

CITY OF HARRISBURG ORDINANCE #2019-16,  
TO AMEND THE 2018 IRC LOCAL AMENDMENTS,  
FOR CHAPTER 9.04 OF THE REVISED MUNICIPAL ORDINANCES

BE IT ORDAINED by the City Council of the City of Harrisburg as follows:

**ARTICLE I – PURPOSE AND JURISDICTION**

**SECTION 1 – PURPOSE.**

Ordinance #2019-16 is an ordinance to amend Chapter 9.04 of the Revised Municipal Ordinances of the City of Harrisburg by amending the local amendments to the 2018 edition of the International Residential Code. The City Council of the City of Harrisburg has deemed these regulations and controls to be reasonable and reasonably related to the purpose of promoting the health, safety, and general welfare of the City of Harrisburg.

**SECTION 2 – JURISDICTION.**

This Ordinance shall govern all territory within the statutory jurisdiction of the City of Harrisburg, South Dakota.

**SECTION 3 – SEVERABILITY AND SEPARABILITY.**

Should any Article, Section, Subsection, or Provision of this Ordinance be found to be or declared invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity or constitutionality of the Ordinance as a whole or any part thereof, other than the portion so declared to be invalid or unconstitutional.

**ARTICLE II – REPLACEMENT OF CHAPTER 9.04, RESIDENTIAL BUILDING CODE**

**9.04 Residential Code**

**9.04.01. Adopted.**

The City Council hereby adopts Chapters 1 through 24 and 44 plus Appendices E, H, M, Q, and S of the International Residential Code, 2018 Edition as published by the International Code Council, Inc. as the residential building code of the City for regulating the design, construction, quality of materials, erection, installation, alteration, movement, repair, equipment, use and occupancy, location, removal, and demolition of detached one- and two-family dwellings and town houses not more than three stories in height with a separate means of egress and their accessory structures, and provides for the issuance of permits and the collection of fees therefore. The minimum building standards in the 2018 edition of the International Residential Code and amendments thereto shall be applied to any building permit issued after June 30, 2018. A copy of this code shall be kept on file in the office of the Building Official.

**9.04.02. Local amendments, additions, and deletions to the 2018 International Residential Code.**

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The following sections and subsections of the residential building code adopted in this Ordinance shall be amended, added, or deleted as follows. All other sections or subsections of the 2018 International Residential Code shall remain as originally published.

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

**R101.2 Scope.** The provisions of the International Residential Code for One- and Two-family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, 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.

**Exceptions:**

1. The following shall be permitted to be constructed in accordance with this code where provided with a residential fire sprinkler system complying with Section P2904:
  - 1.1 A care facility with five or fewer persons receiving custodial care within a dwelling unit.
  - 1.2 A care facility with five or fewer persons receiving medical care within a dwelling unit.
  - 1.3 A care facility for five or fewer persons receiving care that are within a single-family dwelling.
  
2. The following shall be permitted to be constructed in accordance with this code. A fire sprinkler system if installed may be in accordance with Section P2904:
  - 2.1 Live/work units located in townhouses and complying with the requirements of Section P2904.
  - 2.2 Owner-occupied lodging houses with five or fewer guestrooms.
  
1. Existing buildings undergoing repair, alteration, or additions, and change of occupancy may be permitted to comply with the International Existing Building Code.

**R103.1 Enforcement agency.** Building services is hereby created and the official in charge thereof shall be known as the Building Official.

**R103.2 Appointment.** Not adopted by the City.

**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 City in good faith and without malice in the discharge of the duties required by this code or other pertinent

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law or ordinance, shall not thereby be rendered civilly or criminally 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.

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 the City 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.

**R104.8.1 Legal defense.** Any suit or criminal complaint 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 afforded all the protection provided by the City's insurance pool and any immunities and defenses provided by other applicable state and federal law and defended by legal representative of the City 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.

**R105.1 Required.** Any owner or owner's authorized agent 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 performed, shall first make application to the Building Official and obtain the required permit. The Building official may exempt permits for minor work.

**R105.2 Work exempt from permit.** Exemption from the 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 City. Building permits shall not be required for the following:

1. Retaining walls that are not over four feet in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
2. Water tanks supported directly upon grade if the capacity does not exceed five thousand gallons and the ratio of height to diameter or width does not exceed two to one.
3. Walks and driveways not more than thirty inches above grade and not over any basement or story below.
4. Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
5. Replacement of exterior siding or trim.
6. Replacement of doors or windows when the door or window opening remains unchanged.

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7. Prefabricated swimming pools which are less than eighteen inches deep that are installed entirely above ground.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall which do not project more than fifty-four inches from the exterior wall and do not require additional support.
10. Dumpsters.
11. Gutters, downspouts, and storm windows.

**Gas:**

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

**Mechanical:**

1. Portable heating appliances.
2. Portable ventilation appliances.
3. Portable cooling units.
4. Steam, hot- or chilled-water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds 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.

**R106.1.5 Additional building plan information required.** Building plans for new dwelling units shall indicate the location of the electric breaker box for the dwelling unit.

**R106.1.6 Foundation reinforcement.** Construction for detached one- and two-family dwellings and town houses shall be provided with the intended reinforcement of foundation walls referenced in Tables R404.1.1(2), R404.1.1(3), and R404.1.1(4) for reinforced masonry foundation walls; Tables R404.1.2(2), R404.1.2(3), R404.1.2(4), and R404.1.1(8) for flat concrete foundation walls; Tables 404.1.2(5) and R404.1.2(6) for waffle-grid basement walls; and Table R404.1.2(7) for screed-grid basement walls where the foundation wall exceeds the provisions for plain masonry and concrete foundation walls.

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**R106.2 Site plan or plot plan.** The construction documents submitted with the application for a new home or townhome building permit shall be accompanied by a site plan showing the size and location of new construction and existing structures on the site, distances from lot lines, and minimum ground elevations (MGEs) which designates the elevation of the top of the black dirt under the grass, or the top of the landscape rock or other landscape material at the lowest exposed part of the house and at the lot corners.

**R106.3.1 Approval of construction documents.** When the Building Official issues a permit, the construction documents shall be submitted and reviewed. 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 his designee.

