Significant Changes to the International Building Code

The following sections are summaries of significant changes to the International Building Code. These summaries are taken from the 2009 Edition of "Significant changes to the International Building Code" by Douglas W. Thornburg, AIA and John R. Henry, P.E. and from the "International Building Code" issued by the International Code Council. The following are a summary only and are not to be construed to be the actual code. The "Significant Changes" book has extensive explanations of the changes to the Code beyond the summaries shown here, including the actual wording of the new Code and the significance of the changes explained. Copies of these two books are available for viewing in the Permits and Inspections office at 108 North Farr St. These books are also available for purchase through the ICC website.

Part I Administration

107.1 Submittal Documents: This was section 106.1 in the 2006 version. The new wording clarifies what documents are submitted for review. "Submittal documents" includes "Construction Documents" but also includes geotechnical reports and other data or other information necessary to the work. A minimum of two sets of construction documents is specified but the City of San Angelo requires three (3) sets of Construction Documents along with five (5) sets of the Site Plan.

202 Definitions: This change provides a definition for "high rise building". It's defined as "A building with an occupied floor located more than 75 feet above the lowest level of fire department vehicle access." Also changed is the definition of a "Story above grade plane" as "Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor next above is:

- 1. More than 6 feet above grade plane; or
- 2. More than 12 feet above the finished ground level at any point.

Part 2 Building Planning

304.1 Ambulatory Health Care Facilities: This section includes Ambulatory health care facilities under Business Group B. The change includes a new definition for "Ambulatory Health Care Facility" and for "Clinic – Outpatient" to differentiate those outpatient medical care facilities in which individuals are temporarily incapable of self preservation from those in which self preservation capabilities do exist.

308.5.1 Classification of Adult Care Facilities: Adult care facilities in which the occupants are physically capable of responding to an emergency are now classified as Group R-3 occupancies regardless of the number of people being accommodated.

310.1 Classification of Residential Uses: Several Residential uses were modified under Residential Group R including:

R1 – Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-2 - Live/work units (regulated in chapter 4) are added

R-4 – A requirement to provide this occupancy with an automatic sprinkler system has been added.

402.2 Open Mall Buildings: The changes redefine covered malls and open mall buildings so that some of the special conditions and allowances currently applicable to covered mall buildings are now also applicable to similar open mall facilities that do not have a roof over the common pedestrian circulation area.

402.6.1, 402.8 Covered Mall Building Perimeter Open Space: The required open space surrounding a covered mall building and its associated parking garages and anchor buildings in order to apply the special unlimited area provisions has been reduced.

403.4.4 High-Rise Buildings – Emergency Responder Radio: This adds a requirement that high rise buildings now be equipped with a complying emergency responder radio communications system.

403.4.6 High-Rise Buildings – Smoke Removal: This now mandates that high rise buildings have a means of smoke removal by natural or mechanical ventilation.

403.5.2 High-Rise Buildings – Additional Exit Stairway: In high rise buildings, one additional stair shall be provided in addition to the number required in section 1021.1 in buildings that are more than 420 feet in height.

403.5.5 High-Rise Buildings – Luminous Egress Markings: High rise buildings that house Group A, B, E, I, M and R-1 occupancies are now required to provide photoluminescent or self-luminous exit path markings to identify the egress path.

403.6.1 High-Rise Buildings – Fire Service Access Elevator: High rise buildings that have an occupied floor level more than 120 feet above the lowest level of fire department vehicle access must now be provided with at least one elevator specially designed for fire department access.

403.6.2 High-Rise Buildings – Occupant Evacuation Elevators: Passenger elevators for general public use shall now be permitted to be used for occupant self evacuation provided the elevator meets the new requirements established in Section 3008. These are not required but if used can eliminate the requirement for the additional stair required in Section 403.5.2.

406.2.4 Vehicle Barriers in Parking Garages: Where required, vehicle barriers in parking garages are now required to be 33 inches in height.

408.7 Security Glazing in Group I-3 Occupancies: In Group I-3 occupancies, windows and doors in 1 hour fire barriers and smoke barriers shall be permitted to have security glazing provided four conditions are met.

410.3.5 Stage Proscenium Curtains: The requirements for a Proscenium Curtain have been updated, including direct references to NFPA 80, Fire Doors and Other Opening Protectives.

419 Live/Work Units: This new chapter addresses requirements for dwelling units and sleeping units that have a considerable amount of ongoing nonresidential use.

420.2, 420.3 Separation of Dwelling and Sleeping Units: The required fire separations between sleeping units and dwelling units in the same building has been extended to mandate the same degree of separation between such units and any other occupancies within the building.

