# COMcheck Software Version 4.0.4.1 Envelope Compliance Certificate

#### **Project Information**

Energy Code:	90.1 (2010) Standard
Project Title:	Asylum
Location:	Portland, Maine
Climate Zone:	6a
Project Type:	Addition
Vertical Glazing / Wall Area:	13%

Construction Site: 121 Center St Portland, ME Owner/Agent:

Designer/Contractor: Andy Rudnicki WBRC Architect-Engineers 44 Central St Bangor, ME 04401 207-947-4511

Building Area	Floor Area	
1-Theater & periphery spaces (Performing Arts Theater) :	13971	
Nonresidential		

#### **Envelope Assemblies**

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor <sub>(a)</sub>
Roof 1: Insulation Entirely Above Deck, [Bldg. Use 1 - Theater & periphery spaces]	5127		30.0	0.032	0.048
SW Wall: Steel-Framed, 24" o.c., [Bldg. Use 1 - Theater & periphery spaces]	3361	5.0	15.0	0.047	0.064
Window 1: Metal Frame Curtain Wall/Storefront, Perf. Specs.: Product ID WAU-K-62-00005-00001, SHGC 0.40, [Bldg. Use 1 - Theater & periphery spaces] (b)	180			0.310	0.450
SE Wall: Steel-Framed, 24" o.c., [Bldg. Use 1 - Theater & periphery spaces]	3307	5.0	15.0	0.047	0.064
Window 3: Metal Frame Curtain Wall/Storefront, Perf. Specs.: Product ID WAU-K-62-00005-00001, SHGC 0.40, [Bldg. Use 1 - Theater & periphery spaces] (b)	40			0.310	0.450
Window 4: Metal Frame Curtain Wall/Storefront, Perf. Specs.: Product ID WAU-K-62-00005-00001, SHGC 0.40, [Bldg. Use 1 - Theater & periphery spaces] (b)	1286			0.310	0.450
Door 3: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Type: Energy code default, Double Pane with Low-E, Clear, SHGC 0.68, [Bldg. Use 1 - Theater & periphery spaces]	122			0.900	0.800
Door 4: Insulated Metal, Swinging, [Bldg. Use 1 - Theater & periphery spaces]	42			0.167	0.700
NE Wall: Steel-Framed, 24" o.c., [Bldg. Use 1 - Theater & periphery spaces]	3453	5.0	15.0	0.047	0.064

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor <sub>(a)</sub>
Door 1: Insulated Metal, Swinging, [Bldg. Use 1 - Theater & periphery spaces]	21			0.167	0.700
NW Wall: Steel-Framed, 24" o.c., [Bldg. Use 1 - Theater & periphery spaces]	1680	5.0	15.0	0.047	0.064
Window 2: Metal Frame Curtain Wall/Storefront, Perf. Specs.: Product ID WAU-K-62-00005-00001, SHGC 0.40, [Bldg. Use 1 - Theater & periphery spaces] (b)	72			0.310	0.450
Door 2: Insulated Metal, Swinging, [Bldg. Use 1 - Theater & periphery spaces]	21			0.167	0.700
Basement Wall 1: Solid Concrete:8" Thickness, Normal Density, Furring: Metal, Wall Ht 4.0, Depth B.G. 4.0, [Bldg. Use 1 - Theater & periphery spaces]	864	0.0	10.0	0.082	0.108
Floor 1: Slab-On-Grade:Unheated, Horizontal with vertical >= 4 ft., [Bldg. Use 1 - Theater & periphery spaces] (c)	216		10.0	0.360	0.540

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

#### Envelope PASSES: Design 10% better than code

#### **Envelope Compliance Statement**

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 90.1 (2010) Standard requirements in COM*check* Version 4.0.4.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date

