Countryside IL

APPENDIX

PLUMBING ORDINANCE

TABLE OF CONTENTS

Plumbing: The term "plumbing" shall include all piping, fixtures, appurtenances and appliances for the supply of water and for sanitary drainage and related ventilating system throughout all buildings, structures and public places where persons live, work or assemble and shall also include all piping, fixtures, appurtenances and appliances outside of buildings connecting the building with the source of water supply and the main sewer or other means of disposal. Plumbing shall also include the installation, repair and maintenance work upon and in connection with such piping, fixtures, appurtenances, appliances, drain or waste pipes, except for minor repairs made by an owner in his own building.

Plumbing Fixture: Any receptacle or device intended to receive and discharge water, liquid or water-carried wastes into a plumbing or drainage system. Water heaters and water coolers are classified as plumbing fixtures.

Potable Water: Water from a public or private water supply system which is approved by the water and health departments as suitable for human consumption.

Private Sewer: A sewer built in a street, alley or easement not dedicated for public use, which conveys the drainage of one (1) or more buildings or building sites to its outlet.

Public Sewer: A sewer built by or constructed under authority of the city in a public place, or in and through land for access to which an easement has been granted, for the common use of the properties abutting thereon. (Ord. of 12-13-78, Amend. No. 3)

Rainwater Leader: That part of the rainwater conductor located on the outside of the building extending from the gutter to the downspout.

Revent Pipe: A pipe which connects directly at or near the junction of an individual trap outlet with a waste or soil pipe underneath or back of a fixture and extends to a connection with the main or branch vent above the flood level of the fixture. It is used to prevent trap siphonage and to relieve back pressure.

Roof Drain or *Gutter:* A receptacle, either suspended from the edge of a roof or constructed in a roof, which conveys roof water to the downspout.

Sanitary Sewer: A sewer which carries sewage only, excluding stormwater, surface-water and groundwater.

Septic Tank: A watertight receptacle provided for the purpose of sewage disposal where no public sewage system is available.

Size and Length: Pipe is sized by nominal internal diameters, except for brass tubing, which is sized by outside diameters. The developed length of pipe is its longitudinal length along the center line of pipe and fittings.

Soil Pipe: A pipe which conveys the discharge of water closets, or other fixtures receiving fecal matter, with or without the discharge from other fixtures.

Soil or Waste Vent: That part of the main soil or waste pipe which extends above the highest branch or fixture waste connection and extends through and above the roof.

Stack: Any vertical line of soil, waste or vent pipe.

Storm Sewer: A sewer which carries off-surface or storm water from streets, roofs and other areas, including street wash, but not including sewage or liquid industrial waste.

Subsoil Drain: A drain installed for collecting subsurface or seepage water and conveying it to a place of disposal.

Sump: A pit or receptacle into which liquid wastes are drained.

Terminal: The upper portion of a soil, waste or vent pipe which projects above or through the roof of a building.

Trap: A fitting or device so designed and constructed as to provide a liquid seal which will prevent the back-passage of air through

a pipe or fixture without materially affecting the flow of sewage or waste water through it.

Trap Seal: The vertical distance between the crown weir or overflow and the dip separating the inlet and outlet arms of the trap.

Unit Vent: A vent serving two (2) plumbing fixtures which are placed on opposite walls or side by side on the same wall, each fixture discharging into a common soil or waste pipe and being on the same level. See 6.25.

Vent Pipe or *Vent:* Any pipe provided to ventilate a plumbing system, to prevent trap siphonage and to relieve back-pressure and to equalize the air pressure within and without the piping system.

Waste Pipe and *Indirect Waste:* Any pipe which receives the discharge of any fixtures, except water closets or similar fixtures, and conveys the same to the house drain, soil or waste stack. When such pipe does not connect directly with a building drain or soil pipe, it is termed an indirect waste pipe.

Water Department: The city's superintendent of water and any city employees under his direct supervision. (Ord. of 12-13-78, Amend. No. 4)

Water Main: The city-owned pipes located in a street, alley or easement through which water is distributed to all water service connections. (Ord. of 12-13-78, Amend. No. 5)

Wet Vent: A pipe which serves an upper fixture as a waste while serving a lower fixture as a vent. See 6.28.

1.1.2. *WATER LINE DEFINITIONS.*

Water Service: The water supply pipe extending from the water main to the meter connection.

Main Supply Pipe: The water piping which extends from the meter to the farthest riser.

Main Branch: The water piping which extends from the main supply pipe to the risers.

Riser Pipe: The water piping which extends vertically from the main supply pipe or main branch pipe to the floor or floors above.

Distributing Pipe: The water piping which extends from the risers to the individual fixture supply pipes.

Fixture Supply Pipe: The water piping which extends from the distributing pipe to an individual fixture.

Circulating Pipe: A pipe which is used to maintain water at a desired temperature at its point of use. See 9.31.

6-3.02. GENERAL PROVISIONS

2.1. Nature of Plumbing Code.

2.1.1. This plumbing code is intended to secure the proper installation of a permanent, efficient system furnishing a potable water supply and sanitary disposal system for each and every habitable building. Its purpose is to obtain a serviceable plumbing system for the comfort, convenience, health and safety of the occupants. (Ord. of 12-13-78, Amend. No. 6)

2.2. Building Commissioner's Duties.

2.2.1. The building commissioner shall have general supervision over plumbing and gas

fitting and shall enforce all ordinances pertaining thereto. (Ord. of 12-13-78, Amend. No. 7)

.3. Plumbing Inspector's Duties.

2.3.1. The plumbing inspector shall have immediate supervision of all work done by plumbers, master sewer builders and certified drain layers and gas fitters in connection ith the plumbing, drainage and gas fitting f buildings or structures in the City of Countryside and the connecting of such plumbing and drainage with the sewer and water supply systems of said city; he shall investigate complaints pertaining to the drainage and plumbing of premises; supervise tests required on both old and new work; xamine all plans as to drainage, plumbing nd gas fitting, prior to the issuance of ermits for the work proposed to be done; he shall approve such plans if the proposed work in all respects complies with the requirements of the plumbing code; he shall point out the particulars, if any, in which the proposed plans do not conform to the requirements of the plumbing code; he shall keep a record of all inspections made by him and shall render a report thereof to the building commissioner immediately hereafter and oftener if so required by said ommissioner. (Ord. of 12-13-78, Amend. No. 8)

2.4 Plumbing and Drainage Generally.

2.4.1. Plumbing and drainage of all buildings, public and private, shall be constructed in accordance with the provisions of this code. All repairs and alterations in plumbing and drainage of existing buildings hall comply with the provisions of this code.

2.5 Plans Required.

2.5.1. Plans shall be required for all new plumbing installations. Plans shall show the plumbing system completely, including drains, soil, waste, vent, revent pipes, traps nd all plumbing fixtures and all water upply pipes within buildings. A rough sketch shall be required for all remodeling work. The plumbing inspector shall be notified if plans are to be changed and such change shall be approved before work is installed.

2.6 Permit and Bond Required.

2.6.1. No plumbing work of any kind except minor repairs within buildings, shall hereafter be done in Countryside without a permit being first issued therefor by the building department. No such permit shall be issued unless the person applying therefor shall hold a license as a master plumber from an authorized examining board in the State of Illinois and shall have on file in the office of the city clerk a bond in the sum of ten thousand dollars ($10,000.00), with sureties conditioned, among other things, that the applicant will indemnify and save harmless the City of Countryside from all accidents and damage arising from any negligence or unskillfulness in the execution or protection of his work, or from any unfaithful or inadequate work done under or by virtue of any permit that may be issued to him by the building commissioner, and that he will also, if required by the City of Countryside, restore the streets, sidewalks and pavements over any piping he may lay, and fill all the excavations made by him, so as to leave said streets, sidewalks and pavements in as good state and condition as he found them, as required by Title 7, Chapter 1 of the City Code, as from time to time amended, and further conditioned that he will pay all fines that may be imposed upon him for a violation of any ordinance, rule or regulation adopted by the city, and that he will conform to all the lawful regulations of the city pertaining to the business of plumbing. If any bond posted hereunder is in cash, it shall be subject to the unclaimed bond forfeiture provisions of Title 1, Chapter 9 of the Municipal Code of Countryside. (Ord. of 12-13-78, Amend. No. 9; amd. Ord. 92-29-0, 10-14-92)

2.6.2 Fees for permits for connections with sewer or water mains and for extensions of sewer or water lines to additional buildings on same premises shall be as are from time to time established by the city council. A schedule of all current fees will be maintained and open to public inspection at the offices of the city building commissioner, the city clerk and the water department. (Ord. of 12-13-78, Amend. No. 10)

2.6.3 Fees for the inspection of plumbing fixtures and appurtenances requiring supply, drainage and vent piping, installed in new buildings or in additions to existing buildings, shall be included in the building permit. (Ord. of 12-13-78, Amend. No. 11)

2.7. Permit–Doing Work Without–Penalty.

2.7.1 Any person who shall install plumbing in any building, except for minor repairs, without having first obtained a written permit for doing such work from the building commissioner, shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a fine of not more than five hundred dollars ($500.00). It shall be the responsibility of the offender to abate the violation as expeditiously as possible. Each day that such violation is permitted to continue shall constitute a separate offense. No unwritten permit will be recognized. (Ord. of 12-13-78, Amend. No. 12)

2.7.2 No work of plumbing or drain laying shall be started or continued without the permit being on the premises in the possession of the person doing such work.

2.8 Supervision of Plumbing Work.

2.8.1 All plumbing work, except minor repairs, shall be performed by licensed master plumbers, or licensed journeymen plumbers or registered apprentice plumbers under the supervision of a licensed master plumber. The name of such licensed master plumber to whom the permit is issued shall appear on the plumbing permit. (Ord. of 12-13-78, Amend. No. 13)

2.9 Advertising.

2.9.1 It shall be unlawful for any person, firm or corporation not in legal possession of a master plumber's license to use the words "Master Plumber," "Plumber," or "Plumbing," in any advertising, or to display a sign having similar import, for the purpose of implying that the advertiser has been licensed to do plumbing work.

2.10 Revocation of License.

2.10.1 Any licensed plumber violating, neglecting or refusing to comply with any of the provisions of this code shall be fined not more than five hundred dollars ($500.00) for each offense, and in addition he may be prohibited by the city council from obtaining any permit hereunder and a formal complaint may be lodged with the Illinois Department of Public Health. (Ord. of 12-13-78, Amend. No. 14)

2.11 Water Closet and Sewer Connection

2.11.1 Every new and existing dwelling or place of employment shall be provided with a plumbing system, including water closet facilities. When any such building shall be located on a street or on a site where a sewer connection is not available, a septic tank system may be provided, subject to the approval of the health officer having jurisdiction, or a size adequate for the number of people to be served.

2.11.2 When the sewer and water mains are laid in any street, all buildings located on or accessible to such street shall connect with said mains not later than one year after such mains are ready for connection. All septic tanks, vaults, cisterns or cesspools used on such premises shall be discontinued and the contents shall be hauled away and buried. Discontinued receptacles shall be filled with sand or limestone screening.

2.12. Protection of Pipes.

2.12.1 Pipes passing under or through walls shall be protected from breakage and corrosion by protective sleeves.

2.12.2 No water supply, soil, waste or vent pipe shall be installed on exterior walls unless adequate provision is made to protect said pipes from freezing, and no such pipes shall be installed outside of building walls.

2.13. Remodeling.

2.13.1 Whenever plumbing is remodeled or replaced or additional fixtures installed, the remodeled plumbing system shall conform with the provisions of this code, including but not limited to, Section 2.22 (Amended by Ord. 84-11-0, 3-28-84)

2.14. Buildings Moved.

2.14.1. If any building is moved from one location to another, the plumbing thereof shall conform to all the provisions of this code relative to plumbing in new buildings.

2.15. Infrequently Used Fixtures.

2.15.1. When, in the judgment of the plumbing inspector, a plumbing fixture is used so infrequently that there is danger that the seal of the trap will be lost by evaporation, the inspector may order the fixture removed and the outlet securely closed.

2.16. Property Lines.

2.16.1. All appurtenances to building drains and building sewers, including catch basins, manholes, cleanouts, backwater valves and fittings, shall be located within the property lines of the premises served by such drains and sewers.

2.17. Care of Plumbing Fixtures.

2.17.1. Plumbing fixtures shall be used only for the purpose for which they are intended, and all such fixtures shall be kept in a clean and sanitary condition.

2.18. Water Closet Facilities for Workmen.

2.18.1. During the construction of new buildings, the owner or contractor shall provide suitable and adequate toilet facilities for the use of those employed on the premises. Such facilities shall be maintained in a sanitary condition, subject to the approval of the plumbing inspector and the municipal health department.

2.19. Delay in Work.

2.19.1. Unreasonable delay in the performance of any plumbing or drainage work shall be deemed sufficient cause for the cancellation of any permit which may have been issued for such work.

2.20. Abating a Nuisance.

2.20.1. Whenever it shall come to the knowledge of the health inspector or building commissioner that the plumbing or drainage in any building has become a nuisance, or is contrary to the provisions of this code, or is of faulty construction and liable to endanger the health of the occupants, the owner, agent or occupant shall be notified of the changes which are necessary to bring such plumbing or drainage into compliance with the regulations of this code by the building commissioner. Said changes shall be made within the time fixed in such notification. Should the owner, agent or occupant fail to correct the defects called to his attention within such time as the building commissioner shall deem to be adequate, said commissioner shall institute proceedings in a court having jurisdiction over such matters, seeking to compel compliance with said regulations and to secure such fine or other remedy as the court may decree. (Ord. of 12-13-78, Amend. No. 15)

2.21. Penalty.

2.21.1. Any person violating any provision of this ordinance shall be subject to a fine of not less than twenty-five dollars ($25.00) nor more than two hundred dollars ($200.00).

2.22. Sanitary Precautions For New Home Construction.

2.22.1. In all new home construction, lavatories, laundry sinks or any plumbing fixture set below the elevation of the curb fronting the premises and discharging by gravity directly into the building sewer is prohibited.

2.22.2. In all new home construction, drains and lavatories set below the level of the curb fronting the premises shall discharge into a tightly covered sump or ejector pit so located as to receive the discharge of such drains by gravity. Pumps, ejectors or other mechanical devices shall be provided to lift and discharge the contents of sumps or ejector pits into the building drain. Such pumps, ejectors or other mechanical devices shall operate automatically. (Amended by Ord. 84-11-0, 3-28-84)

2.23. Separation of Storm Waters and Sanitary Sewage.

2.23.1. All new buildings constructed hereafter shall provide two (2) separate and distinct building sewer systems within their property lines as follows:

A storm sewer for the collection and conveyance of surface runoff and other stormwaters or groundwaters. In the absence of accessible public storm water sewers, the storm water may run off into ground areas within property lines. Water not absorbed by the ground areas may drain into public gutters.

A sanitary sewer for the collection and conveyance of sanitary sewage consisting of domestic and other waterborne wastes. (Ord. of 12-13-78, Amend. No. 17)

2.23.2. The storm and sanitary waters shall be collected and conveyed in separate pipes to a point of discharge into the public storm, sanitary sewer systems. (Ord. of 12-13-78, Amend. No. 17)

2.23.3. All downspouts or roof drains shall discharge onto the ground or be connected to the building storm sewer system. No downspouts or roof drains shall be connected to the building sanitary sewer system. (Ord. of 12-13-78, Amend. No. 17)

2.23.4. Footing drains shall be connected to sump pumps, and discharge shall be made into the building storm sewer system. (Ord. of 12-13-78, Amend. No. 17)

2.23.5. Floor drains in basements shall be connected to sump pumps and discharged into the building sanitary sewer system. (Ord. of 12-13-78, Amend. No. 17)

2.23.6. A sump pump shall be used for one (1) function only, either the discharge of storm waters or the discharge of sanitary sewage. (Ord. of 12-13-78, Amend. No. 17)

2.24. Supplemental Design Requirements.

2.24.1. Pipe bedding shall be required for all sewer construction except ductile iron pipe, and shall be of a minimum thickness equal to one-fourth of the outside diameter of the sewer pipe but shall not be less than four (4) inches. Bedding, other than concrete embedment, shall consist of gravel, crushed gravel, pea gravel, crushed stone or crushed slag, one-fourth inch to three-fourths inch in size. The material used shall be approved by the plumbing inspector. (Ord. of 12-13-78, Amend. No. 17)

3. QUALITY OF MATERIALS

3.1. Conformity.

3.1.1. All materials used in any plumbing system shall conform to the requirements of this article.

3.2. Cast-Iron Pipe.

3.2.1. All cast-iron pipe and fittings shall be sound, cylindrical and smooth, free from cracks, sand holes and other defects, of uniform thickness, and tar-coated. (Amended by Ord. 83-28-0, 8-8-83)

(See following page for subsection 3.2.2.)

3.2.2. No cast-iron pipe used in any drainage system shall weigh less per lineal foot, including hubs, than the industry standard specifications for weight. (Amended by Ord. 83-28-0, 8-8-83)

3.2.3. All fittings used in connection with cast-iron pipe shall correspond with it in weight, quality and coating.

3.3. Lead Water Supply Pipe.

3.3.1. All lead water supply pipe shall be what is known to the trade as "extra strong" and shall weigh not less than as follows:

Internal Diameter Inches	*Weights per Lineal Foot*	
	Lbs.	*Ozs.*
1/2	1	8
5/8	2	8
3/4	3	—
1	4	—
1 1/2	8	12
2	13	12

3.4. Lead Waste, Soil, Vent and Flush Pipes.

3.4.1. All lead waste, soil, vent and flush pipes shall be of the best quality, known to the trade as "extra light" and of not less than the following weights per lineal foot:

Internal Diameter Inches	*Weights per Lineal Foot*	
	Lbs.	*Ozs.*
1	2	—
1 1/4	2	8
1 1/2	3	8
2	4	—
3	6	—
4	8	12

3.5. Sheet Lead and Copper.

3.5.1. Sheet lead shall weigh not less than four (4) pounds per square foot when used for shower pans and two and one-half (2 1/2) pounds per square foot when used for roof flashings.

3.5.2. Sheet copper shall be not lighter than No. 18 B & S gauge.

3.6. Used Materials.

3.6.1. Used materials shall not be installed except when specifically approved by the plumbing inspector.

3.7. Calking Ferrules.

3.7.1. Brass calking ferrules shall be of the best quality red cast brass with weights and dimensions in accordance with the following schedule:

Pipe Size (in.)	*Actual Inside Diameter (in.)*	*Length (in.)*	*Weight*	
			Lbs.	*Ozs.*
2	2 1/4	4 1/2	1	—
3	3 1/4	4 1/2	1	12
4	4 1/4	4 1/2	2	8

3.8. Solder Nipples.

3.8.1. Solder nipples and solder bushings shall be of heavy cast red brass and shall weigh according to the following schedule:

Size of Pipe Inches	*Weight per Foot*	
	Lbs.	*Ozs.*
1 1/4	0	6
1 1/2	0	8
2	0	14
2 1/2	1	6
3	3	2
4	3	8

3.9. Floor Flanges.

3.9.1. Closet floor flanges for plumbing fixtures shall be not less than three-sixteenths inch thick for cast iron or galvanized malleable iron or not less than one-eighth inch thick for brass or hard lead.

3.10. Hard-Drawn Copper Tubing.

3.10.1. All copper tubing shall be type K, L or M. Only class K shall be permitted underground. (Amended by Ord. 86-39-0, 10-8-86)

3.11. Galvanizing.

3.11.1. All wrought-iron and steel pipe used in plumbing and drainage systems shall be galvanized.

3.12. Plain Screwed Fittings.

3.12.1. Plain screwed fittings shall be of cast iron, malleable iron or brass of standard weight and dimensions.

3.13. Threaded Drainage Fittings.

3.13.1. Drainage fittings shall be of galvanized or asphaltum coated cast iron, galvanized malleable iron or brass with smooth interior waterway and threads tapped out of solid metal.

