VP ENGINEERING

The 8th Edition (2023) Florida Building Code And Its Impact On Mechanical, Electrical, And Plumbing Engineering Design

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The list of changes below is intended to provide a broad comparison of the significant changes between the 7th Edition (2020) and 8th Edition (2023) of the Florida Building Code.

Any text within a table that is highlighted in blue represents any changes made to the code. (Changes from the 7th Edition to the 8th Edition).

Any text within a table that is bolded represents VP Engineering's analysis of the code change.

Plumbing

314.2.1.1 CONDENSATE DISCHARGE	
New Code	VP's Analysis
Condensate drains shall not directly connect to any plumbing drain, waste or vent pipe. Condensate drains shall not discharge into a plumbing fixture other than a floor sink, floor drain, trench drain, mop sink, hub drain, standpipe, utility sink or laundry sink. Condensate drain connections to a lavatory wye branch tailpiece or to a bathtub overflow pipe shall not be considered as discharging to a plumbing fixture. Except where discharging to grade outdoors, the point of discharge of condensate drains shall be located within the same occupancy, tenant space or dwelling unit as the source of the condensate.	**Explicitly calls out the waste receptacles that condensate can discharge to and now does not allow condensate from upper floor units to discharge to a hub drain on the lowest floor. This has been a VE item in the past but going forward will not be allowed.**

403.1.1 FIXTURE CALCULATIONS (MINIMUM PLUMBING FACILITIES)	
New Code	VP's Analysis
Exceptions: 1. The total occupant load shall not be required to be divided in half where approved statistical data indicates a distribution of the sexes of other than 50 percent of each sex. 2. Where multi-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multi-user user facilities, each fixture type shall be in accordance with ICC A117.1 and each urinal that is provided shall be located in a stall. 3. Distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 403.1.2.	**While not directly related to plumbing design, this Section has been updated to add and revise Exceptions that relate to the required number of fixtures, the fixture ratio, and ratios for each fixture type based on the occupant load of each sex.**

Plumbing

403.2 (MINIMUM PLUMBING FACILITIES)

New Code	VP's Analysis
Exceptions: 1. Separate facilities shall not be required for dwelling units and sleeping units. 2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer. 3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or fewer. 4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is 25 or fewer. 5. Separate facilities shall not be required to be designated by sex where single-user toilets rooms are provided in accordance with Section 403.1.2. 6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets is provided in accordance with Section 405.3.4. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.	**While not directly related to plumbing design, this Section has been updated to add Exceptions to when separate facilities for each sex are not required. Specifically adding Exceptions 5 and 6.**

4101.4 SUBSTITUTION (DRINKING FOUNTAINS)

New Code	VP's Analysis
Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where three or more drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.	**While not directly related to plumbing design, this Section has been updated to narrow the situations in which water dispensers can be substituted for water fountains. The 2020 Florida Plumbing Code did not specify the number of drinking fountains required in other occupancies.**

606.1 LOCATION OF FULL-OPEN VALVES

New Code	VP's Analysis
Full open valves shall be installed in the following locations: 1. (No change) 2. On the water distribution supply pipe at the entrance into the structure. 2.1. In multiple-tenant buildings, where a common water supply piping system is installed to supply other than one- and two-family dwellings, a main shutoff valve shall be provided for each tenant.	**Providing shutoff valves at each tenant space is a standard design for multiple tenant buildings however until the 2023 Florida Plumbing Code is was not code required.**

Plumbing

608.15.2.1 RELIEF PORT PIPING (PROTECTION OF POTABLE WATER SYSTEM)	
New Code	VP's Analysis
The termination of the piping from the relief port or air gap fitting of a backflow preventer shall discharge to an approved indirect waste receptor or to the outdoors where it will not cause damage or create a nuisance. The indirect waste receptor and drainage piping shall be sized to drain the maximum discharge flow rate from the relief port as published by the backflow preventer manufacturer.	**This Section has been updated from the 2020 Florida Plumbing Code to include the statement that the waste receptor is required to be sized to drain the maximum flow rate of the backflow preventer. If the backflow preventer is located inside (which is not typical for Florida but can happen) the size of the floor drain and associated sanitary piping will be greatly increased.**

