

DIVISION 2. BUILDING CODE

"Sec. 14-231. Building Construction Code. With the following additions, deletions, and revisions, the International Building Code, 2003 Edition, a copy of which, authenticated by the signatures of the Mayor and City Secretary, made public record by this Section, and on file in the City Secretary's office, is incorporated by reference and adopted as the Building Construction Code for the City of Corpus Christi:

(1) Chapter 1, Administration, of the International Building Code is deleted. Section 13-1, Administration, Code of Ordinances, contains the administrative rules for the administration of the Building Construction Code and the other Technical Construction Codes of the City of Corpus Christi, including the Electrical Code, Energy Conservation Code, Fuel Gas Code, Mechanical Code, Plumbing Code, and Residential Code for One- and Two-Family Dwellings.

CHAPTER 4 - SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

(2) Section 403.1 of the International Building Code is amended by adding a new Section 403.1.1 to read as follows:

403.1 Applicability. The provisions of this section shall apply to buildings having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

403.1.1 These requirements apply to all Group B and Group R buildings having floor surfaces used for human occupancy located more than 75 feet (22.9 m) above the lowest level of fire department vehicle access. These buildings must be provided with an approved automatic sprinkler system under Section 403.2.

(3) Chapter 4 of the International Building Code is amended by adding new Sections 419 and 420 to read as follows:

SECTION 419 FLEA MARKETS

419.1 General. Mercantile classifications operating under the concept of a flea market must be developed in compliance with the provisions applicable to a mercantile classification except as provided in this section.

419.2 Tenant separation. Full tenant separation is not be required if a maximum wall height of four (4) feet zero (0) inches (one and twenty nine hundredths (1.29) meters) is maintained measured from top of the finish floor or adjacent walking surface.

419.2.1 Walls, partitions, and separations exceeding the four (4) feet zero (0) inches (one and twenty nine hundredths (1.29) meters) height and stopping a minimum of two (2) feet from the ceiling or soffit of the lowest horizontal structural member must be of one hour fire resistant rated construction.

419.2.2 Walls, partitions, and separations exceeding the four (4) feet zero (0) inches (one and twenty nine hundredths (1.29) meters) in height that are constructed with open wood, metal, or chain link lattice may have a maximum height of eight (8) feet zero (0) inches (two and forth four hundredths (2.44) meters) measure from the top of the finish floor or adjacent walking surface, if a separation from the ceiling at the top of the wall, partition, or separations is at least two (2) (sixty one hundredths (.61) meters) feet, is permanently maintained, and is totally unobstructed.

419.2.3 A fire resistive rates separation between the tenant space and the main front aisle is not required, nor is a side aisle separation required for a tenant space located at intersecting aisles.

419.3 Aisles. For exit purposes the aisles are considered a public way and may not be permanently unobstructed.

419.4.1 The minimum width of an aisle must be ten (10) feet (three and five hundredths (3.05) meters).

419.4.2 Aisles must lead directly to an exterior exit and must connect to an aisle of equal width on any change of direction.

419.4.3 Cross aisles must have a minimum width of six (6) feet (one and eighty three hundredths (1.83) meters).

419.4.4 Cross aisles may not serve more than of ten (10) tenant spaces, if single side loaded, or twenty (20) tenant spaces, if double loaded.

419.4.5 In any tenant configuration, sizing of tenant areas as it relates to occupancy loading may not exceed the occupancy capacity of the access aisles.

SECTION 420 LOCATION OF BUILDINGS NEAR OIL AND GAS WELLS

420.1 General. The presence of oil and gas wells within the City present the risks of blow-outs and explosions will endanger the lives of occupants in any buildings in proximity to wells. The land drilling ordinance and the Fire Prevention Code prohibit flames around wells. This section regulates the location of buildings in proximity to oil and gas wells in order to provide for the safety of building occupants.

420.2 Buildings prohibited within one hundred fifty (150) feet of active wells.

420.2.1 No habitable building may be constructed within one hundred fifty (150) feet of an oil and gas well that has not been plugged and abandoned under the regulations in the land drilling ordinance of the City, except buildings directly associated with the production from the well.

420.2 2 Any oil or gas well that was plugged and abandoned prior to May 29, 1968, with mud or only a bottom plug is considered to be unsafe for the location of any building within fifty (50) feet the well, until the well is remedied by setting a cement plug in the well near the surface, cutting the casing off below ground, and placing a steel plate over the top.

420.3 Natural gas seepage areas. In any area characterized by seeping methane gas at the surface of the ground, any building constructed must be provided with ventilation for the purpose of protecting against any accumulation of explosive gases under the building. Ventilation system must be designed by an engineer who must submit a statement with the application for the building permit to the effect that the design of the ventilation system was under this section.

CHAPTER 10 – MEANS OF EGRESS

(3a) Section 1025.4 of the International Building Code is revised to read as follows:

1025.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates, or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with §1025.2 and such devices shall be releasable or removable from the inside without the use of a force greater than that which is required for normal operation of the escape and rescue opening. If the opening requires the use of a separate tool or key, the tool or key must be stored at a visible location, which is adjacent to and within 4 feet of the opening. The net clear opening dimensions must be the result of normal operation of the opening. Where such bars, grilles, grates, or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with §907.2.10 regardless of the valuation of the alteration.

