CHAPTER 4

PRESCRIPTIVE COMPLIANCE METHOD

SECTION 401
GENERAL

401.1 Scope. The provisions of this chapter shall control the *alteration*, ((*~~repair,~~*)) *addition* and *change of occupancy* ((~~or relocation of~~)) *existing buildings* and structures ((~~, including *historic buildings* and structures as referenced in Section 301.1.1~~)).

Exception: Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

401.1.1 Compliance with other methods. *Alterations*, ((*~~repairs,~~*)) *additions* and *changes of occupancy* to ((~~or relocation of,~~))*existing buildings* and structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.1.

Note: All *alterations*, *additions* and *changes of occupancy* are also required to comply with Chapter 3.

401.2 Building materials and systems. Building materials and systems shall comply with the requirements of this section.

401.2.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the ((~~building~~)) *code official* to be *unsafe* per Section ((~~115~~))101.14.

401.2.2 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~~)) nonstructural *alterations*, provided no hazard to life, health or property is created, and they do not adversely affect any structural member or the fire-resistance rating of any part of the building or structure. When approved by the *code official*, minor structural alterations necessary to maintain the structural stability of the building or structure are permitted to be made with the same material of which the building or structure is constructed. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

((~~401.2.3 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 *Cd* for the existing seismic force-resisting system shall be those specified by the *International Building Code* 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.~~

~~**401.3 Dangerous conditions.** The building official shall have the authority to require the elimination of conditions deemed *dangerous*.~~))

SECTION 402
ADDITIONS

402.1 General. *Additions* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* to the *existing building* or structure shall be made to ensure that the *existing building* or structure together with the *addition* are no less conforming to the provisions of the *International Building Code* than the *existing building* or structure was prior to the *addition*. An *existing building* together with its *additions* shall comply with the height and area provisions of Chapter 5 of the *International Building Code*.

Note: A significant addition to an existing building may be considered a substantial alteration in accordance with Section 304.

402.1.1 Fire walls. An existing nonconforming building to which an *addition* is made is permitted to exceed the height, number of stories and area specified for new buildings if a fire wall is provided, the *existing building* is not made more nonconforming, and the *addition* conforms to this code.

((~~[BS] 402.2 Flood hazard areas.~~ ~~For buildings and structures in *flood hazard* areas established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any *addition* that constitutes *substantial improvement* of the existing structure shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.~~

~~For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any *additions* that do not constitute *substantial improvement* of the existing structure are not required to comply with the flood design requirements for new construction.~~))

402.2 Structural. *Additions* to *existing buildings* shall comply with Section 305.3.

((~~[BS] 402.3 Existing structural elements carrying gravity load.~~ ~~Any existing gravity load-carrying structural element for which an *addition* and its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the *International Building Code* for new structures. Any existing~~

~~gravity load-carrying structural element whose gravity load-carrying capacity is decreased shall be considered an altered element subject to the requirements of Section 403.3. Any existing element that will form part of the lateral load path for any part of the *addition* shall be considered an existing lateral load-carrying structural element subject to the requirements of Section 402.4.~~

~~**[BS] 402.3.1 Design live load.** Where the *addition* does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the *addition*. If the approved live load is less than that required by Section 1607 of the *International Building Code*, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the *addition* does result in increased design live load, the live load required by Section 1607 of the *International Building Code* shall be used.~~

~~**[BS] 402.4 Existing structural elements carrying lateral load.** Where the *addition* is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the *addition* is not structurally independent of the existing structure, the existing structure and its *addition* acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613 of the *International Building Code*. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 301.1.4.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613.~~

~~**Exception:** Any existing lateral load-carrying structural element whose demand-capacity ratio with the *addition* considered is no more than 10 percent greater than its demand-capacity ratio with the *addition* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.~~))

((~~402.5~~)) 402.3 Smoke alarms in existing portions of a building. Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the *existing building* shall be provided with smoke alarms in accordance with Section 1103.8 of the *International Fire Code*.

