BUILDING ENERGY ANALYSIS REPORT

PROJECT:

Gateway Hotel
550 Gateway Boulevard
South San Francisco, CA 94080

Project Designer:

Arris Studio Architects
1306 Johnson Avenue
San Luis Obispo, CA 93401
(805) 547-2240

Report Prepared by:

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Job Number:

M16095

Date:

10/14/2017

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2016 Building Energy Efficiency Standards.

This program developed by EnergySoft Software – www.energysoft.com.

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Project Address:	550 Gateway Boulevard South San Francisco 94080	Calculation Date/Time:	11:37, Sat, Oct 14, 2017
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	M16095-T24.cibd16x

A. PROJECT GENERAL INFORMATION

1.	Project Location (city)	South San Francisco	**8.**	Standards Version	Compliance2016
2.	CA Zip Code	94080	**9.**	Compliance Software (version)	EnergyPro 7.1
3.	Climate Zone	3	**10.**	Weather File	SAN-FRANCISCO-INTL_724940_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	94,027 ft^2	**11.**	Building Orientation (deg)	(W) 315 deg
5.	Total Unconditioned Floor Area	217 ft^2	**12.**	Permitted Scope of Work	NewEnvelopeAndMechanical
6.	Total # of Stories (Habitable Above Grade)	6	13	Building Type(s)	Hotel-Motel
7.	Total # of dwelling units	11	14	Gas Type	NaturalGas

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft^2-yr) **§ 140.1**

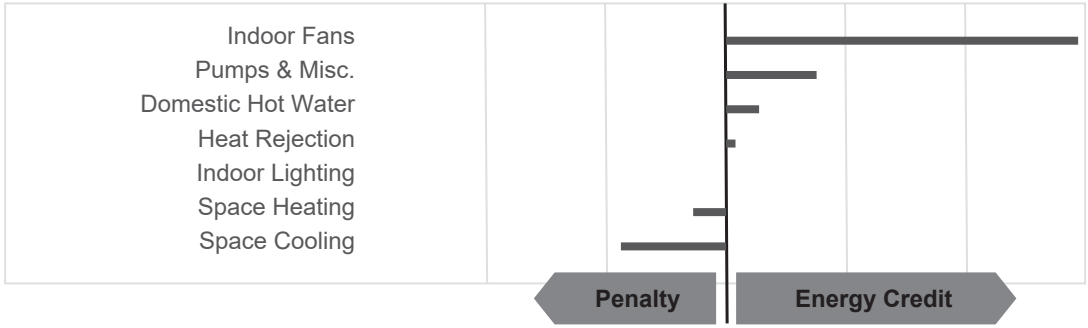
BUILDING COMPLIES

1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	11.66	12.29	-0.63	-5.4%
Space Cooling	7.50	9.60	-2.10	-28.0%
Indoor Fans	17.23	10.11	7.12	41.3%
Heat Rejection	0.15	--	0.15	--
Pumps & Misc.	1.80	--	1.80	--
Domestic Hot Water	3.33	2.70	0.63	18.9%
Indoor Lighting	36.53	36.53	--	0.0%
COMPLIANCE TOTAL	**78.20**	**71.23**	**6.97**	**8.9%**
Receptacle	38.35	38.35	0.0	0.0%
Process	0.88	0.88	0.0	0.0%
Other Ltg	--	--	--	--
TOTAL	**117.43**	**110.46**	**7.0**	**5.9%**

C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)

1st	Indoor Fans: Check envelope and mechanical
2nd	Pumps & Misc.: Check mechanical
3rd	Domestic Hot Water: Check mechanical
4th	Heat Rejection: Check envelope and mechanical
5th	Indoor Lighting: Check lighting
6th	Space Heating: Check envelope and mechanical
7th	Space Cooling: Check envelope and mechanical

Compliance Margin By Energy Component (from Table B column 4)



D. EXCEPTIONAL CONDITIONS

The project shows partial compliance, either envelope only or mechanical only, excluding lighting systems. The building must show partial compliance including lighting or full new building compliance or show prescriptive lighting compliance before operation

This project includes Domestic Hot Water in the analysis. Please verify that Domestic Hot Water is included in the design for the permitted scope of work.

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

None Provided

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project

For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.

Building Component	Compliance Path		Compliance Forms *(required for submittal)*	Location of Mandatory Notes on Plans
Envelope	☒	Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	☐	NA		
Mechanical	☒	Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	☐	NA		
Domestic Hot Water	☒	Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PLB-01-E	
	☐	NA		
Lighting (Indoor Conditioned)	☐	Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	☒	NA		
Covered Process: Commercial Kitchens	☐	Performance	S2 (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PRC-01/ 03-E	
	☒	NA		
Covered Process: Computer Rooms	☐	Performance	S3 (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PRC-01/ 04-E	
	☒	NA		
Covered Process: Laboratory Exhaust	☐	Performance	S4 (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PRC-01/ 09-E	
	☒	NA		

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.				*The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.*			
Yes	**NA**	**Prescriptive Requirement**	**Compliance Forms**	**Yes**	**NA**	**Mandatory Requirement**	**Compliance Forms**
☒	☐	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	☐ ☐	☒ ☒	Commissioning: §120.8 Simple Systems Complex Systems	 NRCC-CXR-01 / 02 / 03 / 05-E NRCC-CXR-01 / 02 / 04 / 05-E
☐	☒	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E	☐	☒	Electrical: §130.5	NRCC-ELC-01-E
☐	☒	Lighting (Sign) §140.8	NRCC-LTS-01-E	☐	☒	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
☐	☒	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E	☐ ☐ ☐ ☐ ☐	☒ ☒ ☒ ☒ ☒	Covered Process: §120.6 Parking Garage Commercial Refrigeration Warehouse Refrigeration Compressed Air Process Boilers	NRCC-PRC-01-E NRCC-PRC-02-E NRCC-PRC-05-E NRCC-PRC-06/07/08-E NRCC-PRC-10-E NRCC-PRC-11-E

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.		**Confirmed**	
Building Component	**Compliance Forms *(required for submittal)***	**Pass**	**Fail**
Envelope	☒ NRCI-ENV-01-E - For all buildings	☐	☐
	☒ NRCA-ENV-02-F- NFRC label verification for fenestration	☐	☐
Mechanical	☒ NRCI-MCH-01-E - For all buildings with Mechanical Systems	☐	☐
	☒ NRCA-MCH-02-A- Outdoor Air	☐	☐
	☒ NRCA-MCH-03-A – Constant Volume Single Zone HVAC	☐	☐
	☐ NRCA-MCH-04-H- Air Distribution Duct Leakage	☐	☐
	☐ NRCA-MCH-05-A- Air Economizer Controls	☐	☐
	☐ NRCA-MCH-06-A- Demand Control Ventilation	☐	☐
	☐ NRCA-MCH-07-A – Supply Fan Variable Flow Controls	☐	☐
	☐ NRCA-MCH-08-A- Valve Leakage Test	☐	☐
	☒ NRCA-MCH-09-A – Supply Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-10-A- Hydronic System Variable Flow Controls	☐	☐
	☐ NRCA-MCH-11-A – Auto Demand Shed Controls	☐	☐
	☐ NRCA-MCH-12-A- Packaged Direct Expansion Units	☐	☐
	☐ NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units	☐	☐
	☐ NRCA-MCH-14-A- Distributed Energy Storage	☐	☐
	☐ NRCA-MCH-15-A – Thermal Energy Storage	☐	☐
	☐ NRCA-MCH-16-A- Supply Air Temp Reset Controls	☐	☐
	☐ NRCA-MCH-17-A – Condensate Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-18-A- Energy Management Controls Systems	☐	☐
	☐ NRCV-MCH-04-H- Duct Leakage Test	☐	☐

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Building Component	**Compliance Forms *(required for submittal)***	**Pass**	**Fail**
Plumbing	☒ NRCI-PLB-01-E - For all buildings with Plumbing Systems	☐	☐
	☐ NRCI-PLB-02-E - required on central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-03-E - Single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-21-E - HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-22-E - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-21-H- HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-STH-01-E - Any solar water heating	☐	☐
Indoor Lighting	☐ NRCI-LTI-01-E - For all buildings	☐	☐
	☐ NRCI-LTI-02-E - Lighting control system, or for an Energy Management Control System (EMCS)	☐	☐
	☐ NRCI-LTI-03-E - Line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting	☐	☐
	☐ NRCI-LTI-04-E - Two interlocked systems serving an auditorium, a convention center, a conference room, or a theater	☐	☐
	☐ NRCI-LTI-05-E - Lighting Control Credit Power Adjustment Factor (PAF)	☐	☐
	☐ NRCI-LTI-06-E - Additional wattage installed in a video conferencing studio	☐	☐
	☐ NRCA-LTI-02-A - Occupancy sensors and automatic time switch controls.	☐	☐
	☐ NRCA-LTI-03-A - Automatic daylighting controls	☐	☐
	☐ NRCA-LTI-04-A - Demand responsive lighting controls	☐	☐
Outdoor Lighting	☐ NRCI-LTO-01-E – Outdoor Lighting	☐	☐
	☐ NRCI-LTO-02-E- EMCS Lighting Control System	☐	☐
	☐ NRCA-LTO-02-A - Outdoor Lighting Control	☐	☐
Sign Lighting	☐ NRCI-LTS-01-E – Sign Lighting	☐	☐
Electrical	☐ NRCI-ELC-01-E - Electrical Power Distribution	☐	☐
Photovoltaic	☐ NRCI-SPV-01-E Photovoltaic Systems	☐	☐

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.		**Confirmed**	
Building Component	**Compliance Forms *(required for submittal)***	**Pass**	**Fail**
Covered Process	☐ NRCI-PRC-01-E Refrigerated Warehouse	☐	☐
	☐ NRCA-PRC-01-F- Compressed Air Systems	☐	☐
	☐ NRCA-PRC-02-F- Kitchen Exhaust	☐	☐
	☐ NRCA-PRC-03-F- Garage Exhaust	☐	☐
	☐ NRCA-PRC-04-F- Refrigerated Warehouse- Evaporator Fan Motor Controls	☐	☐
	☐ NRCA-PRC-05-F- Refrigerated Warehouse- Evaporative Condenser Controls	☐	☐
	☐ NRCA-PRC-06-F- Refrigerated Warehouse- Air Cooled Condenser Controls	☐	☐
	☐ NRCA-PRC-07F- Refrigerated Warehouse- Variable Speed Compressor	☐	☐
	☐ NRCA-PRC-08-F- Electrical Resistance Underslab Heating System	☐	☐

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)

						Confirmed	
1.	Total Conditioned Floor Area	94,027 ft^2	**5.**	Number of Floors Above Grade	6		
2.	Total Unconditioned Floor Area	217 ft^2	**6.**	Number of Floors Below Grade	0	**Pass**	**Fail**
3.	Addition Conditioned Floor Area	0 ft^2					
4.	Addition Unconditioned Floor Area	0 ft^2					

7. Opaque Surfaces & Orientation	**8. Total Gross Surface Area**	**9. Total Fenestration Area**	**10. Window to Wall Ratio**	**Pass**	**Fail**
North Wall	9,972 ft^2	2,212 ft^2	22.2%	☐	☐
East Wall	10,319 ft^2	1,383 ft^2	13.4%	☐	☐
South Wall	9,671 ft^2	1,351 ft^2	14.0%	☐	☐
West Wall	10,720 ft^2	1,751 ft^2	16.3%	☐	☐
Total	**40,682 ft^2**	**6,697 ft^2**	**16.5%**	☐	☐
Roof	17,352 ft^2	0 ft^2	00.0%	☐	☐

J. FENESTRATION ASSEMBLY SUMMARY							§ 110.6		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	9.	Pass	Fail
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method[1]	Assembly Method	Area ft^2	Overall U-factor	Overall SHGC	Overall VT	Status[2]		
Double Metal Clear	VerticalFenestration FixedWindow N/A	NFRC Rated	SiteBuilt	6697	0.60	0.30	0.50	N	☐	☐

[1] Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.

[2] Status: N - New, A – Altered, E – Existing

Taking compliance credit for fenestration shading devices? (if "Yes", see NRCC-PRF-ENV-DETAILS for more information)	No

K. OPAQUE SURFACE ASSEMBLY SUMMARY						§ 120.7/ § 140.3		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	Pass	Fail
Surface Name	Surface Type	Area (ft^2)	Framing Type	Cavity R-Value	Continuous R-Value	U-Factor / F-Factor / C-Factor	Status[1]		
Slab On Grade6	UndergroundFloor	16178	NA	0	NA	F-Factor: 0.730	N	☐	☐
12 Concrete Wall w/R-138	ExteriorWall	6519	NA	0	13	U-Factor: 0.062	N	☐	☐
12 Concrete Wall11	ExteriorWall	1199	NA	0	NA	U-Factor: 0.315	N	☐	☐
R-19 Wall32	ExteriorWall	33355	Wood	19	NA	U-Factor: 0.072	N	☐	☐
R-13 Wall63	InteriorWall	250	Wood	13	NA	U-Factor: 0.095	N	☐	☐
R-0 Floor No Crawlspace120	InteriorFloor	78022	NA	0	NA	U-Factor: 0.183	N	☐	☐
R-30 Roof Cathedral143	Roof	2946	Wood	30	NA	U-Factor: 0.034	N	☐	☐
R-30 Roof Attic269	Roof	14406	Wood	30	NA	U-Factor: 0.038	N	☐	☐

[1] Status: N - New, A – Altered, E – Existing

L. ROOFING PRODUCT SUMMARY						§ 140.3	Confirmed	
1.	2.	3.	4.	5.	6.	7.	Pass	Fail
Product Type	Product Density (lb/ft^2)	Aged Solar Reflectance	Thermal Emittance	SRI	Cool Roof Credit	Roofing Product Description		
R-30 Roof Cathedral143	4.65104	0.08	0.75	NA	No	NA	☐	☐
R-30 Roof Attic269	4.65104	0.08	0.75	NA	No	NA	☐	☐

M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

1.	2.	3.	4.	5.	6.	7.	8.	9.		10.	11.	Pass	Fail
Equip Name	**Equip Type**	**System Type (Simple [2] or Complex [3])**	**Qty**	**Total Heating Output (kBtu/h)**	**Supp Heat Source (Y/N)**	**Supp Heat Output (kBtuh)**	**Total Cooling Output (kBtu/h)**	**Efficiency**		**Acceptance Testing Required? (Y/N) [4]**	**Status[5]**		
								Cooling	**Heating**				
DOAS	SZAC (Packaged3Phase)	Simple	1	200	No	0	190	EER-12.2	ThrmlEff-80.0	Yes	N	☐	☐
FC-18 6th Office 2	SZHP (Split3Phase)	Simple	1	14	No	0	12	SEER-14.0 / EER-12.2	HSPF-11.7	Yes	N	☐	☐
FC-19 6th Office 3	SZHP (Split3Phase)	Simple	1	14	No	0	12	SEER-14.0 / EER-12.2	HSPF-11.7	Yes	N	☐	☐
FC-20 6th Open Office	SZHP (Split3Phase)	Simple	1	20	No	0	21	SEER-13.0 / EER-11.5	HSPF-12.0	Yes	N	☐	☐
FC-21 6th Office 1/Temple	SZHP (Split3Phase)	Simple	1	15	No	0	16	SEER-13.0 / EER-11.4	HSPF-11.7	Yes	N	☐	☐
FC-1 Lobby	SZHP (Split3Phase)	Simple	1	39	No	0	42	SEER-13.0 / EER-11.5	HSPF-12.0	Yes	N	☐	☐
FC-2 Breakfast 1	SZHP (Split3Phase)	Simple	1	80	No	0	69	EER-12.2	COP-3.4	Yes	N	☐	☐
FC-3 Food Prep	SZHP (Split3Phase)	Simple	1	14	No	0	12	SEER-14.0 / EER-12.2	HSPF-11.7	Yes	N	☐	☐
FC-4 Corridor 2	SZHP (Split3Phase)	Simple	1	14	No	0	12	SEER-14.0 / EER-12.2	HSPF-11.7	Yes	N	☐	☐
FC-5 Fitness	SZHP (Split3Phase)	Simple	1	20	No	0	21	SEER-13.0 / EER-11.5	HSPF-12.0	Yes	N	☐	☐
FC-6 Game Room	SZHP (Split3Phase)	Simple	1	20	No	0	21	SEER-13.0 / EER-11.5	HSPF-12.0	Yes	N	☐	☐
FC-7 Breakfast 2	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-8 Meeting Room 1	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-9 Meeting Room 2	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐

M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

1.	2.	3.	4.	5.	6.	7.	8.	9.		10.	11.	Confirmed	
Equip Name	**Equip Type**	**System Type (Simple [2] or Complex [3])**	**Qty**	**Total Heating Output (kBtu/h)**	**Supp Heat Source (Y/N)**	**Supp Heat Output (kBtuh)**	**Total Cooling Output (kBtu/h)**	**Efficiency**		**Acceptance Testing Required? (Y/N) [4]**	**Status[5]**	**Pass**	**Fail**
								Cooling	**Heating**				
FC-10 Corridor/RR	SZHP (Split3Phase)	Simple	1	20	No	0	21	SEER-13.0 / EER-11.5	HSPF-12.0	Yes	N	☐	☐
FC-11 Laundry	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-12 Offices	SZHP (Split3Phase)	Simple	1	34	No	0	29	SEER-14.0 / EER-11.6	HSPF-12.0	Yes	N	☐	☐
FC-13 Offices	SZHP (Split3Phase)	Simple	1	15	No	0	16	SEER-13.0 / EER-11.4	HSPF-11.7	Yes	N	☐	☐
FC-14 2nd Corridor	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-15 3rd Corridor	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-16 4th Corridor	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-17 5th Corridor	SZHP (Split3Phase)	Simple	1	40	No	0	35	SEER-13.0 / EER-12.3	HSPF-11.7	Yes	N	☐	☐
FC-23 PBX	SZHP (Split3Phase)	Simple	1	12	No	0	14	SEER-13.0 / EER-11.4	HSPF-12.0	Yes	N	☐	☐
Suite #101	PTHP (Split3Phase)	Simple	2	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
Suite #105	PTHP (Split3Phase)	Simple	1	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
Suite #139	PTHP (Split3Phase)	Simple	1	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
Suite #140	PTHP (Split3Phase)	Simple	1	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
Suite #141	PTHP (Split3Phase)	Simple	1	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
Suite #142	PTHP (Split3Phase)	Simple	1	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
Suite #143	PTHP (Split3Phase)	Simple	1	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐

M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

1.	2.	3.	4.	5.	6.	7.	8.	9.		10.	11.	Confirmed	
Equip Name	**Equip Type**	**System Type (Simple [2] or Complex [3])**	**Qty**	**Total Heating Output (kBtu/h)**	**Supp Heat Source (Y/N)**	**Supp Heat Output (kBtuh)**	**Total Cooling Output (kBtu/h)**	**Efficiency**		**Acceptance Testing Required? (Y/N) [4]**	**Status[5]**	**Pass**	**Fail**
								Cooling	**Heating**				
2nd - Guest Rooms	PTHP (Split3Phase)	Simple	38	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
3rd - Guest Rooms	PTHP (Split3Phase)	Simple	38	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
4th - Guest Rooms	PTHP (Split3Phase)	Simple	38	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐
5th - Guest Rooms	PTHP (Split3Phase)	Simple	38	6	Yes	8	6	EER-11.9	COP-3.3	Yes	N	☐	☐

[1] Dry System Equipment includes furnaces, air handling units, heat pumps, etc.

[2] Simple Systems must complete NRCC-CXR-03-E commissioning design review form

[3] Complex Systems must complete NRCC-CXR-04-E commissioning design review form

[4] A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS

[5] Status: N - New, A – Altered, E – Existing

Wet System Equipment [1] — *Pumps* — **Confirmed**

12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Confirmed	
Equip Name	**Equip Type**	**Qty**	**Vol (gal)**	**Rated Capacity (kBtu/h)**	**Efficiency**	**Standby Loss**	**Tank Ext. R Value**	**Qty**	**GPM**	**HP**	**VSD (Y/N)**	**Status[2]**	**Pass**	**Fail**
Intellihot iQ7511	Instantaneous	2	1	751	Thrml. Eff.: 0.940	0.0000	NA	NA	NA	NA	No	N	☐	☐
Intellihot iQ7511 2	Instantaneous	22	1	751	Thrml. Eff.: 0.940	NA	0.0	NA	NA	0 (kW)	NA	N	☐	☐

[1] Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.

[2] Status: N - New, A – Altered, E – Existing

Discrepancy between modeled and designed equipment sizing? (if "Yes", see Table F. "Additional Remarks" for an explanation)	No

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] — § 140.4 — Confirmed

1.	2.	3.					4.					5.	Pass	Fail
Equip Name	Outside Air	Supply Fan					Return Fan					Economizer Type (if present)		
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
DOAS	5146	5460	4.100	4.100	2.86	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
FC-18 6th Office 2	55	370	0.072	0.072	0.62	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
FC-19 6th Office 3	55	370	0.072	0.072	0.62	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
FC-20 6th Open Office	189	800	0.136	0.136	0.54	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
FC-21 6th Office 1/Temple	146	600	0.088	0.088	0.47	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
FC-1 Lobby	0	1400	0.272	0.272	0.62	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-2 Breakfast 1	0	2160	0.656	0.656	0.96	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-3 Food Prep	0	370	0.072	0.072	0.62	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-4 Corridor 2	0	370	0.072	0.072	0.62	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-5 Fitness	0	800	0.136	0.136	0.54	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-6 Game Room	0	800	0.136	0.136	0.54	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-7 Breakfast 2	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-8 Meeting Room 1	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-9 Meeting Room 2	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-10 Corridor/RR	0	800	0.136	0.136	0.54	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-11 Laundry	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-12 Offices	0	880	0.136	0.136	0.49	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-13 Offices	0	600	0.088	0.088	0.47	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1]

1.	2.	3.					4.					5.	Confirmed	
Equip Name	Outside Air	Supply Fan					Return Fan					Economizer Type (if present)	Pass	Fail
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
FC-14 2nd Corridor	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-15 3rd Corridor	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-16 4th Corridor	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-17 5th Corridor	0	1160	0.192	0.192	0.53	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
FC-23 PBX	0	425	0.024	0.024	0.18	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #101	46	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #105	30	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #139	30	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #140	30	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #141	30	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #142	30	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
Suite #143	30	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
2nd - Guest Rooms	64	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
3rd - Guest Rooms	64	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
4th - Guest Rooms	64	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
5th - Guest Rooms	64	240	0.001	0.001	0.01	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

O. EQUIPMENT CONTROLS			**§ 120.2**	**Confirmed**	
1.	**2.**	**3.**		**Pass**	**Fail**
Equip Name	**Equip Type**	**Controls**			
DOAS	SZAC	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler		☐	☐
FC-18 6th Office 2	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler		☐	☐
FC-19 6th Office 3	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler		☐	☐
FC-20 6th Open Office	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler		☐	☐
FC-21 6th Office 1/Temple	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control No Optimum Start No Evaporative Cooler		☐	☐
Gateway Hotel2 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC		☐	☐

P. SYSTEM DISTRIBUTION SUMMARY					**§ 120.4/ § 140.4(l)**		
		Dry System Distribution				**Confirmed**	
1.	**2.**	**3.**	**4.**	**5.**		**Pass**	**Fail**
Equip Name	**Equip Type**	**Duct Leakage and Sealing Required per 140.4(l)**	**Duct Leakage will be verified per NA1 and NA2**	**Ducts**			
				Insulation R-Value	**Location**		
DOAS	SZAC	No	No	6	Conditioned	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY — **§ 120.4/ § 140.4(l)**

