

CHAPTER 26

PLUMBING CODE

26.01 PLUMBING CODE

The "Illinois Plumbing Code" as promulgated by the Illinois Department of Public Health at 77 Illinois Administrative Code, Part 890, is hereby adopted as the Plumbing Code of the City with the following changes, additions or insertions:

Appendix A, Table A:

Approved Materials for Water Service Pipe shall be as permitted by Table 29 (18-29-605.4) of the Chicago Plumbing Code.

Approved Materials for Water Distribution Pipe shall be as permitted by Table 29 (18-29-605.5) of the Chicago Plumbing Code.

Approved Standards for Fittings shall be as permitted by Table 29 (18-29-605.6) of the Chicago Plumbing Code.

Any amendments to the Illinois Plumbing Code or the Chicago Plumbing Code after January 1, 2009 shall be effective in the City upon their effective date.

26.011 METERING, FLUSHING AND INSTALLATION OF WATER SAVING PLUMBING FIXTURES

(a) All new water services shall be metered. New services include but are not limited to water service in new construction of all types.

(b) Flushing of sanitary sewers with potable water shall be performed through the use of a high velocity type sewer jet.

(c) In all new construction and in all repair and/or replacement of water using fixtures, only fixtures not exceeding the following flow rates and/or water usage shall be installed. These ratings are based on a pressure at the fixture of 40 to 50 psi.

| | |
|---------------------------------|---------------------|
| Water closets, tank type | 3.5 gal. per flush |
| Water closets, flushometer type | 3.0 gal. per flush |
| Urinals, tank type | 3.0 gal. per flush |
| Urinals, flushometer type | 3.0 gal. per flush |
| Shower heads | 3.0 gal. per minute |
| Lavatory, sink faucets | 3.0 gal. per minute |

(d) Lavatories for Public Use. In addition to the requirements in Item (c) above, in all new construction and in all repair and/or replacement of fixtures, faucets of lavatories located in restrooms intended for public use shall be of metering or self-closing type.

(e) In all new construction and in all new remodeling, only closed system air conditioning shall be installed.

(f) In all newly constructed or remodeled car wash installations a water recycling system shall be installed.

26.02 CERTIFIED PLUMBING CONTRACTORS

No person shall contract for plumbing work and no person shall do plumbing work in the City of Hickory Hills unless he shall be currently certified as a licensed plumber in accordance with the "Illinois Plumbing License Law."

26.03 INSPECTION FEES

An inspection fee of \$50 per inspection shall be paid for all plumbing inspections.

26.04 CONNECTIONS TO POTABLE WATER SYSTEMS AND OTHER REGULATIONS

(a) **Definitions:** For the purpose of this Section the following definitions shall apply unless the context clearly requires otherwise:

1. **Air Gap.** The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim of the receptacle.

2. **Approved.** Accepted by the Hickory Hills Water Department as meeting an applicable specification stated or cited in this section, or as suitable for the proposed use.

3. **Auxiliary Supply.** Any water source or system other than the potable water supply that may be available in the building or premises.

4. **Backflow.** The flow of any water, foreign liquids, gases or other substances back into the distribution pipes of the potable water system.

5. **Backflow Preventer.** A device or means to prevent backflow.

6. **Back-Siphonage.** The flowing back of used, contaminated or polluted water due to a negative gauge or subatmospheric pressure in that pipe.

7. **Contamination.** See pollution.

8. **Cross-Connection.** Any actual or potential connection between the potable water supply and a source of possible contamination or pollution.

9. **Director.** The Director of Public Works or his authorized designee.

10. **Drain.** Any pipe that carries waste water or waterborne wastes in a building drainage system.

11. **Fixture-Plumbing.** Installed receptacles, devices or appliances supplied with water or that receive or discharge liquids for liquid-borne wastes.

