

CHAPTER 225
PLUMBING AND DRAINAGE

TABLE

SUBCHAPTER 1
STATE RULES AND LOCAL ENFORCEMENT

225-01 Adoption of State Law
 225-02 Retroactivity of Various Wisconsin Administrative Code Plumbing Provisions
 225-1 Administration
 225-2 Registration of Plumbing Businesses
 225-3 Plumbing Permits Required
 225-4 Drainage of Yard Areas and Roofs
 225-5 Drain Tile
 225-6 Trench Drains
 225-7 Flooding in Critical Backwater Area
 225-8 Sump Pump Regulations
 225-9 Abandonment of Sewer and Water Connections
 225-10 Main House Trap
 225-11 Trapping Prohibited
 225-12 Building Sewers and Drains in Combined Sewer Areas
 225-13 Permits

SUBCHAPTER 2
SEWAGE DISPOSAL SYSTEMS

225-14 Definitions
 225-15 Permit Required for Individual Sewage Disposal System
 225-16 Examination
 225-17 Independent Plumbing and Drainage System
 225-18 Maintenance of Individual Sewage Disposal System
 225-19 Hearings
 225-20 Rules and Regulations
 225-21 Inspection and Enforcement
 225-22 Municipal Service
 225-23 Private Sewage Systems

SUBCHAPTER 3
GAS PIPING SYSTEMS

225-31 Gas Piping Systems; Scope
 225-32 Gas Piping and Fittings
 225-33 Abandoned Gas Piping

SUBCHAPTER 4
WELL ABANDONMENT AND WELL OPERATION PERMIT

225-35 Scope
 225-37 Definitions
 225-39 Abandonment Required
 225-41 Well Operation Permit
 225-43 Abandonment Procedure
 225-45 Penalties

SUBCHAPTER 1
STATE RULES AND LOCAL ENFORCEMENT

225-01. Adoption of State Law. Except as otherwise provided in this chapter, the city of Milwaukee adopts ss. 145.01, 145.06, 145.11, 145.15(4) and 145.175, Wis. Stats., as amended, and chs. SPS 81-87, Wis. Adm. Code, as amended, as part of this code.

225-02. Retroactivity of Various Wisconsin Administrative Code Plumbing Provisions. Sections SPS 382.21, 382.30, 382.31 and 382.41, Wis. Adm. Code, as amended, shall apply retroactively if upon inspection of any part of an existing plumbing system a condition is identified that tends to create a potential health hazard. If such a condition is identified by the department, then the plumbing system or any part thereof shall be repaired, renovated, replaced, or removed in conformity and compliance with ss. SPS 382.21, 382.30, 382.31 and 382.41, Wis. Adm. Code, as amended.

225-1. Administration. 1. ENFORCEMENT. The commissioners of neighborhood services, health and public works, where specified, or their duly authorized representatives, shall enforce this chapter.

2. DUTIES. a. The commissioner of neighborhood services shall:

a-1. Register upon application every master plumber carrying on his or her trade or business in the city.

a-2. Inspect all plumbing and drainage installations, including connections to main sewer.

a-3. Conduct and witness tests as regulated in this chapter.

225-2 Plumbing and Drainage

a-4. Sign and issue all notices or orders and certificates of inspection and approval.

a-5. Keep a daily record of all inspections and tests made, notices, complaints received and investigated, notices and orders served, and all other services performed.

a-6. Make an annual report.

a-7. Enforce this code.

b. The commissioner shall:

b-1. Examine, approve or reject plans for plumbing.

b-2. Approve applications for permits for all such installations when in compliance with this code.

b-3. Keep a daily record of all permits issued.

225-2. Registration of Plumbing Businesses.

1. REQUIRED. No person may carry on the business of plumbing in the city without having registered his or her name, place of business and license number in the office of the commissioner.

2. BONDS. a. No person may engage in or work at plumbing without first having executed and deposited with the department a performance bond in the penal sum of \$10,000 and an indemnity bond in the penal sum of \$50,000 for each person injured or the property of any person damaged. No person may engage in or work at drainlaying without first having executed and deposited with the department an indemnity bond in the penal sum of \$50,000 for each person injured or the property of any person damaged, or in lieu of the indemnity bond a certificate of insurance in the sum of \$50,000 for each person injured or the property of any person damaged. The bonds of the performance bond and certificate of insurance shall be in the form designated by the commissioner in accordance with the specifications set forth in pars. b and c, and be approved by the commissioner as to the sufficiency of sureties. Any person intending to engage in or work at both plumbing and drainlaying need file only one indemnity bond or certificate of insurance covering both operations and one performance bond.

b. The performance bond shall be conditioned that the applicant will perform and sufficiently complete all work for which permits are issued in accordance with the plumbing codes of the state of Wisconsin, city of Milwaukee and all other ordinances of the city of Milwaukee, within a

reasonable time so as to fully protect the public health, safety and welfare. In addition, the bond shall provide: that the applicant will backfill and maintain any street, alley or public grounds in any openings or excavations that are made as directed by and to the satisfaction of the commissioner of public works for a period of 6 months after initially backfilling the same and shall pay the cost of restoring the permanent surfaces of the street, alley or public grounds by the city; that in the event that at any time the backfilling of any ditches or excavations between the curb and lot line is found defective in that future settling occurs within a period of 3 years after the date of completion of the work, shall make or cause to be made necessary resultant repairs to curbs, sidewalks, driveways, etc., subject to the provisions of ch. 115 and the rules and regulations established by the commissioner of public works; and that the applicant shall reimburse the city for all damages done by himself, his agents, employes, or subcontractors. The cost of restoring the surface shall be charged to the plumber or drainlayer against the deposit made for the restoration of said surface.

c. The indemnity bond or certificate of insurance shall be conditioned: that the applicant will indemnify and save harmless the city of Milwaukee, its officers and agents against any and all injuries or property damage resulting or arising from any negligence on the part of the applicant, agents, employes and subcontractors; that the applicant or his insurer shall notify the city in writing at least 10 days prior to the cancellation of any certificate of insurance afforded hereunder.

225-3. Plumbing Permits Required.

1. ISSUANCE. No permit for plumbing shall be issued by the commissioner to any person not duly licensed, registered and bonded. Permits issued shall be subject to the rules and regulations of the commissioner, and it shall be unlawful to do any plumbing without a permit with the exception of work as regulated in sub. 3 and work exempted under s. 200-24-1.5.

2. ONE-FAMILY DWELLING. Nothing contained in this chapter shall be construed to prohibit a property owner from doing plumbing work within a one-family dwelling occupied by the owner as his or her home, provided a permit is obtained and the installation is made in accordance with the regulations of this chapter.

3. FAUCETS, ETC. Nothing contained in this chapter will prohibit the elimination of leaks, removing obstructions in soil, waste, and supply pipes, restoring defective valves, faucets, and similar appliances to an efficient operating condition, by others than licensed plumbers, but does not include the installation or changing the location of vertical or horizontal lines of soil, waste, vent supply or interior leader (conductor) pipes in buildings other than one family owner-occupied home.

4. PLUMBING WITHOUT PERMIT. No person may install, alter, extend, move or remove any plumbing, plumbing system, lay any drain pipe, make any attachment to any drain, sewer or manhole, or do any work whatsoever in connection with any sewer service lateral, or public or private sewer leading into any city sewers, or to any river, lake or stream, without first obtaining a permit from the commissioner of city development. Any person violating this regulation shall be subject to penalty pursuant to s. 200-19-2.

