



Load Short Form

Entire House

New Age Dimensions, LLC.

Job: Nelson Residence
Date: 01/01/24
By: John Pirkel
Plan: Manual J and D

14080 S.E. 122nd Lane Road, Ocklawaha, FL 32179 Phone: (352) 288 - 0686 Fax: (352) 288 - 0684 Email: john.newage@gmail.com

Project Information

For: John F Crawford Homes, LLC
1083 Bessent Road, Starke, FL 32091
Phone: (904) 338 - 5683
Email: crawforddevelopmentgroup@gmail.com

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Semi-tight
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	47		

HEATING EQUIPMENT

Make Carrier
Trade PERFORMANCE 15 SEER2 HP
Model 25SPA542A00300
AHRI ref 210998608
Efficiency 7.5 HSPF2
Heating input
Heating output 42000 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 1400 cfm
Air flow factor 0.040 cfm/Btuh
Static pressure 0.51 in H2O
Space thermostat
Capacity balance point = 32 °F

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

COOLING EQUIPMENT

Make Carrier
Trade PERFORMANCE 15 SEER2 HP
Cond 25SPA542A00300
Coil FJ4DNXC42L
AHRI ref 210998608
Efficiency 12.0 EER2, 14.3 SEER2
Sensible cooling 28000 Btuh
Latent cooling 12000 Btuh
Total cooling 40000 Btuh
Actual air flow 1400 cfm
Air flow factor 0.049 cfm/Btuh
Static pressure 0.51 in H2O
Load sensible heat ratio 0.80

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Tlt	20	1145	683	46	33
Mstr Bathrm	140	2322	1604	93	78
Mstr Bedroom	224	4069	3520	163	171
Mstr WIC	145	1399	886	56	43
Pwdr	25	57	40	2	2
Laundry	91	2135	1498	86	73
Mud Rm	136	1517	1141	61	55
Pantry	96	2706	1221	109	59
Foyer	77	1577	1165	63	57
Office	89	1626	1503	65	73
Kitchen/Dining	312	3015	4323	121	210
Living Room	424	5626	6176	226	300
Bathrm	61	704	394	28	19
Bedroom #3	150	2986	2233	120	108

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



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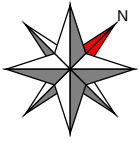
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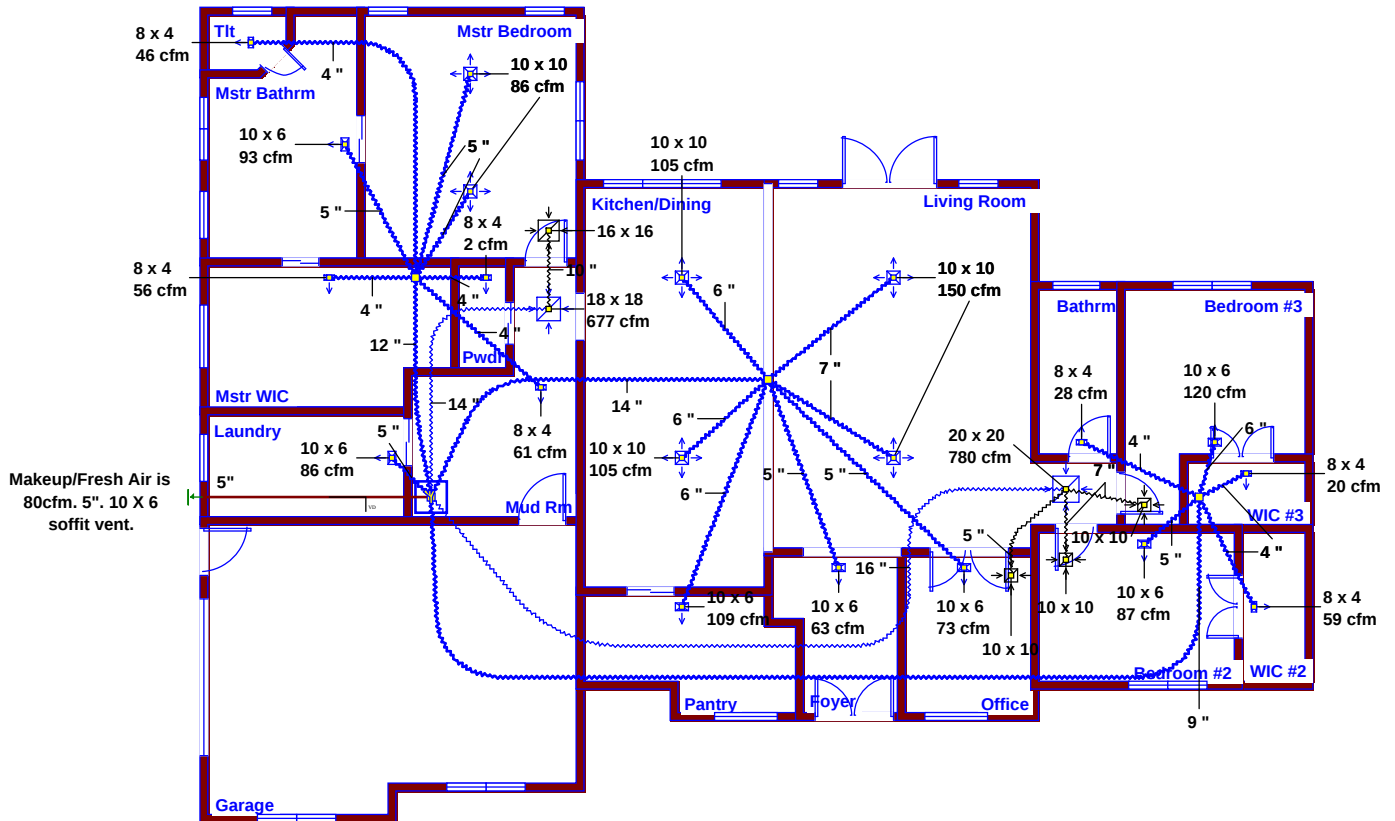
...Crawford Development Group\Nelson Residence.rup Calc = MJ8 Front Door faces: SE