**R108.2 Schedule of permit fees.** On buildings, structures, gas, mechanical, or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the fee schedule adopted by resolution by the City Council.

**R108.6 Work commencing before permit issuance.** Any person who commences work requiring a permit on a building, structure, gas, or mechanical system before obtaining the necessary permit(s) shall be subject to a Late Application Fee established by resolution by the City Council that shall be in addition to the required permit fees. Legal and/or civil proceedings may also be commenced by the City.

**R109.1.1 Footing inspection.** Inspection of the footings 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 footing 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.

**R109.1.3 Floodplain inspections.** For construction in flood hazard areas as established by the Flood Damage Prevention Ordinance, upon placement of the lowest floor, including basement, and prior to further vertical construction, the floodplain administrator shall require submission of documentation, prepared and sealed by a registered design professional, of the elevation of the lowest floor, including basement, required in the Flood Damage Prevention Ordinance.

**R109.1.6.1 Elevation documentation.** If located in a flood hazard area, the documentation of elevations required in Section R322.1.10 shall be submitted to the floodplain administrator prior to the final inspection.

**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

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therefor as provided herein and final inspections have been obtained from the mechanical and building inspectors of the City. 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 City. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the City shall not be valid.

**Exceptions:**

1. Certificates of occupancy are not required for work exempt from permits under Section R105.2.
2. Accessory buildings or structures.

**R110.6 Placards.** Placards or inspection record tags placed on the job by the inspectors to indicate approval of the work inspected shall not be removed, except when authorized by the Building Official.

**R112.1 Designation of Board of Appeals.** In order to hear and decide appeals of orders, decisions, or determinations made by the Building Official relative to the application and interpretation of this code, the City Council hereby assumes the responsibilities of the Board of Appeals for this code. All decisions and findings of the Board shall be final and shall be rendered in writing to the appellant with a duplicate copy to the Building Official.

**R112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. If the appeal is based on a claim that an equally good or better form of construction was improperly denied, the appellant must submit the alternate material, design, or method of construction they are proposing. The appellant also has the burden to demonstrate to the Board that the alternative method or material that they are proposing is an equally good or better form of construction. The Board shall have no authority relative to the interpretation of the administrative provisions of this code nor shall the Board be empowered to waive the requirements of this code.

**R112.3 Submission of appeals.** All appeals must be submitted in writing to the Building Official within ten days of the order, decision, or determination of the Building Official that is being appealed. Once the appeal is received by the Building Official, he shall place the appeal on the City Council's next regular meeting agenda that is more than seven days (inclusive) from the date of receipt of the appeal.

**R112.3.1 Appeal hearings.** All hearings before the Board shall be open to the public. The appellant, the appellant's representative, the Building Official, any member of the City's staff, or any person whose interests are affected shall be given an opportunity to be heard.

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**SECTION R202 DEFINITIONS** The definitions of accessory structure and townhouse are changed as follows:

**ACCESSORY STRUCTURE.** A structure not over one story in height, detached from a principal building, located on the same lot as the principal building, and customarily incidental and subordinate to the principal building, such as a detached garage or storage shed. An accessory building does not include any dwelling unit(s) or living quarters.

**TOWNHOUSE.** A single-family dwelling unit constructed in a group of two or more attached units, with each unit located on a separate lot, in which each unit extends from foundation to roof and with a yard or public way on at least two sides, no unit is located over another unit, and each unit is separated from any other unit by one or more vertical, unpierced, common, fire-resistant walls. Also known as single-family attached dwellings or zero lot line homes.

**Table R301.2(1) Climatic and Geographic Design Criteria**, is hereby amended by inserting the following information into the table:

Ground Snow Load: 40 psf and as per ASCE 705;  
Wind speed: 115 mph;  
Topographic Effects: no;  
Special Wind Region: no;  
Wind-borne Debris Zone: no;  
Seismic Design Category: A;  
Weathering: Severe;  
Frost line depth: 42";  
Termite: Slight to moderate;  
Winter Design Temp: -11°F;  
Ice Barrier Underlayment Required: Yes;  
Flood Hazards: The City of Harrisburg entered the NFIP on 4/2/2008; the FIS and FIRM panels 0154C and 0162C became effective on 4/2/2008;  
Air Freezing Index: 3000;  
Mean Annual Temp: 46°F.

**Manual J Design Criteria**, is hereby amended by inserting the following information into the table:

Elevation: 1418 FASL;  
Latitude: 43 degrees N;  
Winter heating: -11°F;  
Summer cooling: 90°F;  
Altitude correction factor: none;  
Coincident wet bulb: 72°;  
Daily range: M

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**Table R301.5 Minimum Uniformly Distributed Live Loads** is hereby amended by removing the “Sleeping rooms” use and changing the use title “Rooms other than sleeping rooms” to “Rooms”.

**Table R302.1(1) Exterior Walls** is hereby amended to change the “Minimum Fire Separation Distance” for Exterior Wall Projections on line 4 (Fire Resistance Rated) from 5 to 3 feet and on line 5 (Not fire-resistance rated) from 5 to 3 feet.

**R302.2.2 Common walls.** Common walls separating townhouses shall be assigned a fire-resistance rating in accordance with Item 1 or 2. The common wall shared by two townhouses shall be constructed without 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 in accordance with the State Electrical Code. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section 302.4. Plumbing installations shall be in accordance with the State Plumbing Code. Membrane or through penetrations of common walls for plumbing systems shall be in accordance with Section 302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263, or Section 703.3 of the 2018 IBC.
2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263, or Section 703.3 of the 2018 IBC.

**R302.2.3 Continuity.** The fire-resistance-rated wall or assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

Exterior walls that extend beyond an adjacent structure that has a fire separation distance less than 5 feet to a common property line shall have not less than a one-hour fire rating with exposure from both sides with no openings allowed therein.

Projections such as a deck that have a fire separation distance of less than 3 feet to a common property line shall have a 1-hour fire rating with exposure from both sides with no openings allowed therein that extends at least 30 inches above the projection.



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**R302.13 Fire Protection of Floors.** Not adopted by the City.

