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Load Short Form
Entire House
P.O.Box 1617

31

Job: Bounds HVAC
Date: Jun 13, 2012
By: Robert Bounds

25645 W. Newberry Rd., Newberry, Fl. 32669 Phone: 352-472-2761 Fax: 352-472-1809 Email: robertbounds@rocketmail.com Web: wwww.boundshvac.com

Project Information

For: Bryant Construction, Mayo Fertilizer

Design Information

	Htg	Clg
Outside db (°F)	33	92
Inside db (°F)	68	75
Design TD (°F)	35	17
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	10	***50***

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

HEATING EQUIPMENT

Make	Carrier
Trade	BASE 13 PURON HP
Model	25HBB342A50
AHRI ref no.	3507574

Efficiency	8.2 HSPF	
Heating input		
Heating output	41500	Btuh @ 47°F
Temperature rise	28	°F
Actual air flow	1350	cfm
Air flow factor	0.055	cfm/Btuh
Static pressure	1.00	in H2O
Space thermostat		

COOLING EQUIPMENT

Make	Carrier
Trade	BASE 13 PURON HP
Cond	25HBB342A50
Coil	FY4ANF042
AHRI ref no.	3507574

Efficiency	10.4 EER, 13 SEER	
Sensible cooling	28350	Btuh
Latent cooling	12150	Btuh
Total cooling	40500	Btuh
Actual air flow	1350	cfm
Air flow factor	0.048	cfm/Btuh
Static pressure	1.00	in H2O
Load sensible heat ratio	0.85	

Received for FILE COPY Code Compliance PLANS EXAMINER

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Office 3	154	3714	3566	204	172
Office 4	154	2054	2796	113	135
Room3	112	0	0	0	0
Office 2	208	2405	3286	132	158
Main Office	224	4626	4536	254	219
Office 5	180	3883	3678	213	177
Office 6	182	2318	3198	127	154
Office 7	169	3704	3587	203	173
Room9	66	171	206	9	10
Room10	231	1725	3157	95	152

Bold/italic values have been manually overridden

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

Entire House	d	1680	24601	28011	1350	1350
Other equip loads			0	0		
Equip. @ 0.97 RSM				27171		
Latent cooling				4914		
TOTALS		1680	24601	32085	1350	1350

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Project Summary
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Job: Bounds HVAC
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Project Information

For: Bryant Construction, Mayo Fertilizer

Notes:

Design Information

Weather: Gainesville, 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	***50*** gr/lb

Heating Summary

Structure	17140 Btuh
Ducts	7461 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	24601 Btuh

Sensible Cooling Equipment Load Sizing

Structure	18975 Btuh
Ducts	9036 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	27171 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	1680	1680
Volume (ft³)	16800	16800
Air changes/hour	0.14	0.07
Equiv. AVF (cfm)	39	20

Latent Cooling Equipment Load Sizing

Structure	2667 Btuh
Ducts	2247 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	4914 Btuh
Equipment total load	32085 Btuh
Req. total capacity at 0.70 SHR	3.2 ton

Heating Equipment Summary

Make Carrier
Trade BASE 13 PURON HP
Model 25HBB342A50
AHRI ref no.3507574

Efficiency	8.2 HSPF
Heating input	
Heating output	41500 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	1350 cfm
Air flow factor	0.055 cfm/Btuh
Static pressure	1.00 in H2O
Space thermostat	

Cooling Equipment Summary

Make Carrier
Trade BASE 13 PURON HP
Cond 25HBB342A50
Coil FY4ANF042
AHRI ref no.3507574

Efficiency	10.4 EER, 13 SEER
Sensible cooling	28350 Btuh
Latent cooling	12150 Btuh
Total cooling	40500 Btuh
Actual air flow	1350 cfm
Air flow factor	0.048 cfm/Btuh
Static pressure	1.00 in H2O
Load sensible heat ratio	0.85

