

TRENCH AND PLACE STEEL PIPE CARRIERS IN ROCKY SOILS

**\*\*From Hartford-Sharon FITS(503)**

- xx. DESCRIPTION. This work shall consist of excavating overburden that rests on top of solid or ledge rock; placing 4" nonmetallic utility/cable warning tape 12" below the restored surface and directly over top of the steel pipes; and placing a #6 copper ground wire 6" above the pipes during the backfilling operation.
- xx. MATERIALS. The Contractor is required to submit material specification sheets for all materials used, for approval by the Engineer.

Unless otherwise specified, the material shall be two (2) 4" Schedule 40 black steel pipes, six (6) 1.25" SDR-9 High Density Polyethylene (HDPE), UL listed, plastic innerducts with a smooth interior and exterior wall. The SDR-9 HDPE innerducts shall have a minimum inner diameter of 1.270" and a nominal outer diameter of 1.660". The six (6) 1.25" SDR-9 innerducts shall all be individual colors, consistent throughout the entire project. The material also includes 4" nonmetallic utility warning tape and #6 ground wire.

Additional select backfill may be required if the spoils from the excavation are deemed unsuitable for backfill by the Engineer.

- xx. CONSTRUCTION REQUIREMENTS. Overburden shall be excavated to a maximum depth of 30" and a minimum cover of 18". If 18" of cover is unattainable over the pipes, the Engineer will instruct the Contractor as to additional methods of protection that may be required for the pipes depending on local conditions and circumstances. The Contractor is responsible for the placement of six (6) 1.25" SDR-9 HDPE innerducts in the two carrier pipes and the electrofusion welding of HDPE duct ends. Specifically SDR-9 HDPE conduits 1 and 2 in one pipe, with conduits 3 through 6 in the adjacent pipe.

Preparation of the HDPE innerducts for the electrofusion weld procedure includes the following:

- (a) The preparation of the HDPE innerducts for the electrofusion weld procedure in accordance with the fusion machine manufacturer's instructions, and the proper execution of the fusion process.
- (b) Perform a right angle cut using a fixture and suitable cutter for the plastic.
- (c) Use a hand scrapper to remove oxidation from the areas of the plastic pipe that will be fused.
- (d) De-burr the edges of both sides of the plastic pipes.
- (e) Protect the prepared ends of the plastic pipes from atmospheric conditions.
- (f) Use a re-rounding clamp if required to take out any ovality of the plastic pipes.

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- (g) Prepare the coupler and the plastic pipes for the fusion process with appropriate solvents and cleaners.
  - (h) Set up the plastic pipe ends in the alignment fixture and connect the fusion heat element contacts.
  - (i) Fuse the plastic pipe according to the instructions provided by the manufacturer of the fusion equipment.
  - (j) Contractor shall use the proper cleaning solutions and expendables, such as cleaning cloths during the electrofusion welding of HDPE ducts.
- xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Trench and Place Steel Pipe Carriers in Rocky Soils) to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work.
- xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Trench and Place Steel Pipe Carriers in Rocky Soils) will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for performing the work specified and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Trench and Place Steel Pipe Carriers in Rocky Soils)	Meter (Linear Foot)