

## SECTION 33 12 13

## INSTALLATION OF SCREW TAPS, SADDLES, SERVICE PIPE AND FITTINGS

## PART 1 – GENERAL

## 1.01 WORK INCLUDED

- A. Work under this Section includes:
  - 1. Excavation of 1- and 2-inch water service trenches.
  - 2. Excavation of 1- and 2-inch service connection holes.
  - 3. Drilling tapping and installing screw taps.
  - 4. Trenchless installation of 1-inch service pipe.
- B. The service list included in this contract is subject to field change as directed by the City Representative.
- C. Provide support for SFWD to perform service connections, which includes traffic control and removal and replacing steel plates. This support work shall be considered as incidental.

## 1.02 RELATED SECTIONS

- A. Section 31 23 36 - Excavation and Backfill for Water Work.
- B. Section 33 11 00 – Water Utility Distribution Piping.

## PART 2 – PRODUCTS

## 2.01 MATERIALS

- A. Service Fittings
  - 1. Service fittings shall be made of bronze or brass, in conformance with AWWA C-800.
- B. Service Pipes
  - 1. Service pipe materials shall be supplied by the City.
  - 2. Service pipe larger than two inches shall be ductile iron pipe.

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## PART 3 – EXECUTION

### 3.01 INSTALLATION OF SCREW TAPS AND SERVICE SADDLES

- A. Drill, tap and install screw taps as shown on the drawings or as required by the City Representative. Any screw tap not satisfactorily installed in the opinion of the City Representative shall be removed and replaced at the expense of the Contractor. Where the screw tap installation is unsatisfactory, it shall be removed and replaced with a brass saddle and brass plug at no cost to the City. Where there are more than 2 unsatisfactory screw taps installed in a full length of the new pipe, the Contractor shall remove and replace that pipe and the cost for the labor and material shall be borne by the Contractor. The City Representative shall determine the location of the relocated screw taps and approve the replacement.
- B. The UNK acronym shown in the drawings indicate unknown size and/or material information on the existing service. The Contractor shall pothole these services to verify the size of the service.
- C. Where there is a bank of 3 or more services, contractor shall install screw taps spaced apart horizontally 6 inches on center and 6 inches vertically from the horizontal plane.
- D. The Contractor shall not leave any “coin” cut out from the main for the installation of screw taps. The Contractor shall provide all “coin for 2” screw taps to the City Representative. It is the Contractor’s responsibility to remove any object left inside the newly installed pipe.
- E. Install saddles furnished by the City for 2-inch services and 2-inch air valves on mains 8 inches or smaller per the manufacturer’s recommendations.
- F. Drill, direct tap and install 2-inch air valves on mains 12 inches and larger without saddles.
- G. Services pipes larger than 2 inches will require coordination with SFWD to schedule for measurements and connections. The coordination and scheduling shall be in accordance with Section 33 11 00 Water Utility Distribution Piping

### 3.02 SERVICE TRENCH EXCAVATION AND BACKFILL

- A. Service trench excavation and backfill shall be in accordance with Section 31 23 36 - Excavation and Backfill.
- B. The service trench shall be of sufficient width to properly install the service pipe and have a flat bottom two feet below the final gutter grade. The gutter grade shall be defined as the existing gutter grade or six inches below the official grade (grade at top of curb as established by the San Francisco Board of Supervisors) whichever is lower.
- C. The bottom of the trench shall slope uniformly to the main from a point approximately ten feet from the main.
- D. Service trench pavement restoration shall be performed in accordance with the provisions of Section 32 10 00 - Pavement Restoration of the Specifications

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- E. Excavation and backfill for service connection and disconnection holes at the mains shall be paid for under the bid item for Additional Excavation and Backfill.
- F. Excavation and backfill for services larger than 2 inches shall be paid for under the bid item for Excavation and Backfill for 4-, 6- and 8-Inch Pipe Trench.

### 3.03 INSTALLING 1-INCH SERVICE PIPE

- A. The Contractor shall install screw taps for 1- and 2-inch services as directed by the City Representative. SFWD will perform the service changeover to the new main. Contractor shall excavate connection/disconnection pits and service pipe trench prior to scheduling SFWD work. The Contractor shall not disturb newly paved concrete pavement slabs.
- B. For existing 1-inch plastic services where the service pipes are connected on the opposite side of the street, the Contractor shall install new 1-inch service pipe using trenchless methods as directed by the City Representative. Contractor shall renew 1-inch plastic service pipes by pulling the new 1-inch copper through the existing 1-inch plastic service pipe at the same location instead of excavating a trench for the service pipe. This will be paid for under the Bid Item for Renewal of 1-inch Plastic Service Pipe – Trenchless Installation. The service meter will be installed and connected to the service line by the Water Department. The Contractor shall not disturb newly paved concrete pavement slabs.
- C. The Contractor shall dig trench under the curb, gutter, sidewalk and parking strip to the meter box as shown in the CDD Standard Plans. If the Contractor wants to use any other method other than open trenching, prior approval by the City Representative is required. The City Representative's approval does not relieve the Contractor from the responsibility and liability of properly protecting underground facilities.
- D. Should the meters be located inside sub-sidewalk basements, the Contractor shall, as incidental work, make openings in basement walls for service renewal installations. Basement walls are located at or just behind the curb line. The size of the opening shall be sufficient to accommodate the service being installed, with the maximum service size being 8-inches. The Contractor shall maintain the opening in such a way that the basements remain free from flooding with water from outside through this opening during and after the installation of service pipe. After the installation the Contractor shall dry-pack with non-shrink grout the annular gap to prevent water from leaking into the basement or as directed by the City Representative.
- E. When the installation of the pipe through the basement wall is part of the service change over and is done by SFWD personnel, Contractor shall maintain the annular gap between the pipe and the wall opening. The Contractor shall install a permanent plug after SFWD completes the work. The permanent plug shall be approved by the City Representative prior to backfilling the hole.
- F. All service trench pavement restoration shall be performed in accordance with the provisions of Specifications Section 32 10 00 - Pavement Restoration of these Specifications.
- G. All installation of 2-inch service pipe and installation of 1-inch service pipe in open trench excavations will be performed by SFWD.

