ORDINANCE NO. 13,634

AN ORDINANCE to amend the Municipal Code of Des Moines, 1991, adopted by Ordinance No. 11,651, passed April 15, 1991, and amended by Ordinance No. 11,940, passed March 1, 1993, and amended by Ordinance No. 13,010, passed March 28, 1994 by repealing Sections 8-153, 8-154, 8-155, 8-173, 8-174, 8-176, 8-178.01, 8-195.01, 8-196, 8-197, 8-198, 8-199, 8-200, 8-201, 8-202, 8-203, 8-205, 8-206, 8-209, 8-211, 8-212, 8-212.01, 8-215, 8-215.02, 8-215.03, 8-215.04, 8-217, and 8-218, thereof and enacting new Sections 8-153, 8-154, 8-155, 8-173, 8-174, 8-176, 8-195.01, 8-196, 8-197, 8-198, 8-199, 8-201, 8-205, 8-206, 8-209, 8-211, 8-212, 8-212.01, 8-215, 8-215.04, 8-217 and 8-218, all relating to the plumbing code.

Be It Ordained by the City Council of the City of Des Moines,

Iowa:

Section 1. That the Municipal Code of Des Moines, 1991, adopted by Ordinance No. 11,651, passed April 15, 1991, and amended by Ordinance No. 11,940, passed March 1, 1993, and amended by Ordinance No. 13,010, passed March 28, 1994 by repealing Sections 8-153, 8-154, 8-155, 8-173, 8-174, 8-176, 8-178.01, 8-195.01, 8-196, 8-197, 8-198, 8-199, 8-200, 8-201, 8-202, 8-203, 8-205, 8-206, 8-209, 8-211, 8-212, 8-212.01, 8-215, 8-215.02, 8-215.03, 8-215.04, 8-217, and 8-218, thereof and enacting new Sections 8-153, 8-154, 8-155, 8-173, 8-174, 8-176, 8-195.01, 8-196, 8-197, 8-198, 8-199, 8-201, 8-205, 8-206, 8-209, 8-211, 8-212, 8-212.01, 8-215, 8-215.04, 8-217 and 8-218, all relating to the plumbing code, as follows:

8-153. ADOPTION OF UNIFORM PLUMBING CODE.

This subchapter shall consist of the "Uniform Plumbing Code, 1997 Edition", published by the International Association of Plumbing and Mechanical Officials, which volume is incorporated herein by this reference as fully as though set forth here in its entirety, excepting only such portions as are hereinafter stated to be deleted therefrom; and such additional provisions as are hereinafter set forth.

8-154. DELETIONS.

The following are hereby deleted from the Uniform Plumbing Code, and are of no force or effect herein:

(1) Part 1 - Administration (See Sec. 8-156 through 8-194).

(2) Section 903.2 (See Sec. 8-195.01).

Section 701.0 (See Sec. 8-198).

Section 903.0 (See Sec. 8-201).

Section 907.0 (See Sec. 8-204).

Section 804.0 (See Sec. 8-206).

Section 807.0 (See Sec. 8-208).

Section 908.0 (See Sec. 8-209).

Section 604.0 (See Sec. 8-212).

Section 717.0 (See Sec. 8-214).

(3) Subsection 710.1 (See Sec. 8-196).

Subsection 902.0 (See Sec. 8-205, subsections (a) and (b)).

Subsection 316.1.4.

Subsection 718.1.

(4) Chapter 11

(5) Chapter 12

(6) Chapter 13

(7) Table 10.1 (See Sec. 8-211).

(8) Appendices A-I on pages 169 through 262.

(9) Useful Tables on pages 407 through

414.

(10) Index on pages 206415 through 441.

8-155. AMENDMENTS AND ADDITIONS.

(a) The remaining sections in this subchapter are and represent amendments and additions to the requirements contained in the Uniform Plumbing Code, and where their requirements conflict with those of the Uniform Plumbing Code, the requirements of this subchapter shall prevail.

