

CHAPTER 3

GENERAL PROVISIONS AND SPECIAL DETAILED REQUIREMENTS

SECTION 301 GENERAL

301.1 Applicability. The applicable provisions of this chapter shall be used in conjunction with the requirements in this code, and shall apply to all construction and *rehabilitation*.

301.2 Occupancy and use. When determining the appropriate application of the referenced sections of this code, the occupancy and use of a *building* shall be determined in accordance with Chapter 3 of the *Virginia Construction Code (VCC)*.

SECTION 302 BUILDING MATERIALS AND SYSTEMS

302.1 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and *alterations*, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the VCC would not permit their use in *buildings* or *structures* of similar occupancy, purpose, and location.

302.2 Existing seismic force-resisting systems. Where the existing seismic force-resisting system is a type that can be designated ordinary, values of R , Ω_0 , and C_d for the existing seismic force-resisting system shall be those specified by the VCC for an ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a detailed, intermediate, or special system.

302.3 Smoke alarms. *Repair* or replacement of smoke alarms shall be with devices listed in accordance with UL217 and that are no more than 10 years from the date of manufacture. Battery-only powered devices shall be powered by a 10-year sealed battery.

SECTION 303 FIRE ESCAPES

303.1 Where permitted. Fire escapes shall comply with this section and shall not constitute more than 50 percent of the required number of exits nor more than 50 percent of the required exit capacity.

303.1.1 Existing fire escapes. Existing fire escapes shall continue to be accepted as a component in the means of egress.

303.1.2 New fire escapes. For other than Group I-2, newly constructed fire escapes shall be permitted only where exterior stairs cannot be utilized due to lot lines limiting stair size or due to the sidewalks, alleys, or roads at grade level.

Exception: Replacement fire escapes or existing fire escapes undergoing repairs shall comply with Sections

303.3 and 303.4 if feasible, and if not feasible to the greatest extent possible.

303.2 Location. Where located on the front of the *building* and where projecting beyond the *building* line, the lowest landing shall not be less than 7 feet (2134 mm) or more than 12 feet (3658 mm) above grade, and shall be equipped with a counterbalanced stairway to the street. In alleyways and thoroughfares less than 30 feet (9144 mm) wide, the clearance under the lowest landing shall not be less than 12 feet (3658 mm).

303.3 Construction. The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved *noncombustible materials*. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on *buildings* of Type V construction. Walkways and railings located over or supported by combustible roofs in *buildings* of Types III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

303.4 Dimensions. Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 9 inches (203 mm) below the door.

303.5 Opening protectives. Openings within 10 feet (3048 mm) of newly constructed fire escape stairways shall be protected by fire assemblies having minimum $3/4$ -hour-fire-resistance ratings.

Exception: Opening protection shall not be required in *buildings* equipped throughout with an approved automatic sprinkler system.

303.6 Fire escape access and details. Newly constructed fire escapes shall comply with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.
2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Groups R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.
 - 2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m²) or 5 square feet (0.46 m²) where located at grade.
 - 2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).
 - 2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.

- 2.4. The operation of the window shall comply with the operational constraints of the VCC.
3. In all *buildings* of Group E occupancy, up to and including the 12th grade, *buildings* of Group I occupancy, rooming houses and child care centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

SECTION 304 GLASS REPLACEMENT AND REPLACEMENT WINDOWS

304.1 Replacement glass. In accordance with § 36-99.2 of the Code of Virginia, installation or replacement of glass shall comply with Chapter 24 of the VCC.

304.2 Replacement window opening devices. In Group R-2 or R-3 *buildings* containing dwelling units, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. The top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the *building*, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1031.3.1 of the VCC.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or *building*, and that are provided with window fall prevention devices that comply with ASTM F2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.

304.3 Replacement window emergency escape and rescue openings. Where windows are required by the VCC or *International Residential Code* to provide emergency escape and rescue openings in Groups R-2 and R-3 occupancies and one-family and two-family dwellings and townhouses regulated by the *International Residential Code*, replacement

windows shall be exempt from the requirements of Sections 1031.2.1 and 1031.3 of the VCC or Sections R310.1.1, R310.2.1, R310.2.3, R310.4.1, R310.4.2, R310.4.2.1, R310.4.2.2 and R310.4.3 of the *International Residential Code*, provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a *change of occupancy*.