		Dry System Distribution				Confirmed	
1.	**2.**	**3.**	**4.**	**5.**			
Equip Name	**Equip Type**	**Duct Leakage and Sealing Required per 140.4(l)**	**Duct Leakage will be verified per NA1 and NA2**	**Ducts**		**Pass**	**Fail**
				Insulation R-Value	**Location**		
FC-18 6th Office 2	SZHP	No	No	8	None	☐	☐
FC-19 6th Office 3	SZHP	No	No	8	None	☐	☐
FC-20 6th Open Office	SZHP	No	No	8	None	☐	☐
FC-21 6th Office 1/Temple	SZHP	No	No	8	None	☐	☐
FC-1 Lobby	SZHP	No	No	8	Conditioned	☐	☐
FC-2 Breakfast 1	SZHP	No	No	8	Conditioned	☐	☐
FC-3 Food Prep	SZHP	No	No	8	Conditioned	☐	☐
FC-4 Corridor 2	SZHP	No	No	8	Conditioned	☐	☐
FC-5 Fitness	SZHP	No	No	8	Conditioned	☐	☐
FC-6 Game Room	SZHP	No	No	8	Conditioned	☐	☐
FC-7 Breakfast 2	SZHP	No	No	8	Conditioned	☐	☐
FC-8 Meeting Room 1	SZHP	No	No	8	Conditioned	☐	☐
FC-9 Meeting Room 2	SZHP	No	No	8	Conditioned	☐	☐
FC-10 Corridor/RR	SZHP	No	No	8	Conditioned	☐	☐
FC-11 Laundry	SZHP	No	No	8	Conditioned	☐	☐
FC-12 Offices	SZHP	No	No	8	Conditioned	☐	☐
FC-13 Offices	SZHP	No	No	8	Conditioned	☐	☐
FC-14 2nd Corridor	SZHP	No	No	8	Conditioned	☐	☐
FC-15 3rd Corridor	SZHP	No	No	8	Conditioned	☐	☐
FC-16 4th Corridor	SZHP	No	No	8	Conditioned	☐	☐
FC-17 5th Corridor	SZHP	No	No	8	Conditioned	☐	☐
FC-23 PBX	SZHP	No	No	8	Conditioned	☐	☐
Suite #101	PTHP	No	No	8	None	☐	☐
Suite #105	PTHP	No	No	8	None	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY — **§ 120.4/ § 140.4(l)**

		Dry System Distribution				Confirmed	
1.	2.	3.	4.	5.		Pass	Fail
Equip Name	Equip Type	Duct Leakage and Sealing Required per 140.4(l)	Duct Leakage will be verified per NA1 and NA2	Ducts			
				Insulation R-Value	Location		
Suite #139	PTHP	No	No	8	None	☐	☐
Suite #140	PTHP	No	No	8	None	☐	☐
Suite #141	PTHP	No	No	8	None	☐	☐
Suite #142	PTHP	No	No	8	Conditioned	☐	☐
Suite #143	PTHP	No	No	8	Conditioned	☐	☐
2nd - Guest Rooms	PTHP	No	No	8	None	☐	☐
3rd - Guest Rooms	PTHP	No	No	8	None	☐	☐
4th - Guest Rooms	PTHP	No	No	8	None	☐	☐
5th - Guest Rooms	PTHP	No	No	8	None	☐	☐

Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	Yes
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	Yes

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)

This Section Does Not Apply

R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E)[1] — **§ 130.0**

This Section Does Not Apply

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES — **§ 140.9**

This Section Does Not Apply

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS — **§ 140.9**

Space Name	Exhaust Hood Style	Exhaust Hood Duty	Exhaust Length (ft)	Exhaust Flow Rate (cfm)	Confirmed	
					Pass	Fail
S-3-Food Prep		Light			☐	☐
		Light			☐	☐
		Light			☐	☐
		Light			☐	☐
		Light			☐	☐

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS — **§ 140.9**

This Section Does Not Apply

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS — **§ 140.9**

This Section Does Not Apply

T. UNMET LOAD HOURS

Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
24-Conference	150	1874.25	150	0

U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.0	54.5	--	695.5	144.2	551.3
Space Cooling	11.9	16.3	-4.4	--	--	--
Indoor Fans	73.8	42.8	31.0	--	--	--
Heat Rejection	0.1	--	--	--	--	--
Pumps & Misc.	6.7	--	--	--	--	--
Domestic Hot Water	--	--	--	218.9	177.1	41.8
Indoor Lighting	157.0	157.0	0.0	--	--	--
COMPLIANCE TOTAL	**249.5**	**270.6**	**-21.1**	**914.4**	**321.3**	**593.1**

U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Receptacle	162.6	162.6	0.0	2.2	2.2	0.0
Process	4.0	4.0	0.0	--	--	--
Other Ltg	--	--	--	--	--	--
TOTAL	**416.1**	**437.2**	**-21.1**	**916.6**	**323.5**	**593.1**

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT		**§ 10-103**
I certify that this Certificate of Compliance documentation is accurate and complete.		
Documentation Author Name: Tyler D. Reynolds	Signature:	
Company: JVA Mechanical Engineering		
Address: 510 State Street, Suite 285	Signature Date: Sat, Oct 14, 2017	
City/State/Zip: Santa Barbara CA 93101	CEA Identification (If applicable):	
Phone: (805) 543-3190		

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
3	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

Responsible Envelope Designer Name: Thomas E. Jess	**Signature:**	
Company: Arris Studio Architects		
Address: 1306 Johnson Avenue	Date Signed: Sat, Oct 14, 2017	
City/State/Zip: San Luis Obispo CA 93401	Declaration Statement Type: 1	
Phone: (805) 547-2240	Title: Architect	License #: C27608
Responsible Lighting Designer Name:	**Signature: NOT IN SCOPE**	
Company:		
Address:	Date Signed:	
City/State/Zip:	Declaration Statement Type:	
Phone:	Title:	License #:
Responsible Mechanical Designer Name: James L. Van De Vanter, P.E.	**Signature:**	
Company: JVA Mechanical Engineering		
Address: 510 State Street, Suite 285	Date Signed: Sat, Oct 14, 2017	
City/State/Zip: Santa Barbara CA 93101	Declaration Statement Type: 1	
Phone: (805) 543-3190	Title: Mechanical Engineer	License #: M31205

NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS				Confirmed	
1.	2.	3.	4.	Pass	Fail
Surface Name	Surface Type	Description of Assembly Layers	Notes		
Slab On Grade6	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0		☐	☐
12 Concrete Wall w/R-138	ExteriorWall	Concrete - Solid Grout - 105 lb/ft3 - 12 in. Glass fiber batt - 3 1/2 in. R13 (CEC Default) Air - Cavity - Wall Roof Ceiling - 4 in. or more		☐	☐
12 Concrete Wall11	ExteriorWall	Concrete - Solid Grout - 105 lb/ft3 - 12 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more		☐	☐
R-19 Wall32	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 1/2 in.		☐	☐
R-13 Wall63	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 3.5in., R-13 Gypsum Board - 1/2 in.		☐	☐
R-0 Floor No Crawlspace120	InteriorFloor	Air - Cavity - Wall Roof Ceiling - 4 in. or more Plywood - 1/2 in. Carpet - 3/4 in.		☐	☐
R-30 Roof Cathedral143	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof, 16in. OC, 11.25in., R-30 Gypsum Board - 1/2 in.		☐	☐
R-30 Roof Attic269	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof, 24in. OC, 3.5in., R-30 Gypsum Board - 1/2 in.		☐	☐

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)

This Section Does Not Apply

C. OPAQUE DOOR SUMMARY

1. Opaque Door Assembly Name / Tag or I.D.	2. Door Type	3. Certification Method	4. Operation	5. Area	6. Overall U-factor	7. Status[1]	Confirmed Pass	Confirmed Fail
Hollow Metal Door171	MetalUninsulatedDoubleLayerDoor	DefaultPerformance	Swinging	21	0.700	N	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

NRCC-PRF-MCH-DETAILS -SECTION START-

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*

	1. DESIGN AIR FLOWS							2. VENTILATION (§ 120.1)									Confirmed Pass	Confirmed Fail
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)		
1-FC-1 Lobby	FC-1 Lobby	1,400	NA	NA	NA	NA	N	DOAS	1,850	NA	9	30.0	278	278	NA	N	NA	☐	☐
2-Breakfast 1	FC-2 Breakfast 1	2,160	NA	NA	NA	NA	N	DOAS	1,925	NA	64	15.0	963	963	NA	N	NA	☐	☐
3-Food Prep	FC-3 Food Prep	370	NA	NA	NA	NA	N	DOAS	453	NA	1	60.0	68	68	NA	N	NA	☐	☐
4-Corridor 2	FC-4 Corridor 2	370	NA	NA	NA	NA	N	DOAS	695	NA	3	30.0	104	104	NA	N	NA	☐	☐
5-Fitness	FC-5 Fitness	800	NA	NA	NA	NA	N	DOAS	630	NA	6	15.0	95	95	NA	N	NA	☐	☐

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — **Confirmed**

	1. DESIGN AIR FLOWS							2. VENTILATION (§ 120.1)										
CONDITIONED ZONE NAME	**HEATING/COOLING SYSTEM ID**	**DESIGN PRIMARY AIR FLOW (CFM)**	**DESIGN PRIMARY MINIMUM AIR FLOW (CFM)**	**MINIMUM PRIMARY AIR FLOW FRACTION**	**MAXIMUM HEATING AIR FLOW (CFM)**	**MAXIMUM HEATING AIR FLOW FRACTION**	**DDC CONTROL (Y/N)**	**VENT SYSTEM ID**	**CONDITIONED AREA (ft2)**	**MIN. VENT PER AREA (CFM/ft2)**	**DESIGN NUM. OF PEOPLE**	**MIN. VENT PER PERSON (CFM/person)**	**REQ'D VENT AIR FLOW (CFM)**	**DESIGN VENT AIR FLOW (CFM)**	**TRANSFER AIRFLOW (CFM)**	**DCV (Y/N)**	**Operable Window Interlock § 140.4(n) (Y/N)**	**Pass**	**Fail**
6-Game Room	FC-6 Game Room	800	NA	NA	NA	NA	N	DOAS	368	NA	12	15.0	184	184	NA	N	NA	☐	☐
7-Breakfast 2	FC-7 Breakfast 2	1,160	NA	NA	NA	NA	N	DOAS	886	NA	30	15.0	443	443	NA	N	NA	☐	☐
8-Meeting Room 1	FC-8 Meeting Room 1	1,160	NA	NA	NA	NA	N	DOAS	662	NA	22	15.0	331	331	NA	N	NA	☐	☐
10-Meeting Room 2	FC-9 Meeting Room 2	1,160	NA	NA	NA	NA	N	DOAS	698	NA	23	15.0	349	349	NA	N	NA	☐	☐
11-Corridor/RR	FC-10 Corridor/RR	800	NA	NA	NA	NA	N	DOAS	1,688	NA	8	30.0	253	253	NA	N	NA	☐	☐
12-Laundry	FC-11 Laundry	1,160	NA	NA	NA	NA	N	DOAS	1,210	NA	6	30.0	182	182	NA	N	NA	☐	☐
13-Offices	FC-12 Offices	880	NA	NA	NA	NA	N	DOAS	1,075	NA	5	30.0	161	161	NA	N	NA	☐	☐
14-Offices	FC-13 Offices	600	NA	NA	NA	NA	N	DOAS	664	NA	3	30.0	100	100	NA	N	NA	☐	☐
15-Corridor	FC-14 2nd Corridor	1,160	NA	NA	NA	NA	N	DOAS	2,689	NA	13	30.0	403	403	NA	N	NA	☐	☐
16-Corridor	FC-15 3rd Corridor	1,160	NA	NA	NA	NA	N	DOAS	2,689	NA	13	30.0	403	403	NA	N	NA	☐	☐

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — **Confirmed**

	1. DESIGN AIR FLOWS							2. VENTILATION (§ 120.1)									Confirmed	
CONDITIONED ZONE NAME	**HEATING/COOLING SYSTEM ID**	**DESIGN PRIMARY AIR FLOW (CFM)**	**DESIGN PRIMARY MINIMUM AIR FLOW (CFM)**	**MINIMUM PRIMARY AIR FLOW FRACTION**	**MAXIMUM HEATING AIR FLOW (CFM)**	**MAXIMUM HEATING AIR FLOW FRACTION**	**DDC CONTROL (Y/N)**	**VENT SYSTEM ID**	**CONDITIONED AREA (ft2)**	**MIN. VENT PER AREA (CFM/ft2)**	**DESIGN NUM. OF PEOPLE**	**MIN. VENT PER PERSON (CFM/person)**	**REQ'D VENT AIR FLOW (CFM)**	**DESIGN VENT AIR FLOW (CFM)**	**TRANSFER AIRFLOW (CFM)**	**DCV (Y/N)**	**Operable Window Interlock § 140.4(n) (Y/N)**	**Pass**	**Fail**
17-Corridor	FC-16 4th Corridor	1,160	NA	NA	NA	NA	N	DOAS	2,689	NA	13	30.0	403	403	NA	N	NA	☐	☐
18-Corridor	FC-17 5th Corridor	1,160	NA	NA	NA	NA	N	DOAS	2,689	NA	13	30.0	403	403	NA	N	NA	☐	☐
19-Office 2	FC-18 6th Office 2	370	NA	NA	NA	NA	N	FC-18 6th Office 2	364	NA	2	30.0	55	55	NA	N	NA	☐	☐
20-Office 3	FC-19 6th Office 3	370	NA	NA	NA	NA	N	FC-19 6th Office 3	366	NA	2	30.0	55	55	NA	N	NA	☐	☐
21-Open Office	FC-20 6th Open Office	800	NA	NA	NA	NA	N	FC-20 6th Open Office	1,262	NA	6	30.0	189	189	NA	N	NA	☐	☐
22-Office 1	FC-21 6th Office 1/Temple	226	NA	NA	NA	NA	N	FC-21 6th Office 1/Temple	187	NA	1	30.0	28	28	NA	N	NA	☐	☐
23-Temple Room	FC-21 6th Office 1/Temple	127	NA	NA	NA	NA	N	FC-21 6th Office 1/Temple	105	NA	1	30.0	16	16	NA	N	NA	☐	☐
24-Conference	FC-21 6th Office 1/Temple	247	NA	NA	NA	NA	N	FC-21 6th Office 1/Temple	205	NA	7	15.0	103	103	NA	N	NA	☐	☐
25-PBX	FC-23 PBX	425	NA	NA	NA	NA	N	DOAS	154	NA	0	100.0	23	23	NA	N	NA	☐	☐
26-#101	Suite #101	NA	NA	NA	NA	NA	N	Suite #101	617	NA	2	60.0	93	93	NA	N	NA	☐	☐
27-#105	Suite #105	NA	NA	NA	NA	NA	N	Suite #105	496	NA	1	24.2	30	30	NA	N	NA	☐	☐
28-#139	Suite #139	NA	NA	NA	NA	NA	N	Suite #139	359	NA	1	33.4	30	30	NA	N	NA	☐	☐

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* — Confirmed

1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)										Confirmed	
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
29-#140	Suite #140	NA	NA	NA	NA	NA	N	Suite #140	363	NA	1	33.1	30	30	NA	N	NA	☐	☐
30-#141	Suite #141	NA	NA	NA	NA	NA	N	Suite #141	395	NA	1	30.4	30	30	NA	N	NA	☐	☐
31-#142	Suite #142	NA	NA	NA	NA	NA	N	Suite #142	369	NA	1	32.5	30	30	NA	N	NA	☐	☐
32-#143	Suite #143	NA	NA	NA	NA	NA	N	Suite #143	401	NA	1	29.9	30	30	NA	N	NA	☐	☐
33-Guest Rm - 2nd	2nd - Guest Rooms	NA	NA	NA	NA	NA	N	2nd - Guest Rooms	16,206	NA	41	60.0	2,431	2,431	NA	N	NA	☐	☐
34-Guest Rm - 3rd	3rd - Guest Rooms	NA	NA	NA	NA	NA	N	3rd - Guest Rooms	16,206	NA	41	60.0	2,431	2,431	NA	N	NA	☐	☐
35-Guest Rm - 4th	4th - Guest Rooms	NA	NA	NA	NA	NA	N	4th - Guest Rooms	16,206	NA	41	60.0	2,431	2,431	NA	N	NA	☐	☐
36-Guest Rm - 5th	5th - Guest Rooms	NA	NA	NA	NA	NA	N	5th - Guest Rooms	16,206	NA	41	60.0	2,431	2,431	NA	N	NA	☐	☐
								TOTAL	94,244		NA		NA	NA	NA			☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — § 140.4

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
FC-1 Lobby	PTHP	1	39.00	42.00	No	1-FC-1 Lobby	1400	NA	NA	0.272	☐	☐	☐	☐
FC-2 Breakfast 1	PTHP	1	80.00	69.00	No	2-Breakfast 1	2160	NA	NA	0.656	☐	☐	☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — **§ 140.4**

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
FC-3 Food Prep	PTHP	1	14.00	12.00	No	3-Food Prep	370	NA	NA	0.072	☐	☐	☐	☐
FC-4 Corridor 2	PTHP	1	14.00	12.00	No	4-Corridor 2	370	NA	NA	0.072	☐	☐	☐	☐
FC-5 Fitness	PTHP	1	20.00	21.00	No	5-Fitness	800	NA	NA	0.136	☐	☐	☐	☐
FC-6 Game Room	PTHP	1	20.00	21.00	No	6-Game Room	800	NA	NA	0.136	☐	☐	☐	☐
FC-7 Breakfast 2	PTHP	1	40.00	35.00	No	7-Breakfast 2	1160	NA	NA	0.192	☐	☐	☐	☐
FC-8 Meeting Room 1	PTHP	1	40.00	35.00	No	8-Meeting Room 1	1160	NA	NA	0.192	☐	☐	☐	☐
FC-9 Meeting Room 2	PTHP	1	40.00	35.00	No	10-Meeting Room 2	1160	NA	NA	0.192	☐	☐	☐	☐
FC-10 Corridor/RR	PTHP	1	20.00	21.00	No	11-Corridor/RR	800	NA	NA	0.136	☐	☐	☐	☐
FC-11 Laundry	PTHP	1	40.00	35.00	No	12-Laundry	1160	NA	NA	0.192	☐	☐	☐	☐
FC-12 Offices	PTHP	1	34.00	29.00	No	13-Offices	880	NA	NA	0.136	☐	☐	☐	☐
FC-13 Offices	PTHP	1	15.00	16.00	No	14-Offices	600	NA	NA	0.088	☐	☐	☐	☐
FC-14 2nd Corridor	PTHP	1	40.00	35.00	No	15-Corridor	1160	NA	NA	0.192	☐	☐	☐	☐
FC-15 3rd Corridor	PTHP	1	40.00	35.00	No	16-Corridor	1160	NA	NA	0.192	☐	☐	☐	☐
FC-16 4th Corridor	PTHP	1	40.00	35.00	No	17-Corridor	1160	NA	NA	0.192	☐	☐	☐	☐
FC-17 5th Corridor	PTHP	1	40.00	35.00	No	18-Corridor	1160	NA	NA	0.192	☐	☐	☐	☐
FC-23 PBX	PTHP	1	12.00	14.00	No	25-PBX	425	NA	NA	0.024	☐	☐	☐	☐
Suite #101	PTHP	2	6.00	6.00	No	26-#101	240	NA	NA	0.001	☐	☐	☐	☐
Suite #105	PTHP	1	6.00	6.00	No	27-#105	240	NA	NA	0.001	☐	☐	☐	☐
Suite #139	PTHP	1	6.00	6.00	No	28-#139	240	NA	NA	0.001	☐	☐	☐	☐
Suite #140	PTHP	1	6.00	6.00	No	29-#140	240	NA	NA	0.001	☐	☐	☐	☐
Suite #141	PTHP	1	6.00	6.00	No	30-#141	240	NA	NA	0.001	☐	☐	☐	☐
Suite #142	PTHP	1	6.00	6.00	No	31-#142	240	NA	NA	0.001	☐	☐	☐	☐
Suite #143	PTHP	1	6.00	6.00	No	32-#143	240	NA	NA	0.001	☐	☐	☐	☐
2nd - Guest Rooms	PTHP	38	6.00	6.00	No	33-Guest Rm - 2nd	240	NA	NA	0.001	☐	☐	☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — **§ 140.4**

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
3rd - Guest Rooms	PTHP	38	6.00	6.00	No	34-Guest Rm - 3rd	240	NA	NA	0.001	☐	☐	☐	☐
4th - Guest Rooms	PTHP	38	6.00	6.00	No	35-Guest Rm - 4th	240	NA	NA	0.001	☐	☐	☐	☐
5th - Guest Rooms	PTHP	38	6.00	6.00	No	36-Guest Rm - 5th	240	NA	NA	0.001	☐	☐	☐	☐
25-PBX-Trm	Uncontrolled	1	NA	NA	NA	25-PBX	425	NA	NA	NA	NA	☐	☐	☐
18-Corridor-Trm	Uncontrolled	1	NA	NA	NA	18-Corridor	1160	NA	NA	NA	NA	☐	☐	☐
17-Corridor-Trm	Uncontrolled	1	NA	NA	NA	17-Corridor	1160	NA	NA	NA	NA	☐	☐	☐
16-Corridor-Trm	Uncontrolled	1	NA	NA	NA	16-Corridor	1160	NA	NA	NA	NA	☐	☐	☐
15-Corridor-Trm	Uncontrolled	1	NA	NA	NA	15-Corridor	1160	NA	NA	NA	NA	☐	☐	☐
14-Offices-Trm	Uncontrolled	1	NA	NA	NA	14-Offices	600	NA	NA	NA	NA	☐	☐	☐
13-Offices-Trm	Uncontrolled	1	NA	NA	NA	13-Offices	880	NA	NA	NA	NA	☐	☐	☐
12-Laundry-Trm	Uncontrolled	1	NA	NA	NA	12-Laundry	1160	NA	NA	NA	NA	☐	☐	☐
11-Corridor/RR-Trm	Uncontrolled	1	NA	NA	NA	11-Corridor/RR	800	NA	NA	NA	NA	☐	☐	☐
10-Meeting Room 2-Trm	Uncontrolled	1	NA	NA	NA	10-Meeting Room 2	1160	NA	NA	NA	NA	☐	☐	☐
8-Meeting Room 1-Trm	Uncontrolled	1	NA	NA	NA	8-Meeting Room 1	1160	NA	NA	NA	NA	☐	☐	☐
7-Breakfast 2-Trm	Uncontrolled	1	NA	NA	NA	7-Breakfast 2	1160	NA	NA	NA	NA	☐	☐	☐
6-Game Room-Trm	Uncontrolled	1	NA	NA	NA	6-Game Room	800	NA	NA	NA	NA	☐	☐	☐
5-Fitness-Trm	Uncontrolled	1	NA	NA	NA	5-Fitness	800	NA	NA	NA	NA	☐	☐	☐
4-Corridor 2-Trm	Uncontrolled	1	NA	NA	NA	4-Corridor 2	370	NA	NA	NA	NA	☐	☐	☐
3-Food Prep-Trm	Uncontrolled	1	NA	NA	NA	3-Food Prep	370	NA	NA	NA	NA	☐	☐	☐
2-Breakfast 1-Trm	Uncontrolled	1	NA	NA	NA	2-Breakfast 1	2160	NA	NA	NA	NA	☐	☐	☐
1-FC-1 Lobby-Trm	Uncontrolled	1	NA	NA	NA	1-FC-1 Lobby	1400	NA	NA	NA	NA	☐	☐	☐
19-Office 2-Trm	Uncontrolled	1	NA	NA	NA	19-Office 2	370	NA	NA	NA	NA	☐	☐	☐
20-Office 3-Trm	Uncontrolled	1	NA	NA	NA	20-Office 3	370	NA	NA	NA	NA	☐	☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — § 140.4

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
21-Open Office-Trm	Uncontrolled	1	NA	NA	NA	21-Open Office	800	NA	NA	NA	NA	☐	☐	☐
24-Conference-Trm	Uncontrolled	1	NA	NA	NA	24-Conference	247	NA	NA	NA	NA	☐	☐	☐
23-Temple Room-Trm	Uncontrolled	1	NA	NA	NA	23-Temple Room	127	NA	NA	NA	NA	☐	☐	☐
22-Office 1-Trm	Uncontrolled	1	NA	NA	NA	22-Office 1	226	NA	NA	NA	NA	☐	☐	☐