5. STOP WORK ORDER. a. When it is found that any plumbing installation is being made, or that any plumbing device, equipment or fixtures required by this code are being installed contrary to the provisions of this code, or that such plumbing installations, devices, equipment or fixtures installed are dangerous or unsafe, the commissioner may issue or cause to be issued a stop work order. Any person violating this regulation shall be subject to penalty pursuant to s. 200-19-2.

b. Such stop work order shall be in writing and shall be served upon the owner of such property, a duly authorized agent or the person responsible for such work. The stop work order shall set forth the reasons why such work is being stopped, and the provisions of the code being violated.

c. A stop work order shall be posted in a conspicuous place upon the premises and it shall be unlawful for any person to remove such order or to perform any work on the plumbing installation, device, equipment or fixtures, so long as the stop work order shall remain.

225-4. Drainage of Yard Areas and Roofs.

1. UNDERGROUND DRAINS. All underground drains from roof rainwater leaders, paved areas, yards, courts and subsurface drains shall be mechanically connected to a storm sewer or combined sewer when they are available and abutting the property, except that such drains may

discharge in an approved manner into an adjacent lake, river or stream, provided they are not in conflict with the rules of the Milwaukee metropolitan sewerage district.

2. ROOF RAINWATER LEADERS (CONDUCTORS). a. Discharge to Finished Grade; When Permitted. All buildings, including accessory buildings, may discharge roof rainwater leaders, conductors or downspouts to finished grade provided the discharge to finished grade meets all of the following provisions:

a-1. The point of discharge shall be a minimum of 2 feet from a basement or a foundation wall or alley property line and 5 feet from all other property lines.

a-2. The discharge shall flow parallel to or away from the nearest property line.

a-3. The discharge water shall not discharge to a street, alley or other public way.

a-4. The discharge water shall not create an icy condition on any pedestrian walkways within or adjacent to the subject premises lot lines.

a-5. The downspout hub shall be sealed with a 1" concrete cap or in a manner approved by the commissioner.

b. Connection to Combined Sewer Prohibited. For all residential structures containing 4 or fewer dwelling units and newly-constructed, or renovated to 50% or more of assessed value, on or after January 1, 2016, that do not have the option of discharging to a storm sewer, and for which discharge to finished grade from roof rainwater leaders, conductors or downspouts of any building, including any accessory building, can meet the provisions of par. a, all roof rainwater leaders, conductors or downspouts shall discharge to the finished grade.

c. Connection to Sewer Required. Whenever discharge to finished grade from the roof rainwater leaders, conductors or downspouts of any building, including any accessory building, cannot meet the provisions of par. a, all roof rainwater leaders, conductors or downspouts, except for those excepted by par. b, shall be mechanically connected to the storm sewer or combined sewer, or to an approved storm sewer facility when it is available and abutting the property. This shall include parcels that have access by easement or private roads when the storm sewer is available at the point of access.

d. Waiver. Any provision of par. a may be waived by the commissioner if the property owner submits, and the commissioner accepts, plans for a discharge system designed by a registered civil engineer for purposes of complying with the intent of par. a.

225-4-2.5 Plumbing and Drainage

e. Use as Support Prohibited. No conductor, roof rainwater leader or downspout shall be used as a support for any part of a building, structure or appendage to same.

f. Installation and Maintenance. All outside roof leaders (conductors) installed under or in the ground shall be installed as regulated in s. SPS 382.36, Wis. Adm. Code. Conductors shall terminate with an approved pipe above grade. The sheet metal conductors shall be connected and sealed to the pipe in an approved manner. Roof leaders (conductors) connecting to the storm building drain in the basement shall be of an approved pipe material to a point at least 2 feet inside the basement foundation wall. Roof leaders (conductors) shall be maintained in good repair and free of stoppages.

g. Discharge into Catch Basin or Sand Interceptor Prohibited. Rainwater leaders in the combined sewer area shall not discharge into a catch basin or sand interceptor. The sewer from the rainwater leader shall bypass the catch basin or sand interceptor and shall have a direct connection to the sewer system.

2.5 RAIN BARRELS. a. Definition. In this subsection, a rain barrel means an above-ground prefabricated storage receptacle with an automatic overflow diversion system that collects and stores storm water runoff from the roof of a structure that would have been otherwise routed into a storm drain.

b. Rain Barrels Permitted. Rain barrels shall be permitted provided that the overflow discharge conforms to the provisions of s. 225-4-2-a, or is designed to overflow to a treatment drain or storm water conveyance system.

c. Requirements. A rain barrel shall be securely covered, include an inlet screen, have an overflow discharge device sized to adequately convey overflow to the point of discharge and have a convenient and functional means of water withdrawal.

3. NEWLY PAVED AREAS OR PARKING LOTS. a. Storm Sewer Required. As regulated in s. 252-74, storm sewers shall be required for all paved areas except that paved areas for gasoline pumping islands shall be drained to the streets.

b. Permeable Paving. The commissioner may allow the use of permeable paving as regulated in s. 252-74. For newly paved areas or parking lots, the storm sewer requirement under this section may be waived by the commissioner if adequate drainage is provided.

c. Subsurface Drainage. Subsurface drainage for dewatering parking lots and other areas shall be connected to an approved catch basin before entering a city of Milwaukee sewer.

d. Catch Basins. Catch basins shall be located so that no point of the paved area is further than 300 feet from a catch basin or trench drain. All catch basins shall be connected to a storm or combined sewer.

e. Trench Drains. Trench drains shall be provided where all or part of the paved area is sloped toward the public right of way.

f. Sizing. All sewer lines and drains shall be sized in accordance with the provisions in this code and s. SPS 382.36, Wis. Adm. Code.

g. Slope. All paved areas shall be sloped in such a way that there is drainage toward a drain. Flat areas which allow ponding shall not be allowed. All paved areas shall be sloped away from the street or a trench drain shall be provided to prevent drainage onto the street or sidewalk.

h. Drainage Systems. Plans for a parking lot requiring a drainage system pursuant to s. 252-71 shall be submitted in triplicate to the commissioner of city development. Upon approval of the plans and payment of the fees set forth in s. 200-33, a plumbing permit shall be issued for the drainage system.

4. CATCH BASINS. a. Catch basins shall be constructed in a water-tight and substantial manner of concrete masonry, brick masonry, concrete block masonry, precast reinforced concrete, cast iron, bitumastic enamel coated 12 gauge steel, vitrified clay or other materials approved by the state department safety and professional services.

b. Catch basins in the combined sewer area shall be a minimum of 36 inches inside diameter and shall have a minimum depth of 48 inches to the flow or water line. The outlet shall be provided with a cast iron elbow or an inverted wye connection not less than 4 inches inside diameter and shall be submerged not less than 12 inches below the flow or water line and shall terminate not less than 18 inches above the bottom of the catch basin. A cleanout shall be provided in the horizontal pipe.

c. The catch basins and storm inlets shall have a fitted removable cover of a thickness and strength to sustain weight or traffic to which it will be subjected.

d. Catch basins, retention basins or ponds, underground vaults and filters designed for the management and regulations of storm water pursuant to ch. 120 shall meet the requirements of that chapter and of ss. SPS 382.20, 382.34, and 382.36, Wis. Adm. Code.