304.3.1 Operational constraints. Where bars, grilles, grates, or similar devices are installed over emergency escape and rescue openings as permitted by Section 1031.2.1 of the VCC, smoke alarms shall also be provided in accordance with Section 907.2.11 of the VCC. In R-5 occupancies, bars, grilles, grates, or similar devices are permitted to be installed over emergency escape and rescue openings in accordance with section R310.4.4 of the VRC.

SECTION 305 SEISMIC FORCE-RESISTING SYSTEMS

305.1 General. Where this code requires consideration of the seismic force-resisting system of an *existing building* subject to *repair, alteration, change of occupancy, addition* or moving of *existing buildings*, the seismic evaluation and design shall be based on Section 305.2.

305.2 Seismic evaluation and design procedures. The seismic evaluation and design shall be based on the procedures specified in the VCC or ASCE 41. The procedures contained in Appendix A of this code shall be permitted to be used as specified in Section 305.2.2.

305.2.1 Compliance with VCC-level seismic forces. Where compliance with the seismic design provisions of the VCC is required, the criteria shall be in accordance with one of the following:

1. One-hundred percent of the values in the VCC. Where the existing seismic force-resisting system is a type that can be designated as "Ordinary," values of R , Ω_0 , and C_d used for analysis in accordance with Chapter 16 of the VCC shall be those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it can be demonstrated that the structural system will provide performance equivalent to that of a "Detailed," "Intermediate" or "Special" system.
2. ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 305.2.1 for the applicable *risk category*.

305.2.2 Compliance with reduced VCC-level seismic forces. Where seismic evaluation and design is permitted to meet reduced VCC seismic force levels, the criteria used shall be in accordance with one of the following:

1. The VCC using 75 percent of the prescribed forces. Values of R , Ω_0 and C_d used for analysis shall be as specified in Section 305.2.1 of this code.
2. *Structures* or portions of *structures* that comply with the requirements of the applicable chapter in Appendix A, as specified in Items 2.1 through 2.5, and subject to the limitations of the respective Appendix A chapters shall be deemed to comply with this section.
 - 2.1. The seismic evaluation and design of unreinforced masonry bearing wall *buildings* in *Risk Category* I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
 - 2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall *buildings* with flexible diaphragms in *Risk Category* I or II are permitted to be based on the procedures specified in Chapter A2.
 - 2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential *buildings* of light-frame wood construction in *Risk Category* I or II are permitted to be based on the procedures specified in Chapter A3.
 - 2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in multiunit residential *buildings* of wood construction in *Risk Category* I or II are

permitted to be based on the procedures specified in Chapter A4.

- 2.5. Seismic evaluation and design of concrete *buildings* assigned to *Risk Category* I, II, or III are permitted to be based on the procedures specified in Chapter A5.
3. ASCE 41, using the performance objective in Table 305.2.2 for the applicable *risk category*.

**SECTION 306
HIGHER EDUCATION LABORATORIES**

306.1 Change of occupancy in existing higher education laboratories. Where the use of new or different hazardous materials or a change in the amount of hazardous materials in existing higher education laboratories would constitute a *change of occupancy*, this section shall be permitted to be used as an acceptable alternative to compliance with *change of occupancy* requirements to permit the increased amounts of hazardous materials stipulated without the laboratories being classified as Group H. In addition, such laboratories shall comply with the applicable operational and maintenance requirements in Chapter 38 of the *Statewide Fire Prevention Code* (SFPC). Approval under this section is contingent upon operational requirements in the SFPC being complied with and maintained.

