

Project Information

For:

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	42	110	Method	Tight
Inside db (°F)	70	75	Construction quality	0
Design TD (°F)	28	35	Fireplaces	
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	1	-20		

HEATING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Model	GSZ140421K
AHRI ref	201817159
Efficiency	8.2 HSPF
Heating input	
Heating output	39000 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	1317 cfm
Air flow factor	0.072 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	
Capacity balance point = 27 °F	

COOLING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSZ140421K
Coil	ASPT47C14B
AHRI ref	201817159
Efficiency	12.0 EER, 14 SEER
Sensible cooling	30810 Btuh
Latent cooling	8690 Btuh
Total cooling	39500 Btuh
Actual air flow	1317 cfm
Air flow factor	0.052 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.85

Backup: Goodman Heat Strip
 Input = 8 kW, Output = 27297 Btuh, 100 AFUE

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Master Bed	298	3957	4243	284	220
mwc	24	342	354	25	18
Mbath	196	1205	1460	87	76
mclst	98	1530	860	110	45
mclst b	77	690	559	50	29
mclst c	41	53	281	4	15
L	11	0	0	0	0
m	32	0	0	0	0
Living Rm	150	2312	3668	166	190
Entry	106	895	770	64	40
GR DR Kit	1141	6290	12156	452	629
pwdr	30	36	368	3	19
pty	114	1026	725	74	38

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

AH 1 Master Bed	2316	18336	25444	1317	1317
Other equip loads		2684	4857		
Equip. @ 1.00 RSM			30301		
Latent cooling			5404		
TOTALS	2316	21020	35705	1317	1317

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	Htg	Clg	Infiltration	Simplified
Outside db (°F)	42	110	Method	Tight
Inside db (°F)	70	75	Construction quality	0
Design TD (°F)	28	35	Fireplaces	
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	24	-20		

HEATING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Model	GSZ140301K
AHRI ref	202326830
Efficiency	8.2 HSPF
Heating input	
Heating output	28000 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	933 cfm
Air flow factor	0.061 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	
Capacity balance point = 34 °F	

COOLING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSZ140301K
Coil	ASPT29B14A
AHRI ref	202326830
Efficiency	12.0 EER, 14.5 SEER
Sensible cooling	21840 Btuh
Latent cooling	6160 Btuh
Total cooling	28000 Btuh
Actual air flow	933 cfm
Air flow factor	0.054 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.86

Backup: Goodman Heat Strip
 Input = 8 kW, Output = 27297 Btuh, 100 AFUE

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bath 2	33	831	649	51	35
DR 2	45	541	323	33	17
wc 2	24	321	247	20	13
clst 2	38	51	282	3	15
L2	11	0	0	0	0
Bed 2	233	3294	3378	202	182
Game Rm	324	2707	4007	166	215
GR clst	56	65	247	4	13
Bath 4	36	339	171	21	9
DR 4	46	431	217	26	12
clst 4	29	51	220	3	12
Bed 4	182	1746	2023	107	109
Hall	109	0	0	0	0
Clst 3	38	74	298	5	16

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

Bath 3	39	860	484	53	26
DR 3	33	397	237	24	13
Bed 3	211	1480	2776	91	149
Mud Rm	81	570	511	35	27
Ldry	129	1492	1296	91	70
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AH 2 Game Rm	1697	15251	17364	933	933
Other equip loads		4714	4445		
Equip. @ 1.00 RSM			21809		
Latent cooling			3522		
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TOTALS	1697	19966	25332	933	933

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



Project Information

For:

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	42	110	Method	
Inside db (°F)	70	75	Construction quality	Tight
Design TD (°F)	28	35	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	24	-20		