(b) The sections hereinbelow listed shall be construed in the context of the enumerated chapter or chapters of the Uniform Plumbing Code.

(1) Section 8-195.01 - Chapter 3

(2) Section 8-196 - Chapter 3

(3) Section 8-198 - Chapter 7

(4) Section 8-199 - Chapter 7

(5) Section 8-200 - Chapter 7

(6) Section 8-201 - Chapter 9

(7) Section 8-202 - Chapter 9

(8) Section 8-203 - Chapter 9

(9) Section 8-204 - Chapter 9

(10) Section 8-205 - Chapter 9

(11) Section 8-206 - Chapter 8

(12) Section 8-207 - Chapter 8

(13) Section 8-208 - Chapter 8

(14) Section 8-209 - Chapter 8

(15) Section 8-210 - Chapter 8

(16) Section 8-211 - Chapter 10

(17) Section 8-212 - Chapter 6

(18) Section 8-213 - Chapter 6

(19) Section 8-214 - Chapter 7

(20) Section 8-215 - Chapter 7

(21) Section 8-215.01 - Chapter 4

(22) Section 8-215.02 - Chapter 6

(23) Section 8-215.03 - Chapters 6, 5.

(24) Section 8-215.04 - Chapter 7.

8-173. CIVIL VIOLATIONS AND PENALTIES.

(a) It shall be unlawful for any person, firm or corporation to install, alter, repair, maintain, improve or use any plumbing equipment or perform any plumbing work in the city, or cause the same to be done, contrary to or in violation of any of the provisions of this code.

(b) Any person, corporation or other legal entity who violates or resists the enforcement of any of the provisions of this subchapter shall be guilty of a municipal infraction punishable by a civil penalty of $100.00 for the initial offense and $200.00 for each repeat offense. Each day that a municipal infraction occurs constitutes a separate offense. Any person, corporation or other legal entity who violates a provision of this subchapter after having previously been found guilty of violating the same provision of this subchapter at the same location or at a different location shall be guilty of a repeat offense. This municipal infraction penalty shall be in addition to the penalties provided for in section 1-11 of the municipal code.

Seeking a civil penalty as authorized in this section does not preclude the city from seeking alternative relief, including an order for abatement or injunctive relief, from the court in the same action or as a separate action.

8-174. APPLICATIONS, LICENSES AND RENEWALS.

Any person desiring to take an examination for any of the licenses or certificates required by this code, shall make application directly to the examination service approved by the board, with sponsorship from an approved jurisdiction. Following passing an exam the applicant shall make application for a license to the Permit and Development Center, along with evidence of passing the specific examination approved by the board, with a score of 75% or greater. Supplementary information related to experience , bonds, insurance, and fees shall be supplied at the time of application, if required for the license or certification applied for. If sponsorship is requested from the City of Des Moines, a $25.00 fee shall be paid for processing and record keeping.

8-176. LICENSE FEES.

The fees for examinations, licenses, certificates, and renewals as shown in the following table are hereby authorized and required except that any certificate holder who is subject to the restrictions of section 8-161(d) of this code may be issued a renewal of such certificate(s) without a fee.

Classification Examination fee Biennial Fee*

Plumbing contractor's

license None $100.00

Master plumber's certificate

of competency None** $30.00

Journeyman plumber's

certificate of competency None** $30.00

*Initial fee shall be prorated in accordance with the following schedule:

** A $25.00 fee must be paid for sponsorship to an exam.

No. of Months Until Initial Fee Reduction

First Renewal Due Percentage

18 - 24 0

12 - 18 25

0 - 12 50

8-178.01. REPEALED BY ORD. 13,---..

8-195.01. USE OF COPPER TUBING.

(a) Copper tube for underground drainage and vent piping shall have a weight of not less than that of copper drainage tube Type L.

(b) Copper tube for above ground drainage and vent piping shall have a weight of not less than Type M, except that Type DWV may be used in one and two family dwellings.

(c) Copper tube shall not be used for chemical or industrial wastes as defined in Section 903.2 of this code.

