

Manual S Compliance Report
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For:
Scappoose, OR

Cooling Equipment

Design Conditions

Outdoor design DB:	87.5°F	Sensible gain:	31814	Btuh	Entering coil DB:	75.1°F
Outdoor design WB:	66.3°F	Latent gain:	1143	Btuh	Entering coil WB:	62.6°F
Indoor design DB:	75.0°F	Total gain:	32957	Btuh		
Indoor RH:	50%	Estimated airflow:	1417	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	GH5SAN44200AA0+F54AABD60L		
Actual airflow:	1417	cfm			
Sensible capacity:	37824	Btuh	119%	of load	
Latent capacity:	4798	Btuh	420%	of load	
Total capacity:	42622	Btuh	129%	of load	SHR: 89%

Heating Equipment

Design Conditions

Outdoor design DB:	29.4°F	Heat loss:	25972	Btuh	Entering coil DB:	69.6°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	GH5SAN44200AA0+F54AABD60L		
Actual airflow:	1417	cfm			
Output capacity:	33432	Btuh	129%	of load	Capacity balance: 17 °F
Supplemental heat required:	0	Btuh			Economic balance: -99 °F

Backup equipment type:	Elec strip				
Manufacturer:	Carrier	Model:			
Actual airflow:	1417	cfm			
Output capacity:	10.0	kW	131%	of load	Temp. rise: 22 °F

Meets all requirements of ACCA Manual S.

Manual S Compliance Report
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For:
Scappoose, OR

Cooling Equipment

Design Conditions

Outdoor design DB:	87.5°F	Sensible gain:	28347 Btuh	Entering coil DB:	76.4°F
Outdoor design WB:	66.3°F	Latent gain:	139 Btuh	Entering coil WB:	63.0°F
Indoor design DB:	75.0°F	Total gain:	28486 Btuh		
Indoor RH:	50%	Estimated airflow:	1333 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	GH5SAN44200AA0+F54AABC42L		
Actual airflow:	1333 cfm				
Sensible capacity:	34878 Btuh		123% of load		
Latent capacity:	3944 Btuh		2841% of load		
Total capacity:	38822 Btuh		136% of load	SHR:	90%

Heating Equipment

Design Conditions

Outdoor design DB:	29.4°F	Heat loss:	26492 Btuh	Entering coil DB:	69.1°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	GH5SAN44200AA0+F54AABC42L		
Actual airflow:	1333 cfm				
Output capacity:	33183 Btuh		125% of load	Capacity balance:	19 °F
Supplemental heat required:	0 Btuh			Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:	Carrier	Model:			
Actual airflow:	1333 cfm				
Output capacity:	10.0 kW	129% of load	Temp. rise:	23 °F	

Meets all requirements of ACCA Manual S.



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 2.0

Header Information

Contractor B&B System Design
Bobby Blough
Mechanical license# _____
Building plan # _____
Home address (Street or Lot#, Block, Subdivision) SYSTEM 1

Applicable Attachments
Manual J1 Form and Worksheet A: Yes No
OEM performance data (heating, cooling, blower): Yes No
Duct distribution sketch: Yes No
IRC Table R301.2 (climate & geographic design criteria) Yes No

HVAC LOAD CALCULATION (IRC M1401.3)

Manual J Design Criteria and Loads

Location		Summer Design Conditions		Manual J Loads	
Elevation	19 ft	Outdoor Cooling Temp	88 °F	Total Heat Loss	25972 Btuh
Altitude Correction Factor	1.00	Indoor Cooling Temp	75 °F	Sensible Heat Gain	31814 Btuh
Latitude	46 °N	Cooling Temp Diff	13 °F	Latent Heat Gain	1143 Btuh
		Indoor Summer Design RH	50 %	Total Heat Gain	32957 Btuh
		Coincident Wet Bulb Temp	66 °F		

Winter Design Conditions
Outdoor Winter Temp 29 °F
Indoor Winter Temp 70 °F
Heating Temp Diff 41 °F

The heat loss/gain was calculated in accordance with ACCA Manual J? **Y** **N**

HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment

Furnace Boiler Electric Heat
 Single Speed Multi Stage Modulating

Cooling Equipment

Air Conditioner Heat Pump
 Air-to-Air Geothermal Open Loop Geothermal Closed Loop
 Single Speed Multi Stage Variable Speed

Model _____
Output 33432 Btuh Sizing Value 25972 Btuh
Supplemental Heat 0 Btuh Sizing Limit 175.0 %
Load: Capacity 131.4 %

Model GH5SAN44200AA0+F54AABD60L
Sensible 37824 Btuh Sizing Value 32957 Btuh
Latent 4798 Btuh Sizing Limit 115.0 %
Total 42622 Btuh Load: Capacity 129.3 %

Size Factor is within Manual S Size Limit? **Y** **N**

Size Factor is within Manual S Size Limit? **Y** **N**

HVAC DUCT DISTRIBUTION DESIGN (IRC M1601.1)

Design airflow	1417 cfm	Longest Supply Duct	260 ft	Duct Materials Used	
External Static Pressure (ESP)	0.60 in H2O	Longest Return Duct	278 ft	Trunk Duct:	<input type="checkbox"/> Duct Board <input checked="" type="checkbox"/> Sheet Metal
Component Pressure Loss (CPL)	0.20 in H2O	Total Effective Length (TEL)	538 ft		<input type="checkbox"/> Flex <input type="checkbox"/> Lined Sheet Metal <input type="checkbox"/> Other
Available static pressure (ASP)	0.40 in H2O	Friction Rate	0.07 in/100ft	Branch Duct:	<input type="checkbox"/> Duct Board <input type="checkbox"/> Sheet Metal
ESP - CPL = ASP		(ASP x 100) / TEL = Friction Rate			<input checked="" type="checkbox"/> Flex <input type="checkbox"/> Lined Sheet Metal <input type="checkbox"/> Other

Ducts are sized per Manual D? **Y** **N**

I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above and understand the claims made on these forms may be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 2.0

Header Information

Contractor B&B System Design
Bobby Blough
Mechanical license# _____
Building plan # _____
Home address (Street or Lot#, Block, Subdivision) SYSTEM 2

Applicable Attachments
Manual J1 Form and Worksheet A: Yes No
OEM performance data (heating, cooling, blower): Yes No
Duct distribution sketch: Yes No
IRC Table R301.2 (climate & geographic design criteria) Yes No

HVAC LOAD CALCULATION (IRC M1401.3)

Manual J Design Criteria and Loads

Location		Summer Design Conditions		Manual J Loads	
Elevation	19 ft	Outdoor Cooling Temp	88 °F	Total Heat Loss	26492 Btuh
Altitude Correction Factor	1.00	Indoor Cooling Temp	75 °F	Sensible Heat Gain	28347 Btuh
Latitude	46 °N	Cooling Temp Diff	13 °F	Latent Heat Gain	139 Btuh
		Indoor Summer Design RH	50 %	Total Heat Gain	28486 Btuh
		Coincident Wet Bulb Temp	66 °F		

Winter Design Conditions
Outdoor Winter Temp 29 °F
Indoor Winter Temp 70 °F
Heating Temp Diff 41 °F

The heat loss/gain was calculated in accordance with ACCA Manual J? Y N

HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment

Furnace Boiler Electric Heat
 Single Speed Multi Stage Modulating

Cooling Equipment

Air Conditioner Heat Pump
 Air-to-Air Geothermal Open Loop Geothermal Closed Loop
 Single Speed Multi Stage Variable Speed

Model _____
Output 33183 Btuh Sizing Value 26492 Btuh
Supplemental Heat 0 Btuh Sizing Limit 175.0 %
Load: Capacity 128.8 %

Model GH5SAN44200AA0+F54AABC42L
Sensible 34878 Btuh Sizing Value 28486 Btuh
Latent 3944 Btuh Sizing Limit 115.0 %
Total 38822 Btuh Load: Capacity 136.3 %

Size Factor is within Manual S Size Limit? Y N

Size Factor is within Manual S Size Limit? Y N

HVAC DUCT DISTRIBUTION DESIGN (IRC M1601.1)

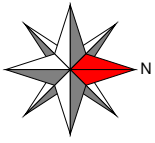
Design airflow	1333 cfm	Longest Supply Duct	313 ft	Duct Materials Used	
External Static Pressure (ESP)	0.65 in H2O	Longest Return Duct	393 ft	Trunk Duct:	<input type="checkbox"/> Duct Board <input checked="" type="checkbox"/> Sheet Metal
Component Pressure Loss (CPL)	0.20 in H2O	Total Effective Length (TEL)	705 ft		<input type="checkbox"/> Flex <input type="checkbox"/> Lined Sheet Metal <input type="checkbox"/> Other
Available static pressure (ASP)	0.45 in H2O	Friction Rate	0.06 in/100ft	Branch Duct:	<input type="checkbox"/> Duct Board <input checked="" type="checkbox"/> Sheet Metal
ESP - CPL = ASP		(ASP x 100) / TEL = Friction Rate			<input checked="" type="checkbox"/> Flex <input type="checkbox"/> Lined Sheet Metal <input type="checkbox"/> Other

Ducts are sized per Manual D? Y N

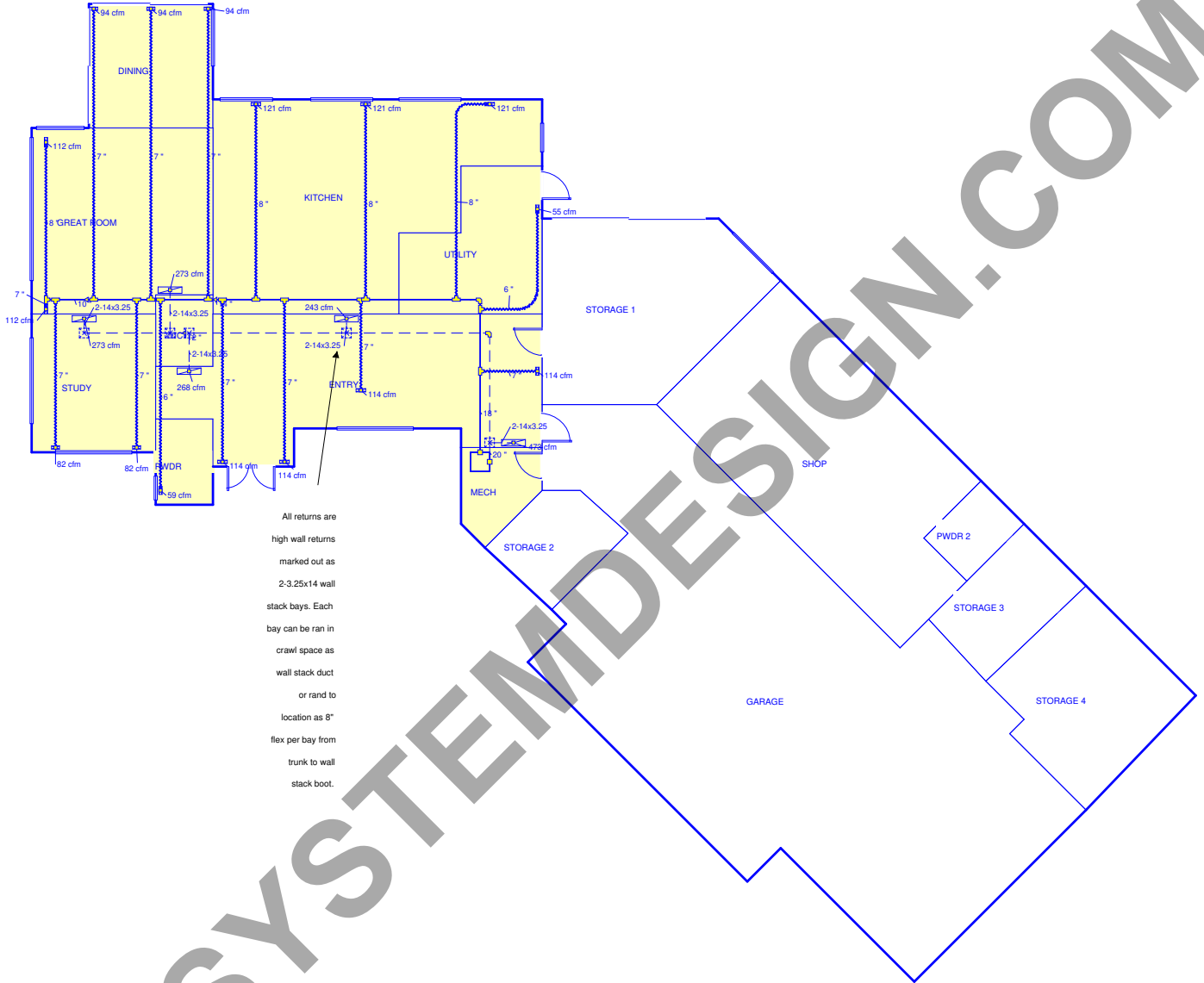
I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above and understand the claims made on these forms may be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____



FIRST FLOOR



All returns are high wall returns marked out as 2-3.25x14 wall stack bays. Each bay can be ran in crawl space as wall stack duct or rand to location as 8" flex per bay from trunk to wall stack boot.

Job #:
Performed by Bobby Blough for:

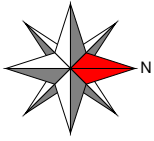
Scappoose, OR

B&B System Design

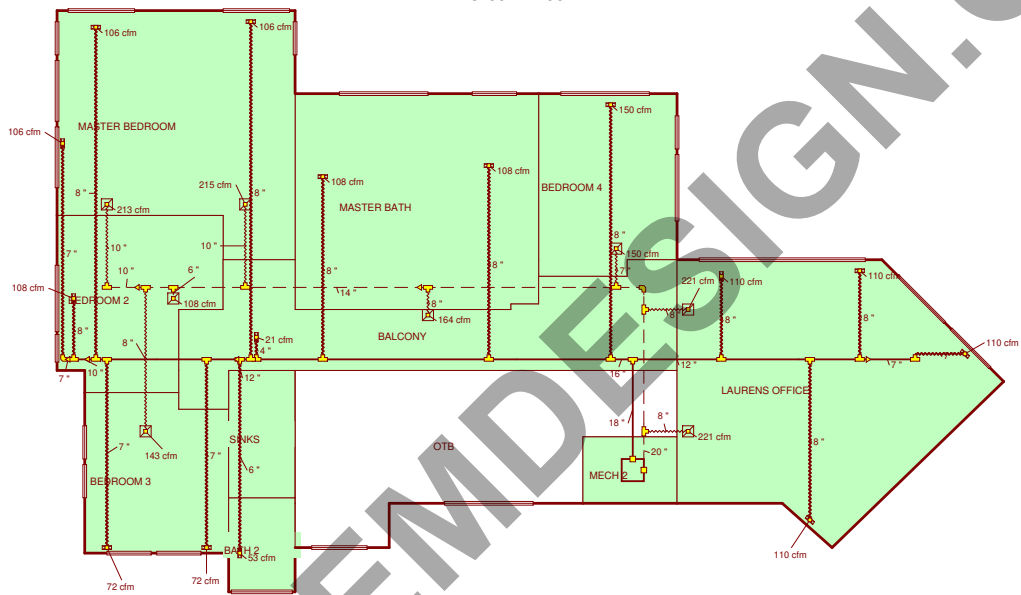
Vineland, NJ 08361

Scale: 1 : 208

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SECOND FLOOR



Job #:
Performed by Bobby Blough for:

Scappoose, OR

B&B System Design

Vineland, NJ 08361

Scale: 1 : 208

Page 2
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Right-J8® Form J1
Entire House
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room		Entire House		SYSTEM 1									
2 Running Feet of Exposed Wall		468.1 ft		232.0 ft									
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)		11.8 ft	14124.1 ft²	13.8 ft	7599.7 ft²								
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			4647.4 ft²		2157.4 ft²								
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)		0 °	5044.4 ft²	0 °	2554.4 ft²								
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh			
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg	
6	Wall	12F-0sw	n	2.64	0.78	671	1296	383		406	786	232	
	Glaz	2 glazing, clr low-e	n	10.56	7.57	78	823	591		60	633	454	
	Glaz	2 glazing, clr low-e	n	10.56	8.70	72	760	626		18	190	157	
	Glaz	2 glazing, clr low-e	n	10.56	8.70	30	317	261		30	317	261	
11	Wall	12F-0sw	ne	2.64	0.78	216	569	168		0	0	0	
	Wall	12F-0sw	e	2.64	0.78	1195	2253	666		800	1325	391	
	Glaz	2 glazing, clr low-e	e	10.56	24.67	104	1094	2556		72	756	1766	
	Glaz	2 glazing, clr low-e	e	10.56	30.26	183	1926	5522		172	1810	5189	
	Glaz	2 glazing, clr low-e	e	10.56	21.18	55	581	1165		55	581	1165	
	Wall	12F-0sw	se	2.64	0.78	103	271	80		42	112	33	
	Wall	12F-0sw	s	2.64	0.78	1275	1987	587		750	1053	311	
	Glaz	2 glazing, clr low-e	s	10.56	14.13	386	4073	5449		215	2267	3034	
	Glaz	2 glazing, clr low-e	s	10.56	16.96	16	172	276		16	172	276	
	Glaz	2 glazing, clr low-e	s	12.18	14.15	120	1462	1698		120	1462	1698	
	Wall	12F-0sw	w	2.64	0.78	1387	2235	661		642	889	263	
	Glaz	2 glazing, clr low-e	w	10.56	24.67	117	1232	2880		45	472	1104	
	Glaz	2 glazing, clr low-e	w	10.56	30.26	303	3201	9174		140	1480	4243	
	Glaz	2 glazing, clr low-e	w	12.18	24.24	120	1462	2908		120	1462	2908	
	Wall	12F-0sw	nw	2.64	0.78	156	268	79		0	0	0	
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	54	572	1117		0	0	0	
	Wall	12F-0sw	-	2.64	0.30	444	1005	114		444	1005	114	
	Door	11N0	n	14.21	8.12	63	895	512		63	895	512	
	Ceiling	Attic ceiling, aspha	-	0.84	0.96	2972	2493	2868		482	404	465	
	Floor	19A-0bscp	-	4.50	1.39	272	1222	376		0	0	0	
	Floor	19D-30cscp	-	0.48	0.15	2157	1040	320		2157	1040	320	
	Floor	20P-30c	-	1.42	0.23	543	772	127		0	0	0	
12	Infiltration	Heating Load (Btuh)		0.25		WAR	10183			WAR	5375		
		Sensible Load (Btuh)						1630			861		
		Latent Load (Btuh)							-148			-78	
13	Internal	a Occupants at 230 and 200 Btuh				5	1150	1000		5	1150	1000	
		b Scenario number					6100				4300		
		c Default Adjustments											
		d Custom Appliances					0	0			0	0	
		e Plants						0			0	0	
14	Subtotals	Sum lines 6 through 12					44162	50045	852		24487	31207	922
15	Duct Loads	EHLF & ESGF		0.068	0.058		8303	7439			1486	607	
		ELG							430			221	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0		0	0	0		0	0	
17	Winter Humidification Load	Gal/Day		0			0				0		
18	Piping Load						0				0		
19	Blower Heat							0			0		
20	AED Excursion & Latent Moisture Migration Load							0			0		
21	Total Load	Sum lines 13 through 19					52464	57484	1282		25972	31814	1143

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



Right-J8® Form J1
Entire House
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			SYSTEM 2									
2 Running Feet of Exposed Wall			236.1 ft									
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			10.0 ft	6580.8 ft²								
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)					2490.0 ft²							
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °	2490.0 ft²								
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	265	509	151				
	Glaz	2 glazing, clr low-e	n	10.56	7.57	18	190	136				
	Glaz	2 glazing, clr low-e	n	10.56	8.70	54	570	470				
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0				
11	Wall	12F-0sw	ne	2.64	0.78	216	569	168				
	Wall	12F-0sw	e	2.64	0.78	395	929	275				
	Glaz	2 glazing, clr low-e	e	10.56	24.67	32	338	789				
	Glaz	2 glazing, clr low-e	e	10.56	30.26	11	116	333				
	Glaz	2 glazing, clr low-e	e	10.56	21.18	0	0	0				
	Wall	12F-0sw	se	2.64	0.78	60	159	47				
	Wall	12F-0sw	s	2.64	0.78	525	934	276				
	Glaz	2 glazing, clr low-e	s	10.56	14.13	171	1805	2415				
	Glaz	2 glazing, clr low-e	s	10.56	16.96	0	0	0				
	Glaz	2 glazing, clr low-e	s	12.18	14.15	0	0	0				
	Wall	12F-0sw	w	2.64	0.78	745	1346	398				
	Glaz	2 glazing, clr low-e	w	10.56	24.67	72	760	1776				
	Glaz	2 glazing, clr low-e	w	10.56	30.26	163	1721	4932				
	Glaz	2 glazing, clr low-e	w	12.18	24.24	0	0	0				
	Wall	12F-0sw	nw	2.64	0.78	156	268	79				
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	54	572	1117				
	Wall	12F-0sw	-	2.64	0.30	0	0	0				
	Door	11N0	n	14.21	8.12	0	0	0				
	Ceil	Attic ceiling, aspha	-	0.84	0.96	2490	2089	2402				
	Flor	19A-0bscp	-	4.50	1.39	272	1222	376				
	Flor	19D-30cscp	-	0.48	0.15	0	0	0				
	Flor	20P-30c	-	1.42	0.23	543	772	127				
12	Infiltration	Heating Load (Btuh)		0.25		WAR 1.00	4807					
		Sensible Load (Btuh)		0.13				770				
		Latent Load (Btuh)							-70			
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0			
		b Scenario number						1800				
		c Default Adjustments										
		d Custom Appliances						0	0			
		e Plants							0			
14	Subtotals	Sum lines 6 through 12					19675	21169	-70			
15	Duct Loads	EHLF & ESGF		0.346	0.339		6817	7178				
		ELG							209			
16	Ventilation Loads	Vent Cfm	0	E Cfm	0		0	0	0			
17	Winter Humidification Load	Gal/Day			0		0					
18	Piping Load						0					
19	Blower Heat							0				
20	AED Excursion & Latent Moisture Migration Load							2331				
21	Total Load	Sum lines 13 through 19					26492	28347	139			

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



Right-J8® Form J1
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			SYSTEM 1						MECH			
2 Running Feet of Exposed Wall			232.0 ft						24.5 ft			
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			13.8 ft		7599.7 ft ²		12.0 ft		531.4 ft ²			
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)					2157.4 ft ²		1.0 x 68.1 ft		68.1 ft ²			
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		2554.4 ft ²		0 °		68.1 ft ²			
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	406	786	232	0	0	0	
	Glaz	2 glazing, clr low-e	n	10.56	7.57	60	633	454	0	0	0	
	Glaz	2 glazing, clr low-e	n	10.56	8.70	18	190	157	0	0	0	
	Glaz	2 glazing, clr low-e	n	10.56	8.70	30	317	261	0	0	0	
11	Wall	12F-0sw	ne	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	e	2.64	0.78	800	1325	391	0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	24.67	72	756	1766	0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	30.26	172	1810	5189	0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	21.18	55	581	1165	0	0	0	
	Wall	12F-0sw	se	2.64	0.78	42	112	33	42	112	33	
	Wall	12F-0sw	s	2.64	0.78	750	1053	311	96	253	75	
	Glaz	2 glazing, clr low-e	s	10.56	14.13	215	2267	3034	0	0	0	
	Glaz	2 glazing, clr low-e	s	10.56	16.96	16	172	276	0	0	0	
	Glaz	2 glazing, clr low-e	s	12.18	14.15	120	1462	1698	0	0	0	
	Wall	12F-0sw	w	2.64	0.78	642	889	263	0	0	0	
	Glaz	2 glazing, clr low-e	w	10.56	24.67	45	472	1104	0	0	0	
	Glaz	2 glazing, clr low-e	w	10.56	30.26	140	1480	4243	0	0	0	
	Glaz	2 glazing, clr low-e	w	12.18	24.24	120	1462	2908	0	0	0	
	Wall	12F-0sw	nw	0.00	0.00	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	nw	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	-	2.64	0.30	444	1005	114	156	357	40	
	Door	11N0	n	14.21	8.12	63	895	512	20	290	166	
	Ceiling	Attic ceiling, aspha	-	0.84	0.96	482	404	465	68	57	66	
	Floor	19A-0bscp	-	0.00	0.00	0	0	0	0	0	0	
	Floor	19D-30cscp	-	0.48	0.15	2157	1040	320	68	33	10	
	Floor	20P-30c	-	0.00	0.00	0	0	0	0	0	0	
12	Infiltration	Heating Load (Btuh)		0.24	WAR	5375			WAR	282		
		Sensible Load (Btuh)			1.00		861		0.05	45		
		Latent Load (Btuh)		0.13				-78				
13	Internal	a Occupants at 230 and 200 Btuh				5	1150	1000	0	0	0	
		b Scenario number					4300			0		
		c Default Adjustments										
		d Custom Appliances					0	0		0	0	
		e Plants						0			0	
14	Subtotals	Sum lines 6 through 12					24487	31207	922	0	0	
15	Duct Loads	EHLF & ESGF		0.061	0.019		1486	607		0	0	
		ELG						221			7	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0	0	0	0				
17	Winter Humidification Load	Gal/Day		0		0	0	0				
18	Piping Load						0					
19	Blower Heat						0					
20	AED Excursion & Latent Moisture Migration Load							0			-56	
21	Total Load	Sum lines 13 through 19					25972	31814	1143	0	0	

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



Right-J8® Form J1
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			DINING				KITCHEN						
2 Running Feet of Exposed Wall			36.0 ft				41.5 ft						
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			12.0 ft		624.0 ft ²		12.0 ft		1368.0 ft ²				
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			13.0 x 13.0 ft		169.0 ft ²		1.0 x 589.3 ft		589.3 ft ²				
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		169.0 ft ²		0 °		589.3 ft ²				
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh			
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg	
6	Wall	12F-0sw	n	2.64	0.78	120	158	47		84	174	51	
	Glaz	2 glazing, clr low-e	n	10.56	7.57	60	633	454		0	0	0	
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0		18	190	157	
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0		0	0	0	
11	Wall	12F-0sw	ne	0.00	0.00	0	0	0		0	0	0	
	Wall	12F-0sw	e	2.64	0.78	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	21.18	0	0	0		0	0	0	
	Wall	12F-0sw	se	2.64	0.78	0	0	0		0	0	0	
	Wall	12F-0sw	s	2.64	0.78	156	95	28		0	0	0	
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	s	10.56	16.96	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	s	12.18	14.15	120	1462	1698		0	0	0	
	Wall	12F-0sw	w	2.64	0.78	156	95	28		414	722	214	
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0		140	1480	4243	
	Glaz	2 glazing, clr low-e	w	12.18	24.24	120	1462	2908		0	0	0	
	Wall	12F-0sw	nw	0.00	0.00	0	0	0		0	0	0	
	Glaz	2 glazing, clr low-e	nw	0.00	0.00	0	0	0		0	0	0	
	Wall	12F-0sw	-	2.64	0.30	0	0	0		0	0	0	
	Door	11N0	n	14.21	8.12	0	0	0		0	0	0	
	Ceil	Attic ceiling, aspha	-	0.84	0.96	0	0	0		0	0	0	
	Flor	19A-0bscp	-	0.00	0.00	0	0	0		0	0	0	
	Flor	19D-30cscp	-	0.48	0.15	169	81	25		589	284	87	
	Flor	20P-30c	-	0.00	0.00	0	0	0		0	0	0	
12	Infiltration	Heating Load (Btuh)		0.24		WAR	879			WAR	1014		
		Sensible Load (Btuh)						141			162		
		Latent Load (Btuh)		0.13									
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0	
		b Scenario number					0			2000			
		c Default Adjustments											
		d Custom Appliances					0	0		0	0		
		e Plants						0		0	0		
14	Subtotals	Sum lines 6 through 12					4866	5307			3866	8013	
15	Duct Loads	EHLF & ESGF		0.061	0.019		295	103			235	156	
		ELG							17			60	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0								
17	Winter Humidification Load	Gal/Day		0									
18	Piping Load												
19	Blower Heat												
20	AED Excursion & Latent Moisture Migration Load							-23				1098	
21	Total Load	Sum lines 13 through 19					5161	5410			4101	8168	

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



Right-J8® Form J1
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			GREAT ROOM						WIC			
2 Running Feet of Exposed Wall			25.5 ft						0 ft			
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			12.0 ft		924.0 ft²		12.0 ft		324.0 ft²			
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			1.0 x 358.5 ft		358.5 ft²		6.0 x 7.5 ft		45.0 ft²			
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		358.5 ft²		0 °		45.0 ft²			
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0
11	Wall	12F-0sw	ne	0.00	0.00	0	0	0	0	0	0	0
	Wall	12F-0sw	e	2.64	0.78	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	21.18	0	0	0	0	0	0	0
	Wall	12F-0sw	se	2.64	0.78	0	0	0	0	0	0	0
	Wall	12F-0sw	s	2.64	0.78	234	263	78	0	0	0	0
	Glaz	2 glazing, clr low-e	s	10.56	14.13	134	1417	1896	0	0	0	0
	Glaz	2 glazing, clr low-e	s	10.56	16.96	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	12.18	14.15	0	0	0	0	0	0	0
	Wall	12F-0sw	w	2.64	0.78	72	72	21	0	0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	24.67	45	472	1104	0	0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	12.18	24.24	0	0	0	0	0	0	0
	Wall	12F-0sw	nw	0.00	0.00	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	nw	0.00	0.00	0	0	0	0	0	0	0
	Wall	12F-0sw	-	2.64	0.30	0	0	0	0	0	0	0
	Door	11N0	n	14.21	8.12	0	0	0	0	0	0	0
	Ceil	Attic ceiling, aspha	-	0.84	0.96	0	0	0	0	0	0	0
	Flor	19A-0bscp	-	0.00	0.00	0	0	0	0	0	0	0
	Flor	19D-30cscp	-	0.48	0.15	359	173	53	45	22	7	7
	Flor	20P-30c	-	0.00	0.00	0	0	0	0	0	0	0
12	Infiltration	Heating Load (Btuh)		0.24	WAR	623			WAR	0		
		Sensible Load (Btuh)			0.12		100		0		0	
		Latent Load (Btuh)										
13	Internal	a Occupants at 230 and 200 Btuh				5	1150	1000	0	0	0	0
		b Scenario number					900			0		
		c Default Adjustments										
		d Custom Appliances					0	0		0	0	0
		e Plants						0			0	0
14	Subtotals	Sum lines 6 through 12					3027	4933		0	0	
15	Duct Loads	EHLF & ESGF		0.061	0.019		184	96		0	0	
		ELG						37			5	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							-371			-1	
21	Total Load	Sum lines 13 through 19					3211	5029		0	0	

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



Right-J8® Form J1
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			PWDR				UTILITY					
2 Running Feet of Exposed Wall			15.5 ft				15.5 ft					
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			12.0 ft		360.0 ft ²		12.0 ft		852.0 ft ²			
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			6.0 x 9.0 ft		54.0 ft ²		1.0 x 187.0 ft		187.0 ft ²			
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		54.0 ft ²		0 °		187.0 ft ²			
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	48	127	37		66	95	28
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0		30	317	261
11	Wall	12F-0sw	ne	0.00	0.00	0	0	0		0	0	0
	Wall	12F-0sw	e	2.64	0.78	72	190	56		0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	21.18	0	0	0		0	0	0
	Wall	12F-0sw	se	2.64	0.78	0	0	0		0	0	0
	Wall	12F-0sw	s	2.64	0.78	66	131	39		0	0	0
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	s	10.56	16.96	16	172	276		0	0	0
	Glaz	2 glazing, clr low-e	s	12.18	14.15	0	0	0		0	0	0
	Wall	12F-0sw	w	2.64	0.78	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	w	12.18	24.24	0	0	0		0	0	0
	Wall	12F-0sw	nw	0.00	0.00	0	0	0		0	0	0
	Glaz	2 glazing, clr low-e	nw	0.00	0.00	0	0	0		0	0	0
	Wall	12F-0sw	-	2.64	0.30	0	0	0		120	317	36
	Door	11N0	n	14.21	8.12	0	0	0		0	0	0
	Ceiling	Attic ceiling, aspha	-	0.84	0.96	0	0	0		0	0	0
	Floor	19A-0bscp	-	0.00	0.00	0	0	0		0	0	0
	Floor	19D-30cscp	-	0.48	0.15	54	26	8		187	90	28
	Floor	20P-30c	-	0.00	0.00	0	0	0		0	0	0
12	Infiltration	Heating Load (Btuh)		0.24		WAR	379		WAR	134		
		Sensible Load (Btuh)						61		22		
		Latent Load (Btuh)		0.13								
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0
		b Scenario number					0			500		
		c Default Adjustments										
		d Custom Appliances					0	0		0	0	0
		e Plants						0		0	0	0
14	Subtotals	Sum lines 6 through 12					1024	489		953	762	
15	Duct Loads	EHLF & ESGF		0.061	0.019		62	10		58	15	
		ELG							6		19	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							12			-113	
21	Total Load	Sum lines 13 through 19					1086	498		1011	776	

