A manual of procedures and details for the installation of water services in the District service area.

January, 2015
INTRODUCTION

This manual has been prepared by The Metropolitan District to provide standards and procedures for the installation of water service connections, irrigation systems, fire protection systems and other domestic/commercial water uses directly or indirectly connected to the District’s public water distribution system. It is created under the auspices of the Ordinances and Charter of the Metropolitan District, “the District”.

The purpose of this manual is to develop an understanding of how a water service connection is executed following District procedures. These procedures include District review and approval of plans and specifications, mechanical contractor or plumber eligibility requirements, a water service permit and the construction inspection.

The District’s potable water distribution system includes all of Bloomfield, East Hartford, Hartford, West Hartford, Newington, Rocky Hill, Wethersfield and Windsor and parts of East Granby, Farmington, Glastonbury and South Windsor.

District Ordinances require that a permit be obtained from the District before any person install, repair, alter, replace or remove any water service connection, or appurtenance in a public street or private lands which water service is in any way connected directly or indirectly to any public water main of the District. In this case the permit is obtained through the District’s Customer Services Department, which includes the Utility Services Department.


This Manual, the Water Standard Details, and the Standard Specifications, include references to the “Owner” and the “Property Owner”. References to the “Owner” are to the District. The “Property Owner” refers to the owner of the property obtaining the service connection. If the Water Details are used in contracts for private developers or State contracts, a notation should be included that the Owner as used here refers to the District as Owner of the water infrastructure, and does not refer to the owner of the specific contract.
WATER SERVICE CONNECTION MANUAL

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PART 1

STANDARD PRACTICES AND PROCEDURES

Section 1 – SUBMISSION OF PLANS AND SPECIFICATIONS

a. Prior to the District issuance of a Water Service Permit, plans and specifications should be submitted for review to the MDC’s Customer Service Department at 60 Murphy Rd. Hartford, Connecticut, 06114. The District will determine whether a water main extension or a water service connection is appropriate.

b. All plans for commercial and industrial properties should have the seal of a Connecticut licensed professional engineer or surveyor, as appropriate. Surveyors can stamp plans provided the only information is plot or location information. An Engineer’s stamp is required if the plan includes design or size information.

c. A water main extension involves extending an existing public water main from its terminus to a point in a public road or right of way to serve a specific property or properties. Water main extensions shall be installed under a Developer’s Permit-Agreement (DPA) which is covered under a separate District manual entitled “Guidance Manual Developer’s Permit-Agreement”. All DPA’s are managed through Engineering Services at 555 Main Street, Hartford, Connecticut 06142. The design standards to be used in water main extensions must utilize the Water Main Design Manual. Both of these referenced manuals are available on the MDC website. The Developer’s Permit-Agreement manual is at web link (http://www.themdc.com/assets/uploads/files/engineering/Guidance%20Manual%20for%20Developers%20Permit%20Agreements-final%20August%202014.pdf) and the Water Main Design Manual.

d. Plot plans submitted to the District as part of a water service application must include complete dimensions, the location of the lot on the public street and the location of the building on the lot, the house number, or the lot number, the metes and bounds of the lot and its location with respect to the nearest side street, the owner’s (not builder’s) name and address, the type of occupancy of the premises and number of family units to be served. A copy of the property deed must be submitted with the package for processing. An assessment fee is payable when an original connection is made to a property. The applicant for a new connection or disconnection must send a letter to the Customer Service Department requesting the status of the fee.

e. A water service connection involves tapping an existing water main and installing copper or ductile iron pipe from the water main to the building. A water service connection shall be installed after applying for and the issuance of a water service permit (see Appendix D) managed through Customer Service Department, 60 Murphy Road, Hartford, Connecticut 06114. Water service renewals / replacements also require an application for a water service permit, at the Customer Service office. (Renewals and replacements include services that were shut down and need to be returned to service, and services that need replacement to maintain reliable service to the customer.)
f. Water service connections must be installed by a licensed plumbing contractor who is responsible for furnishing all materials including but not limited to tapping sleeves, tapping gates, corporations, shut-offs, meter connections and all piping as approved by the District. Note that the District will supply corporations and saddles for services 2 inch diameter and smaller. The District will also supply meter spacers and tail pieces for use inside the building. The District will perform the necessary taps in a prepared OSHA approved trench which is the responsibility of the Contractor. All water service installation will be inspected and locations documented on record drawings by MDC forces. An inspection fee of $250 is required if the inspection is outside of normal business hours.

g. The MDC requires separate water services for fire and domestic/commercial services. A proper design of a fire service should address the water system pressure and capacity to meet proposed demands and follow current NFPA guidelines and the requirements of the local fire marshal. A distance of five feet between the fire service and domestic service is required, whenever field conditions make this possible.

h. Specifications referenced in this manual are the MDC Standard Specifications located on the MDC website (http://www.themdc.com/assets/uploads/files/engineering/MDC%20Project%20Manual_January%202015.pdf). Contractors are expected to construct services in accordance with the technical provisions of these specifications which include materials of construction and execution of the work. Administrative procedures such as submittals may not be required unless included as part of a permit approval.

