Manufacturing Appalachia

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Job: 34M407-FDJ-TZ3
Date: Aug 10, 2026
By: BRIAN RIFFEY



APPROVED

APPROVED

Project Information

For: 34M407-FDJ-TZ3

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

Design Conditions

Location:

OH 22
Elevation: 744 ft
Latitude: 40°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

10
-
-
15.0

Cooling

90
19 (M)
73
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
60
50
48.7

Cooling

75
15
50
33.4

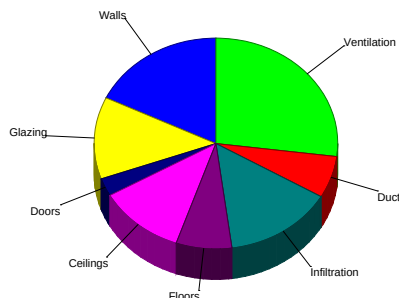
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
0

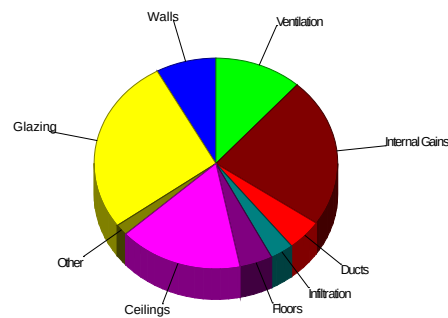
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.3	4674	17.9
Glazing	18.1	3286	12.6
Doors	18.0	716	2.7
Ceilings	1.5	3016	11.5
Floors	1.0	1930	7.4
Infiltration	2.3	3789	14.5
Ducts		1682	6.4
Piping		0	0
Humidification		0	0
Ventilation		7055	27.0
Adjustments		0	
Total		26148	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.9	1237	8.0
Glazing	23.0	4168	27.0
Doors	6.6	264	1.7
Ceilings	1.3	2545	16.5
Floors	0.3	680	4.4
Infiltration	0.3	481	3.1
Ducts		732	4.7
Ventilation		1790	11.6
Internal gains		3550	23.0
Blower		0	0
Adjustments		0	
Total		15447	100.0



Latent Cooling Load = 4282 Btuh

Overall U-value = 0.046 Btuh/ft²-°F, Window / Floor Area = 9.0 %

Data entries checked.



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ3.rup Calc = MJ8 Front Door faces: E

2026-Aug-11 13:51:31

Page 1



Component Constructions
Entire House
CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ3
Date: Aug 10, 2026
By: BRIAN RIFFEY



1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ3

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

APPROVED

APPROVED

Design Conditions

Location:

OH 22
Elevation: 744 ft
Latitude: 40°N

Outdoor:

	Heating	Cooling
Dry bulb (°F)	10	90
Daily range (°F)	-	19 (M)
Wet bulb (°F)	-	73
Wind speed (mph)	15.0	7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
60
50
48.7

Cooling

75
15
50
33.4

Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
0

Construction descriptions

Walls

CMH - DW - R-21 Wall - THP-510: Frm wall, vnl ext, 5/8" wood shth,
r-21 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n	212	0.055	21.0	3.29	698	0.87	185
e	512	0.055	21.0	3.29	1687	0.87	446
s	212	0.055	21.0	3.29	698	0.87	185
w	483	0.055	21.0	3.29	1590	0.87	421
all	1419	0.055	21.0	3.29	4674	0.87	1237

Partitions

(none)

Windows

Clayton - Thermopane Low-E: Clayton - Thermopane Low-E; 50%
blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht
Clayton - Theropanel Low-E DOE: Clayton - Therompane Low-E DOE;
50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht

e	8	0.350	0	21.0	173	25.5	211
e	8	0.300	0	18.0	148	21.1	174
e	60	0.300	0	18.0	1078	21.1	1268
w	105	0.300	0	18.0	1887	21.1	2219
all	173	0.300	0	18.0	3113	21.1	3662

Doors

CMH - Standard Door DOE: CMH - Standard Door -Solid no strom DOE

e	19	0.300	0	18.0	348	6.61	128
w	20	0.300	0	18.0	368	6.61	136
all	40	0.300	0	18.0	716	6.61	264

Ceilings

CMH - DW - 158 box R-38 - THP2823: Attic ceiling, asphalt shingles roof
mat, r-38 ceil ins, 1/2" gypsum board int fnsh

2014	0.025	38.0	1.50	3016	1.26	2545
------	-------	------	------	------	------	------

Floors

CHM - DW - R-33 FW THP-221: Flr floor, frm flr, 6" thkns, vinyl flr fnsh,
r-30 ext ins, amb ovr

