

PART 1 - GENERAL

1.1 RELATED
SECTIONS

- .1 Section 31 23 10:Excavating, Trenching and Backfilling.
- .2 Section 33 05 14: Maintenance holes and catch basins.

1.2 MATERIAL
CERTIFICATION

- .1 At least 2 weeks prior to commencing work, submit manufacturer's test data and certification that pipe materials meet requirements of this section.

1.3 SCHEDULING OF
WORK

- .1 Schedule work to minimize interruptions to existing services.
- .2 Maintain existing flow during construction.
- .3 Submit schedule of expected interruptions for review and adhere to approved schedule.

1.4 MANUFACTURER'S
INSTRUCTIONS

- .1 Make available 1 copy of manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 PLASTIC PIPE

- .1 Gravity sewer pipe and fittings: Type PSM Poly (Vinyl Chloride): to ASTM D3034-08.
 - .1 Standard Dimension Ratio (SDR): 28.
 - .2 Locked-in gasket and integral bell system.
 - .3 Nominal lengths: 4 m.

2.2 PIPE BEDDING
MATERIALS

- .1 Granular material: Granular A as per OPSS 1010.

2.3 INSULATION

- .1 HI-40 DOW rigid insulation, or approved equivalent, 50 mm thick insulation boards installed as per manufacturer's specifications.

PART 3 - EXECUTION

3.1 PREPARATION

- .1 Clean pipes and fittings of debris and water before installation. Carefully inspect materials for defects before installing. Remove defective materials from site.

3.2 TRENCHING AND BACKFILLING

- .1 Do trenching and backfilling in accordance with Section 31 23 10.
- .2 Trench line and depth require approval prior to placing bedding material and pipe.
- .3 Water jetting of backfill under haunches of corrugated steel pipe may be permitted if recommended by manufacturer and approved by Departmental Representative.
- .4 If cover of 1.5 meters is not maintained, insulation must be used.

3.3 GRANULAR BEDDING

- .1 Place granular bedding materials to details indicated or directed by Departmental Representative.
- .2 Shape bed true to grade and to provide continuous, uniform bearing surface for barrel of pipe. Do not use blocks when bedding pipe.
- .3 Shape transverse depressions as required to receive bell if bell and spigot pipe is used.
- .4 Compact full width of bed to at least 95% Standard Proctor Density.
- .5 Use bedding stone in lieu of sand bedding material when directed by Departmental Representative.
- .6 Fill excavation below bottom of specified bedding adjacent to maintenance holes or catch basins with bedding material or common backfill as directed.

3.4 INSTALLATION

- .1 Lay and join pipe in accordance with manufacturer's recommendations.
- .2 Handle pipe by approved methods. Do not use chains or cables passed through rigid pipe bore so that weight of pipe bears upon pipe ends.
- .3 Lay pipes on prepared bed, true to line and grade with pipe inverts smooth and free of sags or high points. Ensure barrel of each pipe is in contact with shaped bed throughout its full length.
- .4 Commence laying at outlet and proceed in upstream direction with socket ends of pipe facing upgrade.
- .5 Do not exceed maximum joint deflection recommended by pipe manufacturer.
- .6 Do not allow water to flow through pipes during construction except as may be permitted by Departmental Representative.
- .7 Position and join pipes by approved methods. Do not use excavating equipment to force pipe sections together.
- .8 Joints:
 - .1 Install gaskets in accordance with manufacturer's recommendations.
 - .2 Support pipes with hand slings or crane as required to minimize lateral pressure on gasket and maintain concentricity until gasket is properly positioned.
 - .3 Align pipes carefully before joining.
 - .4 Maintain pipe joints free from mud, silt, gravel and other foreign material.
 - .5 Avoid displacing gasket or contaminating with dirt or other foreign material. Gaskets so disturbed shall be removed, cleaned and lubricated and replaced before joining is attempted.
 - .6 Complete each joint before laying next length of pipe.
 - .7 Minimize joint deflection after joint has been made to avoid joint damage.
 - .8 Apply sufficient pressure in making joints to ensure that joint is complete as outlined in manufacturer's recommendations.
- .9 When any stoppage of work occurs, block pipes as directed to prevent "creep" during down time.

3.4 INSTALLATION
(Cont'd)

- .10 Plug lifting holes with approved prefabricated plugs set in non-shrink grout.
- .11 Cut pipes as required for special inserts, fittings or closure pieces in a neat manner, as recommended by pipe manufacturer, without damaging pipe or its coating and to leave a smooth end at right angles to axis of pipe.
- .12 Use prefabricated saddles or approved field connections for connecting pipes to existing sewer pipes. Joint to be structurally sound and watertight.
- .13 Plug open upstream ends of pipes with removable watertight concrete, steel or wooden bulkheads.