Section 2 - CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

a. District Ordinances relating to Cross-Connection Control and Backflow Prevention indicate that no owner shall maintain upon his/her premises a cross connection between the public water distribution system or the potable water supplied thereby and any auxiliary water source, unless the installation has been registered with and approved by the District.

b. Plumbing plans for new buildings, additions and/or renovations should be submitted for review to the Customer Services Department, 60 Murphy Road, Hartford, Connecticut 06114 for conformance with District and Public Health Code cross-connection regulations.

c. The District’s uses the State of Connecticut, Cross Connection Control Manual, prepared by the State of Connecticut Department of Public Health for cross connection control and backflow prevention. (Copy available on the MDC website link (http://www.themdc.com/customers/utility-services/cross-connections)

d. A cross-connection is an actual or potential connection between a potable water system and any other source or systems including well water, through which it is possible to introduce into the potable water system any contaminating or polluting agent.

e. Contamination will result when a cross-connection exists and backflow or a reversal of flow occurs. There are two types of backflow: backsiphonage and backpressure. Backsiphonage results when there is a negative pressure in the system and the contaminant is pulled into the drinking water supply. Backpressure occurs when the pressure on the
The nonpotable system is greater than the potable system and the contaminant is pushed into the drinking water supply.

f. The requirements for backflow prevention devices are dictated by the Federal Safe Drinking Water Act, Public Law 93-523 and Section 19-13-B37 of the State of Connecticut Public Health Regulations. The selection of the appropriate device in a particular installation is based on a combination of the degree of hazard involved and the possibility of contamination. In many cases the District’s inspector must make a recommendation for installation based on the specific situation using the regulations, technical guidelines, field experience, and his/her own judgment.

g. The devices required under Section 19-13-B38a of the State of Connecticut Public Health Regulations and District Ordinances shall be purchased, owned, installed, and maintained by the owner.

h. It is the owner’s responsibility to eliminate or contain all cross-connections. In case of non-compliance, the State and Local Health Departments will be notified in writing. Possible discontinuance of water service will be undertaken upon their orders.

i. Facility inspections are performed by the District Cross-Connection Inspectors on a one-year or five-year basis as determined by the degree of hazard.

j. All testable backflow preventers are to be tested upon installation or repair, and annually at the owner’s expense. Results are to be submitted to the District for compliance.

Section 3 – CONSTRUCTION - GENERAL

a. The requirements established in this manual regulate the sizes, materials, methods, and workmanship be used in the construction of domestic/commercial and fire water services and appurtenances connected or intended to be connected directly or indirectly to any public water mains of the District, as provided in Section W5c of the Ordinances of The Metropolitan District Relating To Water Supply. Contractors who perform work on water services must meet the minimum requirements of bonding, licensing and insurance.

b. These requirements are minimum requirements for the construction of water service connections.

Section 4 – CONTRACTOR’S APPLICATION, BOND, AND INSURANCE

a. In order to be permitted to install water service connections to the District system, the contractor shall submit a completed Application for Eligibility, Bond and Insurance, which information will be kept on file for future reference.

b. The Application for Eligibility form must indicate that applicants possess proper state licensing. A valid state license (P-1 or P-7) for plumbing/piping is required prior to obtaining a water service permit. Authorized individuals representing the licensee are required to sign the water service connection application forms. See Appendix A.
c. Prior to the District approving the application for a water service connection, the applicant shall present the required permit for street excavation from the proper local or state authority and the Call-Before-You-Dig ticket number.

d. The Contractor's Bond shall be executed by the surety company’s agent, including the name of the contractor, name of responsible state licensee, name of surety and proper signatures. See Appendix B.

e. The Certificate of Insurance shall include coverage’s for General Liability with the Metropolitan District and State of Connecticut added as additional insured, Automotive Liability, Protective Liability in the name of the Metropolitan District (with the policy) and Workers' Compensation and Employers' Liability. The amount of insurance coverage shall meet the prevailing minimum requirements and be presented on the District’s Certificate of Insurance. See Appendix C.

f. Water service connection applications will only be approved once all forms are completed and approved by the District for eligibility, bond, insurance and after all assessment cost, if any, are paid or time payment plan and voluntary lien are completed by the property owner. See Appendix D.

