



WATER AND SEWER RULES AND REGULATIONS

January 2012

**CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS**

SECTION 1 - GENERAL RULES

1.1 GENERAL REGULATION

The Department of Public Works & Utilities, consisting of water supply, treatment and distribution, sewer treatment and collection, and storm water collection shall be governed by Chapter 1040, 1042 and 1050 of the Codified Ordinances, and any other ordinances or rules that have been promulgated by the City Council or by the Ohio Environmental Protection Agency.

1.2 DEFINITIONS

For the purpose of this chapter the words and phrases defined in sections hereunder shall have the meanings therein respectively ascribed to them, unless a different meaning is clearly indicated by the context.

DIRECTOR. Director shall mean the Director of Public Works & Utilities, unless otherwise noted

CITY. City shall mean the City of Middletown.

WATER SERVICE. Water Service shall mean the connection of a water service line with a water main.

SEWER SERVICE. Sewer Service shall mean the connection of a sewer lateral with a sewer main.

1.3 FIXED WATER PRESSURE NOT GUARANTEED

The City cannot guarantee consumers full volume, fixed pressure or an effective, continuous supply of water, such matters being subject to the varying conditions which may affect the operation and maintenance of the mains, services, pumping stations, reservoirs and other parts of the system.

1.4 WATER QUALITY NOT GUARANTEED

The City cannot guarantee that the water quality involving aesthetic appearance of the water will always be satisfactory. The use of hydrants may temporarily affect the appearance of the water which may result in staining of clothes or other material washed with such water. These events cannot be controlled by the City and care should be exercised by all customers in

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the use of water.

1.5 UNAUTHORIZED WATER CONNECTION PROHIBITED

It shall be unlawful for any person other than an authorized employee or other authorized agent of the City to tap any pipe or make attachments to any water pipe except under the provisions of these regulations. No person shall obtain water from a hydrant except authorized employees or other authorized agent of the City.

1.6 INSPECTIONS

Authorized employees of the City shall have the right, at any reasonable time, to enter the premises for the purpose of inspecting any water service connection or fire protection service, backflow prevention device, and any or all piping or equipment connected thereto.

1.7 LOCATION OF WATER AND SEWER SERVICE LINES

It is the property owner's responsibility to locate the water and sewer service lines on private property.

1.8 UNMETERED WATER USE

Except as provided within these regulations, no water service line shall be provided without first being fully metered. The only exceptions to this rule are for fire service using a detector check assembly and meter, and domestic water service during the period of construction of an industrial, commercial or residential use building. Prior to final inspection all construction shall be completed and the meter installed. No water service to actual occupancy of industrial, commercial, or residential premises shall be permitted without a meter being installed.

1.9 ADHERENCE TO RULES AND REGULATIONS

The Director shall be authorized to discontinue service for failure to comply with any portion of the rules and regulations.

1.10 AUTHORITY OF THE DIRECTOR

The Director will have the authority to make the final determination in matters not specifically addressed in the Rules and Regulations.

SECTION 2 - WATER MAIN INSTALLATION

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2.1 GENERAL INSTALLATION REQUIREMENTS

All water and sewer mains shall conform to the Engineering Division standards for water mains and appurtenances.

2.2 HYDROSTATIC TESTING AND DISINFECTION

2.2.1 GENERAL

The contractor shall be responsible for hydrostatic testing and disinfection of the water main and shall furnish, install, and bear the costs of all work, materials, and assistance required to complete these tests according to AWWA Standard for disinfecting water mains (ANSI/AWWA C651.92).

The following procedures are recommended when using either tablets or continuous feed procedures to provide chlorination of the new water main.

TABLET METHOD

1. Install pipe with tablets
2. Fill pipe
3. Pressure test
4. Disinfection period
5. Flush
6. Purity test

CONTINUOUS FEED METHOD

1. Install pipe
2. Flush pipe
3. Fill pipe in conjunction with chlorine injection
4. Pressure test
5. Disinfection period
6. Flush
7. Purity test

Operation of all valves and hydrants will be done only by employees of the Water Maintenance Division or other authorized agent. Under no circumstances shall the contractor or his employees open or close valves in the distribution system or operate fire hydrants connected to mains. This provision applies both to the valves and hydrants on existing mains, and to newly installed

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valves and hydrants and mains at the time of and after they are opened to receive water from City mains.

2.2.2 HYDROSTATIC (PRESSURE) TESTING

After chlorine has been introduced into the main, a pressure and leakage test shall be conducted by the contractor under the supervision of the Engineering Division.

The main shall remain isolated from adjacent mains and a gauge pressure of at least 150 psi shall be applied by pumping clean water containing 25 mg/l of chlorine. The duration of each pressure test shall be a minimum of one (1) hour.

All joints, fittings, valves, pipe, and hydrants will be carefully examined during the test. Any defective pipe, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and replaced with sound material and rechlorinated and retested until satisfactory to the Engineer.

A leakage test shall be conducted after the pressure test has been satisfactorily completed. The test shall be two (2) hours in duration and the water main shall be subjected to 150 psi gauge pressure. Leakage is defined as the quantity of water to be supplied into the new pipe installation to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled. No pipe installation will be accepted until the leakage is less than 11.6 U.S. gallons per 24 hours, per mile of pipe, per inch of nominal diameter of pipe. Should any test of the pipe installed disclose leakage greater than that specified, the Contractor shall, at his own expense, locate and repair the defects until the leakage is within the specified allowance. When satisfactory results of pressure and leakage tests are obtained, the Engineer will notify the Water Maintenance Division, which will flush the lines.

2.2.3 DISINFECTION

The contractor may choose the tablet or the continuous-feed (injection) method to accomplish initial disinfection of the new main. Use of the tablet method precludes preliminary flushing and cannot be used unless the main can be kept clean and dry.

a. Tablet Method Disinfection

Installation: All pipe interiors shall be cleaned before installation and be kept clean thereafter. At the time of installation, chlorine tablets shall be glued with a food-grade adhesive to the inside top of each length of pipe to facilitate future disinfection. Examples of food-grade adhesives are: Permatex Form A-Gasket

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No. 2 and Permatex Clear RTV Silicone Adhesive sealant. (USDA approved for contact with edible products.) The minimum number of tablets shall be in accordance with the following table.

TABLE 1

NUMBER OF HYPOCHLORITE TABLETS OF 5-G REQUIRED FOR DOSE OF 25 MG/L						
LENGTH OF SECTION -- FT.	DIAMETER OF PIPE -- INCHES					
	2"	4"	6"	8"	10"	12"
Less than 18 feet	1	1	1	1	2	3
18 feet	1	1	1	2	3	3
20 feet	1	1	1	2	3	4
30 feet	1	1	2	3	4	5
40 feet	1	1	2	3	5	7

Fill pipes: When installation has been completed, the main shall be filled with water at a velocity of less than one ft./sec. Where City water is available, the contractor will be given permission to use City water from mains under these rules and regulations governing the use of City water. Contractors wishing to use City water will notify the Engineer who will make the necessary arrangements.

b. Continuous Feed Disinfection

Installation: All pipe interiors shall be cleaned before installation and be kept clean thereafter.

Preliminary flush: The new main will be flushed at a velocity of at least 2.5 ft/sec.

Fill Pipes: A hypochlorite solution (calcium hypochlorite - HTH, sodium hypochlorite - bleach) shall be used of such strength to produce a concentration of 25 mg/l of chlorine in the main. The chlorinating agent shall be applied at the beginning within three feet of the valved section of the pipeline extension through a corporation cock inserted in the top of the new main. Water shall be supplied by City personnel from

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the existing City water main so as to flow slowly at a constant rate into the newly installed water main. The chlorine shall be applied continuously at a constant rate to develop a column of chlorinated water that will expose all interior surfaces to a concentration of approximately 25 mg/l. Valves and hydrants shall be operated so as to disinfect appurtenances and pipe branches. Chlorine application shall not cease until the entire main is filled with chlorinated water. If at any time the application of chlorine is interrupted, the flow of water shall be stopped until chlorine application is resumed.

After the main has been chlorinated, the solution shall remain in the main for at least 24 hours to assure disinfection. After the minimum 24 hours, the solution shall be tested at the extremities of the main and at intermediate points to make sure it has residual chlorine strength of 10 mg/l.

2.2.4 FLUSHING

After disinfecting the main, it shall be thoroughly flushed with City water at a fire hydrant or hydrants on the dead end or ends of the water main until the water in the main has approximately the same chlorine residual as water in the existing mains. This shall be done by personnel of the Water Maintenance Division. Flushing stations shall be placed as shown on the plans or as directed by the Engineering Division.

2.2.5 BACTERIOLOGICAL TESTS

Purity tests will be made by the Water Treatment Division 24 and 48 hours after the water main has been flushed and the chlorine residual is greater than 0.2 ppm and less than 1.0 ppm. In the case of high or low chlorine residual, no sample will be taken and the main will be reflushed before testing.

One water sample shall be collected from each sampling station. The sampling station shall consist of one 3/4-inch or one (1) inch copper service line extending upward to a bend at an elevation high enough to allow a valve or curb stop to be on the downward sweep of the bend and also be a minimum of two (2) feet above the existing ground line. A short section (6" to 12") of one (1) inch copper line shall be installed on the outlet of the valve or curb stop to provide positive drainage at all times. See Appendix 4 for purity test station configuration. Sampling stations shall be placed at a maximum spacing of 1200' and at all dead ends, or as directed by the Engineer.

If the results of the 24 and 48-hour bacteriological tests show the water to be satisfactory, the main shall be placed in service. If either bacteriological results show

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the water to be unsatisfactory, the main shall be disinfected again by the continuous-feed method described in Section 2.2.3.

When all tests on the water main have been successfully completed, the main shall be placed in service by the Water Maintenance Division and no further work on the main or its valves will be permitted without permission of the City.

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SECTION 3 - WATER & SEWER SERVICE APPLICATIONS

3.1 APPLICATION FOR SERVICE

Application for water and sewer service shall be made by the owner for each property. If the owner of any property elects to have his tenant or lessee sign for the water and sewer service, the tenant or lessee does so as the agent of the owner. The tenant or lessee shall be held responsible for all charges accrued during time of occupancy. However, the owner must apply for service in the case of a master meter serving more than one unit.

- (a) Application shall be made during regular working hours in the Water Billing office.
- (b) Each applicant shall state the name in which the account shall be carried together with the address where statements of account shall be mailed.
- (c) Each applicant shall state whether he is the owner, or if not, who is the owner and shall furnish the owner's address and phone number. All master meter applications must be in the owner's name.
- (d) Applicants must have photo identification. Owners must have proof of ownership (e.g. deed, settlement papers). Effective June 1, 2010, tenants must have proof of occupancy (rental agreement) and are required to provide a \$200 deposit. Any establishment selling liquor must sign up in the name of the liquor licensee and is required to provide a \$200 deposit (effective June 1, 2010).
- (e) When a customer requests a final bill, a statement will be sent provided an employee of the utility is able to obtain a water meter reading.
- (f) When requested, water will be turned on at the curb stop valve, provided that the owner or tenant or authorized agent is on the premises at the time of the turn-on or written request of the property owner is on file at the Water Billing office, that the valve is accessible, and that the service worker is able to obtain a reading of the water meter. The utility is not responsible for any water damage caused by a turn-on.
- (g) Water will be turned off at the curb stop valve if the premises are not occupied or if access cannot be obtained.
- (h) Every effort will be made to turn water on or off when requested, but the utility assumes no liability for failure to do so.
- (i) It is the owner's responsibility to notify the utility of any change in occupancy. In the

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event water is used without a processed application, the owner will be held accountable for such usage.

- (j) Any balance remaining on account that is final will not be refunded if it is less than or equal to \$2.00.

3.2 RESPONSIBILITY FOR PAYMENTS

Any person applying for water and/or sewer service, whether as an agent, tenant, or owner, obligates himself/herself for payment as the responsible party. The City will proceed against the person or business who has applied for the service for all unpaid charges and/or fees. In the case of rental agreements, all parties to the agreement will be obligated, jointly and severally.

3.3 WATER DEPOSITS

Effective June 1, 2010, a \$200 deposit is required from all renters requesting service. Upon request, property owners may be required to provide proof of ownership to avoid paying the deposit. The deposit will be deducted from the final bill or refunded upon payment of the final water bill. Any balance remaining on account that is final will not be refunded if it is less than or equal to \$2.00.

3.4 PROCEDURE WHEN TAP HAS BEEN PREVIOUSLY INSTALLED

Applicant, or person designated by applicant, shall apply for a Plumbing Permit from Building Inspection to install a water or sewer service line.

3.5 PROCEDURE WHEN TAP HAS NOT BEEN PREVIOUSLY INSTALLED

By making application for water or sewer service, or by using or permitting the use of such services, the owner and any other person using his service agree to be bound by all the provisions of the rules and regulations of the City.

Applications for fire services to Building Inspection must be accompanied by three (3) sets of plans illustrating the proposed fire protection system. Such applications must conform to rules governing such installations.

Applications for service to serve both fire protection and other purposes must meet the requirements for both types of service.

Where, in the opinion of the Director, a water main is inadequately supported by other water

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mains, applications for domestic service equal to the size of the main will not be accepted. Where the proposed installation is for commercial or industrial purposes and requires water for more than the necessary sanitary facilities for the occupants, the applicant shall submit a complete set of plans, a statement of the industrial or commercial use intended, and the mechanical designer's recommendation for the size of service and meter.

Property served must abut roadway. No water or sewer service line shall be installed to serve any premises unless the premises abuts a street or road in which a main has been installed across the entire abutting frontage to be served or the owner of such premises has paid his portion of the cost of extending a main across the entire abutting frontage of his premises. However, where a premise abuts on a street or road in which a main has not been installed, and it is not, in the opinion of the Director, feasible to extend a main across the entire frontage of such premises, the Director may permit the premises to be served by a service laid in a strip of ground running from the premises to a street or road in which a main has been installed if the owner has an irrevocable easement over said strip of land permitting the installation and maintenance of a water or sewer service line, and if the owner of said premises executes an agreement, in the form prescribed by the Director, which shall be recorded at the expense of the owner in the County Recorder's Office and which shall provide, in the case of premises located within the City of Middletown or of mains owned by the City of Middletown, that the owner will, at the request of the City, petition and pay his portion of the cost of an extension of a water or sewer main to service his premises. Such contract shall further provide that a failure of the owner of the premises to observe the items thereof shall be grounds for the termination of water service.

3.6 APPLICATION FOR SERVICE TAP

Application for permits to connect new service taps shall be made to the Building Inspection office; and associated fees paid in advance according to Schedule F of Appendix 1. A stake is to be placed where the location of the tap shall be made or exact measurements from the property line are to be furnished by applicant.

Installation will be performed by City crews including tapping of the main line, installation of the service line from the main to the curb stop, and the installation of the curb stop including the box (which will normally be installed behind the sidewalk). The City reserves the right to require the installation of large service lines (2" and over) to be performed by persons other than the City forces. In this event all work shall be performed in accordance with instructions issued by the City of Middletown.

3.6.1 PROCEDURE FOR SERVICES OUTSIDE CORPORATION LIMITS

Applications for permits to connect new service taps shall be made to the Building Inspection office; and associated fees deposited in advance for all size taps. Evidence

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shall be submitted that all charges due to the appropriate County or other jurisdiction have been paid, countersigned by the County Sanitary Engineer. Permit to open pavement or to work within the right-of-way must be obtained from the County Engineer. A stake is to be placed where the location of the tap shall be made or exact measurements from the property line shall be supplied by the applicant.

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SECTION 4 - WATER SERVICE INSTALLATION

4.1 PERMITS

No plumber or other person shall make a connection with any curb stop or other valve or connect to any water service line for the purpose of installing a water service to any building, structure or for any use where City water will be consumed or used, whether inside or outside of the City, until an application has been made in writing and a permit has been issued by the Division of Building Inspection of the City of Middletown, Ohio. The Division of Building Inspection shall issue the permit if the application is properly made and also after the applicant has paid the required fees. All work shall be performed in accordance with plumbing codes and inspected for conformance with these codes. Permanent water service will not be furnished until approval of the work is given.

4.2 DEFINITIONS

APPROVED BUILDINGS. A building will be considered approved for installation of a water meter if it has a solid foundation under same, exterior walls of a standard type and building or structure will be heated in cold weather.

CORPORATION STOP. The corporation stop is the valve at a water main used for connecting the water service to the water main.

CURB STOP. The curb stop is the valve located at or near the right-of-way, which is used to control water for turn-offs and turn-ons.

DUAL SERVICE BRANCH. Dual Service Branch is a combination service used for the purpose of fire fighting systems and domestic water service provided that the domestic service comes off before any fire fighting equipment and is installed per City of Middletown Water Rules and Regulations.

FIRE SERVICE BRANCH. Fire service branch is a private fire line for the purpose of fire suppression. This branch includes interior fire sprinkler systems and exterior fire hydrants and hose outlets.

METER SETS. A meter set is an assembly connected in the service line which consists of a meter and valves.

STOP AND WASTE VALVE. The stop and waste valve is the valve in all buildings or structures just prior to the water meter using water by which all water supply pipes within the building or structure can be cut off.

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WATER METER. A water meter is a device located on a water service that provides accurate water measurement.

4.3 GENERAL INSTALLATION REQUIREMENTS

When a water service line is installed, the tap connection to the water main and the portion of the service line within the right-of-way shall be installed in accordance with (i) and (ii):

- (i) The department shall install a water service, except under (ii) hereof, and it shall remain the property of the City.
- (ii) It shall be the obligation of every developer, or subdivider, whose development includes the extension of the City’s system, to provide a separate water service line for every lot or facility abutting proposed streets or rights-of-way within the development, which the water service line shall be installed from the water main to the edge of the right-of-way and shall become the property of the City upon acceptance.

Any such developer or subdivider shall be responsible for the proper installation, altering or repairing of such water service lines in accordance with the ordinances and rules and regulations of the City of Middletown.

No water service lines shall be installed for water supply purposes without a water meter.

4.3.1 SIZE

Minimum size of service shall be 3/4-inch. Where the distance from the water main to the meter exceeds 100 feet, the minimum size of the service line shall be 1-inch.

The following are minimum service and meter requirements for water service for residential use:

		<u>Service Size</u>	<u>Meter Size</u>
1	Family	3/4 Inch	5/8 x 3/4 Inch
2-5	Family	1 Inch	1 Inch
6-8	Family	1-1/2 Inch	1-1/2 Inch
9-12	Family	2 Inch	1-1/2 Inch
13-20	Family	2 Inch	2 Inch
21-50	Family	4 Inch	3 Inch
51-115	Family	4 Inch	4 Inch

Water service line system design criteria: The minimum size service line and meter size of residential water service lines over 100' and all commercial and industrial users shall

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be sized per the current Ohio Plumbing Code. The table below lists maximum flows:

<u>Size of Meter</u>	<u>Maximum Flow in Gallons Per Minute</u>
5/8 x 3/4 Inch	20
3/4 Inch	30
1 Inch	50
1-1/2 Inch	100
2 Inch	160
3 Inch	320
4 Inch	500
6 Inch	1,000

Where unusual demands of water will be required, the sizes shall be increased to provide for the expected demand. The City does not guarantee that the minimum sizes of lines and meters will be sufficient.

The sizing and installation of a water service to a residential or commercial building must be sized per the current Ohio Plumbing Code.

A separate service line and curb stop is required for each metered service. In a situation where a lot split has occurred and only one service exists for both dwellings, the service line and curb stop may be separated for each property split, but must be metered separately. If an alternate water main is available along the previous property split, the owner will be required to tap into this main. If an alternate water main is not available, access may be granted to the property split by the owner fronting the water main to allow a new service across the property in a reasonable manner.

The part of the water service extending from the curb stop to the stop and waste valve within the building or structure shall be installed and maintained at the expense of the consumer and shall be installed to meet the requirements of these regulations.

Only one meter is required for each apartment building or development complex. However, upon approval by the City, a meter with shut off valves may be installed for each dwelling unit.

