



PORTLAND MAINE

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Jeff Levine, AICP, Director
Director of Planning and Urban Development

Tammy Munson
Director, Inspections Division

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a **legal signature** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no permit application can be reviewed until payment of appropriate permit fees are **paid in full** to the Inspections Office, City of Portland Maine by method noted below:

Within 24-48 hours, once my complete permit application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

Within 24-48 hours, once my permit application and corresponding paperwork has been electronically delivered, I intend to **hand deliver** a payment method to the Inspections Office, Room 315, Portland City Hall.

I intend to deliver a payment method through the U.S. Postal Service mail once my permit paperwork has been electronically delivered.

Applicant Signature:

Date:

I have provided digital copies and sent them on:

Date:

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means ie; a thumb drive or CD to the office.

Room 315 - 389 Congress Street- Portland, Maine 04101 (207) 874-8703 - Fax: 874-8716 - TTY: 874-8936



New Commercial Permit Application Checklist

All of the following information is required and must be submitted. Checking off each item as you prepare your application package will ensure your package is complete and will help to expedite the permitting process.

One (1) complete Set of construction drawings must include:

Note: Construction documents for costs in excess of \$50,000.00 must be prepared by a Design Professional and bear their seal.

- Cross sections w/framing details
- Detail of any new walls or permanent partitions
- Floor plans and elevations
- Window and door schedules
- Foundation plans with rebar specifications and required drainage and damp proofing (if applicable)
- Detail egress requirements and fire separations
- Insulation R-factors of walls, ceilings, floors and U-factors of windows as per the IECC 2009
- Complete the Accessibility Certificate and The Certificate of Design
- A statement of special inspections as required per the IBC 2009
- Complete electrical and plumbing layout.
- Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review.
- Reduced plans or electronic files in PDF format are required if originals are larger than 11" x 17".
- Per State Fire Marshall, all new bathrooms must be ADA compliant.

Separate permits are required for internal & external plumbing, HVAC and electrical installations.

Nine (9) copies of the minor (< 10,000 sf) or major (> 10,000 sf) site plan application is required that includes:

- A stamped boundary survey to scale showing north arrow, zoning district and setbacks to a scale of $\geq 1'' = 20'$ on paper $\geq 11'' \times 17''$
- The shape and dimension of the lot, footprint of the proposed structure and the distance from the actual property lines. Photocopies of the plat or hand draw footprints not to scale will not be accepted.
- Location and dimensions of parking areas and driveways, street spaces and building frontage
- Finish floor or sill elevation (based on mean sea level datum)
- Location and size of both existing utilities in the street and the proposed utilities serving the building
- Existing and proposed grade contours
- Silt fence (erosion control) locations

Fire Department requirements.

The following shall be submitted on a separate sheet:

- Name, address and phone number of applicant **and** the project architect.
- Proposed use of structure (NFPA and IBC classification)
- Square footage of proposed structure (total and per story)
- Existing and proposed fire protection of structure.
- Separate plans shall be submitted for
 - a) Suppression system
 - b) Detection System (separate permit is required)
- A separate Life Safety Plan must include:
 - a) Fire resistance ratings of all means of egress
 - b) Travel distance from most remote point to exit discharge
 - c) Location of any required fire extinguishers
 - d) Location of emergency lighting
 - e) Location of exit signs
 - f) NFPA 101 code summary
- Elevators shall be sized to fit an 80" x 24" stretcher.

For questions on Fire Department requirements call the Fire Prevention Officer at (207) 874-8405.

Please submit all of the information outlined in this application checklist. If the application is incomplete, the application may be refused.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

Permit Fee: \$30.00 for the first \$1000.00 construction cost, \$10.00 per additional \$1000.00 cost

This is not a Permit; you may not commence any work until the Permit is issued.



General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Address/Location of Construction:		
Total Square Footage of Proposed Structure:		
Tax Assessor's Chart, Block & Lot Chart# Block# Lot#	Applicant Name: Address City, State & Zip	Telephone: Email:
Lessee/Owner Name : (if different than applicant) Address: City, State & Zip: Telephone & E-mail:	Contractor Name: (if different from Applicant) Address: City, State & Zip: Telephone & E-mail:	Cost Of Work: \$ _____ C of O Fee: \$ <u>170,798</u> Historic Rev \$ _____ Total Fees : \$ <u>170,798</u>
Current use (i.e. single family) _____ If vacant, what was the previous use? _____ Proposed Specific use: _____ Is property part of a subdivision? <u>No</u> If yes, please name _____ Project description: 19,087 SF addition to Level 2 Roof of the LL Bean Building to add (5) Operating Rooms & PACU with 11,866SF Mechanical Room on Level 4 and a 2,775SF Mezzanine. Includes 7,633 SF of renovation to existing Level 2 of LL Bean Building and new material lift.		
Who should we contact when the permit is ready:		
Address:		
City, State & Zip:		
E-mail Address:		
Telephone:		

Please submit all of the information outlined on the applicable checklist. Failure to do so causes an automatic permit denial.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: _____	Date: _____
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This is not a permit; you may not commence ANY work until the permit is issued.



