

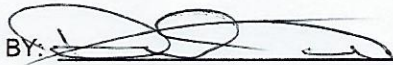
FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Adams Homes orest Country Lot 13 plan 2265		Builder Name: Adams Homes	
Street:		Permit Office:	
City, State, Zip: Lake City, FL, 32024		Permit Number:	
Owner:		Jurisdiction:	
Design Location: FL, Gainesville		County: Columbia(Florida Climate Zone 2)	

1. New construction or existing New (From Plans) 2. Single family or multiple family Detached 3. Number of units, if multiple family 1 4. Number of Bedrooms 4 5. Is this a worst case? No 6. Conditioned floor area above grade (ft²) 2265 Conditioned floor area below grade (ft²) 0 7. Windows(224.0 sqft.) Description Area a. U-Factor: Dbl, U=0.55 213.17 ft² SHGC: SHGC=0.60 b. U-Factor: Sgl, U=0.55 10.83 ft² SHGC: SHGC=0.60 c. U-Factor: N/A ft² SHGC: Area Weighted Average Overhang Depth: 3.085 ft Area Weighted Average SHGC: 0.600 8. Skylights Description Area U-Factor:(AVG) N/A N/A ft² SHGC(AVG): N/A 9. Floor Types Insulation Area a. Slab-On-Grade Edge Insulation R= 0.0 2265.00 ft² b. N/A R= ft² c. N/A R= ft²	10. Wall Types(1757.3 sqft.) Insulation Area a. Face Brick - Wood, Exterior R=13.0 1757.30 ft² b. N/A R= ft² c. N/A R= ft² d. N/A R= ft² 11. Ceiling Types(2265.0 sqft.) Insulation Area a. Flat ceiling under att (Vented) R=30.0 2265.00 ft² b. N/A R= ft² c. N/A R= ft² 12. Ducts, location & insulation level R ft² a. Sup: Attic, Ret: Attic, AH: Main 6 453 b. c. 13. Cooling Systems kBtu/hr Efficiency a. Central Unit 35.0 SEER:16.00 14. Heating Systems kBtu/hr Efficiency a. Electric Heat Pump 34.6 HSPF:8.50 15. Hot Water Systems a. Electric Cap: 50 gallons EF: 0.920 b. Conservation features 16. Credits None CF
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Glass/Floor Area: 0.099	Total Proposed Modified Loads: 54.08	PASS
	Total Baseline Loads: 54.81	

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: <u></u> DATE: <u>5-9-22 J. Williams</u> I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. OWNER/AGENT: <u>Francine Riale</u> DATE: <u>5/10/2022</u>	Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.  BUILDING OFFICIAL: _____ DATE: _____
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- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Default duct leakage does not require a Duct Leakage Test Report.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 9.83 ACH50 (R402.4.1.2).

INPUT SUMMARY CHECKLIST REPORT

PROJECT												
Title:	Adams Homes orest Country Lot 13 plan 2265					Address type:		Street Address				
Building Type:	User	Bedrooms:	4			Lot #:		---				
Owner:		Conditioned Area:	2265			Block/SubDivision:		---				
		Total Stories:	1			PlatBook:		---				
Builder Name:	Adams Homes	Worst Case:	No			Street:						
Permit Office:		Rotate Angle:	0			County:		Columbia				
Jurisdiction:		Cross Ventilation:				City, State, Zip:		Lake City, FL, 32024				
Family Type:	Detached	Whole House Fan:										
New/Existing:	New (From Plans)	Terrain:	Suburban									
Year Construct:		Shielding:	Suburban									
Comment:												
CLIMATE												
✓ Design Location	Tmy Site	Design Temp		Int Design Temp		Heating Degree Days		Design Moisture		Daily temp Range		
		97.5%	2.5%	Winter	Summer							
___ FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium				
BLOCKS												
✓ Number	Name	Area	Volume									
___ 1	Block1	2265	18120 cu ft									
SPACES												
✓ Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated			
___ 1	Main	2265	18120	Yes	4	4	Yes	Yes	Yes			
FLOORS (Total Exposed Area = 2265 sq.ft.)												
✓ #	Floor Type	Space	Exposed Perim	Perimeter R-Value		Area	U-Factor	Joist R-Value	Tile	Wood	Carpet	
___ 1	Slab-On-Grade Edge Ins	Main	219	0		2265 ft	0.379	---	0.00	0.35	0.65	
ROOF												
✓ #	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___ 1	Gable or shed	Composition shingles	2454 ft²	472 ft²	Medium	N	0.96	No	0.9	No	0	22.62
ATTIC												
✓ #	Type	Ventilation	Vent Ratio (1 in)		Area	RBS	IRCC					
___ 1	Full attic	Vented	300		2265 ft²	N	N					
CEILING (Total Exposed Area = 2265 sq.ft.)												
✓ #	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type				
___ 1	Flat ceiling under attic(Vented)	Main	30.0	Blown	2265.0ft²	0.030	0.11	Wood				