# **COM***check* Software Version 4.0.4.1 Interior Lighting Compliance Certificate

#### **Project Information**

Energy Code:	90.1 (2010) Standard
Project Title:	Asylum
Project Type:	Addition

Construction Site:	Owner/Agent:	Designer/Contractor:
121 Center St Portland, ME		Andy Rudnicki WBRC Architect-Engineers 44 Central St Bangor, ME 04401 207-947-4511

#### **Allowed Interior Lighting Power**

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Theater & periphery spaces (Performing Arts Theater)	13971	1 .38	19420
		Total Allowed Watts =	19420

#### **Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Theater & periphery spaces (Performing Arts Theater)				
Type A: LED PAR 13W:	1	64	13	832
Type B: Other:	1	108	5	540
Type D: LED Linear 33W:	1	21	33	693
Type D1: LED Linear 17W:	1	3	18	54
Type D2: LED Other Fixture Unit 50W:	1	29	52	1508
Type F & F1: LED Panel 38W:	1	2	39	78
Type F2: LED Panel 33W:	1	9	32	288
Type H: LED Panel 19W:	1	15	19	285
Type J: LED PAR 20W:	1	1	20	20
Type K: LED Panel 110W:	1	4	115	460
Type L: Strip: Other:	1	10	3	30
Type Q: Strip: Other:	1	248	6	1488
Type S: LED PAR 20W:	1	119	20	2380
Type T: LED MR 4W:	1	13	5	65
Type U: Strip: Other:	1	6	6	36
Type V: Strip: Other:	1	150	5	750
Type Y: Other:	1	290	4	1160
		Total Drange	ad Matta	10667

Total Proposed Watts = 10667

#### Interior Lighting Compliance Statement

*Compliance Statement:* The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2010) Standard requirements in COM*check* Version 4.0.4.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date

# **COM***check* Software Version 4.0.4.1 Exterior Lighting Compliance Certificate

#### **Project Information**

Energy Code:	90.1 (2010) Standard
Project Title:	Asylum
Project Type:	Addition
Exterior Lighting Zone	4 (High activity metropolitan commercial district)

Construction Site: 121 Center St Portland, ME Owner/Agent:

Designer/Contractor: Andy Rudnicki WBRC Architect-Engineers 44 Central St Bangor, ME 04401 207-947-4511

#### **Allowed Exterior Lighting Power**

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
basement entry (Entry canopy)	126 ft2	0.4	Yes	50
Stairway	63 ft2	1	Yes	63
		Total Tradable Watts (a) =		293
		Total Al	lowed Watts =	293
	Total Al	Total Allowed Supplemental Watts (b) =		

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.

(b) A supplemental allowance equal to 1300 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

#### **Proposed Exterior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
basement entry (Entry canopy 126 ft2): Tradable Wattage LED 1: con't strip LED: Other:	2	1	240	240
Main entry (6 ft of door width): Tradable Wattage				
Stairway (63 ft2): Tradable Wattage				
LED 2: LED wall pack: Other:	1	2	21	42
	Total Trac	dable Propos	sed Watts =	282

#### Exterior Lighting PASSES: Design 82% better than code

#### **Exterior Lighting Compliance Statement**

*Compliance Statement:* The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 90.1 (2010) Standard requirements in COM*check* Version 4.0.4.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date

## COMcheck Software Version 4.0.4.1 **Mechanical Compliance Certificate**

#### **Project Information**

Energy Code:	
Project Title:	
Location:	
Climate Zone:	
Project Type:	

90.1 (2010) Standard Asylum Portland, Maine 6a Addition

Construction Site: 121 Center St Portland, ME

1

1

1

Owner/Agent:

Designer/Contractor: Andy Rudnicki WBRC Architect-Engineers 44 Central St Bangor, ME 04401 207-947-4511