708.1.12 CLEANOUT EQUIVALENT (CLEANOUTS)	
New Code	VP's Analysis
A fixture trap or a fixture with integral trap, removable without altering concealed piping, shall be acceptable as a cleanout equivalent.	**This is an added sub-section to Section 708 that allows for any fixture with exposed p-traps that can be removed (like a lav with piping in a cabinet) or an integral p-trap (like a toilet) to be used as a cleanout. This added sub-section could reduce the number of cleanouts required on the sanitary piping.**

Mechanical

Florida Building Code, Energy Conservation

C402.5.11 OPERABLE OPENINGS INTERLOCKING (MANDATORY)	
New Code	VP's Analysis
Where occupancies utilize operable openings to the outdoors that are larger than 40 square feet in area, such openings shall be interlocked with the heating and cooling system so as to raise the cooling setpoint to 90 degrees and lower the heating setpoint to 55 degrees whenever the operable opening is open. The change in heating and cooling setpoints shall occur within 10 minutes of opening the operable opening. Exceptions: 1. Separately zoned areas associated with the preparation of food that contributes to the HVAC loads of a restaurant or similar type of. 2. Warehouses that utilize overhead doors for the function of the occupancy, where approved by the code official. 3. The first entrance doors where located in the exterior wall and are part of a vestibule system.	**This section was added to prevent occupants trying to condition a space while a large operable opening similar to a roll up door is open.**

Mechanical

C402.5.11.1 OPERABLE CONTROLS (MANDATORY)	
New Code	VP's Analysis
Controls shall comply with Section C403.6..	**This section was added to prevent occupants trying to condition a space while a large operable opening similar to a roll up door is open.**

C403.6 OPERABLE OPENING INTERLOCKING CONTROLS (MANDATORY)	
New Code	VP's Analysis
The heating and cooling systems shall have controls that will interlock these mechanical systems to the set temperatures of 90 degrees for cooling and 55 degrees for heating when the conditions of Section C402.5.11 exist. The controls shall configure to shut off the systems entirely when the outdoor temperatures are below 90 degrees or above 55 degrees.	**This section was added to prevent occupants trying to condition a space while a large operable opening similar to a roll up door is open.**

C403.2.3 HVAC EQUIPMENT PERFORMANCE REQUIREMENTS	
New Code	VP's Analysis
Equipment shall meet the minimum efficiency requirements of Tables C403.2.3(1), C403.2.3(2), C403.2.3(3), C403.2.3(4), C403.2.3(5), C403.2.3(6), C403.2.3(7), C403.2.3(8), C403.2.3(9), C403.2.3(10), C403.2.3(11), C403.2.3(12), C403.2.3(13), C403.2.3(14), C403.2.3(15), C403.2.3(16) and C403.2.3(17) when tested and rated in accordance with the applicable test procedure. Plate-type liquid-to-liquid heat exchangers shall meet the minimum requirements of Table C403.2.3(10). The efficiency shall be verified through certification under an approved certification program or, where a certification program does not exist, the equipment efficiency ratings shall be supported by data furnished by the manufacturer. Where multiple rating conditions or performance requirements are provided, the equipment shall satisfy all stated requirements. Where components, such as indoor or outdoor coils, from different manufacturers are used, calculations and supporting data shall be furnished by the designer that demonstrates that the combined efficiency of the specified components meets the requirements herein.	**The tables in this section were updated to codify the new Minimum Efficiency Requirements for HVAC as required by the Department of Energy that went into effect January 1st, 2023.**