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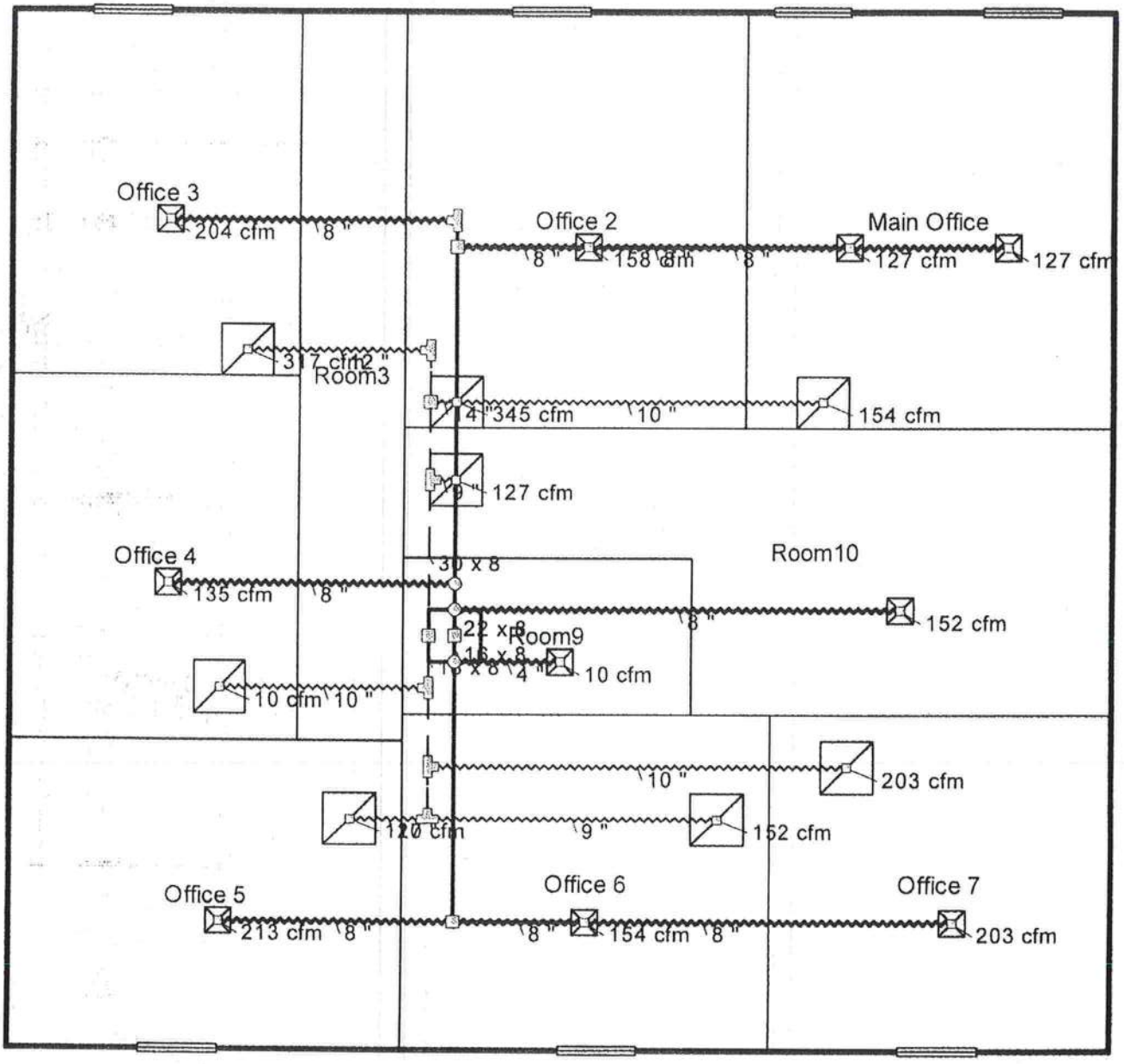
Level 1


Office 3
204 cfm
8 "
Office 2
158 cfm
Main Office
127 cfm
127 cfm
317 cfm
2 "
Room3
4 "
345 cfm
10 "
154 cfm
127 cfm
Office 4
135 cfm
8 "
30 x 8
Room10
152 cfm
22 x 8
Room9
16 x 8
10 cfm
10 cfm
10 "
203 cfm
120 cfm
9 "
152 cfm
Office 5
213 cfm
8 "
Office 6
154 cfm
Office 7
203 cfm

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Duct System Summary
Entire House

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Job: Bounds HVAC
Date: Jun 13, 2012
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Project Information

For: Bryant Construction, Mayo Fertilizer

	Heating	Cooling
External static pressure	1.00 in H2O	***1.00*** in H2O
Pressure losses	0.30 in H2O	0.30 in H2O
Available static pressure	0.70 in H2O	0.70 in H2O
Supply / return available pressure	0.45 / 0.25 in H2O	0.45 / 0.25 in H2O
Lowest friction rate	***0.100*** in/100ft	***0.100*** in/100ft
Actual air flow	1350 cfm	1350 cfm
Total effective length (TEL)	326 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
Main Office	h 2313	127	109	0.100	8.0	0x0	VlFx	30.0	170.0	st2
Main Office-A	h 2313	127	109	0.100	8.0	0x0	VlFx	36.0	170.0	st2
Office 2	c 3286	132	158	0.100	8.0	0x0	VlFx	20.0	170.0	st2
Office 3	h 3714	204	172	0.100	***8.0***	***0x0***	VlFx	27.0	180.0	st2
Office 4	c 2796	113	135	0.100	8.0	0x0	VlFx	13.0	180.0	st2
Office 5	h 3883	213	177	0.100	***8.0***	***0x0***	VlFx	20.0	160.0	st1
Office 6	c 3198	127	154	0.100	8.0	0x0	VlFx	16.0	160.0	st1
Office 7	h 3704	203	173	0.100	***8.0***	***0x0***	VlFx	30.0	160.0	st1
Room10	c 3157	95	152	0.100	8.0	0x0	VlFx	18.0	190.0	st2
Room9	c 206	9	10	0.100	4.0	0x0	VlFx	5.0	170.0	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	553	514	0.100	622	11.6	8 x 16	RectFbg	
st2	Peak AVF	797	836	0.100	684	13.6	8 x 22	RectFbg	

Bold/italic values have been manually overridden

Return Branch Detail Table

Name	Grill 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	127	109	87.0	0.050	287	9.0	0x 0		VIFx	rt2
rb2	0x0	317	307	103.0	0.050	403	12.0	0x 0		VIFx	rt2
rb3	0x0	9	10	90.0	0.050	18	***10.0***	***0x 0***		VIFx	rt1
rb4	0x0	127	109	110.0	0.050	233	***10.0***	***0x 0***		VIFx	rt1
rb5	0x0	345	336	90.0	0.050	323	14.0	0x 0		VIFx	rt2
rb6	0x0	95	152	118.0	0.050	344	9.0	0x 0		VIFx	rt1
rb7	0x0	203	173	111.0	0.050	373	10.0	0x 0		VIFx	rt1
rb8	0x0	127	154	104.0	0.050	283	***10.0***	***0x 0***		VIFx	rt2

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	434	444	0.050	444	12.3	8 x 18	RectFbg	
rt2	Peak AVF	916	906	0.050	549	16.1	8 x 30	RectFbg	

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