#### **Mechanical Systems List**

#### Quantity System Type & Description

RTU-4 (Single Zone): Heating: 1 each - Central Furnace, Gas, Capacity = 108 kBtu/h Proposed Efficiency = 81.00% Et, Required Efficiency = 80.00% Et Cooling: 1 each - Single Package DX Unit, Capacity = 24 kBtu/h, Air-Cooled Condenser Proposed Efficiency = 18.00 SEER, Required Efficiency = 13.00 SEER Fan System: RTU-4 SF | Green Room -- Compliance (Motor nameplate HP method) : Passes Fans: FAN 1 Supply, Constant Volume, 700 CFM, 0.5 motor nameplate hp RTU-5 (Single Zone): Heating: 1 each - Central Furnace, Gas, Capacity = 108 kBtu/h Proposed Efficiency = 81.00% Et, Required Efficiency = 80.00% Et Cooling: 1 each - Single Package DX Unit, Capacity = 24 kBtu/h, Air-Cooled Condenser Proposed Efficiency = 18.00 SEER, Required Efficiency = 13.00 SEER Fan System: RTU-5 SF | Office -- Compliance (Motor nameplate HP method) : Passes Fans: FAN 2 Supply, Constant Volume, 700 CFM, 0.5 motor nameplate hp RTU-6 (Single Zone): Heating: 1 each - Central Furnace, Gas, Capacity = 150 kBtu/h Proposed Efficiency = 81.00% Et, Required Efficiency = 80.00% Et Cooling: 1 each - Single Package DX Unit, Capacity = 60 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 17.10 SEER, Required Efficiency = 13.00 SEER

Fans:

FAN 3 Supply, Constant Volume, 1870 CFM, 1.0 motor nameplate hp

1 RTU-7 (Single Zone):

Heating: 1 each - Central Furnace, Gas, Capacity = 500 kBtu/h Proposed Efficiency = 80.00% Ec, Required Efficiency = 80.00% Ec Cooling: 1 each - Single Package DX Unit, Capacity = 400 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 10.80 EER, Required Efficiency = 9.80 EER Fan System: RTU-7 | Event Space -- Compliance (Brake HP method) : Passes

Fan System: RTU-6 SF | Bsmt PreFunction -- Compliance (Motor nameplate HP method) : Passes

Fans:

#### Quantity System Type & Description

FAN 4 Supply, Constant Volume, 13000 CFM, 15.0 motor nameplate hp, 14.0 brake hp FAN 5 Exhaust, Constant Volume, 11000 CFM, 3.0 motor nameplate hp, 2.5 brake hp Pressure Drop Credits: Particulate filtration credit: MERV 13 through 15, 2.8322 credit Fully ducted return and/or exhaust air systems, 1.5735 credit Sound attenuation section, 0.4720 credit

1 DWH-4:

Electric Storage Water Heater, Capacity: 20 gallons w/ Circulation Pump No minimum efficiency requirement applies

1 DWH-3:

Electric Instantaneous Water Heater, Capacity: 0 gallons No minimum efficiency requirement applies

#### **Mechanical Compliance Statement**

*Compliance Statement:* The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2010) Standard requirements in COM*check* Version 4.0.4.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date

### COMcheck Software Version 4.0.4.1 Inspection Checklist

### Energy Code: 90.1 (2010) Standard

#### Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2,5.4. 3.1.1,5.7 [PR1] <sup>1</sup>	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
4.2.2,6.4. 4.2.1,6.7. 2 [PR2] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
4.2.2,7.7. 1,10.4.2 [PR3] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
4.2.2,8.4. 1.1,8.4.1. 2,8.7 [PR6] <sup>2</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
4.2.2,9.4. 4,9.7 [PR4] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1High Impact (Tier 1)2Medium Impact (Tier 2)3Low Impact (Tier 3)

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
9.7 [PR8] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.7.2.4 [PR5] <sup>1</sup>	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	Complies Does Not Not Observable Not Applicable	Exception: Requirement does not apply.