HEATING EQUIPMENT

Make	Goodman Mfg.	Efficiency	8.2 HSPF
Trade	GOODMAN	Heating input	
Model	GSZ140181L	Heating output	15600 Btuh @ 47°F
AHRI ref	202630555	Temperature rise	25 °F
		Actual air flow	600 cfm
		Air flow factor	0.076 cfm/Btuh
		Static pressure	0.60 in H2O
		Space thermostat	
		Capacity balance point = 29 °F	

COOLING EQUIPMENT

Make	Goodman Mfg.	Efficiency	12.0 EER, 15 SEER
Trade	GOODMAN	Sensible cooling	14040 Btuh
Cond	GSZ140181L	Latent cooling	3960 Btuh
Coil	ASPT25B14A	Total cooling	18000 Btuh
AHRI ref	202630555	Actual air flow	600 cfm
		Air flow factor	0.056 cfm/Btuh
		Static pressure	0.60 in H2O
		Load sensible heat ratio	0.85

Backup: Goodman Heat Strip
Input = 5 kW, Output = 17061 Btuh, 100 AFUE

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Casita GR	163	2010	2295	152	128
Casita Bath	60	1067	1085	81	61
Casita	309	3962	6580	299	368
Casita clst	46	901	764	68	43
AH 3 Casita	577	7940	10723	600	600
Other equip loads		1701	2632		
Equip. @ 1.00 RSM			13355		
Latent cooling			2413		
TOTALS	577	9641	15768	600	600

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

Project Information

For:

Notes: Phoenix, AZ

Design Information

Weather: Phoenix Sky Harbor Intl, AZ, US

Winter Design Conditions

Outside db	42 °F
Inside db	70 °F
Design TD	28 °F

Summer Design Conditions

Outside db	110 °F
Inside db	75 °F
Design TD	35 °F
Daily range	M
Relative humidity	50 %
Moisture difference	-20 gr/lb

Heating Summary

Structure	15393 Btuh
Ducts	2943 Btuh
Central vent (84 cfm)	2517 Btuh
Outside air	
Humidification	167 Btuh
Piping	0 Btuh
Equipment load	21020 Btuh

Sensible Cooling Equipment Load Sizing

Structure	23295 Btuh
Ducts	2149 Btuh
Central vent (84 cfm)	3151 Btuh
Outside air	
Blower	1707 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	30301 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	6899 Btuh
Ducts	-396 Btuh
Central vent (84 cfm)	-1099 Btuh
Outside air	
Equipment latent load	5404 Btuh

	Heating	Cooling
Area (ft ²)	2316	2316
Volume (ft ³)	23155	23155
Air changes/hour	0.11	0.06
Equiv. AVF (cfm)	42	23

Equipment Total Load (Sen+Lat)	35705 Btuh
Req. total capacity at 0.78 SHR	3.2 ton

Heating Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Model	GSZ140421K
AHRI ref	201817159
Efficiency	8.2 HSPF
Heating input	
Heating output	39000 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	1317 cfm
Air flow factor	0.072 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	
Capacity balance point = 27 °F	

Cooling Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSZ140421K
Coil	ASPT47C14B
AHRI ref	201817159
Efficiency	12.0 EER, 14 SEER
Sensible cooling	30810 Btuh
Latent cooling	8690 Btuh
Total cooling	39500 Btuh
Actual air flow	1317 cfm
Air flow factor	0.052 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.85

Backup: Goodman Heat Strip
Input = 8 kW, Output = 27297 Btuh, 100 AFUE

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Project Information

For:

Notes: Phoenix, AZ

Design Information

Weather: Phoenix Sky Harbor Intl, AZ, US

Winter Design Conditions

Outside db	42 °F
Inside db	70 °F
Design TD	28 °F

Summer Design Conditions

Outside db	110 °F
Inside db	75 °F
Design TD	35 °F
Daily range	M
Relative humidity	50 %
Moisture difference	-20 gr/lb

Heating Summary

Structure	13272 Btuh
Ducts	1980 Btuh
Central vent (73 cfm)	2188 Btuh
Outside air	
Humidification	2527 Btuh
Piping	0 Btuh
Equipment load	19966 Btuh