3.14. Threaded Malleable Iron Fittings.

3.14.1. Malleable fittings shall be used on steel or wrought-iron water pipe and shall be galvanized.

3.15. Specifications for Materials.

3.15.1. Products conforming to any of the specifications listed for a given material shall be considered acceptable. The building committee of the city council shall periodically, at least once every two (2) years, review the approved list of specifications and standards for materials to check the designations and numbers which are used for identification, and if there are later issued shall substitute them. All standards and specifications for materials shall be subject to change. (Ord. of 12-13-78, Amend. No. 18)

3.15.2. Abbreviations used in this article refer to standards or specifications issued by the organizations identified below:

A.S.T.M.: Standards and tentative standards published by the American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pennsylvania.

F.S.: Federal Specifications published by the Federal Specifications Board and obtainable from the Superintendent of Documents, United States Government Printing Office, Washington 25, D.C.

3.15.3. Material for Plumbing Installations.

	ASTM	*FS*
Nonmetallic piping:		
Clay sewer pipe.....	C4-62	No new number available
	C700-77	No new number available
Concrete sewer pipe..	C14-77	No new number available
	C76-77	No new number available
Asbestos cement sewer pipe.....	C428-77A	No new number available
A.B.S. (Acrylonitrile Butadiene-Styrene)..	D2680-68T	No new number available
P.V.C. (Polyvinyl Chloride) permitted as follows: For outside underground sewer piping where appropriate.	D3034	
Also, for all storm, interior downspouts, and waste and vent piping, except interceptors and related piping as set forth in Section 8.4 of this plumbing code. (Amended by Ord. 96-15-0, 4-10-1996)	D2665-1988 Solvent Cement ASTM D2564-88 Plastic Primer ASTM F656-88 (To be of contrasting colors)	
Ferrous pipe and fittings:		
Cast-iron soil pipe and fittings.....	A74-42	WW-P-401(1935)
Cast-iron water pipe	A44-41	WW-P-421(1931)
Cast-iron (threaded) pipe.....	—	WW-P-356(1936)
Cast-iron (screwed) fittings.....	—	WW-P-501b(1945)
Cast-iron drainage fittings.....	—	WW-P-491a(1945)
Wrought-iron pipe....	A72-45	WW-P-441a(1939)
Steel pipe.....	A120-47	WW-P-406(1944)
Open hearth iron pipe.....	A253-47	WW-P-406(1944)
Malleable-iron fittings (screwed).....	A277-44T	WW-P-521b(1945)
Nonferrous pipe and fittings:		
Brass tubing.....	B135-47T	
Brass pipe.....	B43-47	WW-P-351(1930)
Copper pipe.....	B42-47	WW-P-377(1932)

	ASTM	*FS*
Bronze screwed fittings	—	WW-P-460(1945)
Seamless copper tubing	B75-48T	WW-T-797(1932)
Copper water tube (KLM)	B88-47	WW-T-799a(1943)
Soldered joint fittings (for copper water tube)	—	—
Flared fittings for copper (water) tubes	—	—
Lead pipe and traps	—	WW-P-325(1944)
Miscellaneous:		
Calking lead	—	QQ-L-156(1934) Type 1
Sheet lead	—	QQ-L-201(1942)
Sheet brass	B36-48T B121-47T	QQ-B-611a(1944)
Sheet coppor	B152-48T	QQ-C-501a(1941)
Galvanized iron and steel sheets	A163-39 A93-46	QQ-I-716(1942)
Galvanized pipe and fittings	A120-47	WW-P-406(1944) Section D6
Cement lining	—	WW-P-406(1944) Section D7
Soft solder	B32-46T	QQ-S-571a(1942)
Fixture setting compound	—	HH-C-536(1936)
Valves:		
Bronze gate	—	WW-V-54(1946)
Cast-iron gate.	—	WW-V-58(1945)

6-3.04. SEWERS

4.1. Permit Required.

4.1.1. No person shall install or repair any building sewer, drain tile or catch basin without first obtaining a written permit for such work from the building commissioner. (Ord. of 12-13-78, Amend. No. 19)

4.2. Sewer Laying.

4.2.1. All work of laying underground sewers and building of masonry catch basins shall be done by licensed sewer builders, licensed journeyman plumbers or registered apprentice plumbers under the supervision of a state-licensed plumber. (Ord. of 12-13-78, Amend. No. 20)

4.3. Sewer Builder.

4.3.1. Any licensed sewer builder who fails to comply with any of the regulations of this code pertaining to the work of such persons shall be subject to the penalties provided by law for such violations. In addition, upon the advice of the plumbing inspector and the building commissioner, the city council may revoke the City license of any sewer builder whose work does not comply with said regulations. (Ord. of 12-13-78, Amend. No. 21)

4.4. Sewer Connections.

4.4.1. The building department shall prescribe the method of piercing or opening any street sewers or drains and the materials to be used. (Ord. of 12-13-78, Amend. No. 22)

4.5. Breaking into Sewer.

4.5.1. When a part of the building sewer system is broken into, such break shall be properly repaired by replacing the broken part with a corresponding new part. No patching of such break will be accepted.

4.6. Opening in Streets — How Protected.

4.6.1. All openings made in sidewalks and streets shall be protected and repaired as required by chapter V, article II of the City Code, as from time to time amended. (Ord. of 12-13-78, Amend. No. 23)

4.6.2. Plumbers shall notify police and fire departments when any street is fully obstructed by an opening. (Ord. of 12-13-78, Amend. No. 24)

4.7. Independent Drainage System.

4.7.1. Every building and every section of a row house shall have a separate connection with a public or private sewer. Exceptions to this regulation shall only be made when approved by the building commissioner or other member of the building department. (Ord. of 12-13-78, Amend. No. 25)

4.8. Connection With Sewage Disposal System.

4.8.1. When a public sewer is not available, drainpipes from buildings shall be connected to a system of sewage disposal approved by the health officer and building commissioner. (Ord. of 12-13-78, Amend. No. 26)

4.9. Excavations.

4.9.1. Title 7, Chapter 1 of the City Code, as from time to time amended, must be complied with before any excavation can be begun. (Ord. of 12-13-78, Amend. No. 27)

4.9.2. Tunneling for distances not greater than six (6) feet may be permitted in yards, courts or driveways of a building site. All excavations required for installation of building drainage system, or any part thereof, within the walls of a building shall be open trench work. All trenches and tunnels shall be kept open until piping has been inspected, tested and approved. Augering or tunneling under streets or alleys, subject to chapter V, article II, shall be permitted. (Ord. of 12-13-78, Amend. No. 27)

4.10. Building Sewer Pipes.

4.10.1. The building sewer shall be of extra-heavy cast-iron, vitrified clay tile, concrete, bituminized fibre, asbestos cement, or other specially approved pipe. Whenever the excavation for a building sewer is made in unstable ground, the material for such building sewers shall be extra-heavy cast-iron pipe.

4.11. Defective Sewers.

4.11.1. Whenever a building sewer or drain is obstructed, or is found to be broken or defective so that sewage or drainage escapes into surrounding soil, or into adjacent premises, repair or replacement may be ordered by the building or health department. Such repairs shall be at the expense of the owner or person in control of such property.

4.12. Size of Sewer and Drain.

4.12.1. The table in section 6.2.1. shall be employed in determining the fixture unit values assigned to fixtures in computing the required sizes of sewers, drains, soil and waste branches and stacks.

4.13. Size of Sanitary Sewers.

4.13.1. The sanitary building sewer shall be at least six (6) inches in diameter, except where cast-iron or tarred fibre pipe is used. It may be four (4) inches in diameter where cast-iron or tarred fibre pipe is used, provided that the size complies with the following table [Section 4.13.2.].

4.13.2. The required size of sanitary building drains and sanitary building sewers shall be determined on the basis of the total number of fixture units drained by them in accordance with the following:

SANITARY SYSTEM ONLY

Maximum Number of Fixture Units Allowed

Diameter of Pipe Inches	1/2" Slope	1/4" Slope	1/8" Slope	1/16" Slope	1/32" Slope	1/64" Slope
3*	25	19				
4	120	50				
5	650	325	90			
6**	1100	900	475			
8	2700	2400	1650	1100		
10	5000	4200	3500	2500		
12			6500	4100	3000	
14				7000	5000	
15				8750	6000	
16				10000	7000	
18				14000	10000	7000
20				19000	13000	9500
21				22000	15500	10500
24					23000	16000

*Minimum of 4 inches in diameter required for underground soil pipe and where water closet branches are connected.

**Minimum of 6 inches in diameter required for all single-family residence building sewers.

(Amended by Ord. 84-11-0; Adopted 3/28/84)

4.14. Size of Storm Sewers.

4.14.1. The storm water building sewer shall be at least six (6) inches in diameter except where cast-iron or tarred fibre pipe is used, in which case it may be four (4) inches in diameter provided that it does not drain more than the area allowed for four-inch pipe in the following paragraph.

4.14.2. The required size of stormwater sewers draining impervious building areas such as roofs and pavements shall be determined on the basis of the size of the horizontal projection of the total area drained in accordance with the tables which follow. These sizes are based upon the use of smooth pipe having a Manning "n" value of not more than 0.015 when installed.

STORM SYSTEM ONLY NO TEMPORARY STORAGE PROVIDED

Size of Drain (Inches)	*Minimum Slope Inches/Ft.*	*Maximum Area Drained (Sq. Ft.)*	*Double Standard Slope*	*Maximum Area Drained (Sq. Ft.)*
4	1/4	3,000	1/2	4,000
5	1/4	6,000	1/2	8,000
6	1/8	7,000	1/4	9,500
8	1/8	16,000	1/4	20,500
9	1/16	16,000	1/8	22,000
10	1/16	20,500	1/8	29,000
12	1/16	33,000	1/8	49,000
14	1/32	37,000	1/16	53,000
15	1/32	45,000	1/16	64,000
16	1/32	54,000	1/16	77,000
18	1/32	75,000	1/16	100,000
20	1/32	79,000	1/16	113,000
21	1/64	97,000	1/32	140,000
24	1/64	114,000	1/32	164,000

STORM SYSTEM ONLY
TEMPORARY STORAGE PROVIDED*

Size of Drain (Inches)	*Minimum Slope Inches/Ft.*	*Maximum Area Drained (Sq. Ft.)*	*Double Minimum Slope Inches/Ft.*	*Maximum Area Drained (Sq. Ft.)*
4	¼	50,000	½	70,000
5	¼	100,000	½	140,000
6	⅛	120,000	¼	170,000

* When temporary storage of storm waters is provided, the storage zone shall have a volume in cubic feet of not less than one-fourth times the number of square feet of area drained, and the inlet to the sewer shall be designed so that the rate of flow through it is limited to runoff rates between one-fourth and one-half inch per hour from the area drained. For example, a flat roof on which it is possible to store 3 inches of water over the entire area would be provided with an outlet which would limit the rate of discharge through it to one-fourth to one-half inches per hour. If the area of the roof is 8700 square feet, which is about 0.2 acre, the inlet capacity would be limited to 0.05 to 0.10 cubic feet per second with the level of the water at the elevation at which the storage would be 3 inches of runoff. As another example, a paved parking lot could be drained toward the center so that the surface resembled an inverted pyramid. A lot say 600 feet by 300 feet might have the center inlet about 2 feet below the average elevation of the periphery of the lot. Storage of 3 inches of runoff from such a lot would require the storage of 45,000 cubic feet. If the inflow into the inlet were limited to one-half inch per hour, the maximum inflow rate would be about 0.2 cubic feet per second. During a recurrence of the severe storm of July 11-12, 1957, water would pond on such a parking lot to a depth over the inlet of about 16 inches and would cover approximately half of the parking lot area at the peak of the storm. Six hours later the water would be largely drained away. During ordinary storms no ponding of water would result as ordinary storms do not exceed the one-half inch per hour runoff capacity of the inlet.

4.14.3. The building department may require the design of drainage systems which utilize the principle of temporary storage of floodwaters such as those illustrated by the examples of paragraph 4.14.2. Such design may be in the best interests of the city as it may avoid flooding which would result from failure to limit inflow rates into existing main sewers. (Ord. of 12-13-78, Amend. No. 28)

4.15. Combined Sewers Prohibited.

4.15.1. No combined sewer systems shall be constructed. (Ord. of 12-13-78, Amend. No. 29)

4.16. Access to Premises.

4.16.1. For protection of the public sewers, agents or inspectors of the health or building department shall have free and unobstructed access to any part of the premises where building drains, building sewers or any fixtures connected to the drainage system are located, for the purpose of examination into the construction, condition and usage of the same, at any time of day between the hours of 7:00 a.m. and 6:00 p.m.; and any owner, occupant or other person refusing to allow any official or agent of the city health or building department access to the premises for such purposes shall be liable to a fine of not more than five hundred dollars ($500.00). Each day that such owner, occupant or other person shall continue such refusal shall be deemed a separate offense. (Ord. of 12-13-78, Amend. No. 30)

6-3.05. ROOF, STORM WATER AND SEEPAGE DRAINS

5.1. Roof Drainage and Downspouts.

5.1.1. All building or parts of buildings, unless exempted herein, shall be provided with proper rain leaders and eave or cornice gutters for conducting rainwater from the roof to the sewer in such a manner as shall protect the walls and foundations of the building and adjacent structures from damage.

5.1.2. The following structures shall be exempt from the requirements of this paragraph, provided that the roofs of such structures are so arranged as to allow roof water to discharge on the premises upon which they are located and in such manner that said roof water shall not damage the same or adjoining properties, or become a nuisance to the occupants of same:

(a) Garages located on the rear of lots.

(b) Porches and bay windows.

(c) Residences without basements with twelve (12) inches or more of overhanging eaves.

(d) Structures erected where no sewer is available.

5.2. Downspout Trap.

5.2.1. Every roof leader or downspout when connected to a sewer shall be effectively trapped; provided, however, that this provision shall not apply to buildings used exclusively for commercial or industrial uses. (Ord. of 12-13-78, Amend. No. 31)

5.3. Drainage Areas.

5.3.1. Paved outside areas, other than roof areas, shall be drained to a sewer where necessary to avoid the discharge of water onto adjoining premises. Outside areas exceeding three hundred (300) square feet, where drained to a sewer, shall be drained through a catch basin not less than three (3) feet in diameter and not less than three (3) feet deep below the bottom of the trap.

5.4. Downspouts Without Increasers.

5.4.1. No rainwater leader or downspout shall be of smaller size than shown in the following table, except as hereinafter provided for downspouts with increasers at the roof.

Area of Roof in Horizontal Projection (Square Feet)	*Diameter of Downspouts (Inches)*
250	2
400	$2^1/_2$
650	3
1350	4
2400	5
3800	6
5600	7
7800	8

5.5. Downspouts With Increasers at Roof.

5.5.1. When the diameters of downspouts are increased at the roof for a length of at least twice the diameter of the downspout, the following areas in horizontal projection may be drained to them:

WITH INCREASERS

Area of Roof in Horizontal Projection (Square Feet)	*Diameter of Downspout (Inches)*	*Diameter of Increaser (Inches)*
650	2	3
800	2	4
1350	$2^1/_2$	4
2250	3	4
2400	4	5
3800	4	6
3800	5	6
7750	5	8
7750	6	8
10500	6	9
12700	6	10

5.5.2. The above sizes of downspouts are based on the diameter of circular downspouts, and other shapes shall have equivalent cross-sectional area.

5.5.3. All downspouts or rainwater leaders from gravel roofs shall be fitted with gravel basins or equally serviceable devices to screen out loose gravel.

5.6. Downspout Connection at Ground Level.

5.6.1. When the outside leaders are of sheet metal, they shall be connected to a downspout by means of cast-iron pipe with hub extending vertically at least four (4) inches above the grade level. Along public driveways or parking areas, cast-iron pipe with hub shall extend five (5) feet above grade level or the leader shall be placed in niches in the walls.

5.6.2. When complaint is made of, or any damage is caused by, any downspout or leader not properly connected with a sewer or provided with a proper trap, or when a roof or an unconnected downspout discharges over a sidewalk, or other passageway, or is otherwise not in conformity with this ordinance, it shall be brought into conformity upon notice from the building department.

5.7. Prohibited Uses.

5.7.1. No downspout or leader pipe shall discharge into any soil or waste stack nor shall any downspout receive waste water from any plumbing fixture. No downspout shall be used to vent a plumbing fixture. (Ord. of 12-13-78, Amend. Nos. 32,33)

5.8. Inside Downspouts and Roof Drains.

5.8.1. Every downspout placed within the walls of a building shall be of cast-iron, copper, P.V.C. or galvanized steel pipe. A gastight and watertight connection shall be made at the roof. (Ord. 96-15-0, 4-10-1996)

5.8.2. Outside roof drains shall be of cast iron, copper, lead or other corrosion-resistant material approved by the building department. (Ord. of 12-13-78, Amend. Nos. 32, 33)

5.9. Overhead Plumbing and Footing Drains.

5.9.1. All new buildings with basements, floors, rooms or occupancy areas below ground level at the building site and served by a public or private sewer system shall have overhead plumbing. No building permit application will be accepted nor any permits issued for construction of any structure unless plans and specifications therefor provide for overhead plumbing as called for in this code. (Ord. of 12-13-78, Amend. No. 34)

5.9.2. Outside areaway and footing drains shall be connected to sump pumps for further discharge into storm sewer or drainage ditches. (Ord. of 12-13-78, Amend. No. 34)

5.9.3. Inside floor drains shall be connected to sump pumps for further discharge into the sanitary sewer system. (Ord. of 12-13-78, Amend. No. 34)

5.10. Footing Drains — Subsoil Drains.

5.10.1. Subsoil drains shall be of open jointed or horizontally split or perforated clay tile, perforated asbestos cement, perforated bituminized fiber or plastic pipe, or open jointed cast-iron soil pipe. (Ord. of 12-13-78, Amend. No. 34)

6-3.06. SOIL, WASTE AND VENT PIPES

6.1. Material and Protection.

6.1.1. Every new main or branch soil, waste and vent pipe within a building shall be of cast iron, galvanized steel, galvanized wrought iron, brass, copper, or P.V.C. may be used for waste and vent piping. (Ord. 96-15-0, 4-10-1996)

6.1.2. All building drains underground shall be service weight cast-iron soil pipe or P.V.C. to five feet (5') outside of the building wall. (Ord. 96-15-0, 4-10-1996)

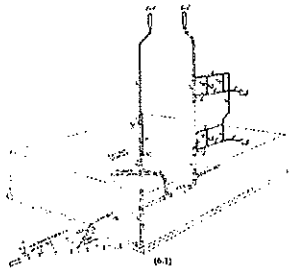
6.1.3. No galvanized steel or galvanized wrought-iron pipe shall be installed underground. (Ord. of 12-13-78, Amend. No. 36)

6.1.4. No cinders or ashes shall be used to backfill over any pipes installed in the ground. Plumbers shall see that sand, limestone screenings or clay fill is covered over ground piping after the inspection is made.

6.1.5. Liquid wastes of a temperature exceeding one hundred sixty (160) degrees Fahrenheit shall not discharge directly into any drain or sewer. Wastes of a higher temperature shall be intercepted and cooled to one hundred sixty (160) degrees Fahrenheit, or less. Inside blowoff basins shall be of cast iron and shall be trapped and vented to the outside of the building by means of a vent pipe through the roof.