Proper provisions shall be made to permit the City to discontinue service either by:

- (i) Installation of separate curb stop valves in the public right-of-way or easements and separate lines from the curb stop to the meter, or;

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- (ii) One service line and one curb stop to the meter room and installation of lockout valves prior to each individual meter; and the right to enter upon private property by the City to the location of the meters and lock-outs. Denial of the right of entrance will result in the turn-off of water at the water main.

The situation detailed in (ii) above will be for multiple living units where one service line is run into the meter room and each individual service is taken from a manifold. However, each building must be individually served.

FIRE SPRINKLER SERVICE LINES: The minimum required water service line for fire sprinkler systems should be a minimum of six inches (6"). Sprinkler system calculations must be approved through Building Inspection before permits for installation will be issued.

4.3.2 PIPE

All water service lines from the main to and including the curb stop and within 10' of the building, in sizes 3/4" through 2", shall be type K seamless copper (ASTM b-42-84).

All water service pipes from the curb stop to 10' from the building, in sizes 3/4" through 2" shall be one of the following:

- (i) Type K seamless copper (ASTM B-42-84)
- (ii) Polyethylene (PE) flexible pipe, complying with applicable requirements for PE-3408 and a material test category per ASTM 2737 and having a pressure rating of 200 PSI minimum with water at 73.4 degrees Fahrenheit.
 - a. Plastic water services are required to have a #12 gauge solid copper tracer wire attached every 3' to the service line.
 - b. Plastic water service lines must be surrounded with a minimum of 6" of sand or approved granulated pipe fill.

All piping and fittings larger than 2" shall conform to the Engineering Division material standards for the installation of water mains and appurtenances.

4.3.3 DEPTH OF LINE

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A minimum of 42" cover is required for all service lines. No service line shall have more than 60" cover.

4.3.4 NO CONNECTIONS AHEAD OF METERS

No water connections shall be made on the City side of the water meter except for fire line connections that are likewise metered either completely or by a detector check assembly.

4.3.5 MULTIPLE SERVICE CONNECTIONS

When water is supplied through two or more interconnecting services, each service shall be separately metered and each service shall be equipped with an all bronze horizontal double check valve installed to prevent the water from flowing back into the City water system. The double check valve shall meet or exceed the minimum standard pertaining to double check valves approved by ASSE installation requirements. If the interconnected services are for fire protection only, each service shall be equipped with a separate double detector check assembly. If a fire protection service is interconnected with a service supplying domestic or commercial water service, each shall be fully metered and equipped with an approved double check valve as specified. The double detector check assembly shall be an ASSE approved device with approved bypass meter and backflow preventer.

All multiple services shall have curb boxes identifying shut off valves which will be marked and identified for each dwelling.

4.3.6 GENERAL LOCATION

Service lines shall be run as straight as possible from the curb stop to the front wall of the building, or to the nearest point of the building wall abutting the location of the meter.

Curb stops shall be located within the right-of-way, free from obstructions such as landscaping. Access by City personnel shall be maintained at all times.

4.3.7 GENERAL REQUIREMENTS

Each service line shall be fitted with a stop and waste valve immediately on entering the building. This valve may be a part of the meter set. The stop and waste valve shall be in accordance with the current City specifications, which require an all bronze general-purpose ball valve meeting Federal Specification WW-V-54 or equal.

Where meters are set indoors, the service line must enter the building no higher than

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four (4) feet to the center of the meter above the floor on which the meter is set.

A pressure reducing valve shall be installed on service lines where the water pressure exceeds 80 PSI. On all meter sets, this valve shall be located on the house side of the stop and waste valve.

All service lines up to and including 2" shall contain a check valve equal to Ford check valves. Check valves shall be located on the outlet side of the meter.

No water service shall be laid in the same trench with a sanitary sewer connection.

Service lines shall be laid at least ten feet horizontally from any existing or proposed sanitary sewer line. Should local conditions prevent a lateral separation of ten feet, a water service line may be laid closer than ten feet to a storm or sanitary sewer line, provided that the service line is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer line and at such an elevation that the bottom of the service line is at least eighteen inches above the top of the sewer line. When it is not possible to obtain vertical or horizontal separation, the sewer line must be relaid and constructed with ductile iron pipe with mechanical joints and shall be pressure-tested to assure water tightness before backfilling.

4.3.8 REPLACEMENT OF WATER SERVICES

A permit shall be required to replace any existing water service. When a service is replaced, the service line and meter location shall meet the same requirements as a new service. The property owner shall be responsible to pay for such replacement from the curb stop to the building.

4.3.9 RELOCATION OF WATER SERVICE AND METER PITS

Customers requesting relocation of water service lines, curb stops, or meter pits shall be responsible to pay for such relocation. All residential meter pits shall be relocated on private property, one foot inside the property line. Meter pits for larger meter installations shall be relocated as directed by the City. Undamaged pits, rings, covers and lids, curb boxes, curb stops, and meter sets that conform to current City standards may be reused.

4.3.10 MAINTENANCE OF SERVICES

The City shall maintain all water service lines from the main to and including the curb stop. The owner shall maintain the service line after the curb stop to assure a safe potable water supply. No repairs to service lines will be permitted except in case of damage to a portion of the line. Complete replacement must be made where the

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service line is galvanized metal or lead; or it is determined by the City to be unserviceable.

4.4 METER SETS

4.4.1 CLASSIFICATION OF METER SETS

Meter sets are classified by location into two categories: Indoor meter sets and outdoor meter sets. Meter sets are further classified by use as follows:

domestic water meter
sprinkling meter
fire line by-pass meter

4.4.2 GENERAL REQUIREMENTS FOR METER SETS

All meter sets shall conform to the following requirements:

- a) All meters shall be set in an approved non-hazardous place and accessibility shall be maintained at all times.
- b) The maximum size of the meter shall not be greater than the size of the water service. A smaller sized meter may be installed based upon the sizing shown in these regulations as approved by the Director where it can be shown the water demand is less than the rated capacity of the meter.

When a meter is being used to measure greater volumes of water than it's designed operating capacity, as evidenced by high readings or frequent repairs, the owner will be required to pay for, and install, meter service large enough as determined by the Director to properly provide the necessary service. Replacement cost of the meter will be evaluated on a case-by-case basis by the Water Maintenance Division.

- c) The licensed plumber or owner occupant of a single family residence shall furnish and install all pipe fittings and valves necessary for the meter set in accordance with the appropriate specifications as illustrated in Appendix 4.
- d) The Water Maintenance Division shall install meters and charges shall be made in accordance with the effective schedule of charges.
- e) Installation of Meters. All meters shall be installed in the building or structure except as otherwise approved by the Director. Water meters shall be installed

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in a horizontal position as close as possible to the stop and waste valve. Where an approved basement is not or will not be available and the building or structure to be served is of a type of construction defined as approved, the water meter shall be placed within the building or structure in an accessible location in the utility room and if no utility room is available, the meter shall be placed in an accessible location in the kitchen or other approved location as approved by the Director. The water meter shall always be located to provide protection from mechanical injury.

All new connections to the water system outside the City's corporation limits require that an outside meter pit and necessary appurtenances be installed with the service line.

- f) **Meter Space.** Accessible meter space is required for all water services. Accessible is defined as a space large enough for service workers to read, service, change, install, etc. Meters shall be installed level. All meters shall be located as near as practicable to the point of entrance and in a position giving ample protection against freezing and other external damage. Water meters shall not be installed in sheds, garages, storage buildings, crawl spaces, or any other locations as specified in the Ohio Plumbing Code.

If the meter is not placed in a basement, the part of the water service under the building floor shall be installed not less than 18" below the first floor if such floor is concrete with fill to the underside of the concrete floor and not less than twelve inches (12") below the top of soil under the building where wood joist or other construction is used and an unheated space exists between the floor and soil below.

- g) **Service Line Protection.** The part of the water service that extends vertically from the excavated trench through the first floor shall be protected from freezing by enclosing the same with a six-inch (6") diameter conductor pipe. This conductor pipe shall be securely fastened to the floor joist in such a manner that the water service will be located in the center of the six-inch (6") conductor pipe tube, which shall extend to the underside of the flooring. The space between the conductor pipe tube and the water service shall be filled in an approved manner with mineral wool or other approved insulation. The six-inch (6") diameter conductor pipe tube shall be installed by the plumber when the water service is provided for, and shall be accessible for inspection before the floor is laid. Any part of the water service under a building will not be considered accessible for inspection unless it is entirely visible without crawling under the building.

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No water service shall be installed so as to come in contact with cinders, ashes, or cinder concrete. When cinders are encountered in the excavation, the water service pipe shall have at least twelve inches (12") of sand or soil placed between any part of the pipe and soil or fill containing cinders.

- h) Meter Protection. At no time shall the vertical water service pipe or the fixture supply piping be allowed to come into direct contact with cement or concrete.
- i) Setting of Meters. Meters shall be installed on water service lines prior to final inspection as required by the Division of Building Inspection. All fees must be paid in advance before the water meter is set.

4.4.3 INDOOR METER SETS - SMALL METERS

All indoor meter sets for meters less than two inches (2") shall conform to the following requirements:

- a) Meters shall not be set higher than four (4) feet to center of connection above the floor.
- b) Meters shall not be concealed and obstructed by cabinets, benches, water heaters, or other fixtures. Meters shall be accessible for service worker to service, change, install, etc.
- c) Indoor meter sets shall be made as near as possible to the point where the service line enters the building.
- d) Meter sets shall be installed as shown in Appendix 4.
- e) MTU Transmitters. MTU transmitter shall be installed by authorized employees of the City only and will be located in a place as deemed reasonably accessible to the meter reader or service worker. Transmitters will be maintained under the same provisions as meters are maintained. The City shall not be responsible for defacement or damage to property caused by necessary holes, fastening, or other work required for proper installation. A charge for repairs to any MTU transmitter or connections hereto, necessitated by damage or neglect by the consumer or owner, shall be made in addition to any other charge provided.

4.4.4 INDOOR METER SETS - LARGE METERS

Meters two inches (2") and larger will be permitted to be set indoors only under the following conditions:

- a) A clear access way to the meter set shall be maintained at all times. This

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- access way shall be large enough to accommodate an industrial truck.
- b) Meter set shall be made in such a locality that reading and changing of the meter shall in no way interfere with the customer's normal course of business.
 - c) Customer shall allow the use of lifting tackle and industrial trucks for the changing and transporting of meters on the premises.
 - d) Meter sets and appurtenances shall be made as illustrated in Appendix 4.
 - e) MTU Transmitters. MTU transmitter shall be installed by authorized employees of the City only and will be located in a place as deemed reasonably accessible to the meter reader or service worker. Transmitters will be maintained under the same provisions as meters are maintained. The City shall not be responsible for defacement or damage to property caused by necessary holes, fastening, or other work required for proper installation. A charge for repairs to any MTU transmitter or connections hereto, necessitated by damage or neglect by the consumer or owner, shall be made in addition to any other charge provided.

4.4.5 OUTDOOR METER SETS - SMALL METERS

All outdoor meter sets for meters one inch (1") and smaller shall conform to the following requirements:

- a) Meter sets shall be placed on private property, one foot inside the property line when possible, at such a location as to prevent an accumulation of water.
- b) Meter sets shall require a curb stop on public property opposite the tap connection adjacent to the property line.
- c) Meters shall be set according to the arrangement as shown in Appendix 4. Under no circumstances shall the angle stop be greater than 16" below the lid.
- d) All meters and pits are the property of the owner and shall be maintained and kept accessible by the owner.
- e) MTU Transmitters. MTU transmitter shall be installed by authorized employees of the City only and will be located in a place as deemed reasonably accessible to the meter reader or service worker. Transmitters will be maintained under the same provisions as meters are maintained. The City shall not be responsible for defacement or damage to property caused by necessary holes, fastening, or other work required for proper installation. A charge for repairs to any MTU transmitter or connections hereto, necessitated by damage or neglect by the consumer or owner, shall be made in addition to any other charge provided.

4.4.6 OUTDOOR METER SETS - LARGE METERS

All outdoor meter sets for meters larger than one inch (1") shall conform to the

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following requirements:

- a) Meter sets shall be placed on private property.
- b) Outdoor meters must be in a location accessible to City vehicles.
- c) Pit and materials for meter set shall be as illustrated in Appendix 4.
- d) Meter pits and appurtenances are the property of the owner and shall be maintained by the owner.
- e) Access hatches shall be located directly above the water meter set.
- f) MTU Transmitters. MTU transmitter shall be installed by authorized employees of the City only and will be located in a place as deemed reasonably accessible to the meter reader or service worker. Transmitters will be maintained under the same provisions as meters are maintained. The City shall not be responsible for defacement or damage to property caused by necessary holes, fastening, or other work required for proper installation. A charge for repairs to any MTU transmitter or connections hereto, necessitated by damage or neglect by the consumer or owner, shall be made in addition to any other charge provided.

4.4.7 METERS

A service fee shall be paid in advance by the customer or his agent for furnishing and installing a water meter according to Schedule G of Appendix 1. This will be a one-time service fee for each size of each meter. A separate fee will be charged for each meter in the case of a domestic, sprinkling, and/or fire service. The water meter remains under sole control and ownership of the City and shall not be removed or tampered with by unauthorized persons. Unserviceable or defective meters will be replaced by the City; however, if a customer wishes his meter tested for accuracy, the City will comply after the payment of a fee by the customer for the service in accordance with Schedule H in Appendix 1.

4.4.8 SERVICING OF EXISTING METERS

The maintenance of meters shall occur during normal working hours of the Water Billing office and/or the Water Maintenance Division. In the event that this procedure inconveniences a customer, he may request that his/her meter be changed after normal working hours; however, he/she will be required to bear the cost of this service.

Whenever a meter is to be replaced, for whatever reason, it shall be replaced with a radio read meter at no cost to the property owner.

4.4.9 PROTECTION OF METERS

The property owner shall be held responsible for the meter in his custody and shall pay

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all costs of damage from any causes over which he has control such as freezing or hot water and vandalism.

4.4.10 METERS REQUIRED

All water service lines shall be metered. All new construction shall require meters with wireless communication as per current City standards.

4.4.11 NUMBER OF METERS

The supply of water from the service connection may be measured by one or more meters. When more than one meter is used, they shall be set in an area not under the control of any tenant and accessible to the City at all times. The minimum charge for each meter shall be based on the size of each meter, except that in all cases, the meter or meters must satisfy the minimum requirements for service lines and meters, as provided for by these regulations and each separate service shall be subject to the same rules and regulations as a service where one branch serves a single meter.

- a) Meter readings shall be used to calculate charges, but the Water Billing office shall be authorized to use other means when it is apparent that a meter has not been operating properly, or if it has been removed.
- b) Meters set inside a building in a manifold shall be set in accordance with City standards.
- c) Meters set outside the building in a manifold shall be set in individual frost-proof boxes in accordance with City standards.
- d) All water meters placed in a manifold shall have the inlet valve equipped with padlock wings.
- e) Meters may not be placed in a manifold unless the total of such meters satisfies the minimum requirements determined by the size of the service line being utilized.
- f) All rules which apply to the billing and collecting for individual service shall apply to every meter in a manifold.
- g) A meter set in a manifold shall be considered an active account until the inlet valve is locked in the off position and the meter has been acquired by the City, at which time billing will cease.
- h) Maintenance of the water meter does not include maintenance of the setting or the box in which it is installed, which are the responsibility of the property owner.
- i) Meters to multi-units shall be tagged identifying each dwelling address or unit number.

4.4.12 UNLAWFUL REMOVAL OF METER

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No person except an authorized City employee shall remove a water meter. Where a meter is found to have been unlawfully removed, the water shall be shut off forthwith and proper charges made for the estimated amount of water used. The water shall not be turned on again until the meter is reinstalled and all fees paid including estimated usage and the cost of the meter, testing, and any installation.

4.4.13 ACCESS TO WATER METER

Authorized employees of the City of Middletown shall have the right, at any reasonable time, to enter any premises where a meter is installed, for the purpose of reading, examining, or testing the same on the premises, or for the purpose of removing the same from the premises for examination, testing, repair, or replacement. However, under no circumstances will the City accept keys for entry to read meters.

- Inability of employees to readily enter and safely gain access to the meter shall be sufficient cause for the meter to be relocated at owner's expense or discontinue service.
- Failure or refusal by a customer to make suitable arrangements for the water meter to be read at regularly scheduled meter reading times shall be sufficient cause for the City to discontinue service.
- Ample clear space shall be provided and always kept available at every water meter for purposes of reading or maintenance.
- If the authorized agents and/or employees of the City of Middletown are unable to remove, repair, install, or replace a meter due to defective valves, or plumbing, the property owner will be given thirty (30) days written notice in which to make the necessary corrections. Failure to replace defective material within the allotted time may result in the discontinuance of service.

4.4.14 DEDUCT METERS (SPRINKLING METERS)

The Director shall, at the request of any water and sewer customer and upon payment by the customer or this authorized agent of the prescribed service charge, permit the installation of a deduct meter for recording such water usage that does not enter the sanitary sewer system. The metering of such water shall be accomplished after the incoming water has passed through the master meter. Water for such use shall only be for exterior hose connections, yard hydrants, and lawn sprinkling systems or use on the outside of the building. Backflow prevention devices may be required for some of these systems - see Section 6.

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Manual sewer adjustments to account for water usage that does not enter the sanitary sewer system will not be given without a deduct meter. However, private swimming pools meeting the requirement of at least 24 inches deep, a surface area of at least 100 square feet, and a permanently equipped recirculating system shall be eligible for a manual sewer adjustment once per year.

4.5 FIRE PROTECTION SERVICE

Applications for fire protection service branches must be accompanied by applications for all meters required. Three sets of prints showing property line, layout of fire line, fire hydrants, hose connections and buildings must accompany application. No application for a fire protection service branch will be accepted where the size of said branch exceeds the size of the main serving such branch.

All fire line dual or combined services must be inspected up to and including the meter setting and backflow device by the Division of Building Inspection.

It shall be the responsibility of the property owner or an authorized agent to request and obtain approval when alterations are made to the piping or equipment attached to any fire service branch. Requests for approval of additions or alterations shall be accompanied by three sets of plans and calculations subject to Building Inspection approval.

When an additional fire branch is installed to supplement an existing system and the two are interconnected, the entire system becomes an open system and detector check valves with a detector check meter assembly must be installed on BOTH branches, regardless of the status of the original system.

A yearly charge shall be made for each fire service branch serving private premises, based on the size of the lateral at the main. See Schedule B of Appendix 1.

A fire service branch from the main shall not be used for other than fire fighting purposes, except when a dual service is installed.

Where a fire service branch has outlets such as private fire hydrants or hose outlets, backflow protection shall be required on the service branch between the main & first such outlet. Where a fire service branch containing such outlets was installed prior to regulations requiring backflow prevention, the City shall seal each outlet. The seal shall not be broken except when necessary for fire fighting. It shall be the responsibility of the owner of the property served, or their agents, to notify the City, in writing, within forty-eight (48) hours, of their reason why a seal, or seals, on any outlet has been broken.

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All fire hydrants (including any Fire connections, hose outlets, post indicator valves and appliances associated with fire sprinkler and standpipe systems) shall be kept free of obstructions for the purposes of locating, testing, maintaining, accessing and using during fire suppression activities. Obstructions shall include, but not be limited to, fences, guardrail, buildings, automobiles and vegetation. Vegetation placed or growing around fire hydrants shall not grow to a height exceeding midway between the ground and the bottom of the largest outlet. Trees, brush, shrubbery and other similar growth shall not extend to within six feet (6') of a fire hydrant. Obstructions shall not be allowed to obstruct the view or limit access from the street. Any damage caused to private property shall be the responsibility of the owner. The city shall have the right to cut or remove obstructions in violation and charge the property owner for the expenses incurred.

The Director may order a fire service branch metered and converted to a domestic account to be billed at the rates for general consumers for any of the following reasons:

- (a) Use of water for other than fire fighting purposes. Flushing of debris, clean up, unaccounted for water loss or flushing of spillage, watering of dumps and other dry areas, shall not be considered as fire fighting purposes.
- (b) Failure to repair a leak or leaks on the fire service branch or fire protection service.
- (c) Use of water to control or extinguish self-made fires.
- (d) Unauthorized breaking of a seal or seals on outlets of a fire protection system.
- (e) Registration on a detector check meter indicating unauthorized use of water.

