ORDINANCE NO. 19602-03-2011

AN ORDINANCE AMENDING THE FORT WORTH RESIDENTIAL CODE, BY ADOPTING THE 2009 INTERNATIONAL RESIDENTIAL CODE, WITH LOCAL AMENDMENTS; AMENDING SECTIONS 7-61, 7-62, 7-63 AND 7-64 OF THE CODE OF THE CITY OF FORT WORTH (1986); REGULATING THE ERECTION, CONSTRUCTION, ENLARGEMENT, ALTERATION, REPAIR, MOVING, REMOVAL, DEMOLITION, CONVERSION, OCCUPANCY, EQUIPMENT, DESIGN, QUALITY OF MATERIALS, USE, HEIGHT, AREA AND MAINTENANCE OF RESIDENTIAL (DETACHED ONE- AND TWO-FAMILY, AND TOWNHOME) BUILDINGS AND STRUCTURES IN THE CITY OF FORT WORTH; DEFINING CERTAIN TERMS; PROVIDING FOR THE ISSUANCE OF PERMITS AND THE COLLECTION OF FEES THEREOF; PROVIDING FOR THE INSPECTION BUILDINGS; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A SAVINGS CLAUSE; PROVIDING FOR A PENALTY CLAUSE; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE; PROVIDING FOR PUBLICATION IN PAMPHLET FORM; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FORT WORTH, TEXAS:

SECTION 1.

That Section 7-61 of the Code of the City of Fort Worth (1986) is hereby amended to read as follows:

Sec. 7-61. THE 2009 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE ADOPTED.

(a) The Residential Code of the City of Fort Worth is hereby revised and amended to conform, with certain exceptions as specified below, to the 2009 edition of the International Residential Code of the International Code Council (ICC), and the same as amended is hereby adopted as the City's Residential Code.

(b) The following provisions of the Appendix to the 2009 International Residential Code are hereby specifically adopted as amended as part of the Residential Code of the City of Fort Worth:

Appendix Chapter G, Swimming Pools, Spas and Hot Tubs
Appendix Chapter J, Existing Buildings and Structures
Appendix Chapter K, Sound Insulation Requirements for Noise Sensitive Uses near Airports (local amendment)
Appendix Chapter R, Energy Sustainability (local amendment)

Appendix Chapter S, 2003 IRC Energy Code provisions (local amendment)
Appendix Chapter T, Docks, Piers and Boathouses (local amendment)

(c) The provisions of the Building Code, Mechanical Code, Plumbing Code and Energy Code, as adopted elsewhere, shall be used as part of this code for any provision, requirement or method that does not exist in this code. The Electrical Code, as adopted elsewhere, shall be used as the Electrical provisions, replacing Chapters 34 through 43 of this code.

(d) One (1) copy of the 2009 edition of the International Residential Code, marked as Exhibit "A", is incorporated herein by reference and shall be filed in the Office of the City Secretary for permanent record and inspection.

(e) Any Errata corrections published by the International Code Council for the 2009 International Residential Code, as they are discovered, are considered as part of this code.

SECTION 2.

That Section 7-62 of the Code of the City of Fort Worth (1986) is hereby amended to read as follows:

Sec. 7-62. Amendments.

The 2009 edition of the International Residential Code is hereby amended to read as follows:

**IRC Chapter 1; Chapter 1, "Part I – Scope and Application" and "Part II – Administration and Enforcement" is deleted and replaced with the following:*

Chapter 1
SCOPE AND ADMINISTRATION

PART I – SCOPE AND APPLICATION

SECTION R101
GENERAL

R101.1 Title. These provisions shall be known as the *Residential Code ~~for One- and Two-family Dwellings~~* of the City of Fort Worth, and shall be cited as such and will be referred to herein as "this code."

R101.2 Scope. The provisions of this code ~~the *International Residential Code for One- and Two-family Dwellings*~~ shall apply to:

a. The construction, *alteration*, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures*. The provisions shall also apply to usage of the surrounding site and access to and from the building, structure or site, as necessary to achieve the purpose of this code, and to obtain compliance with other codes and ordinances of this jurisdiction.

Exceptions: 1. Live/work units complying with the requirements of Section 419 of the *International Building Code* shall be permitted to be built as one- and two-family *dwellings* or townhouses. Fire suppression required by Section 419.5 of the *International Building Code* when constructed under the *International Residential Code for One- and Two-family Dwellings* shall conform to Section 903.3.1.3 of the *International Building Code* or Section P2904 of this code.

2. Townhouses are permitted to have a private, individual fourth level roof deck in compliance with the following:

i. Except for required guards, and the minimum required penthouse necessary to enclose the access stair, the deck shall be unenclosed and unroofed.
ii. The minimum required penthouse necessary to enclose the access stair shall not include any other occupiable space.
iii. The open deck shall not exceed 400 square feet.
iv. The guard shall be constructed of metal. The decking shall be constructed of water resistant construction, and the structural design plans of the building and deck shall be stamped by an engineer.

When each unit of the townhouse building is provided with an *automatic sprinkler system*, the fourth level roof deck may be as listed above and the following:

i. with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 with 903.3.1.2.1 of the Building Code:
   - the 400 square foot area may be covered but open on the sides; and,
   - part of the 400 square feet area may be an enclosed storage room not to exceed 20 square feet.

ii. with an *automatic sprinkler system* in accordance with 903.3.1.2 (without 903.3.1.2.1) or 903.3.1.3 of the Building Code, or Section P2904 of this code, the provisions of "i" above apply except that the canopy must be entirely non-combustible.

3. When permitted by the Building Code, other uses may be constructed in accordance with this code.

b. The plumbing and plumbing systems outside this jurisdiction if the same are connected to the city water or sewage systems.

Exception: Work located primarily in a public way, public utility towers and poles, mechanical equipment not specifically regulated in this code, and hydraulic flood control structures

c. This code is not intended to apply to that work done by the proper employees of the City or other companies furnishing water in the laying of water mains and services and city sewer mains and services that are considered as public utilities, nor to the installation of gas distributing mains and services in the streets, alleys and easements by employees of the gas distributing company.

R101.3 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public safety, health and general welfare through affordability, structural strength, means of egress facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

R101.4 Classification. When referencing other codes, and as used in this code, Residential structures covered by this code shall be considered to be Group R-3 residential uses with Group U accessory uses, unless a more appropriate occupancy group is assigned by the *building official*.

SECTION R102
APPLICABILITY

R102.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

R102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

R102.3 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

R102.4 Referenced codes and standards. The codes, when specifically adopted, and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well.

Any reference made to NFPA 70 or the Electrical Code shall mean the Electrical Code as adopted. Any reference made to the *International Property Maintenance Code* shall mean the provisions of this code, the Fire Code and the Minimum Building Standards Code that apply to existing structures and premises; equipment and facilities; light, ventilation, space heating,

occupancy of existing premises and structures.

Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

Exception: Where enforcement of a code provision would violate the conditions of the *listing* of the *equipment* or *appliance*, the conditions of the *listing* and manufacturer's instructions shall apply.

R102.4.1 Rehabilitation Code. Chapter 34 of the Building Code shall be considered as the Fort Worth Rehab Code. Any code amendment designed ot provide assistance in the rehabilitation of buildings shall be designated as **(RH)**.

R102.4.2 State Law. Amendments based on State Law may be placed in this ordinance as a tool for information and enforcement purposes and will be identified with its corresponding State Law house bill or senate bill number (**SL – HB # or SB #**). Unless State Law allows, local variances to such provisions are not permitted.

R102.5 Appendices. Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance. The following Appendices are specifically adopted.

Appendix Chapter G, Swimming Pools, Spas and Hot Tubs
Appendix Chapter J, Existing Buildings and Structures
Appendix Chapter K, Sound Insulation Requirements for Noise Sensitive Uses near Airports (local amendment)
Appendix Chapter R, Energy Sustainability (local amendment)
Appendix Chapter S, 2003 Energy Code provisions (local amendment)
Appendix Chapter T, Docks, Piers and Boathouses (local amendment)

R102.6 Partial invalidity. In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

R102.7 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the *International Property Maintenance Code* or the *International Fire Code*, or as is deemed necessary by the *building official* for the general safety and welfare of the occupants and the public.

R102.7.1 Additions, alterations or repairs. *Additions*, *alterations* or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with all of the requirements of this code, unless otherwise stated. *Additions*, *alterations* or repairs shall not cause an existing structure to become unsafe or adversely affect the performance of the building.

R102.7.2 Annexation. Upon annexation, all existing structures and buildings are subject to inspection for compliance with the provisions of Appendix Chapter J or as an unsafe building of Section R115, of this code, the Minimum Building Standards Code and the Fire Code, except as specifically deleted by such annexation ordinance.

PART II – ADMINISTRATION AND ENFORCEMENT

SECTION R103
DEPARTMENT OF ~~BUILDING SAFETY~~ PLANNING AND DEVELOPMENT

R103.1 Creation of enforcement agency. The department of Planning and Development b~~uilding safety~~ is hereby created as specified in the City Code and shall be referred to as "the department." ~~and the official in charge thereof shall be known as the building official~~. Any reference to the "Department of Building Safety" shall mean the Department of Planning and Development.

Primary enforcement of the provisions of this code shall rest with the Department of Planning and Development as specified under the duties and powers of the *building official*.

The provisions of this code may be enforced by other code enforcement divisions of this city but interpretation authority shall be retained by the *building official*.

R103.2 Appointment. The *building official* shall be appointed as specified in the City Code ~~by the chief appointing authority of the jurisdiction~~.

R103.3. Deputies. In accordance with prescribed procedures of this *jurisdiction* and with the concurrence of the appointing authority, the *building official* shall have the authority to appoint a deputy *building official*, the related technical officers, inspectors, plan examiners and other employees. Such employees shall have powers as delegated by the *building official.*

For the purpose of this code, the regularly authorized deputy officials shall be per Part as follows:

Part V, Mechanical - Chief Mechanical Inspector
Part VI, Fuel Gas - Chief Plumbing Inspector
Part VII, Plumbing - Chief Plumbing Inspector
Part VIII, Electrical - Chief Electrical Inspector

For all other parts, the Assistant Building Official(s) shall be the deputy official.

R103.3.1 Restriction of plumbing employees. An official or employee connected with the plumbing inspection enforcement of this code shall not be engaged in or directly or indirectly connected with the furnishing of labor, materials or appliances for the construction, alteration or maintenance of a building; and such officer or employee shall not engage in any work that conflicts with official duties or with the interests of the department.

Further no official or employee shall be permitted to work for, or be connected with, any master plumber, plumbing manufacturer or wholesale plumbing and supply company, or do any plumbing work while employed as a plumbing inspector by the city.

R103.3.2 Restriction of mechanical employees. An official or employee connected with the mechanical inspection enforcement of this code shall not be engaged in or directly or indirectly connected with the furnishing of labor, materials or appliances for the construction, alteration or maintenance of a building; and such officer or employee shall not engage in any work that conflicts with official duties or with the interests of the department.

Further no official or employee shall be permitted to work for, or be connected with, any mechanical contractor, HVAC manufacturer or wholesale supply company, or do any mechanical work while employed as a mechanical inspector by the city.

R103.3.3 Restriction of electrical employees. An official or employee connected with the electrical inspection enforcement of this code shall not be engaged in or directly or indirectly connected with the furnishing of labor, materials or appliances for the construction, alteration or maintenance of a building; and such officer or employee shall not engage in any work that conflicts with official duties or with the interests of the department.

Further no official or employee shall be permitted to work for, or be connected with, any electrical contractor, electrical manufacturer or wholesale supply company, or do any electrical work while employed as an electrical inspector by the city.

SECTION R104
DUTIES AND POWERS OF BUILDING OFFICIAL

R104.1 General. The *building official* is hereby authorized and directed to enforce the provisions of this code. The *building official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

R104.1.1 Other interpretations. Any provision or local amendment marked in this code as [F] shall be under the primary interpretation authority of the Fire Chief. Any provisions marked in the Fire Code or local amendment as [B], [E], [EB], [FG], [M] or [P] shall be under the primary interpretation authority of the *building official*.

R104.2 Applications and permits. The *building official* shall receive applications, review *construction documents* and issue *permits* for the erection, and *alteration*, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

R104.3 Notices and orders. The *building official* shall issue all necessary notices or orders to ensure compliance with this code.

R104.4 Inspections. The *building official* is authorized to make all of the required inspections, or the *building official* shall have the authority to accept reports of inspection by *approved agencies* or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such *approved* agency or by the responsible individual. The *building official* is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

R104.5 Identification. The *building official* shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

R104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the *building official* has reasonable cause to believe that there exists in a structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the *building official* or designee is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises be unoccupied, the *building official* shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the *building official* shall have recourse to the remedies provided by law to secure entry.

An application for a permit shall be considered as permission from an authorized representative to inspect the premises.

When the code official shall have first obtained a proper inspection warrant or other remedy provided by law to secure entry, no owner, occupant, or person having charge, care or control of any building or premises shall fail or neglect, after proper request is made as herein provided, to promptly permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

It shall be unlawful for any person to hinder or interfere with the code official, deputy or any of the inspectors in the discharge of their duties under this code.

R104.7 Department records. The ~~*building official*~~ department shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

R104.8 Liability. The *building official*, member of the board of appeals or employee charged with the enforcement of this code, while acting for the *jurisdiction* in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representative of the *jurisdiction*

until the final termination of the proceedings. The *building official* or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. Any judgment resulting therefrom shall be assumed by this jurisdiction.

R104.8.1 The liability exemption and defense protection provided in this section are not extended to Third Party Companies, or their employees, agents or assignees.

R104.8.2. This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

R104.9 Approved materials and equipment. Materials, *equipment* and devices *approved* by the *building official* shall be constructed and installed in accordance with such approval.

R104.9.1 Used materials and equipment. Used materials, *equipment* and devices shall not be reused unless *approved* by the *building official*.

R104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the *building official* shall have the authority to grant modifications for individual cases, provided the *building official* shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements or structural. The details of any action granting modifications shall be recorded and entered in the files of the department ~~of building safety~~.

~~**R104.10.1 Areas prone to flooding.**~~

R104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code. Compliance with the specific performance-based provisions of the adopted International Codes in lieu of specific requirements of this code shall also be permitted as an alternate.

R104.11.1 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to this *jurisdiction*. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be

performed by an *approved* agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

R104.12 Cooperation of other officials and officers. The *building official* may request, and shall receive, the assistance and cooperation of other officials of this jurisdiction so far as is required in the discharge of the duties required by this code or other pertinent law or ordinance.

SECTION R105
PERMITS

R105.1 Required. Any owner, ~~or~~ authorized agent, individual or contractor who intends 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, shall first make application to the *building official* and obtain the required *permit*. A separate permit shall be required for each building or structure unless otherwise authorized by the building official.

R105.1.1 Blasting. Blasting or the use of explosives shall be permitted only in special circumstances. Such work will require an additional special blasting permit, issued by the Fire Chief with the approval of the *building official*.

R105.1.2 Bars, grilles, grates. Bars, grilles, grates or similar devices installed on windows, doors or window wells shall require a permit. (See Fire Code Section 1030.7.)

R105.1.3 Glass replacement. Replacement of glass in existing frame shall comply with Section AJ103. Replacement of a window frame or sash shall require a permit and comply with the applicable provisions of the Energy Code, the Minimum Building Standards Code and this code.

R105.2 Work exempt from permit. Exemption from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. *Permits* shall not be required for the following:

Building:

1. (deleted)
2. Fences not over 6 feet (1829 mm) high and open wire fences without slats up to 8 feet (2438 mm) high. In addition, both heights may have barbed wire, when installed in accordance with City Code, added above the 6 and 8 feet dimension.
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge. (Retaining walls placed in succession shall be considered one wall if, upon drawing a line from the bottom of the

intersects the higher wall or any material retained by the wall at any point.)

4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 925 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. (deleted)
6. Painting, papering, tiling, carpeting, cabinets replacement, counter tops replacement, and similar finish work.
7. Prefabricated swimming pools accessory to a single Group R-3 occupancy that ~~are less than 24 inches (610mm) deep,~~ do not exceed 5,000 gallons (18 925 L) and are installed entirely above ground.
8. Swings and other playground equipment accessory to a detached one- and two-family *dwellings*.
9. Window *awnings* supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support of Groups R-3 and U occupancies.
10. (deleted)
11. Platforms, walks and decks not more than 6 inches above grade and not over any basement or *story* below.
12. Roof repairs on Group R-3 and their accessory structures. For the purpose of this section, roof repairs shall include the repair and replacement of the material above, but not including, the decking material, lathing boards or sheathing boards.
13. Demolition of a structure by the State of Texas for highway widening purposes.
14. Freestanding satellite dishes not exceeding one meter in diameter that do not exceed 12 feet in height.

Unless otherwise exempted, separate electrical, mechanical and plumbing permits will be required for the above-exempted items.

Exception: When an umbrella Building Permit is issued for new construction or addition to one- and two-family dwellings and townhomes, under this code, or as an R-3 under the Building Code, and which contain a fireplace under that Building Permit, separate fireplace permits shall not be required.

Electrical:

1. ~~*Listed* cord-and-plug connected temporary decorative lighting.~~ Portable motors or other portable appliances energized by means of a cord or cable having an attachment plug end to be connected to an approved receptacle when that cord or cable is permitted by this code.
2. Reinstallation of attachment plug receptacles but not the outlets thereof.
3. Replacement or repair of ~~branch circuit~~ overcurrent devices of the required capacity in the same location.
4. Electrical wiring, devices, *appliances*, apparatus or *equipment* operating at less than 25 volts and not capable of supplying more than 50 watts of energy.
5. Minor repair work, including the replacement of lamps ~~or the connection of *approved* portable electrical *equipment* to *approved* permanently installed receptacles~~.

6. Taping joints.
7. Removal of electrical wiring.
8. Low-energy power, control and signal circuits of Classes II and III as defined in the Electrical Code.
9. Electrical maintenance work that is performed by an individual properly authorized to do such work.

Gas:

1. Portable heating, cooking or clothes drying *appliances*.
2. Replacement of any minor part that does not alter the approval of *equipment* or an *appliance* or make such *equipment* or *appliance* unsafe.
3. Portable-fuel-cell appliances that are not connected to a fixed piping system and or not interconnected to a power grid.

Mechanical:

1. Any portable heating *appliances*.
2. Portable ventilation *appliances* and equipment.
3. Portable cooling units.
4. Steam, hot- or chilled-water piping within any heating or cooling equipment or *appliance* regulated by this code.
5. Replacement of any minor part that does not alter the approval of *equipment* or an *appliance* or make such *equipment* or *appliance* unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds (4.54 kg) or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less.
8. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.
9. When an umbrella Building Permit is issued for new construction or additions to one- and two-family dwellings and townhomes, under this code, or as an R-3 under the Building Code, and which contain a fireplace under that Building Permit, separate fireplace permits shall not be required.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a *permit* shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages in drains, soil, waste and vent piping or the repairing of leaks in pipes, valves or fixtures~~, and the~~.

3. Removal and reinstallation of exposed traps; replacement of valves, nipples to sinks and

water closets, garbage disposals, dishwashers, clothes washers and similar appliances, provided that in all cases such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

Exception: Replacement of water heaters and shower pans shall require a permit.

4. In a manufactured home or recreational vehicle park, when the interceptor traps or house trailer site traps are installed at the same time as a building sewer on any lot, no sewer permit shall be required for the connection of any such trap to an appropriate inlet fitting provided in the building sewer by the permittee constructing such sewer.

No person shall do plumbing, fuel gas, electrical or mechanical work, with or without a permit, in violation of the State of Texas laws governing such trades.

R105.2.1 Emergency repairs. Where *equipment* replacements and repairs must be performed in an emergency situation, the permit application shall be submitted with the next working business day to the *building official*.

R105.2.2 Repairs. Application or notice to the *building official* is not required for ordinary repairs to structures, replacement of lamps or the connection of *approved* portable electrical *equipment* to *approved* permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include *addition* to, *alteration* of, replacement or relocation of any water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

R105.2.3 Public service agencies. A *permit* shall not be required for ~~the installation, alteration or repair of generation, transmission, distribution or metering or other related *equipment*~~ work located primarily in a public way, public utility towers and poles, and hydraulic floor control structures that is under the ownership and control of public service agencies or government agency by established right and not specifically regulated in this code.

R105.3 Application for Permit. To obtain a *permit*, the applicant shall first file an application therefor in writing on a form furnished by the department ~~of building safety~~ for that purpose. Such application shall:

1. Identify and describe the work to be covered by the *permit* for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.

3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by *construction documents* and other information as required in Section R106.1.
5. State the valuation of the proposed work.
6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as required by the *building official*.

When permits are restricted to licensed and/or registered individuals as required by this or other codes and ordinances, permits shall only be issued to those such individuals as specified in this code and those other codes or ordinances.

R105.3.1 Action on application. The *building official* shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the *construction documents* do not conform to the requirements of pertinent laws, the *building official* shall reject such application in writing, stating the reasons therefor. If the *building official* is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the *building official* shall issue a *permit* therefor as soon as practicable.

~~**105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas.**~~

R105.3.2 ~~Time limitation of application.~~

Expiration of plan review. Applications for which no permit is issued within 180 days following the date of application shall expire by limitation, and *construction documents* and other data submitted for review may thereafter be returned to the applicant or destroyed by the *building official*.

If the applicant submits a request for extension before the expiration date, showing that circumstances beyond the control of the applicant have prevented action from being taken, the *building official* may extend the time for a period not exceeding 180 days. No application shall be extended more than once.

If the applicant submits a request for extension after but within 90 days of the expiration date, the applicant shall resubmit plans and pay a new plan review fee. The application shall be subject to any new adopted laws, ordinances and regulations that became effective since the original application date.

R105.3.3 Group R, Division 3 and accessory structures. Permits for the remodel or addition to Group R, Division 3 Occupancies or their accessory structures, shall only be issued to individuals or contractors registered in accordance with Section R117 of this code.

Exception: The property owner, where the work that requires a permit is being performed by the owner only, need not be registered.

R105.4 Validity of permit. The issuance or granting of a *permit* shall not be construed to be a *permit* for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the *jurisdiction*. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid. The issuance of a *permit* based on *construction documents* and other data shall not prevent the *building official* from requiring the correction of errors in the *construction documents* and other data. The *building official* is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this *jurisdiction*. See Section R113.1.2.

R105.5 Expiration. Every *permit* issued shall become invalid unless the work on the site authorized by such *permit* is commenced within 180 days after its issuance, or if the work authorized on the site by such *permit* is suspended or abandoned for a period of 180 days after the time the work is commenced. ~~The *building official* is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.~~

When work has commenced but has been suspended or abandoned for more than 180 days, before such work can be recommenced, a new permit shall be first obtained to do so, and the fee therefor shall be one half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work, and provided further that such suspension or abandonment has not exceeded one year.

When work has not commenced, any permittee holding an unexpired permit may apply for an extension of the time. The *building official* may extend the time for action by the permittee for a period not exceeding 180 days on written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit shall be extended more than once. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee and comply with all codes and ordinances applicable at that time.

R105.6 Suspension or revocation. The *building official* is authorized to suspend or revoke a *permit* issued under the provisions of this code wherever the *permit* is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

~~**R105.7 Placement of permit.**~~

R105.8 Responsibility. It shall be the duty of every person who performs work for the installation or repair of building, structure, electrical, gas, mechanical or plumbing systems, for which this code is applicable, to comply with this code.

R105.9 Preliminary inspection. Before issuing a *permit*, the *building official* is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

SECTION R106
CONSTRUCTION DOCUMENTS

R106.1 Submittal documents. Submittal documents consisting of *construction documents*, and other data shall be submitted in two or more sets with each application for a *permit*. The *construction documents* shall be prepared by a registered *design professional* where required by the statutes of the *jurisdiction* in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a registered *design professional*.

Exception: The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a registered *design professional* if it is found that the nature of the work applied for is such that reviewing of *construction documents* is not necessary to obtain compliance with this code.

The *building official* may require plans, computations and specifications to be prepared and designed by an engineer or architect licensed by the State of Texas to practice as such even if not required by state law.

Retaining walls for which a permit is required shall require the submittal of plans that are prepared by an engineer licensed by the State of Texas to practice as such.

[SL – HB 264/2009] Buildings regulated under this code *that contain a new or existing residential component* must provide engineered foundation plans as follows:

1. All new construction, when containing a *residential component*;
2. Any new outward addition exceeding 500 sq.ft. in foundation area, when the existing or the new area contains a *residential component*; and,
3. Any new upward additions, such as adding or expanding a 2nd floor, when the existing or new area contains a *residential component* and the foundation is to be, or is required to be, upgraded. If the existing foundation is adequate, an engineer review is not required.

Residential component will include living quarters, sleeping quarters, etc. as might occur in a "mother-in-law" accessory building. A non-residential addition, such as a garage, that ties into the residential dwelling would need to comply if over 500 sq.ft. Such plans shall be designed by a professional engineered registered in the State of Texas.

Lake Worth docks, piers or boathouses. The following provisions apply for permit submittal for docks, piers or boathouses on Lake Worth. See also Appendix T of this code.

(a) Persons seeking to construct a Dock, Pier or Boathouse or Walkway must submit to two (2) complete sets of the project plans for the Structure, which shall include but not limited to the anchoring system, and any Walkways or Bridges that will attach to the proposed Structure.

(b) When an existing Structure will be used as part of the newly proposed Structure the project plans must include a complete description of the existing Structure.

(c) The project plans must include a description of the site that shows the location of the primary lot, the extension of property lines out into the water area and a key plan, either included on the site plan or on a separate sheet, to show the location on or to the body of water.