402.4 Addition of dwelling units. Automatic sprinkler systems are required when new dwelling units are added to buildings according to Items 1 through 5 below. This provision is permitted to be used to add one unit after October 29, 1990.

1. One unit is permitted to be added to a residential or commercial building without an automatic sprinkler system unless sprinklers are otherwise required by this section. If more than one unit is added, the new units shall be equipped with a sprinkler system.
2. In buildings that do not comply with the provisions of this code for number of stories, allowable area, height or type of construction before the unit is added, an automatic sprinkler system shall be provided in the new unit. The addition of the new unit shall not be allowed if it increases the nonconformity.
3. In buildings undergoing *substantial alteration*, an automatic sprinkler system shall be installed where required by this code for new construction.
4. One unit is permitted to be added to an existing duplex without an automatic sprinkler system where both of the following conditions are met:
   - 4.1 The project is considered a *substantial alteration* only because of the change of occupancy; and
   - 4.2 The building complies with the requirements for building height and number of stories for a Group R-2 occupancy.
5. Where one unit is added to an existing duplex, sprinklers are required in the new unit and not in the existing units where all of the following conditions are met:
   - 5.1 The existing duplex does not comply with the requirements for building height and story count for a Group R-2 occupancy;
   - 5.2 The project is considered a *substantial alteration* only because of the *change of occupancy*;
   - 5.3 The new unit is constructed as an *addition* to the duplex;
   - 5.4 The new unit is separated from the existing duplex by a fire wall; and
   - 5.5 The *addition* by itself complies with the requirements for a Group R-2 occupancy.

SECTION 403
ALTERATIONS

403.1 General. Except as provided by Section 401.2 or this section, *alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is no less conforming to the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration*.

Exceptions:

1. Subject to the approval of the *code official*, existing stairways shall not be required to comply with the requirements of Sections 1011.3 and 1011.5.2 of the *International Building Code* where the existing space and construction ((~~does~~))do not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

3. Where changes to offices, outpatient clinics or medical offices occur on a multi-tenant floor that contains non-conforming corridors, new tenant walls associated with the tenant change need not meet the standards for one-hour corridor construction, unless the project is considered a *substantial alteration.*

4. Automatic sprinkler systems are required when new dwelling units are added to buildings according to Items 4.1 through 4.6 below. This exception is permitted to be used to add one unit after October 29, 1990.

   4.1 One unit is permitted to be added to a residential or commercial building without an automatic sprinkler system unless sprinklers are otherwise required by this section. If more than one unit is added, the new units shall be equipped with a sprinkler system.

   4.2 In buildings that do not comply with the provisions of this code for number of stories, allowable area, height or type of construction before the unit is added, an automatic sprinkler system shall be provided in the new unit. The addition of the new unit shall not be allowed if it increases the nonconformity.

   4.3 In buildings undergoing *substantial alteration*, an automatic sprinkler system shall be installed where required by this code for new construction.

   4.4 One unit is permitted to be added to an existing duplex without an automatic sprinkler system where both of the following conditions are met:

      4.4.1 The project is considered a *substantial alteration* only because of the *change of occupancy*; and

      4.4.2 The building complies with the requirements for building height and number of stories for a Group R-2 occupancy.

   4.5 Where one unit is added to an existing duplex, sprinklers are required in the new unit and not in the existing units where all of the following conditions are met:

      4.5.1 The existing duplex does not comply with the requirements for building height and story count for a Group R-2 occupancy;

      4.5.2 The project is considered a *substantial alteration* only because of the *change of occupancy*;

      4.5.3 The new unit is constructed as an *addition* to the duplex;

      4.5.4 The new unit is separated from the existing duplex by a fire wall; and

      4.5.5 The addition by itself complies with the requirements for a Group R-2 occupancy.

   4.6 A sprinkler system is not required when a Group U occupancy that is accessory to a Group R-3 occupancy is converted to a dwelling unit.

5. Ceilings in basements are permitted to project to within 6 feet 8 inches (2032 mm) of the finished floor, and beams, girders, ducts or other obstructions are permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.