(d) Copper tube for water piping shall have a weight of not less than Type M, except that Type K shall be used underground.

(e) In addition to the required incised marking, all hard drawn copper tubing shall be marked by means of a continuous and indelibly colored stripe at least one quarter inch (6.4mm) in width, as follows:

Type K, green; Type L, blue; Type M, red; Type DWV, yellow.

(f) Listed flexible copper water connections shall be installed in exposed locations, unless otherwise listed.

8-196. BACKWATER VALVES--WHEN REQUIRED; TYPE.

(a) When it is determined necessary by the plumbing inspector or the city engineer, drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover of the public sewer serving such drainage piping shall be protected from

backflow of sewage by installing an approved type backwater valve. Fixtures above such elevation shall not discharge through the backwater valve.

(b) Backwater valves required by this section shall consist of manually operated valves. In addition, approved valves which are automatic in operation as described in Section 710.6 may also be used but are not required.

8-197. PROHIBITION OF BITUMINIZED FIBER PIPE.

Notwithstanding the provisions of subsection 301.1.3 and Table 14-1, the use of homogeneous bituminized fiber drain and sewer pipe in any part of a building drainage system is hereby prohibited.

8-198. DRAINAGE SYSTEMS.

(a) Drainage pipe shall be cast iron, No-Hub cast iron, galvanized steel, galvanized wrought iron, lead, copper, brass, ABS, PVC or other approved materials having a smooth and uniform bore.

Exceptions:

(1) No galvanized wrought iron, galvanized steel, or DWV copper pipe shall be used underground and shall be kept at least six inches (152.4mm) above ground.

(2) ABS and PVC pipes and fittings shall be marked to show conformance with the standards in the code. ABS and PVC installations are limited to construction not exceeding the following conditions:

(i) No vertical stack shall exceed 35 feet in height. No horizontal branch shall exceed 25 feet in length, except 1 1/2" pipe shall not exceed 20 feet in length.

(ii) ABS, PVC and SDR 23.5 shall be installed with a minimum bedding of 4 inches below and up all sides with 3/8 inch clean smooth gravel.

(iii) All installations shall be made in accordance with the manufacturer's recommendations.

(iv) Application of ABS and PVC beyond the dimensional limits of this code may be approved by the senior plumbing inspector for a particular case.

(b) Drainage fittings shall be of cast iron, malleable iron, lead, brass, copper, ABS, PVC, No-Hub fittings or other approved materials having a smooth interior waterway of the same diameter as the piping served and all such fittings shall conform to the type of pipe used.

(1) Fittings on screwed pipe shall be of the recessed drainage type. Burred ends shall be reamed to the full bore of the pipe.

(2) The threads of drainage fittings shall be tapped so as to allow one-fourth inch per foot (20.9mm/m) grade.

8-199. MAXIMUM NUMBER OF FIXTURE UNITS ON 2 INCH VENT PIPING.

Footnote 3 of Table 7.1 shall not be applicable to the maximum number of units permitted on two inch diameter vent piping.

8-200. REPEALED BY ORD. 13,---.

8-201. VENTS AND VENTING.

Vent pipe shall be cast iron, galvanized steel, galvanized wrought iron, lead, copper, brass, ABS, PVC or other approved materials.

EXCEPTIONS:

(1) Galvanized wrought iron, galvanized steel, or DWV pipe shall not be used underground and shall be kept at least six inches above ground.

(2) ABS and PVC pipes and fittings shall be marked to show conformance with the standards in the code. ABS and PVC installations are limited to construction not exceeding the following conditions:

(i) No vertical stack shall exceed 35 feet in height. No horizontal branch shall exceed 25 feet in length, except 1 1/2" pipe shall not exceed 20 feet in length.

(ii) ABS, PVC shall be installed with a minimum bedding of 4 inches below and up all sides with 3/8 inch clean smooth gravel.

(iii) All installations shall be made in accordance with the manufacturer's recommendations.

(iv) Application of ABS or PVC beyond the limits of this code may be approved by the administrative authority for a particular case .