C. EXHAUST FAN SUMMARY

This Section Does Not Apply

D. DHW EQUIPMENT SUMMARY – *(Adapted from NRCC-PLB-01)* — § 110.3 — Confirmed

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	Pass	Fail
DHW Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input (kBtu/h)	Efficiency	Tank Insulation R-value (Int/Ext)	Pilot Energy (Btu/h)	Standby Loss	Heat Pump Type	Tank Location or Ambient Condition		
Intellihot iQ7511	Gas	Instantaneous	2	2	1502	Thrml. Eff.: 0.940	NA		0	NA	NA	☐	☐
Intellihot iQ7511 2	Gas	Instantaneous	22	1	751	Thrml. Eff.: 0.940	0.0 / 0.0	0	NA	NA	Unconditioned	☐	☐

E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS — § 110.3 — Confirmed

1.	2.	3.	4.	5.	6.	7.		8.	9.	10.	Pass	Fail
System Name	Number of Dwelling Units Served by System	System Type	Number of Water Heaters / System	Multi-Family Distribution Type	Solar Fraction (%)	Recirculating Pump		Number of Recirculation Loops	Recirculation Loop Insulation Thickness	Recirculation Loop Location		
						Eff	BHP					
MF-Intellihot iQ7511	11	Standard	22	NA	0.00	NA	NA	NA	NA	NA	☐	☐

F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)

This Section Does Not Apply

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
Gateway Hotel2 - SHW	1	--	--	--	--	--	--	--	X	--	--	--	--	--	--	--	--	--	☐	☐
DOAS	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-18 6th Office 2	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-19 6th Office 3	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-20 6th Open Office	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-21 6th Office 1/Temple	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-1 Lobby	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-2 Breakfast 1	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		**MCH-02A**	**MCH-03A**	**MCH-04A**	**MCH-05A**	**MCH-06A**	**MCH-07A**	**MCH-08A**	**MCH-09A**	**MCH-10A**	**MCH-11A**	**MCH-12A**	**MCH-13A**	**MCH-14A**	**MCH-15A**	**MCH-16A**	**MCH-17A**	**MCH-18A**	**Confirmed**	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	**Pass**	**Fail**
FC-3 Food Prep	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-4 Corridor 2	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-5 Fitness	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-6 Game Room	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-7 Breakfast 2	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-8 Meeting Room 1	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-9 Meeting Room 2	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-10 Corridor/RR	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-11 Laundry	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-12 Offices	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		**MCH-02A**	**MCH-03A**	**MCH-04A**	**MCH-05A**	**MCH-06A**	**MCH-07A**	**MCH-08A**	**MCH-09A**	**MCH-10A**	**MCH-11A**	**MCH-12A**	**MCH-13A**	**MCH-14A**	**MCH-15A**	**MCH-16A**	**MCH-17A**	**MCH-18A**	**Confirmed**	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	**Pass**	**Fail**
FC-13 Offices	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-14 2nd Corridor	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-15 3rd Corridor	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-16 4th Corridor	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-17 5th Corridor	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
FC-23 PBX	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #101	2	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #105	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #139	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #140	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #141	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #142	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Suite #143	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		**MCH-02A**	**MCH-03A**	**MCH-04A**	**MCH-05A**	**MCH-06A**	**MCH-07A**	**MCH-08A**	**MCH-09A**	**MCH-10A**	**MCH-11A**	**MCH-12A**	**MCH-13A**	**MCH-14A**	**MCH-15A**	**MCH-16A**	**MCH-17A**	**MCH-18A**	**Confirmed**	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	**Pass**	**Fail**
2nd - Guest Rooms	38	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
3rd - Guest Rooms	38	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
4th - Guest Rooms	38	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
5th - Guest Rooms	38	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

H. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

NRCC-PRF-LTI-DETAILS -SECTION START-

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E) **§ 140.6**

This Section Does Not Apply

B. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS (Adapted from NRCC-LTI-02-E) **§ 130.1**

This Section Does Not Apply

C. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E)	**§ 140.6**
This Section Does Not Apply	

D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E)	**§ 140.6-D**
This Section Does Not Apply	

E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E)	**§ 140.6(c) 3H**
This Section Does Not Apply	

F. ROOM CAVITY RATIO (Adapted from NRCC-LTI-04-E)
This Section Does Not Apply

G. ADDITIONAL "USE IT OR LOSE IT" (Adapted from NRCC-LTI-04-E)
This Section Does Not Apply

H. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS (Adapted from NRCC-LTI-01-E and NRCC-LTO-01-E)	**§ 130.4**
This Section Does Not Apply	

ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL ENV-MM

Project Name	Date
Gateway Hotel	*10/14/2017*

DESCRIPTION

Building Envelope Measures:

§110.8(a):	Installed insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20 Chapter 4, Article 3.
§110.8(c):	All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.
§110.8(g):	Heated slab floors shall be insulated according to the requirements in Table 110.8-A.
§110.7(a):	All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.
§110.6(a):	Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft.² of window area, 0.3 cfm/ft.² of door area for residential doors, 0.3 cfm/ft.² of door area for nonresidential single doors (swinging and sliding), and 1.0 cfm/ft.² for nonresidential double doors (swinging).
§110.6(a):	Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.
§110.6(a) :	Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.
§110.6(b):	Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).
§120.7(a):	The opaque portions of the roof/ceiling that separates conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows: **Metal Building-** The weighted average U-factor of the roof assembly shall not exceed 0.098. **Wood Framed and Others-** The weighted average U-factor of the roof assembly shall not exceed 0.075.
§120.7(b):	The opaque portions of walls that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-factor as follows: **Metal Building-** The weighted average U-factor of the wall assembly shall not exceed 0.113. **Metal Framed-** The weighted average U-factor of the wall assembly shall not exceed 0.151. **Light Mass Walls-** A 6 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.440. **Heavy Mass Walls-** An 8 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.690. **Wood Framed and Others-** The weighted average U-factor of the wall assembly shall not exceed 0.110. **Spandrel Panels and Opaque Curtain Wall-** The weighted average U-factor of the spandrel panels and opaque curtain wall assembly shall not exceed 0.280. **Demising Walls-**. The opaque portions of framed demising walls shall meet the requirements of Item A or B below: A. Wood framed walls shall be insulated to meet a U-factor not greater than 0.099. B. Metal Framed walls shall be insulated to meet a U-factor not greater than 0.151.
§120.7(c):	The opaque portions of floors and soffits that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows: **Raised Mass Floors-** Shall have a minimum of 3 inches of lightweight concrete over a metal deck or the weighted average U-factor of the floor assembly shall not exceed 0.269. **Other Floors-**The weighted average U-factor of the floor assembly shall not exceed 0.071.

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-1 Lobby	1,850

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	39,426
Total Output (Btuh)	39,426
Output (Btuh/sqft)	21.3
Cooling System	
Output per System	44,057
Total Output (Btuh)	44,057
Total Output (Tons)	3.7
Total Output (Btuh/sqft)	23.8
Total Output (sqft/Ton)	503.9
Air System	
CFM per System	1,400
Airflow (cfm)	1,400
Airflow (cfm/sqft)	0.76
Airflow (cfm/Ton)	381.3
Outside Air (%)	19.8 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

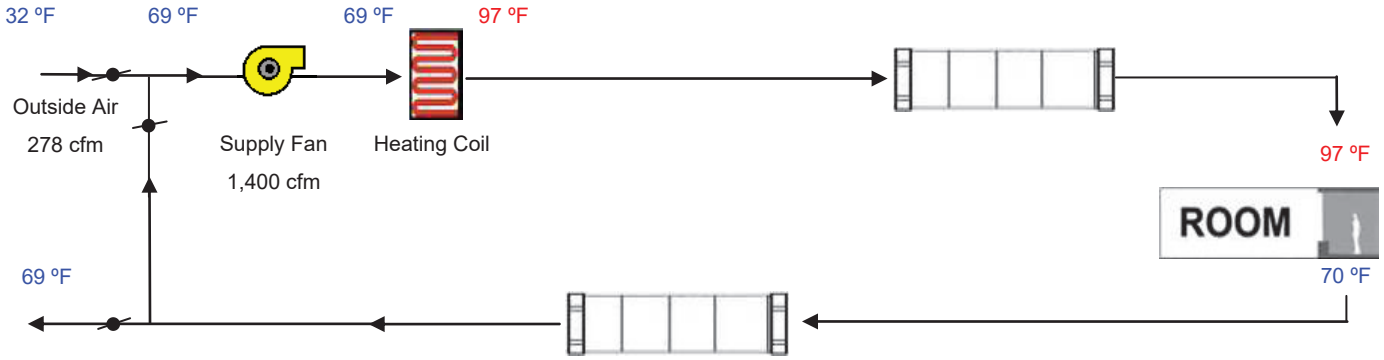
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	1,627	30,273	4,625	739	21,583
Return Vented Lighting		0			
Return Air Ducts		1,514			1,079
Return Fan		0			0
Ventilation	278	0	0	278	0
Supply Fan		1,160			-1,160
Supply Air Ducts		1,514			1,079
TOTAL SYSTEM LOAD		34,461	4,625		22,581

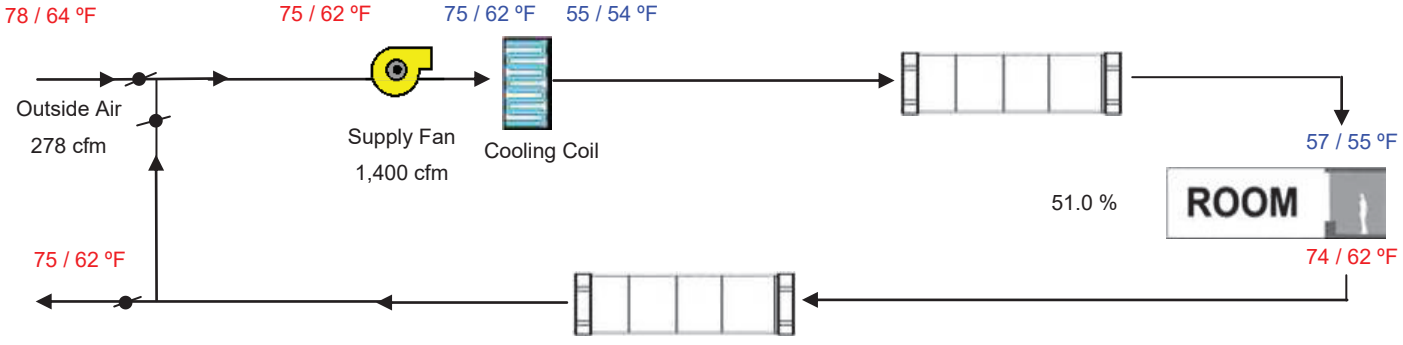
HVAC EQUIPMENT SELECTION

PEFY-P48NMAU-E3	35,155	9,270		28,753
Total Adjusted System Output (Adjusted for Peak Design conditions)	35,155	9,270		28,753
TIME OF SYSTEM PEAK		Jun 5 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-2 Breakfast 1	1,925

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	80,000
Total Output (Btuh)	80,000
Output (Btuh/sqft)	41.6
Cooling System	
Output per System	72,252
Total Output (Btuh)	72,252
Total Output (Tons)	6.0
Total Output (Btuh/sqft)	37.5
Total Output (sqft/Ton)	319.7
Air System	
CFM per System	2,160
Airflow (cfm)	2,160
Airflow (cfm/sqft)	1.12
Airflow (cfm/Ton)	358.7
Outside Air (%)	36.3 %
Outside Air (cfm/sqft)	0.41
Note: values above given at ARI conditions	

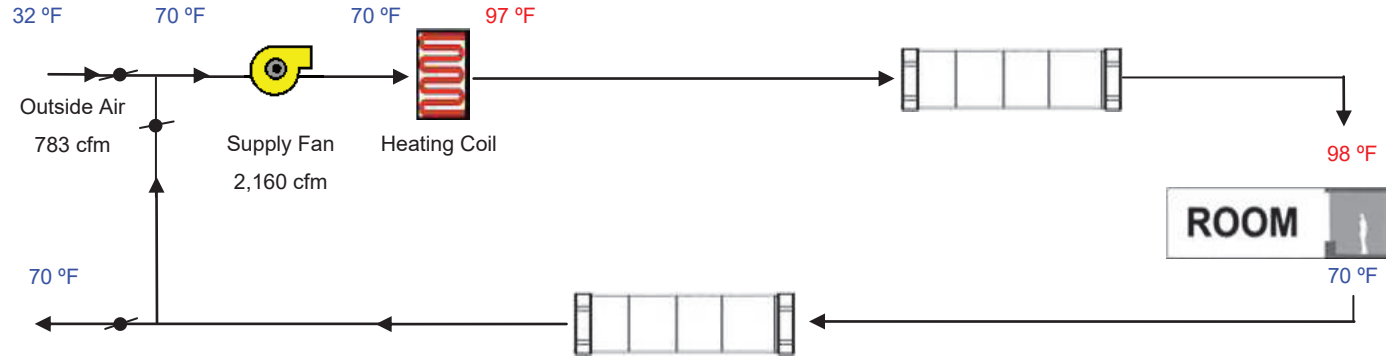
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	2,662	48,192	27,185	536	16,130
Return Vented Lighting		0			
Return Air Ducts		2,410			806
Return Fan		0			0
Ventilation	783	0	0	783	0
Supply Fan		2,799			-2,799
Supply Air Ducts		2,410			806
TOTAL SYSTEM LOAD		55,809	27,185		14,944

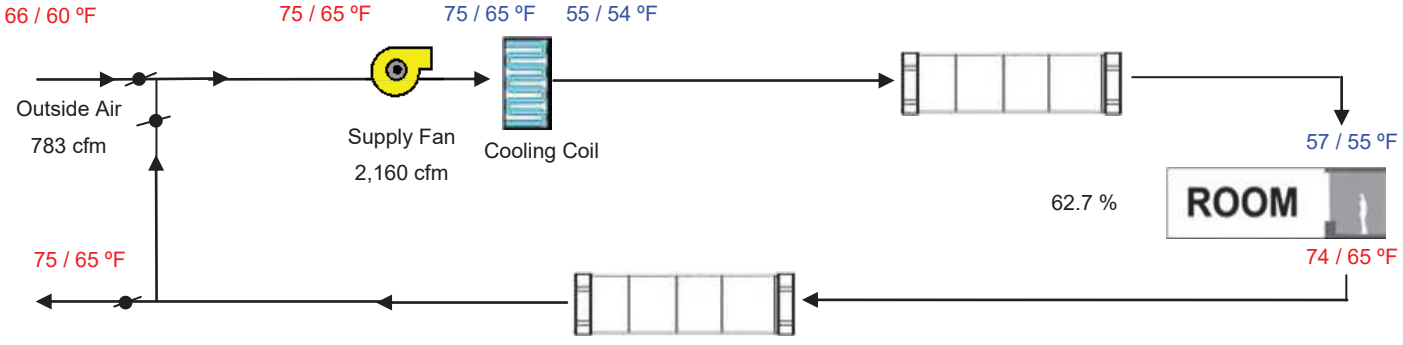
HVAC EQUIPMENT SELECTION

PEFY-P72NMHSU-E	55,196	26,023		58,344
Total Adjusted System Output (Adjusted for Peak Design conditions)	55,196	26,023		58,344
TIME OF SYSTEM PEAK		Jun 9 AM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-3 Food Prep	453

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	13,500
Total Output (Btuh)	13,500
Output (Btuh/sqft)	29.8
Cooling System	
Output per System	12,000
Total Output (Btuh)	12,000
Total Output (Tons)	1.0
Total Output (Btuh/sqft)	26.5
Total Output (sqft/Ton)	453.0
Air System	
CFM per System	370
Airflow (cfm)	370
Airflow (cfm/sqft)	0.82
Airflow (cfm/Ton)	370.0
Outside Air (%)	18.4 %
Outside Air (cfm/sqft)	0.15

Note: values above given at ARI conditions

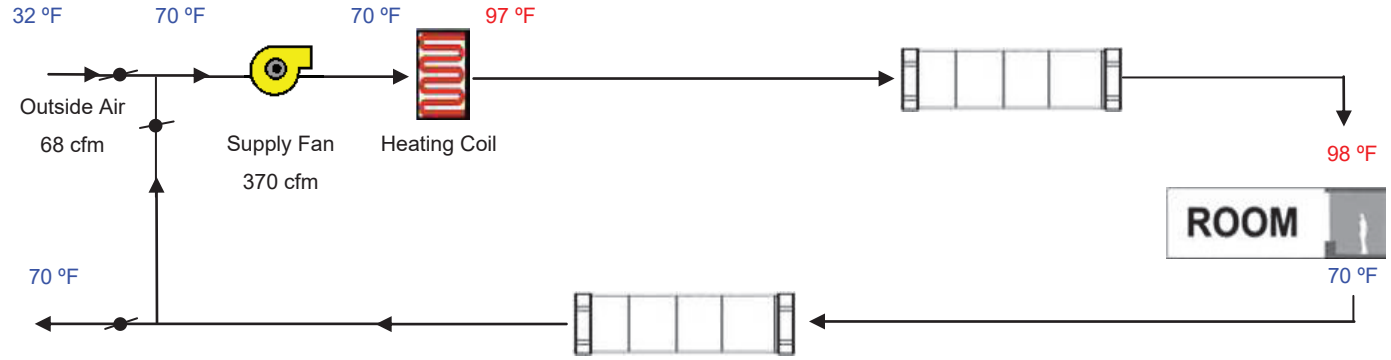
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	264	5,020	1,076	30	892
Return Vented Lighting		0			
Return Air Ducts		251			45
Return Fan		0			0
Ventilation	68	0	0	68	0
Supply Fan		307			-307
Supply Air Ducts		251			45
TOTAL SYSTEM LOAD		5,829	1,076		675

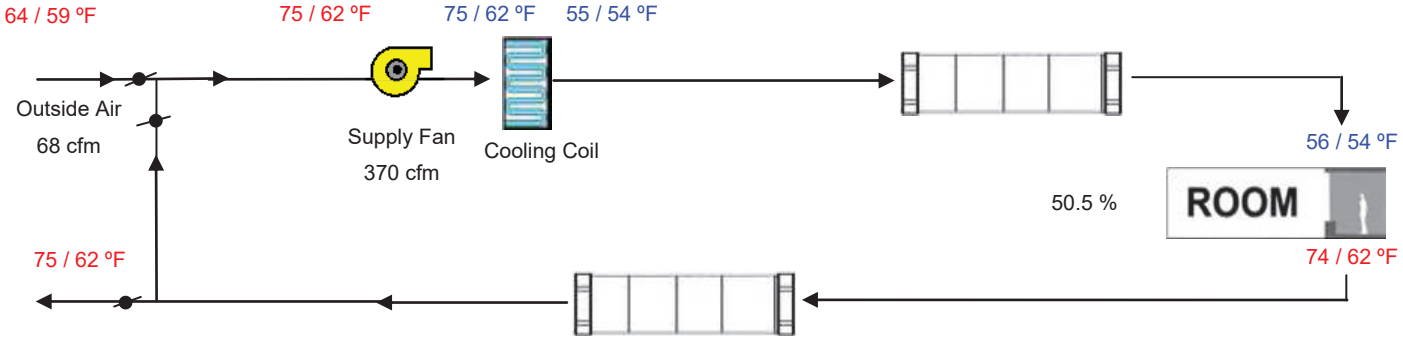
HVAC EQUIPMENT SELECTION

PEFY-P12NMAU-E3	9,938	2,974		9,846
Total Adjusted System Output (Adjusted for Peak Design conditions)	9,938	2,974		9,846
TIME OF SYSTEM PEAK		Jul 8 AM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-4 Corridor 2	695

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	13,500
Total Output (Btuh)	13,500
Output (Btuh/sqft)	19.4
Cooling System	
Output per System	12,000
Total Output (Btuh)	12,000
Total Output (Tons)	1.0
Total Output (Btuh/sqft)	17.3
Total Output (sqft/Ton)	695.0
Air System	
CFM per System	370
Airflow (cfm)	370
Airflow (cfm/sqft)	0.53
Airflow (cfm/Ton)	370.0
Outside Air (%)	28.2 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

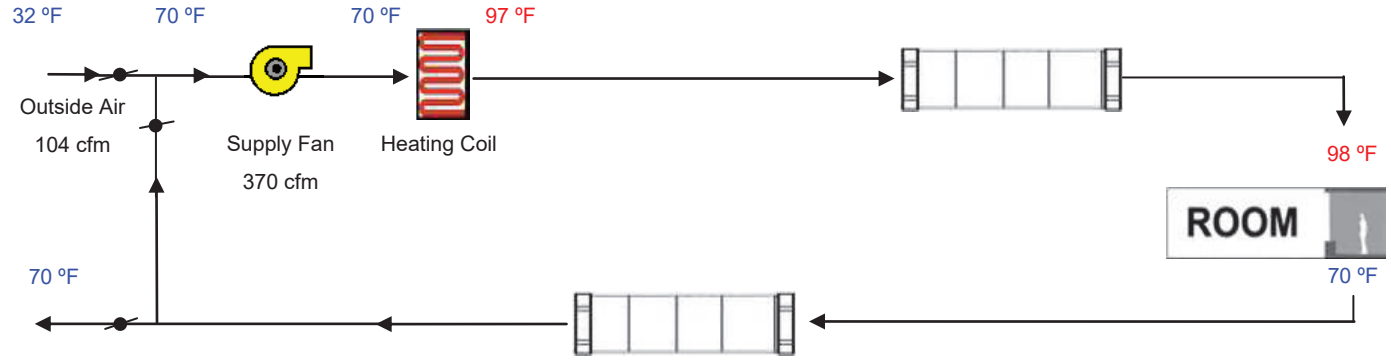
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	236	4,502	1,738	40	1,187
Return Vented Lighting		0			
Return Air Ducts		225			59
Return Fan		0			0
Ventilation	104	0	0	104	0
Supply Fan		307			-307
Supply Air Ducts		225			59
TOTAL SYSTEM LOAD		5,260	1,738		998

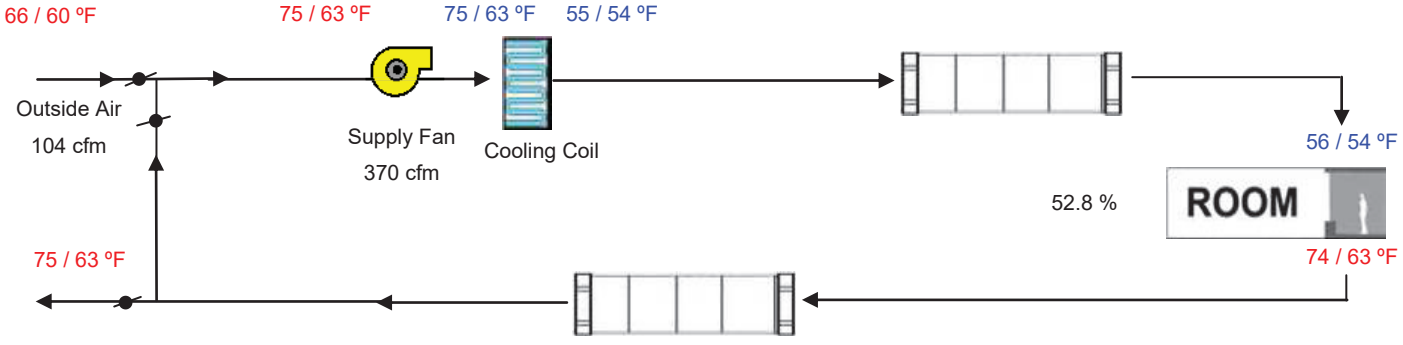
HVAC EQUIPMENT SELECTION

PEFY-P12NMAU-E3	9,615	3,313		9,846
Total Adjusted System Output (Adjusted for Peak Design conditions)	9,615	3,313		9,846
TIME OF SYSTEM PEAK		Jun 9 AM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-5 Fitness	630

