



## **Division of Building Regulation**

### Commercial Plan Review Submission Requirements (New Building)

#### **GENERAL:**

##### **A site plan including the following information:**

1. Size and location of all new construction and all existing structures on the site.
2. Distances from lot lines.
3. Established street grades and proposed finish grades.

##### **Architectural plans and specifications to include:**

1. Description of uses and the proposed Occupancies for all portions of the building. Provide design approach for mixed-uses (as applicable).
2. Proposed type of construction of the building.
3. Fully dimensioned drawings to scale not less than  $1/8" = 1'-0"$ . Minimum sheet size 21" X 34"
4. Adequate details and dimensions to evaluate means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs, etc.
5. Exit signs/means of egress lighting, including power supply.
6. Accessibility provisions.
7. Description and details of proposed special occupancies such as a covered mall, high-rise, mezzanine, atrium, public garage, etc.
8. Adequate details to evaluate fire resistive construction requirements, including data substantiating required ratings.
9. Details of plastic, insulation, and safety glazing installation.
10. Details of required fire protection systems.
11. As required per Title 54.1-402 of the Code of Virginia, plans shall include the seal and signature of the design professional responsible for the documents as well as the date the documents were sealed **OR** where an A/E seal is not required, the plans must be signed by the individual (not a company) responsible for the design, including the individual's occupation and complete address.

##### **Structural plans, specifications, and engineering details to include:**

1. Soils report indicating the soil type and recommended allowable bearing pressure and foundation type.
2. Signed and sealed structural design calculations which support the member sizes on the drawings.
3. Local design load criteria, including frost depth.
4. Earthquake seismic zone/effective peak acceleration coefficient.
5. Details of foundations and superstructure.
6. Provisions for required special inspections. Submit two (2) completed copies of the Statement of Special Inspections, including ALL of the required original signatures and ALL of the "agent" information.
7. Applicable construction standards and material specifications (i.e., masonry, concrete, wood, steel, etc.).

## **Energy Requirements:**

### **Envelope**

1. Description of uses and the proposed use group(s) for all portions of the building.
2. Thermal performance of envelope components.
3. Fenestration performance details (U-factor, SC, SHGC, VLT, air leakage rates, etc.).
4. Fully dimensioned drawings to determine gross and net areas of all envelope components.
5. Details of vapor barrier and insulation installation, caulking, gasketing, weather stripping and other means of sealing joints, cracks, holes and penetrations in the building envelope.
6. ENVSTD output (where applicable).
7. Design conditions (interior and exterior) consistent with local climate.

### **Accessibility:**

1. Complete signed and sealed (as required by applicable laws) architectural plans and material specifications of all work. Details and plans drawn to scale with sufficient clarity, details and dimensions to show the nature and extent of the work proposed.
2. Site plan including the following information:
  - a. Size and location of all new construction and all existing structures on the site.
  - b. Location of any recreational facilities (i.e., pool, tennis courts, etc.)
  - c. Established street grades and proposed finished grade.
  - d. Accessible parking, other locations of public access to the facility, accessible exterior routes and locations of accessible entrances.
3. Architectural plans and specifications to include:
  - a. Description of uses and the proposed use group(s) for all portions of the building. The design approach for mixed-uses (as applicable).
  - b. Fully dimensioned drawings to determine areas and building height.
  - c. Adequate details and dimensions to evaluate accessible means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs, areas of refuge, etc.
  - d. Adequate details and dimensions to evaluate the accessible route to areas required to be accessible, including corridors, doors, protruding objects, maneuvering clearances, clear floor space at fixtures and controls, etc.
  - e. Accessibility provisions including but not limited to access to services, seating, listening systems, accessible fixtures, elevators, work surfaces, etc.
  - f. Accessible plumbing facilities and details.
  - g. Tactile signage provided.
  - h. Details of required fire protection system.

**Note:** The Accessibility Review will cover the scoping requirements in Chapter 11 other accessibility related requirements mainstreamed throughout the applicable building code. Technical requirements covered will be based on the applicable edition of ICC/ANSI A117.1 Accessible and Usage Buildings and Facilities.

### **Electrical Plans:**

In order to perform a thorough Electrical Plan Review, the following specifications, drawings and details should be submitted:

1. Complete signed and sealed plans and specifications of all electrical work.
2. Labeling criteria of all electrical equipment.

3. Lighting floor plans including electrical circuits indicating conduit and wiring sizes.
4. Power floor plans including electrical circuits indicating conduit and wiring sizes, equipment and disconnect switches.
5. Exit sign/means of egress lighting location and power supply.
6. Panelboard schedule.
7. Lighting fixture schedule.
8. Symbol schedule and diagrams.
9. Specifications to include requirements for:
  - a. Raceway and conduit fittings.
  - b. Wire and cable.
  - c. Electrical boxes, fittings and installation.
  - d. Electrical connections.
  - e. Electrical wiring devices.
  - f. Circuit and motor disconnects.
  - g. Hangers and supporting devices.
  - h. Electrical identification.
  - i. Service entrance and details.
  - j. Overcurrent protection.
  - k. Switchboards.
  - l. Grounding.
  - m. Transformers.
  - n. Panelboards.
  - o. Motor Control centers.
  - p. Lighting fixtures.
  - q. Fire protective signaling systems.
  - r. Automatic fire detection systems.
  - s. Emergency/standby systems.

**Energy Requirements for Electrical:**

1. Riser diagram(s) of the distribution system indicating:
  - a. Check metering provisions for individual dwelling units.
  - b. Subdivision of feeders by end use: 1) Lighting, 2) HVAC, 3) SWH and systems over 20kW
2. Lighting fixture schedule(s) depicting location, fixture lamps, ballasts, ballast specifications, fixture input watts, fixture wiring methods, power factor, etc.
3. Lighting plan(s) for building exteriors including total exterior Connected Lighting Power.
4. Lighting and power floor plans for building interiors including total interior CLP.
5. LTGSTD output (where applicable).
6. Interior and exterior means of lighting control.
7. Electric motor schedule including type, HP and efficiencies

**Energy Requirements for Mechanical Systems & Equipment**

1. Mechanical equipment data, plans and specifications of all mechanical work including:
  - a. Equipment type, capacity (Btuh) and efficiency (peak and part-load).
  - b. System design air flow rates (cfm).
  - c. Details of equipment/system sizing.
  - d. System and/or zone control capabilities including terminal device schedule, provisions for humidity control (where applicable) and the corresponding testing of system controls.

- e. Provisions for automatic setback/shutdown.
  - f. Indicate supply and exhaust systems to have automatic shutoff or volume reduction dampers.
  - g. Energy consumed by fans in the form of an Air Transport Factor (ATF) and pumps.
2. Economizers (air or water) including provisions for integrated control.
  3. Duct construction and system static pressure(s), including provisions for sealing.
  4. Duct and/or hydronic-piping lining and insulation materials.
  5. Provisions for air and/or hydronic system balancing.
  6. Boiler and water heater equipment and piping details including safety controls and distribution piping layout.

**SERVICE WATER HEATING (SWH)**

1. SWH equipment data including type, capacity and efficiency.
2. SWH pipe insulation, thickness, conductivity and vapor retarder (where appropriate).
3. Water conservation requirements.
4. Energy conservation measures for swimming pools (where applicable).
5. Commercial buildings and residential buildings greater than three stories in height only.
6. Multifamily residential buildings three stories or less in height; the non-dwelling-unit portions only.