5. STORM INLETS. Storm inlets shall be installed as regulated in s. SPS 382.36, Wis. Adm. Code.

6. SEWER FACILITIES. A building shall be deemed to have sewer facilities available if it complies with s. 225-22-2-b.

7. OTHER DRAINAGES. Absorption, permeable paving, natural drainage alley and street drainages are covered in s. 252-71.

225-5. Drain Tile. 1. Subsoil drains placed under the basement floors, around the exterior foundation walls and footings and subsurface drains shall be intercepted by an approved drain tile receiver.

2. Where such drains are connected to a combined sewer, they shall discharge to an approved trapped catch basin, a trapped receiver with a backwater valve or to a clear water sump crock with the rim of the crock one inch above the floor.

3. Where such drains are connected to a storm sewer, they shall discharge into an approved trapped drain tile receiver with a backwater valve or to a clear water sump crock with the rim of the crock one inch above the floor. Where such drains are located outside the building for dewatering, they shall discharge into a trapped storm catch basin.

4. Under no circumstances may any subsoil, foundation, footing, window and door well or yard drains, unroofed basement excavations, cistern overflows, roof conductors or drains from areas exposed to rainfall connect directly to the sanitary sewer, nor shall they be permitted to discharge indirectly into the sanitary sewer.

5. For the installation of drain tiles, see s. 240-01 or s. 252-70.

225-6. Trench Drains. 1. Trench drains for paved lots or parking areas shall be installed entirely across points of ingress and egress of the premises and shall be connected to a storm or combined sewer. The trench shall have a minimum width of 6 inches and a minimum depth of 8 inches and may be constructed of concrete, cast iron, steel or an approved prefab unit. When constructed of concrete it shall have a minimum thickness of 6 inches. When a prefab unit, cast iron or steel unit is used, it shall be installed according to manufacturer's specifications. Where a trench drain is not practical, a catch basin or storm inlet may be used when the grade can be sloped away from the public right-of-way.

2. The trench shall be covered with an approved metal grate and frame having a minimum width of 6 inches and of sufficient strength to sustain the weight of traffic to which it will be subjected. Grates and frames in excess of 6 inches in width shall be proportionately stronger. Manufacturer's ratings will be accepted.

3. Steel load bearing grate bars shall have a minimum width of one and 3/16 inches and a minimum thickness of 3/16 inches set on edge spaced one and 3/16 inches on center.

4. All steel grating shall have the load bearing bars running the short distance and shall be continuously banded with bars on both sides across the face of the load bearing bars with the same material and size as the load bearing bars. Such banding bars shall be welded to the load bearing bars with a 3/16 inch fillet weld at least one inch long; one-quarter inch square twisted cross bars or equal on 4 inch centers shall be welded to the load bearing bars the length of and parallel to the banding bars.

5. All steel grates shall be set into a steel curb angle frame a minimum of one and 1/4 by one and 1/4 by 3/16 inches and set flush with the top of the grade or trench. Bent anchors a minimum of one by 3/16 by 5 inches long or equal shall be welded to the outer face of the angle frame at 3 foot intervals or less.

225-7 Plumbing and Drainage

6. Cast iron grates shall be rated "heavy duty" and shall have a minimum thickness of one and 3/4 inches and a minimum weight of 25 pounds per lineal foot. The drainage opening areas shall be a minimum 30% of the area of the grate. All cast iron grates shall be set into a cast iron or steel curb angle frame flush with the top of the grate or trench. Steel frames for cast iron grates shall be constructed the same as required for steel grates. Cast iron frames shall be a minimum 14 pounds per lineal foot and shall have integral cast anchors and tie lugs at 3 foot intervals or less.

7. Where interior trench drains are installed, the trench shall have a minimum width of 6 inches and a minimum depth of 8 inches and shall be constructed the same as outside trench drains. The frame and grate shall be as specified in this subsection.

225-7. Flooding in Critical Backwater Area. All plans for new buildings, alterations to existing buildings exceeding a total cost of \$50,000 for commercial buildings and \$10,000 for residential buildings, and building drain replacements shall be referred to the city engineer before any plumbing permit is issued for a determination whether the proposed project is within a critical backwater area. If it is determined to be in such an area, a plan to prevent backwater and basement flooding showing a detail of construction of the building sewer, building drain and soil, waste and vent piping shall be submitted to and approved by the commissioner of city development.

225-8. Sump Pump Regulations. 1. Except for dwellings and buildings described in s. 225-4-2-a-1, all sump pumps shall be connected to a storm sewer or combined sewer when available and abutting on the property unless otherwise approved by the commissioner. Dwellings and buildings described in s. 225-4-2-a-1 may disconnect sump pumps from a storm sewer or combined sewer and discharge sump pumps to finished grade. All discharges of sump pumps to finished grade for reasons of non-connection or disconnection of a previously connected system must meet all of the following provisions:

a. The discharge pipe shall exit the building at one foot above finished grade.

b. The point of discharge must be a minimum of 2 feet from a basement foundation wall and 5 feet from the property line.

c. The discharge must flow parallel to or away from the nearest property line.

d. The discharge water shall not discharge to a street, alley or other public way.

e. The discharge water shall not create an icy condition on any pedestrian walkways within or adjacent to the subject premises lot lines.

f. Owners of dwellings and buildings which may disconnect sump pumps as provided in this subsection may request the commissioner to waive the provisions of this subsection upon submission to and acceptance by the commissioner of a discharge system designed by a registered professional engineer or architect for purposes of complying with the intent of this subsection.

2. When a storm sewer or combined sewer is not available, the sump pump shall discharge to grade and must meet all of the following provisions, unless otherwise approved by the commissioner:

a. The discharge pipe shall exit the building at one foot above finished grade.

b. The point of discharge must be a minimum of 2 feet from a basement foundation wall and 5 feet from the property line.

c. The discharge must flow parallel to or away from the nearest property line.

d. The discharge water shall not discharge to a street, alley or other public way.

e. The discharge water shall not create an icy condition on any pedestrian walkways within or adjacent to the subject premises lot lines.

225-9. Abandonment of Sewer and Water Connections. 1. Any person, firm or corporation demolishing or moving a building or structure that is served by a sewer or water or both shall engage a licensed master plumber under a permit to properly abandon the building sewer or water service or both immediately inside the front lot line on private property. The plumbing permit shall be obtained from the department of city development before the commissioner of city development may issue a permit to demolish or move a building or structure.

2. The building sewer shall be disconnected at the front lot line and a pie or bulkhead installed. On a vitrified clay or concrete sewer, a pie shall be cemented into the bell or hub. If the pipe, bell or hub is broken, then a swab and 6 inches of concrete shall be inserted in the sewer as a permanent bulkhead. On a cast iron sewer, a cast iron plug with a lead caulked joint shall be installed.

3. Any septic tank or distribution box on the premises shall be pumped dry of its contents and filled with earth.

4. The water supply to the premises shall be turned off at the street main or at the curb or lot line by an authorized employe of the water works.

5. The water shall be disconnected at the front lot line and a plug or cap installed. On copper pipe, a plugged flared adapter shall be installed. On cast iron pipe, a cast iron plug or cap with a lead caulked joint shall be installed. On lead pipe, a solder joint shall be made.

225-10. Main House Trap. Main house traps may be removed in existing buildings where the roof terminals of conductors and rainwater leaders are favorably located. When main house traps are installed or replaced, they shall be provided with a fresh air inlet connected on the house side at least 2 feet from the water seal of the trap, and shall extend to the outer air, where it shall terminate with a 90 degree elbow turned down one foot above the permanent grade and 5 feet from any window, door or other air intake.