6.2. Sizes of Traps and Branches and Fixture Unit Valuations.

6.2.1. Sizes of traps, branch inlet pipes and fixture unit valuations shall be determined by the table following.



Kind of Fixture	*Minimum Size of Trap (Inches)*	*Branch Inlet Size (Inches)*	*Equiv. Fixture Unit*	*Revent Size (Inches)*
Bathtub (built in)	2	2	3	1½
Bidet	1½	2	2	1½
Combination sink and laundry trays	1½	1½	2	1½
Dishwasher, dwellings	1½	1½	2	1½
Dishwasher, restaurant	2	2	3	1½
Drinking fountain	1	1¼	½	1½
Floor drain	3	3	2	2
Floor drain, car wash	4	4	6	2
Fountain cuspidors (2)	1	1½	1	1½
Laundry tray, 1 or 2 on trap	1½	1½	2	1½
Laundry tray, 3 on a trap	1½	1½	2	1½
Lavatory, 1 only	1¼	1½	1	1½
Lavatory, group of 2	1½	1½	2	1½
Refrigerator	1¼	1½	½	1½
Shower stall	2	2	3	1½
Shower, gang	3	3	3*	2
Sink, dwelling	1½	1½	2	1½
Sink, public, kitchen or scullery	2	2	3	1½
Sink, pantry (for hotel or institution)	2	2	3	1½
Sink, slop (with trap combined)	2¼	3	4	2
Sink, slop, flush rim, siphon jet or bed pan	3	4	6	2
Sink, slop, ordinary	2	2	3	1½
Sitz bath	1½	1½	1	1½
Sterilizer, instrument, utensil	1¼	1½	1	1½
Urinal, men, all types	2	2	3	1½
Urinal, women	2¼	4	6	2
Water closet	2¼	4	6	2

* Each head.

6.3. Sizes of Soil and Waste Pipes.

6.3.1. The minimum required sizes of soil and waste branches and stacks shall be determined on the basis of the total number of fixture units drained by them in accordance with the following table:

MAXIMUM FIXTURE UNIT LOADS

Diameter (Inches)	Fixture Units Allowed on Soil and Waste Branches ⅛ in. Slope	¼ in. Slope	½ in. Slope	Fixture Units Allowed on Soil and Waste Stacks
1½	2	2		4
2	8	8		16
2½	12	12		34
3	25	19		76*
4	120	50		500
5	650	325	90	1,000
6	1,100	900	475	1,800
8	2,700	2,400	1,650	3,500
10	5,000	4,200	3,480	6,000

* Maximum of two water closets on a three-inch stack.

6.4. Underground Branches.

6.4.1. The minimum required sizes of underground soil and waste branches shall be four (4) inches for soil branches and three (3) inches for branches from floor drains, laundry trays and kitchen stacks. A maximum length of thirty (30) feet shall be permitted for three-inch pipe underground.

6.5. Sumps and Ejectors.

6.5.1. Drains below the level of the building sewer shall discharge into a tightly covered sump or ejector pit so located as to receive the discharge of such drains by gravity. Pumps, ejectors or other mechanical devices shall be provided to lift and discharge the contents of sumps or ejector pits into the building drain. Such pumps, ejectors or other mechanical devices shall operate automatically. A backwater valve shall be provided in the outlet line of every sump or ejector pit. The waste line from the sump or ejector pump shall be elevated to a point eighteen (18) inches from the ceiling of the room in which it is installed before connecting to the soil or waste stack or building drain wherever possible. (Ord. of 12-13-78, Amend. No. 37)

6.6. Construction of Sump or Receiving Tanks.

6.6.1. Every sump or receiving tank within a building receiving the discharge from sanitary drains or storm water drains shall be of cast iron, equally durable metal, reinforced concrete or reinforced fiber glass. Every sump or receiving tank receiving the discharge from open jointed subsoil drainage systems only shall be of cast iron, equally durable metal, reinforced concrete, reinforced fiber glass, vitrified clay tile, or masonry. No sump or receiving tank shall be less than thirty (30) inches deep and shall be in an accessible location, except that such thirty (30) inch requirement shall not apply to any surface mounted receiving tank. However, any such tank shall be of minimum ten (10) gallon capacity and large enough to readily accommodate a submersible replacement pump. (Amended by Ord. 84-11-0, 3-28-84)

6.6.2. Notwithstanding any other provision contained herein to the contrary, any surface mounted receiving tank installed as part of the repair or remodeling of any system may be connected to the system by means of P.V.C. pipe. This exception shall not apply to any such receiving tank connected to system installed as a part of new construction.

6.7. Venting of Sump or Ejector Pit.

6.7.1. Every sump or ejector pit shall have a vent pipe equal in size to the vent pipe normally used for the fixtures discharged into it and not less than four (4) inches in diameter where soil waste is received. (Ord. of 12-13-78, Amend. No. 38-a)

6.8. Water Pressure Ejectors.

6.8.1. Water pressure ejectors or siphons shall not be installed for the discharging of any sewage or waste unless adequately protected against backsiphonage.

6.9. Soil and Waste Stacks.

6.9.1. Where one (1) soil pipe or waste pipe serves as the only stack in the building, it shall extend full size to the roof and shall there be increased as provided in Section 6.16.

6.10. Size of Sink Stack.

6.10.1. A vertical waste stack into which kitchen sinks discharge shall be at least two (2) inches in diameter and shall be provided with a cleanout at its base.

6.11. Size of Soil Stack.

6.11.1. All soil cast-iron stacks shall be at least four (4) inches in diameter. (Ord. of 12-13-78, Amend. No. 39)

6.11.2. All copper or P.V.C. soil stacks shall be at least three (3) inches in diameter. Not more than two (2) water closets shall be installed on any three-inch stack. (Amended by Ord. 86-39-0, 10-8-86)

6.12. Variation in Sizes of Soil Vents.

6.12.1. In buildings where there are one (1) or more three-inch stacks extended full size through the roof, and connected to the same building drain, one (1) water closet and one (1) other fixture unit located on the first floor may be installed on a three-inch soil pipe rising from the building drain to the first floor and may be vented with a two-inch pipe properly increased at the roof or connected to a stack vent.

6.13. Cleanouts.

6.13.1. An accessible cleanout with heavy brass plug shall be provided at the foot of each soil and waste stack and at intervals of not over fifty (50) feet on building drains of eight (8) inches or less. For pipe sizes larger than four-inch, cleanouts shall be at least four (4) inches in diameter.

6.13.2. Every horizontal soil or waste pipe shall be provided with a cleanout at every ninety-degree turn and at the end of each branch. Fixture traps shall be considered as cleanouts. (Ord. of 12-13-78, Amend. No. 39-a)

6.14. Water Test.

6.14.1. All soil, waste and vent pipes, from where the building drain enters the building, to the roof terminal, shall be tested with a water, smoke or air test in the presence of the plumbing inspector before being covered or concealed. A five-foot head of water may be used for ground work.

6.15. Prohibited Connections.

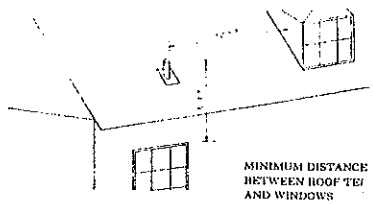
6.15.1. Lead closet bends shall be permitted to replace old lead bends only when it is found impossible to use iron. No other fixture connection shall be made to a lead closet bend.

6.16. Roof Terminals.

6.16.1. Vertical soil, waste and vent pipe shall extend through and above the roof at least six (6) inches and shall have a diameter at least one (1) inch greater than that of the pipe proper; but in no case shall it be less than four (4) inches in diameter through and above the roof. When the roof is used for a floor, such extension shall be not less than seven (7) feet above the roof. The increase shall extend at least one (1) foot below the roof. Where it is desired to avoid many openings in the roof, vertical soil, waste and main vent pipes may be connected to a horizontal vent pipe, which shall be connected to a main soil or waste vent at least one (1) foot below the roof. The size of the horizontal vent shall be increased as additional fixture units are connected along its length. Roof terminals shall be properly flashed with lead or copper flashing.

6.17. Location of Roof Terminals.

6.17.1. No roof terminal from a sanitary drainage system shall be located directly beneath any door, window or other ventilating opening of the same or an adjacent building, nor shall any such roof terminal be located within twelve (12) feet horizontally of such an opening unless it is at least five (5) feet above the top of such opening. No roof terminal shall be located within twelve (12) feet of an inside lot line, except for a roof which is at the maximum height limit for such roof as regulated by provisions of the zoning ordinance.



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6.18. Trap Vents.

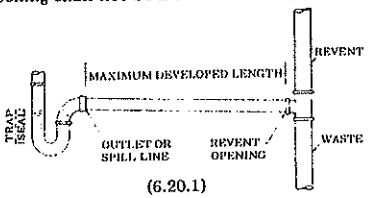
6.18.1. The seal of every fixture trap shall be protected against siphonage and back pressure by a properly installed vent. No crown vent shall be installed. The continuous system of venting shall be used.

6.19. Future Opening.

6.19.1. Where drainage openings are left for future use, additional vent openings shall be provided for future use. (Ord. of 12-13-78, Amend. No. 40)

6.20. Distance of Trap From Vent.

6.20.1. Each fixture trap revent, except for water closets and similar fixtures, shall be so located that the slope in the fixture drain from the trap outlet or spill line to the revent opening shall not be more than five (5) feet.



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(Ord. of 12-13-78, Amend. No. 41)

6.21. Connections of Main Vents.

6.21.1. Every main vent or vent stack shall connect full size at its base to the main soil or waste pipe at or below the lowest fixture branch, and shall be reconnected with the main soil or waste vent not less than forty-two (42) inches above the floor of the highest fixture, or shall be extended to and increased in size at the roof. (Ord. of 12-13-78, Amend. No. 42)

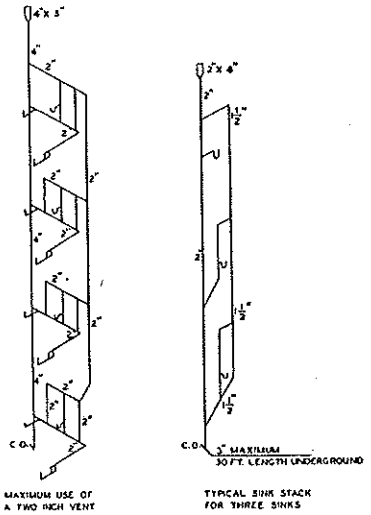
6.22. Required Sizes of Main Vents.

6.22.1. The required sizes of main vents or vent stacks shall be determined on the basis of the size of the soil or waste stack vented, the number of fixtures or fixture units drained thereby, and the developed length of the main vent or vent stack in accordance with the following tables:

WASTE STACK

Diameter of Stack (Inches)	*Fixture Units on Stack*	*Dimensions of Vent Minimum Diameter (Inches)*	*Dimensions of Vent Maximum Length (Feet)*
1½	4	1½	60
2	16	1½	80
2½	34	1½	40
2½	34	2	80

See Section 6.10 for exception.



(6.22.1)

SOIL OR WASTE STACK

Diameter of Stack (Inches)	*Fixture Units on Stack*	*Dimensions of Vent Minimum Diameter (Inches)*	*Dimensions of Vent Maximum Length (Feet)*
3	42	2	80
3	76	2	40
3	76	2½	100
4	42	2	40
4	42	2½	80
4	72	2½	40

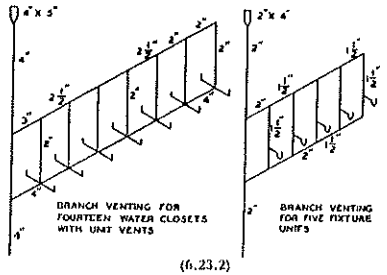
Diameter of Stack (Inches)	Fixture Units on Stack	Dimensions of Vent: Minimum Diameter (Inches)	Dimensions of Vent: Maximum Length (Feet)
4	150	3	80
4	500	3	40
4	500	4	100
5	480	2½	40
5	480	3	80
5	1000	4	80

6.23. Branch and Individual Vents.

6.23.1. No vent shall be less than one and one-half (1½) inches in diameter. No main vent shall be of a lesser size than the largest branch vent connected to it. In no case shall a branch or main vent have a diameter less than one-half that of the soil or waste pipe served.

6.23.2. The required sizes of branch vents shall be determined by the number of fixtures or fixture units connected to them in accordance with the following table. No horizontal branch vent shall exceed forty (40) feet in length.

Size of Branch Vent (in Inches)	Fixture Units Allowed
1½	4
2	24
2½	72
3	150



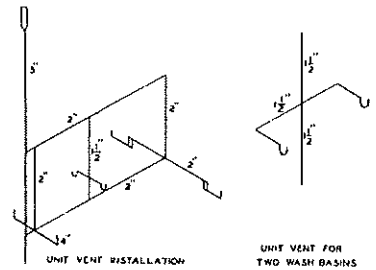
(6.23.2)

6.24. Vent Pipe Grades and Connections.

6.24.1. Every vent pipe shall be free from drops or sags and shall be so graded and connected as to drip back to the soil or waste pipe. Where a vent pipe connects to a horizontal soil or waste pipe, the vent branch must rise vertically, or at an angle of forty-five (45) degrees to the vertical, to a point two (2) inches above the fixture spill line before offsetting horizontally or connecting to the branch, main, waste or soil vent. Exceptions to this requirement involving loop vents may be made when approved by the plumbing inspector.

6.25. Unit Vents.

6.25.1. Where two (2) fixtures are located on opposite sides of walls or directly adjacent to each other on the same floor, they may have a common soil or waste pipe and common vent.



(6.25.1)

6.26. Revent not Required.

6.26.1. Where a water closet or other plumbing fixture is located above any other fixture branch on its soil or waste stack, and the waste pipe of such fixture is installed in accordance with section 6.20, no revent shall be required.

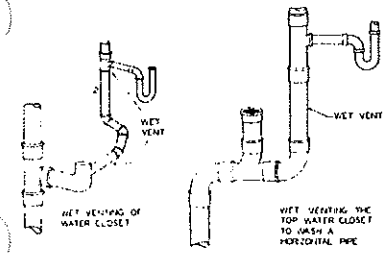
6.27. Prohibited Vents.

6.27.1. No brick, sheet metal or earthenware flue shall be used to vent any plumbing fixture connected to the drainage system.

6.28. Wet Venting.

6.28.1. When a lavatory and water closet are installed on the first floor of any building or structure and the main bath on the second floor, the lavatory on the first floor may be installed on a two-inch vent serving the first floor water closet.

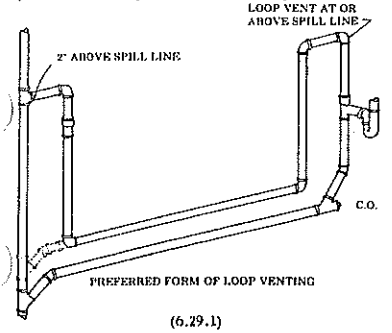
6.28.2. One (1) fixture unit may be installed on a four-inch stack above the unrevented top water closet or stack connection. When the top water closet is installed in the horizontal portion of an offset soil stack, it will be necessary to install one (1) fixture above the water closet connection to wash the horizontal portion of such stack.



(6.28.2)

6.29. Loop Venting.

6.29.1. Loop vents, as described in article 1 [section 6-3.01] of this code, may be installed when approved by the plumbing inspector. Loop venting shall be permitted only where fixtures cannot be vented normally without excessive damage to structural support of a building or without the impractical exposure of pipes.



(6.29.1)

6-3.07. INDIRECT SANITARY WASTES

7.1. Installation.

7.1.1. Waste piping from filters, refrigerators, iceboxes, steam tables, egg boilers, coffee makers, bottle holders, ice cube containers or any equipment or other receptacle where food or drink is stored shall discharge to the drainage piping system through an air gap into a waste receptor. The minimum size shall be one (1) inch and the maximum length of the indirect waste shall not exceed fifteen (15) feet and shall be provided with cleanouts at every ninety (90) degree turn and shall be accessibly located. Indirect wastes shall be piped to the waste receptor. Waste receptors serving indirect pipes connected to equipment as listed in section 6-3.07 of this code shall not be installed in any toilet room, closet store room or any inaccessible space. Each waste receptor shall be trapped and vented as required by this code. The air gap shall be not less than one (1) inch. (Ord. of 12-13-78, Amend. No. 43)

7.1.2. Waste piping from aspirators, sterilizers or any other equipment which would produce a partial vacuum by cooling shall discharge to the drainage piping system through an air gap into a waste receptor. The minimum size shall be one (1) inch, and the maximum length of the indirect waste shall not exceed fifteen (15) feet and shall be provided with cleanouts at every ninety-degree turn which is accessibly located. Each indirect waste pipe shall be individually piped

to the waste receptor with material that is required by this code. Waste receptors serving indirect pipes connected to the above equipment shall be located in the same room. Each waste receptor shall be trapped and vented as required by this code. The air gap shall be not less than two (2) times the diameter of the indirect waste pipe. (Ord. of 12-13-78, Amend. No. 43)

7.1.3. Dishwashing machines shall be indirectly connected, except when located adjacent to a floor drain, whereby the waste may be connected directly on the sewer side of the floor drain trap, and the fixture shall be trapped and vented as required by this code; provided however that no other waste or soil drainage line [shall] be permitted between the floor drain waste connection and the fixture drain. All indirectly connected dishwashing machine wastes shall be provided with a vented trap located as close as possible to the dishwashing machine and in the same room. The air gap shall be not less than one (1) inch. (Ord. of 12-13-78, Amend. No. 43)

7.1.4. Commercial dishwashing sinks, potwashing sinks, prerinse sinks, silverware sinks, bar sinks, soda fountain sinks and other similar fixtures shall be indirectly connected except when located adjacent to a floor drain, whereby the waste may be connected directly on the sewer side of the floor drain trap, and the fixture shall be trapped and vented as required by this code, provided however that no other drainage line [shall] be permitted between the floor drain waste connection and the fixture drain. All indirectly connected sinks shall be provided with a vented trap located as close as possible to the sink and in the same room. The piping from the equipment to the air gap shall not exceed five (5) feet and shall be of material as required by this code. The air gap shall be a minimum of one (1) inch. (Ord. of 12-13-78, Amend. No. 43)

7.2. Indirect Clear Water Wastes.

7.2.1. Indirect clear water wastes facilities shall be installed as follows:

Condensate drip pans, safe pans or similar devices or equipment which waste clear water only shall discharge to the drainage piping through an air gap into a waste receptor. Indirect wastes shall be piped to the waste receptor with material that is required by this code. Each waste receptor shall be trapped. The air gap shall be not less than one (1) inch. (Ord. of 12-13-78, Amend. No. 43)

7.2.2. Any heat transfer apparatus which wastes clear water only shall discharge to the drainage piping system through an air gap into a waste receptor. Indirect wastes shall be piped to the waste receptor with material that is required by this code. Each waste receptor shall be trapped as required by this code. The air gap shall be two (2) times the diameter of the indirect waste pipe but not less than two (2) inches. (Ord. of 12-13-78, Amend. No. 43)

7.3. Overflow Pipes, Motor Exhausts and Waste From Special Fixtures.

7.3.1. No new pipe from a water supply tank, hydraulic elevator, water lift, hydraulic ram or ejector shall be directly connected with a house drain, soil or waste pipe. Such a pipe shall discharge upon a floor or roof. (Ord. of 12-13-78, Amend. No. 43)

7.3.2. A new waste pipe from a bar, soda fountain, sink in a chemical laboratory, water-flushing cuspidor, or barber's lavatory, shall be of the same material as specified for a waste pipe. There shall be a separate trap for each such fixture, as close to the fixture as possible, directly connected to a soil or waste pipe and vent pipe, which shall comply in every respect with the provisions governing the installation of other plumbing fixtures. (Ord. of 12-13-78, Amend. No. 43)

7.4. Dilution Tanks for Corrosive Wastes.

7.4.1. No corrosive wastes which are equal or greater in corrosive action to five (5) per cent hydrochloric acid solution shall discharge into any soil or waste pipe, or any house drain or house sewer of standard materials and construction, without first discharging

into a dilution tank or basin. Every dilution tank used for this purpose shall be constructed of earthenware or glass, wood or other noncorrosive material and shall be provided with a standing waste and overflow or other approved means to ensure dilution. A chamber shall be provided to retain a sufficient quantity of lime or other neutralizing material, which shall be renewed as often as may be necessary to render the solution effective. Such dilution tank shall be provided with a controlled supply of water or neutralizing medium to make its contents noninjurious to ordinary waste pipe and joints.