306.1.1 Hazardous materials in existing higher education laboratories. The percentage of maximum allowable quantities of hazardous materials per control area and the number of control areas permitted at each floor level within an *existing building* shall be permitted to comply with Table 302.6.1(1) in *buildings* equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC or shall be permitted to comply with Table 302.6.1(2) in *buildings* not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

**TABLE 305.2.1
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH VCC-LEVEL SEISMIC FORCES**

RISK CATEGORY (Based on VCC Table 1604.5)	Structural Performance Level for Use with BSE-1E Earthquake Hazard Level	Structural Performance Level for Use with BSE-2N Earthquake Hazard Level
I	Life Safety (S-3)	Collapse Prevention (S-5)
II	Life Safety (S-3)	Collapse Prevention (S-5)
III	Damage Control (S-2)	Limited Safety (S-4)
IV	Immediate Occupancy (S-1)	Life Safety (S-3)

**TABLE 305.2.2
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH REDUCED VCC-LEVEL SEISMIC FORCES**

RISK CATEGORY (Based on VCC Table 1604.5)	Structural Performance Level for Use with BSE-1E Earthquake Hazard Level
I	Life Safety (S-3)
II	Life Safety (S-3)
III	Damage Control (S-2*)
IV	Immediate Occupancy (S-1)

a. Tier 1 evaluation at the Damage Control performance level shall use the Tier 1 Life Safety checklists and Tier 1 Quick Check provision midway between those specified for Life Safety and Immediate Occupancy performance.

TABLE 306.1.1(1)
DESIGN AND NUMBER OF CONTROL AREAS IN EXISTING BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OF THE VCC WITH HIGHER EDUCATION LABORATORIES

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA ^a	NUMBER OF CONTROL AREAS PER FLOOR	FIRE-RESISTANCE RATING FOR FIRE BARRIERS AND HORIZONTAL ASSEMBLIES IN HOURS ^b
Above Grade Plane	Higher than 20	5	1	2
	10–20	10	1	2
	7–9	25	2	2
	4–6	50	2	2
	3	75	2	1
	2	100	3	1
	1	100	4	1
Below Grade Plane	1	75	3	1
	2	50	2	1
	Lower than 2	Not Allowed	Not Allowed	Not Allowed

- a. Percentage shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2) of the VCC, with all increases allowed in the notes to those tables.
- b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.

TABLE 306.1.1(2)
DESIGN AND NUMBER OF CONTROL AREAS IN EXISTING BUILDINGS NOT EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OF THE VCC WITH HIGHER EDUCATION LABORATORIES

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA ^a	NUMBER OF CONTROL AREAS PER FLOOR	FIRE-RESISTANCE RATING FOR FIRE BARRIERS AND HORIZONTAL ASSEMBLIES IN HOURS ^b
Above Grade Plane	Higher than 9	5	1	2
	7–9	10	2	2
	4–6	25	2	2
	3	75	2	1
	2	100	3	1
	1	100	4	1
Below Grade Plane	1	75	3	1
	2	50	2	1
	Lower than 2	Not Allowed	Not Allowed	Not Allowed

- a. Percentage shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2) of the VCC, with all increases allowed in the notes to those tables.
- b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.

306.1.2 Automatic fire alarm and detection systems. A fire alarm system shall be provided throughout the *building* in accordance with Section 907 of the VCC. An automatic fire detection system shall be provided in the control area in accordance with Section 907 of the VCC where the *building* is not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

306.1.3 System supervision and monitoring. Automatic fire alarm and detection systems shall be electronically supervised and monitored by an approved supervising station or, where approved, shall initiate an audible and visual signal at a constantly attended on-site location.

306.1.4 Restricted materials in storage and use. Where approved by the building official, the storage and use of the following hazardous materials prohibited by VCC Table 307.1(1) in buildings not equipped throughout with an automatic sprinkler system in accordance with Section

903.3.1.1 shall be allowed within a control area at 25 percent of Table 307.1(1) limits for a *building* equipped throughout with an automatic sprinkler system:

1. Pyrophorics.
2. Class 4 oxidizers.

No additional quantity increases shall be allowed. All such materials shall be stored and used in accordance with Sections 3805.2.1 and 3805.2.2 of the SFPC.

CHAPTER 4

ACCESSIBILITY

SECTION 401 GENERAL

401.1 Scope. The applicable provisions of this chapter shall apply to all construction and *rehabilitation*.

SECTION 402 CHANGE OF OCCUPANCY

402.1 Change of occupancy. *Existing buildings or structures* that undergo a *change of occupancy* are not required to be provided with additional accessibility features. Any *alterations* undertaken in connection with a *change of occupancy* shall conform to the applicable requirements of Section 404.

SECTION 403 ADDITIONS

403.1 Additions. Accessibility provisions for new construction shall apply to *additions*. An *addition* that affects the accessibility to, or contains an area of, a *primary function* shall comply with the requirements in Section 404.3, as applicable.