 1
 High Impact (Tier 1)
 2
 Medium Impact (Tier 2)
 3
 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.5.3.3 [FO1] <sup>2</sup>	Below-grade wall insulation R- value.	R	R	□Complies □Does Not	<i>See the Envelope Assemblies table for values.</i>
				□Not Observable □Not Applicable	
5.8.1.2 [FO2] <sup>2</sup>	Below-grade wall insulation installed per manufacturer's			□Complies □Does Not	Requirement will be met.
	instructions.			□Not Observable □Not Applicable	
5.5.3.5 [FO3] <sup>2</sup>	Slab edge insulation R-value.	R Unheated	R Unheated	□Complies □Does Not	<i>See the Envelope Assemblies table for values.</i>
		Heated	Heated	□Not Observable □Not Applicable	
5.8.1.2 [FO4] <sup>2</sup>	Slab edge insulation installed per manufacturer's instructions.			□Complies □Does Not	Requirement will be met.
				□Not Observable □Not Applicable	
5.5.3.5 [FO5] <sup>2</sup>	Slab edge insulation depth/length.	ft	ft	□Complies □Does Not	<i>See the Envelope Assemblies table for values.</i>
				□Not Observable □Not Applicable	
5.8.1.7.3 [FO7] <sup>1</sup>	Insulation in contact with the ground has <=0.3% water			□Complies □Does Not	Requirement will be met.
	absorption rate per ASTM C272.			□Not Observable □Not Applicable	
6.4.3.8 [FO9] <sup>3</sup>	Freeze protection and snow/ice melting system sensors for future			□Complies □Does Not	Exception: Requirement does not apply.
	connection to controis.			□Not Observable □Not Applicable	
6.4.4.1.5 [FO11] <sup>3</sup>	Bottom surface of floor structures incorporating radiant heating	R	R	□Complies □Does Not	Exception: Requirement does not apply.
	Insulated to >=K-3.5.			□Not Observable □Not Applicable	<i>See the Envelope Assemblies table for values.</i>

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.3.2 [FR1] <sup>3</sup>	Factory-built fenestration and doors are labeled as meeting air leakage requirements.			Complies Does Not Not Observable Not Applicable	Requirement will be met.
5.4.3.4 [FR4] <sup>3</sup>	Vestibules are installed where building entrances separate conditioned space from the exterior, and meet exterior envelope requirements. Doors have self-closing devices, and are >=7 ft apart.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.5.4.3a [FR8] <sup>1</sup>	Vertical fenestration U-Factor.	U	U	□Complies □Does Not □Not Observable □Not Applicable	<i>See the Envelope Assemblies table for values.</i>
5.5.4.3b [FR9] <sup>1</sup>	Skylight fenestration U-Factor.	U	U	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.1 [FR10] <sup>1</sup>	Vertical fenestration SHGC value.	SHGC:	SHGC:	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.2 [FR11] <sup>1</sup>	Skylight SHGC value.	SHGC:	SHGC:	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
5.8.2.1 [FR12] <sup>2</sup>	Fenestration products rated in accordance with NFRC.			Complies Does Not Not Observable Not Applicable	Requirement will be met.
5.8.2.2 [FR13] <sup>1</sup>	Fenestration products are certified as to performance labels or certificates provided.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.2.3,5. 5.3.6 [FR14] <sup>2</sup>	U-factor of opaque doors associated with the building thermal envelope meets requirements.	U Swinging Nonswinging	U Swinging Nonswinging	□Complies □Does Not □Not Observable □Not Applicable	<i>See the Envelope Assemblies table for values.</i>
5.4.3.1 [FR15] <sup>1</sup>	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semiheated spaces and in climate zones 1-6.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Mediu

2 Medium Impact (Tier 2)

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
7.4.4.1 [PL2] <sup>3</sup>	Temperature controls installed on service water heating systems (<=120°F to maximum temperature for intended use).	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
7.4.4.2 [PL3] <sup>1</sup>	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

