

CITY OF COLLEGE STATION

*Home of Texas A&M University®*

Construction Board of  
Adjustments & Appeals

November 16, 2011

5:30 P.M.

City Hall

Council Chambers

1101 Texas Ave

College Station, Texas



CITY OF COLLEGE STATION  
*Home of Texas A&M University®*

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**AGENDA**  
**CONSTRUCTION BOARD OF ADJUSTMENTS AND APPEALS**  
**Wednesday, November 16, 2011, 5:30 p.m.**  
**City Hall Council Chambers**  
**1101 Texas Ave.**

1. Call meeting to order.
2. Consideration, discussion and possible action of absence request from meeting.
3. Hear visitors.
4. Presentation, possible action, and discussion to approve meeting minutes.
  - November 9, 2011 Minutes.
5. Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding the 2012 International Fire Code (IFC) and related amendments.
6. Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding 2012 Life Safety Code and related amendments.
7. Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding 2012 International Building Code (IBC) and related amendments.
8. Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding 2012 International Residential Code (IRC) and related amendments.
9. Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding 2012 International Energy Conservation Code (IECC) and related amendments.
10. Discussion and possible action on future agenda items - A Construction Board member may inquire about a subject for which notice has not been given. A statement of specific factual information or the recitation of existing policy may be given. Any deliberation shall be limited to a proposal to place the subject on an agenda for a subsequent meeting.
11. Adjourn.

Consultation with Attorney {Gov't Code Section 551.071; possible action.

The Construction Board of Adjustments and Appeals may seek advice from its attorney regarding a pending and contemplated litigation subject or attorney-client privileged information. After executive session discussion, any final action or vote taken will be in public. If litigation or attorney-client privileged information issues arise as to the posted subject matter of this The Construction Board of Adjustments and Appeals meeting, an executive session will be held.

Notice is hereby given that a Regular Meeting of The Construction Board of Adjustments and Appeals of College Station, Texas will be held on the 16th day of November, 2011 at 5:30 p.m. at the City Hall Council Chambers, 1101 Texas Avenue, College Station, Texas. The following subjects will be discussed, to wit: See Agenda

Posted this the \_\_\_\_ day of \_\_\_\_\_, 2011 at \_\_\_\_\_ p.m.

CITY OF COLLEGE STATION, TEXAS

By \_\_\_\_\_  
Sherry Mashburn, City Secretary

By \_\_\_\_\_  
David Neeley, City Manager

I, the undersigned, do hereby certify that the above Notice of Meeting of The Construction Board of Adjustments and Appeals of the City of College Station, Texas, is a true and correct copy of said Notice and that I posted a true and correct copy of said notice on the bulletin board at City Hall, 1101 Texas Avenue, in College Station, Texas, and the City's website, [www.cstx.gov](http://www.cstx.gov). The Agenda and Notice are readily accessible to the general public at all times. Said Notice and Agenda were posted on, at and remained so posted continuously for at least 72 hours preceding the scheduled time of said meeting.

This public notice was removed from the official posting board at the College Station City Hall on the following date and time: \_\_\_\_\_ by \_\_\_\_\_.

Dated this \_\_\_\_ day of \_\_\_\_\_, 2011.

CITY OF COLLEGE STATION, TEXAS

By \_\_\_\_\_

Subscribed and sworn to before me on this the \_\_\_\_ day of \_\_\_\_\_, 2011.

My commission expires: \_\_\_\_\_

This building is wheelchair accessible. Handicap parking spaces are available. Any request for sign interpretive service must be made 48 hours before the meeting. To make arrangements call (979) 764-3517 or (TDD) 1-800-735-2989. Agendas may be viewed on [www.cstx.gov](http://www.cstx.gov).



## **MINUTES**

### **CONSTRUCTION BOARD OF ADJUSTMENTS AND APPEALS Wednesday, November 9, 2011, 6:00 PM City Hall Council Chambers 1101 Texas Avenue College Station, Texas, 77840**

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**MEMBERS PRESENT:** Chairman Frank Cox, Co-Chairman Richard Dabney, Mike Lane, Charles Thomas, and Oran Mikeal.

**MEMBERS ABSENT:** None

**STAFF PRESENT:** Executive Planning & Development Director Bob Cowell, Assistant Director Lance Simms, Building Official Chris Haver, Assistant City Attorney Adam Falco, and Staff Assistant Christina Court.

**AGENDA ITEM NO. 1: Call to Order.**

Chairman Frank Cox called the meeting to order at 6:00 p.m.

**AGENDA ITEM NO. 2: Consideration, discussion and possible action of absence request from meeting.**

There were no absence requests to consider.

**AGENDA ITEM NO. 3: Hear Visitors**

No visitors spoke.

**AGENDA ITEM NO. 4: Consideration, discussion, and possible action to approve meeting Minutes.**

Richard Dabney motioned to approve the meeting Minutes from October 5, 2011. The motion was seconded by Oran Mikeal, and the motion was approved (5-0).

**AGENDA ITEM NO.5: Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding the 2012 International Property Maintenance Code (IPMC) and related amendments.**

Building Official Chris Haver presented the staff report and discussed the proposed amendments to the International Property Maintenance Code.

Chairman Cox opened meeting for discussion.

There was no discussion.

Charles Thomas motioned to recommend approval to City Council of the 2012 International Property Maintenance Code. Oran Mikeal seconded the motion, motion was approved (5-0).

**AGENDA ITEM NO. 6: Public hearing, presentation, possible action, and discussion on a recommendation to City Council regarding the 2011 National Electrical Code (NEC) and related amendments.**

Building Official Chris Haver presented the staff report and discussed the significant changes to the National Electrical Code.

Chairman Cox opened for discussion.

There was general discussion regarding the amendments.

Richard Dabney motioned to recommend approval to City Council of the 2011 National Electrical Code. Charles Thomas seconded the motion, motion was approved (5-0).

**AGENDA ITEM NO. 7: Discussion and possible action on future agenda items – A Construction Board member may inquire about a subject for which notice has not been given. A statement of specific factual information or the recitation of existing policy may be given. Any deliberation shall be limited to a proposal to place the subject on an agenda for a subsequent meeting.**

There were no future agenda items.

**AGENDA ITEM NO. 9: Adjourn.**

Oran Mikeal motioned to adjourn the meeting. The motioned was seconded by Charles Thomas, the motion was approved (5-0). The meeting was adjourned at 6:15 p.m.

**APPROVED:**

\_\_\_\_\_  
**Frank Cox, Chairman**

**ATTEST:**

\_\_\_\_\_  
**Christina Court, Board Secretary**

## 2012 IFC Changes from the 2009

- 1) Chapter 1 – **Scope and Administration**
  - a) Modification – Chapter numbers placed in new order
- 2) Chapter 2 - **Definitions**
  - a) Modification – Definition clarification.
- 3) Chapter 3 – **General Requirements**
  - a) 307.1.1. - Modification – *Prohibited open burning* - wording clarification.
  - b) 316.4 - New – *Obstructions on Roofs* - A physical guard is required for certain obstructions on roofs with less than 30-degree slope.
  - c) 317 – New – *Roof Gardens and Landscaped Roofs* - the IFC has new requirements to address fire safety concerns of roof gardens and landscaped roofs.
- 4) Chapter 5 – **Fire Service Features**
  - a) 503.4.1 – New – *Traffic Calming Devices* - Fire code official approval is required before a traffic-calming device can be constructed.
  - b) 506.1 – 607 - New – *Fire Service Elevator Keys* - The IFC has new requirements for nonstandard and standard keys for use by the fire service on elevators.
  - c) 508.1.5- Modified – *Required Features* - supplemental documentation for use by firefighters and emergency responders is now required in buildings that require a fire command center.
  - d) 510.1 – New – *Emergency Responder Radio Coverage* - The requirements formerly in appendix J are now mandatory, and a new exception to the emergency responder radio coverage system addresses the operation of the portable radios in certain facilities.
- 5) Chapter 6 – **Building Services and Systems**
  - a) 604.5 – New – *Emergency Lighting Equipment* - Testing requirements for emergency egress lighting are now established in 2012 IFC
  - b) 605.11 – New – *Solar Photovoltaic Power Systems* - Requirements for the installation of solar photovoltaic power systems on the building roofs are now established in the IFC. These requirements do not apply to buildings regulated by the IRC.
  - c) 610 – New – *Commercial Kitchen Cooking Oil Storage* - Cooking oil storage tanks in commercial kitchens must comply with new Chapter 6 requirements for these installations and Chapter 57.
- 6) Chapter 8 – **Interior Finish, Decorative Materials and Furnishing**
  - a) 803.5.2 – New – *Newly Introduced Textile Wall and Ceiling Coverings* - Requirements for new textile wall and ceiling coverings have been added.
  - b) 806.2 – Modification – *Artificial Vegetation* - an alternative method of evaluating the flame propagation of artificial vegetation or foam plastics and plastic signs in Group A occupancies is now recognized in the IFC.
  - c) 808.4 – New – *Combustible Lockers* -Lockers constructed of combustible materials must comply with chapter 8 requirements when they are an interior finish component.
- 7) Chapter 9 – **Fire Protection Systems**

- a) 901.4.6 – New – *Pump and Riser Room Size* - When provided, rooms housing fire protection systems must be adequately sized to facilitate maintenance.
- b) 901.9 – New – *Discontinuation or Change of Service* – Notice to the fire code official is now required when an alarm monitoring service is terminated or changed.
- c) 903.2.2 – Modification – *Ambulatory Care Facilities* – Automatic sprinkler requirements for ambulatory care facilities must protect the floor housing the facility.
- d) 903.2.4, 903.2.7, 903.2.9 – Modification – *Furniture Storage and display in group F-1, M, and S-1 Occupancies* – Automatic sprinkler system are now required in occupancies where upholstered furniture or mattresses are manufactured, stored, or displayed.
- e) 903.2.11.1.3 – Modification – *Basement* – Basements that are modified by the addition of a wall, partition, or fixture that can obstruct fire streams will require automatic sprinkler protection.
- f) 903.2.11.2 – Modification – *Rubbish and linen chutes* – Automatic sprinkler protection requirements for rubbish and linen chutes are clarified and improved.
- g) 903.3.5.2 – Modification – *Secondary Water supply* – Secondary water supplies must be designed to operate automatically.
- h) 903.1.1, 906.3 – New – *Certification of service personnel* – Personnel who perform maintenance on portable fire extinguisher or alternative fire-extinguishing systems must be certified by the jurisdiction or other approved organization.
- i) 904.3.2 – Modification – *Actuation* – When two or more alternative automatic fire-extinguishing systems are required to protect a hazard, all of the systems must be designed to simultaneously operate.
- j) 905.4 – Modification – *Location of class I standpipe hose connections* – Requirements class I standpipe rooftop connection and at Open Mall buildings were clarified.
- k) 906.1 – Modification - *Where required (portable fire extinguishers)* – With the exception of Group R-2 uses, portable fire extinguishers are required in any occupancy, regardless of whether it is protected by an automatic sprinkler system. R-2 occupancies can eliminate the portable fire extinguishers in many public and common areas if an extinguisher is provided within each dwelling unit.
- l) 907.2.1 – Modification - *Group A Occupancies* – Requirements for a fire alarm system in a building housing two or more Group A occupancies are now based on whether the occupancy requires separation by the IBC.
- m) 907.2.1.2 – New – *Emergency voice/alarm communication captions* – Mass notification fire alarm signals in large stadiums, arenas, and grandstands require captioned messages.
- n) 907.2.3 – Modification – *Group E fire alarm* – An emergency voice/alarm communications system is now required in Group E occupancies with an occupant load of 30 or more.
- o) 907.2.6.1.1 – Modification – *Smoke alarms and smoke detectors* – Fire alarm and detection systems and wireless smoke alarms are now recognized for installation in buildings regulated by the IFC and the IRC.