6. Ceiling height in buildings in existence prior to October 17, 1979, shall be permitted to comply with rules promulgated by the code official.

~~(([BS] 403.2 Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any *alteration* that constitutes *substantial improvement* of the existing structure shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.~~

~~For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any alterations that do not constitute *substantial improvement* of the existing structure are not required to comply with the flood design requirements for new construction.~~))

403.2 Structural. *Alterations* to *existing buildings* and structures shall comply with Section 305.1.

~~(([BS] 403.3 Existing structural elements carrying gravity load. Any existing gravity load carrying structural element for which an *alteration* causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the *International Building Code* for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the *alteration* shall be shown to have the capacity to resist the applicable design gravity loads required by the *International Building Code* for new structures.~~

~~[BS] 403.3.1 Design live load. Where the *alteration* does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the *alteration*. If the approved live load is less than that required by Section 1607 of the *International Building Code*, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the *alteration* does result in increased design live load, the live load required by Section 1607 of the *International Building Code* shall be used.~~

~~[BS] 403.4 Existing structural elements carrying lateral load. Except as permitted by Section 403.5, where the *alteration* increases design lateral loads in accordance with Section 1609 or 1613 of the *International Building Code*, or where the *alteration* results in a prohibited structural irregu-~~

~~larity as defined in ASCE 7, or where the *alteration* decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613 of the *International Building Code*. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two level performance objective in Table 301.1.4.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613 of the *International Building Code*.~~

~~**Exception:** Any existing lateral load carrying structural element whose demand capacity ratio with the *alteration* considered is no more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.~~

~~**[BS] 403.4.1 Seismic Design Category F.** Where the portion of the building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, and where the building is assigned to Seismic Design Category F, the structure of the altered building shall be shown to meet the earthquake design provisions of the *International Building Code*. For purposes of this section, the earthquake loads need not be taken greater than 75 percent of those prescribed in Section 1613 of the *International Building Code* for new buildings of similar occupancy, purpose and location. New structural members and connections required by this section shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.~~

~~**[BS] 403.5 Bracing for unreinforced masonry parapets upon reroofing.** Where the intended alteration requires a permit for reroofing and involves removal of roofing materials from more than 25 percent of the roof area of a building assigned to Seismic Design Category D, E or F that has parapets constructed of unreinforced masonry, the work shall include installation of parapet bracing to resist out-of-plane seismic forces, unless an evaluation demonstrates compliance of such items. For purposes of this section, design seismic forces need not be taken greater than 75 percent of those that would be required for the design of similar nonstructural components in new buildings of similar purpose and location.~~

~~**[BS] 403.6 Wall anchorage for unreinforced masonry walls in major alterations.** Where the portion of the building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, the building is assigned to Seismic Design Category C, D, E or F, and the building's structural system includes unreinforced masonry walls, the alteration work shall include installation of wall anchors at the roof line to resist seismic forces, unless an evaluation demonstrates compliance of existing wall anchorage. For purposes of this section, design seismic forces need not be taken greater than 75 percent of those that would be required for the design of new buildings of similar structure, purpose and location.~~

~~**[BS] 403.7 Bracing for unreinforced masonry parapets in major alterations.** Where the portion of the building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, and where the building is assigned to Seismic Design Category C, D, E or F, parapets constructed of unreinforced masonry shall have bracing installed as needed to resist out-of-plane seismic forces, unless an evaluation demonstrates compliance of such items. For purposes of this section, design seismic forces need not be taken greater than 75 percent of those that would be required for the design of similar nonstructural components in new buildings of similar purpose and location.~~

~~**[BS] 403.8 Roof diaphragms resisting wind loads in high-wind regions.** Where the intended alteration requires a permit for reroofing and involves removal of roofing materials from more than 50 percent of the roof diaphragm of a building or section of a building located where the ultimate design wind speed is greater than 115 mph (51 m/s) in accordance with Figure 1609.3(1) of the *International Building Code* or in a special wind region as defined in Section 1609 of the *International Building Code*, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in Section 1609 of the *International Building Code*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting at least 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in Section 1609 of the *International Building Code*.~~