Section 5 - SAFETY

a. The Contractor shall comply with all pertinent provisions of the Department of Labor, Occupational Safety and Health Administration, Title 29 Code of Federal Regulations Chapter XVII Parts 1910 – “General Industry Standards” and Parts 1926 – “Construction Industry Standards”.

b. The Contractor alone shall be responsible for the safety, efficiency and adequacy of its plant, appliances and methods, and for any damage or injury which may result from their failure or the improper construction, maintenance or operation.

c. The Contractor shall properly design and furnish all labor, materials, equipment, and tools necessary to completely construct the excavation support system, permanent or temporary, including sheet piling, trench shields (trench boxes), timber trench shoring, pneumatic/hydraulic shoring, steel sheeting or sheeting using other materials, sloping and benching. Excavation support systems shall be constructed in accordance with the technical provisions of the MDC Standard Specification Section 02160, Excavation Support Systems.

d. If, in the opinion of the District, the Contractor has failed to maintain a safe trench and work area, District forces shall refuse to enter the trench until safety concerns are satisfied. This requirement shall not in any way relieve the Contractor of complete responsibility and liability for maintaining a safe and adequate trench excavation at all times and at any depth.

Section 6 - TRENCH EXCAVATION

a. The licensed Contractor shall fully comply with the State of Connecticut Public Act No. 77-350 in regard to the proper notification to be given the Call-Before-You-Dig central
clearinghouse 1-800-922-4455 or 811 prior to any excavation, discharging explosives or demolition and to all other actions concerning work near underground utility facilities.

b. Trenching in streets or highways shall conform to the requirements and specifications of the state, city or towns authorities having jurisdiction.

c. The Contractor is responsible for the trench excavation and restoration and shall provide a safe and adequate trench for the tapping of the water main by District forces.

d. Water services shall be constructed in accordance with the technical provisions of the MDC Standard Specification Section 02657, Water Service Renewal or Reconnection; Section 02200, Earthwork; and Water Standard Details in this manual, specifically W-1 and W-2.

e. In rock excavation there shall be no projecting rock within six (6) inches of the outside of the pipe on the sides, top and bottom. The bottom six (6) inches of trench shall be refilled with sand or gravel and properly tamped before the pipe is laid. All excavated rock shall be disposed of and the trench refilled with suitable sand or gravel.

Section 7 – WATER SERVICE TAP & PERMIT SCHEDULE

Subsequent to approval of the water service application, payment of tapping fees, and creation of a new account, the applicant should then contact the Operations Department of The Metropolitan District at 860-278-7850, extension 3627 or 3629 to schedule a water main tap.

Section 8 - INSPECTION

a. After the tap has been made by MDC, the Contractor shall contact the Command Center (860-278-7850, ext. 3600) to request an inspection. DO NOT backfill the service installation until approved by the District inspector. If the service is backfilled, you will be required to expose the piping for the inspection. In case of emergency or for further assistance contact the Command Center. All contacts by the Contractor shall be through the Command Center.

NOTE: Personnel of the MDC tapping crew are not inspectors.

b. In general, inspectors will be available between the hours of 7:30 a.m. to 3:30 p.m. on Monday through Friday inclusive. Inspection outside the hours of a normal 5-day work week for scheduled or unscheduled work must be pre-approved and an inspection fee is required to be paid to The Metropolitan District at its office at 60 Murphy Road, Hartford, Connecticut 06114.

c. The inspector, where possible, should see that the service will not be under entrance walks, driveways, trees, large boulders or other obstructions and in the case of renewal of old services should recommend renewing, in a new location in order to avoid any of these obstructions.
d. Water service connections 2-inch and smaller, serving buildings to be abandoned, demolished or relocated shall be physically severed while witnessed by an MDC inspector. Proposed abandoned water service connections larger than 2-inches shall be bulkheaded at the street line or other point approved by the MDC. If the owner has decided not to utilize the property then a letter should be sent to the MDC Customer Service Department requesting the water service be “cut off” at the main line. Abandonment of water services must be performed by District forces prior to demolition of the building.

e. All service pipes installed shall be visible for the entire length of the trench and shall be inspected for type of pipe and for water tightness in the presence of the District inspector.

f. Construction of meter pits (where approved by the MDC), including by-pass lines, shall be checked and approved by the inspector prior to installation of meter. By-pass lines require MDC approval.

g. Under unusual circumstances where suitable conditions exist, and with the approval and issuance of permit by the MDC, the City, Towns or State of Connecticut Department of Transportation and other utility companies that may be affected, a water service may be jacked or mechanically moled through an area where open excavation may not be desirable. This operation must be done in the presence of an MDC inspector.