- p) 907.4.1 – Modification – *Protection of fire alarm control unit* – Fire alarm control units require protection using an approved smoke detector.
  - q) 907.5.2.1.1 – Modification – *Average sound pressure* – The strength of the audible fire alarm notification devices now must now meet a minimum sound pressure.
  - r) 908.7 – New – *Carbon monoxide alarms* – Carbon Monoxide alarms are required in Group R and I occupancies with fuel burning appliances or attached garages in new and existing buildings.
- 8) Chapter 10 – **Means of Egress**
- a) 1004.1.2, Table 104.1.2 – Modification – *Design occupant load – Areas without fixed seating* – An occupant load factor for museums and exhibit galleries has been added. The “assembly” factors that were previously used did not generally provide an occupant load that was reflective of the actual use of the space.
  - b) 1005.1 – Modification – *Means of egress sizing* – The exit width/capacity requirements are arranged in a logical and well-organized layout. Reduce exit width factors have been established for sprinklered buildings with an emergency voice/alarm communication system.
  - c) 1008.1.2 – Clarification - *Door Swing* – Door swing is determined by the entire occupant load.
  - d) 1009, 1010, 202 – Clarification – *Definitions: Exits, stairways, and ramps* – Definition clarification.
  - e) 1011.2 – Addition – *Floor-Level Exit Signs in Group R-1* – Low-level exit signs must be provided in the egress system serving guest rooms in an R-1 occupancy. These additional exit signs are required to be installed if traditional exit signs are required.
  - f) 1021.2 – Modification – *Exits from Stories* – A new section clarifies when a single exit is permitted within or from an individual dwelling unit. A separate revision allows exit to be arranged where they serve a portion of a story instead of requiring that all of the required exit from the story be accessible to all of the occupants.
  - g) 1022.5 – Modification – *Penetrations* – Penetrations of the outside membrane of the fire barrier enclosing an exit stair or ramp are permitted when the penetration is properly protected.
  - h) 1030.2 – Modification – *Reliability* – Requirements for exits reliability, security, or locking devices of egress components, furnishings in exit paths were revised to improve their intent.
- 9) Chapter 11
- a) 1102.1 – Modification – *Intent* – Requirements for applying the retroactive requirements in existing buildings were clarified.
  - b) 1103.8.1 – Modification – *Where required* – Requirements for the installation and maintenance of smoke alarms in Group R-2 occupancies were clarified to address existing buildings.
  - c) 1104.16.5.1 – New – *Examination* – Existing exterior fire escapes require an inspection by a registered design professional or persons acceptable to the fire code official no more than every 5 years.
- 10) Chapter 21 – **Dry Cleaning**

- a) 2108.2 – Modification – *Automatic sprinkler system* – A new exemption allows dry cleaning plants using Class III-A or Class III-B combustible liquids in nonsprinklered buildings.
- 11) Chapter 23 – **Motor Fuel-Dispensing facilities and Repair Garages**
- a) 2305.1 – Modification – *Tank-filling operations for Class I, II, or III Liquids* – Class III-B combustible liquids that are dispensed as a motor vehicle fuel are subject to the chapter 23 Aboveground Storage Tank (AST) selection and equipment siting requirements.
  - b) 2305.2.2 – Modification – *Repairs and Service* – Subjective code text concerning the maintenance of fuel containment and dispensing systems was deleted.
  - c) 2311.7.2.1 – Modification – *System Design* – Gas detectors and their associated control units must be listed or approved when they are installed in vehicle repair garages or Group H-4 occupancies storing or using toxic or highly toxic gases.
- 12) Chapter 27 – **Semiconductor Fabrication Facilities**
- a) 2703.10.1.2 – Modification – *Combustible tools* – Combustible semiconductor tools such as wet benches no longer require an automatic fire-extinguishing system when they are constructed of listed polymeric materials.
  - b) 2703.16 – New – *Sub-atmospheric-pressure gas systems* – Sub-atmospheric gas systems installed and operated in accordance with NFPA 318 are permitted in semiconductor fabrication facilities.
  - c) 2705.3.1 – Modification – *Corridors and exit enclosure* – Service corridors are not required when the amount of hazardous production material being transported is less than the maximum allowable quantity per control area.
- 13) Chapter 32 – **High-Piled Combustible Storage**
- a) 3208.3.1 – New – *Flue space protection* – The installation of approved devices designed to protect flue spaces from obstructions can be prescribed by the fire code.
- 14) Chapter 50 – **Hazardous Materials General Provisions**
- a) 5003.1.1(1) – Modification – *Maximum allowable quantity per Control Area* – The IFC and IBC provisions for combustible dusts will require the permit applicant to provide the code official with a technical report and opinion that assesses the hazards of the dust and process.
  - b) 5003.12 – Modification – *Outdoor Control Areas* – Outdoor storage and use of hazardous materials can now be placed adjacent to exposures when they are isolated by a 2-hour fire resistive line-of-sight barrier and the MAQ is not exceeded.
- 15) Chapter 57 – **Flammable and Combustible Liquids**
- a) 5704.2.7.4 – New – *Emergency Venting* – The emergency vent installed on protected aboveground storage tanks located indoors no longer needs to be terminated outdoors when the tank contains Class II or Class III-A liquids.
  - b) 5705.5 – Modification – *Alcohol-Based Hand Rubs Classified as Class I or II Liquids* – Requirements for touch free alcohol-based hand rubs have been included in the IFC.
- 16) Chapter 61 – **Liquefied Petroleum Gases**
- a) 6104.3.1 – New – *Installation on Roof Prohibited* – A stationary LP-Gas installation on the roof of a building is not allowed.

- b) 6109.15 – New – *LP-Gas Cylinder Exchange for Resale* – New requirements regulate the design, operate, and maintenance of automated cylinder exchange stations and the LP-Gas exchange cabinets that are accessible to the public.

17) Appendices

- a) D105.1 – Modification – *Where Required* – Measurements of building height for aerial apparatus access roadways are based on the grade plane.

## **Construction Board of Adjustments and Appeals**

### **Staff Report**

**Item:** Public hearing, presentation, possible action, and discussion and on a recommendation to City Council concerning the adoption of the 2012 International Building Code (IBC) and related amendments.

**Item Background:** The City of College Station currently uses the 2009 edition of the International Codes, including the IBC. The International Code Council issues new code editions every three years. The 2012 I-Codes have been published and are available for adoption by governmental entities. Staff will present an overview of changes included in the 2012 IBC and recommended code amendments.

**Staff Recommendation:** Staff recommends approving a recommendation that the 2012 IBC and related amendments be forwarded to City Council for adoption.

**Attachments:** 2012 IBC (Overview of Changes)  
Proposed Amendments to the 2012 IBC

## **2012 International Building Code Overview of Changes**

The scope of the International Building Code (IBC) applies to the construction, alteration, movement, enlargement, replacement, repair, use and occupancy, location, maintenance, and removal or demolition of buildings and structures. The IBC establishes the minimum requirements to safeguard the public health, safety and general welfare through structural strength, proper exits, and sanitation. The IBC is also designed to provide safety for firefighters and emergency responders from fire and other hazards associated with the buildings environment.

The 2012 IBC continues to establish minimum regulations for building systems using prescriptive and performance-related provisions. The code changes in this cycle result in technical consistency with the other *International Codes*.

### **New in the 2012 Edition**

308.2 Definitions (A number of definitions related to care facilities have been added and some existing definitions have been revised to provide clarity and consistency in application.)

308.4 Institutional Group I-2 (A Group I-2 occupancy classification is now only applicable to those medical facilities where six or more individuals incapable of self-preservation are receiving care.)

403.6.1 Fire service access elevator (The minimum number of fire service access elevators required in applicable high-rise buildings has been increased from one to two where multiple elevators are provided in the building.)

406.5.2.1 Openings below grade (A clear horizontal space, whose minimum distance based on the depth of the open parking garage's exterior wall openings, must now be provided adjacent to any such openings located below grade.)

422 Ambulatory Care Facilities (In a multi-tenant or mixed-occupancy building where there are uses present other than an ambulatory care facility, a fire partition is now required between the care facility and those nonrelated spaces where the ambulatory care facility is intended to have at least four care recipients incapable of self-preservation at any one time.)

509 Incidental Uses (The concept of incidental uses has been clarified by eliminating the previous relationship with the mixed-occupancy provisions.)

602 Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance (Nonbearing exterior walls that are permitted to have unlimited unprotected opening based on Table 705.8 are no longer required to have a fire-resistance rating due to fire separation distance.)

706.2 Structural stability (In order to satisfy the intended objective of structural stability, the use of a double fire wall complying with NFPA 221 is now permitted as an alternative to a single fire wall.)

716.3 Marking Fire-Rated Glazing Assemblies (The allowance for the use of wired glass without compliance with the appropriate test standards has been deleted.)

903.2.2 Ambulatory care facilities (Automatic sprinkler requirements for Group B ambulatory care facilities are now regulated on a floor-by-floor basis.)

903.2.11.2 Rubbish and linen chutes (Automatic sprinkler protection requirements for rubbish and linen chutes have been clarified for consistency of application.)

905.4 Location of Class I standpipe hose connections (Requirements for roof hose connections on Class I standpipes have been clarified.)

906.1 Where required (Portable fire extinguishers are no longer required in many public and common areas of Group R-2 occupancies provided a complying extinguisher is provided within each individual dwelling unit.)

907.2.1 Group A (Requirements for a fire alarm system in a building housing two or more Group A occupancies are now based on whether or not the occupancies are in separate fire areas.)

907.2.1.2 Emergency voice/alarm communication captions (Mass notification fire alarm signals in large stadiums, arenas, and grandstands now require captioned messages.)

907.2.3 Group E (An emergency voice/alarm communications system is now required in Group E occupancies with an occupant load of 30 or more.)

907.2.11.3 Interconnection (The smoke alarm interconnection requirements are now applicable to Group I-1 occupancies and include allowances for use of wireless alarms.)

908.7 Carbon monoxide alarms (In new and existing buildings, carbon monoxide (CO) alarms are now required in Group R and I occupancies with fuel burning appliances or attached garages.)

1001.4 Fire safety and evacuation plans (A reference is now provided to the IFC provisions addressing emergency planning, procedures, and training programs in order to have consistent requirements for the development of evacuation plans.)

1005 Means of Egress Sizing (Reduced exit width factors have been established for sprinklered buildings provided with an emergency voice/alarm communication systems, and the exit width/capacity requirements are now presented in a more logical and organized layout.)

1007.3 Accessible Stairways and 1007.7 Exterior area for assisted rescue (Exterior areas for assisted rescue can now be provided on stories above the level of exit discharge. In addition, open interior exit access stairways are now recognized as accessible means of egress components.)

1009 Stairways and 1010 Ramps (Revisions have been made throughout the code to coordinate the provisions for unenclosed interior stairways and ramps that can be used as a portion of the means of egress.)

1011.2 Floor-level exit signs in Group R-1 (Where general-use exit signs are required in Group R-1 occupancies, low-level exit signs must also be provided in the means of egress serving the guest rooms.)

1013.8 Window Sills (The guard requirements for operable windows having a sill height more than 72 inches above the finished grade have been relocated from Chapter 14 to the general guard provisions of Chapter 10 and the minimum window sill height at which a guard is not required has been increased from 24 inches to 36 inches.)

2406.4 Hazardous locations (The hazardous locations identified in the safety glazing provisions have been reorganized and clarified in order to provide better consistency between the IBC and IRC.)

## **APPENDIX 1 INTERNATIONAL BUILDING CODE ADOPTED**

A booklet entitled 'International Building Code 2012 Edition' as amended and as hereafter may be amended, at least one (1) copy of which is on file in the office of the Building Official of the City of College Station, Texas, is hereby adopted and designated as the Building Code of the City of College Station, Texas.