CHAPTER 11 – ACCESSIBILITY

(4) Section 1101.2 of the International Building Code is revised to read as follows:

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code, ICC A117.1, and the Texas Accessibility Standards, published by the Texas Department of Licensing and Regulation. If there is a conflict between the provisions of this code or ICC A117.1 and the Texas Accessibility Standards, the Texas Accessibility Standards control. The design of all buildings that are subject to Chapter 469, Texas Government Code; Chapter 63 of the Texas Administrative Code, and the Texas Accessibility Standards must be reviewed under the procedures established by the All buildings must comply with the procedures established by Texas Department of Licensing and Regulation published in the Texas Administrative Code, 16 TAC 63.1, et. Seq., and in the Texas Accessibility Standards.

CHAPTER 15 – ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

(5) Section 1507.8 of the International Building Code is amended by adding Sections 1507.8.8 and 1507.8.9 to read as follows:

1507.8 Wood shingles. The installation of wood shingles shall comply with the provisions of this section and Table 1507.8.

1507.8.8 Where permitted. Wood shingles and labeled No. 1 and No. 2 wood shingles with a minimum butt thickness of one-half (1/2) inch may be used on one family dwellings located not less than fifty (50) feet from the property line.

1507.8.9 Repairs. Repairs to existing wood shingle roof coverings on existing one family dwellings are not required to conform to the requirements of this section."

(6) Section 1507.9 of the International Building Code is amended by adding Sections 1507.9.9 and 1507.9.10 to read as follows:

1507.9 Wood shakes. The installation of wood shakes shall comply with the provisions of this section and Table 1507.8.

1507.9.9 Where permitted. Wood shakes grade labeled No. 1 shakes with a minimum butt thickness of one-half (1/2) inch may be used on one family dwellings located not less than fifty (50) feet from the property line.

1507.9.10 Repairs. Repairs to existing wood shake roof coverings on existing one family dwellings are not be required to conform to the requirements of this section.

CHAPTER 16 – STRUCTURAL DESIGN

(7) *Exception 3 to Section 1609.1.1 of the International Building Code is revised to read as follows:*

1609.1.1 Determination of wind loads.

"EXCEPTIONS:

3. Subject to the limitations of Section 1609.1.1.1, residential structures, except one- and two-family dwellings, using the provisions of the *AF & PA Wood Frame Construction Manual for One and Two Family Dwellings, 2001 Edition*.

(8) *Section 1609.1.1.1 of the International Building Code is revised to read as follows:*

1609.1.1.1 Applicability. The provisions of SSTD 10 are applicable only to buildings located within Exposure, B or C as defined in §1609.4. The provisions of SSTD and the AF&PA Wood Frame Construction Manual for One and Two Family Dwellings 2001 Edition shall not apply to building sited on the upper half of an isolated hill, ridge or escarpment meeting the following conditions:

1. The hill, ridge or escarpment is 60 feet (18.288 mm) or higher if located in exposure B or 30 feet (9144 mm) or higher if located in exposure C;
2. The maximum average slope of the hill exceeds 10 percent; and
3. The hill, ridge or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 1 mile (1.61 km), whichever is greater.

(9) *Section 1609.1.4 of the International Building Code is revised to read as follows:*

1609.1.4 Protection of openings. For structures located in the Inland II area as adopted by the Texas Department of Insurance, protection of exterior openings from windborne debris is not required. For structures located in the Inland I area as adopted by the Texas Department of Insurance, glazed exterior openings in the lower 60 feet (18.288 mm) in buildings must be impact resistant or protected with an impact resistant covering. For structures located in the Seaward area as adopted by the Texas Department of Insurance all exterior openings in the lower 60 feet (18.288 mm) in building shall be impact resistant or protected with an impact-resistant covering. Exterior openings must include exterior windows, exterior doors, garage doors, and skylights. Exterior opening protection for windborne debris must meet the requirements of an approved impact-resisting standard or ASTM E 1996 and of ASTM E 1886 referenced therein as follows:

1. Exterior openings located within 30 feet (9144 mm) of grade shall meet the requirements of the Large Missile Test of ASTM E 1996.
2. Exterior openings located more than 30 feet (9144 mm) above grade shall meet the provisions of the Small Missile Test of ASTM E 1996.

The products for exterior openings shall be installed in accordance with the manufacturer's installation instructions for the manner in which they were tested for uniform static wind pressure resistance and for windborne debris resistance.

Exceptions:

1. For structures located in the Inland I area, wood structural panels with a minimum thickness of 7/16 inch (11.1 mm) and maximum panel span of 8 feet (2438 mm) are permitted for opening protection in one- and two-story buildings. Panels shall be precut to cover the glazed openings with attachment hardware provided. Attachments shall be designed to resist the components and cladding loads determined in accordance with the provisions of Section 1609.6.1.2. Attachment in accordance with Table 1609.1.4 is permitted for building with a mean roof height of 33 feet (10.058 mm) or less where wind speeds (3-second gust) do not exceed 130 miles per hour (57.2 m/s).
2. Buildings in Category I as defined in Table 1604.5, including production greenhouses as defined in Section 1608.3.3."
3. For structures located in the Seaward area, wood structural panels with a minimum thickness of 15/32 inch (11.9 mm) must be permitted for opening protection in one-and two-story buildings. Panels must be precut to cover the exterior openings with attachment hardware provided. The panels and their attachment to the structure must meet the requirements of the large missile test using either an approved impact-resisting standard or ASTM E 1996 and ASTM E 1886 referenced therein. The panels must be installed under the manner in which they were tested for uniform static wind pressure resistance and for windborne debris resistance.

(10) The title of Table 1609.1.4 of the International Building Code is revised to read as follows:

"TABLE 1609.1.4 WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS USED IN THE INLAND I AREA^{a,b,c}

(11) Section 1609.1.1 of the International Building Code is amended by adding a new Section 1609.1.1.2 to read as follows:

"1609.1.1 Determination of wind loads.