(d) If the prescriptive methods described in Section T3606 are not followed or an engineered design is required by the building official, then the project plans must be signed and sealed by an RPE and contain a statement that the proposed Structure complies with the specifications set forth in this code.

(e) Each project plan set must also include a copy of the manufacturer's certified plans for any components that will be part of the structure, such as lifts, decking, railing, or awning systems.

(f) The project plans and manufacturer's certified plans must be based upon the actual conditions at the site of the proposed Structure.

106.1.1 Information on construction documents. *Construction documents* shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*.

Where required by the *building official*, all braced wall lines, shall be identified on the *construction documents* and all pertinent information including, but not limited to, bracing methods, location and length of braced wall panels, foundation requirements of braced wall panels at top and bottom shall be provided.

Plans and specifications shall be drawn to scale.

106.1.1.1 Braced wall lines. Any structure regulated by this code, shall submit a Braced Wall Line plan in accordance with the adopted policy.

Exceptions: 1. Structures not exceeding 500 sq.ft.
2. Structures that are designed by an engineer licensed to practice in the State of Texas where the plans include the framing (wall, floor and ceiling joists, and roof rafters), as well as, wall bracing method.

R106.1.1.2 Energy Certificate. Either as an insert on the plans or as a separate attachment, a representation of the Energy Certificate required by Section N1101.9 shall be depicted with the information inserted as follows:

(*Builder Name if desired*)
Residential Energy Efficiency Certificate

This energy certificate shall be posted as required by City ordinance. This residential unit was built in accordance with the 2009 Fort Worth Energy Code with the following energy compliance materials.

Insulation:
Wall: _____ _____ _____

Roof/Attic/Ceiling: _____ _____

Floor: _____ _____ _____

Ducts: _____ _____

Windows:
U-factor _____ _____ _____

SHGC _____ _____ _____

Doors: *U*-factor _____ _____ _____

Heating: _____

Cooling: _____

Water Heater: _____

Other: _____

Where necessary, the certificate may be expanded to include other items. In order to allow mass production of labels for Master Home plans, no address is required to be specified. However, a builder may desire to add an address line or a house model number. Posting of the certificate shall be as specified in Section N1101.9.

R106.1.1.3 Sill Height/Window fall protection. The method for compliance with the window sill/fall protection requirements of Sections R310, R612.2 and R612.3 shall be noted on the plans.

R106.1.1.4 Pool Entrapment. All permits for residential pools must submit an entrapment compliance form as provided by the Building Official.

R106.1.2 Manufacturer's installation instruction. Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.

~~**R106.1.3 Information for construction in flood hazard areas.**~~

R106.2 Site plan or plot plan. The *construction documents* submitted with the application for *permit* shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site and distances from *lot lines*. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The *building official* is

authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

R106.3 Examination of documents. The *building official* shall examine or cause to be examined the *construction documents* for ~~code~~ compliance with the requirements of this code and other pertinent laws or ordinances.

Such plans may be reviewed by other departments of this jurisdiction to verify compliance with any applicable laws under their jurisdiction. If the *building official* finds that the work described in an application for a permit and the plans, specifications and other data filed therewith conform to the requirements of this code and other pertinent laws and ordinances, and that the fees specified in Section R108 have been paid, the *building official* shall issue a permit therefor to the applicant.

Exception: When plan review is performed by a Third Party Organization as specified in Section R116, the *building official*, at his discretion, may only review what he deems necessary to insure a quality control of the review already performed.

R106.3.1 Approval of construction documents. When the *building official* issues a *permit*, the *construction documents* shall be *approved* in writing or by stamp, which states "APPROVED ~~"REVIEWED FOR CODE COMPLIANCE~~." One set of *construction documents* so reviewed shall be retained by the *building official*. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the *building official* or a duly authorized representative.

R106.3.2 Previous approvals. This code shall not require changes in the *construction documents*, construction or designated occupancy of a structure for which a lawful *permit* has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

R106.3.3 Phased approval. The *building official* is authorized to issue a *permit* for the construction of foundations or any other part of a building or structure before the *construction documents* for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such *permit* for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a *permit* for the entire structure will be granted.

R106.4 Amended construction documents. Work shall be installed in accordance with the *approved construction documents*, and any changes made during construction that are not in compliance with the *approved construction documents* shall be resubmitted for approval as an amended set of *construction documents*.

R106.5 Retention of construction documents. One set of *approved construction documents* shall be retained by the *building official* for a period of not less than 90 ~~180~~ days from date of completion of the permitted work, or as required by state or local laws.

R106.6 Residential master plans. All Master Plans on file with the department will be considered obsolete with the adoption of this code. Unless picked up by the owner within 90 days after the effective date of this code, those plans may be disposed of. Home builders may submit new master plans in preparation of the effective date of this code.

When Master Plans are registered with the *building official* for use with an expedited permit issuance program, the applicant shall pay a nonrefundable registration fee per plan as specified in Section R118, Table No. 1-B.

SECTION R107
TEMPORARY STRUCTURES AND USES

R107.1 General. The *building official* is authorized to issue a *permit* for temporary structures and temporary uses in accordance with Section 108 of the Building Code. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The *building official* is authorized to grant extensions for demonstrated cause.

R107.2 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation, energy and sanitary requirements of this code, as deemed appropriate by the *building official* and Fire Chief, as necessary to ensure the public health, safety and general welfare.

R107.3 Temporary power. The *building official* is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.

R107.4 Termination of approval. The *building official* is authorized to terminate such *permit* for a temporary structure or use and to order the temporary structure or use to be discontinued.

SECTION R108
FEES

R108.1 Payment of fees. A *permit* shall not be valid until the fees prescribed by law have been paid. Nor shall an amendment to a *permit* be released until the additional fee, if any, has been paid.

R108.2 Schedule of permit fees. On buildings, structures, electrical, gas, mechanical and plumbing systems or *alterations* requiring a permit, a fee for each *permit* shall be paid as required, in accordance with Section R118, Table 1-B and the schedule as established by the Building, Electrical, Mechanical and Plumbing Codes ~~applicable governing authority.~~

R108.3 Building permit valuations. The applicant for a *permit* shall provide an estimated *permit* value at time of application. Building *permit* valuation shall include total value of the work for which a *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and other permanent systems, including materials and labor. 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 building *permit* valuation shall be set by the *building official*.

Exception: When other than new construction or addition, individual permit fees shall be required per trade. The building *permit* fee will be based upon the valuation as determined by the *building official* for that work only. The fee for other trade permits will be subject to the appropriate codes.

R108.4 Related fees. The payment of the fee for the construction, alteration, removal or demolition for work done in connection with or concurrently with the work authorized by a building *permit* shall not relieve the applicant or holder of the *permit* from the payment of other fees that are prescribed by law.

R108.5 Fee refunds. The *building official* is authorized to establish a refund policy. The *building official* may authorize refunding of any fee paid hereunder which was erroneously paid or collected.

The *building official* may authorize the refunding of fees paid as specified in the Building, Electrical, Mechanical and Plumbing Codes.

R108.6 ~~Work commencing before permit issuance.~~

Investigation fees: Work without a permit.

R108.6.1 Investigation. Whenever any work for which a permit is required by this code has been commenced without first obtaining said permit, a special investigation shall be made before a permit may be issued for such work.

R108.6.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law.

Use of the third party plan review or inspection option, will not reduce or lower the investigation fee required by this section.

The applicant may appeal the amount of an investigation fee to the city council by filing a written appeal showing the reasons why the fee should be lowered. The city council may, upon a finding that the investigation fee is unreasonable based upon the facts presented, reduce the investigation fee, but in no case may the fee be reduced to less than the actual investigation costs incurred by the city.

R108.7 Reinspection fees. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

This section is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection.

Reinspection fees may be assessed when the inspection record card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the code official.

To obtain a reinspection, the applicant shall file an application therefor in writing on a form furnished for that purpose and pay the reinspection fee in accordance with Section R118, Table 1-B or as set forth in the fee schedule adopted by the jurisdiction.

In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

Exception: The fee will not be required for those applicants meeting exception 3, Section 109.2.1 of the Building Code.

R108.8 Administrative Hold. Any administrative discrepancy including but not limited to, delinquency in payments, returned checks, failure to pay for reinspection, investigation or registration fees, and failure to keep registration, insurance or bond up-to-date, may result in a hold being placed on issuance of permits and performance of inspections of existing permits until the administrative discrepancy is corrected. For the purpose of this section, the term "up-to-date" shall mean that whenever any of these items are required by this or any other ordinance to

is finaled.

SECTION R109
INSPECTIONS

R109.1 ~~Types of inspections.~~

General. Construction or work for which a *permit* is required shall be subject to inspection by the *building official* and such construction or work shall remain accessible and exposed for inspection purposes until *approved*.

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the *permit* applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the *building official* nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Exception: When approved by the *building official*, the inspection process as required by this code may be performed by an approved Third Party Organization as specified in Section R116.

A survey of the lot may be required by the building official to verify that the structure is located in accordance with the approved plans.

R109.1.1 Inspection Record Card. Work requiring a permit shall not be commenced until the permit holder or an agent of the permit holder shall have posted or otherwise made available an inspection record card such as to allow the *building official* to conveniently make the required entries thereon regarding inspection of the work. This card shall be maintained available by the permit holder until final approval has been granted by the *building official*.

R109.2 Preliminary inspection. Before issuing a *permit*, the *building official* is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

R109.3 Required Inspections. The *building official*, upon notification, shall make the inspections set forth in Sections R109.3.1 through R109.3.9.

R109.3.1 Underground inspection. Underground inspection of electrical, mechanical, plumbing and gas systems shall be made in accordance with the Electrical, Mechanical and Plumbing Codes. Such inspections shall be made after trenches or ditches are excavated and bedded, piping installed, and before any backfill is put in place.

R~~109.1.1~~ 109.3.2 Footing, pier and foundation inspection. Inspection of the footing, pier and foundation shall be made after poles or piers are set or trenches or *basement* areas are excavated and any required forms erected and any required reinforcing steel is in place and supported prior to the placing of concrete. The foundation inspection shall include excavations for thickened slabs intended for the support of bearing walls, partitions, structural supports, or *equipment* and special requirements for wood foundations.

R109.3.2.1 Termite protection and drainage slope. In conjunction with the inspection of Section R109.3.2, the foundation height shall be evaluated to insure compliance with the provisions of Sections R401.3, R403.1.1 and Figure 403.1.1. If the foundation height is not sufficient to provide compliance with the required edge exposure, or high enough to allow the proper of finish grade to meet the drainage provisions, it shall be turned down.

R109.3.3 Concrete slab or under-floor inspection. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

R~~109.1.2~~ 109.3.4 Plumbing, mechanical, gas and electrical systems inspection. Rough inspection of plumbing, mechanical, gas and electrical systems shall be made prior to covering or concealment, before fixtures or appliances are set or installed, and prior to framing inspection. When approved by the *building official*, such inspections may be made at the same time as the framing inspection.

Exception: Back-filling of ground-source heat pump loop systems tested in accordance with Section M2105.1 prior to inspection shall be permitted.

R~~109.1.3~~ 109.3.5 Floodplain inspections. For construction in areas prone to flooding as established by Table R301.2(1), upon placement of the lowest floor, including *basement*, and prior to further vertical construction, the *building official* may ~~shall~~ require submission of documentation, prepared and sealed by a registered *design professional*, of the elevation of the lowest floor, including *basement*, required in Section R322.

R~~109.1.4~~ 109.3.6 Frame and masonry inspection. Inspection of framing and ~~masonry~~ construction shall be made after the roof deck or sheathing, ~~masonry~~, all framing, firestopping, drafstopping and bracing are in place and pipes, chimneys and vents to be concealed are complete and after the rough plumbing, mechanical and electrical rough inspections are *approved*. Inspection of masonry shall be made after installation except that brick ties shall be made as part of the framing inspection.

R109.3.6.1 Emergency escape and window sill height/fall protection. The framing inspection shall include confirming compliance with the window sill height and fall protection provisions of Sections R310, R612.2 and R612.3.

R109.3.7 Energy efficiency inspections. Inspections shall be made to determine compliance with Chapter 11 and shall include, but not be limited to, inspections for: envelope insulation *R*- and *U*-values, fenestration *U*-value, duct system *R*-value, and HVAC and water-heating equipment efficiency. (See IRC Energy Inspection Check List as provided by the department.)

R~~109.1.5~~ 109.3.8 Other inspections. In addition to the called inspections above, the *building official* may make or require any other inspections to ascertain compliance with this code and other laws enforced by the *building official*.

~~**R109.1.5.1 Fire-resistance-rated construction inspection.**~~

R~~109.1.6~~ 109.3.9 Final inspection. Final inspection shall be made after the permitted work is complete and prior to occupancy.

After approval of a final inspection, the applicant or tenant shall have 60 days in which to obtain a certificate of occupancy, when one is required. Where no such action to obtain a certificate of occupancy is taken within 60 days, an Ordinance Inspection with the appropriate fees will be required to continue any action.

R~~109.2~~ 109.4 Inspection agencies. The *building official* is authorized to accept reports of *approved* inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

R~~109.3~~ 109.5 Inspection requests. It shall be the duty of the *permit* holder or their duly authorized agent to notify the *building official* that such work is ready for inspection. It shall be the duty of the person requesting inspections required by this code to provide access to and means for inspections of such work. The person doing the work authorized by the permit shall make sure that the work will stand tests prescribed elsewhere in this code, before giving the above notification.

When the work is within a residence where access is dependent upon the occupant being home, it shall be the duty of the person doing the work to make arrangements for inspections. Failure to make arrangements within a timely manner or the inability for the inspector to do the inspections at the arranged times will result in reinspection fees being assessed to the person doing the work.

Exception: If the reinspection fee was for a "Final Inspection" for a residence where access is dependent upon the occupant, after the fee has been paid by the person doing the work additional arrangements for the final inspection and penalties for not receiving such inspection shall fall on the occupant.

This shall not relieve the person doing the work from having to correct improper work and such accompanying penalties should the work fail reinspection.

R~~109.4~~ 109.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the *building official*. The

building official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the *permit* holder or an agent of the *permit* holder wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the *building official*.

R109.6.1 Covered work. Any work covered or concealed without inspection shall be considered to constitute an unsafe structure and subject to the corrective provisions of Section R115. Such consideration as an unsafe structure shall exist every day until the work is inspected and approved as being in compliance with this code. Inspections will not be performed until a valid active permit is obtained in accordance with this code.

SECTION R110
CERTIFICATE OF OCCUPANCY

R110.1 Use and occupancy. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made, until the *building official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the *jurisdiction*. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid.

Exceptions: 1. ~~Certificates of occupancy are not required for work exempt from permits under Section R105.2.~~

2. One- and Two-family dwellings and townhouses regulated by this code and their associated accessory ~~Accessory~~ buildings or structures.

3. Community Homes, as defined in the Zoning Code.

R110.2 Change in use. Changes in the character or use of an existing structure shall not be made except as follows:

1. When the new use is regulated by this code, such buildings and structures are brought into compliance with this code as for new construction; and,
2. When the new use is regulated by the Building Code, such buildings and structures are brought into compliance as specified in Chapter 34 ~~Sections 3406 and 3407~~ of the *International Building Code*; and,
3. When the change involves a change in character, only the applicable provisions that apply to the new character shall apply.

R110.3 Certificate Issued. After the *building official* inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department ~~of building safety~~, and clearances have been obtained from all other applicable

_____ the *building official* shall issue a certificate of occupancy which shall contain the following:

1. The building *permit* number.
2. The address, legal description and zoning of the ~~structure~~ location.
3. The name and address of the business or property owner.
4. A description of that portion of the structure or property for which the certificate is issued.
5. A statement that the described portion of the structure or property has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the *building official* and the issuing individual.
7. ~~The edition of the code under which the *permit* was issued~~.
8. ~~If an *automatic sprinkler system* is provided and whether the sprinkler system is required.~~
9. Any special stipulations and conditions of the building *permit*.
10. The design *occupant load*.
11. The use and occupancy classification.
12. The type of construction as defined in the Building Code.

For existing uses required to obtain a certificate of occupancy to comply with Section 4607 of the Building Code, the *building official* may issue a certificate where evidence is provided showing the building complied with the ordinances in effect at the time of construction or last occupancy. The *building official*, at his discretion, may accept documents, including but not limited to, old permits, old certificate of occupancies, affidavits, tax records and business records as evidence.

R110.4 Temporary occupancy. The *building official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the *permit*, provided that such portion or portions shall be occupied safely. The *building official* shall set a time period during which the temporary certificate of occupancy is valid.

R110.5 Revocation. The *building official* ~~shall~~ is authorized to, in writing, suspend or revoke a certificate of occupancy issued under the provisions of this code, or other applicable provision, wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building, ~~or~~ structure or property or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

In addition, where any unsafe condition results from the use of any utilities in noncompliance with said certificate of occupancy or this code, the *building official* may order, in writing, that such utilities be disconnected.

The certificate of occupancy shall remain the property of the City of Fort Worth and shall be surrendered upon request.

R110.6 Posting. The certificate of occupancy shall be posted in a conspicuous place on the premises and shall not be removed except by the *building official*.

SECTION R111
SERVICE UTILITIES

R111.1 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a *permit* is required, until *approved* by the *building official*.

R111.2 Temporary connection. The *building official* shall have the authority to authorize and approve the temporary connection of the building or system to the utility, source of energy, fuel or power.

R111.3 Authority to disconnect service utilities. The *building official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section R102.4 in case of emergency where necessary to eliminate an immediate hazard to life or property or when such utility connection has been made without the approval required by Section R111.1 or R111.2. The *building official* shall notify the serving utility, and wherever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

~~SECTION R112~~
~~BOARD OF APPEALS~~

SECTION R112
CONSTRUCTION AND FIRE PREVENTION BOARD OF APPEALS

R112.1 General. Applications for appeals shall be made to the Construction and Fire Prevention Board of Appeals as authorized and provided for in the Building Code. All references to the "Board" shall be deemed to refer to the Construction and Fire Prevention Board of Appeals.

SECTION R113
VIOLATIONS

R113.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or *equipment* regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

R113.1.1 Unsafe buildings. Failure to correct an unsafe building as provided for in Sections R109.6.1 or R115 shall constitute a violation of this code.

R113.1.2 Occupancy violations. Whenever any site, building, structure or *equipment* therein regulated by this code or any other code is being used contrary to the provisions of

structure, or portion thereof, vacated by notice served on any person causing such use to be continued.

Such person shall discontinue the use within the time prescribed by the *building official* after receipt of such notice to make the site, building, structure, or portion thereof, or equipment comply with the requirements of this code.

R113.1.3 Failure to comply with notice. Failure to comply with a notice shall be considered a violation of this code.

R113.2 Notice of violation. The *building official* is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a detail statement or a plan *approved* thereunder, or in violation of a *permit* or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

Exception: Citations for violations of this code may be issued without requiring the issuance of a notice. When a notice is issued, it is not necessary to reissue a notice prior to issuance of any further citations for the same violation, at the same or at different locations.

R113.3 Prosecution of violation. If the notice of violation is not complied with in the time prescribed by such notice, the *building official* is authorized to request the legal counsel of the *jurisdiction* to institute the appropriate proceedings at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant hereto.

R113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the *approved construction documents* or directive of the *building official*, or of a *permit* or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.

Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as prescribed by law.

SECTION R114
STOP WORK ORDER

R114.1 Authority. Whenever the *building official* finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the *building official* is authorized to issue a stop work order.

R~~114.1~~ 114.2 Notice to owner. Upon notice from the *building official* that work on any building or structure is being prosecuted contrary to the provisions of this code or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work and shall state the conditions under which work will be permitted to resume.

R~~114.2~~ 114.3 Unlawful continuance. Any person who shall continue any work ~~in or about the structure~~ after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

SECTION R115
UNSAFE STRUCTURES AND EQUIPMENT

R115.1 Conditions. Structures or existing equipment that are or hereafter become unsafe, insanitary or deficient because of inadequate *means of egress* facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or to the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the *building official* deems necessary and as provided for in this section.

A vacant structure that is not secured against entry shall be deemed unsafe. Materials used to secure a structure, which deteriorate or increase in susceptibility to fire hazard over time, shall be replaced or treated to eliminate the increase of the hazard.

R115.1.1 Unsafe buildings. Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is, for the purpose of this section, an unsafe use. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members that are supported by, attached to, or a part of a building and that are in deteriorated condition or otherwise unable to sustain the design loads that are specified in this code are hereby designated as unsafe building appendages.

All such unsafe buildings, structures or appendages are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in this code or such alternate procedures as may have been or as may be adopted by this jurisdiction. As an alternative, the *building official*, or other employee or official of this jurisdiction as designated by the governing body, may institute any other appropriate action to prevent, restrain, correct or abate the violation.

R115.1.2 Covered work. Any work covered or concealed without inspection shall be considered to constitute an unsafe structure. Such consideration as an unsafe structure shall

code. Inspections will not be performed until a valid active permit is obtained in accordance with this code.

R115.1.3 Dangerous Demolition. The *building official* may order the cessation of the wrecking or demolition of any building or structure within the City when the same is being accomplished in a reckless or careless manner or in such a manner so as to endanger life and property. When such work has been ordered stopped by the *building official*, same shall not be resumed until said official is satisfied that adequate precautions have been or will be taken for protection for life and property. To continue such work without the expressed approval of the *building official* shall constitute a violation of this ordinance, and each day that such work continues shall constitute a separate offense. (Also, see Section 3303 of the Building Code.)

R115.1.4 Dangerous excavation, embankment or fill. See Section 1801.3 of the Building Code.

R115.2 Record. The *building official* shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

R115.3 Notice. If an unsafe condition is found, the *building official* shall serve on the owner, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specified the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time.

R115.4 Method of service. Such notice shall be deemed properly served if delivered in accordance with the standard method accepted by the jurisdiction.

R115.5 Restoration. The structure or equipment determined to be unsafe by the *building official* is permitted to be restored to a safe condition.

SECTION R116
THIRD PARTY PLAN REVIEW AND INSPECTION

R116.1 When approved by the *building official*, Third Party Organizations may be permitted to perform the plan review and/or field inspection provisions of this code. When authorized to perform services, the Third Party Organization shall comply with the provisions of the Building Code.

SECTION R117
INDIVIDUAL OR CONTRACTOR REGISTRATION FOR ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES (GROUP R, DIVISION 3 OCCUPANCIES) OR THEIR ACCESSORY STRUCTURES

R117.1 General. Each individual or business shall list its principals and an official, in its employ, who will be designated as controlling officer. The controlling officer shall be responsible for all permits obtained by him or any employee of his business. Each registered business shall notify the City of Fort Worth, in writing, of its permanent business address and the residential address of its designated official.

R117.2 Fees. A nonrefundable registration fee as specified in Table No. 1-B shall be paid and it shall be valid for a one year period from the date of payment.

R117.3 Individual or contractor identification.

1. Each job site in which a permit is issued to a registered individual or contractor shall be identified with a sign located in the front yard or on the structure front so as to be visible to the street. The sign may not be larger than two (2) feet by two (2) feet and no smaller than one and one-half (1-1/2) feet by one and one-half (1-1/2) feet and must display the individual or contractor's business name and the registration number. The registration number shall be no smaller than two and one-half (2-1/2) inches high.

2. Signs must be posted not more than three days before construction begins, must remain posted during construction and must be removed not more than three days after the final inspection is approved by the city.

3. Signs on projects without a permit and signs put up for longer periods than what is justified by item 2 above will be considered advertising and must comply with the appropriate codes and ordinances.

R117.4 Work performed by employees. All work performed under a permit to a registered individual or contractor must be performed by persons in their direct employ. For the purpose of this section, the term "direct employ" shall include individuals receiving a regular paycheck as payment for performance of duties, as well as, subcontractors for which, under the provisions of this section, the registered individual or contractor is taking responsibility for their work performance. It shall not allow for homeowners to obtain a permit without registration but hire others to do the work.

Individuals or Contractors using their registration to permit jobs for other non-registered individuals will be considered, as well as those non-registered individuals, to be in violation of this code.

R117.5 Revocation of registration. Registration may be revoked by the *building official* for due cause. The Construction and Fire Prevention Board of Appeals may hear revocation appeals by applicants desiring reinstatement.

SECTION R118 - FEE TABLE

TABLE NO. 1-B

1. CFPBOA Application Fee			
(1st item per address)			$125.00
(Each additional item per address)			30.00
2. Permit Application Fee			22.00
3. Demolition and Moving Fees			
Square Footage	1 through 1,000		67.00
	1,001 through 2,000		136.00
	2,001 through 3,000		254.00
	3,001 through 5,000		381.00
	5,001 through 10,000		510.00
	10,001 through 20,000		682.00
	20,001 and above		1364.00
4. Change of Occupancy Permit Fee			72.00
5. Ordinance Inspection Fee (per inspector)			30.00
6. Inspection (Orange) Card Replacement			22.00
7. Record Change Fee (per record or permit)			22.00
8. Plan Review Deposit*			
those requiring circulation		.(40.00)	220.00
those without circulation		.(20.00)	85.00
9. Residential Master Plan Registration			60.00
10. Vendor Certificate of Occupancy for Temporary Vendors			60.00
11. Sidewalk Cafes (valid for one year)			150.00

*Deposit is not required for additions and remodels to existing Group R-3 Occupancies, and for additions, remodels or new construction of their accessory structures. Where the plan review is preformed under the third party option, the deposit shall be the amount in ().