INPUT SUMMARY CHECKLIST REPORT

WALLS															(Total Exposed Area = 1757 sq.ft.)				
✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade				
___ 1	N	Exterior	Face Brick - Wood	Main	13.0	22.0	0	8.0	0	176.0	0.086		0.23	0.75	0 %				
___ 2	N	Exterior	Face Brick - Wood	Main	13.0	20.0	11	8.0	0	167.3	0.086		0.23	0.75	0 %				
___ 3	N	Exterior	Face Brick - Wood	Main	13.0	13.0	1	8.0	0	104.7	0.086		0.23	0.75	0 %				
___ 4	E	Exterior	Face Brick - Wood	Main	13.0	45.0	10	8.0	0	366.7	0.086		0.23	0.75	0 %				
___ 5	S	Exterior	Face Brick - Wood	Main	13.0	13.0	6	8.0	0	108.0	0.086		0.23	0.75	0 %				
___ 6	S	Exterior	Face Brick - Wood	Main	13.0	23.0	9	8.0	0	190.0	0.086		0.23	0.75	0 %				
___ 7	S	Exterior	Face Brick - Wood	Main	13.0	18.0	9	8.0	0	150.0	0.086		0.23	0.75	0 %				
___ 8	W	Exterior	Face Brick - Wood	Main	13.0	61.0	10	8.0	0	494.7	0.086		0.23	0.75	0 %				

DOORS															(Total Exposed Area = 40 sq.ft.)				
✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area								
___ 1	S	Exterior	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²								
___ 2	S	Exterior	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²								

WINDOWS															(Total Exposed Area = 224 sq.ft.)				
✓ #	Ornt	Wall ID	Frame	Panes	NFRC U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen			
___ 1	N	2	Vinyl	Low-E Double	Y	0.55	0.60	N	N	30.0	1	6.00	5.00	1.0	2.0	Drapes/blinds	None		
___ 2	N	2	Vinyl	Low-E Double	Y	0.55	0.60	N	N	6.7	1	1.00	6.67	1.0	2.0	Drapes/blinds	None		
___ 3	N	2	Vinyl	Low-E Double	Y	0.55	0.60	N	N	6.7	1	1.00	6.67	1.0	2.0	Drapes/blinds	None		
___ 4	N	3	Vinyl	Low-E Double	Y	0.55	0.60	N	N	30.0	1	6.00	5.00	1.0	2.0	Drapes/blinds	None		
___ 5	E	4	Vinyl	Low-E Double	Y	0.55	0.60	N	N	15.0	1	3.00	5.00	1.0	2.0	Drapes/blinds	None		
___ 6	N	3	Vinyl	Low-E Double	Y	0.55	0.60	N	N	9.0	1	3.00	3.00	1.0	2.0	Drapes/blinds	None		
___ 7	S	5	Vinyl	Low-E Double	Y	0.55	0.60	N	N	30.0	1	6.00	5.00	1.0	2.0	Drapes/blinds	None		
___ 8	S	6	Vinyl	Low-E Double	Y	0.55	0.60	N	N	30.0	1	6.00	5.00	9.2	2.0	Drapes/blinds	None		
___ 9	S	6	Vinyl	Low-E Double	Y	0.55	0.60	N	N	10.8	1	2.17	5.00	9.2	2.0	Drapes/blinds	None		
___ 10	S	6	Vinyl	Low-E Single	Y	0.55	0.60	N	N	10.8	1	2.17	5.00	9.2	2.0	Drapes/blinds	None		
___ 11	S	7	Vinyl	Low-E Double	Y	0.55	0.60	N	N	15.0	1	3.00	5.00	2.0	2.0	Drapes/blinds	None		
___ 12	W	8	Vinyl	Low-E Double	Y	0.55	0.60	N	N	15.0	1	3.00	5.00	2.0	2.0	Drapes/blinds	None		
___ 13	W	8	Vinyl	Low-E Double	Y	0.55	0.60	N	N	15.0	1	3.00	5.00	2.0	2.0	Drapes/blinds	None		