1609.1.1.2 Unusual structures. For buildings or structures having unusual geometric shapes, response characteristics or site locations for which channeling effects or buffeting in the wake of upwind obstructions may warrant special consideration, wind loads must be based on wind tunnel tests or nationally recognized data approved by the Texas Department of Insurance.

(12) Section 1612.3 of the International Building Code is revised to read as follows:

1612.3 Establishment of flood hazard areas.

1612.3.1 To establish flood hazard areas, the City Council has adopted a flood hazard map and supporting data. The flood hazard map includes, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for Nueces County, Texas, unincorporated areas," dated September 27, 1972, as amended or revised, with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

1612.3.2 The procedures for obtaining permits within flood hazard areas, and additional rules relating to the construction of structures within flood hazard areas, are published in the City of Corpus Christi Flood Hazard Prevention Code, Article V. Chapter 14, Code of Ordinances.

CHAPTER 18 – SOILS AND FOUNDATIONS

(13) Section 1805.8.2 of the International Building Code is amended by adding to read as follows:

1805.8.2 Slab-on-ground foundations. Slab-on-ground, mat or raft foundations on expansive soils shall be designed and constructed in accordance with WRI/CRSI Design of Slab-on-Ground Foundations or PTI Design and Construction of Post-Tensioned Slabs-On-Ground.

EXCEPTION: Slab-on-ground systems that have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the building official.

1805.8.2.1 Special provisions applicable to City of Corpus Christi. The provisions of this section govern the design, construction, and resistance to water intrusion of concrete foundations for buildings and structures. The City has developed and adopted specific foundation standards to address local soils and climatic conditions. The City foundation standards are contained in this section. If any other provision of the International Building Code conflicts with a provision of this section, as amended, the provision of this section supersedes the other provision.

1805.8.2.2 Foundations on expansive soils. All slab-on-grade foundations, with the exception of conventionally reinforced slabs less than 500 s.f., must be designed by a licensed professional engineer having sufficient engineering knowledge and experience in structural and foundation slab engineering. A post tensioned foundation must be designed under the latest publication of "Design and Construction of Post-Tensioned Slabs on Ground by the Post-Tensioning Institute and sound engineering judgment. A conventionally reinforced slab on grade foundation must be constructed under the latest requirements of the applicable standards of the American Concrete Institute (ACI). The design calculations for a post-tensioned or a conventionally reinforced design must also comply with the applicable design requirements in this section.

1805.8.2.3 Repairs. Repairs requiring any structural modification(s) to an existing foundation system including the backfill resulting from a plumbing reroute and/or any other components or modifications that alter any existing foundation design parameter must have an engineer of record. An engineered repair design plan and specifications or a letter signed and sealed by the engineer of record indicating responsibility to inspect and certify the backfill must be submitted with the appropriate plumbing and or building permit applications. An exception to the requirement for an engineer of record when certification of backfill is the only requirement, a letter from a certified testing laboratory performing density testing to ensure compaction as required by this code will be acceptable. The letter from the testing laboratory must be signed and sealed by the engineer and accompanied by the test results that substantiate compliance with the code requirements. Once the appropriate plumbing and or building permits have been issued and work commenced, inspections in conformance with this chapter are required.

1805.8.2.4 Certification. The engineer of record must submit to the City a Foundation Affidavit on a form provided by the City upon completion of any and all foundation work, including any repairs or modifications to a foundation. The foundation affidavit must be submitted prior to the issuance of a certificate of occupancy for new construction.

1805.8.2.5 Design. The engineer of record must be required to obtain soils information either from a geotechnical investigation on the lot or from the original subdivision geotechnical report providing the report is reflective of the soil conditions at the specific site. The engineer of record must state the source of soil design criteria. In lieu of geotechnical investigation criteria, the engineer of record may opt to use the design parameter limits and design criteria for soils where the plasticity index is greater than fifteen (15) as outlined in this section.

1805.8.2.5.1 For areas within the jurisdiction of the City where the plasticity index (PI) of the soil is greater than fifteen (15), the following minimum design parameter limits must be used for the design of a post-tensioned slab on grade foundation:

1. For the center lift design, $e_{sub\ m} = 6$ feet and $y_{sub\ m} = 5.7$ inches;
2. For the edge lift design, $e_{sub\ m} = 2.5$ feet and $y_{sub\ m} = 2.3$ inches; and
3. Allowable soil bearing pressure is at least two thousand five hundred (2,500) psf for natural soils or the foundation foot print sub-grade and fill materials other than up to twelve (12) inches of cushion sand, must be compacted to a minimum of ninety (90) percent standard proctor density.

1805.8.2.5.2 For areas within the jurisdiction of the City where the plasticity index (PI) of the soil is greater than fifteen (15), the following minimum design configuration limits must be used for the design of the post-tensioned slab on grade foundation:

1. Minimum depths for both interior and exterior beams must be twenty four (24) inches;
2. Minimum beam widths must be ten (10) inches;
3. Maximum beam spacing must be sixteen (16) feet; and
4. Maximum vertical joint spacing for brick veneer must be twenty (20) feet or design deflections must be restricted to $L/1000$.

1805.8.2.5.3 For areas within the jurisdiction of the City where the plasticity index (PI) of the soil is less than fifteen (15), the minimum design parameters and configuration limits that must be used are contained in Chapter 2 of "Design and Construction of Post-Tensioned Slabs On Ground" by the Post Tensioning Institute and this code.