2014	0.032	33.0	0.96	1930	0.34	680
------	-------	------	------	------	------	-----



Project Summary

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ3
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ3

Notes: Duct Capacity 31100 BTUH

APPROVED

H W G

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards

6

Design Information

Weather: OH 22

Winter Design Conditions

Outside db 10 °F
Inside db 70 °F
Design TD 60 °F

Ventilation Method MJ8

Heating Summary

Structure 17411 Btuh
Ducts (R-8.0) 1682 Btuh
Central vent (110 cfm) 7055 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 26148 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 0

	Heating	Cooling
Area (ft ²)	2014	2014
Volume (ft ³)	16112	16112
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	59	30

Heating Equipment Summary

Make Smart Comfort
Trade 15 SEER2 HP
Model R5H5S24*K*AAA*
AHRI ref 214277579

Efficiency 7.8 HSPF2
Heating input
Heating output 23200 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 787 cfm
Air flow factor 0.041 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat
Capacity balance point = 22 °F

Backup: Smart Comfort
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 90 °F
Inside db 75 °F
Design TD 15 °F
Daily range M
Relative humidity 50 %
Moisture difference 33 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 12924 Btuh
Ducts (R-8.0) 732 Btuh
Central vent (110 cfm) 1790 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.95
Equipment sensible load 14705 Btuh

Latent Cooling Equipment Load Sizing

Structure 1654 Btuh
Ducts 193 Btuh
Central vent (110 cfm) 2435 Btuh
Outside air
Equipment latent load 4282 Btuh

Equipment Total Load (Sen+Lat) 18987 Btuh
Req. total capacity at 0.70 SHR 1.8 ton

Cooling Equipment Summary

Make Smart Comfort
Trade 15 SEER2 HP
Cond R5H5S24*K*AAA*
Coil FEVB0036***+NAVA53601CK
AHRI ref 214277579
Efficiency 12.0 EER2, 15.5 SEER2
Sensible cooling 16520 Btuh
Latent cooling 7080 Btuh
Total cooling 23600 Btuh
Actual air flow 787 cfm
Air flow factor 0.058 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.78

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-Suite® Universal 2025 25.0.05 RSU55710

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ3.rup Calc = MJ8 Front Door faces: E

2026-Aug-11 13:51:31

Page 1



Duct System Summary

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ3
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ3

APPROVED



APPROVED

AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.175 in/100ft	0.175 in/100ft
Actual air flow	787 cfm	787 cfm
Total effective length (TEL)	171 ft	

Supply Branch Detail Table

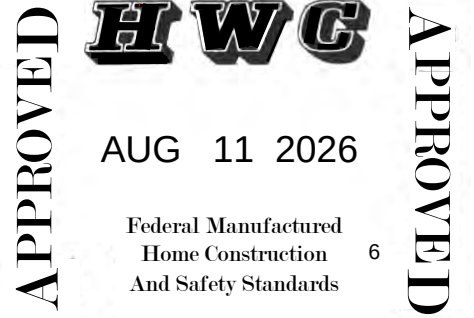
Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BATH-A	h 1095	45	37	0.750	5.0	0x0	VIFx	5.0	35.0	st1
BEDROOM 2	c 1232	63	71	0.226	5.0	0x0	VIFx	22.9	110.0	st4
BEDROOM 3	c 1166	58	67	0	0	0x0	VIFx	0	0	
BEDROOM 4	h 1181	86	68	0	0	0x0	VIFx	0	0	
DEN	h 1256	52	39	0.556	5.0	0x0	VIFx	19.0	35.0	st1
DEN-A	h 1256	52	39	0.706	5.0	0x0	VIFx	7.5	35.0	st1
KITCHEN/DINING	c 1365	61	79	0.426	5.0	0x0	VIFx	35.5	35.0	st3
KITCHEN/DINING-A	c 1365	61	79	0.566	5.0	0x0	VIFx	18.0	35.0	st3
LIVING ROOM	c 1261	56	73	0.220	5.0	0x0	VIFx	26.4	110.0	st4
LIVING ROOM-A	c 1261	56	73	0.194	6.0	0x0	VIFx	44.4	110.0	st4
PRIMARY BATH	h 2104	87	47	0.380	5.0	0x0	VIFx	44.0	35.0	st3
PRIMARY BED	c 999	55	58	0.175	5.0	0x0	VIFx	61.4	110.0	st4
PRIMARY BED-A	c 999	55	58	0.191	4.2	5x5	ShMt	46.9	110.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	209	204	0.380	429	5.0	5 x 14	ShtMetl	st2
st4	Peak AVF	285	331	0.175	682	5.0	5 x 14	ShtMetl	
st1	Peak AVF	149	116	0.556	306	5.0	5 x 14	ShtMetl	
st2	Peak AVF	285	331	0.175	795	5.0	5 x 12	VinIFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	787	787	0	0	0	0	0x 0		VIFx	





