## COMcheck Software Version COMcheckWeb Interior Lighting Compliance Certificate

### **Project Information**

Energy Code: Project Title: Project Type: 2018 IECC WoodSpring Suites - Lee's Summit, MO New Construction

Construction Site: 1010 NW Ward Road Lee's Summit, Missouri 64086 Owner/Agent: Genesis Companies 4420 Madison Ave, Suite 100 Kansas City, Missouri 64111 Designer/Contractor:

### Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed Reduced Lighting Power, 1.0 credit

### **Allowed Interior Lighting Power**

| A<br>Area Category  | B<br>Floor Area<br>(ft2) | C<br>Allowed<br>Watts / ft2 | D<br>Allowed<br>Watts |
|---|--------------------------|-----------------------------|-----------------------|
| 1-Training (Common Space Types:Classroom/Lecture/Training)                          | 124                      | 0.86                        | 107                   |
| 2-Stair (Common Space Types:Stairwell)  | 1528                     | 0.52                        | 795                   |
| 3-Closet (Common Space Types:Storage <50 sq.ft.)                                    | 26                       | 0.41                        | 11                    |
| 4-Laundry (Common Space Types:Laundry/Washing Area)                                 | 695                      | 0.39                        | 271                   |
| 5-Storage (Common Space Types:Storage >=50 - <=1000 sq.ft.)                         | 234                      | 0.41                        | 96                    |
| 6-Restroom (Common Space Types:Restrooms)   | 59                       | 0.77                        | 45                    |
| 7-Electrical, Mechanical, and Utility (Common Space<br>Types:Electrical/Mechanical) | 1420                     | 0.39                        | 554                   |
| 8-Fitness (Gymnasium/Fitness Center:Exercise Area)                                  | 320                      | 0.45                        | 144                   |
| 9-Corridor (Common Space Types:Corridor/Transition <8 ft wide)                      | 6550                     | 0.59                        | 3864                  |
| 10-Lobby and Registration (Hotel:Hotel Lobby)                                       | 658                      | 0.95                        | 625                   |
|   | Т                        | otal Allowed Watts -        | 6512                  |

Total Allowed Watts = 6512

| Proposed Interior Lighting Power   |                        |    |                       |              |
|--|------------------------|----|-----------------------|--------------|
| A<br>Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast                                      | B<br>Lamps/<br>Fixture | -  | D<br>Fixture<br>Watt. | E<br>(C X D) |
| <u>1-Training (Common Space Types:Classroom/Lecture/Training)</u><br>LED 1: A: LED / DOWNLIGHT: Other: | 1                      | 3  | 15                    | 45           |
| 2-Stair (Common Space Types:Stairwell)<br>LED 1: A: LED / DOWNLIGHT: Other:                            | 1                      | 28 | 15                    | 420          |
| <u>3-Closet (Common Space Types:Storage &lt;50 sq.ft.)</u><br>LED 1: A: LED / DOWNLIGHT: Other:        | 1                      | 1  | 15                    | 15           |
| <u>4-Laundry (Common Space Types:Laundry/Washing Area)</u><br>LED 1: A: LED / DOWNLIGHT: Other:        | 1                      | 22 | 15                    | 330          |
| 5-Storage (Common Space Types:Storage >=50 - <=1000 sq.ft.)<br>LED 4: C: LINEAR LED: Other:            | 1                      | 2  | 40                    | 80           |
| 6-Restroom (Common Space Types:Restrooms)  |                        |    |                       |              |