Mechanical

R402.4.1.2 TESTING	
New Code	VP's Analysis
The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding seven air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Dwelling units with an air leakage rate less than three air changes per hour shall be provided with whole-house mechanical ventilation in accordance with Section R403.6.1 of this code and Section M1507.3 of the Florida Building Code, Residential. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), Florida Statutes, or individuals licensed as set forth in Section 489.105(3)(f), (g) or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope. Exception: Testing is not required for additions, alterations, renovations or repairs of the building thermal envelope of existing buildings in which the new construction is less than 85 percent of the building thermal envelope. Exception: Testing is not required for additions, alterations, renovations or repairs of the building thermal envelope of existing buildings in which the new construction is less than 85 percent of the building thermal envelope. During testing: 1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather-stripping or other infiltration control measures. 2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures. 3. Interior doors, if installed at the time of the test, shall be open. 4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed. 5. Heating and cooling systems, if installed at the time of the test, shall be turned off. 6. Supply and return registers, if installed at the time of the test, shall be fully open. 7. If an attic is both air sealed and insulated at the roof deck, interior access doors and hatches between the conditioned space volume and the attic shall be opened during the test and the volume of the attic shall be added to the conditioned space volume for purposes of reporting an infiltration volume and calculating the air leakage of the home.	**This section was updated to require whole house mechanical ventialtion for dwelling units not meeting the minimum air leakage rates as well as added an additional testing requirement.**

Mechanical Florida Building Code, Mechanical

307.1.1 IDENTIFICATION

New Code	VP's Analysis
The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary or secondary drain.	**This section added the requirement to mark the termination location of concealed condensate drains.**

307.2.3.3 IDENTIFICATION

New Code	VP's Analysis
The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary or secondary drain.	**This section added the requirement to mark the termination location of concealed condensate drains.**

307.2.1.1 (IPC [M] 314.2.1.1) CONDENSATE DISCHARGE

New Code	VP's Analysis
Condensate drains shall not directly connect to any plumbing drain, waste or vent pipe. Condensate drains shall not discharge into a plumbing fixture other than a floor sink, floor drain, trench drain, mop sink, hub drain, standpipe, utility sink or laundry sink. Condensate drain connections to a lavatory wye branch tailpiece or to a bathtub overflow pipe shall not be considered as discharging to a plumbing fixture. Except where discharging to grade outdoors, the point of discharge of condensate drains shall be located within the same occupancy, tenant space or dwelling unit as the source of the condensate.	**This section was added to bring the Mechanical code in line with the Plumbing code.**

401.4 INTAKE OPENING LOCATION

New Code	VP's Analysis
Air intake openings shall comply with all of the following: 1. Intake openings shall be located not less than 10 feet (3048 mm) from lot lines or buildings on the same lot. 2. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots and loading docks, except as specified in Item 3 or Section 501.3.1. Outdoor air intake openings shall be permitted to be located less than 10 feet (3048 mm) horizontally from streets, alleys, parking lots and loading docks provided that the openings are located not less than 25 feet (7620 mm) vertically above such locations. Where openings front on a street or public way, the distance shall be measured from the closest edge of the street or public way. 3. Intake openings shall be located not less than 3 feet (914 mm) below contaminant sources where such sources are located within 10 feet (3048 mm) of the opening. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an approved factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the manufacturer's instructions. 4. Intake openings on structures in flood hazard areas shall be at or above the elevation required by Section 1612 of the Florida Building Code, Building for utilities and attendant equipment.	**This section was added to include an exception to the required minimum distances for environmental exhaust and was added for combination factory-built terminations.**

Mechanical

501.3.1 LOCATION OF EXHAUST OUTLETS

New Code	VP's Analysis
The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances: 1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade. 2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade. 3. For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an approved factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the manufacturer's instructions. 4. Exhaust outlets serving structures in flood hazard areas shall be installed at or above the elevation required by Section 1612 of the Florida Building Code, Building for utilities and attendant equipment. 5. For specific systems see the following sections: • 5.1. Clothes dryer exhaust, Section 504.4. • 5.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.13, 506.4 and 506.5. • 5.3. Dust stock and refuse conveying systems, Section 511.2. • 5.4. Subslab soil exhaust systems, Section 512.4. • 5.5. Smoke control systems, Section 513.10.3. • 5.6. Refrigerant discharge, Section 1105.7. • 5.7. Machinery room discharge, Section 1105.6.1.	**This section was added to include an exception to the required minimum distances for environmental exhaust and was added for combination factory-built terminations.**

TABLE 403.3.1.1 MINIMUM VENTILATION RATES

New Code	VP's Analysis
Click here to view updated table.	**The minimum continuous exhasut CFM for dwelling unit bathrooms and kitchens were increased to 25 and 50 CFM respectively.**