~~**[BS] 403.9 Voluntary seismic improvements.** *Alterations* to existing structural elements or *additions* of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:~~

~~1. The altered structure and the altered nonstructural elements are no less conforming to the provisions of the *International Building Code* with respect to earthquake design than they were prior to the *alteration*.~~

~~2. New structural elements are detailed as required for new construction.~~

~~3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.~~

~~4. The *alterations* do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.~~))

((~~403.10~~)) 403.3 Smoke alarms. Individual sleeping units and individual dwelling units in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with Section 1103.8 of the *International Fire Code*.

((~~403.11~~)) 403.4 Refuge areas. Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below that required in Sections ((~~403.11.1~~)) 403.4.1 through ((~~403.11.3~~)) 403.4.3.

((~~403.11.1~~)) 403.4.1 Smoke compartments. In Group I-2 and I-3 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Sections 407.5.1 and 408.6.2 of the *International Building Code* shall be maintained.

((~~403.11.2~~)) 403.4.2 Ambulatory care. In ambulatory care facilities required to be separated by Section 422.2 of the *International Building Code*, the required capacity of the refuge areas for smoke compartments in accordance with Section 422.4 of the *International Building Code* shall be maintained.

((~~403.11.3~~)) 403.4.3 Horizontal exits. The required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code* shall be maintained.

SECTION 404
REPAIRS

404.1 General. Buildings and structures, and parts thereof, shall be *repaired* in compliance with Section 303. ((~~Sections 401.2 and 404. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2, ordinary repairs exempt from permit in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.~~

~~[BS] 404.2 Substantial structural damage to vertical elements of the lateral force-resisting system.~~ ~~A building that has sustained *substantial structural damage* to the vertical elements of its lateral force-resisting system shall be evaluated and repaired in accordance with the applicable provisions of Sections 404.2.1 through 404.2.3.~~

~~Exceptions:~~

1. ~~Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.~~
2. ~~One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.~~

~~[BS] 404.2.1 Evaluation.~~ ~~The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the *International Building Code* for wind and earthquake loads.~~

~~Wind loads for this evaluation shall be those prescribed in Section 1609 of the *International Building Code*. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 of the *International Building Code*. Alternatively, compliance with ASCE 41, using the performance objective in Table 301.1.4.2 for the applicable risk category, shall be deemed to meet the earthquake evaluation requirement.~~

~~[BS] 404.2.2 Extent of repair for compliant buildings.~~ ~~If the evaluation establishes compliance of the predamage building in accordance with Section 404.2.1, then repairs shall be permitted that restore the building to its predamage state.~~

~~[BS] 404.2.3 Extent of repair for noncompliant buildings.~~ ~~If the evaluation does not establish compliance of the predamage building in accordance with Section 404.2.1, then the building shall be rehabilitated to comply with applicable provisions of the *International Building Code* for load combinations that include wind or seismic loads. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be as required by the *International Building Code*. Earthquake loads for this rehabilitation design shall be those required for the design of the predamage building, but not less than 75 percent of those prescribed in Section 1613 of the *International Building Code*. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location. Alternatively, compliance with ASCE 41, using the performance objective in Table 301.1.4.2 for the applicable risk category, shall be deemed to meet the earthquake rehabilitation requirement.~~

~~[BS] 404.3 Substantial structural damage to gravity load-carrying components.~~ ~~Gravity load-carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions of the *International Building Code* for dead and live loads. Snow loads shall be considered if the substantial structural damage was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads approved prior to the damage. If the approved live load is less than that required by Section 1607 of the *International Building Code*, the area designed for the nonconforming live load shall be posted with placards of *approved* design indicating the *approved* live load. Nondamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated or shown to have the capacity to carry the design loads of the *rehabilitation* design. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location.~~

~~[BS] 404.3.1 Lateral force-resisting elements.~~ ~~Regardless of the level of damage to vertical elements of the lateral force-resisting system, if *substantial structural damage* to gravity load-carrying components was caused primarily by wind or earthquake effects, then the building~~

shall be evaluated in accordance with Section 404.2.1 and, if noncompliant, rehabilitated in accordance with Section 404.2.3.

