Service Connection Specification

Cleveland Water Service Connection Specifications

Approval of Service Connections

Cleveland Water reserves the right to approve or change proposed service connection plans. Changes may be made to the following components to meet Cleveland Water standards:

- Pipe alignment, position or size
- Meter type, location and size
- Backflow prevention device type, location and size, according to the Division's requirements

Cleveland Water has two types of services and connections:

- Fire, which is unmetered service for the purpose of fire suppression and or fire hydrants
- Domestic, which is metered water service for all other uses

Service Taps by the Cleveland Water

All service taps are to be performed by Cleveland Water or a contractor authorized by the Commissioner of Cleveland Water.

Domestic Supply for More than One Building

A domestic service line shall supply no more than one building unless written variance is sought and approved by Cleveland Water.

Depth of Service Pipe

The depth of the service pipe from the water main to the curb valve for both domestic and fire service shall not be less than six feet from the established grade and shall not be less than five feet from established grade from the curb valve to the point of entry into the home or building.

Service Pipe Material Two Inch and Less

All service pipe from the curb valve to the home or building with a nominal diameter of two inch and less for domestic purposes shall be Type K Copper for all connections 150 feet and less as measured from the right-of-way to the face of home or building.

High-density polyethylene (HDPE) SDR 9, manufactured for potable water application may be used in lieu of copper under the following conditions:

- The service connection is in excess of 150 feet as measured from the right-of-way to the face of home or building.
- The meter is to be placed in a vault in the right of way or in an easement contiguous to the right-of-way.
- A double-check backflow prevention device is installed in the vault immediately downstream of the meter.

- The piping from the main to the meter and within the meter vault shall be Type K Copper. HDPE may only be used from the outlet of the meter assembly to the house or building.
- HDPE pipe must meet all applicable performance standards for a pressure rated applications as required in NSF/ANSI Standard 14, and shall comply with NSF/ANSI Standard 61 for health effects. HDPE pipe must be marked as NSF-pw (NSF compliant for potable water)
- The HDPE Pipe must meet all requirements of AWWA C901, AWWA C906, NSF 14, NSF 61 and ASTM D3035. Where intermediate joints are necessary connections must be made by either the use of a compression coupling with insert rings or by creating a fusion butt weld.

All material between the curb valve and the house or building is the responsibility of the property owner. Where HDPE Pipe is used, Cleveland Water recommends that the owner install a tracer tape system so that their connection can be located in the future and that the five feet depth requirements are strictly adhered to so that the line is not susceptible to freezing as HDPE cannot be thawed by Cleveland Water.

Type K Copper must be used between the water main and the curb valves in all instances. HDPE downstream of the curb valve will only be considered upon a written request by the applicant to Cleveland Water

Type K Copper must be used in all fire service less than two-inch in diameter with no exceptions.

All service line materials and installation procedures must also meet local building and fire code criteria where applicable.

Service Pipe Material Greater than Two-Inches

All service pipes from the curb valve to the home or building with a nominal diameter greater than two inch shall be Class 52 Cement Lined Ductile Iron Pipe for all connections 150 feet and less as measured from the right-of-way to the face of home or building.

PVC Pressure Rated Pipe SDR 18 or thicker as per ASTM D2241 manufactured for potable water application may be used in lieu of Class 52 Cement Lined Ductile Iron Pipe for connections in excess of 150 feet as measured from the right-of-way to the face of home or building. Domestic Service lines in excess of 150 feet also require a meter vault. In such instances, all the piping from the main to the meter and within the meter vault shall be Class 52 Cement Lined Ductile Iron Pipe. PVC may be used from the outlet of the meter assembly to the house or building.

The PVC pipe shall be manufactured and tested in accordance with AWWA Standard C900 for Polyvinyl Chloride (PVC) pressure pipe and fabricated fittings, four in. through twelve- inch (100 mm through 300 mm), for water distribution, or AWWA standard C909 for Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, four-inch through twelve-inch (100 mm through 300 mm), for water distribution and clearly marked as such. PVC water pipe shall be certified to NSF International Standard No. 61.

All material between the curb valve and the house or building is the responsibility of the property owner. Where PVC Pipe is used, Cleveland Water recommends that the owner install a tracer tape system so that their connection can be located in the future and that the five feet depth requirements are strictly adhered to so that the line is not susceptible to freezing as PVC cannot be thawed by Cleveland Water .