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	19,713
Total Output (Btuh)	19,713
Output (Btuh/sqft)	31.3
Cooling System	
Output per System	22,029
Total Output (Btuh)	22,029
Total Output (Tons)	1.8
Total Output (Btuh/sqft)	35.0
Total Output (sqft/Ton)	343.2
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	1.27
Airflow (cfm/Ton)	435.8
Outside Air (%)	11.8 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

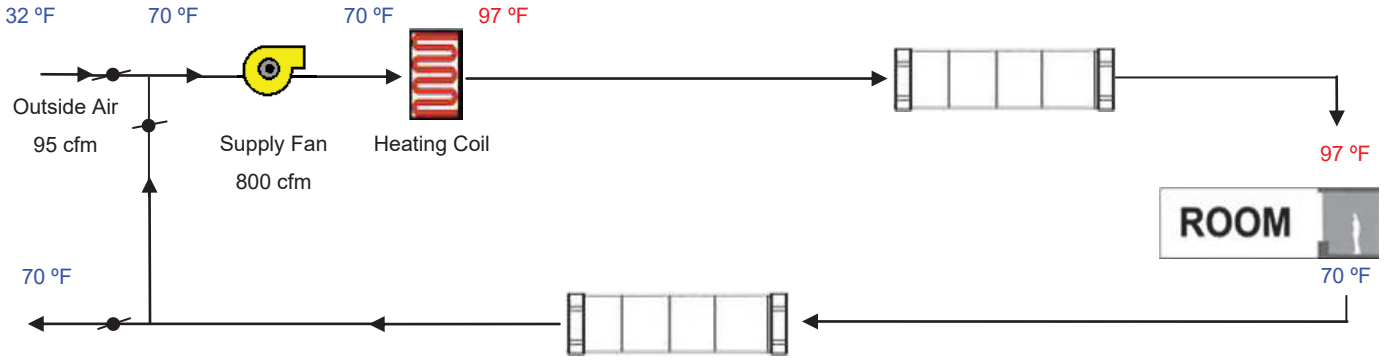
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	599	11,420	11,025	126	3,721
Return Vented Lighting		0			
Return Air Ducts		571			186
Return Fan		0			0
Ventilation	95	0	0	95	0
Supply Fan		580			-580
Supply Air Ducts		571			186
TOTAL SYSTEM LOAD		13,143	11,025		3,513

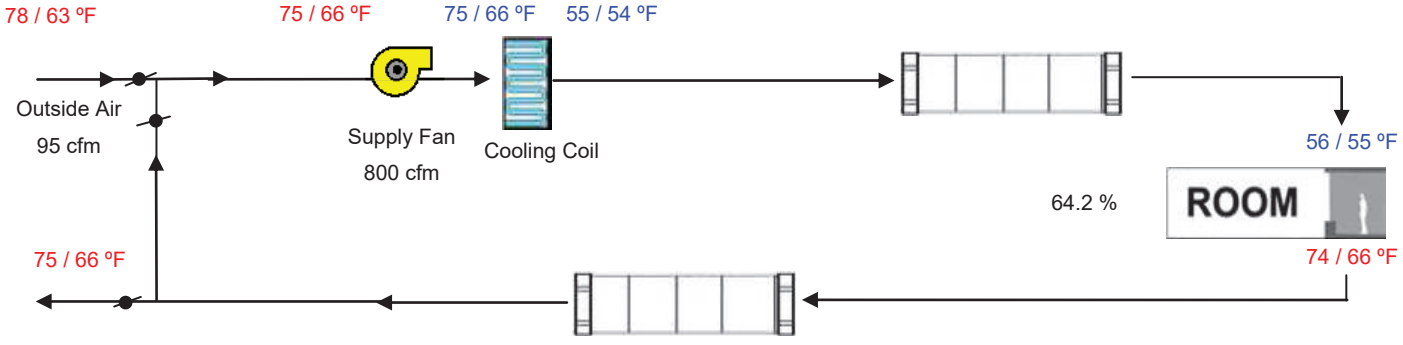
HVAC EQUIPMENT SELECTION

PEFY-P24NMAU-E3	14,142	9,243		14,377
Total Adjusted System Output (Adjusted for Peak Design conditions)	14,142	9,243		14,377
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-6 Game Room	368

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	19,713
Total Output (Btuh)	19,713
Output (Btuh/sqft)	53.6
Cooling System	
Output per System	22,029
Total Output (Btuh)	22,029
Total Output (Tons)	1.8
Total Output (Btuh/sqft)	59.9
Total Output (sqft/Ton)	200.5
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	2.17
Airflow (cfm/Ton)	435.8
Outside Air (%)	23.0 %
Outside Air (cfm/sqft)	0.50
Note: values above given at ARI conditions	

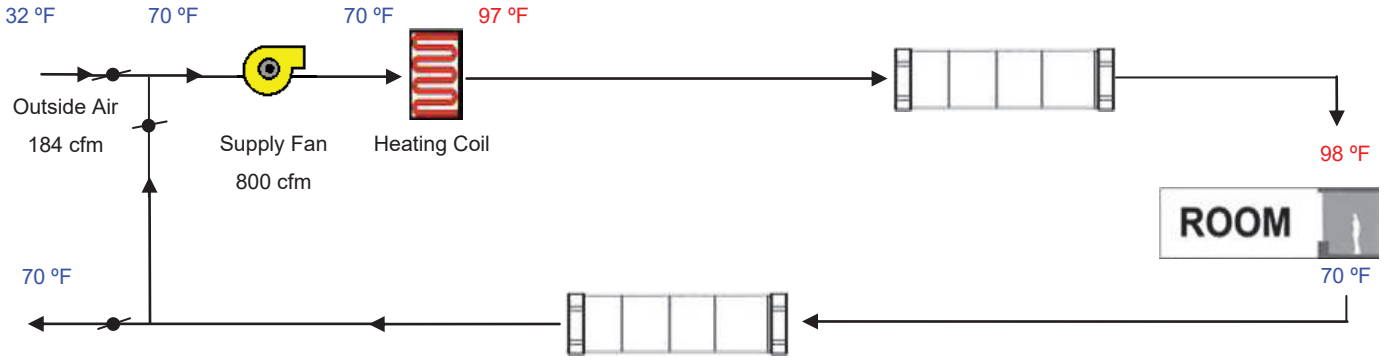
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	609	11,611	6,747	63	1,874
Return Vented Lighting		0			
Return Air Ducts		581			94
Return Fan		0			0
Ventilation	184	0	0	184	0
Supply Fan		580			-580
Supply Air Ducts		581			94
TOTAL SYSTEM LOAD		13,352	6,747		1,482

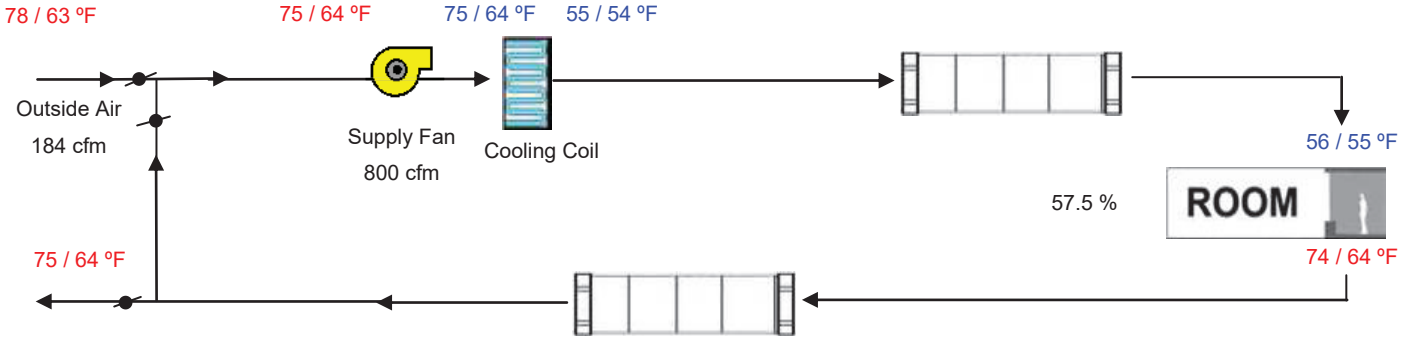
HVAC EQUIPMENT SELECTION

PEFY-P24NMAU-E3	15,519	7,230		14,377
Total Adjusted System Output (Adjusted for Peak Design conditions)	15,519	7,230		14,377
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-7 Breakfast 2	886

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	45.1
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	40.7
Total Output (sqft/Ton)	294.6
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	1.31
Airflow (cfm/Ton)	385.7
Outside Air (%)	33.4 %
Outside Air (cfm/sqft)	0.44
Note: values above given at ARI conditions	

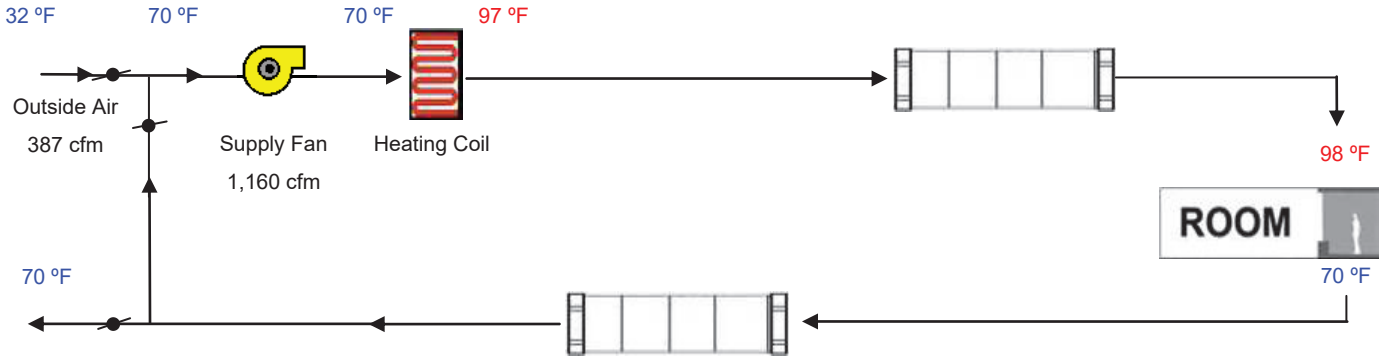
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	1,084	20,504	13,710	62	1,839
Return Vented Lighting		0			
Return Air Ducts		1,025			92
Return Fan		0			0
Ventilation	387	0	0	387	0
Supply Fan		819			-819
Supply Air Ducts		1,025			92
TOTAL SYSTEM LOAD		23,374	13,710		1,204

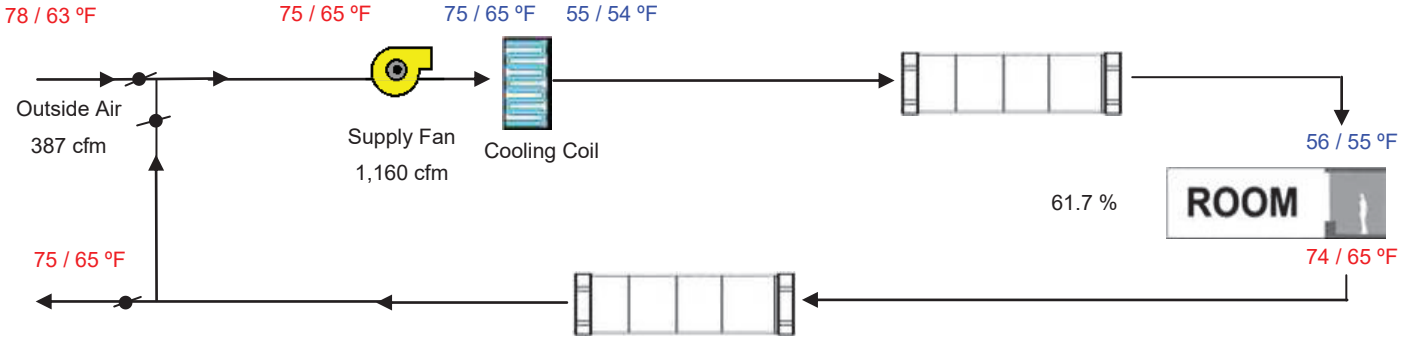
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	25,951	12,001		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	25,951	12,001		29,172
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-8 Meeting Room 1	662

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	60.4
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	54.5
Total Output (sqft/Ton)	220.1
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	1.75
Airflow (cfm/Ton)	385.7
Outside Air (%)	28.5 %
Outside Air (cfm/sqft)	0.50

Note: values above given at ARI conditions

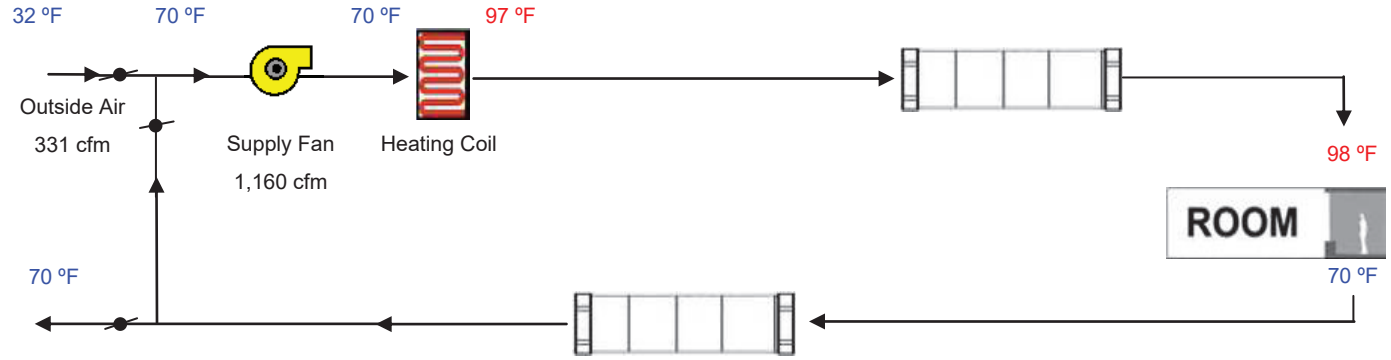
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	835	15,960	6,841	54	1,607
Return Vented Lighting		0			
Return Air Ducts		798			80
Return Fan		0			0
Ventilation	331	0	0	331	0
Supply Fan		819			-819
Supply Air Ducts		798			80
TOTAL SYSTEM LOAD		18,375	6,841		949

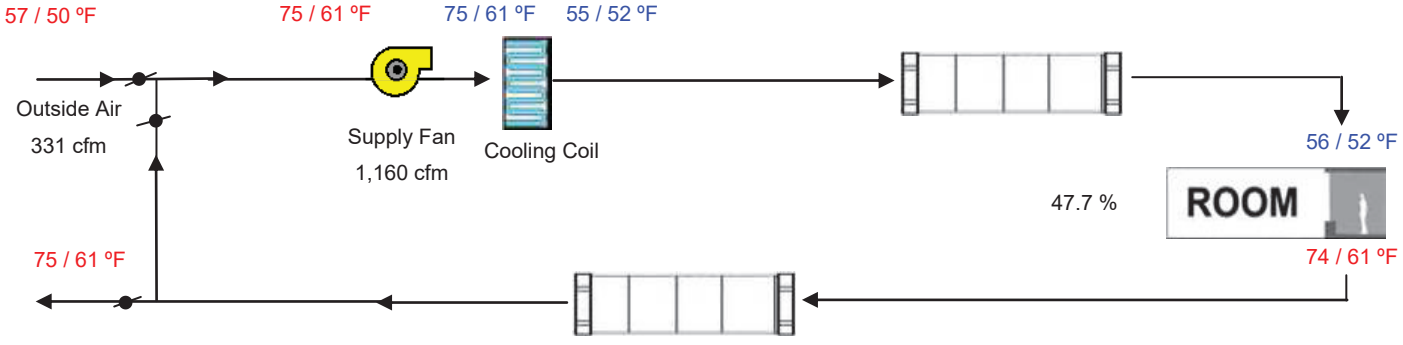
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	32,502	7,171		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	32,502	7,171		29,172
TIME OF SYSTEM PEAK		Jan 10 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-9 Meeting Room 2	698

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	57.3
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	51.7
Total Output (sqft/Ton)	232.1
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	1.66
Airflow (cfm/Ton)	385.7
Outside Air (%)	30.1 %
Outside Air (cfm/sqft)	0.50
Note: values above given at ARI conditions	

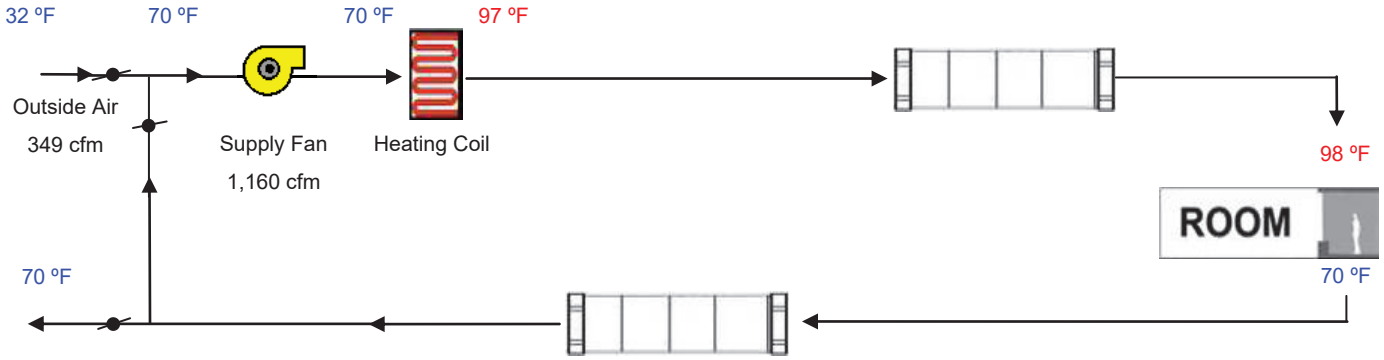
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	1,001	19,013	7,213	91	2,701
Return Vented Lighting		0			
Return Air Ducts		951			135
Return Fan		0			0
Ventilation	349	0	0	349	0
Supply Fan		819			-819
Supply Air Ducts		951			135
TOTAL SYSTEM LOAD		21,733	7,213		2,152

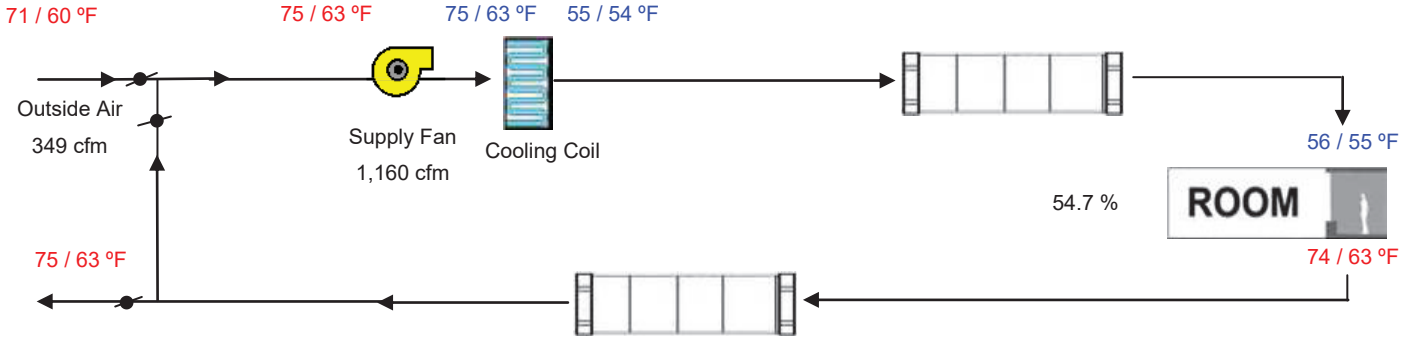
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	28,914	9,278		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	28,914	9,278		29,172
TIME OF SYSTEM PEAK	Sep 11 AM			Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-10 Corridor/RR	1,688

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	19,713
Total Output (Btuh)	19,713
Output (Btuh/sqft)	11.7
Cooling System	
Output per System	22,029
Total Output (Btuh)	22,029
Total Output (Tons)	1.8
Total Output (Btuh/sqft)	13.1
Total Output (sqft/Ton)	919.5
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	0.47
Airflow (cfm/Ton)	435.8
Outside Air (%)	31.7 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

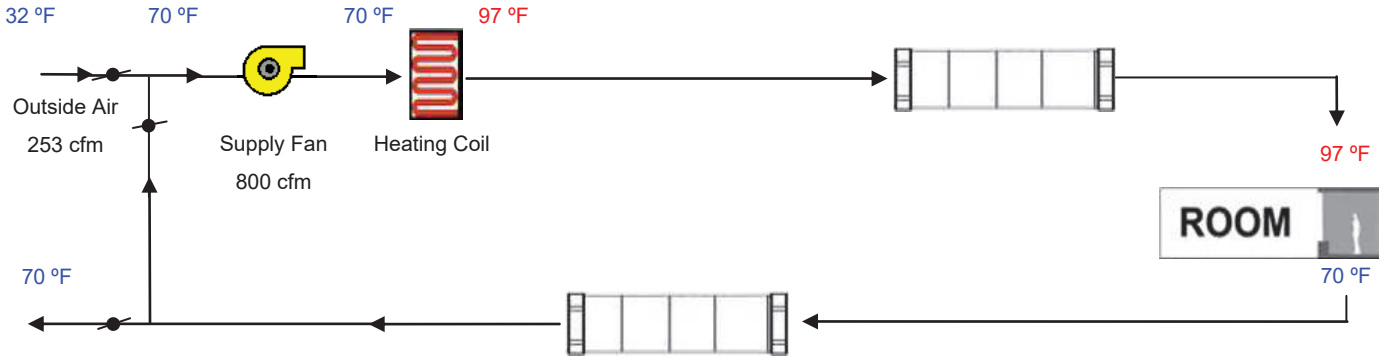
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	599	11,422	4,220	111	3,303
Return Vented Lighting		0			
Return Air Ducts		571			165
Return Fan		0			0
Ventilation	253	0	0	253	0
Supply Fan		580			-580
Supply Air Ducts		571			165
TOTAL SYSTEM LOAD		13,145	4,220		3,053

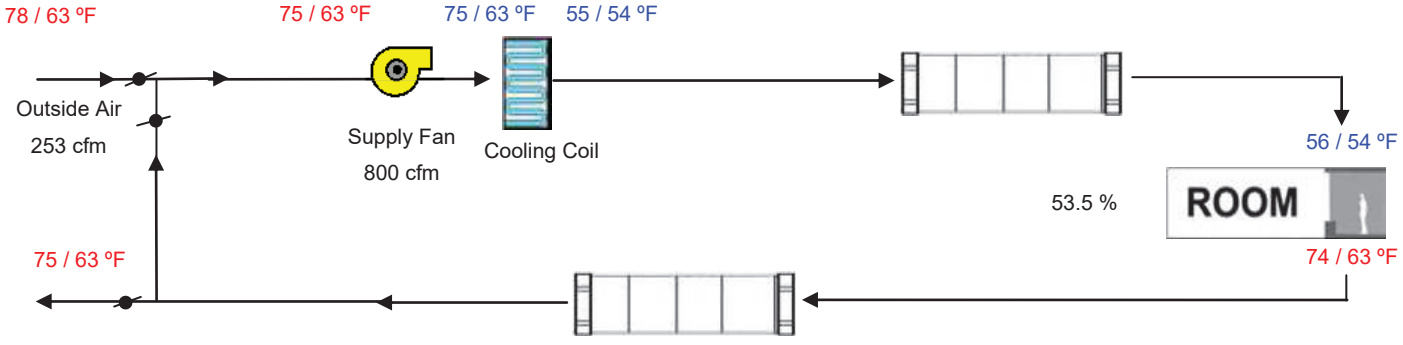
HVAC EQUIPMENT SELECTION

PEFY-P24NMAU-E3	16,350	6,021		14,377
Total Adjusted System Output (Adjusted for Peak Design conditions)	16,350	6,021		14,377
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-11 Laundry	1,210