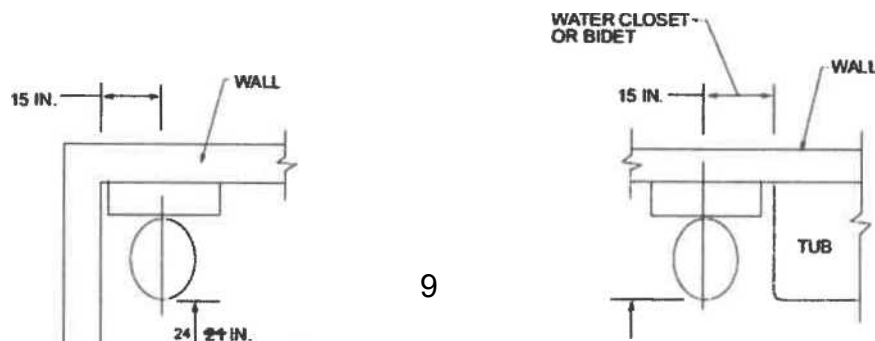
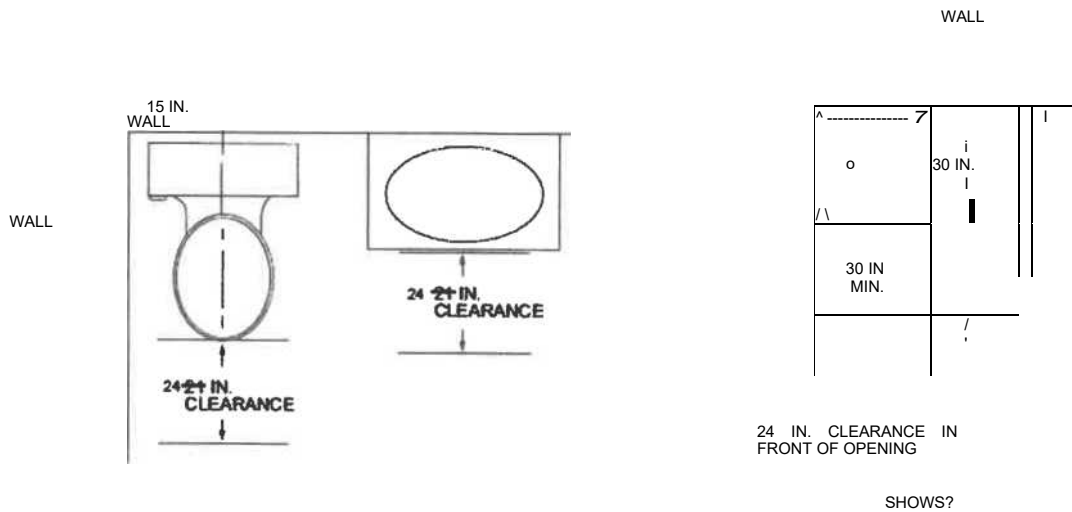
**R303.4 Mechanical ventilation.** The dwelling unit may be provided with whole-house mechanical ventilation in accordance with Section M1505.4.

**Exception.** Where the air infiltration rate of a dwelling unit is greater than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch w.c. in accordance with Section N1102.4.1.2, whole-house mechanical ventilation in accordance with Section M1505.4 is not required.

**R303.5.1 Intake openings.** Mechanical and gravity outdoor air intake openings shall be located a minimum of 10 feet from any hazardous or noxious contaminant, such as vents, chimneys, plumbing vents, streets, alleys, parking lots, and loading docks, except as otherwise specified in this code. Where a source of contaminant is located within 10 feet of an intake opening, such opening shall be located a minimum of 3 feet below the contaminant source. For the purpose of this section, the exhaust from dwelling unit toilet rooms, bathrooms and kitchens shall not be considered as hazardous or noxious.

**Exception:** For equipment replacements on existing structures, gravity outdoor intake openings for combustion air shall be located a minimum of 3 feet from any hazardous or noxious contaminant.

**R307.1 Space required.** Fixtures shall be spaced in accordance with Figure R307



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FIGURE R307.1 MINIMUM FIXTURE CLEARANCES

**R309.3 Flood Hazard Areas.** For buildings located in flood hazard areas as established by Table R301.2(1), garage floors shall be elevated to or above the design flood elevation as determined in Section R322.

**R309.5 Fire sprinklers.** Not adopted by the City.

**R310.2.1 Minimum opening area.** All emergency escape and rescue openings shall have a minimum net clear opening of 5.0 square feet. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. The net clear height opening shall be not less than 24 inches and the net clear width shall be not less than 20 inches.

**R310.2.2 Window sill height.** Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 48 inches above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3.

**R310.2.3.1 Ladder and steps.** Window wells with a vertical depth greater than 48 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall, and shall be spaced not more than eighteen inches on center vertically for the full height of the window well.

**R310.3.2.1 Ladder and steps.** Area wells with a vertical depth greater than 48 inches shall be equipped with a permanently affixed ladder or steps usable with the door in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall, and shall be spaced not more than 18 inches on center vertically for the full height of the exterior stairwell.

**R311.3.1 Floor elevations at the required egress doors.** Landings or floors at the required egress door shall not be more than 1½ inches lower than the top of the threshold.

**Exception:** The exterior landing or floor shall not be more than 8 inches below the top of the threshold provided the door does not swing over the landing or floor.

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When exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

**R311.3.2 Floor elevations for other exterior doors.** Doors other than the required egress door shall be provided with landings or floors not more than 8 inches below the top of the threshold.

**Exception:** A landing is not required where a stairway of two or fewer risers is located on the exterior side of the door, provided the door does not swing over the stairway.

**R311.7.5.1 Risers.** The maximum riser height shall be 8 inches. The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch. Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30° from the vertical. Open risers are permitted.

**R311.7.8.4 Continuity.** Handrails for stairways shall extend for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lower riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1½ inches between the wall and the handrails.

**Exceptions:**

1. Handrails shall be permitted to be interrupted by a newel post at a turn.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

**R311.7.8.5 Grip-size.** All required handrails shall be of one of the following types or provide equivalent graspability.

Type I. Handrails with a circular cross section shall have an outside diameter of at least 1¼ inches and not greater than 2 inches. If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches and not greater than 6¼ inches with a maximum cross section of dimension of 2¼ inches. Edges shall have a minimum radius of 0.01 inch.