422 Ambulatory Health Care Facilities: This adds special provisions for Group B health care facilities in which individuals are rendered incapable of self preservation (Ambulatory Health Care Facilities).

423 Storm Shelters: This references the new ICC Storm Shelter Standard (ICC/NSSA Standard for the Design and Construction of Storm Shelters) as a standard for regulating the design and construction of hurricane and tornado shelters.

502.1 Definition of Basement: The term "basement" has been redefined to indicate that basements are simply those floor levels that do not qualify as stories above grade plane.

Table 503 Allowable Building Height: In Type IIB and IIIB construction, the tabular allowable building heights have been reduced for Group B, M, S-1, and S-2 occupancies.

506.2.1Frontage Increase for Buildings on the same Lot: This increases Frontage for buildings on the same lot. When determining the allowable area frontage increase for buildings on the same lot, the full open space between opposing exterior walls of the buildings may be considered in the frontage calculations for both buildings.

506.5 Mixed-occupancy Multi-story Allowable Area: This clarifies the method of calculating allowable area for multi-story buildings where mixed occupancy conditions occur.

507.6, 507.7 Group A-3 Unlimited Area Buildings: This section allows Group A-3 occupancies in buildings of Type III or IV construction to be unlimited in floor area when several conditions are met including: not having a stage other than a platform, equipped throughout with an automatic sprinkler system, and be surrounded and adjoined by public ways or yards not less than 60 feet in width.

508.25 Incidental Accessory Occupancies: Provisions for incidental accessory occupancies (incidental use areas) have been reformatted as a part of the accessory occupancy provisions, thereby imposing a size limitation on such uses.

 Table 508.2.5 Incidental Accessory Occupancies:
 Parking garages and storage rooms are no longer regulated as incidental accessory occupancies.

Table 508.4 Group I-2 Separated Occupancies: The minimum required fire resistance rating between a Group I-2 and any adjoining occupancy based on the separated occupancies method has been increased to provide at least a 2 hour separation.

509.2 Horizontal Separation of Buildings: Where the special provisions allow for recognition as separate buildings above and below a complying horizontal assembly, the permitted uses below the separation now include Group R occupancies, and the presence of parking facilities is not required.

509.5, 509.6 Special Height Increases for Group R-1 Occupancies: The special height increases allowed for Group R-2 occupancies in buildings of Type IIA and IIIA construction have been extended to Group R-1 occupancies.

509.9 Multiple Buildings Above Parking Garage: Under the special provisions that allow separate and distinct buildings above and below a complying horizontal separation, it has been clarified that multiple buildings located above the horizontal assembly are permitted to be regulated as individual buildings where located above a Group S-2 parking garage.

602.1 Fire Resistance Ratings Based on Construction Type: This clarifies the scope of Chapter 6 in regard to the fire resistance of building elements and the presence of openings, joints, penetrations and ducts. Chapter 6 provides a great level of detail for the requirements of fire resistance rated separation assemblies such as fire walls and fire barriers, but this adds a direct reference to Section 703.2 to assist in the proper determination of construction requirements for basic building elements.

603.1 Combustible Material in Types I and II Construction: The use of fire-retardant-treated wood (FRTW) within the roof construction is now permitted in all buildings of Type IB construction.

Part 3 Fire Protection

703.6 Identification of Fire and Smoke Separation Walls: Fire walls, fire barriers, and other walls required to have protected openings or protected penetrations must now be identified above the ceiling where a concealed space is created.

704, 202 Fire-resistance ratings of Structural Members: The provisions addressing the fire resistance of structural members have been reorganized. In addition, columns that require a fire resistance rating must now be protected by individual encasement regardless of their loading conditions. This is the "structural frame approach" that recognizes that the requirements for structural members now precede those for exterior walls, fire walls and all of the other fire resistive rated building elements.

704.9 Impact Protection for Fire Protective Coverings: Where the fire protective coverings of a structural member is subject to impact damage from moving vehicles, the handling of merchandise, or other activity, the fire protective covering shall be protected by corner guards or by a substantial jacket of metal or other noncombustible material to a height adequate to provide full protection, but not less than 5 feet from the finished floor.

704.13 Sprayed Fire-resistive Materials (SFRM): The application of sprayed fire resistant materials (SFRM) is now specifically regulated to minimize the potential for the material to be dislodged.

705.2 Limitations on Extension of Projections: The method for determining the maximum extent of a projection beyond the exterior wall has been revised.

705.5 Fire-resistance Ratings of Exterior Walls: Exterior walls required to be fire resistance rated must now be rated for fire exposure from both sides where their fire separation distance is 10 feet or less.