Manual S Compliance Report

Entire House

CMH Manufacturing Appalachia

Job: 34M407-FDJ-TZ3
Date: Aug 10, 2026
By: BRIAN RIFFEY

1420 Mountain Road, Maryville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M407-FDJ-TZ3



AUG 11 2026

Federal Manufactured
Home Construction 6
And Safety Standards

APPROVED

APPROVED

Cooling Equipment

Design Conditions

Outdoor design DB:	90.2°F	Sensible gain:	15447 Btuh	Entering coil DB:	77.2°F
Outdoor design WB:	73.3°F	Latent gain:	4282 Btuh	Entering coil WB:	64.2°F
Indoor design DB:	75.0°F	Total gain:	19729 Btuh		
Indoor RH:	50%	Estimated airflow:	787 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Smart Comfort	Model:	R5H5S24*K*AAA*+FEVB0036**++NAVA53601CK
Actual airflow:	787 cfm		
Sensible capacity:	19371 Btuh	125% of load	
Latent capacity:	4444 Btuh	104% of load	
Total capacity:	23815 Btuh	121% of load	SHR: 81%

Heating Equipment

Design Conditions

Outdoor design DB:	10.1°F	Heat loss:	26148 Btuh	Entering coil DB:	61.5°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Smart Comfort	Model:	R5H5S24*K*AAA*+FEVB0036**++NAVA53601CK
Actual airflow:	787 cfm		
Output capacity:	23200 Btuh	89% of load	Capacity balance: 22 °F
Supplemental heat required:	2948 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:	Smart Comfort	Model:	
Actual airflow:	787 cfm		
Output capacity:	10.0 kW	130% of load	Temp. rise: 34 °F

Meets all requirements of ACCA Manual S.

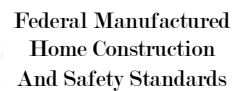


Right-Suite® Universal 2025 25.0.05 RSU55710

2026-Aug-11 13:51:31

Page 1

W:\ZERO ENERGY STANDARDS\34M407-FDJ-TZ3.rup Calc = MJ8 Front Door faces: E



...RGY STANDARDS\34M407-FDJ-TZ

CLAYTON HOME BUILDING GROUP

Model Number	MTN2876AB	Drawing Number	34M407 HEATLOSS-TZ3	Version 29
Serial Number	X	Model Name	MOUNTAINEER	

BOX SIZE: 26.33 ft. x 76 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-33 FW	R-21	R-38
DAPIA PAGE	THP-221	THP-510	THP-2823
U VALUE (BTUH/SQ.FT.-F)	0.0320	0.0546	0.0250

THIS INSULATION COMBINATION COMPLIES WITH
ZONE 3 PRESCRIPTIVE ZERH REQUIREMENTS

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
12	0
14	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

APPROVED

HWC

APPROVED

AUG 11 2026

Federal Manufactured
Home Construction
And Safety Standards

Window Glass Area:

Doors:

	Area	U Value	UA
Front	21.63	0.300	6.49
Rear	19.37	0.300	5.81
Other Door	40.00	0.300	12.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	156.00	0.300	46.80
Option	0.00	0.300	0.00
Net:			
Floor	2001.33	0.032	64.04
Wall	1400.33	0.055	76.46
Ceiling	2001.33	0.0280	56.04
Th. Zone 1:			
Ext. Duct	78.50	0.242	18.98
Th. Zone 2:			
Ext. Duct	78.50	0.223	17.48
Th. Zone 3:			
Ext. Duct	78.50	0.206	16.14
Overhead TZ 1:			
Supply	0.00	0.000	0.00
Overhead TZ 2:			
Supply	0.00	0.000	0.00
Overhead TZ 3:			
Supply	0.00	0.00	0.00

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	629.5
Th. Zone 2	472.5
Th. Zone 3	258.0

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	ZERH / EStar 3.0 Compliant	Heatloss BTUH/F
1	11	286.62	0.050	OK	429.90
2	0	285.12	0.050	OK	428.40
3	-14	283.77	0.050	OK	427.00

Design Temperatures	
Furnace Heating Temp (F)	Economy Outdoor Temp (F)
-9	14
-25	3
-49	-13
-23	5
-70	-28
-116	-60

10kW
12kW
15kW
40k Gas
60k Gas
80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH					
1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054