| A<br>Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast  | B<br>Lamps/<br>Fixture | -            |                | E<br>(C X D)    |
|--|------------------------|--------------|----------------|-----------------|
| LED 1: A: LED / DOWNLIGHT: Other:  | 1                      | 1            | 15             | 15              |
| LED 3: B1: VANITY LIGHT: Other:  | 1                      | 1            | 18             | 18              |
| 7-Electrical, Mechanical, and Utility (Common Space Types:Electrical/Mechan<br>LED 1: A: LED / DOWNLIGHT: Other:<br>LED 4: C: LINEAR LED: Other:<br>LED 5: D: ELEVATOR PIT: Other: | nical)<br>1<br>1<br>1  | 3<br>10<br>2 | 15<br>40<br>20 | 45<br>400<br>40 |
| 8-Fitness (Gymnasium/Fitness Center:Exercise Area)<br>LED 1: A: LED / DOWNLIGHT: Other:  | 1                      | 8            | 15             | 120             |
| <u>9-Corridor (Common Space Types:Corridor/Transition &lt;8 ft wide)</u><br>LED 1: A: LED / DOWNLIGHT: Other:<br>LED 6: G: WALL SCONE: Other:                                      | 1<br>1                 | 162<br>56    | 15<br>9        | 2430<br>504     |
| <u>10-Lobby and Registration (Hotel:Hotel Lobby)</u><br>LED 1: A: LED / DOWNLIGHT: Other:<br>LED 7: M: LOBBY PENDENT: Other:   | 1<br>1                 | 22<br>1      | 15<br>50       | 330             |
|  | Tot                    | al Propose   | ed Watts =     | 4842            |

### Interior Lighting PASSES: Design 26% better than code

#### **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 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist. Collin Blatchford

## Collin Blatchford - Electrical Designer

Name - Title

Signature

Date

08/15/23

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

### **Project Information**

Energy Code: Project Title: Project Type: **Exterior Lighting Zone**  2018 IECC WoodSpring Suites - Lee's Summit, MO New Construction 2 (Neighborhood business district (LZ2))

Construction Site: 1010 NW Ward Road Lee's Summit, Missouri 64086 Owner/Agent: Genesis Companies 4420 Madison Ave, Suite 100 Kansas City, Missouri 64111

Designer/Contractor:

### **Allowed Exterior Lighting Power**

| A<br>Area/Surface Category                               | B<br>Quantity | C<br>Allowed<br>Watts / | D<br>Tradable<br>Wattage | E<br>Allowed Watts<br>(B X C) |
|--|---------------|-------------------------|--------------------------|-------------------------------|
| Parking (Parking area)                                   | 63870 ft2     | 0.04                    | Yes                      | 2555                          |
| Facade (Illuminated area of facade wall or surface)      | 17640 ft2     | 0.07                    | No                       | 1323                          |
| Entrances (Pedestrian and vehicular entrances and exits) | 15 ft of      | 14                      | Yes                      | 210                           |
| Entry Canopy (Entry canopy)                              | 559 ft2       | 0.25                    | Yes                      | 140                           |
|  |               | Total Tradabl           | e Watts (a) =            | 3180                          |
|  |               | Total Allo              | wed Watts =              | 4503                          |
|  | Total Allowed | d Supplementa           | al Watts (b) =           | 400                           |

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

(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

## **Proposed Exterior Lighting Power**

| A<br>Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast            | B<br>Lamps/<br>Fixture | C<br># of<br>Fixture |            | E<br>(C X D) |
|--|------------------------|----------------------|------------|--------------|
| Parking (Parking area, 63870 ft2): Tradable Wattage                          |                        |                      |            |              |
| LED: SAH: Pole Light: Other:   | 1                      | 3                    | 148        | 446          |
| LED: SAFH: Pole Light: Other:  | 1                      | 15                   | 148        | 2228         |
| LED: SAAH: Pole Light: Other:  | 1                      | 4                    | 148        | 594          |
| Walkways (Walkway < 10 feet wide, 550 ft of walkway length): Tradable W      | <u>attage</u>          |                      |            |              |
| Facade (Illuminated area of facade wall or surface, 17640 ft2): Non-tradable | <u>e Wattage</u>       |                      |            |              |
| LED: F: Exterior Wall Light: Other:  | 1                      | 10                   | 88         | 880          |
| Entrances (Pedestrian and vehicular entrances and exits, 15 ft of door widt  | h): Tradable           | e Wattage            | 2          |              |
| LED: L: Exterior EM Wallpack: Other:   | 1                      | 4                    | 15         | 60           |
| Entry Canopy (Entry canopy, 559 ft2): Tradable Wattage                       |                        |                      |            |              |
| LED: A: Exterior Can Light: Other:   | 1                      | 5                    | 15         | 75           |
|  | Total Tradab           | ole Propose          | ed Watts = | 3402         |