Section 9 – WATER SERVICE INSTALLATION

a. General

1. Service pipes shall be laid at least 10 feet away from any septic tank leaching field.

2. The inspector, where possible, should see that the service will not be under entrance walks, driveways, trees, large boulders or other obstructions and in the case of renewal of old services should recommend renewing, in a new location in order to avoid any of these obstructions.

3. If the service pipe on the owner’s property is installed prior to the installation of that part of the service to be installed in the street, the Contractor will pressure test his installation to 150 lbs. per square inch in accordance with Specification Section 02651 paragraph 3.10.

4. All service pipe shall be laid, so far as practical in a straight line from the main to the inside front cellar wall. Foundation walls must be installed prior to the water service installation within the owner’s property.

b. Services 1”, 1-1/2” and 2”

1. Water services of 1", 1½" and 2" size shall be constructed in accordance with the technical provisions of the MDC Standard Specification Section 02657, Water Service Renewal and Reconnection; Section 02200, Earthwork and Water Standard Details in this manual. Copper services do not require disinfection.
2. If the building has no cellar or has no suitable place or utility room for the meter, the meter shall be placed in a suitable housing or pit outside, provided and maintained by the owner on his property, at or near the street line. Crawl spaces are not considered suitable places for water meters. The owner will install a meter box or meter pit, at his expense. See Water Standard Details for installation requirements.

3. Fully Excavated Cellars - The service pipe shall enter the front wall of the building with a gate valve of the same nominal size as the pipe immediately inside this wall. Beyond this valve two gate valves on both sides of the meter along with the meter couplings, spacer, bypass and backflow prevention device if required shall be installed by the Plumber. See Water Standard Details for installation requirements.

The property owner is responsible for any damage to the meter which must be accessible for reading, changing and maintenance during regular working hours of the MDC. Conditions such as a septic tank leaching field in the front lawn may necessitate moving the service which would be presented to the MDC and if approved, noted on the permit. The point of entry may be either through the front wall, or through the side wall not more than 24” beyond the inside face of the wall. The pipe shall enter the side wall on a smooth curve, free from any distortion or kinks. In special cases where plans or other proof is submitted to show that the meter would be in a finished room, such as recreation or living quarters, if standard practice were followed, the meter installation will be allowed just beyond the second wall provided all other requirements are approved, the pipe being extended either along the side of the house or under the floor contained in a sleeve extending from the front wall to the second or partition wall.

4. Partially Excavated Cellars - Where the excavated portion of the cellar is adjacent to the front wall, the service may enter at any point along the front wall, or through either sidewall on a smooth curve of radius not less than 24” and shall be free from any distortion or kinks. See Water Standard Details for installation requirements.

Where the excavated portion is located to the rear of the house and is adjacent to either side wall, the service shall be laid parallel to the side wall, and shall enter the wall as directed above.

Where the excavated portion of the cellar is located to the rear but is not adjacent to either side wall or front wall, the usual meter setting will be allowed at the wall facing the street provided the service is contained in a sleeve or duct under the unexcavated portion of the building. Any other condition will require a meter pit located at the street line.

c. 4" & Larger Services

1. Water services of 4” and larger shall constructed shall be constructed in accordance with the technical provisions of the MDC Standard Specification
Section 02651, Water Service Renewal and Reconnection and Section 02200, Earthwork and Water Standard Details in this manual.

2. All services 4” and larger whether for domestic/commercial or fire use, shall be provided with a gate valve and gate box at the main, as well as the property line. See Water Standard Details for installation requirements.

3. All underground pipe in fire services and all pipe before the meters in domestic services shall be pressure tested in the presence of the inspector at a pressure of 150 lbs. per square inch for domestic services in accordance with Specification Section 02651 paragraph 3.10. Fire service pressure tests may also require witnessing by the local fire authority.

4. All services are subject to chlorination and disinfection, with the submission of acceptable test results to MDC for final approvals, in accordance with the procedure described in Part 2 of this Manual. Contractors are responsible for all sampling and costs associated with this process.