407.1 GENERAL

New Code	VP's Analysis
Mechanical ventilation for ambulatory care facilities and Group I-2 occupancies shall be designed and installed in accordance with this code and ASHRAE 170 and NFPA 99.	**This section was updated to include NFPA 99.**

Mechanical

502.20.1 OPERATION

New Code	VP's Analysis
The exhaust system for manicure and pedicure stations shall have controls that operate the system continuously when the space is occupied.	**This section was added to clarify when the source capture exhaust systems for manicure and pedicure stations is required to operate.**

504.4.1 TERMINATION LOCATION

New Code	VP's Analysis
Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. Where the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from openings into buildings, including openings in ventilated soffits.	**This section was added to clarify how and where dryer exhasut ducts shall terminate.**

504.6 BOOSTER FANS PROHIBITED

New Code	VP's Analysis
Domestic booster fans shall not be installed in dryer exhaust systems.	**This section was added to prevent the use of booster fans in domestic applications.**

507.2 TYPE I HOODS

New Code	VP's Analysis
Type I hoods shall be installed where cooking appliances produce grease or smoke as a result of the cooking process. Type I hoods shall be installed over medium-duty, heavy-duty and extra-heavy-duty cooking appliances. Exceptions: 1. A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg/m3 or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m3/s) in accordance with UL 710B. 2. A Type I hood shall not be required for solid fuel or combination gas and solid fuel pizza ovens if the oven is tested and listed using direct venting as allowed in NFPA 96. The venting system shall be constructed and installed per the conditions of listing of the oven and of the duct or chimney used for venting. This applies to pizza ovens listed with natural draft or forced draft venting.	**This section was updated to clarify one exception and provide a new 2nd exception to the use of a Type 1 hood.**

Mechanical

510.6.5 MAKEUP AIR

New Code	VP's Analysis
Makeup air from all sources shall be provided during operations at a rate approximately equal to the rate that air is exhausted by the hazardous exhaust system. Makeup air shall be provided by gravity or mechanical means or both. Mechanical makeup air systems shall be automatically controlled to start and operate simultaneously with the exhaust system. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air intakes shall be located in accordance with Section 401.4.	**This section was updated to clarify the need for makeup air equal to the exhaust air being removed from spaces containing vapors, gases and smoke**

602.2.1.8 PIPE AND DUCT INSULATION WITHIN PLENUMS

New Code	VP's Analysis
Pipe and duct insulation contained within plenums, including insulation adhesives, shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723 using the specimen preparation and mounting procedures of ASTM E2231. Pipe and duct insulation shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C). Pipe and duct insulation shall be listed and labeled. Pipe and duct insulation shall not be used to reduce the maximum flame spread and smoke-developed indexes except where the pipe or duct and its related insulation, coatings and adhesives are tested as a composite assembly in accordance with Section 602.2.1.7.	**This section was updated to clarify that if insulations is used to reduce the flame spread and smoke-developed indices, the complete assembly needs to tested in accordance to 602.2.1.7 and not just he separate components.**

604.3 COVERINGS AND LININGS

New Code	VP's Analysis
Duct coverings and linings, including adhesives where used, shall have a flame spread index not more than 25 and a smoke-developed index not more than 50, when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. Duct coverings and linings shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C). Coverings and linings shall be listed and labeled. Exception: Polyurethane foam insulation that is spray applied to the exterior of ducts in attics and crawlspaces shall be subject to all of the following requirements: 1. The foam plastic insulation shall have a flame spread index not greater than 25 and a smoke-developed index not greater than 450, when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. 2. The foam plastic insulation shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C). 3. The foam plastic insulation complies with the requirements of Section 2603 of the Florida Building Code, Building. 4. The foam plastic insulation is protected against ignition in accordance with the requirements of Section 2603.4.1.6 of the Florida Building Code, Building.	**This section was updated to add the flame spread and smoke-developed indexes and other requirements for the application of spray foam insulation to the exterior of duct work instead of traditional duct wrap insulation.**