INFILTRATION											
✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume	
___ 1	Wholehouse	Proposed ACH(50)	0.00050	2967	162.80	305.64	0.1925	9.8	All	18120 cu ft	

GARAGE					
✓ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	440 ft²	440 ft²	64 ft	8 ft	1

MASS					
✓ #	Mass Type	Area	Thickness	Furniture Fraction	Space
___ 1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Main

INPUT SUMMARY CHECKLIST REPORT

HEATING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump----		Ducts	Block
						Entry	Power	Volt	Current
___ 1	Electric Heat Pump	None/Single		HSPF: 8.50	34.6		0.00	0.00	0.00
								sys#1	1

COOLING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___ 1	Central Unit	None/Single		SEER:16.0	35.0	1050	0.75	sys#1	1

HOT WATER SYSTEM

✓ #	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___ 1	Electric	None	Garage	0.92 (0.92)	50.00 gal	70 gal	120 deg	Standard	None	99
	Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___ 1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

✓ Duct #	-----Supply----- Location R-Value Area	-----Return----- Location R-Value Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN	RLF	HVAC # Heat Cool
___ 1	Attic 6.0 453 ft²	Attic 6.0 113 ft²	Default Leakage	Main	(Default)	(Default)			1 1

TEMPERATURES

Programable Thermostat: N					Ceiling Fans: N									
Cooling	[] Jan	[] Feb	[] Mar	[] Apr	[] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[] Oct	[] Nov	[] Dec		
Heating	[X] Jan	[X] Feb	[X] Mar	[] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[] Oct	[X] Nov	[X] Dec		
Venting	[] Jan	[] Feb	[X] Mar	[X] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[X] Oct	[X] Nov	[] Dec		
Thermostat Schedule: HERS 2006 Reference														
✓ Schedule Type		1	2	3	4	5	6	Hours 7	8	9	10	11	12	
___ Cooling (WD)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
___ Cooling (WEH)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
___ Heating (WD)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
___ Heating (WEH)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 99

The lower the EnergyPerformance Index, the more efficient the home.

Forest Country Lot 13 plan 2265,Lake City,FL,32024

1. New construction or existing	New (From Plans)	10. Wall Types(1757.3 sqft.)	Insulation	Area
2. Single family or multiple family	Detached	a. Face Brick - Wood, Exterior	R=13.0	1757.30 ft ²
3. Number of units, if multiple family	1	b. N/A	R=	ft ²
4. Number of Bedrooms	4	c. N/A	R=	ft ²
5. Is this a worst case?	No	d. N/A	R=	ft ²
6. Conditioned floor area above grade (ft ²)	2265	11. Ceiling Types(2265.0 sqft.)	Insulation	Area
Conditioned floor area below grade (ft ²)	0	a. Flat ceiling under att (Vented)	R=30.0	2265.00 ft ²
7. Windows**	Description	b. N/A	R=	ft ²
a. U-Factor:	Dbl, U=0.55	c. N/A	R=	ft ²
SHGC:	SHGC=0.60	12. Ducts, location & insulation level	R	ft ²
b. U-Factor:	Sgl, U=0.55	a. Sup: Attic, Ret: Attic, AH: Main	6	453
SHGC:	SHGC=0.60	b.		
c. U-Factor:	N/A	c.		
SHGC:		13. Cooling Systems	kBtu/hr	Efficiency
Area Weighted Average Overhang Depth:	3.085 ft	a. Central Unit	35.0	SEER:16.00
Area Weighted Average SHGC:	0.600	14. Heating Systems	kBtu/hr	Efficiency
8. Skylights	Description	a. Electric Heat Pump	34.6	HSPF:8.50
U-Factor:(AVG)	N/A			
SHGC:(AVG):	N/A	15. Hot Water Systems		
9. Floor Types	Insulation	a. Electric	Cap: 50 gallons	
a. Slab-On-Grade Edge Insulation	R= 0.0		EF: 0.920	
b. N/A	R=	b. Conservation features		
c. N/A	R=			
		16. Credits		None
				CF