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	33.1
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	29.8
Total Output (sqft/Ton)	402.3
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	0.96
Airflow (cfm/Ton)	385.7
Outside Air (%)	15.6 %
Outside Air (cfm/sqft)	0.15

Note: values above given at ARI conditions

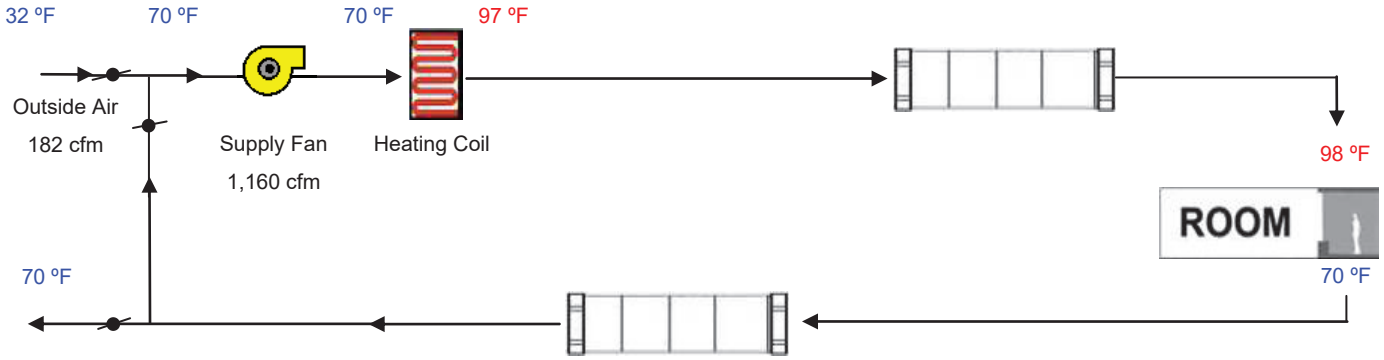
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	892	17,004	3,025	109	3,250
Return Vented Lighting		0			
Return Air Ducts		850			162
Return Fan		0			0
Ventilation	182	0	0	182	0
Supply Fan		819			-819
Supply Air Ducts		850			162
TOTAL SYSTEM LOAD		19,524	3,025		2,756

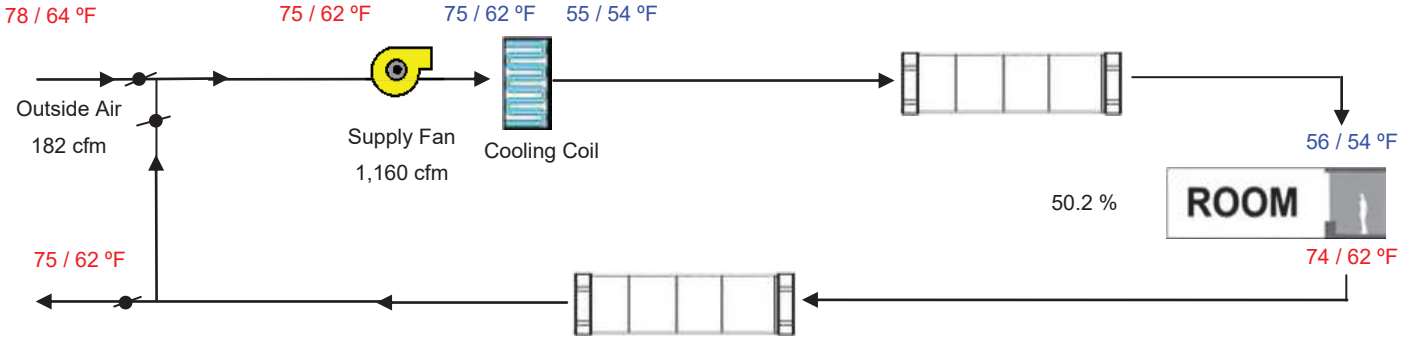
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	30,000	6,206		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	30,000	6,206		29,172
TIME OF SYSTEM PEAK		Jun 5 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-12 Offices	1,075

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	34,000
Total Output (Btuh)	34,000
Output (Btuh/sqft)	31.6
Cooling System	
Output per System	30,000
Total Output (Btuh)	30,000
Total Output (Tons)	2.5
Total Output (Btuh/sqft)	27.9
Total Output (sqft/Ton)	430.0
Air System	
CFM per System	880
Airflow (cfm)	880
Airflow (cfm/sqft)	0.82
Airflow (cfm/Ton)	352.0
Outside Air (%)	18.3 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

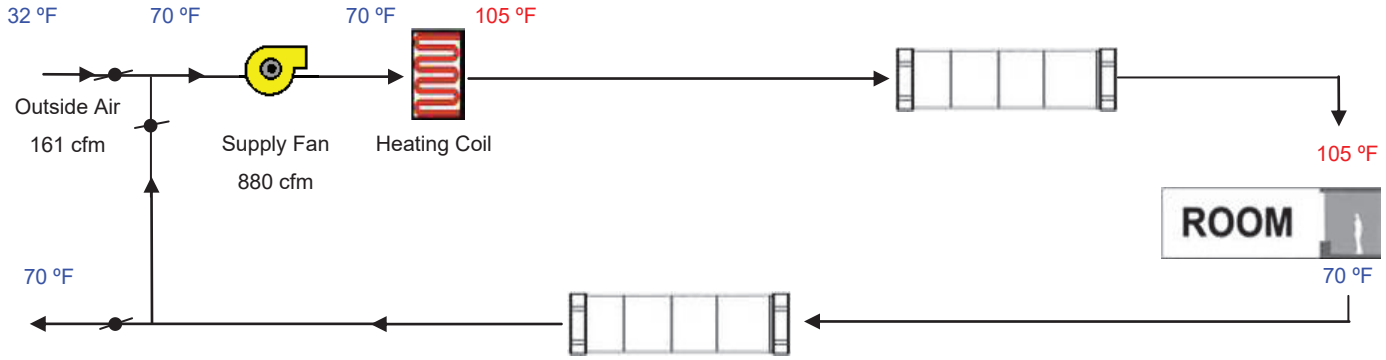
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	866	16,390	2,345	181	6,891
Return Vented Lighting		0			
Return Air Ducts		819			345
Return Fan		0			0
Ventilation	161	0	0	161	0
Supply Fan		580			-580
Supply Air Ducts		819			345
TOTAL SYSTEM LOAD		18,609	2,345		7,000

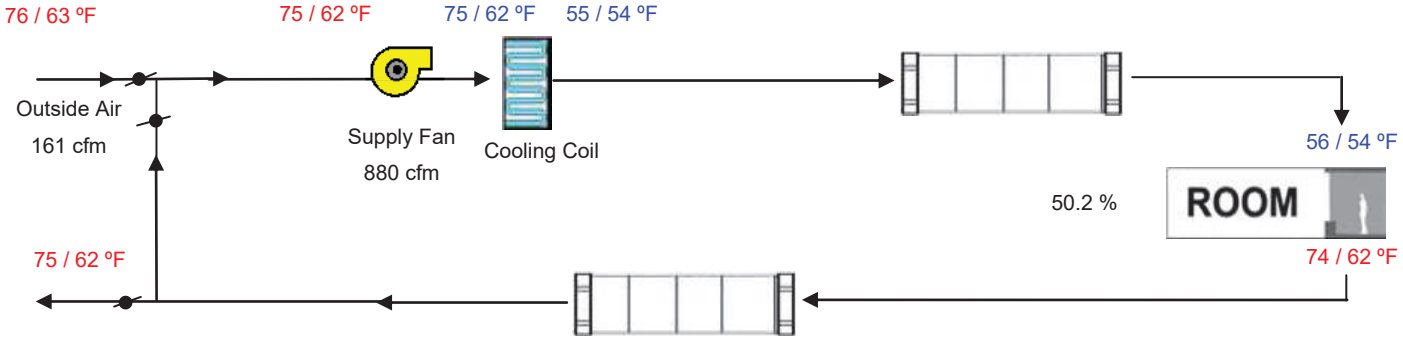
HVAC EQUIPMENT SELECTION

PEFY-P30NMAU-E3	23,428	7,034		24,796
Total Adjusted System Output (Adjusted for Peak Design conditions)	23,428	7,034		24,796
TIME OF SYSTEM PEAK		Jun 6 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-13 Offices	664

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	14,602
Total Output (Btuh)	14,602
Output (Btuh/sqft)	22.0
Cooling System	
Output per System	16,522
Total Output (Btuh)	16,522
Total Output (Tons)	1.4
Total Output (Btuh/sqft)	24.9
Total Output (sqft/Ton)	482.3
Air System	
CFM per System	600
Airflow (cfm)	600
Airflow (cfm/sqft)	0.90
Airflow (cfm/Ton)	435.8
Outside Air (%)	34.0 %
Outside Air (cfm/sqft)	0.31
Note: values above given at ARI conditions	

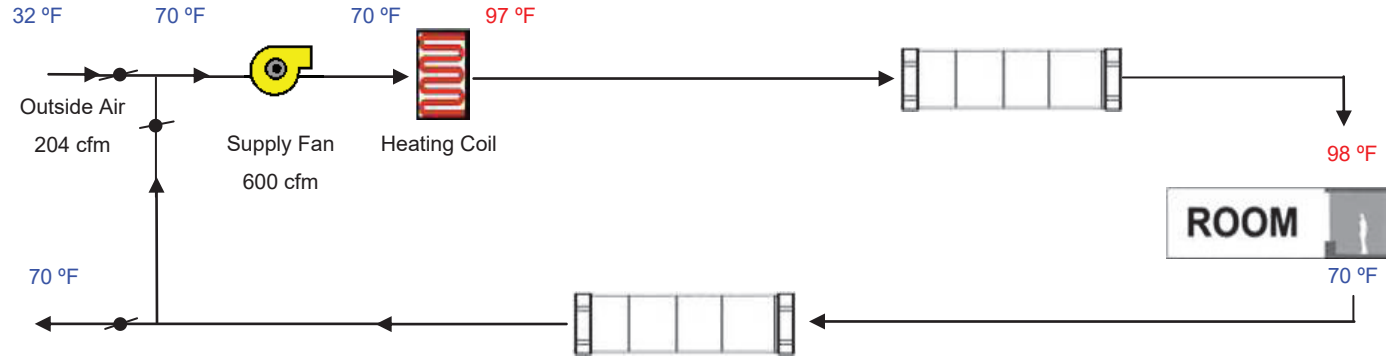
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	524	9,993	3,918	0	0
Return Vented Lighting		0			
Return Air Ducts		500			0
Return Fan		0			0
Ventilation	204	0	0	204	0
Supply Fan		375			-375
Supply Air Ducts		500			0
TOTAL SYSTEM LOAD		11,368	3,918		-375

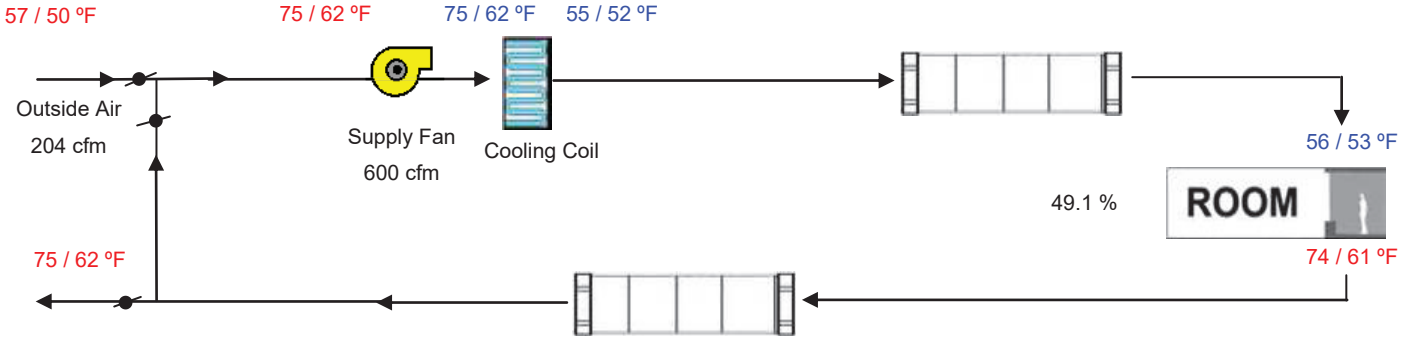
HVAC EQUIPMENT SELECTION

PEFY-P18NMAU-E3	13,742	4,543		10,649
Total Adjusted System Output (Adjusted for Peak Design conditions)	13,742	4,543		10,649
TIME OF SYSTEM PEAK		Jan 10 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-14 2nd Corridor	2,689

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	14.9
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	13.4
Total Output (sqft/Ton)	894.1
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	0.43
Airflow (cfm/Ton)	385.7
Outside Air (%)	34.8 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

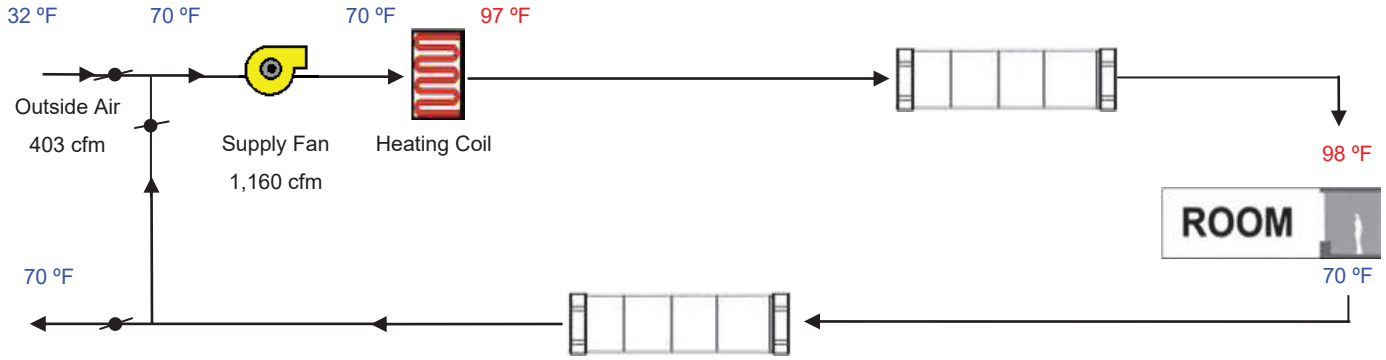
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	890	16,971	6,723	68	2,021
Return Vented Lighting		0			
Return Air Ducts		849			101
Return Fan		0			0
Ventilation	403	0	0	403	0
Supply Fan		819			-819
Supply Air Ducts		849			101
TOTAL SYSTEM LOAD		19,488	6,723		1,404

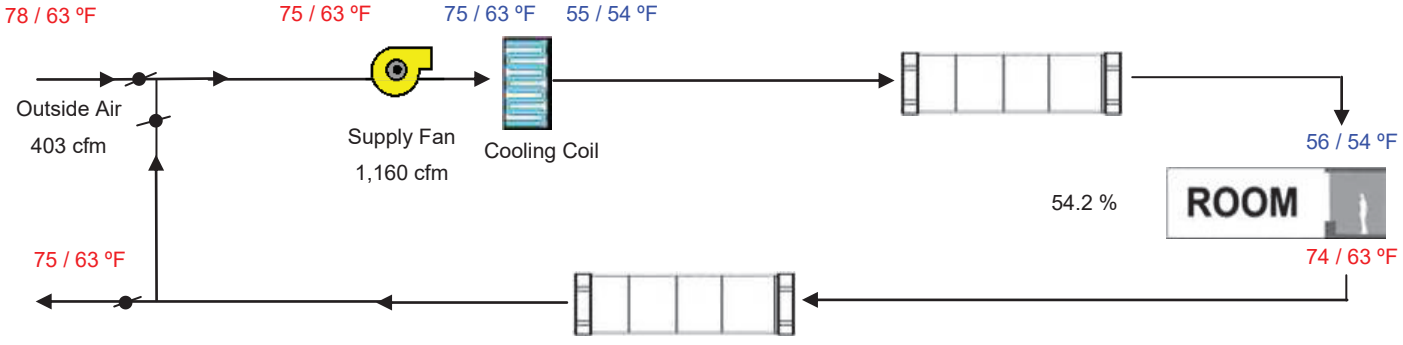
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	28,505	8,250		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	28,505	8,250		29,172
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-15 3rd Corridor	2,689

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	14.9
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	13.4
Total Output (sqft/Ton)	894.1
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	0.43
Airflow (cfm/Ton)	385.7
Outside Air (%)	34.8 %
Outside Air (cfm/sqft)	0.15

Note: values above given at ARI conditions

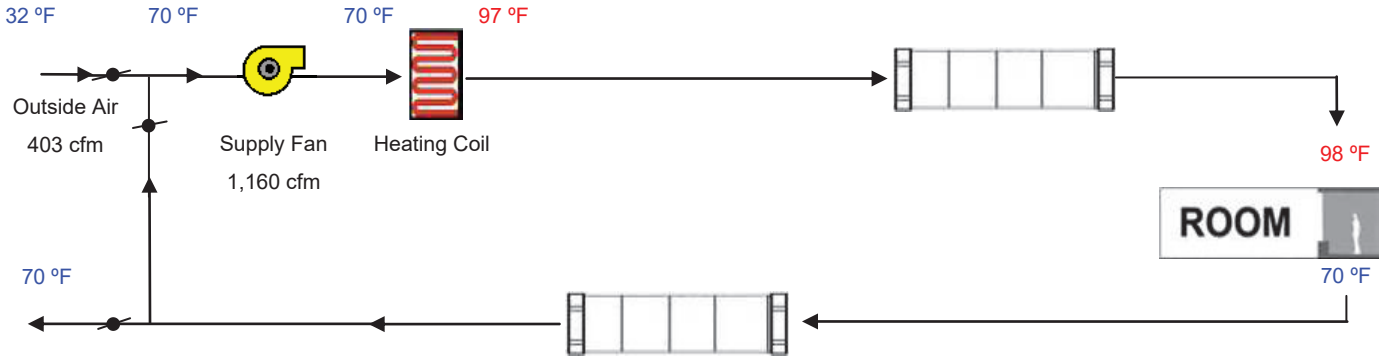
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	890	16,971	6,723	68	2,021
Return Vented Lighting		0			
Return Air Ducts		849			101
Return Fan		0			0
Ventilation	403	0	0	403	0
Supply Fan		819			-819
Supply Air Ducts		849			101
TOTAL SYSTEM LOAD		19,488	6,723		1,404

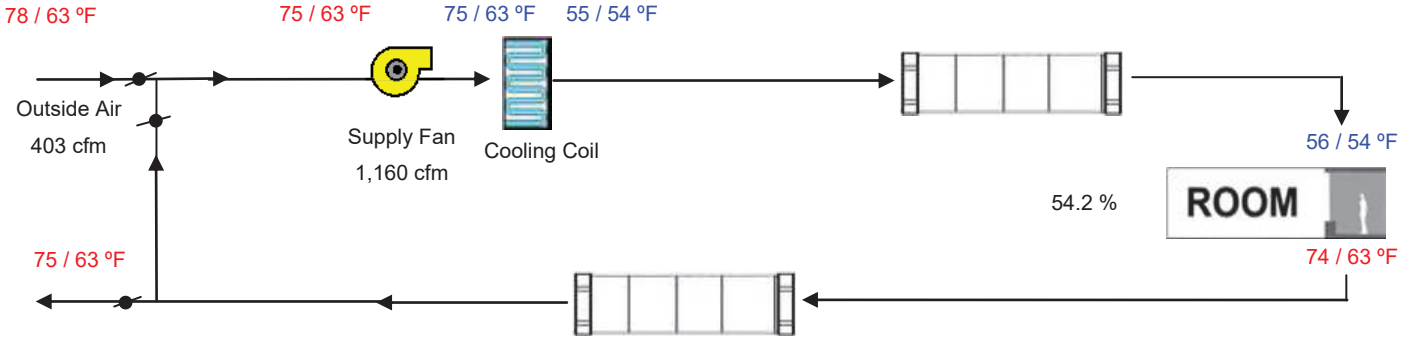
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	28,505	8,250		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	28,505	8,250		29,172
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-16 4th Corridor	2,689

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	14.9
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	13.4
Total Output (sqft/Ton)	894.1
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	0.43
Airflow (cfm/Ton)	385.7
Outside Air (%)	34.8 %
Outside Air (cfm/sqft)	0.15

Note: values above given at ARI conditions

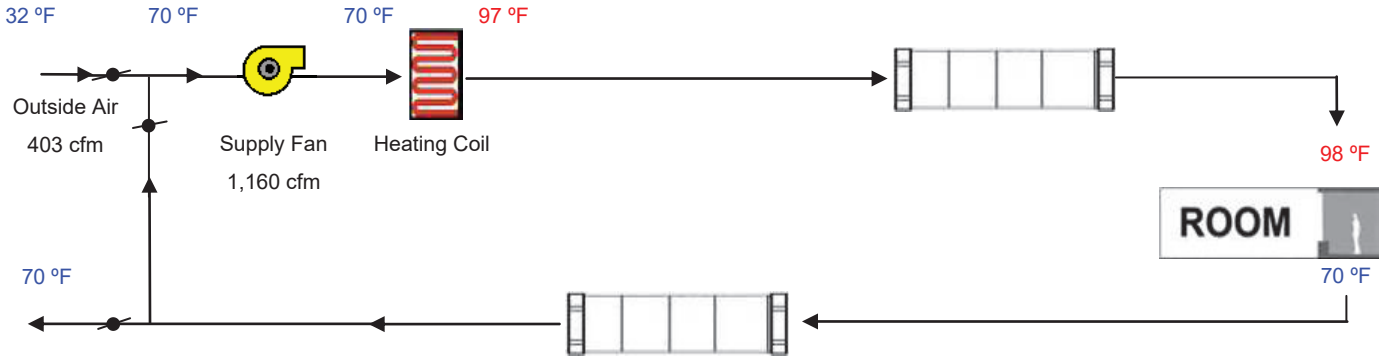
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	890	16,971	6,723	68	2,021
Return Vented Lighting		0			
Return Air Ducts		849			101
Return Fan		0			0
Ventilation	403	0	0	403	0
Supply Fan		819			-819
Supply Air Ducts		849			101
TOTAL SYSTEM LOAD		19,488	6,723		1,404

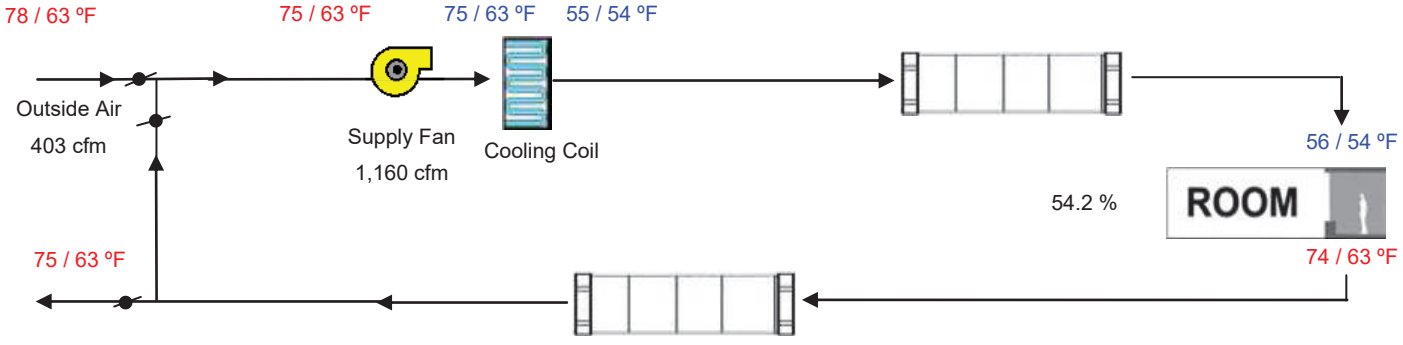
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	28,505	8,250		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	28,505	8,250		29,172
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-17 5th Corridor	2,689