Table 705.8 Maximum Area of Exterior Wall Openings: The table for regulating exterior wall opening protection has been reformatted and slightly modified to coincide with the criteria of Table 602 addressing exterior wall protection.

706.5.1 Fire Wall Intersection at Exterior Walls: An alternative method using an imaginary lot line has been established for regulating exterior wall and opening protection adjacent to the intersection of a fire wall and the exterior wall.

707.3.9 Separation of Fire Areas: This clarifies that when fire areas are created in mixed occupancy buildings, the fire barriers and/or horizontal assemblies must have a minimum fire resistance rating based on that of the more restrictive occupancy involved as established in Table 707.3.9.

708.2, Exc. 7, 14, and 15 Shaft Enclosure Exceptions: This clarifies the extent of a concealed space in regard to the allowance for two stories to be open to each other without shaft protection.

708.14.1 Elevator Lobby Protection: This modifies Elevator Lobby Protection so that Group I-2 occupancies must now be afforded the protection provided by elevator lobbies in the same manner as required for Group I-3 occupancies and high rise buildings.

712.9, 407.4.3 Horizontal Smoke Barriers: Horizontal assemblies utilized as smoke barriers are now more specifically regulated where such assemblies contain openings for elevator shafts, penetrations, and joints.

714.4.1 Exterior Wall/Floor Intersections: An approved material capable of resisting the spread of fire and hot gases must now be installed in open space that occurs at the intersection of an exterior curtain wall and a non-fire resistance rated floor or floor assembly.

716.5.6 Protection of Air Openings in Rated Exterior Walls: Fire dampers are now specifically mandated for duct penetrations and air transfer openings that occur in fire resistance rated exterior walls required to have protected openings.

Chapter 8 Interior Finishes: This chapter has been reformatted in its entirety to allow for a more appropriate methodology in the application of provisions addressing interior finishes. Limited technical changes have occurred, but a significant reorganization of the provisions regulating interior finishes creates a more logical sequence for applying the code.

803.11.4 Thin Interior Finishes: Maximum ¹/4" thick Class A materials are no longer permitted as interior wall or ceiling finishes where suspended or set out from their backing unless they qualify as noncombustible.

803.13 Site Fabricated Stretch Systems: Site fabricated stretch systems used as interior wall and ceiling finish materials are now to be tested as composite systems with the new reference to ASTM E 2573, *Standard Practice for Specimen Preparation and Mounting of Site-Fabricated Stretch Systems to Assess Surface Burning Characteristics.*

804.4.1 Floor Covering Materials in Group I-1 Occupancies: This establishes the minimum classification for floor covering materials in exitways of Group I-1 occupancies as Class I in non-sprinklered buildings and Class II in sprinklered buildings.

902.1 Definition of Fire Area: The definition of fire area has been modified to include any unenclosed floor area that has a roof or floor above.

903.2.3 Sprinkler Protection in Group E Occupancies: The fire area threshold at which a Group E occupancy must be provided with an automatic sprinkler system has been reduced from 20,000 square feet to 12,000 square feet.

903.2.7 Sprinkler Systems in Group M Furniture Stores: Automatic Sprinkler protection is now required in all Group M occupancies that display or sell upholstered furniture regardless of the size of the Group M fire area.

903.2.10 Sprinklers in Group S-2 Enclosed Parking Garages: Unless located beneath occupancy groups, Group S-2 enclosed parking garages now require automatic sprinkler protection only where the fire area containing the parking garage exceeds 12,000 square feet.

903.2.11.1 Stories Without Adequate Exterior Openings: This clarifies the appropriate method for the distribution of exterior wall openings providing fire department access to non-sprinklered stories and basements.

903.3.1.2.1 Sprinkler Protection of Residential Balconies and Decks: This changes the requirement for automatic sprinkler systems of dwelling unit exterior decks and balconies to only being required where there is a combustible deck or roof above.

903.3.1.3 NFPA 13D Sprinkler Systems: The reference to NFPA 13D sprinkler systems installed in one- and two-family dwellings has been extended to include townhouses. Note: Texas SB 1410 which went into effect on September 1, 2009 gives homeowners the choice on whether to install a sprinkler system or not in their home.

906 Portable Fire Extinguishers: The *International Fire Code* (IFC) provisions addressing portable fire extinguishers have been added to the IBC.

907.2, Exceptions, Manual Fire Alarm Box in Group R-2: The requirement and location specifications for a single manual fire alarm pull box in a sprinklered Group R-2 occupancy are clarified and improved.

913, 913.2.1 Protection of Fire Pump Rooms: Rooms inside buildings that house fire pumps now require fire resistant separation.