### 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 2018 IECC requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

| Collin | Blatchford - | Electrical | Designer |
|--------|--------------|------------|----------|
|        |              |            |          |

Name - Title

Signature

Collin Blatchford

08/15/23 Date

## COMcheck Software Version COMcheckWeb Mechanical Compliance Certificate

### **Project Information**

Energy Code: Project Title: Location: Climate Zone: Project Type: 2018 IECC WoodSpring Suites - Lee's Summit, MO Lees Summit, Missouri 4a New Construction

Construction Site: 1010 NW Ward Road Lee's Summit, Missouri 64086 Owner/Agent: Genesis Companies 4420 Madison Ave, Suite 100 Kansas City, Missouri 64111 Designer/Contractor:

## Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed Reduced Lighting Power, 1.0 credit

## **Mechanical Systems List**

### Quantity System Type & Description

FCU-1/HP-1 (Single Zone): 1 Split System Heat Pump Heating Mode: Capacity = 36 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF Cooling Mode: Capacity = 35 kBtu/h, Proposed Efficiency = 14.00 SEER, Required Efficiency = 14.00 SEER Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00 Fan System: FCU-1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans FAN 1 Supply, Constant Volume, 1200 CFM, 0.5 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP 1 FCU-2/HP-2 (Single Zone): Split System Heat Pump Heating Mode: Capacity = 24 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF Cooling Mode: Capacity = 22 kBtu/h, Proposed Efficiency = 14.00 SEER, Required Efficiency = 14.00 SEER Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00 Fan System: FCU-2 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans FAN 2 Supply, Constant Volume, 800 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan  $\leq = 5$ HP 1 FCU-3/HP-3 (Single Zone): Split System Heat Pump Heating Mode: Capacity = 48 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF Cooling Mode: Capacity = 46 kBtu/h, Proposed Efficiency = 14.00 SEER, Required Efficiency = 14.00 SEER Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00 Fan System: FCU-3 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: FAN 3 Supply, Constant Volume, 1600 CFM, 0.8 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP 1 FCU-4/HP-4 (Single Zone): Split System Heat Pump