Type II. Handrails with a perimeter greater than 6¼ inches shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of ¾ inch measured vertically from

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the tallest portion of the profile and achieve a depth of at least 5/16 inch within 7/8 inch below the widest portion of the profile. This required depth shall continue for at least 3/8 inch to a level that is not less than 1 3/4 inches below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 1/4 inches to a maximum of 2 3/4 inches. Edges shall have a minimum radius of 0.01 inch.

**Exception:** Exterior stairs are allowed to have a horizontal 2X member to form a 1 1/2 inch graspable dimension in lieu of the above-referenced perimeter dimensions.

**R312.1.3 Opening limitations.** Required guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 5 inches in diameter.

**Exception:** The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches in diameter.

**R313.1 Townhouse automatic fire sprinkler systems.** Not adopted by the City.

**R313.1.1 Design and installation.** Automatic residential fire sprinkler systems for townhouses, when installed, shall be designed and installed in accordance with Section P2904 or NFPA 13D.

**R313.2 One- and two-family dwellings automatic fire systems.** Not adopted by the City.

**R313.2.1 Design and installation.** Automatic residential fire sprinkler systems, when installed, shall be designed and installed in accordance with Section P2904 or NFPA 13D.

**R314.3 Location.** Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

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4. Smoke alarms shall be installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.
5. Where the ceiling height of a room is open to the hallway serving a bedroom exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and in the adjacent room.

**Exception.** Hallways less than 4 feet in length are allowed to omit the smoke detector within the hallway adjacent to the bedrooms.

**R314.2.2 Alterations, repairs and additions.** When alterations, repairs or additions requiring a permit occur with a valuation of more than \$1000, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings.

**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. Installation, alteration or repairs of plumbing or mechanical systems.

**R314.4 Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

**Exception:** Interconnection of smoke alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available that could provide access for interconnection without the removal of interior finishes.

**R315.2.2 Alterations, repairs and additions.** When alterations, repairs or additions requiring a permit occur with a valuation of more than \$1000, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

**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. Installation, alteration or repairs of plumbing or mechanical systems.

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**R326.1 General.** The design and construction of barriers for pools and spas shall comply with the following:

**R326.2 Definitions.** For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

**ABOVEGROUND/ON-GROUND POOL.** See “Swimming pool”.

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

**HOT TUB.** See “Swimming pool”.

**IN-GROUND POOL.** See “Swimming pool”.

**RESIDENTIAL.** That which is situated on the premises of a detached one- or two-family dwelling or a one-family townhome not more than three stories in height.

**SPA, NONPORTABLE.** See “Swimming pool”.

**SPA, PORTABLE.** A nonpermanent structure intended for recreational bathing in which all controls, water-heating, and water-circulating equipment are an integral part of the product.

**SWIMMING POOL.** Any structure intended for swimming or recreational bathing that contains water more than 18 inches deep. This includes in-ground, above-ground, and on-ground swimming pools, hot tubs, and spas.

**SWIMMING POOL, INDOOR.** A swimming pool that is totally contained within a structure and sounded on all four sides by the walls of the enclosing structure.

**SWIMMING POOL, OUTDOOR.** Any swimming pool that is not an indoor swimming pool.

**R326.3 Application.** The provisions of this chapter shall control the design of barriers for residential swimming pools, spas, and hot tubs. These design controls are intended to provide protection against potential drownings and near-drownings by restricting access to swimming pools, spas, and hot tubs.

This requirement shall be applicable to all new swimming pools hereafter constructed, other than indoor pools, and shall apply to all existing pools, which have a depth of 18 inches or more of water. No person in possession of land within the City, either as owner, purchaser, lessee, tenant, or a licensee, upon which is situated a swimming pool having a depth of water of 18 inches or more, shall fail to provide and maintain such barrier as herein provided.

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**R326.4 Outdoor swimming pool.** An outdoor swimming pool, including an in-ground, aboveground, or on-ground pool, hot tub, or spa, shall be surrounded by a barrier that shall be installed, inspected, and approved prior to filling the swimming pool with water and that completely surrounds and obstructs access to the swimming pool. Said barrier shall comply with the following:

1. The top of the barrier shall be at least 48 inches above grade measured on the side of the barrier that faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches measured on the side of the barrier that faces away from the swimming pool. Where the top of the pool structure is above grade, such as an aboveground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches.
2. Openings in the barrier shall not allow the passage of a 4-inch-diameter sphere.
3. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and means of access is a ladder or steps, then:
  - a. The ladder or steps shall be capable of being secured, locked, or removed to prevent access; or
  - b. The ladder or steps shall be surrounded by a barrier, which meets the requirements of Item 1 above. When the ladder or steps are secured, locked, or removed, any opening created shall not allow the passage of a 4-inch-diameter sphere.
4. All gates or door openings through the barrier shall be equipped with self-closing and self-latching devices for keeping the door or gate securely closed at all times when the pool is not in actual use, except that the door of any dwelling that forms part of the enclosure need not be so equipped.

**R326.4.1 Barrier exceptions:** Spas or hot tubs with a safety cover that complies with ASTM F1346 shall be exempt from the provisions of this chapter. Modifications in individual cases, upon a showing of good cause with respect to height, nature, or location of a fence, wall, gates, or latches, or the necessity thereof, may be made by the Building Official, provided the protection as sought hereunder is not reduced thereby. The Building Official may grant permission for other protective devices or structures to be used

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as long as the degree of protection afforded by this substitute device or structure is not less than the protection afforded by the wall, fence, gate, and latch described herein. A reasonable period within which to comply with the requirements of this section for existing swimming pools shall be allowed, which period shall not exceed 90 days after notification by the Building Official.

**R403.1.4.1 Frost protection.** Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extended below the frost line specified in Table R301.2.(1);
2. Constructing in accordance with Section R403.3;
3. Constructing in accordance with ASCE 32; or
4. Erected on solid rock.

