

Project Information

For: 259 SE Little John Pl, High Springs, FL 32643

Notes: Email: Danielle.Rose@dswhomes.com

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db 33 °F
 Inside db 70 °F
 Design TD 37 °F

Ventilation Method MJ8

Heating Summary

Structure 14356 Btuh
 Ducts (R-6.0) 3083 Btuh
 Central vent (21 cfm) 856 Btuh
 Outside air
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 18295 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

	Heating	Cooling
Area (ft²)	1092	1092
Volume (ft³)	10095	10095
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	76	39

Heating Equipment Summary

Make Goodman Mfg. or Equiv.
 Trade GOODMAN
 Model GLZS4BA2410A
 AHRI ref 215218024

Efficiency 7.5 HSPF2
 Heating input
 Heating output 22000 Btuh @ 47°F
 Temperature rise 29 °F
 Actual air flow 700 cfm
 Air flow factor 0.040 cfm/Btuh
 Static pressure 0.50 in H2O
 Space thermostat
 Capacity balance point = 30 °F

Backup:
 Input = 6 kW, Output = 18944 Btuh, 100 AFUE

Summer Design Conditions

Outside db 92 °F
 Inside db 74 °F
 Design TD 18 °F
 Daily range M
 Relative humidity 50 %
 Moisture difference 46 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 11740 Btuh
 Ducts (R-6.0) 3941 Btuh
 Central vent (21 cfm) 429 Btuh
 Outside air
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 15692 Btuh

Latent Cooling Equipment Load Sizing

Structure 1795 Btuh
 Ducts 737 Btuh
 Central vent (21 cfm) 658 Btuh
 Outside air
 Equipment latent load 3190 Btuh

Equipment Total Load (Sen+Lat) 18882 Btuh
 Req. total capacity at 0.75 SHR 1.7 ton

Cooling Equipment Summary

Make Goodman Mfg. or Equiv.
 Trade GOODMAN
 Cond GLZS4BA2410A
 Coil AWST24SU1305A
 AHRI ref 215218024

Efficiency 12.0 EER2, 14.5 SEER2
 Sensible cooling 16800 Btuh
 Latent cooling 5600 Btuh
 Total cooling 22400 Btuh
 Actual air flow 700 cfm
 Air flow factor 0.045 cfm/Btuh
 Static pressure 0.50 in H2O
 Load sensible heat ratio 0.83

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

1	Room name					PCL 2.5 ft					BATH 6.0 ft				
2	Exposed wall					9.2 ft 9.5 x 2.5 ft					9.2 ft 9.5 x 6.0 ft				
3	Room height					heat/cool					heat/cool				
4	Room dimensions														
5	Room area					23.8 ft²					57.0 ft²				
	Ty	Construction number	U-value (Btu/h/ft²·°F)	Or	HTM (Btu/h/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area (ft²) or perimeter (ft)		Load (Btu/h)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12E-0sw	0.068	n	2.50	1.49	0	0	0	0	0	0	0	0	
11	G	4A4-2ov	0.330	n	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	n	12.85	10.83	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	e	2.50	1.49	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	s	2.50	1.49	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	s	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	s	12.85	10.83	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	w	2.50	1.49	23	23	57	34	55	55	138	82	
	C	16B-38ad	0.026	-	0.95	1.42	24	24	23	34	57	57	54	81	
	F	22A-1pm	1.180	-	43.31	0.00	24	2	108	0	57	6	260	0	
6	c) AED excursion								-1				-1		
	Envelope loss/gain							188	67			452	162		
12	a) Infiltration							57	15			136	35		
	b) Room ventilation							0	0			0	0		
13	Internal gains: Occupants @ 230					0			0	0			0	0	
	Appliances/other								200				200		
	Subtotal (lines 6 to 13)							245	281			588	396		
14	Less external load							0	0			0	0		
	Less transfer							0	0			0	0		
	Redistribution							-245	-281			246	210		
15	Subtotal							0	0			834	606		
	Duct loads					21%	34%	0	0	21%	34%	179	203		
	Total room load							0	0			1013	810		
	Air required (cfm)							0	0			41	36		