Other Inspections and Fees:

1. Inspections outside of normal business hours (minimum of two hours)	$38.00 per hour
2. Reinspection fee	$27.50
3. Inspections for which no fee is specifically indicated (minimum charge - one-half hour)	$38.00 per hour
4. Additional plan review required by changes, additions or revisions to plans (minimum charge - one-half hour)	$38.00 per hour
for 3rd party Building, Electrical, Mechanical, Plumbing & Energy	$16.50
5. Inspections outside of city limits (commercial)	$49.50[1] per inspector
(residential)	$66.00[1] total

[1] Or $33.00 per hour, whichever is greater.

Part II - Definitions

IRC SECTION R202

**IRC Section R202; definitions are deleted, changed and new definitions are added to read as follows:*

ADDITION. An extension or increase in floor area or height of a building or structure. For use in Chapter 11, Energy Efficiency, the definition shall also mean "An extension or increase in the *conditioned space* floor area or height of a building or structure."

ATTIC. The space between the ceiling beams of the top story and the roof rafters. The installation of decking, other than the minimum decking required for equipment access and maintenance, shall be considered another floor.

ATTIC, HABITABLE. (deleted)

BASEMENT. That portion of a building A *story* that is ~~partly or completely below grade~~ not a *story* above grade plane (see "Story above grade plane").

BUILDING CODE. Building Code shall mean the *International Building Code* as adopted by this jurisdiction.

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code, or duly authorized representative. For the purpose of this code, the regularly authorized deputy shall be as listed in R103.3.

CHANGE OF OCCUPANCY. A change in the purpose or level of activity within a building that involves a change in application of the requirements of this code. The definition shall also apply to the usage of the surrounding site and access to and from the building, structure or site, as necessary to achieve the purpose of this code, and to obtain compliance with other codes and ordinances of this jurisdiction.

EGRESS COURT. A court or yard which provides access to a public way for one or more exits.

ELECTRICAL CODE. Electrical Code shall mean the *National Electrical Code* as adopted by this jurisdiction. For the purpose of this code, all references to NFPA 70 and the *ICC Electrical Code* shall be assumed to mean the Electrical Code as defined herein.

ENERGY CODE. Energy Code shall mean the *International Energy Code* as adopted by this jurisdiction.

FIRE PREVENTION CODE (FIRE CODE). Fire Prevention Code, or Fire Code, shall mean the *International Fire Code* as adopted by this jurisdiction.

FIRE RETARDANT TREATED WOOD. Pressure-treated lumber and plywood in accordance with Sections 2303.2, 2303.2.1, 2303.2.2, 2303.2.3 and 2303.2.4 of the Building Code that exhibit reduced surface burning characteristics and resist propagation of fire.

~~**Other means during manufacture.** A process where the wood raw material is treated with a fire-retardant formulation while undergoing creation as a finished product.~~

~~**Pressure process.** A process for treating wood using an initial vacuum followed by the introduction of pressure above atmospheric~~.

FUEL GAS CODE. Fuel Gas code shall mean the *International Fuel Gas Code* as adopted by this jurisdiction and shall be considered as part of the Plumbing Code. (See Plumbing Code.)

MECHANICAL CODE. Mechanical Code shall mean the *International Mechanical Code* as adopted by this jurisdiction.

OCCUPIED ROOF. Uncovered roof or roof deck, designed to be occupied for uses other than mechanical equipment or building services, including but not limited to swimming pools, dining, amusement, gardens and parking. Such areas shall be considered as another level in which an occupancy exists.

PLUMBING.
For the purpose of using ~~this code, plumbing refers to those installations, repairs, maintenance and *alterations* regulated by~~ Chapters 25 through 33, as adopted, shall mean:

> The practice, materials and fixtures utilized in the installation, maintenance, extension and alteration of all piping, fixtures, plumbing appliances and plumbing appurtenances, within or adjacent to any structure, in connection with sanitary drainage or storm drainage facilities; venting systems, and public or private water supply systems.

For the purpose of complying with the Texas State Plumbing License Law, shall mean:

> All piping, fixtures, appurtenances, and appliances, including disposal systems, drain or waste pipes, or any combination of these that:
> supply, recirculate, drain, or eliminate water, gas, medical gasses and vacuum, liquids, and sewage for all personal or domestic purposes in and about buildings where persons live, work, or assemble; connect the building on its outside with the source of water, gas, or other liquid supply, or combinations of these, on the premises, or the water main on public property; and carry waste water or sewage from or within a building to the sewer service lateral on public property or the disposal or septic terminal that holds private or domestic sewage.
> The installation, repair, service, maintenance, alteration, or renovation of all piping, fixtures, appurtenances, and appliances on premises where persons live, work, or assemble that supply gas, medical gasses and vacuum, water, liquids, or any combination of these, or dispose of waste water or sewage.

PLUMBING CODE. Plumbing Code shall mean the *International Plumbing Code* and the *International Fuel Gas Code* as adopted by this jurisdiction. The term "Plumbing Code" applies to both codes as one combined code.

PLUMBING SYSTEM.
For the purpose of using this code, as adopted, shall mean:

> Includes the water supply and distribution pipes, plumbing fixtures and traps, supports and appurtenances; water-treating or water-using equipment; soil, waste and vent pipes; sanitary drains, storm sewers and building sewers to an approved point of disposal, in addition to their respective connections, devices and appurtenances within a structure or premise.

RESIDENDIAL CODE. Residential Code shall mean the *International Residential Code* as adopted by this jurisdiction.

STORY ABOVE GRADE PLANE. Any *story* having its finished floor surface entirely above *grade plane*, ~~except that a basement shall be considered as a *story* above grade plane~~ or in which ~~where~~ the finished surface of the floor next above ~~the basement meets any one of the following~~ is:

1. ~~is~~ More than 6 feet (1829 mm) *above grade plane*; or
2. ~~is more than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter.~~
3. ~~is~~ More than 12 feet (3658 mm) above the finished ground level at any point.

TOWNHOUSE. A single-family *dwelling unit* constructed in a group of three or more attached units individually separated by property lines in which each unit extends from foundation to roof and with a *yard* or public way on at least two sides.

WALL, RETAINING. A wall ~~not laterally supported at the top,~~ that resists lateral soil load and other imposed loads.

Part III – Building Planning and Construction

IRC TABLE R301.2(1)

**Table R301.2(1); fill in as follows:*

GROUND SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGORY[f]
	Speed[d] (mph)	Topographic Effects [k]	
5 lb/ft^2	90 mph (3-sec-gust)/ 76 fastest mph	NO	A

SUBJECT TO DAMAGE FROM		
Weathering[a]	Frost line depth[b]	Termite[c]
moderate	6"	very heavy

WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
22^o F	NO	local code	69ºF	64.9ºF

IRC TABLE R301.5

**IRC Table R301.5; delete the rows "Attics with limited storage[b,g]", "Habitable attics and attics served with fixed stairs", and footnote g.*

IRC SECTION R302

**IRC SectionR302.1; amended to read as follows:*

R302.1 Exterior walls. Construction, projections, openings and penetrations of *exterior walls* of *dwellings* and accessory buildings shall comply with Table R302.1.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determined the *fire separation distance*.
2. Walls of *dwellings* and *accessory structures* located on the same lot.
3. One-story detached *accessory structures* used as ~~Detached~~ tool sheds and storage sheds, playhouses and similar structures, provided the floor area does not exceed 200 square feet (18.58 m2), ~~exempted from permits~~ are not required to provide wall protection based on location on the *lot*. Projections beyond the *exterior wall* shall not extend over the *lot line*.
4. Dwellings, detached garages, tool sheds, storage sheds and other accessory buildings ~~to a *dwelling*~~ located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm). Projections beyond the *exterior wall* shall not extend over the *lot line*.
5. Foundation vents installed in compliance with this code are permitted.
6. Open metal carport structures may be constructed within zero (0) feet of the property line without fire-resistive or opening protection when the location of such is approved as required by other City ordinances.

**IRC Section R302.2; changed to read as follows:*

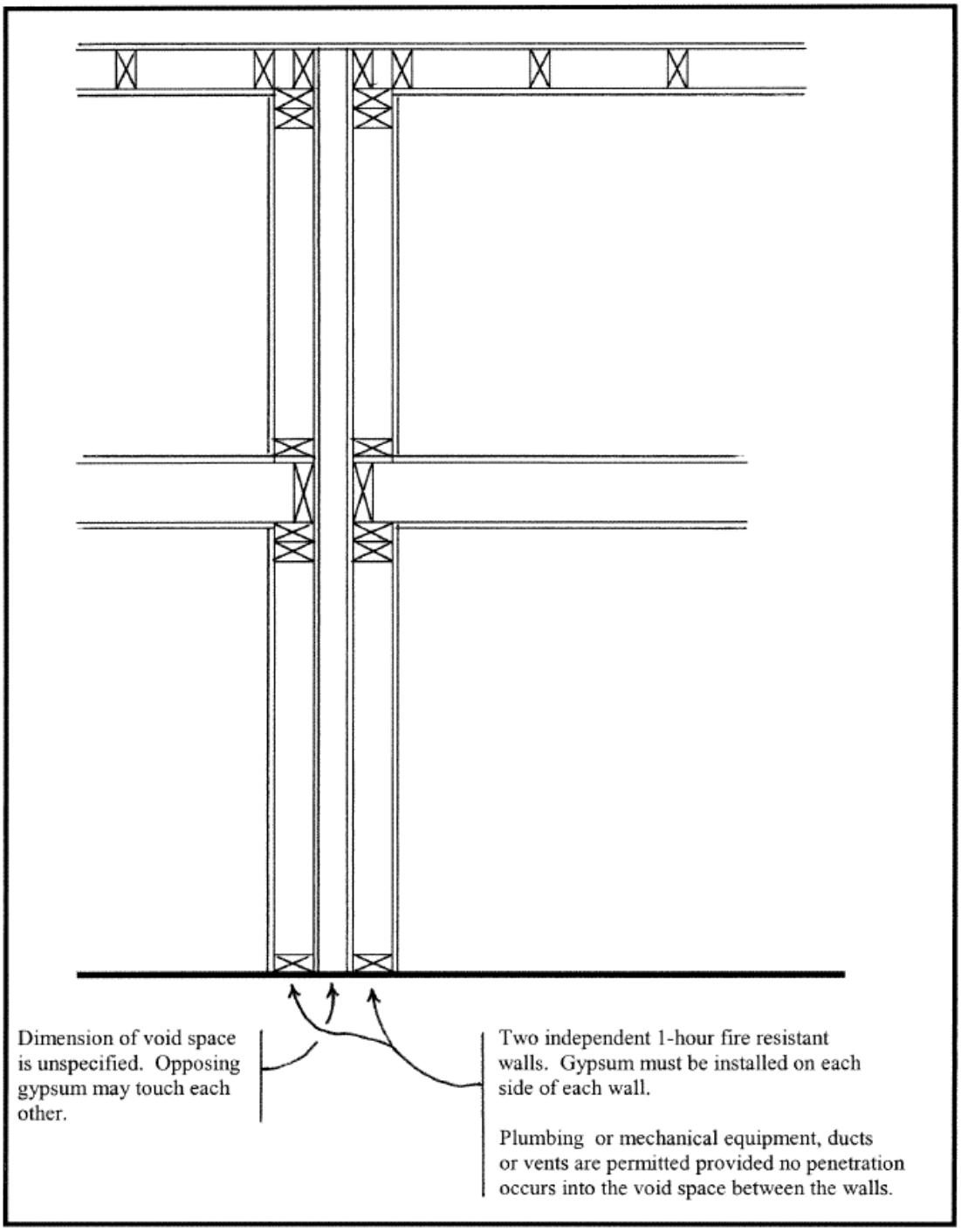
R302.2 Townhouses. Each *townhouse* shall be considered a separate building and shall be separated by two independent 1-hour fire-resistance-rated wall assemblies meeting the requirements of Section R302.1 for exterior walls. (See Figure R302.2(a)).

Exception: A common 2-hour fire-resistance-rated wall assembly, or 1-hour fire-resistance-rated wall assembly when equipped with a fire sprinkler system, tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4. (See Figures R302.2(b) and R302.2(c))

**IRC Section R302.2.4; amend exception 5 to read as follows:*

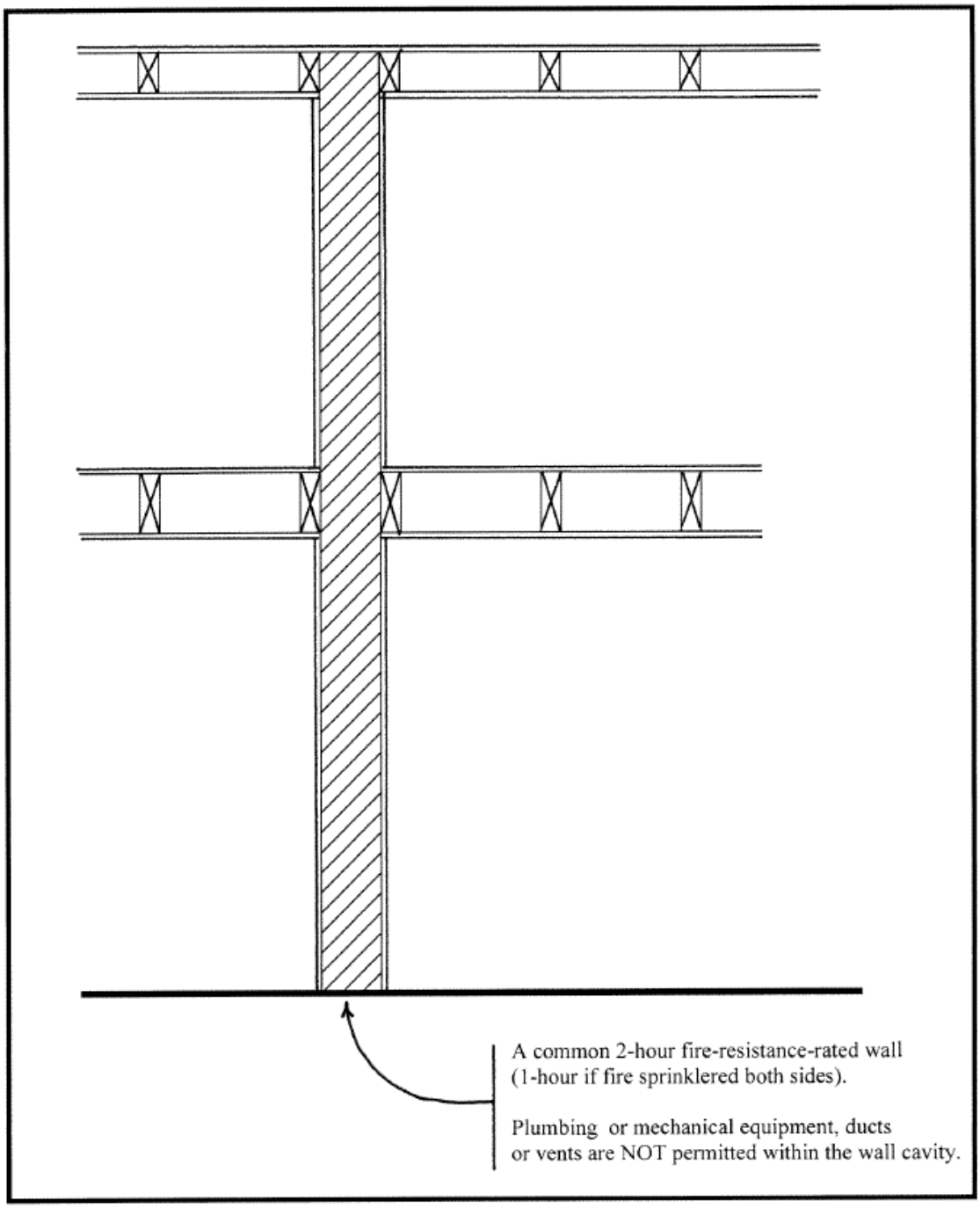
5. *Townhouses* separated by a common ~~1-hour~~ fire-resistance-rated wall as provided in Section R302.2.

Figure R302.2(a)
Townhouse Separation
Two 1-hour walls



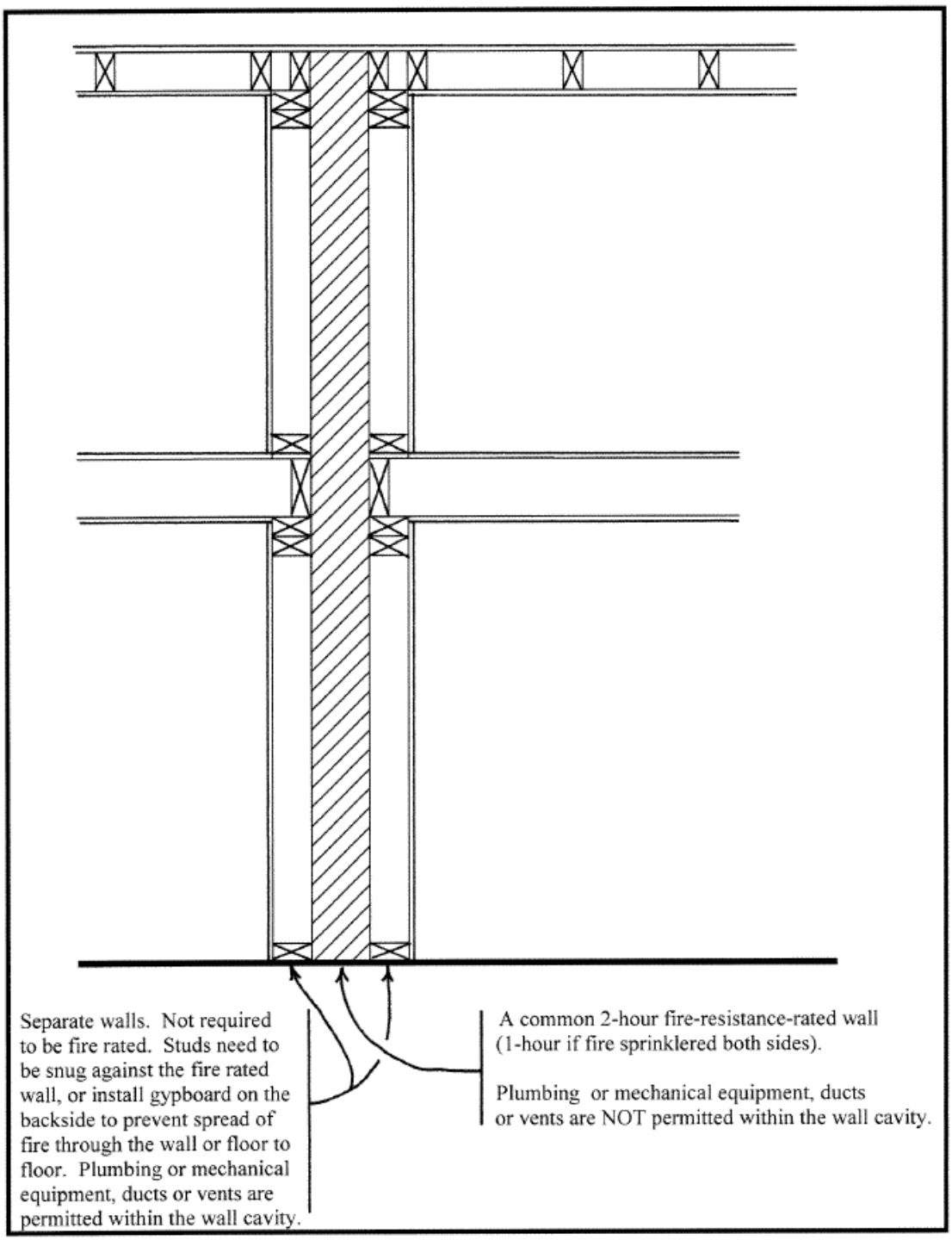
Notes:
For Separation Continuity, See Section R302.2.1.
For Parapets, See Section R302.2.2.
For Penetrations, See Sections R302.4 and R302.5.

Figure R302.2(b)
Townhouse Separation
Single 2-hour Wall (1-hour if fire sprinklered)



Notes:
For Separation Continuity, See Section R302.2.1.
For Parapets, See Section R302.2.2.
For Penetrations, See Sections R302.4 and R302.5.

Figure R302.2(c)
Townhouse Separation
Multiple Walls



Notes:
For Separation Continuity, See Section R302.2.1.
For Parapets, See Section R302.2.2.
For Penetrations, See Sections R302.4 and R302.5.

**IRC Section 302.3; add an exception 3 and 4 to read as follows:*

3. Newly constructed two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.
4. **(RH)** Existing two-family dwelling units divided by a property line with a replat shall comply with this code or with the following:
   a. All penetrations in the existing demising wall will be fire-caulked and sealed to prevent and/or reduce penetration of fire.
   b. All holes shall be appropriately repaired, patched and sealed.
   c. The dividing wall must be continued through the attic space to the underside of the roof deck with no less than 5/8" Type-X gypsum board each side.

**IRC Section 302.5.2; changed to read as follows:*

R302.5.2 Duct penetration. Ducts in the garage . . . *{text unchanged}* . . . material, ~~and~~ shall have no openings into the garage and shall be protected as required by Section R302.11, Item 4.

**IRC Section 302.5.3; changed to read as follows:*

R302.5.3 Other penetrations. Penetrations through the separation required in Section ~~R309.2~~ R302.6 shall be protected as required by Section R302.11, Item 4.

TABLE 302.6

Table 302.6; amended the provision "From all habitable rooms above the garage" and add a footnote "a" to read as follows:

From all habitable rooms above the garage	Not less than 5/8-inch type X gypsum board or equivalent [a]

a. Not less than ½-inch gypsum board or equivalent when the dwelling unit is provided with a fire sprinkler system, and sprinkler head coverage is provided in the garage.

**IRC Section 302.7; changed to read as follows:*

R302.7 Under-stair protection. Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with 5/8-inch (15.8 mm) fire-rated ~~½ inch (12.7 mm)~~ gypsum board or one-hour fire-resistive construction.

Exception: Not less than ½-inch gypsum board or equivalent when the dwelling unit is provided with a fire sprinkler system, and sprinkler head coverage is provided in the enclosed accessible space.

IRC SECTION R303

**IRC Section R303.1; add exception 4 to read as follows:*

4. **Media rooms** may be windowless rooms when in compliance with all of the following:

a. The room is marked as a Media Room on the permit set of plans.
b. The room size complies Section R304 for habitable rooms.
c. The permit submittal contains documentation from the HVAC contractor explaining compliance with the air exchange provisions of exception 1 above; or, it is noted on the plans that the room has a ducted return from that room.
d. The electrical contractor will be required to install lighting in this room in compliance with exception 2 above.
e. The room is designed with no closet that would add probability to the usage of this room as a sleeping room. Minimum shelving or storage space as needed to install electronic equipment or storage media material is acceptable provided the design does not render itself to use as a sleeping room closet.
f. A smoke detector is installed in this room and interconnected with the other smoke detectors.

**IRC Section R303.3, exception; changed to read as follows:*

Exception: The glazed areas shall not be required where artificial light and a mechanical *ventilation* system, complying with one of the following, are provided.

1. The minimum *ventilation* rates shall be 50 cubic feet per minute (24 L/s) for intermittent *ventilation* or 20 cubic feet per minute (10 L/s) for continuous *ventilation*. *Ventilation* air from the space shall be exhausted directly to the outside. For the purpose of this exception, to the outside shall mean through the wall or roof deck using approved products installed in accordance with manufacturer's installation instructions. Or, in lieu of the exterior, bathroom vents may terminate within 6" of an attic eave vent.

2. Bathrooms that contain only a water closet, lavatory or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

**IRC Section 303.7; add exception 4 to read as follows:*

4. Required glazed openings may face into a patio cover when in compliance with Section R325.

**IRC Section R303.8; change to read as follows:*

R303.8 Required heating. ~~When the winter design temperature in Table R301.2(1) is below 60°F (16°C), every~~ Every *dwelling unit* shall be provided with heating facilities capable of maintaining a minimum room temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

IRC SECTION R310

**IRC Section R310; add an exception 2 to read as follows:*

Exceptions: 1. *Basements* used only to house mechanical *equipment* and not exceeding total floor area of 200 square feet (18.58 m 2).

2. The emergency escape and rescue opening is not required in buildings provided throughout with an approved automatic sprinkler system in accordance with NFPA 13 or 13R.

IRC SECTION R311

**IRC Section R311.1; added to read as follows:*

R311.1 Fire separation distance. Exterior stairways and ramps shall have a minimum of 3 feet *fire separation distance* as defined in this code, measured from the outside edge of the stair or ramp.

[F] IRC SECTION R313

**IRC Section R313; deleted.*

IRC SECTION R315

**IRC Section R315.2; add exceptions 1, 2 and 3 to read as follows:*

Exceptions:

1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the *addition* or replacement of windows or doors, or the *addition* of a porch or deck.
2. *Alteration* or repair of electrical, plumbing or mechanical systems.
3. Installation or replacement of non-fuel-fired plumbing or mechanical equipment; however, installation or replacement of fuel-fired plumbing or mechanical equipment shall not be exempted.

IRC SECTION R317

**IRC Section R317.1; change item 3 to read as follows:*

3. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier, except that all exterior wall bottom plates shall be of naturally durable or *preservative-treated wood*.

**IRC Section R317.6; added to read as follows:*

R317.6 Weather exposure. All wood or other products exposed to the weather shall be painted or treated with an approved treatment, or shall posses a natural or inherent protection method.

IRC SECTION R318

**IRC Section R318.1; changed and an exception added to read as follows:*

R318.1 Subterranean termite control. In areas favorable to damage from termites as indicated by Table R301.2(1), methods of protection shall be one of the following methods or a combination of these methods, or provided with other industry accepted methods of termite protection.