Certificate of Design Application

From Designer: Simpson Gumpertz & Heger Inc

Date: 7 February 2014

Job Name: Maine Medical Center - Bean 2 Roof Addition

Address of Construction: 22 Bramhall St, Portland ME 04102

2009 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year IBC 2009 Use Group Classification (s) I-2 (Hospital)

Type of Construction IBC - Type 1B (non-combustible, 2 hour rated)

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IRC YES

Is the Structure mixed use? NO If yes, separated or non separated or non separated (section 302.3) _____

Supervisory alarm System? YES Geotechnical/Soils report required? (See Section 1802.2) NO

Structural Design Calculations

NO Submitted for all structural members (106.1 – 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
Procedure Room	80 psf
Corridors	80 psf (above ground)
Posted Storage	100 psf
Mechanical Room	150 psf

Wind loads (1603.1.4, 1609)

Method 2 Design option utilized (1609.1.1, 1609.6)

100 mph Basic wind speed (1809.3)

1.15 Building category and wind importance Factor, w , table 1604.5, 1609.5)

B Wind exposure category (1609.4)

±0.18 Internal pressure coefficient (ASCE 7)

per code Component and cladding pressures (1609.1.1, 1609.6.2.2)

per code Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

Frame Design option utilized (1614.1)

IV Seismic use group ("Category")

0.327, 0.123 Spectral response coefficients, S_D & S_{D1} (1615.1)

D Site class (1615.1.5)

per code Live load reduction

20 psf Roof *live* loads (1603.1.2, 1607.11)

50.4 psf Roof snow loads (1603.7.3, 1608)

60 psf Ground snow load, P_g (1608.2)

50.4 psf If $P_g > 10$ psf, flat-roof snow load P_f

1.0 If $P_g > 10$ psf, snow exposure factor, C_e

1.2 If $P_g > 10$ psf, snow load importance factor, I_s

1.0 Roof thermal factor, C_t (1608.4)

n/a Sloped roof snowload, P_s (1608.4)

C Seismic design category (1616.3)

OSCBF Basic seismic force resisting system (1617.6.2)

R=3, Cd=3 Response modification coefficient, R , and deflection amplification factor C_d (1617.6.2)

ELF Analysis procedure (1616.6, 1617.5)

±2100 k Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

n/a Flood Hazard area (1612.3)

_____ Elevation of structure

Other loads

n/a Concentrated loads (1607.4)

15 if <80psf Partition loads (1607.5)

_____ Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)



Certificate of Design

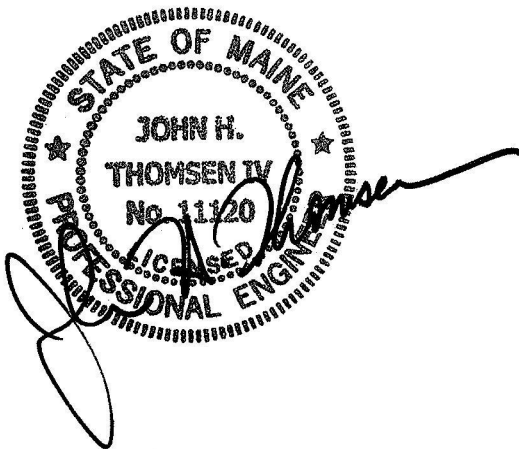
Date: 7 February 2014

From: Simpson Gumpertz & Heger Inc - Structural Engineers

These plans and / or specifications covering construction work on:

Maine Medical Center - Bean 2 Roof Addition

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the **2009 International Building Code** and local amendments.