1	Room name					PRIMARY BA				W/D					
2	Exposed wall					8.2 ft				3.5 ft					
3	Room height					9.2 ft				9.2 ft					
4	Room dimensions					8.2 x 12.5 ft				3.5 x 6.2 ft					
5	Room area					103.1 ft²				21.9 ft²					
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12E-0sw	0.068	n	2.50	1.49	76	76	189	113	32	32	80	48	
11	G	4A4-2ov	0.330	n	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	n	12.85	10.83	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	e	2.50	1.49	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	s	2.50	1.49	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	s	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	s	12.85	10.83	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	w	2.50	1.49	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	0.95	1.42	103	103	98	146	22	22	21	31	
	F	22A-tpm	1.180	-	43.31	0.00	103	8	357	0	22	4	152	0	
6	c) AED excursion								-2				-2		
	Envelope loss/gain							645	257			253	77		
12	a) Infiltration							187	48			79	20		
	b) Room ventilation							0	0			0	0		
13	Internal gains: Occupants @ 230					0			0	0				0	
	Appliances/other								200				500		
	Subtotal (lines 6 to 13)							832	505				332	597	
14	Less external load							0	0				0	0	
	Less transfer							0	0				0	0	
	Redistribution							177	514			-332	-597		
	Subtotal							1009	1019				0	0	
15	Duct loads					21%	34%	217	342			21%	34%	0	0
	Total room load								1226	1361				0	0
	Air required (cfm)								49	61				0	0

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1	Room name					AHU 0 ft					KITCHEN 28.0 ft				
2	Exposed wall					9.2 ft 3.5 x 3.5 ft heat/cool					9.2 ft 12.0 x 16.0 ft heat/cool				
3	Room height														
4	Room dimensions														
5	Room area					12.2 ft²					192.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12E-0sw	0.068	n	2.50	1.49	0	0	0	0	110	89	223	133	
11	G	4A4-2ov	0.330	n	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	n	12.85	10.83	0	0	0	0	21	21	270	227	
	W	12E-0sw	0.068	e	2.50	1.49	0	0	0	0	147	138	345	205	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	9	0	109	253	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	s	2.50	1.49	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	s	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	s	12.85	10.83	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	w	2.50	1.49	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	0.95	1.42	12	12	12	17	192	192	183	272	
	F	22A-1pm	1.180	-	43.31	0.00	12	0	0	0	192	28	1213	0	
6	c) AED excursion								-1				21		
	Envelope loss/gain							12	17			2343	1112		
12	a) Infiltration							0	0			636	163		
	b) Room ventilation							0	0			0	0		
13	Internal gains: Occupants @ 230					0			0	0				0	
	Appliances/other								250				1500		
	Subtotal (lines 6 to 13)							12	267			2978	2775		
14	Less external load							0	0			0	0		
	Less transfer							0	0			0	0		
	Redistribution							-12	-267			180	602		
	Subtotal							0	0			3159	3377		
15	Duct loads					21%	34%	0	0	21%	34%	678	1134		
	Total room load							0	0			3837	4510		
	Air required (cfm)							0	0			154	201		

1	Room name					LIVING ROOM					BDRM				
2	Exposed wall					36.2 ft					18.8 ft				
3	Room height					9.2 ft					9.2 ft				
4	Room dimensions					1.0 x 357.2 ft					1.0 x 129.5 ft				
5	Room area					357.2 ft²					129.5 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12E-0sw	0.068	n	2.50	1.49	0	0	0	0	0	0	0	0	
11	G	4A4-2ov	0.330	n	12.11	10.86	0	0	0	0	0	0	0	0	
	D	11N0	0.350	n	12.85	10.83	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	e	2.50	1.49	115	100	250	149	0	0	0	0	
	G	4A4-2ov	0.330	e	12.11	28.14	0	0	0	0	0	0	0	0	
	G	4A4-2ov	0.330	e	12.11	28.14	15	0	182	422	0	0	0	0	
	W	12E-0sw	0.068	s	2.50	1.49	218	167	418	249	136	121	301	179	
	G	4A4-2ov	0.330	s	12.11	10.86	30	30	363	326	15	15	182	163	
	D	11N0	0.350	s	12.85	10.83	21	21	270	227	0	0	0	0	
	W	12E-0sw	0.068	w	2.50	1.49	0	0	0	0	37	37	92	55	
	C	16B-38ad	0.026	-	0.95	1.42	357	357	341	506	130	130	124	183	
	F	22A-1pm	1.180	-	43.31	0.00	357	36	1570	0	130	19	812	0	
6	c) AED excursion								-10				3		
	Envelope loss/gain							3393	1869			1510	583		
12	a) Infiltration							823	211			426	109		
	b) Room ventilation							0	0			0	0		
13	Internal gains: Occupants @ 230					0			0	1			230		
	Appliances/other								1200				200		
	Subtotal (lines 6 to 13)							4216	3280			1936	1122		
14	Less external load							0	0			0	0		
	Less transfer							0	0			0	0		
	Redistribution							8	178			413	256		
15	Subtotal							4224	3457			2349	1378		
	Duct loads					21%	34%	907	1161	21%	34%	504	463		
	Total room load							5131	4618			2854	1841		
	Air required (cfm)							206	206			115	82		



Manual S Compliance Report

Entire House

Energy By Design

Job: 259 SE Little John Pl, High...
Date: 8/18/26
By: R.G.

