

Procedure Number: **30.10.30**  
Title: **Installation Methods**

**1.0 Purpose**

The purpose of this procedure is to provide information relating to the various installation methods for steel and polyethylene (PE) pipe.

**2.0 Scope**

This procedure is applicable to all transmission and to natural gas and propane distribution. This section explains details related to installation of pipelines by direct bury, insertion, and directional drilling. This procedure also covers installation requirements when the installation takes place on a bridge, and excavation requirements when rock excavation or blasting is required.

**3.0 General – Lowering and Laying**

- 3.1 Water filled trenches must be pumped out prior to lowering the pipe.
- 3.2 All rock and debris must be removed before the pipe is lowered into the trench.
  - 3.2.1 Sandbags can be placed in the ditch to support the pipe or the bottom of the trench must be graded and padded to give support to the line throughout the entire length.
- 3.3 Rock shield or select fill shall be used to pad the ditch.
- 3.4 HDPE pipe shall be lowered into the ground without being placed in excessive tension of flexure, and without exceeding the bending limits of that specific diameter main (See GOM 30.10.20 General Construction Requirements).
  - 3.4.1 Avoid twisting, stretching, crimping or kinking the plastic pipe when lowering it into a ditch. If the pipe is kinked or crimped, remove the damaged section of pipe.
- 3.5 Steel pipe shall be handled at all times with the appropriate equipment in order to prevent damage to the coating.
  - 3.5.1 The use of bare pinch bars, chain slings, rope slings, canvas or composition belt slings with protruding rivets, pipe hooks without proper padding, or other pipe handling equipment found to damage the coating is not permitted.

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3.5.2 Wheels for cradles, or pipe-bearing surfaces of other equipment used in suspending pipe from booms, shall be designed to prevent damage to the coating.

3.6 If pipe is damaged during the lowering-in process, the pipe must be removed from the trench. For plastic pipe, the section must be removed. For steel pipe, the coating must be repaired and jeepled prior to lowering the pipe into the ditch again.

#### **4.0 General – Protection from Hazards**

4.1 Above ground facilities shall be protected from vehicle damage by being placed a safe distance from traffic or by installing barricades and/or fencing to protect the facilities.

4.2 Mains and transmission lines shall be protected from washouts, floods, unstable soils, landslides and other hazards. Protective measures include:

- Using heavier wall pipe
- Adding additional support or anchors
- Adding weights or concrete coating in areas normally under water

#### **5.0 Direct Burial of Pipe – Single Pipeline**

5.1 The following lists the usual order of steps for installing mains by direct bury in trenches. Specific requirements for fusion, welding, backfilling, pressure testing, etc. are listed in other appropriate sections of the GOM.

5.1.1 Excavate the trench to the proper depth. Refer to GOM 30.10.20 General Construction Requirements for details relating to trench excavation.

5.1.2 For HDPE pipe, install the locate wire six (6) inches from the pipe. Refer to GOM 30.10.50 Locate Wire and Other Locate Technology for details relating to locate wires.

5.1.3 Place proper bedding or backfill material around the locate wire.

5.1.4 Install the pipe and necessary fittings.

5.1.5 Place proper padding material beside and over the pipe and fittings. If padding material is not available or not feasible, approved rock shield may be used.

5.1.6 Pressure test the main pipe and fittings according to [GOM 50.10.10 Pressure Test Requirements – Mains](#) or [GOM 50.10.20 Pressure Test Requirements – Services](#).