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	14.9
Cooling System	
Output per System	36,090
Total Output (Btuh)	36,090
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	13.4
Total Output (sqft/Ton)	894.1
Air System	
CFM per System	1,160
Airflow (cfm)	1,160
Airflow (cfm/sqft)	0.43
Airflow (cfm/Ton)	385.7
Outside Air (%)	34.8 %
Outside Air (cfm/sqft)	0.15

Note: values above given at ARI conditions

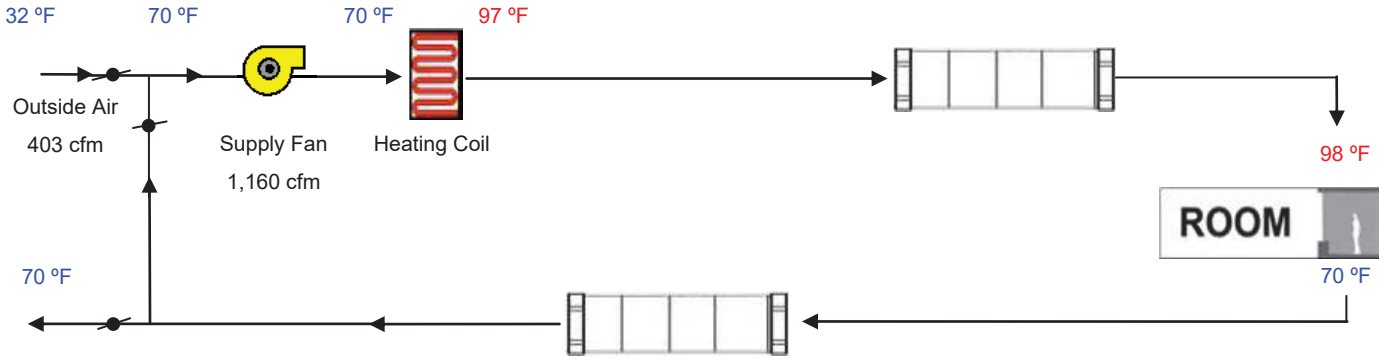
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	916	17,462	6,723	90	2,691
Return Vented Lighting		0			
Return Air Ducts		873			135
Return Fan		0			0
Ventilation	403	0	0	403	0
Supply Fan		819			-819
Supply Air Ducts		873			135
TOTAL SYSTEM LOAD		20,028	6,723		2,141

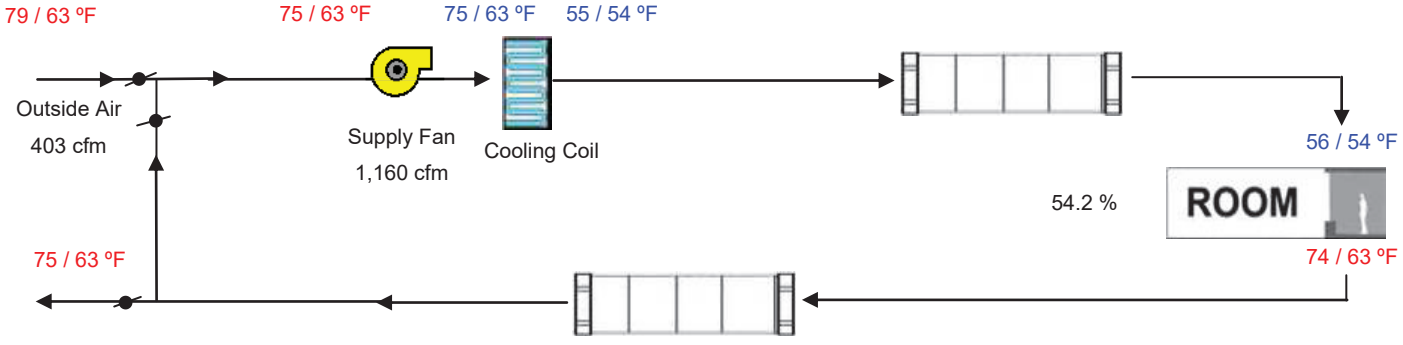
HVAC EQUIPMENT SELECTION

PEFY-P36NMAU-E3	28,476	8,172		29,172
Total Adjusted System Output (Adjusted for Peak Design conditions)	28,476	8,172		29,172
TIME OF SYSTEM PEAK		Sep 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-18 6th Office 2	364

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	13,500
Total Output (Btuh)	13,500
Output (Btuh/sqft)	37.1
Cooling System	
Output per System	12,000
Total Output (Btuh)	12,000
Total Output (Tons)	1.0
Total Output (Btuh/sqft)	33.0
Total Output (sqft/Ton)	364.0
Air System	
CFM per System	370
Airflow (cfm)	370
Airflow (cfm/sqft)	1.02
Airflow (cfm/Ton)	370.0
Outside Air (%)	14.8 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

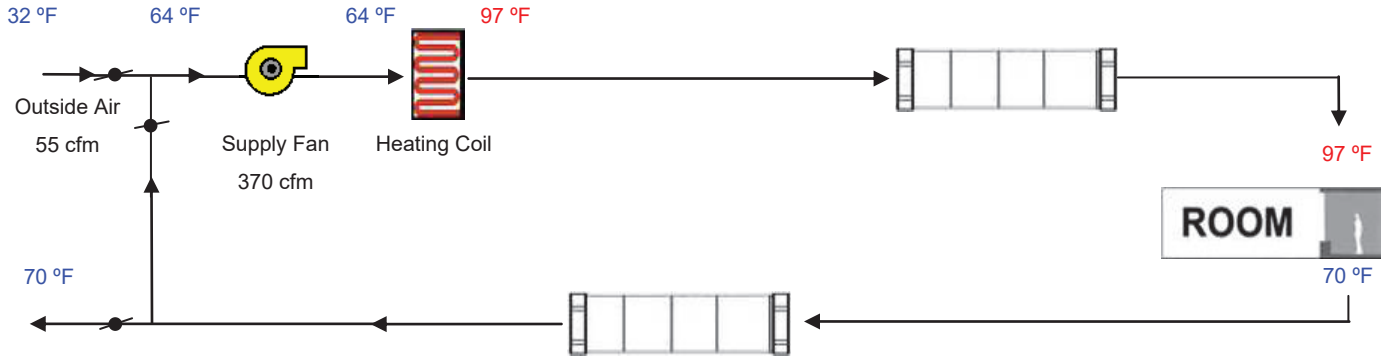
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	277	5,251	728	75	2,238
Return Vented Lighting		0			
Return Air Ducts		263			112
Return Fan		0			0
Ventilation	55	339	149	55	2,223
Supply Fan		307			-307
Supply Air Ducts		263			112
TOTAL SYSTEM LOAD		6,422	877		4,378

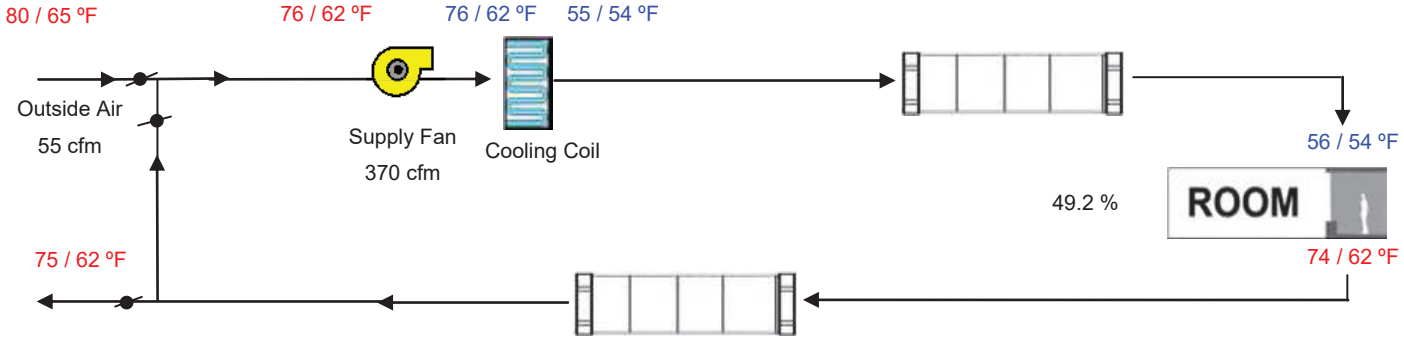
HVAC EQUIPMENT SELECTION

PEFY-P12NMAU-E3	9,846	2,070		9,846
Total Adjusted System Output (Adjusted for Peak Design conditions)	9,846	2,070		9,846
TIME OF SYSTEM PEAK		Jul 2 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-19 6th Office 3	366

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	13,500
Total Output (Btuh)	13,500
Output (Btuh/sqft)	36.9
Cooling System	
Output per System	12,000
Total Output (Btuh)	12,000
Total Output (Tons)	1.0
Total Output (Btuh/sqft)	32.8
Total Output (sqft/Ton)	366.0
Air System	
CFM per System	370
Airflow (cfm)	370
Airflow (cfm/sqft)	1.01
Airflow (cfm/Ton)	370.0
Outside Air (%)	14.8 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

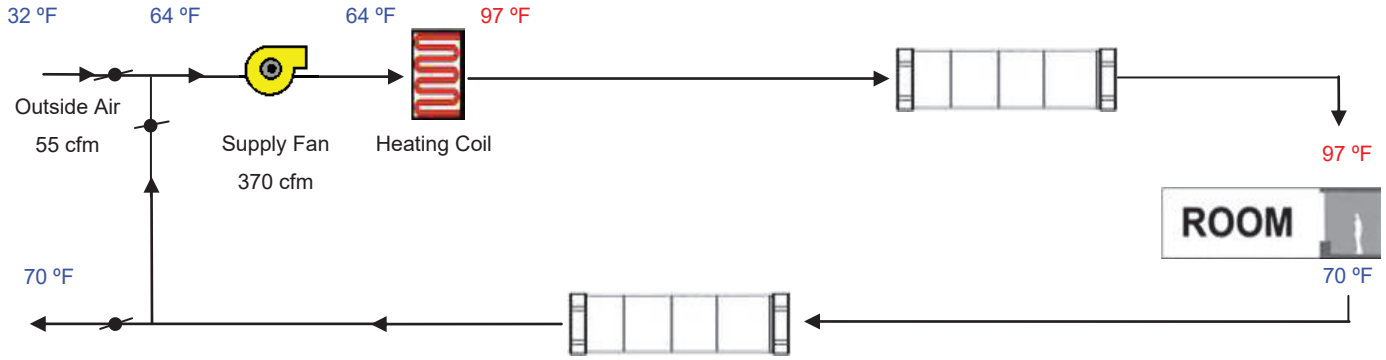
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	314	5,929	732	76	2,243
Return Vented Lighting		0			
Return Air Ducts		296			112
Return Fan		0			0
Ventilation	55	371	150	55	2,236
Supply Fan		307			-307
Supply Air Ducts		296			112
TOTAL SYSTEM LOAD		7,200	882		4,396

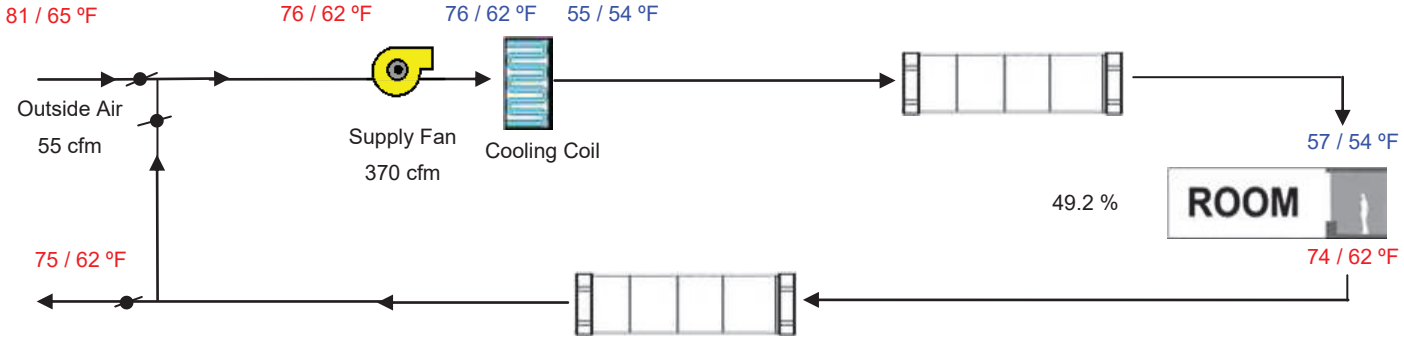
HVAC EQUIPMENT SELECTION

PEFY-P12NMAU-E3	9,870	2,019		9,846
Total Adjusted System Output (Adjusted for Peak Design conditions)	9,870	2,019		9,846
TIME OF SYSTEM PEAK		Aug 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-20 6th Open Office	1,262

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	19,713
Total Output (Btuh)	19,713
Output (Btuh/sqft)	15.6
Cooling System	
Output per System	22,029
Total Output (Btuh)	22,029
Total Output (Tons)	1.8
Total Output (Btuh/sqft)	17.5
Total Output (sqft/Ton)	687.5
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	0.63
Airflow (cfm/Ton)	435.8
Outside Air (%)	23.7 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

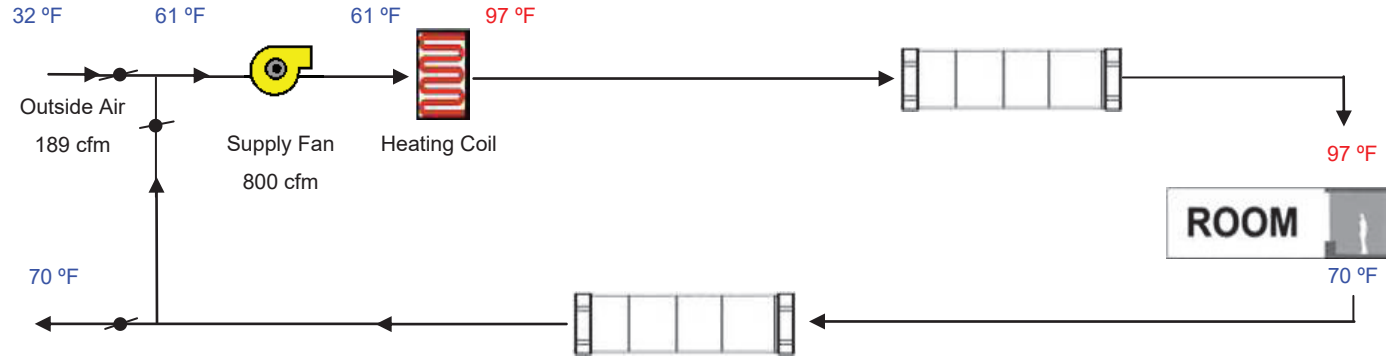
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	727	13,768	3,056	219	6,447
Return Vented Lighting		0			
Return Air Ducts		688			322
Return Fan		0			0
Ventilation	189	1,268	154	189	7,690
Supply Fan		580			-580
Supply Air Ducts		688			322
TOTAL SYSTEM LOAD		16,993	3,209		14,201

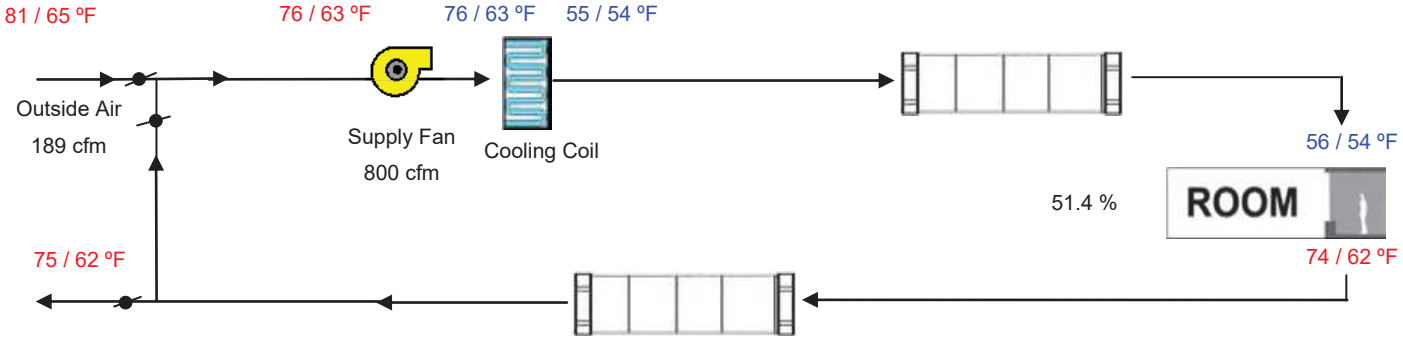
HVAC EQUIPMENT SELECTION

PEFY-P24NMAU-E3	17,519	4,548		14,377
Total Adjusted System Output (Adjusted for Peak Design conditions)	17,519	4,548		14,377
TIME OF SYSTEM PEAK		Aug 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-21 6th Office 1/Temple/Conf	497

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	14,602
Total Output (Btuh)	14,602
Output (Btuh/sqft)	29.4
Cooling System	
Output per System	16,522
Total Output (Btuh)	16,522
Total Output (Tons)	1.4
Total Output (Btuh/sqft)	33.2
Total Output (sqft/Ton)	361.0
Air System	
CFM per System	600
Airflow (cfm)	600
Airflow (cfm/sqft)	1.21
Airflow (cfm/Ton)	435.8
Outside Air (%)	24.4 %
Outside Air (cfm/sqft)	0.29
Note: values above given at ARI conditions	

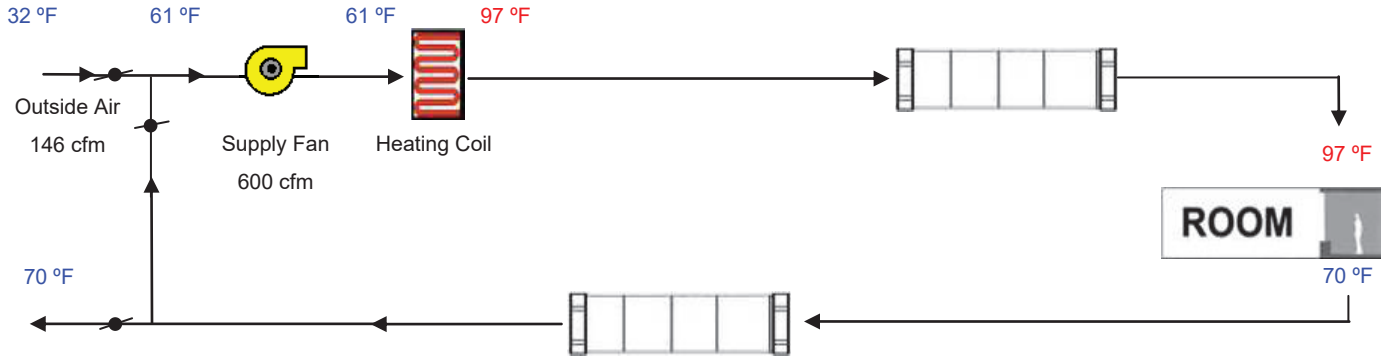
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	543	10,322	2,702	97	2,858
Return Vented Lighting		0			
Return Air Ducts		516			143
Return Fan		0			0
Ventilation	146	980	12	146	5,967
Supply Fan		375			-375
Supply Air Ducts		516			143
TOTAL SYSTEM LOAD		12,710	2,714		8,736

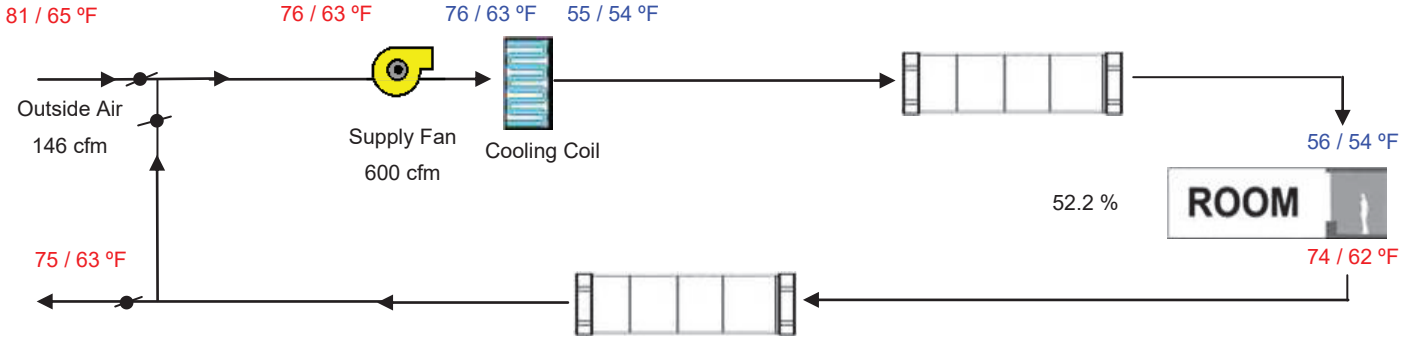
HVAC EQUIPMENT SELECTION

PEFY-P18NMAU-E3	13,057	3,541		10,649
Total Adjusted System Output (Adjusted for Peak Design conditions)	13,057	3,541		10,649
TIME OF SYSTEM PEAK		Jul 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
FC-23 PBX	154

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	12,461
Total Output (Btuh)	12,461
Output (Btuh/sqft)	80.9
Cooling System	
Output per System	14,775
Total Output (Btuh)	14,775
Total Output (Tons)	1.2
Total Output (Btuh/sqft)	95.9
Total Output (sqft/Ton)	125.1
Air System	
CFM per System	425
Airflow (cfm)	425
Airflow (cfm/sqft)	2.76
Airflow (cfm/Ton)	345.2
Outside Air (%)	5.4 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

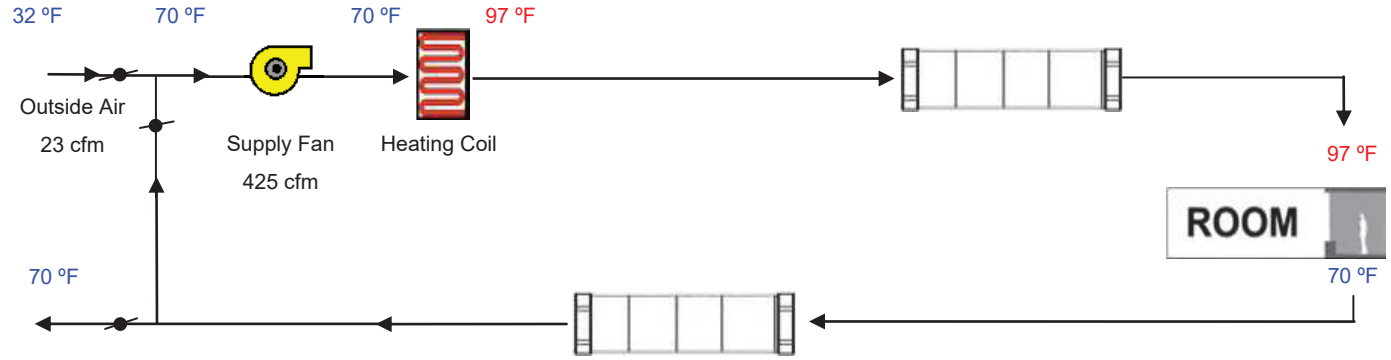
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	25	510	116	0	0
Return Vented Lighting		0			
Return Air Ducts		25			0
Return Fan		0			0
Ventilation	23	0	0	23	0
Supply Fan		102			-102
Supply Air Ducts		25			0
TOTAL SYSTEM LOAD		663	116		-102