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



Right-J8® Form J1
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			ENTRY			STUDY								
2 Running Feet of Exposed Wall			46.0 ft			27.5 ft								
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			20.0 ft 1896.1 ft²			12.0 ft 660.0 ft²								
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			1.0 x 498.0 ft 498.0 ft²			13.0 x 14.5 ft 188.5 ft²								
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 ° 895.0 ft²			0 ° 188.5 ft²								
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh				
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg		
6	Wall	12F-0sw	n	2.64	0.78	88	232	69	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0	0	0
11	Wall	12F-0sw	ne	0.00	0.00	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	e	2.64	0.78	572	912	269	156	223	66	72	756	1766
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	30.26	172	1810	5189	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	21.18	55	581	1165	0	0	0	0	0	0
	Wall	12F-0sw	se	2.64	0.78	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	s	2.64	0.78	24	63	19	174	247	73	81	850	1138
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	10.56	16.96	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	12.18	14.15	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	w	2.64	0.78	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	12.18	24.24	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	nw	0.00	0.00	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	nw	0.00	0.00	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	-	2.64	0.30	168	331	37	0	0	0	0	0	0
	Door	11N0	n	14.21	8.12	43	605	346	0	0	0	0	0	0
	Ceil	Attic ceiling, aspha	-	0.84	0.96	414	347	399	0	0	0	0	0	0
	Flor	19A-0bscp	-	0.00	0.00	0	0	0	0	0	0	0	0	0
	Flor	19D-30cscp	-	0.48	0.15	498	240	74	189	91	28	0	0	0
	Flor	20P-30c	-	0.00	0.00	0	0	0	0	0	0	0	0	0
12	Infiltration	Heating Load (Btuh)		0.24	WAR	1392			WAR	672				
		Sensible Load (Btuh)			0.26		223		0.12		108			
		Latent Load (Btuh)												
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0	0	0
		b Scenario number					0			900				
		c Default Adjustments												
		d Custom Appliances					0	0		0	0			
		e Plants						0		0	0			
14	Subtotals	Sum lines 6 through 12					7908	8151		2843	3554			
15	Duct Loads	EHLF & ESGF		0.061	0.019		480	159		172	69			
		ELG							51				19	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0									
17	Winter Humidification Load	Gal/Day		0										
18	Piping Load													
19	Blower Heat													
20	AED Excursion & Latent Moisture Migration Load							-20			-526			
21	Total Load	Sum lines 13 through 19					8388	8310		3015	3623			

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

Right-J8® Form J1
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			SYSTEM 2						BEDROOM 4					
2 Running Feet of Exposed Wall			236.1 ft						27.5 ft					
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			10.0 ft		6580.8 ft ²		10.0 ft		580.0 ft ²					
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)					2490.0 ft ²		1.0 x 199.5 ft		199.5 ft ²					
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		2490.0 ft ²		0 °		199.5 ft ²					
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh				
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg		
6	Wall	12F-0sw	n	2.64	0.78	265	509	151		150	253	75		
	Glaz	2 glazing, clr low-e	n	10.56	7.57	18	190	136		0	0	0		
	Glaz	2 glazing, clr low-e	n	10.56	8.70	54	570	470		54	570	470		
	Glaz	2 glazing, clr low-e	n	0.00	0.00	0	0	0		0	0	0		
11	Wall	12F-0sw	ne	2.64	0.78	216	569	168		0	0	0		
	Wall	12F-0sw	e	2.64	0.78	395	929	275		0	0	0		
	Glaz	2 glazing, clr low-e	e	10.56	24.67	32	338	789		0	0	0		
	Glaz	2 glazing, clr low-e	e	10.56	30.26	11	116	333		0	0	0		
	Glaz	2 glazing, clr low-e	e	0.00	0.00	0	0	0		0	0	0		
	Wall	12F-0sw	se	2.64	0.78	60	159	47		0	0	0		
	Wall	12F-0sw	s	2.64	0.78	525	934	276		0	0	0		
	Glaz	2 glazing, clr low-e	s	10.56	14.13	171	1805	2415		0	0	0		
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0		0	0	0		
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0		0	0	0		
	Wall	12F-0sw	w	2.64	0.78	745	1346	398		125	267	79		
	Glaz	2 glazing, clr low-e	w	10.56	24.67	72	760	1776		0	0	0		
	Glaz	2 glazing, clr low-e	w	10.56	30.26	163	1721	4932		24	253	726		
	Glaz	2 glazing, clr low-e	w	0.00	0.00	0	0	0		0	0	0		
	Wall	12F-0sw	nw	2.64	0.78	156	268	79		0	0	0		
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	54	572	1117		0	0	0		
	Wall	12F-0sw	-	0.00	0.00	0	0	0		0	0	0		
	Door	11N0	n	0.00	0.00	0	0	0		0	0	0		
	Ceil	Attic ceiling, aspha	-	0.84	0.96	2490	2089	2402		200	167	192		
	Flor	19A-0bscp	-	4.50	1.39	272	1222	376		31	141	43		
	Flor	19D-30cscp	-	0.00	0.00	0	0	0		0	0	0		
	Flor	20P-30c	-	1.42	0.23	543	772	127		0	0	0		
12	Infiltration	Heating Load (Btuh)		0.26		WAR	4807		WAR	560				
		Sensible Load (Btuh)		0.13		1.00		770	0.12	90				
		Latent Load (Btuh)												
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0		
		b Scenario number					1800			0				
		c Default Adjustments												
		d Custom Appliances					0	0		0	0	0		
		e Plants						0				0		
14	Subtotals	Sum lines 6 through 12					19675	21169	-70		2211	1841		
15	Duct Loads	EHLF & ESGF		0.346	0.339		6817	7178		766	624			
		ELG							209			17		
16	Ventilation Loads	Vent Cfm	0	E Cfm	0		0	0	0					
17	Winter Humidification Load	Gal/Day		0			0							
18	Piping Load						0							
19	Blower Heat							0						
20	AED Excursion & Latent Moisture Migration Load							2331			166			
21	Total Load	Sum lines 13 through 19					26492	28347	139		2977	2466		

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



Right-J8® Form J1
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			MASTER BATH				MASTER BEDROOM					
2 Running Feet of Exposed Wall			22.0 ft				47.5 ft					
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			10.0 ft		830.0 ft²		10.0 ft		880.0 ft²			
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			1.0 x 427.8 ft		427.8 ft²		1.0 x 423.8 ft		423.8 ft²			
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		427.8 ft²		0 °		423.8 ft²			
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	0	0	0	0	75	150	44
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0	0	18	190	136
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	0.00	0.00	0	0	0	0	0	0	0
11	Wall	12F-0sw	ne	2.64	0.78	0	0	0	0	0	0	0
	Wall	12F-0sw	e	2.64	0.78	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	0.00	0.00	0	0	0	0	0	0	0
	Wall	12F-0sw	se	2.64	0.78	0	0	0	0	0	0	0
	Wall	12F-0sw	s	2.64	0.78	0	0	0	0	185	267	79
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0	0	84	887	1187
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	0
	Wall	12F-0sw	w	2.64	0.78	220	412	122	215	377	112	
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0	72	760	1776	
	Glaz	2 glazing, clr low-e	w	10.56	30.26	64	676	1936	0	0	0	
	Glaz	2 glazing, clr low-e	w	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	nw	2.64	0.78	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	0	0	0	0	0	0	
	Wall	12F-0sw	-	0.00	0.00	0	0	0	0	0	0	
	Door	11N0	n	0.00	0.00	0	0	0	0	0	0	
	Ceil	Attic ceiling, aspha	-	0.84	0.96	428	359	413	424	355	409	
	Flor	19A-0bscp	-	4.50	1.39	55	247	76	124	559	172	
	Flor	19D-30cscp	-	0.00	0.00	0	0	0	0	0	0	
	Flor	20P-30c	-	1.42	0.23	0	0	0	0	0	0	
12	Infiltration	Heating Load (Btuh)		0.26	WAR	448			WAR	967		
		Sensible Load (Btuh)			0.09		72		0.20	155		
		Latent Load (Btuh)		0.13								
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	
		b Scenario number					0			900		
		c Default Adjustments										
		d Custom Appliances					0	0		0	0	
		e Plants						0		0	0	
14	Subtotals	Sum lines 6 through 12					2141	3436		4513	5065	
15	Duct Loads	EHLF & ESGF		0.346	0.339		742	1165		1563	1718	
		ELG						36			36	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							817			96	
21	Total Load	Sum lines 13 through 19					2883	4601		6076	6783	

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



Right-J8® Form J1
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			BEDROOM 2				BEDROOM 3					
2 Running Feet of Exposed Wall			18.5 ft				27.5 ft					
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			10.0 ft		620.0 ft²		10.0 ft		550.0 ft²			
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			1.0 x 205.0 ft		205.0 ft²		1.0 x 181.8 ft		181.8 ft²			
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °		205.0 ft²		0 °		181.8 ft²			
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	0.00	0.00	0	0	0	0	0	0	0
11	Wall	12F-0sw	ne	2.64	0.78	0	0	0	0	0	0	0
	Wall	12F-0sw	e	2.64	0.78	25	66	19	130	259	76	
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0	32	338	789	
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	e	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	se	2.64	0.78	0	0	0	0	0	0	
	Wall	12F-0sw	s	2.64	0.78	160	288	85	145	288	85	
	Glaz	2 glazing, clr low-e	s	10.56	14.13	51	538	720	36	380	509	
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	w	2.64	0.78	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	w	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	nw	2.64	0.78	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	0	0	0	0	0	0	
	Wall	12F-0sw	-	0.00	0.00	0	0	0	0	0	0	
	Door	11N0	n	0.00	0.00	0	0	0	0	0	0	
	Ceil	Attic ceiling, aspha	-	0.84	0.96	205	172	198	182	152	175	
	Flor	19A-0bscp	-	4.50	1.39	35	157	48	26	117	36	
	Flor	19D-30cscp	-	0.00	0.00	0	0	0	0	0	0	
	Flor	20P-30c	-	1.42	0.23	0	0	0	0	0	0	
12	Infiltration	Heating Load (Btuh)		0.26		WAR	377		WAR	560		
		Sensible Load (Btuh)	Effect ACH		0.13	0.08		60	0.12		90	
		Latent Load (Btuh)										
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0
		b Scenario number					0			0		
		c Default Adjustments										
		d Custom Appliances					0	0		0	0	
		e Plants						0			0	
14	Subtotals	Sum lines 6 through 12					1598	1258		2113	1666	
15	Duct Loads	EHLF & ESGF		0.346	0.339		554	427		732	565	
		ELG							17		15	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							127			-115	
21	Total Load	Sum lines 13 through 19					2152	1685		2845	2231	

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

Right-J8® Form J1
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			BATH 2			SINKS								
2 Running Feet of Exposed Wall			13.5 ft			0 ft								
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			10.0 ft	290.0 ft ²	10.0 ft	350.0 ft ²								
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			6.0 x 8.5 ft	51.0 ft ²	6.0 x 11.5 ft	69.0 ft ²								
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °	51.0 ft ²	0 °	69.0 ft ²								
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh				
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg		
6	Wall	12F-0sw	n	2.64	0.78	40	106	31	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	0.00	0.00	0	0	0	0	0	0	0	0	0
11	Wall	12F-0sw	ne	2.64	0.78	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	e	2.64	0.78	60	129	38	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	10.56	30.26	11	116	333	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	e	0.00	0.00	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	se	2.64	0.78	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	s	2.64	0.78	35	92	27	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	w	2.64	0.78	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	w	0.00	0.00	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	nw	2.64	0.78	0	0	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	0	0	0	0	0	0	0	0	0
	Wall	12F-0sw	-	0.00	0.00	0	0	0	0	0	0	0	0	0
	Door	11N0	n	0.00	0.00	0	0	0	0	0	0	0	0	0
	Ceil	Attic ceiling, aspha	-	0.84	0.96	51	43	49	69	58	67	0	0	0
	Floor	19A-0bscp	-	4.50	1.39	0	0	0	0	0	0	0	0	0
	Floor	19D-30cscp	-	0.00	0.00	0	0	0	0	0	0	0	0	0
	Floor	20P-30c	-	1.42	0.23	0	0	0	0	0	0	0	0	0
12	Infiltration	Heating Load (Btuh)		0.26	WAR	275	0	0	WAR	0	0	0	0	0
		Sensible Load (Btuh)		0.13	0.06	44	0	0	0	0	0	0	0	0
		Latent Load (Btuh)												
13	Internal	a Occupants at 230 and 200 Btuh		0	0	0	0	0	0	0	0	0	0	0
		b Scenario number		0	0	0	0	0	0	0	0	0	0	0
		c Default Adjustments		0	0	0	0	0	0	0	0	0	0	0
		d Custom Appliances		0	0	0	0	0	0	0	0	0	0	0
		e Plants		0	0	0	0	0	0	0	0	0	0	0
14	Subtotals	Sum lines 6 through 12				776	560	0	0	0	0	0	0	0
15	Duct Loads	EHLF & ESGF		0.346	0.339	269	190	0	0	0	0	0	0	0
		ELG						4					6	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0									
17	Winter Humidification Load	Gal/Day		0										
18	Piping Load													
19	Blower Heat													
20	AED Excursion & Latent Moisture Migration Load							21				-4		
21	Total Load	Sum lines 13 through 19				1045	749	0	0	0	0	0	0	0

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

Right-J8® Form J1
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room				BALCONY			LAURENS OFFICE					
2 Running Feet of Exposed Wall				0 ft			71.1 ft					
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)				10.0 ft 1.0 x 338.0 ft			10.0 ft 1.0 x 543.3 ft					
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)				1260.0 ft ² 338.0 ft ²			930.8 ft ² 543.3 ft ²					
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				0 ° 338.0 ft ²			0 ° 543.3 ft ²					
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	2.64	0.78	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0	0	0	0	0
	Glaz	2 glazing, clr low-e	n	0.00	0.00	0	0	0	0	0	0	0
11	Wall	12F-0sw	ne	2.64	0.78	0	0	0	216	569	168	
	Wall	12F-0sw	e	2.64	0.78	0	0	0	95	251	74	
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	e	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	se	2.64	0.78	0	0	0	60	159	47	
	Wall	12F-0sw	s	2.64	0.78	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	w	2.64	0.78	0	0	0	185	290	86	
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0	0	0	0	
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0	75	792	2269	
	Glaz	2 glazing, clr low-e	w	0.00	0.00	0	0	0	0	0	0	
	Wall	12F-0sw	nw	2.64	0.78	0	0	0	156	268	79	
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	0	0	0	54	572	1117	
	Wall	12F-0sw	-	0.00	0.00	0	0	0	0	0	0	
	Door	11N0	n	0.00	0.00	0	0	0	0	0	0	
	Ceil	Attic ceiling, aspha	-	0.84	0.96	338	284	326	543	456	524	
	Floor	19A-0bscp	-	4.50	1.39	0	0	0	0	0	0	
	Floor	19D-30cscp	-	0.00	0.00	0	0	0	0	0	0	
	Floor	20P-30c	-	1.42	0.23	0	0	0	543	772	127	
12	Infiltration	Heating Load (Btuh)		0.26		WAR	0		WAR	1448		
		Sensible Load (Btuh)				0			0.30	232		
		Latent Load (Btuh)		0.13								
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0
		b Scenario number					0			900		
		c Default Adjustments										
		d Custom Appliances					0	0		0	0	0
		e Plants						0		0	0	0
14	Subtotals	Sum lines 6 through 12					307	330		6016	7012	
15	Duct Loads	EHLF & ESGF		0.346	0.339		106	112		2085	2378	
		ELG						28			46	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							-21		1255		
21	Total Load	Sum lines 13 through 19					413	442		8101	9390	