Mechanical

920.4 PROHIBITED USES	
New Code	VP's Analysis
In Group I-2 and ambulatory care facilities, suspended-type unit heaters are prohibited in corridors, exit access stairways and ramps, exit stairways and ramps and patient sleeping areas.	**This section was added to clarify prohibited locations where a suspended unit heater can be installed in Group I-2 and ambulatory facilities.**

Electrical

1008.2.1 ILLUMINATION LEVEL UNDER NORMAL POWER

New Code	VP's Analysis
The means of egress illumination level shall be not less than 1 foot-candle (11 lux) at the walking surface. Along exit access stairways, exit stairways and at their required landings, the illumination level shall not be less than 10 foot-candles at the walking surface when the stairway is in use.	**The section was updated to add more specific requirements in addition to the 1 foot-candle (11 lux) at the walking surface. An additional foot-candle level that has been added to this section states the maintaining of not less than 10fc along exit access stairways, exit stairways and at their respective landing when the stairs are in use.**

1008.3.1 GENERAL

New Code	VP's Analysis
In the event of power supply failure in rooms and spaces that require two or more exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas: 1. Aisles. 2. Corridors. 3. Exit access stairways and ramps	**The section was updated to change the terminology from two or more means of egress to two or more exits or access to exits. This has been interpreted such that "access to exits" focuses on the specific path within individual rooms or spaces that leads to the exit doors. While the formerly used "means of egress" encompasses the entire route people take from their initial location within a building to reach the exit doors, including corridors, stairs, and other elements.**

1008.3.2 BUILDINGS

New Code	VP's Analysis
In the event of power supply failure in buildings that require two or more exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas: 1. Interior exit access stairways and ramps. 2. Interior and exterior exit stairways and ramps. 3. Exit passageways. 4. Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.2. 5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the exit discharge.	**The section was updated to change the terminology from two or more means of egress to two or more exits or access to exits. This has been interpreted such that "access to exits" focuses on the specific paths (areas 1-5) within buildings that require emergency illumination that leads to the exit doors.**

Electrical

[F] 2702.2.4 EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS	
New Code	VP's Analysis
Standby power shall be provided for emergency voice/alarm communication systems in accordance with Section 907.5.2.	**The section was updated to change the necessity for emergency power to standby power. Standby power serves as a backup for less critical applications and may have a short transfer time. Emergency power, on the other hand, is dedicated to critical functions and provides virtually seamless power transition during outages, prioritizing life safety and essential services.**

3006.3 HOISTWAY OPENING PROTECTION	
New Code	VP's Analysis
Where Section 3006.2 requires protection of the elevator hoistway door opening, the protection shall be provided by one of the following: 5. A smoke protective curtain assembly for hoistways shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such curtain assemblies shall comply with the smoke and draft control requirements in Section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal. Such curtain assemblies shall be equipped with a control unit listed to UL 864. Such curtain assemblies shall comply with section 2.11.6.3 of ASME A17.1/CSA B44. Installation and maintenance shall be in accordance with NFPA 105.	**Section revised to add an additional subsection stating the requirement for smoke protective curtain assemblies or "smoke curtains" at each landing. Elevator smoke curtains create a barrier within the elevator shaft, preventing smoke from spreading to other floors. This is especially important because smoke inhalation is a primary cause of injury and fatalities during building fires. Furthermore elevator smoke curtains can help isolate the area of the fire, preventing it from spreading to other parts of the building. This containment is vital for controlling the fire's progression and minimizing property damage and harm to occupants.**

Electrical

3007.1 GENERAL

New Code	VP's Analysis
Where required by Section 403.6.1, every floor above and including the lowest level of fire department vehicle access of the building shall be served by fire service access elevators complying with Sections 3007.1 through 3007.9. Except as modified in this section, fire service access elevators shall be installed in accordance with this chapter and ASME A17.1/CSA B44. Exceptions: 1. Elevators that only service an open or enclosed parking garage and the lobby of the building shall not be required to serve as fire service access elevators. 2. The elevator shall not be required to serve the top floor of a building where that floor is utilized only for equipment for building systems.	**A new exception has been added to this section eliminating the need for a fire service access elevator to serve the top floor of a building if that floor is used only for building system equipment.**