{*Items 1 through 6 unchanged*}

Exception: When chemicals or other methods of protection are undesirable to the owner/buyer provided an exposed exterior surface in compliance with Figure R401.3 is provided.

IRC SECTION R322

**IRC Section R322.1; changed to read as follows:*

R322.1 General. Buildings and structures, when permitted to be constructed in whole or in part in flood hazard areas (including A or V Zones) as established ~~in Table R301.2(1)~~ by other applicable regulations shall be designed and constructed in accordance with the provisions specified by the Department of Transportation and Public Works or, when permitted, as contained in this section.

IRC SECTION R324

**IRC Section R324; added to read as follows:*

R324 Wood retaining walls. Wood retaining walls exceeding four (4) feet in height shall be constructed of new wood properly treated for such use. Measurement shall be from the bottom

of the footing to the top of the wall. See Section R105.2, item #3 under Building for retaining walls in succession.

IRC SECTION R325

**IRC Section R325; added to read as follows:*

IRC SECTION R325
PATIO COVERS

R325.1 Scope. Patio covers shall conform to the requirements of this section.

R325.2 Definition.

Patio covers. One-story structures not exceeding 12 feet (3657 mm) in height. Enclosure walls shall be permitted to be of any configuration, provided the open or glazed area of the longer wall and one additional wall is equal to at least 65 percent of the area below a minimum of 6 feet 8 inches (2032 mm) of each wall, measured from the floor. Openings shall be permitted to be enclosed with (1) insect screening, (2) approved translucent or transparent plastic not more than 0.125 inch (3.2 mm) in thickness, (3) glass conforming to the provisions of Section R308, or (4) any combination of the foregoing.

R325.3 Permitted uses. Patio covers shall be permitted to be detached from or attached to *dwelling units*. Patio covers shall be used only for recreational, outdoor living purposes and not as carports, garages, storage rooms or habitable rooms.

R325.4 Light and Ventilation/Emergency Egress. Exterior openings required for light and ventilation shall be permitted to open into a patio structure conforming to Section R325.2, provided that the patio structure shall be unenclosed if such openings are serving as emergency egress or rescue openings from sleeping rooms. Where such exterior openings serve as an exit from the *dwelling unit*, the patio structure, unless unenclosed, shall be provided with exits confirming to the provisions of Section R311.

IRC SECTION R401

**IRC Section 401.3; changed to read as follows:*

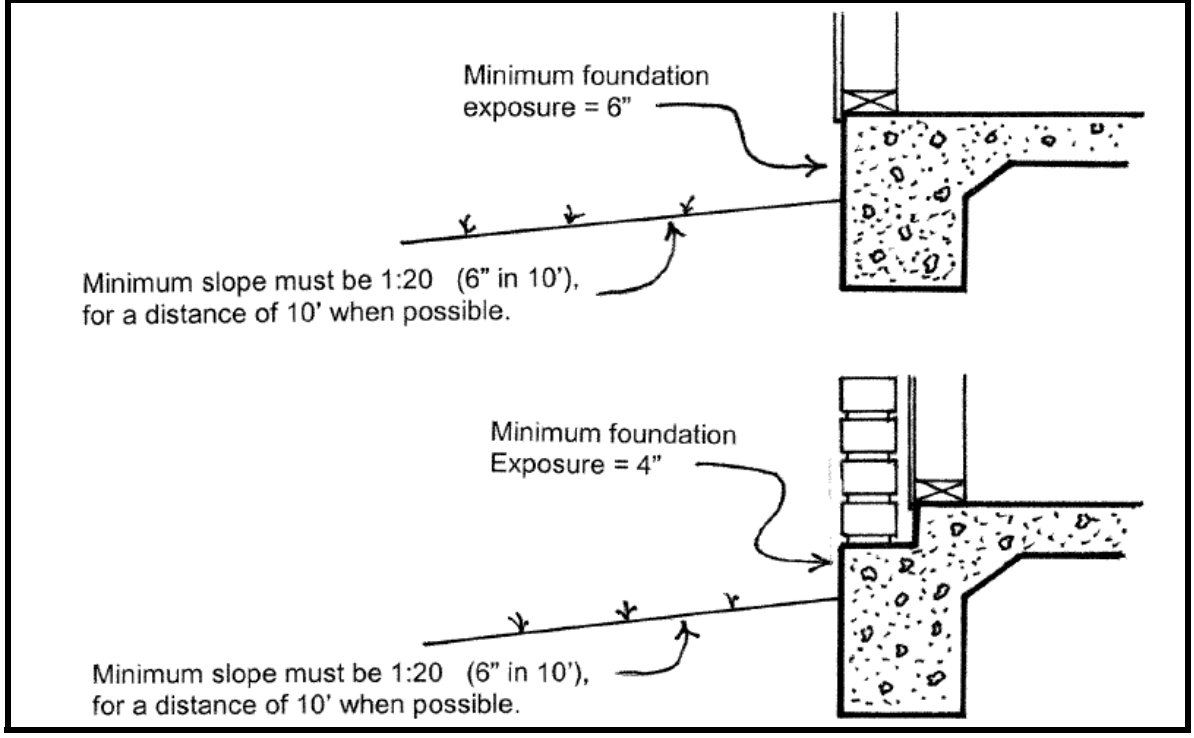
R401.3 Drainage. Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection that does not create a hazard. Lots shall be graded to drain surface water away from the foundation ~~walls~~. The grade shall fall a minimum of 6 inches (152 mm) within the first 10 feet (3048 mm). See Figure R401.3. See also Sections R405.1 and R801.3.

Exception: {*unchanged*}

IRC FIGURE R401.3

**IRC Figure No. 401.3; added as follows:*

Figure R401.3
Drainage and Termite Protection



**IRC Section R401.6; added to read as follows:*

R401.5 Minimum distance of swimming pools from foundations. Swimming pools may not be closer to a building foundation than one horizontal foot at finish grade for every vertical foot of swimming pool depth.

Exceptions:
1. Systems designed by an engineer registered in the State of Texas.
2. Swimming pools 5 feet or greater from the foundation.

For glazing within 60" horizontal distance of the water's edge, see Section R308.4, item 6.

IRC SECTION R403

**IRC Section R403.1.1; add a sentence and a second paragraph to read as follows:*

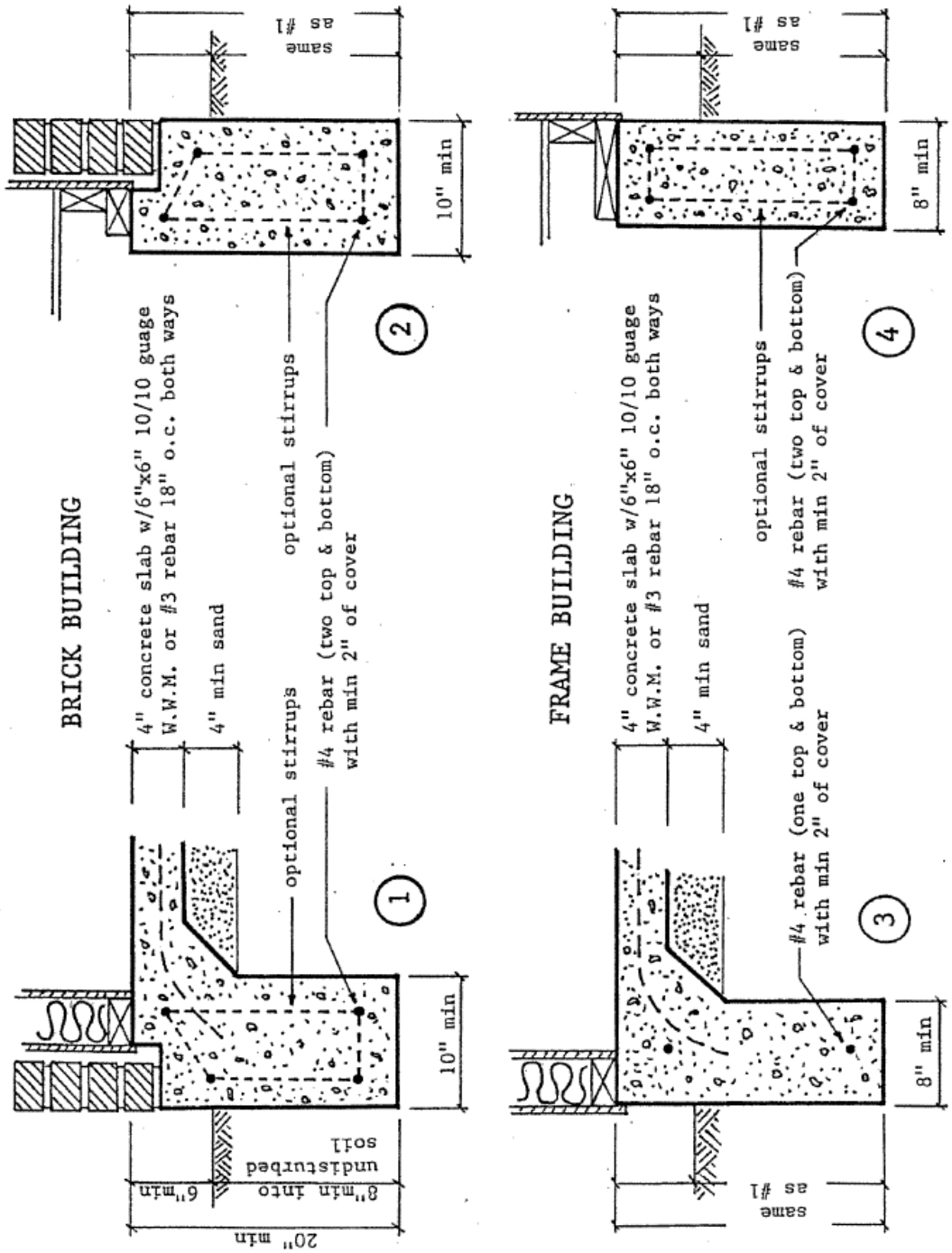
Before using Table R403.1 for any value above 1,500 psf, a report establishing the load-bearing value of the soil shall be submitted.

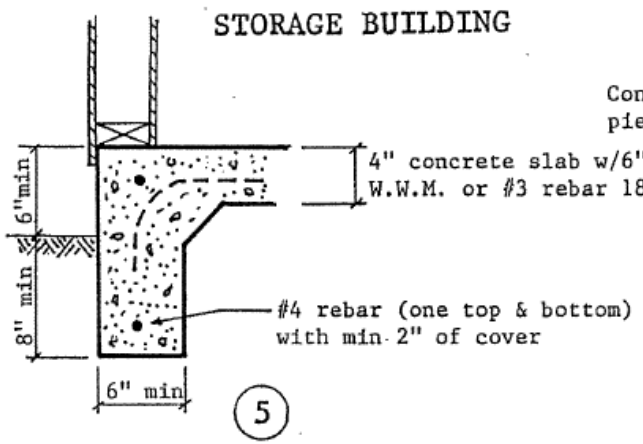
Unless in soils considered inadequate, as determined by the Building Official, for structures of standard construction in which engineering design is not used, Figure No. R403.1.1 may be accepted as an alternate foundation design for the occupancies and conditions specified. See also Sections R403.1.8 and R403.3.

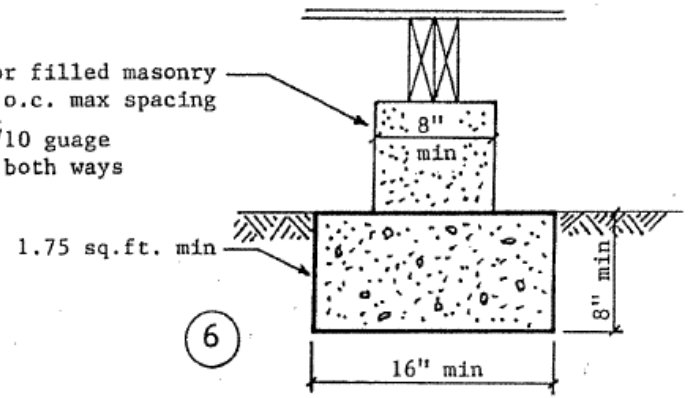
IRC FIGURE R403.1.1

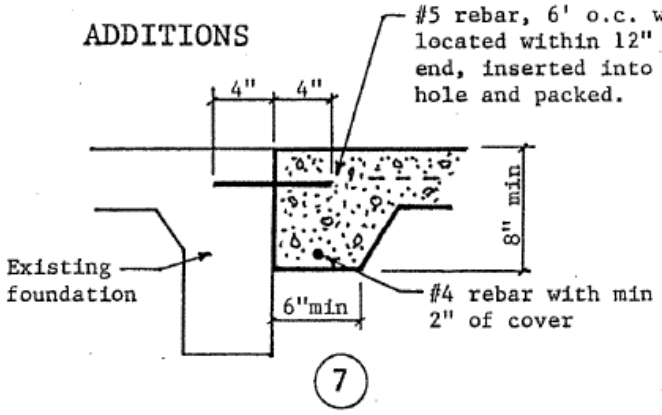
**IRC Figure No. 403.1.1; added as follows:*

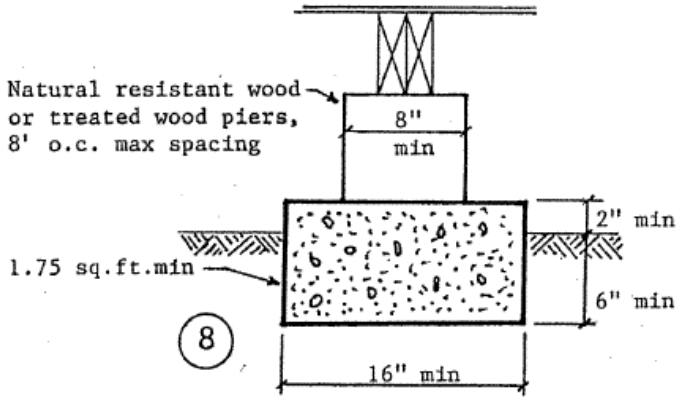
IRC FIGURE NO. R403.1.1











IRC FIGURE NO. R403.1.1

NOTE: When approved by the Building Official, figures #1 through #8 may be used for the following:

1. Groups R and U Occupancies not exceeding two (2) stories in height and of light framing construction; and,
2. Groups B, E, F, H and S Occupancies not exceeding either one (1) story in height, two thousand (2000) square feet in area, or a Unit Live Load of fifty (50) pounds per square foot.

**IRC Section R403.1.6; change exception 1 to read as follows:*

1. Foundation anchorage, spaced as required to provide equivalent anchorage to ½-inch-diameter (12.7 mm) anchor bolts, when approved by the building official.

IRC SECTION R602

**IRC Section R602.6.1; change to read as follows:*

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall . . .*{bulk of section unchanged}* . . . having a minimum length of 1 ½ inches (38 mm) at each side or equivalent. The metal tie must extend a minimum of 6 inches past the opening. See Figure R602.6.1. See also Section P2603.2.1.

Exceptions: 1. When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing. However, piping and duct protection as required in other provisions will still be required.

2. When using a double top plate, a 3 inch wide metal tie with four nails on each side for each plate, a total of eight nails per side, may be used.

IRC SECTION R612

**IRC Section R612; add exception 5 to read as follows:*

5. **(RH)** In the original portion of a historical contributing structure, when creating or installing new windows, or when adjusting the window dimensions of an existing window, the window sill may be as approved by the Historical Cultural and Landmark Commission during their approval process when determined to be appropriate to maintain the historical significance.

IRC SECTION R703

**IRC Section R703.1.3; added to read as follows:*

R703.1.3 Weather exposure. All wood or other products exposed to the weather shall be painted or treated with an approved treatment, or shall posses a natural or inherent protection method.

**IRC Section R703.7.4.1; add a second paragraph to read as follows:*

For 2.67 square feet (0.25 m^2) of wall area, the following dimensions shall be adhered to:

1. When ties are placed on studs 16" o.c., they shall be spaced no further apart than approximately 24" vertically starting approximately 12" from the foundation.
2. When ties are placed on studs 24" o.c., they shall be spaced no further apart than approximately 16" vertically starting approximately 8" from the foundation.

**IRC Section R703.7.4.2; add a second paragraph to read as follows:*

When using ties that will flex when pushed (sheet metal ties), spot bedding of cement mortar shall be installed on all such ties.

IRC SECTION R802

**IRC Section R802.5.1; add an exception to read as follows:*

Exception: In lieu of bracing to a bearing wall, purlins may be braced to a double floor joists using the spans permitted by Table R502.3.1(1), Dead Load = 10 psf, for 12 o.c. spacing. If this double floor is not elevated above the ceiling below, but is installed such that the bottom edge is in contact with the ceiling material, the double joists must comply with the above span provisions, and also be one depth size, nominal 2", larger than the other ceiling joists.

IRC FIGURE 802.5.1(a)

**IRC Figure 802.5.1(a); added as follows:*

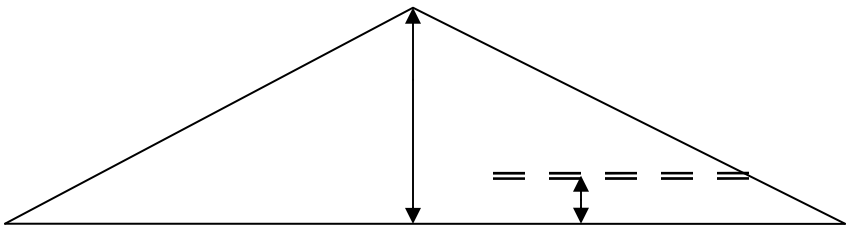


FIGURE R802.5.1(a)
Rafter ties are limited to the lower 1/3 of height ($H_C / H_R \leq 1/3$), measured from top of support walls.
For cathedral ceilings where there is no tie in the lower 1/3, the ridge shall be supported by a wall or the ridge board shall be a girder supported on each end. See Section R802.3.1.

IRC SECTION R902

**IRC Section 902.1; changed and exception 3 added to read as follows:*

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B or C roofing shall be installed ~~in areas designated by law as requiring their use or when the edge of the roof is less than 3 feet (914 mm) from a property line~~. Classes A, B and C roofing required by this section to be listed shall be tested in accordance with UL 790 or ASTM E 108.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry and exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.
3. Non-classified roof coverings shall be permitted on one-story detached buildings of U occupancies having not more than 200 sq.ft. of projected roof area. When exceeding 200 sq.ft. of projected roof area, one-story detached buildings of U occupancies may use non-rated non-combustible coverings.

IRC SECTION R903

**IRC Section R903; delete Sections R903.5, R903.5.1, R903.5.2 and Figure R903.5.*

IRC SECTION R907

**IRC Section 907.1; add a sentence to read as follows:*

All individual replacement shingles or shakes shall comply with Section R902.1.

**IRC Section 907.3; delete condition 4.*

4. ~~For asphalt shingles, when the building is located in an area subject to moderate or severe hail exposure according to Figure R903.5.~~

**IRC Sections R907.7, R907.8 and R907.9; added to read as follows:*

R907.7 Maintain existing provisions. When reroofing, or repairing existing roofing, the installer is required to insure the following items are maintained:

1. Existing roof drains and drainage systems are maintained clear an unobstructed. When in the opinion of the Building Official the existing drainage system appears inadequate, the system shall be re-evaluated and when necessary required to comply with the provisions for new construction.
2. Fire-retardant requirements are maintained.

R907.8 Attic space. Construction of a sloped or flat roof over an existing roof in a manner that creates an attic or a concealed space shall require the removal of any existing roofing material, composed of tar, asphalt or roof insulation, from the newly created attic space.

R907.9 Inspections. When a permit is required, a final inspection and approval shall be obtained from the Building Official when the re-roofing or installation of new roof is complete.

Part IV – Energy Conservation

IRC SECTION N1101

IRC Section N1101.1.1, N1101.1.2 and N1101.1.3; added to read as follows:

N1101.1.1 Historic buildings. Any building or structure that is listed in the State or National Register of Historic Places; designated as a historic property, or identified by the Historic Officer as could be designated, under local or state designation law or survey; certified as a contributing resource with a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National or State Registers of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places, are exempt from the following items, unless judged by the Building Official as a life safety hazard.

Exempted provisions are as follows:

1. Exterior envelope inclusive of vestibules in the exterior envelope.
2. Interior envelope, separating interior conditioned space from interior non-conditioned space, when considered historically significant.
3. Placement, design or installation of light fixtures considered to contribute to the historical significance or ambiance. However, non-historical fixtures shall comply.
4. Any other item determined to be historically significant.

N1101.1.2 Change in space conditioning. Any nonconditioned space that is altered to become *conditioned space* shall be required to be brought into full compliance with this code.

N1101.1.3 Life Safety. Amendments made to this chapter that are determined to be appropriate to support safety, health or environmental requirements will be identified with the notation "(*life safety*)."

**IRC Section N1101.2.2, N1101.2.3 and N1101.2.4; added to read as follows:*

N1101.2.2 Climate designation. For the purposes of this code, the Climate Zone shall be:

Climate Zone 3A (Moist) and Warm-Humid.

Very Heavy Termite Infestation

N1101.2.3 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this chapter may, at the option of the building official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance.

N1101.2.4 Former tradeoffs. Compliance methods permitted by this code or former codes may include a variety of above code options. Such above code options may have been used to allow another design parameter to be reduced. In order to insure that such above code upgrades are not later remodeled away, unless it can be shown that the total building after remodel complies with code, all replacement material, equipment and/or systems shall meet the **most restrictive requirement** of:

1. having an equivalent reduction of energy usage as the replaced material, equipment and/or system; or,
2. comply with the prescriptive provisions of this code.

**IRC Section N1101.3.1; added to read as follows:*

N1101.3.1 Maintenance information. Maintenance instructions shall be furnished for equipment and systems that require preventive maintenance. Required regular maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label shall include the title or publication number for the operation and maintenance manual for that particular model and type of product.

**IRC Section N1101.7.1; deleted and replaced to read as follows:*

N1101.7.1 Protection of exposed foundation insulation. Because of "very heavy" termite classification, designs employing exterior insulation of basements or slabs shall not be utilized.

**IRC Section N1101.9.1; added to read as follows:*

N1101.9.1 Alternate certificate locations. In lieu of locating at the electrical panel, the certificate may be inserted in a clear plastic slip cover when the slip cover is firmly attached or adhered in one of the following accessible locations:

a. The inside of the door of an HVAC closet.
b. The inside of the door of an electric water heater closet.
c. The inside of a kitchen pantry door, kitchen cabinet door, or an inside wall of either.

IRC SECTION N1102

**IRC Section N1102.1; add the following exception:*

Exception: Any glazing facing within 45 degrees of true north need not meet the SHGC.

**IRC N1102.2.1.1; added to read as follows:*

N1102.2.1.1 Attic equipment. Where equipment installed in the attic is required a working area and access pathway in accordance with this or other codes, as applicable, the insulation under such walkway or platform shall not be reduced unless compensated for through an approved method such as the usage of a performance (computer) energy review compliance report.

IRC N1102.2.12; added to read as follows:

N1102.2.12 Insulation installed in walls. Insulation batts installed in walls shall be encapsulated on all sides with framing lumber, gypsum, sheathing, wood structural panel sheathing or other equivalent material to prevent sagging and/or potential draft entry points.

**IRC Section N1102.4.2.1; add a second paragraph to read as follows:*

Approved parties for testing must already be certified by another program such as Energy Star or HERS, or must obtain independent certification from a recognized source such as Texas A&M Energy Systems Laboratory or Texas Home Energy Rating Organization (HERO), or as approved by the Building Official.

IRC SECTION N1103

**IRC Section N1103.2.2; add a second paragraph to read as follows:*

Approved parties for testing must already be certified by another program such as Energy Star or HERS, or must obtain independent certification from a recognized source such as Texas A&M Energy Systems Laboratory or Texas Home Energy Rating Organization (HERO), or as approved by the Building Official.

IRC SECTION N1105

**IRC N1105; added to read as follows:*

SECTION N1105
ENERGY SUSTAINABILITY

N1105.1 General. Voluntary provisions for above code compliance are provided in Appendix R.

Part V - Mechanical

IRC SECTION M1304

**IRC Section M1304.2; added to read as follows:*

M1304.2 Minimum burial depth. Underground fuel piping systems shall be installed a minimum depth of 18 inches (458 mm) below grade.

IRC SECTION M1305

**IRC Section 1305.1.3; changed to read as follows:*

M1305.1.3 Appliances in attics. *Attics* containing *appliances* shall be provided . . . *{bulk of paragraph unchanged}* . . . where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), ~~and~~ or larger where such dimensions are not large enough to allow removal of the largest appliance. As a minimum, access to the attic space shall be provided by one of the following:

1. A permanent stair.
2. A pull down stair.
3. An access door from an upper floor level.
4. An access panel, only when the equipment can be reached from the panel

Exceptions:

1. The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not greater than 50 feet (15 250 mm) in length.

Solid flooring as specified for the passageway of this section shall be flooring that complies with the provisions as required for a floor or shall not be less than one layer of ¾" plywood.

Water heaters shall not be installed in residential attics.

Exception: Tankless water heaters.

**IRC Section M1305.1.3.1; add a sentence to read as follows:*

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

**IRC Section M1305.1.4.3; add a sentence to read as follows:*

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

**IRC Section M1305.1.5; added to read as follows:*

M1305.1.5 Water heaters above ground or floor. When the mezzanine or platform in which a water heater exceeding a capacity of 10 gallons is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Exception: A maximum 10 gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and is installed not more than ten (10) feet (3049 mm) above the ground or floor level and may be reached with a portable ladder.