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



Right-J8® Form J1
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Name of Room			MECH 2										
2 Running Feet of Exposed Wall			8.5 ft										
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			10.0 ft	290.0 ft ²									
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			8.5 x 6.0 ft	51.0 ft ²									
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0 °	51.0 ft ²									
Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh			
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg	
6	Wall	12F-0sw	n	2.64	0.78	0	0	0					
	Glaz	2 glazing, clr low-e	n	10.56	7.57	0	0	0					
	Glaz	2 glazing, clr low-e	n	10.56	8.70	0	0	0					
	Glaz	2 glazing, clr low-e	n	0.00	0.00	0	0	0					
11	Wall	12F-0sw	ne	2.64	0.78	0	0	0					
	Wall	12F-0sw	e	2.64	0.78	85	224	66					
	Glaz	2 glazing, clr low-e	e	10.56	24.67	0	0	0					
	Glaz	2 glazing, clr low-e	e	10.56	30.26	0	0	0					
	Glaz	2 glazing, clr low-e	e	0.00	0.00	0	0	0					
	Wall	12F-0sw	se	2.64	0.78	0	0	0					
	Wall	12F-0sw	s	2.64	0.78	0	0	0					
	Glaz	2 glazing, clr low-e	s	10.56	14.13	0	0	0					
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0					
	Glaz	2 glazing, clr low-e	s	0.00	0.00	0	0	0					
	Wall	12F-0sw	w	2.64	0.78	0	0	0					
	Glaz	2 glazing, clr low-e	w	10.56	24.67	0	0	0					
	Glaz	2 glazing, clr low-e	w	10.56	30.26	0	0	0					
	Glaz	2 glazing, clr low-e	w	0.00	0.00	0	0	0					
	Wall	12F-0sw	nw	2.64	0.78	0	0	0					
	Glaz	2 glazing, clr low-e	nw	10.56	20.63	0	0	0					
	Wall	12F-0sw	-	0.00	0.00	0	0	0					
	Door	11N0	n	0.00	0.00	0	0	0					
	Ceil	Attic ceiling, aspha	-	0.84	0.96	51	43	49					
	Floor	19A-0bscp	-	4.50	1.39	0	0	0					
	Floor	19D-30cscp	-	0.00	0.00	0	0	0					
	Floor	20P-30c	-	1.42	0.23	0	0	0					
12	Infiltration	Heating Load (Btuh)		0.26		WAR	173						
		Sensible Load (Btuh)	Effect ACH		0.13	0.04		28					
		Latent Load (Btuh)											
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0					
		b Scenario number					0						
		c Default Adjustments											
		d Custom Appliances					0	0					
		e Plants						0					
14	Subtotals	Sum lines 6 through 12					0	0					
15	Duct Loads	EHLF & ESGF		0.346	0.339		0	0					
		ELG							4				
16	Ventilation Loads	Vent Cfm	0	E Cfm	0								
17	Winter Humidification Load	Gal/Day		0									
18	Piping Load												
19	Blower Heat												
20	AED Excursion & Latent Moisture Migration Load												
21	Total Load	Sum lines 13 through 19						0	0				

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



Load Short Form

Entire House

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Information

	Htg	Clg		Infiltration	
Outside db (°F)	29	88	Method		Simplified
Inside db (°F)	70	75	Construction quality		Semi-tight
Design TD (°F)	41	13	Fireplaces		0
Daily range	-	M			
Inside humidity (%)	50	50			
Moisture difference (gr/lb)	36	-2			

HEATING EQUIPMENT

Make n/a
Trade n/a
Model n/a
AHRI ref n/a

Efficiency n/a
Heating input
Heating output 0 Btuh
Temperature rise 0 °F
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0 in H2O
Space thermostat n/a

COOLING EQUIPMENT

Make n/a
Trade n/a
Cond n/a
Coil n/a
AHRI ref n/a

Efficiency n/a
Sensible cooling 0 Btuh
Latent cooling 0 Btuh
Total cooling 0 Btuh
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
SYSTEM 1	d 2157	25972	31814	1417	1417
SYSTEM 2	d 2490	26492	28347	1333	1333
Entire House	d 4647	52464	57484	2750	2750
Other equip loads		0	0		
Equip. @ 0.93 RSM			53172		
Latent cooling			1282		
TOTALS	4647	52464	54454	2750	2750

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



Load Short Form

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For:
Scappoose, OR

Design Information

	Htg	Clg	Method	Infiltration
Outside db (°F)	29	88	Method	Simplified
Inside db (°F)	70	75	Construction quality	Average
Design TD (°F)	41	13	Fireplaces	1 (Average)
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	36	-2		

HEATING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Model GH5SAN44200AA0
AHRI ref 213300382

Efficiency 7.8 HSPF2
Heating input
Heating output 43000 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 1417 cfm
Air flow factor 0.055 cfm/Btuh
Static pressure 0.60 in H2O
Space thermostat
Capacity balance point = 17 °F

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

COOLING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN44200AA0
Coil F54AABD60L
AHRI ref 213300382

Efficiency 11.7 EER2, 15.2 SEER2
Sensible cooling 29750 Btuh
Latent cooling 12750 Btuh
Total cooling 42500 Btuh
Actual air flow 1417 cfm
Air flow factor 0.045 cfm/Btuh
Static pressure 0.60 in H2O
Load sensible heat ratio 0.97

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MECH	68	0	0	0	0
DINING	169	5161	5410	282	241
KITCHEN	589	4101	8168	224	364
GREAT ROOM	359	3211	5029	175	224
WIC	45	0	0	0	0
PWDR	54	1086	498	59	22
UTILITY	187	1011	776	55	35
ENTRY	498	8388	8310	458	370
STUDY	189	3015	3623	164	161

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



SYSTEM 1	d	2157	25972	31814	1417	1417
Other equip loads			0	0		
Equip. @ 0.93 RSM				29428		
Latent cooling				1143		
TOTALS		2157	25972	30571	1417	1417

BBSYSTEMDESIGN.COM

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



Load Short Form

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Information

	Htg	Clg	Method	Infiltration
Outside db (°F)	29	88		Simplified
Inside db (°F)	70	75	Construction quality	Average
Design TD (°F)	41	13	Fireplaces	1 (Average)
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	36	-2		

HEATING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Model GH5SAN44200AA0
AHRI ref 213304027

Efficiency 7.5 HSPF2
Heating input
Heating output 42000 Btuh @ 47°F
Temperature rise 29 °F
Actual air flow 1333 cfm
Air flow factor 0.050 cfm/Btuh
Static pressure 0.65 in H2O
Space thermostat
Capacity balance point = 19 °F

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

COOLING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN44200AA0
Coil F54AABC42L
AHRI ref 213304027

Efficiency 12.0 EER2, 14.3 SEER2
Sensible cooling 28000 Btuh
Latent cooling 12000 Btuh
Total cooling 40000 Btuh
Actual air flow 1333 cfm
Air flow factor 0.047 cfm/Btuh
Static pressure 0.65 in H2O
Load sensible heat ratio 1.00

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
BEDROOM 4	200	2977	2466	150	116
MASTER BATH	428	2883	4601	145	216
MASTER BEDROOM	424	6076	6783	306	319
BEDROOM 2	205	2152	1685	108	79
BEDROOM 3	182	2845	2231	143	105
BATH 2	51	1045	749	53	35
SINKS	69	0	0	0	0
BALCONY	338	413	442	21	21
LAURENS OFFICE	543	8101	9390	408	442
MECH 2	51	0	0	0	0

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

SYSTEM 2	d	2490	26492	28347	1333	1333
Other equip loads			0	0		
Equip. @ 0.93 RSM				26221		
Latent cooling				139		
TOTALS		2490	26492	26360	1333	1333

BBSYSTEMDESIGN.COM

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



Load Multizone Summary Report

Job:
Date: Dec 28, 2024
By: Bobby Blough

B&B System Design

Vineland, NJ 08361

Infiltration Summary

ZONE NAME	Heating				Cooling			
	Volume ft³	ACH	AVF cfm	HTM Btuh/ft²	Volume ft³	ACH	AVF cfm	HTM Btuh/ft²
SYSTEM 1	29859	0.24	120	2.0	29859	0.13	63	0.3
SYSTEM 2	24900	0.26	108	2.0	24900	0.13	56	0.3
Entire House	54759	0.25	228	2.0	54759	0.13	119	0.3

Load and AVF Summary

ROOM NAME	Area ft²	Htg load Btuh	Clg load Btuh	Htg AVF cfm	Clg AVF cfm
MECH	68	0	0	0	0
DINING	169	5161	5410	282	241
KITCHEN	589	4101	8168	224	364
GREAT ROOM	359	3211	5029	175	224
WIC	45	0	0	0	0
PWDR	54	1086	498	59	22
UTILITY	187	1011	776	55	35
ENTRY	498	8388	8310	458	370
STUDY	189	3015	3623	164	161
SYSTEM 1	2157	25972	31814	1417	1417
BEDROOM 4	200	2977	2466	150	116
MASTER BATH	428	2883	4601	145	216
MASTER BEDROOM	424	6076	6783	306	319
BEDROOM 2	205	2152	1685	108	79
BEDROOM 3	182	2845	2231	143	105
BATH 2	51	1045	749	53	35
SINKS	69	0	0	0	0
BALCONY	338	413	442	21	21
LAURENS OFFICE	543	8101	9390	408	442
MECH 2	51	0	0	0	0
SYSTEM 2	2490	26492	28347	1333	1333
Entire House	4647	52464	57484	2750	2750

Building Analysis

Entire House

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:

Portland Intl, OR, US
Elevation: 19 ft
Latitude: 46°N

Outdoor:

Drybulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

29
-
-
15.0

Cooling

88
22 (M)
66
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
41
50
36.0

Cooling

75
13
50
-1.8

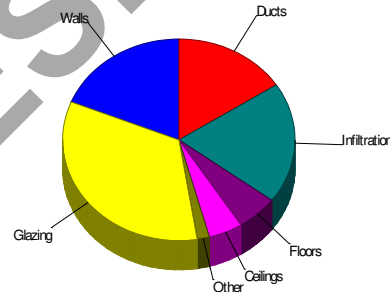
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
0

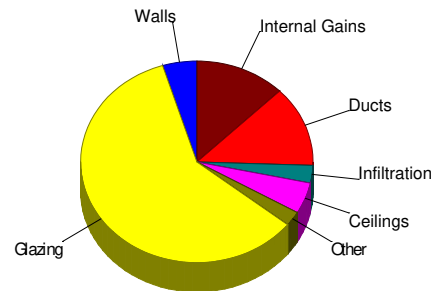
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	2.6	9884	18.8
Glazing	10.8	17673	33.7
Doors	14.2	895	1.7
Ceilings	0.8	2493	4.8
Floors	1.0	3034	5.8
Infiltration	2.0	10183	19.4
Ducts		8303	15.8
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		52464	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.7	2738	4.8
Glazing	20.9	34223	59.5
Doors	8.1	512	0.9
Ceilings	1.0	2868	5.0
Floors	0.3	824	1.4
Infiltration	0.3	1630	2.8
Ducts		7439	12.9
Ventilation		0	0
Internal gains		7250	12.6
Blower		0	0
Adjustments		0	0
Total		57484	100.0



Latent Cooling Load = 1282 Btuh
Overall U-value = 0.082 Btuh/ft²·°F, Window / Floor Area = 35.2 %

WARNING: window to floor area ratio = 35.2% - more than 25%.

Building Analysis

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:

Portland Intl, OR, US
Elevation: 19 ft
Latitude: 46°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

29
-
-
15.0

Cooling

88
22 (M)
66
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
41
50
36.0

Cooling

75
13
50
-1.8

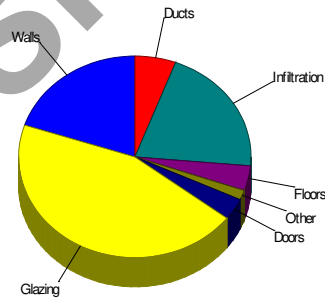
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
1 (Average)

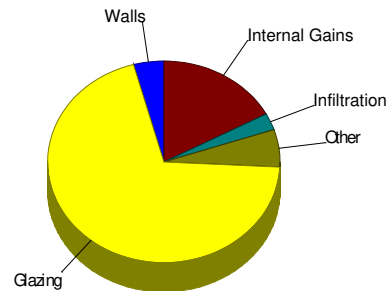
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	2.6	5170	19.9
Glazing	10.9	11602	44.7
Doors	14.2	895	3.4
Ceilings	0.8	404	1.6
Floors	0.5	1040	4.0
Infiltration	2.0	5375	20.7
Ducts		1486	5.7
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		25972	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.7	1345	4.2
Glazing	21.0	22255	70.0
Doors	8.1	512	1.6
Ceilings	1.0	465	1.5
Floors	0.1	320	1.0
Infiltration	0.3	861	2.7
Ducts		607	1.9
Ventilation		0	0
Internal gains		5450	17.1
Blower		0	0
Adjustments		0	0
Total		31814	100.0



Latent Cooling Load = 1143 Btuh
Overall U-value = 0.091 Btuh/ft²·°F, Window / Floor Area = 49.2 %

WARNING: window to floor area ratio = 49.2% - more than 25%.

Building Analysis

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:

Portland Intl, OR, US
Elevation: 19 ft
Latitude: 46°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

29
-
-
15.0

Cooling

88
22 (M)
66
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
41
50
36.0

Cooling

75
13
50
-1.8

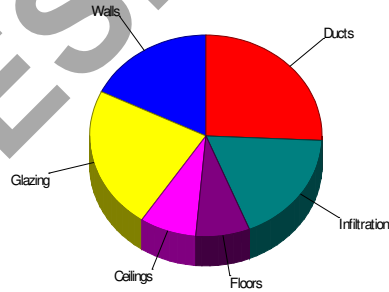
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
1 (Average)

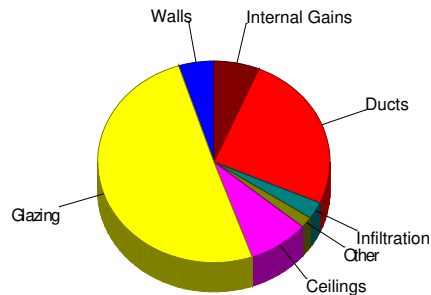
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	2.6	4714	17.8
Glazing	10.6	6071	22.9
Doors	0	0	0
Ceilings	0.8	2089	7.9
Floors	2.4	1994	7.5
Infiltration	2.0	4807	18.1
Ducts		6817	25.7
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		26492	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.8	1393	4.9
Glazing	24.9	14300	50.4
Doors	0	0	0
Ceilings	1.0	2402	8.5
Floors	0.6	503	1.8
Infiltration	0.3	770	2.7
Ducts		7178	25.3
Ventilation		0	0
Internal gains		1800	6.3
Blower		0	0
Adjustments		0	0
Total		28347	100.0



Latent Cooling Load = 139 Btuh
Overall U-value = 0.073 Btuh/ft²-°F, Window / Floor Area = 23.1 %

Data entries checked.

J1 Form - Worksheet A
Entire House
B&B System Design

Job:
 Date: Dec 28, 2024
 By: Bobby Blough

Vineland, NJ 08361

Supporting Detail	
Project Name: 35435 E Columbia Ave	Date: Dec 28, 2024
Address: Scappoose, OR	
Phone:	Job ID:

Worksheet A Location and Design Conditions			
Weather Location: Portland Intl, OR, US	Elevation = 19	Latitude = 46	
Indoor Conditions, Heating: DB = 70 °F RH = 50 %	Indoor Conditions, Cooling: DB = 75 °F RH = 50 %		
Table 1 Conditions 99% DB = 29 °F 1% DB = 88 °F	Grains Difference = -2 gr/lb	Daily Range = M	
Design Temperature Differences	HTD = 41 °F	CTD = 13 °F	

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



J1 Form - Worksheet A
SYSTEM 1
B&B System Design

Job:
 Date: Dec 28, 2024
 By: Bobby Blough

Vineland, NJ 08361

Supporting Detail	
Project Name: 35435 E Columbia Ave	Date: Dec 28, 2024
Address: Scappoose, OR	
Phone:	Job ID:

Worksheet A Location and Design Conditions			
Weather Location: Portland Intl, OR, US	Elevation = 19	Latitude = 46	
Indoor Conditions, Heating: DB = 70 °F RH = 50 %	Indoor Conditions, Cooling: DB = 75 °F RH = 50 %		
Table 1 Conditions 99% DB = 29 °F 1% DB = 88 °F	Grains Difference = -2 gr/lb	Daily Range = M	
Design Temperature Differences	HTD = 41 °F	CTD = 13 °F	

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



J1 Form - Worksheet A
SYSTEM 2
B&B System Design

Job:
 Date: Dec 28, 2024
 By: Bobby Blough

Vineland, NJ 08361

Supporting Detail	
Project Name: 35435 E Columbia Ave	Date: Dec 28, 2024
Address: Scappoose, OR	
Phone:	Job ID:

Worksheet A Location and Design Conditions			
Weather Location: Portland Intl, OR, US	Elevation = 19	Latitude = 46	
Indoor Conditions, Heating: DB = 70 °F RH = 50 %	Indoor Conditions, Cooling: DB = 75 °F RH = 50 %		
Table 1 Conditions 99% DB = 29 °F 1% DB = 88 °F	Grains Difference = -2 gr/lb	Daily Range = M	
Design Temperature Differences	HTD = 41 °F	CTD = 13 °F	

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



Component Constructions

Entire House

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	66	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Walls

12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n		491	0.065	21.0	2.64	1296	0.78	383
ne		216	0.065	21.0	2.64	569	0.78	168
e		854	0.065	21.0	2.64	2253	0.78	666
se		103	0.065	21.0	2.64	271	0.78	80
s		753	0.065	21.0	2.64	1987	0.78	587
w		847	0.065	21.0	2.64	2235	0.78	661
nw		101	0.065	21.0	2.64	268	0.78	79
all		3365	0.065	21.0	2.64	8879	0.78	2624

Partitions

12F-0sw: Frm wall, 1/2" gyp.bd ext, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

		381	0.065	21.0	2.64	1005	0.30	114
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Windows