C103.1 GENERAL

New Code	VP's Analysis
Construction documents and other supporting data shall be submitted in one or more sets, or in a digital format where allowed by the code official, with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the code official is authorized to require necessary construction documents to be prepared by a registered design professional. Exception: The code official is authorized to waive the requirements for construction documents or other supporting data if the code official determines they are not necessary to confirm compliance with this code.	**Section revised to allow the submission of digital format construction documents where allowed by the local authority having jurisdiction.**

C103.2 INFORMATION ON CONSTRUCTION DOCUMENTS

New Code	VP's Analysis
Construction documents shall be drawn to scale upon suitable material. Electronic media documents are permitted to be submitted where approved by the code official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in sufficient detail pertinent data and features of the building, systems and equipment as herein governed. Details shall include, but are not limited to, the following as applicable: 1. Energy compliance path. 2. Insulation materials and their R-values. 3. Fenestration U-factors and solar heat gain coefficients (SHGCs). 4. Area-weighted U-factor and solar heat gain coefficient (SHGC) calculations. 5. Mechanical system design criteria. 6. Mechanical and service water heating system and equipment types, sizes and efficiencies. 7. Economizer description. 8. Equipment and system controls. 9. Fan motor horsepower (hp) and controls. 10. Duct sealing, duct and pipe insulation and location. 11. Lighting fixture schedule with wattage and control narrative. 12. Location of daylight zones on floor plans. 13. Air sealing details.	**List of requested construction document details updated to prioritize the required Energy Compliance Path data, if applicable, on the documents.**

Electrical

C104.2.6 FINAL INSPECTION

New Code	VP's Analysis
The building shall have a final inspection and shall not be occupied until approved. The final inspection shall include verification of the installation and proper operation of all required building controls, and documentation verifying activities associated with required building commissioning have been conducted and findings of noncompliance corrected. Buildings, or portions thereof, shall not be considered for a final inspection until the code official has received the Preliminary Commissioning Report and has also received a letter of transmittal from the building owner acknowledging that the building owner has received the Preliminary Commissioning Report as required in Section C408.2.4.	**It is no longer acceptable for a code official to only receive a letter of transmittal from the building owner acknowledging that the building owner has received the Preliminary Commissioning Report. Now this section requires a Preliminary Commissioning Report to be received by the code official & owner.**

C405.1.1 WALK-IN COOLER LIGHTING

New Code	VP's Analysis
Lights in walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers shall either use light sources with an efficacy of not less than 40 lumens per watt, including ballast losses, or shall use light sources with an efficacy of not less than 40 lumens per watt, including ballast losses, in conjunction with a device that turns off the lights within 15 minutes when the space is not occupied. General lighting shall consist of all lighting included when calculating the total connected interior lighting power in accordance with Section C405.3.1 and which does not require specific application controls in accordance with Section C405.2.5.	**New section added and requirement expanded, upon removal from general section C405.1 Electrical Power and Lighting Systems.**

C405.2.1 OCCUPANT SENSOR CONTROL FUNCTION

New Code	VP's Analysis
Occupant sensor controls in warehouses shall comply with Section C405.2.1.2. Occupant sensor controls in open plan office areas shall comply with Section C405.2.1.3. Occupant sensor controls in corridors shall comply with Section C405.2.1.4. Occupant sensor controls for all other spaces specified in Section C405.2.1 shall comply with the following: 1. They shall automatically turn off lights within 20 minutes after all occupants have left the space. 2. They shall be manual on or controlled to automatically turn on the lighting to not more than 50-percent power. 3. They shall incorporate a manual control to allow occupants to turn off lights. Exception: Full automatic-on controls with no manual control shall be permitted in corridors, interior parking areas, stairways, restrooms, locker rooms, lobbies, library stacks and areas where manual operation would endanger occupant safety or security.	**Code Section C405.2.1 revised to include corridors and other spaces 300 sq. ft. (28m2) or less that are enclosed by floor-to-ceiling height partitions (i.e. storage & janitor closets) as areas that require occupant sensor controls. This section revised to include a new exception. The new code exception allows for full automatic-on controls without manual switches in specific building areas. These areas include corridors, interior parking areas, stairways, restrooms, locker rooms, lobbies, library stacks, and locations where manual control could jeopardize occupant safety or security In these spaces, the exception permits entirely automated lighting systems without traditional manual switches to improve safety and efficiency.**