M1305.1.5.1 Whenever the mezzanine or platform is not adequately lighted or access to a receptacle outlet is not obtainable from the main level, lighting and a receptacle outlet shall be provided in accordance with Section M1305.1.3.1.

IRC SECTION M1307

**IRC Section M1307.3.1; delete.*

IRC SECTION M1411

**IRC Section M1411.3.2; changed to read as follows:*

M1411.3.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, ~~polybutylene~~, polyethylene, ABS, CPVC or PVC (schedule 80 PVC when exposed to ultra violet light) pipe or tubing. All components shall be selected for the pressure, ~~and~~ temperature and exposure rating of the installation. Joints and connections shall be made in accordance with the materials specified in Chapter 30. Condensate waste and drain line size shall be not less than the discharge size of the pan but not less than ¾-inch (19 mm) internal diameter and shall not . . . *{bulk of paragraph unchanged}* . . . in accordance with ~~an *approved* method~~ Table 314.2.2 of the *International Plumbing Code*. All horizontal sections of drain piping shall be installed in uniform alignment at a uniform slope.

IRC SECTION M1502

**IRC Section M1502.4.1; add a sentence to read as follows:*

The size of duct shall not be reduced along its developed length nor at the point of termination.

**IRC Section M1502.4.4.1; changed to read as follows:*

M1502.4.4.1 Specified length. The maximum length of the exhaust duct shall be 35 ~~25~~ feet (10668 ~~7620~~ mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.4.1.

**IRC Section 1502.4.5; changed to read as follows:*

M1502.4.5 Length identification. Where the exhaust duct is concealed within the building construction and the length is approved to exceed the maximum length specified in Section M1502.4.4.1, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.

IRC SECTION M1507

**IRC Section M1507.2; add an exception to read as follows:*

Exception: Toilet rooms within private dwellings that contain only a water closet, lavatory or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

IRC SECTION M2005

**IRC Section M2005.1; changed to read as follows:*

M2005.1 General. Water heaters shall be installed in accordance with the manufacturer's installation instructions and the requirements of this code. Water heaters, other than tankless water heaters, shall not be installed in an *attic*. Access to water heaters shall conform to the requirements of Section M1305~~.1.3~~. Gas-fired water heaters shall . . . *{remainder of paragraph unchanged}*.

**IRC Section 2005.2; changed to read as follows:*

M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that *combustion air* will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the *International Energy Conservation Code* and equipped with an approved self-closing device. Installation of direct-vent water heaters within an enclosure is not required.

**IRC Section 2005.2.1; changed to read as follows:*

M2005.2.1 Water heater access. Access to tankless water heaters that are located in an *attic* or any water heater located in an underfloor crawl space is permitted to be through a closet located in a sleeping room or bathroom where *ventilation* of those spaces is in accordance with this code.

Part VI - Fuel Gas

IRC SECTION G2404

**IRC Section G2404.11; added to read as follows:*

G2404.11 Location. Except as otherwise provided in this Code or other applicable ordinances, no fuel gas system or parts thereof shall be located in any lot other than the lot which is the site of the building, structure, or premises served by such facilities.

No subdivision, sale, or transfer of ownership of existing property shall be made in such manner that the area, clearance, and access requirements of this Code are decreased.

IRC SECTION G2408

**IRC Section G2408.3; delete.*

IRC SECTION G2412

**IRC Section 2412.5; add a second paragraph to read as follows:*

Both ends of each section of medium pressure corrugated stainless steel tubing (CSST) shall identify its operating gas pressure with an approved tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING
1/2 to 5 psi gas pressure
Do Not Remove"

IRC SECTION G2413

**IRC Section G2413.3 (614.6.1); add an exception to read as follows:*

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of 1/2".

IRC SECTION G2415

**IRC Section G2415.5; add a second paragraph to read as follows:*

Piping other than black or galvanized steel shall not be installed within 1 ½ inches of the roof deck where roofing nails can penetrate unless protected by shield plates.

**IRC Section G2415.7; changed to read as follows:*

G2415.7 (404.7) Above-ground piping outdoors. All aboveground *piping* installed outdoors shall be elevated not less . . .*{remainder of section unchanged}* . . . shall be sealed.

**IRC Section G2415.9; changed to read as follows:*

G2415.10 (404.10) Minimum burial depth. Underground *piping systems* shall be installed a minimum depth of ~~12~~ 18 inches (~~305~~ 458 mm) below grade~~, except as provided for in Section G2415.10.1~~.

**IRC Section G2415.10.1; delete.*

IRC SECTION G2417

**IRC Section G2417.1; changed to read as follows:*

G2417.1 (406.1) General. Prior to acceptance and initial operation, all *piping* installations shall be inspected and *pressure tested* to determine that the materials, design, fabrication, and instillation practices comply with the requirements of this *code*. The *permit* holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.5 to determine compliance with the provisions of this code. The *permit* holder shall give reasonable advance notice to the *building official* when the *piping system* is ready for testing. The *equipment*, material, power and labor necessary for the inspections and test shall be furnished by the *permit* holder and the *permit* holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

**IRC Section G2417.1.3; delete.*

**IRC Section G2417.4, G2417.4.1 and G2417.4.2; changed to read as follows:*

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a diaphragm gauge ~~manometer or with a pressure-measuring device~~ designed and calibrated to read, record or indicate a pressure loss caused by leakage during the *pressure test* period. The source of pressure shall be isolated before the *pressure tests* are made. ~~Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.~~ Gauges shall be calibrated per manufacturer's recommendation or at a minimum of one (1) time per year, to insure accuracy.

G2417.4.1 (406.4.1) Test pressure. {*no change*}.

G2417.4.2 (406.4.2) Test duration. Test duration shall be held for a length of time satisfactory to the code official, but not less than 15 ~~10~~ minutes.

**IRC Section 2417.4.3; added to read as follows:*

G2417.4.3 (406.4.3) Mixed gas piping systems. Welded and non-welded gas piping systems shall not be mixed without the installation of cut-off devices so that each system can be isolated and tested separately as required in this section.

Existing mixed piping systems lawfully in existence at the time of the adoption of this code may remain. Any retesting of such a mixed system shall be at the lower testing pressure required for the piping involved. Such a system shall be so labeled with the operating pressure in a manner as required by the Code Official.

**IRC Sections G2417.7 through G2417.7.4; deleted and replaced to read as follows:*

G2417.7 (406.7) Purging requirements. The purging of piping shall be in accordance with Sections G2417.7.1 through G2417.7.3.

G2417.7.1 (406.7.1) Piping systems required to be purged outdoors. The purging of piping systems shall be in accordance with the provisions of Sections G2417.7.1.1 through G2417.7.1.4 where the piping system meets either of the following:

1. The design operating gas pressure is greater than 2 psig.
2. The piping being purged contains one or more sections of pipe or tubing greater than 2 inches in nominal size and exceeding the lengths in Table 2417.7.1.1.

G2417.7.1.1 (406.7.1.1) Removal from service. Where existing gas piping is opened, the section that is opened shall be isolated from the gas supply and the line pressure vented in accordance with Section G2417.7.1.3. Where gas piping meeting the criteria of Table G2417.7.1.1 is removed from service, the residual fuel gas in the piping shall be displaced with an inert gas.

Table G2417.7.1.1 (406.7.1.1)
Size and Length of Piping

Nominal Pipe Size (inches)	Length of Piping (feet)
2 ½	> 50
3	> 30
4	> 15
6	> 10
8 or larger	Any length

For SI units: 1 inch = 25.4 mm; 1 ft = 304.8 mm.

G2417.7.1.2 (406.7.1.2) Placing in operation. Where gas piping containing air and meeting the criteria of Table G2417.7.1.1 is placed in operation, the air in the piping shall first

be displaced with an inert gas. The inert gas shall then be displaced with fuel gas in accordance with Section G2417.7.1.3.

G2417.7.1.3 (406.7.1.3) Outdoor discharge of purged gases. The open end of a piping system being pressured vented or purged shall discharge directly to an outdoor location. Purging operations shall comply with all of the following requirements:

1. The point of discharge shall be controlled with a shutoff valve.
2. The point of discharge shall be located at least 10 feet from sources of ignition, at least 10 feet from building openings and at least 25 feet from mechanical air intake openings.
3. During discharge, the open point of discharge shall be continuously attended and monitored with a combustible gas indicator that complies with Section G2417.7.1.4.
4. Purging operations introducing fuel gas shall be stopped when 90% fuel gas by volume is detected within the pipe.
5. Persons not involved in the purging operations shall be evacuated from all areas within 10 feet of the point of discharge.

G2417.7.1.4 (406.7.1.4) Combustible gas indicator. The combustible gas indicator used during purging operations shall be listed and shall be calibrated in accordance with the manufacturer's instructions and recommended schedule. The combustible gas indicator used for pipe discharge monitoring shall numerically display a volume scale from 0% to 100% with a resolution of not greater than 1% increments.

G2417.7.2 (406.7.2) Piping systems allowed to be purged indoors or outdoors. The purging of piping systems shall be in accordance with the provisions of Section G2417.7.2.1 where the piping system meets both of the following:

1. The design operating gas pressure is 2 psig or less.
2. The piping being purged is constructed entirely from pipe or tubing of 2 inch nominal size or smaller, or larger size pipe or tubing with lengths shorter than specified in Table G2417.7.1.1.

G2417.7.2.1 (406.7.2.1) Purging procedure. The piping system shall be purged in accordance with one or more of the following:

1. The piping shall be purged with fuel gas and shall discharge to the outdoors.
2. The piping shall be purged with fuel gas and shall discharge to the indoors or outdoors through an appliance burner not located in a combustion chamber. Such burner shall be provided with a continuous source of ignition.
3. The piping shall be purged with fuel gas and shall discharge to the indoors or outdoors through a burner that has a continuous source of ignition and that is designed for such purpose.
4. The piping shall be purged with fuel gas that is discharged to the indoors or outdoors, and the point of discharge shall be monitored with a listed combustible gas detector in accordance with G2417.7.2.2. Purging shall be stopped when fuel gas is detected.
5. The piping shall be purged by the gas supplier in accordance with written procedures.

G2417.7.2.2 (406.7.2.2) Combustible gas detector. The combustible gas detector used during purging operations shall be listed and shall be calibrated or tested in accordance with the manufacturer's instructions and recommended schedule. The combustible gas detector used for pipe discharge monitoring shall indicate the presence of fuel gas.

G2417.7.3 (406.7.3) Purging appliances and equipment. After the piping system has been placed in operation, appliances and equipment shall be purged before being placed into operation.

IRC SECTION G2420

**IRC Section G2420.1.4; added to read as follows:*

G2420.1.4 (409.1.4) Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the valve. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

IRC SECTION G2421

**IRC Section G2421.1 (410.1); add a second paragraph and exception to read as follows:*

Access to regulators shall comply with the requirements for access to appliances as specified in Section M1305.

Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

IRC SECTION G2439

**IRC Section G2439.5.1; changed to read as follows:*

G2439.5 (614.6) Domestic clothes dryer exhaust ducts. Exhaust ducts for domestic *clothes dryers* shall conform to the requirements of Sections ~~G2429.5.1~~ G2439.5.1 through ~~G2429.5.7~~ G2439.5.7. The size of duct shall not be reduced along its developed length nor at the point of termination.

**IRC Section G2439.5.6; changed to read as follows:*

G2439.5.6 (614.6.6) Length identification. Where the exhaust duct is concealed within the building construction and the length is approved to exceed the maximum length specified in Section G2439.5.5.1, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.

IRC SECTION G2445

**IRC Section G2445.2; changed to read as follows:*

G2445.2 (621.2) Prohibited use. One or more *unvented room heaters* shall not be used as the sole source of comfort heating in a dwelling unit.

> **Exception:** Existing approved unvented heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when approved by the building official unless an unsafe condition is determined to exist as described in Section R115.

IRC SECTION G2448

**IRC Section G2448.1.1; changed to read as follows:*

G2448.1.1 (624.1.1) Installation requirements. The requirements for *water heaters* relative to access, sizing, *relief valves*, drain pans and scald protection shall be in accordance with the this code. Water heaters, other than tankless water heaters, shall not be installed in attics.

Part VII - Plumbing Code

IRC SECTION P2503

**IRC Section P2503.8.1 and P2503.8.2; changed to read as follows:*

P2503.8.1 (312.10.1) Inspections. Annual inspections shall be made of all backflow prevention assemblies to determine whether they are operable. In the absence of local provisions, the owner is responsible to ensure that testing is performed.

P2503.8.2 (312.10.2) Testing. Reduced pressure principle backflow preventers, double check valve assemblies, reduced pressure detector fire protection backflow prevention assemblies, double detector check valve assemblies, hose connection backflow preventers,

spillproof vacuum breakers and pressure vacuum breaker assemblies shall be tested at the time of installation, immediately after repairs or relocation and at least annually. The testing procedure shall be performed in accordance with applicable local provisions. In the absence of local provisions, the owner is responsible to ensure that testing is done in accordance with one of the standards listed in the Plumbing Code Section 312.

IRC SECTION P2602

**IRC Section P2602.3; added to read as follows:*

P2602.3 (308.1) Location. Except as otherwise provided in this Code or other applicable ordinances, no plumbing system, drainage system, building sewer, private sewage disposal system or parts thereof, shall be located in any lot other than the lot which is the site of the building, structure, or premises served by such facilities.

No subdivision, sale, or transfer of ownership of existing property shall be made in such manner that the area, clearance, and access requirements of this Code are decreased.

IRC SECTION P2603

**IRC Section P2603.2.2; added to read as follows:*

P2603.2.2 (305.9)Protection of components of plumbing system. Components of a plumbing system installed within 3 feet along alleyways, driveways, parking garages or other locations in a manner in which they would be exposed to damage shall be recessed into the wall or otherwise protected in an approved manner.

**IRC Section P2603.6; changed to read as follows:*

P2603.6 Freezing. In localities having a winter design temperature of 32 degrees (0° C) or lower as shown in Table R301.2(1) of this code, a water, soil or waste pipe shall not be installed outside of a building, in exterior walls, in attics or crawl spaces, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by insulation (3/4" wall in attics or under floor and ½" wall in exterior walls) or heat or both. Water service shall be installed not less than 12 inches (305 mm) deep and not less than 6 inches (152 mm) below the frost line.

**IRC Section P2603.6.1; changed to read as follows:*

P2603.6.1 (305.6.1) Sewer depth. ~~*Building sewers* that connect to private sewage disposal systems shall be a minimum of [number] inches (mm) below finished *grade* at the point of septic tank connection.~~ *Building sewers* shall be a minimum of 12 inches (304 mm) below *grade*.

IRC SECTION P2706

**IRC Section P2706.1.1; added to read as follows:*

P2706.1.1 (805.1) Condensate waste. When the condensate waste from air conditioning coils discharges by direct connection to a lavatory tailpiece or to an approved accessible inlet on a bathtub overflow, the connection shall be located in the area controlled by the same person controlling the air-conditioned space.

**IRC Section P2706.2; changed to read as follows:*

P2706.2 (802.4) Standpipes. Standpipes shall be individually trapped. Standpipes shall extend a minimum of 18 inches (457 mm) and a maximum of 42 inches (1067 mm) above the trap weir. Access shall be provided to all standpipe traps and drains for rodding. Standpipes serving automatic clothes washers shall have their traps above the floor level. No standpipe shall be installed below the ground.

IRC SECTION P2709

**IRC Section P2709.1 (417.5); add an exception to read as follows:*

Exception: Showers designed to comply with ICC/ANSI A117.1 need not have a threshold.

**IRC Section P2709.2 (417.5.2); change the second paragraph to read as follows:*

The lining material shall extend not less than 3 inches (76 mm) beyond or around the rough jambs and not less than 3 inches (76 mm) above finish thresholds and shall extend outward over the threshold and fastened to the outside of the threshold jamb. Sheet-applied load bearing, bonded waterproof membranes shall be applied in accordance with the manufacturer's installation instructions.

**IRC P2724.1 (501.8); add a sentence to read as follows:*

Temperature controls of a water heater shall not be used as the temperature control for tempered water.

IRC SECTION P2801

**IRC Section P2801.6; add an exception to read as follows:*

Exception: Elevation of the ignition source is not required for water heaters that are listed as flammable vapor resistant and for installation without elevation.

**IRC Section P2801.7; add to read as follows:*

P2801.7 (606.1) Cold water line valve. The cold water branch line from the main water supply line to each water storage tank or water heater shall be provided with a valve as specified in Section P2903.9.2.

IRC SECTION P2803

**IRC Section P2803.6.1; changed to read as follows:*

P2803.6.1 (504.6.1) Requirements for discharge piping. The discharge piping serving a pressure-relief valve, temperature relief valve or combination valve shall:

1. Not be directly connected to the drainage system.
2. When the drain pipe is run exposed in an area outside of the room where the water heater is located, in a manner that would make it subject to damage, the drain shall discharge through an *air gap* located in the same room as the water heater.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the point of disposal ~~*air gap*~~.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   Exception: Multiple relief devices of a single tenant may be installed to a single T & P discharge piping system when *approved* by the code official and permitted by the manufacture's installation instructions and installed with those instructions. Relief devices of multiple tenants may only share the same discharge system when *approved* by the code official and the discharge point is in a common area under the building owner's control.

5. Discharge to the floor drain, ~~to the pan serving the water heater or storage tank~~, to an indirect waste receptor or to the outdoors. The point of disposal shall not be in another tenant area. Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an *air gap* located in a conditioned area. The discharge pipe shall not discharge into the pan required in Section P2801.5.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor drain or waste receptor. When discharging outside the building, the point of discharge shall be with the end of the pipe not more than two (2) feet (610 mm) nor less than six (6) inches (152

pointing downward.

11. Not have a threaded connection at the end of the piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section P2904.5 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

IRC SECTION P2901

**IRC Section P2901.1 (608.8); add the following sentence:*

Systems using rainwater harvesting, Reclaimed Water, Gray Water or Industrial Reclaimed Water systems shall comply with Plumbing Code Appendix H, Water Recovery.

IRC SECTION P2902

**IRC Section P2902.3; changed to read as follows:*

P2902.3 (608.1) Backflow protection. A means of protection against backflow shall be provided in accordance with applicable local regulations and Sections P2902.3.1 through P2902.3.6. Backflow prevention applications shall conform to Table P2902.3, except as specifically stated in Sections P2902.4 through P2902.5.5.

IRC SECTION P2903

**IRC Section P2902.5.3; changed to read as follows:*

P2902.5.3 (608.16.5) Lawn Irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall . . . *{remainder of section unchanged}* . . . backflow preventer.

**IRC Section P2903.2.1; added to read as follows:*

P2903.2.1 (604.4.1) State maximum flow rate. Where the State mandated maximum flow rate is more restrictive than those of this section, the State flow rate shall take precedence.

**IRC Section P2903.9.2; change to read as follows:*

P2903.9.2 (606.1) Water heater or hot water storage tank valve. A *readily*

accessible full-open valve shall be installed in the cold-water supply pipe to each water heater or hot water storage tank at or near the water heater or hot water storage tank. The valve shall be accessible on the same floor, located near the equipment and only serving the hot water storage tank or water heater. The valve shall not interfere or cause a disruption of the cold water supply to the remainder of the cold water system.

IRC SECTION P3001

**IRC Section P3001.4; added to read as follows:*

P3001.4 (701.10) Abandoned building sewers and private disposal systems. All abandoned building sewers and private sewer disposal systems shall be plugged or capped in an approved manner. All abandoned treatment tanks and seepage pits shall have the contents pumped and discarded in an approved manner. The top or entire tank shall be removed and the remaining portion of the tank or excavation shall be filled immediately after connection to a public sewer system or after abandonment of a private sewage disposal system. The permittee shall be responsible for the filling of the tank.

IRC SECTION P3005

**IRC Section P3005.2.6; changed to read as follows:*

P3005.2.6 (708.3.4) Upper terminal ~~Base of stack.~~ Each horizontal drain shall be provided with a cleanout at its upper terminal ~~A cleanout shall be provided at the base of each waste or soil stack.~~

Exception: Cleanouts may be omitted on a horizontal drain less that five (5) feet (1524 mm) in length unless such line is serving sinks or urinals.

**IRC Section P3005.2.7.1; added to read as follows:*

P3005.2.7.1 (708.3.2) Building sewer cleanouts. Building sewers shall be provided with cleanouts located not more than 100 feet (30 480 mm) apart measured from the upstream entrance of the cleanout.

IRC TABLE P3005.4.1

**IRC Table P3005.4.1 (710.1(1)); add a footnote "c" for 3" diameter pipe to read as follows:*

[c]Not more than three (3) water closets shall be permitted on any 3 inch diameter horizontal branch or drain.

IRC TABLE P3005.4.2

**IRC Table P3005.4.2 (710.1(2)); add a footnote "c" for 3" diameter pipe to read as follows:*

[c]Not more than three (3) water closets shall be permitted on any 3 inch diameter horizontal branch or drain.

IRC SECTION P3103

**IRC Section P3103.1; changed to read as follows:*

P3103.1 (904.1) Roof extension. Open vent pipes that extend through a roof shall be terminated at least 6 inches (152 mm) above the roof ~~or 6 inches (152 mm) above the anticipated snow accumulation, which ever is greater~~, except that where a roof is to be used for any purpose other than weather protection, the vent extension shall be run at least 7 feet (2134 mm) above the roof.

IRC SECTION P3111

**IRC Section P3111.1; changed to read as follows:*

P3111.1 (912.1) Type of fixture. A combination waste and vent system shall not serve fixtures other than floor drains, standpipes, ~~sinks and lavatories~~ and indirect waste receptors. A combination waste and vent system shall not receive the discharge of a food waste grinder.

Part VIII - Electrical Code

IRC CHAPTER 33 THROUGH 43

**IRC Chapters 33 through 43; delete and replace with the following:*

The Electrical Code, as adopted elsewhere, shall serve as the Electrical provisions of this code. All references to NFPA 70 shall mean the Electrical Code as adopted.

Appendix

IRC APPENDIX SECTION AG101

**IRC Appendix Section AG101.1; add a second, third and fourth paragraph to read as follows:*

The purpose of this section is to provide a higher degree of protection against potential drowning, especially among children, through the use of safety barriers. It is not intended as a substitute for adult supervision of children in pool areas or adult responsibility for supervision of access to such areas.

The city recommends that all persons be taught how to swim.

The provisions of this section may be enforced by other code enforcement divisions of this city but interpretation authority shall be retained by the Building Official.

IRC APPENDIX SECTION AG102

**IRC Appendix Section AG102.1; amend the definition of "Barrier" to read as follows:*

BARRIER. A permanent fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

IRC APPENDIX SECTION AG105

**IRC Appendix Section AG105.2, item #4; add an exception to read as follows:*

Exception: When horizontal members are part of a fence that is at least 6 feet (1830 mm) in height, the horizontal members need not be on the pool side of the barrier.

**IRC Appendix Section AG 105.2, item #9; delete.*

**IRC Appendix Section AG 105.2.1; added to read as follows:*

AG 105.2.1 Exceptions.

1. The side of an outdoor swimming pool facing a private golf course or other restricted access area where the erection of barriers is prohibited by deed restrictions need not have the required barrier on that side.

2. Natural topographical barriers such as lakes, rivers, retaining walls, impenetrable hedges, and inaccessible inclines may be substituted as part of the barrier.

**IRC Appendix Section AG 105.3; delete.*

IRC APPENDIX J

**IRC Appendix J; delete and replace to read as follows:*

APPENDIX J

Existing Buildings and Structures

SECTION AJ101 - GENERAL

AJ101.1 (3401.1) Scope. The provisions of this chapter shall control the alteration, repair, addition and change of occupancy of existing structures as well as prescribe retroactive provisions. Regardless of the date of construction, buildings and structures shall be maintained in accordance with the provisions required at the date of construction, except that buildings shall, as a minimum, comply with the provisions expressed in this appendix.

Exception: When permitted by the code official, buildings and structures may be allowed to use provisions of more modern codes in lieu of maintaining the provisions required at the date of construction.

AJ101.2 (3401.2) Maintenance. Buildings and structures, and parts thereof, shall be maintained in a safe and sanitary condition. Devices or safeguards which are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance of buildings and structures. To determine compliance with this subsection, the building official shall have the authority to require a building or structure to be reinspected. The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection and safety systems and devices in existing structures.

AJ101.3 (3401.3) Compliance with other codes. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy in this and any other code adopted by this jurisdiction.

SECTION AJ102 - ADDITIONS, ALTERATIONS OR REPAIRS

AJ102.1 (3403, 3404, 3405) Existing buildings or structures. Additions, alterations or repairs to any building or structure shall comply with the requirements of this code for new construction. Additions or alterations shall not be made to an existing building or structure which will cause the existing building or structure to be in violation of any provisions of this code. Portions of the structure not altered and not affected by the alteration are not required to comply with the code requirements for a new structure.

Exception: For buildings and structures in flood hazard areas established by other city ordinances, any additions, alterations or repairs that constitute substantial improvement of the existing structure, as defined in the Building Code Section 1612.2, shall comply with the flood design requirements for new construction and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design as determined by the Director of Transportation and Public Works.

AJ102.2 (3403, 3404, 3405) Structural. Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. Where repairs are made to structural elements of an existing building, and uncovered structural elements are found to be unsound or otherwise structurally deficient, such elements shall be made to conform to the requirements for new structures.

AJ102.2.1 Existing live load. Where an existing structure heretofore is altered or repaired, the minimum design loads for the structure shall be the loads applicable at the time of erection, provided that the public safety is not endangered thereby.

