

Pulaski County Building Department

Summary of Code Changes in the 2021 Virginia Statewide Building Code

This list does not include all code changes, it includes major substantive changes that impact residential projects. The effective date is January 18, 2024. Permit applicants may choose to use the 2018 or 2021 until January 18, 2025. After January 18, 2025 the 2021 Virginia Statewide Building Code will be enforced.

Residential Code Changes

Section R314.3 Building Planning – Smoke Alarms: A new location requirement addresses smoke alarms where high ceilings are adjacent to hallways serving bedrooms.

- Smoke alarms shall be installed in the hallway and in the room open to the hallway in dwelling units where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches (610 mm) or more.

Section R324.6.2 Building Planning – Solar Energy Systems: This amendment simplifies solar setback requirements at horizontal ridges by requiring no less than an 18-inch clear setback on both side of a horizontal ridge.

- Not less than an 18-inch clear setback is required on both side of a horizontal ridge.

Section R506.2.3 Floors – Vapor Retarder: A minimum 10-mil vapor retarder conforming to ASTM E1745 Class A requirements with joints lapped not less than 6-inches shall be placed between the concrete floor slab and the base course.

Section N1102.1.3 Energy Efficiency – Building Thermal Envelope: The attic/ceiling minimum R-value has increased from R-49 to R-60.

Section N1102.2.9 Energy Efficiency- Slab Insulation: Slabs shall be insulated with an R-10 continuous insulation to a depth of 4 feet.

Section N1102.2.7 Energy Efficiency- Floor Insulation: This code change provides clarification for the installation of floor cavity insulation.

Section N1102.4.6 Energy Efficiency - Electrical and communication outlet boxes: Electrical and communication outlet boxes installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. Electrical and communication outlet boxes shall be tested in accordance with NEMA OS 4 and shall be marked “NEMA OS 4” or “OS 4”.

Section N1103.3.5 Energy Efficiency – Duct Testing: This section has been updated with current test standards and requirements. **Ducts and air handlers entirely within the building thermal envelope are on longer exempt and must be tested.**

Section N1103.6.3 Energy Efficiency – Mechanical Ventilation Systems: Mechanical ventilation systems are now required to be tested.

- Mechanical ventilation systems shall be tested and verified to provide the minimum ventilation flow rates required by Section N1103.6.

Section N1104.2 Energy Efficiency- Electrical Power and Lighting Systems: This code change requires all permanently installed interior lighting fixtures to be controlled with a dimmer, and occupant sensor control or another control that install or built into the fixture

- Permanently installed lighting fixture shall be controlled with a dimmer, an occupant sensor control or another control that is installed or built into the fixture.

Section P2503.5.1 Plumbing Administration – Inspections and Tests: This code change details new requirements for rough plumbing tests and the addition of vacuum testing.

- Water test. Each section shall be filled with water to a point not less than **10** feet above the highest fitting connection in that system.
- Vacuum test. The portion under test shall be evacuated of air by vacuum-type pump to achieve a uniform gauge pressure of -5 pounds per square inch or a negative 10 inches of mercury column. This pressure shall be held without the removal of additional air for a period of 15 minutes.

Section P2905.3 Water Supply and Distribution – Heated Water Distribution System: The developed length of hot water piping shall not exceed 100 feet.

- The developed length of hot water piping, from the source of the hot water to the fixtures that require hot water, shall no exceed 100 feet. Water heaters and recirculating system piping shall be considered to be sources of hot water.

Section E3601.8 Services – General Services – Emergency Disconnects: An emergency service disconnect is required in a readily accessible outdoor location.

- For one- and two-family dwelling units, all service conductors shall terminate in disconnecting means having a short-circuit current rating equal to or greater than the available fault current, install in a readily accessible outdoor location. If more than one disconnect is provided, they shall be grouped.

Section E3606.5 Services – Service Equipment – Surge Protection: A surge protective device is required at the service panel.

- All services supplying one- and two-family dwelling units shall be provided with a surge protective device installed in accordance with section E3606.5 through E3606.5.3

Section E3901.4 Power and Lighting Distribution – Receptacle Outlets: Island and peninsular receptacle spacing is now based on the square footage of the countertop surface.

Section E3902 Power and Lighting Distribution – Ground-Fault and Arc-Fault Circuit-Interrupter Protection: This code change removes the 20-amp limitation. The ground-fault circuit-interrupter protection is required for up to 250-volt receptacles in the identified locations.

Section E3902.5 Power and Lighting Distribution – Ground-Fault and Arc-Fault Circuit-Interrupter Protection: This code change requires ground-fault circuit-interrupter protection in both unfinished and finished basement areas.