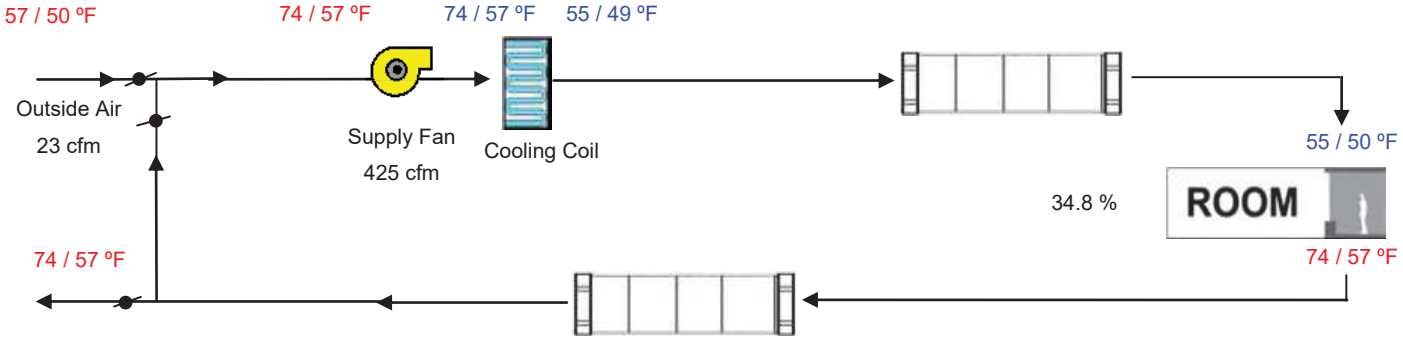
HVAC EQUIPMENT SELECTION

PKFY-P18NHMU-E2	14,923	399		9,088
Total Adjusted System Output (Adjusted for Peak Design conditions)	14,923	399		9,088
TIME OF SYSTEM PEAK		Jan 10 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #101	617

ENGINEERING CHECKS

Number of Systems	2
Heating System	
Output per System	5,900
Total Output (Btuh)	11,800
Output (Btuh/sqft)	19.1
Cooling System	
Output per System	6,600
Total Output (Btuh)	13,200
Total Output (Tons)	1.1
Total Output (Btuh/sqft)	21.4
Total Output (sqft/Ton)	560.9
Air System	
CFM per System	240
Airflow (cfm)	480
Airflow (cfm/sqft)	0.78
Airflow (cfm/Ton)	436.4
Outside Air (%)	19.3 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

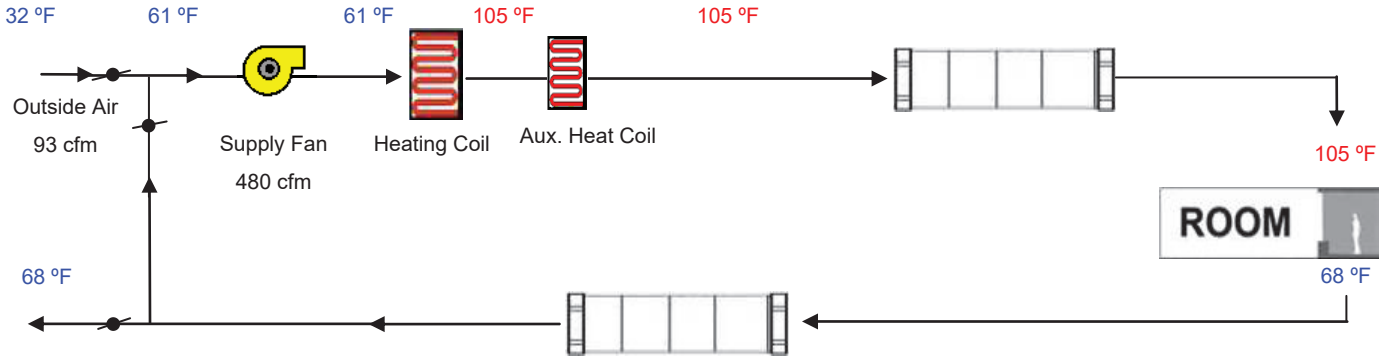
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	286	5,995	478	123	4,865
Return Vented Lighting		0			
Return Air Ducts		300			243
Return Fan		0			0
Ventilation	93	542	367	93	3,550
Supply Fan		6			-6
Supply Air Ducts		300			243
TOTAL SYSTEM LOAD		7,142	845		8,895

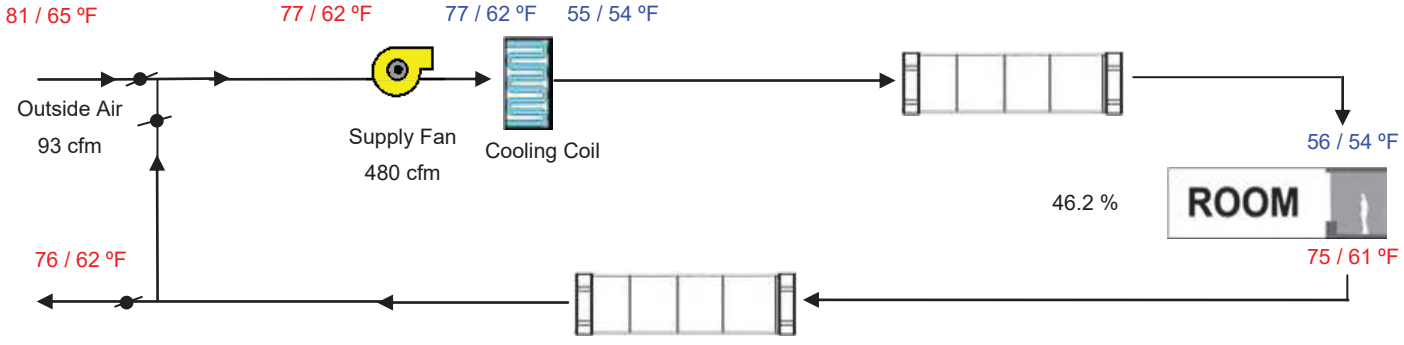
HVAC EQUIPMENT SELECTION

AZ65H07DAM	10,978	2,107		8,606
2.4 kW Supplemental Electric				16,382
Total Adjusted System Output (Adjusted for Peak Design conditions)	10,978	2,107		24,988
TIME OF SYSTEM PEAK		Aug 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #105	496

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	5,900
Total Output (Btuh)	5,900
Output (Btuh/sqft)	11.9
Cooling System	
Output per System	6,600
Total Output (Btuh)	6,600
Total Output (Tons)	0.6
Total Output (Btuh/sqft)	13.3
Total Output (sqft/Ton)	901.8
Air System	
CFM per System	240
Airflow (cfm)	240
Airflow (cfm/sqft)	0.48
Airflow (cfm/Ton)	436.4
Outside Air (%)	31.0 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

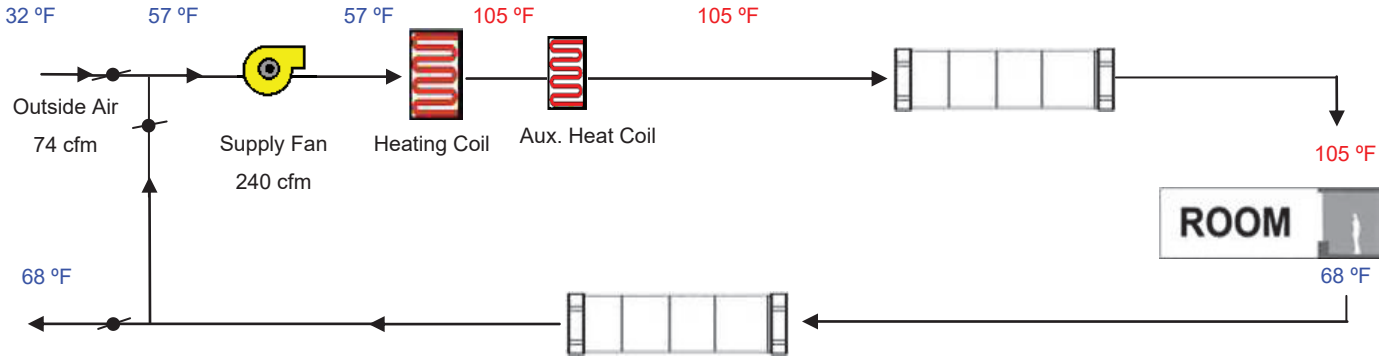
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	141	2,948	384	38	1,526
Return Vented Lighting		0			
Return Air Ducts		147			76
Return Fan		0			0
Ventilation	74	436	251	74	2,868
Supply Fan		3			-3
Supply Air Ducts		147			76
TOTAL SYSTEM LOAD		3,682	636		4,544

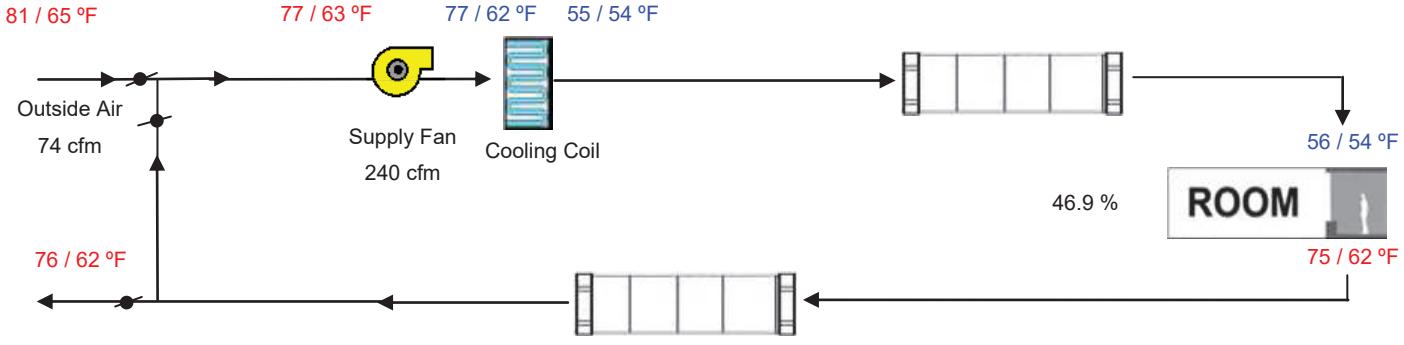
HVAC EQUIPMENT SELECTION

AZ65H07DAM	5,529	1,060		4,303
2.4 kW Supplemental Electric				8,191
Total Adjusted System Output (Adjusted for Peak Design conditions)	5,529	1,060		12,494
TIME OF SYSTEM PEAK		Aug 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #139	359

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	5,900
Total Output (Btuh)	5,900
Output (Btuh/sqft)	16.4
Cooling System	
Output per System	6,600
Total Output (Btuh)	6,600
Total Output (Tons)	0.6
Total Output (Btuh/sqft)	18.4
Total Output (sqft/Ton)	652.7
Air System	
CFM per System	240
Airflow (cfm)	240
Airflow (cfm/sqft)	0.67
Airflow (cfm/Ton)	436.4
Outside Air (%)	22.4 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

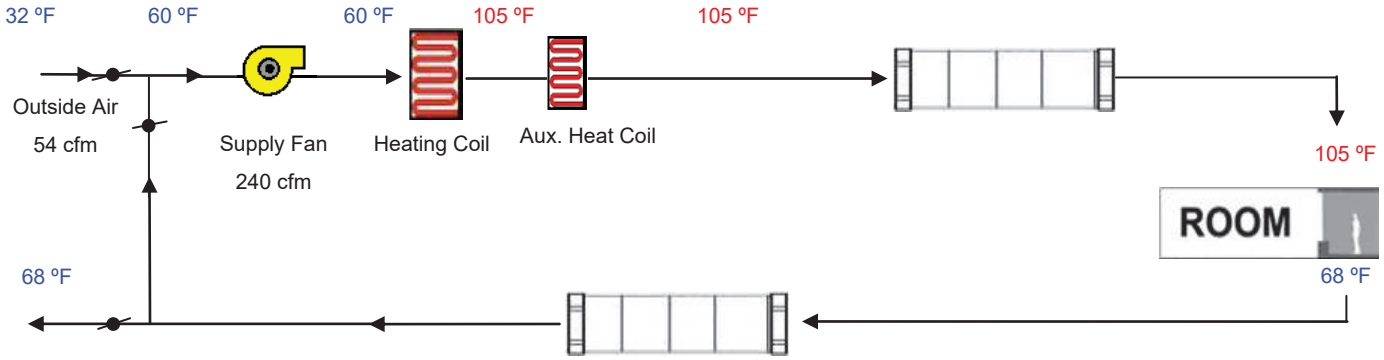
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	160	3,333	278	36	1,409
Return Vented Lighting		0			
Return Air Ducts		167			70
Return Fan		0			0
Ventilation	54	160	34	54	2,077
Supply Fan		3			-3
Supply Air Ducts		167			70
TOTAL SYSTEM LOAD		3,830	313		3,624

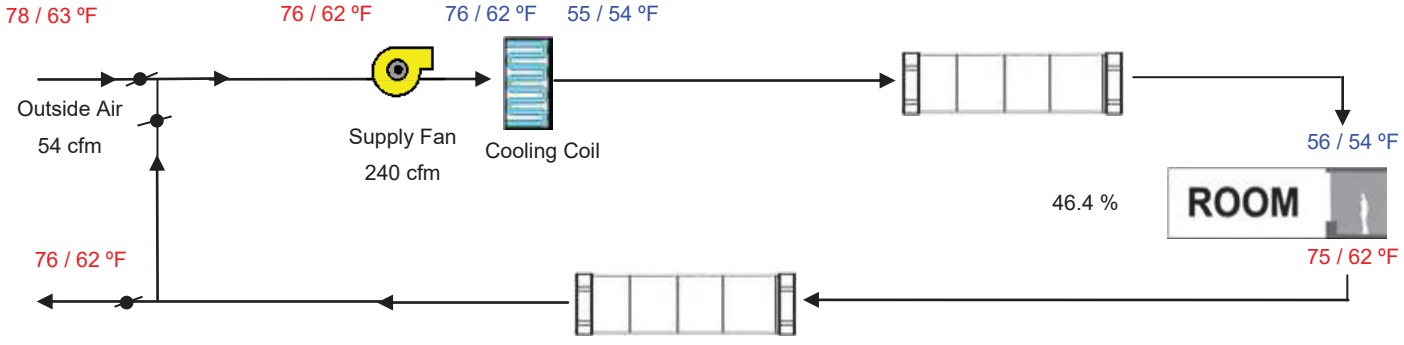
HVAC EQUIPMENT SELECTION

AZ65H07DAM	5,502	1,099		4,303
2.4 kW Supplemental Electric				8,191
Total Adjusted System Output (Adjusted for Peak Design conditions)	5,502	1,099		12,494
TIME OF SYSTEM PEAK		Sep 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #140	363

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	5,900
Total Output (Btuh)	5,900
Output (Btuh/sqft)	16.3
Cooling System	
Output per System	6,600
Total Output (Btuh)	6,600
Total Output (Tons)	0.6
Total Output (Btuh/sqft)	18.2
Total Output (sqft/Ton)	660.0
Air System	
CFM per System	240
Airflow (cfm)	240
Airflow (cfm/sqft)	0.66
Airflow (cfm/Ton)	436.4
Outside Air (%)	22.7 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

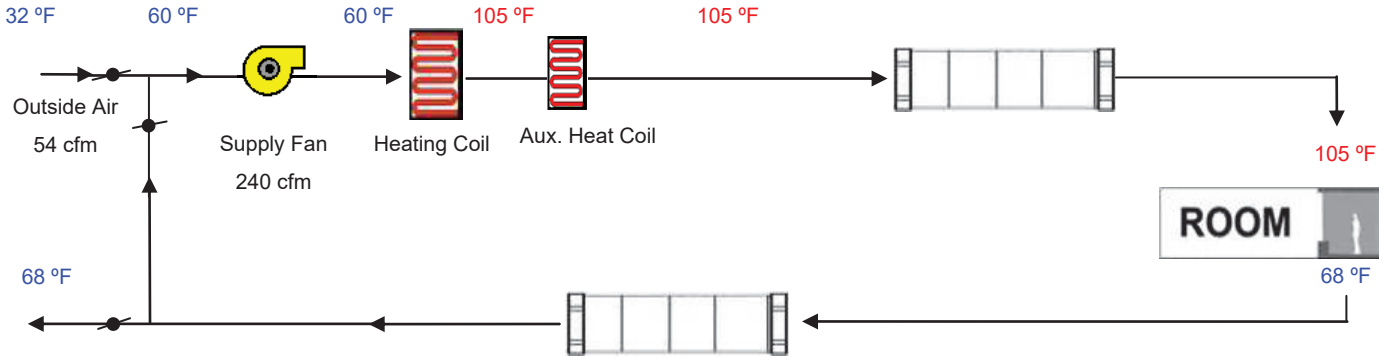
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	116	2,444	281	36	1,412
Return Vented Lighting		0			
Return Air Ducts		122			71
Return Fan		0			0
Ventilation	54	325	206	54	2,100
Supply Fan		3			-3
Supply Air Ducts		122			71
TOTAL SYSTEM LOAD		3,017	487		3,650

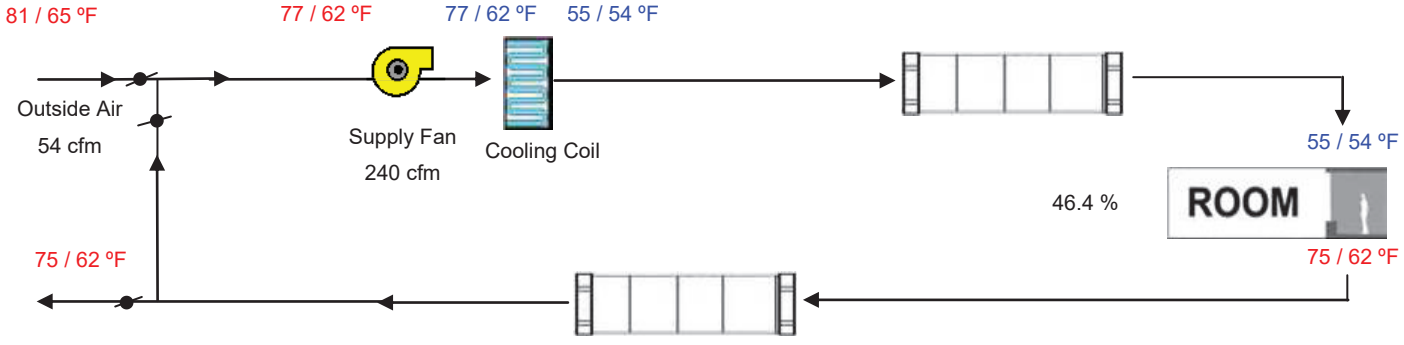
HVAC EQUIPMENT SELECTION

AZ65H07DAM	5,486	1,068		4,303
2.4 kW Supplemental Electric				8,191
Total Adjusted System Output (Adjusted for Peak Design conditions)	5,486	1,068		12,494
TIME OF SYSTEM PEAK		Jul 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #141	395

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	5,900
Total Output (Btuh)	5,900
Output (Btuh/sqft)	14.9
Cooling System	
Output per System	6,600
Total Output (Btuh)	6,600
Total Output (Tons)	0.6
Total Output (Btuh/sqft)	16.7
Total Output (sqft/Ton)	718.2
Air System	
CFM per System	240
Airflow (cfm)	240
Airflow (cfm/sqft)	0.61
Airflow (cfm/Ton)	436.4
Outside Air (%)	24.7 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

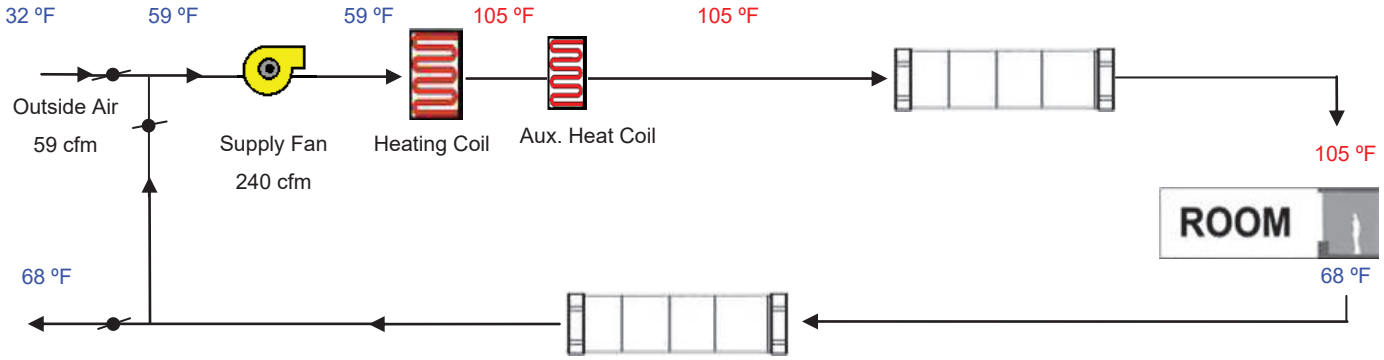
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	164	3,431	306	37	1,485
Return Vented Lighting		0			
Return Air Ducts		172			74
Return Fan		0			0
Ventilation	59	303	219	59	2,284
Supply Fan		3			-3
Supply Air Ducts		172			74
TOTAL SYSTEM LOAD		4,080	526		3,915

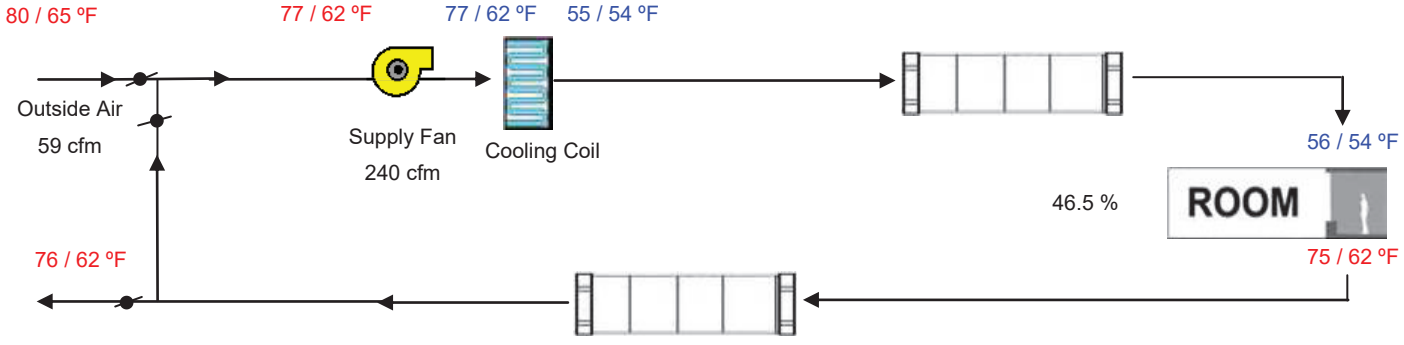
HVAC EQUIPMENT SELECTION

AZ65H07DAM	5,500	1,082		4,303
2.4 kW Supplemental Electric				8,191
Total Adjusted System Output (Adjusted for Peak Design conditions)	5,500	1,082		12,494
TIME OF SYSTEM PEAK		Aug 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #142	369

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	5,900
Total Output (Btuh)	5,900
Output (Btuh/sqft)	16.0
Cooling System	
Output per System	6,600
Total Output (Btuh)	6,600
Total Output (Tons)	0.6
Total Output (Btuh/sqft)	17.9
Total Output (sqft/Ton)	670.9
Air System	
CFM per System	240
Airflow (cfm)	240
Airflow (cfm/sqft)	0.65
Airflow (cfm/Ton)	436.4
Outside Air (%)	23.1 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