12. **Flood-Level Rim.** The edge of the receptacle from which water overflows.
13. **Hazard, Health.** Any conditions or devices which, in the judgment of the Director, may create a danger to the health and well-being of a water consumer. An example of a health hazard is a structural defect in the water supply system, whether of location, design or construction, that regularly or occasionally may prevent satisfactory treatment of the water supply or cause it to be polluted from extraneous sources.
14. **Hazard, Plumbing.** Any arrangement of plumbing, including piping and fixtures, whereby a cross-connection is created or is possible.
15. **Hydropneumatic Tank.** A pressure vessel in which air pressure acts upon the surface of the water contained within the vessel, pressurizing the water distribution piping connection to the vessel.
16. **Non-Residential.** All buildings and uses which do not consist of single family residential or multi-family (apartment or condominium) housing.
17. **Outlet.** The open end of the water supply pipe through which the water is discharged into the plumbing fixture.
18. **Plumbing System.** Includes the water supply and distribution pipes, plumbing fixtures, traps, soil pipes, waste pipes, vent pipes, building drains and building sewers, including their respective connections, devices and appurtenances, any of which are located within the property lines of the premises; and water-treating or water-using equipment.
19. **Pollution.** The presence of any foreign substance (organic, inorganic, radiological, or biological) in water that, either by itself or in combination with another substance in the water, tends to, or has the potential to, degrade its quality so as to constitute a hazard or impair the usefulness of the water.
20. **Reduced Pressure Principle Backflow Preventer.** An assembly of differential valves and check valves, including an automatically opened spillage port to the atmosphere designed to prevent backflow.
21. **Receiving Tank.** The receiving, non-pressure vessel forming part of the air gap separation between a potable and an auxiliary supply.
22. **Vacuum.** Any pressure less than that exerted by the atmosphere.
23. **Water, Potable.** Water free from contaminants in amounts sufficient to cause disease or harmful physiological effects. Its bacteriological and chemical quality shall conform to the requirements of the Federal and State drinking water regulations and to any regulations of the applicable public health authority having local jurisdiction.
24. **Water, Non-Potable.** Water that is not safe for human consumption or that is of questionable potability.

(b) **Cross Connections Prohibited**

1. Cross Connections between potable water systems and other systems or equipment containing water or other substances are prohibited except when and where approved cross connection control devices such as a reduced pressure zone backflow preventer are installed, tested and maintained to ensure proper operation on a continuing basis.

2. To protect the public water system from contamination due to contaminants through the water service connection into the public water system, a program of inspection and regulation shall be provided.

3. The Director shall inspect the plumbing in every building or premises served by the public water system as frequently as in his judgment may be necessary to ensure that such plumbing has been installed and maintained in such a manner as to prevent the possibility of pollution of the water supply of the City. The Director shall notify or cause to be notified in writing the owner or authorized agent of the owner of any such building or premises, to correct, within a reasonable time set by the Director, any plumbing installed or existing contrary to or in violation of this section or any other applicable law or ordinance, and which, in his judgment, may therefore permit the pollution of the City water supply, or otherwise adversely affect the public health.

4. Inspection. The Director shall have the right of entry into any building during reasonable hours, for the purpose of making inspection of the plumbing systems installed in such building or premises, provided that with respect to the inspection of any single family dwelling, consent to such inspection shall first be obtained from a person of suitable age an discretion therein or in control thereof. Consistent refusal to allow inspection of a specific dwelling may be cause for requiring installation of suitable backflow protection device approved by the City, or discontinuation of potable water service in the manner provided in this section.

(c) **Technical Requirements.** A potable water supply system shall be designed, installed and maintained in such a manner as to prevent contamination from non-potable liquids, solids, or gases being introduced into the potable water supply through cross-connections or any other piping connections to the system.

1. Connection to the potable water supply system is prohibited unless protected against backflow as set out herein. Examples of fixtures and equipment from which the potable water supply system must be protected include, but is not limited to are:

A. Bidets

B. Operating, dissection, embalming, and mortuary tables or similar equipment. In such installation, the hose used for water supply shall terminate at least 12 inches away from every point of the table or attachments.

C. Pumps for non-potable water, chemicals or other substances. Priming connections may be made only through an air gap.

D. Building drainage, sewer, or vent systems.

2. Potable water connections to boilers shall be made through an air gap or provided with a City-approved backflow preventer.

3. Refrigerating Unit Condensers and Cooling Jackets. Except where potable water provided for a refrigerator condenser or cooling jacket is entirely outside the piping or tank containing a toxic refrigerant, the inlet connection shall be provided with a City-approved check valve. Also adjacent to and at the outlet side of the check valve, a City-approved pressure relief valve set to relieve at 5 PSI above the maximum water pressure at the point of installation shall be provided if the refrigeration units contain more than 20 pounds of refrigerants.

4. Protection Against Backflow and Back-Siphonage.

A. Water Outlets. A potable water system shall be protected against backflow and back-siphonage by providing and maintaining at each outlet, an air gap, as specified below, between the potable water outlet and the flood level rim of the fixture it supplies, or between the outlet and any other source of contamination, or, an approved device or means to prevent backflow.

B. Minimum Required Air Gap.

(1) How Measured. The minimum required air gap shall be measured vertically from the lowest end of a potable water outlet to the flood rim or line of the fixture or receptacle into which it discharges.