5. Construction of meter pits (where approved by the MDC), including by-pass lines shall be checked and approved by the inspector prior to installation of meter. Meter pit piping details for large diameter water services are shown in Part 3 of this manual. Standard meter pit details showing pipe arrangement and meter dimensions should be used for all installations requiring meter pits. Piping arrangement in pits should be reviewed and approved by MDC Customer Service prior to installation. Approved meter by-passes may be considered and or not required depending on the application of use on approved services 1½” in size and larger. See detail sheet for piping and valve layout.

6. Individual properties may receive their supply through one or more service pipes. In case of multiple services, each shall be metered and shall not be interconnected without the installation of approved check valves by the owner and inspection by District forces.

7. Water services shall not be connected to newly installed water main until the new main has been satisfactorily pressure tested, sterilized and approved for use.

NOTE: The use of lead solder joints on copper pipe for by-pass, and piping at the meter where acceptable, shall be made with 95/5 solder. **DO NOT USE 50/50 SOLDER**

Section 10 – BACKFILL STANDARDS & MATERIALS

a. After the subgrade has been prepared and the water service pipes laid, the fill material shall be placed and built up in successive layers. Backfill for the trench excavation within public streets shall be in compliance with the specifications of the city, town or State of Connecticut Department of Transportation. Backfill materials and execution shall be in
Section 11 –DISINFECTING AND FLUSHING WATER SERVICES

a. Disinfection and flushing of ductile iron services 4 inches and larger will be conducted as described in Part 2 of this Manual. Note that ductile iron services which are intended only for fire protection do not require disinfection. Copper services (which are 2 inches and smaller) do not require disinfection.
PART 2

DESIGN STANDARDS

The District has developed design standards which apply to typical water services. They are not intended to be all inclusive but are items that should be covered when designing typical services. Information covering the design of water mains and services is included in several documents as follows:

- The Water Main Design Manual.
- The MDC Standard Specifications (see below).
- The MDC Water Standard Details (see Part 3).
- Disinfection procedures are described below.

Specification Sections that may be relevant to the design of water services include, but are not necessarily limited to, the following:

- 02054, Removal or Abandonment of Existing Water Mains and Appurtenances
- 02200, Earthwork
- 02202, Trench Refill
- 02317, Underground Warning Tape
- 02642, 12-inch and Smaller Gate Valves
- 02645, Fire Hydrant Assembly
- 02651, Ductile Iron Water Main and Fittings
- 02653, Disinfecting and Flushing Water Mains
- 02656, Tapping Sleeve and Gate Valve
- 02657, Water Service Renewal or Reconnection


Disinfection and Flushing Procedures for Water Services

Disinfection procedures for ductile iron water services differ from those presented in Specification Section 02653 for water mains, and thus are described in detail below. (Note that copper services do not require disinfection, and ductile iron services intended only for fire protection do not require disinfection.)

The Contractor in cooperation with District forces shall sterilize the new water service pipelines and sections thereof by using a modification of the Tablet Method as described in Section 4.4 of the latest edition of ANSI/AWWA C651, "Standard for Disinfecting Water Mains". The appropriate number of five (5) gram calcium hypochlorite tablets as shown in Table 1 shall be cemented in each length of pipe by the Contractor. Tablets are to be attached by an adhesive such as Permatex No. 2c to the top of each pipe. Subsequent to the
completion of the water service lines, they shall be filled with water as part of the tablet method of sterilization. The water shall remain in the pipelines a minimum of 24 hours before flushing.

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<th>PIPE DIAMETER (INCHES)</th>
<th>NUMBER OF TABLETS PER LENGTH OF PIPE</th>
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CAUTION: Tablets are not to be left in pipes above ground overnight or on the job site where they can come in contact with children or animals.

Use of a 3/4" x 1" corporation cock as a sterilization test sample connection at the end of the service is a one-time occurrence and after its use it can be converted to a permanent air valve or abandoned, whichever is dictated by the specific installation.

The Contractor shall make arrangements with the District to flush the system subsequent to sterilization. The District will be responsible for operating the gate valves in the street if necessary, and to supply materials for neutralizing the chlorine. The Contractor shall be responsible for supplying equipment necessary to perform the flushing operation and determining where the water will drain during the flushing operation so as not to flood areas or cause damage to property.

After final flushing and before placing the water service pipelines in service, District forces will make the appropriate tests as described in Specification Section 02653, Table 1. If the water service fails these tests, the District will require additional sterilization flushing and testing. All expense for this additional work will be the responsibility of the Contractor.