**Exceptions:**

1. Protection of freestanding accessory structures with an area of 1500 square feet or less of light-frame construction, with an eave height of 10 feet or less shall not be required.
2. Protection of freestanding accessory structures with an area of 400 square feet or less, of other than light-frame construction, with an eave height of 10 feet or less shall not be required.
3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

**R502.3.1 Sleeping areas and attic joists.** Table R502.3.1(1) shall be used to determine the maximum allowable span of floor joists that support sleeping areas and attics that are accessed by means of a fixed stairway in accordance with Section R311.7, provided that the design live load does not exceed 40 pounds per square foot and the design dead load does not exceed 20 pounds per square foot. The allowable span of ceiling joists that support attics used for limited storage or no storage shall be determined in accordance with Section R802.5.

**R602.10.1.2 Offsets along a braced wall line.** All exterior walls parallel to a braced wall line shall be offset not more than 4 feet from the designated braced wall line location as is shown on Figure R602.10.1.1. Interior walls used as bracing shall be offset not more than 4 feet from a braced wall line through the interior of the building as shown in Figure R602.10.1.1.

**Exception:** The offset out-of-plane may exceed 4 feet and the out-to-out offset dimension may exceed 8 feet if the area of the offset is less than 200 square feet.



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**R602.12 Simplified wall bracing.** Buildings meeting all of the conditions listed in Items 1-8 shall be permitted to be braced in accordance with this section as an alternative to the requirements of Section R602.10. The entire building shall be braced in accordance with this section; the use of other bracing provisions of R602.10, except as specified herein, shall not be permitted.



1. There shall be no more than three stories above the top of a concrete or masonry foundation or basement wall. Permanent wood foundations shall not be permitted.
2. Floors shall not cantilever more than 24 inches beyond the foundation or bearing wall below.
3. Wall height shall not be greater than 12 feet.
4. The building shall have a roof eave-to-ridge height of 20 feet or less.
5. Exterior walls shall have gypsum board with a minimum thickness of ½ inch installed on the interior side fastened in accordance with Table R702.3.5.
6. The structure shall be located where the basic wind speed is less than or equal to 130 mph, and the Exposure Category is B or C.
7. The structure shall be located in Seismic Design Category A, B or C for detached one- and two-family dwellings or Seismic Design Category A or B for town houses.
8. Cripple walls shall not be permitted in three-story buildings.

**R602.12.1 Circumscribed rectangle.** The bracing required for each building shall be determined by circumscribing a rectangle around the entire building on each floor as shown in Figure R602.12.1. The rectangle shall surround all enclosed offsets and projections such as sunrooms and attached garages. Open structures, such as carports and decks, shall be permitted to be excluded. The rectangle shall have no side greater than 80 feet, and the ratio between the long side and short side shall be a maximum of 3:1.

**TABLE R602.12.4  
 MINIMUM NUMBER OF BRACING UNITS ON EACH SIDE OF THE  
 CIRCUMSCRIBED RECTANGLE**

TABLE R602.12.4  
 MINIMUM NUMBER OF BRACING UNITS ON EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE

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STORY LEVEL	EAVE-TO-RIDGE HEIGHT (feet)	MINIMUM NUMBER OF BRACING UNITS ON EACH LONG SIDE								MINIMUM NUMBER OF BRACING UNITS ON EACH SHORT SIDE							
		Length of short side (feet)								Length of long side (feet)							
		10	20	30	40	50	60	70	80	10	20	30	40	50	60	70	80
	10	1	2	2	2	3	3	4	4	1	2	2	2	3	3	4	5
		2	3	3	4	5	6	6	7	2	3	3	4	5	6	6	7
	20	1	2	3	3	4	4	5	5	1	2	3	3	4	4	5	5
		2	3	4	5	6	7	7	8	2	3	4	5	6	7	7	8

- a. Interpolation shall not be permitted.
- b. Cripple walls or wood-framed basement walls in a walk-out condition shall be designated as the first story and the stories above shall be redesignated as the second and third stories, respectively, and shall be prohibited in a three-story structure.
- c. Actual lengths of the sides of the circumscribed rectangle shall be rounded to the next highest unit of 10 when using this table.
- d. For Exposure Category C, multiply bracing units by a factor of 1.20 for a one-story building, 1.30 for a two-story building and 1.40 for a three-story building.

**R602.12.3 Bracing unit.** A bracing unit shall be a full-height sheathed segment of the exterior wall with no openings or vertical or horizontal offsets and a minimum length as specified herein for intermittent sheathing. Bracing units shall be considered per story for continuously sheathed structural wood panels. Interior walls shall not contribute toward the amount of required bracing. Mixing of Items 1 and 2 is prohibited on the same story.

1. Where all framed portions of all exterior walls are sheathed in accordance with Section R602.12.2, including wall areas between bracing units, above and below openings, and on gable end walls, the minimum length of a bracing unit shall be 3 feet.
2. Where the exterior walls are braced with sheathing panels in accordance with Section R602.12.2 and areas between bracing units are covered with other materials, the minimum length of a bracing unit shall be 4 feet.

**R802.11.1 Uplift resistance.** Roof assemblies shall have uplift resistance in accordance with Sections R802.11.1.1 and R802.11.1.2.

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Where the uplift force does not exceed 200 pounds, rafters and trusses spaced not more than 24 inches on center shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1) and be connected to the wall plate by the use of approved connectors, consisting of truss/rafter to wall connector, having a resistance to uplift of not less than 175 pounds installed in accordance with the manufacturer's specifications; or where the basic wind speed does not exceed 115 mph, the wind exposure category is B, the roof pitch is 5:12 (42% slope) or greater, and the roof span is 32 feet or less, rafters and trusses spaced not more than 24 inches on center shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1).

**R806.2 Minimum vent area.** The minimum net free ventilating area shall be 1/150 of the area of the vented space.

**Exception:** The minimum net free ventilation area shall be 1/300 of the vented space provided one or more of the following conditions are met:

1. In Climate Zones 6, 7, and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
2. Not less than 40% and not more than 50% of the required ventilating area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3' below the ridge or highest point of the space, measured vertically. The balance of the required ventilation provided shall be located in the bottom  $\frac{1}{3}$  of the attic space. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3' below the ridge or highest point of the space shall be permitted.