1805.8.2.5.4 For areas within the jurisdiction of the City where the plasticity index (PI) of the soil is less than fifteen (15), the following additional minimum design configuration limits must be used for the design of a post-tensioned slab on grade foundation:

1. Minimum beam depth must be eighteen (18) inches; and
2. Maximum beam spacing must be twenty-two (22) feet.

1805.8.2.5.5 For all foundations within the jurisdiction of the City and for all plasticity index (PI) values the following standards apply to post-tensioned slab on grade foundations:

1. Minimum tendon size must be one-half (1/2) inch diameter, Grade 270, seven (7) wire strand; and
2. Beams must be founded no less than six (6) inches into undisturbed soil or soil compacted to a minimum of ninety (90) percent standard proctor density.

1805.8.2.6 Inspections. Construction inspections must be performed by the engineer of record or his designated representative and must include the following inspections specified in this code.

1805.8.2.6.1 A pre-construction site inspection must be performed to verify the following has been performed:

1. That the vegetation and associated root systems have been removed from the slab site and that the site is suitable for construction;
2. That no beam trench cuttings or scarified material is placed as fill material;
3. That all fill has been placed under the engineer's design in any portions or sections of the foundation supporting grade; and
4. That proper soil compaction of the foundation footprint and fill material has been performed to a minimum of ninety (90) percent standard proctor density.

1805.8.2.6.3 Prior to the placement of concrete, an inspection of the beam geometrics, penetrations, cable(s), cable(s) anchorage/steel placements and other details of the design must be made to verify conformance with the design plans.

1805.8.2.6.4. Placement of the concrete must be witnessed by the engineer of record or his designated representative knowledgeable in the requirements of ACI 72.

1805.8.2.6.5 On post-tensioned foundations, final cable tensioning may not be executed no sooner than five (5) days after concrete placement. Cable tensioning must be witnessed by the engineer of record or his designated representative. Confirmation of proper tendon stressing must

be verified by measuring tendon elongation. The engineer of record must verify that a durable corrosion protective coating has been applied to the tendon anchorage system and that non-shrink seal grouting of the cable pockets has occurred.

1805.8.2.6.6 The Building Inspection Division of the City must verify the seal grouting of the cable anchorage during the frame inspection.

1805.8.2.7 Conventionally reinforced foundations. In consideration of extreme heaving and shifting characteristics of the soils in the Corpus Christi area, the following minimum conventionally reinforced slab on grade foundation standards are established. The conventional standards contained in this section may be used as provided, without requiring an engineer of record, for structures less than five hundred (500) square feet and detached garages less than nine hundred (900) square feet in area. Existing structures with conventionally reinforced foundations less than five hundred (500) feet in area and detached garages less than nine hundred (900) square feet in area are exempt from the requirements of this section.

1805.8.2.7.1 Floating slab foundations on expansive clay soils.

Floating slab foundations for one and two story residential structures, except one- and two-family dwellings, and other light frame buildings on expansive clay soils must be constructed under Figures 1805.1 and 1805.2

1805.8.2.7.2. Floating slab foundations on non-expansive sandy soils.

Floating slab foundations for one and two story residential, except one- and two-family dwellings, and other light frame buildings on non-expansive sandy soils must be constructed under Figures 1805.3 and 1805.4. Non-expansive sandy soils are common on Corpus Christi Beach, the Flour Bluff area, and on the barrier islands.”

(14) Section 1805 of the International Building Code is amended by adding new Sections 1805.10 and 1805.11 to read as follows:

SECTION 1805 FOOTINGS AND FOUNDATIONS

1805.10 Foundation standards for small detached structures. Subject to Section 1813.2, slab on grade foundations constructed under Figure are permitted for supporting the following detached structures:

1. Garages less than 900 square feet.
2. Storage sheds less than 500 square feet.
3. Carports.
4. Patio covers.

1805.10.1 Limitations on buildings. Buildings using the reduced standards authorized by this section are limited to one story and may not be used for habitable living occupancies.

1805.10.2 Engineer's certification not required. An engineer of record is not required to certify the foundation of a structure built under the standards of Figure , if the structure does not exceed nine hundred (900) square feet in area and is used as a garage or the structure is five hundred (500) square feet or less in area and is used for accessory storage.

1805.11 Other foundation standards. Alternate foundation designs may be permitted provided if the designs are based on a recognized national design standard or design code, a comprehensive soil evaluation, an engineered structural analysis, and the applicable provisions of this code. Alternates must be proposed under the procedures in Section 14-220, Alternate materials and methods, of the Code of Ordinances.

(15) Section 1808.2.1 of the International Building Code is amended by adding new Sections 1808.2.1.1 and 1808.2.1.2 to read as follows:

1808.2.1 Design.

1808.2.1.1 Pier foundation. Pier foundations for one and two story residential, except one- and two-family dwellings, and other light frame buildings must be designed to conform with Figures 1808.2(A) and (B).

1808.2.1.1.2 Piling foundation used to elevate or support structures.

1. All wood pilings used to support single story elevated structures must have a minimum top diameter of ten (10) inches (two hundred fifty-four (254) mm).
2. All wood pilings used to support an open at grade level wood frame structure must have a minimum uniform diameter of six (6) inches (one hundred fifty-two (152) mm).
3. All wood piling must be pressure impregnated according to AWPA Standard C3.
4. Tops of pilings must be notched to receive sills, beams, girders, or horizontal structural members.
5. Top of piling connections must be a minimum of two (2) five eights inch galvanized bolts with galvanized ogee washers to supplement effective nailing.
6. Nails used to secure sills to pilings must be 20d or larger.
7. Pilings used to elevate or support structures must be driven or placed a minimum of eight (8) feet below natural grade, or four (4) feet if encased in two (2) feet of concrete.
8. All wood pilings must be effectively knee braced, and spaced eight (8) feet zero (0) inches (two hundred forty four (244) mm) center to center.
9. Structures elevated in flood zones must conform to the requirements of the Flood Hazard Prevention Code.