(2) Size. The minimum required air gap shall be twice the effective opening of a potable water outlet unless the outlet is a distance less than three times the effective opening away from a wall or similar vertical surface, in which case the minimum required air gap shall be three times the effective opening of the outlet. In no case shall the minimum required air gap be less than one inch.

5. Before any device for the prevention of backflow or back-siphonage is installed, it shall have first been certified by the Foundation for Cross-Connection Control Research of the University of Southern California, and the National Sanitation Foundation. Devices, other than reduced pressure zone backflow preventers, installed in a residential potable water supply distribution system for protection against backflow shall be maintained in good working condition by the person or persons responsible for the maintenance of the system. Reduced pressure zone backflow preventers installed in a non-residential building potable water supply distribution system shall be tested and maintained by a State Certified Backflow Preventer Maintenance/Tester in accordance with Section 653.802(d) of Subtitle F, Title 35 of the Illinois Administrative Code as adopted by the State of Illinois Environmental Protection Agency, including any subsequent amendments thereto. The Director shall inspect routinely such devices and if they are found to be defective or inoperative, the Director shall notify the Owner of his obligation to have the device repaired within 72 hours of oral or written notice. If the building owner does not perform the necessary repairs within 72 hours, the Director shall require the replacement thereof and shall engage the services of a plumber to perform the required work, which cost shall be invoiced to the building owner, plus a cost of 10% for processing costs, to be paid to the City. In the case of an emergency repair, the Director may require the replacement of the device and arrange with a plumber for the device to be removed. The cost of this work will be invoiced to the building owner at actual cost.

6. Installation of Devices.

A. A reduced pressure principle type backflow preventer may be installed subject to full static pressure.

B. Backflow and back-siphonage preventing devices containing backflows to separate fixtures shall be accessibly located, preferably in the same room with the fixture they serve. Installation in utility or service spaces, provided they are readily accessible, is also permitted.

7. Below Rim Supply.

A. Where a potable water outlet terminates below the rim of a tank or vat, and the tank or vat has an overflow of diameter not less than two inches, the overflow pipe shall be provided with an air gap as close to the tank as possible.

B. The potable water outlet to the tank or vat shall terminate a distance not less than 1-1/2 times the height to which water can rise in the tank above the top of the overflow. This level shall be established at the maximum flow rate of the supply to the tank or vat and with all outlets except the air gap overflow outlet closed. The distance from the outlet to the high water level shall be measured from the critical point of the potable water supply outlet.

8. City-approved devices to protect against backflow and back-siphonage shall be installed at all fixtures and equipment where backflow and back-siphonage may occur and where a minimum air gap cannot be provided between the water outlet to the fixture or equipment and its flood-level rim.

A. Connections Subject to Back Pressure. Where a potable water connection is made to a line, fixture, tank, vat, pump, or other equipment with a hazard of backflow or back-siphonage where the water connection is subject to back pressure, and an air gap cannot be installed, the Director will require adequate protection which will include the use of an approved reduced pressure principle backflow preventer.

9. When a booster pump is used on a water pressure booster system, and the possibility exists that a positive pressure of less than 20 PSI may occur on the suction side of the pump, there shall be installed a low pressure cutoff on the booster pump to prevent the creation of a vacuum or negative pressure on the suction side of the pump, thus cutting off water to other outlets.

(d) Backflow Prevention Devices Required

1. All new residential and non-residential construction, and all remodeling, additions, or rehabilitations of existing residential and non-residential construction involving revisions or additions to the potable water system shall require the installation of a backflow prevention device immediately downstream of the water meter. Such installation shall be made as part of the construction and shall be a condition of any building permit. Backflow prevention devices shall also be installed by August 1, 1987 on any existing building used for any of the following purposes:

Hospitals, mortuaries, clinics, nursing homes. Laboratories. Piers, docks, water front facilities. Sewage treatment plants, sewage pumping stations or storm water pumping stations. Food or beverage processing plants. Chemical plants. Metal plating industries. Petroleum processing or storage plants. Radioactive material processing plants or nuclear reactors. Car washes. Other hazardous uses determined by the Water Department.

2. For residential construction permits, backflow preventers will be issued by the Water Department upon receipt of payment. For non-residential construction, backflow preventers (reduced principle) shall be furnished by the permittee.

3. Backflow preventers shall be installed by a licensed plumber at the sole expense of the owner of the premises being served. All devices shall be installed in accordance with manufacturer's recommendations. Reduced pressure principle backflow preventers shall be installed as follows:

A. Reduced principle backflow preventers shall be installed on fire lines and potable water service lines separately, downstream of the respective meters for both the fire lines and water service lines.