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: Francine Riale Date: 5/10/2022

Address of New Home: Forest Country Lot 13 plan 2265 City/FL Zip: Lake City,FL,32024



*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.



Load Short Form

Entire House

DL Williams Heating & Cooling L.L.C.

Job: 1
Date: Mar 11, 2022
By: DL Williams Heating & C...
Plan: 2265

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com

Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	33	92	Method	Average
Inside db (°F)	68	75	Construction quality	0
Design TD (°F)	35	17	Fireplaces	
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	8	44		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 4TWR6036H1
AHRI ref 7562981

Efficiency 9 HSPF
Heating input
Heating output 33000 Btuh @ 47°F
Temperature rise 26 °F
Actual air flow 1160 cfm
Air flow factor 0.039 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 31 °F

Backup:

Input = 8 kW, Output = 28329 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 4TWR6036H1
Coil TEM6A0C36H31
AHRI ref 7562981

Efficiency 13.0 EER, 16 SEER
Sensible cooling 24360 Btuh
Latent cooling 10440 Btuh
Total cooling 34800 Btuh
Actual air flow 1160 cfm
Air flow factor 0.045 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.85

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
living	169	4747	2883	186	129
mbath	135	1546	809	61	36
lav	16	19	33	1	1
wic1	35	787	236	31	11
wic2	35	42	72	2	3
mbed	195	4907	2953	192	132
foyer	64	0	0	0	0
kitchen	154	208	2466	8	111
bath3	102	2037	1118	80	50
bed4	162	3295	1496	129	67
bed3	144	1924	1606	75	72
hall1	30	0	0	0	0
bed2	168	1962	1412	77	63
bath2	54	75	126	3	6

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



Right-Suite® Universal 2022 22.0.02 RSU02245

...Wrightsoft HVAC\Trane\Adams Homes plan 2265.rup Calc = MJ8 Front Door faces: SE

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utility	88	119	940	5	42
hall2	42	0	0	0	0
dining	123	2432	2768	95	124
breakfast	161	1988	1657	78	74
family	388	3485	5306	137	238
Entire House	2265	29574	25881	1160	1160
Other equip loads		0	0		
Equip. @ 0.97 RSM			25157		
Latent cooling			4653		
TOTALS	2265	29574	29810	1160	1160

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Loads for Multiple Orientations

Entire House

DL Williams Heating & Cooling L.L.C.

Job: 1
Date: Mar 11, 2022
By: DL Williams Heating & C...
Plan: 2265

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com

Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US
Elevation: 123 ft
Latitude: 30°N

Indoor:

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

Heating

68
35
30
8.2

Cooling

75
17
50
43.8

Outdoor:

Heating

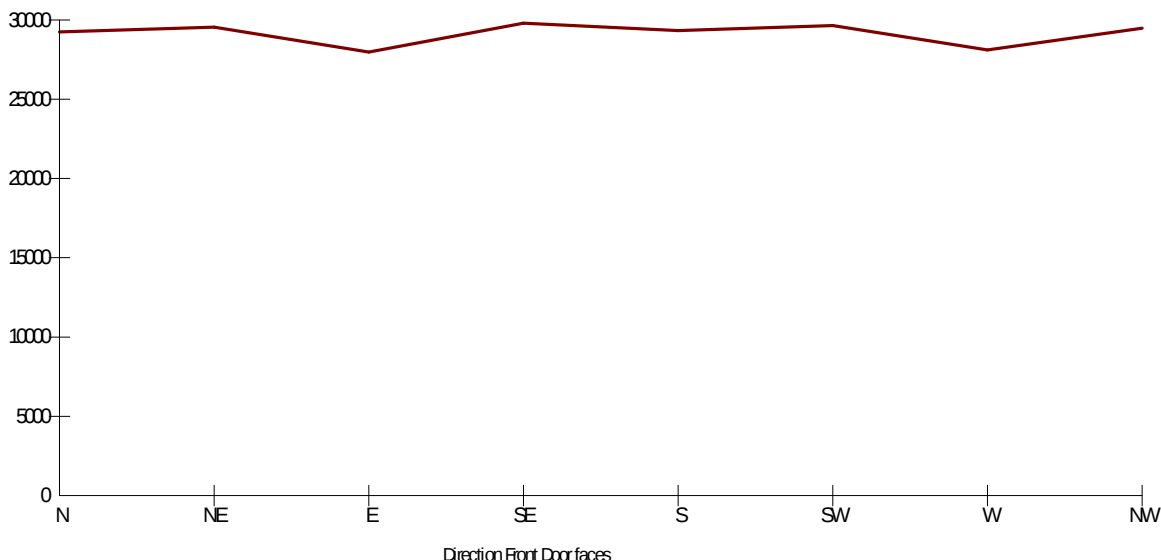
Cooling

Dry bulb (°F) 33 92
Daily range (°F) - 18 (M)
Wet bulb (°F) - 76
Wind speed (mph) 15.0 7.5

Infiltration:

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	24604	24903	23335	25157	24681	24992	23467	24838
Latent Load (Btuh)	4653	4653	4653	4653	4653	4653	4653	4653
Total Load (Btuh)	29257	29556	27988	29810	29334	29646	28120	29491
Heating AVF (cfm)	1160	1160	1160	1160	1160	1160	1160	1160
Cooling AVF (cfm)	1160	1160	1160	1160	1160	1160	1160	1160

Building Orientation Cooling Load



Current Orientation: Front Door faces Southeast
Highest Cooling Load: Front Door faces Southeast

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



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Project Summary

Entire House

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Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Notes:

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	44 gr/lb

Heating Summary

Structure	22039 Btuh
Ducts	7535 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	29574 Btuh

Sensible Cooling Equipment Load Sizing

Structure	16510 Btuh
Ducts	9371 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	25157 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2780 Btuh
Ducts	1873 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	4653 Btuh

	Heating	Cooling
Area (ft ²)	2265	2265
Volume (ft ³)	19982	19982
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	107	53

Equipment Total Load (Sen+Lat)	29810 Btuh
Req. total capacity at 0.70 SHR	3.0 ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR6036H1
AHRI ref	7562981
Efficiency	9 HSPF
Heating input	
Heating output	33000 Btuh @ 47°F
Temperature rise	26 °F
Actual air flow	1160 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 31 °F	
Backup:	
Input = 8 kW, Output = 28329 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR6036H1
Coil	TEM6A0C36H31
AHRI ref	7562981
Efficiency	13.0 EER, 16 SEER
Sensible cooling	24360 Btuh
Latent cooling	10440 Btuh
Total cooling	34800 Btuh
Actual air flow	1160 cfm
Air flow factor	0.045 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.85

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



wrightsoft®
A Microsoft / IntelliSense Technology Company

Right-Suite® Universal 2022 22.0.02 RSU02245

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Duct system multi orientation report