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CHAPTER 21 - MASONRY

(16) Section 2104.1.5 of the International Building Code is revised to read as follows:

2104.1.5 Lintels. Masonry directly above chases or recesses wider than 12 inches (305 mm) must be supported on lintels. The design for lintels shall be in accordance with Section 2107 and section 2108. Minimum length of end support shall be 4 inches (102 mm). The deflections of all structural lintels and horizontal supports required and designed under 2107 and 2108 may not exceed one six hundredths (1/600) of the span under full load or the anchored veneer. Lintels and supports of cold formed steel construction must conform to the requirements of this section. Lintels of ferrous iron must be galvanized with ends painted with a cold galvanizing coating.

(17) Section 2104.1 of the International Building Code is amended by adding a new Section 2104.1.9 to read as follows:

2104.1. Masonry construction.

2104.1.9 Masonry openings. The masonry openings must be supported by well buttressed arches and lintels of noncombustible materials that bear on the wall at each end of or not less than four (4) inches (102 mm). In addition, the bearing area must be sufficient to prevent compressive stresses greater than those allowed in this section. Arch of cold formed steel construction must conform to the requirements of this section.

(18) Section 2104 of the International Building Code is amended by adding a new Section 2104.6 to read as follows:

2104 CONSTRUCTION

2104.6 Moisture protection. Surfaces exposed to the weather must have an approved barrier to protect the structural frame and the interior wall covering. The barrier must be at least Type 15 felt or draft waterproof building paper. The felt or building paper must be free from holes and breaks other than those created by fasteners and construction systems due to attaching of the barrier. The felt or building paper must be applied over studs or sheathing of all exterior walls. The felt or building paper must be applied horizontally with the upper layer lapped over the lower layer by not less than 2 inches (51 mm). Where vertical joints occur, the felt or building paper must be lapped by not less than 6 inches (152 mm). Applications of felt or building paper installed over waterproof sheathing must be secured at the upper edge at a height of thirty (30) inches. In an application where foil backed insulation board is installed an eighteen (18) inch strip of building paper or felt must be installed between the exterior wall framing members and the insulation board.

EXCEPTIONS. The approved barrier is not required in any of the following circumstances:

1. In back-plastered construction.
2. When there is no human occupancy.
3. Under approved paperbacked metal or wire fabric lath.

4. Behind lath and Portland cement plaster applied to the underside of roof and eave projections.
5. Under exterior insulation and finish systems (EIFS) installed per manufacturer's recommendations.

CHAPTER 31 – SPECIAL CONSTRUCTION

(19) Section 3107 of the International Building Code is amended by adding a new Section 3107.2 to read as follows:

SECTION 3107 SIGNS

3107.2 Unsafe signs. If in the opinion of the Building Official, any sign is not properly secured, is in danger of falling, or is otherwise unsafe, the owner or lessee of the sign, or the person or firm maintaining the sign for the owner or lessee, must upon written notice from the Building Official, remove the sign or secure the sign within the timeframe specified by the Building Official and in a manner to be approved by the Building Official, in conformity with the provisions of this section. If the Building Official's order is not complied within 10 days, the Building Official may remove the sign at the expense of the owner or lessee.

3107.2.1 The following signs are declared to be unsafe signs. These signs pose an immediate danger to public safety, and the owner of the sign, the lessee of the sign, the owner of the property on which the sign is located, and the owner and manager of any business advertised on the sign must immediately remove the sign or correct the unsafe conditions:

1. Any ground sign which is located without authorization on the right-of-way of any public street.
2. Any sign or sign-supporting structure that is constructed to a height greater than three (3) feet above the level of the crown of the roadway, which is located within the area of the corner of a piece of property bounded on two (2) adjacent sides by public rights-of-way for road, street, boulevard, alleyway, or other public passageway, which area is more particularly described as being that area bounded by two (2) intersecting boundaries of the public right-of-way for a distance of twenty (20) feet on each of such boundaries from the point of intersection, and bounded by a third side determined by the drawing of a straight line between the points on the two (2) intersecting boundaries twenty (20) feet from their point of intersection. This provision applies to all those areas of the City designated and classified by the zoning ordinance of the City of Corpus Christi, and as amended from time to time, except those zones designated as "B-5", or "B-6".
3. Any sign that is not anchored to withstand the wind pressure as specified in 1609 of this code.
4. Any sign that contains electrical wiring, which fails to comply with the Corpus Christi Electrical Code, and which is determined by the Building Official to be dangerous and unsafe the Electrical Code.
5. Any sign that was not constructed under plans designed and sealed by a Texas registered professional engineer, which exceeds allowable the sign area/height to center of sign ratio provided in Figure 3108.

(20) Chapter 31 of the International Building Code is amended by adding a new Section 3110 to read as follows:

CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3110 BOAT DOCKS AND MOORINGS

3110.1 General It is unlawful, unless specifically provided by this section, for any person, firm, or corporation to place, build, or construct or maintain any dock, pier, mooring, piling, post, pipe or pole in the waters within the City limits of the City or within the Lake Corpus Christi Reservoir below elevation ninety-four (94) feet above mean sea level.