The Contractor is reminded that the complete test procedure requires four (4) consecutive working days for the results to be obtained.
PART 3

THE METROPOLITAN DISTRICT

WATER SERVICE INSTALLATION DETAILS

INDEX

The Water Service Installation Details are included on the MDC website (http://www.themdc.com/assets/uploads/files/engineering/MDC%20Project%20Manual_January%202015.pdf) as Water Standard Details and are intended to exhibit District approved installation for the various sized water services and their appurtenances. If deviations from the prescribed installation are necessary, approval must be obtained from the District prior to the installation. The details are intended to supplement and amplify the District Material Standards. An index of those Water Standard Details is included in this section.

The Water Standard Details include references to the “Owner” and the “Property Owner”. References to the “Owner” are to the District. The “Property Owner” refers to the owner of the property obtaining the service connection. If the Water Details are used in contracts for private developers or State contracts, a notation should be included that the Owner as used here refers to the District as Owner of the water infrastructure, and does not refer to the owner of the specific contract.

Unless otherwise noted, the materials in these details are supplied and installed by the contractor hired for the construction.
Index of Water Standard Details (2015 Version)

W-1 Water Main Trench
W-2 Water Service Trench
W-3 Type K Copper Service Trench
W-4 Copper Water Service Offset
W-5 Trench Requirements for 1-inch to 2-inch Service Taps
W-6 Trench Requirements for 4-inch to 12 Inch Tap on Water Main
W-7 1-inch Service Tap Off Horizontal Center Line
W-8 Services 4-inch Through 8-inch
W-9 Standard Service Curb Box
W-10 Standard Gate Valve 12-inch and Smaller
W-11 Standard Gate Box Assembly (Dwer Type)
W-12 Cast Iron Gate Box Top Section (Dwyer Type)
W-13 Cast Iron Gate Box Bottom Section 8-inch (Dwyer Type)
W-14 Cast Iron Gate Box Bottom Section 10-inch (Dwyer Type)
W-15 Cast Iron Gate Box Cover (Dwyer Type)
W-16 Gate Box Extension
W-17 Gate Box Extension Spacer Rings
W-18 Gate Nut Extension Stem for Gate Box
W-19 Standard Fire Hydrant Assembly
W-20 Swivel Mechanical Joint Hydrant Tee
W-21 Standard Restrained Joints
W-22 Mechanical Joint Lacing Method
W-23 Restrained Offset with Concrete Anchor
W-24 Concrete Thrust Blocks for 12-inch and Smaller Mains
W-25 Standard Water Manhole
W-26 Standard Water Manhole Frame and Cover
W-27 Precast Meter Pit for 1 1/2-inch to 2-inch Service
W-28 4’ x 4’ Precast Meter Pit for 1 1/2-inch to 2-inch Service
W-29 6’ x 4’ x 6’ Precast Meter Pit for 2-inch Through 4-inch Meters
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W-31 5’ x 10’ x 6’ Combined Meter Layout
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W-33 Meter Box for 1” Service and 5/8” x 3/4” to 1” Meter
W-34 Standard Meter Installation with By-Pass on 1 1/2-inch Services and Larger within Buildings
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W-36 Standard Meter Installation with By-Pass for 3-inch and 4-inch Meters Within Pit
W-37 Air Valve/Chlorination Inlet / Blow-Off
W-38 Standard Air Valve
W-39  4-inch Blow-Off Assembly (End of Main)
W-40  4-inch Blow-Off Assembly (Branch Type)
W-41  4-inch Blow-Off Assembly with Full Main Size Gate Valve
W-42  8-inch or 10-inch Blow-off Assembly
W-43  Standard Butterfly Valve
W-44  Water Main Crossing Above Sanitary Sewer
W-45  Water Main Crossing Below Sewer Less Than 18-inch Vertical Separation
W-46  Gate Operation Index
W-47  Standard Water Layout
PART 4

THE METROPOLITAN DISTRICT

APPROVED MATERIALS FOR WATER INSTALLATIONS

The Approved Materials for Water Installation are included as part of the MDC Developers Permit Agreement Manual (http://www.themdc.com/assets/uploads/files/engineering/Guidance%20Manual%20for%20Developers%20Permit%20Agreements-final%20August%202014.pdf). If deviations from the prescribed materials are necessary, approval must be obtained from the District prior to the purchase and installation.
APPENDIX A

APPLICATION FOR ELIGIBILITY
APPLICATION FOR ELIGIBILITY FORM

The undersigned, having read and understood the terms of the construction manual, rules, regulations and ordinances of The Metropolitan District pertaining to the issuance of permits to drain layers, and to the laying of water services, sewers and drains, hereby requests eligibility for sewer connection and/or water service permits in the name indicated hereinafter and hereby agrees, for himself and partners, or for any corporation in whose name the license or permits is to be issued, to fulfill and be bound by all of the provisions of said construction manual, rules regulations and ordinances, and also to any amendments or additions thereto which may hereafter be made.