**R903.4.1 Secondary (emergency overflow) drains or scuppers.** Where roof drains are required, secondary emergency overflow roof drains or scuppers shall be provided where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason. Overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 2" above the low point of the roof, or overflow scuppers having three times the size of the roof drains and having a minimum opening height of 4" shall be installed in the adjacent parapet walls with the inlet flow located 2" above the low point of the roof served. The installation and sizing of overflow drains, leaders and conductors shall comply with the State Plumbing Code.

**N1101.2 (R101.3) Intent.** This chapter shall regulate the design and construction of buildings for the effective use and conservation of energy over the useful life of each building. Additions, alterations, renovations, or repairs to an existing building, building system, or portion thereof may conform to the provisions of this code as they relate to new construction

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without requiring the unaltered portion(s) of the existing building or building  
system to comply with this code. This chapter is intended to provide  
flexibility to permit the use of innovative approaches and techniques to  
achieve this objective. This chapter is not intended to abridge safety, health  
or environmental requirements contained in other applicable codes or  
ordinances.

**Table N1102.1.2 (R402.1.2) Insulation and Fenestration Requirements  
by Component.** Amend the following portions of the table:

Climate Zone 6

Fenestration U-Factor: 0.32

Wood Frame Wall R-Value: 20 or 13+5<sup>h</sup>

Mass Wall R-Value<sup>i</sup>: 15/19

Basement<sup>c</sup> Wall R-Value: 10/13

Crawl Space<sup>c</sup> Wall R-Value: 10/13

Add footnote j: The minimum R-value for ceilings is further based on a  
minimum 6-inch heel height to allow the ceiling insulation to extend over the  
top plate.

**N1102.2.9 (R402.2.9) Basement walls.** Walls associated with conditioned  
basements may be insulated from the top of the basement wall down to 10  
feet below grade or to the basement floor, whichever is less. Walls  
associated with unconditioned basements shall meet this requirement  
unless the floor overhead is insulated in accordance with Sections  
N1102.1.1 and N1102.2.7.

**Exception:** Exterior basement walls of enclosed mechanical rooms.

**N1102.4.1.2 (R402.4.1.2) Testing.** Not adopted by the City.

**N1102.4.4 (R402.4.4) Rooms containing fuel-burning appliances.** Not  
adopted by the City.

**N1103.3.2.1 (R403.3.2.1) Sealed air handler.** Not adopted by the City.

**N1103.3.3 (R403.3.3) Duct testing (Mandatory).** Not adopted by the City.

**N1103.3.5 (R403.3.5) Building cavities (Mandatory).** Building framing  
cavities shall not be used as ducts or plenums.

**Exception:** Stud spaces and floor joist cavities may be used for return  
air plenums.

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**N1103.5 (R403.5) Service hot water systems.** Energy conservation measures for service hot water systems shall be in accordance with the State Plumbing Code.

**N1104.1 (R404.1) Lighting equipment (Mandatory).** Not adopted by the City.

**N1107.1.1 (R501.1.1) Additions, alterations, or repairs: General.** Additions, alterations, or repairs to an existing building, building system or portion thereof may comply with Section N1108, N1109, or N1110. Unaltered portions of the existing building or building supply system shall not be required to comply with this chapter.

**N1109.1 (R503.1) General.** Alterations to any building or structure may comply with the requirements of the code for new construction. Alterations shall be such that the existing building or structure is not less conforming with the provisions of this chapter than the existing building or structure was prior to the alteration.

Alterations to an existing building, building system or portion thereof may conform to the provisions of this chapter as they relate to new construction without requiring the unaltered portions of the existing building or building system to comply with this chapter. Alterations shall not create an unsafe or hazardous condition or overload existing building systems. Alterations shall be such that the existing building or structure does not use more energy than the existing building or structure prior to the alteration. Alterations to existing buildings shall comply with Sections N1109.1.1 through N1109.2.

**N1110.1 (R504.1) General.** Buildings, structures and parts thereof may be repaired in compliance with Section N1107.3 and this section. Work on nondamaged components necessary for the required repair of damaged components shall be considered to be part of the repair and shall not be subject to the requirements for alterations in this chapter. Routine maintenance required by Section N1107.3, ordinary repairs exempt from permit, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

**M1301.4 Plastic pipe, fittings and components.** Not adopted by the City.

**M1305.1.3.1 Ground clearance.** Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 1½ inches above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. Appliances suspended from the floor shall have a clearance of not less than 6 inches from the ground.

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**M1502.4.2 Duct installation.** Exhaust ducts shall be supported at 4-foot intervals and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

**Table M1504.2 Duct Length.** Remove this table and footnotes and replace with new table **Duct Size**:

Fan airflow rating (CFM):	0-80	Minimum duct diameter (inches):	4
	81-125		5
	126-200		6
	201-300		7
	Over 300		8

**Add M1504.3.4 Exhaust openings.**

Minimum clearance between the exhaust and intake openings of an HRV/PRV system shall be in accordance with the manufacturer's installation instructions.

**M1505.4.1.1 Outside Air Supplied Directly to Habitable Spaces.** When outdoor air is supplied directly to habitable spaces it shall be tempered to a minimum of 40° F. at the local ASHRAE 99.6% heating design temperature.

**M1505.4.1.2 Outdoor Air Supplied to Forced Air Supply Systems.** When outdoor air is supplied to a forced air system the mixed air temperature shall not be less than allowed by the heating equipment manufacturer's installation instruction. The system's blower shall be in operation whenever the whole-house ventilation system is in operation. No interlock with an exhaust fan is required when outdoor air is supplied to a forced air system.

**M1505.4.1.3 Passive Outdoor Air.** Outdoor air shall be allowed to be transferred into a dwelling when the outdoor air and exhaust terminations are separated with one on the uppermost level and one on the lowest level of the dwelling. For single level dwellings, the outdoor air and exhaust terminations shall be separated by ½ the diagonal dimension of the largest room. Such outdoor air shall circulate through the dwelling from the outdoor air termination to the exhaust termination through permanent openings. Supply, return, and transfer ducts, open stairwells, or wall openings shall be considered permanent openings. The outdoor air intake duct shall be sized in accordance with Table M1505.4.1 and air shall not be required to be tempered.