There will be no charge for water used for fire fighting purposes. For any period in which water is used for fire fighting, a credit for the excess over the normal bill may be issued, upon application and review of the Director.

All private fire protection systems shall require a detector check assembly unless the fire branch is fully metered. The detector check assembly shall be in accordance with the drawing in Appendix 4. All dual service branches shall be installed in accordance with the specifications and applicable standard drawings in Appendix 4.

All detector check meter settings must be installed and inspected in the same manner as standard meter settings by the Division of Building Inspection and Division of Fire.

4.5.1 DUAL SERVICES

The City may authorize the installation of a common line to be used to carry water for all purposes where the City is able to provide metering devices which will satisfy the demands for both fire protection and domestic, commercial or industrial requirements.

Where such installation is made, the charges for water, sewerage service and fire

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protection, shall be the same as would be charged if the requirements were met with separate service branches and water meters.

4.5.2 PURITY TESTING

It shall be the responsibility of the owner or authorized agent to obtain the necessary samples and provide them to a certified laboratory to perform the required tests. The certified results of the testing and the chain of custody confirming the manner in which the samples were taken and handled shall be provided to the Water Maintenance Division before the lines are placed into service.

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SECTION 5 - SEWER SERVICE INSTALLATION

5.1 PERMITS

The Division of Building Inspection shall issue permits for the installation of the sewer lateral to the building/structure if the application is properly made and the required fees have been paid. All work shall be performed in accordance with plumbing codes and inspected for conformance with these codes. Permanent sewer service will not be provided until approval of the work is given.

No plumber or other person shall make a connection to any existing sewer lateral for the purpose of installing a sewer service to any building/structure or for any use where the city sewer system will be utilized, whether inside or outside the city, until a tap permit has been obtained releasing the existing tap for connection.

Inspections of sewer taps in new subdivisions shall be made by the Engineering Division and connections shall not be made until written authorization has been given.

5.2 DEFINITIONS

MAINTENANCE. Maintenance shall mean cleaning and removal of obstructions which include, but are not limited to, tree roots, grease, etc.

SEWER LATERAL. Sewer lateral shall mean the portion of the service line from the building/structure to the main.

REPAIRS. Repairs shall mean the method of correction if pipe is broken or damaged.

5.3 GENERAL INSTALLATION REQUIREMENTS

All service lines shall conform to the following requirements:

5.3.1 SIZE

Minimum size of a one, two, or three-family residential service may be 4", and the minimum size of all other residential, and commercial and industrial services shall be six inches (6"). The minimum slope is 2.08%.

5.3.2 PIPE

All sewer laterals shall be schedule 40 PVC or SDR 35 for six-inch (6") laterals or smaller. All laterals larger than six inches (6") shall be SDR 35.

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5.3.3 DEPTH OF LINE

Depth shall be sufficient to drain basements, prevent freezing, and maintain a minimum vertical clearance of 18" beneath the water main (bottom of water main to top of sewer lateral).

5.3.4 GENERAL LOCATION

Service lines shall be run as straight as possible from the right-of-way to the front wall of the building, or to the nearest point of the building wall abutting the location of the sewer lateral.

5.3.5 GENERAL REQUIREMENTS

No roof drains, foundation drains, sumps or other clean water connections shall be made to the sewer service line. All new service lines shall include a cleanout just behind the right-of way.

Service lines shall be laid at least ten feet (10') horizontally from any existing or proposed water line. Should local conditions prevent a lateral separation of ten feet (10'), a sewer line may be laid closer than ten feet (10') provided that the service line is laid in a separate trench at such an elevation that the top of the sewer line is at least 18" (eighteen inches) below the bottom of the water line. When it is not possible to maintain vertical or horizontal separation, the sewer line must be laid and constructed with ductile iron pipe with mechanical joints and shall be pressure-tested to assure water tightness before backfilling.

5.3.6 REPLACEMENT

A permit shall be required to replace an existing sewer line. When a service is replaced, the service line shall meet the same requirement as a new service.

5.3.7 MAINTENANCE OF SEWER SERVICES

The property owner is responsible for and shall bear the cost of all maintenance of the sewer lateral from the building or structure to the City sewer main. The property owner shall further be responsible for and bear the cost of repairs between the building or structure and the public right-of-way. The City shall be responsible for repairs located within the right-of-way.

When a blockage occurs, it is the responsibility of the property owner to hire a licensed plumber or sewer cleaner to perform inspection, maintenance, and/or repairs.

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If the plumber or sewer cleaner determines that the problem is a broken or separated lateral within the right-of-way, the City shall pay the cost of such repairs in the right of way upon visual confirmation/documentation of the needed repairs and its location by a City representative and completion of the work by the licensed contractor.

If the problem is located under the pavement, City crews shall sawcut the pavement for the licensed contractor to remove and complete the work. The City shall replace the pavement once repairs have been completed at City cost.

5.3.8 INSTALLATION OF BACK WATER VALVES

The property owner is responsible and shall bear the cost of any backwater valve installation for any purpose the owner deems necessary, including prevention of sewer back-ups.

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SECTION 6 - BACKFLOW PREVENTION AND CROSS CONNECTION

6.1 GENERAL REGULATION

Backflow prevention devices are required by the Ohio Environmental Protection Agency (Rule 3745-95-04) and City Ordinance 076-116.

If an approved backflow prevention device is deemed necessary for the safety of the public water system, the Director of Public Works & Utilities will give notice to the water consumer to install such an approved device. The water consumer, at their own expense, shall have this device installed at a location and in a manner approved by the Director in a reasonable amount of time.

In accordance with Ohio EPA Rule 3745-95-06, water consumers who have backflow prevention devices are required to have thorough inspection and operational tests, made on an annual basis by a tester, certified by the Ohio Department of Commerce, Division of Industrial Compliance to perform backflow prevention testing. This is to be performed at the water consumer's expense. A current copy of the certification shall be kept on file by the Water Billing Division. To cover the administrative costs of this program an annual fee of \$25.00 per device will be collected with the completed test form.

Water consumers are sent a notice by first class mail to have their backflow prevention device tested within 30 days from date of notice. Test results of a backflow prevention device are to be returned to the Water Billing Division. If the water consumer does not comply within 30 days, a second notice via first class mail is sent with a compliance requirement of 30 days or their water service will be turned off.

6.2 DEFINITIONS

AIR GAP SEPARATION. Means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim of the receptacle.

APPROVED. Means that a backflow prevention device or method has been accepted by the Ohio Plumbing Code and the Director as suitable for the proposed use.

AUXILIARY WATER SYSTEM. Means any water system on or available to the premises other than the public water system and includes the water supplied by the system. These auxiliary waters may include water from another supplier's public water system; or water from a source such as wells, lakes, or streams; or process fluids; or used water. They may be polluted or contaminated or objectionable or constitute a water source or system over which the supplier of water does not have control.

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BACKFLOW. Means the flow of water or other liquids, mixtures, or substances into the distributing pipes of a potable water supply from any source other than the intended source of the potable water supply.

BACKFLOW PREVENTION DEVICE. Means any device, method, or type of construction intended to prevent backflow into a potable water system.

BACKSIPHONAGE. Backsiphonage occurs when negative pressure develops either in the water user's piping system or, more seriously, in the community system. If plumbing defects exist in the consumer's piping system, the siphoned water will be contaminated and, in turn, can contaminate the community supply. In a community piping system, this negative pressure can be caused by main breaks, planned or emergency shutdowns, fire demands, water use exceeding the hydraulic capabilities of the system, and other reasons.

CONSUMER. Means the owner or person in control of any premises supplied by or in any manner connected to a public water system.

CONSUMER'S WATER SYSTEM. Means any water system located on the consumer's premises, supplied by or in any manner connected to a public water system. A household plumbing system is considered to be a consumer's water system.

CONTAMINATION. Means an impairment of the quality of the water by sewage or process fluids or waste to a degree which could create an actual hazard to the public health through poisoning or through spread of disease by exposure.

CROSS-CONNECTION. Means any arrangement whereby backflow can occur. A cross-connection is any physical link or route that makes it possible for this contamination to flow into the potable water system. While the cross connection provides the physical link, there must also be a pressure differential that acts to force the contamination into the potable water system. Backflow will occur when the pressure in the potable water system is lower than the pressure in the system containing the contamination.

DEGREE OF HAZARD. A term derived from an evaluation of the potential risk to health and the adverse effect upon the potable water system.

DOUBLE CHECK VALVE ASSEMBLY. Means an assembly composed of two single, independently acting, check valves including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the water tightness of each check valve.

HEALTH HAZARD. Means any condition, device, or practice in a water system or its operation that creates, or may create, a danger to the health and well being of users. The word "severe" as used to qualify "health hazard" means a hazard to the health of the user that could reasonably be expected to result in significant morbidity or death.

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INTERCHANGEABLE CONNECTION. Means an arrangement or device that will allow alternate but not simultaneous use of two sources of water.

NON-POTABLE WATER. Means water not safe for personal drinking, or culinary use.

PERSON. Means the state, any political subdivision, public or private corporation, individual, partnership, or other legal entity.

POLLUTION. Means the presence in water of any foreign substance that tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.

POTABLE WATER. Means water which is satisfactory for drinking, culinary, and domestic purposes and meets the requirements of the Environmental Protection Agency.

PROCESS FLUIDS. Means any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration that would constitute a health, pollution, or system hazard if introduced into the public or a potable consumer's water system. This includes, but is not limited to:

- (1) polluted or contaminated waters;
- (2) process waters;
- (3) used waters originating from the public water system which may have deteriorated in sanitary quality;
- (4) cooling waters;
- (5) contaminated natural waters taken from wells, lakes, streams, or irrigation systems;
- (6) chemicals in solution or suspension;
- (7) oils, gases, acids, alkalis, and other liquid and gaseous fluids used in industrial or other processes, or for fire fighting purposes.

PUBLIC WATER SYSTEM. Has the meaning ascribed to such term in rule 3745-81-01 of the Ohio Administrative Code.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE. Means a device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow, the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valves at less than the supply pressure. The unit must include tightly closing shutoff

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valves located at each end of the device, and each device shall be fitted with properly located test cocks.

SERVICE CONNECTION. Means the terminal end of a service line from the public water system. If a meter is installed at the end of the service then the service connection means the downstream end of the meter.

SUPPLIER OF WATER. Means the owner or operator of a public water system.

SYSTEM HAZARD. Means a condition posing an actual or potential threat of damage to the physical properties of the public water system or a potable consumer's water system.

POLLUTIONAL HAZARD. Means a condition through which an aesthetically objectionable or degrading material not dangerous to health may enter the public water system or a potable consumer's water system.

USED WATER. Means any water supplied by a supplier of water from a public water system to a consumer's water system after it has passed through the service connection and is no longer under the control of the supplier.

6.3 WHERE PROTECTION IS REQUIRED

6.3.1 An approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises, where in the judgment of the supplier of water or the Director, a health, pollution, or system hazard to the public water system exists.

6.3.2 An approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises where the following conditions exist:

- a) Premises having an auxiliary water system, unless such auxiliary system is accepted as an additional source by the supplier of water and the source is approved by the Director;
- b) Premises on which any substance is handled in such a fashion as to create an actual or potential hazard to a public water system. This shall include premises having sources or systems containing process fluids or waters originating from a public water system which are no longer under the control of the supplier of water;
- c) Premises having internal cross-connections that, in the judgment of the supplier of water, are not correctable or intricate plumbing arrangements which make it impracticable to determine whether or not cross-connections exist;
- d) Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross-connection survey;

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- e) Premises having a repeated history of cross-connections being established or re-established;
- f) Premises where private domestic or fire suppression lines are not dedicated and contain one or more connections, such as fire hydrants, that create an actual or potential hazard to the public water system;
- g) Others specified by the Director.

6.3.3 An approved backflow prevention device shall be installed on each service line to a consumers water system servicing, but not necessarily limited to, the following types of facilities unless the director determines that no health, pollutional, or system hazard to the public water system exists. See Appendix 2 for the list of facilities and requirements.

6.3.4 An approved backflow prevention device shall be installed at any point of connection between a public water system or a potable consumer's water system and an auxiliary water system, unless such auxiliary system is accepted as an additional source by the supplier of water and the source is approved by the Director.

6.4 TYPE OF PROTECTION REQUIRED

The type of protection required shall depend on the degree of hazard which exists as follows:

- A) An approved air gap separation shall be installed where a public water system may be contaminated with substances that could cause a severe health hazard;
- B) An approved air gap separation or an approved reduced pressure principle backflow prevention device shall be installed where a public water system may be contaminated with any substance that could cause a system or health hazard;
- C) An approved air gap separation or an approved reduced pressure principle backflow prevention device or an approved double check valve assembly shall be installed where a public water system may be polluted with any substance that could cause a pollutional hazard.

6.4.1 The type of protection required shall be an approved air gap separation or an approved interchangeable connection.

6.4.2 Where an auxiliary water system is used as a secondary source of water for a fire protection system, an approved air gap separation or an approved interchangeable connection may be waived by the Director, provided:

- A) At premises where the auxiliary water system may be contaminated with substances that could cause a system or health hazard, a public water system or a potable consumer's water system shall be protected against backflow by installation of an approved reduced pressure principle backflow prevention device;

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- B) At all other premises, a public water system or a potable consumer's water system shall be protected against backflow by installation of an approved reduced pressure principle backflow prevention device.
- C) A public water system or a potable consumer's system shall be the primary source of water for the fire protection system;
- D) The fire protection system shall be normally filled with water from a public water system or a potable consumer's water system;
- E) The water in the fire protection system shall be used for fire protection only.

6.5 INSTALLATION REQUIREMENTS

When a backflow device is installed, the Water Billing Division must be notified in writing as to name, location, and type of device.

Reduced pressure principle backflow prevention devices must be:

1. Installed so as to be readily accessible for inspection, testing, and maintenance.
2. Provided with adequate space for inspection, testing, maintenance and disassembly.
3. Protected from freezing by installation within a heated building.
4. Mounted in a horizontal position except for certain models that have been specifically designed to be installed in a vertical position.
5. Installed above ground level or floor level whichever is higher.
6. Installed so that there is a visible free discharge from the relief port with no extension piping.

The installation of reduced pressure principle backflow prevention devices in pits is specifically prohibited.

6.6 BACKFLOW PREVENTION DEVICES

6.6.1 Any backflow prevention device required by rules 3745-95-04 and 3745-95-05 of the Ohio Administrative Code shall be of a model or construction approved by the supplier of water and the Director.

6.6.2 Any backflow prevention device required by rules 3745-95-04 and 3745-95-05 of the Ohio Administrative Code shall be installed at a location and in a manner approved by the supplier of water and shall be installed by and at the expense of the water consumer. In addition, any backflow prevention device required by Section 6.4 of these rules and regulations shall be installed at a location and in a manner approved by the Director as required by section 6109.13 of the Ohio Revised Code.

6.6.3 It shall be the duty of the consumer, on any premises on which backflow prevention

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devices required by rules 3745-95-04 and 3745-95-05 of the Ohio Administrative Code are installed, to have thorough inspections and operational tests made of the devices annually. These inspections and tests shall be at the expense of the water consumer and shall be performed by the supplier of water or a person approved by the supplier as qualified to inspect and test backflow prevention devices. It shall be the duty of the supplier of water to see that these tests and inspections are made. These devices shall be repaired, overhauled or replaced at the expense of the consumer whenever they are found to be defective. Records of such inspections, tests, repairs and overhaul shall be kept by the consumer and copies provided to the Water Billing Division.

- 6.6.4 Existing backflow prevention devices approved by the supplier of water or the Director prior to the effective date of this rule and which are properly maintained shall, except for inspection, testing, and routine maintenance requirements, be excluded from the requirements of Sections 6.7.1 and 6.7.2 of these rules if the supplier of water and the Director are assured that the devices will satisfactorily protect the public water system. However, any replacement or repairs to an existing device will require adherence to Sections 6.7.1 and 6.7.2 of these rules.

6.7 CROSS CONNECTIONS

- 6.7.1 No person shall install or maintain a water service connection to any premises where actual or potential cross-connections to a public water system or a potable consumer's water system may exist unless such actual or potential cross-connections are abated or controlled to the satisfaction of the supplier of water.
- 6.7.2 No person shall install or maintain any connection whereby water from an auxiliary water system may enter a public water system or potable consumer's water system unless the auxiliary water system and the method of connection and use of such system shall have been approved by the supplier of water and by the Director as required by Section 6109.13 of the Ohio Revised Code.

6.8 SURVEYS AND INVESTIGATIONS

- 6.8.1 The supplier of water shall conduct or cause to be conducted periodic surveys and investigations, of frequency acceptable to the Director, of water use practices within a consumer's premises to determine whether there are actual or potential cross-connections to the consumer's water system through which contaminants or pollutants could backflow into the public water system.
- 6.8.2 The supplier of water, or his authorized representative, shall have the right to enter premises served by the public water system at all reasonable times for the purpose of

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making surveys and investigations of water use practices within the premises.

6.8.3 On request by the supplier of water, or his authorized representative, the consumer shall furnish the supplier, or his authorized representative, information on water use practices within the consumer's premises.

6.8.4 Section 6.8.1 of this rule does not relieve the consumer of the responsibility for conducting, or causing to be conducted, periodic surveys of water use practices on his premises to determine whether there are actual or potential cross-connections in the consumer's water system through which contaminants or pollutants could backflow into a public water system or a consumer's potable water system.

6.9 BOOSTER PUMPS

6.9.1 No person shall install or maintain a water service connection to any premises where a booster pump has been installed on the service line to or within such premises, unless such booster pump is equipped with a low pressure cut-off designed to shut off the booster pump when the pressure in the service line on the suction side of the pump drops to ten pounds per square inch gauge pressure or less.

6.9.2 It shall be the duty of the water consumer to maintain the low pressure cut-off device in proper working order and to certify to the supplier of water at least once a year that the device is operable.

6.10 VIOLATIONS

6.10.1 The supplier of water shall deny or discontinue, after reasonable notice to the occupants thereof, the water service to any premises wherein any backflow prevention device required by this section is not installed, tested and maintained in a manner acceptable to the supplier of water, or if it is found that the backflow prevention device has been removed or by-passed, or if an unprotected cross-connection exists on the premises or if a low pressure cut-off required by rule 3745-95-07 of the Ohio Administrative Code is not installed and maintained in working order, or if the supplier of water or the Director, or the authorized representative of either, is denied entry to determine compliance with this chapter of the Administrative Code.

6.10.2 Water service to such premises shall not be restored until the consumer has corrected or eliminated such conditions or defects in conformance with this chapter of the Ohio Administrative Code, and to the satisfaction of the supplier of water.

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SECTION 7 – WATER, SEWER AND STORM WATER CHARGES

7.1 SCHEDULE OF WATER AND SEWER RATES

Water and sewer rates shall be according to Schedule A of Appendix 1. These rates are subject to changes as authorized by ordinance. In addition, rates and fees for users outside the city limits shall be established by agreement.

7.1.1 MINIMUM CHARGE

There shall be a monthly minimum charge for water and sewer service as approved by City Council by ordinance.

7.2 CHARGES FOR UNMETERED WATER FOR CONSTRUCTION

Unmetered water shall be paid for on the basis of service line size and at the rate equivalent to six months in accordance with Schedule D of Appendix 1. These charges are based on the availability of service.

- (a) Charges shall be paid at the time of issuance of the building permit.
- (b) No waste of water will be permitted. It will be at the discretion of the Director to determine if such a waste exists and therefore discontinue service.

7.3 TEMPORARY USE OF WATER THROUGH METERED HYDRANT

Where water is required for temporary use in connection with building, highway or other construction, or for any other temporary operation, on premises not supplied, or insufficiently supplied with metered water, application shall be made to the Water Maintenance Division for a permit to use metered water from a fire hydrant or other available source. Applicant shall give his name, location where water will be used, date service wanted, phone number on location, if any, name, address, and phone number of the person who will pay the charges for water use. Water charges will be in accordance with Schedule H of Appendix 1.

