WATER T&D Construction Standard

SERVICE LINE REPLACEMENT - TRENCHLESS - CABLE PULLING METHOD (PIPE BURSTING)

APPLICATION: Replacement of existing service lines with a new copper tube service line using a trenchless construction technique which replaces the old service using the existing route.

Service line replacement is performed with the expectation that the existing service line would be removed. This Standard references construction techniques that replace the service line using the existing route. A cone shaped tool sometimes called a "pulling block" locks onto the trailing end of the service pipe. The cone plus the pipe is pulled from the ground by a cable passing through the pipe and attached to the cone. The replacement pipe is simultaneously pulled in behind the cone. This technique cannot be used if the service pipe is: 1) looped 2) badly clogged so that the cable cannot pass through 3) service is encased in concrete (excluding basement wall) 4) existing utilities interfere with a straight line pull 5) if the ground is extremely hard and dry. Generally, service section lengths greater than 60' cannot be replaced using this technique.

GENERAL INSTALLATION NOTES:

See Water T&D Construction Standard W-03-0004 for Water Service Disconnects and Reconnects, and Water T&D Construction Standard W-03-0005 for Documentation of Installed Water Services. Reference Water T&D Construction Standard W-03-6000 if existing service cannot be removed and must be abandoned.

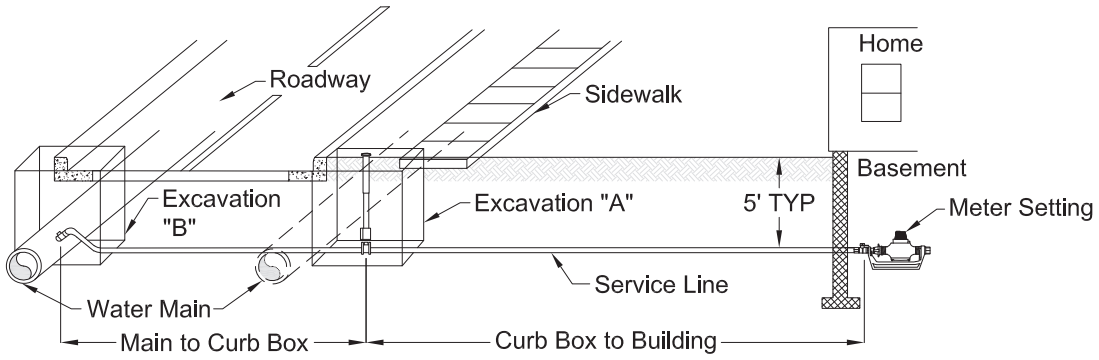
- Replace all 5/8" & 3/4" non-standard services with a 3/4" copper tube service.
- Replace all 1" non-standard services with a 1" copper tube service.
- Meter set and meter installation shall be performed by BWL personnel only.
- A "Water Service Order" shall be completed for each service replacement. The Service Order shall be forwarded to the Water T&D Department no later than one week after completion of the work.

Excavation "A":

Required for any combination of complete, or partial service replacement. Excavate at "A" to unearth the curb stop. Expose the curb stop and a minimum of 2" of service line in each direction unless otherwise directed by the BWL Engineer. It is imperative that the material type of the existing service sections be identified. If either of the service line sections (main to curb box/ curb box to bldg.) are of non-standard material or construction, they shall be replaced.

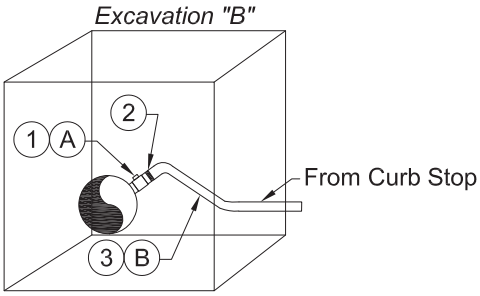
Excavation "B":

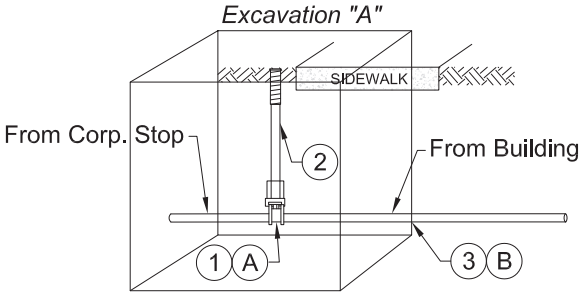
Required for complete service replacement, or main to curb box partial service replacement. May not be required when the water main is exposed by excavation "A" (short side), not also required if the main to curb box service section has already been replaced with copper tube service, verified in excavation "A."