914 Emergency Responder Safety Features: Requirements already in the IFC requiring the identification of shaft-way hazards and the location of fire protection systems are now included in the IBC as well.

Part 4 Means of Egress

1002.1 Means of Egress Definitions: Several definitions were added or revised, including "*exit access doorway*", "*level of exit discharge*", "*flight*", and "*suite*"

1005.1 Minimum Required Egress Width: The allowance for a reduction in the minimum required calculated means of egress width because of the presence of an automatic sprinkler system has been eliminated.

1005.2, 1005.3 Door Hardware Encroachment into Egress Width: This clarifies the general allowances for encroachment into the required means of egress width and the method of measurement for encroaching doors.

1007.3, 1007.4 Required Areas of Refuge: Areas of refuge are no longer mandated as required elements of accessible means of egress in those buildings equipped throughout with an automatic sprinkler system.

1007.6.3, 1007.8 Two-way Communication Systems: A means of two-way communication is now required in multi-story buildings in which areas of refuge are not provided.

1008.1.2, Exception 9, Manually Operated Horizontal Sliding Doors: This exception now allows a manually operated horizontal sliding door as a means of egress element in occupancies other than Group H, provided there is an occupant load of 10 or less.

1008.1.9.4 Manually Operated Edge- or Surface-mounted Bolts: The allowance for the use of manually operated edge- or surface-mounted bolts on the inactive leaf of a pair of doors has been extended to limited applications in Group B, F, S, and I-2 occupancies.

1008.1.9.6 Special Locking Conditions for Group I-2: Installation of locking devices not accessible to the patients of a Group I-2 occupancy is now permitted, provided the clinical needs of the patients require such locking and a number of requirements are met.

1008.1.9.8 Electromagnetically Locked Egress Doors: In certain occupancy groups, doors that are electromagnetically locked are now permitted in the means of egress if equipped with listed hardware that meets specified conditions.

1008.1.10.1 Listing of Panic Hardware: Panic hardware and fire exit hardware installed on means of egress doors must now be listed in accordance with UL 305, *Panic Hardware*.

1009.4.5, Exception 2, Open Risers in Industrial Occupancies: In Groups F, H and S occupancies, open risers are now permitted at stairways located in areas not accessible to the public.

1009.9 Clear Width of Spiral Stairways: The method of measurement to determine the minimum required width of a spiral stairway has been modified by indicating that the minimum clear width must be available at handrail height and at all points below the handrail.

1009.12 Stair Handrails in Group R-2 and R-3: Within dwelling units and sleeping units of Group R-2 and R-3 occupancies, a handrail is now required only for stairs having four or more risers.

1009.14 Roof Access to Elevator Equipment: Where access to a roof or rooftop penthouse is required in order to maintain elevator equipment, a stairway must be provided for access purposes.

1010.9.1 Curbs Used as Edge Protection at Ramps: This clarifies the minimum required height of 4 inches for a curb used as edge protection at the side of ramps and ramp landings.

1011.1 Required Exit Sign Locations: This modifies the requirements for exit signs to within exits and at intervening doors within exits to clearly indicate the direction of means of egress travel.

1011.4 Internally Illuminated Exit Signs: Internally illuminated exit signs (electrically powered, self-luminous, or photoluminescent signs) are now required to be listed and labeled per UL 924.

1012.2 Handrail Height for Alternating Tread Devices: The requirements for alternating tread devices, including rail height, vertical distance between landings and method of measurement for tread height have been modified.

1012.3 Handrail Graspability: Additional criteria have been included for selecting handrail shapes, identified as Type II handrails, which are permitted in selective residential applications.

1013.1 Required Locations for Guards: When determining the height of a guard rail, the vertical distance is now determined to be from the walking surface to the grade or floor below at the lowest point within a 36 inch radius measured horizontally from the leading edge of the walking surface.

1013.2 Minimum Guard Height at Fixed Seating: The height of a guard rail located adjacent to fixed seating is now measured from the seating surface to the top of the guard rail. The seating surface is considered a walking surface.

1013.3 Guard Opening Limitations: The maximum size of openings in the upper part of guards has been reduced from 8 inches to 4 3/8 inches.

1014.3 Common Path of Egress Travel in Group R-2: The allowance for an extended common path of egress travel already in Group R-2 is now available in buildings that are protected throughout with an NFPA 13R automatic sprinkler system.

1015.1 Single Means of Egress from Group R-2 Units: The occupant load threshold at which a second means of egress is required from a Group R-2 occupancy has been increased from 11 to 21 in buildings which have an approved sprinkler system.