Signature: *John H. Thomsen*

Title: John H. Thomsen, PE, Principal

Firm: Simpson Gumpertz & Heger Inc

Address: 41 Seyon St, Building 1 Suite 500
Waltham, MA 02453

Phone: 781-907-9351

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov



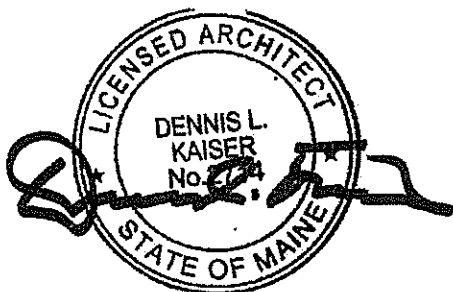
Accessibility Building Code Certificate


Designer: Perkins+Will

Address of Project: Maine Medical Center - 22 Bramhall Street. Portland, ME

Nature of Project: Addition of 5 operating rooms, 20 recovery bays
and associated support spaces.

The technical submissions covering the proposed construction work as described above have been designed in compliance with applicable referenced standards found in the Maine Human Rights Law and Federal Americans with Disability Act. Residential Buildings with 4 units or more must conform to the Federal Fair Housing Accessibility Standards. Please provide proof of compliance if applicable.



Signature: 

Title: Principal

Firm: Perkins+Will

Address: 225 Franklin Street, Suite 1100
Boston, MA 02110

Phone: 617-478-0300

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov



COMcheck Software Version 3.9.2

Interior Lighting and Power Compliance Certificate

90.1 (2007) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title : Bean 2 Roof Addition

Construction Site:
Maine Medical Center
22 Bramhall Street
Portland, ME 04102

Owner/Agent:

Designer/Contractor:

Perkins+Will/LAM Partners
225 Franklin Street, Suite 1100
Boston, MA 02110
617-478-0300
www.perkinswill.com

Section 2: Interior Lighting and Power Calculation

A	B Floor Area	C Allowed Watts / ft2	D Allowed Watts
Level 2 (Hospital)	26720	1.2	32064
Penthouse (Mechanical Rooms) (Workshop)	11866	1.4	16612
Mezz. (Mechanical Rooms) (Workshop)	2775	1.4	3885
Total Allowed Watts =			52561

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Level 2 (Hospital 26720 sq.ft.)				
Linear Fluorescent: L1: Linear surface mtd strip: 48" T8 32W: Electronic:	1	4	30	120
Linear Fluorescent: L2: Linear recessed with lens: 48" T8 32W: Electronic:	1	4	30	120
Linear Fluorescent: L3: Linear recessed with lens: 48" T8 32W: Electronic:	1	193	30	5790
Linear Fluorescent: L4: Linear surface mtd strip: 48" T8 32W: Electronic:	1	13	30	390
Linear Fluorescent: L5: Linear recessed with lens-wet: 46" T5 54W: Electronic:	1	10	59	590
Linear Fluorescent: L6: Linear recessed with lens-wet: 48" T8 32W: Electronic:	1	5	30	150
LED (6W/LF): L7: Linear recessed LED downlight: Other:	1	89	6	534
Linear Fluorescent: L8: Linear surface mtd cove: 48" T8 32W: Electronic:	1	16	30	480
Linear Fluorescent: L9: Linear mullion mtd uplight: 48" T8 32W: Electronic:	1	12	30	360
LED (2.7W/LF): L11: Linear surface mtd strip: Other:	1	88	2.7	237.6
Linear Fluorescent: L12: Linear wall mtd direct/indirect: 48" T8 32W: Electronic:	1	13	30	390
Linear Fluorescent: L13: Surface mtd undercabinet ltg: 48" T8 32W: Electronic:	1	17	30	510
LED (7W/LF): L14: Surface mtd linear LED: Other:	1	32	7	224
LED (1.5W/LF): P2: Pendant mtd LED: Other:	1	19	1.5	28.5
LED: R1: Recessed open LED downlight: Other:	1	4	24	96
LED: R2: Recessed LED wallwasher: Other:	1	1	24	24
LED: R3: Recessed open LED sq. downlight: Other:	1	17	24	408
LED: R3D: Recessed open LED sq. downlight: Other:	1	3	24	72
LED: R4: Recessed LED sq. wallwasher: Other:	1	22	24	528
LED: R4D: Recessed LED sq. wallwasher: Other:	1	7	24	168
Incandescent: R5: Recessed downlight: Incandescent 250W:	1	5	250	1250
Compact Fluorescent: R7: Recessed CFL downlight: Triple 4-pin 26W: Electronic:	1	1	29	29
Linear Fluorescent: R8: Recessed 1'x2' downlight: 24" T8 17W: Electronic:	2	9	33	297

