SECTION 33 1116
SITE WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
1. Perform trenching and backfilling required for work of this Section.
2. Furnish and install piping for domestic water supply from water main to within 5 feet 1500 mm of building as described in Contract Documents complete with meter, shut-off valve, and connections.
3. Furnish and install piping from water main to meter inside of building as described in Contract Documents complete with shut-off valve and connections.

B. Related Sections:
1. Section 31 2316: Procedure and quality of excavating.
2. Section 31 2323: Procedure and quality of backfilling and compacting.

1.2 REFERENCES

A. American Welding Society / American National Standards Institute:

B. American Society For Testing and Materials:

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pipe: Type K copper meeting requirements of ASTM B 88 with wrought copper, brazed fittings.

B. Water Meter: As required by local agency furnishing water.

C. Connection Material:
1. Brazing Rods In accordance with ANSI / AWS A5.8:
   a. Classification BCuP-4 Copper Phosphorus (6 percent silver).
   b. Classification BCuP-5 Copper Phosphorus (15 percent silver).
   c. Classification BAg-5 Silver (45 percent silver).
d. Do not use rods containing Cadmium.

2. Flux:
   a. Type Two Acceptable Products:
      1) Stay-Silv white brazing flux by J W Harris Co, Cincinnati, OH [www.jwharris.com].
      2) High quality silver solder flux by Handy & Harman, Fairfield, CT [www.handyharman.com].
      3) Equal as approved by Architect before use. See Section 01 6000.

D. Stop And Waste Valves:
   1. Category Four Approved Products. See Section 01 6000 for definitions of Categories.
      b. Mueller: Buffalo screw type curb box H-10350 complete with lid and H-10349 enlarged base.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Excavate and backfill as specified in Sections 31 2316 and 31 2323 with following additional requirements:
   1. Runs shall be as close as possible to those shown on Drawings.
   2. Excavate to required depth.
   3. Bottom of trenches shall be hard. Tamp as required.
   4. Remove debris from trench before laying pipe.
   5. Do not cut trenches near footings without consulting Architect.
   6. Excavate trenches so outside pipe will be 12 inches 300 mm minimum below frost line or 24 inches 600 mm minimum below finish grade, whichever is deeper.
   7. Backfill only after pipe lines have been tested and inspected, and approved by Architect.

B. Install piping system so it may contract and expand freely. Completely eliminate cross connections, backflow, and water hammer.

C. Install shut-off valve at meter.

3.2 FIELD QUALITY CONTROL

A. Site Tests
   1. Sterilization And Negative Bacteriological Test:
      a. Sterilize potable water system with solution containing 200 parts per million minimum of available chlorine and maintaining a pH of 7.5 minimum. Introduce chlorinating materials into system in manner approved by Architect. Allow sterilization solution to remain for 24 hours and open and close valves and faucets several times during that time.
      b. After sterilization, flush solution from system with clean water until residual chlorine content is less than 0.2 parts per million.
      c. Water system will not be accepted until negative bacteriological test is made on water taken from system. Repeat dosing as necessary until such negative test is accomplished.
   2. Pressure Test: Before covering pipes, test system in presence of Architect or governing agency at 100 psi hydrostatic pressure for two hours and show no leaks.

3.3 CLEANING

A. Remove excess earth from site or place as directed by Architect.
END OF SECTION