1016.1 Travel on Unenclosed Exit Access Stairways: Travel distance has been clarified to include travel on unenclosed exit access stairways.

1016.2 Travel Distance Increase for Roof Vents: The allowance for increased travel distance in fully sprinklered Group F-1 and S-1 occupancies provided with automatic smoke and heat vents has been eliminated.

1018.4 Maximum Length of Dead Ends in Corridors: Allowable dead end corridor distance has been increased to 50 feet in Group E, I-1, M, R-1, R-2, R-4, S and U occupancies if the building is provided throughout with an NFPA 13 automatic sprinkler system.

1021.2, Table 1021.2 Single Exits from Individual Stories: The allowance for single-exit buildings has been clarified to address egress from individual stories within the buildings.

1022.1 Fire-resistance Rating of Exit Enclosures: Consistent with the provisions for shaft enclosures, the fire resistance rating of an exit enclosure cannot be less than the rating of the floor construction penetrated by the enclosure.

1024 Luminous Egress Path Markings: Photoluminescent or self-luminous exit path markings are now required along the exit path of specified high rise buildings.

1028.1 Egress for Group E Assembly Spaces: Assembly uses classified as Group E occupancies are now subject to the specific means of egress provisions set forth for Group A occupancies in Section 1028.

1028.4 Egress Through Lobbies Serving Assembly Spaces: The physical barrier required to separate the waiting areas within lobbies of Group A-1 occupancies from the means of egress paths is no longer mandated.

Part 5 Accessibility

1103.2.3 Employee Work Areas: The maximum size of employee work areas exempted from accessibility has been increased from 150 to 300 square feet.

1103.2.13 Accessibility for Live/Work Units: This clarifies the extent of accessibility required in live/work units. The portion used for non residential use is required to be accessible. The residential portion is required to be evaluated separately in accordance with Sections 1107.6.2 and 1107.7.

1106.5 Accessible Van Parking Spaces Serving Group R-2 and R-3 Occupancies: Where a required van accessible space is located within a private garage serving a Group R-2 or R-3 occupancy, the minimum vertical clearance is only required to be 7 feet above the garage floor.

1107.3 Maneuvering Clearances at Group I-2 Sleeping Unit Doors: The maneuvering clearance mandated adjacent to passage doors is no longer required at the room side of doors to sleeping units in Group I-2 facilities.

1107.6.1.1 Roll-In Showers: The required type of bathing facilities in Accessible dwelling units and sleeping units has been modified to offer the same bathing options as found in standard rooms.

1108.4.1 Courtroom Accessibility: The general provisions for courtroom accessibility has been replaced with several provisions that address elements specific to the judicial activities that occur.

1109.2.1 Family or Assisted-use Toilet and Bathing Rooms: The "unixex" toilet room required in large assembly and mercantile occupancies is now identified as a "family or assisted-use" toilet room in order to distinguish it from other types of toilet rooms designated as "unisex".

1109.2.3 Accessible Lavatories with Enhanced Reach Ranges: A lavatory with enhanced reach ranges is now required in a toilet room or bathing facility that is provided with six or more lavatories.

1109.12.1 Accessible Operable Windows: In Group R-2 apartment houses, monasteries, and convents in which accessible rooms in Type A units are provided with operable windows, at least one window in each room shall be accessible.

Part 6 Building Envelope, Structural Systems, and Construction Materials

1210.1 Wall Base Finish Materials: Smooth, hard, nonabsorbent vertical base materials with a minimum extension up the walls of 4 inches above the floor are now permitted in toilet, bathing, and shower rooms.

1402.1, 1408 Exterior Insulation and Finish Systems (EIFS): Provisions regulating exterior insulation and finish systems (EIFS) have been expanded to include references to other sections of the IBC and new ASTM standards specific to EIFS.

1507.16 Roof Gardens and Landscaped Roofs: Roof gardens and landscaped roofs are now regulated for roof construction and structural integrity in generally the same manner as all other roof systems.

1509.2 Penthouse Height, Area, and Use Limitations: The height, area, and use limitations for penthouses and similar rooftop structures have been clarified to indicate that such structures are not to be included in the building area or fire area.

1509.2.4 Fire-retardant-treated Wood in Penthouses: The use of fire-retardant-treated wood is now specifically permitted for penthouse construction and equipment enclosures in one- and two-story buildings of Type I construction and all buildings of Type II, III, IV, and V construction.

Chapter 16, Chapter 35, ASCE/SEI 7-05 Supplement No. 2: Supplement No. 2 to the 2005 edition of ASCE/SEI 7 is now referenced in Chapter 16 and it revises the minimum base shear equations for both buildings and non-building structures.