 1
 High Impact (Tier 1)
 2
 Medium Impact (Tier 2)
 3
 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4,6. 4.1.5 [ME1] <sup>2</sup>	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency:	Efficiency:	□Complies □Does Not □Not Observable □Not Applicable	<i>See the Mechanical Systems list for values.</i>
6.4.3.4.1 [ME3] <sup>3</sup>	Stair and elevator shaft vents have motorized dampers that automatically close.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.4.3.4.2, 6.4.3.4.3 [ME4] <sup>3</sup>	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.3.4.5 [ME39] <sup>3</sup>	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.4.3.4.4 [ME5] <sup>3</sup>	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.3.9 [ME6] <sup>1</sup>	Demand control ventilation provided for spaces >500 ft2 and >40 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.3.10 [ME40] <sup>2</sup>	Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
6.4.3.10 [ME40] <sup>2</sup>	Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
6.4.3.10 [ME40] <sup>2</sup>	Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
6.4.3.10 [ME40] <sup>2</sup>	Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. See the Mechanical Systems list for values.

1 High Impact (Tier 1) 2 Med

2 Medium Impact (Tier 2)

Section # & Reg.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.1 [ME7] <sup>3</sup>	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8] <sup>2</sup>	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R	R	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9] <sup>2</sup>	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	in.	in.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.4.1.4 [ME41] <sup>3</sup>	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			Complies Does Not Not Observable Not Applicable	Exception: Requirement does not apply.
6.4.4.2.1 [ME10] <sup>2</sup>	Ducts and plenums sealed based on static pressure and location.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.1,6.5. 1.1,6.5.1. 3 [ME12] <sup>1</sup>	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high- limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.			□Complies □Does Not □Not Observable □Not Applicable	
6.5.1,6.5. 1.1,6.5.1. 3 [ME12] <sup>1</sup>	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high- limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.			□Complies □Does Not □Not Observable □Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.2.3 [ME19] <sup>3</sup>	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Capability of first reducing supply air volume 50% or less of the design rate or minimum outdoor air ventilation, or per regulatory standard, whichever is larger, before combined heating/cooling occurs.
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint			□Complies □Does Not □Not Observable	<b>Exception:</b> Requirement does not apply.
	reset controls.			□Not Applicable	for values.
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint			□Complies □Does Not	Exception: Requirement does not apply.
	reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint			□Complies □Does Not	<b>Exception:</b> Requirement does not apply.
	reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes			□Complies □Does Not	Exception: Requirement does not apply.
	reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.
6.5.4.1 [ME25] <sup>3</sup>	HVAC pumping systems >10 hp designed for variable fluid flow.			□Complies □Does Not	Requirement will be met.
				□Not Observable □Not Applicable	
6.5.6.1 [ME56] <sup>1</sup>	Exhaust air energy recovery on systems meeting Table 6.5.6.1.			□Complies □Does Not	Exception: Requirement does not apply.
				□Not Observable □Not Applicable	
6.5.7.1.1 [ME32] <sup>2</sup>	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust			□Complies □Does Not	Exception: Requirement does not apply.
	air volume.			□Not Observable □Not Applicable	
6.5.7.1.2 [ME46] <sup>3</sup>	Conditioned supply air to space with a kitchen hood shall not			□Complies □Does Not	Exception: Requirement does not apply.
	exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.			□Not Observable □Not Applicable	
6.5.7.1.2 [ME46] <sup>3</sup>	Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.7.1.2 [ME46] <sup>3</sup>	Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.1.2 [ME46] <sup>3</sup>	Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.1.3 [ME47] <sup>3</sup>	Kitchen hoods with a total exhaust airflow rate >5000 cfm meet replacement air, ventilation system, or energy recovery requirements shown in Table 6.5.7.1.3.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.1.4 [ME48] <sup>3</sup>	Kitchen hoods with a total exhaust airflow rate >5000 cfm meet replacement air, ventilation system, or energy recovery requirements.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.1.5 [ME49] <sup>3</sup>	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.7.2 [ME33] <sup>1</sup>	Fume hoods exhaust systems >=15,000 cfm have VAV hood exhaust and supply systems, direct make-up air or heat recovery.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.8.1 [ME34] <sup>2</sup>	Unenclosed spaces that are heated use only radiant heat.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.9 [ME35] <sup>1</sup>	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.9 [ME35] <sup>1</sup>	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.9 [ME35] <sup>1</sup>	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.9 [ME35] <sup>1</sup>	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
7.4.2 [ME36] <sup>2</sup>	Service water heating equipment meets efficiency requirements.			□Complies □Does Not □Not Observable □Not Applicable	
7.4.2 [ME36] <sup>2</sup>	Service water heating equipment meets efficiency requirements.			□Complies □Does Not □Not Observable □Not Applicable	