### **AMENDMENTS TO INTERNATIONAL BUILDING CODE**

**Note: An asterisk at the beginning of a section identifies a new amendment with the 2012 code edition.**

A. The above referenced International Building Code is hereby amended as follows:

1. Section 105 (Permits) is amended by adding Section 105.1.3 to read as follows:

#### **105.1.3 Registration of Contractors.**

It shall be the duty of every individual who makes contracts to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, and every individual making such contracts and subletting the same or any part thereof, to first register with the Building Official, giving full name, residence, name and place of business, and in case of removal from one place to another to have made corresponding change to the Building Official.

**Exception:** Homeowner permits as provided per local amendment by added Section R105.2.4, International Residential Code.

Plumbing Contractors - Plumbing contractors shall be licensed as prescribed by the State of Texas and shall register their license with the City of College Station before a plumbing permit is issued by the City.

Air Conditioning, Refrigeration and Heating Contractors - Air Conditioning, Refrigeration and Heating Contractors shall be licensed by the State of Texas and shall register their license with the City of College Station before a mechanical permit is issued by the City.

Licensed Irrigators - Irrigation Contractors shall be licensed Irrigators by the State of Texas shall register their license with the City of College Station before a lawn irrigation permit is issued by the City.

Electrical Contractors - Electrical Contractors shall be licensed by the State shall register their license with the City of College Station before an electrical permit is issued by the City.

Electrical Sign Contractors - Electrical Sign Contractors shall be licensed by the State shall register their license with the City of College Station before a permit is issued.

Before any license is registered with the City, the applicant shall have adequate insurance coverage for general liability as provided for by State law for the respective trade.

(Reason: Requires contractors to be licensed and/or registered by the appropriate State authority. Also requires contractors to register with the City before a permit is issued.)

- \*2. Section 105.2 (work exempt from permit) is amended by deleting item #2 under "Building" and replacing with the following:

“2. Fences of wood, chain link, or similar material, and less than eight feet in height, and walls of brick, stone, concrete, or similar material, and less than six feet in height, shall not be construed to be a structure, nor shall they require a building permit.

(Reason: To match existing requirements in the Unified Development Ordinance.)

3. Section 105.2 (Work exempt from permit) is amended by adding the following under

“Electrical”:

**Replacing Fuses:** No permit shall be required for replacing fuses of like rating.

**Replacing Flush or Snap Switches:** No permit shall be required for replacing flush or snap switches, receptacles, lamp sockets, the installation of lamps, or minor repairs on permanently connected electrical appliances.

**Conveying Signals:** No permit shall be required for the installation, maintenance or alteration of wiring, poles and down guys, apparatus, devices, appliances or equipment for telegraph, telephone, signal service or central station protective service used in conveying signals or intelligence, except where electrical work is done on the primary side of the source of power at a voltage over 50 volts and of more than 500 watts.

**Wiring by Electric Public Service Company:** No permit shall be required for the installation, maintenance or alteration of electric wiring, apparatus devices, appliances or equipment to be installed by an electric public service company for the use of such company in the generation, transmission, distribution, sale or utilization of electrical energy. However, an electric public service company shall not do any wiring on a customer's distribution system, including metering equipment wherever located and transformer vaults in which customer's transformers are located, nor shall any of its employees do any work other than done for said company as hereinbefore provided for by virtue of this exception.

**Temporary Wiring:** No permit shall be required for the installation of temporary wiring, apparatus, devices, appliances or equipment used by a recognized electrical training school or college.

**Railway Crossing Signal Devices:** No permit shall be required for the installation and maintenance of railway crossing signal devices, when such is performed by due authority of the railroad and in accordance with the standards of the American Railroad Association, and in collaboration with and approval of the Department of Public Services of the City of College Station.

**Cellular Transmitting Antennas:** No permit shall be required for the installation, repair or replacement of cellular transmitting antennas.

(Reason: Provides detailed exceptions for electrical work requiring permits.)

4. Section 107.1 (General) is amended to include the following at the end of the section and before the exception: “The design professional shall be an architect or engineer legally registered and in compliance under the laws of Texas and shall affix his official seal to the construction documents for the following:

1. All group A, E and I occupancies.
2. Building and structures three or more stories in height
3. Buildings and structures 5,000 square feet or more in total area

Exception: Group R-3 buildings, regardless of size”

(Reason: Clearly defines the conditions when a design professional is required to prepare construction documents.)

5. Section 109.4 (Work commencing before permit issuance) is amended by deleting the existing text in its entirety and replacing it with the following:

“Any person who commences any work on a building, structure electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to a penalty of 100% of the usual fee in addition to the required permit fees.”

6. Section 109.6 (Refunds) is amended by deleting the existing text in its entirety and replacing it with the following:

“The City Manager or his designee is authorized to establish a refund policy.”

(Reason: A refund policy for permit fees already exists. This amendment also makes the fee refund requirement consistent with the other I-Codes, as amended.)

7. Section 110.3.5 (Lath and gypsum board inspection) is amended by deleting the section in its entirety.

(Reason: Lath or gypsum board inspections are not normally performed in College Station)

8. Section 111.2 (Certificate issued) is amended by deleting items number 4, 5, 7, 10, and 11.

(Reason: Deletes requirements for information that is not provided on a Certificate of Occupancy such as design occupant load, fire sprinkler system info, etc.)

9. Section 113 (Board of Appeals) is amended by deleting the section in its entirety.

(Reason: The City provides for the establishment of the Construction Board of Adjustments and Appeals in Section 1(A), Chapter 3, College Station Code of Ordinances.)

10. Section 116.1 (Conditions) is amended by deleting the sentence, “Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in this section.” and replacing it with the following: “Unsafe structures shall be taken down, removed or made safe as provided for in Section 1 (C), Chapter 3, Code of Ordinances.”

(Reason: Resolves a potential conflict with an existing ordinance.)

- \*11. Section 202 (Definitions) is amended by deleting the Townhouse definition and replacing it with the following:

“**Townhouse.** A single family dwelling unit constructed in a group of attached units separated by property lines in which each unit extend from foundation to roof and with open space on at least two sides.”

(Reason: To make the definition consistent with the International Residential Code definition for townhouse.)

12. Section 303.1 (Assembly Group A) is amended by adding “tutorial services” under A-3.

(Reason: Tutorial services often possess qualities that make them similar to assembly uses and this change allows them to be treated as such.)

- \*13. Section 501.2 (Address identification) is amended by deleting the existing text in its entirety and replacing it with the following:

“**501.2 Address identification.** An official address, assigned by the Building Official or his designee, shall be provided and placed pursuant to this section in such a position as to be clearly visible from the public street or roadway fronting the property. Addresses placed pursuant to this section shall be a minimum four (4) inches in height and stroke of minimum one-half (1/2) inch, composed of a durable material and of a color that provides a contrast to the background itself. The official address shall be placed a minimum of thirty-six (36) inches and a maximum of thirty (30) feet in height measured from the

ground level. Buildings or structures located more than fifty (50) feet from the street curb shall have an official address at least five (5) inches in height. Durable materials used for the official address shall include, but not be limited to, wood, plastic, metal, weather resistant paint, weather resistant vinyl, or weather resistant material designed for outside use on a glass surface. For single family residences, the requirement of this section may be met by providing a minimum of two (2) inch high numbers on both sides of a U. S. mailbox located near the curb in front of the house, or a freestanding structure with numbers at least four (4) inches in height.

A building complex composed of multiple structures or dwellings shall have an official suite or unit number assigned to each building, suite or tenant as well as a street address number. If there is sufficient street frontage, each building, suite or tenant may also be assigned an official street address number. The official street address number of each structure must be prominently posted on the building so that it is visible from the nearest public street or designated fire lane. Each number designated by the Building Official, or his designee, for each individual suite or unit must be conspicuously posted on each suite or unit.

Commercial buildings with side or rear access in addition to the main entrance, shall also display the business name and official address on each side or rear door with characters at least two (2) inches in height. Residential structures which provide for rear vehicular access from a dedicated public alley, street or designated fire lane shall conspicuously post an official address at least two (2) inches in height so that it is visible from the public alley, street or designated fire lane.

The owner or manager of a building complex, which contains an enclosed shopping mall, shall submit to the Fire Official four (4) copies of diagrams acceptable to the Fire Marshal of the entire complex, indicating the location and number of each business. When a change in a business name or location is made, the owner or manager shall so advise the Fire Marshal in writing of the change.

When required by the Fire Code Official, address numbers shall be provided in additional approved locations to facilitate emergency response.”

(Reason: Provides a detailed standard for premises identification. Helps first responders readily locate addresses in emergency situations.

14. Table 803.9 (Interior Wall And Ceiling Finish Requirements By Occupancy) is amended by deleting the existing text in footnote “d” and replacing it with the following:

“Class A interior finish material shall be required in all areas of all assembly occupancies, whether sprinklered or not, except as provided for in notes e and f below.”

(Reason: Provides an elevated standard for the flame spread requirement of finish materials used in assembly occupancies.)

15. Section 903.1 (General) is amended by adding the following text at the end of said section:

“For the purposes of this section, the term ‘fire area’ shall be replaced with ‘building area’.”

(Reason: The term “building area” requires unsprinklered buildings or structures exceeding area limitations to be divided by fire walls in lieu of fire barriers.)

16. Section 903.2 (Where required) is amended by adding the following text at the end of said section:

“In addition to the requirements of this section, an automatic sprinkler system shall be provided throughout all new buildings and structures as follows:

1. Where the total building area exceeds 12,000 square feet in area.

2. Where the height exceeds two stories, regardless of area.”

(Reason: Provides elevated fire protection requirements for new buildings and structures.)

17. Section 903.2.3 (Group E) is amended by deleting the exception in its entirety.

(Reason: The section, as written, creates a potential conflict with amendment #13.)

18. Section 903.2.4 (Group F-1) is amended by deleting the text in item “2” and “3”.

(Reason: The section, as written, is in conflict with amendment #13.)

19. Section 903.2.7 (Group M) is amended by replacing “three stories above grade” with “two stories above grade” in item “2” and by replacing “24,000 square feet” with “12,000 square feet” in item “3”.

(Reason: The section, as written, is in conflict with amendment #13.)

20. Section 903.2.8 (Group R) is amended by deleting the section in its entirety.

(Reason: Sprinkler system requirements for residential uses are addressed by amendment #14.)

21. Section 903.2.9 (Group S-1) is amended by replacing “three stories above grade” with “two stories above grade” in item “2” and by replacing “24,000 square feet” with “12,000 square feet” in item “3”.

(Reason: The section, as written, is in conflict with amendment #13.)

22. Section 903.3.7 (Fire department connections) is amended by deleting “building official” and replacing it with “fire official”.

(Reason: Gives the Fire Marshal authority concerning FDC’s.)

23. Section 907.5.2.3.2 (Employee work areas) is amended by deleting the existing text in its entirety and replacing it with the following:

“Where a fire alarm and detection system is required, employee work areas shall be provided with devices that provide audible and visible alarm notification.”

(Reason: Provides an elevated standard for fire alarm notification in employee work areas.)

24. Section 1004.2 (Increased occupant load) is amended by deleting the section in its entirety.

(Reason: Removes the option of increasing the occupant load to one person for every 7 square feet of floor space.)

25. Section 1004.3 (Posting of occupant load) is amended by adding the following text to the end of said section:

“For the purposes of this section, the occupant load shall be the number of occupants computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.2.”

(Reason: Provides a reasonable standard for calculating the posted occupant load in assembly uses.)