Exceptions:

1. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

[BS] 404.4 Less than substantial structural damage. For damage less than *substantial structural damage*, repairs shall be allowed that restore the building to its predamage state. New structural members and connections used for this *repair* shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location.

[BS] 404.5 Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any repair that constitutes *substantial improvement* or repair of *substantial damage* of the existing structure shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in flood hazard areas established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any repairs that do not constitute *substantial improvement* or repair of *substantial damage* of the existing structure are not required to comply with the flood design requirements for new construction.))

SECTION 405
FIRE ESCAPES

405.1 Where permitted. Fire escapes that are altered shall comply with this section ((be permitted only as provided for in Sections 405.1.1 through 405.1.2)).

((405.1.1 New buildings. Fire escapes shall not constitute any part of the required means of egress in new buildings.

405.1.2 Existing fire escapes.)) Existing fire escapes shall continue to be accepted as a component in the means of egress in *existing buildings* only.

((405.1.3 New fire escapes. New fire escapes for *existing buildings* shall be permitted only where exterior stairways cannot be utilized due to lot lines limiting stairway size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

405.1.4 Limitations. 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.))

405.2 Location. Where located on the front of the building and where projecting beyond the building line, the lowest landing shall be not less than ((7)) 8 feet (((2134 mm))) (2438 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 be not less than 12 feet (3658 mm).

405.3 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 Type III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.))

405.4 Dimensions. Stairways 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 stairways not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

405.5 Opening protectives. Doors and windows along the fire escape shall be protected with $^3/_4$-hour opening protectives.

SECTION 406
GLASS REPLACEMENT AND REPLACEMENT WINDOWS

406.1 Replacement glass. The installation or replacement of glass shall be as required for new installations.

406.2 Replacement window opening control devices. In Group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F 2090 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 1030.2 of the *International Building Code*.

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 F 2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

406.3 Replacement window emergency escape and rescue openings. Where windows are required to provide *emergency escape* and *rescue openings* in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the *International Building 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.

SECTION 407
CHANGE OF OCCUPANCY

407.1 Conformance. No *change of occupancy* shall be made in ((~~the use or occupancy of~~)) any building or portion thereof unless such building is made to comply with the requirements of the *International Building Code* for the use or occupancy. *Changes* ((~~in use or~~)) *of occupancy* in a building or portion thereof shall be such that the *existing building* is no less complying with the provisions of ((~~this code~~)) the *International Building Code* than the *existing building* or structure was prior to the change. Subject to the approval of the ((~~building~~)) *code official*, ((~~the use or~~)) changes of occupancy ((~~of existing buildings~~)) shall be permitted ((~~to be changed and the building is allowed to be occupied for purposes in other groups~~)) without conforming to all of the requirements of this code for ((~~those groups~~)) the new occupancy, provided the new or proposed use is ((~~less~~)) no more hazardous, based on life and fire risk, than the existing use.

Note: Conditions arising after the adoption of this code, and conditions not legally in existence at the time of adoption of this code may trigger requirements based on *International Fire Code* Section 102.1, including building upgrades.

Exceptions:

1. The building need not be made to comply with the seismic requirements for a new structure unless required by Section ((~~407.4~~)) 305.2.
2. Subject to the approval of the *code official*, an automatic sprinkler system is not required in dwelling units according to Items 2.1 through 2.6 below. This exception is permitted to be used for the change in occupancy for one dwelling unit after October 29, 1990.

2.1 The occupancy of one unit is permitted to be changed to a dwelling unit without an automatic sprinkler system unless sprinklers are otherwise required by this chapter. If more than one unit is changed, the new units shall be equipped with a sprinkler system.

