

SECTION S906 - INSERTION SLEEVE

S906-1 DESCRIPTION

Work consists of the replacement of a section of existing water main pipe, valve or fitting by installation of an insertion sleeve as required in the Contract Documents and as directed by the Project Manager.

Work and materials are to be in conformance with requirements of Sections S900 General Water Provisions and S901 Water Main Pipe and Fittings.

S906-2 MATERIALS

S906-2.01 General

Replacement material shall consist of either an insertion sleeve consisting of two solid sleeves for ductile iron or cast iron pipe, or two PVC repair couplings for PVC/PVCO pipe, and section of new water main pipe, as required for each installation.

Water main pipe, fittings, joints and hardware shall be in conformance with the requirements of Sections S900, General Water Provisions, and S901, Water Main Pipe and Fittings.

Material shall be the same as the existing pipe. Ductile iron pipe and fittings shall be required where the existing pipe is iron pipe. PVC/PVCO shall be required to match where the existing pipe is PVC/PVCO.

S906-2.02 Insertion Sleeve - Ductile Iron Pipe

Insertion sleeve shall be mechanical joint ductile iron solid sleeve, long pattern. Insertion sleeve shall be of the dual purpose type for use in plain ends of either centrifugal or pit cast iron pressure pipe and shall be in conformance with the latest requirements of ANSI/AWWA C110.

Water pipe is to be ductile iron in conformance with requirements of Section S901 Water Main Pipe and Fittings

For connecting to existing cast iron pipe 24 inches in diameter and larger, Contractor shall use bolted sleeve type steel couplings in accordance with ANSI/AWWA C219 furnished with an epoxy coating , gaskets and fluorocarbon coated, cold formed, high strength low-alloy steel nuts and bolts.

Prior to backfilling, any uncoated hardware shall receive a brushed application of an approved bitumastic coating specifically manufactured for underground use or a wax tape coating system.

S906-2.03 Insertion Sleeve - Polyvinyl Chloride (PVC/PVCO) Pipe

For PVC/PVCO water main pipe 4 inch through 8 inch in diameter, coupling shall be injection molded PVC Repair Coupling with gasket on both ends. Pipe larger than 8 inch in diameter shall require ductile iron solid sleeves. Non-epoxy coated ductile iron solid sleeves on PVC water main shall be covered with petrolatum wax tape coating system.

Water pipe is to be PVC/PVCO in conformance with requirements of Section S901 Water Main Pipe and Fittings.

S906-3 CONSTRUCTION DETAILS

S906-3.01 General

Contractor is responsible to obtain actual outside diameter of existing water pipe to be cut for proper sizing of sleeve and couplings.

Section of water main pipe shall be installed according to the requirements of Section S901 Water Main Pipe and Fittings.

The interior of all water main pipe and fittings not receiving 24 hour chlorine disinfection contact time must be spray or swab disinfected with a 1 to 5 percent solution of chlorine no more than 30 minutes prior to installation. The interior and exterior of cut ends of existing pipe shall also be cleaned and disinfected.

Fit between the existing water main pipe and new water main pipe shall not exceed a gap of 1/8 inch. All joints shall be made watertight. Prior to backfilling, existing water main shall be filled with potable water and installation tested for leaks under line pressure in the presence of the Project Manager.

S906-3.02 Insertion Sleeve - Ductile Iron Pipe

Section of existing ductile iron water main pipe to be replaced shall be cut out and removed. Open ends shall be thoroughly cleaned of all debris, scale and rust to a minimum distance of 12 inches from the open ends of the existing water main pipe. Insertion sleeve shall be centered over the connection, and installed according to the manufacturer's latest instructions and as approved by the Project Manager.

S906-3.03 Insertion Sleeve - Polyvinyl Chloride (PVC/PVCO) Pipe

Section of existing PVC/PVCO water main pipe to be replaced shall be cut out and removed. Cut ends shall be square with remaining water main pipe and cut ends beveled at appropriate angle necessary for proper installation of the couplings. Cut ends shall be thoroughly cleaned of all debris, scale and excess cuttings.

PVC/PVCO pipe and coupling shall be prepared for connection in conformance with the requirements of Section S901 Water Main Pipe and Fittings.

Non epoxy coated ductile iron fittings installed on PVC/PVCO water main pipe shall be coated with petrolatum wax tape coating system applied in conformance with manufacturer's instructions.

One nine pound anode shall be thermite welded to each ductile iron fitting attached to PVC/PVCO pipe.

S906-4 METHOD OF MEASUREMENT

The quantity to be measured for payment shall be the number of insertion sleeve or coupling units installed. A unit shall consist of either two sleeves or couplings, and up to a maximum of 5 feet of water main pipe, as measured between the inner end of the sleeves or couplings. Any water main pipe installed in excess of 5 feet shall be paid for under Section S901 Water Main Pipe and Fittings.

S906-5 BASIS OF PAYMENT

The unit price bid shall include the cost of: furnishing and installing the required insertion sleeves or couplings, including water main pipe; measuring and cutting of water main pipe; removal and disposal of existing cut water main pipe and fittings; dewatering and cleaning open ends of water main pipe; lubrication; furnishing and using all temporary plugs; disinfectant to prevent contamination of existing water main ; pavement saw cutting; connecting new water main pipe to existing water main pipe; protective coating; plugging abandoned water main pipe with concrete; pressure testing; and furnishing all labor, material and equipment necessary to complete the work.

Excavation, rock excavation, furnishing and placing of magnesium anodes, bedding and select granular backfill, and surface restoration will be paid for under separate bid items.

Payment will be made under:

ITEM NO.	ITEM	PAY UNIT
S906.01XX	X" Insertion Sleeve	Each

REVISED February 13, 2014