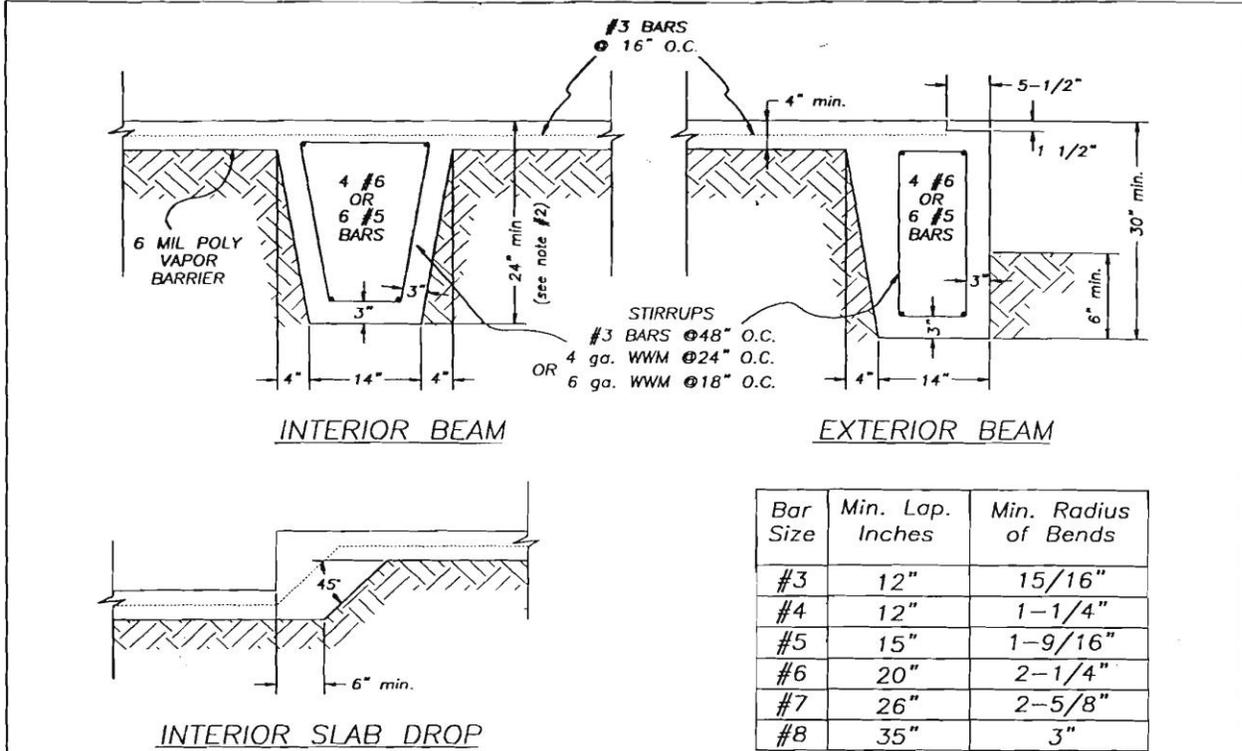
26. Section 1612.3 (Establishment of flood hazard areas) is amended by inserting “Brazos County” for name of jurisdiction and “July 2, 1992 or February 9, 2000” for the date of issuance.

(Reason: References local flood insurance rate maps.)

27. Section 1907 (Minimum slab provisions) is amended by adding Section 1907.2 to read as follows:

**“1907.2 Minimum foundation standard.** All slabs-on-grade with turned-down footings shall comply with the Minimum Foundation Standard as shown in figure 1.”  
 (Reason: Provides an elevated standard for slab-on-grade foundations.)

Figure 1



**GENERAL NOTES:**

1. Exterior beam shall extend a minimum of 6 inches into undisturbed soil or fill which is compacted to 95% Standard Proctor (ASTM D 698) within (±) 2% of optimum moisture content. All fill material shall have a Plasticity Index (P.I.) between 5 and 18.
2. Interior beams that exceed 60 ft. in length must be a min. of 30" deep.
3. Maximum beam spacing shall be 15 feet and shall be continuous over the length or width of the foundation.
4. Steel to be set to clear bare earth minimum 3", wood or steel forms by 1-1/2".
5. Minimum concrete specified compression strength shall be 3000 psi @ 28 days.
6. Masonry fireplace footings shall be a minimum of 30" deep with 2 mats of #5's @ 12" O.C. both ways.
7. These minimum standards shall apply to all foundations.  
 Exceptions:  
 A. Foundations for temporary buildings and permanent buildings not exceeding one story in height and 400 square feet in area.  
 B. Foundations designed by an Architect registered in the State of Texas or a civil/structural Engineer registered in the State of Texas and approved for use by the Building Official.
8. All foundations designed by an Architect or Engineer shall be installed as designed. Revisions and exceptions must be submitted in writing by the Architect or Engineer and approved by the Building Official.
9. Reinforcing steel shall be grade 60 (grade 40 allowed for stirrups only). All deformations shall meet ASTM A615.

REV.	DESCRIPTION	DATE	CITY OF COLLEGE STATION BUILDING DIVISION		
			MINIMUM FOUNDATION STANDARDS		
			SIZE A	PREPARED 9/98	SHEET 1 OF 1

## **Construction Board of Adjustments and Appeals**

### **Staff Report**

**Item:** Presentation, public hearing, discussion and possible action on a recommendation to City Council concerning the adoption of the 2012 International Residential Code (IRC) and related amendments.

**Item Background:** The City of College Station currently uses the 2009 edition of the International Codes, including the IRC. The International Code Council issues new code editions every three years. The 2012 I-Codes have been published and are available for adoption by governmental entities. Staff will present an overview of changes included in the 2012 IRC and recommended code amendments.

**Staff Recommendation:** Staff recommends approving a recommendation that the 2012 IRC and related amendments be forwarded to City Council for adoption.

**Attachments:** 2012 IRC (Overview of Changes)  
Proposed Amendments to the 2012 IRC

## **2012 International Residential Code Overview of Changes**

The *International Residential Code* (IRC) is a stand alone code that regulates the construction of detached one-and-two family dwellings and townhouses not more than three stories in height. There have been significant changes made to the IRC since the initial 2000 edition. This overview is intended to highlight many of the changes contained in the 2012 IRC.

### **New In the 2012 Edition**

R302.5.1 – Garage Opening Protection (Doors between the garage and dwelling until now require self-closing devices.)

R303.5 and P3103.5 – Ventilation Intake Openings (The minimum vertical clearance between a contaminant source and an outdoor air intake below has increased from 2 feet to 3 feet.)

R308.4.6 – Glazing Adjacent Stairs and Ramps (For glazing that is not considered to be in a hazardous location, the rule for the minimum height above a tread at the side of a stairway is now 36 inches to correspond to the height of a guard as previously found in the exception. Other revisions to the text clarify the meaning and application of the glazing requirements at stairways.)

R308.4.7 – Glazing Adjacent to the Bottom Stair Landing (The provisions for glazing installed near the landing at the bottom of a stairway have been revised to clarify the application. The threshold for the minimum height above the walking surface is now 36 inches for determining that the glazing is not a hazardous location.)

R314.5 – Interconnection (The code now specifically recognizes wireless technology in lieu of interconnection for smoke alarms installations in both new and existing dwelling units. The interconnection provisions have been moved out of the sections related to location and power source and places in a new section R314.5.)

R501.3 – Fire Protection on Floors (With some exceptions, the code now requires ½-inch gypsum board or equivalent material to be applied to the underside of floor assemblies in buildings regulated by the IRC.)

R602.1.1 – End-Jointed Lumber (End-jointed lumber used in fire-rated assemblies must have HRA on the grade mark.)

R802.11.1 – Roof Uplift Resistance (The provisions for roof connections to resist wind uplift forces have been updated to current standards and simplified for ease of use. Table R802.11 has been replaced to provide accurate values for both low- and high-slope roofs in Wind Exposure Categories B and C.)

R1005.7 – Factory-Built Chimney Offsets (Factory-built chimney assemblies must be installed vertically with no offsets greater than 30 degrees. No more than four elbows are permitted within entire length of the chimney assembly. )

M1502.4.2 – Duct Installation (The maximum support spacing for dryer exhaust ducts has increased from 4 feet to 12 feet. Dryer exhaust ducts now specifically require mechanical fastening. Screw fasteners are permitted to penetrate the exhaust duct no more than 1/8 inch. The maximum specified length of dryer exhaust duct has been increased from 25 to 35 feet and now matches the corresponding dryer exhaust provisions of the IMC, IFGC, and the IRC fuel-gas provisions. )

M1506 – Exhaust Openings (Minimum clearances between air exhaust terminations and openings into the building have been introduced into the IRC.)

P2801.5 – Required Water Heater Pan (The provisions for safety pans under water heaters have been clarified by prescribing such protection for water heaters with storage tanks only. Tankless water heaters do not require pans. )

## 2012 International Residential Code Proposed Amendments

**Note: An asterisk at the beginning of a section identifies a new amendment with the 2012 code edition.**

- B. The International Residential Code adopted by reference in Section 101.2, 2012 International Building Code, is hereby amended as follows:
1. Section R102.4 (Referenced codes and standards) is amended by adding the following to said section:

“Any reference to the *ICC Electrical Code* shall mean the *National Electrical Code*, as adopted and amended by the City of College Station.”

(Reason: The City of College Station has adopted the *National Electrical Code* to regulate electrical installations.)
  2. Section R105.2 (Work exempt from permit) is amended by deleting number one under “Building” and replacing it with the following:

“1. One detached accessory structure per residential lot, provided the floor area does not exceed 120 square feet and the structure complies with all of the following:

    - a. The accessory structure is not located in a surface drainage easement.
    - b. The accessory structure is not permanently affixed to the ground.
    - c. The accessory structure is located in the rear yard.
    - d. The accessory structure is not provided with utilities (sewer, water, gas or electricity).”

(Reason: this amendment allows a small accessory structure without utilities in the rear yard. Area restriction is consistent with language in the IBC.)
  3. Section R105.2 under Building is amended by deleting the section in its entirety and replacing with the following:

“10. Uncovered decks, patios or other raised floor surfaces located not more than 30 inches above adjacent grade and are not attached to a dwelling.”

(Reason: Guardrail provisions become effective on decks, porches or other raised surfaces that are located more than 30 inches from adjacent grade.)
  4. Section R105.2.4 is added to read as follows:

**“R105.2.4 Homeowner permit.** A property owner may obtain a building permit to perform work on a building owned and occupied by him as his homestead without registering with the City as a contractor. However, work involving the electrical, plumbing and mechanical systems must be permitted and installed by licensed contractors.”

(Reason: Allows a homeowner to obtain a building permit for work on his homestead.)
  5. Section R106.3.1 (Approval of construction documents) is amended by deleting the last sentence in said section.

(Reason: The last sentence requires one set of construction documents be returned to the applicant and kept at the site during construction. It is not consistent with local practice to require two sets of construction documents, returning one set to the applicant, for 1 & 2 family dwellings.)
  6. Section R108.3 (Building permit valuations) is amended by adding the following to said section:

“If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final permit valuation shall be set by the building official.”

(Reason: Gives the building official final authority on permit valuations. This change also makes IRC language consistent with the IBC on this issue.)

7. Section R108.5 (Refunds) is amended by deleting the text in said section and replacing it with the following:

“The City Manager or his designee is authorized to establish a refund policy.”

(Reason: A refund policy for permit fees already exists. This amendment also makes the fee refund requirement consistent with the other I-Codes)

8. Section R112 (Board of Appeals) is amended by deleting the section in its entirety.

(Reason: The City has already provided for the establishment of the Construction Board of Adjustments and Appeals in Section 1(A), Chapter 3, College Station Code of Ordinances.)

9. Section R202 (Definitions) is also amended by adding the following definitions:

**Air Gap, Irrigation System.** A complete physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

**Atmospheric Vacuum Breaker.** An assembly containing an air inlet valve, a check seat, and an air inlet port. The flow of water into the body causes the air inlet valve to close the air inlet port. When the flow of water stops the air inlet valve falls and forms a check against back-siphonage. At the same time it opens the air inlet port allowing air to enter and satisfy the vacuum. Also known as an Atmospheric Vacuum Breaker Back-Siphonage Prevention Assembly.

