

## 33 1116 – WATER SERVICES

### WATER SERVICES

#### PART 1 – GENERAL

##### 1.01 Section Summary

- A. This Section includes the construction of water main services including the corporation stop, service pipe, curb stop and box, and other items.

##### 1.02 Related Sections

- A. Section 2000 – Trench Excavation and Backfill
- B. 33 1113 – Water Main

##### 1.03 References

- A. AWWA C800 – Standard for Underground Service Line Fittings and Valves.
- B. ASTM B88 – Standard for Seamless Copper Water Tube, Type K, Soft Annealed Temper.
- C. National Sanitation Foundation (NSF):
  - 1. 60 – Drinking Water Treatment Chemicals
  - 2. 61 – Drinking Water System Components
  - 3. All products (treatment chemicals and materials) that may come into contact with water intended for use in a public water system shall meet American National Standards Institute (ANSI) / National Sanitation Foundation (NSF) International Standards 60 and 61, as appropriate. A product will be considered as meeting these standards if so certified by NSF, the Underwriters Laboratories, or other organizations accredited by ANSI to test and certify such products.

##### 1.04 Submittals

- A. Submit all shop drawings and manufacturers information prior to construction.
- B. Submit to the Engineer for review:
  - 1. Curb stop location (station).
  - 2. Two ties to 2 permanent structures (house corners, manholes, catch basins, fire hydrants. Do not tie curb boxes to gate valves).
  - 3. Length of service line.

- C. Final payment will not be made until all service information is submitted to and reviewed by the Engineer.

PART 2 – PRODUCTS

2.01 Water Service Pipe

A. Copper

1. All water service lines 1 inch through 2 inch shall be Copper, Type K, Soft Annealed Temper and shall conform to ASTM B88.
2. Minimum service size shall be 1 inch.

B. PVC

1. All water service lines 4 inch or larger shall be PVC DR-18. Pipe and fittings shall conform to requirements of Section 33 3113 – Water Main.

2.02 Water Service Appurtenances

- A. The following table is a list of all acceptable water service appurtenances, all “or equal” submittals shall follow standards.

Water Service Appurtenances				
Item	Service Pipe Size	Flared Type Valves & Fittings for Type K Copper Pipe		
Corporation Stop		<b>Ford</b>	<b>A.Y. McDonald</b>	<b>Mueller</b>
	1"	FB-600	4701B	B-25000
	2"	FB-600	4701B	B-25000
Tapping Saddle		<b>Romac</b>		
	1"	306		
	2"	306		
Curb Stop		<b>Ford</b>	<b>A.Y. McDonald</b>	<b>Mueller</b>
	1"	B22-444-M	6104	B25154
	2"	B22-777-M	6104	B25154
Curb Box		<b>Ford</b>	<b>A.Y. McDonald</b>	<b>Mueller</b>
	1"	EM2-80-56	5614	H-10300
	2"	EM2-80-57	5615	H-10304

B. Corporation Stops

1. Shall be AWWA taper thread inlet by flared copper outlet.

C. Tapping Saddle

1. All saddles must be a complete wrap around stainless steel type 304 with a minimum of 2 stainless steel bolts.
2. Saddles are required on all service taps.

D. Curb Stops

1. All curb stops shall be flare by flare and include a solid copper disk on the property side of the curb stop.
2. The property side of the curb stop must be protected from the elements at all times.
3. Combination stop and waste valves or cocks shall not be installed underground.

E. Curb Boxes

1. Shall be Minneapolis Pattern.
2. Stationary rods must be stainless steel with a length of 72 inches.

2.03 Marking Tape

- A. Tape shall be 3 inch width, non-detectable type.
- B. Tape shall be blue with black lettering with words "CAUTION WATER LINE BELOW".

PART 3 – EXECUTION

3.01 Service Installation

- A. All water services shall be a minimum of 8 feet below the ground surface.
- B. Field flaring shall be performed with current standards of the plumbing industry and manufacturers recommendations.
- C. All curb stop and boxes shall be marked with a steel fence post.
- D. Water Service Pipe
  1. Lines must be installed parallel and upstream of sanitary sewer lines. Water service lines must have a minimum of 10 foot horizontal separation and 18 inches of vertical separation.
  2. Place water line marking tape 2 feet above the top of all water service lines.

E. Corporation Stops

1. Main must be pressurized when tapping "wet tap".
2. Encase corporation stop with sand bedding.
3. Corporation stops shall be inspected by the Contractor for leaks prior to backfilling.

F. Service Saddles

1. Saddles must be secured in place before tapping can begin.
2. Dry tapping will not be allowed.

G. Curb Stops

1. Curb stops shall be supported on a solid sewer brick.
2. Curb stop shall be inspected by the Contractor for leaks prior to backfilling.
3. Curb stops located in driveways/sidewalks shall be protected with the top section of a 10 inch Gate Valve top section, including the lid.

H. Curb Boxes

1. Boxes must be installed plumb in a vertical position.
2. Wrap all curb boxes with polyethylene pipe encasement.
3. Boxes to be installed within City right of way.
4. Boxes must be flush with final grade.

I. Construct all trenches in accordance with Section 2000 – Trench Excavation and Backfill. Service trench settlements will be repaired in a manner acceptable to the Engineer at no cost to the Owner.

J. All new curb stops installed must have the unconnected side protected from the elements by installing a solid copper disk with the flare nut. The cost for the protection shall be incidental to the cost of the curb stop.

K. Reconnect Existing Water Services

1. No warranty is expressed or implied as to the location, size, or material type of existing service lines. The Contractor shall furnish and install all fittings required to make the connection.

L. Supplemental Requirements

1. For any property served by the City of New Town, the City is responsible to the first or master curb stop or gate valve. Subsequent subdivision of the property necessitating a split of the water service and curb stops, gate valves, pipe, and fittings installed after the master curb stop or gate valve shall be the responsibility of the property owner(s).

3.02 Measurement and Payment

- A. Water Service Pipe: Shall be paid for by the lineal foot (LF) for the size and type specified on the Plans. Price shall include all pipe, fittings, laying, excavation and backfilling, and testing.
  1. Granular backfill around the corporation stop and gooseneck shall be incidental.
  2. Fence post markers shall be incidental to installing water services.
- B. Service Tap: Shall be paid for by each (EA) for the size and type specified on the Plan. Service tap shall include tapping saddle and corporation stop and all materials and labor necessary to install the service tap.
- C. Curb Stop and Box: Shall be paid for by each (EA) for the size and type specified on the Plan.
- D. Reconnect Existing Services: Shall be paid for by each (EA) for the size and type specified on the Plan. Price shall include all materials and labor needed to reconnect the existing service to the new water main.
- E. All other work and costs of this Section shall be incidental to the Project.

END OF SECTION