1602, Table 1607.1 Live Loads for Decks and Balconies: Decks and balconies now have the same live load as the occupancy they serve. The distinction between decks and balconies was removed by deleting the definitions.

1604.8.2 Anchorage of Walls: All walls, not just those constructed of concrete and masonry, must now be anchored to floors, roofs, and other structural elements that provide lateral support for the wall. In addition, the minimum prescribed strength level horizontal seismic force of 280 plf applicable to concrete and masonry walls was replaced with a minimum horizontal force equal to 5 percent of the weight of the wall tributary to the anchor.

1604.8.3 Loading Conditions on Cantilevered Decks: Previous code language had been modified to address the situation in which the load on the cantilevered portion of a deck span could produce uplift at the support remote from the support at the cantilever, which is consistent with the intent of the distribution of live loads in Section 1607.10.

1605.1.1 Load Combinations in Stability Analysis: If factored loads are used when performing stability analysis of structures, soil resistance and strength reduction factors must now be considered.

1605.3.1, 1605.3.2 Load Combinations Using Allowable Stress Design: The allowable stress design load combinations are now consistent where roof live load and earthquake load effects are combined.

1607.7.1.3 Allowable Stress Increase for Design of Handrails and Guards: The allowance for a one-third stress increase for the allowable stress design of handrails and guards has been deleted.

1607.7.3 Bumper Load Application: A second point of application of loading for vehicle barrier systems in parking structures has been introduced that will provide more adequate barrier design requirements addressing heavier and taller vehicles.

1607.11.2.2 Live Load Design for Special-purpose Roofs: In the design of special purpose roofs used for promenade purposes, roof gardens, assembly uses, or other special purposes, a live load reduction is not permitted for live loads of 100 psf or more at areas of roofs classified as Group A occupancies.

1609.1.1, 1609.6 Determination of Wind Loads, Alternate All-heights Method: A new simplified wind design method based on the ASCE 7 analytical procedure, identified as the alternate all-heights method, is now available as an alternate to ASCE 7 Methods 1 and 2.

1609.1.1, 1609.1.1.2 Determination of Wind Loads: Recommendations pertaining to wind tunnel testing from the ASCE/SEI 7-05 commentary have been incorporated directly into the code so that they are enforceable.

1609.1.1, 2308.2.1 Residential Construction in High-wind Regions: The reference to the ICC legacy standard SSTD 10-99 has been deleted and replaced with a reference to the new 2008 edition of ICC-600, *Standard for Residential Construction in High Wind Regions*.

1609.1.2 Protection of Glazed Openings in Wind-borne Debris Regions: The prescriptive use of wood structural panels in lieu of impact-resistant glazing or impact-resistant covering is now limited only to buildings of Group R-3 or R-4 occupancy.

1609.1.2.2 Impact-resistance Testing of Garage Doors: ANSI/DASMA 115, now referenced by the IBC, specifically addresses the testing of glazed openings in garage doors for wind-bourne debris resistance.

1610.1, 1807 Design of Foundation Walls: The code provisions pertaining to soil lateral loads, foundation walls, and embedded posts and poles have been reorganized and technical revisions were made to clarify the provisions.

1613.6.1, 2305 General Design Requirements for Lateral-force-resisting Systems: Substantial portions of Section 2305 pertaining to lateral design of wood structures were deleted because they are now contained in the AF&PA ANSI/AF&PA NDS Supplement "Special Design Provisions for Wind and Seismic" (SDPWS) standard.

1613.6.3 Automatic Fire Sprinkler Systems: Automatic sprinkler systems installed in accordance with the 2007 edition of NFPA 13 are now recognized as compliant with the ASCE 7 seismic bracing provisions.

1613.6.4 AAC Masonry Shear Wall Design Coefficients and System Limitations: Seismic design coefficients and limitations for autoclaved aerated concrete (AAC) masonry shear wall systems have been added to the IBC, thus extending the use of these systems to seismic applications in Seismic Design Categories B and C. It should be noted that such systems are not permitted in buildings assigned to Seismic Design Categories D, E and F.

1613.6.6 Steel Plate Shear Wall Height Limits: ASCE 7 Section 12.2.5.4 has been amended to permit height increases for special steel plate shear wall systems.

1613.6.7 Minimum Distance for Building Separation: Requirements for minimum building separation that were in prior editions of the IBC have been restored and a minimum required separation distance between adjoining buildings that are not structurally connected has been established.

1613.6.8 HVAC Ductwork with Ip = 1.5: The exemptions from seismic bracing requirements of Section 13.6.7 of ASCE 7 have been extended to include small ducts where Ip = 1.5.