The Water Maintenance Division will be responsible for set up of the meter and valve assembly at the beginning of the service period and removal upon completion of the work. Applicant shall be responsible for and reimburse the City for any damages to equipment during the time it is in their care.

Temporary water is to be used solely from the source, for the purpose and at the location specified. A separate request is required for each source, purpose, or location.

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7.4 USE OF WATER THROUGH HYDRANT METER WITHOUT PERMIT

It shall be unlawful to use or be connected to use water from a fire hydrant or other available source unless a properly authorized connection is made. This also applies to service branches for new construction.

The Director, or his designee, shall be authorized to remove and confiscate any unlawful hose connection found attached to a fire hydrant or other available source of water. Whoever violates this section is guilty of a first-degree misdemeanor.

7.5 STORM WATER USER FEE

The storm water user fee shall be according to Schedule I of Appendix 1. This fee is subject to change as authorized by ordinance.

7.5.1 IMPERVIOUS AREA CALCULATION

There shall be a monthly fee for the services and use of the storm water management system by the owner, tenant or occupant of the premises. The rate to be charged for the storm water user fee for an equivalent residential unit (ERU) shall be a flat monthly rate. One ERU equals the average square footage of impervious area of all residential property which is 2,814 square feet.

The fee to be charged to all residential dwelling units will be 1 ERU. The fee to be charged to all non residential properties will be the total impervious area divided by 2,814 square feet (1 ERU) to obtain the total number of ERU's.

This fee shall be calculated at the time of permit application by the property owner in accordance with Schedule I of Appendix 1.

7.6 TEMPORARY DISCONTINUATION OF SERVICE

On premises where the supply of water has been discontinued at the request of the owner or tenant for various reasons (off for winter, vacant, etc.), water, sewer and storm water charges will not be assessed for time during which the water supply is off at curb stop. There will be no charge for this service work during regular working hours. The City will not drain pipes in the house or protect traps or other fixtures from freezing.

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SECTION 8 - PAYMENT OF BILLS

8.1 DEFINITIONS

OWNER. Owner shall mean, as used in sections 8.1 through 8.12, any and all persons owning a legal or equitable freehold interest in the premises receiving services. This shall include, but not be limited to, legal owners of record, legal owners not of record, sellers under a land installment contract or other contract of sale, purchasers under a land installment contract or other contract of sale, and the heirs and devisees of a deceased owner.

DELINQUENT. An account is considered delinquent when a monthly payment becomes past due. Partial payments do not constitute good standing and account will remain delinquent until paid in full.

8.2 CLASSES OF ACCOUNTS:

(a) RESIDENTIAL

Meters are read monthly and the bills are rendered monthly. The account will be computed on the basis of an entire monthly consumption rate schedule.

(b) COMMERCIAL/INDUSTRIAL

Commercial and industrial are read monthly and the bills are rendered monthly. The account will be computed on the basis of an entire monthly consumption rate schedule.

(c) FIRE PROTECTION

Fire Protection service accounts are payable yearly for service rendered the previous calendar year.

8.3 TIME OF PAYMENT

Water and sewer bills shall be payable at intervals of one month and shall be paid on or before the due date stated on the bill. Payment must be actually received at the Water Billing Office, or by agents duly authorized by the utility to receive payment, by the date stated on the bill to be paid in full. The Director is authorized to excuse penalties only in the event where the Water Billing office is clearly at fault in the processing of bills where the account has been improperly handled by the utility. No penalty will be excused for reasons of non-receipt of mailed bills due to improper handling by the mail service, incorrect address, or because the customer was away during the period when the net amount was due. The Director is likewise authorized to excuse the penalty for industrial or commercial accounts that require the processing of payment of bills for a period usually longer than the period allowed before the penalty is due. This class of account will be at the request of the customer and will be restricted to only those customers where the need has been shown to exist.

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The Director shall, for each account, determine its classification, billing cycle and identifying number.

The Director shall schedule the statement mailing and payment dates for all accounts. Scheduled mailing dates shall be at least eighteen (18) days before the due dates.

A statement of account is due when mailed and must be paid on or before the date shown thereon, after which date the account is overdue and considered delinquent.

Statements of accounts and other invoices are payable at the cashier's desk of the Water Billing office, night depositories, or at an agent duly authorized by the City to receive payments. Payments may also be made by U.S. mail.

For purposes of determining penalty dates or dates for turnoff of service, payment must be received at the Water Billing office before the closing hour of the date specified, or be placed in a depository before office hours of the first business day after the date specified.

A check or money order shall be made payable to the City of Middletown for the exact total amount shown on the statement. The proper cashier's coupon or payment stub shall be submitted with each remittance. Customers are requested to show account numbers on checks and money orders.

When a statement is presented for payment with a remittance, the cashier's stamp constitutes an official receipt. When paid by mail or placed in the depository, a receipt will not be issued unless the entire statement and a self-addressed stamped envelope accompany the remittance. Any receipt is void if the check submitted fails to clear through the banks.

The City will not be responsible for failure of a customer to receive a bill or notice. Bills will normally be mailed on the same date of each month. If a bill is not received at the usual time of the month, inquiry should be made by the customer. It is the customer's responsibility to keep the office of Water Billing notified of the correct address where bills are to be sent.

8.4 SERVICE DISCONNECTION FOR NON-PAYMENT OF SERVICE CHARGES

In the event payment is not made by due date and account is then delinquent, a delinquency invoice will be sent stating that if payment is not received in full by that second due date, water service will be discontinued without further notice. The customer shall take appropriate steps to avoid service disconnection by keeping his account current. In the event the amount of the bill or the accuracy of the meter is questioned, the customer shall pay the amount billed to avoid service disconnection. After the matter has been determined, any excess charges will be refunded by the utility. In the event that the account does become delinquent and the delinquency bill becomes past due, service shall not be restored until the account is paid in full

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via cash or charge, including any service charge according to Schedule H of Appendix 1. No personal checks will be accepted nor payment plan allowed for accounts that have become delinquent.

8.5 TURN-ON OF SERVICE AFTER DELINQUENT PAYMENT IS MADE

Water service will be restored after payment has been received in full. Payment must be actually received at the Water Billing office. In addition to the account indebtedness, a service charge will be made. The water service will be turned on the next regular working day after payment is received and during normal working hours. No exact time can be promised except that the utility will try to schedule work within reason but cannot be responsible for delays.

Service will not be restored unless the premises are occupied or written authorization is provided by the property owner to the Water Billing office. This action is for the protection of the customer since plumbing fixtures may have been turned on while the service was off. An additional service charge will be made when the service worker has to make more than one call to turn on service. Only property owners may sign a water turn on authorization form for waiver of this requirement.

8.6 LEAKAGE

No reduction in water charges will be made for leaks or situations where high water usage is indicated from the meter. Where water has passed through the meter but not discharged into the sewer system because of discharge into the ground, adjustment will be made for sewer service charges. Verification of the situation must be made by the utility. The amount of the adjustment or credit will be determined by the Water Billing office.

8.7 SERVICE CHARGE FOR BAD CHECKS

Anyone tendering a check or other commercial paper which fails to clear through the banks and is returned to the Water Billing office shall be assessed a service charge for each time such check or instrument is returned. This charge will be made against the premises served, if the maker of the check or instrument maintains water service connections, in the same manner as charges for water and/or sewer service. The Water Billing office will notify the person by mail when the check is returned to the City. In the event the check is not made good, any receipts for payment shall be void, the indebtedness shall be restored to the account, and the status of the account shall be as before. Returned checks submitted for payment on delinquent accounts are subject to immediate termination of service.

8.8 TENANTS RIGHTS TO OBTAIN WATER SERVICE

The City will not be a party to force eviction of a tenant by accepting a request by the owner or his agent to disconnect or discontinue water service when the account is not delinquent.

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Even when the account is delinquent, if the circumstances appear that the owner is trying to force eviction, water service will be maintained, at the discretion of the utility.

8.9 OWNER'S RESPONSIBILITY

The maintenance of water service connections being a substantial and valuable benefit to land, any owner of real estate premises maintaining such water service connections shall assume responsibility for the total of all water and/or sewer service charges levied against the premises during his ownership in the same manner as the person who actually incurred the charges. This assumption of responsibility shall be a necessary condition to the continuance of water services to the premises and the failure to pay such charges when billed shall constitute grounds for the Director to refuse water service to the premises.

In the event a person incurs an obligation to pay for services performed or water and/or sewer service, as an owner or tenant for one piece of property, and subsequently moves to another location, such person may be denied service if he is delinquent in payment for service at the previous location.

Likewise, a person owning multiple pieces of property with accounts in their name may be denied service at one or more properties for delinquency at any location. If delinquent, the City will not allow a new account to be opened by a tenant at that location until account is paid in full.

Upon receipt of any bill for water service charges made against real estate premises, which the owner of such premises knows were incurred before his ownership, the owner may apply for relief of such charges.

Relief from charges incurred against a premise before the owner was in possession will be granted upon request by establishing an appropriate credit to the account after the owner submits a copy of the deed or brings the deed to the Water Billing office or submits other acceptable proof of the date of his ownership.

Upon request of an owner or bona fide prospective purchaser of real estate premises, the Director shall supply information concerning water service charges known to exist at the time of the request.

8.10 BANKRUPTCY

Where premises in arrears for payment of water bills become subject to a bankruptcy court, the supply of water to such premises may be continued or restored without previous payment of the water bill accrued under the bankruptcy.

8.11 FAILURE TO RECEIVE BILLS

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All bills shall be mailed to the premises served or other address as requested. Failure to request such listing or to receive any bill, invoice or notice does not relieve the customer from responsibility for payment as required. Duplicate bills may be obtained upon request.

8.12 PAYMENT PLAN

Water customers in good standing may apply for payment plans at the Water Billing Office. Payment plans shall be either 3 or 6 months in duration with all outstanding fees and/or charges paid in full at the end of the plan. All regular charges incurred for usage during this time period shall be paid by the date due. Payment plans shall not be made available to delinquent accounts not paid in full by the date due on delinquency notice unless the customer can provide proper documentation of unusual circumstances that is approved by the Director. Failure to make payments under the plan will result in turn-off of water service.

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SECTION 9 - STORM WATER ADJUSTMENTS & CREDITS

9.1 GENERAL REGULATION

The City's Storm Water Management Utility establishes a mechanism for billing the costs of operating and maintaining the City's storm water management system, and financing the necessary repairs, replacements, improvements, and extensions as well as funding mandates set forth in the National Pollutant Discharge Elimination System (NPDES) program as required by the Environmental Protection Agency (EPA). This Adjustment and Credit Policy outlines the guidelines under which the City will grant adjustments and credits to storm water user fees.

9.2 DEFINITIONS

BEST MANAGEMENT PRACTICE. Storm water management facilities (e.g., storm water detention ponds) that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.

DEVELOPED PROPERTY. Real property other than Undisturbed Property and Vacant Improved Property.

DWELLING UNIT. A singular unit or apartment providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

EQUIVALENT RESIDENTIAL UNIT (ERU). The average Impervious Area of all Residential Developed Property per Dwelling Unit located within the City.

ERU RATE. A Storm Water User Fee charged on each ERU as established by City Council.

EXEMPT PROPERTY. Public rights of way, public streets, public alleys and public sidewalks.

IMPERVIOUS AREA. The number of square feet of hard surfaced areas which either prevent or retard the entry of water into soil mantle, as it entered under natural conditions as Undisturbed Property, and/or causes water to run off the surface in greater quantities or at an increased rate of flow from that present under natural conditions as Undisturbed Property, including, but not limited to, roofs, roof extensions, patios, porches, driveway, sidewalks, pavement and athletic courts.

NONRESIDENTIAL DEVELOPED PROPERTY. Developed property that is not utilized for dwelling units within the City.

STORM WATER MANAGEMENT SYSTEM. The existing storm water management of the City and all improvements thereto which by this chapter are constituted as the property

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and responsibility of the City, to be operated as a Special Revenue Fund to, among other things, conserve water, control discharges necessitated by rainfall events, incorporate methods to collect, convey, store, absorb, inhibit, treat, use or reuse water to prevent or reduce flooding, over-drainage, environmental degradation and water pollution or otherwise affect the quality and quantity of discharge from such system.

STORM WATER USER FEE. A fee authorized by ordinance(s) established to pay Operations and Maintenance Expenses, Extension and Replacement Costs, and Debt Service.

STORM WATER MANAGEMENT SYSTEM SPECIAL REVENUE FUND. The Special Revenue Fund created by this chapter to operate, maintain and improve the System and for such other purposes as stated in this chapter.

UNDISTURBED PROPERTY. Real property which has not been altered from its natural state by dredging, filling, removal of trees and vegetation or other activities which have disturbed or altered the topography or soils on the property.

USER FEE DISTRICT. The area or property within the corporate limits of the City of Middletown.

VACANT IMPROVED PROPERTY. Vacant property which is, or could reasonably be, served by any subdivision improvements that allow egress.

9.3 USER FEE ADJUSTMENTS

Requests for adjustment of the Storm Water User Fee shall be submitted to the Department of Public Works & Utilities. All requests shall be judged on the basis of the amount of impervious area on the site.

The following procedures shall apply to all adjustment requests of the Storm Water User Fee:

- Any nonresidential owner who has paid their storm water user fees, and who believes the Equivalent Residential Unit (ERU) component of his Storm Water User Fee to be incorrect, may submit an adjustment request to the Department of Public Works & Utilities.
- The first step in the adjustment process will be a review of the City's calculation of the impervious area. If resolution is not achieved, the City may request the customer to provide supplemental information to the Director including, but not limited to, survey data prepared by an Ohio registered Professional Land Surveyor (P.L.S.) that presents the amount of impervious area and compacted gravel area on a parcel and/or engineering reports prepared by an Ohio registered Professional Engineer (P.E.). Failure to provide such information may result in the denial of the adjustment request.

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- The Department of Public Works & Utilities shall respond in writing to all adjustment requests. The response shall provide an explanation of adjustment approval or denial as well as requests for additional information.

In cases where the Director or his/her designee documents that conditions warrant an adjustment per the policy the above requirements may be waived or changed.

9.3.1 ADDITIONAL STORM WATER ADJUSTMENTS

In addition to the requirements presented above, adjustments may also be given when an owner meets any of the following requirements:

- Owner demonstrates that rainfall that occurs on an impervious area does not generate runoff (has no outlet), is completely watertight, and has at least 18 inches of freeboard. This adjustment is for unusual structures, such as swimming pools, hazardous material storage areas, industrial wastewater treatment tanks, etc. For these specific cases, customer's ERUs will be adjusted by removing from the ERU calculation the amount of impervious area that does not generate runoff.
- Owner demonstrates that on-site gravel is not compacted, not used for vehicular traffic, and not impervious. The City may grant adjustments for non-compacted gravel areas used for landscaping or other purposes. The City considers all compacted gravel areas (drives, storage areas, etc.) as impervious areas, and as such, no adjustment will be granted. The Department of Public Works & Utilities will make the decision regarding the intended purpose of gravel areas.

9.4 USER FEE CREDITS

Nonresidential customers may qualify for User Fee credits when they can demonstrate that their existing or proposed storm water facilities provide the City with a cost savings that the City otherwise would incur as part of storm water management efforts. The amount of reduction will be determined by the City on a case-by-case basis.

Credit requests must be submitted in writing to the Department of Public Works & Utilities by the property owner. To receive the credit, the property owner must supply to the City the following:

1. Site plan and as-built construction drawings (signed and sealed by a licensed surveyor or engineer) at an appropriate scale, showing the site, topographic details, overland flow paths, all storm water facilities, and surrounding area;
2. If water quality credits are requested, design calculations must be submitted for the existing or proposed storm water facilities. The calculations shall document the design criteria for the facilities and indicate the facilities' efficiency or ability to remove both suspended solids and dissolved pollutants.

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3. If water quantity credits are requested, design calculations must be submitted for the existing or proposed storm water facilities. Design calculations shall be based upon hydrologic and hydraulic methodologies approved by the City that accurately describes the runoff and conveyance through the site;
4. Topographic map outlining the size of the drainage area upstream of the developed property;
5. Detailed floodplain and floodway information of the site, if it exists;
6. A detailed report that clearly describes how the storm water facility functions for design storm events for the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year events;
7. A proposed maintenance schedule submitted by the property owner that describes in detail the maintenance activities for the storm water facility.

In cases where the Director or his/her designee documents that conditions warrant a credit per the policy the above requirements may be waived or changed.

9.4.1 USER FEE CREDIT COMPONENTS

Credits will be awarded for only those activities that the City incurs costs as part of the current storm water management program. Nonresidential customers that perform these activities provide the City with a cost savings and will therefore be eligible for credits. The amount of credit will be proportional to the costs that the City typically incurs for these activities. Utility customers will not be eligible for credits associated with activities that cannot be performed by the City's customer base. These activities include the administration of the utility, storm water planning and management, and regulatory permitting. In addition to these activities, the City's program includes a number of operation and maintenance and capital improvement related items that only the City can implement and are thus ineligible for credits. After excluding these ineligible activities and capital projects, the maximum user fee credit is limited to a total of 66 percent. The City will grant credits to nonresidential customers that construct, operate, and maintain storm water facilities that address water quantity and/or water quality.

User Fee credits will be proportional to the savings provided to the City by the customer's storm water facility. The savings provided by each privately owned facility will depend upon the upstream drainage area of each storm water facility. Storm water facilities are subdivided into two classifications, local and system-wide facilities. Privately owned storm water facilities that assist the City in managing system-wide storm flows will qualify for a greater credit than facilities that only manage local flows. Local storm water facilities are defined as facilities that manage storm flow from upstream drainage areas larger than the nonresidential property, but less than or equal to 0.5 square mile. System-wide facilities manage storm flow from upstream drainage areas larger than the nonresidential property and greater than 0.5 square miles in area.

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Water Quality Credits: Nonresidential customers may receive credits for structural best management practices (BMPs) that provide storm water quality enhancement. The City currently incurs operation and maintenance and capital costs associated with water quality components of the City's storm water system. Nonresidential customers provide the City with cost savings by constructing new or retrofitting existing storm water facilities to improve the quality of the City's receiving streams. Customers that apply for credits must provide supporting documentation that their existing or proposed facilities are properly designed to provide pollution reduction. Structural BMPs that are eligible for credits include, but are not limited to the following:

- Vegetated Swales and Filter Strips,
- Infiltration and Percolation Basins,
- Percolation Trenches,
- Buffer Strips and Swales,
- Porous Pavement,
- Extended (Dry) Detention Basins,
- Retention (Wet) Ponds,
- Constructed Wetlands, and
- Media Filtration.

Customers requesting a water quality credit must submit documentation that their facilities meet the design requirements outlined in Chapter 5 of the *Urban Runoff Quality Management – WEF Manual of Practice No. 23*.

Water Quantity Credits: The City's design standards require that storm water facilities manage the runoff generated from the property's developed area. To qualify for water quantity credits, nonresidential customers must demonstrate that their existing/proposed facilities manage storm water generated from their immediate property and from additional upstream drainage areas. This criterion exceeds the City's current design requirements and provides the City with reduced storm water management costs associated with lower capital costs. Customers that apply for water quantity credits must provide documentation that their facilities meet the City's current design standards and manages and conveys flow from additional upstream drainage areas. Structural best management practices (BMPs) that are eligible for credits include, but are not limited to the following:

- Storm Water Detention Basins
- Storm Water Retention Basins
- Storm Sewers
- Storm Culverts
- Storm Water Channels

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9.4.2 STORM WATER DISCHARGE OUTSIDE CITY LIMITS

Utility customers with property that drains directly to waters located outside of the City or to waters that are managed by other governmental agencies shall be eligible for an additional credit. Utility customers that meet this requirement and have water quality and/or quantity storm water facilities shall be eligible for, in addition to the credits outlined in Table 1, one-half the system component credits. The total combined credits shall be limited to 66%, the combined maximum of water quality and quantity credits.

