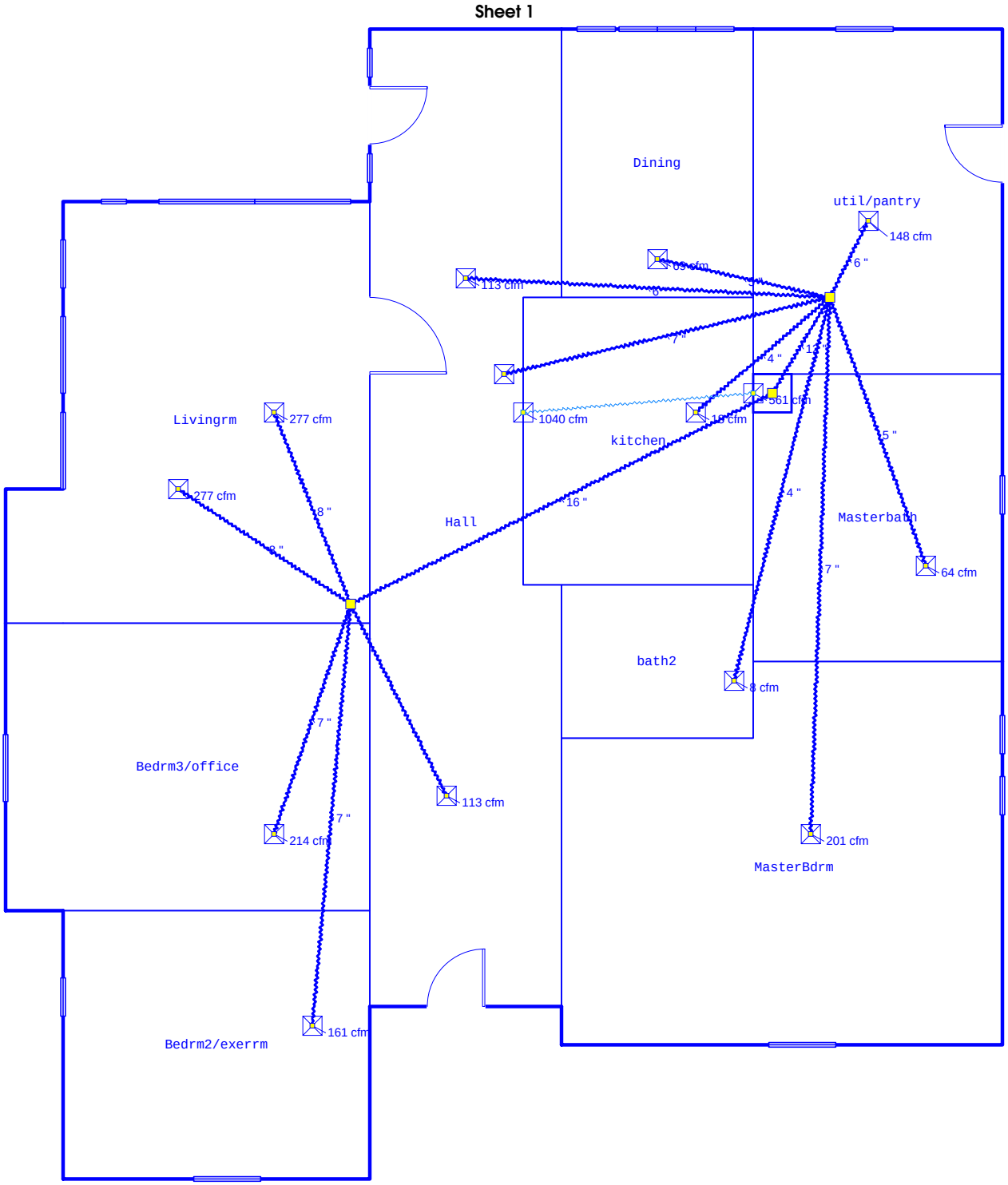


Job #: Sample2 Customer
Performed by rick for:

Sample2 customer
Fitzhugh
Austin, TX

Rick's Heating & AC

Box 204433
Austin, TX 78720
Phone: 512-258-4748

Scale: 1/8" = 1'0"

Right-Suite Residential J8
5.8.48 RSR30501
2003-Aug-23 08:57:53
D:\datarick\Wrightsoft HVAC\sample...