2.2 In buildings that do not comply with the provisions of this code for number of stories, allowable area, height or type of construction before the occupancy of the unit is changed, an automatic sprinkler system shall be provided in the new unit. The *change of occupancy* shall not be allowed if it increases the nonconformity.

2.3 In buildings undergoing *substantial alteration*, an automatic sprinkler system shall be installed where required by this code for new construction.

2.4 The occupancy of one unit is permitted to be changed to a dwelling unit in an existing duplex without an automatic sprinkler system where both of the following conditions are met:

2.4.1 The project is considered a *substantial alteration* only because of the *change of occupancy*; and

2.4.2 The building complies with the requirements for building height and number of stories for a Group R-2 occupancy.

2.5 Where the occupancy of one unit is changed to a dwelling unit in an existing duplex, sprinklers are required in the new unit and not in the existing units where all of the following conditions are met:

2.5.1 The existing duplex does not comply with the requirements for building height and story count for a Group R-2 occupancy;

2.5.2 The project is considered a *substantial alteration* only because of the *change of occupancy*;

2.5.3 The new unit is constructed as an *addition* to the duplex;

2.5.4 The new unit is separated from the existing duplex by a fire wall; and

2.5.5 The addition by itself complies with the requirements for a Group R-2 occupancy.

2.6 A sprinkler system is not required when a Group U occupancy that is accessory to a Group R-3 occupancy is converted to a dwelling unit.

407.1.1 Change in the ((~~character of~~)) group or use. A change in occupancy with no *change of occupancy* classification shall not be made to any structure that will subject the structure to any special provisions of the applicable *International Codes*, without approval of the ((~~*building*~~)) *code official*. Compliance shall be only as necessary to meet the specific provisions and is not intended to require the entire building be brought into compliance.

Note: The following illustrate how *change of occupancy* is interpreted:

- Change in classification is a change in the letter designation. An example is a change from B occupancy to R occupancy.
- Change in occupancy group is change in the number designation within an occupancy classification. An example is a change from group R-1 occupancy to R-2 occupancy.
- Change of use is a change in the subcategory within the occupancy group. An example is a change from R-2 apartment to R-2 boarding house.

407.2 Conversion to residential occupancy. Upon conversion of an *existing building*, or portion thereof, to residential occupancy, *International Building Code* Sections 420, 1203 and 2902 shall apply, and the elements of the dwelling unit envelope that are altered shall comply with the sound transmission control requirements of *International Building Code* Section 1207.

((~~**407.2 Certificate of occupancy.** A certificate of occupancy shall be issued where it has been determined that the requirements for the new occupancy classification have been met.~~))

407.3 Stairways. Subject to the approval of the *code official*, existing stairways shall not be required to comply with the requirements of Sections 1011.3 and 1011.5.2 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.

[BS] 407.4 Structural. When a *change of occupancy* results in a structure being reclassified to a higher risk category, the structure shall comply with Section 305.2. ((~~conform to the seismic requirements for a new structure of the higher risk category. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 301.1.4.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613 of the *International Building Code*.~~

~~**Exceptions:**~~

~~1. Specific seismic detailing requirements of Section 1613 of the *International Building Code* for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, overstrength, redundancy and ductility of the structure.~~

~~2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, SDS, is less than 0.33, compliance with the seismic requirements of Section 1613 of the *International Building Code* is not required.~~))

407.5 Substantial alterations. *Changes of occupancy* that are *substantial alterations* shall comply with Section 304.

SECTION 408
((~~HISTORIC BUILDINGS~~)) LANDMARKS

408.1 ((~~Historic buildings~~)) Landmark Buildings. Landmark buildings shall comply with Section 306. ((~~The provisions of this code that require improvements relative to a building's existing condition or, in the case of repairs, that require improvements relative to a building's predamage condition, shall not be mandatory for historic buildings unless specifically required by this section.~~

~~**408.2 Life safety hazards.** The provisions of this code shall apply to historic buildings judged by the building official to constitute a distinct life safety hazard.~~

~~**[BS] 408.3 Flood hazard areas.** Within flood *hazard areas* established in accordance with Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, where the work proposed constitutes *substantial improvement*, the building shall be brought into compliance with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable:~~

~~**Exception:** *Historic buildings* need not be brought into compliance that are:~~

~~1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;~~

~~2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or~~

~~3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.~~))

SECTION 409
MOVED STRUCTURES

409.1 Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of Section 309((~~the *International Building Code* for new structures~~)).