Sanford, FL Phone: 407-450-0295

Project Information

For:
259 SE Little John Pl, High Springs, FL 32643
Email: Danielle.Rose@dswhomes.com

Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	16111	Btuh	Entering coil DB:	76.5°F
Outdoor design WB:	75.8°F	Latent gain:	3190	Btuh	Entering coil WB:	63.1°F
Indoor design DB:	74.0°F	Total gain:	19301	Btuh		
Indoor RH:	50%	Estimated airflow:	700	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: Goodman Mfg. or Equ Model: GLZS4BA2410A+AWST24SU1305A
Actual airflow: 700 cfm
Sensible capacity: 17210 Btuh 107% of load
Latent capacity: 4706 Btuh 148% of load
Total capacity: 21916 Btuh 114% of load SHR: 79%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	18295	Btuh	Entering coil DB:	67.9°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: Goodman Mfg. or Equ Model: GLZS4BA2410A+AWST24SU1305A
Actual airflow: 700 cfm
Output capacity: 18010 Btuh 98% of load
Supplemental heat required: 285 Btuh
Capacity balance: 30 °F
Economic balance: -99 °F

Backup equipment type: Elec strip
Manufacturer: Model:
Actual airflow: 700 cfm
Output capacity: 5.6 kW 104% of load Temp. rise: 53 °F

Meets all requirements of ACCA Manual S.



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Duct System Summary

Entire House

Energy By Design

Job: 259 SE Little John Pl, High...
Date: 8/18/26
By: R.G.

Sanford, FL Phone: 407-450-0295

Project Information

For:
259 SE Little John Pl, High Springs, FL 32643
Email: Danielle.Rose@dswhomes.com

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.16 in H2O	0.16 in H2O
Available static pressure	0.34 in H2O	0.34 in H2O
Supply / return available pressure	0.170 / 0.170 in H2O	0.170 / 0.170 in H2O
Lowest friction rate	0.242 in/100ft	0.242 in/100ft
Actual air flow	700 cfm	700 cfm
Total effective length (TEL)	141 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	h 1013	41	36	0.260	4.0	0x0	VIFx	16.0	115.0	st1
BDRM	h 2854	115	82	0.253	6.0	0x0	VIFx	19.6	115.0	st1
KITCHEN	c 4510	154	201	0.324	8.0	0x0	VIFx	9.8	95.0	
LIVING ROOM	c 2309	103	103	0.334	6.0	0x0	VIFx	6.9	95.0	
LIVING ROOM-A	c 2308	103	103	0.249	6.0	0x0	VIFx	21.3	115.0	st1
PRIMARY BA	c 1361	49	61	0.242	5.0	0x0	VIFx	25.5	115.0	st1
PRIMARY BDRM	h 3378	136	113	0.253	7.0	0x0	VIFx	19.5	115.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	PeakAVF	443	396	0.242	564	12.0	0 x 0	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	0x0	700	700	0	0	0	0	0x 0		VIFx	

Bold/italic values have been manually overridden



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Static Pressure and Friction Rate

Entire House

Energy By Design

Job: 259 SE Little John Pl, High...
Date: 8/18/26
By: R.G.

Sanford, FL Phone: 407-450-0295

Project Information

For:
259 SE Little John Pl, High Springs, FL 32643
Email: Danielle.Rose@dswhomes.com

Available Static Pressure

	Heating (in H ₂ O)	Cooling (in H ₂ O)
External static pressure	0.50	0.50
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0.34	0.34

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	12	0
Measured length of trunk	13	0
Equivalent length of fittings	115	0
Total length	141	0
Total effective length		141