Entire House

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For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Group 1: (N) Group 2: (NE, E) Group 3: (SE) Group 4: (S) Group 5: (SW, NW) Group 6: (W)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
bath2	6 c	12x6	4	6 c	12x6	4	6 c	12x6	4	6 c	12x6	4
bath3	80 h	12x6	5	80 h	12x6	5	80 h	12x6	5	80 h	12x6	5
bed2	77 h	12x6	6	77 h	12x6	6	77 h	12x6	6	77 h	12x6	6
bed3	86 c	12x6	5	75 h	12x6	5	75 h	12x6	5	75 h	12x6	5
bed4	129 h	12x6	6	129 h	12x6	6	129 h	12x6	6	129 h	12x6	6
breakfast	89 c	12x6	5	104 c	12x6	6	102 c	12x6	6	78 h	12x6	5
dining	100 c	12x6	5	138 c	12x6	6	156 c	12x6	6	124 c	12x6	6
family	206 c	12x6	7	249 c	12x6	8	250 c	12x6	8	238 c	12x6	8
kitchen	123 c	12x6	6	110 c	12x6	6	111 c	12x6	6	111 c	12x6	6
lav	2 c	12x6	4	1 c	12x6	4	1 c	12x6	4	1 c	12x6	4
living	186 h	12x6	7	186 h	12x6	7	186 h	12x6	7	186 h	12x6	7
mbath	61 h	12x6	5	61 h	12x6	5	61 h	12x6	5	61 h	12x6	5
mbed	192 h	12x6	7	192 h	12x6	7	192 h	12x6	7	192 h	12x6	7
utility	47 c	12x6	4	42 c	12x6	4	42 c	12x6	4	42 c	12x6	4
wic1	31 h	12x6	4	31 h	12x6	4	31 h	12x6	4	31 h	12x6	4
wic2	4 c	12x6	4	3 c	12x6	4	3 c	12x6	4	3 c	12x6	4
Supply Trunks												
st3	286 h		10	286 h		10	286 h		10	286 h		10
st2	363 h		10	363 h		10	363 h		10	363 h		10
st1	609 h		14	609 h		14	609 h		14	609 h		14
Return Branches												
rb1	1160 c	12x6	0	1160 c	12x6	0	1160 c	12x6	0	1160 c	12x6	0
Friction Rates												
Heating FR	0.296			0.296			0.296			0.296		
Cooling FR	0.296			0.296			0.296			0.296		



wrightsoft®
A Mitak® / Berkshire Hathaway Company

Right-Suite® Universal 2022 22.0.02 RSU02245

...Wrightsoft HVAC\Trane\Adams Homes plan 2265.rup Calc = MJ8 Front Door faces: SE

2022-May-03 12:15:38

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Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
bath2	6 c	12x6	4	6 c	12x6	4	6 c	12x6	4	6 c	12x6	4
bath3	80 h	12x6	5	80 h	12x6	5	80 h	12x6	5	80 h	12x6	5
bed2	84 c	12x6	6	77 h	12x6	6	77 h	12x6	6	77 h	12x6	6
bed3	97 c	12x6	6	75 h	12x6	5	75 h	12x6	5	75 h	12x6	5
bed4	129 h	12x6	6	129 h	12x6	6	129 h	12x6	6	129 h	12x6	6
breakfast	78 h	12x6	5	78 h	12x6	5	78 h	12x6	5	78 h	12x6	5
dining	102 c	12x6	5	164 c	12x6	6	189 c	12x6	7	145 c	12x6	6
family	209 c	12x6	7	203 c	12x6	7	203 c	12x6	7	225 c	12x6	7
kitchen	125 c	12x6	6	112 c	12x6	6	111 c	12x6	6	110 c	12x6	6
lav	2 c	12x6	4	1 c	12x6	4	1 c	12x6	4	1 c	12x6	4
living	186 h	12x6	7	186 h	12x6	7	186 h	12x6	7	186 h	12x6	7
mbath	61 h	12x6	5	61 h	12x6	5	61 h	12x6	5	61 h	12x6	5
mbed	192 h	12x6	7	192 h	12x6	7	192 h	12x6	7	192 h	12x6	7
utility	48 c	12x6	4	43 c	12x6	4	42 c	12x6	4	42 c	12x6	4
wic1	31 h	12x6	4	31 h	12x6	4	31 h	12x6	4	31 h	12x6	4
wic2	4 c	12x6	4	3 c	12x6	4	3 c	12x6	4	3 c	12x6	4
Supply Trunks												
st3	286 h		10	286 h		10	286 h		10	286 h		10
st2	363 h		10	363 h		10	363 h		10	363 h		10
st1	609 h		14	609 h		14	609 h		14	609 h		14
Return Branches												
rb1	1160 c	12x6	0	1160 c	12x6	0	1160 c	12x6	0	1160 c	12x6	0
Friction Rates												
Heating FR	0.296			0.296			0.296			0.296		
Cooling FR	0.296			0.296			0.296			0.296		



Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches						
bath2	6 c	12x6	4	6 c	12x6	4
bath3	80 h	12x6	5	80 h	12x6	5
bed2	84 c	12x6	6	77 h	12x6	6
bed3	97 c	12x6	6	75 h	12x6	5
bed4	129 h	12x6	6	129 h	12x6	6
breakfast	104 c	12x6	6	78 h	12x6	5
dining	189 c	12x6	7	100 c	12x6	5
family	250 c	12x6	8	203 c	12x6	7
kitchen	125 c	12x6	6	110 c	12x6	6
lav	2 c	12x6	4	1 c	12x6	4
living	186 h	12x6	7	186 h	12x6	7
mbath	61 h	12x6	5	61 h	12x6	5
mbed	192 h	12x6	7	192 h	12x6	7
utility	48 c	12x6	4	42 c	12x6	4
wic1	31 h	12x6	4	31 h	12x6	4
wic2	4 c	12x6	4	3 c	12x6	4
Supply Trunks						
st3	286 h		10	286 h		10
st2	363 h		10	363 h		10
st1	609 h		14	609 h		14
Return Branches						
rb1	1160 c	12x6	0	1160 c	12x6	0
Friction Rates						
Heating FR	0.296			0.296		
Cooling FR	0.296			0.296		



Background Color Legend

Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

Pink background column header

Largest cooling load orientation



Static Pressure and Friction Rate

Entire House

DL Williams Heating & Cooling L.L.C.

Job: 1
Date: Mar 11, 2022
By: DL Williams Heating & C...
Plan: 2265

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com

Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.50	0.50
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0	0
Return grilles	0	0
Filter	0	0
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0.50	0.50

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	10	0
Measured length of trunk	24	0
Equivalent length of fittings	135	0
Total length	169	0
Total effective length		169

Friction Rate

	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0.296 > 0.18	0.296 > 0.18
Return Ducts	0.296 > 0.18	0.296 > 0.18

Fitting Equivalent Length Details

Supply	4AD=60, 11A=20, 11A=20, 1A=35: TotalEL=135
Return	TotalEL=0



Duct System Summary

Entire House

DL Williams Heating & Cooling L.L.C.

Job: 1
Date: Mar 11, 2022
By: DL Williams Heating & C...
Plan: 2265

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com

Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Supply / return available pressure	0.250 / 0.250 in H ₂ O	0.250 / 0.250 in H ₂ O
Lowest friction rate	0.296 in/100ft	0.296 in/100ft
Actual air flow	1160 cfm	1160 cfm
Total effective length (TEL)	169 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
bath2	c 126	3	6	0.479	4.0	0x0	VIFx	9.4	95.0	st2
bath3	h 2037	80	50	0.357	5.0	0x0	VIFx	24.9	115.0	
bed2	h 1962	77	63	0.462	6.0	0x0	VIFx	13.2	95.0	
bed3	h 1924	75	72	0.361	5.0	0x0	VIFx	23.5	115.0	st2
bed4	h 3295	129	67	0.343	6.0	0x0	VIFx	31.0	115.0	st2
breakfast	h 1988	78	74	0.374	5.0	0x0	VIFx	18.8	115.0	st2
dining	c 2768	95	124	0.483	6.0	0x0	VIFx	8.5	95.0	st1
family	c 5306	137	238	0.372	8.0	0x0	VIFx	19.5	115.0	
kitchen	c 2466	8	111	0.489	6.0	0x0	VIFx	7.3	95.0	
lav	c 33	1	1	0.302	4.0	0x0	VIFx	30.8	135.0	st3
living	h 4747	186	129	0.342	7.0	0x0	VIFx	31.0	115.0	st1
mbath	h 1546	61	36	0.307	5.0	0x0	VIFx	28.0	135.0	st3
mbed	h 4907	192	132	0.296	7.0	0x0	VIFx	34.1	135.0	st3
utility	c 940	5	42	0.515	4.0	0x0	VIFx	2.0	95.0	st3
wic1	h 787	31	11	0.299	4.0	0x0	VIFx	32.0	135.0	
wic2	c 72	2	3	0.311	4.0	0x0	VIFx	25.8	135.0	