2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht

n		78	0.260	0	10.6	823	7.57	591
e		104	0.260	0	10.6	1094	24.7	2556
s		386	0.260	0	10.6	4073	14.1	5449
w		117	0.260	0	10.6	1232	24.7	2880
all		684	0.260	0	10.6	7222	16.8	11476
n		72	0.260	0	10.6	760	8.70	626
e		30	0.260	0	10.6	317	8.70	261
s		183	0.260	0	10.6	1926	30.3	5522
w		55	0.260	0	10.6	581	21.2	1165
all		16	0.260	0	10.6	172	17.0	276
n		303	0.260	0	10.6	3201	30.3	9174
e		54	0.260	0	10.6	572	20.6	1117
s		713	0.260	0	10.6	7528	25.4	18141
w		120	0.300	0	12.2	1462	14.2	1698
all		240	0.300	0	12.2	2923	19.2	4607

2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht

2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.22); 6.67 ft head ht

Doors

11N0: Door, mtl eps core type

n		63	0.350	8.7	14.2	895	8.12	512
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wrightsoft®
A MIND® / Berkshire Hathaway Company

Right-Suite® Universal 2024 24.0.03 RSU64913

2024-Dec-29 12:32:18

...1\35435 E Columbia Ave\35435 E Columbia Ave.rup Calc = MJ8 Front Door faces: E

Page 1

Ceilings

Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh	2972	0.021	49.0	0.84	2493	0.96	2868
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Floors

19A-0bscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr	272	0.295	0	4.50	1222	1.39	376
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19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight cowl ovr, r-19 wall insul	2157	0.034	49.0	0.48	1040	0.15	320
--	------	-------	------	------	------	------	-----

20P-30c: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, gar ovr	543	0.035	30.0	1.42	772	0.23	127
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BBSYSTEMDESIGN.COM

Component Constructions

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method		
Daily range (°F)	-	22 (M)	Simplified		
Wet bulb (°F)	-	66	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			1 (Average)		

Construction descriptions

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² ·°F	Insul R ft ² ·°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	298	0.065	21.0	2.64	786	0.78	232
	e	502	0.065	21.0	2.64	1325	0.78	391
	se	42	0.065	21.0	2.64	112	0.78	33
	s	399	0.065	21.0	2.64	1053	0.78	311
	w	337	0.065	21.0	2.64	889	0.78	263
	all	1578	0.065	21.0	2.64	4165	0.78	1231
Partitions								
12F-0sw: Frm wall, 1/2" gyp.bd ext, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud		381	0.065	21.0	2.64	1005	0.30	114
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	n	60	0.260	0	10.6	633	7.57	454
	e	72	0.260	0	10.6	756	24.7	1766
	s	215	0.260	0	10.6	2267	14.1	3034
	w	45	0.260	0	10.6	472	24.7	1104
	all	391	0.260	0	10.6	4129	16.3	6359
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht	n	18	0.260	0	10.6	190	8.70	157
	n	30	0.260	0	10.6	317	8.70	261
	e	172	0.260	0	10.6	1810	30.3	5189
	e	55	0.260	0	10.6	581	21.2	1165
	s	16	0.260	0	10.6	172	17.0	276
	w	140	0.260	0	10.6	1480	30.3	4243
	all	431	0.260	0	10.6	4549	26.2	11289
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.22); 6.67 ft head ht	s	120	0.300	0	12.2	1462	14.2	1698
	w	120	0.300	0	12.2	1462	24.2	2908
	all	240	0.300	0	12.2	2923	19.2	4607
Doors								
11N0: Door, mtl eps core type	n	63	0.350	8.7	14.2	895	8.12	512

Ceilings

Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh	482	0.021	49.0	0.84	404	0.96	465
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Floors

19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight cowl ovr, r-19 wall insul	2157	0.034	49.0	0.48	1040	0.15	320
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BBSYSTEMDESIGN.COM

Component Constructions

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² ·°F	Insul R ft ² ·°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	193	0.065	21.0	2.64	509	0.78	151
	ne	216	0.065	21.0	2.64	569	0.78	168
	e	352	0.065	21.0	2.64	929	0.78	275
	se	60	0.065	21.0	2.64	159	0.78	47
	s	354	0.065	21.0	2.64	934	0.78	276
	w	510	0.065	21.0	2.64	1346	0.78	398
	nw	101	0.065	21.0	2.64	268	0.78	79
	all	1786	0.065	21.0	2.64	4714	0.78	1393
Partitions								
(none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	n	18	0.260	0	10.6	190	7.57	136
	e	32	0.260	0	10.6	338	24.7	789
	s	171	0.260	0	10.6	1805	14.1	2415
	w	72	0.260	0	10.6	760	24.7	1776
	all	293	0.260	0	10.6	3093	17.5	5117
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht	n	54	0.260	0	10.6	570	8.70	470
	e	11	0.260	0	10.6	116	30.3	333
	w	163	0.260	0	10.6	1721	30.3	4932
	nw	54	0.260	0	10.6	572	20.6	1117
	all	282	0.260	0	10.6	2979	24.3	6852
Doors								
(none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		2490	0.021	49.0	0.84	2089	0.96	2402
Floors								
19A-Obscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr		272	0.295	0	4.50	1222	1.39	376

BBSYSTEMDESIGN.COM



Component Constructions

DINING

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method		
Daily range (°F)	-	22 (M)	Simplified		
Wet bulb (°F)	-	66	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			1 (Average)		

Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	60	0.065	21.0	2.64	158	0.78	47
	s	36	0.065	21.0	2.64	95	0.78	28
	w	36	0.065	21.0	2.64	95	0.78	28
	all	132	0.065	21.0	2.64	348	0.78	103
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	n	60	0.260	0	10.6	633	7.57	454
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.22); 6.67 ft head ht	s	120	0.300	0	12.2	1462	14.2	1698
	w	120	0.300	0	12.2	1462	24.2	2908
	all	240	0.300	0	12.2	2923	19.2	4607
Doors (none)								
Ceilings (none)								
Floors								
19D-30cscp: Fir floor, frm fir, 6" thkns, carpet fir fnsh, r-30 cav ins, tight crwl ovr, r-19 wall insul		169	0.034	49.0	0.48	81	0.15	25

Component Constructions
KITCHEN
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	66	0.065	21.0	2.64	174	0.78	51
	w	274	0.065	21.0	2.64	722	0.78	214
	all	340	0.065	21.0	2.64	897	0.78	265
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht	n	18	0.260	0	10.6	190	8.70	157
	w	140	0.260	0	10.6	1480	30.3	4243
	all	158	0.260	0	10.6	1670	27.8	4399
Doors (none)								
Ceilings (none)								
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight crwl ovr, r-19 wall insul		589	0.034	49.0	0.48	284	0.15	87

Component Constructions
GREAT ROOM
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method		
Daily range (°F)	-	22 (M)	Simplified		
Wet bulb (°F)	-	66	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			1 (Average)		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	s	100	0.065	21.0	2.64	263	0.78	78
	w	27	0.065	21.0	2.64	72	0.78	21
	all	127	0.065	21.0	2.64	335	0.78	99
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	s	134	0.260	0	10.6	1417	14.1	1896
	w	45	0.260	0	10.6	472	24.7	1104
	all	179	0.260	0	10.6	1890	16.8	3000
Doors (none)								
Ceilings (none)								
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight crwl ovr, r-19 wall insul		359	0.034	49.0	0.48	173	0.15	53

Component Constructions
WIC
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:				Indoor:	Heating	Cooling
Portland Intl, OR, US				Indoor temperature (°F)	70	75
Elevation:	19 ft			Design TD (°F)	41	13
Latitude:	46°N			Relative humidity (%)	50	50
Outdoor:		Heating	Cooling	Moisture difference (gr/lb)	36.0	-1.8
Drybulb (°F)		29	88	Infiltration:		
Daily range (°F)		-	22 (M)	Method	Simplified	
Wet bulb (°F)		-	66	Construction quality	Average	
Wind speed (mph)		15.0	7.5	Fireplaces	1 (Average)	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings (none)								
Floors 19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight cowl ovr, r-19 wall insul		45	0.034	49.0	0.48	22	0.15	7

Component Constructions

PWDR

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method		
Daily range (°F)	-	22 (M)	Simplified		
Wet bulb (°F)	-	66	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			1 (Average)		

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum								
board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	48	0.065	21.0	2.64	127	0.78	37
	e	72	0.065	21.0	2.64	190	0.78	56
	s	50	0.065	21.0	2.64	131	0.78	39
	all	170	0.065	21.0	2.64	448	0.78	132
Partitions								
(none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" s								
gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm		16	0.260	0	10.6	172	17.0	276
mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head								
ht								
Doors								
(none)								
Ceilings								
(none)								
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight								
cowl ovr, r-19 wall insul		54	0.034	49.0	0.48	26	0.15	8

Component Constructions
MECH
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation:	19 ft	Design TD (°F)		41	13
Latitude:	46°N	Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		36.0	-1.8
		Heating	Cooling		
Drybulb (°F)		29	88		
Daily range (°F)		-	22 (M)		
Wet bulb (°F)		-	66		
Wind speed (mph)		15.0	7.5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		1 (Average)	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	42	0.065	21.0	2.64	112	0.78	33
	s	96	0.065	21.0	2.64	253	0.78	75
	all	138	0.065	21.0	2.64	365	0.78	108
Partitions								
12F-0sw: Frm wall, 1/2" gyp.bd ext, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud		135	0.065	21.0	2.64	357	0.30	40
Windows (none)								
Doors								
11N0: Door, mtl eps core type	n	20	0.350	8.7	14.2	290	8.12	166
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		68	0.021	49.0	0.84	57	0.96	66
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight cowl ovr, r-19 wall insul		68	0.034	49.0	0.48	33	0.15	10

Component Constructions

BEDROOM 4

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		36.0	-1.8
Heating	Cooling	Infiltration:			
Drybulb (°F)	29	Method		Simplified	
Daily range (°F)	-	Construction quality		Average	
Wet bulb (°F)	-	Fireplaces		1 (Average)	
Wind speed (mph)	15.0				

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum								
	n	96	0.065	21.0	2.64	253	0.78	75
board int fnsh, 2"x4" wood frm, 16" o.c. stud								
	w	101	0.065	21.0	2.64	267	0.78	79
	all	197	0.065	21.0	2.64	520	0.78	154
Partitions								
(none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" n								
	n	54	0.260	0	10.6	570	8.70	470
gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm								
	w	24	0.260	0	10.6	253	30.3	726
mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head								
	all	78	0.260	0	10.6	823	15.3	1196
ht								
Doors								
(none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board								
		200	0.021	49.0	0.84	167	0.96	192
int fnsh								
Floors								
19A-0bscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr								
		31	0.295	0	4.50	141	1.39	43

Component Constructions

MASTER BATH

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		36.0	-1.8
Heating	Cooling	Infiltration:			
Dry bulb (°F)	29	Method		Simplified	
Daily range (°F)	-	Construction quality		Average	
Wet bulb (°F)	-	Fireplaces		1 (Average)	
Wind speed (mph)	15.0				

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	w	156	0.065	21.0	2.64	412	0.78	122
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" w gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht	w	64	0.260	0	10.6	676	30.3	1936
Doors (none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		428	0.021	49.0	0.84	359	0.96	413
Floors								
19A-0bscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr		55	0.295	0	4.50	247	1.39	76

Component Constructions

MASTER BEDROOM

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	57	0.065	21.0	2.64	150	0.78	44
	s	101	0.065	21.0	2.64	267	0.78	79
	w	143	0.065	21.0	2.64	377	0.78	112
	all	301	0.065	21.0	2.64	794	0.78	235
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	n	18	0.260	0	10.6	190	7.57	136
	s	84	0.260	0	10.6	887	14.1	1187
	w	72	0.260	0	10.6	760	24.7	1776
	all	174	0.260	0	10.6	1837	17.8	3099
Doors (none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		424	0.021	49.0	0.84	355	0.96	409
Floors								
19A-0bscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr		124	0.295	0	4.50	559	1.39	172

Component Constructions

BEDROOM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	e	25	0.065	21.0	2.64	66	0.78	20
	s	109	0.065	21.0	2.64	288	0.78	85
	all	134	0.065	21.0	2.64	354	0.78	105
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" s gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht		51	0.260	0	10.6	538	14.1	720
Doors (none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		205	0.021	49.0	0.84	172	0.96	198
Floors								
19A-0bscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr		35	0.295	0	4.50	157	1.39	48



Component Constructions

BEDROOM 3

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		36.0	-1.8
Heating	Cooling	Infiltration:			
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	e	98	0.065	21.0	2.64	259	0.78	76
	s	109	0.065	21.0	2.64	288	0.78	85
	all	207	0.065	21.0	2.64	546	0.78	161
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	e	32	0.260	0	10.6	338	24.7	789
	s	36	0.260	0	10.6	380	14.1	509
	all	68	0.260	0	10.6	718	19.1	1298
Doors (none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		182	0.021	49.0	0.84	152	0.96	175
Floors								
19A-0bscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, tight bsmt ovr		26	0.295	0	4.50	117	1.39	36

Component Constructions

BATH 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud								
	n	40	0.065	21.0	2.64	106	0.78	31
	e	49	0.065	21.0	2.64	129	0.78	38
	s	35	0.065	21.0	2.64	92	0.78	27
	all	124	0.065	21.0	2.64	327	0.78	97
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" e gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht								
		11	0.260	0	10.6	116	30.3	333
Doors (none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceill ins, 1/2" gypsum board int fnsh								
		51	0.021	49.0	0.84	43	0.96	49
Floors (none)								

Component Constructions
SINKS
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		69	0.021	49.0	0.84	58	0.96	67
Floors (none)								

Component Constructions
BALCONY
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:				Indoor:	Heating	Cooling
Portland Intl, OR, US				Indoor temperature (°F)	70	75
Elevation: 19 ft				Design TD (°F)	41	13
Latitude: 46°N				Relative humidity (%)	50	50
				Moisture difference (gr/lb)	36.0	-1.8
Outdoor:	Heating	Cooling		Infiltration:		
Drybulb (°F)	29	88		Method	Simplified	
Daily range (°F)	-	22 (M)		Construction quality	Average	
Wet bulb (°F)	-	66		Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5				

Construction descriptions

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		338	0.021	49.0	0.84	284	0.96	326
Floors (none)								

Component Constructions

LAURENS OFFICE

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud								
	ne	216	0.065	21.0	2.64	569	0.78	168
	e	95	0.065	21.0	2.64	251	0.78	74
	se	60	0.065	21.0	2.64	159	0.78	47
	w	110	0.065	21.0	2.64	290	0.78	86
	nw	101	0.065	21.0	2.64	268	0.78	79
	all	582	0.065	21.0	2.64	1537	0.78	454
Partitions								
(none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht								
	w	75	0.260	0	10.6	792	30.3	2269
	nw	54	0.260	0	10.6	572	20.6	1117
	all	129	0.260	0	10.6	1363	26.2	3386
Doors								
(none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh								
		543	0.021	49.0	0.84	456	0.96	524
Floors								
20P-30c: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, gar ovr								
		543	0.035	30.0	1.42	772	0.23	127



Component Constructions

UTILITY

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation:	19 ft	Design TD (°F)		41	13
Latitude:	46°N	Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		36.0	-1.8
Heating	Cooling	Infiltration:			
Dry bulb (°F)	29	Method		Simplified	
Daily range (°F)	-	Construction quality		Average	
Wet bulb (°F)	-	Fireplaces		1 (Average)	
Wind speed (mph)	15.0				

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	36	0.065	21.0	2.64	95	0.78	28
Partitions								
12F-0sw: Frm wall, 1/2" gyp.bd ext, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud		120	0.065	21.0	2.64	317	0.30	36
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" n gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht		30	0.260	0	10.6	317	8.70	261
Doors								
(none)								
Ceilings								
(none)								
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight cowl ovr, r-19 wall insul		187	0.034	49.0	0.48	90	0.15	28



Component Constructions

ENTRY

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation:	19 ft	Design TD (°F)		41	13
Latitude:	46°N	Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		36.0	-1.8
Heating	Cooling	Infiltration:			
Drybulb (°F)	29	Method		Simplified	
Daily range (°F)	-	Construction quality		Average	
Wet bulb (°F)	-	Fireplaces		1 (Average)	
Wind speed (mph)	15.0				

Construction descriptions

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	88	0.065	21.0	2.64	232	0.78	69
	e	346	0.065	21.0	2.64	912	0.78	269
	s	24	0.065	21.0	2.64	63	0.78	19
	all	458	0.065	21.0	2.64	1207	0.78	357
Partitions								
12F-0sw: Frm wall, 1/2" gyp.bd ext, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud		125	0.065	21.0	2.64	331	0.30	37
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.29); 6.67 ft head ht	e	172	0.260	0	10.6	1810	30.3	5189
	e	55	0.260	0	10.6	581	21.2	1165
	all	227	0.260	0	10.6	2391	28.1	6354
Doors								
11N0: Door, mtl eps core type	n	43	0.350	8.7	14.2	605	8.12	346
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		414	0.021	49.0	0.84	347	0.96	399
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight crwl ovr, r-19 wall insul		498	0.034	49.0	0.48	240	0.15	74