3110.2 Permits required The Building Official may issue permits for the placing, building, or construction of any dock, pier, mooring, piling, post, pipe, or pole in the waters within the City limits of the City of Corpus Christi or within the Lake Corpus Christi reservoir below elevation ninety-four (94) feet above mean sea level, and each dock, pier, mooring, piling, pole, pipe, or post, or other structure that is constructed within the waters of the City or the Lake Corpus Christi Reservoir must be authorized by a permit issued under this section.

3110.2.1 In addition to the permit issued by the Building Official under this section, each dock, pier, mooring, piling, pole, pipe, or post, or for the construction of a dock or other structure within the waters of the Lake Corpus Christi Reservoir must be authorized by the City's Director of Water Operations.

3110.2.2 In addition to the permit issued by the Building Official under this section, each dock, pier, mooring, piling, pole, pipe, or post, or for the construction of a dock or other structure within the waters of the City over submerged lands under the control of the Texas General Land Office, must be authorized by the Land Commissioner.

3110.2.3 In addition to the permit issued by the Building Official under this section, each dock, pier, mooring, piling, pole, pipe, or post, or for the construction of a dock or other structure within the waters patented of the City by the State of Texas must be authorized by a lease from the City.

3110.2.4 A permit issued under this section must specify the dimensions and the type of materials to be used and describe the upland to which said placement or structure is attached.

3110.2.5 A permit issued under this section may be issued only if sufficient information is furnished to place the information on the permit requested.

3110.2.6 Compliance with the provisions in this section does not relieve any person, firm, or corporation from obtaining authority from any other governmental body for placing any facility or structure in water of the City.

3110.3 Boat docks and fishing piers.

3110.3.1 Construction standards.

3110.3.1.1 All boat docks and fishing piers must be reinforced concrete and/or heavy timber construction.

3110.3.1.2 Wood piles used to support boat and fishing piers must be pressure impregnated according to AWWA Standard C18.

3110.3.1.3 The piles must be driven to a minimum penetration below the mud line equivalent to one-half (1/2) the length of the cut-off pile.

3110.3.1.4 All piers must be designed to withstand a total live load of fifty (50) pounds per square foot.

3110.3.1.5 All wooden structural members below the walkway level (caps, stringers, braces, etc.) must be pressure impregnated according to AWWA Standard C18.

3110.3.1.6 The primary pier walkway or platform must be elevated or otherwise designed to minimize damage resulting from wave action or rising waters. For purposes of this section, the designer may refer to the flood insurance rate maps and flood hazard boundary floodway maps of the City or the County in determining the damage potential from wave action or rising waters at the specific locality.

3110.3.1.7 All wooden caps, stringers, beams, etc., must be positively connected to its supporting member in such a manner so as to completely resist their displacement by wave action or rising waters.

3110.3.1.8 Wooden decking must be at least two inch nominal thickness and must be nailed to its supporting member in such a manner to allow the decking to be displaced by wave action or rising waters.

3110.3.1.9 All hardware must be hot dipped galvanized under ASTM Standard A153-61.

3110.3.1.10 When any boat dock or fishing pier is used as an integral part of an exit way from a building, guardrails must be provided as prescribed in this code. In all other cases, adequate guardrail protection as determined by the designer may be provided.

3110.3.2 Design. All boat docks and fishing piers must be designed by a professional engineer licensed in the State of Texas.

3110.3.3 Damaged boat docks and fishing piers.

3110.3.3.1 Damaged boat docks and fishing piers may be rebuilt at their original elevation providing that at least seventy five (75) percent of the existing pilings are sound. The Building Official must make this determination. All piers not meeting this requirement must be removed.

3110.3.3.2 Damaged piers not completely rebuilt must be completely removed.

CHAPTER 34 – EXISTING STRUCTURES

(21) Section 3401 of the International Building Code is amend by adding a new Section 3401.4 to read as follows:

3401.4 Wind loads.

1. For additions, the portions of the existing structure that carry loads from the addition must be constructed under the wind load requirements of Section 1609.
2. Any portions of an existing structure, which becomes exposed due to the addition, must conform to the wind load requirements of Section 1609.
3. For additions or new construction on top of existing buildings and foundation systems, the new construction and structural components of the existing structure and foundation system which carry the loads must be capable of carrying the loads imposed by the new construction.

(22) Section 3408 of the International Building Code is amended by adding a new Section 3408.2 to read as follows:

Section 3408 MOVED STRUCTURES

3408.2 Regulations for moving structures. The procedures for obtaining a permit to move a structure on the streets of the City are published in Section 14-215, Code of Ordinances.

CHAPTER 35 – REFERENCED STANDARDS

(23) Chapter 35 of the International Building Code is amended by revising the reference to WFCM 962001 to read as follows:

AFPA American Forest and Paper Association
 111 19th Street, NW, #800
 Washington, DC 20036

Standard reference number	Title	Referenced in code Section Number
WFCM--01	Wood Frame Construction Manual for One- and Two- Family Dwellings	2301.2.3, 2308.1, 2308.2.1

APPENDIX K BUILDING SECURITY

(24) *The International Building Code is amended by adding new Appendices K and L to read as follows:*

K101 General. This appendix contains suggestions for improving the physical security of buildings.

K102 Exterior doors.

K102.1 Construction. All exterior doors, except sliding glass doors or metal doors, should be solid core doors if wood and should be a minimum of one and three-eighths (1 3/8) inches in thickness. Hollow core doors should not be used.

K102.2 Hinges. All exterior door hinges should be mounted with the hinge on the interior of the building, except where a non-removable hinge pin or stud bolt is used; such a hinged may be installed with the hinge facing the exterior of the building.