**Backflow Prevention, Irrigation System.** The mechanical prevention of reverse flow, or back siphonage, of nonpotable water from an irrigation system into the potable water source.

**Backflow Prevention Assembly.** Any assembly used to prevent backflow into a potable water system. The type of assembly used is based on the existing or potential degree of health hazard and backflow condition.

**Completion of Irrigation System Installation.** When the landscape irrigation system has been installed, all minimum standards met, all tests performed, and the irrigator is satisfied that the system is operating correctly.

**Consulting, Irrigation System.** The act of providing advice, guidance, review or recommendations related to landscape irrigation systems.

**Cross-Connection.** An actual or potential connection between a potable water source and an irrigation system that may contain contaminants or pollutants or any source of water that has been treated to a lesser degree in the treatment process.

**Design, Irrigation System.** The act of determining the various elements of a landscape irrigation system that will include, but not be limited to, elements such as collecting site specific information, defining the scope of the project, defining plant watering needs, selecting and laying out emission devices, locating system components, conducting hydraulics calculations, identifying any local regulatory requirements, or scheduling irrigation work at a site. Completion of the various components will result in an irrigation plan.

**Design Pressure, Irrigation System.** The pressure that is required for an emission device to operate properly. Design pressure is calculated by adding the operating pressure necessary at an emission device to the total of all pressure losses accumulated from an emission device to the water source.

**Double Check Valve.** An assembly that is composed of two independently acting, approved check valves, including tightly closed resilient seated shutoff valves attached at

each end of the assembly and fitted with properly located resilient seated test cocks. Also known as a Double Check Valve Backflow Prevention Assembly.

**Emission Device.** Any device that is contained within an irrigation system and that is used to apply water. Common emission devices in an irrigation system include, but are not limited to, spray and rotary sprinkler heads, and drip irrigation emitters.

**Employed, Irrigation Systems.** Engaged or hired to provide consulting services or perform any activity relating to the sale, design, installation, maintenance, alteration, repair, or service to irrigation systems. A person is employed if that person is in an employer-employee relationship as defined by Internal Revenue Code, 26 United States Code Service, §3212(d) based on the behavioral control, financial control, and the type of relationship involved in performing employment related tasks.

**Head-to-Head Spacing, Irrigation System.** The spacing of spray or rotary heads equal to the manufacturer's published radius of the head.

**Health Hazard, Irrigation System.** A cross-connection or potential cross-connection with an irrigation system that involves any substance that may, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects.

**Hydraulics.** The science of dynamic and static water; the mathematical computation of determining pressure losses and pressure requirements of an irrigation system.

**Installer, Irrigation System.** A person who actually connects an irrigation system to a private or public raw or potable water supply system or any water supply, who is licensed according to Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

**Irrigation Inspector.** A person who inspects irrigation systems and performs other enforcement duties for a municipality or water district as an employee or as a contractor and is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

**Irrigation Plan.** A scaled drawing of a landscape irrigation system which lists required information, the scope of the project, and represents the changes made in the installation of the irrigation system.

**Irrigation Services.** Selling, designing, installing, maintaining, altering, repairing, servicing, permitting, providing consulting services regarding, or connecting an irrigation system to a water supply.

**Irrigation System.** An assembly of component parts, including the backflow device and all equipment downstream, that is permanently installed for the controlled distribution and conservation of water to irrigate any type of landscape vegetation in any location, and/or to reduce dust or control erosion. This term does not include a system that is used on or by an agricultural operation as defined by Texas Agricultural Code, §251.002.

**Irrigation Technician.** A person who works under the supervision of a licensed irrigator to install, maintain, alter, repair, service or supervise installation of an irrigation system, including the connection of such system in or to a private or public, raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

**Irrigation Zone.** A subdivision of an irrigation system with a matched precipitation rate based on plant material type (such as turf, shrubs, or trees), microclimate factors (such as sun/shade ratio), topographic features (such as slope) and soil conditions (such as sand, loam, clay, or combination) or for hydrological control.

**Irrigator.** A person who sells, designs, offers consultations regarding, installs, maintains, alters, repairs, services or supervises the installation of an irrigation system, including the connection of such system to a private or public, raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30.

**Irrigator-in-Charge.** The irrigator responsible for all irrigation work performed by an

exempt business owner, including, but not limited to obtaining permits, developing design plans, supervising the work of other irrigators or irrigation technicians, and installing, selling, maintaining, altering, repairing, or servicing a landscape irrigation system.

**Landscape Irrigation.** The science of applying the necessary amount of water to promote or sustain healthy growth of plant material or turf.

**Irrigation License.** An occupational license that is issued by the Texas Commission on Environmental Quality under Title 30, Texas Administrative Code, Chapter 30 to an individual that authorizes the individual to engage in an activity that is covered by Title 30, Texas Administrative Code, Chapter 30.

**Mainline, Irrigation System.** A pipe within an irrigation system that delivers water from the water source to the individual zone valves.

**Maintenance Checklist, Irrigation System.** A document made available to the irrigation system's owner or owner's representative that contains information regarding the operation and maintenance of the irrigation system, including, but not limited to: checking and repairing the irrigation system, setting the automatic controller, checking the rain or moisture sensor, cleaning filters, pruning grass and plants away from irrigation emitters, using and operating the irrigation system, the precipitation rates of each irrigation zone within the system, any water conservation measures currently in effect from the water purveyor, the name of the water purveyor, a suggested seasonal or monthly watering schedule based on current evapotranspiration data for the geographic region, and the minimum water requirements for the plant material in each zone based on the soil type and plant material where the system is installed.

**Major Maintenance, Alteration, Repair, or Service (Irrigation System).** Any activity that involves opening to the atmosphere the irrigation main line at any point prior to the discharge side of any irrigation zone control valve. This includes, but is not limited to, repairing or connecting into a main supply pipe, replacing a zone control valve, or repairing a zone control valve in a manner that opens the system to the atmosphere.

**Master Valve, Irrigation System.** A remote control valve located after the backflow prevention device that controls the flow of water to the irrigation system mainline.

**Matched Precipitation Rate.** The condition in which all sprinkler heads within an irrigation zone apply water at the same rate.

**New Installation, Irrigation System.** An irrigation system installed at a location where one did not previously exist .

**Pass-through Contract.** A written contract between a contractor or builder and a licensed irrigator or exempt business owner to perform part or all of the irrigation services relating to an irrigation system.

**Pressure Vacuum Breaker.** An assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. Also known as a Pressure Vacuum Breaker Back-siphonage Prevention Assembly.

**Reclaimed Water.** Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use, such as landscape irrigation.

**Records of Landscape Irrigation Activities.** The irrigation plans, contracts, warranty information, invoices, copies of permits, and other documents that relate to the installation, maintenance, alteration, repair, or service of a landscape irrigation system.

**Reduced Pressure Principle Backflow Prevention Assembly.** An assembly containing two independently acting approved check valves together with a hydraulically operating mechanically independent pressure differential relief valve located between the two check valves and below the first check valve.

**Static Water Pressure.** The pressure of water when it is not moving.

**Supervision, Landscape Irrigation.** The on-the-job oversight and direction by a licensed irrigator who is fulfilling his or her professional responsibility to the client and/or employer in compliance with local or state requirements. Also a licensed installer working under the direction of a licensed irrigator or an irrigation technician who is working under

the direction of a licensed irrigator to install, maintain, alter, repair or service an irrigation system.

**Water Conservation, Irrigation System.** The design, installation, service, and operation of an irrigation system in a manner that prevents the waste of water, promotes the most efficient use of water, and applies the least amount of water that is required to maintain healthy individual plant material or turf, reduce dust, and control erosion.

**Zone Flow.** A measurement, in gallons per minute or gallons per hour, of the actual flow of water through a zone valve, calculated by individually opening each zone valve and obtaining a valid reading after the pressure has stabilized. For design purposes, the zone flow is the total flow of all nozzles in the zone at a specific pressure.

**Zone Valve, Irrigation System.** An automatic valve that controls a single zone of a landscape irrigation system.

10. Section R302.1 (Exterior walls) is amended by deleting the existing text and replacing it with the following:

**R302.1 Exterior walls.** Exterior walls with a fire separation distance less than 3 feet shall have not less than a one hour fire-resistive rating with exposure from both sides. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

**Exception:** Tool and storage sheds, playhouses and similar structures exempted from permits by Section R105.2 are not required to provide wall protection based on location on the lot.

**Projections.** Projections may extend beyond the exterior wall on zero lot line construction. Projections shall be constructed from non-combustible material on the underside and may allow manufactured perforated soffit material installed for attic ventilation.. The soffit may project a maximum of 18 inches, excluding non-combustible gutters, over the adjacent property line.

**Exception:** Tool and storage sheds, playhouses and similar structures exempted from permits by Section R 105.2 shall not extend over the lot line in zero lot line construction.

**Combustibles in maintenance easement.** The construction of any structure utilizing combustible material or the storage of combustible material is prohibited within the maintenance easement. The term “maintenance easement” is defined in Article 11 of the UDO.

**Exception:** A wood fence may be installed in the maintenance easement.

(Reason: Provides for protected overhangs on “zero lot line” construction.)

11. Section 302.2 (Townhouses) is amended by deleting the exception in the said section:

(Reason: The exception reduced the fire separation between units from 2-hour to 1-hour under the assumption that townhouses would be sprinklered in accordance with a later code section.)

12. Section R302.5 (Separation required) is amended by adding the following exception:

**“Exception:** One unprotected attic access opening, not exceeding 30 inches by 54 inches in size, is allowed per garage.”

13. Section R310.1.1 (Minimum opening area) is amended by deleting the section in its entirety.

(Reason: This change allows an egress opening to simply comply with the minimum opening dimensions - 20” wide X 24” high)

14. Section R311.7.8.2 (Continuity) is amended by deleting the following text in said section:

“Handrail ends shall be returned or shall terminate in newel posts or safety terminals.”

(Reason: It is not consistent with local practice to require handrails to be returned in residential construction.)

15. Section R313 (Automatic Sprinkler Systems) is amended by deleting the section in its entirety.

(Reason: State Law passed stating that municipalities could not require an automatic fire sprinkler system to be installed in one-and-two family dwellings.)

16. Section R318.2 (Chemical termiticide treatment) is amended by adding the following to the end of said section:

“The method of application and contractor hired to apply the chemicals shall submit to the Building Department when applying for the Building Permit, and verification of the application turned in prior to issuance of the Certificate of Occupancy.”

(Reason: This will allow the Building Department to verify that the structure has been treated for termites.)

17. Section R319.1 (Address numbers) is amended by deleting the existing text in its entirety and replacing it with the following:

“Premises identification shall comply with Section 501.2, International Building Code, as amended.”

(Reason: The IBC, as amended, provides a detailed standard for premises identification)

18. Section 322.2.1 (Elevation requirements) is amended by deleting the existing text, save the exception, and replacing it with the following:

“1. Buildings and structures shall have the lowest floors elevated in accordance with the City of College Station Code of Ordinances, Chapter 13 (Flood Hazard Protection) and the City of College Station Drainage Policy and Design Standards (refer to Section II.D).

2. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated above the highest adjacent grade as the depth number specified in feet on the Flood Insurance Rate Maps, or at least 2 feet if a depth number is not specified, plus the additional footage requirements in the City of College Station Code of Ordinances, Chapter 13 (Flood Hazard Protection) and the City of College Station Drainage Policy and Design Standards (refer to Section II.D).

3. Basement floors that are below grade on all sides shall be elevated in accordance with the City of College Station Code of Ordinances, Chapter 13 (Flood Hazard Protection) and the City of College Station Drainage Policy and Design Standards (refer to Section II.D).

(Reason: The revised language eliminates potential conflicts between the IRC and the City’s Floodplain Ordinance.)