## Quantity System Type & Description

| Heating Mode: Capacity = 24 kBtu/h,<br>Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF<br>Cooling Mode: Capacity = 22 kBtu/h,<br>Proposed Efficiency = 14.00 SEER, Required Efficiency = 14.00 SEER<br>Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00<br>Fan System: FCU-4 Compliance (Motor nameplate HP and fan efficiency method) : Passes  |
|---|
| Fans:<br>FAN 4 Supply, Constant Volume, 800 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan<br>efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP  |
| FCU-5/HP-5 (Single Zone):<br>Split System Heat Pump<br>Heating Mode: Capacity = 12 kBtu/h,<br>Proposed Efficiency = 11.60 HSPF, Required Efficiency = 8.20 HSPF<br>Cooling Mode: Capacity = 12 kBtu/h,<br>Proposed Efficiency = 23.00 SEER, Required Efficiency = 14.00 SEER<br>Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00<br>Fan System: FCU-5 Compliance (Motor nameplate HP and fan efficiency method) : Passes  |
| Fans:<br>FAN 6 Supply, Constant Volume, 382 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan<br>efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP  |
| FCU-6/HP-6 (Single Zone):<br>Split System Heat Pump<br>Heating Mode: Capacity = 24 kBtu/h,<br>Proposed Efficiency = 11.60 HSPF, Required Efficiency = 8.20 HSPF<br>Cooling Mode: Capacity = 24 kBtu/h,<br>Proposed Efficiency = 23.00 SEER, Required Efficiency = 14.00 SEER<br>Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00<br>Fan System: FCU-6 Compliance (Motor nameplate HP and fan efficiency method) : Passes  |
| Fans:<br>FAN 7 Supply, Constant Volume, 764 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan<br>efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP  |
| <ul> <li>PTAC-1 (Single Zone w/ PerimeterSystem):</li> <li>Heating: 1 each - Other, Electric, Capacity = 7 kBtu/h<br/>No minimum efficiency requirement applies</li> <li>Cooling: 1 each - Packaged Terminal Unit, Capacity = 7 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer<br/>exception: Low Capacity Residential<br/>Proposed Efficiency = 12.40 EER, Required Efficiency = 11.90 EER<br/>Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00</li> <li>Fan System: PTAC-1 Compliance (Motor nameplate HP and fan efficiency method) : Passes</li> </ul> |
| Fans:<br>FAN 8 Supply, Constant Volume, 335 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan<br>efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP  |
| <ul> <li>PTAC-2 (Single Zone w/ PerimeterSystem):</li> <li>Heating: 1 each - Other, Electric, Capacity = 9 kBtu/h<br/>No minimum efficiency requirement applies</li> <li>Cooling: 1 each - Packaged Terminal Unit, Capacity = 14 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer<br/>exception: Low Capacity Residential<br/>Proposed Efficiency = 10.00 EER, Required Efficiency = 9.80 EER<br/>Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00</li> <li>Fan System: PTAC-2 Compliance (Motor nameplate HP and fan efficiency method) : Passes</li> </ul> |
| Fans:<br>FAN 9 Supply, Constant Volume, 385 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan<br>efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP  |
| <ul> <li>PTAC-3 (Single Zone):</li> <li>Heating: 1 each - Other, Electric, Capacity = 9 kBtu/h<br/>No minimum efficiency requirement applies</li> <li>Cooling: 1 each - Room AC Without Louvered Sides, Capacity = 9 kBtu/h, Air-Cooled Condenser, Unknown Economizer<br/>Proposed Efficiency = 9.80 CEER, Required Efficiency = 9.60 CEER<br/>Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00</li> <li>Fan System: PTAC-3 Compliance (Motor nameplate HP and fan efficiency method) : Passes</li> </ul>   |
|   |

#### **Quantity System Type & Description**

Fans:

FAN 10 Supply, Constant Volume, 265 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan  $\leq 5$ HP

- 2 EUH-1,2 (Unknown w/ PerimeterSystem): Heating: 1 each - Unit Heater, Electric, Capacity = 10 kBtu/h No minimum efficiency requirement applies
- EUH-3,4 (Unknown w/ PerimeterSystem):
   Heating: 1 each Unit Heater, Electric, Capacity = 10 kBtu/h 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 2018 IECC requirements in COM*check* Version COM*check*Web and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Matt Regehr - Mechanical Designer

Matthew Reple\_\_\_\_

08/15/23 Date

Name - Title

Signature

## COMcheck Software Version COMcheckWeb Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% 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.

| Section<br>#<br>& Req.ID     | Plan Review   | Complies?  | Comments/Assumptions |
|------------------------------|---|--|----------------------|
| C103.2<br>[PR2] <sup>1</sup> | Plans, specifications, and/or<br>calculations provide all information<br>with which compliance can be<br>determined for the mechanical<br>systems and equipment and<br>document where exceptions to the<br>standard are claimed. Load<br>calculations per acceptable<br>engineering standards and<br>handbooks.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C103.2<br>[PR4] <sup>1</sup> | Plans, specifications, and/or<br>calculations provide all information<br>with which compliance can be<br>determined for the interior lighting<br>and electrical systems and equipment<br>and document where exceptions to<br>the standard are claimed. Information<br>provided should include interior<br>lighting power calculations, wattage of<br>bulbs and ballasts, transformers and<br>control devices. | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C103.2<br>[PR8] <sup>1</sup> | Plans, specifications, and/or<br>calculations provide all information<br>with which compliance can be<br>determined for the exterior lighting<br>and electrical systems and equipment<br>and document where exceptions to<br>the standard are claimed. Information<br>provided should include exterior<br>lighting power calculations, wattage of<br>bulbs and ballasts, transformers and<br>control devices. | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C406<br>[PR9] <sup>1</sup>   | Plans, specifications, and/or<br>calculations provide all information<br>with which compliance can be<br>determined for the additional energy<br>efficiency package options.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |

Additional Comments/Assumptions:

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

| Section<br>#<br>& Req.ID | Footing / Foundation Inspection     | Complies?  | Comments/Assumptions |
|--------------------------|-------------------------------------|--|----------------------|
| ,                        | protection systems have sensors and | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |

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

| Section<br>#<br>& Req.ID                               | Plumbing Rough-In Inspection  | Complies?  | Comments/Assumptions |
|--|---|--|----------------------|
| C404.5,<br>C404.5.1,<br>C404.5.2<br>[PL6] <sup>3</sup> | Heated water supply piping conforms<br>to pipe length and volume<br>requirements. Refer to section details.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C404.6.3<br>[PL7] <sup>3</sup>                         | Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C404.7<br>[PL8] <sup>3</sup>                           | Demand recirculation water systems<br>have controls that start the pump<br>upon receiving a signal from the<br>action of a user of a fixture or<br>appliance and limits the temperature<br>of the water entering the cold-water<br>piping to 104°F. | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |

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

Project Title:

| Section<br>#<br>& Req.ID         | Mechanical Rough-In Inspection   | Complies?  | Comments/Assumptions                               |
|----------------------------------|--|--|--|
| C402.2.6<br>[ME41] <sup>3</sup>  | Thermally ineffective panel surfaces of sensible heating panels have insulation $> = R-3.5$ .  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.11.3<br>[ME61] <sup>2</sup> | HVAC piping insulation insulated in<br>accordance with Table C403.11.3.<br>Insulation exposed to weather is<br>protected from damage and is<br>provided with shielding from solar<br>radiation.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.8.1<br>[ME65] <sup>3</sup>  | HVAC fan systems at design<br>conditions do not exceed allowable<br>fan system motor nameplate hp or fan<br>system bhp.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable | <i>See the Mechanical Systems list for values.</i> |
| C403.8.3<br>[ME117] <sup>2</sup> | Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation $\leq 15\%$ of maximum total efficiency of the fan.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.8.4<br>[ME142] <sup>2</sup> | Motors for fans that are not less than<br>1/12 hp and less than 1 hp are<br>electronically commutated motors or<br>have a minimum motor efficiency of<br>70 percent. These motors have the<br>means to adjust motor speed.                       | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.8.5<br>[ME143] <sup>2</sup> | Each DX cooling system > 65 kBtu<br>and chiller water/evaporative cooling<br>system with fans > 1/4 hp are<br>designed to vary the indoor fan airflow<br>as a function of load and comply with<br>detailed requirements of this section.         | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.12.1<br>[ME71] <sup>2</sup> | Systems that heat outside the building<br>envelope are radiant heat systems<br>controlled by an occupancy sensing<br>device or timer switch.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.2.2<br>[ME59] <sup>1</sup>  | Natural or mechanical ventilation is<br>provided in accordance with<br>International Mechanical Code<br>Chapter 4. Mechanical ventilation has<br>capability to reduce outdoor air supply<br>to minimum per IMC Chapter 4.                        | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.7.1<br>[ME59] <sup>1</sup>  | Demand control ventilation provided<br>for spaces >500 ft2 and >25<br>people/1000 ft2 occupant density and<br>served by systems with air side<br>economizer, auto modulating outside<br>air damper control, or design airflow<br>>3,000 cfm.     | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.7.2<br>[ME115] <sup>3</sup> | Enclosed parking garage ventilation<br>has automatic contaminant detection<br>and capacity to stage or modulate<br>fans to 50% or less of design capacity.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.7.6<br>[ME141] <sup>3</sup> | HVAC systems serving guestrooms in<br>Group R-1 buildings with > 50<br>guestrooms: Each guestroom is<br>provided with controls that<br>automatically manage temperature<br>setpoint and ventilation (see sections<br>C403.7.6.1 and C403.7.6.2). | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |

Medium Impact (Tier 2)

3 Low Impact (Tier 3)

1

| Section<br>#<br>& Req.ID                                 | Mechanical Rough-In Inspection  | Complies?  | Comments/Assumptions |
|--|---|--|----------------------|
| C403.7.4<br>[ME57] <sup>1</sup>                          | Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C403.7.5<br>[ME116] <sup>3</sup>                         | Kitchen exhaust systems comply with<br>replacement air and conditioned<br>supply air limitations, and satisfy hood<br>rating requirements and maximum<br>exhaust rate criteria.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| ,  | HVAC ducts and plenums insulated in<br>accordance with C403.11.1 and<br>constructed in accordance with<br>C403.11.2, verification may need to<br>occur during Foundation Inspection.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| 3.2<br>[ME121] <sup>3</sup>                              | Closed-circuit cooling tower within<br>heat pump loop have either automatic<br>bypass valve or lower leakage positive<br>closure dampers. Open-circuit tower<br>within heat pump loop have automatic<br>valve to bypass all heat pump water<br>flow around the tower. Open- or<br>closed-circuit cooling towers used in<br>conjunction with a separate heat<br>exchanger have heat loss by shutting<br>down the circulation pump on the<br>cooling tower loop. Open- or closed<br>circuit cooling towers have a separate<br>heat exchanger to isolate the cooling<br>tower from the heat pump loop, and<br>heat loss is controlled by shutting<br>down the circulation pump on the<br>cooling tower loop. | □Not Observable<br>□Not Applicable                           |                      |
| C403.4.1.<br>4<br>[ME63] <sup>2</sup>                    | Heating for vestibules and air curtains<br>with integral heating include<br>automatic controls that shut off the<br>heating system when outdoor air<br>temperatures > 45F. Vestibule<br>heating and cooling systems<br>controlled by a thermostat in the<br>vestibule with heating setpoint <=<br>60F and cooling setpoint >= 80F.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C403.3.3<br>[ME35] <sup>1</sup>                          | Hot gas bypass limited to: <=240<br>kBtu/h - 50% >240 kBtu/h - 25%  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.2.<br>1<br>[ME53] <sup>3</sup>                    | Air outlets and zone terminal devices<br>have means for air balancing.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C403.5,<br>C403.5.1,<br>C403.5.2<br>[ME123] <sup>3</sup> | Refrigerated display cases, walk-in<br>coolers or walk-in freezers served by<br>remote compressors and remote<br>condensers not located in a<br>condensing unit, have fan-powered<br>condensers that comply with Sections<br>C403.5.1 and refrigeration compressor<br>systems that comply with C403.5.2   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