AJ102.2.2 Live load reduction. If the approved live load is less than required by this code, the areas designed for the reduced live load shall be posted in with the approved load. Placards shall be of an approved design.

AJ102.3 Nonstructural. Alterations or repairs to an existing building or structure that are non-structural and do not adversely affect any structural member or any part of the building or structure having required fire resistance are permitted to be made with the same materials of which the building or structure is constructed.

AJ102.4 (3404, 3408.3) Stairways. An alteration or the replacement of an existing stairway in an existing structure shall not be required to comply with the requirements of a new stairway as outlined in Section R314, where, in the opinion of the Building Official, the existing space and construction will not allow a reduction in pitch or slope nor will it create a hazardous situation.

SECTION AJ103 - GLASS REPLACEMENT

AJ103.1 (3407) Conformance. The installation or replacement of glass shall be as required for new installations, except that glass only replacements in existing sash and frame need not meet the new standards of Chapter 11, provided it does not reduce the current energy rating.

AJ103.2 Replacement fenestration. Regardless of the category of work, when all of an existing fenestration unit, including frame, sash and glazed portion is replaced, the replacement fenestration shall comply with the requirements of Section N1102.3.6.

SECTION AJ104 - HISTORIC BUILDINGS

AJ104.1 (3409) Historic Buildings. The provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard.

For Energy provisions, see Section N1101.1.1.

SECTION AJ105 - MOVED STRUCTURES

AJ105.1 (3410) Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

SECTION AJ106 - ALL STRUCTURES

AJ106 (4601.1) Scope. The provisions of this section shall apply to all existing buildings lawfully constructed prior to the adoption of this code. The provisions are applicable at any time a building is found to be non-compliant, whether work is being performed or not. These provisions may be enforced by other code enforcement divisions of this city but interpretation authority shall be retained by the building official.

AJ106.1 (4607) Certificate of Occupancy. All uses shall require a certificate of occupancy as required by Section R110.1.

AJ106.2 (4603.6) Fire Alarms/Smoke Detectors. Regardless of the date of occupancy, approved fire alarms/smoke detectors shall be provided in accordance with the ordinance under which they were constructed, or in accordance with Section R314, and when applicable Section AJ108, whichever is more restrictive.

AJ106.3 (4603.4) Fire-suppression systems. Fire suppressions systems shall be installed as required by the Fire Code Chapter 46.

AJ106.4 (4608) Swimming Pool Barriers. Compliance shall be as listed below:

1. For pools constructed on or after October 1, 1993 for use with Group R, Division 3 Occupancies, see the appropriate provisions in the code in effect when the pool was constructed as follows:
   a. 12-4-98 to 7-1-01, see 1997 UBC, Appendix Chapter 4 with amendments - Ord 13625.
   b. 7-1-01 to present, see IBC Chapter 31 and IRC Appendix Chapter G with amendments, as adopted at the time of construction.

2. For pools owned, controlled, or maintained by the owner of a multiunit rental complex or by a property owners association, see the appropriate state law, Chapter 214, Local Government Code, Subchapter C, "Swimming Pool Enclosures", and Subtitle A, Title 9, Health and Safety Code, Chapter 757, "Pool Yard Enclosures". Primary enforcement authority is by the Health Department.

3. For public pools, see the appropriate state law, Texas Department of Health Standards for Public Swimming Pool/Spa, Sections 265.181 through 265.207. Primary enforcement authority is by the Health Department.

4. For all other pools not covered by items 1, 2 or 3 above, regardless of date of installation, see Chapter 31 of the Building Code.

AJ107 (4609) Minimum Building Standards Code. As provided for in Section 7-67, and as further detailed in Sections 7-87, 7-88, 7-89, 7-90 and 7-91 of the City Code, which is more specifically known as the Minimum Building Standards Code, those provisions setting minimum standards that relate to Building Code items for buildings and structures shall be considered as part of this code.

Enforcement of these sections may be performed by other departments or divisions of the City of Fort Worth. However, as provisions of this code, final interpretation, appeals of interpretation, requests for variances, etc. shall be handled as described in this code.

SECTION AJ108 – RENTED OR LEASED RESIDENTIAL OCCUPANCIES

[F] AJ108.1 Rented or leased residential occupancies. For purposes of this section, the term dwelling unit shall include the following:

1. All one-family, two-family, and multi-family dwellings, including manufactured homes.
2. All one-family, two-family and multi-family dwellings where one or more rooms are rented for use as permanent residence under a single lease.

[F] AJ108.1.1 Smoke detectors. All dwelling units which are currently rented, leased or sub-leased, or are hereafter rented, leased, or sub-leased shall be provided with smoke detectors for the occupants which meet the requirements of the ordinance under which construction or Section R314, whichever is more restrictive. Those occupancies which are leased for the first time or to a new lessee shall have smoke detectors installed

prior to occupancy by the lessee. The smoke detector purchase and installation shall be the sole responsibility of the landlord.

[F] AJ108.1.2 Duty to inspect and repair. Upon commencement of a tenant's possession of a dwelling unit containing a smoke detector, the landlord shall have a duty to test the smoke detector to verify that it is in working order. Upon installation of a smoke detector by a landlord after commencement of the tenant's possession of a dwelling unit, the landlord shall have a duty to test the smoke detector to verify that it is in good working order. Documentation verifying compliance with this provision shall be submitted to the fire code official upon request.

[F] AJ108.1.3 Notice of malfunction. During the term of the rental agreement or any renewal or extension thereof, the landlord shall have a duty to inspect and repair a smoke detector only if the tenant has given notice to the landlord of malfunction or has made a request to the landlord for inspection or repair. The notice to the landlord need not be in writing unless written notice is required in the rental agreement. The landlord shall comply with the tenant's request for inspection and repair within a reasonable time, considering the availability of material, labor and utilities.

[F] AJ108.1.4 Cause of malfunction. A landlord shall not have a duty to repair a smoke detector if the damage or malfunction is caused by the tenant or the tenant's family, guest or invitee during the term of the rental agreement or any renewal or extension period of the rental agreement. Provided, however, a landlord shall have a duty to repair or replace a smoke detector covered by this subsection if the tenant pays in advance for the reasonable cost of repair or replacement, including labor, materials, taxes, and overhead.

[F] AJ108.1.5 Testing. A landlord shall have satisfied the duty to inspect or repair a damaged or malfunctioning smoke detector if, after a test of the smoke detector, the test indicates that the smoke detector is in good working order.

[F] AJ108.1.6 Battery replacement. After commencement of possession by the tenant of a dwelling unit, the landlord shall have no duty to provide replacement batteries for a battery operated smoke detector which was in good working order according to a test of the smoke detector at the time of commencement of possession by the tenant.

[F] AJ108.1.7 Offense. A person commits an offense if, as landlord of a dwelling unit, that person:

1. Fails to install a smoke detector in compliance with this section; or
2. Fails to test or repair a smoke detector in compliance with this section; or
3. Allows a dwelling unit to be occupied without obtaining documentation signed by both the landlord (or his authorized representative) and the tenant verifying compliance with this section. This documentation shall be furnished to the fire chief on request.

IRC APPENDIX K

IRC Appendix K; added to read as follows:

APPENDIX K

SOUND INSULATION REQUIREMENTS FOR NOISE SENSITIVE USES NEAR AIRPORTS

SECTION AK101
GENERAL

AK101.1 Scope. The regulations and requirements shall apply to all new residential buildings and new noise-sensitive non-residential buildings, as defined herein, that are located wholly or partially within the boundaries of the 65 DNL or greater noise contours as designated in Figure AK101.1(1).

The term "new" shall apply to new detached buildings built after the effective date of this ordinance, and shall include later additions or modifications to those same buildings. The term shall also include a Change of Occupancy in existing buildings from a non-protected occupancy to one of the protected occupancies listed herein.

Buildings in existence prior to the effective date, and additions to or modifications of those same buildings, shall not be required to comply, except when a Change of Occupancy from a non-protected occupancy to one of the protected uses is involved.

SECTION AK102
DEFINITIONS

AK102.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

Aircraft noise – is generally expressed in terms of it's A-weighted sound level, in units called "decibels." Strictly speaking, the decibel unit should be abbreviated only by "dB"; however, for clarity "dBA" and "dB(A)" are often used to highlight the fact that the sound level measurement has been A-weighted.

Noise exposure – in areas around airports is expressed in terms of the Day-Night Average Sound Level, which is abbreviated by "DNL" in text and "L_{dn}" in equations.

NOISE-SENSITIVE NON-RESIDENTIAL BUILDINGS –

1. Nursing homes and hospitals, generally classified as Group I; and
2. Child day care centers, Adult day care centers and schools, generally classified as Group E and Group I-4.

RESIDENTIAL STRUCTURES: Single-family, Two-family, Townhouse, Multi-family, and Assisted Living uses, generally classified as Group R, whether in a single occupancy or mixed occupancy.

Sound insulation properties – of building construction materials are described by Sound Transmission Loss (TL) or Sound Transmission Class (STC). The higher the TL or STC value, the less sound will be transmitted through the building material.

SECTION AK103
PURPOSE

AK103.1 General. All buildings and structures with protective uses, as applicable under this chapter, shall be required to have minimum sound insulation standards and requirements to protect the persons within designated noise sensitive buildings from excessive exterior noise through regulation of design, construction and modification of such buildings. After proper sound insulation measures are taken, the interior sound level, attributable to exterior sources, shall not exceed 45 dB.

With the request for a building permit application, or Change of Use permit application, submitted plans shall show evidence of compliance with the sound insulation requirements. Compliance shall consist of submittal of an acoustical analysis report as follows:

1. In accordance with the prescriptive requirements of Section AK104 or the default ratings of Section AK105; or
2. Any qualified design prepared under by a person experienced in the field of acoustical engineering or a registered architect.

SECTION AK104
BUILDING REQUIREMENTS

AK104.1 General. Compliance with the following prescriptive provisions shall be deemed to be in compliance with this chapter.

AK104.2 Building requirements for construction in the 65 dB zone.

1. **Exterior Walls.**
   Walls that form the exterior envelope may be as listed below and shall be constructed as follows:

   a. Wood walls with studs at least 4 inches in nominal depth. Exterior finish shall be stucco, minimum 7/8-inch thickness, brick veneer, masonry, or any siding

Wall insulation shall be at least R-13 glass fiber, or mineral wool or equal and shall be installed continuously throughout the stud space. Foam insulation, as permitted by this code, shall be accepted provided it solidifies to a spongy state and not solid or rigid.

Interior wall finish shall be at least ½" gypsum wallboard

b. Masonry or concrete load bearing walls. Masonry walls with a surface weight of less than 40 pounds per square foot will require an interior supporting studwall that is finished as required by Item a above.

c. Or, it is permitted to use any wall designated in Section AK105 with a default STC value of 25* or greater.

2. Exterior Windows

Windows in the exterior envelope shall be constructed as follows:

a. All openable windows in the exterior walls shall have a laboratory sound transmission class rating of at least STC 30 dB and shall have air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283; or, shall be double thermopane windows meeting the requirements of the Energy Code.
b. All fixed windows in the exterior walls shall be at least ¼-inch thick and shall be set in non-hardening glazing materials; or, shall be double thermopane windows meeting the requirements of the Energy Code.
c. Or, it is permitted to use any window designated in Section AK105 with a default STC value of 25* or greater.
d. The total area of glazing in rooms used for sleeping shall not exceed 20 percent of the floor area.

3. Exterior Doors

a. Exterior hinged doors shall be as follows:
    1. a door and edge seal assembly that has a laboratory sound transmission class rating of at least STC 30 dB; or
    2. a door, other than a hollow core wood door, that complies with the Energy Code; or,
    3. any door installed with a storm door; or,
    4. doors installed as part of a vestibule.
b. Sliding glass doors shall have glass that has a laboratory sound transmission class rating of at least STC 30 dB; or, shall be a sliding glass door that complies with the Energy Code.

c. Access doors from a garage to a room within a dwelling shall have a laboratory sound transmission rating of at least STC 30 dB; or, shall comply with the Energy Code as a door in the exterior envelope.
d. Or, it is permitted to use any door designated in Section AK105 with a default STC value of 25* or greater.

v. View windows in doors and sidelights shall comply with item 2 above, unless used in a door as listed in 3a above.

4. Roof/Ceiling Construction

a. Roof rafters shall have a minimum slope of 4:12 and shall be covered on their top surface with ½-inch solid sheathing and any roof covering allowed by this code. An accessible attic space shall be provided above rooms on the uppermost level of Group R buildings.
b. Commercial type flat roofs are permitted if insulated as required by the Energy Code and a separate lay-in ceiling is added below with an airspace between the two.
c. Cathedral ceilings are discouraged but, if installed, must have enough space to install the insulation of Item d below, with a minimum of 6" air space between the insulation and the roof deck.
d. Attic insulation shall be batt or blown-in glass fiber or mineral wool with a minimum R-30 rating applied between the ceiling joists.
e. Attic ventilation, when installed, shall be:
    1. Gable vents or other attic vents that penetrate the attic enclosure shall be fitted with a ½" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced. Or,
    2. Eave vents that are located under the roof overhang.
f. Ceilings shall be finished with gypsum board or plaster that is at least 5/8-inch thick;
    or,
    ½" gypsum board on resilient channels (RC) installed 16" o.c. perpendicular to the joists. Gypsum screws into the RC shall not be long enough to penetrate the wood stud by more than ¼" if occurring over the stud location;
    or,
    a lay-in ceiling with an airspace.
g. Skylights shall penetrate the ceiling by means of a completely enclosed light well that extends from the roof opening to the ceiling opening. A secondary openable glazing panel shall be mounted at the ceiling line and shall be glazed with at least 3/16-inch plastic, tempered or laminated glass. The weather-side skylight shall be any type that is permitted by this code. The total size of skylights shall be no more than 20 percent of the roof area of the room.

5. Floors

The floor of the lowest occupied rooms shall be slab on fill, below grade or over a fully enclosed basement or crawlspace. All door and window openings in the fully enclosed basement shall be tightly fitted. All crawlspace vents must be fitted with a ½" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced.

6. Ventilation

a. A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of the Mechanical Code, in each room without opening any windows, door or other opening to the exterior. Openable windows or doors will not be counted for compliance with the fresh air provisions. Fresh air must be brought in through the HVAC system.
b. Window and/or through-the-wall ventilation or air-conditioning units shall not be used.
c. All vent ducts connecting the interior space to the outdoors shall contain at least a ten-foot length of internal sound-absorbing duct lining. Each duct shall be provided with a ninety-degree (right angle) bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Residential bathroom vents discharging at an eave vent need only to have two ninety-degree (right angle) bends.
d. Kitchen cooktop vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior.

7. Fireplaces

Each fireplace constructed of masonry units shall be fitted with a spark arrestor, a damper as required by code and shall have glass doors across the front of the firebox.

8. Wall and Ceiling Openings

Openings in the exterior that degrades its ability to achieve an interior rating of 45 dB or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail delivery drops, air conditioning, or other openings must be designed to maintain the 45 dB or less standard in the room to which they provide access.

At the penetration of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked at the pipe duct or conduit or filled with mortar to the wall.

*STC ratings may overstate the actual attenuation provided by as much as 3 dB, therefore, 25 STC rating in lieu of 20 is mandated.

AK104.3 Building requirements for construction in the 70 dB zone.

1. **Exterior Walls**
   Walls that form the exterior envelope may be as listed below and shall be constructed as follows:

   a. Wood walls with studs at least 4 inches in nominal depth. Exterior finish shall be stucco, minimum 7/8-inch thickness, brick veneer, masonry, or any siding material allowed by this code. Wood, metal or cementitious fiber siding shall be installed over ½-inch solid sheathing.

      Wall insulation shall be at least R-13 glass fiber, or mineral wool or equal and shall be installed continuously throughout the stud space. Foam insulation, as permitted by this code, shall be accepted provided it solidifies to a spongy state and not solid or rigid.

      Interior wall finish shall be at least 5/8-inch gypsum wallboard or plaster;
      or,
      ½" gypsum wallboard installed on resilient channels (RC) installed 16" o.c. perpendicular to the studs. Gypsum screws into the RC shall not be long enough to penetrate the wood stud by more than ¼" if occurring over the stud location.

   b. Masonry or concrete load bearing walls. Masonry walls with a surface weight of less than 40 pounds per square foot will require an interior supporting studwall that is finished as required by Item a above.

   c. Or, it is permitted to use any wall designated in Section AK105 with a default STC value of 30* or greater. When using door/window openings with a default STC value of less than 30 STC but not less than 25 STC, the STC of the wall shall be downrated by 20%.

2. **Exterior Windows**
   Windows in the exterior envelope shall be constructed as follows:
   a. All openable windows in the exterior walls shall have a laboratory sound transmission class rating of at least STC 35 dB and shall have air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.
   b. All fixed windows in the exterior walls of rooms shall:
      1. Have a laboratory sound transmission class rating of at least STC 35 db, or
      2. Be 5/8-inch laminated glass with a laboratory sound transmission class rating of at least STC 35 db and shall be set in non-hardening glazing materials, or
      3. Be glass block at least 3-1/2 inches thick.
   c. Or, it is permitted to use any window designated in Section AK105 with a default STC value of 30* or greater.
   d. The total area of glazing in rooms used for sleeping shall not exceed 20 percent of the floor area.

3. Exterior Doors

a. Exterior hinged doors shall be as follows:
   1. a door and edge seal assembly that has a laboratory sound transmission class rating of at least STC 35 dB; or
   2. a door, other than a hollow core wood door, that complies with the Energy Code and installed with a storm door; or,
   3. doors installed as part of a vestibule.

b. Sliding glass doors shall have glass that has a laboratory sound transmission class rating of at least STC 35 dB.

c. Access doors from a garage to a room within a dwelling shall have a laboratory sound transmission rating of at least STC 30 dB; or, shall comply with the Energy Code as a door in the exterior envelope.

d. Or, it is permitted to use any door designated in Section AK105 with a default STC value of 30* or greater.

e. View windows in doors and sidelights shall comply with item 2 above, unless used in a door as listed in 3a above.

4. Roof/Ceiling Construction

a. Roof rafters shall have a minimum slope of 4:12 and shall be covered on their top surface with ½-inch solid sheathing and any roof covering allowed by this code. An accessible attic space shall be provided above rooms on the uppermost level of Group R buildings.

a. Commercial type flat roofs are permitted if insulated as required by the Energy Code and a separate lay-in ceiling is added below with an airspace between the two.

b. Cathedral ceilings are discouraged but, if installed, must have ¾" solid decking above, enough space to install the insulation of Item d below, with a minimum of 6" air space between the insulation and the roof deck.

c. Attic insulation shall be batt or blown-in glass fiber or mineral wool with a minimum R-30 rating applied between the ceiling joists.

e. Attic ventilation, when installed, shall be:
   1. Gable vents or other attic vents that penetrate the attic enclosure shall be fitted with a ½" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced. Or,
   2. Eave vents that are located under the roof overhang.

f. Ceilings shall be finished with gypsum board or plaster that is at least 5/8-inch thick. Ceiling materials shall be mounted on resilient channels;
   or,
   a lay-in ceiling with an airspace.

g. Skylights shall penetrate the ceiling by means of a completely enclosed light well that extends from the roof opening to the ceiling opening. A secondary openable glazing panel shall be mounted at the ceiling line or at a point that provides at least a 4-inch space between the skylight glazing and the secondary glazing and

shall be glazed with at least 3/16-inch plastic or laminated glass. The weather-side skylight shall be any type that is permitted by this code. The total size of skylights shall be no more than 20 percent of the roof area of the room.

5. Floors

The floor of the lowest occupied rooms shall be slab on fill, below grade or over a fully enclosed basement or crawlspace. All door and window openings in the fully enclosed basement shall be tightly fitted. All crawlspace vents must be fitted with a ½" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced.

6. Ventilation

a. A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of the Mechanical Code, in each room without opening any windows, door or other opening to the exterior. Openable windows or doors will not be counted for compliance with the fresh air provisions. Fresh air must be brought in through the HVAC system.
b. Window and/or through-the-wall ventilation or air-conditioning units shall not be used.
c. All vent ducts connecting the interior space to the outdoors shall contain at least a ten-foot length of internal sound-absorbing duct lining. Each duct shall be provided with a ninety-degree (right angle) bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Residential bathroom vents discharging at an eave vent need only to have two ninety-degree (right angle) bends.
d. Kitchen cooktop vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior.

7. Fireplaces

Each fireplace constructed of masonry units shall be fitted with a spark arrestor, a damper as required by code and shall have glass doors across the front of the firebox.

8. Wall and Ceiling Openings

Openings in the exterior that degrades its ability to achieve an interior rating of 45 dB or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail delivery drops, air conditioning, or other openings must be designed to maintain the 45 dB or less standard in the room to which they provide access.

At the penetration of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked at the pipe duct or conduit or filled with mortar to the wall.

*STC ratings may overstate the actual attenuation provided by as much as 3 dB, therefore, 30 STC rating in lieu of 25 is mandated.

AK104.4 Building requirements for construction in the 75 dB or greater areas.

1. **Exterior Walls**
   Walls that form the exterior envelope may be as listed below and shall be constructed as follows:

   a. Wood walls with studs at least 4 inches in nominal depth. Exterior finish shall be stucco, minimum 7/8-inch thickness, brick veneer, masonry, or any siding material allowed by this code. Wood, metal or cementitious fiber siding shall be installed over 3/4-inch solid sheathing.

      Wall insulation shall be at least R-13 glass fiber, or mineral wool or equal and shall be installed continuously throughout the stud space. Foam insulation, as permitted by this code, shall be accepted provided it solidifies to a spongy state and not solid or rigid.

      Interior wall finish shall be at least 5/8-inch gypsum wallboard installed on resilient channels (RC) installed 16" o.c. perpendicular to the studs. Gypsum screws into the RC shall not be long enough to penetrate the wood stud by more than ¼" if occurring over the stud location.

   b. Masonry or concrete load bearing walls. Masonry walls with a surface weight of less than 40 pounds per square foot will require an interior supporting studwall that is finished as required by Item a above.

   c. Or, it is permitted to use any wall designated in Section AK105 with a default STC value of 35* or greater. When using door/window openings with a default STC value of less than 35 STC but not less than 30 STC, the STC of the wall shall be downrated by 20%.

2. **Exterior Windows**
   Windows in the exterior envelope shall be constructed as follows:
   a. All openable windows in the exterior walls shall have a laboratory sound transmission class rating of at least STC 40 dB and shall have air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.
   b. All fixed windows in the exterior walls of rooms shall:
      1. Have a laboratory sound transmission class rating of at least STC 40 db, or
      2. Be 5/8-inch laminated glass with a laboratory sound transmission class rating of at least STC 40 db and shall be set in non-hardening glazing materials, or
      3. Be glass block at least 3-1/2 inches thick.
   c. Or, it is permitted to use any window designated in Section AK105 with a default STC value of 35* or greater.
   d. The total area of windows and doors in rooms used for sleeping shall not exceed 20 percent of the floor area.

3. Exterior Doors

a. Exterior hinged doors shall be as follows:
   1. a door and edge seal assembly that has a laboratory sound transmission class rating of at least STC 40 dB; or
   2. a solid-core wood or insulated metal door at least one (1) inch thick separated by an airspace of at least four (4) inches from another door, which can be a storm door. Both doors shall be tightly fitted and weather-stripped; or,
   3. doors installed as part of a vestibule.

b. Sliding glass doors shall have glass that has a laboratory sound transmission class rating of at least STC 40 dB;
   or,
   a double sliding glass door, separated by a minimum four-inch airspace. Each door shall comply with the air leakage rate of the Energy Code. Glass shall be at least three-sixteenths (3/16) inch thick but not equal in thickness between the two doors, and tempered or laminated.

c. Access doors from a garage to a room within a dwelling shall have a laboratory sound transmission rating of at least STC 30 dB; or, shall comply with the Energy Code as a door in the exterior envelope.

d. Or, it is permitted to use any door designated in Section AK105 with a default STC value of 35* or greater.

e. View windows in doors and sidelights shall comply with item 2 above, unless used in a door as listed in 3a above.

f. The joint between the wall opening and the door frame shall be continuously filled with glass fiber insulation and the exterior cover trim shall be continuously caulked to seal the joint.

4. Roof/Ceiling Construction

a. Roof rafters shall have a minimum slope of 4:12 and shall be covered on their top surface with ½-inch solid sheathing and any roof covering allowed by this code. An accessible attic space shall be provided above rooms on the uppermost level of Group R buildings.

b. Commercial type flat roofs are permitted if insulated as required by the Energy Code and a separate lay-in ceiling is added below with an airspace between the two.

c. Cathedral ceilings are discouraged but, if installed, must have 1” solid decking above, have enough space to install the insulation of Item d below, with a minimum of 6” air space between the insulation and the roof deck. Structural information shall be provided confirming adequate support of the decking.

d. Attic insulation shall be batt or blown-in glass fiber or mineral wool with a minimum R-30 rating applied between the ceiling joists.

e. Attic ventilation, when installed, shall be:
   1. Gable vents or other attic vents that penetrate the attic enclosure shall be fitted with a ½" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site

perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced. Or,

2. Eave vents that are located under the roof overhang.

f. Ceilings shall be finished with gypsum board or plaster that is at least 5/8-inch thick. Ceiling materials shall be mounted on resilient channels;
or,
a lay-in ceiling with an airspace.

g. Skylights shall penetrate the ceiling by means of a completely enclosed light well that extends from the roof opening to the ceiling opening. A secondary openable glazing panel shall be mounted at the ceiling line or at a point that provides at least a 4-inch space between the skylight glazing and the secondary glazing and shall be glazed with at least 3/16-inch plastic or laminated glass. The weather-side skylight shall be any type that is permitted by this code. The total size of skylights shall be no more than 20 percent of the roof area of the room.