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## SERVICE LIST

Address	Existing Service			New Service		
	Tap Directions	Size	Mat.	Size	Mat.	Work Required*

**19<sup>th</sup> Avenue**

WD-2775-2B									
2900	19 <sup>th</sup> Ave	6'EE	14'SS	19 <sup>th</sup> Ave	1"	C	1"	C	D-RETAP
WD-2775-4A									
2698	19 <sup>th</sup> Ave	4'EE	6'SN	19 <sup>th</sup> Ave	1"	C	1"	C	D-RETAP
2694	19 <sup>th</sup> Ave	4'EE	23'NN	19 <sup>th</sup> Ave	1"	C	1"	C	D-RETAP
WD-2775-5A									
730 - 750	Vicente Ave	20'SN	15'EE	Vicente Ave	1"	P	1"	C	D-RENEW
WD-2775-20A									
201	EUCALYPTUS DR	16'NS	40WW	19 <sup>th</sup> Ave	1'	W	1"	C	D-RENEW
190	EUCALYPTUS DR	6.6'EE	26'NN	19 <sup>th</sup> Ave	¾"	G	1"	C	D-RENEW
3100	19 <sup>th</sup> Ave	11'NS	8'EE	19 <sup>th</sup> Ave	1"	C	1"	C	D-RETAP
3080	19 <sup>th</sup> Ave	6'EE	64'NN	19 <sup>th</sup> Ave	¾"	G	1"	C	D-RENEW
WD-2775-21A									
1745	Ulloa Street	4'EE	11'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
WD-2775-22									
2378 - 2380	19 <sup>th</sup> Ave	4'EE	118'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
2374	19 <sup>th</sup> Ave	4'EE	137'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
2370	19 <sup>th</sup> Ave	4'EE	170'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
WD-2775-23C									
2211	19 <sup>th</sup> Ave	4'WW	79'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
2207	19 <sup>th</sup> Ave	4'WW	22'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
2201	19 <sup>th</sup> Ave	4'WW	22'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
WD-2775-23D									
2194 - 2196	19 <sup>th</sup> Ave	4'EE	8'NN	19 <sup>th</sup> Ave	1"	C	1"	C	D-RETAP
2190	19 <sup>th</sup> Ave	4'EE	30'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
2186	19 <sup>th</sup> Ave	4'EE	61'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
2182	19 <sup>th</sup> Ave	4'EE	87'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
WD-2775-24C									
1501	Pacheco Street	5'WW	3'SS	19 <sup>th</sup> Ave	¾"	C	¾"	C	D-RETAP
WD-2775-25A									
1201	Ortega Street	4'EW	178'SS	19 <sup>th</sup> Ave	4"	I	4"	D	D-RENEW
1201	Ortega Street	7'EW	38'SS	19 <sup>th</sup> Ave	UK	UD	1"	C	D-RENEW
1201	Ortega Street	3'EW	176'SS	19 <sup>th</sup> Ave	2"	G	2"	C	D-RENEW
WD-2775-26A									
1709	19 <sup>th</sup> Ave	4'WW	579'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1707	19 <sup>th</sup> Ave	4'WW	580'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1705	19 <sup>th</sup> Ave	4'WW	581'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1703	19 <sup>th</sup> Ave	4'WW	582'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
WD-2775-26B									

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Address		Existing Service					New Service		
		Tap Directions			Size	Mat.	Size	Mat.	Work Required*
1694	19 <sup>th</sup> Ave	3'EE	31'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1690	19 <sup>th</sup> Ave	3'EE	33'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
<b>WD-2775-27A</b>									
1501	19 <sup>th</sup> Ave	6'WE	13'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1501	19 <sup>th</sup> Ave	6'WE	13.5'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1501	19 <sup>th</sup> Ave	6'WE	13.7'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
<b>WD-2775-27C</b>									
1427	19 <sup>th</sup> Ave	6'WE	162'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1423-1425	19 <sup>th</sup> Ave	6'WE	144'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1419-1421	19 <sup>th</sup> Ave	6'WE	102'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1401	19 <sup>th</sup> Ave	6'WE	113'SS	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
<b>WD-2775-27D</b>									
1398	19 <sup>th</sup> Ave	5.5'WE	2'NN	19 <sup>th</sup> Ave	4"	D	4"	D	D-RENEW
1394	19 <sup>th</sup> Ave	4'WE	34'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1386-1388	19 <sup>th</sup> Ave	4'WE	54'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1382-1384	19 <sup>th</sup> Ave	5'WE	87'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1378-1380	19 <sup>th</sup> Ave	4.5'WE	116'NN	19 <sup>th</sup> Ave	1"	P	1"	C	D-RENEW
1370-1374	19 <sup>th</sup> Ave	5'WE	150'NN	19 <sup>th</sup> Ave	UN	P	1"	C	D-RENEW

**SERVICE TYPE:**

C-COMBINATION D-DOMESTIC F-FIRE I-IRRIGATION S-SHORT L-LONG

**SERVICE MATERIAL:**C-COPPER P-PLASTIC I-CAST IRON D-DUCTILE IRON W-WROUGHT IRON  
G-GALVANIZED UK-UNKNOWN UD-UNDETERMINED

\*WORK REQUIRED SUBJECT TO FIELD CHANGES

END OF SECTION

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