8-202. REPEALED BY ORD. 13,---.

8-203. REPEALED BY ORD. 13,---.

8-205. VENTS NOT REQUIRED.

(a) No vents will be required on a downspout or rain leader trap, a backwater valve, a subsoil catch basin trap.

8-206. INDIRECT WASTE RECEPTORS.

(a) All plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be approved for the use proposed and shall be of such shape and capacity as to prevent splashing or flooding and shall be located where they are readily accessible for inspection and cleaning. No stand pipe receptor for any clothes washer shall extend more than 30 inches (.8m), nor less than 18 inches (.5m) above its trap. No trap for any clothes washer standpipe receptor shall be installed below the floor, but shall be roughed-in not less than six inches (152.4mm) and not more than 18 inches (.5m) above the floor. No indirect waste receptor shall be installed in any toilet room closet, cupboard or storeroom, nor in any other portion of a building not in general use by the occupants thereof; except standpipes for clothes washers may be installed in toilet and bathroom areas when the clothes washer is installed in the same room.

(b) Where water service connections are installed for a clothes washer, an approved method of waste disposal shall be provided.

8-209. WET VENTING.

(a) Wet venting is limited to drainage piping receiving the discharge from the trap arm of one (1) and two (2) fixture unit fixtures that also serves as a vent for not more than four (4) fixtures. All wet vented fixtures shall be within the same story; provided, further, that fixture with a continuous vent discharging into a wet vent shall be within the same story as the wet vented fixtures. The distance between fixtures, measured vertical, shall not be more than six (6) feet.

(b) The piping between two (2) consecutive inlet levels shall be considered a wet vented section. East wet vented section shall be a minimum of one (1) pipe size larger than the required minium waste pipe size of the upper fixture or shall be one (1) pipe size larger than the required pipe size for the sum of the fixture units served by such wet vented section, whichever is larger, but in no case less than two (2) inches.

(c) Common vent sizing shall be the sum of the fixture units served but in no case smaller than the minimum vent pipe size required for any fixture served, or by section 904.0.

8-211. TABLE 7-1 HORIZONTAL DISTANCE OF TRAP ARMS.

TABLE 7-1 Horizontal Distance of Trap Arms (1) (Except for water closets and similar fixtures not exceeding 6 feet)
Distance Trap

Trap Arm to Vent Feet Inches
1 1/4 5 0 1 1/2 6 0 2 8 0 3 12 0 4 and larger 13 0

(1) The developed length between the trap of a water closet, or similar fixture, and the vent shall not exceed 6 foot.

8-212. MATERIALS--WATER DISTRIBUTION.

(a) Water pipe and fittings used for water distribution, except for underground applications, shall be of brass, copper, cast iron ductile, galvanized steel, PVC, CPVC, or other approved materials. Water piping and fittings used for exterior underground applications shall be of brass, copper, cast iron, ductile or other approved materials. Asbestos cement material shall not be used for water distribution piping or fittings. All piping and fittings shall comply with all the conditions and limitations of section 604 of this code. PVC piping of 4 inch or larger may be used for service lines provided that it conforms to AWWA Standard C 900 DR 14 and the following:

(1) A No. 12 or larger Type TW or THHN solid single stand copper tracer wire is installed throughout the length of the pipe. Wire connections shall be soldered and water proofed. Connection points shall be in accordance with Waterworks specifications.

(2) PVC shall not be used within five feet of a building.

When ductile iron pipe and cast iron fittings are used, they shall be encased in plastic at least 8 mill thickness.

Lead pipe, lead solders, and flux containing more than 0.2 percent lead shall not be used. All materials used in the water supply system, except valves and similar devices shall be of a like material, except where otherwise approved by the senior plumbing inspector. Galvanized pipe may only be used underground with prior approval of the plumbing inspector.

(b) Cast iron fittings up to and including two inches (50.8mm) in size, when used in connection with potable water piping shall be galvanized.

(c) All malleable iron water fittings shall be galvanized.