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**M1505.4.1.4 Fans.** Fans used as part of the whole-house ventilation system shall be certified by the equipment manufacturer to be capable of continuous operation at the maximum fan-rated CFM. Surface-mounted fans shall have a sound rating of 1.0 sone or less. Fans used as whole-house ventilation fans shall be clearly marked at rough-in inspection as such.

**M1505.4.1.5 Motorized Dampers.** Motorized dampers shall be installed in outdoor intake ducts and shall be interlocked with whole-house ventilation fan(s). Gravity or motorized dampers shall be installed in exhaust ducts.

**Table M1505.4.1.3 Passive Makeup Air Duct Size.**

Passive Duct Size (Inches):	4	Exhaust Fan (CFM):	35
	5		50
	6		80
	7		110
	8		130
	9		165

**M1505.4.2 System controls.** The whole-house mechanical ventilation system shall be provided with controls that enable manual override. The controls shall be labeled “Whole-House Ventilation System” and shall be located near the thermostat or in the mechanical room. For whole-house ventilation fans which also function as bathroom exhaust fans, a local control switch shall be required in the bathroom to allow operation of the fan when the whole-house ventilation system is switched off.

**Exception:** Listed HRV/ERV systems shall be installed in accordance with the manufacturer’s installation instructions. The distance between the exhaust and inlet termination of an individual system shall be allowed to be in accordance with the equipment manufacturer’s instructions. HRV/ERVs shall be capable of balanced airflow operation at the ASHRAE 99.6% heating design temperature. Unit cycling for defrost is allowed.

**Table M1505.4.4 Minimum Required Local Exhaust Rates for One- and Two-Family Dwellings.** Remove Kitchens Area to be Exhausted.

**Section M1506. Subslab Soil Exhaust Systems.**

**M1506.1 General.** When a subslab soil exhaust system is provided, the duct shall conform to the requirements of this section.

**M1506.2 Materials.** Subslab soil exhaust system duct material shall be air duct material listed and labeled to the requirements of UL 181 for Class 0 air ducts, or any of the following piping materials that comply with the plumbing code as

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building sanitary drainage and vent pipe: cast iron; galvanized steel; brass or  
copper pipe; copper tube of a weight not less than that of copper drainage tube,  
Type DWV; and plastic piping.

**M1506.3 Grade.** Exhaust system ducts shall not be trapped and shall have a minimum slope of  $\frac{1}{8}$  unit vertical in 12 units horizontal (1 percent slope).

**M1506.4 Termination.** Subslab soil exhaust system ducts shall extend through the roof and terminate at least 6 inches above the roof and at least 10 feet from any operable openings or air intake.

**M1506.5 Identification.** Subslab soil exhaust ducts shall be permanently identified within each floor level by means of a tag, stencil or other approved marking.

**M1601.1.1 Above-ground duct systems.** Above-ground duct systems shall conform to the following:

1. Equipment connected to duct systems shall be designed to limit discharge air temperature to not greater than 250°F.
2. Factory-made ducts shall be listed and labeled in accordance with UL 181 and installed in accordance with the manufacturer's instructions. Flexible air ducts shall be limited in length to 14 feet. Flexible air connectors are not allowed.
3. Fibrous glass duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards.
4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the SMACNA HVAC Duct Construction Standards—Metal and Flexible except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A653, except that sheet steel and strip used for duct, connectors, and round duct shall be G40 galvanized steel of lock-forming quality.
5. Use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F and exposed surfaces are not subject to condensation.
6. Duct systems shall be constructed of materials having a flame spread index not greater than 200.
7. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions:



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- 7.1. These cavities or spaces shall not be used as a plenum for supply air.
  - 7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.
  - 7.3. Stud wall cavities shall not convey air from more than one floor level.
  - 7.4. Stud wall cavities and joist space plenums shall be isolated from adjacent concealed spaces by tight-fitting fire-blocking in accordance with Section R602.8.
  - 7.5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.
8. Volume dampers, equipment and other means of supply, return and exhaust air adjustment used in system balancing shall be provided with access.

**M1601.1.2 Underground duct systems.** Underground duct systems shall be constructed of approved concrete, clay, metal or plastic. The maximum design temperature for systems utilizing plastic duct and fittings shall be 150°F. Metal ducts shall be protected from corrosion in an approved manner or shall be completely encased in concrete not less than 2" thick. Nonmetallic ducts shall be installed in accordance with the manufacturer's instructions. Plastic pipe and fitting materials shall conform to cell classification 12454-B of ASTM D1248 or ASTM D1784 and external loading properties of ASTM D2412. Ducts shall slope to a drainage point that has access. Ducts shall be sealed, secured and tested prior to encasing the ducts in concrete or direct burial. Metallic ducts having an approved protective coating and nonmetallic ducts shall be installed in accordance with the manufacturer's instructions.

**M1601.4.1 Joints, seams and connections.** Longitudinal and transverse joints, seams, and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC Duct Construction Standards—Metal and Flexible and NAIMA Fibrous Glass Duct Construction Standards. Joints, longitudinal and transverse seams, and connections in ductwork outside the building thermal envelope, all return ducts located within 10 feet of any appliance or all return ducts within a mechanical room, and all supply main trunk ducts and branch duct connections to the main trunk ducts shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants or tapes. Tapes and mastics used to seal fibrous glass ductwork shall be listed and labeled in accordance with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat-sensitive tape.

Tapes and mastics used to seal metallic and flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181 B-FX" for pressure-sensitive tape or "181 BM" for mastic. Duct connections to

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flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metallic ducts shall have a contact lap of not less than 1 inch and shall be mechanically fastened by means of not less than three sheet-metal screws or rivets equally spaced around the joint.

Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's instructions.

**Exceptions:**

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially without access, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. For ducts having a static pressure classification of less than 2 inches of water column, additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams. This exception shall not apply to snap-lock and button-lock type joints and seams that are located outside of conditioned spaces.

**M1601.4.4 Support.** Factory-made ducts listed in accordance with UL 181 shall be supported in accordance with the manufacturer's installation instructions. Field- and shop-fabricated fibrous glass ducts shall be supported in accordance with the SMACNA Fibrous Glass Duct Construction Standards or the NAIMA Fibrous Glass Duct Construction Standards. Field- and shop-fabricated metal and flexible ducts shall be supported in accordance with the SMACNA HVAC Duct Construction Standards—Metal and Flexible. Metal ducts shall be supported by ½-inch-wide 18-gage, 1-inch-wide 24-gage, or 1 1/2-inch-wide 26-gage metal straps or 12-gage galvanized wire at intervals not exceeding 10 feet or other approved means.