9.4.3 CREDIT TABLE

The City has developed credit classifications for various nonresidential storm water facilities. The classifications are listed in Table 1 and are divided into water quality and quantity credits for both local and system wide facilities. Nonresidential customers can apply for a combination of credits.

Table 1

	Water Quality Credit (%)	Water Quantity Credit (%)
A. Operation & Maintenance		
1. Local Component ≤ 0.5 square mile	9.5	14.6
2. System Component > 0.5 square mile	1.1	4.5
B. Capital Improvements		
1. Local Component ≤ 0.5 square mile	0.2	0.5
2. System Component > 0.5 square mile	8.3	27.3
TOTAL MAXIMUM CREDIT	19.1	46.9

9.5 APPLICABILITY

Nonresidential customers that receive credit for performing operation/maintenance activities on an existing storm water facility must also demonstrate to the City that the facility is properly maintained. Customers shall maintain the facilities to the standards established by the City, shall document all operation/maintenance activities, and shall provide the City with an operation and maintenance report on an annual basis. This information must be submitted to the Department of Public Works & Utilities annually.

**CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS**

**APPENDIX 1
CITY OF MIDDLETOWN, OHIO**

SCHEDULE OF CHARGES

- A. Monthly Water and Sewer Rates - Within City Corporation (Ordinance)
- B. Private Fire Line Connection Charges (Ordinance)
- C. Surcharge for Sewage Charges (Ordinance)
- D. Unmetered Water Charges (Ordinance)
- E. Water and Sewer Connection Fees (Ordinance)
- F. Charges for Service Tap
- G. Charges for Meter Installation
- H. Miscellaneous Charges
- I. Storm Water User Fee (Ordinance)

CITY OF MIDDLETOWN WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE A CITY OF MIDDLETOWN, OHIO

Monthly Water and Sewer Rates - Within City Corporation
Water Rates (Effective January 2012)
Sewer Rates (Effective January 2012)
Established by Ordinance Nos. O2010-09, O2010-63, and O2010-64

1. Minimum Charges

A. Minimum water charge per month, including first 300 cubic feet of water, according to size of meter installed on service:

5/8" meter	-	\$9.86 *	3" meter	-	\$ 25.95
3/4" meter	-	10.54	4" meter	-	39.95
1" meter	-	11.93*	6" meter	-	64.85
1 1/4" meter	-	13.48	8" meter	-	127.10
1-1/2" meter	-	15.05	10" meter	-	189.36
2" meter	-	18.15			

B. Minimum sewer service charge \$11.86** per month, regardless of water meter size, including first 300 cubic feet.

2. Water and Sewer Rates after First 300 Cubic Feet of Usage:

<u>Water</u>				<u>Sewer</u>					
Next	3,000	CF	\$2.50/100	CF	Next	300	CF	\$3.80/100	CF
Next	66,700	CF	2.02/100	CF	Next	300	CF	3.52/100	CF
Next	70,000	CF	1.70/100	CF	Next	700	CF	3.23/100	CF
					Next	1,700	CF	2.97/100	CF
					Next	13,300	CF	2.57/100	CF
					Next	150,000	CF	2.25/100	CF
					Next	1,500,000	CF	1.87/100	CF
					Next	1,333,500	CF	1.05/100	CF

3. Inactive residential water account minimum charges:

Storm Water fee	\$3.25***
Water and sewer	2.00 (\$1 per fund)
Solid waste	<u>1.70</u>
TOTAL	\$6.95

4. Significant water user flat rate (2,750,000 CF of water/ month): \$1.02/ 100 CF.

* Charge is \$4.93 for 5/8" meters, \$5.96 for 1" meters for Senior Citizen Rate Customers (Water).

** Charge is \$5.93 for Senior Citizen Rate Customers (Sewer).

*** Inactive commercial/industrial accounts is \$3.25 per ERU

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE B
CITY OF MIDDLETOWN, OHIO

Private Fire Line Connection Charges
(Effective January 2011)
Established by Ordinance No. O2010-63

	<u>Per Year</u>
4-Inch and Under Connection	\$ 147.85
6-Inch Connections	\$ 443.32
8-Inch Connections	\$ 923.34
10-Inch Connections	\$1,662.24
12-Inch Connections	\$2,770.03
16-Inch Connections	\$5,542.38

These rates are for connections within the City. Fire line connections outside the City are subject to the same percentage increase as for domestic service, as set forth in the contracts with the County Commission.

Bills will be rendered the first of each year for service for the previous year or portion thereof in which service has been rendered.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE C
CITY OF MIDDLETOWN, OHIO

Surcharge for Sewage Charges
(Effective January 2011)
Established by Ordinance No. O2010-64

Where the strength of the wastes exceeds 240 mg/L (milligrams per liter) of five-day Biochemical Oxygen Demand or 300 mg/L (milligram per liter) of Suspended Solids, the additional charge to the sewer service charge shall be made as follows:

Suspended Solids in Excess of 300 mg/L - \$246.52/2000 LBS.

B.O.D. in Excess of 240 mg/L - \$111.46/2000 LBS.

These rates are for connections within the City. Connections outside the City are subject to the same percentage increase as for domestic service.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE D
CITY OF MIDDLETOWN, OHIO

Unmetered Water Charges
(Effective January 2011)
Established by Ordinance No. O2010-63

The following schedule of charges is for water service and the use of unmetered water during the construction of a building. Charges are based on the size of service line at the equivalent rate of six months usage.

<u>Service Line Size</u>	<u>Inside City</u>
3/4"	\$ 60.24
1"	68.16
1-1/4"	77.04
1-1/2"	85.98
2"	103.74
3"	148.26
4"	228.30
6"	370.56
8"	726.30
10"	1,082.04

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE E
CITY OF MIDDLETOWN, OHIO

Connection to the Water System and Sewer System
(Effective September 20, 2005)
Established by Ordinance No. O2005-82
Modified by Ordinance No. O2008-47

<u>Water Meter Size (inches)</u>	<u>Water Fee</u>	<u>Sewer Fee</u>
5/8 and 3/4	\$ 3,500.00	\$ 3,500.00
1	\$ 4,200.00	\$ 4,200.00
1 1/4	\$ 5,600.00	\$ 5,600.00
1 1/2	\$ 7,000.00	\$ 7,000.00
2	\$ 8,400.00	\$ 8,400.00
3	\$17,500.00	\$17,500.00
4	\$24,500.00	\$24,500.00
6	\$35,000.00	\$35,000.00
8	\$49,000.00	\$49,000.00
10 and over	\$63,000.00	\$63,000.00

If the fee for connection, as established by this Ordinance, equals or exceeds thirty-five thousand dollars (\$35,000.00) and the connection results in new development which will generate more than \$1 million in new payroll, the fee shall be reduced in the amount of fifty cents (\$.50) for each one dollar (\$1.00) of projected income tax revenue. In no event will the reduction of the fee for connection exceed the amount of such fee, and result in the payment of a credit to the owner. The projected income tax revenue from a development will be based on the good-faith estimate of the owner, subject to acceptance by the City.

The connection fee required by this section is eligible for waiver by the City if the owner of the property to which the new connection is being made is a tax-supported entity. To receive a waiver, the owner must request the same. The Director of Public Works & Utilities shall make a recommendation to City Council, which shall either approve or reject such recommendation by motion. A tax-supported entity is intended to include the state and political subdivisions of the state and other entities that are directly and principally funded by taxation. A tax-supported entity is not intended to include entities receiving tax dollars by government grant, funding, etc.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE F
CITY OF MIDDLETOWN, OHIO

Charges for Service Tap on the Water System
(Effective April 2004)

Size	Cost	Type of Installation
3/4"	\$ 1,200.00	Full
1"	\$ 1,300.00	Full
1 1/2"	\$ 1,600.00	Full
2"	\$ 200.00	Tap only
3"	\$ 300.00	Tap only
4"	\$ 300.00	Tap only
6"	\$ 400.00	Tap only
8"	\$ 500.00	Tap only
10"	\$ 600.00	Tap only
12"	\$ 700.00	Tap only

Tap only - The contractor provides material and installs on main. City Water crew will drill tap. Contractor is responsible for all restoration in right-of-way.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE G
CITY OF MIDDLETOWN, OHIO

Charges for Meter Installation on the Water System
(Effective March 2009)

METER CHARGES		METER SETS		TOTAL CHARGE			
Meter Size	Meter Type	Meter Charges	MTU Charges	Within City	Outside City	Within City	Outside City
5/8" x 3/4"	Remote	58.51	105.00	16.35	32.70	179.86	196.21
1"	Remote	135.55	105.00	24.05	48.11	264.60	288.66
1 1/2"	Remote	238.50	105.00	34.35	68.70	377.85	412.20
2"	Remote	380.34	105.00	48.53	97.06	533.87	582.40
2"	Compound	1165.55	105.00	127.05	254.11	1397.60	1524.66
3"	Compound				Call for prices		
4"	Compound				Call for prices		
6"	Compound				Call for prices		
8"	Compound				Call for prices		
10"	Compound				Call for prices		

Charges for material include service fee of 10% in city and 20% outside City to cover City's cost of purchasing, accounting, and warehousing of meters.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS
SCHEDULE H

CITY OF MIDDLETOWN, OHIO

Miscellaneous Charges

(Effective January 2011)

1. Administrative service fee for delinquent account processing: \$25 per service call within entire service area. This fee will also be charged on any account that pays on or after the shutoff date. Service fee for restoring MTU connection: \$25 per service call within the entire service area. This fee can be charged monthly until the account holder or property owner agrees to allow a City representative to repair the device. This fee may also apply to inactive accounts and will be charged to the property owner. After hour charges may also apply.
2. Administration fee for annual backflow prevention device inspection and testing program: \$25 per device will be collected with completed form.
3. Same day service calls or turn-on service calls outside of regular working hours: \$50 per service call within entire service area.

NOTE: No charge will be made for service calls involving water service line or meter service where leakage of water endangers loss of private property. This charge will be made when the call is for the convenience of the customer for turn-on, turn-off, meter reading, or other services not of an emergency nature involving potential damage to property or loss of water.

4. Temporary water service through hydrant meter (including backflow preventer) furnished and installed by the City requires an initial deposit of:
 - \$ 300 for ¾" meter assembly
 - \$ 1,650 for 2 ½" meter assemblyDeposit will be refunded upon return of equipment to the Water Maintenance Division. In addition, permit holder will be charged \$25 per week for use of the equipment, plus water usage.
5. Damage to Equipment: When equipment is damaged for reasons other than normal wear and tear, specifically because of vandalism, apparent and deliberate damage, freezing, or hot water, the cost of repairs or replacement will be charged to the customer.
6. Testing of Meters: Meters are subject to inspection and will be replaced or tested for accuracy at a frequency and for reasons determined by the City. No charge will be made for this service when the action taken is initiated by the City.

If a water and/or sewer service customer requests his meter be tested for accuracy, and it does not appear to the City that the meter is inaccurate, the meter will be tested upon prepayment of \$25 for 1" meters or smaller or \$50 for meters larger than 1" for this service. The fee will be remitted and the service charges adjusted if the meter is found to record more than actual flow (subject to AWWA standards for meter accuracy for new meters).

7. Sale of Water for Water Haulers: A meter and coin operated water dispenser is installed at the Water Distribution building on Hook Drive for the use of water haulers. The rate is \$0.25 for 110 Gallons.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

SCHEDULE I
CITY OF MIDDLETOWN, OHIO

Storm Water User Fee
(Effective January 1, 2006)
Established by Ordinance No. O2005-73

1. The rate to be charged for the storm water user fee for equivalent residential unit (ERU) shall be a flat rate of \$3.25 per month. The equivalent residential unit equals the total square footage of impervious area of the property divided by 2,814 square feet. Equivalent residential units will be rounded to the nearest tenth (0.1) of a unit.
2. The rates to be charged for all residential dwelling units will be determined by multiplying 1.0 ERU by the fee for an ERU established in (1).
3. Public road and freeway rights-of-way, including streets, boulevards, alleys, sidewalks, curbing, street crossings, grade separations, and other public ways and easements, and highway structures belonging to the City, state and federal government, shall be exempt from the rate established by this section because they function as part of the storm water collection and conveyance system. Private rights-of-way will be charged as described within this section.

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

APPENDIX 2
GENERAL LIST OF FACILITIES REQUIRING BACKFLOW PREVENTER DEVICES
(continued)

Sprinkling or Irrigation Systems	R.P.
Swimming Pools with Piped Fill Line	A.G. at pool
Sewage Treatment Plants	R.P.
Sewage Pumping Stations (Health or System Hazard)	R.P.
Storm Water Pumping Stations	R.P.
Veterinary Establishments	R.P.
Others specified by the Director	

In addition to and including those types of facilities listed above, an approved backflow prevention device of the type designated shall be installed on each domestic water service connection to any premises containing the following real or potential hazards.

	<u>Minimum Type of Protection</u>
Premises having an auxiliary water system not connected to public water system	R.P.
Premises having a water storage tank, reservoir, pond, or similar appurtenance	R.P.
Premises having a steam boiler, cooling system, or hot water heating system where chemical water conditioners are used	R.P.
Premises having submerged inlets to equipment	R.P.
Premises having self-draining yard hydrants, fountains, hose boxes or similar devices presenting a health or system hazard (i.e., chemical storage plants, tank farms, bulk storage yards)	R.P.
Premises having self-draining yard hydrants, fountains, hose boxes or similar devices presenting a pollution hazard (i.e., parks, play fields, cemeteries)	D.C.
Others specified by the Director	

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

APPENDIX 3
STANDARD INSTALLATION DRAWINGS

1. Water Meter Installation – Residential Inside Setting
2. Water Meter Installation – Residential Outside Setting
3. Material and Construction Specifications for Meter Pit Construction (A)
4. Material and Construction Specifications for Meter Pit Construction (B)
5. Table of Minimum Distances Allowable on Large Taps
6. Master Meter and Sprinkling Meter Piping
7. Sprinkling Meter Piping
8. Master Meter Piping - Multi Units
9. Meter Assembly - 5/8" x 3/4" and 1" Meter
10. Dual Service Branch Setting - Fire Line with 3" and Larger Domestic Meter
11. Detector Check Valve Assembly - Piping Arrangement
12. Detector Check Valve Assembly - Fire Service Only
13. Meter Vault Assembly
14. Reduce Pressure Principal Backflow Preventer Device - 3" and Larger
15. Double Detector Check Backflow Preventer Device - 3" and Larger
16. Water Purity Test Station

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS
SCHEDULE I
CITY OF MIDDLETOWN, OHIO

Storm Water User Fee
(Effective January 1, 2006)
Established by Ordinance No. O2005-73

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CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

APPENDIX 2

GENERAL LIST OF FACILITIES REQUIRING BACKFLOW PREVENTER DEVICES
(continued)

Sprinkling or Irrigation Systems	R.P.
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Sewage Treatment Plants	R.P.
Sewage Pumping Stations (Health or System Hazard)	R.P.
Storm Water Pumping Stations	R.P.
Veterinary Establishments	R.P.
Others specified by the Director	

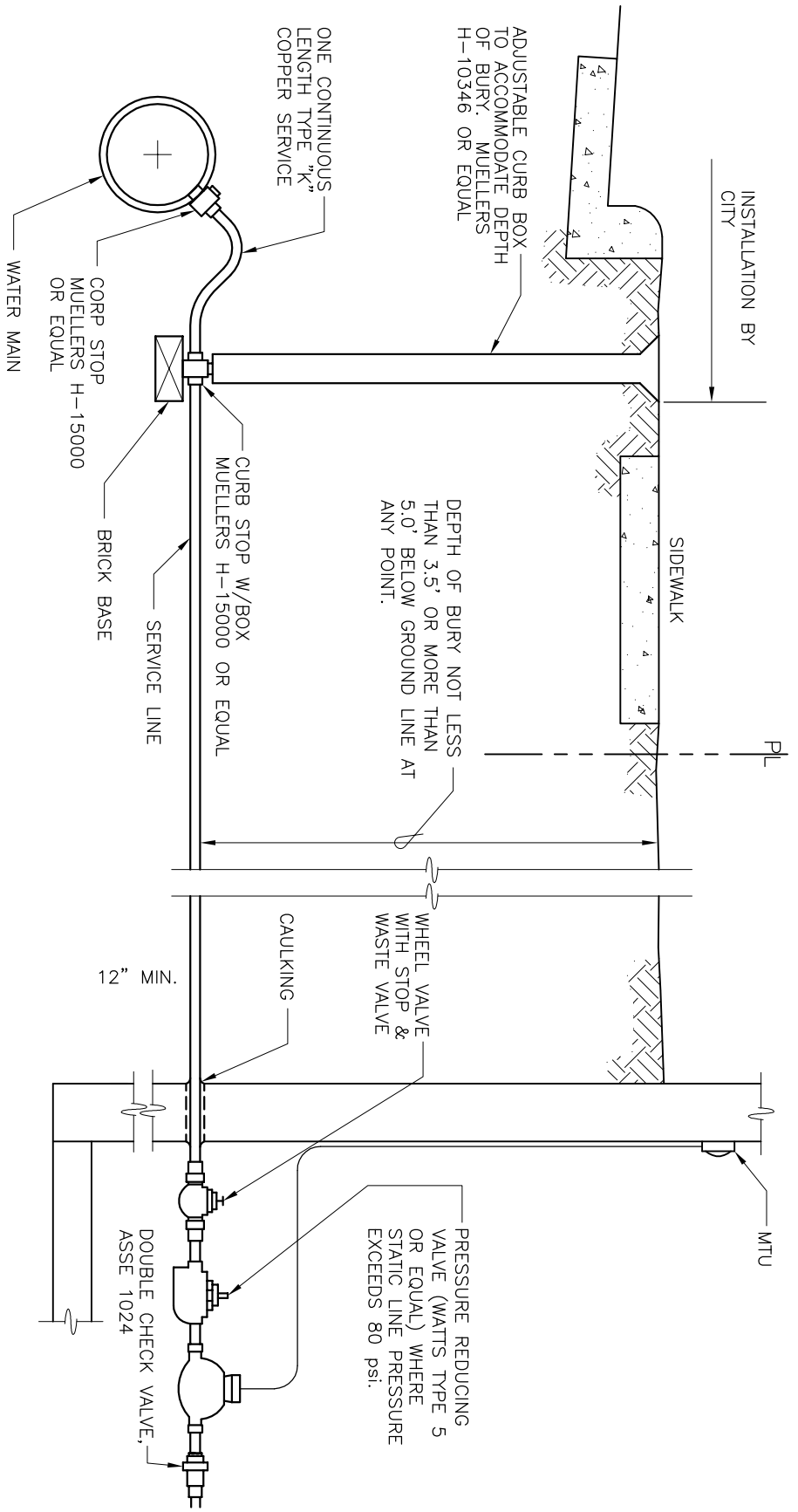
In addition to and including those types of facilities listed above, an approved backflow prevention device of the type designated shall be installed on each domestic water service connection to any premises containing the following real or potential hazards.