225-11. Trapping Prohibited. The trapping of sewers or drains is prohibited.

225-12. Building Sewers and Drains in Combined Sewer Areas. 1. INTERIOR PLUMBING. All building sanitary drains shall be connected to a public sanitary or combined sewer, approved private main sanitary sewer or private sewage system, except that a combined building sewer may be used, starting at a point 5 feet outside the building where the building is served by a combined municipal sewer.

2. SANITARY AND STORM WATER CONNECTIONS. The building sanitary sewer and building storm sewer shall be installed as 2 separate piping systems and shall connect to the appropriate street or public sewer except that a combined building sewer may be used, starting at a point 5 feet outside the building where the building is served by a combined municipal sewer.

3. SEGREGATION OF WASTES. Clear water from a refrigerated drinking fountain, water heater relief valve or water softener may discharge to a sanitary drain system, and a combined building sewer may be used, starting at a point 5 feet outside the building where the building is served by a combined municipal sewer.

225-13 Plumbing and Drainage

225-13. Permits. 1. PLAN AND PERMIT FEES.

No person shall install, alter, extend, move or remove any plumbing or plumbing system without first obtaining a permit therefor as regulated in s. 225-3 and this subsection.

2. APPLICATION. a. Any person desiring a permit as required by this chapter shall file with the commissioner of city development an application in writing on a form furnished for such purpose. Such application shall be signed by the registered master plumber or by the owner of the premises if the owner is doing the work.

b. The application shall state: that the owner will be bound by and be subject to all the rules and regulations prescribed by the commissioners of neighborhood services and public works; the premises number, aldermanic district, block and lot; size, kind and purpose for which the drain pipe is to be used; the number and kind of fixtures to be installed; nature of installation, construction, alteration or repair; and all other required information.

c. Any person who willfully makes false statements on any application for a permit shall be subject to the same penalty as provided for in s. 200-19.

3. PLANS. a. Complete plans in triplicate shall be submitted to the commissioner of city development for the installation of all plumbing systems in all buildings except dwellings, double dwellings and duplex dwellings, and for all additions and alterations to such systems.

b. Such plumbing plans shall be submitted and approved by the commissioner of city development before any work is started.

c. Such plumbing plans shall illustrate and describe the plumbing system and shall show the location, kind and size of all drain pipes, soil pipes, vent pipes, fixtures, traps, receptacles and appliances to be installed. All essential information for such equipment shall be shown on the plans.

d. No subsequent alterations in approved plans shall be made without the approval of the commissioner of city development and all work shall be done in accordance with the approved plans.

e. One set of the approved plans shall be kept on the site of the work at all times.

4. NO PERMIT TO VIOLATORS.

a. Whenever the installation of any plumbing occurs contrary to the regulations of this chapter, the commissioner shall issue an order to the violator at his or her last known address to remedy the defective work. Failure to comply with the order shall be deemed sufficient reason for withholding further permits, in addition to other penalties provided in this code.

b. If, after the issuance of a permit, there is an unreasonable delay in the performance of plumbing work, or if there is a failure to promptly respond to official communications, then such acts shall also be deemed sufficient reason for withholding future permits.

5. EXPIRATION OF PERMITS. If any plumbing work for which a permit has been issued is not started within 6 months from the date of the issuance of the permit, or if the plumbing work ceases for more than 6 months, then such permit shall lapse and be void and all permit fees shall remain the property of the city. No plumbing work shall begin or be resumed until a new plumbing permit is obtained and the fees prescribed in s. 200-33 paid therefor.

SUBCHAPTER 2
SEWAGE DISPOSAL SYSTEMS

225-14. Definitions. In this subchapter:

1. ALTER means to change in one or more respects the characteristics of construction, installation or operation of an existing facility, but does not include replacement, repair or cleaning of parts of an existing facility.

2. APPROVED means accepted or acceptable under an applicable specification stated or cited in this subchapter, or accepted as suitable for the proposed use by the state department of safety and professional services.

3. COMMISSIONER OF HEALTH means the commissioner of health, his or her designated representative within the health department, or any other city official to whom the commissioner's functions or duties under this subchapter have been delegated pursuant to a memorandum of understanding.

4. HOLDING TANK means a tank conforming to the requirements of subch. IV, SPS 383, Wis. Adm. Code, which is intended for retaining sanitary sewage and intended to be emptied by licensed scavengers and disposed of in a public sewage disposal system.

5. INDIVIDUAL SEWAGE DISPOSAL SYSTEM means a sewage disposal system serving one premises, which system is not operated by the Milwaukee metropolitan sewerage district.

6. SEEPAGE PIT means a covered pit with an open-jointed lining through which septic tank effluent may seep or leach into the surrounding porous soil.

7. SEPTIC TANK means a watertight receptacle which receives the discharge of a draining system or part thereof and which is designed and constructed so as to separate solids from the liquid, digest organic matter through a period of detention, and allow the liquid to discharge into the soil outside of the tank through a system of perforated piping or through a seepage pit.

8. SEWAGE DISPOSAL SYSTEM means a sewer system and any or all connected sewage treatment facilities.

9. SUBSURFACE DISPOSAL FIELD means a system of perforated drains through which septic tank effluent is distributed beneath the surface of the ground and absorbed into the soil.

225-15. Permit Required for Individual Sewage Disposal System. 1. COMMISSIONER OF HEALTH. No person shall construct, install, build or alter any individual sewage disposal system without having first obtained from the commissioner of health a valid permit authorizing the person to perform the work for the specific system for which the permit was issued. Application for permits shall be made in the office of the commissioner of health on forms furnished by the commissioner and prepared in duplicate by the person applying for the permit. Such applications shall be accompanied by an appropriate form as required by ch. SPS 383, Wis. Adm. Code, giving the results of the soil percolation tests performed by a certified soil tester.

2. EXAMINATION. a. The commissioner of health shall be notified in writing at least 5 days prior to the soil percolation tests of the intent and the date and time the certified soil tester will be conducting such tests to allow the commissioner to observe the testing in progress. Failure to provide such notification will be cause of the commissioner of health to reject the results of such tests.

b. The commissioner of health may provide on-site examination of the soil percolation test performed by a certified soil tester to determine whether the test was performed in accordance with s. SPS 385.60, Wis. Adm. Code, to insure that the installation of an individual sewage disposal system is not likely to produce a public health nuisance.

3. COMMISSIONER OF CITY DEVELOPMENT. The commissioner of city development shall not issue a permit for the construction, erection or alteration of any building or structure containing or intended to contain any plumbing fixture or equipment which is now or is intended to be connected to any individual sewage disposal system unless the applicant for the permit has first obtained from the commissioner of health a valid permit for construction or alteration of an individual sewage disposal system as provided in sub. 1.

225-16. Examination. 1. EXAMINATION FEES.

a. Each applicant for any permit required in accordance with s. 225-15 shall pay to the city treasurer the examination fee specified in s. 200-33 prior to filing the application for permit in the office of the commissioner of health. The

225-17 Plumbing and Drainage

examination fee shall be for a permit to construct or alter an individual sewage disposal system or to provide a holding tank in conformation with the appropriate provisions of ch. SPS 383, Wis. Adm. Code.

b. The examination fee specified in s. 200-33 is intended to defray in whole or in part, the costs to the city in performing examinations to determine if the proposed sewage disposal system, as described in the required application, is designed to be in conformity with this subchapter.

