

## SECTION 02300

### BORING AND JACKING

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

WORK covered in this section includes furnishing all labor, materials, accessories, equipment and service required to properly complete pipeline construction using boring and jacking under railroads and State, County, or Town highways and streets, as described herein and/or shown on Drawings.

Any tunneling required shall be designed, specified, and permitted by the DEVELOPER, and reviewed by the TOWN.

##### 1.02 RELATED WORK

- A. Section 02225 - Earthwork for Utilities
- B. Section 02660 - Water Distribution Systems
- C. Section 02732 - Sanitary Sewer Force Mains
- D. Section 02736 - Sanitary Sewer
- E. Section 03300 - Concrete

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. Boring and Jacking

Minimum casing size shall be 12-inches in diameter. Steel casing pipe, sizes 12 inches through 24 inches shall be spiral or straight seam welded steel pipe conforming to ASTM A 139, Grade A. Minimum wall thickness of steel pipe for railroad and roadway crossings shall be in accordance with Owner's specifications, or 0.25" Wall minimum, whichever is greater.

- B. Carrier Pipe: All carrier pipes shall be DIP and installed with restrained joint gaskets.
- C. Class "D" (2500 psi) Concrete: As specified under Section 03300 (Concrete).

PART 3 EXECUTION

3.01 GENERAL

- A. Any solidification of embankments, boring heading, or sides shall be the DEVELOPER/ CONTRACTOR'S responsibility and shall be done at his own expense.
- B. Trench excavation; all classes and types of excavation; the removal of rock, muck, debris; the excavation of all working pits; and backfill requirements of Section 02225 are included under this section.
- C. Adequate sheeting, shoring, and/or bracing for embankment operating pits and other appurtenances shall be placed and maintained to ensure that WORK proceeds safely and expeditiously. Upon completion of required WORK, the sheeting, shoring, and bracing shall be left in place, cut off, or removed, as designated by the TOWN.
- D. DEVELOPER/CONTRACTOR shall maintain and operate pumps, well points, and drainage system equipment to keep work dewatered at all times.
- E. Bored installations shall be a bored-hole diameter essentially the same as the outside diameter of casing pipe to be installed.
- F. Casing pipe shall be jacked into boring as soon as possible after boring is made. Lengths of casing pipe as long as practical shall be used. Joints between sections shall be completely welded as recommended for joining the particular type of pipe.
- G. Once jacking procedure has begun, it should be continued without stopping until completed, subject to weather and conditions beyond the control of DEVELOPER/CONTRACTOR.
- H. Care shall be taken to ensure that casing pipe installed by boring and jacking or open cut method will be at the proper alignment and grade.
- I. Open cut installations, where permitted, shall be in accordance with details and procedures shown on Drawings.
- J. Ends of casing shall be sealed in accordance with Detail S-16.
- K. After casing pipe is installed, the carrier pipe shall be installed exercising care to protect its coating and lining and maintain its joint integrity. Carrier pipe shall be concentric and be placed in proper horizontal and vertical alignment using prefabricated pipe collars spaced radially around pipe and secured to remain firmly in place. Spacing of collars shall be no greater than ten (10') feet on center longitudinally in casing pipe. See Detail S-16.

### 3.02 HIGHWAY/ROADWAY/RAILROAD CROSSINGS

- A. DEVELOPER/CONTRACTOR is responsible for the permitting, coordinating and scheduling of all construction work within State, County, or Town highways, or railroad rights-of-way prior to, during, and after utility installation.
- B. DEVELOPER/CONTRACTOR shall review and coordinate construction methods, materials, and safety measures with the affected OWNER.
- C. For open cut trench installations, DEVELOPER/CONTRACTOR shall be responsible for scheduling and coordinating all construction work. WORK at one particular crossing shall be completed with the trench backfilled, compacted, and a temporary crushed stone surface provided for traffic before any work is started on another such crossing.
- D. Installations shall be done to leave free flows in drainage ditches, pipes, culverts, or other surface drainage facilities of the highway, street, or its connections.
- E. Where sodding is disturbed by excavation or backfilling operation, such areas shall be replaced by mulch sodding on slopes 5 percent or less. Slopes over 5 percent shall be replaced with block sodding. No separate payment shall be made for sodding which shall be included in the bid prices for installation of pipe.
- F. Trench excavation within the right-of-way, but not under pavement, shall be backfilled as described in Section 02225 (Earthwork for Utilities).
- G. Surplus material shall be removed from the right-of-way and the excavation finished flush with surrounding ground.
- H. Grout backfill shall be used for unused bores or abandoned pipes.
- I. Boring, jacking, or driving of casing pipes shall be accomplished without jetting, sluicing, or wet boring.
- J. Excavated materials and equipment shall not be placed on the pavement or shoulders of roadways.
- K. In no instance will DEVELOPER/CONTRACTOR be permitted to leave equipment (trucks, backhoes, etc.) on the pavement or shoulder overnight. Construction materials to be installed, which are on the right-of-way in advance of construction, shall be placed in such a manner as not to interfere with the safe operation of the roadways or railroads.

END OF SECTION