

					2. Manually operated or power operated drilling machines may be used.
					F. Pipe to be performed while the pipeline is filled with water and under pressure (W. L. or W. L. or where the pipeline is not filled with water and not under pressure (dry lay).
			3.11	TESTING	
					A. Cleaning and flushing are to be done by the CONTRACTOR in accordance with the requirements of the HDD system operator.
					B. Drilling directional drill shall be tested by CONTRACTOR after completion. The average pressure shall be maintained at 150 psi for six hours. The test pump and water shall be at atmospheric or above atmospheric pressure. The test shall be performed at test pressure. Any material showing seepage or the slightest leakage shall be repaired as directed by the OWNER at no additional expense to the OWNER.
					C. Hydraulic testing of HDPE pipe should be performed in accordance with ASTM F2162.
					D. The manufacturer's recommendations on pipe stretch allowances, bend radius, tensile strength, allowable make-up water, and duration of test pressure shall be observed.
					E. Pipeline shall be tested and to end.
			3.12	DISINFECTION OF THE PIPELINE FOR POTABLE WATER PIPING	
					After installation, the pipeline, having passed all required testing, shall be disinfectant prior being put into service. Unless otherwise directed by the owner or engineer, the pipeline will be disinfected per AWWA C251. See specification Section 1507 for disinfection requirements.
			3.13	PARTIAL TESTING	
					Segments of the pipe may be tested separately in accordance with standard testing procedures as approved by the owner and engineer. Testing of each HDD installation prior to connection of the system or other piping is preferred.
			3.12	RECORD KEEPING AND AS-BUILTS	
					A. CONTRACTOR shall maintain a daily project log of drilling operations and a guidance system log with a copy given to the ENGINEER at completion of project.
					B. The drilling data shall be recorded every 25-feet during the actual drilling operation. CONTRACTOR shall furnish "as-built" plan & profile drawings based on these recordings showing the actual borehole location and vertically of the installation, and all utilities facilities found during the installation. The data shall be certified by each of the CONTRACTOR to the capability of the drilling system.
					C. "As-built" drawings shall be completed and certified by an Indian registered professional engineer or engineer at Contractor's expense.
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02350-11

02350-14

± 8 inches	Pipe Dia. + 4 inches
8 inches to 24 inches	Pipe Dia. x 1.5
≥ 24 inches	Pipe Dia. + 12 inches

CONTRACTOR
SHALL ADDRESS
AND REFERENCE
THE CURRENT
CREEK REGION
WASTE DISPOSAL
STANDARDS
DESIGN AND
CONSTRUCTION
SANITARY SEWER

2. Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.

3. In the event of a drilling fluid fracture, returns loss or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.

3.6 PPE PULL-BACK AND INSERTION

A. Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.

B. Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, backbore, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.

C. The pipe entry area shall be graded as needed to provide support for the pipe and to allow free movement into the bore hole.

1. The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.

2. The pipe may be continuously or partially supported on rollers or other Owner and Engineer approved friction decreasing implement during jacking and insertion, as long as the pipe is not over-stressed or critically abraded prior to, or during installation.

3. A swivel shall be used between the reaming head and the pipe to minimize torsion stress on the pipe assembly.

D. Buoyancy modification shall be at the sole discretion of the Contractor, and shall not exceed the pipe supplier's guidelines in regards to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.

E. Once pull-back operations have commenced, the operation shall continue without interruption until the pipe is completely pulled through the bore hole.

F. The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor.

3.7 CLEANUP

Following the installation, the project site shall be returned to a condition equal to or better than the pre-construction condition of the site. All excavations will be backfilled and compacted per the construction documents and jurisdictional standards. All pavement and hardscape shall be repaired per applicable jurisdictional standards, excess materials shall be removed from the site, and disturbed areas shall be re-landscaped. All drilling fluid shall be properly disposed of per these specifications and at applicable

02350-14

jurisdictional laws.

B. Contractor shall verify that all utilities, structures, and surface features in the project area are sound.

3.8. PREPARATION PRIOR TO MAKING CONNECTIONS INTO EXISTING PIPING SYSTEMS

A. Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the contractor shall:

1. Field verify location, size, piping material, and piping system of the existing pipe.
2. Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
3. Have installed all temporary pumps and/or pipes in accordance with established connection plans.

B. Unless otherwise approved, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

3.9. PIPE SYSTEM CONNECTIONS

A. Pipe connections shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines and as indicated in the construction documents. Pipe connections to structures shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines.

B. If possible, pipe installed via HDD shall be filled with water prior to making any connections to the existing system or other portions of the project.

3.10. TAPPING FOR PORTABLE WATER APPLICATIONS

A. Tapping saddles for HDPE pipe shall be as recommended by the manufacturer, and tapping shall be performed in accordance with the manufacturer's recommendations.

B. Tapping for PVC pipe shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C905. Tapping shall be performed only with use of tap saddles or reamers. NO DIRECT TAPPING WILL BE PERMITTED.

C. Tapping for PVC shall be performed in accordance with the applicable sections for Borehole Tapping per SW-104-2.

C. Service saddles shall be bronze or brass and shall be Ford 980591, Mueller H-1300, S-13000, or approved equal. Hinged design shall be used for 4" - 8" mains and 2-piece bored design for 10" mains.

D. All connections requiring a larger diameter than that recommended by the pipe supplier, shall be made with a pipe connection as specified and indicated on the drawings.


E. Equipment used for tapping shall be made specifically for tapping PVC pipe:

1. Tapping bits shall be slotted "shell" style cutters, specifically made for PVC pipe. "Hole saws" made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.

20230-15

SPRINGBROOK SECTION 5

FCRWD SANITARY SEWER SPECIFICATIONS



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<div style="display: flex; justify-content: space-between;"> <div> <p>SHEET</p> <h2 style="margin: 0;">C8.12</h2> <p>FCRWD SANITARY SEWER SPECIFICATIONS</p> </div> <div style="text-align: right;"> <p>© 2020</p> </div> </div>	