K102.3 Strike plate lock area. The shim space between the door buck and door frame should have a solid wood filler twelve (12) inches above and below the strike plate area to resist spreading by force applied to the door frame. Screws securing the strike plate area should pass through the strike plate, door frame, solid wood filler, and enter the buck plate by a minimum of one quarter (1/4) of an inch.

K102.4 Glass in exterior doors. No glass should be used on any exterior door within forty inches of any lock.

K102.5 Door locks.

K102.5.1 All exterior door locks should be single cylinder keyed locks with mortised dead bolt that extends into the strike plate a minimum of one (1) inch.

K102.5.2. Lock bolts should have a case hardened steel insert to resist hack sawing.

K102.5.3. Locks should have case hardened steel cylinder guards on exterior, to resist prying and pulling.

K102.5.4 Retaining screws on interior of lock should be the shielding or non-removable type.

K102.6 Sliding glass doors. Sliding glass doors should be installed with the sliding portion on the inside only, so as to prevent the lifting and removal of the glass panel from the exterior of the building. Each sliding panel should have a secondary locking or securing device in addition to the original lock, such as:

K102.6.1. A Charlie bar, which is a device laid in the track to prevent opening.

K102.6.2. An approved track lock.

K102.6.3. Inside removable pins or locks securing the panel to the frame.

K102.7 Exterior glazing. All glass used in exterior sliding glass doors and fixed glass panels should be tempered glass or polycarbonate sheeting.

K102.8 Windows. All locking devices should be secured with three-quarter inch #8 full threaded screws as a minimum.

K102.9 Door viewers. Door viewers should be installed on all main entrance doors and should cover one hundred eighty (180) degrees of viewing. Such viewers should be installed with the securing portion on the inside.

K102.10 Lights. All exterior doors should be provided with an approved light, with interior activated switch to illuminate the door area for at least ten (10) feet in any direction.

K102.11 Key requirements. During construction the building should use a lock cylinder that will be removed upon occupancy, and new cylinders and all keys should be furnished to the occupant.

APPENDIX L

TIE DOWN STANDARDS FOR PORTABLE BUILDINGS, TRAVEL TRAILERS, UNOCCUPIED MANUFACTURED HOMES ON MOBILE HOME DEALER SALES LOTS, INDUSTRIALIZED HOUSING UNITS NOT INSTALLED ON A PERMANENT SITE, AND MOBILE HOMES.

L101 Definitions. As used in this Appendix, the following term have these meanings:

HUD-code manufactured home. A structure constructed on or after June 15, 1976, under the rules of the United States Department of Housing and Urban Development, that is (1) built on a permanent chassis, (2) designed for use as a dwelling, (3) with or without a permanent foundation when the structure is connected to the required utilities, (4) transportable in one or more sections, and (5) in the traveling mode, is at least eight body feet in width or at least 40 body feet in length or, when erected on site is at least 320 square feet. The term HUD-code manufactured home includes the plumbing, heating, air conditioning and electrical systems contained in the structure. HUD-code manufactured home does not include a recreational vehicle as defined by 24 CFR 3282.8(g).

Industrialized housing. A residential structure that is (1) designed for the occupancy of one or more families, (2) constructed in one or more modules or constructed using one or more modular components built at a location other than the permanent site, (3) designed to be used as a permanent residential structure when the module or the modular component is transported to the permanent site and erected or installed on a permanent foundation system, and (4) constructed under the authority of Chapter 1202 of the Texas Occupations Code. Each transportable modular section or modular component must have decals or insignia issued by the Texas Commission of Licensing and Regulation to indicate compliance with Chapter 1202 and the Commission's implementing rules.

(1) The term industrialized housing includes the plumbing, heating, air conditioning and electrical systems contained in the structure.

(2) The term industrialized housing does not include (1) a residential structure that exceeds three stories or 49 feet in height as measured from the finished grade elevation at the building entrance to the peak of the roof, (2) housing constructed of a sectional or panelized system that does not use a modular component, or (3) a ready-built home constructed in a manner in which the entire living area is contained in a single unit or section at a temporary location for the purpose of selling and moving the home to another location.

Mobile home. A mobile home means a structure, transportable in one or more sections, which in the traveling mode is 8 body feet (2,438 body mm) or more in width or 40 body feet (12,192 body mm) or more in length, or, when erected on site, is 320 square feet (930 m²) or more, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing,

heating, air conditioning and electrical systems contained in the structure. The term mobile home does not include a HUD-code manufactured home.

Portable building. A structure that is constructed off-site that is moved onto a site that does not have a permanent foundation, including a manufactured storage unit sold in a kit that does not have a permanent foundation.

Travel trailer. A travel trailer is a vehicular, portable structure built on a chassis and designed to be used without a permanent foundation, as a temporary dwelling, which may be occupied with or without utilities provided by temporary connections at a parking site."

AN 102 Portable buildings.

L102.1 All portable buildings located within the City must be securely anchored to the ground by a means described in L106.

L102.2 During a period of time when hurricane warnings or watch, issued by the NOAA National Weather Service, are in effect for the City, in addition to its permanent anchors, a portable building must either be securely anchored to the ground with over-the-roof tie straps that are attached to anchors described in L105 or disassembled and stored securely in permanent buildings.

L102.3 Any portable building within the City limits when hurricane warnings or watch are in effect, which is not secured with other the roof straps that are anchored to the ground or disassembled and stored within a permanent building is declared a public nuisance and threat to the public safety and welfare.

L103 Travel trailers.