7.5. Volatile Wastes.

7.5.1. Gasoline, benzine, naphtha and other volatile, flammable or explosive wastes shall not discharge into a house sewer, public sewer or sewage treatment plant. Such wastes shall be intercepted in approved vented triple basins and the volatile, flammable or explosive elements removed. All such basins or system of basins within buildings shall be constructed of extra-heavy cast iron or equally durable metal, installed in accordance with section 8.4.1 of this code. (Ord. of 12-13-78, Amend. No. 44)

6-3.08. INTERCEPTORS, TRAPS AND BACKWATER VALVES

8.1. Catch Basins.

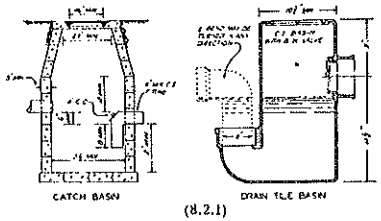
8.1.1. Every multiple-family dwelling having more than two (2) kitchen sinks shall be provided with an approved grease interceptor or an outside catch basin through which all kitchen sink wastes shall flow. Fecal matter shall not be discharged into a catch basin.

8.2. Construction of Catch Basins.

8.2.1. A catch basin located outside a building shall be constructed with concrete blocks or bricks laid up in portland cement mortar with walls not less than five (5) inches thick. Basins shall be watertight and at least thirty-six (36) inches in internal diameter from the base to one (1) foot above the outlet, and may taper to not less than twenty-four (24) inches internal diameter at the top. Each catch basin shall be covered at the grade level with a cast-iron cover, at least sixteen (16) inches in diameter, set in a stone or concrete ring. The lid shall be not less than one-fourth inch thick.

The inverts of the inlet pipes carrying grease-bearing wastes shall be not less than six (6) inches above the outlet pipe. The bottom of the catch basin shall be at least two (2) feet below the invert of the outlet pipe.

The outlet shall be trapped to a depth of eight (8) inches below the invert of the outlet to the sewer, to prevent the escape of grease. The fitting used for the catch basin trap shall be at least four-inch cast iron and shall be provided with a four-inch cleanout. Inlet pipes to catch basins shall not be trapped. (Ord. of 12-13-78, Amend. No. 45)



(8.2.1)

8.2.2. Inside catch basins or grease interceptors shall be of cast iron with an airtight cover and shall have a vent pipe equal in size to the vent pipe which would be used for the

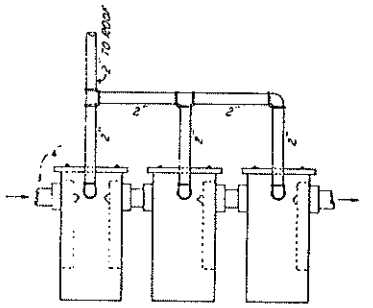
total number of fixtures run into it. Such vent pipe shall be connected to the venting system or shall extend through the roof.

8.3. Grease Interceptors.

8.3.1. A grease interceptor, with capacity sufficient to intercept and retain not less than ninety (90) per cent of the grease received, shall be installed in the waste line leading from dishwashing sinks in restaurants, hotel kitchens or bars, factory cafeterias or restaurants, clubs or other establishments where grease might be introduced to the drainage system in quantities that could effect line stoppage or hinder sewage disposal. Grease interceptors shall be installed as close to the fixture served as possible and shall be provided with a vent.

8.4. Oil Interceptor.

8.4.1. Triple intercepting basins with a minimum depth of twenty-four (24) inches and a width of eighteen (18) inches shall be provided in public garages, service stations, cleaning plants and all other places where volatile wastes could otherwise enter the main sewer. The first basin shall be a double seal basin and the other two (2) basins shall be trapped on the outlet side. Each unit shall have a trap seal of at least four (4) inches. A vent pipe not less than two (2) inches in diameter shall connect with each basin and shall rise to not less than eighteen (18) inches above the floor where the three (3) pipes shall be joined together and a single two-inch pipe continued to the roof where it shall be increased in size according to section 6.16. Not less than four (4) inches of air space shall be left between the waterline in such basins and the vent. Such basins shall be provided with airtight bolted covers. When located outside of buildings, such basins shall conform to the aforesaid specifications; except that such basins may be constructed of concrete or brick as provided for basins in section 8.2 and except that vents for same shall extend inside of the wall of such building and be carried up and through the roof, as provided for other vent terminals.



TRIPLE INTERCEPTING BASINS
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8.5. Rod-Out Basins.

8.5.1. Rod-out basins for drain tile shall be not less than twelve (12) inches in diameter and shall be of cast iron or reinforced fiber glass, with an eleven-inch bolted inspection cover, set level with the floor. (Ord. of 12-13-78, Amend. No. 46)

8.6. Gravel Basins.

8.6.1. Basins for gravel roofs located inside of the building shall be of cast iron not less than eighteen (18) inches in diameter and twenty-four (24) inches deep.

8.7. Drain Tile Basins.

8.7.1. Inside drain tile basins shall be of cast iron or fiber glass. The top of such basin shall be set level with the floor and shall be provided with a watertight cleanout cover. Such basins shall be discharged outside of building or connected to a storm sewer. (Ord. of 12-13-78, Amend. No. 47)

8.8. Blow-Off Basins.

8.8.1. Catch basins when used as condensing or blow-off tanks and placed inside of any building shall be of cast iron. Such basins shall be of sufficient size to hold thirty (30) gallons of water for each boiler connected

directly or indirectly therewith. They shall be provided with a relief pipe of at least one (1) size larger than the largest inlet pipe, extending to the outer air through the roof. Such basins shall be properly trapped at the outlet with a deep seal trap. Water shall occupy not less than two-thirds the capacity of the basin. All inlets shall enter above the waterline.

8.9. Fixture Traps.

8.9.1. Each fixture shall be separately trapped by a water-sealed trap placed where readily accessible and as close to the fixture as possible, except that a set of not more than three (3) laundry trays, or two (2) lavatories may connect with a single trap not more than two (2) feet from the most distant fixture waste outlet. Every trap shall be set true with respect to its water seal and shall be protected against freezing.

8.10. Requirements of a Trap.

8.10.1. Every trap shall be self cleansing, with a water seal of at least two (2) inches. Every trap serving a plumbing fixture shall be of lead, brass, copper, cast or malleable iron except for vitreous earthenware fixtures with integral traps and visible water seal. Every iron trap shall be galvanized or tar coated.

8.11. Prohibited Traps.

8.11.1. No form of trap whose seal depends upon the action of movable parts shall be used. Concealed partition traps shall not be used unless constructed of vitrified earthenware having a visible seal. No bell or bottle traps shall be installed. The inlet and outlet legs on any trap shall be not more than eighteen (18) inches apart. No fixture shall be double trapped.

8.12. Backwater Valves.

8.12.1. Where the plumbing system of a building is subject to backflow or back pressure, a suitable backwater valve may be installed in the house drain. Such backwater valves shall be bypassed by sewage from fixtures located on floors above the basement floor.

8.13. Backwater Valve Cleanouts.

8.13.1. All backwater valves shall be provided with cleanouts not less than four (4) inches in diameter, placed where the interior of such valves may be conveniently reached for cleaning or adjustment. Backwater valves set below the floor, except those set flush with the floor surface, and all outdoor underground valves, shall be made accessible through manholes with proper covers.

8.14. Trap Cleanouts.

8.14.1. Each new trap, except those in combination with fixtures in which the trap seal is plainly visible, shall be provided with an accessible brass cleanout not less than one (1) inch in diameter with American Standard screw thread which shall be protected by a water seal.

8.14.2. Drum trap cleanouts shall be of heavy brass and when used for a bathtub shall be located in the bathroom floor or in the basement ceiling. No drum trap cleanout shall be located under a bathtub or behind a partition in a plumbing space.

8.15. Stack and Sewer Traps Prohibited.

8.15.1. No trap shall be located at the foot of soil or waste pipes or upon the house drain or sewer. This section shall not prohibit the use of traps at the foot of downspouts or upon drains and sewers used exclusively for rainwater.

6-3.09. WATER SUPPLY (WATER MAIN) AND REPAIR

9.1. Potable Water.

9.1.1. All buildings intended for human habitation or occupancy shall be provided with potable water.

9.2. Permit Required.

9.2.1. It shall be unlawful to excavate for the installation of any water pipe before a permit for such work shall have been obtained from the building department or the water department. (Ord. of 12-13-78, Amend. No. 49)

9.3. Tapping Street Mains.

9.3.1. Only persons, firms or corporations designated by the City Council shall be permitted to tap the street main or insert service cocks therein. Any charge made by such authorized tapper for such service shall be paid by the person requesting the tap, in addition to his permit fee and tap on charge. All service cocks shall be inserted at or near the top of the street main, and in no case nearer than two (2) feet from the bell of the pipe; except that when said street main is less than five (5) feet below curb grade, such tap shall be made in a manner to least expose said service pipe to damage by frost. A taps must be at least two (2) feet apart. (Amended by Ord. 83-4-0, 2-9-83)

9.4. Notice to Tapper.

9.4.1. The permittee shall give to the Building Commissioner at least twenty-four (24) hours notice of the date, place and time that a water tap is desired. (Amended by Ord. 83-4-0, 2-9-83)

9.4.2. The hole for tapper shall be at least three (3) feet wide and four (4) feet long for taps up to two-inches and shall be at least four (4) feet wide and six (6) feet long where a cut must be made. The permittee shall cause such hole to be excavated prior to the arrival of the authorized tapper for the purpose of making the tap. (Amended by Ord. 83-4-0, 2-9-83)

9.5. Inspection of Service Pipe Material.

9.5.1. All material used in connection with water service pipes shall be subject to the inspection of authorized representatives of the water department and shall be rejected if not of the quality prescribed in this code.

9.5.2. The service pipe and connection must be capable of sustaining a pressure of one hundred fifty (150) pounds per square inch for one (1) hour, and all work must be done in a workmanlike manner.

9.6. Material of Service Pipes.

9.6.1. All service pipes two (2) inches or less in diameter shall be extra-strong AA lead or type K copper tubing from the street main t the water meter. Only flared joints shall b permitted on copper service pipe. When connecting a copper water service to a lead stub, a brass solder nipple shall be wiped to the lead stub and then a flared fitting used to connect the copper.

9.6.2. Service pipe shall not be buried in o covered by any ground or substance containing stones, glass, cinders or anything that might be injurious to such pipe.

9.6.3. Where a service pipe larger than two (2) inches shall be required, ductile cast iron class 56 shall be used and the least diameter of same shall be three (3) inches. The connection to the mains shall in all cases be supervised by the water department. The charge to be paid for such connection shall be determined by the building department or the water department in accordance with the current schedule referred to in section 2.6.2 of this code. (Ord. of 12-13-78, Amend. No. 52)

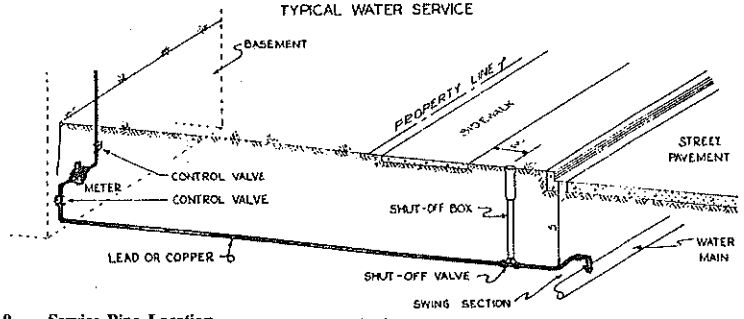
9.7. Winter Excavations.

9.7.1. No person shall make any excavation in any street within four and one-half (4½) feet of a water main while the ground is frozen, except by special permission from the water department. Adequate provision shall be made for protecting the main from freezing. (Ord. of 12-13-78, Amend. No. 53)

9.8. Stop Cock Location.

9.8.1. Each water service pipe shall have a T handle roundway stop cock inserted within three (3) feet of the walk in the parkway. The line of the service pipe shall be approximately at right angles to the main, and the stop cock shall be located directly opposite the tap in the main. Where the sidewalk covers the entire parkway, the stop cock shall be placed within two (2) feet of the curb. Each stop cock shall be protected with a cast-iron service stop box with "City Water" cast on the cover. Stop box shall be placed plumb and square over the stop cock and level with the top of the sidewalk or curb.

TYPICAL WATER SERVICE



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9.9. Service Pipe Location.

9.9.1. The water service pipe may be laid in the same ditch with the house sewer but shall be separately ledged at least five (5) feet below grade level. However, before service pipe and house sewer are laid in the same ditch, the approval of the Plumbing Inspector as to the type of material to be used for both the water service pipe and house sewer shall first be obtained. Sufficient length shall be provided to prevent fracture by settlement of earth. (Amended by Ord. 84-11-0, 3-28-84)

9.10. Service Pipe Inspection.

9.10.1. The service pipe, on the house side of the curb cock, shall not be covered before it has been inspected and approved by the plumbing inspector or an authorized agent of the water department.

9.11. Meter Spreads.

9.11.1. A meter spread, of the same size as the meter to be installed, shall be placed on the water service pipe within one (1) foot inside of the front building wall unless permission is received from the building department or water department to install it elsewhere. Meter spreads shall be provided with two (2) shutoff valves, one (1) on the

supply and one (1) on the house side of the meter spread. The size of meters shall be prescribed by the building department or water department. (Ord. of 12-13-78, Amend. No. 54)

9.12. Meter Vaults.

9.12.1. Outside of buildings the water meter shall be set in a basin or vault. All meter vaults shall be made to specifications prescribed by the superintendent of the water department and shall be located under his direction.

9.13. Setting of Water Meters.

9.13.1. In all buildings where existing meters need repair or replacement, the water department shall set and seal all water meters one (1) inch in size or less. In no case will anyone be allowed to remove or replace any water meter unless authorization or supervision is received from the water department or the building department. (Ord. of 12-13-78, Amend. No. 55)

9.13.2. In all new buildings where a meter is installed, the owner's plumbing contractor shall install the meter. (Ord. of 12-13-78, Amend. No. 55)

9.14. Service Pipe Size—Booster System—When Required.

9.14.1. The service pipe shall be of sufficient size to permit ample and continuous flow of water to provide adequate supply on all floors at any given time. Buildings over fifty (50) feet in height shall be provided with a gravity house tank or booster system to ensure a continuous flow to fixtures on upper floors. Minimum internal diameter of service pipes shall be one (1) inch.

9.15. Gravity Storage Tank.

9.15.1. Gravity storage tanks for domestic water shall be provided with an overflow pipe with a cross-sectional area of not less than twice that of the pipe which supplies water to such tank. Said overflow pipe shall discharge through an indirect connection to the drainage system.

9.15.2. The discharge from automatic control valves supplying water tanks shall be installed at a distance not less than six (6) inches above the top of the overflow pipe.

9.15.3. The water supply pipe from the storage tank to the building shall be connected to the tank at least four (4) inches above the bottom of the tank.

9.15.4. Each gravity storage tank shall be provided with a valved sludge drain at least two (2) inches in diameter located at the lowest point of the tank and discharged to the sewer by means of an indirect connection.

9.15.5. All water supply tanks shall be supported in accordance with the building code.

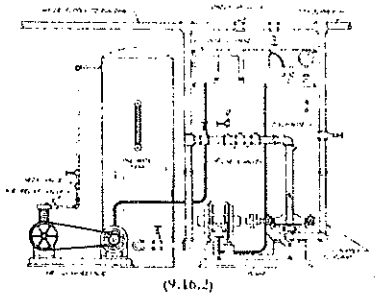
9.15.6. Every storage tank shall be so located and shall be housed in a manner which will prevent contamination of the water therein. Such tank shall be protected with a cover sufficiently tight to exclude dust.

9.16. Compression Tank System.

9.16.1. Every compression tank system shall consist of a water pump and compression tank and shall be provided with all the regulating and control devices necessary to ensure complete automatic operation.

9.16.2. Each compression tank shall be so constructed and connected that the air content thereof shall be not less than

COMPRESSION TANK SYSTEM



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twenty-five (25) per cent of its total capacity. Each compression tank shall be provided with a valved sludge drain connected to such tank at the lowest level and shall discharge through an indirect connection to the drainage system. The water supply shall be taken from at least four (4) inches above the bottom of the tank.

9.17. Secondary Water Supply.

9.17.1. Whenever a system of water supply piping, either inside or outside of any building, receives its supply from any source other than the city waterworks, such system shall be kept entirely separate from and no connection of any kind shall be made with any pipe or system of piping which receives its supply from the city waterworks system. (Ord. of 12-13-78, Amend. No. 56)

9.17.2. Water which has once been used for any purpose shall not be returned to the building water supply system.

9.17.3. Secondary water pipes shall be painted with a distinctive yellow paint.

9.18. Fire Protection Systems.

9.18.1. The supply of water through any service pipe on which there are installed or maintained for fire protection purposes, and within the premises of the consumer, either standpipes, fire hydrants, pumps, fire protection tanks or any other outlets or devices from which water may be drawn to extinguish fire, shall, except as hereinafter provided in this section, be entirely controlled by a meter or meters which shall accurately measure all of the water used through said service pipe.

The water department may, in order to ensure more accurate measurement of water supplied through said service pipe, require the installation of separate meters and separate lines leading from said meters to said premises, one (1) or more of said lines to be connected only to fire protection devices and one (1) or more of said lines to be used for supplying water for domestic or industrial purposes.

Or the water department may require the installation of separate pipeline for the domestic or industrial uses of water and for fire protection purposes, installing on the former lines a meter or meters to register accurately all of the water used for said domestic or industrial purposes, and installing on the line or lines which are to be used only for fire protection, devices capable of detecting and recording every instance in which any water may be drawn through said fire protection lines, said devices being so constructed and installed as to permit, in case of necessity, an uninterrupted flow through said fire protection lines.

All meters or detecting devices installed on any pipeline to be used only for fire protection, including vaults, whenever required, shall be constructed, installed and maintained by and at the expense of the owner or consumer.

There shall be no charge for any registration occasioned on any meter as the result of the use of water for fire purposes, and the water department is authorized to reduce by an amount corresponding to such registration the charge for metered water against the consumer. No water for other than fire purposes shall be used through any fire line.

It shall be the duty of the water department to read, or cause to be read, all fire meters or detecting devices and to inspect seals on same, at least every two (2) months.

For any violation of any of the provisions of this section, the water department may cause the water supply to be shut off. (Ord. of 12-13-78, Amend. No. 57)

9.18.2. When gravity storage tanks are used for fire lines, the water department shall specify how connections are to be made. (Ord. of 12-13-78, Amend. No. 58)

9.18.3. Size of pumps and number and size of fire stand pipes shall be as determined by the Pleasantdale Fire Protection District. (Ord. of 12-13-78, Amend. No. 58)

9.18.4. Fire pumps shall be provided for all buildings over fifty (50) feet in height where fire lines are installed, and water pressure shall be regulated to maintain a pressure of at least forty (40) pounds per square inch at the roof level of the building. Fire lines shall be filled with water at all times except in unheated buildings.

9.18.5. The main shutoff valve for the fire line system shall be located in the same room with and as close to the fire pump as possible.

9.19. High-Pressure Steam Boilers.

9.19.1. All persons are prohibited from connecting pipes whereby high-pressure steam boilers may be supplied with water direct from the domestic water system.

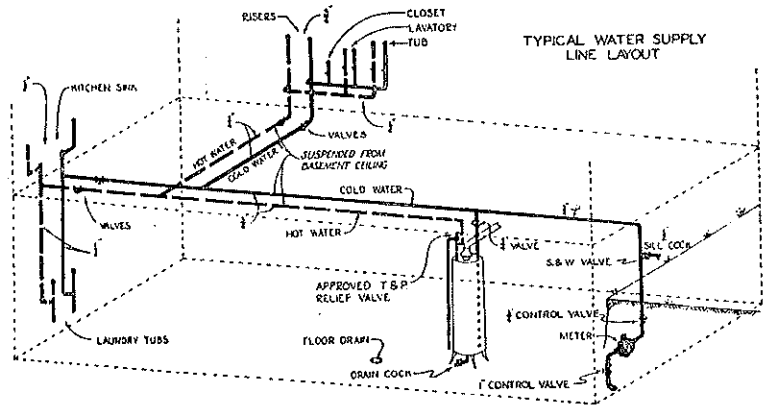
9.20. Materials.