	<u>Minimum Type of Protection</u>
Premises having an auxiliary water system not connected to public water system	R.P.
Premises having a water storage tank, reservoir, pond, or similar appurtenance	R.P.
Premises having a steam boiler, cooling system, or hot water heating system where chemical water conditioners are used	R.P.
Premises having submerged inlets to equipment	R.P.
Premises having self-draining yard hydrants, fountains, hose boxes or similar devices presenting a health or system hazard (i.e., chemical storage plants, tank farms, bulk storage yards)	R.P.
Premises having self-draining yard hydrants, fountains, hose boxes or similar devices presenting a pollution hazard (i.e., parks, play fields, cemeteries)	D.C.
Others specified by the Director	

CITY OF MIDDLETOWN
WATER, SEWER AND STORM WATER RULES AND REGULATIONS

APPENDIX 3
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14. Reduce Pressure Principal Backflow Preventer Device - 3" and Larger
15. Double Detector Check Backflow Preventer Device - 3" and Larger
16. Water Purity Test Station



CITY OF MIDDLETOWN

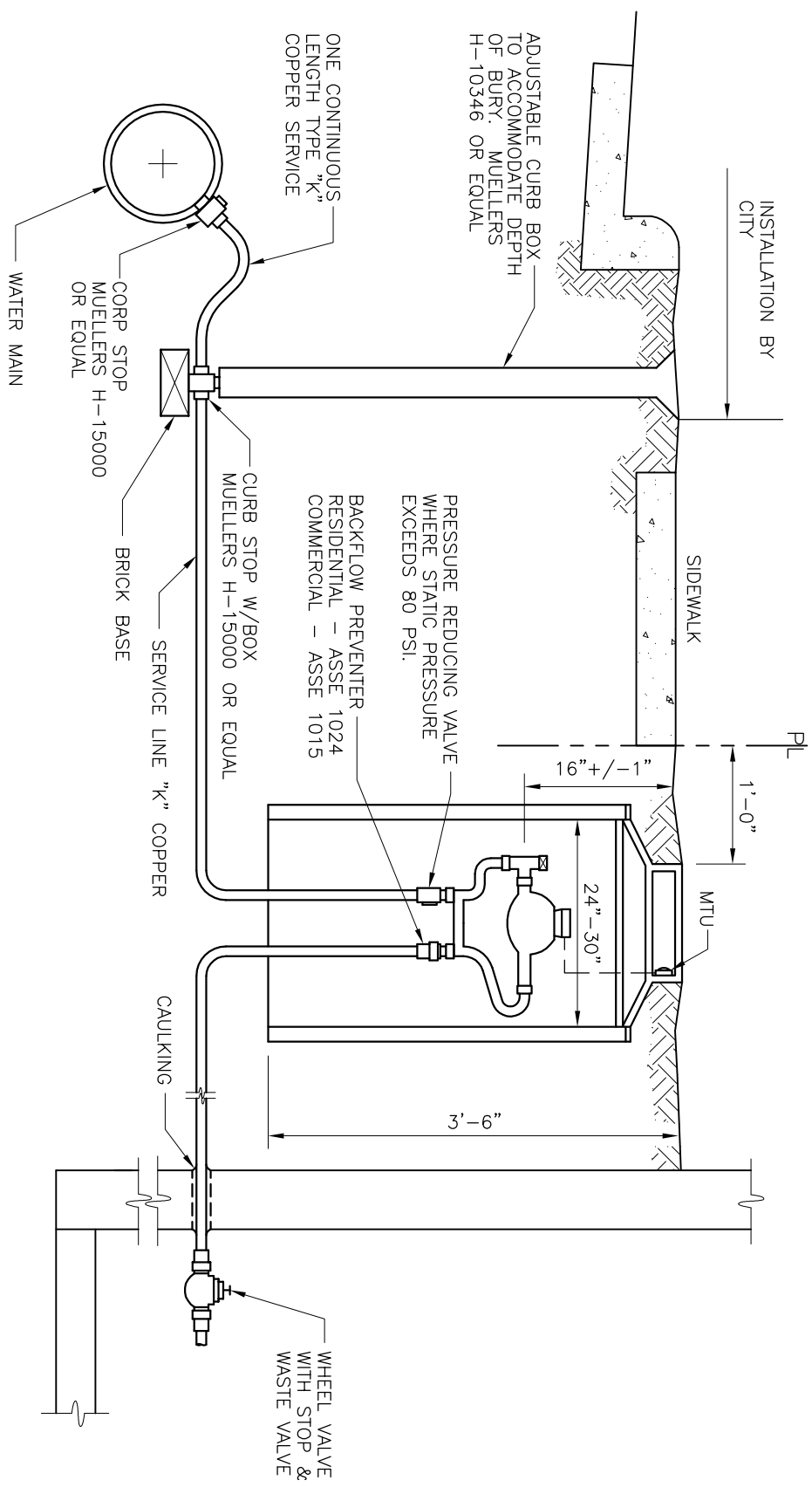
WATER SERVICE INSTALLATION

RESIDENTIAL INSIDE SETTING

DATE
MAY 2006

SHEET NO.
1 OF 16

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CITY OF MIDDLETOWN

WATER SERVICE INSTALLATION

RESIDENTIAL OUTSIDE SETTING

DATE MAY 2006	SHEET NO. 2 OF 16
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GENERAL NOTES

THE FOLLOWING SPECIFICATIONS ARE MINIMUM REQUIREMENTS. WHERE LOCATIONS, SOIL CONDITIONS, GROUND WATER, OR SIMILAR CONDITIONS DICTATE, INDIVIDUAL PIT DESIGN MAY BE SUBMITTED TO THE WATER WORKS FOR APPROVAL. METER PIT WALLS ARE TO BE 8" THICK AND ARE TO BE CONSTRUCTED OF CONCRETE BRICK, OR CONCRETE BLOCK. TOP SLAB CONSTRUCTION IS TO CONSIST OF 8" REINFORCED CONCRETE WITH 5/8" REINFORCING RODS, 4", ON CENTER SHORT SPAN AND 18" METER PIT FLOOR TO BE CONSTRUCTED OF CONCRETE 6" IN DEPTH. THE TOP CONCRET SLAB AND CASTING SHALL BE SET TO THE FINISHED GRADE OR HIGHER.

CONSTRUCTION SPECIFICATIONS

BRICK MASONRY AND CONCRETE BLOCK CONSTRUCTION

ALL BRICK AND CONCRETE BLOCK USED IN METER PIT CONSTRUCTION SHALL BE CLEAN AND ENTIRELY FREE FROM DIRT, PAINT, GREASE, AND OTHER FOREIGN SUBSTANCES AND SHALL BE THOROUGHLY WETTED BEFORE LAYING IN MORTAR. THE INTERIOR MORTAR JOINTS SHALL BE NEATLY POINTED UP AND THE SURFACE CLEANED OF ALL SURPLUS MORTAR. OUTSIDE JOINTS SHALL BE ENTIRELY FILLED WITH MORTAR. MORTAR SHALL BE COMPOSED OF ONE PART CEMENT AND TWO PARTS SAND BY VOLUME. THE MATERIALS SHALL BE MIXED DRY UNTIL THE COLOR IS UNIFORM; THEN WATER SHALL BE ADDED. WATER FOR MIXING MORTAR AND WETTING BRICKS SHALL BE MIDDLETOWN HYDRANT WATER OR EQUAL.

CONCRETE CONSTRUCTION

ALL CONCRETE USED IN CONSTRUCTION OF METER PIT WALLS, FLOORS, AND REINFORCED SLABS SHALL BE COMPOSED OF ONE PART CEMENT, TWO PARTS SAND, AND THREE PARTS AGGREGATE BY WEIGHT AND A MAXIMUM WATER CEMENT RATIO OF 0.50. BEFORE CONCRETE IS PLACED, THE FORMS, REINFORCEMENT, WATER STOPS, AND ANCHOR BOLTS SHALL BE RIGIDLY SECURED IN PROPER POSITION. ALL DIRT, MUD, WATER, DEBRIS, AND OTHER FOREIGN MATTER SHALL BE REMOVED FROM THE SPACE TO BE OCCUPIED BY THE CONCRETE. CONCRETE SHALL BE DEPOSITED AND COMPACTED IN THE WALL FORMS BEFORE ANY REINFORCING IS PLACED IN THE SLAB AREA AND SHALL SETTLE AT LEAST 2 HOURS BEFORE THE SLAB CONCRETE IS POURED. CONCRETE SHALL BE PROTECTED FROM THE LOSS OF MOISTURE FOR A CURING PERIOD OF AT LEAST 7 DAYS.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE FREE FROM DIRT, OIL, GREASE OR AVOIDABLE RUST. WHEN PLACED IN THE CONCRETE, IT SHALL BE CLEAN AND FREE FROM LOOSE RUST. REINFORCING STEEL SHALL BE SECURELY HELD IN PLACE DURING THE CONCRETE OPERATION IN NO CASE SHALL REINFORCING STEEL BE DRIVEN OR FORCED INTO THE CONCRETE AFTER IT HAS TAKEN ITS INITIAL SET. THE REINFORCING STEEL IN CONCRETE ROOF SLABS SHALL BE LOCATED IN THE BOTTOM PORTION OF THE SLAB, 2 INCHES FROM THE SURFACE OF THE CONCRETE.

CITY OF MIDDLETOWN
MATERIAL & CONSTRUCTION SPECIFICATIONS FOR METER PIT CONSTRUCTION

DATE MARCH 1999	SHEET NO. 3 OF 16
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GENERAL NOTES

WATERPROOFING

THE EXTERIOR SIDES OF PIT WALLS SHALL BE WATERPROOFED WITH TWO COATS OF ONE OF THE FOLLOWING MATERIALS APPLIED IN ACCORDINGLY WITH THE MANUFACTURER'S RECOMMENDATIONS: THOROSEAL; U.S.S. CHEMICAL TARMASTIC #102; KOPPERS BITUMASTIC SUPER SERVICE BL. VOIDS BETWEEN PIPES AND CHAMBER WALLS SHALL BE GROUTED WITH A HYDRAULIC CEMENT SUCH AS WATERPLUG OR AN APPROVED EQUAL.

DRAINS

EACH PIT SHALL BE DRAINED BY MEANS OF A 4" DRAIN LEADING TO A STORM SEWER OR A GRAVEL FILLED SUMP 3' x 3' x 3'. THE PIT FLOOR SHALL BE SLOPED TO A FLOOR DRAIN PLACED IN A CORNER OPPOSITE THE LID. THE FLOOR DRAIN CASTING SHALL HAVE A 4" OUTLET AND A RAISED OR BEEHIVE DOME GRATE SIMILAR TO WADE #1634; JOSAM #7324-N; OR AN APPROVAL EQUAL.

PITS IN PARKING AREAS

PITS CONSTRUCTED IN PARKING AREAS SHALL HAVE A GUARD POST SET IN THE GROUND AT EACH CORNER OF THE ROOF SLAB, OR HAVE THE ROOF SLAB RAISED ABOVE THE GROUND LEVEL TO PREVENT PARKING ON THE PIT.
2' x 2' SIZE; NEENAH CO, R-6662-KH WITH AN ALUMINUM LID, OR AN APPROVED EQUAL.
2' x 4' SIZE; NEENAH CO, R-6663-KH WITH AN ALUMINUM LID, OR AN APPROVED EQUAL.

PIPE AND FITTINGS

SERVICE BRANCHES 3/4" THROUGH 2" SHALL BE SOFT ANNEALED TYPE "K" COPPER CONFORMING TO A.S.T.M.-B 88, FROM THE MAIN TO THE METER.
SERVICE BRANCHES LARGER THAN 2" SHALL BE DUCTILE IRON CONFORMING TO THE CITY OF MIDDLETOWN SPECIFICATIONS FOR WATER LINES FROM THE MAIN TO THE METER SETTING OUTLET VALVE.

BACKFLOW PREVENTERS

THE LOCATION OF THE BACKFLOW PREVENTER AND THE TYPE TO BE USED SHALL BE DETERMINED BY THE CITY. ANY BACKFLOW PREVENTER USED SHALL BE ONE THAT HAS BEEN APPROVED BY BOTH THE CITY AND THE OHIO ENVIRONMENTAL PROTECTION AGENCY.

CITY OF MIDDLETOWN
MATERIAL & CONSTRUCTION SPECIFICATIONS FOR METER PIT CONSTRUCTION

DATE MARCH 1999	SHEET NO. 4 OF 16
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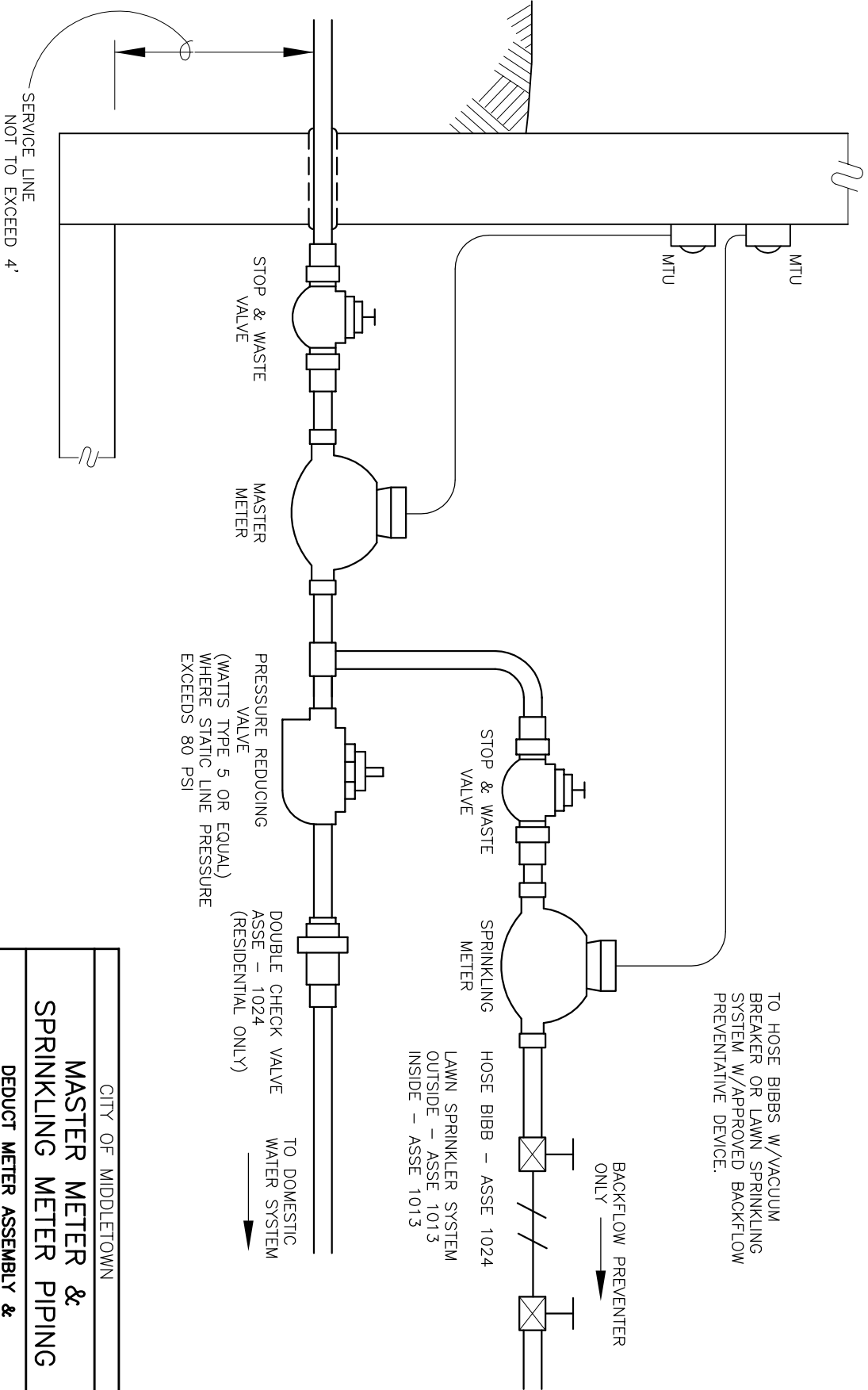
SIZE OF MAIN TO BE TAPPED INCHES	SIZE OF TAP INCHES	MINIMUM CLEAR DISTANCE FROM ADJACENT TAPPING SLEEVE FEET
4	2	6
4	4	8
6	2	5
6	4	6
6	6	8
8 or larger	2	4
8	4	5
8	6	5
8	8	8
10 or larger	4	4
10	6	5
10	8	8
10	10	8
12 or larger	6	4
12	8	6
12	10	8
12	12	8
16 or larger	8	4
16	10	6
16	12	7
20	10	4
20	12	6

1. ANY TAP SHALL BE 3' FROM SPIGOT END AND 18" FROM BELL END OF PIPE.
2. ACTUAL TAP HOLE SHALL BE 6-1/2' LONG AND 2-1/2' WIDE AND PROVIDE 18" CLEARANCE AROUND MAIN.
3. ALLOWABLE DISTANCE ON TAPS NOT LISTED ABOVE WILL BE FURNISHED ON REQUEST.
4. DOUBLE STRAP TAPPING SADDLE, MUELLER CORPORATION STOP THREAD.

CITY OF MIDDLETOWN
**TABLE OF MINIMUM
DISTANCE ALLOWABLE
ON LARGE TAPS**

H:\ENGINEERING\STANDARDS\WATER & SEWER RULES & REGS\5-16_TABLE.DWG

DATE MARCH 1999	SHEET NO. 5 OF 16
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TO HOSE BIBBS W/VACUUM
BREAKER OR LAWN SPRINKLING
SYSTEM W/APPROVED BACKFLOW
PREVENTATIVE DEVICE.

BACKFLOW PREVENTER
ONLY →

HOSE BIBB - ASSE 1024
LAWN SPRINKLER SYSTEM
OUTSIDE - ASSE 1013
INSIDE - ASSE 1013

STOP & WASTE VALVE
MASTER METER
PRESSURE REDUCING VALVE
(WATTS TYPE 5 OR EQUAL)
WHERE STATIC LINE PRESSURE
EXCEEDS 80 PSI
DOUBLE CHECK VALVE
ASSE - 1024
(RESIDENTIAL ONLY)

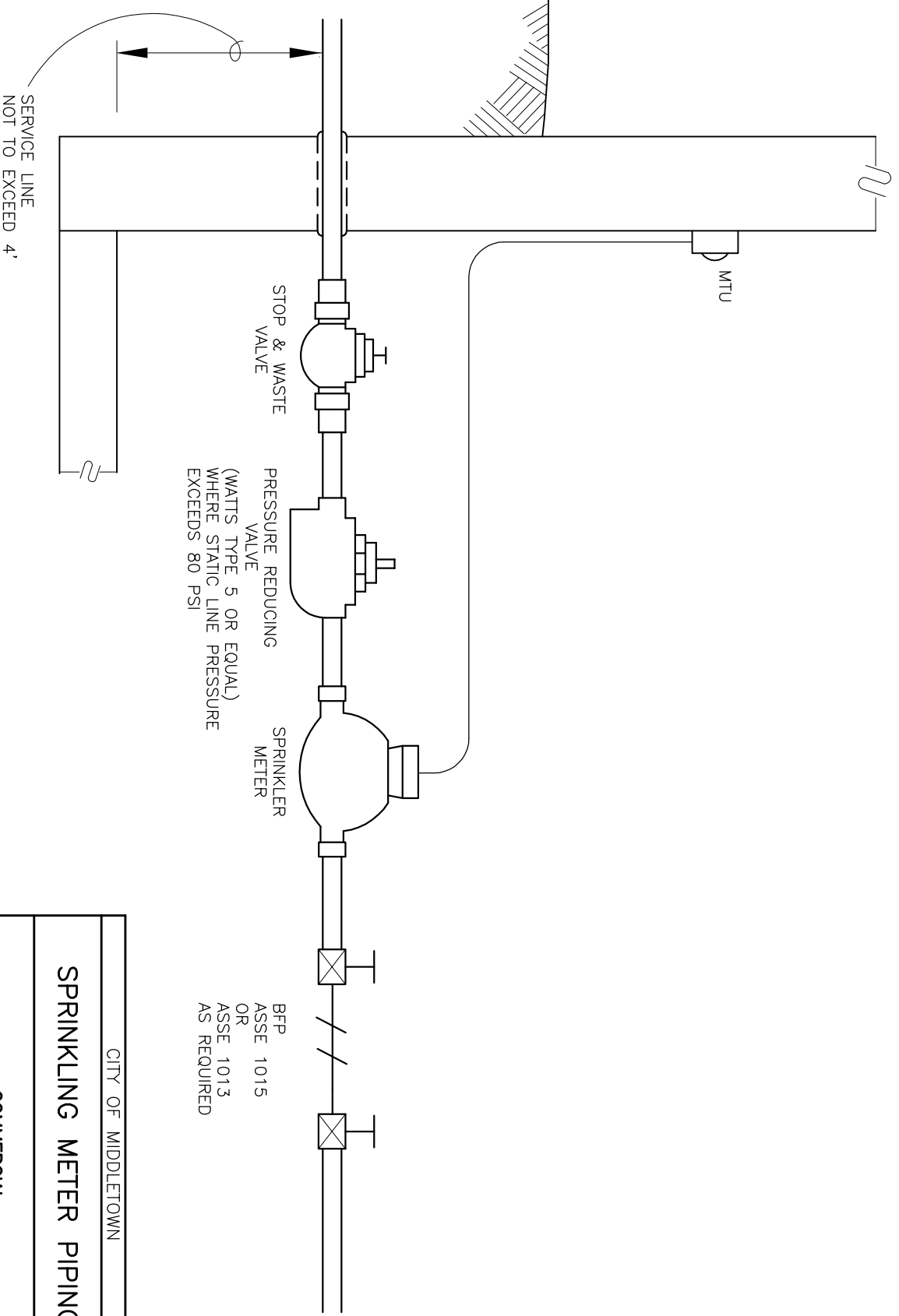
TO DOMESTIC
WATER SYSTEM
→

SERVICE LINE
NOT TO EXCEED 4'