Building Analysis
Entire House
Rick's Heating & AC

Job: Sample2 Customer
Date: 6/15/03
By: rick

Box 204433, Austin, TX 78720 Phone: 512-258-4748 Email: austintexasrick@yahoo.com Web: www.ricksair.com

Project Information

For: Sample2 customer
Fitzhugh, Austin, TX

Design Conditions

Location:
Austin, TX, US
Elevation: 620 ft
Latitude: 30 °N

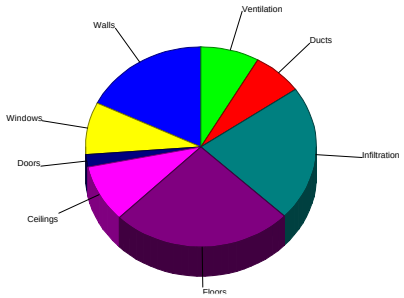
Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	25	98
Daily range (°F)	-	20 (M)
Wet bulb (°F)	-	74
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	45	23
Relative humidity (%)	30	50
Moisture difference (gr/lb)	17.8	24.9

Infiltration:	
Method	Simplified
Construction quality	Tight
Fireplaces	1 (Average)

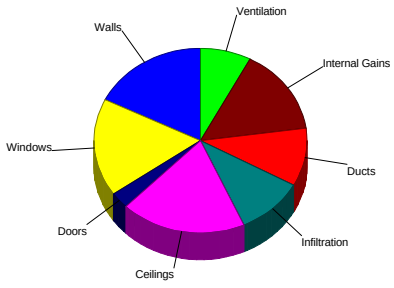
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	2.9	9708	17.8
Windows	21.2	4583	8.4
Doors	17.5	1106	2.0
Ceilings	1.8	5059	9.3
Floors	5.3	13859	25.4
Infiltration	3.3	11954	21.9
Ducts		3835	7.0
Piping		0	0.0
Humidification		0	0.0
Ventilation		4483	8.2
Total		**54585**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.6	5282	17.6
Windows	23.8	5142	17.2
Doors	13.6	854	2.9
Ceilings	2.1	5704	19.0
Floors	0.0	0	0.0
Infiltration	0.9	3095	10.3
Ducts		3040	10.1
Ventilation		2321	7.7
Internal gains		4520	15.1
Blower		0	0.0
Total		**29958**	**100.0**



Overall U-value = 0.088 Btuh/ft²-°F

AED Assessment
Entire House
Rick's Heating & AC

Job: Sample2 Customer
Date: 6/15/03
By: rick

Box 204433, Austin, TX 78720 Phone: 512-258-4748 Email: austintexasrick@yahoo.com Web: www.ricksair.com

Project Information

For: Sample2 customer
Fitzhugh, Austin, TX

Design Conditions

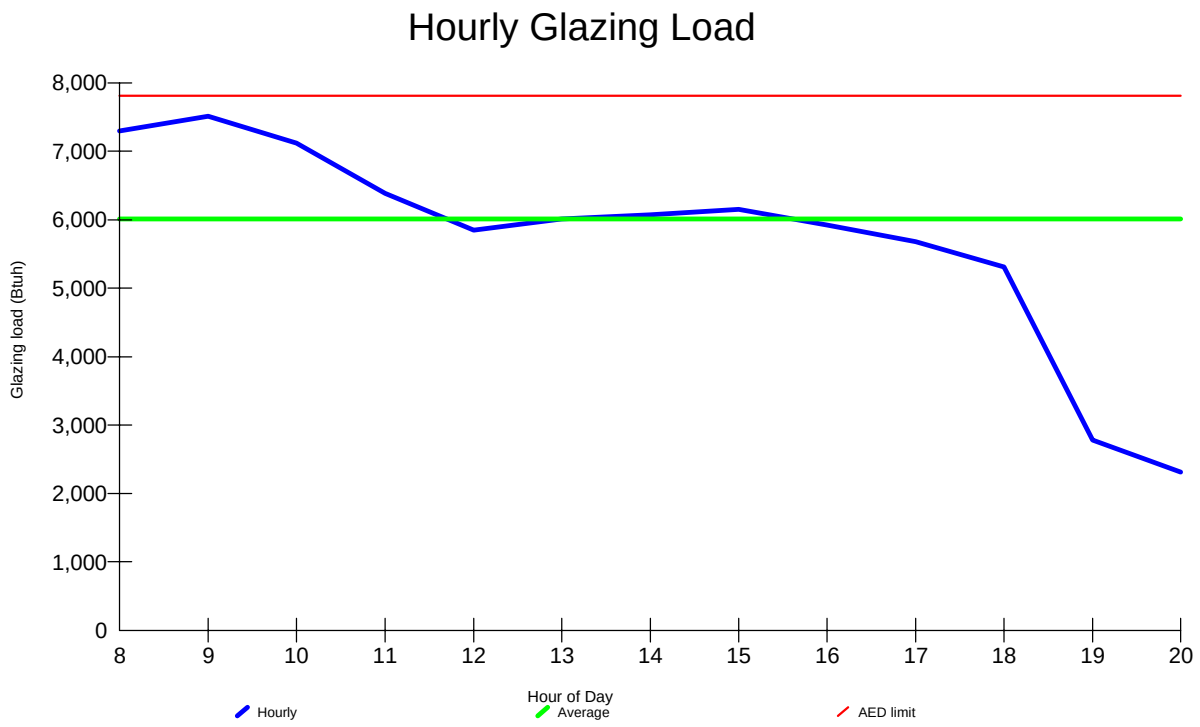
Location:
Austin, TX, US
Elevation: 620 ft
Latitude: 30 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	25	98
Daily range (°F)	-	20 (M)
Wet bulb (°F)	-	74
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	45	23
Relative humidity (%)	30	50
Moisture difference (gr/lb)	17.8	24.9