(d) Piping and tubing which has previously been used for any purpose other than for potable water systems shall not be used.

(e) Notwithstanding the provisions of Section 608.5 of this code, relief valve drains located inside a building shall not be of CPVC OR PB.

8-212.01. CROSS CONNECTION CONTROL-CONTAINMENT PROVISIONS.

(a) Definitions. The following definitions shall apply only to this section. For the purpose of this section, these definitions supersede definitions given elsewhere in this code.

(1) Administrative Authority. For the purposes of this section the administrative authority shall be the Des Moines Water Works and plumbing section of the Des Moines building safety division.

(2) Approved Backflow Prevention Assembly for Containment.

A backflow prevention assembly which is listed by the University of Southern California-Foundation for Cross Connection Control and Hydraulic Research as having met the requirements of ANSI-AWWA Standard C510-89, "Double Check Valve Backflow-Prevention Assemblies", of ANSI-AWWA Standard C511-89, "Reduced-Pressure Principle Backflow-Prevention Assemblies" for containment. The listing shall include the limitations of use based on the degree of hazard. The backflow prevention assembly must also be listed by the International Association of Plumbing and Mechanical Officials.

(3) Approved Backflow Prevention Assembly for Containment in a Fire Protection System. A backflow prevention assembly to be used in a fire protection system which meets the requirements of Factory Mutual Research Corporation (FM) and Underwriters Laboratory (UL), and the requirements of the fire code and the building code of the City of Des Moines, in addition to the requirements of paragraph (a)(1). Devices sized smaller than 2 1/2" which have not been listed by Underwriters Laboratory (UL) and tested by Factory Mutual Research Corporation (FM) may be allowed if they meet the requirements of the fire code and the building code of the City of Des Moines.

(4) Auxiliary Water Supply. Any water supply on or available to the premises other than the water purveyor's approved public water supply such as, but not limited to a private well, pond, or river.

(5) Containment. A method of backflow prevention which requires the installation of a backflow prevention assembly at the water service entrance.

(6) Cross Connection. Any actual or potential connection or arrangement, physical or otherwise, between a potable water supply system and any plumbing fixture or tank, receptacle, equipment, or device, through which it may be possible for non-potable, used, unclean, polluted, and

contaminated water, or other substance, to enter into any part of such potable water system under any condition.

(7) Customer. The owner, operator, occupant of a building or property which has a water service from a public water system, or the owner or operator of a private water system which has a water service from a public water system.

(8) Degree of Hazard. The rating of a cross connection or water service which indicates if it has the potential to cause contamination or pollution.

(9) Double Check Valve Backflow Prevention Assembly. A backflow prevention device consisting of two independently acting internally loaded check valves, four properly located test cocks, and two isolation valves.

(10) High Hazard Cross Connection. A high hazard cross connection is a cross connection which may cause an impairment of the quality of the potable water by creating an actual hazard to the public health, through poisoning or through the spread of disease by sewage, industrial fluids, or waste.

(11) Isolation. A method of backflow prevention in which a backflow prevention assembly is located at the cross-connection rather than at the water service entrance.

(12) Low Hazard Cross Connection. A low hazard cross connection is a cross connection which may cause an impairment of the quality of potable water to a degree which does not create a hazard to the public health, but which does adversely and unreasonably affect the aesthetic qualities of such potable waters for domestic use.

(13) Reduced Pressure Principle Backflow Prevention Assembly. A backflow prevention device consisting of two independently acting internally loaded check valves, a different pressure relief valve, four properly located test cocks, and two isolation valves.

(14) Registered Backflow Prevention Assembly Technician. A person who is registered by the State of Iowa to test or repair backflow prevention assemblies and report on the condition of those assemblies.

(15) Thermal Expansion. Volumetric increase of water due to heating resulting in increased pressure in a closed system.

(16) Water Service. Depending on the context, water service is the physical connection between a public water system and a customer's building, property, or private water system, or the act of providing potable water to a customer.

(17) Water Works. For the purpose of this Section Water Works shall mean the Des Moines Water Works.