(Name under which permits will be issued)

(Business Address – Street and Town)  (Business Telephone)

If business is a Partnership or Corporation, list below the owners partners principal officers and/or State Licensee:

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<th>Title</th>
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<th>Home Telephone</th>
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Said applicant agrees to notify The Metropolitan District within 24 hours of any change in the employment status of the (partner, officer, associate, employee) listed herein, including persons empowered to sign applications and receive permits as listed on the reverse side.

Application is made for:

ELIGIBILITY FOR SEWER CONNECTION AND WATER SERVICE PERMITS
(for work on private sewers and drains & water services under STATE OF CONNECTICUT)

LICENSE NO........................................

Issued to (Signed)........................................

Signed........................................

(Name of Corporation of firm (Seal))

by........................................

Its........................................

Duly Authorized (Title)

Witness

Witness
METROPOLITAN DISTRICT ACTION

It has been determined that satisfactory Insurance Certification and Bond covering the aforementioned applicant has been filed in this office and the named application has been found in order and accepted on:

____________________________________  ______________________________________
Date                                               Signed (for the MDC)

____________________________________

TO BE COMPLETED BY THE CONTRACTOR

Persons empowered to sign applications and receive permits for the aforementioned company: (Print or Type only)

____________________________________

____________________________________

____________________________________

____________________________________

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____________________________________
APPENDIX B

MDC BOND FORM
CONTRACTOR'S BOND NO. ______________

Know all Men by these Presents, that ____________________________________________ and/or
(Name of Firm, Partnership or Corporation)

__________________________________________ (Name of Responsible Individual State Licensee) (Title)
as principal, and ______________________________________________ as surety

are held and firmly bound unto THE METROPOLITAN DISTRICT, within its service area in the State
of Connecticut, in the sum of Ten Thousand dollars ($10,000), lawful money of the United States of
America to be paid to the said METROPOLITAN DISTRICT, its respective successors or assigns, for
which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors and assigns, jointly and severally, firmly by these presents.

Signed and Sealed and dated ________________ Conn., this _____ day of _________________, 19...

The condition of this Obligation is such, that whereas, the above bound principal has by The
Metropolitan District and/or by the State of Connecticut been duly licensed as a Contractor in said
District Service Area, said obligation shall be continuous subject to cancellation by said Surety by
giving ninety (90) days notice in writing of its intention to so do.

Now, therefore, if the said ______________________________________ shall well and truly keep and perform,
during said term, all the terms and conditions of the ordinances, resolution, rules and regulations of
The Metropolitan District, regulating the laying of sewers, drains, and appurtenances, sewer house
connections, private drains, water mains, water services and appurtenances, and shall forever
indemnify and save harmless THE METROPOLITAN DISTRICT and all its respective agents for or on
account of any damages to property of any person or persons or any damage to the sewer or water
system of THE METROPOLITAN DISTRICT in consequences of or resulting from any work performed
by

said principal __________________________________________ servants
or agents, or of, or from any negligence in guarding said work, or of, or from any act or

omission of said principal __________________________ servants or agents until the expiration of the one year
maintenance period after, work, under any permit issued, is complete; shall faithfully perform said
work in all respects with the rules and regulations established by THE METROPOLITAN DISTRICT,
and the terms of the permits that may be issued to him, and shall also pay all fines or penalties
imposed upon him for violation of any such rules or regulation, then this obligation shall be of no
effect; otherwise, it shall remain in full force and virtue.

Signed: ____________________________________________ (Corporate Seal of Surety)

Signed: ____________________________________________ (Individual State Licensee)

Signed: ____________________________________________ (Corporation or Firm)

Signed: ____________________________________________ (Surety Corporation)

By: ________________________________________________

By: ________________________________________________

Its: _______________________________ Duly Authorized

Its Duly Authorized Agent

Witnessed by: _______________________________________

Witnessed by: _______________________________________

On: ________________________________ (Date)

On: ________________________________ (Date)
APPENDIX C

MDC INSURANCE CERTIFICATE
### Certificate of Insurance - The Metropolitan District

**Form INS390 | Issue Date (MM/DD/YY)**

**Insured**

**Companies Affording Coverage**

- Company A
- Company B
- Company C

**Minimum Insurance Requirements**

- Bodily Injury and Property Damage
  - $1,000,000 Each Occurrence
  - $1,000,000 Aggregate