1613.7 Anchorage of Walls: Section 11.7.5 of ASCE 7 has been amended by eliminating the requirement that concrete and masonry walls be anchored to floors and roofs that provide lateral support for the wall for a minimum prescribed strength level horizontal seismic force of 280 plf and replacing it with a minimum horizontal force equal to 5% of the weight of the wall tributary to the anchor.

1614 Structural Integrity of High-rise Buildings: Minimum structural integrity requirements have been provided for high rise buildings assigned to Occupancy Categories III and IV.

1704 Special Inspector Qualifications Exemptions for R-3 Occupancies: The requirements pertaining to special inspector qualifications have been clarified, and the special inspection exemption for Group R-3 occupancies has been deleted.

1704.4 Special Inspection of Bolts and Anchors in Concrete Construction: Continuous special inspection is now required for cast-in-place bolts installed in concrete where strength design is used, and periodic special inspection is now mandated for anchors post-installed in hardened concrete.

1704.3.4, 1704.6.2 Special Inspection for the Bracing of Trusses: Two new sections have been added to require that the special inspector verify that temporary and permanent bracing are installed in accordance with the approved truss submittal package for both cold formed steel and wood trusses.

1706.1 Special Inspection Requirements for Wind Resistance: Special inspection requirements have been established for buildings sited in areas of high wind.

1707.4 Special Inspection of Light-frame Construction: The exemption from special inspection of wood light frame construction where the fastener spacing of the sheathing is more than 4 inches on center is now applicable to cold-formed steel light-frame construction.

Chapter 18 Design of Footings and Foundations: The scope of general requirements related to the design of all foundations and the specific requirements related to the design of shallow foundations have been clarified, and technical changes have been made to resolve conflicting code requirements.

1802, 1810 Deep Foundations: The deep foundation requirements were reorganized in order to eliminate repetition, resolve conflicting definitions, and generalize and simplify requirements wherever possible.

1803, 1804 Geotechnical Investigations, Excavations, Grading, and Fill: The provisions related to geotechnical investigations and excavation, grading, and fill have been reorganized and clarified and the appropriate term, geotechnical, is now consistently used as it relates to geotechnical investigations and geotechnical reports.

1807 Retaining Walls: The determination of the factor of safety against sliding for retaining walls has been clarified, and a factor of safety of 1.1 is permitted for overturning and sliding of retaining walls subjected to earthquake loading.

1807.2 Sliding Analyses of Retaining Walls: In the design analysis for a retaining wall, lateral soil pressures on both sides of the keyway are now explicitly required to be considered in the sliding analysis.

1808.3.1 Foundation Design for Seismic Overturning: Consistency is now provided between the IBC and ASCE 7 regarding this reduction of seismic overturning for foundation design where either the strength design or the basic allowable stress design load combinations are used.

1810.3.1.5 Helical Pile Foundations: Provisions have been added regulating the design and installation of helical pile foundations.

Chapter 19 Concrete Design and Construction: The concrete provisions of Chapter 19 have been updated and coordinated with the 2008 edition of the ACI 318 standard.

1908.1.16 Ductility of Concrete Wall Anchorages: Exceptions have been added to the requirements for ductility for concrete wall anchorages that have been designed for maximum expected seismic forces.

Chapter 21 Masonry: Substantial portions of this chapter have been deleted and the reference to the *Building Code Requirements & Specification for Masonry Structures and Related Commentaries*, also known as the Masonry Standards Joint Committee (MSJC) code, has been updated to the 2008 edition. Revisions were also made to coordinate the requirements in Chapter 21 of the IBC with the provisions in the 2008 MSJC code.

2111.3, 2113.3 Seismic Reinforcing of Fireplaces and Chimneys: The Seismic Design Category D requirements for reinforcing and anchorage of masonry and concrete fireplaces and chimneys have been extended to include Seismic Design Category C.

2208.1 Seismic Design of Storage Racks: The latest version of the Rack Manufacturers Institute (RMI) standard, which includes many clarifications regarding the seismic design of racks, is now referenced.

2209.1 Design of Cold-formed Steel Structural Members: The reference to ASI's *North American Specification for the Design of Cold-Formed Steel Structural Members*, 2007 edition, has been updated and given the new number designation of AISI S100.

2209.2 Steel Decks: Two new Steel Deck Institute (SDI) standards for design and construction of cold-formed steel floor and roof decks are now referenced. Designers are permitted to use these standards in lieu of the more formal approach of AISI S100, *North American Specification for the Design of Cold-Formed Steel Structural Members*.