| Section<br>#<br>& Req.ID                           | Rough-In Electrical Inspection  | Complies?  | Comments/Assumptions |
|--|---|--|----------------------|
| C405.2.2.<br>2<br>[EL22] <sup>1</sup>              | Spaces required to have light-<br>reduction controls have a manual<br>control that allows the occupant to<br>reduce the connected lighting load in<br>a reasonably uniform illumination<br>pattern >= 50 percent.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.1,<br>C405.2.1.<br>1<br>[EL18] <sup>1</sup> | Occupancy sensors installed in<br>classrooms/lecture/training rooms,<br>conference/meeting/multipurpose<br>rooms, copy/print rooms,<br>lounges/breakrooms, enclosed offices,<br>open plan office areas, restrooms,<br>storage rooms, locker rooms,<br>warehouse storage areas, and other<br>spaces <= 300 sqft that are enclosed<br>by floor-to-ceiling height partitions.<br>Reference section language<br>C405.2.1.2 for control function in<br>warehouses and section C405.2.1.3<br>for open plan office spaces.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.1.<br>2<br>[EL19] <sup>1</sup>              | Occupancy sensors control function in<br>warehouses: In warehouses, the<br>lighting in aisleways and open areas is<br>controlled with occupant sensors that<br>automatically reduce lighting power<br>by 50% or more when the areas are<br>unoccupied. The occupant sensors<br>control lighting in each aisleway<br>independently and do not control<br>lighting beyond the aisleway being<br>controlled by the sensor.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.1.<br>3<br>[EL20] <sup>1</sup>              | Occupant sensor control function in<br>open plan office areas: Occupant<br>sensor controls in open office spaces<br>>= 300 sq.ft. have controls 1)<br>configured so that general lighting can<br>be controlled separately in control<br>zones with floor areas <= 600 sq.ft.<br>within the space, 2) automatically turn<br>off general lighting in all control zones<br>within 20 minutes after all occupants<br>have left the space, 3) are configured<br>so that general lighting power in each<br>control zone is reduced by >= 80% of<br>the full zone general lighting power<br>within 20 minutes of all occupants<br>leaving that control zone, and 4) are<br>configured such that any daylight<br>responsive control will activate space<br>general lighting only when occupancy<br>for the same area is detected. | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.2.<br>1,                                    | Each area not served by occupancy<br>sensors (per C405.2.1) have time-<br>switch controls and functions detailed<br>in sections C405.2.2.1 and C405.2.2.2.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |

1 High Impact (Tier 1) 2 Mediur

2 Medium Impact (Tier 2)

| Section<br>#<br>& Req.ID  | Rough-In Electrical Inspection   | Complies?  | Comments/Assumptions |
|---|--|--|----------------------|
| C405.2.3,<br>C405.2.3.<br>1,<br>C405.2.3.<br>2<br>[EL23] <sup>2</sup> | Daylight-responsive controls for<br>applicable spaces, C405.2.3.1 Daylight<br>responsive control function and<br>section C405.2.3.2 Sidelit zone.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.4<br>[EL26] <sup>1</sup>                                       | Separate lighting control devices for<br>specific uses installed per approved<br>lighting plans.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.4<br>[EL27] <sup>1</sup>                                       | Additional interior lighting power<br>allowed for special functions per the<br>approved lighting plans and is<br>automatically controlled and<br>separated from general lighting.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.5<br>[EL28] <sup>null</sup>                                    | Manual controls required by the<br>energy code are in a location with<br>ready access to occupants and<br>located where the controlled lights are<br>visible, or identify the area served and<br>their status.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.2.6<br>[EL30] <sup>null</sup>                                    | Automatic lighting controls for exterior<br>lighting installed. Controls will be<br>daylight controlled, set based on<br>business operation time-of-day, or<br>reduce connected lighting > 30%.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.3<br>[EL6] <sup>1</sup>  | Exit signs do not exceed 5 watts per<br>face.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.6<br>[EL26] <sup>2</sup>   | Low-voltage dry-type distribution<br>electric transformers meet the<br>minimum efficiency requirements of<br>Table C405.6.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.7<br>[EL27] <sup>2</sup>   | Electric motors meet the minimum<br>efficiency requirements of Tables<br>C405.7(1) through C405.7(4).<br>Efficiency verified through certification<br>under an approved certification<br>program or the equipment efficiency<br>ratings shall be provided by motor<br>manufacturer (where certification<br>programs do not exist). | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.8.2,<br>C405.8.2.<br>1<br>[EL28] <sup>2</sup>                    | Escalators and moving walks comply<br>with ASME A17.1/CSA B44 and have<br>automatic controls configured to<br>reduce speed to the minimum<br>permitted speed in accordance with<br>ASME A17.1/CSA B44 or applicable<br>local code when not conveying<br>passengers.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C405.9<br>[EL29] <sup>2</sup>   | Total voltage drop across the combination of feeders and branch circuits $\leq 5\%$ .  | Complies Does Not Not Observable Not Applicable              |                      |