Infiltration:	
Method	Simplified
Construction quality	Tight
Fireplaces	1 (Average)

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 25.1%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

Recommended procedure: Average

Selected procedure: Average (auto)

Project Summary
Entire House
Rick's Heating & AC

Job: Sample2 Customer
Date: 6/15/03
By: rick

Box 204433, Austin, TX 78720 Phone: 512-258-4748 Email: austintexasrick@yahoo.com Web: www.ricksair.com

Project Information

For: Sample2 customer
Fitzhugh, Austin, TX

Notes: Quality Service saves you $$$

Design Information

Weather: Austin, TX, US

Winter Design Conditions

Outside db	25	°F
Inside db	70	°F
Design TD	45	°F

Summer Design Conditions

Outside db	98	°F
Inside db	75	°F
Design TD	23	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	25	gr/lb

Heating Summary

Building heat loss	50102	Btuh
Ventilation air	93	cfm
Ventilation air loss	4483	Btuh
Design heat load	54585	Btuh

Sensible Cooling Equipment Load Sizing

Structure	27637	Btuh
Ventilation	2321	Btuh
Design temperature swing	3.0	°F
Use mfg. data	n	
Rate/swing multiplier	1.03	
Total sens. equip. load	30946	Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	1 (Average)

	Heating	Cooling
Area (ft²)	2611	2611
Volume (ft³)	37046	37046
Air changes/hour	0.40	0.20
Equiv. AVF (cfm)	247	123

Latent Cooling Equipment Load Sizing

Internal gains	800	Btuh
Ventilation	1531	Btuh
Infiltration	2042	Btuh
Total latent equip. load	4768	Btuh
Total equipment load	35714	Btuh
Req. total capacity at 0.70 SHR	3.7	ton

Heating Equipment Summary

Make	n/a
Trade	
Model	n/a

Efficiency	100	EFF
Heating input	0	Btuh
Heating output	54585	Btuh
Temperature rise	38	°F
Actual air flow	1350	cfm
Air flow factor	0.027	cfm/Btuh
Static pressure	0.80	in H2O
Space thermostat		

Cooling Equipment Summary

Make	Goodman Mfg.
Trade	Janitrol, GMC, Franklin
Cond	CKJ42-1D
Coil	AR49-1

Efficiency	12	SEER
Sensible cooling	28350	Btuh
Latent cooling	12150	Btuh
Total cooling	40500	Btuh
Actual air flow	1350	cfm
Air flow factor	0.049	cfm/Btuh
Static pressure	0.80	in H2O
Load sensible heat ratio	86	%

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Short Form
Entire House

Rick's Heating & AC

Box 204433, Austin, TX 78720 Phone: 512-258-4748 Email: austintexasrick@yahoo.com Web: www.ricksair.com

Job: Sample2 Customer
Date: 6/15/03
By: rick

Project Information

For: Sample2 customer
Fitzhugh, Austin, TX

Design Information

	Htg	Clg
Outside db (°F)	25	98
Inside db (°F)	70	75
Design TD (°F)	45	23
Daily range	-	M
Inside humidity (%)	-	50
Moisture difference (gr/lb)	-	25

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	1 (Average)

HEATING EQUIPMENT

Make n/a
Trade
Model n/a

Efficiency	100 EFF	
Heating input	0	Btuh
Heating output	54585	Btuh
Temperature rise	38	°F
Actual air flow	1350	cfm
Air flow factor	0.027	cfm/Btuh
Static pressure	0.80	in H2O
Space thermostat		

COOLING EQUIPMENT

Make Goodman Mfg.
Trade Janitrol, GMC, Franklin
Cond CKJ42-1D
Coil AR49-1

Efficiency	12 SEER	
Sensible cooling	28350	Btuh
Latent cooling	12150	Btuh
Total cooling	40500	Btuh
Actual air flow	1350	cfm
Air flow factor	0.049	cfm/Btuh
Static pressure	0.80	in H2O
Load sensible heat ratio	86	%