L103.1 Travel trailers to be left within the City, or which are left in the City, at parking site during a period of time when hurricane warnings or watch, issued by the NOAA National Weather Service, are in effect for the City, must be securely anchored to the ground by a means described in K106 or be lashed to rigid construction capable of holding the travel trailer using approved tie materials and connectors described in L105, or stored securely in permanent buildings.

L103.2 Any travel trailers left within the City must be road worthy, be registered with the Department of Motor Vehicles, and must bear a valid license plate.

L103.3 Any travel trailer that is within the City limits when hurricane warnings or watch are in effect, which is not road worthy, not registered, does not bear a valid license plate, or not anchored to the ground, lashed to rigid construction, or stored within a permanent building is declared a public nuisance and threat to the public safety and welfare.

L104 Unoccupied HUD-code manufactured homes located on mobile home dealers sales lots and industrial housing units not installed on a permanent site.

L104.1 Unoccupied HUD-code manufactured homes located on mobile home dealers sales lots and industrial housing units not installed on a permanent site must be anchored as a minimum, at each corner of the mobile home.

L104.2 A frame tie, an over-the-roof tie anchor, connections, and piers and footing must be installed at each corner under L106, during periods of time when a hurricane warning or watch issued by NOAA National Weather Service is in effect for the City.

L105 Approved tie-down methods for mobile homes, HUD-code manufactured homes, and industrial housing units. All mobile home, HUD-code manufactured home, and industrial housing unit installations must comply with the following tie-down methods.

L104.1 Quantity of blocking and anchorage. Approved blocking and anchorage is illustrated in Figure L104.1.

"Table L104.1.1 Number of vertical ties per side.

	Mobile Home Box Width (feet)			Number of Vertical ties required
	10	12	14	
Mobile Home Box Length (feet)	46 to 56	75 to 80	80	5
	35 to 46	56 to 75	60 to 79	4
	33 to 34	38 to 55	40 to 59	3
		33 to 37	33 to 39	2

Note: The vertical ties nearest the end of the unit must be placed between four (4) feet and eight (8) feet from the end.

Table L104.1.2. Number of diagonal ties per side.

	All box widths	Number of Diagonal Ties Required
Mobile Home Box Length (feet)	33 to 43	4
	43 to 52	5
	53 to 63	6
	64 to 73	7
	74 to 80	8

Note: The diagonal ties nearest the end of the unit must be placed between four (4) feet and eight (8) feet from the end.

L104.2 Piers and footings.

- "1. Spaced at ten foot intervals on both frame rails with end ones no further than one (1) foot from the end.
- "2. Four inch by sixteen inch wide concrete runners.
- "3. Footings of solid concrete sixteen inch by sixteen inch by four inch.
- "4. Piers of standard tight inch by eight inch by sixteen inch open cell or (thirty inch maximum height) solid concrete block.
- "5. Wood blocks used for leveling must not exceed a maximum thickness of four (4) inches. Such blocks must be of nominal eight inch by sixteen inch dimensions.

L104.3 Patio and cabana roofs.

- "1. Two (2) rows of vertical support bars with twelve inch spacing. Second row to be down middle or at mobile home edge anchored to concrete floor or equivalent footings.
- "2. Other structures on lot must be secured.
- "3. Tip out rooms to be held by over-the-home tie at outer edge.
- "4. Clerestory roof requires over-the-home tie at end of each raised section.

L106 Anchoring equipment. Anchoring equipment must be capable of resisting all allowable working loads and capable of withstanding fifty (50) percent overload specified in L105.3 without failure of either the anchoring equipment or the attachment point of the portable building, travel trailer, or mobile home.

L106.1 Ground anchors. Ground anchors must be of an "approved design and must be used in a soil type for which they are designed and approved. Approved equipment includes the following:

1. Auger or dead man, which is at least six (6) inches in diameter, or arrowhead with a flat plane, which is at least eight (8) inches wide.
2. Auger or arrowhead depth four (4) feet; dead man five (5) feet. All augers must be screwed into the earth the full four-foot depth.
3. Anchor rod five-eighths inch diameter with welded eye at top. The anchor rode must be hooked into concrete when used in dead man anchors.
4. Anchors to slabs must equal to the pull resistance described in L105.
5. All augers, arrowhead, or anchors must be of galvanized steel.

L105.2 Approved tie materials and connectors.

1. Galvanized or stainless steel cable-three eights inch 7 x 7 cable (seven strands of #7 wires).

2. Galvanized aircraft cable-one-quarter inch 7 x 19 cable (seven (7) strands of #19 wire).
3. Steel strap-one and one quarter inch x .035 inch galvanized with tensioning device.
4. Cable ends secured by two (2) U-bolt clamps.
5. Steel rods-five eighths inch with ends welded closed to form an eye.
6. Turnbuckles-five eighths inch drop forged, closed eyes.
7. Other tensioning devices of similar strength approved.

L105.3 Minimum working loads and overloads.

1. Travel trailers. Anchoring equipment for travel trailers must be capable of resisting all allowable working loads equal to or exceeding three thousand one hundred fifty (3,150) pounds and must be capable of withstanding fifty (50) percent overload (four thousand seven hundred twenty five (4,725) pounds total).
2. Portable buildings. Anchoring equipment must be capable of resisting all allowable working loads equal to or exceeding three thousand one hundred fifty (3,150) pounds and must be capable of withstanding fifty (50) percent overload (four thousand seven hundred twenty five (4,725) pounds total).
3. Mobile homes. Anchoring equipment must be capable of resisting all allowable working loads equal to or exceeding three thousand one hundred fifty (3,150) pounds and must be capable of withstanding fifty (50) percent overload (four thousand seven hundred twenty five (4,725) pounds total).

INSERT FIGURE K-1