19. Section R403.1.3.2 (Slabs-on-ground with turned-down footings) is amended by deleting the existing text and replacing it with the following to read as follows:

“All slabs-on-ground with turned-down footings shall comply with the minimum foundation standard in Section 1910.2, International Building Code.”

(Reason: Section 1907.2, IBC, references the minimum foundation standard specifically developed for use in this area.)

20. Chapter 11 (Energy Efficiency) is amended by deleting this chapter in its entirety and replacing it with the following.

“One-and-two family dwellings shall comply with the 2009 International Energy Conservation Code as amended.”

(Reason: The International Energy Conservation Code and Chapter 11 read the same, and the State Energy Lab recommended amendments to the International Energy Conservation Code. So to keep from amending both parts we deleted Chapter 11.)

21. Section M1411.3 (Condensate disposal) is amended by deleting the existing text and replacing with the following:

“Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to the sanitary sewer system, if available. The condensate drain shall be connected to the sanitary sewer system in a manner approved by the code official.

**Exception:** When a sanitary sewer system is not available on the premises, or connection thereto is not practical, the condensate shall discharge into an approved french drain.”

(Reason: This amendment provides more specific requirements for the method of condensate disposal.)

22. Section M1501.1 (Outdoor discharge) is amended by deleting the last sentence in said section.

(Reason: It is common local practice to run the exhaust vents to the soffit and ridge vent to eliminate another roof penetration.)

23. Section M1507.2 (Recirculation of air) is amended by deleting the last sentence in said section, and replacing it with the following:

“Exhaust air from bathrooms and toilet rooms shall discharge directly to the outdoors or the vent termination shall be unobstructed and within 6 inches of the soffit vent or ridge vent.”

(Reason: This amendment provides specific requirements if the exhaust air is to discharge in the attic, and will remain consistent with common local practice.)

24. Section G2408.3 (Private garages) is amended by deleting the section in its entirety.

(Reason: It is not consistent with local practice to require appliances located in private garages to be installed 6 feet above the floor.)

25. Section G2414.5.2 (Copper tubing) is amended by deleting said section in its entirety.

(Reason: Gas may have a corrosive effect on copper pipe and tubing.)

26. Section G2417.1.2 (Repairs and additions) is amended by deleting the existing text in its entirety and replacing it with the following:

“In the event repairs or additions are made after the pressure test, the affected piping shall be tested. If approved by the code official, minor repairs and additions are not required to be pressure tested provided the work is inspected and connections are tested with a noncorrosive leak-detecting fluid or other leak detecting methods.”

(Reason: As written, the code would allow gas pipe repairs and additions to be tested with a soap solution. This amendment provides the code official with the discretion to require a pressure test if deemed appropriate. This amendment is also consistent with a similar amendment to the IFGC.)

27. Section G2417.4 (Test pressure measurement) is amended by deleting the existing text in its entirety and replacing it with the following:

“Test pressure measurement shall comply with Section 406.4, 2006 International Fuel Gas Code, as amended.”

(Reason: This amendment provides for the use of the more accurate diaphragm gauge for gas tests on systems operating at 5 psi or less.)

28. Section G2417.4.1 (Test pressure) is amended by deleting the existing text in its entirety and replacing it with the following:

“Test pressure shall comply with Section 406.4, 2009 International Fuel Gas Code, as amended.”

(Reason: This amendment provides for an elevated standard for gas pressure tests. It is also consistent with pressure test amendments from previous code editions.)

29. Section P2503.8 (Inspection and testing of backflow prevention devices) is amended by deleting the section in its entirety and replacing with the following:

“Inspection and testing of backflow prevention devices shall comply with Section 312.10, 2012 International Plumbing Code, as amended.”

(Reason: Consistent with City Council’s direction concerning backflow prevention devices.)

30. P2803.6.1 (Requirements for discharge pipe) is amended by deleting number five and replacing it with the following:

“Discharge to an indirect waste receptor or to the outdoors.”

(Reason: This removes the language that allows the discharge pipe to terminate to the pan serving the water heater.)

31. Section P2902.5.3 (Lawn irrigation systems) is amended by deleting the existing text in its entirety and replacing it with the following:

“P2902.5.3 Lawn Irrigation Systems

P2902.5.3.1 Valid License Required. Any person who connects an irrigation system to the water supply within the city or the city’s extraterritorial jurisdiction, commonly referred to as the ETJ, must hold a valid license, as defined by Title 30, Texas Administrative Code, Chapter 30 and required by Chapter 1903 of the Texas Occupations Code, or as defined by Chapter 365, Title 22 of the Texas Administrative Code and required by Chapter 1301 of the Texas Occupations Code.

Exception: A property owner is not required to be licensed in accordance with Texas Occupations Code, Title 12, §1903.002(c)(1) if he or she is performing irrigation work in a

building or on a premises owned or occupied by the person as the person's home. A home or property owner who installs an irrigation system must meet the standards contained in Title 30, Texas Administrative Code, Chapter 344 regarding spacing, water pressure, spraying water over impervious materials, rain or moisture shut-off devices or other technology, backflow prevention and isolation valves. See Texas Occupations Code §1903.002 for other exemptions to the licensing requirement.

P2902.5.3.2 Permit Required. Any person installing an irrigation system within the territorial limits or extraterritorial jurisdiction of the city is required to obtain a permit from the city prior to beginning work on the irrigation system. A completed irrigation permit application and irrigation plan must be submitted to the city and approved before a permit will be issued by the city. The irrigation plan must be in compliance with the requirements of this section.

Exceptions:

- (1) An irrigation system that is an on-site sewage disposal system, as defined by Section 366.002, Health and Safety Code; or
- (2) An irrigation system used on or by an agricultural operation as defined by Section 251.002, Agriculture Code; or
- (3) An irrigation system connected to a groundwater well used by a property owner strictly for domestic use.

P2902.5.3.3 Backflow Prevention Methods and Devices. Any irrigation system that is connected to the potable water supply must be connected through a backflow prevention method approved by the Texas Commission on Environmental Quality (TCEQ). The backflow prevention device must be approved by the Foundation for Cross-Connection Control and Hydraulic Research, the University of Southern California, the International Plumbing Code, or any other laboratory that has equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies. The backflow prevention device must be installed in accordance with the laboratory approval standards or if the approval does not include specific installation information, the manufacturer's current published recommendations. If conditions that present a health hazard exist, one of the following methods must be used to prevent backflow;

- (1) An air gap may be used if:
  - (a) there is an unobstructed physical separation; and
  - (b) the distance from the lowest point of the water supply outlet to the flood rim of the fixture or assembly into which the outlet discharges is at least one inch or twice the diameter of the water supply outlet, whichever is greater.
- (2) Reduced pressure principle backflow prevention assemblies may be used if:
  - (a) the device is installed at a minimum of 12 inches above ground in a location that will ensure that the assembly will not be submerged; and
  - (b) drainage is provided for any water that may be discharged through the assembly relief valve.
- (3) Atmospheric vacuum breakers may only be used as replacements on existing systems utilizing atmospheric vacuum breakers if:
  - (a) no back-pressure will be present;
  - (b) there are no shutoff valves downstream from the atmospheric vacuum breaker;
  - (c) the device is installed at a minimum of six inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler;
  - (d) there is no continuous pressure on the supply side of the atmospheric vacuum breaker for more than 12 hours in any 24-hour period; and
  - (e) a separate atmospheric vacuum breaker is installed on the discharge side of each irrigation control valve, between the valve and all the emission devices that the valve controls.
- (4) Pressure vacuum breakers may be used if:

- (a) no back-pressure condition will occur; and
- (b) the device is installed at a minimum of 12 inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler.

All backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter.

If there are no conditions that present a health hazard, double check valve backflow prevention assemblies may be used to prevent backflow if the device is tested upon installation and test cocks are used for testing only. A double check valve may be installed below ground if:

- (a) the double check valve assembly is installed in a vault or other approved enclosure that which is constructed of a durable material. The vault or enclosure shall either be of solid (waterproof) construction with an integral bottom or bottomless to facilitate drainage. If the vault or enclosure is bottomless, a minimum of four (4) inches of washed gravel shall be installed below the assembly. The washed gravel shall have a diameter of between 3/8 inch and 3/4 inch (inclusive);
- (b) the test cocks are plugged with a non-ferrous material (brass, plastic, etc.) except when the double check valve is being tested;
- (c) the test cock plugs are threaded, water-tight, and made of non-ferrous material;
- (d) a y-type strainer is installed on the inlet side of the double check valve;
- (e) a minimum clearance of three (3) inches is provided between any fill material and the bottom of the double check valve to allow space for testing and repair; and
- (f) a minimum clearance of four (4) inches is provided on the sides of the double check valve to test and repair the double check valve.

If an existing irrigation system without a backflow-prevention assembly requires major maintenance, alteration, repair, or service, the system must be connected to the potable water supply through an approved, properly installed backflow prevention method before any major maintenance, alteration, repair, or service is performed.

If an irrigation system is connected to a potable water supply through a double check valve, pressure vacuum breaker, or reduced pressure principle backflow assembly and includes an automatic master valve on the system, the automatic master valve must be installed on the discharge side of the backflow prevention assembly.

The irrigator shall ensure the backflow prevention device is tested by a licensed Backflow Prevention Assembly Tester prior to being placed in service. The tester must be registered with the City of College Station and the test results must be provided to the local water purveyor and the irrigation system's owner or owner's representative within ten business days of testing of the backflow prevention device.

**P2902.5.3.4 Specific Conditions and Cross-Connection Control.** Before any chemical is added to an irrigation system connected to the potable water supply, the irrigation system must be connected through a reduced pressure principle backflow prevention assembly or air gap.

Connection of any additional water source to an irrigation system that is connected to the potable water supply can only be done if the irrigation system is connected to the potable water supply through a reduced-pressure principle backflow prevention assembly or an air gap.

Irrigation system components with chemical additives induced by aspiration, injection, or emission system connected to any potable water supply must be connected through a reduced pressure principle backflow device.

If an irrigation system is designed or installed on a property that is served by an on-site sewage facility, as defined in Title 30, Texas Administrative Code, Chapter 285, then:

- (1) all irrigation piping and valves must meet the separation distances from the On-Site Sewage Facilities system as required for a private water line in Title 30, Texas Administrative Code, Section 285.91(10);
- (2) any connections using a private or public potable water source that is not the city's

potable water system must be connected to the water source through a reduced pressure principle backflow prevention assembly as defined in Title 30, Texas Administrative Code, Section 344.50; and

(3) any water from the irrigation system that is applied to the surface of the area utilized by the On-Site Sewage Facility system must be controlled on a separate irrigation zone or zones so as to allow complete control of any irrigation to that area so that there will not be excess water that would prevent the On-Site Sewage Facilities system from operating effectively.

P2902.5.3.5 Water Conservation. All irrigation systems shall be designed, installed, maintained, altered, repaired, serviced, and operated in a manner that will promote water conservation as defined in the Definitions section of this ordinance.

P2902.5.3.6 Irrigation Plan Design. An irrigator shall prepare an irrigation plan for each site where a new irrigation system will be installed. A paper or electronic copy of the irrigation plan must be on the job site at all times during the installation of the irrigation system. A drawing showing the actual installation of the system is due to each irrigation system owner after all new irrigation system installations. During the installation of the irrigation system, variances from the original plan may be authorized by the licensed irrigator if the variance from the plan does not:

- (1) diminish the operational integrity of the irrigation system;
- (2) violate any requirements of this ordinance; and
- (3) go unnoted in red on the irrigation plan.

The irrigation plan must include complete coverage of the area to be irrigated. If a system does not provide complete coverage of the area to be irrigated, it must be noted on the irrigation plan.