- Class 52 Cement Lined Ductile Iron Pipe must be used between the water main and the curb valves with no exceptions.
- Class 52 Cement Lined Ductile Iron Pipe must be used for all fire service applications with no exceptions.
- All service line materials and installation procedures must also meet local building and fire code criteria where applicable.

Service Pipe in Sewer Trenches

Service pipes shall not be laid in sewer trenches except in rock excavation, in which case the service pipe may be put on a shelf not less than eight-inches wide, cut into the side of the trench. In all other cases, there shall not be less than five feet between centers of service pipes and sewer pipes.

Size of Water Mains that cannot be tapped for Service Connections

Water mains twenty-inches and larger shall not be tapped for service connections.

Minimum Size of Service Tap

Taps less than one-inch in diameter shall not be approved.

Bends on Service Pipe

No horizontal bends are permitted on the service pipe prior to (upstream of) the curb valve.

Location of Curb Valves

All service connections require curb valves that shall be located in the right of way approximately three feet behind the face of curb. For water mains in easements, curb valves shall be located approximately three feet from the water main unless otherwise directed by Cleveland Water. If no curb exists, criteria shall be established from edge of pavement.

More than One Domestic Service Line to a Single Building

Only one domestic service line may supply a home or building unless written variance is sought and approved by Cleveland Water.

Fire Supply for More than One Building on a Single Parcel

A fire service line shall supply no more than one building. If the local fire department requires looping of the fire line then Cleveland Water will evaluate these situations on a case by case basis.

Service Lines Crossing Property Lines

Under no circumstances shall a service line cross property lines unless one parcel is landlocked and therefore has no frontage to the water main. In cases such as these, a copy of the easement agreement between the impacted property owners must be sent to the Permits and Sales Office, Cleveland Water.

Service Connections along Frontage of Property

A service connection to a water main shall be permitted only if the water main extends across the full frontage of the premises. On Corner Lots or Lots that are adjacent to more than one street, a service connection will be permitted only if the lot has a water main that is extended across the full frontage as well as across the property limits on the other adjacent street(s) or if a variance is granted by Cleveland Water and the local community containing the parcel.

Casing for Service Connections

No casing is permitted on service connections between the water main and curb valve.

Single Feed-dual Service Connections

A domestic service connection that comes off the fire service connection must be teed off in the right-of-way before either service line enters the meter or the backflow vault. The fire service line is not permitted to tee off a domestic service line.

Reusing Existing Service Connections

An existing service connection can be reused only if the new service pipe after the curb valve is of the same nominal diameter as the existing connection.

No Connections off Circulation Mains

No service connection can be tapped off a designated circulation main. A circulation main is defined as a main installed for the purpose of providing circulation and installed in an easement.

Distance between Taps

One-inch connections shall have a minimum distance of five feet between taps when the taps are made on the same side of the water main. One-inch connections made on opposite sides of the water main require a minimum horizontal separation of eighteen inches. Connections larger than one-inch require a minimum distance of five feet between taps. A minimum distance of five feet is required between the tap and a hydrant tee or valves. A minimum distance of two feet is required between a tap and any bell or fitting.

Location of Meter Vaults

Meter vaults are to be installed in the right-of-way or within the water main easement or adjacent to either the right-of-way or water main easement in a meter vault easement.

One Meter Allowed Per Service Connection

Only one meter shall be set on one service line unless the owner is installing a sewer deduct meter for irrigation purposes. The deduct meter is to be purchased from Cleveland Water or from an approved manufacturer, in which case, the meter must be sent to Cleveland Water's meter shop to be calibrated. Cleveland Water reads both the domestic meter and the deduct meter but is not responsible for repairs to the deduct meter. The local sewer authority has jurisdiction over allowing a sewer deduct meter.

Sub Metering

Cleveland Water will not sub meter any property.

Placement of Meter

A meter vault is required when the size of the meter is 3-inch and greater unless special permission is granted by the Commissioner of Water. A meter vault will also be required if the distance between the existing right-of-way and the domestic service point of entry into the building is more than 150 feet. The meter must be installed immediately after entering the building in a horizontal position a maximum of 36 inches from the basement floor. The backflow device for a commercial connection is to be installed immediately after the meter.