1 High Impact (Tier 1) 2

2 Medium Impact (Tier 2)

| Section<br>#<br>& Req.ID  | Final Inspection   | Complies?  | Comments/Assumptions                                   |
|---|--|--|--|
| C303.3,<br>C408.2.5.<br>2   | Furnished O&M instructions for<br>systems and equipment to the<br>building owner or designated<br>representative.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C408.2.5.   | Furnished O&M manuals for HVAC systems within 90 days of system acceptance.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
|   | HVAC systems and equipment<br>capacity does not exceed calculated<br>loads.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| 1<br>[FI47] <sup>3</sup>  | Heating and cooling to each zone is<br>controlled by a thermostat control.<br>Minimum one humidity control device<br>per installed<br>humidification/dehumidification<br>system.                         | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| 1.1   |  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.4.1.<br>2<br>[FI38] <sup>3</sup>   | Thermostatic controls have a 5 °F deadband.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
|   | Temperature controls have setpoint overlap restrictions.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| C403.2.4.<br>2<br>[FI39] <sup>3</sup>   | Each zone equipped with setback<br>controls using automatic time clock or<br>programmable control system.  | Complies   |  |
| 2.1,  | Automatic Controls: Setback to 55°F<br>(heat) and 85°F (cool); 7-day clock, 2-<br>hour occupant override, 10-hour<br>backup  | Complies<br>Does Not<br>Not Observable                       |  |
| C403.2.4.<br>2.3<br>[FI41] <sup>3</sup>   | Systems include optimum start controls.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |  |
| [FI18] <sup>1</sup>   | Interior installed lamp and fixture<br>lighting power is consistent with what<br>is shown on the approved lighting<br>plans, demonstrating proposed watts<br>are less than or equal to allowed<br>watts. | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable | See the Interior Lighting fixture schedule for values. |
| [FI19] <sup>1</sup>   | Exterior lighting power is consistent<br>with what is shown on the approved<br>lighting plans, demonstrating<br>proposed watts are less than or equal<br>to allowed watts.                               | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable | See the Exterior Lighting fixture schedule for values. |
| 1     High Impact (Tier 1)     2     Medium Impact (Tier 2)     3     Low Impact (Tier 3) |  |  |  |

| Section<br>#<br>& Req.ID              | Final Inspection  | Complies?  | Comments/Assumptions |
|---------------------------------------|---|--|----------------------|
| C408.1.1<br>[FI57] <sup>1</sup>       | Building operations and maintenance<br>documents will be provided to the<br>owner. Documents will cover<br>manufacturers' information,<br>specifications, programming<br>procedures and means of illustrating<br>to owner how building, equipment and<br>systems are intended to be installed,<br>maintained, and operated. | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.1<br>[FI28] <sup>1</sup>       | Commissioning plan developed by<br>registered design professional or<br>approved agency.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.3.<br>1<br>[FI31] <sup>1</sup> | HVAC equipment has been tested to ensure proper operation.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.3.<br>2<br>[FI10] <sup>1</sup> | HVAC control systems have been<br>tested to ensure proper operation,<br>calibration and adjustment of controls.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.4<br>[FI29] <sup>1</sup>       | Preliminary commissioning report<br>completed and certified by registered<br>design professional or approved<br>agency.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.5.<br>1<br>[FI7] <sup>3</sup>  | Furnished HVAC as-built drawings submitted within 90 days of system acceptance.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.5.<br>1<br>[FI16] <sup>3</sup> | Furnished as-built drawings for<br>electric power systems within 90 days<br>of system acceptance.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.5.<br>3<br>[FI43] <sup>1</sup> | An air and/or hydronic system<br>balancing report is provided for HVAC<br>systems.  | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.2.5.<br>4<br>[FI30] <sup>1</sup> | Final commissioning report due to<br>building owner within 90 days of<br>receipt of certificate of occupancy.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |
| C408.3<br>[FI33] <sup>1</sup>         | Lighting systems have been tested to<br>ensure proper calibration, adjustment,<br>programming, and operation.   | □Complies<br>□Does Not<br>□Not Observable<br>□Not Applicable |                      |

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