2. ISSUANCE OF PERMIT. The commissioner of health shall issue a permit as specified in s. 22515 only after he has determined that all of the provisions of this subchapter have been complied with. Such permits shall remain valid for a period of 2 years and may be extended for an additional 2 year period if such extension is deemed appropriate by the commissioner of health.

225-17. Independent Plumbing and Drainage System. 1. NEW INSTALLATIONS. The plumbing and drainage system of each new building or structure or a new plumbing and drainage system installed in an existing building or structure shall be entirely separate and independent from that of any other building or structure. Every building or structure shall have an independent connection with a public or private main sewer when available. Private main sewers shall conform to specifications of public main sewers and shall be approved by the department of city development and the infrastructure services division, department of public works.

2. USE OF EXISTING DRAINS AND SEWERS. Old building drains and sewers may be used in connection with new buildings or structures or new plumbing systems only when such drains and sewers are found on examination and tests to conform in all respects to the regulations relating to drains or sewers. If such installations are found to be defective, the department shall notify the owner of the premises or his agent in writing of the changes necessary to make such installations conform with regulations of this chapter.

225-18. Maintenance of Individual Sewage Disposal System. 1. The owner of any premises served by an individual sewage disposal system shall be responsible for the operation and maintenance of the system, and the operation shall at all times be carried out in a manner which will preclude the development of any public health nuisance or the pollution of any public watercourse. Whenever the commissioner of health determines that an individual sewage disposal system is being operated in such a manner as to cause a public health nuisance or the pollution of any public watercourse, the commissioner of health shall serve notice of such violation on the owner of the premises served by such sewage disposal system; or in cases where a building used for human habitation is located adjacent to a sanitary or combined sewer, the commissioner of health shall notify the commissioner of neighborhood services, who shall issue an order to the owner to connect to the sanitary or combined sewer within 10 days after service of the order.

2. The order shall:

- a. Be put in writing.
- b. Include a description of the real estate sufficient for identification.
- c. Include a statement of the reason or reasons why it is being issued.
- d. Allow a reasonable time for the completion of any act it requires.
- e. Be served upon the owner. The order shall be deemed to be properly served upon the owner if a copy is delivered to the owner personally, or if not found, by leaving a copy at the owner's usual place of abode in the presence of someone of the family of suitable age and discretion who shall be informed of the contents, or by sending a copy by registered mail with return receipt requested to the owner's last known address, or, if the registered letter with the copy is returned with a receipt showing it has not been delivered, by posting a copy in a conspicuous place in or about the premises affected by the order.

3. The order may contain an outline of remedial action which, if taken, will result in compliance with this subchapter and with rules and regulations adopted pursuant to this subchapter, and ch. SPS 383, Wis. Adm. Code. If the owner of any premises served by an individual sewage disposal system fails to comply with the requirements of the order and

continues to operate the system in such a manner as to cause the development of any public health nuisance or the pollution of any public watercourse, the commissioner of health shall operate the system and make whatever changes he deems necessary in the system, including reconstruction, repair or alteration to attain its proper operation; or the commissioner of neighborhood services shall cause connection to be made to the sanitary or combined sewer, and the cost of reconstruction, repair or alteration and the cost of operation of the system shall be made at the expense of the city; the cost of the connection to the sanitary or combined sewer and the sums so expended in the abatement or removal of any nuisance or nuisances in such cases shall be a lien in the same manner as any tax upon real estate upon the premises served by the individual sewage disposal system; the sums to be collected in the manner specified in s. 17-12, city charter.

4. Nothing in this subchapter shall be construed so as to take away any of the powers of the city to abate a nuisance by an action under applicable provisions of state law, charter or simple ordinance, in cases where there is the development of any public health nuisance or the pollution of any watercourse.

225-19. Hearings. 1. BY WRITTEN REQUEST. If the commissioner of health refuses to issue a permit for construction or alteration of an individual sewage disposal system, the applicant for the permit may file in the office of the commissioner of health a written request for a public hearing by the commissioner. The commissioner shall hold a public hearing at a time and place designated by him within 20 days of the date on which the written request was filed. The petitioner for the hearing shall be notified of the time and place of the hearing not less than 5 days prior to the date on which the hearing is to be held. The proceedings of such hearings, together with the findings and decision of the commissioner of health, shall be reduced to writing and placed on file in the office of the commissioner, and a copy shall be served on the petitioner by the commissioner of health or by delivery to the petitioner by registered mail, return receipt requested.

2. **REVIEW.** Any persons, jointly or severally, aggrieved by the decision of the commissioner of health, or any taxpayer, or any officer, department, board or bureau of the city, may seek relief by having the decision reviewed by the circuit court by certiorari, if the petition for the writ is presented to the court within 20 days after the date on which a copy of the hearing

proceedings with the commissioner's decision was served on the person who filed the petition for hearing, and if the person aggrieved notifies the commissioner within 10 days after a copy of the hearing proceedings with the commissioner's decision was served on him of his intention to present such petition to the court. Such petition, duly verified, shall set forth that such decision is illegal in whole or in part, specifying the grounds.

225-20. Rules and Regulations. The commissioner of health is authorized to make and adopt written rules and regulations necessary to carry out the provisions of this subchapter. Such rules and regulations shall have the same force and effect as the provisions of this code, and the penalty for violation thereof shall be the same as the penalty for violation of the provisions of this subchapter. A copy of such rules and regulations shall be kept on file in the city clerk's office, in the legislative reference bureau, and in the office of the commissioner of health.

225-21. Inspection and Enforcement. Within 3 days after the commissioner of health issues a permit for the construction or alteration of an individual sewage disposal system, he shall transmit to the commissioner of neighborhood services a copy of the permit. The commissioner of neighborhood services, or an authorized representative, shall make such inspections as necessary to assure that every individual sewage system is constructed, installed or altered in accordance with the requirements set forth in the permit, and the commissioner of neighborhood services may prosecute any person who violates the terms of a valid permit issued by the commissioner of health.

225-22. Municipal Service. To preserve public health, comfort and safety, every building intended for human habitation or occupancy and located adjacent to a sanitary sewer, storm sewer or water main shall be connected to each or all in a manner prescribed in this section.

225-23 Plumbing and Drainage

1.a. Every building shall be provided with a supply of potable water in compliance with this section.

b. All property shall be connected to the water main prior to sale, except as provided in par. c.

c. If a property is not connected to the water main because of an existing well, the owner is not required to connect if a statement concerning the property is recorded by the property owner with the register of deeds stating that there is no connection to the public water main at this time and connection is required by ordinance to be made within 30 days after the sale of such property.

d. All property shall be connected to the public water main within 30 days of sale.

e. All property shall be connected to the public water main immediately if upon inspection the private well proves not to be working properly or if the well proves to be tested unsafe in accordance with s. 225-37-4.

2. When sanitary sewers approved by the Wisconsin department of natural resources and the department of public works become available, the use of a private sewerage system shall be discontinued within the time stipulated by order of the commissioner but not to exceed a period of one year.

a. When public sewers become available to any premises served by a private sewage disposal system, the private sewage system shall be discontinued and the building sewer shall be connected to the public sanitary sewer within the time allotted under sub. 2 except where a hardship can be justified by letter, but not to exceed 30 days after the sale of such properties. Such properties shall be connected to the public sewer immediately if upon inspection the private disposal system proves not to be working properly.

b. A building shall be deemed to have the facility available if the premises on which the building is located has been determined by the commissioner of public works to be served by the respective facility.