Friction Rate

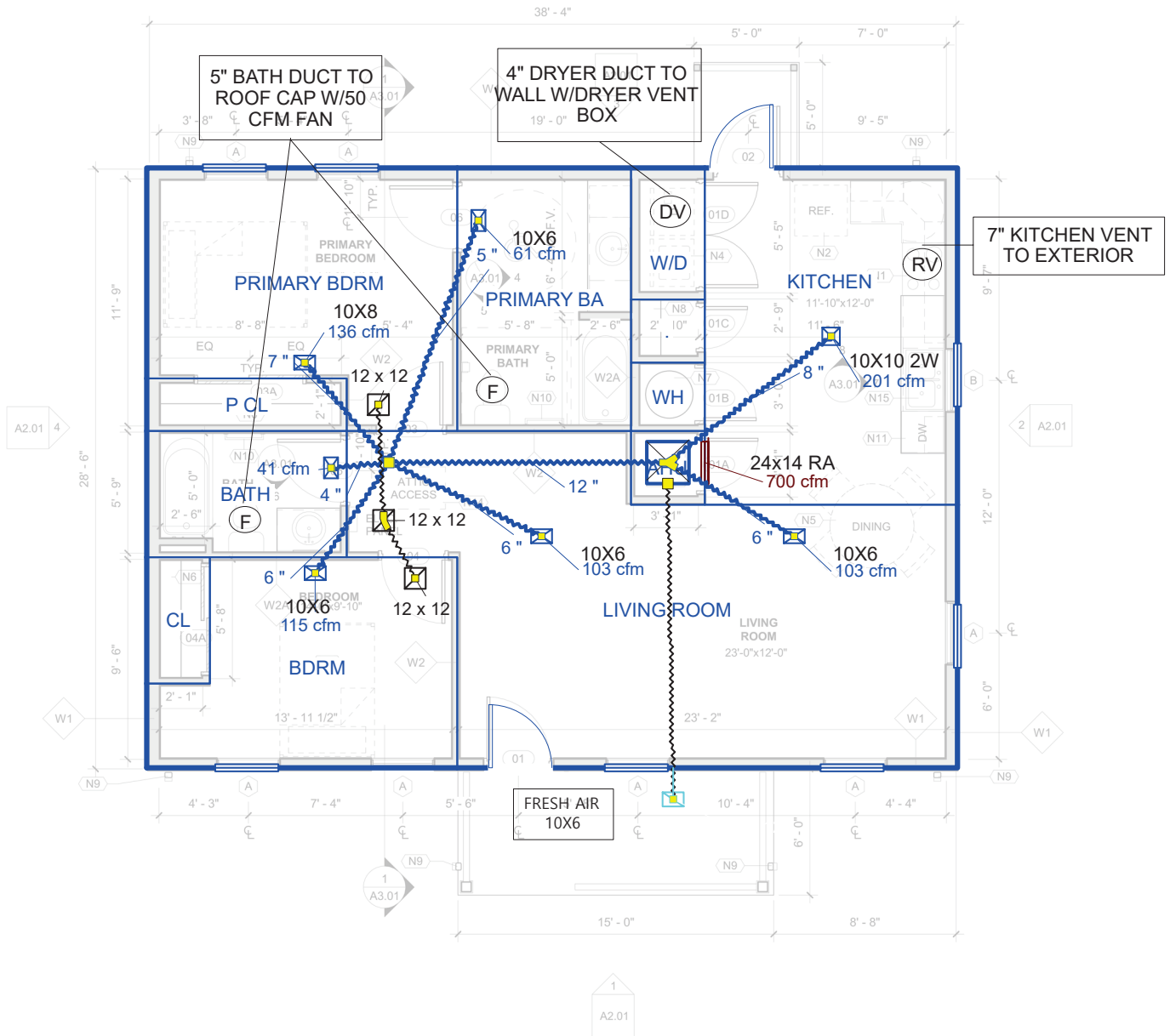
	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0.242 > 0.18	0.242 > 0.18
Return Ducts	0.242 > 0.18	0.242 > 0.18

Fitting Equivalent Length Details

Supply 4AD=60, 11A=20, 1A=35: TotalEL=115
Return TotalEL=0



Sheet 1



NOTE: DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.

Final Duct Design to be completed on site by HVAC Installer. The Manual D will be used for correct supply air and return air per the 2023 Florida Building Code, 8th Edition.
Data Accuracy Responsibility: It is essential to acknowledge that the accuracy and completeness of all data entered into the heat load calculations are the sole responsibility of the end user. This includes, but is not limited to, information regarding building dimensions, materials, insulation and window values, climate data, and equipment specifications. Any discrepancies should be promptly addressed to ensure the accuracy of the calculations

Job #: 259 SE Little John Pl, High Sprin...
Performed by R.G. for:

259 SE Little John Pl
High Springs, FL 32643

Danielle.Rose@dswhomes.com

Energy By Design

Sanford, FL
Phone: 407-450-0295

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