2210 Cold-formed Steel Light-framed Construction: In addition to referencing the updated 2007 AISI standards for cold-formed steel framing, the IBC provisions on cold-formed steel have been correlated with the latest editions of the AISI standards and a new standard for floor and roof framing has been added.

2210.3 Trusses: Code language was added for cold-formed steel trusses similar to requirements for wood trusses in Section 2303.4. Section 2210.3 references the *North American Standard for Cold-Formed Steel Framing – Truss Design* (AISI S214).

2301.2 Design and Construction of Log Structures: A new standard, ICC-400 *Standard for the Design and Construction of Log Structures*, is now referenced in Chapter 23 and gives designers and building officials an important tool for design, construction, and inspection of log construction.

2304.6.1, Table 2304.6.1 Wood Structural Panel Sheathing Used to Resist Wind Loads: Guidelines are now provided for selecting wood structural panel wall sheathing used to resist component and cladding wind loads.

2304.9.5 Fasteners in Preservative-treated and Fire-retardant-treated Wood: The requirements for fasteners used in preservative-treated and fire-retardant-treated wood have been clarified to eliminate confusion between the code requirements and the manufacturer's recommendations. Nails, timber rivets, wood screws and lag screws used in SBX/DOT and zinc borate preservative-treated wood in an interior, dry environment are not required to be hot dipped galvanized.

2304.11.2.6 Vertical Clearance at Wood Siding: A minimum vertical clearance of 2 inches is required between wood siding and concrete steps, porch slabs, patio slabs, and similar surfaces.

2306 Allowable Stress Design of Wood Structures: Portions of the general design requirements for wood structures in Section 2306 have been deleted because they are contained in the AF&PA ANSI/AF&PA NDS Supplement "Special Design Provisions for Wind and Seismic" (SDPWS) standard.

Table 2306.6 Wind or Seismic Loading on Shear Walls of Fiberboard Sheathing Board: Revisions have been made to allowable shear values for fiberboard shear walls in Table 2306.6 to provide consistency with *AF&PA Special Design Provisions for Wind and Seismic* (SDPWS) for nailed fiberboard shear walls.

2307.1 Load and Resistance Factor Design of Wood Structures: A reference to the *AF&PA Special Design Provisions for Wind and Seismic* (SDPWS) has been added to Section 2307 for load and resistance factor design (LRFD) of wood structures.

2308.2 Maximum Floor-to-floor and Stud Height: The limitations regarding floor to floor and stud height for conventional wood frame construction have been clarified.

2308.2 Limitations: The permitted use of the conventional light frame construction provisions in areas of wind speeds up to 110 mph in Exposure Category B now excludes buildings located in hurricane prone regions.

2308.3.2 Braced Wall Line Connections: It has been clarified that the connections resisting wind and seismic lateral forces apply to the entire braced wall line, not just the braced wall panel portion of the wall.

2308.6, 2308.12.8, 2308.12.9 Foundation Sill Plate Anchorage: The permitted use of strap anchors in lieu of anchor bolts in high seismic regions has been clarified.

2308.9.1 Continuous Wall Studs: Except for trimmer and cripple studs at openings in walls, wall studs are now required to be continuous from a support at the sole plate to a support at the top plate in order to resist out-of-plane loads perpendicular to the wall.

2406.1.1, 2406.2 Impact Tests for Safety Glazing Materials: Safety glazing materials may now comply with ANSI Z97.1 rather than CPSC 16 CFR 1201 where used in a limited number of specified hazardous locations.

Part 7 Building Services, Special Devices, and Special Conditions

2902.1.1 Calculation of Plumbing Fixture Count: The method of determining the minimum required number of plumbing fixtures has been clarified for buildings that contain multiple occupancies.

2903 Water Closet Compartments and Urinal Partitions: Water closet compartment and urinal privacy provisions are now also located in the *International Building Code* (IBC) for usability purposes.

3002.4 Elevator Car Size to Accommodate Stretcher: Where an elevator car is required to accommodate an ambulance stretcher, the size of the stretcher used for the minimum car size has been modified to more accurately identify the minimum required elevator car dimensions.

3007 Fire Service Access Elevators: A fire service access elevator using key features to assist firefighters in access and rescue operations is now required in high rise buildings with an occupied floor more than 120 feet above the lowest level of fire department vehicle access.

3008 Occupant Evacuation Elevators: Specific provisions have been added to address the use of passenger elevators for occupant evacuation purposes.

3401.4 Applicability of *International Existing Building Code*: The use of the International Existing Building Code for regulating existing buildings undergoing repair, alterations, additions, or change of occupancy is now specifically permitted as an alternative to the use of IBC Chapter 34's provisions related to existing buildings.