(b) Administrative Authority.

(1) Water Works, or the plumbing section shall have the right to enter, with the consent of the customer or upon the basis of a suitable warrant issued by a court of appropriate jurisdiction, any property to inspect for possible cross-connections.

(2) Water Works shall maintain records of cross connection hazard surveys, and the installation, testing, and repair of all backflow prevention assemblies installed for containment purposes.

(c) New Water Services.

(1) Plans shall be submitted to Water Works for review on all new water services in order to determine the degree of hazard.

(2) The Water Works shall, in consultation with the plumbing section determine the type of backflow prevention assembly required for containment based on the degree of hazard.

(3) The plumbing section shall inspect the installation of the required backflow prevention assembly for containment before the initiation of water service.

(d) Existing Water Services.

(1) Upgrades of existing water services shall be treated as new water services for the purpose of this section.

(2) The Water Works shall, on the basis of information received from customers or gathered through on-premise investigations or surveys, determine the type of backflow prevention assembly required for containment based on the degree of hazard.

(3) Within the time frame specified in writing by Water Works, the customer shall install a backflow prevention assembly for containment required by Water Works.

(4) For existing water services, Water Works may inspect the premises to determine the degree of hazard. When high hazard cross connections are found, Water Works shall, at it sole discretion: (1) develop a schedule of compliance which the customer shall follow or (2) terminate the water service until a backflow prevention assembly for containment required by Water Works has been installed.

(5) Failure of Water Works to notify a customer that they are believed to have a high hazard cross connection and that they shall install backflow prevention assemblies for containment in no way relieves a customer of the responsibility to comply with all requirements of this section.

(e) Customer.

(1) The customer shall be responsible for ensuring that no cross connections exist without approved backflow protection within his or her premise starting at the point of service from the public potable water system.

(2) The customer shall, at his or her own expense, cause installation, operation, testing and maintenance of backflow prevention assemblies.

(3) The customer shall ensure that copies of records of the installation and of all tests and repairs made to the backflow prevention assembly on the approved form within fifteen (15) days after testing and/or repairs are completed.

(4) In the event of a backflow incident, the customer shall immediately notify Water Works of the incident and take steps to confine the contamination or pollution.

(f) Required Backflow Prevention Assemblies for Containment - Water Services.

(1) An air gap or an approved reduced pressure principle backflow prevention assembly is required for water services having one or more cross connections which the administrative authority has classified as high hazard.

(2) An approved double check valve assembly is required for water services having no high hazard cross connections but having one or more cross connections which the Water Works has classified as low hazard.

(g) Required Backflow Prevention Assemblies for Containment - Fire Protection Systems.

(1) A reduced pressure principle backflow prevention assembly shall be installed on all new and existing fire protection systems which Water Works determined to have any of the following:

A. Direct connections from public water mains with an auxiliary water supply on or available to the premises for pumper connection.

B. Interconnections with auxiliary supplies such as reservoirs, rivers, ponds, wells, mills, or other industrial water systems.

C. Use of antifreezes or other additives in the fire protection system.

D. Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.

E. Any other facility, connection, or condition which may cause contamination.

(2) A double check valve assembly will be required for all other fire protection systems. The double check valve assembly shall be required on all new systems at the time of installation and on existing systems at the time that they are upgraded.

(3) Submittal of proposed backflow prevention devices to Des Moines Water Works does not relieve the designer or the sprinkler contractor of the responsibility of submitting plans, including backflow prevention devices to the fire marshal for approval.

(h) Backflow Prevention Assembly Technicians.

(1) A Backflow Prevention Assembly Technician registered by the State of Iowa shall include his or her registration number on all correspondence and forms required by or associated with this Section.

(i) Registered Backflow Prevention Assembly Technician

Noncompliance.

(1) Non-compliance with any of the following by a registered technician shall be grounds for reporting said individual to the State Health Department.