Component Constructions

STUDY

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	29	88	Method	Simplified	
Daily range (°F)	-	22 (M)	Construction quality	Average	
Wet bulb (°F)	-	66	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	e	84	0.065	21.0	2.64	223	0.78	66
	s	93	0.065	21.0	2.64	247	0.78	73
	all	178	0.065	21.0	2.64	469	0.78	139
Partitions (none)								
Windows								
2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.23); 6.67 ft head ht	e	72	0.260	0	10.6	756	24.7	1766
	s	81	0.260	0	10.6	850	14.1	1138
	all	152	0.260	0	10.6	1606	19.1	2904
Doors (none)								
Ceilings (none)								
Floors								
19D-30cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-30 cav ins, tight cowl ovr, r-19 wall insul		189	0.034	49.0	0.48	91	0.15	28



Component Constructions
MECH 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:		Indoor:		Heating	Cooling
Portland Intl, OR, US		Indoor temperature (°F)		70	75
Elevation: 19 ft		Design TD (°F)		41	13
Latitude: 46°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		36.0	-1.8
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	29	88	Method		
Daily range (°F)	-	22 (M)	Simplified		
Wet bulb (°F)	-	66	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			1 (Average)		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	e	85	0.065	21.0	2.64	224	0.78	66
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
Attic ceiling, asphalt shingles roof mat, r-49 ceil ins, 1/2" gypsum board int fnsh		51	0.021	49.0	0.84	43	0.96	49
Floors								
(none)								

Project Summary

Entire House

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Notes:

Design Information

Weather: Portland Intl, OR, US

Winter Design Conditions

Outside db 29 °F
Inside db 70 °F
Design TD 41 °F

Ventilation Method

Summer Design Conditions

Outside db 88 °F
Inside db 75 °F
Design TD 13 °F
Daily range M
Relative humidity 50 %
Moisture difference -2 gr/lb

Heating Summary

Structure 44162 Btuh
Ducts (R-8.0) 8303 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 52464 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 0

	Heating	Cooling
Area (ft ²)	4647	4647
Volume (ft ³)	54759	54759
Air changes/hour	0.25	0.13
Equiv. AVF (cfm)	228	119

Heating Equipment Summary

Make n/a
Trade n/a
Model n/a
AHRI ref n/a

Efficiency n/a
Heating input
Heating output 0 Btuh
Temperature rise 0 °F
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0 in H2O
Space thermostat n/a

Sensible Cooling Equipment Load Sizing

Structure 50045 Btuh
Ducts (R-8.0) 7439 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.93
Equipment sensible load 53172 Btuh

Latent Cooling Equipment Load Sizing

Structure 852 Btuh
Ducts 430 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 1282 Btuh

Equipment Total Load (Sen+Lat) 54454 Btuh
Req. total capacity at 0.70 SHR 6.3 ton

Cooling Equipment Summary

Make n/a
Trade n/a
Cond n/a
Coil n/a
AHRI ref n/a
Efficiency n/a
Sensible cooling 0 Btuh
Latent cooling 0 Btuh
Total cooling 0 Btuh
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0

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

Project Summary

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Notes:

Design Information

Weather: Portland Intl, OR, US

Winter Design Conditions

Outside db 29 °F
Inside db 70 °F
Design TD 41 °F

Ventilation Method MJ8

Heating Summary

Structure 24487 Btuh
Ducts (R-8.0) 1486 Btuh
Central vent (0 cfm) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 25972 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 1 (Average)

	Heating	Cooling
Area (ft ²)	2157	2157
Volume (ft ³)	29859	29859
Air changes/hour	0.24	0.13
Equiv. AVF (cfm)	120	63

Heating Equipment Summary

Make Carrier
Trade 15 SEER2 HP
Model GH5SAN44200AA0
AHRI ref 213300382
Efficiency 7.8 HSPF2
Heating input
Heating output 43000 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 1417 cfm
Air flow factor 0.055 cfm/Btuh
Static pressure 0.60 in H2O
Space thermostat
Capacity balance point = 17 °F
Backup: Carrier
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 88 °F
Inside db 75 °F
Design TD 13 °F
Daily range M
Relative humidity 50 %
Moisture difference -2 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 31207 Btuh
Ducts (R-8.0) 607 Btuh
Central vent (0 cfm) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.93
Equipment sensible load 29428 Btuh

Latent Cooling Equipment Load Sizing

Structure 922 Btuh
Ducts 221 Btuh
Central vent (0 cfm) 0 Btuh
Equipment latent load 1143 Btuh
Equipment Total Load (Sen+Lat) 30571 Btuh
Req. total capacity at 0.70 SHR 3.5 ton

Cooling Equipment Summary

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN44200AA0
Coil F54AABD60L
AHRI ref 213300382
Efficiency 11.7 EER2, 15.2 SEER2
Sensible cooling 29750 Btuh
Latent cooling 12750 Btuh
Total cooling 42500 Btuh
Actual air flow 1417 cfm
Air flow factor 0.045 cfm/Btuh
Static pressure 0.60 in H2O
Load sensible heat ratio 0.97

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



Project Summary

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Notes:

Design Information

Weather: Portland Intl, OR, US

Winter Design Conditions

Outside db 29 °F
Inside db 70 °F
Design TD 41 °F

Ventilation Method MJ8

Heating Summary

Structure 19675 Btuh
Ducts (R-8.0) 6817 Btuh
Central vent (0 cfm) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 26492 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 1 (Average)

	Heating	Cooling
Area (ft ²)	2490	2490
Volume (ft ³)	24900	24900
Air changes/hour	0.26	0.13
Equiv. AVF (cfm)	108	56

Heating Equipment Summary

Make Carrier
Trade 15 SEER2 HP
Model GH5SAN44200AA0
AHRI ref 213304027
Efficiency 7.5 HSPF2
Heating input
Heating output 42000 Btuh @ 47°F
Temperature rise 29 °F
Actual air flow 1333 cfm
Air flow factor 0.050 cfm/Btuh
Static pressure 0.65 in H2O
Space thermostat
Capacity balance point = 19 °F
Backup: Carrier
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 88 °F
Inside db 75 °F
Design TD 13 °F
Daily range M
Relative humidity 50 %
Moisture difference -2 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 21169 Btuh
Ducts (R-8.0) 7178 Btuh
Central vent (0 cfm) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.93
Equipment sensible load 26221 Btuh

Latent Cooling Equipment Load Sizing

Structure -70 Btuh
Ducts 209 Btuh
Central vent (0 cfm) 0 Btuh
Equipment latent load 139 Btuh
Equipment Total Load (Sen+Lat) 26360 Btuh
Req. total capacity at 0.70 SHR 3.1 ton

Cooling Equipment Summary

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN44200AA0
Coil F54AABC42L
AHRI ref 213304027
Efficiency 12.0 EER2, 14.3 SEER2
Sensible cooling 28000 Btuh
Latent cooling 12000 Btuh
Total cooling 40000 Btuh
Actual air flow 1333 cfm
Air flow factor 0.047 cfm/Btuh
Static pressure 0.65 in H2O
Load sensible heat ratio 1.00

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



AED Assessment

Entire House

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:

Portland Intl, OR, US
Elevation: 19 ft
Latitude: 46°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

29
-
-
15.0

Cooling

88
22 (M)
66
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

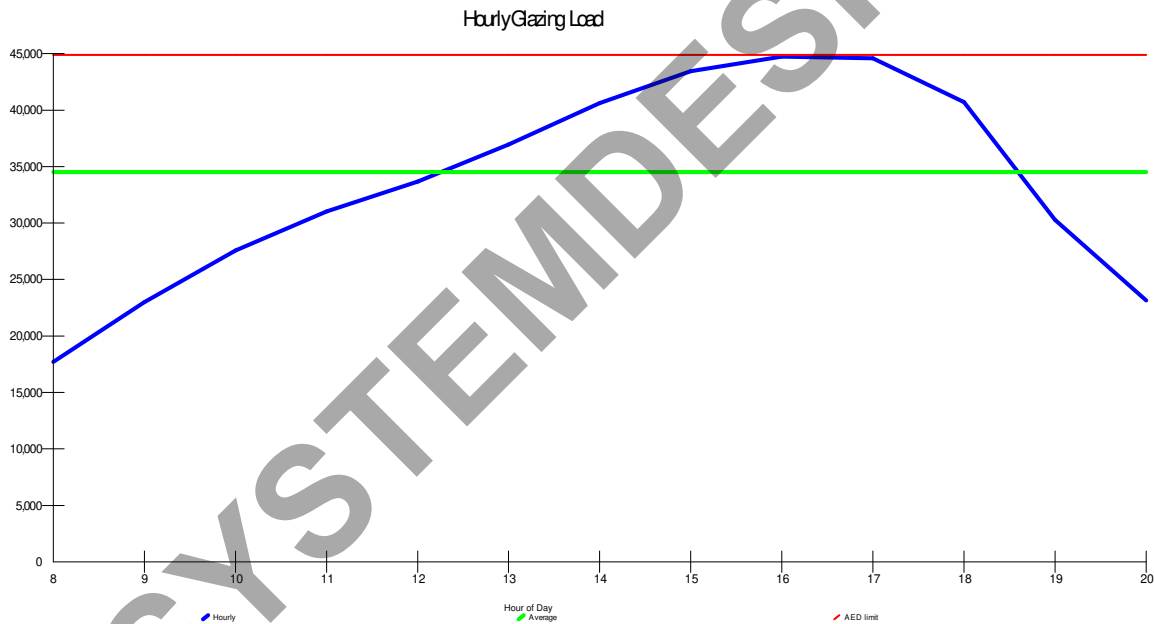
70
41
50
36.0

Cooling

75
13
50
-1.8

Infiltration:

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 29.6%.

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

AED excursion: 0 Btuh

AED Assessment

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:

Portland Intl, OR, US
Elevation: 19 ft
Latitude: 46°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

29
-
-
15.0

Cooling

88
22 (M)
66
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

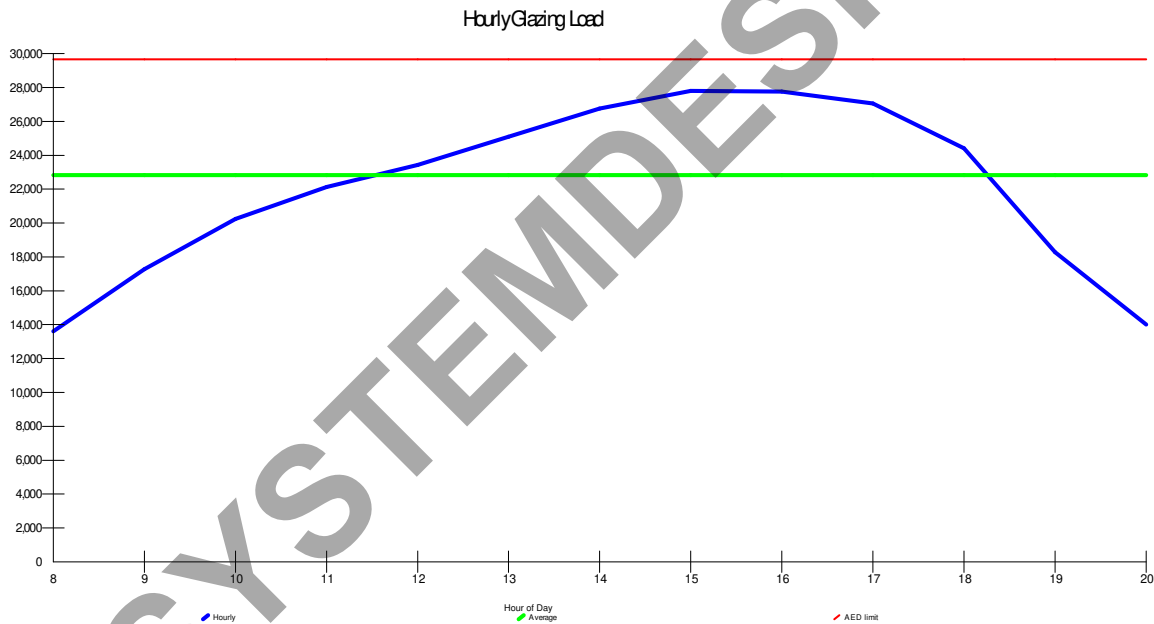
70
41
50
36.0

Cooling

75
13
50
-1.8

Infiltration:

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 21.8%.

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

AED excursion: 0 Btuh

AED Assessment

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Design Conditions

Location:

Portland Intl, OR, US
Elevation: 19 ft
Latitude: 46°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

29
-
-
15.0

Cooling

88
22 (M)
66
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

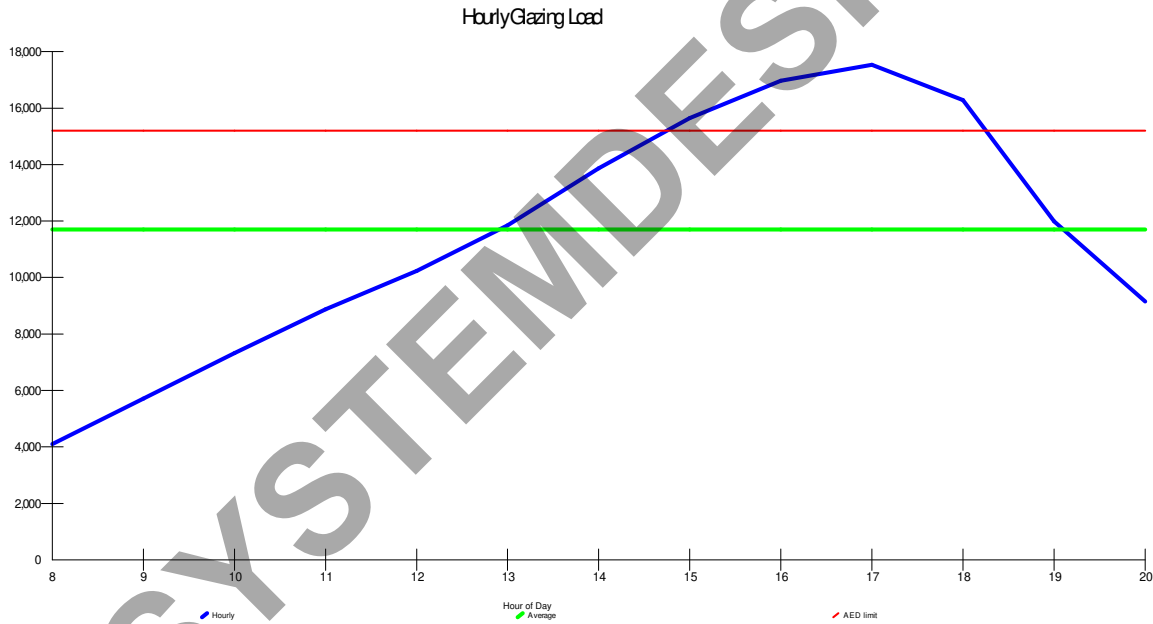
70
41
50
36.0

Cooling

75
13
50
-1.8

Infiltration:

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 49.9%.