ROOM NAME		Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Eastsidezone	p	882	25142	17633	677	861
(Rest of House)	d	1729	24961	12427	673	607
Entire House	d	2611	50102	27637	1350	1350
Ventilation air			4483	2321		
Equip. @ 1.03 RSM				30946		
Latent cooling				4768		
TOTALS		2611	54585	35714	1350	1350

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Operating Cost Summary
Entire House
Rick's Heating & AC

Job: Sample2 Customer
Date: 6/15/03
By: rick

Box 204433, Austin, TX 78720 Phone: 512-258-4748 Email: austintexasrick@yahoo.com Web: www.ricksair.com

Project Information

For: Sample2 customer
Fitzhugh, Austin, TX

Notes: Quality Service saves you $$$

System Annual Fuel Cost Comparison

	Base System	Investment 1	Investment 2	Investment 3
System Name:	AC	ASHP	ASHP	ASHP
Cooling $:	797.37	656.24	650.85	749.19
Heating $:	1757.56	587.85	573.01	620.41
Hot Water $:	0.00	0.00	0.00	0.00
Total $:	2554.93	1244.09	1223.86	1369.61

Long-term Operating Cost Comparison

REFERENCE

	Cost	Savings	Cost	Savings	Cost	Savings	Cost	Savings
Year 1 $:	2555	0	1244	1311	1224	1331	1370	1185
Year 2 $:	5110	0	2488	2622	2448	2662	2739	2371
Year 3 $:	7665	0	3732	3933	3672	3993	4109	3556
Year 4 $:	10220	0	4976	5243	4895	5324	5478	4741
Year 5 $:	12775	0	6220	6554	6119	6655	6848	5927
Year 10 $:	25549	0	12441	13108	12239	13311	13696	11853
Payback: yrs	0.0		0.8		0.5		1.1	
ROI: %	0.0		29.3		34.2		24.7	
Savings: $/mo	0.00		109.24		110.92		98.78	

Note: Actual costs and savings may differ due to weather, operating conditions, maintenance, and construction.

Duct System Summary
Entire House
Rick's Heating & AC

Job: Sample2 Customer
Date: 6/15/03
By: rick

Box 204433, Austin, TX 78720 Phone: 512-258-4748 Email: austintexasrick@yahoo.com Web: www.ricksair.com

Project Information

For: Sample2 customer
Fitzhugh, Austin, TX

	Heating	Cooling
External static pressure	***0.80*** in H2O	***0.80*** in H2O
Pressure losses	0.41 in H2O	0.41 in H2O
Available static pressure	0.39 in H2O	0.39 in H2O
Supply / return available pressure	0.19 / 0.19 in H2O	0.19 / 0.19 in H2O
Lowest friction rate	0.132 in/100ft	0.132 in/100ft
Actual air flow	1350 cfm	1350 cfm
Total effective length (TEL)	296 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	Rect Size (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Livingrm-A	c	5472	219	267	0.236	8	0x 0	VlFx	35.4	130.0	st2
Livingrm	c	5472	219	267	0.236	8	0x 0	VlFx	35.4	130.0	st2
Bedrm3/office-A	c	4218	84	206	0.233	7	0x 0	VlFx	37.2	130.0	st2
Bedrm2/exerrm	h	5763	155	121	0.221	7	0x 0	VlFx	46.7	130.0	st2
Hall	h	4039	109	89	0.252	6	0x 0	VlFx	24.9	130.0	st1
Hall-A	h	4039	109	89	0.132	7	0x 0	VlFx	35.8	260.0	st2
bath2	c	166	3	8	0.249	4	0x 0	VlFx	26.4	130.0	st1
MasterBdrm	h	7202	194	149	0.238	7	0x 0	VlFx	33.8	130.0	st1
Masterbath	h	2281	61	46	0.259	5	0x 0	VlFx	20.7	130.0	st1
Dining	c	1353	61	66	0.269	5	0x 0	VlFx	15.1	130.0	st1
util/pantry	c	2914	127	142	0.278	6	0x 0	VlFx	10.3	130.0	st1
kitchen	c	351	8	17	0.269	4	0x 0	VlFx	15.1	130.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	Rect Duct Size (in)	Duct Material	Trunk
st1	Peak AVF	564	518	0.238	718	12	0 x 0	VinlFlx	
st2	Peak AVF	786	951	0.132	889	14	0 x 0	VinlFlx	

Bold/italic values have been manually overridden