9.20.1. All water supply pipes less than two (2) inches in diameter shall be of lead, galvanized wrought iron, galvanized steel, brass or copper, with brass, copper or galvanized malleable iron fittings. No steel or wrought-iron pipe or fittings shall be installed in the ground.

9.20.2. No pipe or fittings that have been used for other purposes shall be used for distributing water.

9.21. Fixture Supply Pipes.

9.21.1. The minimum internal diameter of any fixture supply pipe which supplies water and is directly connected to any valve, cock, faucet or other device, shall be as shown in the following table:



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Device or Appliance	*Size in Inches*	*Device or Appliance*	*Size in Inches*
Lavatory or basin cocks	⅜	Bathtub cocks or valves	½
Water closet and urinal, (flush tank)	⅜	Shower bath cocks or valves	½
Drinking fountain	⅜	Domestic laundry tub faucets	½
Domestic kitchen sink faucets	½	Bar sink faucets	½

Device or Appliance	*Size in Inches*
Dishwasher	½
Bidet	½
Sill cocks	½
Washing machine	½
Scullery sink faucets	¾
Slop sink faucets	¾
Urinal flush valves (men)	¾
Urinal flush valves (women)	1
Water closet flush valves	1

9.21.2. The maximum length of distributing and fixture supply pipes shall be:

⅜ inch pipe ..... 3 feet
½ inch pipe 20
¾ inch pipe ..... 50 feet
1 inch pipe ..... 100 feet

9.21.3. The sizes of water pipes and their connections shall be determined by the following table; provided, however, that no iron riser pipe of an internal diameter of less than one-half inch shall be installed, and all other piping shall be of not less than three-fourths inch internal diameter:

	Size of Pipe in Inches							
Mult.	½	¾	1	1¼	1½	2	2½	3
1 ⅜"—½" opening	3	13	28	50	75	150	300	480
3 ¾" openings	—	4	10	17	25	50	100	160
6 1" openings	—	—	5	8	12	25	50	80

NOTE: For institutional and public buildings, add fifty (50) per cent to the total amount of openings before determining pipe size needed.

The building department or the water department will determine sizes of pipe required for larger installations. (Ord. of 12-13-78, Amend. Nos. 58-a, 59)

9.22. Location of Valves.

9.22.1. Each group of fixtures shall be valved separately with valves as close to the base of risers as possible. In residence installations, when valves are installed for each individual fixture or the group of fixtures is valved at the fixture location, no valves shall be required at the base of risers. In apartment buildings valves shall be placed at the base of all risers and additional valves shall be installed in the individual apartments for control of water supply to each fixture or group of fixtures.

9.23. Type of Valves.

9.23.1. Valves in the water supply distribution system, except those immediately controlling one (1) fixture supply, when fully opened shall have the cross-sectional area of the smallest orifice or opening through which the water flows at least equal to the cross-sectional area of the nominal size of the pipe in which the valve is installed.

9.24. Draining of Water Pipes.

9.24.1. Water pipes shall be so graded or pitched or shall be provided with tees with plugs or pet cocks so that the entire system or parts thereof can be drained.

9.25. Protection From Freezing.

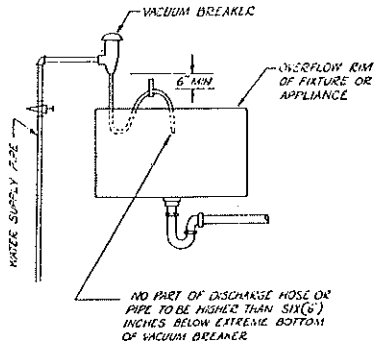
9.25.1. All water pipes and storage tanks exposed to low temperatures shall be protected from freezing.

9.26. Flushing of Fixtures.

9.26.1. All plumbing shall be provided with a sufficient supply of water for flushing to maintain them in a sanitary condition. Every water closet or other plumbing fixture or appliance designed to be cleansed by flushing with water shall, at each flush, be supplied with a sufficient quantity of water to remove quickly all waste matter and properly cleanse the interior surfaces exposed to the atmosphere.

9.27. Vacuum Breakers.

9.27.1. Every fixture supply pipe shall be protected from backflow, preferably by having the outlet end from which the water flows spaced twice the diameter of such supply pipe above the flood level rim of the receptacle into which the water flows. Where it is not possible to provide a minimum air gap, the fixture supply pipe shall be equipped with an accessible vacuum breaker located between the control valve and the fixture. Vacuum breakers shall be installed at least six (6) inches above the flood level rim of the fixture and shall be installed so that they are not under pressure.



(9.27.1)

9.27.2. Except in residential units all flushometer valve actuating handles shall be a minimum of twenty-four (24) inches above the spill line of the closet bowl. (Ord. of 12-13-78 Amend. No. 60)

9.27.3. All hose connections, directly connected to the water supply, shall be provided with an atmospheric type vacuum breaker located seven (7) feet six (6) inches above the floor on the discharge side of the control valve. Where, in the opinion of the building department or the water department, it is not possible to provide this type of installation, the hose connection shall have a nonremovable approved pressure type vacuum breaker or backflow preventor and when subject to freezing shall be capable of draining. (Ord. of 12-13-78, Amend. No. 60)

9.28. Direct Connection Prohibited.

9.28.1. No potable water supply pipe shall be directly connected to any processing tank, vat, mixer, heater, cooker, washer, pump appliance or equipment used for storing, holding or conveying fluids or materials, or for manufacturing or food processing, or washing purposes. Such appliance and equipment shall be supplied through an open funnel connection or an open tank which shall be located not less than six (6) inches above the overflow rim of such container, appliance or equipment.

9.28.2. No potable water supply pipe shall be directly connected to any device, appliance or apparatus in which such water supply is used to provide power through a water jet, or other device to create a vacuum or partial vacuum with which to operate any aspirator, siphon, cellar drainer, ejector, cleaner, sweeper, conveyor or washer or any kind or description.

9.29. Hydrant and Pump Protection.

9.29.1. Every pump or hydrant for providing a potable water supply shall be protected from surface water and contamination.

9.30. Fire Hydrant Use.

9.30.1. Fire hydrants shall not be used to obtain water for construction purposes unless

permission is obtained from the building department or the water department. (Ord. of 12-13-78, Amend. No. 61)

9.30.2. All water used from fire hydrants shall be metered. (Ord. of 12-13-78, Amend. No. 61)

9.31. Domestic Hot Water Pipes.

9.31.1. The size of hot water pipes shall be determined by the chart in section 9.21.3.

9.31.2. Hot water pipes shall be pitched upward from the tank or heating device. Circulation pipes shall be valved as near to the base of risers as possible and where possible such valves shall be located with the cold and hot water supply pipe valves. Circulation pipes shall be installed in all domestic hot water systems for hotel and apartment buildings over two (2) stories high.

9.32. Space Heating.

9.32.1. No radiator used for space heating shall be connected to a domestic hot water heating system.

9.33. Relief Valve.

9.33.1. An approved pressure and temperature relief valve, which will relieve at one hundred twenty-five (125) pounds per square inch of pressure and one hundred eighty (180) degrees temperature, shall be installed on all domestic hot water heaters or tanks. All such relief valves shall be of the diaphragm type or fully automatic reseating type with test lever. All such relief valves shall be located in the upper section of the tank or in the hot water discharge pipe therefrom, not more than three (3) inches from the tank. (Ord. of 12-13-78, Amend. No. 62)

9.33.2. All relief valves shall be sized according to the Btu input of the heater. The discharge pipe from this valve shall drain through an indirect connection into a plumbing fixture or floor drain and shall not be threaded on the discharge end.

9.34. Heating Device Safety.

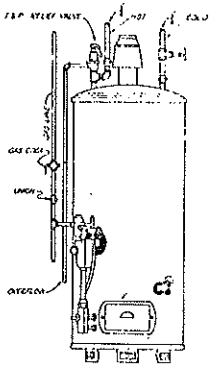
9.34.1. All devices for heating water or storing heated water in tanks or boilers shall be so constructed and installed as to avoid any conditions which would result in excess pressure on pipes, boilers or storage tanks, or cause backflow of heated water into or through the water meter.

9.34.2. No water in any plumbing system shall be heated to a higher temperature than two hundred (200) degrees Fahrenheit.

9.35. Heated Water Tanks.

9.35.1. Each heated water storage tank shall be provided with a cold water supply valve within two (2) feet of the tank and a sludge drain at the bottom level of the tank. Commercial, industrial and institutional uses must be approved by the plumbing inspector. (Ord. of 12-13-78, Amend. No. 63)

9.35.2. When gas is used for heating such tanks, a gas cock shall be provided on the supply pipe to the gas controls and a flue pipe with a draft shall be installed from the heating device to the building chimney, or other flue approved by the plumbing inspector.



AUTOMATIC HOT WATER HEATER
(9.35.2)

9.36. Swing Sections.

9.36.1. Each hot water riser pipe shall be provided with a swing section for every fifty (50) feet of its length. Such swing section shall be located midway between the clamps which anchor such riser pipe to the structural members of the building. Each swing section shall be installed at right angles to the riser pipe and shall be so constructed that it shall absorb the strain and stresses of expansion and contraction thereof. Each hot water distributing pipe shall be provided with a swing section which shall be located as near as practicable to its connection with the hot water riser pipe.

9.37. Air Chambers.

9.37.1. To provide an air cushion which will absorb shock, stress and strain, air chambers or other approved mechanical devices shall be installed at the upper terminals of all up-feed riser pipes and in fixture supply pipes directly above the branch or connection to the plumbing fixture. Each air chamber shall be of the same size as the pipe which it serves. Air chambers for risers shall be no less than twenty-four (24) inches long and for fixture supply shall be no less than twelve (12) inches long. (Ord. of 12-13-78, Amend. No. 64)

9.38. Meter Rate for Water.

9.38.1. All water used for construction purposes shall be metered and charged to the agent, owner or occupant of such premises at the prevailing rate. (Ord. of 12-13-78, Amend. No. 65)

9.39. Supervision of Repairs Required.

9.39.1. All repairs to water mains, including repairs of an emergency nature, shall be done under the supervision of the water department or the building department. (Ord. of 12-13-78, Amend. No. 65)

6-3.10. JOINTS, CONNECTIONS AND TESTS

10.1. Tightness.

10.1.1. All joints and connections shall be made gastight and watertight.

10.1.2. The entire plumbing system, when roughed in, shall be tested by a state-licensed plumber in the presence of the plumbing inspector under either water or air pressure. The equipment, material, power and labor necessary for the test inspection shall be furnished by the plumber. (Ord. of 12-13-78, Amend. No. 66)

10.2. Testing of Pipes.

10.2.1. The water test shall be applied to the drainage and venting system in its

entirety, or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening above the roof, and the system filled with water to the point of overflow above the roof. If the system is tested in sections, each opening shall be tightly plugged, except the highest opening of the section under test, and each section shall be filled with water. No section shall be tested with less than a five-foot head of water.

Under any water test the water at the highest point shall not drop over one (1) inch in a four-inch pipe in a period of fifteen (15) minutes without further addition of water.

10.2.2. The air test applied to the drainage system shall be made by attaching the air compressor test apparatus to any suitable opening and closing all other inlets and outlets to the system, then forcing air into the system until there is a uniform pressure sufficient to balance a column of mercury ten (10) inches in height or five (5) pounds pressure per square inch on the entire system. Such pressure shall be maintained for a period of not less than fifteen (15) minutes without further addition of air.

10.2.3. The smoke test or the peppermint test shall be used in testing the sanitary condition of the drainage or plumbing system of all buildings where there is reason to believe it has become dangerous or defective as a result of settlement of the building, abuse, accident or other cause. A smoke test or a peppermint test may be required by the plumbing inspector as part of the final inspection on all new work and alterations of existing work, where the inspection discloses questionable methods of connecting fixtures or traps, defects in fixtures, traps, materials or faulty workmanship.

10.2.4. When a smoke test is made, all windows, doors and other openings admitting outside air to the building shall be closed. The smoke machine shall be located outside of the building and shall be connected to any suitable opening or outlet in the drainage or venting system. When the system is filled completely with dense, pungent smoke, and the openings emit smoke, they shall be closed airtight and air pressure equivalent to one (1) inch water column shall be applied and left standing at least fifteen (15) minutes. If there is no leakage or forcing of trap seals or other defects, the system shall be considered airtight and gastight. No fixture connected to the system being tested shall be used while the test is being made.

10.2.5. The peppermint test shall be made by pouring three (3) gallons of steaming hot water into the stack to be tested followed by three (3) ounces of oil of peppermint which shall be washed down with another three (3) gallons of steaming hot water and the roof opening tightly closed. All windows, doors and other openings in the building being tested shall be tightly closed and maintained closed until permission to open same is given by the plumbing inspector conducting such test. The person handling the peppermint shall not enter the building until after so ordered.

10.3. Prohibited Joints and Connections.

10.3.1. The installation of any fitting or connection which forms an enlargement, chamber or recess with a ledge, shoulder or reduction of pipe area in the direction of flow on the outlet or drain side of any fitting or trap shall not be permitted.

10.4. Cast-Iron Caulked Joints.

10.4.1. Cast-iron caulked joints shall be made from picked oakum and molten soft pig lead at least one (1) inch deep and well caulked. No paint, varnish or other coating shall be permitted on the jointing material until after the joint has been inspected and approved by the plumbing inspector.

10.4.2. Pipes with caulked joints shall not be permitted above ground in buildings subject to vibrations.

10.5. Threaded Joints.

10.5.1. Threaded joints for iron and steel, brass or copper shall be American Standard

tapered screw threads. Pipe ends shall be reamed or filed out to size of bore, and all burrs and chips shall be removed. Pipe joint cement or paint shall be used only on the male thread.

10.6. Wiped Joints.

10.6.1. Joints in lead pipe or fittings, brass or copper pipe ferrules, solder nipples, and traps, shall be full-wiped joints. Wiped joints shall have an exposed surface on each side of a joint not less than one (1) inch and at least as thick as the material being jointed. All wall or floor flange lead-wiped joints shall be made by using a lead ring or flange placed behind the joint at the wall or floor.

10.7. Soldered or Brazed Joints.

10.7.1. Soldered or brazed joints for tubing shall be made with approved fittings. Surfaces to be soldered or brazed shall be cleaned bright. Joints shall be properly fluxed and made with approved solder.

10.8. Flared Joints.

10.8.1. All flared joints for soft copper water tubing shall be made with fittings meeting approved standards. The tubing shall be expanded with proper flaring tool.

10.9. Hot-Poured Joints.

10.9.1. Material for hot-poured joints for clay tile or concrete pipe shall not soften sufficiently to destroy the effectiveness of the joint when subjected to a temperature of one hundred sixty (160) degrees Fahrenheit, nor be soluble in any of the wastes carried by the drainage system. The joint shall be first caulked tight with jute, hemp or other similar approved material.

10.10. Cement Joint.

10.10.1. Cement joints for clay pipe or concrete pipe shall have a closely twisted jute or oakum gasket, of suitable size to partly fill the annular space between the pipes, packed into each joint. The remaining space shall be filled and firmly compacted with mortar composed of one (1) part portland cement and three (3) parts mortar sand. The material shall be mixed dry; only sufficient water shall be added to make the mixture workable. Mortar which has begun to set shall not be used or retempered. Each joint shall be swabbed clean on the inside of the pipe.

10.11. Lead Burned Joints.

10.11.1. Lead "burned" (welded) joints shall be lapped and the lead shall be fused together to form a uniform weld at least as thick as the lead being joined.

10.12. Asbestos Cement Sewer Pipe Joints.

10.12.1. Sections of asbestos cement pipe shall be joined by means of couplings prepared in advance of installation. The couplings shall be of the same composition as the pipe sections and may be of the tapered type or of the sleeve type sealed with rubber rings. All joints between asbestos cement and metal pipes shall be made by means of an adapter coupling, which shall be caulked as required for hot poured joints.

10.13. Bituminized Fiber Pipe Joints.

10.13.1. Joints in bituminized fiber pipe shall be made with tapered type couplings and of the same material as the pipe. All joints between bituminized fiber pipe and metal pipe shall be made by means of an adapter coupling caulked as required for cast-iron caulked joints.

10.14. Slip Joints.

10.14.1. In drainage piping, slip joints, other than expansion joints, shall be used only in the waste pipe between the trap seal and the fixture.

10.15. Ground Joints.

10.15.1. Ground-joint brass connections which allow adjustment of tubing but provide a rigid joint when made up shall not be considered as slip joints.

10.16. Unions.

10.16.1. Unions on the sewer side of the trap shall be ground faced and shall not be concealed or enclosed.

10.17. Expansion Joints.

10.17.1. Expansion joints of approved type may be used where necessary.

10.18. Water Closet, Pedestal Urinal and Trap Standard Sink.

10.18.1. The connection between drainage pipes and water closets, floor outlet service sinks, pedestal urinals and earthenware trap standards, shall be made by means of brass, hard lead or iron flanges, caulked, soldered or screwed to the drainage pipe. The connection shall be bolted, with an approved gasket or washer or setting compound between the earthenware and the connection. The floor flange shall be set on approved firm base.

10.19. Copper Water Tubing.

10.19.1. All concealed joints for copper water tubing within buildings shall be soldered or brazed. Joints installed underground within buildings may be flared, brazed or soldered. Joints for copper water service pipes outside of buildings shall be flared.

10.20. Cast-Iron Water Service Pipe (Class 56 Ductile).

10.20.1. All joints in cast-iron service pipes shall be of the lead and gasket caulked type or of the bolt gasket and gland types approved push or pipe fittings. Lead joints shall be firmly packed with oakum for one-fourth of the depth, flushed, filled with pure molten lead and firmly caulked. Cast-iron water service pipe joints shall be made to withstand a hydrostatic pressure of one hundred (100) pounds per square inch. (Ord. of 12-13-78, Amend. No. 67)

10.21. Cast-Iron Pipe.

10.21.1. Aboveground cast-iron pipe joints shall be either caulked or threaded joints. Below ground cast-iron pipe joints may be caulked or threaded or push type baskets. (Ord. of 12-13-78, Amend. No. 67)

10.21.2. All cast-iron pipe used above ground shall be service weight, and all cast-iron pipe used below ground shall be extra-heavy weight. (Ord. of 12-13-78, Amend. No. 67)

10.22. Screw Pipe to Cast Iron.

10.22.1. Joints between wrought-iron, steel, brass or copper pipe and cast-iron pipe shall be either caulked or threaded joints.

10.23. Lead to Cast Iron, Wrought Iron or Steel.

10.23.1. Joints between lead and cast-iron, wrought-iron or steel pipe shall be made by means of wiped joints to a caulking ferrule, solder nipple of [or] bushing.

10.24. Clay Sewer Pipe.

10.24.1. All joints in vitrified clay pipe or between any pipe of dissimilar material shall be made with rubber type gaskets where necessary, approved by the plumbing inspector. (Amended by Ord. 84-11-0, 3-28-84)

10.25. Concrete Sewer Pipe.

10.25.1. All joints in concrete sewer pipe or between such pipe and metal pipe shall be made with rubber gaskets or with cement joints, where necessary, approved by the building department. (Ord. of 12-13-78, Amend. No. 69)

10.26. Waterproofing of Openings.

10.26.1. Where pipes pass through a roof or exterior wall, the opening shall be made permanently watertight by use of flashing or

other type water seal, approved by the water department. (Ord. of 12-13-78, Amend. No. 70)

10.27. Correction of Defects.

10.27.1. All defective pipes, fittings or fixtures shall be removed, and all unsatisfactory joints and connections and all defective work shall be made good so as to conform with the provisions of this chapter.

10.28. Pipe Supports.

10.28.1. All soil, waste, vent, downspout and water pipes shall be adequately supported to eliminate damage to joints due to sagging or settling.

10.29. Change in Direction.

10.29.1. All changes in direction shall be made by the appropriate use of forty-five-degree Y's, half Y's, long-sweep one-fourth bends, one-sixth, one-eighth or one-sixteenth bends, except that single sanitary tees may be used on vertical stacks and short one-fourth bends may be used in soil and waste lines where the change in direction of flow is from the horizontal to the vertical. Straight tees and crosses may be used only in vent pipes.