Sensible Cooling Equipment Load Sizing

Structure	15920 Btuh
Ducts	1445 Btuh
Central vent (73 cfm)	2738 Btuh
Outside air	
Blower	1707 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	21809 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	4742 Btuh
Ducts	-265 Btuh
Central vent (73 cfm)	-955 Btuh
Outside air	
Equipment latent load	3522 Btuh

	Heating	Cooling
Area (ft ²)	1697	1697
Volume (ft ³)	16970	16970
Air changes/hour	0.14	0.07
Equiv. AVF (cfm)	40	20

Equipment Total Load (Sen+Lat)	25332 Btuh
Req. total capacity at 0.78 SHR	2.3 ton

Heating Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Model	GSZ140301K
AHRI ref	202326830
Efficiency	8.2 HSPF
Heating input	
Heating output	28000 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	933 cfm
Air flow factor	0.061 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	
Capacity balance point = 34 °F	

Cooling Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSZ140301K
Coil	ASPT29B14A
AHRI ref	202326830
Efficiency	12.0 EER, 14.5 SEER
Sensible cooling	21840 Btuh
Latent cooling	6160 Btuh
Total cooling	28000 Btuh
Actual air flow	933 cfm
Air flow factor	0.054 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.86

Backup: Goodman Heat Strip
Input = 8 kW, Output = 27297 Btuh, 100 AFUE

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

Project Information

For:

Notes: Phoenix, AZ

Design Information

Weather: Phoenix Sky Harbor Intl, AZ, US

Winter Design Conditions

Outside db	42 °F
Inside db	70 °F
Design TD	28 °F

Summer Design Conditions

Outside db	110 °F
Inside db	75 °F
Design TD	35 °F
Daily range	M
Relative humidity	50 %
Moisture difference	-20 gr/lb

Heating Summary

Structure	7043 Btuh
Ducts	897 Btuh
Central vent (25 cfm)	739 Btuh
Outside air	
Humidification	962 Btuh
Piping	0 Btuh
Equipment load	9641 Btuh

Sensible Cooling Equipment Load Sizing

Structure	10075 Btuh
Ducts	648 Btuh
Central vent (25 cfm)	925 Btuh
Outside air	
Blower	1707 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	13355 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2862 Btuh
Ducts	-127 Btuh
Central vent (25 cfm)	-323 Btuh
Outside air	
Equipment latent load	2413 Btuh

	Heating	Cooling
Area (ft ²)	577	577
Volume (ft ³)	5768	5768
Air changes/hour	0.21	0.11
Equiv. AVF (cfm)	20	11

Equipment Total Load (Sen+Lat)	15768 Btuh
Req. total capacity at 0.78 SHR	1.4 ton

Heating Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Model	GSZ140181L
AHRI ref	202630555
Efficiency	8.2 HSPF
Heating input	
Heating output	15600 Btuh @ 47°F
Temperature rise	25 °F
Actual air flow	600 cfm
Air flow factor	0.076 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	
Capacity balance point = 29 °F	