Zone does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 2331 Btuh (PFG - 1.3*AFG)

Right-J® Worksheet
Entire House
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

		Entire House 468.1 ft ²						SYSTEM 1 232.0 ft ²						
1	Room name	11.8 ft						13.8 ft						
2	Exposed wall	468.1 ft						232.0 ft						
3	Room height	d						d						
4	Room dimensions	4647.4 ft ²						2157.4 ft ²						
5	Room area													
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	2.64	0.78	671	491	1296	383	406	298	786	232
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	78	0	823	591	60	0	633	454
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	72	0	760	626	18	0	190	157
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	30	0	317	261	30	0	317	261
11	W	12F-0sw	0.065	ne	2.64	0.78	216	216	569	168	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	1195	854	2253	666	800	502	1325	391
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	104	0	1094	2556	72	0	756	1766
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	183	0	1926	5522	172	0	1810	5189
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	55	0	581	1165	55	0	581	1165
	W	12F-0sw	0.065	se	2.64	0.78	103	103	271	80	42	42	112	33
	W	12F-0sw	0.065	s	2.64	0.78	1275	753	1987	587	750	399	1053	311
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	386	0	4073	5449	215	0	2267	3034
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	16	0	172	276	16	0	172	276
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	120	0	1462	1698	120	0	1462	1698
	W	12F-0sw	0.065	w	2.64	0.78	1387	847	2235	661	642	337	889	263
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	117	0	1232	2880	45	0	472	1104
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	303	0	3201	9174	140	0	1480	4243
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	120	0	1462	2908	120	0	1462	2908
	W	12F-0sw	0.065	nw	2.64	0.78	156	101	268	79	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	54	0	572	1117	0	0	0	0
	P	12F-0sw	0.065	-	2.64	0.30	444	381	1005	114	444	381	1005	114
	D	11N0	0.350	n	14.21	8.12	63	63	895	512	63	63	895	512
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	2972	2972	2493	2868	482	482	404	465
	F	19A-0bscp	0.295	-	4.50	1.39	272	272	1222	376	0	0	0	0
	F	19D-30cscp	0.034	-	0.48	0.15	2157	2157	1040	320	2157	2157	1040	320
	F	20P-30c	0.035	-	1.42	0.23	543	543	772	127	0	0	0	0
6	c) AED excursion									0			0	
	Envelope loss/gain								33979	41165			19111	24897
12	a) Infiltration								10183	1630			5375	861
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		5			1150	5			1150	4300
			Appliances/other						6100					
	Subtotal (lines 6 to 13)								44162	50045			24487	31207
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								44162	50045			24487	31207
15	Duct loads					19%	16%		8303	7439	6%	2%	1486	607
	Total room load								52464	57484			25972	31814
	Air required (cfm)								2750	2750			1417	1417

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



Right-J® Worksheet
Entire House
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Room name				SYSTEM 2										
2 Exposed wall				236.1 ft										
3 Room height				10.0 ft										
4 Room dimensions														
5 Room area				2490.0 ft²										
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	2.64	0.78	265	193	509	151				
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	18	0	190	136				
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	54	0	570	470				
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0				
11	W	12F-0sw	0.065	ne	2.64	0.78	216	216	569	168				
	W	12F-0sw	0.065	e	2.64	0.78	395	352	929	275				
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	32	0	338	789				
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	11	0	116	333				
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	0	0	0	0				
	W	12F-0sw	0.065	se	2.64	0.78	60	60	159	47				
	W	12F-0sw	0.065	s	2.64	0.78	525	354	934	276				
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	171	0	1805	2415				
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	0	0	0	0				
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	0	0	0	0				
	W	12F-0sw	0.065	w	2.64	0.78	745	510	1346	398				
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	72	0	760	1776				
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	163	0	1721	4932				
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	0	0	0	0				
	W	12F-0sw	0.065	nw	2.64	0.78	156	101	268	79				
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	54	0	572	1117				
	P	12F-0sw	0.065	-	2.64	0.30	0	0	0	0				
	D	11N0	0.350	n	14.21	8.12	0	0	0	0				
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	2490	2490	2089	2402				
	F	19A-0bscp	0.295	-	4.50	1.39	272	272	1222	376				
	F	19D-30cscp	0.034	-	0.48	0.15	0	0	0	0				
	F	20P-30c	0.035	-	1.42	0.23	543	543	772	127				
6	c) AED excursion									2331				
	Envelope loss/gain								14868	18599				
12	a) Infiltration								4807	770				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				
			Appliances/other							1800				
	Subtotal (lines 6 to 13)								19675	21169				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								19675	21169				
15	Duct loads						35%	34%	6817	7178				
	Total room load								26492	28347				
	Air required (cfm)								1333	1333				

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



Right-J® Worksheet
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

		SYSTEM 1							MECH						
		232.0 ft							24.5 ft						
		13.8 ft							12.0 ft						
		d							heat/cool						
		2157.4 ft²							68.1 ft² x 68.1 ft						
	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	12F-0sw	0.065	n	2.64	0.78	406	298	786	232	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	60	0	633	454	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	18	0	190	157	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	30	0	317	261	0	0	0	0	
11	W	12F-0sw	0.065	ne	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	e	2.64	0.78	800	502	1325	391	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	72	0	756	1766	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	172	0	1810	5189	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	55	0	581	1165	0	0	0	0	
	W	12F-0sw	0.065	se	2.64	0.78	42	42	112	33	42	42	112	33	
	W	12F-0sw	0.065	s	2.64	0.78	750	399	1053	311	96	96	253	75	
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	215	0	2267	3034	0	0	0	0	
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	16	0	172	276	0	0	0	0	
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	120	0	1462	1698	0	0	0	0	
	W	12F-0sw	0.065	w	2.64	0.78	642	337	889	263	0	0	0	0	
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	45	0	472	1104	0	0	0	0	
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	140	0	1480	4243	0	0	0	0	
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	120	0	1462	2908	0	0	0	0	
	W	12F-0sw	0.065	nw	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	nw	0.00	0.00	0	0	0	0	0	0	0	0	
	R	12F-0sw	0.065	-	2.64	0.30	444	381	1005	114	156	135	357	40	
	D	11N0	0.350	n	14.21	8.12	63	63	895	512	20	20	290	166	
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	482	482	404	465	68	68	57	66	
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	19D-30cscp	0.034	-	0.48	0.15	2157	2157	1040	320	68	68	33	10	
	F	20P-30c	0.035	-	0.00	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion									0				-56	
	Envelope loss/gain								19111	24897			1103	334	
12	a) Infiltration								5375	861			282	45	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230		5			1150	0			0	0	
			Appliances/other						4300				0	0	
	Subtotal (lines 6 to 13)								24487	31207			1385	379	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			-1385	-379	
14	Subtotal								24487	31207			0	0	
15	Duct loads					6%	2%		1486	607	6%	2%	0	0	
	Total room load								25972	31814			0	0	
	Air required (cfm)								1417	1417			0	0	

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



Right-J® Worksheet
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1		Room name		DINING				KITCHEN						
2		Exposed wall		36.0 ft				41.5 ft						
3		Room height		12.0 ft				12.0 ft						
4		Room dimensions		13.0 x 13.0 ft				1.0 x 589.3 ft						
5		Room area		169.0 ft ²				589.3 ft ²						
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	2.64	0.78	120	60	158	47	84	66	174	51
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	60	0	633	454	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	18	0	190	157
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	ne	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	2.64	0.78	156	36	95	28	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	120	0	1462	1698	0	0	0	0
	W	12F-0sw	0.065	w	2.64	0.78	156	36	95	28	414	274	722	214
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0	140	0	1480	4243
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	120	0	1462	2908	0	0	0	0
	W	12F-0sw	0.065	nw	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	2.64	0.30	0	0	0	0	0	0	0	0
	D	11N0	0.350	n	14.21	8.12	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	0	0	0	0	0	0	0	0
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19D-30cscp	0.034	-	0.48	0.15	169	169	81	25	589	589	284	87
	F	20P-30c	0.035	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-23				1098
	Envelope loss/gain								3986	5166			2851	5850
12	a) Infiltration								879	141			1014	162
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				2000
	Subtotal (lines 6 to 13)								4866	5307			3865	8012
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			2	0
14	Subtotal								4866	5307			3866	8013
15	Duct loads						6%	2%	295	103	6%	2%	235	156
	Total room load								5161	5410			4101	8168
	Air required (cfm)								282	241			224	364

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



Right-J® Worksheet
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1		Room name		GREAT ROOM		WIC								
2		Exposed wall		25.5 ft		0 ft								
3		Room height		12.0 ft		12.0 ft								
4		Room dimensions		1.0 x 358.5 ft		6.0 x 7.5 ft								
5		Room area		358.5 ft²		45.0 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	12F-0sw	0.065	n	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	ne	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	2.64	0.78	234	100	263	78	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	134	0	1417	1896	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	2.64	0.78	72	27	72	21	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	45	0	472	1104	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	nw	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	2.64	0.30	0	0	0	0	0	0	0	0
	D	11N0	0.350	n	14.21	8.12	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	0	0	0	0	0	0	0	0
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19D-30cscp	0.034	-	0.48	0.15	359	359	173	53	45	45	22	7
	F	20P-30c	0.035	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-1
	Envelope loss/gain							2398	2781				22	6
12	a) Infiltration							623	100				0	0
	b) Room ventilation							0	0				0	0
13	Internal gains:		Occupants @	230		5			1150	0				0
			Appliances/other						900					0
	Subtotal (lines 6 to 13)							3020	4931				22	6
	Less external load							0	0				0	0
	Less transfer							0	0				0	0
	Redistribution							6	2				-22	-6
14	Subtotal							3027	4933				0	0
15	Duct loads					6%	2%	184	96	6%	2%		0	0
	Total room load							3211	5029				0	0
	Air required (cfm)							175	224				0	0

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



Right-J® Worksheet
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

		PWDR		UTILITY										
1	Room name	12.0 ft		12.0 ft										
2	Exposed wall	15.5 ft		15.5 ft										
3	Room height	heat/cool		heat/cool										
4	Room dimensions	6.0 x 9.0 ft		1.0 x 187.0 ft										
5	Room area	54.0 ft²		187.0 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	12F-0sw	0.065	n	2.64	0.78	48	48	127	37	66	36	95	28
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	30	0	317	261
11	W	12F-0sw	0.065	ne	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	72	72	190	56	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	2.64	0.78	66	50	131	39	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	16	0	172	276	0	0	0	0
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	nw	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	2.64	0.30	0	0	0	0	120	120	317	36
	D	11N0	0.350	n	14.21	8.12	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	0	0	0	0	0	0	0	0
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19D-30cscp	0.034	-	0.48	0.15	54	54	26	8	187	187	90	28
	F	20P-30c	0.035	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									12				-113
	Envelope loss/gain								646	428			819	240
12	a) Infiltration								379	61			134	22
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				500
	Subtotal (lines 6 to 13)								1024	489			953	762
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1024	489			953	762
15	Duct loads						6%	2%	62	10	6%	2%	58	15
	Total room load								1086	498			1011	776
	Air required (cfm)								59	22			55	35

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



Right-J® Worksheet
SYSTEM 1
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1		Room name				ENTRY				STUDY				
2		Exposed wall				46.0 ft				27.5 ft				
3		Room height				20.0 ft				12.0 ft				
4		Room dimensions				1.0 x 498.0 ft				13.0 x 14.5 ft				
5		Room area				498.0 ft²				188.5 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	12F-0sw	0.065	n	2.64	0.78	88	88	232	69	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	ne	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	572	346	912	269	156	84	223	66
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	72	0	756	1766
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	172	0	1810	5189	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	21.18	55	0	581	1165	0	0	0	0
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	2.64	0.78	24	24	63	19	174	93	247	73
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0	81	0	850	1138
	G	2 glazing, clr low-e	0.260	s	10.56	16.96	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	s	12.18	14.15	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	w	12.18	24.24	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	nw	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	2.64	0.30	168	125	331	37	0	0	0	0
	D	11N0	0.350	n	14.21	8.12	43	43	605	346	0	0	0	0
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	414	414	347	399	0	0	0	0
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19D-30cscp	0.034	-	0.48	0.15	498	498	240	74	189	189	91	28
	F	20P-30c	0.035	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-526
	Envelope loss/gain							5122	7547				2166	2545
12	a) Infiltration							1392	223				672	108
	b) Room ventilation							0	0				0	0
13	Internal gains:		Occupants @		230		0		0	0			0	0
			Appliances/other						0				900	
	Subtotal (lines 6 to 13)							6514	7770				2838	3552
	Less external load							0	0				0	0
	Less transfer							0	0				0	0
	Redistribution							1394	382				4	1
14	Subtotal							7908	8151				2843	3554
15	Duct loads						6%	2%	480	159	6%	2%	172	69
	Total room load							8388	8310				3015	3623
	Air required (cfm)							458	370				164	161

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



Right-J® Worksheet
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

		SYSTEM 2 236.1 ft							BEDROOM 4 27.5 ft						
		10.0 ft							10.0 ft						
		2490.0 ft ²							199.5 ft ²						
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
1	Room name														
2	Exposed wall														
3	Room height														
4	Room dimensions														
5	Room area														
6	W	12F-0sw	0.065	n	2.64	0.78	265	193	509	151	150	96	253	75	
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	18	0	190	136	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	54	0	570	470	54	0	570	470	
	G	2 glazing, clr low-e	0.260	n	0.00	0.00	0	0	0	0	0	0	0	0	
11	W	12F-0sw	0.065	ne	2.64	0.78	216	216	569	168	0	0	0	0	
	W	12F-0sw	0.065	e	2.64	0.78	395	352	929	275	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	32	0	338	789	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	11	0	116	333	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	se	2.64	0.78	60	60	159	47	0	0	0	0	
	W	12F-0sw	0.065	s	2.64	0.78	525	354	934	276	0	0	0	0	
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	171	0	1805	2415	0	0	0	0	
	G	2 glazing, clr low-e	0.260	s	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.300	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	w	2.64	0.78	745	510	1346	398	125	101	267	79	
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	72	0	760	1776	0	0	0	0	
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	163	0	1721	4932	24	0	253	726	
	G	2 glazing, clr low-e	0.300	w	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	nw	2.64	0.78	156	101	268	79	0	0	0	0	
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	54	0	572	1117	0	0	0	0	
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0	0	0	0	0	
	D	11N0	0.350	n	0.00	0.00	0	0	0	0	0	0	0	0	
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	2490	2490	2089	2402	200	200	167	192	
	F	19A-0bscp	0.295	-	4.50	1.39	272	272	1222	376	31	31	141	43	
	F	19D-30cscp	0.034	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	20P-30c	0.035	-	1.42	0.23	543	543	772	127	0	0	0	0	
6	c) AED excursion								2331				166		
	Envelope loss/gain								14868		18599		1651		
12	a) Infiltration								4807		770		560		
	b) Room ventilation								0		0		0		
13	Internal gains:	Occupants @		230		0		0		0		0			
		Appliances/other						1800				0			
	Subtotal (lines 6 to 13)								19675		21169		2211		
	Less external load								0		0		0		
	Less transfer								0		0		0		
	Redistribution								0		0		0		
14	Subtotal								19675		21169		2211		
15	Duct loads	35%		34%				6817		7178		35%			
								766		34%		624			
	Total room load								26492		28347		2977		
	Air required (cfm)								1333		1333		150		

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



Right-J® Worksheet
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1		Room name		MASTER BATH				MASTER BEDROOM						
2		Exposed wall		22.0 ft				47.5 ft						
3		Room height		10.0 ft				10.0 ft						
4		Room dimensions		1.0 x 427.8 ft				1.0 x 423.8 ft						
5		Room area		427.8 ft²				423.8 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	12F-0sw	0.065	n	2.64	0.78	0	0	0	0	75	57	150	44
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0	18	0	190	136
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	ne	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	2.64	0.78	0	0	0	0	185	101	267	79
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0	84	0	887	1187
	G	2 glazing, clr low-e	0.260	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	2.64	0.78	220	156	412	122	215	143	377	112
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0	72	0	760	1776
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	64	0	676	1936	0	0	0	0
	G	2 glazing, clr low-e	0.300	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	nw	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0	0	0	0	0
	D	11N0	0.350	n	0.00	0.00	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	428	428	359	413	424	424	355	409
	F	19A-0bscp	0.295	-	4.50	1.39	55	55	247	76	124	124	559	172
	F	19D-30cscp	0.034	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	20P-30c	0.035	-	1.42	0.23	0	0	0	0	0	0	0	0
6	c) AED excursion									817			96	
	Envelope loss/gain								1694	3364			3546	4010
12	a) Infiltration								448	72			967	155
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0		0	0
			Appliances/other							0			900	
	Subtotal (lines 6 to 13)								2141	3436			4513	5065
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								2141	3436			4513	5065
15	Duct loads						35%	34%	742	1165	35%	34%	1563	1718
	Total room load								2883	4601			6076	6783
	Air required (cfm)								145	216			306	319