5. Floors

The floor of the lowest occupied rooms shall be slab on fill, below grade or over a fully enclosed basement or crawlspace. All door and window openings in the fully enclosed basement shall be tightly fitted. All crawlspace vents must be fitted with a ½" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced.

6. Ventilation

a. A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of the Mechanical Code, in each room without opening any windows, door or other opening to the exterior. Openable windows or doors will not be counted for compliance with the fresh air provisions. Fresh air must be brought in through the HVAC system.

b. Window and/or through-the-wall ventilation or air-conditioning units shall not be used.

c. All vent ducts connecting the interior space to the outdoors shall contain at least a ten-foot length of internal sound-absorbing duct lining. Each duct shall be provided with a ninety-degree (right angle) bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Residential bathroom vents discharging at an eave vent need only to have two ninety-degree (right angle) bends.

d. Kitchen cooktop vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior.

7. Fireplaces

Each fireplace constructed of masonry units shall be fitted with a spark arrestor, a damper as required by code and shall have glass doors across the front of the firebox.

8. Wall and Ceiling Openings

Openings in the exterior that degrades its ability to achieve an interior rating of 45 dB or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail delivery drops, air conditioning, or other openings must be designed to maintain the 45 dB or less standard in the room to which they provide access.

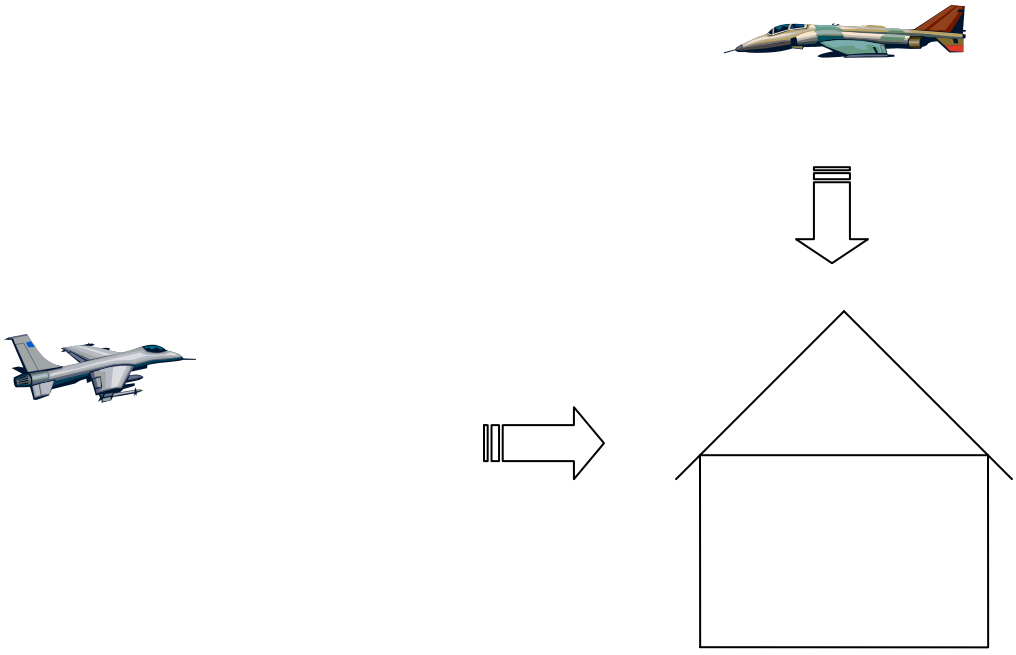
At the penetration of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked at the pipe duct or conduit or filled with mortar to the wall.

*STC ratings may overstate the actual attenuation provided by as much as 3 dB, therefore, 35 STC rating in lieu of 30 is mandated.

SECTION AK104.5
Sound Waves

AK104.5 General. The following are examples of compliance issues and methods.

Airplanes, jets and helicopters (aircraft) approach structures from different angles. It is not always from overhead. Low flying aircraft, as well as, take offs and landings will create sound waves that approach structures from all sides.



Sound waves are just that, waves. They travel out in a circular method from the producing object. They enter through openings and in a case like an attic, reverberate within the cavity. When the entry of such waves cannot be prevented such as with the installation of attic ventilation, dampening devices are needed to prevent the reverberation.

Figure 2-2 displays the three different major paths for noise transmission into a dwelling: air infiltration through gaps and cracks, secondary elements such as windows and doors, and primary building elements such as walls and the roof.

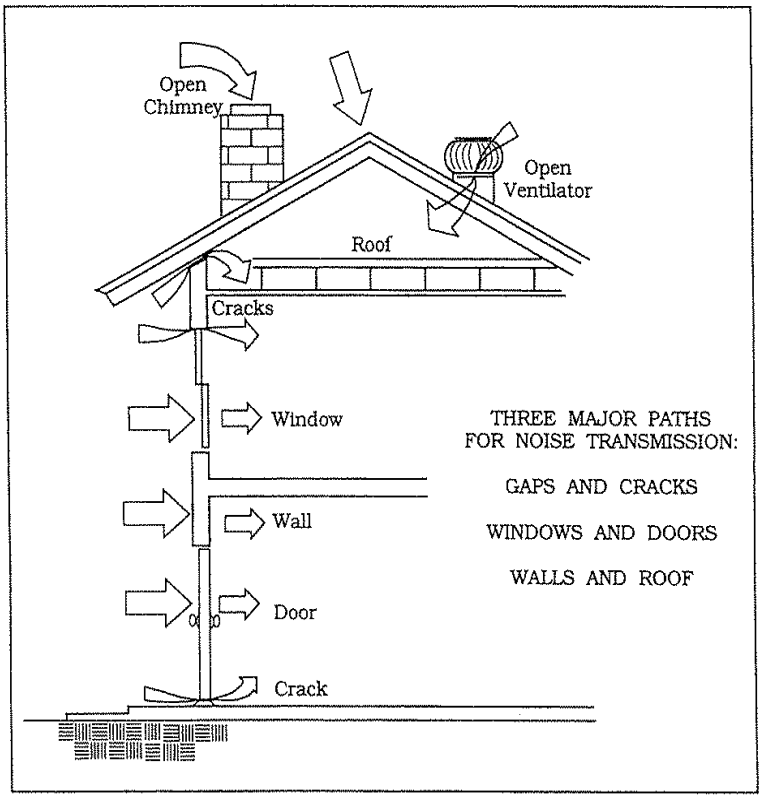


Figure 2-2. Sound Transmission Paths Into Dwelling Interiors

Low-frequency sound is most efficiently transmitted through solid structural elements such as walls, roofs, doors, and windows. High frequencies travel best through the air gaps.

Within these broad categories, different building materials have different responses based on the frequency of the incident sound and varying abilities to insulate against sound.

- Ducts to the outside, whether intake or exhaust, and all ducts in the attic or crawl space can be lined with 1-inch acoustical internal lining material, and have at least one 90-degree (right angle) elbows (turns) thereby breaking the line-of-sight to the outside as shown in Figure 3-6. It must be noted that there is concern than this fibrous acoustical lining material will affect air quality. Installing a duct sound attenuator (silencer) is an alternative to this technique; there are silencers available that do not contain fibrous lining. These measures ensure that the ventilation system is not bringing additional aircraft noise into the house.

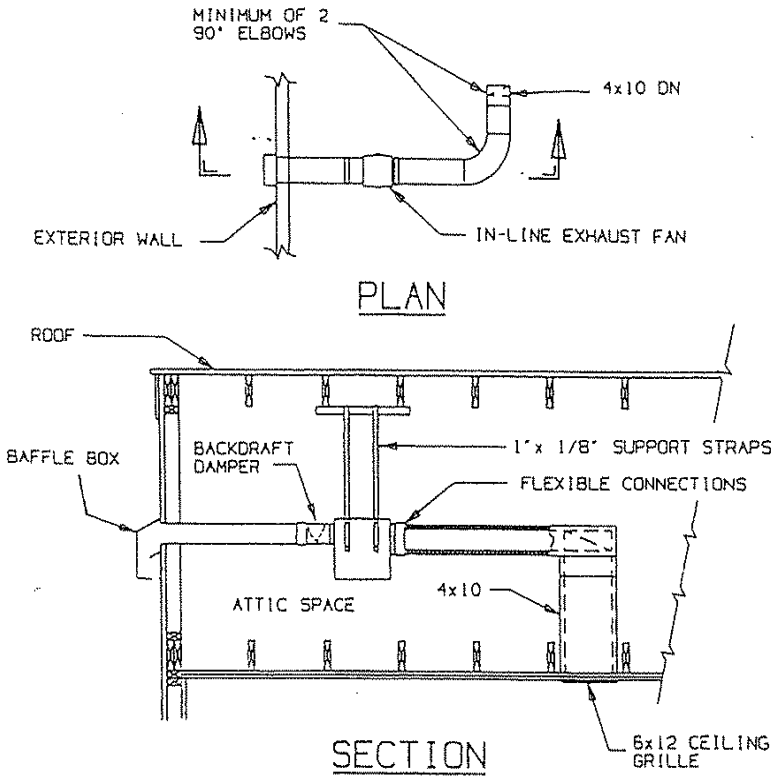


Figure 3-6. Controlling Noise Entering Through Ducts in Attic Space

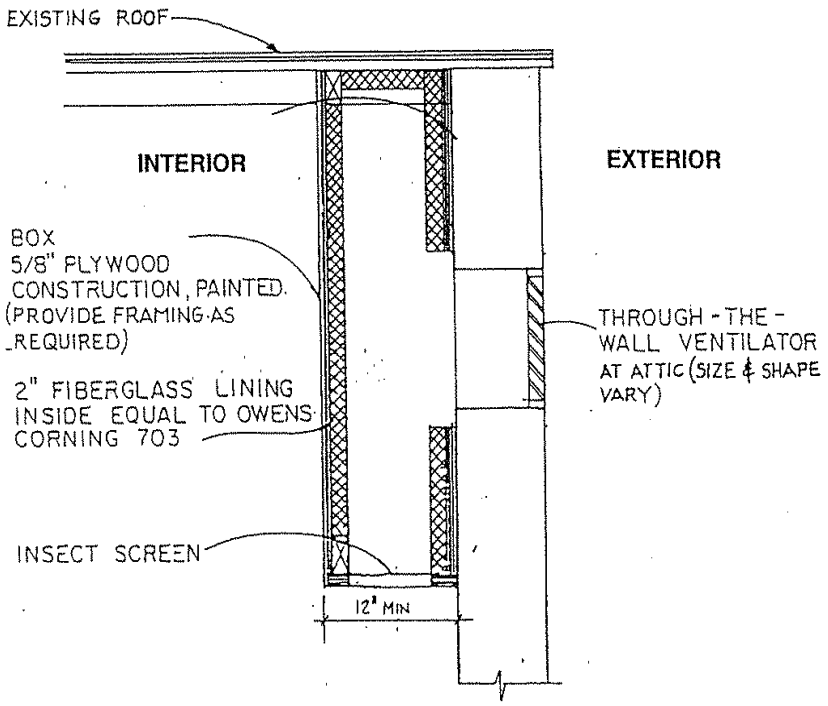
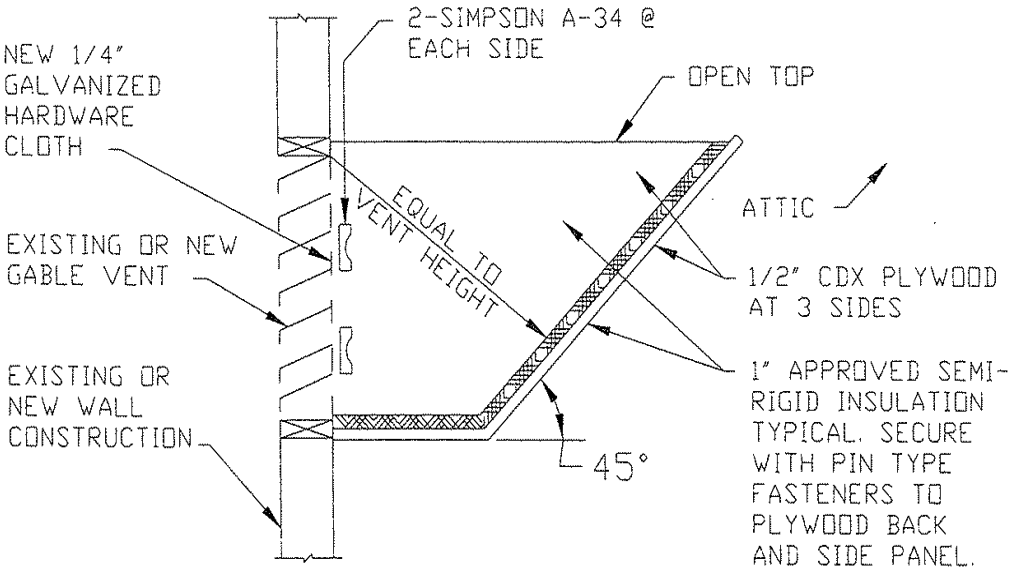


Figure 3-5. Built-in-place Gable Baffle

Attic Insulation

When considering the upgrade of thermal insulation to reduce noise levels it is important to understand what the insulation will do. Thermal insulation materials will act to absorb sound that is reverberating in the attic or in the space between flat panels. It does not prevent noise from entering the space. That is, it has no appreciable acoustic "insulating" properties but acts as an absorbent instead.

GENERIC DETAILS FOR SOUND INSULATION
PRESCRIPTIVE BUILDING STANDARDS

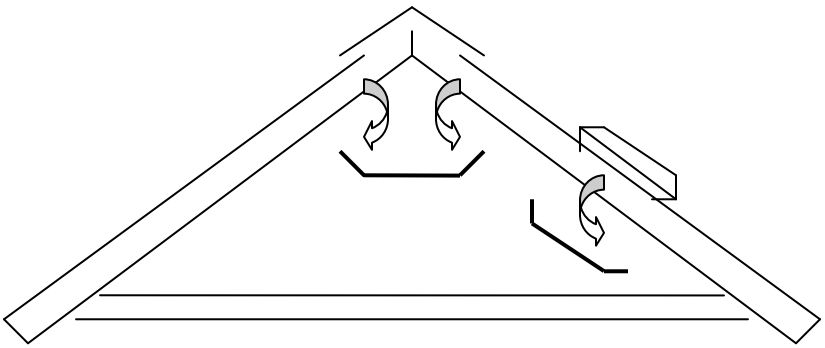


ATTIC BAFFLE FOR GABLE VENT

NOT TO SCALE

NOTE:
1. AFTER FABRICATION BAFFLE SHALL BE SECURELY ATTACHED IN POSITION.
2. NEW BAFFLE SHALL BE AT LEAST AS WIDE AS THE EXISTING VENT OPENING.

Roof vents



When using roof vents, whether a ridge vent or a single vent, a trough should be constructed and hung from the joists. The trough should be as wide as possible to cover the area of the vent. For ridge vents, it is preferable that it extend from joists to joists, leaving enough room around the edges for the required amount of venting. For single vents, the trough should be installed at the appropriate angle to match the roof slope.

The trough should be as long as the roof vent, perhaps a few inches longer, and capped on the ends.

The inside of the trough should be lined with 1" approved semi-rigid sound insulation.

SECTION AK104.6
COMPLIANCE TABLES

AK104.6 For allowable compliance tables of walls, windows, doors, roof/ceiling and floors, see the Compliance Packet, as approved by the building official.

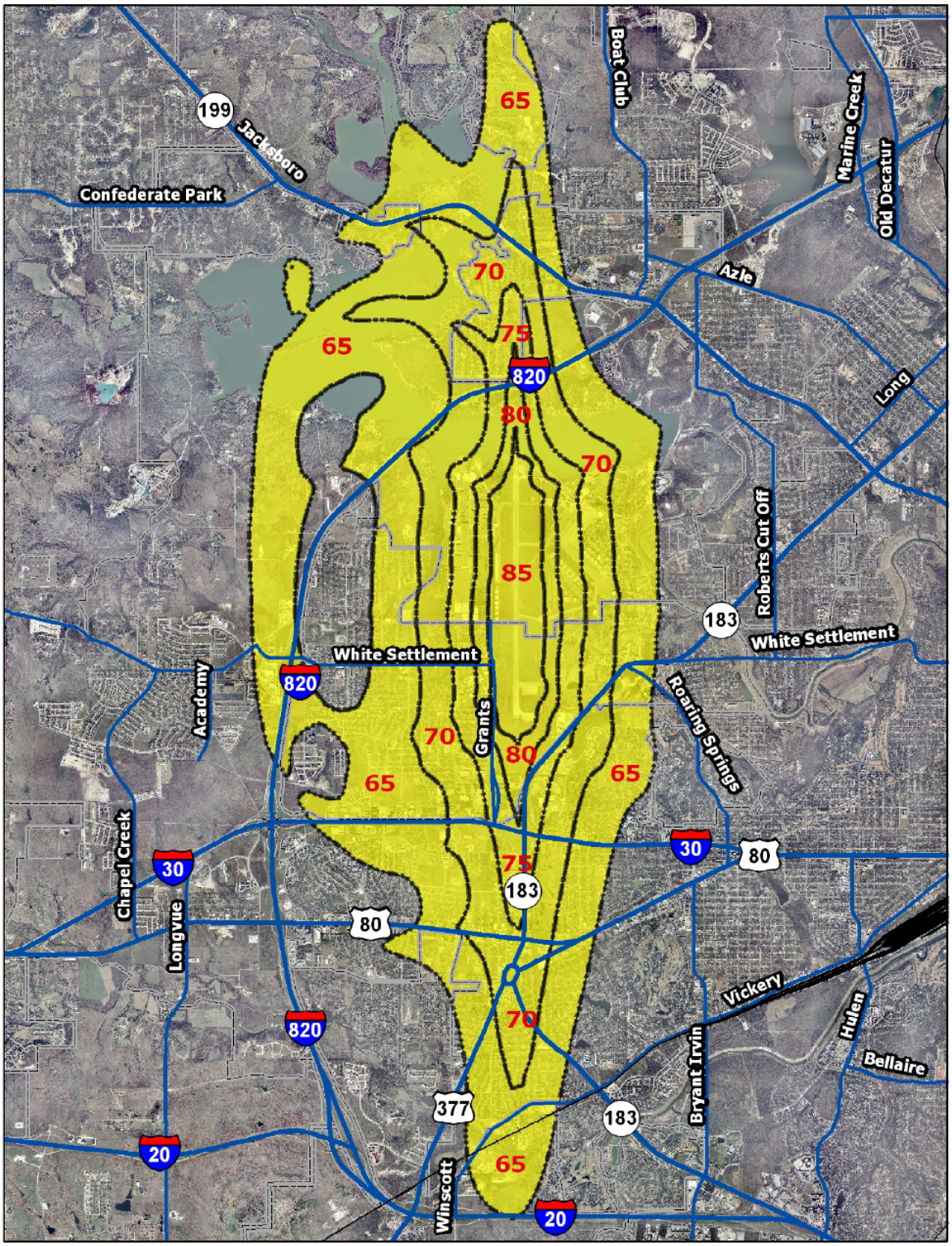


Figure AK101.1(1)

IRC APPENDIX R

**IRC Appendix R; added to read as follows:*

APPENDIX R
ENERGY SUSTAINABILITY

The voluntary provisions of this chapter may be used in conjunction with new construction and additions.

Residential

Those projects desiring to be recognized as above code per the Fort Worth Energy Sustainability Program, may use the following point system.

Rating desired	Score	Approx. % above code
1. Bronze	50	unknown
2. Silver	65	unknown
3. Gold	80	unknown
4. Platinum	95	unknown

Options	Points
1. Obtain LEED for Homes certification based on the latest version	
Certified	75
Silver	90
Gold	120
Platinum	150
In order to qualify for this item, LEED application documents must be submitted along with the permit, and final certification must be obtained and submitted within 2 years after job completion. The building purchaser must be made aware that certification is pending for final approval.	
Item 3 does not apply when this option is used.	
2. Obtain Green Building certification, using the 2008 National Green Building Standard, ICC 700-2008.	
Bronze	75
Silver	90
Gold	120
Emerald	150
In order to qualify for this item, the approval, inspection and certification must be performed by an approved Project Team. Certification paperwork	

and team identification must be submitted with the permit and final certification must be submitted within 2 years after job completion. The building purchaser must be made aware that certification is pending for final approval. Item 3 does not apply when this option is used.	
<u>Mandatory</u> When using this rating system, except for items 1 and 2 above, this provision is mandatory: 3. Limit the conditioned floor area of each dwelling unit, to <u>one</u> of the following options as follows: a. $0 \leq 1{,}000$ square feet (93 m^2) b. $1{,}000 \leq 1{,}500$ square feet (139 m^2) c. $1{,}500 \leq 2{,}000$ square feet (186 m^2) d. $2{,}000 \leq 2{,}500$ square feet (232 m^2) e. $> 2{,}500$ square feet also, for every 5,000 square feet, or fraction thereof, over 3,000. (These are penalty points that must be made up with other options.) When the building contains more than one dwelling unit, the worst case unit is used for this calculation for the entire structure. When doing an addition, the entire dwelling unit is used in this calculation.	15 10 5 0 -5, -5 points
Plans	
4. Permit plans include the following cut drawings and/or design notes for the following items: Thermal Envelope All penetrations in the thermal envelope, including but not limited to, electrical boxes, air duct grills, light fixtures, ceiling fans, (with ceiling items such as light fixtures and ceiling fans specifically identified on the plans) are noted as fully sealed around the edges and through the electrical cord entry points. (All such items must be sealed around the exterior in the space between the item and the gypboard. Electrical boxes must have the wiring entry hole sealed with approved material. Utility penetrations through the envelope, including but not limited to, the exterior wall, top and bottom plates, floor and ceilings must be sealed. Seals must also be installed around electrical wiring through studs to separate opposite facing electrical boxes in an envelope wall such as the wall separating the	3

garage and the conditioned space.)	
Floors a. Insulation installed to maintain permanent contact with the underside of the subfloor decking, enveloping any attached ductwork within the thermal envelope without compression or air gaps in the insulation. b. Batt and loose insulation is held in place by permanent attachments or systems in accordance with the manufacturer's instructions.	2
Crawl space Where insulated, insulation details noting wall insulation is permanently attached to the walls. Exposed earth in unvented crawlspaces is covered with continuous vapor retarder with overlapping joints that are taped or masticed.	2
Windows and doors Caulking, gasketing, adhesive flashing tape, foam sealant, or weather stripping is installed forming a complete air barrier.	2
Band and rim joists Band and rim joists are insulated and air sealed.	2
Between foundation and sill plate bottom plate Sill sealer or other material that will expand and contract is installed between foundation and sill plate. Caulk or the equivalent is installed to seal the bottom plate of exterior walls.	2
Attic access (except conditioned attics) Attic access, knee wall door, or drop-down stair is covered with insulation and gasketed. Knee wall door is an insulated unit or is covered with insulation. Attic access doors are considered exterior envelope doors. Attic access hatches shall be encapsulated with an insulated cover.	2
Recessed lighting Recessed light fixtures that penetrate the thermal envelope are noted on the plans and are airtight, IC-rated, and sealed with gasket, caulk, or foam.	2
Eave vents Where ceiling/attic assemblies or designs have eave vents, baffles or other means are implemented to minimize air movement into or under the insulation.	2

Ducts. Ducts are sealed with tape complying with UL 181, mastic, gaskets, or an approved system. Skylight and knee walls Skylight shafts and knee walls are insulated to the same level as the exterior walls. Tubs and showers Walls behind tubs and showers shall be sealed as other walls with gypboard or equivalent as the remainder of the dwelling unit. Common walls between dwelling units shall be sealed to prevent air exchanges through the wall. This includes sealing opposing electrical outlets in which air might flow through. Note on plans indicating where the Energy Certification will be installed.	2 2 2 2 2
5. Calculations for heating and cooling equipment sizing in accordance with ACCA Manual J is submitted with Energy Report	3
6. HVAC duct system is sized, designed, and installed in accordance with ACCA Manual D. Sizing calculations must be submitted with Energy Report.	5
Heat Island	
7. For buildings with one- or two-family, provide canopy coverage that, at maturity as determined by the Tree Ordinance, will provide shading for a minimum of 20% of the area on the same lot within 25' of the structure. Shading over the roof top does not count. For buildings with more than two-family dwellings, provide canopy coverage that, at maturity as determined by the Tree Ordinance, will provide shading for a minimum of 25% of the area on the same lot within 50' of the structure. Shading over the roof top does not count.	10 15
Envelope	
8. Exceed the provisions of this code by 15%. Options: a. Use an approved program, the latest version based on 2009 IECC, report designating a score of 15% above code; or, b. Obtain Energy Star rating, inspection and certification (This option cannot be used in conjunction with options 9 or 10)	 25 25