CITY OF MIDDLETOWN
**MASTER METER &
SPRINKLING METER PIPING**
DEDUCT METER ASSEMBLY &
LAWN SPRINKLING SYSTEM
(RESIDENTIAL)

DATE
MAY 2006

SHEET NO.
6 OF 16



STOP & WASTE VALVE

PRESSURE REDUCING VALVE
(WATTS TYPE 5 OR EQUAL)
WHERE STATIC LINE PRESSURE
EXCEEDS 80 PSI

SPRINKLER METER

BFP
ASSE 1015
OR
ASSE 1013
AS REQUIRED

SERVICE LINE
NOT TO EXCEED 4'

CITY OF MIDDLETOWN

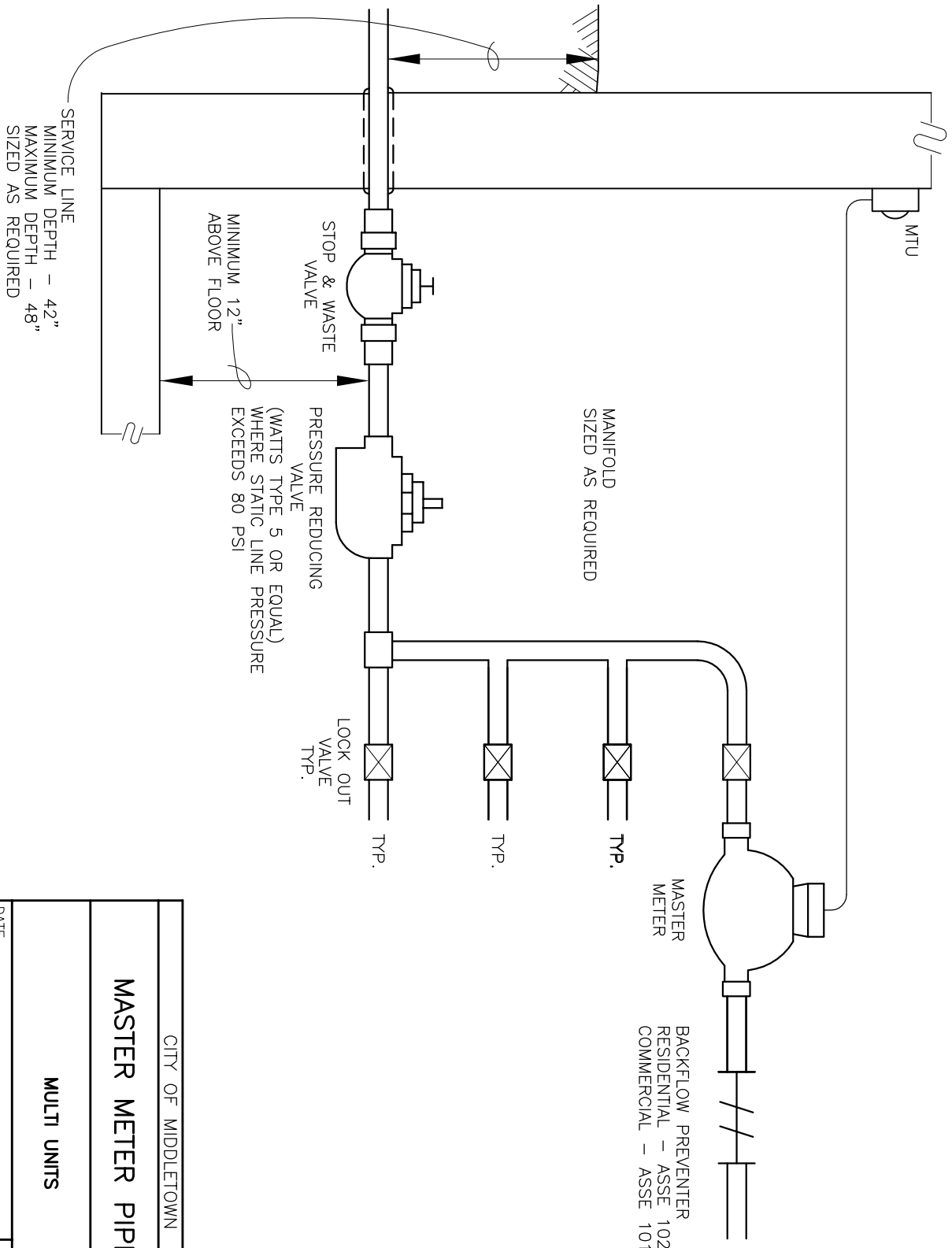
SPRINKLING METER PIPING

COMMERCIAL

H:\ENGINEERING\STANDARDS\WATER & SEWER RULES & REGS\7-16-SPRINK-M4.DWG

DATE
MAY 2006

SHEET NO.
7 OF 16



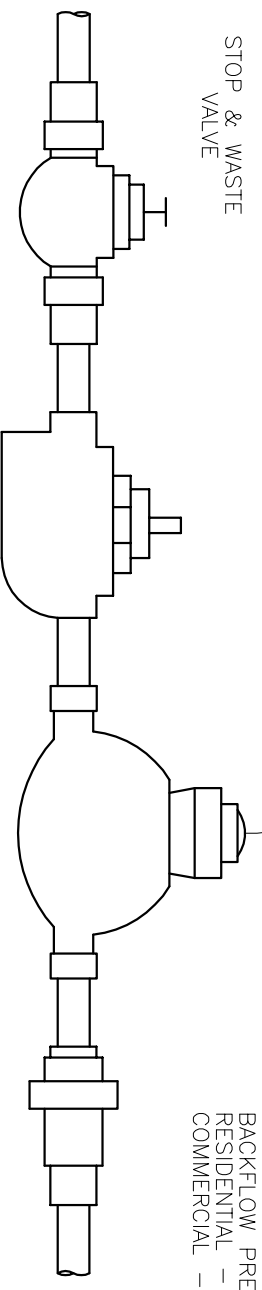
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CITY OF MIDDLETOWN

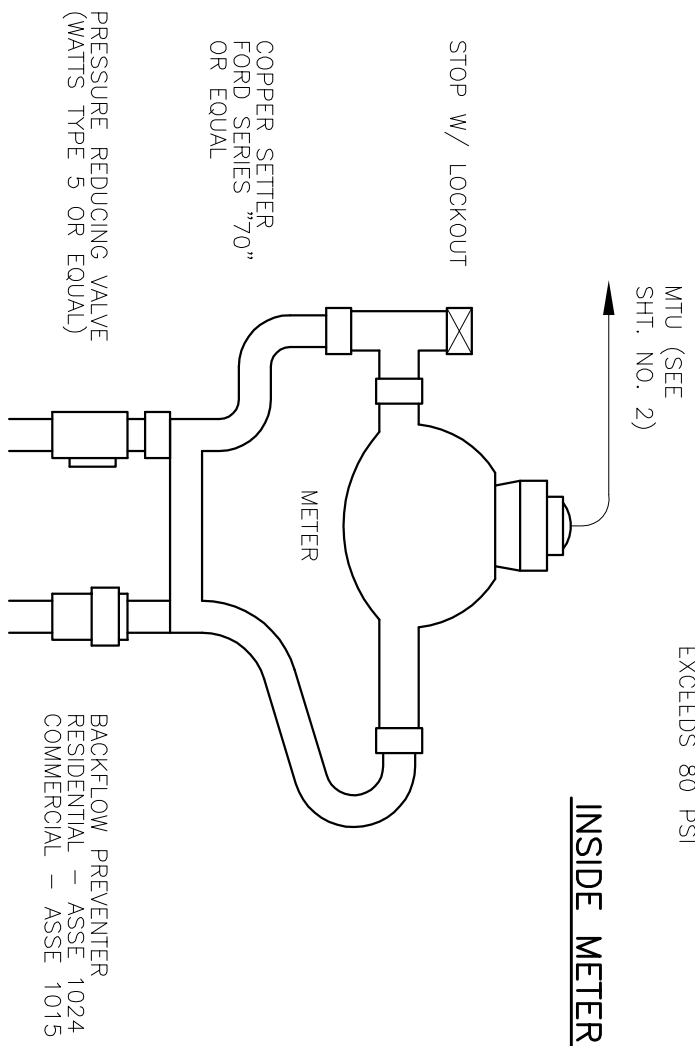
MASTER METER PIPING

MULTI UNITS

DATE MAY 2006	SHEET NO. 8 OF 16
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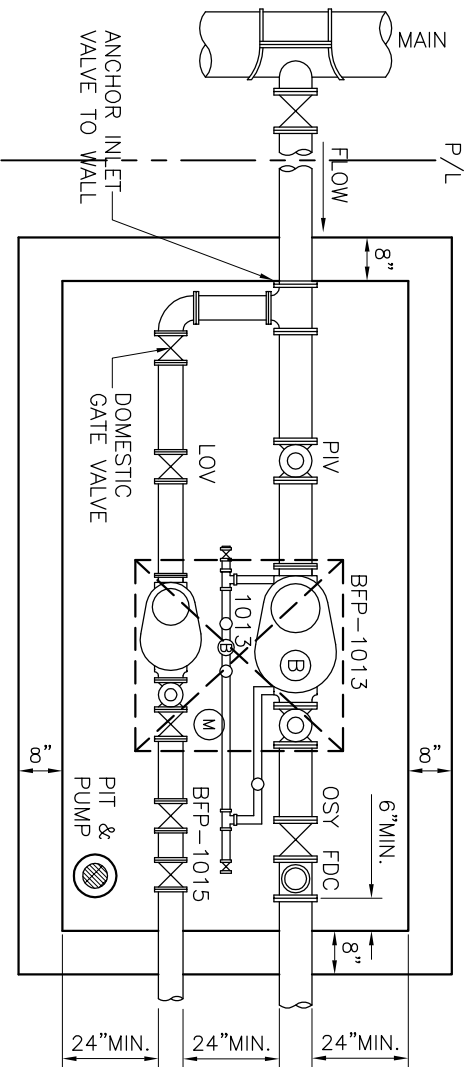
INSIDE METER SET



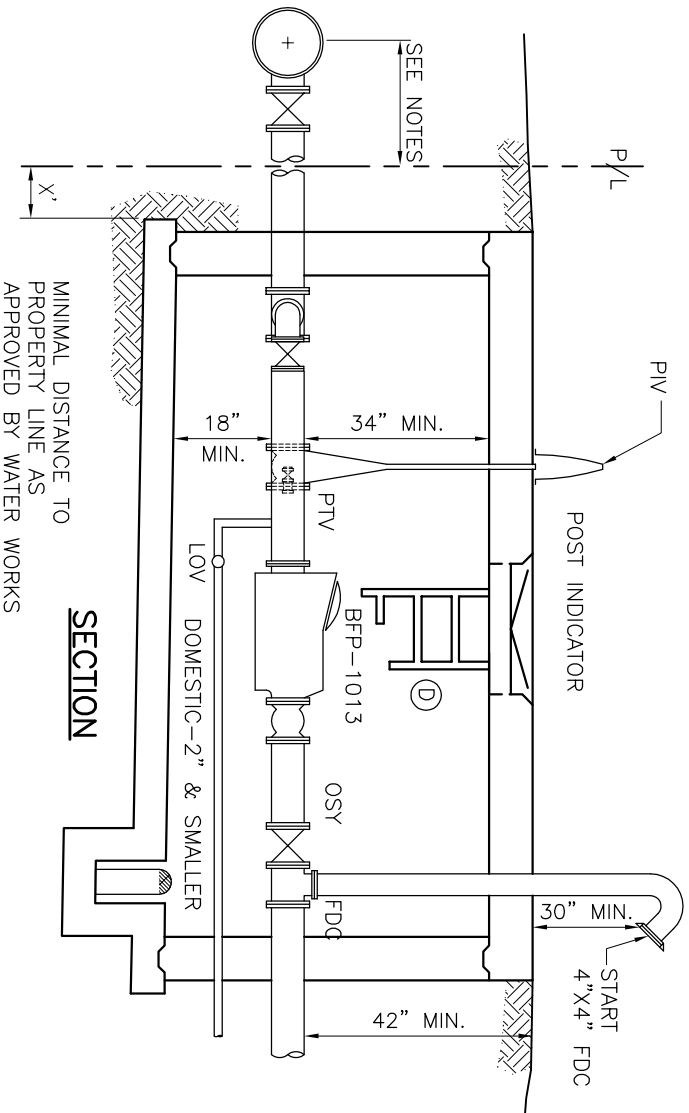
OUTSIDE METER SET

CITY OF MIDDLETOWN	
METER ASSEMBLY	
5/8"x3/4", AND 1" METER	
DATE MAY 2006	SHEET NO. 9 OF 16

H:\ENGINEERING\STANDARDS\WATER & SEWER RULES & REGS\9-16_METERSSET.DWG



PLAN



SECTION

MINIMAL DISTANCE TO
PROPERTY LINE AS
APPROVED BY WATER WORKS

- NOTES
- LID: NEENAH CO. R-6660-KH WITH TYPE G LIFT HANDLES & RATCHETS, OR APPROVED EUQAL. CENTER LID OVER DOMESTIC METER.
- (A) THIS METER SHALL BE PURCHASED FROM CITY OF MIDDLETOWN WATER DEPARTMENT.
- (B) SEE SHEET 11 FOR DETECTOR CHECK VALVE ASSEMBLY - PIPING ARRANGEMENT.
- (C) SEE SHEETS 3 & 4 FOR MATERIAL & CONSTRUCTION SPECIFICATIONS FOR METER PIT CONSTRUCTION.
- (D) REMOVABLE METAL LADDER TO REACH FROM PIT FLOOR INTO PIT OPENING.
- (E) UPON APPROVAL BY WATER DEPARTMENT THIS INSTALLATION MAY BE INSIDE THE STRUCTURE, OMITTING THE CHAMBER.
- (F) ACCESS OVER TOP OF METER.

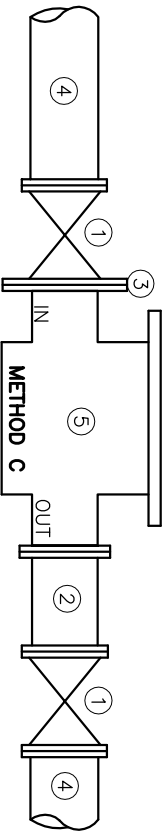
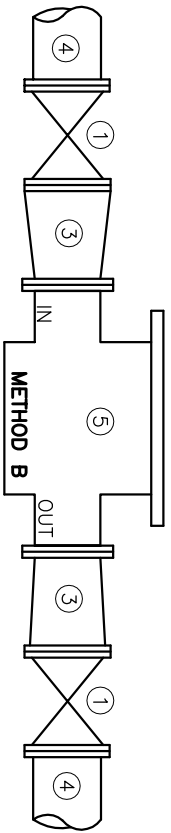
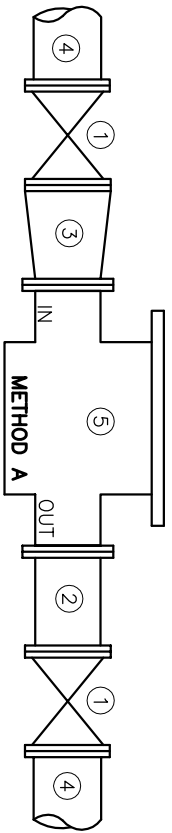
CITY OF MIDDLETOWN

DUAL SERVICE BRANCH SETTING

**FIRE LINE WITH 3" & LARGER
DOMESTIC METER**

DATE
MAY 2006

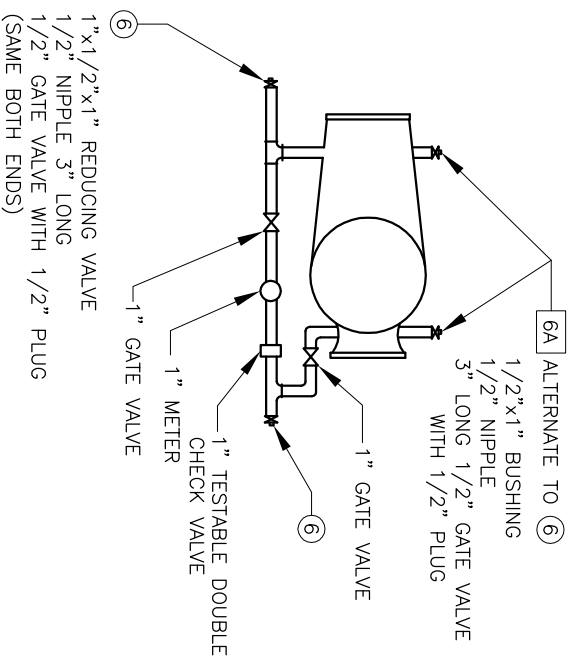
SHEET NO.
10 OF 16



- ① FLANGED INDICATOR VALVE WHEEL OPERATOR UNDERWRITER LABORATORIES APPROVED
- ② FLANGED TO PE SPOOL 12" LONG MAY BE DELETED IN PIT INSTALLATION
- ③ FLANGED ADAPTOR DRESSER 127 OR ROCKWELL 912
- ④ FLANGED BY PLAIN END ADAPTOR
- ⑤ DETECTOR CHECK VALVE ASSEMBLY
- ⑥ TEST GAUGE OUTLETS
- 6A ALTERNATE TEST GAUGE OUTLETS

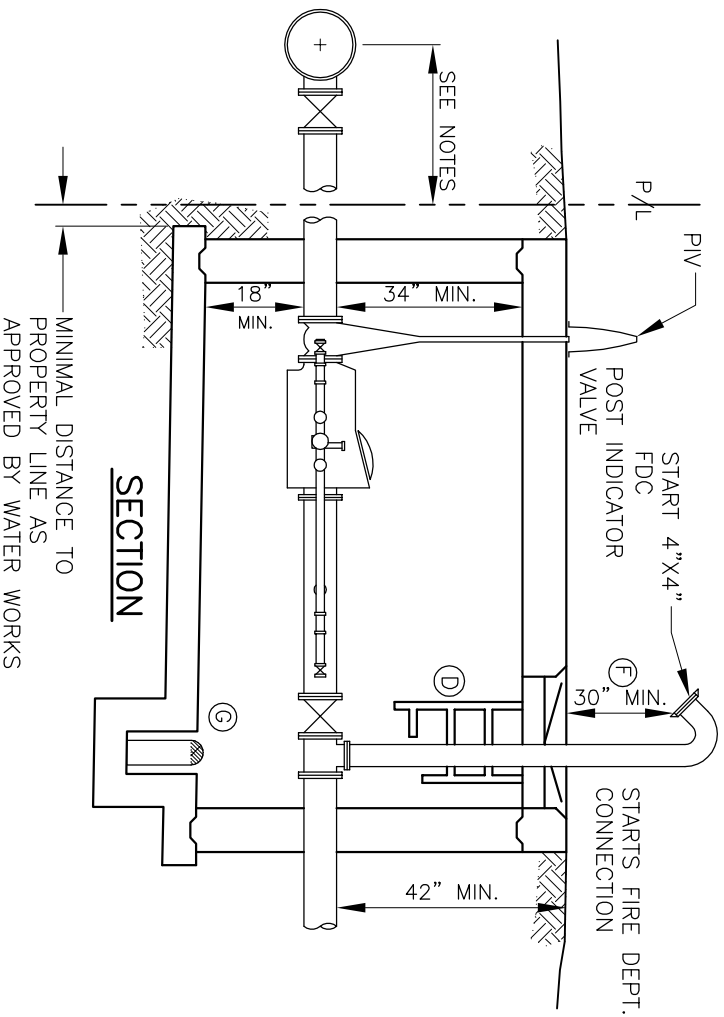
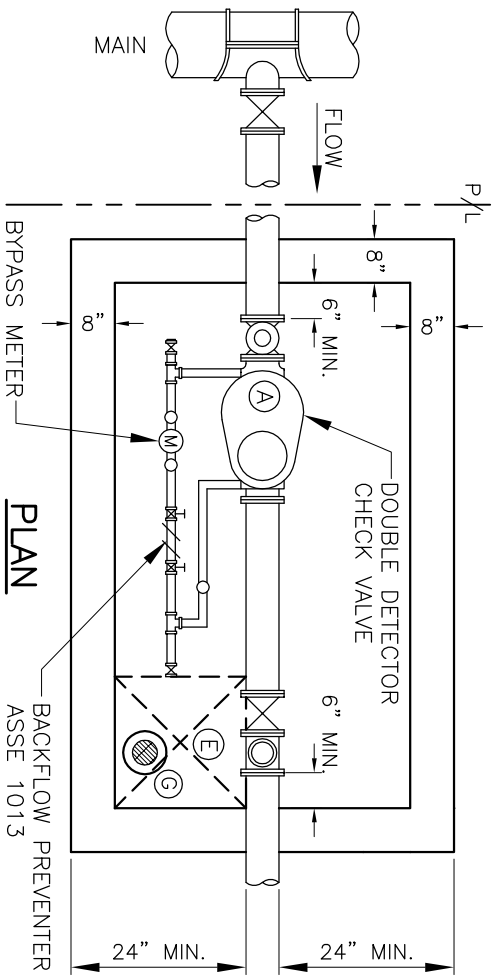
ANY PUMPER CONNECTED MUST BE INSTALLED ON DOWN STREAM SIDE OF DETECTOR CHECK METER ASSEMBLY AND DOWNSTREAM OF OUTLET VALVE.

