

3060 - Installing Plastic Pipe by Plowing

Effective 03/11/2019

1. GENERAL

1. Where deemed acceptable and approved, the following requirements must be met for installation of gas mains and services by plowing.
2. The normal installation depth for all mains is 36 inches.
3. The normal installation depth for all services is 24 inches.
4. Palmetto Utility Protection Service (PUPS) and other appropriate utilities must be notified 72 hours in advance to minimize the possibility of damage to life and property.
5. Pipe will be visually inspected at all service tap bell holes and tie-ins to check for possible damage to pipe by the vibratory plow or by sharp objects in the surrounding soil.
6. Where gas mains are to parallel other utilities (water mains, cables, sewer lines, etc.) they should be located in such a manner as to provide at least 12 inches lateral clearance between the plastic gas main and other utilities.
7. Plastic fusion must be done a minimum of 20 minutes prior to plowing to allow sufficient cool down of joint.
8. Under no circumstances will the plow be allowed to back up since this results in kinking the plastic pipe.
9. The fusion external bead should be removed to prevent possible damage or stress on pipe.
10. If it is suspected that damage to foreign utilities has occurred as a result of plowing, the foreign utility should be exposed and inspected.
11. When pipe is "planted" into the trench from a pipe roll mounted on the tractor/plow, fed through the plow chute into the trench, no break-away connector is required. Pipe should be fed to the trench in a manner to allow pipe to freely feed from the roll to the trench without significant pulling force on the pipe or scratches on the pipe surface. Pipe roll should be mounted in a manner to spin freely for smooth feeding of pipe. This "planting" method is the preferred installation method for use during plowing.
12. When pipe is placed at the beginning of the trench and drug into the hole using the plow ("alternate method"), pipe shall be pulled with a weak link connection at the plow. Weak link may be a break-away connector or a hole drilled through the pipe. Vibratory motion of the plow may cause break-away connectors to fail frequently during plowing. A length of rope, cable, or chain installed between the plow head and the break-away connector may help dampen vibratory motion and mitigate this issue.
 1. Break-away Connector: Break-away connector with pin not exceeding allowable tensile load of pipe.
 1. ½" CTS (5/8" O.D.) pipe has an allowable tensile load of 156 lbs
 2. ¾" IPS pipe has an allowable tensile load of 307 lbs

3. See D&I Section 1015 - Horizontal Directional Drilling (HDD) for full table of all pipe sizes.
2. Hole drilled in pipe: Specified hole(s) should be drilled in the entry section of pipe, directly following connection to pulling/splitting device.
 1. For ½" CTS (5/8" O.D.) pipe, a 3/8" hole should be drilled entirely through the pipe, creating two holes total.
 2. For ¾" IPS pipe, two 3/8" holes should be drilled entirely through the pipe, creating four holes total. These must be in the same plane, in a cross pattern (spaced 90 degrees apart).
 3. Pipe larger than 3/4" IPS cannot use holes as a weak link
13. No continuous pull using the alternate method should exceed 500 feet without prior approval of the division engineer.
14. Where gas main crosses other utilities, the plowing should be of such a nature to provide at least 6 inches vertical clearance between the gas main and other utilities.

This vertical clearance must not be obtained by reducing the minimum cover on the gas main.
15. The contractor must comply with all highway or county permits showing the required location and depth of the main.

(UNCONTROLLED IF PRINTED)