All irrigation plans used for construction must be drawn to scale. The plan must include, at a minimum, the following information:

- (1) the irrigator's seal, signature, and date of signing;
- (2) all major physical features and the boundaries of the areas to be watered;
- (3) a North arrow;
- (4) a legend;
- (5) the zone flow measurement for each zone;
- (6) location and type of each:
  - (a) controller; and
  - (b) sensor (for example, but not limited to, rain, moisture, wind, flow, or freeze);
- (7) location, type, and size of each:
  - (a) water source, such as, but not limited to a water meter and point(s) of connection;
  - (b) backflow prevention device;
  - (c) water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip, or micro-sprays;
  - (d) valve, including but not limited to, zone valves, master valves, and isolation valves;
  - (e) pressure regulation component; and
  - (f) main line and lateral piping.
- (8) the scale used; and
- (9) the design pressure.

P2902.5.3.7 Design and Installation. No irrigation design or installation shall require the use of any component, including the water meter, in a way which exceeds the manufacturer's published performance limitations for the component.

P2902.5.3.7.1 Spacing. The maximum spacing between emission devices must not exceed the manufacturer's published radius or spacing of the device(s). The radius or spacing is

determined by referring to the manufacturer's published specifications for a specific emission device at a specific operating pressure. New irrigation systems shall not utilize above-ground spray emission devices in landscapes that are less than 48 inches not including the impervious surfaces in either length or width and which contain impervious pedestrian or vehicular traffic surfaces along two or more perimeters. If pop-up sprays or rotary sprinkler heads are used in a new irrigation system, the sprinkler heads must direct flow away from any adjacent surface and shall not be installed closer than four inches from a hardscape, such as, but not limited to, a building foundation, fence, concrete, asphalt, pavers, or stones set with mortar.

Exception:

Narrow paved walkways, jogging paths, golf cart paths or other small areas located in cemeteries, parks, golf courses or other public areas if the runoff drains into a landscaped area.

P2902.5.3.7.2 Water Pressure. Emission devices must be installed to operate at the minimum and not above the maximum sprinkler head pressure as published by the manufacturer for the nozzle and head spacing that is used. Methods to achieve the water pressure requirements include, but are not limited to, flow control valves, a pressure regulator, or pressure compensating spray heads.

P2902.5.3.7.3 Piping. Piping in irrigation systems must be designed and installed so that the flow of water in the pipe will not exceed a velocity of five feet per second for polyvinyl chloride (PVC) pipe.

P2902.5.3.7.4 Irrigation Zones. Irrigation systems shall have separate zones based on plant material type, microclimate factors, topographic features, soil conditions, and hydrological requirements.

P2902.5.3.7.5 Matched Precipitation Rate. Zones must be designed and installed so that all of the emission devices in that zone irrigate at the same precipitation rate.

P2902.5.3.7.6 Impervious Surfaces. Irrigation systems shall not spray water over surfaces made of concrete, asphalt, brick, wood, stones set with mortar, or any other impervious material, such as, but not limited to, walls, fences, sidewalks, streets, etc.

P2902.5.3.7.7 Master Valve. When provided, a master valve shall be installed on the discharge side of the backflow prevention device on all new installations.

P2902.5.3.7.8 PVC Pipe Primer Solvent. All new irrigation systems that are installed using PVC pipe and fittings shall be primed with a colored primer prior to applying the PVC cement in accordance with the International Plumbing Code (Section 605).

P2902.5.3.7.9 Rain or Moisture Sensor. All new automatically controlled irrigation systems must include sensors or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall. Rain or moisture shut-off technology must be installed according to the manufacturer's published recommendations. Repairs to existing automatic irrigation systems that require replacement of an existing controller must include a sensor or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall.

P2902.5.3.7.10 Isolation Valve. All new irrigation systems must include an isolation valve between the water meter and the backflow prevention device.

P2902.5.3.7.11 Depth Coverage of Piping. Piping in all irrigation systems must be installed

according to the manufacturer's published specifications for depth coverage of piping. If the manufacturer has not published specifications for depth coverage of piping, the piping must be installed to provide minimum depth coverage of six inches of select backfill, between the top of the pipe and the natural grade of the topsoil. All portions of the irrigation system that fail to meet this standard must be noted on the irrigation plan. If the area being irrigated has rock at a depth of six inches or less, select backfill may be mounded over the pipe. Mounding must be noted on the irrigation plan and discussed with the irrigation system owner or owner's representative to address any safety issues. If a utility, man-made structure or roots create an unavoidable obstacle, which makes the six-inch depth coverage requirement impractical, the piping shall be installed to provide a minimum of two inches of select backfill between the top of the pipe and the natural grade of the topsoil. All trenches and holes created during installation of an irrigation system must be backfilled and compacted to the original grade.

P2902.5.3.7.12 Irrigation System Wiring. Underground electrical wiring used to connect an automatic controller to any electrical component of the irrigation system must be listed by Underwriters Laboratories as acceptable for burial underground. Electrical wiring that connects any electrical components of an irrigation system must be sized according to the manufacturer's recommendation. Electrical wire splices which may be exposed to moisture must be waterproof as certified by the wire splice manufacturer. Underground electrical wiring that connects an automatic controller to any electrical component of the irrigation system must be buried with a minimum of six inches of select backfill.

P2902.5.3.13 Irrigation System Water. Water contained within the piping of an irrigation system is deemed to be non-potable. No drinking or domestic water usage, such as, but not limited to, filling swimming pools or decorative fountains, shall be connected to an irrigation system. If a hose bib (an outdoor water faucet that has hose threads on the spout) is connected to an irrigation system for the purpose of providing supplemental water to an area, the hose bib must be installed using a quick coupler key on a quick coupler installed in a covered purple valve box and the hose bib and any hoses connected to the bib must be labeled "non potable, not safe for drinking." An isolation valve must be installed upstream of a quick coupler connecting a hose bib to an irrigation system.

P2902.5.3.7.14 Licensed Person On Site During Installation. Beginning January 1, 2010, either a licensed irrigator or a licensed irrigation technician shall be on-site at all times while the landscape irrigation system is being installed. When an irrigator is not onsite, the irrigator shall be responsible for ensuring that a licensed irrigation technician is on-site to supervise the installation of the irrigation system.

P2902.5.3.8 Completion of Irrigation System Installation. Upon completion of the irrigation system, the irrigator or irrigation technician who provided supervision for the on-site installation shall be required to complete the following four items:

- (1) a final walk through with the irrigation system's owner or the owner's representative to explain the operation of the system;
- (2) The maintenance checklist on which the irrigator or irrigation technician shall obtain the signature of the irrigation system's owner or owner's representative and shall sign, date, and seal the checklist. If the irrigation system's owner or owner's representative is unwilling or unable to sign the maintenance checklist, the irrigator shall note the time and date of the refusal on the irrigation system's owner or owner's representative's signature line. The irrigation system owner or owner's representative will be given the original maintenance checklist and a duplicate copy of the maintenance checklist shall be maintained by the irrigator.

The items on the maintenance checklist shall include but are not limited to:

- (a) the manufacturer's manual for the automatic controller, if the system is automatic;
- (b) a seasonal (spring, summer, fall, winter) watering schedule based on either

current/real time evapotranspiration or monthly historical reference evapotranspiration (historical ET) data, monthly effective rainfall estimates, plant landscape coefficient factors, and site factors;

(c) a list of components, such as the nozzle, or pump filters, and other such components; that require maintenance and the recommended frequency for the service; and

(d) the statement, "This irrigation system has been installed in accordance with all applicable state and local laws, ordinances, rules, regulations or orders. I have tested the system and determined that it has been installed according to the Irrigation Plan and is properly adjusted for the most efficient application of water at this time."

(3) A permanent sticker which contains the irrigator's name, license number, company name, telephone number and the dates of the warranty period shall be affixed to each automatic controller installed by the irrigator or irrigation technician. If the irrigation system is manual, the sticker shall be affixed to the original maintenance checklist. The information contained on the sticker must be printed with waterproof ink and include:

(4) The irrigation plan indicating the actual installation of the system must be provided to the irrigation system's owner or owner representative.

P2902.5.3.9 Maintenance, Alteration, Repair, or Service of Irrigation Systems. The licensed irrigator is responsible for all work that the irrigator performed during the maintenance, alteration, repair, or service of an irrigation system during the warranty period. The irrigator or business owner is not responsible for the professional negligence of any other irrigator who subsequently conducts any irrigation service on the same irrigation system.

All trenches and holes created during the maintenance, alteration, repair, or service of an irrigation system must be returned to the original grade with compacted select backfill. Colored PVC pipe primer solvent must be used on all pipes and fittings used in the maintenance, alteration, repair, or service of an irrigation system in accordance with the adopted International Plumbing Code (Section 605).

When maintenance, alteration, repair or service of an irrigation system involves excavation work at the water meter or backflow prevention device, an isolation valve shall be installed, if an isolation valve is not present.

P2902.5.3.10 Reclaimed Water. Reclaimed water may be utilized in landscape irrigation systems if:

(1) there is no direct contact with edible crops, unless the crop is pasteurized before consumption;

(2) the irrigation system does not spray water across property lines that do not belong to the irrigation system's owner;

(3) the irrigation system is installed using purple components;

(4) the domestic potable water line is connected using an air gap or a reduced pressure principle backflow prevention device, in accordance with §290.47(i) of this title (relating to Appendices);

(5) a minimum of an eight inch by eight inch sign is prominently posted on/in the area that is being irrigated, that reads, "RECLAIMED WATER – DO NOT DRINK" ; and

(6) backflow prevention on the reclaimed water supply line shall be provided in accordance with the regulations of the city's water provider.

P2902.5.3.11 Advertisement Requirements. All vehicles used in the performance of irrigation installation, maintenance, alteration, repair, or service must display the irrigator's license number in the form of "LI\_\_\_\_\_" in a contrasting color of block letters at least two inches high, on both sides of the vehicle.

All forms of written and electronic advertisements for irrigation services must display the irrigator's license number in the form of "LI\_\_\_\_\_." Any form of advertisement, including business cards, and estimates which displays an entity's or individual's name other than that of the licensed irrigator must also display the name of the licensed

irrigator and the licensed irrigator's license number. Trailers that advertise irrigation services must display the irrigator's license number.

The name, mailing address, and telephone number of the commission must be prominently displayed on a legible sign and displayed in plain view for the purpose of addressing complaints at the permanent structure where irrigation business is primarily conducted and irrigation records are kept.

P2902.5.3.12 Contracts. All contracts to install an irrigation system must be in writing and signed by each party and must specify the irrigator's name, license number, business address, current business telephone numbers, the date that each party signed the agreement, the total agreed price, and must contain the statement, "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's website is: [www.tceq.state.tx.us](http://www.tceq.state.tx.us)."

All contracts must include the irrigator's seal, signature, and date.

All written estimates, proposals, bids, and invoices relating to the installation or repair of an irrigation system(s) must include the irrigator's name, license number, business address, current business telephone number(s), and the statement: "Irrigation in Texas is regulated by the Texas Commission On Environmental Quality (TCEQ) (MC-178), P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's web site is: [www.tceq.state.tx.us](http://www.tceq.state.tx.us)."

An individual who agrees by contract to provide irrigation services as defined in §344.30 of this title (relating to License Required) shall hold an irrigator license issued under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations) unless the contract is a pass-through contract as defined in §344.1(36) of this title (relating to Definitions). If a pass-through contract includes irrigation services, then the irrigation portion of the contract can only be performed by a licensed irrigator. If an irrigator installs a system pursuant to a pass-through contract, the irrigator shall still be responsible for providing the irrigation system's owner or through contract, the irrigator shall still be responsible for providing the irrigation system's owner or owner's representative a copy of the warranty and all other documents required under this chapter. A pass-through contract must identify by name and license number the irrigator that will perform the work and must provide a mechanism for contacting the irrigator for irrigation system warranty work.

The contract must include the dates that the warranty is valid.