10.30. Prohibited Fittings.

10.30.1. No double T, or double sanitary T branch, or double hub pipe, or double hub fittings shall be used on soil or waste lines. The drilling and tapping of building drains, soil, waste or vent pipes and the use of saddle hubs and bands will not be permitted. (Ord. of 12-13-78, Amend. No. 71)

6-3.11. PLUMBING FIXTURES AND TOILET ROOMS

11.1. Fixture Standards.

11.1.1. All plumbing fixtures shall be made of materials with smooth, impervious surface and shall conform in quality and design to the following standards:

N.B.S. Commercial standards represent voluntary standards of the trade, prepared under the procedure of the National Bureau of Standards and published by the United States Department of Commerce, obtainable from the Superintendent of Documents, United States Government Printing Office, Washington 25, D.C.

F.S. are Federal Specifications obtainable from the above address.

Type of Fixture	*Serial Designation*
Staple Porcelain	N.B.S.—CS 4-29
Staple Vitreous China	N.B.S.—CS 20-47
Enameled Cast Iron	N.B.S.—CS 77-48
Earthenware (vitreous glazed)	N.B.S.—CS 111-43
Formed Steel Enameled	F.S.W.W.P.—542
Formed Metal Porcelain Enameled	N.B.S.—CS 144-47
Hospital Plumbing Fixtures	N.B.S. Simplified practice Recommendation R 106-4

1.1

PLUMBING ORDINANCE*

6-3.01. DEFINITIONS

1.1. Definitions of terms

1.1 Definitions of Terms.

1.1.1. *[General Definitions.]* The words, phrases and terms used in this code shall be construed in accordance with the following definitions:

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

Approved: "Approved" as applied to material, device or mode of construction, shall mean that the material or method has received approval and authorization by the municipal department or board having jurisdiction.

Back Pressure: A force causing or tending to cause water or air to flow in a pipe opposite to normal direction of flow.

Branch Vent: A vent connecting one (1) or more individual revents with a vent stack or soil or waste vent.

Building Department: The building commissioner and any city employees under his direct supervision, including, but not limited to, the plumbing inspector. (Ord. of 12-13-78, Amend. No. 1)

Building Drain: That part of the horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer. The building drain terminates five (5) feet outside of the building walls. (Ord. of 12-13-78, Amend. No. 2)

Building Sewer: The horizontal pipe extending from the building drain to the public sewer or other place of disposal.

Catch Basin: A watertight receptacle which separates and retains greases, oil, dirt, gravel and all other substances lighter or heavier than the liquid waste which bears them in order to prevent their entrance into the house sewer. See 8.1.

Combination Fixture: A trade term designating an integral combination of two (2) fixtures such as one (1) sink and one (1) or two (2) laundry trays in one (1) fixture or a sink and dishwasher combination.

Combined Sewer: A sewer which receives both storm water and sewage.

Common Trap: A trap having a water seal of not less than two (2) inches or not more than four (4) inches.

Continuous Vent: The continuation of a vertical soil or waste pipe above the point of entrance of the pipe from a fixture trap.

Continuous Waste: A waste for two (2) or more sections of a fixture connected to a single trap.

Cross Connection: A physical connection of piping through which a supply of potable water could be contaminated.

Dead End: A branch leading from a soil, waste or vent, building drain or sewer, which is terminated at a developed distance of two (2) feet or more by means of a cap, plug or other closed fitting and has no free circulation of air or means of flushing.

Deep Seal: A term applied to a trap having a water seal of more than four (4) inches.

*Editor's note—The city's plumbing ordinance, as amended, is set out herein as adopted by the mayor and city council. Amendatory ordinances have been inserted in their proper places, with a history note following the amended subsection giving the source of the amendment. The editor has made minor stylistic changes such as the utilization of a uniform system of capitalization, use of numbers, etc.; but the basic provisions of the ordinance, including the numbering system, are set out as enacted.

Downspout: The conductor pipe, from the joint with the rainwater leader pipe, extending vertically down to the building sewer or building drain branch. When such conductor pipe is located on the inside of any building, the downspout is the pipe extending from the roof to the sewer.

Drainage System: A system of piping through which waste liquids and liquid-borne solid wastes are conveyed from the plumbing fixtures and appurtenances in buildings and structures to the building sewer. It includes subsoil drains, building drains and branches and the building sewer and its branches.

Ejector: An automatic device used to elevate water, sewage and liquid wastes from a lower level to the point of discharge into a sewer or drain. See 6.5.

Fixture Unit: A design factor for drainage piping so chosen that the load-producing values of the plumbing fixtures can be expressed approximately as multiples of that factor. For the purposes of this code this value is assumed to be 7.5 gpm. See 6.2.

Flood Level: The level at which water begins to overflow the top or rim of a plumbing fixture.

Grease Interceptor: A receptacle designed to collect and retain grease and fatty substances normally found in kitchen and similar wastes. See 8.3.

Health Department: The health officer and any city employees under his direct supervision. (Ord. of 12-13-78, Amend. No. 2-1)

Horizontal: Level, or with a slope of not more than one (1) inch per foot.

Indirect Connection: A connection in which there is a break in a line of pipe through which the water, sewage or other liquid may be discharged from one pipe to another by gravity, and which is open to the atmosphere for a space sufficient to permit visibility of such discharge and to prevent backflow into the pipe above.

Loop Vent: A method of venting a plumbing fixture or fixtures where such fixtures are so located that they cannot be vented in a normal manner without damage to the building or impracticable exposure of pipes. The vent is carried up from its connection at the waste line to above the fixture spill line, or as close to the spill line as possible, then carried down near the waste line to the floor or below the floor. It is then carried to the closest vent pipe. See 6.29.

Main Sewer: The public sewer in a street, alley or easement under the jurisdiction of the municipality.

Main Vent: The vertical line of air pipe extending through two (2) or more floors, to which the branch vents and revents are connected.

The main vent connects back into the soil or waste vent above the spill line of the top fixture on the stack. It also connects back into the soil or waste stack at or below the lowest installed fixture waste connection on the stack. The main vent may be continued up through the roof independently, if it is so desired, instead of connecting it back into the soil or waste vent.

Minor Repairs: The repair or replacement of faucets and valves and the removal of obstructions in fixtures and waste lines.

New and *Existing:* The word "new" used in this code in reference to a building, structure or plumbing system shall be interpreted to mean "erected, constructed or installed after the adoption of this Code." The word "existing" shall be interpreted as meaning existing at the time of the adoption of this code. If neither of the words "new" or "existing" is used, the provisions of this code shall be construed as applying to both new and existing buildings, structures and plumbing systems.

Open Plumbing: A plumbing system in which no plumbing fixture, except a built-in bathtub, is so enclosed as to form a space in which air does not circulate.

Place of Employment: Any dwelling, shop, store, factory or other building or place in which one (1) or more persons are employed for hire or wage.

11.2. Alternate Materials.

11.2.1. Sinks, lavatories and special fixtures made of other corrosion-resistant materials especially suited to the use for which the fixtures are intended, and approved by the plumbing inspector, shall be permitted.

11.3. Overflows.

11.3.1. When any fixture is provided with an overflow, the waste shall be so arranged that the standing water in the fixture cannot rise in the overflow when the stopper is closed or remain in the overflow when the fixture is empty.

11.4. Installation of Fixtures.

11.4.1. All plumbing fixtures shall be installed in a manner to afford easy access for cleaning. Where practical, all pipes from fixtures shall be run into the wall.

11.5. Securing Fixtures.

11.5.1. All floor outlet fixtures shall be rigidly secured by screws and bolts. Wall-hung fixtures shall be rigidly supported by metal hangers or bolts.

11.6. Protection of Water Supply.

11.6.1. All plumbing fixtures shall be supplied with water through an air gap. Where such installations are not feasible, fixtures shall be provided with an approved vacuum breaker.

11.6.2. Vacuum breakers shall be installed on all urinals and water closets equipped with direct flush valves.

11.7. Used Plumbing Fixtures.

11.7.1. Used plumbing fixtures shall not be installed unless they have been inspected by the plumbing inspector, have been found to meet the requirements of this code and are in satisfactory physical and sanitary condition.

11.8. Water Closet Combinations.

11.8.1. Water closet bowls shall be of the siphon-jet, reverse-trap, wash-down, or blow-out type with floor outlet, or of the siphon-jet or blow-out type with wall outlet. Water closet bowls and traps shall be made in one (1) piece and shall be provided with integral flushing rim constructed so as to flush the entire interior of the bowl. Water closet bowls for public use shall be of the elongated type with open-front seat. Every water closet shall be flushed by means of an approved flushing tank or flushing valve.

11.8.2. Wall-hung fixture supports shall be of the concealed type and of metal and be so designed that no strain is transmitted to the piping.

11.8.3. Pan, valve, plunger, offset, washout, latrine, frostproof and other water closets having an invisible seal or an unventilated space or having walls which are not thoroughly washed at each discharge, shall be prohibited. Any water closet which might permit the siphonage of the contents of the bowl back into the tank shall be prohibited.

11.8.4. Water closet seats shall be constructed of, or surfaced with, nonabsorbent material. Seats for water closets for the use of employees or the public shall be open-front seats.

11.9. Water Closet Tanks.

11.9.1. Float valves for water closet tanks shall automatically close tight and in low water closet tanks shall provide sufficient refill to seal properly the trap in the bowl.

11.9.2. Flush valves for water closet tanks shall automatically close tight and in low water closet tanks shall have not less than two-inch shanks and shall be provided with overflow except when the tank is provided with an integral overflow.

11.9.3. Flush valves in high tanks may be of the gooseneck type and shall have not less than one and one-half (1½) inch shank. Protection against backflow shall be provided.

11.9.4. Flush connections shall be not less than two (2) inches in diameter for low tanks

and not less than one and one-fourth (1¼) inches in diameter for high-tank combinations.

11.9.5. Each water closet flushing tank shall have a flushing capacity of not less than four (4) gallons, or such tank shall be of the water-saving type, approved by the building department. (Ord. of 12-13-78, Amend. No. 72)

11.10. Direct Flush Valves.

11.10.1. Direct flush valves shall be so installed that they will be readily accessible for repairing. When the valve is operated, it shall complete the cycle of operation automatically, opening fully and closing positively under the service pressure. At each operation the valve shall deliver water in sufficient volume and at a rate that will thoroughly flush the fixture and refill the fixture trap. Means shall be provided for regulating flush-valve flow. Not more than one (1) fixture shall be served by a single flush valve. Protection against backflow shall be provided.

11.11. Urinals.

11.11.1. Siphon jet, blow-out, and pedestal urinals shall have integral flushing rims and integral traps except that wash-out and stall urinals may have separate traps. Stall urinals shall have flushing rims or spreaders. Every urinal shall be flushed by means of an approved flushing tank or flushing valve.

11.11.2. Trough urinals shall be permitted only in places of temporary occupancy. They shall be not less than six (6) inches deep and shall be furnished with one-piece backs and have strainers with outlets at least one and one-half (1½) inches in diameter. The wash-down pipe shall be so perforated as to flush with an even curtain of water against the back of the urinal. This pipe shall be securely clamped as high as practical to the back of the urinal. Trough urinals shall have tanks with a flushing capacity of not less than one and one-half (1½) gallons of water for each two (2) feet of urinal length.

11.12. Urinal Tanks.

11.12.1. Urinal tanks shall flush automatically, or shall be provided with a substantial hand-operated mechanism. The flushing capacity of the tank shall be adequate for the type of urinal used but in no case shall be less than two (2) gallons.

11.12.2. Automatic urinal tanks shall be provided with means for adjusting the flow to predetermined intervals.

11.12.3. Urinal tanks shall be provided with flush valves, operating levers, and overflow. Flush valves may be of gooseneck siphon type. Flow valves shall close tight automatically.

11.12.4. Direct flush valves shall be as prescribed in paragraph 11.10. Each urinal shall be provided with a valve.

11.13. Lavatories.

11.13.1. Lavatories shall have waste outlets not less than one and one-fourth (1¼) inches in diameter and shall be provided with strainers. Wastes may have open strainers or may be provided with stoppers.

11.14. Shower Receptacles.

11.14.1. Shower receptacles, except those built directly on the ground or integral with the shower cabinet, shall have watertight pans. The pan shall be turned up on all sides at least two (2) inches above the finished floor level. Shower receptacles shall have waste outlets not less than two (2) inches in diameter and shall be provided with strainers.

11.15. Sinks.

11.15.1. Sinks shall be provided with waste outlets not less than one and one-half (1½) inches in diameter. Waste outlets may have open strainers or may be provided with stoppers.

11.16. Laundry Trays.

11.16.1. Each compartment of a laundry tray shall be provided with a waste outlet not

less than one and one-half (1½) inches in diameter.

11.17. Bathtubs.

11.17.1. Bathtubs shall be provided with waste outlets not less than one and one-half (1½) inches in diameter.

11.18. Drinking Fountains.

11.18.1. The nozzle for every drinking fountain shall be of nonoxidizing impervious material of the angle stream type. The jet or orifice shall be higher than the rim of the waste water receiving bowl and shall be protected with an approved mouth guard.

11.19. Material of Floors.

11.19.1. The floor of every public water closet or urinal compartment shall be of concrete or other nonabsorbent material and may be arranged to drain into any floor type urinal waste opening or into a floor drain.

11.20. Separate Toilet Room.

11.20.1. A room containing a urinal, bath or water closet shall be entirely separated from any other room or hall by a solid partition extending from floor to ceiling broken only by the entrance doorway. No window, transom or other opening shall be made from any such room into an adjoining room, work space or hallway for the purpose of ventilation.

11.21. Size of Toilet Room.

11.21.1. Each toilet room shall have at least twelve (12) square feet of floor area for each water closet and each urinal.

11.22. Light and Ventilation.

11.22.1. Where possible, toilet rooms shall be located on outside walls convenient to the outside air and light direct. The minimum amount of window space for a toilet room containing one (1) fixture shall be not less than four (4) square feet and for each additional fixture, an additional square foot of window space shall be provided. Where necessary, such windows shall be frosted or so finished as to provide privacy for such rooms.

11.22.2. When impracticable to locate a toilet room on outside wall with proper light and outside ventilation, mechanical ventilation shall be provided. Mechanical ventilation shall consist of an exhaust fan which shall operate with the light switch or shall operate with an automatic timing device and shall be connected to the outside air by means of a duct. A mechanical system of ventilation shall provide six (6) complete air changes per hour.

11.22.3. All toilet rooms shall be provided with artificial light so that when lighted at night all parts of the room are easily visible. In rooming houses, public buildings, stores, office buildings and factories, toilet rooms shall be lighted at all times by direct or artificial lighting whenever the building is occupied or in use.

11.23. Separation of Sexes.

11.23.1. In every building accommodating persons of both sexes, where separate toilet rooms are required, such toilet rooms, when adjoining, shall be separated by a soundproof partition of a material which cannot be easily cut or defaced. Each toilet room shall be distinctly marked with respect to the sex which uses it.

11.24. Rooming Houses.

11.24.1. Rooming houses and boarding-houses shall be provided with toilet facilities on each floor. Such facilities shall include not less than one (1) water closet, one (1) lavatory and one (1) bathtub or shower for every floor.

11.25. Commercial Buildings.

11.25.1. Store buildings shall be provided with at least one (1) washroom which shall include not less than one (1) water closet and one (1) lavatory. When store buildings are

divided into smaller stores, each of the stores shall be provided with facilities as designated above.

11.26. Restaurants and Lunchrooms.

11.26.1. Restaurants and lunchrooms shall be provided with separate toilet facilities for males and females. Such facilities shall include not less than one (1) water closet and one (1) lavatory in each toilet room.

11.27. Hotels.

11.27.1. Hotels shall be provided with not less than one (1) toilet room for males and one (1) toilet room for females on each floor. Such facilities shall include not less than one (1) water closet, one (1) lavatory and one (1) bath or shower for every four (4) sleeping rooms.

11.28. Minimum Facilities.

11.28.1. For other buildings, the number of each type of fixture installed shall be in accordance with table 11.28.1, shown below.

General. In applying this schedule of facilities, consideration must be given to the accessibility of the fixtures. Conformity purely on a numerical basis may not result in an installation suited to the need of the individual establishment. For example, schools should be provided with toilet facilities on each floor having classrooms.

Temporary Workingmen Facilities:

1 water closet and 1 urinal for each 30 workmen.
24-inch urinal trough = 1 urinal.
36-inch urinal trough = 2 urinals.
48-inch urinal trough = 3 urinals.
60-inch urinal trough = 4 urinals.

Type of Building	*Water Closet*	*Urinal*	*Lavatory*	*Drinking Fountain*	*Shower*	*Bathtub or Shower*	*Kitchen Sink*
Dwellings and apartment houses	1 each family		1 each family			1 each family	1 each family
Places of employment and schools and industrial and storage units	Every 20 males. Every 15 females	Every 30 males	Every 20 persons	Every 75 persons			
Places of employment where exposed to skin contamination or excessive heat	Every 20 males. Every 15 females	Every 30 males	Every 5 persons	Every 75 persons	Every 15 persons		
Dormitories	Every 10 persons	Every 25 males	Every 10 persons	Every 75 persons	Every 10 persons	Bathtub every 30 persons	
Theaters, stadiums, auditoriums and places of public assembly	Every 100 males. Every 100 females up to 400. Over 400, every 500 males. Every 300 females	Every 200 males up to 600. Over 600, every 300 males	Every 250 persons up to 750. Over 750, every 500 persons.	Every 500 persons			

The figures shown are based upon one (1) fixture being the minimum required for the number of persons indicated, or any fraction thereof.

NOTES TO TABLE 11.28.1:

The figures shown are based upon one (1) fixture being the minimum required for the number of persons indicated, or any fraction thereof.

No schedule has been given for hospitals, sanitoria, hotels or lodging houses. Each such establishment will be considered separately.

Drinking fountains shall not be installed in toilet rooms. In multiple-family buildings, one (1) single-compartment laundry tray for each dwelling unit or two-compartment trays for each ten (10) apartments shall be provided.

One (1) kitchen sink shall be provided for each dwelling or apartment unit.

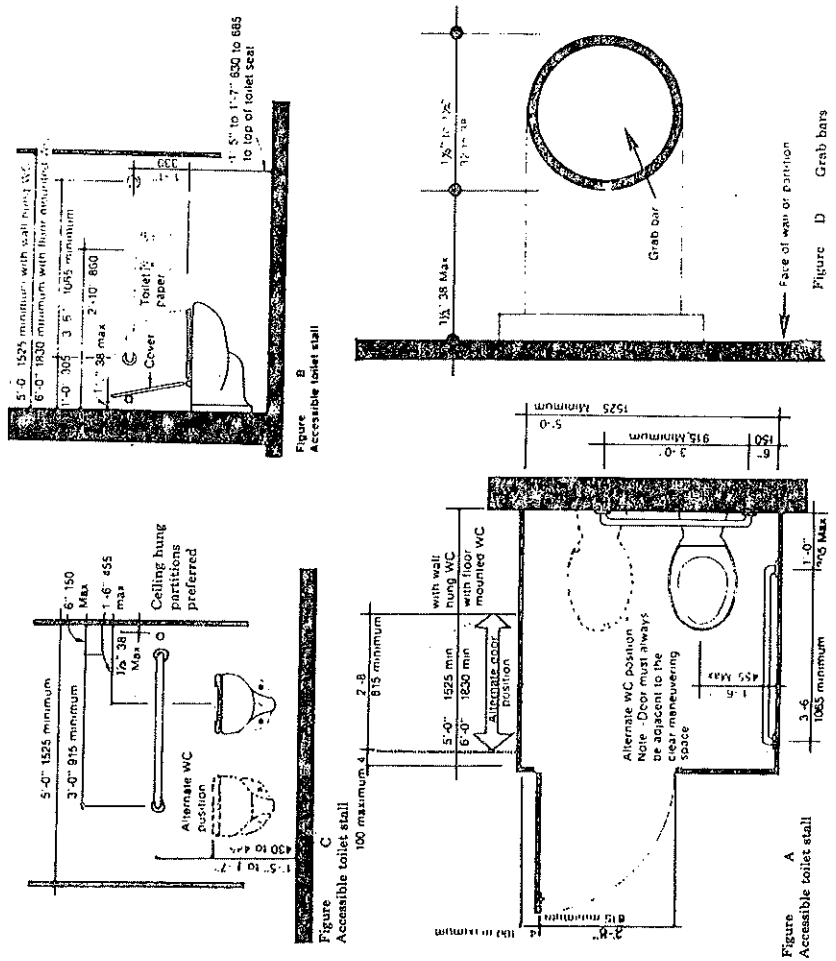
In dormitories, one (1) laundry tray shall be provided for each fifty (50) persons and one (1) slop sink shall be provided for each one hundred (100) persons.