403.2 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2, or R-4 dwelling or sleeping units are being added, the requirements of Section 1108 of the *Virginia Construction Code (VCC)* for accessible units apply only to the quantity of spaces being added.

403.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1108 of the VCC for Type A units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being added.

403.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3, or R-4 dwelling or sleeping units are being added, the requirements of Section 1108 of the VCC for Type B units and Chapter 9 of the VCC for visible alarms apply only to the quantity of spaces being added.

SECTION 404 ALTERATIONS

404.1 General. An *alteration* of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

404.2 Alterations. A facility that is altered shall comply with the applicable provisions in this section and Chapter 11 of the VCC, except as modified by Sections 404.3 and 404.4, unless *technically infeasible*. Where compliance with this

section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 404.3.
2. Accessible means of egress required by Chapter 10 of the VCC are not required to be provided in existing facilities.
3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provisions for a Type B dwelling unit.

404.3 Alterations affecting an area containing a primary function. Where an *alteration* affects or could affect the usability of or access to an area containing a *primary function*, the route to the *primary function* area shall be accessible. Toilet facilities and drinking fountains serving the area of *primary function*, including the route from the area of *primary function* to these facilities, shall be accessible.

Exceptions:

1. The cumulative costs of providing the accessible route, toilet facilities and drinking fountains are not required to exceed 20 percent of the costs of the *alterations* affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a facility.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

404.4 Scoping for alterations. The provisions of Sections 404.4.1 through 404.1.15 shall apply to *alterations* to *existing buildings* and facilities.

404.4.1 Entrances. Where an *alteration* includes *alterations* to an entrance, and the facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 404.3. Signs complying with Section 1112 of the VCC shall be provided.

Exception: Where an *alteration* includes *alterations* to an entrance, and the facility has an accessible entrance, the altered entrance is not required to be

accessible, unless required by Section 404.3. Signs complying with Section 1112 of the VCC shall be provided.

404.4.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

404.4.3 Platform lifts. Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

404.4.4 Stairways and escalators. Where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stairways in accordance with Section 1104.4 of the VCC.

404.4.5 Ramps. Where steeper slopes than allowed by Section 1012.2 of the VCC are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 404.4.5.

**TABLE 404.4.5
RAMPS**

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: 1 inch = 25.4 mm

404.4.6 Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2, or R-4 dwelling or sleeping units are being altered, the requirements of Section 1108 of the VCC for Accessible units apply only to the quantity of the spaces being altered.

404.4.7 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1108 of the VCC for Type A units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being altered.

404.4.8 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3, or R-4 dwelling or sleeping units are being altered, the requirements of Section 1108 of the VCC for Type B units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being altered.

Exceptions: Groups I-1, I-2, R-2, R-3, and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991, are not required to provide Type B dwelling or sleeping units.

404.4.9 Jury boxes and witness stands. In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restricting or projecting into a required means of egress.

404.4.10 Toilet and bathing rooms. Where it is *technically infeasible* to alter existing toilet and bathing rooms to be accessible, an accessible single-user or family or assisted-use toilet or bathing room constructed in accordance with Section 1110.2.1 of the VCC is permitted. The single-user or family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. Directional signs shall be provided at the inaccessible toilet and bathing rooms indicating the location of the nearest single-user or family or assisted-use toilet room or bathing room. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

404.4.10.1 Additional toilet and bathing facilities. In assembly and mercantile occupancies, where additional toilet *fixtures* are added, not fewer than one accessible family or assisted-use toilet room shall be provided where required by Section 1110.2.1 of the *International Building Code*. In recreational facilities, where additional bathing rooms are being added, not fewer than one family or assisted-use bathing room shall be provided where required by Section 1110.2.1 of the *International Building Code*.

404.4.11 Dressing, fitting and locker rooms. Where it is *technically infeasible* to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

404.4.12 Fuel dispensers. Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

404.4.13 Thresholds. The maximum height of thresholds at doorways shall be $\frac{3}{4}$ inch (19.1 mm). Such thresholds shall have beveled edges on each side.

404.4.14 Amusement rides. Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1111.4.8 of the VCC.

404.4.15 Dining areas. An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and décor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.