

**METROPOLITAN UTILITIES DISTRICT**

No. 6.0.5

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**CONSTRUCTION STANDARD FOR:** 3/4", 1", 1-1/2", or 2" Service Taps  
on C900 PVC Water Mains

Effective: 10-24-08

Prepared by: JAZ

Supersedes: 1-22-08

Approved by: JGL

**GENERAL****All taps on C900 PVC mains shall use a tapping saddle. Direct taps are not permitted.**

**Caution:** Saddles used for tapping C900 PVC water mains shall not be used for tapping ASTM D2241 PVC water mains (PVC pipe with iron pipe size O.D.). Generally, C900 PVC can be identified by its blue color and ASTM D2241 PVC can be identified by its white color. If there is doubt, the O.D. of the main shall be determined prior to making the tap. See Construction Standard 1.2.5 for the standard O.D. of C900 and ASTM D2241 PVC pipe. Saddles for ASTM D2241 PVC pipe will be ordered from local suppliers as needed. If a saddle is required for tapping ASTM D2241 PVC pipe, contact Engineering.

On 4" mains, 1-1/2" and 2" taps shall not be made.

See Construction Standard 6.0.1 for approved corporations.

**SERVICE SADDLES FOR C900 PVC**

<b><u>Tap Size</u></b>	<b><u>Saddle Stock Number</u></b>
4" x 3/4"	21-440-04
4" x 1"	21-441-04
6" x 3/4"	21-440-06
6" x 1"	21-441-06
6" x 1-1/2"	21-442-06
6" x 2"	21-443-06
8" x 3/4"	21-440-08
8" x 1"	21-441-08
8" x 1-1/2"	21-442-08
8" x 2"	21-443-08
10" x 3/4"	21-440-10
10" x 1"	21-441-10
10" x 1-1/2"	21-442-10
10" x 2"	21-443-10

**MUELLER D-5 PART NUMBERS FOR TAPPING C900 PVC**

Tap Size	Shell Cutter Size	Shell Cutter	Shell Cutter Holder	Boring Bar Adapter	Corp Adapter	Corp Adapter Gasket
3/4"	11/16"	681919	507634	40438	37902	H-15053
1"	7/8"	681920	507634	40438	37903	H-15053
1-1/2"	1-7/16"	528087	508198	40438	36196*	H-15053
2"	1-3/4"	528088	508198	40438	36188**	H-15053

\* Use Corp Adapter 37905 if plumber is using a flared connection to the corp.

\*\* Use Corp Adapter 37906 if plumber is using a flared connection to the corp.

### **SAFETY PRECAUTIONS**

1. Have a second worker close by to respond to an emergency situation.
2. Wear protective gloves and goggles. A face shield is recommended.
3. Ensure that there is a ladder in the trench to provide for a quick exit.
4. Be familiar with procedures to follow in the event of a main failure during the tapping process.
5. Do not tap an area of main that is discolored. The discoloring may be an indication of stress in the main.
6. Be aware that PVC pipe is less resistant to impact at lower temperatures (becomes brittle) and becomes more flexible at high temperatures. Extra care must be taken during the tapping operations during extreme low and high temperatures.

### **TAP LOCATIONS**

1. Tap no closer than 24" from both the back of the bell and the spigot insertion line.
- \* 2. Adjacent taps must be a minimum of 18" apart from each other lengthwise down the pipeline with a minimum 45° stagger. Adjacent taps with less than a 45° stagger must be a minimum of 36" apart.

### **PROCEDURE**

1. Review Safety Precautions.
2. Thoroughly clean the main surface at the tap location.
3. Place a saddle that is approved for C900 PVC pipe at a location 45° above horizontal. Evenly tighten the saddle to the pipe. Do not exceed the torque specified by the saddle manufacturer (**torque limits are printed on the tag attached to the saddle**). (**CAUTION:** Damage to the main could result if torque limits of the saddle manufacturer are exceeded.)
4. Wrap a piece of polyethylene wrap two times around the pipe and saddle. The polyethylene wrap shall be of a length to cover the main from trench wall to trench wall. Tape the ends of the polyethylene wrap and cut an "X" in the wrap over the saddle to allow for a corporation to be threaded into the saddle. The intent of the wrap is to prevent pieces of pipe from flying around in the event of a main failure during the tapping operation.
5. Apply Teflon® tape to the threads of the corporation and screw the corporation into the saddle and tighten. Open the corporation.

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6. Lubricate the shell-cutter that is designated for use on C900 PVC pipe and, using the appropriate adapter and gasket, attach the Mueller D-5 Drilling Machine or equivalent to the corporation.
7. **ALL TAPS ON C900 PVC WILL BE CONDUCTED MANUALLY. POWER HEADS SHALL NOT BE USED.** Lower the boring bar to the main and rotate the cutter while exerting finger-pull on the feed yolk. Rotate the ratchet handle one complete turn for every 1/8 turn of the feed yolk. Once the main is penetrated, withdraw the cutter, close the corporation, and then remove the drilling machine. Remove coupon from the cutter with a screwdriver or similar tool.
8. Check for leaks.

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