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



Right-J® Worksheet
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

		BEDROOM 2 18.5 ft						BEDROOM 3 27.5 ft							
		10.0 ft		1.0		heat/cool		10.0 ft		1.0		heat/cool			
		205.0 ft²						181.8 ft²							
1	Room name	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
2	Exposed wall														
3	Room height														
4	Room dimensions														
5	Room area														
6	W 12F-0sw			0.065	n	2.64	0.78	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	n	10.56	7.57	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W 12F-0sw			0.065	ne	2.64	0.78	0	0	0	0	0	0	0	0
	W 12F-0sw			0.065	e	2.64	0.78	25	25	66	19	130	98	259	76
	G 2 glazing, clr low-e			0.260	e	10.56	24.67	0	0	0	0	32	0	388	789
	G 2 glazing, clr low-e			0.260	e	10.56	30.26	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	e	0.00	0.00	0	0	0	0	0	0	0	0
	W 12F-0sw			0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W 12F-0sw			0.065	s	2.64	0.78	160	109	288	85	145	109	288	85
	G 2 glazing, clr low-e			0.260	s	10.56	14.13	51	0	538	720	36	0	380	509
	G 2 glazing, clr low-e			0.260	s	0.00	0.00	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.300	s	0.00	0.00	0	0	0	0	0	0	0	0
	W 12F-0sw			0.065	w	2.64	0.78	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	w	10.56	24.67	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	w	10.56	30.26	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.300	w	0.00	0.00	0	0	0	0	0	0	0	0
	W 12F-0sw			0.065	nw	2.64	0.78	0	0	0	0	0	0	0	0
	G 2 glazing, clr low-e			0.260	nw	10.56	20.63	0	0	0	0	0	0	0	0
	P 12F-0sw			0.065	-	0.00	0.00	0	0	0	0	0	0	0	0
	D 11N0			0.350	n	0.00	0.00	0	0	0	0	0	0	0	0
	C Attic ceiling, aspha			0.021	-	0.84	0.96	205	205	172	198	182	182	152	175
	F 19A-0bscp			0.295	-	4.50	1.39	35	35	157	48	26	26	117	36
	F 19D-30cscp			0.034	-	0.00	0.00	0	0	0	0	0	0	0	0
	F 20P-30c			0.035	-	1.42	0.23	0	0	0	0	0	0	0	0
6	c) AED excursion										127				-115
	Envelope loss/gain									1221	1198			1534	1555
12	a) Infiltration									377	60			560	90
	b) Room ventilation									0	0			0	0
13	Internal gains:					Occupants @	230	0			0	0			0
						Appliances/other					0				0
	Subtotal (lines 6 to 13)									1598	1258			2093	1645
	Less external load									0	0			0	0
	Less transfer									0	0			0	0
	Redistribution									0	0			20	21
14	Subtotal									1598	1258			2113	1666
15	Duct loads							35%	34%	554	427	35%	34%	732	565
	Total room load									2152	1685			2845	2231
	Air required (cfm)									108	79			143	105

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



Right-J® Worksheet
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1 Room name		BATH 2						SINKS						
2 Exposed wall		13.5 ft						0 ft						
3 Room height		10.0 ft						10.0 ft						
4 Room dimensions		6.0 x 8.5 ft						6.0 x 11.5 ft						
5 Room area		51.0 ft²						69.0 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	12F-0sw	0.065	n	2.64	0.78	40	40	106	31	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	ne	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	2.64	0.78	60	49	129	38	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	11	0	116	333	0	0	0	0
	G	2 glazing, clr low-e	0.260	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	2.64	0.78	35	35	92	27	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	nw	2.64	0.78	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0	0	0	0	0
	D	11N0	0.350	n	0.00	0.00	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	51	51	43	49	69	69	58	67
	F	19A-0bscp	0.295	-	4.50	1.39	0	0	0	0	0	0	0	0
	F	19D-30cscp	0.034	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	20P-30c	0.035	-	1.42	0.23	0	0	0	0	0	0	0	0
6	c) AED excursion									21				-4
	Envelope loss/gain								486	500			58	62
12	a) Infiltration								275	44			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @		230		0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								761	544			58	62
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								15	16			-58	-62
14	Subtotal								776	560			0	0
15	Duct loads						35%	34%	269	190	35%	34%	0	0
	Total room load								1045	749			0	0
	Air required (cfm)								53	35			0	0

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



Right-J® Worksheet
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

1		Room name		BALCONY						LAURENS OFFICE					
2		Exposed wall		0 ft						71.1 ft					
3		Room height		10.0 ft						10.0 ft					
4		Room dimensions		1.0 x 338.0 ft						1.0 x 543.3 ft					
5		Room area		338.0 ft²						543.3 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	12F-0sw	0.065	n	2.64	0.78	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	n	0.00	0.00	0	0	0	0	0	0	0	0	
11	W	12F-0sw	0.065	ne	2.64	0.78	0	0	0	0	216	216	569	168	
	W	12F-0sw	0.065	e	2.64	0.78	0	0	0	0	95	95	251	74	
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0	60	60	159	47	
	W	12F-0sw	0.065	s	2.64	0.78	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	s	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.300	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	w	2.64	0.78	0	0	0	0	185	110	290	86	
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0	75	0	792	2269	
	G	2 glazing, clr low-e	0.300	w	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12F-0sw	0.065	nw	2.64	0.78	0	0	0	0	156	101	268	79	
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	0	0	0	0	54	0	572	1117	
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0	0	0	0	0	
	D	11N0	0.350	n	0.00	0.00	0	0	0	0	0	0	0	0	
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	338	338	284	326	543	543	456	524	
	F	19A-0bscp	0.295	-	4.50	1.39	0	0	0	0	0	0	0	0	
	F	19D-30cscp	0.034	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	20P-30c	0.035	-	1.42	0.23	0	0	0	0	543	543	772	127	
6	c) AED excursion												-21	1255	
	Envelope loss/gain												284	305	
12	a) Infiltration												0	0	
	b) Room ventilation												0	0	
13	Internal gains:		Occupants @	230			0						0	0	
			Appliances/other										0	900	
	Subtotal (lines 6 to 13)												284	305	
	Less external load												0	0	
	Less transfer												0	0	
	Redistribution												23	25	
14	Subtotal												307	330	
15	Duct loads						35%	34%					106	112	
	Total room load												413	442	
	Air required (cfm)												21	21	
													8101	9390	
													408	442	

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



Right-J® Worksheet
SYSTEM 2
B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

						MECH 2								
1	Room name					10.0 ft		8.5 ft						
2	Exposed wall													
3	Room height													
4	Room dimensions					10.0 ft		8.5 ft		x		6.0 ft		
5	Room area					51.0 ft ²								
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	2.64	0.78	0	0	0	0				
	G	2 glazing, clr low-e	0.260	n	10.56	7.57	0	0	0	0				
	G	2 glazing, clr low-e	0.260	n	10.56	8.70	0	0	0	0				
	G	2 glazing, clr low-e	0.260	n	0.00	0.00	0	0	0	0				
11	W	12F-0sw	0.065	ne	2.64	0.78	0	0	0	0				
	W	12F-0sw	0.065	e	2.64	0.78	85	85	224	66				
	G	2 glazing, clr low-e	0.260	e	10.56	24.67	0	0	0	0				
	G	2 glazing, clr low-e	0.260	e	10.56	30.26	0	0	0	0				
	G	2 glazing, clr low-e	0.260	e	0.00	0.00	0	0	0	0				
	W	12F-0sw	0.065	se	2.64	0.78	0	0	0	0				
	W	12F-0sw	0.065	s	2.64	0.78	0	0	0	0				
	G	2 glazing, clr low-e	0.260	s	10.56	14.13	0	0	0	0				
	G	2 glazing, clr low-e	0.260	s	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.300	s	0.00	0.00	0	0	0	0				
	W	12F-0sw	0.065	w	2.64	0.78	0	0	0	0				
	G	2 glazing, clr low-e	0.260	w	10.56	24.67	0	0	0	0				
	G	2 glazing, clr low-e	0.260	w	10.56	30.26	0	0	0	0				
	G	2 glazing, clr low-e	0.300	w	0.00	0.00	0	0	0	0				
	W	12F-0sw	0.065	nw	2.64	0.78	0	0	0	0				
	G	2 glazing, clr low-e	0.260	nw	10.56	20.63	0	0	0	0				
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0				
	D	11N0	0.350	n	0.00	0.00	0	0	0	0				
	C	Attic ceiling, aspha	0.021	-	0.84	0.96	51	51	43	49				
	F	19A-0bscp	0.295	-	4.50	1.39	0	0	0	0				
	F	19D-30cscp	0.034	-	0.00	0.00	0	0	0	0				
	F	20P-30c	0.035	-	1.42	0.23	0	0	0	0				
6	c) AED excursion													-9
	Envelope loss/gain								267	106				
12	a) Infiltration								173	28				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								440	134				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								-440	-134				
14	Subtotal								0	0				
15	Duct loads						35%	34%	0	0				
	Total room load								0	0				
	Air required (cfm)								0	0				

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



Static Pressure and Friction Rate

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.60	0.60
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0.05	0.05
Return grilles	0.05	0.05
Filter	0.05	0.05
Humidifier	0	0
Balancing damper	0.05	0.05
Other device	0	0
Available static pressure	0.40	0.40

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	31	2
Measured length of trunk	45	56
Equivalent length of fittings	185	220
Total length	260	278
Total effective length		538

Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.074	OK	0.074	OK
Return Ducts	0.074	OK	0.074	OK

Fitting Equivalent Length Details

Supply 4AD=60, 2A4=70, 12J1=10, 8AE=10, 1A=35: TotalEL=185

Return 6M=20, 6A6=75, 6BB=25, 12A1=20, 6AA=10, 6AA=10, 8AE=10, 5D=40, 6AA=10: TotalEL=220

Static Pressure and Friction Rate

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.65	0.65
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0.05	0.05
Return grilles	0.05	0.05
Filter	0.05	0.05
Humidifier	0	0
Balancing damper	0.05	0.05
Other device	0	0
Available static pressure	0.45	0.45

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	30	8
Measured length of trunk	58	65
Equivalent length of fittings	225	320
Total length	313	393
Total effective length		705

Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.064	OK	0.064	OK
Return Ducts	0.064	OK	0.064	OK

Fitting Equivalent Length Details

Supply	4AD=60, 2A0=35, 12J1=10, 9I1=85, 1A=35: TotalEL=225
Return	6M=20, 6A6=75, 12A1=20, 10G=75, 6AA=10, 6AA=10, 12A1=20, 6AA=10, 6AA=10, 8AE=10, 6AA=10, 5D=40, USR1=10: TotalEL=320

Duct System Summary

SYSTEM 1

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.20 in H2O	0.20 in H2O
Available static pressure	0.40 in H2O	0.40 in H2O
Supply / return available pressure	0.193 / 0.207 in H2O	0.193 / 0.207 in H2O
Lowest friction rate	0.074 in/100ft	0.074 in/100ft
Actual air flow	1417 cfm	1417 cfm
Total effective length (TEL)	538 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
DINING	h 1720	94	80	0.082	7.0	0x0	VIFx	87.0	150.0	st2A
DINING-A	h 1720	94	80	0.074	7.0	0x0	VIFx	75.0	185.0	st2A
DINING-B	h 1720	94	80	0.077	7.0	0x0	VIFx	81.0	170.0	st2A
ENTRY	h 2097	114	93	0.097	7.0	0x0	VIFx	60.0	140.0	st2
ENTRY-A	h 2097	114	93	0.093	7.0	0x0	VIFx	38.0	170.0	st2
ENTRY-B	h 2097	114	93	0.118	7.0	0x0	VIFx	14.5	150.0	st2
ENTRY-C	h 2097	114	93	0.091	7.0	0x0	VIFx	53.5	160.0	st2
GREAT ROOM	c 2514	88	112	0.081	8.0	0x0	VIFx	78.0	160.0	st2B
GREAT ROOM-A	c 2514	88	112	0.087	7.0	0x0	VIFx	62.5	160.0	st2B
KITCHEN	c 2724	75	121	0.092	8.0	0x0	VIFx	60.0	150.0	st2
KITCHEN-A	c 2723	75	121	0.087	8.0	0x0	VIFx	48.5	175.0	st2
KITCHEN-B	c 2723	75	121	0.083	8.0	0x0	VIFx	42.5	190.0	st2
PWDR	h 1086	59	22	0.078	6.0	0x0	VIFx	69.5	180.0	st2A
STUDY	h 1508	82	81	0.085	7.0	0x0	VIFx	67.5	160.0	st2A
STUDY-A	h 1508	82	81	0.079	7.0	0x0	VIFx	76.0	170.0	st2B
UTILITY	h 1011	55	35	0.110	6.0	0x0	VIFx	31.5	145.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st2A	Peak AVF	680	648	0.074	637	14.0	0 x 0	ShtMetl	st2
st2	Peak AVF	1417	1417	0.074	802	18.0	0 x 0	ShtMetl	
st2B	Peak AVF	257	305	0.079	559	10.0	0 x 0	ShtMetl	st2A

Bold/italic values have been manually overridden

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
rb7	0x0	264	273	236.5	0.087	432	9.1	2-3.25x14	2-10x18	SJSp	rt2A
rb6	0x0	473	433	84.5	0.244	748	8.7	2-3.25x14	2-10x18	SJSp	rt2
rb2	0x0	149	243	130.0	0.159	384	7.4	2-3.25x14	2-10x18	SJSp	rt2
rb5	0x0	268	195	159.0	0.130	423	8.0	2-3.25x14	2-10x18	SJSp	rt2
rb4	0x0	264	273	277.5	0.074	432	9.0	2-3.25x14	2-10x18	SJSp	rt2A

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt2A	Peak AVF	527	546	0.074	695	12.0	0 x 0	ShtMetl	rt2
rt2	Peak AVF	1417	1417	0.074	650	20.0	0 x 0	ShtMetl	



Duct System Summary

SYSTEM 2

B&B System Design

Job:
Date: Dec 28, 2024
By: Bobby Blough

Vineland, NJ 08361

Project Information

For: Scappoose, OR

	Heating	Cooling
External static pressure	0.65 in H2O	0.65 in H2O
Pressure losses	0.20 in H2O	0.20 in H2O
Available static pressure	0.45 in H2O	0.45 in H2O
Supply / return available pressure	0.199 / 0.251 in H2O	0.199 / 0.251 in H2O
Lowest friction rate	0.064 in/100ft	0.064 in/100ft
Actual air flow	1333 cfm	1333 cfm
Total effective length (TEL)		705 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
BALCONY	c 413	21	21	0.071	4.0	0x0	VIFx	45.0	235.0	st4
BATH 2	h 1045	53	35	0.072	6.0	0x0	VIFx	62.0	215.0	st4
BEDROOM 2	h 2152	108	79	0.066	8.0	0x0	VIFx	65.0	235.0	st4B
BEDROOM 3	h 1423	72	52	0.064	7.0	0x0	VIFx	64.5	245.0	st4A
BEDROOM 3-A	h 1423	72	52	0.065	7.0	0x0	VIFx	73.5	235.0	st4A
BEDROOM 4	h 2977	150	116	0.068	8.0	0x0	VIFx	34.0	260.0	st4
LAURENS OFFICE	c 2348	102	110	0.079	8.0	0x0	VIFx	37.5	215.0	st3
LAURENS OFFICE-A	c 2348	102	110	0.075	8.0	0x0	VIFx	39.5	225.0	st3
LAURENS OFFICE-B	c 2348	102	110	0.074	7.0	0x0	VIFx	39.5	230.0	st3A
LAURENS OFFICE-C	c 2348	102	110	0.077	8.0	0x0	VIFx	24.5	235.0	st3
MASTER BATH	c 2301	73	108	0.067	8.0	0x0	VIFx	53.5	245.0	st4
MASTER BATH-A	c 2301	73	108	0.069	8.0	0x0	VIFx	39.5	250.0	st4
MASTER BEDROOM	c 2261	102	106	0.064	8.0	0x0	VIFx	87.5	225.0	st4A
MASTER BEDROOM-A	c 2261	102	106	0.067	8.0	0x0	VIFx	74.0	225.0	st4
MASTER BEDROOM-B	c 2261	102	106	0.066	7.0	0x0	VIFx	80.0	220.0	st4C

Bold/italic values have been manually overridden



Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4A	Peak AVF	455	397	0.064	580	12.0	0 x 0	ShtMetl	st4
st3	Peak AVF	408	442	0.074	562	12.0	0 x 0	ShtMetl	st1
st3A	Peak AVF	102	110	0.074	413	7.0	0 x 0	ShtMetl	st3
st4C	Peak AVF	102	106	0.066	398	7.0	0 x 0	ShtMetl	st4B
st4	Peak AVF	925	891	0.064	663	16.0	0 x 0	ShtMetl	st1
st4B	Peak AVF	210	186	0.066	385	10.0	0 x 0	ShtMetl	st4A
st1	Peak AVF	1333	1333	0.064	754	18.0	0 x 0	ShtMetl	

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
rb9	0x0	204	221	108.5	0.231	632	8.0	0x 0		VIFx	rt1
rb10	0x0	204	221	87.5	0.286	632	8.0	0x 0		VIFx	rt1
rb14	0x0	150	116	132.5	0.189	561	7.0	0x 0		VIFx	rt1
rb3	0x0	146	164	158.5	0.158	470	8.0	0x 0		VIFx	rt1
rb15	0x0	174	215	210.0	0.119	393	10.0	0x 0		VIFx	rt1A
rb12	0x0	108	79	275.0	0.091	551	6.0	0x 0		ShMt	rt1A
rb11	0x0	143	105	309.5	0.081	410	8.0	0x 0		VIFx	rt1A
rb13	0x0	204	213	392.5	0.064	390	10.0	0x 0		VIFx	rt1B

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1B	Peak AVF	204	213	0.064	390	10.0	0 x 0	ShtMetl	rt1A
rt1	Peak AVF	1333	1333	0.064	611	20.0	0 x 0	ShtMetl	
rt1A	Peak AVF	630	611	0.064	589	14.0	0 x 0	ShtMetl	rt1