

PART 313 – POLYVINYL CHLORIDE (PVC) PIPE, SEWER SERVICE

- 313.1 The work under this item shall include furnishing, delivery, placing, and jointing PVC sewer pipe in the trench in specific conformity with the line and levels given. Installation shall be in accordance with the current of ASTM D2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications, except as modified by these specifications.
- 313.2 Pipe shall be protected during unloading and installation against impact shocks and free fall. After unloading and before installation, pipe shall be stored on flat level ground with no rocks or other objects under the pipe. PVC pipe that appears to be faded as a result of ultraviolet aging shall not be allowed. PVC pipe exposed to sunlight for more than three weeks shall be covered with an opaque protective covering. The pipe shall be left stacked and no more pipe than can be installed in one day shall be strung along the jobsite.
- 313.3 The pipe shall be laid on a firm trench bottom, true to the lines and grades shown on the drawings and/or as given in the field by the Inspector. Pipe shall be protected during handling against impact shocks and free fall. The laying of pipe in finished trenches shall be commenced at the lowest point, with the spigot ends pointing in the direction of flow. Pipe shall be laid continuously through new manholes if both inlet and outlet pipes are of the same size and in line. Upon completion of the manhole, the invert shall be shaped. The ends of adjoining pipes shall butt against each other for their entire circumference in such manner that there is no shoulder or unevenness of any kind. The pipe grade shall be obtained by using laser or batter boards and a "top line". A top line shall be maintained over a span of three grade stakes when laying pipe. As each batter board is erected, the top and the batter boards settings. Any error, discrepancies, or displacement of grade stakes shall be called to the attention of the Inspector for correction.
- 313.4 Prior to making pipe joints, all surfaces of the portion of the pipe to be jointed shall be cleaned and dried. Jointing shall be done in strict accordance with the manufacturer's recommended procedure.
- 313.5 At connections to manholes or other concrete structures, where the pipe is to be grouted or cast into the wall, a tight-fitting rubber water stop gasket shall be installed around the pipe. The outer sealing surface of the pipe shall be planed smooth. The pipe section with the gasket shall be grouted or cast into the manhole wall. Only pipe with a smooth outer wall or concentric ribs shall be used for cast or grouted in place connections. Where A-Lock type gaskets are used, only smooth outer wall pipe shall be used.
- 313.6 Approximately 30 days after backfilling the contractor shall measure vertical ring deflection for all pipe. The deflection testing shall be performed in the presence of the Engineer or his designated representative. Maximum ring deflection of the installed pipe shall be limited to 5% of the base inside diameter. All pipe which exceeds the allowable deflection shall be replaced or corrected by the contractor at no additional cost to City. The Contractor shall provide all mandrels and necessary equipment to

perform the tests. Tests must be performed without mechanical pulling devices. Deflection shall be tested using a Go/No-Go Deflection Test Gauge conforming to the standard detail or as manufactured by Cherne Industries, Inc., or equal in accordance with the manufacturer's instructions.

- 313.7 Any flushing of PVC sewer lines will be performed by the City, but the Contractor will lend assistance as may be required. Any infiltration of flushing water or other leaks into the sewer shall not be acceptable, and the contractor shall immediately correct the cause of the leak in a manner acceptable to the Engineer.
- 313.8 All sewers shall be tested for excessive leakage above ten gallons per day per inch of pipe diameter per mile per day for any section of installed system. Where low pressure air testing of PVC pipe is specified, it shall be air tested in accordance with the City of Tulsa standard air test procedure. The air testing for all new gravity pipe alignments will be performed by the City. All pipe which exceeds the allowable leakage rate shall be replaced or corrected by the contractor at no additional cost to City.
- 313.9 Payment: Payment for this item shall be made at the unit price bid per linear foot of the pipe specified in the Proposal and placed as shown on the Drawings. Total footage shall be the actual horizontal measurement along the centerline of the pipe. No additional payment shall be made for vertical pipe or fittings used with drop manholes.