225-23. Private Sewage Systems.

1. ADOPTION. This section is adopted pursuant to s. 59.70(5), Wis. Stats.

a. This section shall be subject to the provisions of ch. 145, Wis. Stats., and all subsequent rules and regulations promulgated thereunder regarding private sewage systems.

b. This section shall not be more lenient or more stringent than the rules and regulations promulgated pursuant to ch. 145, Wis. Stats.

2. ISSUING AGENT. The commissioner shall act as the issuing agent and is assigned the duties of administering the private sewage system program.

3. SANITARY PERMIT. a Validity.

a-1. No person may install a private sewage system unless the owner of the property on which the private sewage system is to be installed holds a valid sanitary permit.

a-2. No person may sell at retail a septic tank for installation unless the purchaser holds a valid sanitary permit.

a-3. A sanitary permit is valid for 2 years from the date of issue and renewable for similar periods thereafter.

a-4. A sanitary permit may be transferred from the holder to a subsequent owner of the land, except that the subsequent owner must obtain a new copy of the sanitary permit from the issuing agent.

b. Application Forms. The issuing agent shall use the sanitary permit forms provided by the Wisconsin department of safety and professional services.

c. Application Process. c-1. The applicant shall submit the completed sanitary permit application to the issuing agent.

c-2. The issuing agent shall review the certified soil tester reports for the proposed private sewage systems and verify the report at the proposed site if necessary.

c-3. The issuing agent shall approve or disapprove application for sanitary permits and assist applicants in preparing an approvable application.

c-4. The issuing agent shall issue written notice to each applicant whose sanitary permit application is disapproved. Each notice shall:

c-4-a. State the specific reasons for disapproval and amendments to the application, if any, which would render the application approvable.

c-4-b. Inform the applicant of the right to appeal and the procedures for conducting an appeal to the commission under s. 200-17.

4. FEES. a. The fee for a sanitary permit shall be as specified for a septic system or holding tank under s. 200-33.

a-1. The city may not charge more than one fee for a sanitary permit or the renewal of a sanitary permit in any 12 month period.

a-2. The issuing agent shall forward a copy of each valid sanitary permit and \$14 of the fee to the Wisconsin department of safety and professional services within 90 days after the permit is issued.

b. Other Fees. b-1. The fee for the transfer of a sanitary permit shall be the same as the original permit fee.

b-2. The fee for the installation of an alternative design system shall be the same as the original permit fee.

5. INSPECTION. a. The issuing agent shall inspect or cause the inspection of all private sewage systems after construction, but before backfilling, no later than the end of the next workday, excluding Saturdays, Sundays and holidays, after receiving notice from the plumber in charge.

b. The issuing agent shall file reports and conduct surveys and inspections as required by city ordinance or the Wisconsin department of commerce.

6. VIOLATIONS. The issuing agent shall investigate violations of this section, issue orders to abate the violations, and submit orders to the city attorney for enforcement.

7. CITATIONS. Violations of this section are subject to the provisions of s. 66.0113, Wis. Stats.

8. OTHER DUTIES. The issuing agent shall perform other duties regarding private sewage systems as considered appropriate by the commissioner or as required by the rules of the Wisconsin department of commerce.

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SUBCHAPTER 3
GAS PIPING SYSTEMS

225-31. Gas Piping Systems; Scope.

1. INSTALLATIONS. The installation of gas piping shall include alteration, extension, replacement, relocation or removal of pipes, tubing, fittings and other apparatus inside of buildings or structures on the outlet side of meters for the distribution of gas for fuel or illuminating purposes from the meter to the appliance or fixture.

2. APPLIANCES. Supply connections to the exposed terminal outlet of the gas piping system shall not be considered a part of the gas piping system as herein regulated except as provided in s. 225-32-3.

3. APPROVAL. a. In addition to the regulations of this chapter and when not specifically regulated by this chapter, all work done in the installation of gas piping systems shall be done in accordance with approved practice, and such work and all materials used shall conform with accepted standard safe practice.

b. Practice which is in compliance with applicable and latest revisions of standards of either the United States of America Standards Institute, the American Gas Association, the National Fire Protection Association, the National Board of Fire Underwriters, or the Underwriters Laboratories, Inc., shall be deemed approved and to constitute accepted standard safe practice for the purpose of this chapter; provided, however, that any industrial and commercial installation, which shall be subject to the rules and regulations of the Wisconsin department of commerce, and which shall comply therewith, shall be deemed to meet the requirements of this section.

4. PERMIT REQUIRED. Except as exempted under s. 200-24-1.5, no gas piping shall be installed, altered, renewed, replaced or connected without first obtaining a permit.

225-32. Gas Piping and Fittings. 1. SUPPLY PIPES AND METERS. a. Every building or structure hereafter erected, and existing buildings or structures where gas piping is installed hereafter shall have the service or supply pipe equipped with an approved accessible shutoff located outside of the building or structure.

b. The gas utility or other gas supplier shall approve the location of its own meters and shall determine the manner and location of the supply gas pipe entry to a building or structure. The gas meter shall be accessible for inspection and maintenance at all times.

c. The gas piping system in buildings or structures shall extend to the outlet of the meter. Only the gas utility or other gas supplier shall connect its own gas meters to such system.

d. Only the agent or employes of the gas utility or other gas supplier shall disconnect either the inlet or outlet of its own gas meters for any purpose, or make any alterations, additions or changes to its gas service piping, meter connections or other gas supply facilities.

e. No gas meters and no gas piping shall be installed within any stair enclosure or exit passageway or within any other required means of enclosure.

2. SIZE AND QUALITY. a. The pipe of a gas piping system shall be of the sizes required to supply the number of outlets in the installation and shall not be less than the minimum size as recommended by the gas utility or other gas supplier for the appliance served.

b. Gas piping in buildings or structures shall be at least standard weight wrought iron or steel with standard malleable iron or other approved fittings. Joints shall be made with pipe-jointing compound. Approved metal tubing may be used in lieu of wrought iron or steel piping.

c. All connections to gas appliances shall be made with rigid metal pipe or approved metal tubing and provided with a shutoff and a ground joint union on the rigid pipe. The union shall be located between the shutoff and the appliance. Flexible tubing which consists in whole or in part of rubber will not be permitted on a stationary appliance or fixture.

3. GAS PIPING SUPPORTS. a. Gas piping in buildings shall be supported with pipe hooks, metal pipe straps, bands or hangers suitable for the size of piping, or adequate strength and quality, and located at proper intervals, so that the piping cannot be moved accidentally from the installed position. Gas piping shall not be supported by other piping.

b. Spacing of supports in gas piping installations shall not be greater than shown in Table 225-32-3-b.

225-33 Plumbing and Drainage

**TABLE 225-32-3-b
SUPPORT OF PIPING**

Size of Pipe (Inches)	Spacing of Supports (Feet)	Size of Tubing (Inch O.D.)	Spacing of Supports (Feet)
1/2	6	1/2	4
3/4 or 1	8	5/8 or 3/4	6
1-1/4 or larger (Horizontal)	10	7/8 or 1	8
1-1/4 or larger (Vertical)	every floor level		

4. AIR SUPPLY. The installation of gas-fired units of any type shall be permitted only in a room where an ample quantity of air for safe combustion and venting is supplied in an approved manner to such room or units. Gas-fired water heaters shall not be installed in bathrooms, bedrooms or any occupied rooms normally kept closed.