Cooling Equipment Summary

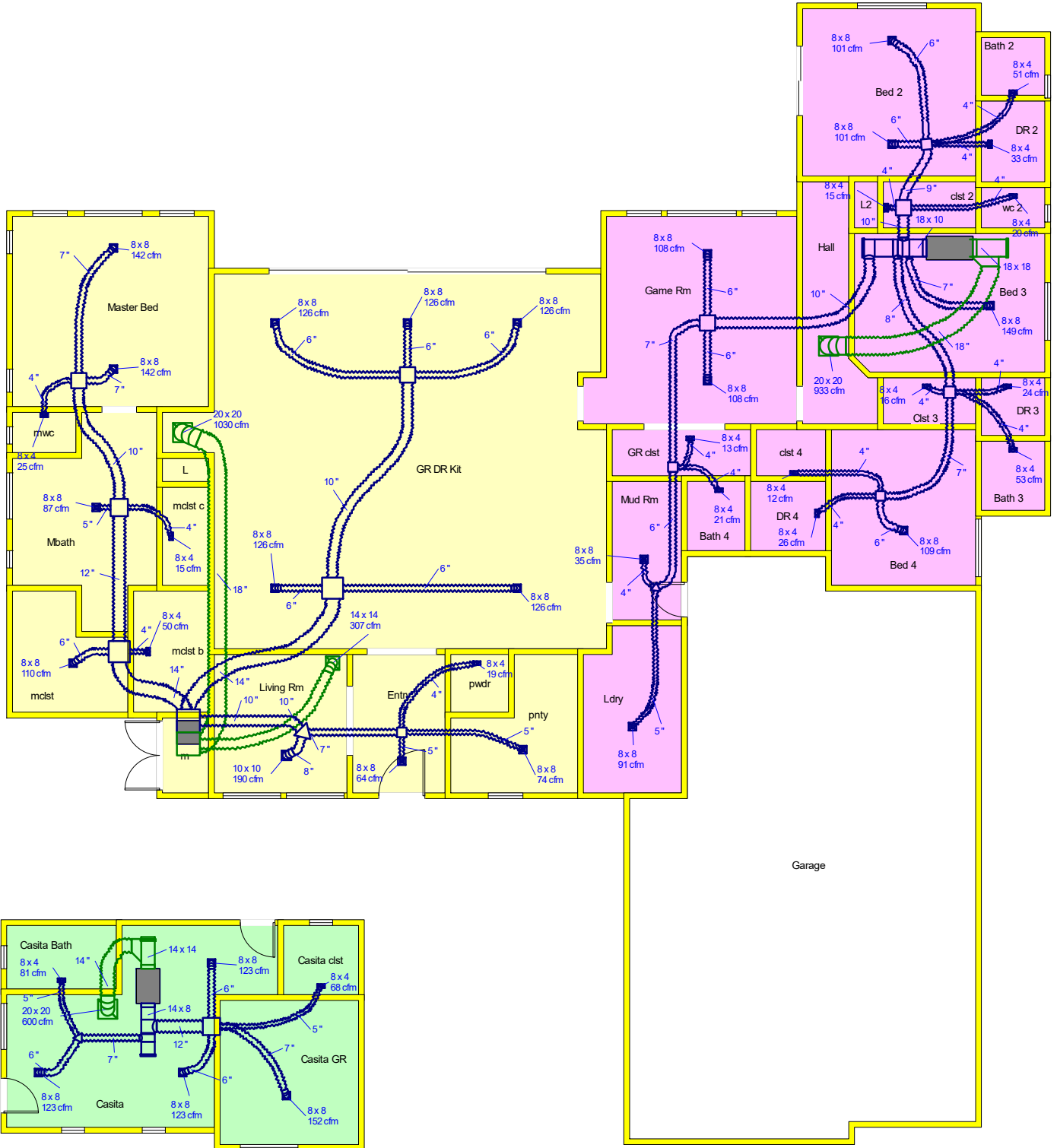
Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSZ140181L
Coil	ASPT25B14A
AHRI ref	202630555
Efficiency	12.0 EER, 15 SEER
Sensible cooling	14040 Btuh
Latent cooling	3960 Btuh
Total cooling	18000 Btuh
Actual air flow	600 cfm
Air flow factor	0.056 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.85

Backup: Goodman Heat Strip
Input = 5 kW, Output = 17061 Btuh, 100 AFUE

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



Main Floor



Job #: Phoenix, AZ
Performed by Josh Putman for:

Scale: 1 : 152
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Project Information

For:

Cooling Equipment

Design Conditions

Outdoor design DB:	110°F	Sensible gain:	30301 Btuh	Entering coil DB:	78.8°F
Outdoor design WB:	69.5°F	Latent gain:	5404 Btuh	Entering coil WB:	63.2°F
Indoor design DB:	75.0°F	Total gain:	35705 Btuh		
Indoor RH:	50%	Estimated airflow:	1317 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Goodman Mfg.	Model:	GSZ140421K+ASPT47C14B		
Actual airflow:	1317 cfm				
Sensible capacity:	30810 Btuh	102% of load			
Latent capacity:	8690 Btuh	161% of load			
Total capacity:	39500 Btuh	111% of load	SHR:	78%	

Heating Equipment

Design Conditions

Outdoor design DB:	41.8°F	Heat loss:	21020 Btuh	Entering coil DB:	68.0°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Goodman Mfg.	Model:	GSZ140421K+ASPT47C14B		
Actual airflow:	1317 cfm				
Output capacity:	39000 Btuh	186% of load		Capacity balance:	27 °F
Supplemental heat required:	0 Btuh			Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:	Goodman	Model:			
Actual airflow:	1317 cfm				
Output capacity:	8.0 kW	130% of load	Temp. rise:	22 °F	

Meets all requirements of ACCA Manual S.

Project Information

For:

Cooling Equipment

Design Conditions

Outdoor design DB:	110°F	Sensible gain:	21809	Btuh	Entering coil DB:	79.8°F
Outdoor design WB:	69.5°F	Latent gain:	3522	Btuh	Entering coil WB:	63.5°F
Indoor design DB:	75.0°F	Total gain:	25332	Btuh		
Indoor RH:	50%	Estimated airflow:	933	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Goodman Mfg.	Model:	GSZ140301K+ASPT29B14A
Actual airflow:	933	cfm	
Sensible capacity:	21840	Btuh	100% of load
Latent capacity:	6160	Btuh	175% of load
Total capacity:	28000	Btuh	111% of load SHR: 78%

Heating Equipment

Design Conditions

Outdoor design DB:	41.8°F	Heat loss:	19966	Btuh	Entering coil DB:	67.6°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Goodman Mfg.	Model:	GSZ140301K+ASPT29B14A
Actual airflow:	933	cfm	
Output capacity:	28000	Btuh	140% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 34 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:	Goodman	Model:	
Actual airflow:	933	cfm	
Output capacity:	8.0	kW	137% of load Temp. rise: 28 °F

Meets all requirements of ACCA Manual S.

Project Information

For:

Cooling Equipment

Design Conditions

Outdoor design DB:	110°F	Sensible gain:	13355 Btuh	Entering coil DB:	79.4°F
Outdoor design WB:	69.5°F	Latent gain:	2413 Btuh	Entering coil WB:	63.5°F
Indoor design DB:	75.0°F	Total gain:	15768 Btuh		
Indoor RH:	50%	Estimated airflow:	600 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Goodman Mfg.	Model:	GSZ140181L+ASPT25B14A		
Actual airflow:	600 cfm				
Sensible capacity:	14040 Btuh	105% of load			
Latent capacity:	3960 Btuh	164% of load			
Total capacity:	18000 Btuh	114% of load	SHR:	78%	

Heating Equipment

Design Conditions

Outdoor design DB:	41.8°F	Heat loss:	9641 Btuh	Entering coil DB:	68.7°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Goodman Mfg.	Model:	GSZ140181L+ASPT25B14A		
Actual airflow:	600 cfm				
Output capacity:	15600 Btuh	162% of load		Capacity balance:	29 °F
Supplemental heat required:	0 Btuh			Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:	Goodman	Model:			
Actual airflow:	600 cfm				
Output capacity:	5.0 kW	177% of load	Temp. rise:	27 °F	

Meets all requirements of ACCA Manual S.