WIC #3	36	508	179	20	9
WIC #2	45	1470	461	59	22
Bedroom #2	130	1998	1790	80	87
Entire House	2200	34861	28818	1400	1400
Other equip loads		3632	3491		
Equip. @ 0.97 RSM			31340		
Latent cooling			8039		
TOTALS	2200	38493	39379	1400	1400

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Sheet 1



Manual J was calculated with SPRAY FOAM in attic cavity.

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Performed by John PirkI for:

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Manual S Compliance Report

Entire House

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Plan: Manual J and D

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	32309	Btuh	Entering coil DB:	77.5°F
Outdoor design WB:	76.3°F	Latent gain:	8039	Btuh	Entering coil WB:	64.4°F
Indoor design DB:	75.0°F	Total gain:	40348	Btuh		
Indoor RH:	50%	Estimated airflow:	1400	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Carrier	Model:	25SPA542A00300+FJ4DNXC42L	
Actual airflow:	1400	cfm		
Sensible capacity:	30949	Btuh	96% of load	
Latent capacity:	8268	Btuh	103% of load	
Total capacity:	39217	Btuh	97% of load	SHR: 79%

Heating Equipment

Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	38493	Btuh	Entering coil DB:	65.4°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Carrier	Model:	25SPA542A00300+FJ4DNXC42L	
Actual airflow:	1400	cfm		
Output capacity:	35346	Btuh	92% of load	Capacity balance: 32 °F
Supplemental heat required:	3147	Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip			
Manufacturer:		Model:		
Actual airflow:	1400	cfm		
Output capacity:	10.0	kW	89% of load	Temp. rise: 22 °F

Meets all requirements of ACCA Manual S.





Duct System Summary

Entire House

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	Heating	Cooling
External static pressure	0.51 in H ₂ O	0.51 in H ₂ O
Pressure losses	0.18 in H ₂ O	0.18 in H ₂ O
Available static pressure	0.33 in H ₂ O	0.33 in H ₂ O
Supply / return available pressure	0.210 / 0.120 in H ₂ O	0.210 / 0.120 in H ₂ O
Lowest friction rate	0.880 in/100ft	0.880 in/100ft
Actual air flow	1400 cfm	1400 cfm
Total effective length (TEL)	385 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
Bathrm	h 704	28	19	0.880	4.0	0x0	VIFx	79.8	165.0	st1
Bedroom #2	c 1790	80	87	0.880	5.0	0x0	VIFx	76.1	165.0	st1
Bedroom #3	h 2986	120	108	0.880	6.0	0x0	VIFx	75.2	165.0	st1
Foyer	h 1577	63	57	0.880	5.0	0x0	VIFx	39.1	160.0	st2
Kitchen/Dining	c 2161	61	105	0.880	6.0	0x0	VIFx	33.7	160.0	st2
Kitchen/Dining-A	c 2161	61	105	0.880	6.0	0x0	VIFx	34.8	160.0	st2
Laundry	h 2135	86	73	0.880	5.0	0x0	VIFx	3.5	95.0	
Living Room	c 3088	113	150	0.880	7.0	0x0	VIFx	36.6	160.0	st2
Living Room-A	c 3088	113	150	0.880	7.0	0x0	VIFx	35.7	160.0	st2
Mstr Bathrm	h 2322	93	78	0.880	5.0	0x0	VIFx	23.7	160.0	st3
Mstr Bedroom	c 1760	82	86	0.880	5.0	0x0	VIFx	27.6	160.0	st3
Mstr Bedroom-A	c 1760	82	86	0.880	5.0	0x0	VIFx	20.6	160.0	st3
Mstr WIC	h 1399	56	43	0.880	4.0	0x0	VIFx	19.6	160.0	st3
Mud Rm	h 1517	61	55	0.880	4.0	0x0	VIFx	24.7	160.0	st3
Office	c 1503	65	73	0.880	5.0	0x0	VIFx	43.6	160.0	st2
Pantry	h 2706	109	59	0.880	6.0	0x0	VIFx	41.8	160.0	st2
Pwdr	h 57	2	2	0.880	4.0	0x0	VIFx	18.6	160.0	st3
Tit	h 1145	46	33	0.880	4.0	0x0	VIFx	39.6	165.0	st3
WIC #2	h 1470	59	22	0.880	4.0	0x0	VIFx	79.3	165.0	st1
WIC #3	h 508	20	9	0.880	4.0	0x0	VIFx	74.9	165.0	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	Peak AVF	308	246	0.880	697	9.0	0 x 0	VinIFlx	
st2	Peak AVF	584	699	0.880	654	14.0	0 x 0	VinIFlx	
st3	Peak AVF	422	383	0.880	537	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
rb2	18x 17	677	620	94.5	0.880	633	14.0	0x 0		VIFx	rst8
rb1	20x 18	723	780	139.9	0.880	730	14.0	0x 0		VIFx	rst7

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rst7	Peak AVF	723	780	0.880	559	16.0	0 x 0	VinIFlx	
rst8	Peak AVF	677	620	0.880	633	14.0	0 x 0	VinIFlx	