11.29. Toilet Rooms for the Handicapped.

11.29.1. The application of this standard includes, but is not limited to, the following building types:

Sleeping occupancy:	Apartment buildings, apartments, hotels, motels, hostels, dormitories, housing for the elderly, housing for the handicapped, etc.
Business occupancy:	Offices, shops, department stores, grocery stores, fast-food establishments, etc.
Educational occupancy:	Day care centers, primary, secondary and post-secondary educational facilities of a public or private nature, museums, art galleries and other cultural facilities, etc.
Industrial occupancy:	Factories, warehouses, plants, industrial parks, etc.
Assembly occupancy:	Stadia, auditoria, theaters, dance halls, skating rinks, bowling alleys, restaurants, taverns, nightclubs, cafeterias, banquet halls, etc.
Institutional occupancy:	Hospitals, nursing homes, mental institutions, jails, prisons, etc.
Outdoor areas:	Parks, camping grounds, public swimming pools and beaches, zoos, botanical gardens, amusement parks, fairgrounds, playgrounds, etc.
Transportation facilities	Bus, train, air terminals and/or stations.

At least one (1) toilet stall in every toilet room, including, employee facilities, shall be usable by people in wheelchairs or who use walking aids. The accessible toilet stall shall have a minimum of 5'0" × 5'0" clear internal dimensions. The door shall swing out and have a 2'8" clear opening. Opening and locking devices shall not require a pinching or twisting of the wrist to operate. Toilet stalls of minimum size shall have wall-mounted water closets. Floor-mounted water closets are acceptable if the depth of the stall is increased to 6'0". Water closets shall be located 1'6" from the right-hand or left-hand partition to the center line of the fixture. Flushing mechanisms shall be automatic or operable without extremes of bending, reaching or twisting and shall be activated by a nonprecise movement requiring a light pressure. Such toilets shall have grab bars that comply with Fig. A and B. Grab bars shall meet the requirements of Figure D. The height of the toilet seat shall be 1'5" to 1'7", measured from the floor to the top of the toilet seat. Accessible toilets shall have toilet seats with covers. Maneuvering space in front of toilet stall door shall be a minimum of 3'6" in width. Wall-hung and ceiling-hung partitions are preferred to floor-mounted partitions. See Figure C.


Grab bar
Face of wall or partition
Figure D Grab bars
Toilet paper
Cover
Figure B Accessible toilet stall
Ceiling hung partitions preferred
Alternate WC position
Figure C Accessible toilet stall
Alternate WC position Note : Door must always be adjacent to the clear maneuvering space
with wall hung WC
with floor mounted WC
Alternate door position
Figure A Accessible toilet stall

(11.29.1)

REGULATIONS FOR INSTALLATION OF GAS PIPING AND APPLIANCES

SCOPE:

The following regulations are recommended as minimum standards to ensure the safe installation of gas-burning appliances and devices. Any installation of such equipment made in accordance with these standards will be deemed to satisfy the general requirement of the Countryside Plumbing Code that all gas-burning appliances, devices and equipment shall be installed in accordance with standard practice for safe installation and use. When necessary, these recommendations may be referred to by the plumbing inspector, or other official of the City of Countryside, in order to secure such safe installation and use. (Ord. of 12-13-78, Amend. No. 73)

6-3.12. DEFINITIONS

12.1. Definitions of Terms

12.1. Definitions of Terms.

12.1.1. For the interpretation of this code, certain words and terms shall be defined as follows:

Approved: As to materials, workmanship and types of construction, means approval by the department having jurisdiction, as the result of investigation, inspections or tests conducted by them, or by reason of accepted principles or tests by nationally recognized authorities.

Building Piping: That portion of the gas piping contained within the boundaries of the building foundation, and any additional gas piping connected to and extending beyond that portion of the system.

Combustible Material: Walls, floors, ceilings, shelves or other parts of a building constructed of wood, composition or paper, and including walls constructed of wooden studding, lath and plaster.

Combustible Material Protected: Combustible material protected with a metal shield extending over an area exposed to the effects of heat from a gas appliance, so formed that an air space of not less than one (1) inch is created between such shield and the combustible material; provided, that in lieu of such air space, cellular asbestos not less than one-fourth inch in thickness, or other approved equally effective insulating material, may be used between such metal shield and any combustible material.

Gas Appliance: A fixture or apparatus manufactured and designed to use natural, manufactured or mixed gas as fuel; provided, however, that nothing herein contained shall be construed to apply to appliances, appurtenances or devices used for strictly experimental or scientific purposes. Special consideration will be given to safety requirements for gas-burning appliances for industrial and commercial processing purposes.

Gas Piping: Any run of pipe or fittings that is used to convey fuel gas, installed on any premises or in any building, but shall not include:

(1) Any portion of the service, service regulator or meter piping.

(2) Any piping connection less than six (6) feet in length between an existing gas outlet and a gas appliance in the same room with the outlet.

Gas Piping System: Any arrangement of gas piping supplied by one (1) meter.

Gas Vent: A conduit or pipe, such as a chimney, vertical or nearly so in direction, designed to convey the products of combustion to the outside air.

Gas Vent Connection: A pipe or flue designed to convey the products of combustion from the gas appliance to a gas vent or chimney.

Person: Shall include firm, corporation or copartnership. Masculine gender shall include feminine gender. Singular shall include plural.

Service Piping: The piping between the street gas main and the gas meter.

6-3.13. GENERAL REGULATIONS

13.1. Permits and Inspections.

13.1.1. Every person, firm or corporation before installing or extending any system of piping for the conveyance, distribution or use of natural, manufactured or mixed gas to gas appliances shall first obtain permit from the building department.

13.1.2. When final inspection of gas piping is made by the building department, the gas utility may be notified that the installation has been duly inspected and approved and is ready for service. (Ord. of 12-13-78, Amend. No. 74)

13.2. Authority To Disconnect.

13.2.1. The building department or the gas utility is hereby authorized to disconnect any gas appliances or gas piping which shall be found not to conform to the requirements of this code, or may be found defective and in such condition as to endanger life or property. Where such disconnection has been made, a notice shall be attached to such appliance or gas piping which shall state that the same has been disconnected, together with the reasons thereof; and such notice shall not be removed nor shall the appliance or gas piping be reconnected until the unsatisfactory condition has been corrected. (Ord. of 12-13-78, Amend. No. 75)

13.3. Authority To Render Gas Service.

13.3.1. It shall be unlawful for any person, firm or corporation, excepting an authorized agent or employee of a person, firm or corporation engaged in the business of furnishing or supplying gas, whose service pipes supply or connect with the particular premises, to turn on or reconnect gas service in or on any premises where and when gas service is not at the time being rendered.

13.3.2. It shall further be unlawful to turn on or connect gas on or in any premises unless all outlets are properly and securely connected to appliances or capped or plugged with screwed joint fittings.

6-3.14. GAS PIPING

14.1. Material for Gas Piping.

14.1.1. All pipe used for the installation, extension, alteration or repair of any gas piping shall be standard weight wrought iron or steel, or brass, or copper pipe of iron pipe size.

14.1.2. All such pipe shall either be new, or shall previously have been used for no other purpose than conveying gas, and shall be free from internal obstructions and the ends thereof properly reamed.

14.1.3. All fittings used in connection with the above piping shall be of malleable iron steel, brass or copper.

14.1.4. All points in the piping system, unless welded, shall be screwed joints, having American Standard or SAE Standard Threads. Such screwed joints shall be made up with a thread compound applied to the male threads only.

14.1.5. Nonferrous tubing shall not be run through walls and floors and shall not be allowed in unoccupied spaces within the building structure.

14.2. Installation of Gas Piping.

14.2.1. All gas piping installed below ground outside of any building or structure shall be protected against corrosion.

14.2.2. All gas piping shall be supported, a intervals of not more than six (6) feet, by

appliance connectors of flexible metal tubing and fittings. Only listed gas hose shall be used. Listed gas hose shall be used only in accordance with terms of its listing. Gas hose shall not be used where it is likely to be subject to excessive temperatures (above one hundred twenty-five (125) degrees Fahrenheit).

15.5.4. Where gas hose connection is made, a listed gas valve shall be provided on the supply piping where the hose is attached. When gas hose is used with an appliance having a valve on the inlet of the appliance, the valve shall be removed so that the user is compelled to use the valve at the pipe end except as provided by 15.5.3. A gas shutoff valve which constitutes the only means of gas control shall be easily accessible and within convenient distance when operating the burner of the appliance.

15.5.5. Gas hose shall be of adequate capacity, gastight, and so designed as to permit the secure attachment to the nozzles of fully portable appliances which do not require mobility during operation and to hose end valves connected to the house piping. Where the gas hose is equipped with rubber slip-end connections, the gas shutoff valve at the house piping shall be a listed hose-end gas valve or shall have a standard hose-end nozzle attached to it. Where an appliance requires mobility during operation, such as a gas iron or hand torch, and is always used in the same location, the gas hose shall be permanently attached at the supply end by a threaded or other secure metal connection, and the appliance end shall be provided with a secure metal joint which can be conveniently made and separated.

15.5.6. Where gas hose is used, it shall be of the minimum practical length, but not to exceed six (6) feet, and shall not extend from one room to another, nor pass through any walls, partitions, ceilings or floors. Under no circumstances shall gas hose be concealed from view or used in a concealed location.

15.6. Appliances To Be Vented.

15.6.1. All gas-burning furnaces, boilers, room-heating appliances and water heaters hereafter installed shall be vented to an approved type gas vent or chimney, which shall be at least the full size of the vent outlet of the appliance to be vented. Gas-fired incinerators shall be vented in accordance with the requirements of the gas utility. (Ord. of 2-13-78, Amend. No. 76)

15.7. Vent Materials and Support.

15.7.1. The material used for the vent pipe shall be such as to resist the corrosive action of flue gases and condensate, particularly where the vent pipe is long and the condensate will occur in this pipe rather than in the chimney flue. All flue mortar for flues or vent pipes from gas-burning appliances shall be acid resisting.

15.7.2. All sheet metal constituting a part of any vent or vent connection shall be at least No. 26 U.S. Standard gauge. Straps, stirrups or hangers shall be at least No. 20 U.S. Standard gauge galvanized iron or steel not less than three-fourths inch in width.

15.7.3. Every vent connection shall be securely supported at intervals of not more than six (6) feet.

15.8. Size of Vents and Vent Connections.

15.8.1. The vent connection shall be not less in diameter than the vent outlet of the gas appliance which it serves. Every vent connection shall have a rise of not less than one-half inch per foot of length. The horizontal run of the connector shall be as short as possible, and the appliance shall be located as near the flue or vent as practicable. The maximum length of horizontal run shall not exceed seventy-five (75) per cent of the height of the flue or vent.

15.8.2. A rectangular or oval vent may be used, provided its internal cross-sectional

plainly identified by the installer with a metal tag at the meter location.

14.6.3. All gas meters shall be so placed as to be at all times readily accessible for inspection, reading, testing, exchanging and shutting off the gas supply.

14.6.4. In order that gas may be supplied, the gas piping inlet shall be located with respect to the proposed meter location, in accordance with the local gas utility instructions.

6-3.15. APPLIANCES, GENERAL CONSTRUCTION, CONNECTION AND VENTING

15.1. Construction and Performance.

15.1.1. The construction and performance of all gas-burning appliances shall be reasonably safe to persons and property and in conformity with the provisions of this code.

15.1.2. The presence of a valid seal of approval of a nationally recognized testing laboratory showing conformity of the construction and performances of gas-burning appliances with applicable requirements which have been approved by the American Standards Association shall be evidence that such construction and performance are reasonably safe to persons and property.

15.2. Used Gas Appliances.

15.2.1. Used gas appliances may be reinstalled when such appliances may be used without danger to life or property.

15.3. Garage Installation Prohibited.

15.3.1. No gas appliance shall be installed in a garage unless the design, operation and installation of said appliance is such as to eliminate the possible ignition of flammable vapors.

15.4. Obstruction of Flue Passage.

15.4.1. No filter or other obstruction shall be placed in a flue passage of any appliance. This is not intended to preclude baffles and other standard parts built into an appliance by the manufacturer thereof or sizing orifices for conversion burners as covered under "Gas-Fired Boilers, etc." [section 6-3.17].

15.5. Appliance Connections.

15.5.1. Nonportable appliances such as central heating, water heating and similar equipment shall be connected to the gas piping with rigid (pipe) or by approved semirigid tubing not more than two (2) feet in length.

15.5.2. Domestic gas ranges, hot plates, refrigerators, etc., shall be connected to the gas piping with rigid pipe, approved semirigid tubing or approved appliance connectors of flexible metal tubing and fittings. When a semirigid tubing connector or a connector of flexible metal tubing and fittings is used, it shall connect to an outlet in the same room as the appliance. The length of the connector should not exceed six (6) feet. The connector shall be installed so as to be protected against mechanical injury.

15.5.3. Only appliances which are fully portable in nature shall be connected with gas hose. Appliances equipped with a control valve or valves which permit complete shutoff of the gas supply shall not be connected with gas hose. This requirement does not apply to hand torches, gas irons and other equipment which require both the mobility possible only with flexible connections and frequent and accurate burner control at the point of use. Gas hose should not be confused with semirigid tubing or

appliance connectors of flexible metal tubing and fittings. Only listed gas hose shall be used. Listed gas hose shall be used only in accordance with terms of its listing. Gas hose shall not be used where it is likely to be subject to excessive temperatures (above one hundred twenty-five (125) degrees Fahrenheit).

15.5.4. Where gas hose connection is made, a listed gas valve shall be provided on the supply piping where the hose is attached. When gas hose is used with an appliance having a valve on the inlet of the appliance, the valve shall be removed so that the user is compelled to use the valve at the pipe end except as provided by 15.5.3. A gas shutoff valve which constitutes the only means of gas control shall be easily accessible and within convenient distance when operating the burner of the appliance.

15.5.5. Gas hose shall be of adequate capacity, gastight, and so designed as to permit the secure attachment to the nozzles of fully portable appliances which do not require mobility during operation and to hose end valves connected to the house piping. Where the gas hose is equipped with rubber slip-end connections, the gas shutoff valve at the house piping shall be a listed hose-end gas valve or shall have a standard hose-end nozzle attached to it. Where an appliance requires mobility during operation, such as a gas iron or hand torch, and is always used in the same location, the gas hose shall be permanently attached at the supply end by a threaded or other secure metal connection, and the appliance end shall be provided with a secure metal joint which can be conveniently made and separated.

15.5.6. Where gas hose is used, it shall be of the minimum practical length, but not to exceed six (6) feet, and shall not extend from one room to another, nor pass through any walls, partitions, ceilings or floors. Under no circumstances shall gas hose be concealed from view or used in a concealed location.

15.6. Appliances To Be Vented.

15.6.1. All gas-burning furnaces, boilers, room-heating appliances and water heaters hereafter installed shall be vented to an approved type gas vent or chimney, which shall be at least the full size of the vent outlet of the appliance to be vented. Gas-fired incinerators shall be vented in accordance with the requirements of the gas utility. (Ord. of 2-13-78, Amend. No. 76)

15.7. Vent Materials and Support.

15.7.1. The material used for the vent pipe shall be such as to resist the corrosive action of flue gases and condensate, particularly where the vent pipe is long and the condensate will occur in this pipe rather than in the chimney flue. All flue mortar for flues or vent pipes from gas-burning appliances shall be acid resisting.

15.7.2. All sheet metal constituting a part of any vent or vent connection shall be at least No. 26 U.S. Standard gauge. Straps, stirrups or hangers shall be at least No. 20 U.S. Standard gauge galvanized iron or steel not less than three-fourths inch in width.

15.7.3. Every vent connection shall be securely supported at intervals of not more than six (6) feet.

15.8. Size of Vents and Vent Connections.

15.8.1. The vent connection shall be not less in diameter than the vent outlet of the gas appliance which it serves. Every vent connection shall have a rise of not less than one-half inch per foot of length. The horizontal run of the connector shall be as short as possible, and the appliance shall be located as near the flue or vent as practicable. The maximum length of horizontal run shall not exceed seventy-five (75) per cent of the height of the flue or vent.

15.8.2. A rectangular or oval vent may be used, provided its internal cross-sectional

area is not less than that of the vent outlet of the appliance which it serves, and provided that the ratio of its width to depth in cross-sectional area is not less than that of the vent outlet of the appliance which it serves, and provided that the ratio of its width to depth in cross-section does not exceed 3 to 1. In no case shall any vent or portion thereof have a cross-sectional area of less than twelve (12) square inches or a minimum internal dimension of less than two (2) inches.

15.8.3. Every vent, thimble and inlet shall have a clear and unobstructed cross-sectional area at least equal to the area of the outlet on the gas appliance which it serves.

15.8.4. Except as specified in "Venting of Water Heaters" [section 16.3], the area of any vent serving more than one (1) appliance shall be not less than the area of the largest vent connection plus fifty (50) per cent of the areas of all other additional vent connections.

15.9. Protection of Combustible Materials.

15.9.1. Combustible material within twelve (12) inches vertically and six (6) inches horizontally of any vent connection shall be protected by approved fire-resistive material. These distances shall be measured at right angles to the vent connection.

15.9.2. Every vent, thimble and inlet extending into or through any wall, partition, floor, ceiling or roof of any building shall have a perforated and ventilated sleeve extending the full length of such space between the ceiling and floor above, or through any partition or wall. Such sleeve shall provide at least three-fourths inch air space at every point around the vent. Such sleeve or air space may be omitted in noncombustible construction.

15.10. Height of Vent Above Roof.

15.10.1. The flue or vent should extend high enough above the building or other neighboring obstruction so that wind from any direction will not strike the flue or vent from an angle above horizontal. Unless the obstruction is of great magnitude, it is usual experience that flues or vents extended at least two (2) feet above flat roofs or two (2) feet above the highest part of wall parapets and peaked roofs within thirty (30) feet will be reasonably free from downdrafts.

15.11. Inlet Connections to Vents.

15.11.1. Where two (2) or more inlets are provided in any vent or chimney, such inlets shall be offset in such a manner that no section of any inlet shall be opposite to other inlets in such vent and shall be at different levels.

15.11.2. All inlets to any one vent shall be within the same story.

15.11.3. Vent inlets not in use shall be tightly closed by means of an approved cap.

15.12. Draft Hoods.

15.12.1. Every flue-connected appliance except an incinerator, unless its construction serves the same purpose, shall be equipped with an effective draft hood which either (1) has been approved as part of the appliance or (2) complies with nationally recognized standards for draft hoods. The draft hood shall be attached to the flue collar of the appliance or as near to the appliance as conditions permit and in a position for which it is designed with reference to horizontal and vertical planes. The draft hood shall be so located that the relief opening is not obstructed by any part of the appliance or adjacent construction.

15.13. Vent Connections Required.

15.13.1. Vent connections shall be required on the following:

(a) Domestic appliances with input rating in excess of fifty thousand (50,000) Btu per hour, except domestic gas ranges.

(b) All water heaters having an input rating of more than five thousand (5,000) Btu per hour.

(c) Automatically controlled appliances with input rating in excess of five thousand (5,000) Btu per hour.