- A** - METHOD WHERE METER AND INTERIOR LINES ARE SMALLER THAN BRANCH
- B** - METHOD WHERE METER IS SMALLER THAN BRANCH AND INTERIOR LINE
- C** - METHOD WHERE BRANCH, METER AND INTERIOR LINES ARE SAME SIZE



CITY OF MIDDLETOWN
DETECTOR CHECK VALVE ASSEMBLY
PIPING ARRANGEMENT

DATE MARCH 1999	SHEET NO. 11 OF 16
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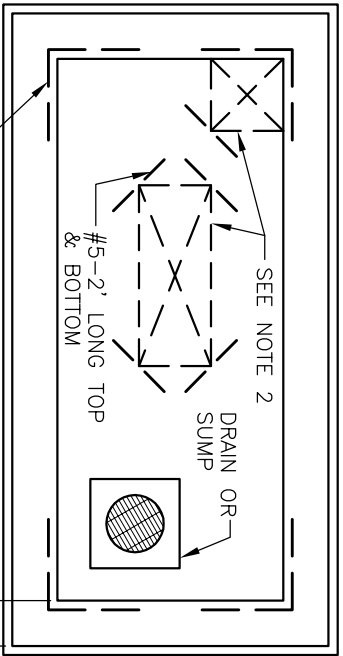
MINIMAL DISTANCE TO
PROPERTY LINE AS
APPROVED BY WATER WORKS

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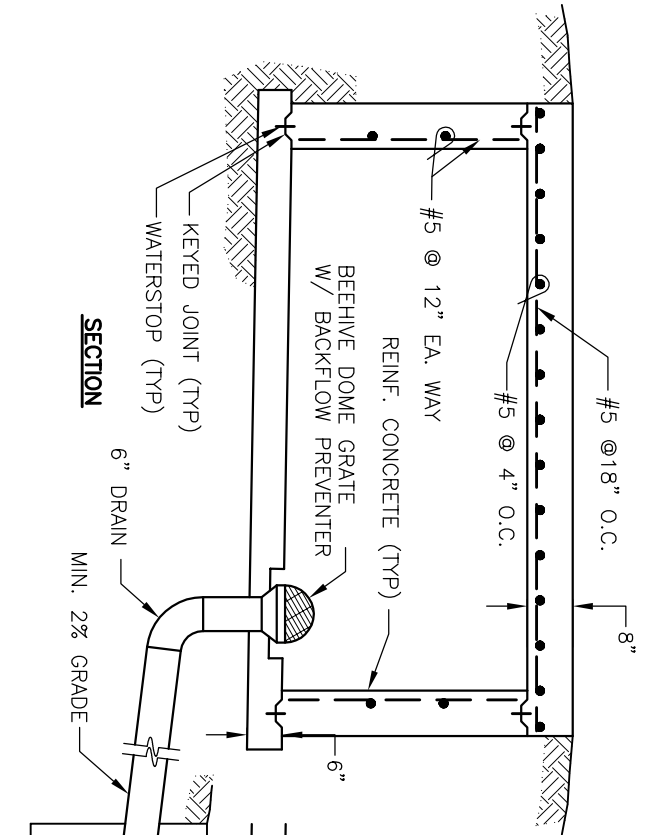
- LID: NEENAH CO. R-6660-KH WITH TYPE G LIFT HANDLES & RATCHETS, OR APPROVED EQUAL. PLACE LID IN AN ACCESSIBLE AREA AT THE REAR CORNER OF THE PIT ON THE SAME SIDE AS THE METER.
- (A) SEE SHEET 11 FOR DETECTOR CHECK VALVE ASSEMBLY - PIPING ARRANGEMENT.
- (B) SEE SHEETS 3 & 4 FOR MATERIAL & CONSTRUCTION SPECIFICATIONS FOR METER PIT CONSTRUCTION.
- (C) ANY PUMPER CONNECTION MUST BE INSTALLED ON DOWNSTREAM SIDE OF DETECTOR CHECK METER ASSEMBLY AND DOWNSTREAM OF OUTLET VALVE.
- (D) REMOVABLE METAL LADDER TO REACH FROM PIT FLOOR INTO PIT OPENING.
- (E) ACCESS OVER TOP OF METER.
- (F) 4" LOCKING STORTIZ ON 30° ELBOW TURN DOWN SECURED SIGN INDICATING "FIRE DEPT. CONNECTION" (FDC) WITH ADDRESS IT PROTECTS FIXED TO THE FDC FACING STREET.
- (G) SUMP PUMP (REQUIRED IF GRAVITY DRAIN IS NOT POSSIBLE) EXTEND DISCHARGE PIPING AWAY FROM TOP OF VAULT.

CITY OF MIDDLETOWN
**DETECTOR CHECK
VALVE ASSEMBLY**
FIRE SERVICE ONLY

DATE MAY 2006	SHEET NO. 12 OF 16
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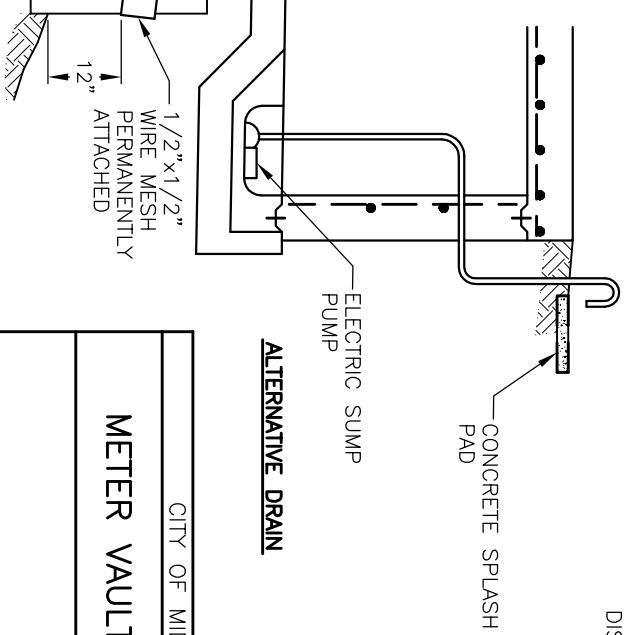
PLAN



SECTION

1. SPECIAL PERMISSION MUST BE OBTAINED FROM THE WATER WORKS TO INSTALL A REDUCED PRESSURE BACKFLOW PREVENTER IN A PIPE AS SHOWN ON THIS DRAWING. WHEREVER POSSIBLE, A REDUCED PRESSURE BACKFLOW PREVENTER SHALL BE LOCATED INSIDE A BUILDING AS DIRECTED BY THE WATER WORKS.
2. FOR A 3" OR LARGER DOMESTIC METER THE LID SHALL BE A NEEHAH CO. R-6660-KM OR EQUAL, LOCATED OVER THE METER.
3. DISCHARGE PIPING SHALL BE SIZED AS FOLLOWS:

BACKFLOW PREVENTER SIZE	MINIMUM PUMP DISCHARGE RATE AT 10' HEAD	DISCHARGE PIPE SIZE
1/2", 3/4", 1"	20 GPM	PIPE SIZE SHALL CONFORM TO PUMP MANUFACTURER'S SPECIFICATIONS.
1-1/4", 1-1/2"	30 GPM	
2", 2-1/2"	40 GPM	
3", 4"	80 GPM	
6"	100 GPM	
10"	120 GPM	NO REDUCING FITTINGS WILL BE ALLOWED IN DISCHARGE PIPING.
	140 GPM	



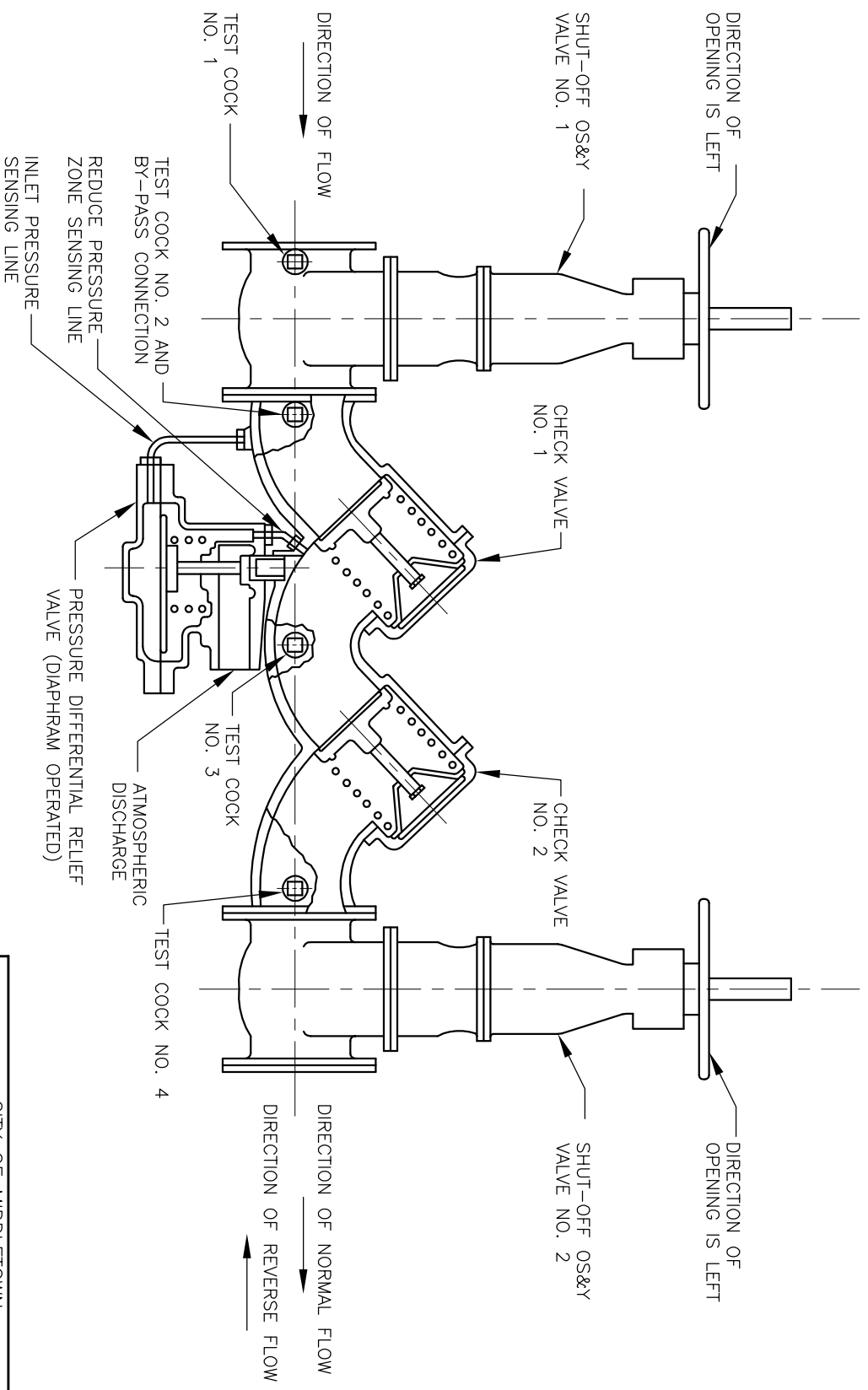
ALTERNATIVE DRAIN

METER VAULT ASSEMBLY

CITY OF MIDDLETOWN

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DATE MARCH 1999	SHEET NO. 13 OF 16
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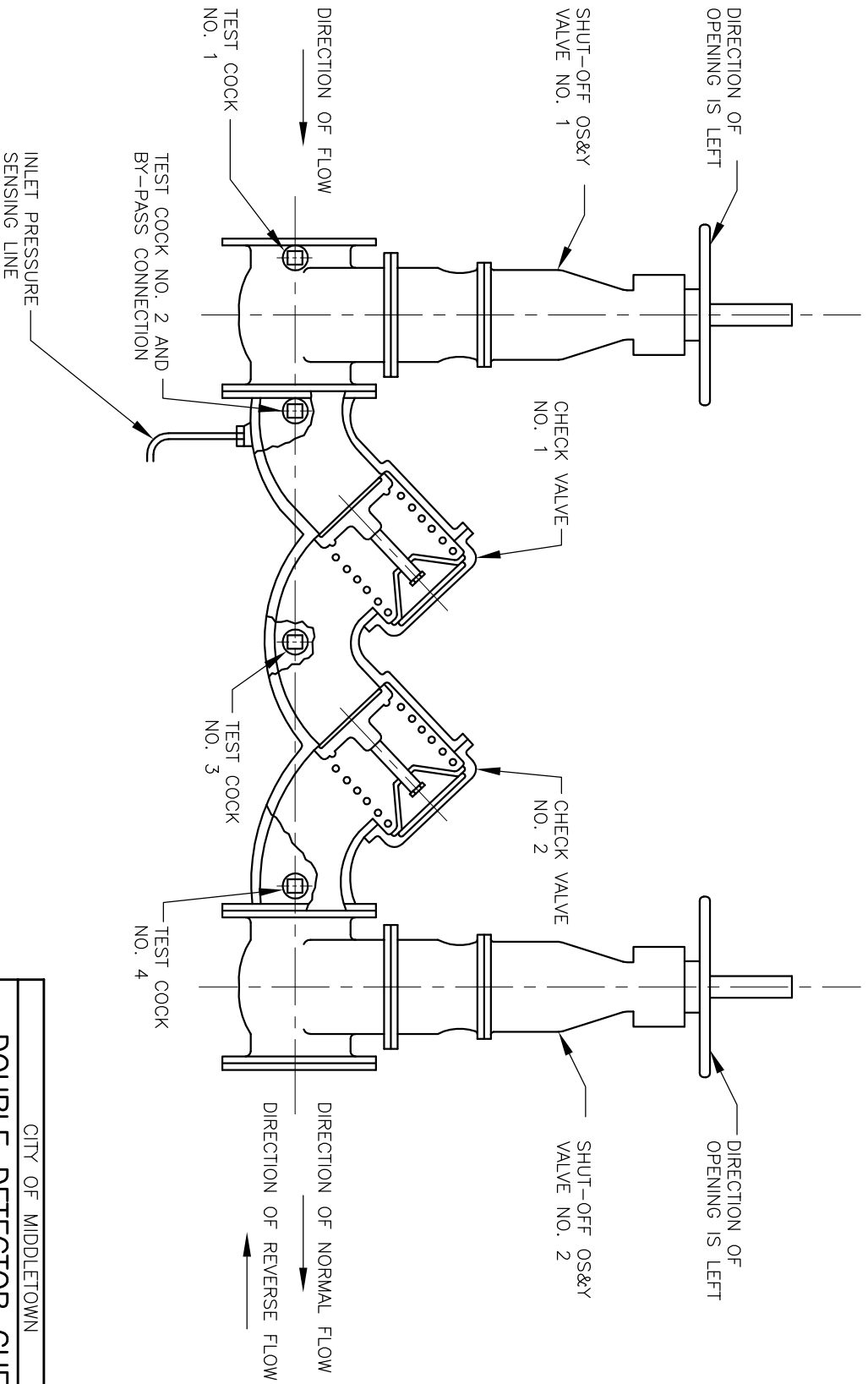


NOTE: SEE SHEET 11
FOR PIPING ARRANGEMENT

CITY OF MIDDLETOWN
**REDUCED PRESSURE PRINCIPLE
 BACKFLOW PREVENTOR DEVICE**

3" AND LARGER

DATE JANUARY 2003	SHEET NO. 14 OF 16
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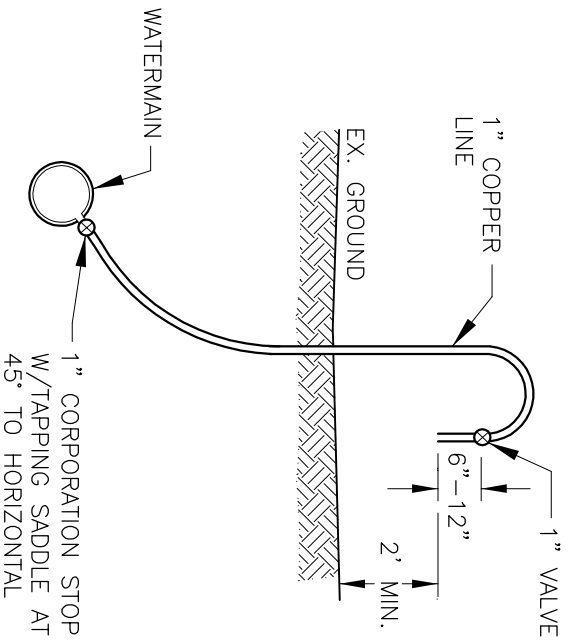
CITY OF MIDDLETOWN
**DOUBLE DETECTOR CHECK
 BACKFLOW PREVENTOR DEVICE**

3" AND LARGER

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DATE
JANUARY 2003

SHEET NO.
15 OF 16



PROVIDE A 1" CORPORATION STOP, 1" COPPER LINE, AND A 1" VALVE OR CURB STOP AT LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE ENGINEER, FOR PURITY TESTING PURPOSES. THE 1" COPPER LINE SHALL EXTEND FROM THE CORPORATION STOP INSTALLED ON THE MAIN, UPWARD TO A BEND AT AN ELEVATION HIGH ENOUGH TO ALLOW THE VALVE OR CURB STOP TO BE ON THE DOWNWARD SWEEP OF THE BEND. THERE SHALL BE A SHORT SECTION OF COPPER LINE (6" MIN. - 12" MAX.) ON THE OUTLET END OF THE VALVE OR CURB STOP. THE END OF THE COPPER LINE SHALL BE A MINIMUM OF TWO FEET ABOVE EXISTING GROUND. PROVISIONS SHALL BE MADE TO THE CONTRACTOR TO FLUSH CHLORINE FROM THE NEW INSTALLATION AT LINE CAPACITY.

CITY OF MIDDLETOWN

WATER PURITY TEST STATION

DATE
MARCH 1999

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16 OF 16