A. Improper testing or repair of backflow prevention assemblies.

B. Improper reporting of the results of testing or of repairs made to backflow prevention assemblies.

C. Failure to meet registration requirements.

D. Related unethical practices.

(j) Installation of Backflow Prevention Assemblies.

(1) The required backflow prevention assemblies for containment shall be installed in horizontal plumbing immediately following the meter or as close to that location as deemed practical by Water Works. In any case, it shall be located upstream from any branch piping.

Installation at this point does not eliminate the responsibility of the customer to protect the water supply system from contamination or pollution between the backflow prevention assembly and the water main.

(2) Reduced pressure principle backflow prevention assemblies shall be installed so as to be protected from flooding.

(3) Reduced pressure principle backflow prevention assemblies shall not be installed in underground vaults or pits.

(4) All backflow prevention assemblies shall be protected from freezing. Those devices used for seasonal water services may be removed in lieu of being protected from freezing; however, the devices must be reinstalled and tested by a registered backflow prevention technician prior to service being reactivated.

(5) If hot water is used within the water system, thermal expansion shall be provided for when installing a backflow prevention assembly for containment.

(6) Provisions shall be made to convey the discharge of water from reduced pressure principle backflow prevention assemblies to a suitable drain.

(7) No backflow prevention assemblies shall be installed in a place where it would create a safety hazard, such as but not limited to over an electrical panel, or above ceiling level.

(8) If interruption of water service during testing and repair of backflow prevention assemblies for containment is unacceptable, another backflow prevention assembly, sized to handle the temporary water flow need during the time of test or repair, should be installed in parallel piping.

(9) All backflow prevention assemblies shall be installed so that they are accessible for testing as stated in Section 603.

(10) All shut-off valves shall conform with the current edition of the Manual of Cross-Connection Control (University of Southern California) requirements for either ball or resilient seat gate valves at the time of installation. Ball valves shall be used on assemblies installed in piping two inches and smaller and resilient seat gate valves on assemblies installed in piping larger than two inches.

(11) Location and protection of the containment assembly shall be approved by Water Works prior to installation.

(k) Testing of Backflow Prevention Assemblies.

(1) Testing of backflow prevention assemblies shall be performed by a registered backflow prevention assembly technician. The costs of tests required in the following paragraphs 2-5 shall be borne by the customer.

(2) Backflow prevention assemblies shall be tested upon installation and tested and inspected at least annually.

(3) Backflow prevention assemblies which are in place, but have been out of operation for more than three months, shall be tested before being put back into operation. Backflow prevention assemblies used in seasonal applications shall be tested before being put into operation each season.

(4) Any backflow prevention assembly which fails a periodic test shall be repaired or replaced. When water service has been terminated for non-compliance, the backflow prevention assembly shall be repaired or replaced prior to the resumption of water service. Backflow prevention assemblies shall be retested by a registered backflow prevention assembly technician immediately after repair or replacement.

(5) Water Works or the plumbing section may require backflow prevention assemblies to be tested at any time in addition to the annual testing requirement.

(6) The registered backflow prevention assembly technician shall report the successful test of a backflow prevention assembly to the customer and to Water Works on the form provided by Water Works within fifteen (15) days of the test.

(7) Water Works or the plumbing section may require, at the owner's expense, additional tests of individual backflow prevention assemblies as it shall deem necessary to verify test procedures and results.

(l) Repair of Backflow Prevention Assemblies.

(1) All repairs to backflow prevention assemblies shall be performed by registered backflow prevention assembly technicians.

(2) The registered backflow prevention assembly technician shall not change the design, material, or operational characteristics of a backflow prevention assembly during repair or maintenance, and shall use only original manufacturer replacement parts.

(3) The registered backflow prevention assembly technician shall report the repair of a backflow prevention assembly to the customer and to Water Works on the form provided by Water Works within fifteen (15) days of the repair. The report shall include the list of materials or replacement parts used.

(4) Any time fire services are discontinued for a period of time longer than necessary to test the device, the tester is required to notify the fire marshal's office that the fire services are shut off for repair.

(m) Customer Noncompliance.