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	286	184	0.296	525	10.0	0 x 0	VinIFlx	st1
st2	Peak AVF	363	263	0.343	665	10.0	0 x 0	VinIFlx	
st1	Peak AVF	609	551	0.296	570	14.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden

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	1160	1160	0	0	0	0	0x 0		VIFx	



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling L.L.C.

Job: 1
Date: Mar 11, 2022
By: DL Williams Heating & C...
Plan: 2265

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com

Project Information

For: Forest Country Lot 13 plan 2265, Adams Homes
Lake City, FL 32024

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	25881	Btuh	Entering coil DB:	77.4°F
Outdoor design WB:	75.8°F	Latent gain:	4653	Btuh	Entering coil WB:	63.7°F
Indoor design DB:	75.0°F	Total gain:	30535	Btuh		
Indoor RH:	50%	Estimated airflow:	1160	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR6036H1+TEM6A0C36H31
Actual airflow:	1160	cfm	
Sensible capacity:	24360	Btuh	94% of load
Latent capacity:	10440	Btuh	224% of load
Total capacity:	34800	Btuh	114% of load SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	29574	Btuh	Entering coil DB:	66.9°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR6036H1+TEM6A0C36H31
Actual airflow:	1160	cfm	
Output capacity:	33000	Btuh	112% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 31 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1160	cfm	
Output capacity:	8.3	kW	96% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 1
15 Mar 09

Columbia Header Information

Contractor: DL Williams Heating & Cooling L.L.C.
Derrick Williams
Mechanical license:
Building plan #: 2265
Home address (Street or Lot#, Block, Subdivision): , Entire House

REQUIRED ATTACHMENTS
Manual J1 Form (and supporting worksheets):
or MJ1AE Form* (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution sketch:

ATTACHED
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: 33 °F
Indoor temperature: 68 °F
Total heat loss: 29574 Btuh

Summer Design Conditions

Outdoor temperature: 92 °F
Indoor temperature: 75 °F
Grains difference: 44 gr/lb @50% RH
Sensible heat gain: 26627 Btuh
Latent heat gain: 4787 Btuh
Total heat gain: 31414 Btuh

Building Construction Information

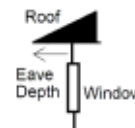
Building

Orientation: Front Door faces Southeast
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms: 0
Conditioned floor area: 2265 ft²
Number of occupants: 6

Windows

Eave overhang depth: 10.0 ft
Internal shade: blinds
Blinds, drapes, etc.
Number of skylights: 0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Split ASHP
Furnace, Heat pump, Boiler, etc.
Model: Trane
4TWR6036H1+TEM6A0C36H31
Heating output capacity: 0 Btuh
Heat pumps - capacity at winter design outdoor conditions
Aux. heating output capacity: 28329 Btuh

Cooling Equipment Data

Equipment type: Split ASHP
Air Conditioner, Heat pump, etc.
Model: Trane
4TWR6036H1+TEM6A0C36H31
Total cooling capacity: 0 Btuh
Sensible cooling capacity: 0 Btuh
Latent cooling capacity: 0 Btuh

Blower Data

Heating cfm: 1160
Cooling cfm: 1160
Static pressure: 0.50 in H₂O
Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	1160 cfm	Longest supply duct:	169 ft	Duct Materials Used	
Equipment design ESP:	0.50 in H ₂ O	Longest return duct:	0 ft	Trunk duct:	Round flex vinyl
Total device pressure losses:	0 in H ₂ O	Total effective length (TEL):	169 ft	Branch duct:	Round flex vinyl
Available static pressure (ASP):	0.50 in H ₂ O	Friction rate:	0.296 in/100ft		

Friction Rate = ASP ÷ (TEL × 100)

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist



Main Level