5. VENTILATION TO OUTER AIR. Gas-fired equipment and appliances shall be connected to a masonry chimney, metal smokestack or vent pipe to the outer air as regulated in ch. 264.

225-33. Abandoned Gas Piping. All existing buildings provided with gas piping intended for purposes of illumination shall have such piping disconnected and capped as near the gas meter as practicable. All other existing individual gas jets or fixtures shall also be removed or capped.

SUBCHAPTER 4
WELL ABANDONMENT AND WELL
OPERATION PERMIT

225-35. Scope. This subchapter is intended to protect the public health, safety and welfare by complying with s. NR 811.10, Wis. Adm. Code, which directs suppliers of water for municipal water systems to require the abandonment of all unused, unsafe or non-complying wells located on the premises served by their systems and to provide a permit system to allow retention of safe, code-complying wells, for the purposes of eliminating sources of unsafe water, preventing such wells from becoming channels for vertical movement of contaminated water, eliminating all existing cross-connections and preventing all future cross-connections. The requirements of this subchapter apply to all wells located on premises served by the city water system.

225-37. Definitions. In this subchapter:

1. **MUNICIPAL WATER SYSTEM** means the community water system owned by the city of Milwaukee.

2. **NON-COMPLYING** means a well or pump installation which does not comply with s. NR 812.42, Wis. Adm. Code, standards for existing installations and which has not been granted a variance pursuant to s. NR 812.43, Wis. Adm. Code.

3. **PUMP INSTALLATION** means the pump and related equipment used for withdrawing water from a well, including discharge piping, underground connections, pitless adapters, pressure tanks, pits, sampling faucets and well seals or caps.

4. **UNSAFE** means a well or pump installation which produces water that is bacteriologically contaminated or exceeds the drinking water standards of s. NR 812.06, Wis. Adm. Code, or for which a health advisory has been issued by the Wisconsin department of natural resources.

5. **UNUSED** means a well pump installation which is not used or does not have a functional piping system.

6. **WELL** means an excavation or opening into the ground made by digging, boring, drilling, driving or other methods for the purpose of obtaining groundwater for consumption or other use.

7. **WELL ABANDONMENT** means the proper filling and sealing of a well according to the provisions of s. NR 812.26, Wis. Adm. Code.

225-39. Abandonment Required. All wells on premises served by the municipal water system shall be properly abandoned in accordance with s. 225-43 no later than 30 days from November 30, 1993 or 30 days from the date of connection to the municipal water system, whichever is later, unless a valid well operation permit has been issued to the well owner by the commissioner of city development under the terms of s. 225-41.

225-41. Well Operation Permit. Owners of wells on premises with connections to the municipal water system wishing to retain their wells for any use shall make application for a well operation permit for each well no later than 30 days after November 30, 1993. Owners of wells on premises served by the municipal water system, but without connections to that system as of November 30, 1993, wishing to retain their wells for any use shall make application for a well operation permit for each well no later than 30 days after connection to the municipal water system. The commissioner of city development shall grant a permit to a well owner to operate a well for a period not to exceed 5 years, providing all conditions of this section are met. Prior to the issuance or renewal of a well operation permit, the commissioner of city development shall require inspections and water quality tests to be conducted by independent certified contractors, at the applicant's expense, to obtain or verify information necessary for consideration of a permit application or renewal. Permit applications and renewal requests shall be made on forms provided by the department of city development. The following conditions shall be met in order for a well operation permit to be issued or renewed:

1. The well and pump installation shall meet or may be upgraded to meet the "Standards for Existing Installations" described in s. NR 812.42, Wis. Adm. Code.

225-43 Plumbing and Drainage

2. The well and pump shall have a history of producing safe water, as evidenced by at least 2 coliform bacteria samples taken a minimum of 2 weeks apart. In areas where the Wisconsin department of natural resources has determined that groundwater aquifers are contaminated with substances other than bacteria, additional chemical tests may be required to prove safety of the water.

3. There shall be no cross-connections between the well's pump installation or distribution piping and the municipal water system.

4. The well water shall not discharge into a drain leading directly to a public sewer utility unless properly metered and authorized by the sewer utility.

5. The well shall have a functional pumping system.

6. The owner shall be able to demonstrate a need to use the well water in addition to the municipal water system.

7. All applicable fees specified in s. 200-33-43 shall be paid.

225-43. Abandonment Procedure. **1.** All wells abandoned under this subchapter shall be done in accordance with the procedures and methods of s. NR 812.26, Wis. Adm. Code. All debris, pumps, piping, unsealed liners and other obstructions which may interfere with sealing operations shall be removed prior to abandonment.

2. A licensed contractor is required to obtain a well abandonment permit from the department prior to any well abandonment and to notify the department in advance of any well abandonment activities. The department may require the verification of proper abandonment.

3. An abandonment report form, supplied by the Wisconsin department of natural resources and properly filled out, shall be submitted by the contractor to the department of neighborhood services and to the department of natural resources upon completion of the well abandonment.

4. All applicable fees specified in s. 200-33-43 shall be paid before issuance of a well abandonment permit.

225-45. Penalties. The applicable penalties listed in s. 200-19 shall apply.

Plumbing and Drainage 225--(HISTORY)

LEGISLATIVE HISTORY
CHAPTER 225

Abbreviations:

am = amended
cr = created

ra = renumbered and amended
rc = repealed and recreated

rn = renumbered
rp = repealed

<u>Section</u>	<u>Action</u>	<u>File</u>	<u>Passed</u>	<u>Effective</u>
225	cr	85-1396	12/20/85	1/1/86
225-01	am	961523	2/11/97	2/28/97
225-01	am	970131	5/13/97	5/31/97
225-01	am	080195	7/30/2008	8/16/2008
225-01	am	111233	1/18/2012	2/4/2012
225-02	cr	971171	12/16/97	1/8/98
225-02	am	111233	1/18/2012	2/4/2012
225-1-1	am	921114	11/20/92	12/11/92
225-1-1	am	980963	12/18/98	1/1/99
225-1-2	am	980963	12/18/98	1/1/99
225-1-2-b-0	am	120914	11/8/2012	1/1/2013
225-1-2-f	am	921114	11/20/92	12/11/92
225-1-2-g	am	921114	11/20/92	12/11/92
225-2-1	am	871091	11/17/87	12/10/87
225-2-2-a	am	871091	11/17/87	12/10/87
225-2-2-a	am	921058	10/30/92	11/18/92
225-2-2-a	am	980848	1/17/2007	2/3/2007
225-2-2-b	am	901415	12/21/90	1/12/91
225-3-1	am	871091	11/17/87	12/10/87
225-3-1	am	980963	12/18/98	1/1/99
225-3-1	am	121706	4/9/2013	4/26/2013
225-3-1	am	121804	12/17/2013	1/9/2014
225-3-4	am	910262	11/5/91	11/22/91
225-3-4	am	920519	7/28/92	8/14/92
225-3-4	am	980963	12/18/98	1/1/99
225-3-5-a	am	910262	11/5/91	11/22/91
225-3-5-a	am	920519	7/28/92	8/14/92
225-3-7	am	001458	2/27/2001	3/16/2001
225-4	rc	912059	11/20/92	12/11/92
225-4-2	rc	080195	7/30/2008	8/16/2008
225-4-2-a	am	980100	5/27/98	6/13/98
225-4-2-a	rc	000580	11/27/2001	12/14/2001
225-4-2-a-1-0	am	040421	11/3/2004	11/20/2004
225-4-2-a-2	cr	040421	11/3/2004	11/20/2004
225-4-2-a-2	am	070576	2/5/2008	2/22/2008
225-4-2-b	am	980100	5/27/98	6/13/98
225-4-2-b	rc	000580	11/27/2001	12/14/2001
225-4-2-b	rn to	151123	12/15/2015	12/31/2015/
	225-4-2-c			
225-4-2-b	cr	151123	12/15/2015	12/31/2015
225-4-2-c	rn to	151123	12/15/2015	12/31/2015
	225-4-2-d			
225-4-2-c	am	151123	12/15/2015	12/31/2015
225-4-2-d	am	970131	5/13/97	5/31/97
225-4-2-d	am	991066	11/9/99	11/24/99
225-4-2-d	rn to	151123	12/15/2015	12/31/2015
	225-4-2-e			
225-4-2-e	am	111233	1/18/2012	2/4/2012