Linear Fluorescent: R9: Semi-recessed linear downlight: 48" T8 32W: Electronic:	1	17	30	510
Linear Fluorescent: R10: Recessed linear with optics: 46" T5 HO 54W: Electronic:	2	40	117	4680
Linear Fluorescent: R11: Recessed Linear 2'x4' downlight: 48" T8 32W: Electronic:	6	54	174	9396
Linear Fluorescent: R12: Recessed Linear 2'x2' downlight: 24" T8 17W: Electronic:	3	50	46	2300
Linear Fluorescent: R13: Recessed Linear 2'x2' downlight: 24" T8 17W: Electronic:	2	34	33	1122
Linear Fluorescent: R14: Recessed Linear: 46" T5 54W: Electronic:	1	2	59	118
Linear Fluorescent: R14A: Recessed Linear 4' wallwasher: 46" T5 54W: Electronic:	1	5	59	295
Linear Fluorescent: R14B: Recessed Linear 2' wallwasher: 22" T5 HO 24W: Electronic:	1	5	29	145
LED: R15: Recessed LED sq. downlight: Other:	1	21	19	399
LED: R16: Recessed LED downlight-wet: Other:	1	5	19	95
Linear Fluorescent: S1: Pendant mtd linear: 48" T8 32W: Electronic:	1	8	30	240
Linear Fluorescent: W2: Surface mtd linear with optics: 48" T8 32W: Electronic:	1	24	30	720
LED: W3A: Surface mtd LED: LED Panel 40W:	1	1	40	40
Penthouse (Mechanical Rooms) (Workshop 11866 sq.ft.)				
LED: W3: Surface mtd wall pack: LED Panel 40W:	1	5	40	200
LED: W3B: Surface mtd LED: Other:	1	2	20	40
LED: W4: Surface mtd LED: Other:	1	1	20	20
Linear Fluorescent 21: K (L25): 4' linear strip: 46" T5 HO 54W: Electronic:	2	107	117	12519
Mezz. (Mechanical Rooms) (Workshop 2775 sq.ft.)				
LED: W3: Surface mtd wall pack: LED Panel 40W:	1	4	40	160
LED: W3B: Surface mtd LED: Other:	1	1	20	20
LED: W4: Surface mtd LED: Other:	1	1	20	20
Linear Fluorescent 22: K (L25): 4' linear strip: 46" T5 HO 54W: Electronic:	2	49	117	5733
Total Proposed Watts =				51568

Interior Lighting PASSES: Design 2% better than code.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 90.1 (2007) Standard requirements in COMcheck Version 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title

Signature

Date

Section 5: Post Construction Compliance Statement

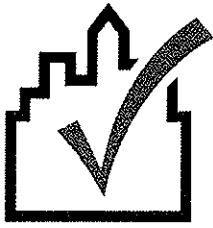
Record Drawings and Operating and Maintenance Manuals:

1. Construction documents with record drawings and operating and maintenance manuals provided to the owner.

Lighting Designer or Contractor Name

Signature

Date



Mechanical Compliance Certificate

90.1 (2007) Standard

Section 1: Project Information

Project Type: Addition

Project Title : Bean 2 roof addition

Construction Site:

22 Bramhall St
Portland, ME 04102

Owner/Agent:

Maine Medical Center
22 Bramhall St
Portland, ME 04102

Designer/Contractor:

Suffolk Construction

Section 2: General Information

Building Location (for weather data):

Portland, Maine

Climate Zone:

6a

Section 3: Mechanical Systems List

Quantity System Type & Description

- 1 HVAC System 1 (Multiple-Zone) :
Heating: 1 each - Hydronic or Steam Coil, Steam, Capacity = 913 kBtu/h
No minimum efficiency requirement applies
Cooling: 1 each - Hydronic Coil, Capacity = 1229 kBtu/h, Air Economizer
No minimum efficiency requirement applies
Fan System: FAN SYSTEM 1 | OR -- Compliance (Brake HP method) : Passes
Fans:
FAN 1 Supply, Multi-Zone VAV, 30000 CFM, 60 motor nameplate hp, 44 brake hp
FAN 2 Return, Multi-Zone VAV, 25000 CFM, 20 motor nameplate hp, 13 brake hp
FAN 3 Exhaust, Constant Volume, 3250 CFM, 2 motor nameplate hp, 1 brake hp
Pressure Drop Credits:
Fully ducted return and/or exhaust air systems, 3.4193 credit
Particulate filtration credit: MERV 9 through 12, 3.6311 credit
Particulate filtration credit: MERV 16 and greater and electronically enhanced filters, 7.9884 credit
Sound attenuation section, 1.9971 credit
Return and/or exhaust airflow control devices, 6.6570 credit
- 1 HVAC System 2 (Multiple-Zone) :
Heating: 1 each - Hydronic or Steam Coil, Steam, Capacity = 603 kBtu/h
No minimum efficiency requirement applies
Cooling: 1 each - Hydronic Coil, Capacity = 819 kBtu/h, Air Economizer
No minimum efficiency requirement applies
Fan System: FAN SYSTEM 2 | PACU -- Compliance (Brake HP method) : Passes
Fans:
FAN 6 Supply, Multi-Zone VAV, 20000 CFM, 40 motor nameplate hp, 29 brake hp
FAN 11 Return, Multi-Zone VAV, 17000 CFM, 10 motor nameplate hp, 9 brake hp
FAN 12 Exhaust, Constant Volume, 840 CFM, 1 motor nameplate hp, 0 brake hp
FAN 13 Exhaust, Constant Volume, 370 CFM, 0 motor nameplate hp, 0 brake hp
Pressure Drop Credits:
Fully ducted return and/or exhaust air systems, 2.2041 credit
Return and/or exhaust airflow control devices, 2.0576 credit
Particulate filtration credit: MERV 9 through 12, 2.4207 credit
Particulate filtration credit: MERV 16 and greater and electronically enhanced filters, 5.3256 credit
Sound attenuation section, 1.3569 credit
- 1 HVAC System 3 (Single Zone w/ Perimeter System) :
Heating: 1 each - Radiant Heater, Hot Water, Capacity = 310 kBtu/h
No minimum efficiency requirement applies
Fan System: None

Section 5: 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 (2007) Standard requirements in COMcheck Version 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

David Roberts - Sr. Mech Engineer
Name - Title

Signature

Date

7/1/13

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation and performance data for each equipment provided to the owner within 90 days after system acceptance.
- HVAC O&M documents for all mechanical equipment and system provided to the owner within 90 days after system acceptance.
- Written HVAC balancing report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name

Signature

Date



COMcheck Software Version 3.9.2 Inspection Checklist

Requirements: 100.0% were addressed directly in the COMcheck 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.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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90.1 (2007) Standard	Plan Review	Complies?	Comments/Assumptions
4.2.2, 6.4.2 [PR2] ¹	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.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 7.4.1 [PR3] ¹	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.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.4 [PR5] ¹	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects $\geq 50,000$ ft ² .	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

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

90.1 (2007) Standard	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.8 [FO9] ³	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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

90.1 (2007) Standard	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4, 6.4.1.5 [ME1] ²	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency: _____	Efficiency: _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
6.4.3.4.1 [ME3] ³	Stair and elevator shaft vents have motorized dampers that automatically close.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.4.2, 6.4.3.4.3, 6.4.3.4.4 [ME4] ³	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.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.4.5 [ME5] ³	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: HVAC systems intended to operate continuously.
6.4.3.9 [ME6] ¹	Demand control ventilation provided for spaces >500 ft ² and >40 people/1000 ft ² occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.1 [ME7] ³	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8] ²	HVAC ducts and plenums insulated.	R-_____	R-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9] ²	HVAC piping insulation thickness.	_____ in.	_____ in.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.2.1 [ME10] ²	Ducts and plenums sealed based on static pressure and location.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.2.2 [ME11] ³	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply. See the Mechanical Systems list for values for HVAC System 3.
6.5.1, 6.5.1.1.1, 6.5.1.1.2, 6.5.1.1.3, 6.5.1.3 [ME12] ¹	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.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values for HVAC System 1.
6.5.1, 6.5.1.1.1, 6.5.1.1.2, 6.5.1.1.3, 6.5.1.3 [ME12] ¹	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.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values for HVAC System 2.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