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Section # & Reg.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] <sup>2</sup>	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by	□Complies □Does Not	<b>Exception:</b> Space type is not private office, open office, or computer classroom.
	an automatic control device.	□Not Observable □Not Applicable	
9.4.1.1 [EL1] <sup>2</sup>	Automatic controls to shut off all building lighting.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
9.4.1.2 [EL2] <sup>2</sup>	Independent lighting controls installed per approved lighting plans and all	□Complies □Does Not	Requirement will be met.
	visible to occupants.	□Not Observable □Not Applicable	
9.4.1.3 [EL11] <sup>2</sup>	Parking garage lighting is equipped with required lighting controls and	□Complies □Does Not	Exception: Requirement does not apply.
	daylight transition zone lighting.	□Not Observable □Not Applicable	
9.4.1.4 [EL12] <sup>1</sup>	Primary sidelighted areas >=250 ft2 are equipped with required lighting	□Complies □Does Not	Exception: Requirement does not apply.
	controis.	□Not Observable □Not Applicable	
9.4.1.5 Enclosed spaces with daylight area [EL13] <sup>1</sup> under skylights and rooftop monitors		□Complies □Does Not	Exception: Requirement does not apply.
	lighting controls.	□Not Observable □Not Applicable	
9.4.1.7 [EL3] <sup>2</sup>	Automatic lighting controls for exterior lighting installed.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
9.4.1.6 [EL4] <sup>1</sup>	Separate lighting control devices for specific uses installed per approved lighting plans	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
9.4.2 [EL6] <sup>1</sup>	Exit signs do not exceed 5 watts per face.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
9.4.3 [EL7] <sup>1</sup>	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion	□Complies □Does Not	Requirement will be met.
	of code or from external LPD.	□Not Observable □Not Applicable	
9.6.2 [EL8] <sup>1</sup>	Additional interior lighting power allowed for special functions per the approved lighting plans and is	└└Complies └─Does Not	Requirement will be met.
	automatically controlled and separated from general lighting.	□Not Observable □Not Applicable	
10.4.1 [EL9] <sup>2</sup>	Electric motors meet requirements where applicable.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.3.1 [IN1] <sup>1</sup>	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.5.3.1 [IN2] <sup>1</sup>	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	R   Above deck   Metal   Attic	R Above deck Metal Attic	□Complies □Does Not □Not Observable □Not Applicable	<i>See the Envelope Assemblies table for values.</i>
5.8.1.2,5. 8.1.3 [IN3] <sup>1</sup>	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.5.3.2 [IN6] <sup>1</sup>	Above-grade wall insulation R- value.	R   Mass   Metal   Steel   Wood	R   Mass   Metal   Steel   Wood	□Complies □Does Not □Not Observable □Not Applicable	<i>See the Envelope Assemblies table for values.</i>
5.8.1.2 [IN7] <sup>1</sup>	Above-grade wall insulation installed per manufacturer's instructions.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.5.3.4 [IN8] <sup>2</sup>	Floor insulation R-value.	R Mass Steel Wood	R Mass Steel Wood	□Complies □Does Not □Not Observable □Not Applicable	<i>See the Envelope Assemblies table for values.</i>
5.8.1.1 [IN10] <sup>2</sup>	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.1.4 [IN11] <sup>2</sup>	Eaves are baffled to deflect air to above the insulation.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.1.5 [IN12] <sup>2</sup>	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditional space.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.1.6 [IN13] <sup>2</sup>	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.7 [IN14] <sup>2</sup>	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.1.7.1 [IN15] <sup>2</sup>	Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.1.7.2 [IN16] <sup>2</sup>	Foundation vents do not interfere with insulation.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
5.8.1.8 [IN17] <sup>3</sup>	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