Electrical

C405.2.1.4 OCCUPANT SENSOR CONTROL FUNCTION IN CORRIDORS

New Code	VP's Analysis
Occupant sensor controls in corridors shall uniformly reduce lighting power to an unoccupied set point of not more than 50 percent of full power within 20 minutes after all occupants have left the space. Exception: Corridors provided with less than 2 foot-candles of illumination on the floor at the darkest point with all lights on.	**New section added. In compliance with the new code section, occupant sensor controls in corridors are required to gradually reduce lighting power to a level no higher than 50 percent of full power within 20 minutes after all occupants have exited the space. An exception applies for corridors that already have very low lighting levels, with less than 2 foot-candles of floor illumination when all lights are turned on. In such cases, the gradual reduction requirement is waived.**

C405.2.2 TIME-SWITCH CONTROLS

New Code	VP's Analysis
Each area of the building that is not provided with occupant sensor controls complying with Section C405.2.1.1 shall be provided with time switch controls complying with Section C405.2.2.1. Exceptions: Where a manual control provides light reduction in accordance with Section C405.2.3.1, time-switch controls shall not be required for the following: 1. Luminaires that are required to have specific application controls in accordance with Section C405.2.5. 2. Spaces where patient care is directly provided. 3. Spaces where an automatic shutoff would endanger occupant safety or security. 4. Lighting intended for continuous operation. 5. Shop and laboratory classrooms.	**Section and exception updated to eliminate the time switch control requirement for luminaries that have a specific application controls per section C405.2.5 are exempted from time-switch control requirements. Applications such as luminaries for which additional lighting power is claimed in accordance with Section C405.3.2.2.1. (Display accent, lighting in display cases, supplemental task lighting, including permanently installed under-shelf or under-cabinet lighting, lighting equipment that is for sale or demonstration in lighting education, display lighting for exhibits in galleries, museums and monuments that is in addition to general lighting, etc.**

Electrical

C405.2.3 LIGHT-REDUCTION CONTROLS

New Code	VP's Analysis
Spaces not provided with occupant sensor controls complying with Section C405.2.1.1 must have manual light reduction controls complying with Section C405.2.3.1 for general lighting. Exceptions to this section are: 1. Luminaires controlled by daylight responsive controls complying with Section C405.2.4. 2. Luminaires controlled by special application controls complying with Section C405.2.5. 3. Where provided with manual control, the light reduction control is not required if (1) the space has only one luminaire with a rated power < 100 watts, (2) the space use < 0.45 W/ft2, or (3) the space type are corridors, lobbies, electrical rooms, and mechanical rooms.	**Adds new section C405.2.3. In spaces lacking occupant sensor controls (Section C405.2.1.1), manual light reduction controls (Section C405.2.3.1) for general lighting are required. However, exceptions apply, such as spaces with daylight-responsive controls (Section C405.2.4), special application controls (Section C405.2.5), or specific conditions, including spaces with minimal lighting needs, low space usage, or designated areas like corridors and mechanical rooms. These exceptions offer flexibility in control requirements based on different space characteristics.**

C405.2.7.3 LIGHTING SETBACK

New Code	VP's Analysis
Lighting that is not controlled in accordance with Section C405.2.7.2 shall comply with the following: 1. Be controlled so that the total wattage of such lighting is automatically reduced by not less than 50 percent by selectively switching off or dimming luminaires at one of the following times: • 1.1. From not later than midnight to not earlier than 6 a.m. • 1.2. From not later than one hour after business closing to not earlier than one hour before business opening. • 1.3. During any time where activity has not been detected for 15 minutes or more. 2. Luminaires serving outdoor parking areas and having a rated input wattage of greater than 78 W and a mounting height of 24 feet (7315 mm) or less above the ground shall be controlled so that the total wattage of such lighting is automatically reduced by not less than 50 percent during any time where activity has not been detected for 15 minutes or more. Not more than 1,500 W of lighting power shall be controlled together.	**Adds a new provision for luminaires serving outdoor parking areas and having a rated input wattage of > 78 W and a mounting height of ≤ 24 feet above the ground must be controlled so that the total wattage is automatically reduced by ≥ 50 % during any time where activity has not been detected for at least 15 minutes if the luminaire is not controlled per Section C405.2.7.2. Not more than 1,500 W of lighting power should be controlled together.**