225--(HISTORY) Plumbing and Drainage

225-4-2-e	rn to 225-4-2-f	151123	12/15/2015	12/31/2015
225-4-2-f	rc	930796	9/28/93	10/15/93
225-4-2-f	rc	000580	11/27/2001	12/14/2001
225-4-2-f	rn to 225-4-2-g	151123	12/15/2015	12/31/2015
225-4-2-h	cr	991066	11/9/99	11/24/99
225-4-2-h	rc	000580	11/27/2001	12/14/2001
225-4-2.5	cr	101212	3/1/2011	3/18/2011
225-4-3-b	rn to 225-4-3-c	070576	2/5/2008	2/22/2008
225-4-3-b	cr	070576	2/5/2008	2/22/2008
225-4-3-c	rn to 225-4-3-d	070576	2/5/2008	2/22/2008
225-4-3-d	rn to 225-4-3-e	070576	2/5/2008	2/22/2008
225-4-3-e	am	970131	5/13/97	5/31/97
225-4-3-e	rn to 225-4-3-f	070576	2/5/2008	2/22/2008
225-4-3-f	am	931043	11/9/93	11/30/93
225-4-3-f	rn to 225-4-3-g	070576	2/5/2008	2/22/2008
225-4-3-f	am	111233	1/18/2012	2/4/2012
225-4-3-g	rn to 225-4-3-h	070576	2/5/2008	2/22/2008
225-4-3-g	am	980963	12/18/98	1/1/99
225-4-4-a	am	961523	2/11/97	2/28/97
225-4-4-a	am	111223	1/18/2012	2/4/2012
225-4-4-d	cr	931043	11/9/93	11/30/93
225-4-4-d	am	970131	5/13/97	5/31/97
225-4-4-d	am	111233	1/18/2012	2/4/2012
225-4-5	am	970131	5/13/97	5/31/97
225-4-5	am	121706	4/9/2013	4/26/2013
225-4-6	am	871091	11/17/87	12/10/87
225-4-7	am	070576	2/5/2008	2/22/2008
225-5	rc	912059	11/20/92	12/11/92
225-6	rc	912059	11/20/92	12/11/92
225-7	rc	86-1015	11/21/86	12/12/86
225-7	am	980963	12/18/98	1/1/99
225-8	am	87-177	5/27/87	6/12/87
225-8-1	rc	000580	11/27/2001	12/14/2001
225-8-1-0	am	040421	11/3/2004	11/20/2004
225-8-1-f	cr	040421	11/3/2004	11/20/2004
225-8-2	rc	000580	11/27/2001	12/14/2001
225-9-1	am	980963	12/18/98	1/1/99
225-9-1	am	991065	11/9/99	11/24/99
225-9-2	am	991065	11/9/99	11/24/99
225-9-5	am	991065	11/9/99	11/24/99
225-9-6	rp	931042	11/9/93	11/30/93
225-12	rc	86-1015	11/21/86	12/12/86
225-13-1	am	871091	11/17/87	12/10/87
225-13-2-a	am	980963	12/18/98	1/1/99
225-13-2-b	am	980963	12/18/98	1/1/99
225-13-3-a	am	980963	12/18/98	1/1/99
225-13-3-b	am	980963	12/18/98	1/1/99
225-13-3-d	am	980963	12/18/98	1/1/99
225-13-4-a	am	921114	11/20/92	12/11/92

Plumbing and Drainage 225--(HISTORY)

225-14-2	am	111233	1/18/2012	2/4/2012
225-14-3	am	980963	12/18/98	1/1/99
225-14-4	am	970131	5/13/97	5/31/97
225-14-4	am	001458	2/27/2001	3/16/2001
225-14-4	am	111233	1/18/2012	2/4/2012
225-15-1	am	980939	10/30/98	11/18/98
225-15-1	am	111233	1/18/2012	2/4/2012
225-15-2-b	am	970131	5/13/97	5/31/97
225-15-2-b	am	001458	2/27/2001	3/16/2001
225-15-2-b	am	111233	1/18/2012	2/4/2012
225-15-3	am	980963	12/18/98	1/1/99
225-16-1-a	am	970131	5/13/97	5/31/97
225-16-1-a	am	111233	1/18/2012	2/4/2012
225-17-1	am	980963	12/18/98	1/1/99
225-18-1	am	921114	11/20/92	12/11/92
225-18-1	am	980963	12/18/98	1/1/99
225-18-2-0	am	921114	11/20/92	12/11/92
225-18-2-e	am	921114	11/20/92	12/11/92
225-18-3	am	921114	11/20/92	12/11/92
225-18-3	am	970131	5/13/97	5/31/97
225-18-3	am	980963	12/18/98	1/1/99
225-18-3	am	111233	1/18/2012	2/4/2012
225-21	am	980963	12/18/98	1/1/99
225-22-1	am	980963	12/18/98	1/1/99
225-22-1	rc	991650	4/11/2000	4/29/2000
225-22-2-0	am	980963	12/18/98	1/1/99
225-22-2-b	am	980100	5/27/98	6/13/98
225-22-3	rn	86-979	10/14/86	10/31/86
225-22-4	rn	86-979	10/14/86	10/31/86
225`-23-3-b	am	961523	2/11/97	2/28/97
225-23-3-b	am	111233	1/18/2012	2/4/2012
225-23-4-a-2	am	961523	2/11/97	2/28/97
225-23-4-a-2	am	111233	1/18/2011	2/4/2012
225-23-5-b	am	961523	2/11/97	2/28/97
225-23-7	am	001458	2/27/2001	3/16/2001
225-23-8	am	961523	2/11/97	2/28/97
225-31-2	am	921114	11/20/92	12/11/92
225-31-3-b	am	961523	2/11/97	2/28/97
225-31-4	cr	121804	12/17/2013	1/9/2014
225-35	cr	931042	11/9/93	11/30/93
225-37	cr	931042	11/9/93	11/30/93
225-39	cr	931042	11/9/93	11/30/93
225-39	am	980963	12/18/98	1/1/99
225-41	cr	931042	11/9/93	11/30/93
225-41-0	am	980963	12/18/98	1/1/99
225-43	cr	931042	11/9/93	11/30/93
225-43-2	am	980963	12/18/98	1/1/99
225-43-2	am	120914	11/8/2012	1/1/2013
225-43-3	am	980963	12/18/98	1/1/99
225-45	cr	931042	11/9/93	11/30/93

[Pages 212-230 are blank]