SECTION 410
ACCESSIBILITY FOR EXISTING BUILDINGS

410.1 Scope. ((~~The provisions of Sections 410.1 through 410.9 apply to maintenance,~~)) Maintenance, *change of occupancy*, *additions* and *alterations* to *existing buildings* ((~~, including those identified as *historic buildings*~~)) shall comply with Section 307.

((**410.2 Maintenance of facilities.** A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy.

410.3 Extent of application. 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*.

410.4 Change of occupancy. *Existing buildings* that undergo a change of group or occupancy shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in *existing buildings* and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

410.4.1 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any *alterations* shall comply with Sections 410.6, 410.7 and 410.8.

410.4.2 Complete change of occupancy. Where an entire building undergoes a *change of occupancy*, it shall comply with Section 410.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to *primary function* areas.
3. Signage complying with Section 1111 of the *International Building Code*.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

410.5 Additions. 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 410.7.

410.6 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the *International Building Code*, 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 410.7.
2. Accessible means of egress required by Chapter 10 of the *International Building Code* 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 provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in *existing buildings* and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

410.7 Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to, or contains an area of *primary function*, the route to the *primary function* area shall be *accessible*. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains serving the area of *primary function*.

Exceptions:

1. The costs of providing the *accessible* route 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.

410.8 Scoping for alterations. The provisions of Sections 410.8.1 through 410.8.14 shall apply to *alterations* to *existing buildings* and *facilities*.

410.8.1 Entrances. *Accessible* entrances shall be provided in accordance with Section 1105.

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 410.7. Signs complying with Section 1111 of the *International Building Code* shall be provided.

410.8.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1 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.

410.8.3 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.

410.8.4 Stairways and escalators in existing buildings. In *alterations*, *change of occupancy* or *additions* 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 *International Building Code*.

410.8.5 Ramps. Where slopes steeper than allowed by Section 1012.2 of the *International Building Code* are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 410.8.5.

TABLE 410.8.5
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.

410.8.6 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 or added, the requirements of Section 1107 of the *International Building Code* for Accessible units apply only to the quantity of spaces being altered or added.

410.8.7 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the *International Building Code* for Type A units apply only to the quantity of the spaces being altered or added.

410.8.8 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, or R-3 ((or R-4)) dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B units apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, or R-3 ((or R-4)) dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the *International Building Code* for Type B units apply only to the quantity of the spaces being altered.

410.8.9 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 the ramp or lift access restricts or projects into the means of egress.

410.8.10 Toilet rooms. Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, an *accessible* family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. The 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.

At the inaccessible toilet and bathing rooms, provide directional signs indicating the location of the nearest 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.

410.8.11 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.

410.8.12 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.

410.8.13 Thresholds. The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

410.8.14 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 1110.4.8 of the *International Building Code*.

410.9 Historic buildings. These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the applicable governing authority, the alternative requirements of Sections 410.9.1 through 410.9.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in historical buildings.

410.9.1 Site arrival points. At least one accessible route from a site arrival point to an accessible entrance shall be provided.

410.9.2 Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

410.9.3 Entrances. At least one main entrance shall be accessible.

Exceptions:

1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked

~~while the building is occupied shall be provided; or~~

~~2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.~~

~~Signs complying with Section 1111 of the *International Building Code* shall be provided at the primary entrance and the accessible entrance.~~

~~**410.9.4 Toilet and bathing facilities.** Where toilet rooms are provided, at least one accessible family or assisted use toilet room complying with Section 1109.2.1 of the *International Building Code* shall be provided.~~))