(d) Automatically controlled appliances with input rating less than five thousand (5,000) Btu per hour, unless equipped with an automatic device to prevent the escape of unburned gas at the main burner or burners.

The term "automatically controlled appliance" used in paragraphs (b) and (c) refers to appliances to which the gas supply is automatically turned on and off in accordance with the demand for heat.

(e) Each of several appliances, except domestic gas ranges installed in the same room, which in the aggregate have an input rating as great as thirty (30) Btu per hour per cubic foot of room content.

(f) All house heating steam and hot water boilers and warm air furnaces including floor furnaces.

(g) All appliances must be vented when installed in bathrooms, unventilated rooms or rooms used for sleeping.

15.14. Air for Combustion.

15.14.1. Appliances shall be installed in a location in which the facilities for ventilation permit satisfactory combustion of gas and proper venting, under normal conditions of use. While all forms of building construction cannot be covered in detail, this requirement may usually be met by application of one of the following methods in ordinary building construction:

(a) In buildings of conventional frame, brick or stone construction without enclosed appliance rooms, basement storm windows, or tight stair doors, infiltration is normally adequate to provide air for combustion and draft hood dilution.

(b) Where appliances are installed in a confined space within a building, itself having adequate air infiltration, provisions shall be made for supplying this space with air for combustion and ventilation. This may be accomplished through use of two (2) permanent openings freely communicating with interior areas of adequate infiltration or by compliance with provisions of item (c). If necessary, continuous ducts having cross-sectional areas equal to the openings shall be utilized to communicate with the source of air supply. The minimum dimension of rectangular air ducts shall not be less than three (3) inches.

(c) Where appliances are installed in a confined space within a building of unusually tight construction, air for combustion and ventilation must be obtained from outdoors or from spaces freely communicating with the outdoors (crawl space or attic). Under these conditions, the openings called for in item (b) shall be replaced by two (2) openings having a combined area of not less than one (1) square inch per one thousand (1,000) Btu per hour of input rating. One opening shall be near the top of the enclosure and one near the bottom. These openings shall be of approximately equal area and shall communicate with the selected source or sources of adequate air supply. Where ducts are required, they shall be continuous and of the same cross-sectional area as the openings to which they connect. The minimum dimension of rectangular air ducts shall be not less than three (3) inches. Any duct from the top opening must be horizontal or pitched upward.

(d) Where appliances are installed in unconfined spaces, such as a full basement, within a building of unusually tight construction, air for combustion and ventilation must be obtained from outdoors or from spaces freely communicating with the outdoors. Under these conditions a permanent opening or openings having a total free area of not less than one (1) square inch per one thousand (1,000) Btu per hour of input rating shall be provided. Where ducts are required,

they shall be of the same cross-sectional area as the openings to which they connect. The minimum dimension of rectangular air ducts shall be not less than three (3) inches.

(e) Operation of exhaust fans, kitchen ventilation systems or fireplaces may create conditions requiring special attention to avoid unsatisfactory appliance operation.

15.15. Clearance From Combustible Material.

15.15.1. Appliances so constructed that the burners are not shielded by metal or other approved insulating material shall not be located within twelve (12) inches of any combustible material. All appliances, except floor and wall furnaces so constructed that metal shields or other approved insulating materials are an integral part of their construction, shall not be located so as to permit such metal shields or other approved insulating material to be within six (6) inches of combustible material or within three (3) inches of protected combustible material. However, appliances found to comply with national standards of safety for installation at lesser distances may be installed at the distance at which they are found to be safe, provided such installations are not in conflict with the provisions of the building code or other regulations in force in the jurisdiction concerned. Gas appliances having open flames, such as gas plates and ranges, shall not be installed within three (3) feet of any ceiling of combustible material.

15.16. Chimney Liners.

15.16.1. Masonry chimneys used for the venting of gas space-heating devices shall be lined throughout their entire length with an approved liner such as bell-and-spigot vitrified tile or stainless steel. The gas utility shall be consulted for proper chimney liner specifications.

15.16.2. Chimney flues provided with approved liners used for gas space heaters shall not be used in common with appliances burning other fuels or for incinerators.

6-3.16. GAS PLATES, RANGES AND WATER HEATERS

16.1. Gas Plates and Ranges.

16.1.1. Gas plates or ranges shall not be installed in rooms used for sleeping quarters; they may, however, be installed for cooking purposes in a room designed to conform with the legal requirements of a kitchen. Combination gas ranges and trash burners shall be vented to a gas flue or chimney constructed in accordance with the provisions of the building code for use by trash burners.

16.2. Water Heaters.

16.2.1. A compartment used to house a water heater shall be of such size that the heater is readily accessible for adjusting, servicing or replacement, with one (1) side completely open unless closed by a removable panel. Openings for air shall be provided not less than thirty-six (36) square inches in area, near the floor and ceiling of the compartment.

16.2.2. Combustible partitions or walls nearer than six (6) inches from an ordinary nonautomatic domestic water heater or nearer than two (2) inches from an approved automatic domestic storage water heater shall be so constructed as to provide protection equivalent to twenty-five (25) minutes fire resistance, as determined by tests made in accordance with the NFPA-ASTM standard specifications for fire tests of building construction.

16.2.3. No gas water heater shall be installed in any room used or designed to be used for sleeping purposes, bathroom or clothes closet.

16.3. Venting of Water Heaters.

16.3.1. Except as provided under "Gas Vents" [section 15.8], every gas water heater shall have an entirely separate and independent vent connection, except that not more than four (4) such heaters may be connected to a common vent installed in accordance with the following requirements.

16.3.2. All gas water heaters that are connected to a common vent shall be located in the same story of the building.

16.3.3. If more than three (3) feet of vent connection is required to connect each of two (2) or more water heaters to a common vent, the water heaters shall be connected to a vent manifold. The connection between any water heater and vent manifold shall not exceed three (3) feet in length.

16.3.4. The length of the vent manifold shall not exceed fifteen (15) feet nor be greater than seventy-five (75) per cent of the height of the vertical vent to which it connects.

16.3.5. Both the vent manifold and the vent connections shall have a rise of not less than one (1) inch per foot of length.

16.3.6. The vent connections shall approach and intersect the vent manifold so that the flow of the products of combustion will converge at an angle of not more than forty-five (45) degrees.

16.3.7. The size of the common vent and the vent manifold shall be not less than the values set forth in the following table:

No. of Gas Water Heaters	*Max. Input Rating of All Heaters*	*Min. Internal Dia. of Round Vent and Vent Manifold*
2-3	75,000 Btu	5 inches
4	100,000 Btu	6 inches
4	200,000 Btu	7 inches
4	300,000 Btu	8 inches

(For single water heat vent sizes see "Gas Vents," 15.8)

16.3.8. No damper shall be installed in any vent or vent connection to which a gas water heater is connected.

16.3.9. When a regulation chimney is to be used to vent a gas water heater, such chimney shall have installed in it a gas vent connection as specified in this section.

6-3.17. GAS-FIRED BOILERS AND FURNACES AND CONVERSION BURNERS FOR HOUSE HEATING

17.1. General.

17.1.1. These regulations apply only to low-pressure heating systems. Such systems are hereby defined as those in which the pressure does not exceed fifteen (15) pounds.

17.1.2. No gas-fired boilers or furnaces for heating a building or buildings shall be installed and no boiler or furnace designed for other fuels shall be converted to the use of gas fuel unless the following regulations are complied with.

17.1.3. Either a thermostatic pilot light, so constructed and adjusted that no gas can flow through the main burner unless the pilot light is burning, or some other similar type of approved safety device serving this same end, shall be employed. The operation of the safety device shall not depend on the closing of an electric circuit to shut off the main gas supply.

17.1.4. The boiler or furnace shall be equipped with safety devices arranged to limit high steam pressures or water temperatures or high aid temperatures in warm-air furnaces. It is recommended that in steam or vacuum vapor boilers, means be provided to guard against firing a dry boiler or one in which the water is dangerously low, and that in warm-air furnaces not equipped with air-circulating fans, means be provided to guard against excessive temperatures in the distributing system. Safety devices operated

electrically shall not depend upon the closing of the circuit to shut off the main gas supply. This requirement should not be construed as prohibiting the use of electrical regulating devices, provided the required safety devices are also installed. All electrical controls and auxiliaries for a gas-fired heating unit shall be connected to one (1) independent electrical circuit.

Limiting controls and low water shutoff intended to disconnect the appliance from the electric power supply shall be connected into the appliance supply circuit on the supply side of all other circuits.

17.1.5. An approved gas pressure regulator of sufficient size shall be installed in the gas line leading to the appliance.

17.1.6. Every gas boiler or furnace shall be connected to a flue. In the case of conversion burners the section of the flue pipe between the outlet of the appliance and the draft hood shall be not less than one (1) square inch per seven thousand, five hundred (7,500) hourly Btu input. In no case shall this section be less than five (5) inches in diameter, and it shall not be larger than the next integral inch diameter above the size required by this rule.

17.1.7. In case of conversion burners, where the outlet from the appliance is larger than the above indicated size, an orifice plate may be inserted or a section of the flue pipe restricted to the size indicated, in order that the amount of draft may be properly controlled.

17.1.8. The proportioned section at the flue outlet of the appliance eliminates the necessity of using an adjustable damper in the flue pipe and no such damper is permitted.

17.1.9. Where dampers are an integral part of the boiler or furnace, they shall be removed or permanently secured in the open position, except such dampers, the function of which is to alter the passage of the flue gases through the appliance, which shall be locked in a position that does not interfere with the normal operation of the burners.

17.1.10. A draft hood of approved design or its approved equivalent shall be placed in and made a part of the flue pipe from an appliance, or in the appliance itself, which is designed to (a) ensure the rapid escape of the products of combustion in the event of no draft, back draft, or stoppage beyond the draft hood; (b) prevent a back draft from entering the appliance; and (c) neutralize the effect of stack action of the flue upon the operation of the appliance. The draft hood shall be located in the same room or enclosure from which combustion air is taken.

17.2. Flueways and Chimneys.

17.2.1. The chimney flue and flue pipe shall be examined and reconditioned, if necessary, so that they will freely conduct the flue gas to the outer air.

17.2.2. Care shall be exercised to prevent the flue pipe from entering the chimney so far as to unduly restrict the space between its end and the opposite wall of the chimney.

17.2.3. A cleanout opening provided with a tight closure shall be installed in the chimney at a point below the lowest connection to the chimney.

17.3. Doors.

17.3.1. When the ash pit door is closed, it is recommended that the other doors of the heating appliance be hinged at the top to swing freely or be otherwise arranged to relieve pressure due to puffs or backfire caused by delayed ignition.

17.3.2. All heating surfaces and flueways of the plant shall be gastight and shall be thoroughly cleaned of soot, carbon and other foreign substances before the burner is installed. Where leaks are found in the walls of the combustion chamber heating surfaces, or flueways, such defects shall be adequately repaired before the installation is completed.

17.4. Burners.

17.4.1. Conversion burners shall consist of factory assembled and tested units accom-

panied by complete and comprehensive installation and operation instructions that observe the foregoing and following features.

17.4.2. The equipment shall incorporate approved provisions for adjustment, control, support and attachment to the heating plant or to the foundation on which it rests. It shall be so installed (and attached) as to prevent twisting, sliding or dropping out of the intended correct position. (Ord. of 12-13-78, Amend. No. 77)

17.4.3. Installation and assembly shall be such as to permit ready accessibility for inspection, repair and replacement of parts.

17.4.4. Each burner shall be installed with a properly designated manually operated shutoff valve, in the main gas supply line to the burner. This valve shall be positioned at a point readily accessible for use and inspection.

17.4.5. Burners should be supplied by an independent gas line direct from the meters.

17.4.6. Gas pilots should be connected so that they may be ignited with the main burners manually shut off.

17.5. Access.

17.5.1. Every heating appliance shall be accessible for inspection, repair or replacement; and sufficient room shall be available to enable the operator to observe the firebox, burner and pilot while starting the appliance.

17.6. Circulating Air.

17.6.1. Warm-air furnaces delivering heated air through ducts to rooms other than that in which the furnace is located must be provided with cold air ducts beyond the room in which the furnace is located.

6-3.18. FLOOR FURNACES

18.1. Installation.

18.1.1. Approved floor furnaces may be installed in combustible floors.

18.2. Manual Main Shutoff Valve.

18.2.1. A separate manual main shutoff valve shall be provided ahead of all controls and a union connection shall be provided downstream of this valve to permit removal of the controls of the floor furnace.

18.3. Combustion Air.

18.3.1. Fixed ventilation, by means of a duct or grilles arranged to supply air from a permanently ventilated attic or underfloor space, shall be provided to any confined space which encloses the floor furnace. The duct or grilles shall be screened and have a free area at least twice the free area of the vent collar of the floor furnace or one (1) square inch per one thousand (1,000) Btu per hour of gas input, whichever is the greater, and shall be installed in such a manner as to ensure proper combustion.

18.4. Placement.

18.4.1. *{In Aisles, etc.}* No furnace shall be installed in the floor of any aisle or passageway of any auditorium, public hall or place of assembly, or in an exitway from any such room or space.

18.4.2. *Walls and Corners.* With the exception of wall-register models, a floor furnace shall not be placed closer than six (6) inches to the nearest wall, and wall-register models shall not be placed closer than six (6) inches from a corner.

18.4.3. *Draperies.* The furnace shall be so placed that a door, drapery or similar object cannot be nearer than twelve (12) inches to any portion of the register of the furnace.

18.4.4. *Central Location.* Generally speaking, the more central the location, the better, favoring slightly the sides exposed to the prevailing winter winds.

18.5. Bracing.

18.5.1. The floor around the furnace shall be braced and headed with a framework of material not lighter than the joists.

18.6. Support.

18.6.1. Means shall be provided to support the furnace when the floor grille is removed.

18.7. Clearance.

18.7.1. The lowest portion of the floor furnace shall have at least a six-inch clearance from the general ground level, except that where the lower six-inch portion of the floor furnace is sealed by the manufacturer to prevent entrance of water, the clearance may be reduced to not less than two (2) inches. When these clearances are not present, the ground below and to the sides shall be excavated to form a "basin-like" pit under the furnace so that the required clearance is provided beneath the lowest portion of the furnace. A twelve-inch clearance shall be provided on all sides except the control side, which shall have an eight-inch clearance.

18.8. Access.

18.8.1. A trap door not smaller than twenty-four (24) inches by twenty-four (24) inches shall be provided through the floor to permit access to the furnace. A suitable ladder or landing shall be provided to allow descent. A properly backsloped trench having at least five (5) feet of head room shall be provided from the trap door to each floor furnace. Bottom of trench shall have three (3) inches of stone or gravel surfacing. The gas utility should be consulted for further details.

18.9. Seepage Pan.

18.9.1. Whenever the excavation exceeds twelve (12) inches or water seepage is likely, a watertight copper pan, concrete pit or other suitable material shall be used. A copper pan shall be made of not less than sixteen (16) ounce per square foot sheet copper. The pan shall be anchored in place, so as to prevent floating, and the walls shall extend at least four (4) inches above the ground level, with twelve (12) inches clearance on all sides except the control side, which shall have eighteen-inch clearance. When the equipment is sealed by the manufacturer to meet this condition, the pan or pit may be omitted if not required for maintaining a dry condition for service access.

18.10. Wind Protection.

18.10.1. Floor furnaces shall be protected, where necessary, against severe wind conditions.

18.11. Upper Floor Installations.

18.11.1. Approved gas floor furnaces may be installed in an upper floor provided the furnace assembly projects below into a utility room, closet, garage or similar nonhabitable space. In such installations, the floor furnace shall be enclosed from the nonhabitable space with means of air intake to meet the provisions listed above for combustion air. The enclosure should be provided with access facilities for servicing on the control side, with minimum furnace clearance of six (6) inches to all sides and bottom, and with the enclosure constructed of portland cement, plaster on metal lath or material of equal fire resistance.

18.12. Vent Connection.

18.12.1. Vent connection from draft diverter to chimney flue shall be transite pipe or other approved material properly supported to joists, sloped up to chimney and shall have a cross-sectional area of not less than one (1) square inch per seven thousand, five hundred (7,500) Btu per hour burner input. Where more than one (1) furnace is installed, each flue shall have a separate connection directly to chimney at different levels (one (1) foot apart). If impractical to connect each vent

pipe directly into chimney, interconnection of flues can be made, provided a "Y" connection is used and flue between "Y" and chimney is sufficiently increased in cross-sectional area. An excavated area shall be provided under vent pipe to provide adequate room for inspection. (Ord., 12-13-1978)

6-3.19. CROSS-CONNECTION CONTROL

19.1. Ordinance Incorporated.

Ordinance 91-35-0 entitled "Cross-Connection Control", as from time to time amended, is hereby incorporated by reference herein as Section 19 of this Appendix, and the City Clerk shall at all times maintain not less than two (2) copies of said ordinance and any amendment thereto open to public inspection. (Ord. 97-25-0, 10-22-1997)

19.2. Ordinance Amended.

All references made to the "Director of Public Works" in Ordinance 91-35-0, entitled "Cross-Connection Control", shall be changed to refer to the "City Administrator or his authorized agent", in the following sections:

3(A), 5(B), 7(A), 7(C), 7(E)(4a), 8(A), 8(B)(1), 8(B)(2), 8(C), 11(C), 12(B), 13(A), 13(B), 13(C).

(Ord. 97-25-0, 10-22-1997)

ADOPTED by the City Council of the City of Countryside, the 13th day of December, 1978.

WALTER H. KLIMCKE
CITY CLERK

APPROVED by the Mayor of the City of Countryside, the 13th day of December, 1978.

CARL LE GANT
MAYOR, CITY OF
COUNTRYSIDE

ATTEST:

WALTER H. KLIMCKE
CLERK, CITY OF
COUNTRYSIDE, ILLINOIS

ADOPTED: December 13, 1978.
APPROVED: December 13, 1978.
PUBLISHED: December 14, 1978.

COMPARATIVE TABLE

This table gives the disposition of legislation amendatory of the plumbing ordinance.

Date	Amend No.	Disposition
12-13-78	1–5	1.1.1
	6–8	2.1.1–2.3.1
	9–11	2.6.1–2.6.3
	12	2.7.1
	13	2.8.1
	14	2.10.1
	15	2.20.1
	16	2.22.1
	17	2.23.1–2.23.5, 2.24.1
	18	3.15.1
	19, 20	4.1.1, 4.2.1
	21	4.3.1
	22	4.4.1
	23, 24	4.6.1, 4.6.2
	25	4.7.1
	26	4.8.1
	27	4.9.1, 4.9.2
	28	4.14.3
	29	4.15.1
	30	4.16.1
	31	5.2.1
	32	5.8 (title)
	33	5.8.2
	34	5.9.1–5.9.3, 5.10.1
	35, 36	6.1.2, 6.1.3
	37	6.5.1
	38	6.6.1
	38-a	6.7.1
	39	6.11.1, 6.11.2
	39-a	6.13.2
	40	6.19.1
	41	6.20.1
	42	6.21.1
	43	7.1.1–7.1.4, 7.2.1, 7.2.2, 7.3.1, 7.3.2
	44	7.5.1
	45	8.2.1
	46	8.5.1
	47	8.7.1
	48	6-3.09 (title)
	49	9.2.1
	50	9.3.1
	51	9.4.1, 9.4.2
	52	9.6.3
	53	9.7.1
	54	9.11.1
	55	9.13.1, 9.13.2
	56	9.17.1
	57	9.18.1
	58	9.18.2, 9.18.3
	58-a, 59	9.21.3
	60	9.27.2, 9.27.3, 9.28 (title)
	61	9.30.1, 9.30.2
	62	9.33.1
	63	9.35.1
	64	9.37.1
	65	9.38.1, 9.39.1
	66	10.1.2
	67	10.20.1, 10.21.1, 10.21.2
	68	10.24.1
	69	10.25.1
	70	10.26.1
	71	10.30.1
	72	11.9.5
	73	Gas Regs. Intro ¶
	74	13.1.2
	75	13.2.1
	76	15.6.1
	77	17.4.2