Project Information

For:

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.24 in H2O	0.24 in H2O
Available static pressure	0.36 in H2O	0.36 in H2O
Supply / return available pressure	0.250 / 0.110 in H2O	0.250 / 0.110 in H2O
Lowest friction rate	0.095 in/100ft	0.095 in/100ft
Actual air flow	1317 cfm	1317 cfm
Total effective length (TEL)	379 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
Entry	h 895	64	40	0.146	5.0	0x0	VIFx	21.4	150.0	st17
GR DR Kit	c 2431	90	126	0.095	6.0	0x0	VIFx	53.4	210.0	st18
GR DR Kit-A	c 2431	90	126	0.096	6.0	0x0	VIFx	51.5	210.0	st18
GR DR Kit-B	c 2431	90	126	0.139	6.0	0x0	VIFx	35.0	145.0	st5
GR DR Kit-C	c 2431	90	126	0.105	6.0	0x0	VIFx	44.2	195.0	st18
GR DR Kit-D	c 2431	90	126	0.148	6.0	0x0	VIFx	24.0	145.0	st5
Living Rm	c 3668	166	190	0.175	8.0	0x0	VIFx	13.1	130.0	st4
Master Bed	h 1978	142	110	0.097	7.0	0x0	VIFx	46.8	210.0	st16
Master Bed-A	h 1978	142	110	0.105	7.0	0x0	VIFx	37.7	200.0	st16
Mbath	h 1205	87	76	0.140	5.0	0x0	VIFx	24.2	155.0	st15
mclst	h 1530	110	45	0.162	6.0	0x0	VIFx	14.0	140.0	st3
mclst b	h 690	50	29	0.170	4.0	0x0	VIFx	12.2	135.0	st3
mclst c	c 281	4	15	0.130	4.0	0x0	VIFx	28.1	165.0	st15
mwc	h 342	25	18	0.102	4.0	0x0	VIFx	39.6	205.0	st16
pnty	h 1026	74	38	0.135	5.0	0x0	VIFx	29.7	155.0	st17
pwdr	c 368	3	19	0.129	4.0	0x0	VIFx	29.0	165.0	st17

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st16	Peak AVF	309	238	0.097	566	10.0	0 x 0	VinlFix	st15
st15	Peak AVF	399	328	0.097	508	12.0	0 x 0	VinlFix	st3
st3	Peak AVF	558	401	0.097	522	14.0	0 x 0	VinlFix	
st17	Peak AVF	141	96	0.129	526	7.0	0 x 0	VinlFix	st4
st4	Peak AVF	307	286	0.129	562	10.0	0 x 0	VinlFix	
st18	Peak AVF	271	377	0.095	692	10.0	0 x 0	VinlFix	st5
st5	Peak AVF	452	629	0.095	588	14.0	0 x 0	VinlFix	

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	1010	1030	115.5	0.095	583	18.0	0x 0		VIFx	
rb4	0x0	307	286	90.8	0.121	562	10.0	0x 0		VIFx	

Project Information

For:

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.24 in H2O	0.24 in H2O
Available static pressure	0.36 in H2O	0.36 in H2O
Supply / return available pressure	0.246 / 0.114 in H2O	0.246 / 0.114 in H2O
Lowest friction rate	0.063 in/100ft	0.063 in/100ft
Actual air flow	933 cfm	933 cfm
Total effective length (TEL)	568 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 2	h 831	51	35	0.089	4.0	0x0	VIFx	21.0	255.0	st12
Bath 3	h 860	53	26	0.091	4.0	0x0	VIFx	24.4	245.0	st9
Bath 4	h 339	21	9	0.074	4.0	0x0	VIFx	43.2	290.0	st7
Bed 2	h 1647	101	91	0.089	6.0	0x0	VIFx	21.7	255.0	st12
Bed 2-A	h 1647	101	91	0.096	6.0	0x0	VIFx	14.6	240.0	st12
Bed 3	c 2776	91	149	0.131	7.0	0x0	VIFx	11.9	175.0	st1
Bed 4	c 2023	107	109	0.078	6.0	0x0	VIFx	33.7	280.0	st10
Clst 3	c 298	5	16	0.099	4.0	0x0	VIFx	18.5	230.0	st9
DR 2	h 541	33	17	0.096	4.0	0x0	VIFx	17.1	240.0	st12
DR 3	h 397	24	13	0.098	4.0	0x0	VIFx	21.5	230.0	st9
DR 4	h 431	26	12	0.079	4.0	0x0	VIFx	35.5	275.0	st10
GR clst	c 247	4	13	0.074	4.0	0x0	VIFx	41.9	290.0	st7
Game Rm	c 2003	83	108	0.093	6.0	0x0	VIFx	29.5	235.0	st6
Game Rm-A	c 2003	83	108	0.093	6.0	0x0	VIFx	28.5	235.0	st6
Ldry	h 1492	91	70	0.063	5.0	0x0	VIFx	62.2	325.0	st8
Mud Rm	h 570	35	27	0.067	4.0	0x0	VIFx	52.5	315.0	st8
clst 2	c 282	3	15	0.119	4.0	0x0	VIFx	7.0	200.0	st11
clst 4	c 220	3	12	0.076	4.0	0x0	VIFx	38.5	285.0	st10
wc 2	h 321	20	13	0.112	4.0	0x0	VIFx	15.1	205.0	st11

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st10	PeakAVF	136	132	0.076	510	7.0	0 x 0	VinlFix	st9
st1	PeakAVF	933	933	0.063	746	14.7	10 x 18	ShtMetl	
st9	PeakAVF	218	187	0.076	624	8.0	0 x 0	VinlFix	st1
st8	PeakAVF	126	97	0.063	642	6.0	0 x 0	VinlFix	st7
st7	PeakAVF	151	119	0.063	565	7.0	0 x 0	VinlFix	st6
st6	PeakAVF	317	335	0.063	614	10.0	0 x 0	VinlFix	st1
st12	PeakAVF	285	234	0.089	646	9.0	0 x 0	VinlFix	st11
st11	PeakAVF	308	262	0.089	565	10.0	0 x 0	VinlFix	st1

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
rb3	0x0	933	933	180.4	0.063	528	18.0	0x 0		VIFx	rt1

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	PeakAVF	933	933	0.063	415	14.7	18 x 18	ShtMetl	

Project Information

For:

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.24 in H2O	0.24 in H2O
Available static pressure	0.36 in H2O	0.36 in H2O
Supply / return available pressure	0.216 / 0.144 in H2O	0.216 / 0.144 in H2O
Lowest friction rate	0.093 in/100ft	0.093 in/100ft
Actual air flow	600 cfm	600 cfm
Total effective length (TEL)		389 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
Casita	c 2193	100	123	0.094	6.0	0x0	VIFx	14.1	215.0	st13
Casita Bath	h 1067	81	61	0.094	5.0	0x0	VIFx	14.4	215.0	st13
Casita GR	h 2010	152	128	0.093	7.0	0x0	VIFx	17.2	215.0	st14
Casita dsl	h 901	68	43	0.093	5.0	0x0	VIFx	18.5	215.0	st14
Casita-A	c 2193	100	123	0.102	6.0	0x0	VIFx	13.0	200.0	st14
Casita-B	c 2193	100	123	0.097	6.0	0x0	VIFx	12.9	210.0	st14

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st2	PeakAVF	600	600	0.093	771	11.6	8 x 14	ShtMetl	
st13	PeakAVF	180	183	0.094	686	7.0	0 x 0	VinIFix	st2
st14	PeakAVF	420	417	0.093	534	12.0	0 x 0	VinIFix	st2

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	0x0	600	600	155.3	0.093	561	14.0	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
rt2	PeakAVF	600	600	0.093	441	11.6	14 x 14	ShtMetl	