(1) The water service may be discontinued in the case of noncompliance with this section. Noncompliance includes, but is not limited to, the following:

A. Refusal to allow Water Works and/or the Plumbing Inspection Division personnel access to the property to inspect for cross connections.

B. Removal of a backflow prevention assembly which has been required by Water Works.

C. Bypassing of a backflow prevention assembly which has been required by Water Works.

D. Providing inadequate backflow prevention when cross connections exist.

E. Failure to install a backflow prevention assembly which has been required by Water Works.

F. Failure to test and/or properly repair a backflow prevention assembly as required by Water Works.

G. Failure to comply with this requirements of this section.

(n) Replace "listed" RPZ with stainless steel dual check with an atmospheric opening complying with section 603.4.13 of this code.

8-215. CLEANOUTS.

In addition to the requirements of 719.0, a cleanout shall be provided in each vertical waste or soil stack at a point at least 42 inches above the base of the stack.

8-215.02. REPEALED BY ORD. 13,---.

8-215.03. REPEALED BY ORD. 13,---.

8-215.04. MINIMUM GRADE OF HORIZONTAL DRAINAGE PIPING.

Notwithstanding the provision of sections 708.0 and 718.0, which require administrative approval before horizontal drainage piping or a building sewer may be installed at a slope of less than one quarter inch per foot, such piping or sewers may be installed at a slope of not less than one eighth inch per foot without such prior administrative approval where it is impractical, due to the depth of the street sewer or to the structural features or to the arrangement of any building or structure to obtain a slope of one-quarter inch per foot.

8-217. MATERIALS.

(a) **Inside conductors.**

(1) Conductors placed within a building or run in a vent or pipe shaft shall be of cast iron, galvanized steel, galvanized wrought iron, galvanized ferrous alloy pipe, brass, copper tube, plastic, or lead.

(2) Plastic pipe and fittings marked to show conformance with ANSI Designation D2261-78 or ASTM Designation D2665-78 or current issue thereof and Standard Number 14 of the National Sanitation Foundation Testing Laboratory may be used in buildings under the following conditions:

(i) No vertical stack shall exceed 35 feet in height.

(ii) All installations shall be made in accordance with recommendations of the manufacturer when found specifically conforming with other sections of this code and the installation procedures appearing in the appendix of the applicable ASTM standard.

(iii) Installations shall not be made in any space where the surrounding temperature will exceed 140 degrees F.

(iv) A variance in application of these materials may be allowed by the senior plumbing inspector in a particular case when specifically certified as warranted by a professional engineer or professional architect.

(b) **Outside leaders.** When outside leaders are of sheet metal and connected with a building storm drain or storm sewer, they shall be connected to a cast iron drain extending above the finish grade, or the sheet metal leader shall be protected against injury.

(c) **Building storm drains.** Building storm drains, which are underground and beneath the building, shall be of cast iron soil pipe, seamless copper pipe or copper tube.

(d) **Building storm sewers.** The building storm sewer shall be of cast iron soil pipe, vitrified clay pipe, concrete pipe, asbestos cement pipe, or approved plastic pipe. Plastic pipe shall be installed at a minimum depth of four feet.

8-218. TRAPS.

(a) **Main trap.** Storm water drains connected to a combined sewage system shall be trapped except where the roof or gutter opening is located in accord with the requirements for vent terminals, section 906.0. One trap may serve several conductors but traps must be set below frost or inside the building.

(b) **Material.** Storm water traps, when required, shall be of cast iron or copper pipe or copper tube.

(c) **Exception.** No traps shall be required for storm water drains which are connected to a sewer carrying storm water exclusively.

(d) **Size.** Traps for individual conductors shall be the same size as the horizontal branch to which they are connected.

(e) **Location.** Conductor traps shall be so located that an accessible cleanout may be installed on the building side of the trap.

Sec. 2. This ordinance shall be in full force and effect from and after its passage and publication as provided by law.

FORM APPROVED:

Vicky Long-Hill

Assistant City Attorney