P2902.5.3.13 Warranties for Irrigation Systems. On all installations of new irrigation systems, an irrigator shall present the irrigation system's owner or owner's representative with a written warranty covering materials and labor furnished in the new installation of the irrigation system. The irrigator shall be responsible for adhering to terms of the warranty. If the irrigator's warranty is less than the manufacturer's warranty for the system components, then the irrigator shall provide the irrigation system's owner or the owner's representative with applicable information regarding the manufacturer's warranty period. The warranty must include the irrigator's seal, signature, and date. If the warranty is part of an irrigator's contract, a separate warranty document is not required.

An irrigator's written warranty on new irrigation systems must specify the irrigator's name, business address, and business telephone number(s), must contain the signature of the irrigation system's owner or owner's representative confirming receipt of the warranty and must include the statement: "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 130897, Austin, Texas 78711-3087. TCEQ's website is: [www.tceq.state.tx.us](http://www.tceq.state.tx.us)."

On all maintenance, alterations, repairs, or service to existing irrigation systems, an irrigator shall present the irrigation system's owner or owner's representative a written document that identifies the materials furnished in the maintenance, alteration, repair, or service. If a warranty is provided, the irrigator shall abide by the terms. The warranty document must include the irrigator's name and business contact information.

P2902.5.3.14 Duties and Responsibilities of City Irrigation Inspectors. A licensed irrigation inspector or plumbing inspector shall enforce the ordinance of the city, and shall be responsible for:

- (1) verifying that the appropriate permits have been obtained for an irrigation system and that the irrigator and installer or irrigation technician, if applicable, are licensed;
- (2) inspecting the irrigation system;
- (3) determining that the irrigation system complies with the requirements of this section;
- (4) determining that the appropriate backflow prevention device was installed and tested;
- (5) investigating complaints related to irrigation system installation, maintenance, alteration, repairs, or service of an irrigation system and advertisement of irrigation services; and
- (6) maintaining inspection records according to this section.”

32. Table P2905.4 (Water service pipe) is amended by deleting the following materials:

“Acrylonitrile butadiene styrene (ABS) plastic pipe  
Asbestos-cement pipe  
Polybutylene (PB) plastic pipe and tubing  
Polyethylene (PE) plastic pipe  
Polyethylene (PE) plastic tubing  
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe

(Reason: The piping materials listed above are not commonly used in this area. Furthermore, College Station has relatively high water pressure demanding the best water service piping material. This amendment is also consistent with the Plumbing Code)

33. Table P2905.5 (Water distribution pipe) is amended by deleting the following materials:

“Polybutylene (PB) plastic pipe and tubing  
Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe”

(Reason: The piping materials listed above are not commonly used in this area. Furthermore, College Station has relatively high water pressure, demanding the best water distribution piping material. This amendment is also consistent with the Plumbing Code)

34. Section P2905.5 (Water-distribution pipe.) is amended by adding the following text to the end of the section:

“Inaccessible water distribution piping under slabs shall be copper (minimum type K), cross-linked polyethylene (PEX) tubing, or cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe, all installed without joints or connections. Materials subject to corrosion shall be protected when exposed to concrete or corrosive soils.”

(Reason: This amendment provides an elevated standard for water distribution piping installed under concrete slabs. It is also consistent with the International Plumbing Code.)

35. Section 2905.9.1.4.3 (Sleeved cross-linked polyethylene piping or tubing) is amended by adding the following section:

Sleeved cross-linked polyethylene piping or tubing. “When a sleeve is provided for cross-linked polyethylene (PEX) plastic piping or tubing installed under concrete slabs the annular space between the piping or tubing and the sleeve must be caulked, foamed, or otherwise sealed to prevent the entrance of termiticide.”

(Reason: This amendment provides added protection from liquid chemical termiticides that may enter the void between the sleeve and piping/tubing.)

36. Section P3002.2. (Building sewer) is amended by adding P3002.2.1 to read as follows:

**“P3002.2.1 Depth of building sewer.** Building sewer pipe shall be installed with a minimum of twelve (12) inches of cover. Where conditions prohibit the required amount of cover, cast iron pipe with approved joints may be used unless other means of protecting the pipe is provided as approved by the Building Official.”

(Reason: When field conditions do not allow at least 12 inches of ground cover over a sewer line, cast iron pipe provides an equivalent level of protection. This amendment is also consistent with provisions in the International Plumbing Code.)

37. Section E3401.1 (applicability) is amended by deleting the section in its entirety and replacing with the following:

“Electrical installations shall comply with the *National Electrical Code*, as adopted and amended by the City of College Station.”

(Reason: The City has adopted the *National Electrical Code* to regulate electrical installations. This amendment also makes the IRC consistent with state law.)

38. Appendix G (Swimming Pools, Spas And Hot Tubs) is hereby adopted

## **Construction Board of Adjustments and Appeals**

### **Staff Report**

**Item:** Presentation, public hearing, discussion and possible action on a recommendation to City Council concerning the adoption of the 2012 International Energy Conservation Code (IECC) and related amendments

**Item Background:** The City of College Station currently uses the 2009 edition of the International Codes, including the IECC. The International Code Council issues new code editions every three years. The 2012 I-Codes have been published and are available for adoption by governmental entities. Staff will present an overview of changes included in the 2012 IECC and recommended code amendments.

**Staff Recommendation:** Staff recommends approving a recommendation that the 2012 IECC and related amendments be forwarded to City Council for adoption.

**Attachments:** 2012 IECC (Overview of Changes)  
Proposed Amendments to the 2012 IECC

## **2012 International Energy Conservation Code Overview of Changes**

The International Energy Conservation Code (IECC) establishes regulations for the design of energy-efficient residential and commercial buildings and structures, as well as portions of factory and industrial occupancies designed for human comfort.

The State of Texas is divided into climate zones which are used in determining applicable requirements for residential and commercial energy efficiency. Insulation, window and skylight requirements for the thermal envelope for both residential and commercial buildings are based on the climate zones. The performance criteria for compliance with residential energy efficiency requirements using simulated energy analysis are also addressed.

### **New in the 2012 Edition**

**C402.4.4 Doors and access openings to shafts, chutes, stairways, and elevator lobbies.** Doors and access openings from conditional space to shafts, chutes, stairways and elevator lobbies shall be gasketed, weatherstripped or sealed.

**C402.4.5 Air intakes, exhaust openings, stairways and shafts.** Stairway enclosures and elevator shaft vents and other outdoor intake and exhaust openings integral to the building envelope shall be provided with dampers in accordance with Sections C402.4.5.1 and C402.4.5.2.

**C402.4.5.2 Outdoor air intakes and exhausts.** *Outdoor air* supply and exhaust openings shall be provided with Class IA motorized dampers with a maximum leakage rate of 4 cfm.ft<sup>2</sup> (20.3 L/s \* m<sup>2</sup>) at 1.0 inch water gauge (w.g.) (249 Pa) when tested in accordance with AMCA 500D.

**C403.2.4.3.3 Automatic start capabilities.** Automatic start controls shall be provided for each HVAC system. The controls shall be capable of automatically adjusting the daily start time of the HVAC system in order to bring each space to the desired occupied temperature immediately prior to scheduled occupancy.

**C404.7.3 Covers.** Heated pools and inground permanently installed spas shall be provided with a vapor-retardant cover.

**C405.2.2.2 Occupancy sensors.** Occupancy sensors shall be installed in all classrooms, conference/meeting rooms, employee lunch and break rooms, private offices, restrooms, storage rooms, and janitorial closets, and other spaces 300 square feet (28 m<sup>2</sup>) or less enclosed by floor-to-ceiling height partitions. These automatic control devices shall be installed to automatically turn off lights within 30 minutes of all occupants leaving the space, and shall either be manual on or shall be controlled to automatically turn the lighting on to more than 50 percent power.

**TABLE R402.1.1  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT\***

CLIMATE ZONE	FENESTRATION U-FACTOR <sup>b</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC <sup>b, c</sup>	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE <sup>e</sup>	FLOOR R-VALUE	BASEMENT <sup>f</sup> WALL R-VALUE	SLAB <sup>d</sup> R-VALUE & DEPTH	CRAWL SPACE <sup>g</sup> WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 <sup>h</sup>	8/13	19	5/13 <sup>f</sup>	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 <sup>h</sup>	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 <sup>h</sup>	13/17	30 <sup>g</sup>	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 <sup>h</sup>	15/20	30 <sup>g</sup>	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 <sup>h</sup>	19/21	38 <sup>g</sup>	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

- a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.
- c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.
- g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.
- i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

**R402.2.3 Eave baffle.** For air permeable insulations in vented attics, a baffle shall be installed adjacent to soffit and eave vents. Baffles shall maintain an opening equal or greater than the size of the vent. The baffle shall extend over the top of the attic insulation. The baffle shall be permitted to be any solid material.

**R402.4.2 Fireplaces.** New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.

**R404.1 Lighting equipments (Mandatory).** A minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps or a minimum of 75 percent of the permanently installed lighting fixtures shall contain only high efficacy lamps.

## 2012 International Energy Conservation Code Proposed Amendments

**Note: An asterisk at the beginning of a section identifies a new amendment with the 2012 code edition.**

- G. The International Energy Conservation Code adopted by reference in Section 101.4.6, 2012 International Building Code, is hereby amended as follows:
1. Section C&R106.1 (General) is amended by adding the following to said section:

“Any reference to the ICC Electrical Code shall mean the National Electrical Code, as adopted and amended by the City of College Station.”
  2. Section C&R108.4 (Failure to comply.) is amended by inserting the following amounts in the blanks provided at the end of said section:

“twenty-five (\$25.00) in the first blank and two-thousand (\$2,000.00) in the second blank”
  3. Section C&R109 (Board of Appeals) is amended by deleting the section in its entirety.
  - \* 4. Section C402.4.1.2.3 (Building test) is amended by adding an exception:

“**Exception:** Building envelope tightness and insulation installation shall be considered acceptable when the items listed in Table R402.4.1.1, applicable to the method of construction, are field verified. Where required by the code official, an approved party independent from the installer of the insulation shall inspect the air barrier and insulation.”
  5. Section R401.3 (Certificate) is amended by deleting the existing text from said section:

“The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list “gas-fired unvented room heater,” “electric furnace” or “baseboard electric heater.” as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.”
  6. Section R403.2.1 (Insulation (Prescriptive)) is amended by adding the following to the end of the section:

“Supply ducts in unconditioned attics may have an insulation R-Value of 6 when installed in conjunction with an air conditioner having a minimum SEER rating of 14.”
  - \* 7. Section R402.4.1.2 (Testing) is amended by adding an exception:

“**Exception:** Building envelope tightness and insulation installation shall be considered acceptable when the items listed in Table R402.4.1.1, applicable to the method of construction, are field verified. Where required by the code official, an approved party independent from the installer of the insulation shall inspect the air barrier and insulation.”
  8. Section R403.2.2 (Sealing (Mandatory)) is amended by adding the following to said section:

“3. Visual inspection option: Duct tightness shall be considered acceptable when the items listed below, applicable to the method of construction, are field verified:

Connections:

- a. Seal core to collar with UL listed mastic or at least 2 wraps of UL 181 listed tape .
- b. Secure connection with mechanical clamp placed over the core and tape.
- c. Pull jacket and insulation back over core. Use a mechanical clamp, two wraps of UL 181 listed tape or UL listed mastic to secure insulation.

Splices

- a. Butt two cores together on a 4” length metal sleeve.
- b. Secure core and sleeve with UL listed mastic or two wraps of UL 181 listed tape
- c. Secure connection with 2 clamps placed over the taped core ends.
- d. Pull jacket and insulation back over core. Use two wraps of UL 181 listed tape or UL listed mastic to secure insulation.”

8. Section R403 (Systems) is amended by adding R403.10 to read as follows:

“**403.10 Heating equipment.** Electrical resistance heat may be used as the primary source of heating for residential use not exceeding five hundred (500) square feet in area.”