Manager, Water & Steam Distribution DocuSigned by: Todd Russell BADA8CA6678D459... Date: 8/18/2022

Director of Water Operations DocuSigned by: Sanjeev Mungarwadi E1B176FA599F49A... Date: 8/19/2022





Excavation "B":
If a new 3/4" or 1" tap is required, refer to Water T&D Construction Standard W-03-1075. If a new tap larger than 1" is required, refer to Water T&D Construction Standard W-03-1200. Refer to Water T&D Construction Standard W-03-0015 and W-03-0020 for standard main to curb box service stub installations.

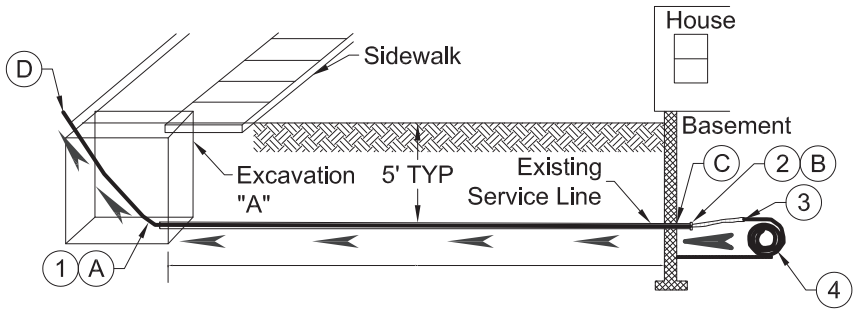
(A) Existing service corporation can be used if it is the correct size for the service being installed and installed after January 4, 2014. Allowable transitions are: 5/8" to 3/4", 3/4" to 1", 1" to 3/4". 1/2" corp. stops shall not be re-used. If a new corporation is being installed, abandon the existing corp. stop in the OFF position and cap using Water T&D Construction Standard W-03-6810.

(B) Existing service material is to be removed during the service installation. If existing service cannot be removed, refer to Water T&D Construction Standard W-03-6000.

Excavation "A":
Refer to Water T&D Construction Standards W-03-0025, W-03-0030, W-03-0035 and W-03-0040 for standard curb box to building installations.

(A) New curb stop & curb box may be required if existing curb stop is *non-standard or damaged. This may not be necessary if a partial service replacement has previously replaced the curb stop and/or curb box.

(B) Existing service material is to be removed during the service installation. If existing service cannot be removed, refer to Water T&D Construction Standard W-03-6000.



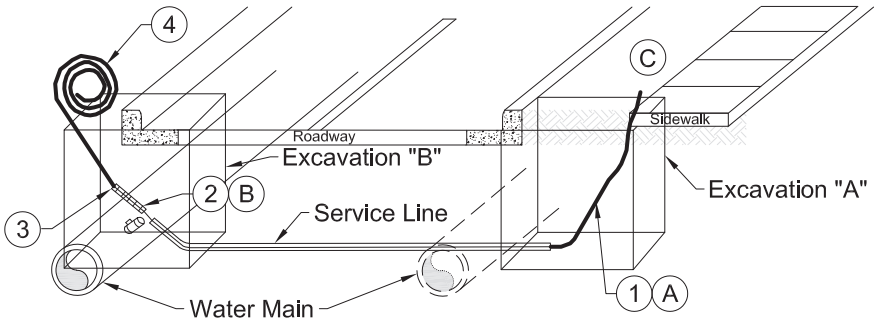
Curb Box to Building:

(A) Insert the 3/8" wire rope into the existing service pipe, pushing it through until it reaches the other end of the pipe inside the basement.

(B) Attach cone or "push block" to cable and attach the pulling sock behind that. Secure new copper tubing in pulling sock.

(C) Chip out around the existing service line to loosen the contact and allow new copper to pull in smoothly.

(D) Pulling equipment may vary. Equipment and procedure shall be approved by the BWL Engineer in charge. The new copper tube service will be pulled in as the old service is pulled out.



Main to Curb Box:

(A) Insert the 3/8" wire rope into the existing service pipe, pushing it through until it reaches the other end of the pipe at the water main..

(B) Attach cone or "push block" to cable and attach the pulling sock behind that. Secure new copper tubing in pulling sock.

(C) Pulling equipment may vary. Pulling can be performed from either direction. Equipment and procedure shall be approved by the BWL Engineer in charge. The new copper tube service will be pulled in as the old service is pulled out.

MATERIALS FOR SERVICE REPLACEMENT			
REF	ITEM NO.	QTY	DESCRIPTION
1	NON-STOCK	75'	WIRE ROPE, 3/8", 18,000 LBS
2	NON-STOCK	1	BLOCK, CABLE PULLING FOR "PUSH" PULLS
3	NON-STOCK	1	PULLING SOCK
Curb Box to Building and Main to Curb Box			