**Coverages**

<table>
<thead>
<tr>
<th>COLN</th>
<th>Type of Insurance</th>
<th>Policy Number</th>
<th>Eff. Date (MM/DD/YY)</th>
<th>Exp. Date (MM/DD/YY)</th>
<th>All Limits in Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Liability</strong></td>
<td></td>
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<tr>
<td>Commercial General Liability</td>
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<tr>
<td>Claims Made</td>
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<tr>
<td>Per Project Agg. Limit End.</td>
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<tr>
<td>Blanket Contractual</td>
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<tr>
<td>The Metropolitan District and the State of Conn. added as additional insured</td>
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<tr>
<td><strong>Automobile Liability</strong></td>
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<tr>
<td>Any Auto</td>
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<tr>
<td>All Owned Autos</td>
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<td>Scheduled Autos</td>
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<td>Hired Autos</td>
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<td>Non-Owned Autos</td>
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<td>Combined Single Limit</td>
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<td>Bodily Injury (Per Person)</td>
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<tr>
<td>Bodily Injury (Per Accident)</td>
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<td>Property Damage</td>
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<tr>
<td>Self-Insured Retention</td>
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<td><strong>Excess/Umbrella Liability</strong></td>
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<tr>
<td>Each Occurrence</td>
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<tr>
<td>Aggregate</td>
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<tr>
<td><strong>Workers’ Compensation and Employers’ Liability</strong></td>
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<tr>
<td>Statutory</td>
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<td>(Each Accident)</td>
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<td>(Disease-Policy Limit)</td>
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<tr>
<td>(Disease-Each Employee)</td>
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<tr>
<td><strong>Protective Liability</strong></td>
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<tr>
<td>(In the Name of the Metropolitan District) Policy Must Be Submitted</td>
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<tr>
<td>Bodily Injury &amp; Property Damage</td>
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<tr>
<td>Each Occurrence:</td>
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<tr>
<td>Aggregate:</td>
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</tbody>
</table>

**Description of Operations**

- Certificate Holder: The Metropolitan District
  - 555 Main Street-PO Box 800
  - Hartford, CT 06142-0800

- It is agreed that 30 days’ notice of cancellation or restrictive amendment of said policies shall be mailed to The Metropolitan District, and it is further agreed that all earned premium charges for the Protective Liability and other policies will be billed to the above named person or firm.

- Authorized Representative
Insurance Requirements:

For License As Pipe Layer, Excavator Or
Eligibility For Metropolitan District Permits:

Commercial General Liability: Limit of Liability not less than $1,000,000 each occurrence, $1,000,000 aggregate. MDC must be added as additional insured.

Automobile Liability: Limit of Liability not less than $1,000,000 combined single limit.

Workers' Compensation: As required by Connecticut Law and Employer's Liability with a limit of not less than $100,000/occurrence, $500,000 disease policy limit and $100,000 disease each employee.

Owner/Operator Note: A letter from your insurance agent attesting to the fact that W/C insurance is not mandatory and you elect not to carry it, will satisfy this requirement.

Protective Liability: For and in the name of the District with a minimum limit of liability not less than $1,000,000/occurrence and $1,000,000/aggregate.

All of the above requirements must be met prior to issuance of a permit.
### Application for Water Service

**Date Installed**: [__]  
**Application No.**: 18516

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Code</th>
<th>Mat.</th>
<th>Type Serv.</th>
<th>Main Pipe Size</th>
<th>Charges</th>
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<td>SERV. KIND</td>
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<td>SURCHARGE</td>
<td>HIGH SERVICE</td>
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<tr>
<td>CODE</td>
<td>PER FT</td>
<td>ACRES @</td>
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<tr>
<td>BY-PASS REQUIRED</td>
<td>CHECK FOR CROSS CONN.</td>
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<tr>
<td>METER SETTER GIVEN OUT</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>OUTSIDE METER</td>
<td>REG</td>
<td>PIT</td>
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</tr>
</tbody>
</table>

| ASSESSMENT CHARGE DUE | YES | NO | | | | |
| REQUIRED PLAN APPROVED BY | | | | | | |

**Owner and Mailing Address**

**Excess Controls**: [__]  
**Plumb Control**: [__]  
**Signature**: [__]  
**Telephone**: [__]  
**State Lic.**: [__]  
**Ins. Exp.**: [__]  
**TOTAL DUE**: [__]

**Remarks**: [__]  

The above signed declares himself to be the actual owner of record or authorized agent acting in behalf of the owner, and agrees to conform to all the rules and regulations of the BUREAU, and that this application is subject to investigation before final approval.

Application to become void if service not installed within one year.