Electrical

C405.2.8 PARKING GARAGE LIGHTING CONTROL

New Code	VP's Analysis
Parking garage lighting must be controlled by an occupant sensor complying with Section C405.2.1.1 or a time-switch control complying with Section C405.2.2.1. Additional lighting controls must be provided as follows: 1. Lighting power of each luminaire must be automatically reduced by ≥ 30 % when no activity is detected for 20 minutes except places where lighting zones with < 1.5 fc of illumination on the floor at the darkest point. 2. Covered vehicle entrances and exits from buildings and parking structures must be separately controlled by a device that automatically reduces lighting power by ≥ 50 % from sunset to sunrise. 3. The power to luminaires within 20 feet of perimeter wall openings must automatically reduce in response to daylight by ≥ 50 %, Exception: 1. The opening-to-wall ratio is less than 40 % as viewed from the interior and encompassing the vertical distance from the driving surface to the lowest structural element, 2. The distance from the opening to any exterior daylight blocking obstruction is less than one-half the height from the bottom of the opening to the top of the obstruction, 3. The openings are obstructed by permanent screens or architectural elements restricting daylight entering the interior space.	**Adds new section C405.2.8. For parking garage lighting, it must be controlled by an occupant sensor or time-switch control. Additional lighting controls include: Each luminaire must automatically reduce power by at least 30% after 20 minutes of no activity, except where the darkest point has less than 1.5 foot-candles (fc) of floor illumination. Lighting at covered vehicle entrances and exits must be automatically reduced by at least 50% from sunset to sunrise. Lighting within 20 feet of perimeter wall openings must reduce by at least 50% in response to daylight. Exceptions apply if the opening-to-wall ratio is less than 40%, the distance from the opening to daylight obstruction is less than half the opening's height, or the openings are blocked by permanent creens or architectural elements restricting daylight. These requirements promote energy-efficient lighting in parking garages.**

C405.3.2.1 TABLE C405.3.2 (1)

New Code	VP's Analysis
Click here to view updated table.	**Reduces the building area method LPD [lighting power densities (W/ft2] allowances in Table C405.3.2 (1).**

C405.3.2.1 TABLE C405.3.2 (2)

New Code	VP's Analysis
Click here to view updated table.	**Reduces the space-by-space method LPD allowances in Table C405.3.2 (2).**

Electrical

C408.3.1 FUNCTIONAL TESTING	
New Code	VP's Analysis
Prior to passing final inspection, the registered design professional or approved agency shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions. Functional testing shall be in accordance with Sections C408.3.1.1 through C408.3.1.3 for the applicable control type.	**Modifies the code language that before passing the final inspection, the registered design professional or approved agency must provide evidence that the lighting control systems have been tested per the construction documents and manufacturer's instructions.**

C408.3.2 DOCUMENTATION REQUIREMENTS	
New Code	VP's Analysis
The construction documents must specify that the documents described in this section be provided not only to the building owner or owner's authorized agent but also to the code official within 90 days of receipt of the certificate of occupancy	**Final documents must explicitly state that the drawings, manuals, and all applicable reports must be provided not only to the building owner/owner authorized agent but also to the code official within 90 days of receiving the CO.**

R404.1 LIGHTING EQUIPMENT (MANDATORY)	
New Code	VP's Analysis
All permanently installed luminaries, excluding those in kitchen appliances, shall have an efficacy of at least 45 lumens-per-watt or shall utilize lamps with an efficacy of not less than 65 lumens-per-watt.	**Increases percentage of permanently installed luminaires and lamps required to have specified higher efficacies from 90% to "all", with exception for those in kitchen appliances.**