B. Reduced principle backflow preventers shall be installed with two (2) resilient seat gate valves, with a test cock on the No. 1 gate valve.

C. Installation shall be in a location where the unit is readily accessible for maintenance and testing. Location should be immediately "downstream" of the water meter.

D. Minimum clearances recommended by the manufacturer shall be observed.

E. The unit shall be protected against flooding and freezing.

F. Free draining of the relief port must be maintained under all conditions, and provisions to accomplish the same, such as floor drains, shall be provided.

G. If installed at ceiling level, a collection system shall be installed with a fixed and proper air gap under the drain port to protect areas below the unit from drainage, and a proper air gap between the discharge of the collection system and structure accepting the discharged water.

H. There shall be no reduction made in the size of the relief port drain.

I. Provision shall be made for easy and unrestricted removal of the unit.

4. Testing of Reduced Pressure Principle Backflow Preventers.

A. Each year the City may cause the testing of each reduced pressure principle backflow preventer installed.

B. Testing of units shall be the responsibility of the building owner and be performed in accordance with manufacturers recommendation. Minimal maintenance such as internal cleaning, if needed, shall be provided. Costs for tests, parts and replacement of units will be the responsibility of the building owner.

C. Testing of initial installation before occupancy shall be required. Initial certification test will be done at no charge.

D. The Water Department may perform random inspections and testing each year, based on the anniversary date of the installation. Such tests shall be conducted, where possible, within 60 days of said anniversary date.

E. The building owner shall be responsible for authorizing a qualified licensed plumber to perform all necessary tests and file all necessary reports with State and local authorities, and will certify that owners reduced pressure backflow preventers are operating and being maintained in accordance with existing State code requirements and manufacturers recommendations. These reports shall be submitted annually to the Director. A copy of the maintenance and inspection records shall be on file at the plant facility and shall be made available to the inspector or backflow maintainer on request.

F. Cost of subsequent annual inspections and testing of units shall be the owners responsibility. The charge for random inspection and test by the City will be based on its actual cost to the City.

G. All parts necessary to rebuild a unit to meet factory and State Standards shall be provided by the manufacturer of the backflow preventer, and shall be new parts.

H. Any maintenance and inspections and testing requested of the Water Department by owner between annual inspections will be performed by the Water Department and invoiced at then current prices or rates.

I. **Tampering Prohibited.** No persons other than the Director or other State certified backflow preventer maintenance/tester shall remove, repair, test or perform any maintenance on any reduced pressure principle backflow preventer.

J. Owners of all reduced pressure principle backflow preventers shall provide easy access to units and necessary tools and equipment, and shall furnish the Water Department with necessary ladders and scaffolding, and shall assign an employee or employees to assist the Water Department in performing any necessary testing and service according to this Code, as may be necessary, all at owners expense. The owner of each device shall maintain in a neat and orderly manner, a manufacturer's maintenance manual and manufacturer's testing instructions at the point of installation of the device.

5. **Out of Service - Repair.** When a unit is out of service, or otherwise is in need of service, the Water Department shall be notified within 24 hours.

6. **By-Passes.** If there is only one service line and the water service cannot be interrupted, a second backflow preventer may be installed in parallel with the first. Under no circumstance will a backflow preventer be bypassed by unprotected piping. For buildings where water service cannot be interrupted during normal City working hours, a bypass will be required with a backflow preventer.

7. **Specifications.** Reduced principle backflow preventers shall be of the type approved by the Foundation for Cross Control Research of the University of Southern California or as otherwise approved by the Director.

(e) **Notification of Violation.** The Director shall notify the owners, or authorized agent of the owner, of the building or premises in which there is found a violation of this ordinance, of such violation. The Director shall set a reasonable time, based on the level or hazard to health, for the owner to have the violation removed or corrected, and shall include in such notification an indication that water service may be terminated if the owner fails to correct the defect in such time. Upon failure of the owner to have the defect corrected by the end of the specified time interval, the Director may, if in his judgment an imminent health hazard exists, cause the water service to the building or premises to be terminated, and recommend such additional fines or penalties to be invoked as herein may be provided.

(f) **Hearing.** Any party involved may request a hearing before the Director by notifying the other party and request a hearing. The Director may request or initiate a hearing or the owner or his or her authorized agent shall request a hearing within five days of the receipt of the notice. All hearings shall be held within 15 days of the request or initiation.