Section # & Reg.ID	Final Inspection	Complies?	Comments/Assumptions
5.4.3.3	Weatherseals installed on all loading	Complies	Exception: Requirement does not apply.
[[]]]	8.	□Does Not □Not Observable □Not Applicable	
6.4.3.1.2 [FI3] <sup>3</sup>	Thermostatic controls have a 5 °F deadband.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.2 [FI20] <sup>3</sup>	Temperature controls have setpoint overlap restrictions.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.3.1 [FI21] <sup>3</sup>	HVAC systems equipped with at least one automatic shutdown control.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.3.2 [FI22] <sup>3</sup>	Setback controls allow automatic restart and temporary operation as	□Complies □Does Not	Requirement will be met.
	required for maintenance.	□Not Observable □Not Applicable	
6.4.3.3.3 [FI4] <sup>3</sup>	Systems with air capacity >10,000 cfm include optimum start controls.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.7 [FI6] <sup>3</sup>	When humidification and dehumidification are provided to a	□Complies □Does Not	Requirement will be met.
	prohibited.	□Not Observable □Not Applicable	
6.7.2.1 [FI7] <sup>3</sup>	Furnished HVAC as-built drawings submitted within 90 days of system	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.7.2.2 [FI8] <sup>3</sup>	Furnished O&M manuals for HVAC systems within 90 days of system	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.7.2.3 [FI9] <sup>1</sup>	An air and/or hydronic system balancing report is provided for HVAC systems songing zongs >5,000 ft2 of	□Complies □Does Not	Requirement will be met.
conditioned area.		□Not Observable □Not Applicable	
6.7.2.4 [FI10] <sup>1</sup>	HVAC control systems have been tested to ensure proper operation, collibration and adjustment of controls	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
7.4.4.3 [FI11] <sup>3</sup>	Public lavatory faucet water temperature <=110°F.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
7.4.4.3 [FI11] <sup>3</sup>	Public lavatory faucet water temperature <=110°F.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
7.4.4.4 [FI12] <sup>3</sup>	Controls are installed that limit the operation of a recirculation pump	□Complies □Does Not	Requirement will be met.
installed to maintain temperature of a storage tank.		□Not Observable □Not Applicable	
8.7.1 [FI16] <sup>3</sup>	Furnished as-built drawings for electric power systems within 30 days	□Complies □Does Not	Requirement will be met.
of sy	of system acceptance.	□Not Observable □Not Applicable	
8.7.2 Fu [FI17] <sup>3</sup> Sy bu re	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
9.2.2.3 Int [FI18] <sup>1</sup> ligh is s pla are wa	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	□Complies □Does Not	See the Interior Lighting fixture schedule for values.
		□Not Observable □Not Applicable	
9.4.3 [FI19] <sup>1</sup>	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	□Complies □Does Not	See the Exterior Lighting fixture schedule for values.
		□Not Observable □Not Applicable	
10.4.3 [FI24] <sup>2</sup>	Elevators are designed with the proper lighting, ventilation power, and standby mode.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
7.4.3 [FI45] <sup>2</sup>	First 8 ft of outlet piping is insulated	□Complies □Does Not	Exception: Requirement does not apply.
		□Not Observable □Not Applicable	

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)