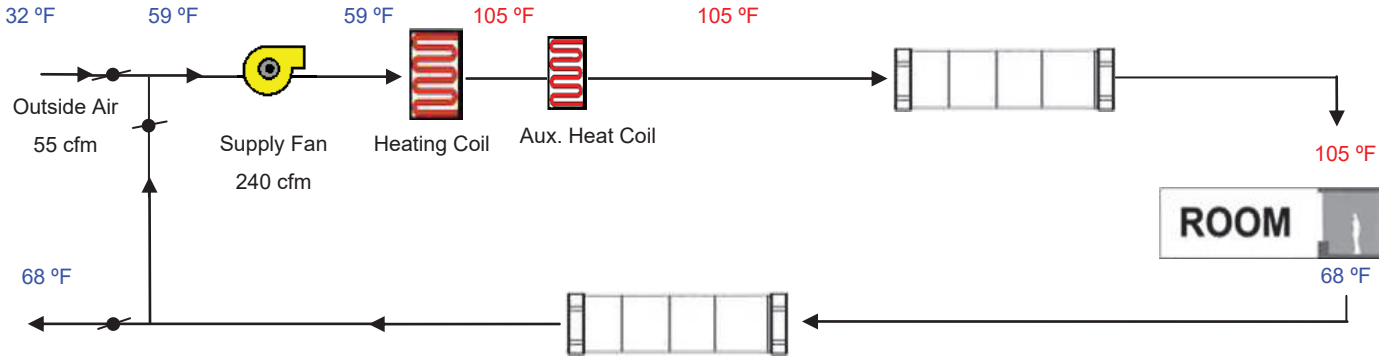
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	118	2,479	286	37	1,459
Return Vented Lighting		0			
Return Air Ducts		124			73
Return Fan		0			0
Ventilation	55	330	208	55	2,134
Supply Fan		3			-3
Supply Air Ducts		124			73
TOTAL SYSTEM LOAD		3,060	494		3,736

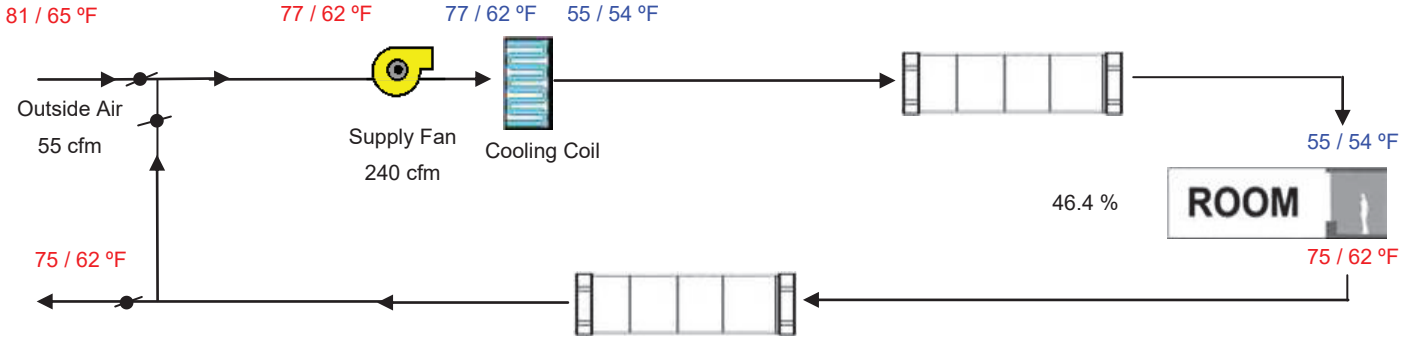
HVAC EQUIPMENT SELECTION

AZ65H07DAM	5,488	1,068		4,303
2.4 kW Supplemental Electric				8,191
Total Adjusted System Output (Adjusted for Peak Design conditions)	5,488	1,068		12,494
TIME OF SYSTEM PEAK		Jul 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
Suite #143	401

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	5,900
Total Output (Btuh)	5,900
Output (Btuh/sqft)	14.7
Cooling System	
Output per System	6,600
Total Output (Btuh)	6,600
Total Output (Tons)	0.6
Total Output (Btuh/sqft)	16.5
Total Output (sqft/Ton)	729.1
Air System	
CFM per System	240
Airflow (cfm)	240
Airflow (cfm/sqft)	0.60
Airflow (cfm/Ton)	436.4
Outside Air (%)	25.1 %
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

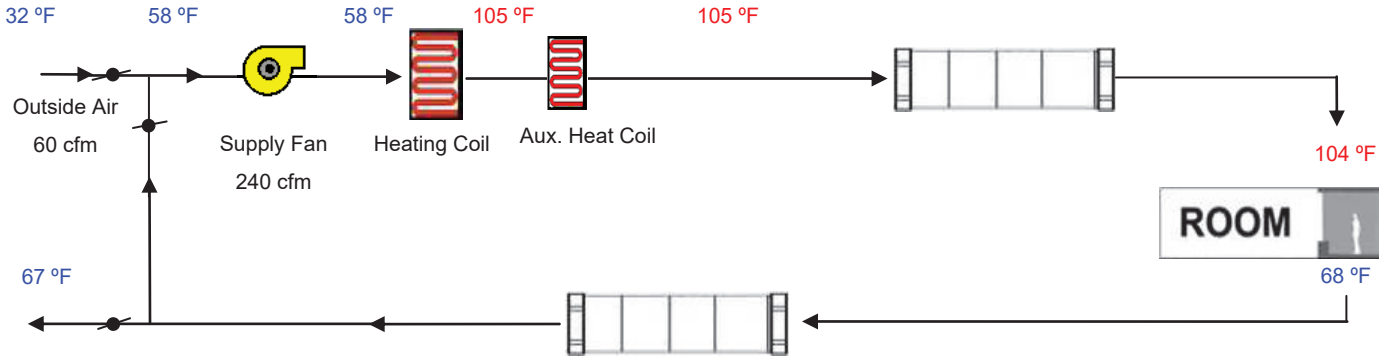
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	183	3,805	311	87	3,397
Return Vented Lighting		0			
Return Air Ducts		190			170
Return Fan		0			0
Ventilation	60	303	222	60	2,295
Supply Fan		3			-3
Supply Air Ducts		190			170
TOTAL SYSTEM LOAD		4,492	533		6,029

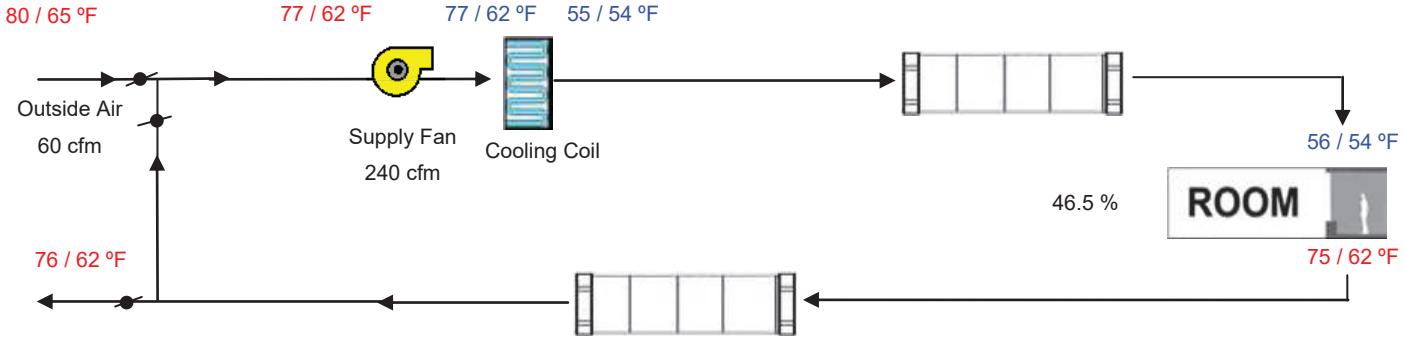
HVAC EQUIPMENT SELECTION

AZ65H07DAM	5,510	1,076		4,303
2.4 kW Supplemental Electric				8,191
Total Adjusted System Output (Adjusted for Peak Design conditions)	5,510	1,076		12,494
TIME OF SYSTEM PEAK		Aug 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
2nd - Guest Rooms	16,206

ENGINEERING CHECKS

Number of Systems	38
Heating System	
Output per System	5,900
Total Output (Btuh)	224,200
Output (Btuh/sqft)	13.8
Cooling System	
Output per System	6,600
Total Output (Btuh)	250,800
Total Output (Tons)	20.9
Total Output (Btuh/sqft)	15.5
Total Output (sqft/Ton)	775.4
Air System	
CFM per System	240
Airflow (cfm)	9,120
Airflow (cfm/sqft)	0.56
Airflow (cfm/Ton)	436.4
Outside Air (%)	14.1 %
Outside Air (cfm/sqft)	0.08
Note: values above given at ARI conditions	

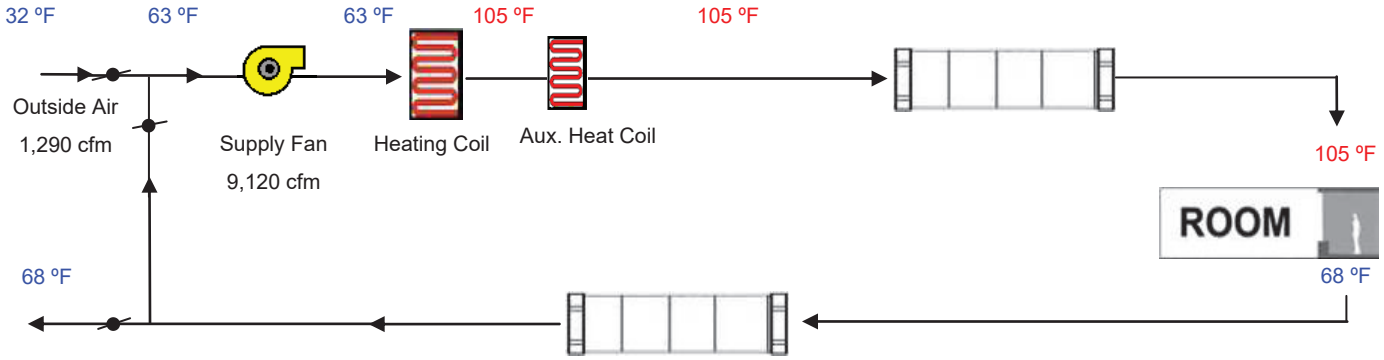
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	4,956	104,113	6,663	1,042	41,415
Return Vented Lighting		0			
Return Air Ducts		5,206			2,071
Return Fan		0			0
Ventilation	1,290	6,782	5,456	1,290	49,828
Supply Fan		113			-113
Supply Air Ducts		5,206			2,071
TOTAL SYSTEM LOAD		121,419	12,119		95,272

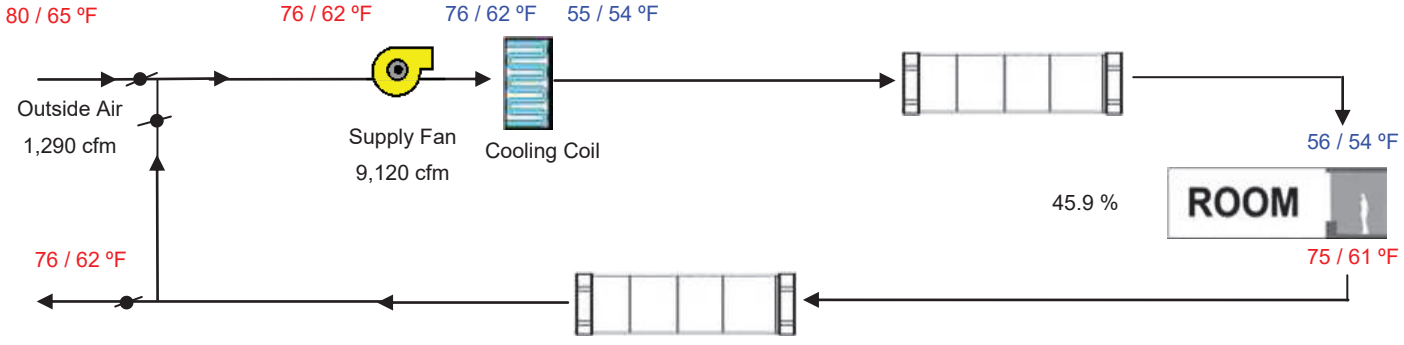
HVAC EQUIPMENT SELECTION

AZ65H07DAM	207,528	40,865		163,508
2.4 kW Supplemental Electric				311,266
Total Adjusted System Output (Adjusted for Peak Design conditions)	207,528	40,865		474,774
TIME OF SYSTEM PEAK		Jul 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
3rd - Guest Rooms	16,206

ENGINEERING CHECKS

Number of Systems	38
Heating System	
Output per System	5,900
Total Output (Btuh)	224,200
Output (Btuh/sqft)	13.8
Cooling System	
Output per System	6,600
Total Output (Btuh)	250,800
Total Output (Tons)	20.9
Total Output (Btuh/sqft)	15.5
Total Output (sqft/Ton)	775.4
Air System	
CFM per System	240
Airflow (cfm)	9,120
Airflow (cfm/sqft)	0.56
Airflow (cfm/Ton)	436.4
Outside Air (%)	14.1 %
Outside Air (cfm/sqft)	0.08
Note: values above given at ARI conditions	

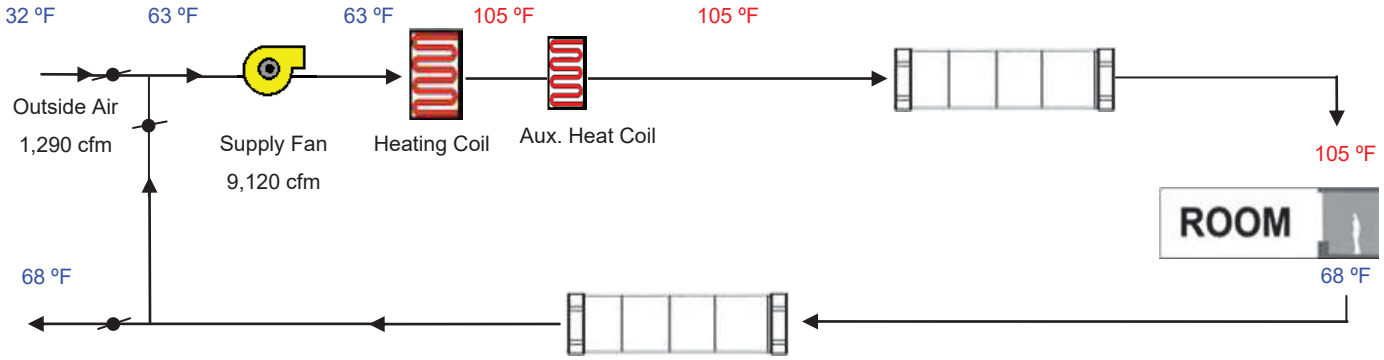
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	4,956	104,113	6,663	1,042	41,415
Return Vented Lighting		0			
Return Air Ducts		5,206			2,071
Return Fan		0			0
Ventilation	1,290	6,782	5,456	1,290	49,828
Supply Fan		113			-113
Supply Air Ducts		5,206			2,071
TOTAL SYSTEM LOAD		121,419	12,119		95,272

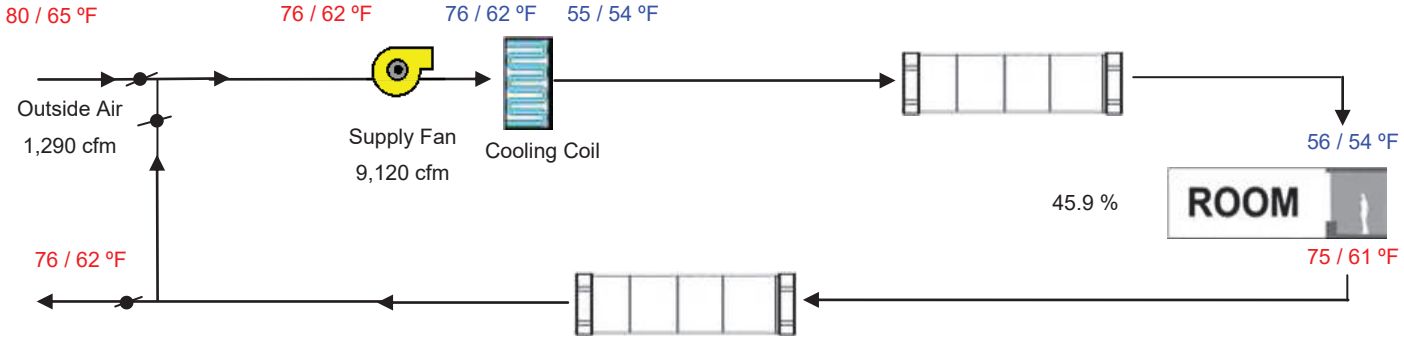
HVAC EQUIPMENT SELECTION

AZ65H07DAM	207,528	40,865		163,508
2.4 kW Supplemental Electric				311,266
Total Adjusted System Output (Adjusted for Peak Design conditions)	207,528	40,865		474,774
TIME OF SYSTEM PEAK		Jul 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
4th - Guest Rooms	16,206

ENGINEERING CHECKS

Number of Systems	38
Heating System	
Output per System	5,900
Total Output (Btuh)	224,200
Output (Btuh/sqft)	13.8
Cooling System	
Output per System	6,600
Total Output (Btuh)	250,800
Total Output (Tons)	20.9
Total Output (Btuh/sqft)	15.5
Total Output (sqft/Ton)	775.4
Air System	
CFM per System	240
Airflow (cfm)	9,120
Airflow (cfm/sqft)	0.56
Airflow (cfm/Ton)	436.4
Outside Air (%)	14.1 %
Outside Air (cfm/sqft)	0.08
Note: values above given at ARI conditions	

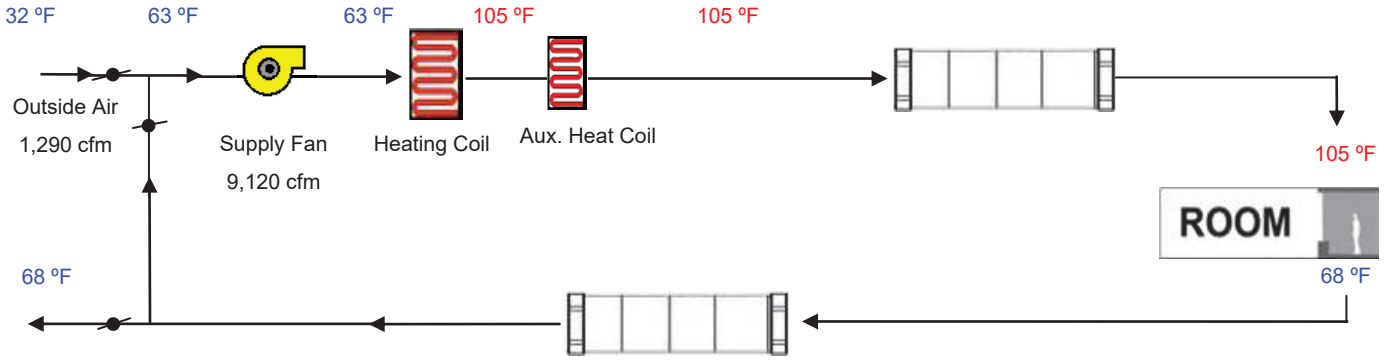
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	4,956	104,113	6,663	1,042	41,415
Return Vented Lighting		0			
Return Air Ducts		5,206			2,071
Return Fan		0			0
Ventilation	1,290	6,782	5,456	1,290	49,828
Supply Fan		113			-113
Supply Air Ducts		5,206			2,071
TOTAL SYSTEM LOAD		121,419	12,119		95,272

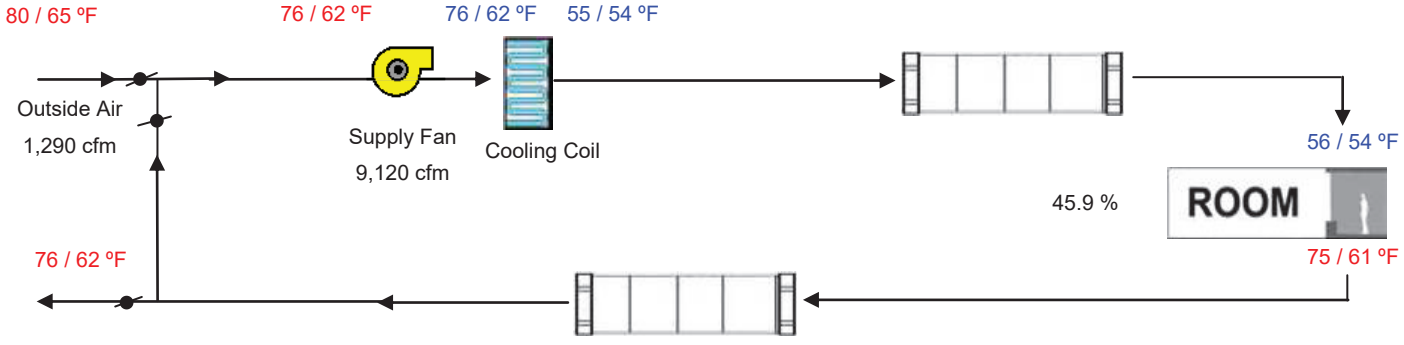
HVAC EQUIPMENT SELECTION

AZ65H07DAM	207,528	40,865		163,508
2.4 kW Supplemental Electric				311,266
Total Adjusted System Output (Adjusted for Peak Design conditions)	207,528	40,865		474,774
TIME OF SYSTEM PEAK		Jul 4 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Gateway Hotel	10/14/2017
System Name	**Floor Area**
5th - Guest Rooms	16,206

ENGINEERING CHECKS

Number of Systems	38
Heating System	
Output per System	5,900
Total Output (Btuh)	224,200
Output (Btuh/sqft)	13.8
Cooling System	
Output per System	6,600
Total Output (Btuh)	250,800
Total Output (Tons)	20.9
Total Output (Btuh/sqft)	15.5
Total Output (sqft/Ton)	775.4
Air System	
CFM per System	240
Airflow (cfm)	9,120
Airflow (cfm/sqft)	0.56
Airflow (cfm/Ton)	436.4
Outside Air (%)	14.1 %
Outside Air (cfm/sqft)	0.08
Note: values above given at ARI conditions	

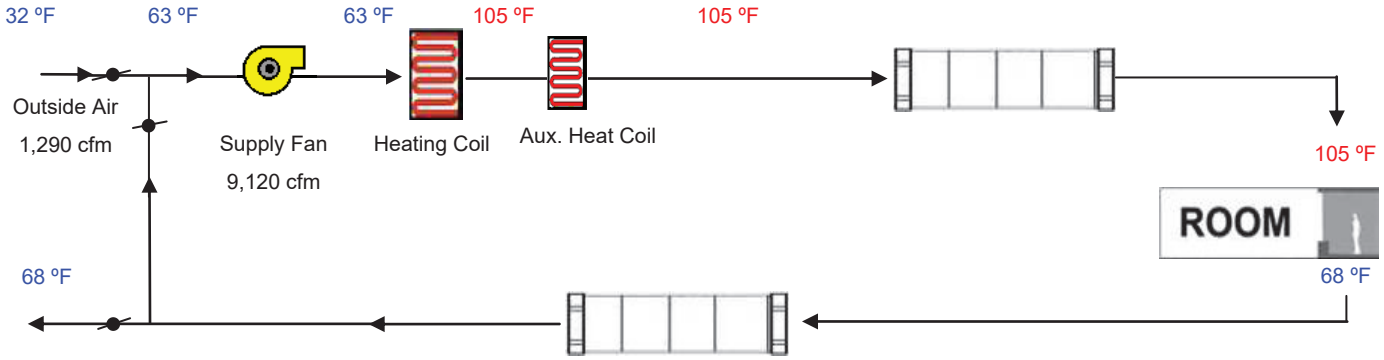
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	5,648	118,227	6,663	1,450	57,492
Return Vented Lighting		0			
Return Air Ducts		5,911			2,875
Return Fan		0			0
Ventilation	1,290	7,518	5,460	1,290	49,715
Supply Fan		113			-113
Supply Air Ducts		5,911			2,875
TOTAL SYSTEM LOAD		137,681	12,123		112,843

HVAC EQUIPMENT SELECTION

AZ65H07DAM	208,161	39,641		163,508
2.4 kW Supplemental Electric				311,266
Total Adjusted System Output (Adjusted for Peak Design conditions)	208,161	39,641		474,774
TIME OF SYSTEM PEAK		Jul 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)