**M2101.1 General.** Hydronic piping shall conform to Table M2101.1. Approved piping, valves, fittings and connections shall be installed in accordance with the manufacturer's installation instructions. Pipe and fittings shall be rated for use at the operating temperature and pressure of the hydronic system. Used pipe, fittings, valves, or other materials shall be free of foreign materials.

**Exception:** Polyvinyl Chloride (PVC) plastic pipe conforming to ASTM D1785 or ASTM D2241 is an allowable material for hydronic piping.

**G2407.6 (304.6) Outdoor combustion air.** Outdoor combustion air shall be provided through opening(s) to the outdoors in accordance with Section

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G2407.6.1, or G2407.6.2. The minimum dimension of air openings shall be not  
less than 3 inches.

Combustion air intake opening shall be located a minimum of 3' from a gas  
meter.

**G2407.6.3 Alternate combustion air sizing.** As an alternate the net free  
area of openings, ducts, or plenums supplying air to an area containing gas-  
and oil-burning appliances shall be in accordance with B149.1-10, Natural  
Gas and Propane Installation Code, published by the Canadian Standards  
Association (CSA).

The combustion air duct is required to be upsized one diameter size when  
a dryer is installed in the same room as the combustion air.

**G2408.1 (305.1) General.** Equipment and appliances shall be installed as  
required by the terms of their approval, in accordance with the conditions of  
listing, the manufacturer's instructions, and this code. Manufacturer's  
installation instructions shall be available on the job site at the time of  
inspection. Where a code provision is less restrictive than the conditions of the  
listing of the equipment or appliance or the manufacturer's installation  
instructions, the conditions of the listing and the manufacturer's installation  
instructions shall apply.

After completion of the installation, all safety and operating controls and venting  
shall be tested before placing the burner in service in accordance with the  
manufacturer's installation instructions. The following requirements need to be  
recorded and affixed to the inside of the gas train access panel:

1. The rate of flow of the gas or fuel shall be adjusted to within plus or minus  
5 percent of the required Btu/hr rating at the manifold pressure specified  
by the manufacturer. When the prevailing pressure is less than the  
manifold pressure specified, the rates shall be adjusted at the prevailing  
pressure.
2. The gas inlet pressure per the manufacturer's installation settings.
3. The temperature rise across the heat exchanger per the manufacturer's  
installation settings.
4. The static pressure of the supply and return ducts per the manufacturer's  
installation settings.

Unlisted appliances approved in accordance with Section G2404.3 shall be  
limited to uses recommended by the manufacturer and shall be installed in  
accordance with the manufacturer's instructions, the provisions of this code and  
the requirements determined by the Building Official.

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**G2415.2 (404.2) CSST.** CSST piping systems shall be installed in accordance with the terms of their approval, the conditions of listing, the manufacturer's instructions, and this code.

The piping located on the exterior extending from the gas meter to the inside of the structure shall be a metallic pipe in compliance with Section G2414.4. The entrance into the structure shall be provided with the appropriate transition flange where an alternate gas piping material is utilized on the inside of the structure.

**G2415.3 (404.3) Prohibited locations.** Piping shall not be installed in or through a ducted supply, return or exhaust, or a clothes chute, chimney or gas vent, dumbwaiter or elevator shaft.

**G2427.4.1.1 (503.4.1.1) (IFGS) Plastic vent joints.** Plastic pipe and fittings used to vent appliances shall be installed in accordance with the appliance manufacturer's installation instructions. Plastic pipe venting materials listed and labeled in accordance with UL 1738 shall be installed in accordance with the vent manufacturer's instructions. Solvent cement joints between CPVS and PVC pipe fittings shall be primed. Where a primer is required, the primer shall be of a contrasting color.

**Part VII—Plumbing.** The following chapters are not adopted by the City: Chapter 25—Plumbing Administration; Chapter 26—General Plumbing Requirements; Chapter 27—Plumbing Fixtures; Chapter 28—Water Heaters; Chapter 29—Water Supply and Distribution, except Section P2904 Dwelling Unit Fire Sprinkler System; Chapter 30—Sanitary Drainage; Chapter 31—Vents; Chapter 32—Traps; and Chapter 33—Storm Drainage.

The provisions of the State Plumbing Code shall apply to the installation, alterations, repairs, and replacement of plumbing systems, including equipment, appliances, fixtures, and appurtenances, and where connected to a water or sewage system for detached one- and two- family dwellings and multiple single-family dwellings (town houses) not more than three stories high with separate means of egress and their accessory structures.

**Part VIII—Electrical.** The following chapters are not adopted by the City: Chapter 34—General Requirements; Chapter 35—Electrical Definitions; Chapter 36—Services; Chapter 37—Branch Circuit and Feeder Requirements; Chapter 38—Wiring Methods; Chapter 39—Power and Lighting Distribution; Chapter 40—Devices and Luminaires; Chapter 41—Appliance Installation; Chapter 42—Swimming Pools; Chapter 43—Class 2 Remote-Control, Signaling and Power-Limited Circuits.

The provisions of the State Electrical Code shall apply to the installation, alteration, repair, relocation, replacement, addition to, use, or maintenance of

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any electrical system, apparatus, wiring, or equipment for electrical, light, heat,  
power, fire alarms, and associate controls for detached one- and two-family  
dwellings and multiple single-family dwellings (town houses) not more than  
three stories high with separate means of egress and their accessory  
structures.

**AM Home Day Care (Title).** Amend the title to change “R-3 Occupancy” to  
“Residential Occupancy”.

BE IT FURTHER ORDAINED by the City Council of the City of Harrisburg that this  
Ordinance shall become effective in accordance to law.

CITY OF HARRISBURG

ATTEST:

Mayor Julie Burke – Van Luvanee

Finance Officer Mary McClung

(SEAL)

First Reading: October 7, 2019  
Second Reading: October 21, 2019  
Published: October 31, 2019  
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