9. Implement energy efficiency features to achieve energy cost performance that exceeds this code. A documented analysis using software in accordance with Section 405 of the International Energy Conservation Code. a. by 15% b. by 30% c. by 50% d. by 60% (This option cannot be used in conjunction with options 8 or 10)	 30 60 100 120
10. Reduce total building thermal envelop UA as follows: a. by 10% b. by 20% For the purpose of this point system, the following shall be considered as compliant: 10% / 20% Fenestration U-factor: 0.45 / 0.40 Skylight U-factor: 0.58 / 0.52 Ceiling R-value: 33 / 36 Frame Wall R-value: 14 / 16 Mass Wall R-value: 8/9* / 9/10* Floor R-value: 24** / 27** Basement Wall R-value: 3 / 4 Crawl Space R-value: 8 / 9 * - see Table N1102.1, footnote k ** - see Table N1102.1, footnote g The glazed fenestration and opaque door exemptions of Sections N1102.3.3 and N1102.3.4 are still permitted. (This option cannot be used in conjunction with options 8 or 9)	 15 30
11. Exterior wall is a minimum 2 x 8 studs or double stud wall with minimum of R-19 insulation.	10
12. Enhanced Fenestration (windows and doors) is installed to meet the following ratings: U-factor of 0.35 or less and SHGC of 0.25 or less (both required) The glazed fenestration and opaque door exemptions of Sections N1102.3.3 and N1102.3.4 are still permitted.	10
13. Glazing on walls that face less than 45 degrees of East and West compass points is limited to less that 5% of the total Envelope wall surface. Must be both walls.	5
14. All windows facing South, and within 45 degrees of south, have a Projection Factor of .40 or larger. (See equation 5-1 of the IECC for Projection Factor.)	5
15. A minimum of 90% of the roof surface is constructed of any one or combination of the following:	5

a. products that are in accordance with the Energy Star cool roof certification. b. a green (landscaped) roof system c. a solar reflective roof is installed that achieves a 3-year aged criteria of 0.50 or better. Documentation showing testing in accordance with ASTM C1549-04 and ASTM E1918-1997 must be submitted.	
16. Roofing material is installed with a minimum 0.75 inch (19 mm) continuous air space offset from the roof deck from eave to ridge.	5
17. Radiant barrier is installed in attic, under roof decking or over attic insulation	5
18. Attic ventilation is installed that provides air flow from lower attic (eaves) to and out upper attic (ridge vents or equivalent)	5
19. Batt insulation installed in attic walls is encapsulated with gypboard on the attic side.	5
20. Building tightness is blower door tested to insure that air leakage is less than seven air changes per hour (ACH) at a pressure of 33.5 psf (50 Pa) in accordance with Section N1102.4.2.1. This provision cannot not be used with item 8b, Energy Star.	5
Mechanical	
21. Limit HVAC flex duct to only be used as last 5' of duct length.	35
22. All HVAC duct is installed within the Envelope or within a conditioned attic.	5
23. HVAC system only uses ducts. Wall cavities are not used as return air. (Section N1103.2.3)	5
24. Except for bathrooms, kitchens, closets, pantries, and laundry rooms, return ducts or transfer grilles are installed in every room with a door.	5
25. Electric resistant heating is not used except for supplemental heating associated with heat pumps.	15
26. Install 7-day programmable thermostat	5
Plumbing	
27. Install water heaters, tank or tankless, in locations such that no hot water pipe run to fixture exceeds 40'	5
28. Insulate all hot water piping, including under slab, with minimum of R-4. Insulation may be removed for the portion that penetrates the slab if another approved pipe wrapping is preferred by the installer/designer.	5
29. Solar Water heating system is installed for all or any portion of hot water supply.	5
30. Except for outside hose bibs using as short of pipe as needed, water piping is not installed in Envelope walls.	5

Electrical	
31. Builder installs a minimum of 50% of the light bulbs in the light fixtures with high–efficacy lamps. Bulbs must be present at Final Inspection.	5
32. Each unit is served by an individual electrical meter, either utility meter or sub-meter.	5
Other	
33. Fireplace systems do not have continuously burning pilot lights.	5
Any Energy related item from other nationally recognized Sustainability or Green building program that is considered applicable and assigned a point grade as determined by the Building Official.	As determined by Building Official

IRC APPENDIX S

**IRC Appendix S; added to read as follows:*

APPENDIX CHAPTER S
2003 ENERGY CODE PROVISIONS

AS101. General. The Energy provisions, Chapter 11, of the 2003 International Residential Code shall remain in effect until January 1, 2012 as adopted by ordinances #15959, 17522-04-2007, 17681-08-2007 and 18459-02-2009, and as further printed as follows:

Energy

IRC SECTION N1101

**IRC Section N1101.1; add a second exception to read as follows:*

Exceptions: 1. Provided that they are . . . *{existing exception unchanged}*. . .

2. Residences designated as historical, that are not undergoing a Change of Occupancy, need not comply with the Envelope provisions of this chapter.

**IRC Section N1101.2; changed to read as follows:*

N1101.2 Compliance. Compliance with this chapter shall be demonstrated by meeting the requirements of the applicable sections and tables of this chapter. Where applicable, provisions are based on the climate zone where the building is located. The climate zone for all structures in this jurisdiction ~~where the building is located~~ shall be based on zone assignments in Table N1101.2 for Tarrant County, Texas (Tarrant[a] - Zone 5) ~~the county and state in which the building is being constructed~~. Alternatively, the climate zone shall be permitted to be determined by the heating degree days assigned by the building official.

**IRC Section N1101.2.1; change to read as follows:*

N1101.2.1 Detached one- and two-family dwellings. Compliance shall be demonstrated by ~~either~~ one of the following:

1. Meeting the requirements of this chapter for buildings with a glazing area that does not exceed 15 percent of the gross area of exterior walls; or
2. Meeting the requirements of the *International Energy Conservation Code* for detached one- and two-family dwellings.
3. Meeting the requirements for detached one- and two-family dwellings with a glazing area that is greater than 15 percent but not to exceed 25 percent of the gross area of exterior walls, as described in Section N1102.1.

**IRC Section N1101.3.4; added to read as follows:*

N1101.3.4 Exterior basement or slab insulation. When susceptibility to termite damage is classified as "very heavy" according to Table R301.2(1), designs employing exterior insulation of basements or slabs shall not be utilized.

**IRC Section N1102.1; change to read as follows:*

N1102.1 Thermal performance criteria. The minimum required insulation R-value or the area-weighted average maximum required fenestration U-factor (other than opaque doors which are governed by Section N1102.1.3) for each element in the building thermal envelope (fenestration, roof/ceiling, opaque wall, floor, slab edge, crawl space wall and basement wall) shall be in accordance with the criteria in Table N1102.1 or N1102.1(a).

Detached one- and two-family dwellings with greater than 15-percent glazing area; townhouses with greater than 25-percent glazing area; and any residential building in climates with heating degree days equal to or greater than 13,000; shall determine compliance using the building envelope requirements of the *International Energy Conservation Cod*e.

Exception: Detached one- and two-family dwellings may exceed 15-percent glazing, when using Table N1102.1(a), as follows:

1. When using the prescriptive method of this chapter, the glazing area may be increased to more than 15 percent but not exceeding 20 percent of the gross area of exterior walls when the air conditioning equipment of Table N1103.1 is upgraded from 10 SEER to 12 SEER or higher;
2. When using the prescriptive method of this chapter, the glazing area may be increased to more than 20 percent but not exceeding 25 percent of the gross area of exterior walls when the air conditioning equipment of Table N1103.1 is upgraded from 10 SEER to 14 SEER or higher.

**IRC Table N1102.1(a); added to read as follows:*

TABLE N1102.1(a)
SIMPLIFIED PRESCRIPTIVE BUILDING
ENVELOPE THERMAL COMPONENT CRITERIA
MINIMUM REQUIRED THERMAL PERFORMANCE
(U-FACTOR AND R-VALUE)

MAXIMUM GLAZING U-FACTOR [Btu/(hr∗ft^2∗°F)]	MINIMUM INSULATION R-VALUE [(hr∗ft^2∗°F)/Btu]						
	Ceilings open to Attic Space	Ceiling Joist/Roof Rafter Assembly[b]	Walls	Floors	Basement Walls	Slab perimeter	Crawl space walls
0.65	R-38	R-22[b]	R-13	R-19	R-0	R-0	R-7[a]

a. Crawl space insulation is only required for structures with uninsulated floors.

b. In order to install the required 1" ventilation clearance of R806.3 and the R-22 without compressing the insulation, which would lower the R- value, it may be necessary to use a specialized compressed R-22 insulation or enlarge the joist/rafter member one size. Use of the ceiling joist/roof rafter assembly (cathedral ceiling) is limited to no more than one third of the total ceiling area.

**IRC Section N1102.1.6; change the exception to read as follows:*

Exception: Slab perimeter insulation is not required for unheated slabs in areas of very heavy termite infestation probability as shown in Figure R301.2(6). ~~Where this exception is used, building envelope compliance shall be demonstrated by (a) using *International Energy Conservation Code* Section 502.2.2 or *International Energy Conservation Code* Chapter 4 with the actual slab insulation *R*-value in Table N1102.1, or (b) using *International Energy Conservation Code* Section 502.2.4.~~

**IRC Section N1102.2; add an exceptions to read as follows:*

Exceptions:
1. Any glazing facing within 45 degrees of true north:
2. Any glazing facing within 45 degrees of true south which is shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.
3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of 0.6 or less.

IRC SECTION N1103

**IRC Section 1103.3; add a second paragraph after the exception to read as follows:*

A vapor retarder having a maximum permeance of 0.05 perm [2.87 ng/(s · m^2 · Pa)] in accordance with ASTM E 96, or aluminum foil having a minimum thickness of 2 mils (0.051 mm), shall be installed on the exterior of insulation on cooling supply ducts that pass through nonconditioned spaces conducive to condensation.

IRC TABLE N1103.5

**IRC Table N1103.5; amend the table and footnote "b" to read as follows:*

Cooling systems	Fluid Temp Range (°F)	Insulation Thickness Inches[b]
Chilled water, refrigerant or brine	40-55	~~.75~~ .5
	Below 40	1.25

a. *{unchanged}*
b. For piping lengths in excess of five (5) feet (1524 mm) exposed to outdoor air, increase thickness by 0.5 inch (13 mm).

AS102. Alternate provisions. As an alternative to the energy provisions of the 2003 International Residential Code Chapter 11, usage of the 2003 International Energy Conservation Code, as adopted under City Ordinance #15952, may be permitted until January 1, 2012.

IRC APPENDIX T

**IRC Appendix T; Chapter 36 of the Building Code, Docks, Piers and Boathouses is added to this code as an Appendix to read as follows:*

APPENDIX CHAPTER T
DOCKS, PIERS AND BOATHOUSES

T3601 General. The provisions of this Chapter shall apply to any body of water within the corporate limits of Fort Worth that is under the jurisdiction and control of the City of Fort Worth. In the absence of other provisions, this chapter may be used on bodies of water not under the control of the City of Fort Worth.

This chapter and the "Docks, Piers and Boat House" standards, adopted elsewhere, may be more stringent than other provisions of this code and other codes.

T3601.1 Variances/Water Department Release. Lake Worth is owned by the City of Fort Worth. The Fort Worth Water Department has the charge for the safety of the water, as well as, safe usage of the water system. As such, some provisions in this chapter shall be designated as a regulation from the Water Department and will be identified as **(WD)**. Any such section identified with **(WD)** cannot be granted a variance by the Construction and Fire Prevention Board without first obtaining a release from the Director of the Water Department.

T3602 Definitions. The following words and terms shall, for the purposes of this chapter, have the meanings shown herein.

DEAD LOAD. The permanent inert weight of materials of construction incorporated into the structure, including fixed or permanent attachments, such as bumpers, railings, winch stands, roof structures, etc.

As further defined in Chapter 16 of the Building Code, the weight of materials of construction incorporated into the building, including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding and other similarly incorporated architectural and structural items, and fixed service equipment including the weight of cranes. All dead loads are considered permanent loads.

DECKING. The surface material that forms the floor of the structure.

As further defined in Chapter 16 of the Building Code, an exterior floor supported on at least two opposing sides by an adjacent structure, and/or posts, piers or other independent supports.

DOCK, PIER, OR BOAT HOUSE (or any combination). A structure extending from the shore into the water to permit the landing and mooring of vessels. The term "dock", "pier" or "boat

house" includes the anchoring system and any walkways or bridges that will attach to the structure itself.

HUNT ABSORPTION TEST. A test documenting the rate at which flotation material absorbs liquid, as well as the quantity of liquid absorbed.

LAKEFRONT PROPERTY LINE. The property line that borders the regulated water area. (For Lake Worth, "as shown on the final plat of record or survey for the property".)

LAKE WORTH MANAGEMENT OFFICE (LWMO). That group in the Water Department responsible for review and approval for all improvements to structures at or in Lake Worth, and who shall administer the requirements of that department.

LIVE LOAD. Any moving or variable superimposed load on the structure.

As further defined in Chapter 16 of the Building Code, those loads produced by the use and occupancy of the building or other structure and do not include construction or environmental loads such as wind load, snow load, rain load, earthquake load, flood load or dead load.

LOADS. Forces or other actions that result from the weight of building materials, occupants and their possessions, environmental effect, differential movement and restrained dimensional changes. Permanent loads are those loads in which variations over time are rare or of small magnitude, such as dead loads. All other loads are variable loads.

REGISTERED PROFESSIONAL ENGINEER (RPE). A professional engineer currently registered with the State of Texas as a professional engineer.

STRUCTURAL DEAD LOAD. The weight of the structure and its ability to support itself.

STRUCTURE. When used in this Chapter shall be inclusive of entire dock, pier or boat house, including the walkway, anchoring system, cables, floats, electrical, plumbing and any other related components or materials installed in conjunction with the construction, maintenance, or use of the dock.

WALKWAY (or BRIDGE). A passage that provides access from the land or a boat dock, marina, or other floating facility.

T3603 Permit Required. No person shall erect, construct, enlarge, alter, or move any dock, pier, boathouse or combination to any body of water within the corporate limits of Fort Worth, that is under the jurisdiction and control of the City of Fort Worth, without complying with the provisions of this chapter.

Each application for a permit, together with plans for a dock, pier, boathouse, or any combination thereof shall be submitted as specified in Chapter 1 of this code and as may be specified in other City codes.

Where such structures are constructed on Lake Worth or any body of water subject to the jurisdiction of another department of the City of Fort Worth, the additional approval of such department shall be obtained.

Submittal of a permit application is not permission to begin work. Construction is not permitted to begin until a permit is ISSUED.

T3604 Use. Docks, piers and boathouses for private use shall normally be classified as a Group U Occupancy. Other occupancies may be allowed when the use is permitted by the Zoning Ordinance, together with the approval of any other appropriate department of the City of Fort Worth, and the construction complies with this code for said use.

T3605 Design and Design Loads.

T3605.1 General. When designed by an RPE, the RPE shall apply the appropriate loads when doing calculations. Such factors shall include, but not be limited to:

a. dead load
b. live load
c. roof load
d. wind load and wave action; which should be considered as simultaneously applied
e. when intended to have boats attached to the structure for storage, the effects of such estimated loads, such as wind and wave, on the boat that are transferred to the structure shall also be considered.
f. when intended to have boats lifted out of the water, the effects of such estimated loads, such as wind on the boat and dead load of the boat, that are transferred to the structure shall also be included.
g. surface areas at and above the water line, when authorized, including walls, screens, tarps, etc.
h. except as allowed for in Section T3605.3, flotation devices shall be designed to withstand the same dead load and live load as a fixed structure.

T3605.2 All Occupancies. Regardless of the occupancy category assigned, all structures shall comply with the following provisions:

a. Piles shall conform to Chapter 18 of the Building Code.

b. All docks, piers and boathouses shall be designed to withstand the loads as specified in Chapter 16 of the Building Code, based upon the Occupancy classification as assigned by the Building Official.

    Exception: Private residential structures, classified as a Group U, may use the design loads as specified in Section T3605.3.

c. **(WD)** Structures shall be able to withstand a minimum of two-foot high wave action at normal water levels. (For Lake Worth, up to 594 ft. above sea level.) Floating docks must be designed with anchorage footing and piers to remain in place without floating off at the high water levels (For Lake Worth, this will be 601 ft. above sea level.)

d. **(WD)** Cables and chains used in anchoring systems shall be designed with a minimum working load safety factor of 3.0 for cable and 2.0 for chains.

e. **(WD)** Walkways and bridges shall have a maximum slope under dead load of a 4:1 ratio to any direction at the lowest expected water level. (For Lake Worth, 591 ft. above sea level.)

T3605.3 Group U Occupancies. When private structures associated with residential uses are assigned a Group U Occupancy classification, the design provisions provided in Section T3605.3.1 through T3605.3.2, may be used in lieu of Chapter 16 of the Building Code.

T3605.3.1 Flotation devices shall be designed to support the dead load plus 30-pounds per square foot (PSF) live load applied to deck area.

T3605.3.2 Structural frame shall be designed to support 40 pounds per square foot (PSF) live load applied to the full surface area of the deck.

T3606 Dock and Pier Construction. When not designed by an RPE, the proposed design shall incorporate the following minimum provisions:

T3606.1 Piles. Wood piles shall be a minimum of six (6) inches in diameter. Metal piles shall be a minimum of three (3) inches inside diameter pipe. Such piles shall be driven to a minimum depth of twenty-four (24) inches below the top layer of silt. Such piles shall be driven in pairs, one on either side of the platform, and braced as required by section 3606.6. Such piles shall not be spaced apart more than ten (10) feet center to center.

T3606.2 Box cribs. Sets of structural columns of the same size forming a box crib may be used. Such crib shall be braced as required in Section 3606.6 and anchored as required in Section T3607.

T3606.3 Beams. Beams shall be defined as those members which connect to piles to support the stringers. All beams when of wood shall be a minimum 2-inch material.

T3606.4 Stringers. Stringers shall be defined as those members usually supporting the decking. All stringers when of wood shall be of a minimum 2-inch material. Pipe stringers shall be a nominal 2-1/2-inch I.D. and spaced not more than eighteen (18) inches O.C.

T3606.5 Decking.

T3606.5.1 Wooden platform decking shall be of a minimum nominal 2-inch material.

T3606.5.2 Other materials, to include lightweight concrete or metal decking may be used when approved by the Building Official. Such decking shall meet the load requirements of Section T3605.

T3606.6 Bracing.

T3606.6.1 All wooden bracing shall be of a minimum nominal 2-inch material.

T3606.6.2 Bracing shall be accomplished by one or more of the following methods:

a. **Cross or "X" bracing**. Cross or "X" bracing may be used on each set of piles and box cribs.

b. **Beams.** Beams may be used as bracing, provided the connections give sufficient support to resist horizontal forces equivalent to that of cross or "X" bracing.

c. **Knee bracing.** Knee bracing may be used on each pile attached to and paralleling the platform deck. Pipe knee bracing shall be a nominal 2-1/2 inch I.D.

T3606.7 Attachment of deck. Attachment of the platform deck to beams and piles shall be accomplished by one or more of the following methods:

a. By attaching the beams to the piles and box cribs by lag bolts.

b. By caps: Wood caps shall be a minimum nominal 4-inch material and anchored by bolts and welded.

T3607 Anchorage of Floatation and box crib structures. Such structures shall be anchored with solid units that will provide the following anchorage:

a. Docks and piers less than fifty (50) feet in length: An anchor on each corner that will support one-fourth of the total dead load plus one-eighth the total live load.

b. Docks and piers fifty (50) feet or more in length: Anchors at the midpoint of the piers.

c. All docks and piers shall be anchored to the shore line.

d. All anchors shall be of masonry, concrete, or steel and shall be securely fastened to the dock or pier by ~~rope,~~ cable, chain, or other approved methods.

T3608 Required Water Proofing.

T3608.1 All wood below one (1) foot above spillway elevation on lakes (for Lake Worth, 595 feet) or below one (1) foot above the 50-year flood elevations on other bodies of water shall be treated lumber. Creosote is not allowed.

T3608.2 All metal, including bolts, lag bolts, and fasteners, shall be galvanized or painted with paints of similar materials approved for immersion in water.

T3609 Floatation Material. All flotation units shall adequately support the dead and live loads of all beams, stringers, and platforms. Data shall be submitted to and approved by the Building Official showing that the buoyancy of such units will support the loads imposed.

Only flotation units made of materials which will not affect the water quality in any way may be used. Flotation units shall be constructed of material that has never been used in any manner for storage of toxic or hazardous material. Proof that the flotation units meet the requirements must be provided to and approved by the Building Official.

(a) **(WD)** Flotation material shall be extruded polystyrene, expanded polystyrene, or a copolymer of polyethylene and polystyrene and shall have a minimum density of 0.9 pounds per cubic foot, and be of consistent quality throughout the float. Beads shall be firmly fused together, and there shall be no voids inside the encasement. Flotation material shall have a water rate absorption of less than 3.0 pounds per cubic foot over seven (7) days when tested by the Hunt Absorption Test. Other flotation material may be considered if it meets all of the requirements set forth in this chapter.

(b) **(WD)** Flotation material shall be encased in solid polyethylene or a polyurethane type coating, both of which shall be watertight and have a nominal thickness of 0.125 inches.

(c) **(WD)** Drums made of plastic, whether new or recycled, or metal shall not be used for encasements or floats.

(d) **(WD)** Materials which are considered unacceptable for this purpose include but are not limited to standard steel 55 gallon drums, any metal which may corrode in the aqueous environment, and any material which may release toxic or hazardous material into the lake proper.

(e) **(WD)** All flats shall be warranted for a minimum of eight (8) years against sinking, becoming waterlogged, cracking, peeling, fragmenting, or losing beads, and shall not be prone to damage by animals.

(f) **(WD)** Floats that are punctured, exposing the foam to erosion or deterioration, shall be replaced immediately.

T3610 Boathouse construction. Construction of boathouses or other structures shall meet or exceed the requirements for framing and coverage as specified in other parts of this code. When, in the opinion of the Building Official, the load of the intended use exceeds the capability of the minimum construction design specified, plans and specification may be required to be designed by a Registered Professional Engineer (RPE).

T3611 (WD) Prohibited uses.

T3611.1 (WD) Toilet facilities. No toilet facilities of any type shall be allowed on any Structure built past the Lakefront Property Line.

T3611.2 (WD) Fuel pumping. Fuel pumping facilities exceeding 55 gallons are not allowed on structures that extend past the Lakefront Property Line.

T3612 (WD) Safety devices.

T3612.1 (WD) Photocell light. Any Structure that extends more than 100 feet from the Lakefront Property Line shall be equipped with a white photocell light of no less than 200 lumens that operates continually from dusk to dawn. Such lighting shall be provided with a cover on the top of the light to minimize light dispersion upward and toward the shore. The LWMO may require that lighting be placed on structures less than 100 feet from the shoreline when in LWMO decides it is warranted to enhance boating safety. It is the Dock owner's responsibility to ensure that all required lighting is properly maintained and operational at all times.

T3612.2 (WD) Water supply. A potable water supply can be plumbed to the first floor (lower deck) provided that backflow prevention devices are installed and inspected in accordance with 12.5, Article V, Division 3, Cross Connection Control of the City Code and the Plumbing Code as adopted by the City Council.

T3613 Hazardous structures. For unsafe or hazardous structures, see Section 115.

SECTION 3.

Section 7-63 of the Code of the City of Fort Worth (1986) is hereby amended to read as follows:

Sec. 7-63. Effect of conflict with other ordinances.

This article shall be cumulative of all provisions of ordinances of the Code of the City of Fort Worth, Texas (1986), affecting Residential Code provisions, as amended, and shall not repeal any of the provisions of such ordinances, except in those instances where provisions of such ordinances are in direct conflict with the provisions of this ordinance.

SECTION 4.

Section 7-64 of the Code of the City of Fort Worth (1986) is hereby amended to read as follows:

Sec. 7-64. Penalty for violation.

Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars ($2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars ($500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

SECTION 5.

This article shall be cumulative of all provisions of ordinances of the Code of the City of Fort Worth, Texas (1986), affecting Residential Code provisions, as amended, and shall not repeal any of the provisions of such ordinances, except in those instances where provisions of such ordinances are in direct conflict with the provisions of this ordinance.

SECTION 6.

It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable, and, if any phrase, clause, sentence, paragraph, or section of this ordinance shall be declared void, ineffective, or unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such voidness, ineffectiveness, or unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this ordinance, since the same would have been

enacted by the City Council without the incorporation in this ordinance of any such void, ineffective, or unconstitutional phrase, clause, sentence, paragraph, or section.

SECTION 7.

Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars ($2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars ($500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

SECTION 8.

All rights and remedies of the City of Fort Worth, Texas are expressly saved as to any and all violations of the previous Building Code, or any other ordinances affecting construction and fire safety, which have accrued at the time of the effective date of this ordinance: and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this ordinance but may be prosecuted until final disposition by the courts.

SECTION 9.

A copy of the 2009 International Residential Code, together with the local amendments contained in this ordinance, shall be filed in the office of the City Secretary for permanent record and inspection.

SECTION 10.

The Department of Planning and Development of the City of Fort Worth, Texas, is hereby authorized to publish this ordinance in pamphlet form for general distribution among the public, and the operative provisions of this ordinance as so published shall be admissible in evidence in all courts without further proof than the production thereof, as provided in Chapter XXV, Section 3, of the Charter of the City of Fort Worth, Texas.

SECTION 11.

The City Secretary of the City of Fort Worth, is hereby directed to publish the caption and Sections 1, 7, 9, 11 and 12 of this ordinance for two (2) days in the official newspaper of the City

of Fort Worth, Texas as authorized by Section 2, Chapter XXV of the Charter of the City of Fort Worth, Texas and by Section 52.013 (a) of the Texas Local Government Code.

SECTION 12.

This ordinance shall take effect upon April 1, 2011, except that the energy provisions of Chapter 11 shall take effect on January 1, 2012.

APPROVED AS TO FORM AND LEGALITY:

By: _____
Assistant City Attorney

Adopted: __March 22, 2011____

Effective: __April 1, 2011 and January 1, 2012___

1-5-11