90.1 (2007) Standard	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.1.4 [ME16] ¹	Economizer operation will not increase heating energy use during normal operation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 1.
6.5.1.4 [ME16] ¹	Economizer operation will not increase heating energy use during normal operation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 2.
6.5.2.3 [ME19] ³	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.1.2 [ME21] ²	HVAC fan motors not larger than the first available motor size greater than the bhp.	bhp: _____	bhp: _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 1.
6.5.3.1.2 [ME21] ²	HVAC fan motors not larger than the first available motor size greater than the bhp.	bhp: _____	bhp: _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 2.
6.5.3.2.1 [ME22] ²	VAV fan motors >=10 hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	<input type="checkbox"/> VSD <input type="checkbox"/> Vane axial fan <input type="checkbox"/> Other	<input type="checkbox"/> VSD <input type="checkbox"/> Vane axial fan <input type="checkbox"/> Other	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 1.
6.5.3.2.1 [ME22] ²	VAV fan motors >=10 hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	<input type="checkbox"/> VSD <input type="checkbox"/> Vane axial fan <input type="checkbox"/> Other	<input type="checkbox"/> VSD <input type="checkbox"/> Vane axial fan <input type="checkbox"/> Other	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 2.
6.5.3.2.2 [ME23] ²	VAV fans have static pressure sensors positioned so setpoint <=1/3 total design pressure.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 1.
6.5.3.2.2 [ME23] ²	VAV fans have static pressure sensors positioned so setpoint <=1/3 total design pressure.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 2.
6.5.3.2.3 [ME24] ²	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 1.
6.5.3.2.3 [ME24] ²	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 2.
6.5.4.1 [ME25] ³	HVAC pumping systems >10 hp designed for variable fluid flow.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.4.2 [ME26] ³	Reduce flow in pumping systems >10 hp. to multiple chillers or boilers when others are shut down.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 1.
6.5.4.2 [ME26] ³	Reduce flow in pumping systems >10 hp. to multiple chillers or boilers when others are shut down.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values for HVAC System 2.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

90.1 (2007) Standard	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.4.3 [ME27] ³	Temperature reset by representative building loads in pumping systems >10 hp for chiller and boiler systems >300,000 Btu/h.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 1.</i>
6.5.4.3 [ME27] ³	Temperature reset by representative building loads in pumping systems >10 hp for chiller and boiler systems >300,000 Btu/h.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 2.</i>
6.5.4.3 [ME27] ³	Temperature reset by representative building loads in pumping systems >10 hp for chiller and boiler systems >300,000 Btu/h.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Reset controls cannot be implemented without causing improper operation. <i>See the Mechanical Systems list for values for HVAC System 3.</i>
6.5.6.1 [ME30] ¹	Exhaust air energy recovery on systems >=5,000 cfm and 70% of design supply air.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.6.2, 6.5.6.2.1, 6.5.6.2.2 [ME31] ³	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water in 24/7 facility, water cooled systems reject >6 MMBtu, SHW load >=1 MMBtu.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 1.</i>
6.5.6.2, 6.5.6.2.1, 6.5.6.2.2 [ME31] ³	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water in 24/7 facility, water cooled systems reject >6 MMBtu, SHW load >=1 MMBtu.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 2.</i>
6.5.7.1 [ME32] ²	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.7.2 [ME33] ¹	Fume hoods exhaust systems >=15,000 cfm have VAV hood exhaust and supply systems, direct make-up air or heat recovery.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.8.1 [ME34] ³	Unenclosed spaces that are heated use only radiant heat.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.2.2.1 [ME50] ¹	Three-pipe hydronic systems using a common return for hot and chilled water are not used.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 1.</i>
6.5.2.2.1 [ME50] ¹	Three-pipe hydronic systems using a common return for hot and chilled water are not used.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 2.</i>
6.5.2.2.1 [ME50] ¹	Three-pipe hydronic systems using a common return for hot and chilled water are not used.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values for HVAC System 3.</i>

Additional Comments/Assumptions:

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

90.1 (2007) Standard	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
10.4.1 [EL9] ²	Electric motors meet requirements where applicable.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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90.1 (2007) Standard	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.1 [F12] ²	Heating and cooling to each zone is controlled by a thermostat control.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.1.2, 6.4.3.2, 6.4.3.3, 6.4.3.3.1, 6.4.3.3.2 [F13] ²	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.3 [F14] ²	Systems with air capacity >10,000 cfm include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Systems designed for continuous operation. <i>See the Mechanical Systems list for values for HVAC System 1.</i>
6.4.3.3.3 [F14] ²	Systems with air capacity >10,000 cfm include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Systems designed for continuous operation. <i>See the Mechanical Systems list for values for HVAC System 2.</i>
6.4.3.7 [F16] ³	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.1 [F17] ³	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.2 [F18] ³	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.3 [F19] ¹	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft ² of conditioned area.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.4 [F110] ¹	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.2 [F120] ¹	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.1 [F121] ¹	HVAC systems equipped with at least one automatic shutdown control.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.2 [F122] ¹	Setback controls allow automatic restart and temporary operation as required for maintenance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not Comply <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: null.

Additional Comments/Assumptions:

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