Part 1 General

1.1 SECTION INCLUDES

.1 Materials and installation for pipe culverts.

1.2 SUBMITTALS

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Inform Departmental Representative at least 2 weeks prior to beginning Work, of proposed source of bedding materials and provide access for sampling.

.3 Submit manufacturer's test data and certification at least 2 weeks prior to beginning Work.

.4 Certification to be marked on pipe.

1.3 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

Part 2 Products

2.1 CORRUGATED STEEL PIPE

.1 Corrugated steel pipe: to CSA-G401. 125x25x1.6mm

.2 Water-tight cut-off collars: as indicated.

Part 3 Execution

3.1 TRENCHING

.1 Do trenching Work in accordance with Section 31 23 33.01 - Excavating Trenching and Backfilling.

.2 Obtain Departmental Representative approval of trench line and depth prior to placing bedding material or pipe.

3.2 BEDDING

.1 Dewater excavation, as necessary, to allow placement of culvert bedding in dry condition.

.2 Place minimum thickness of 200 mm of approved granular material on bottom of excavation and compact to minimum 98% of corrected maximum dry density maximum density to ASTM D698.

.3 Shape bedding to fit lower segment of pipe exterior so that width of at least 50% of pipe diameter is in close contact with bedding and to camber as indicated or as directed by Departmental Representative, free from sags or high points.

.4 Place bedding in unfrozen condition.

3.3 LAYING CORRUGATED STEEL PIPE CULVERTS

.1 Begin pipe placing at downstream end.

.2 Ensure bottom of pipe is in contact with shaped bed or compacted fill throughout its length.

.3 Lay pipe with outside circumferential laps facing upstream and longitudinal laps or seams at side or quarter points.

.4 Do not allow water to flow through pipes during construction except as permitted by Departmental Representative.

3.4 JOINTS: CORRUGATED STEEL CULVERTS

.1 Corrugated steel pipe:

.1 Match corrugations or indentations of coupler with pipe sections before tightening.

.2 Tap couplers firmly as they are being tightened, to take up slack and ensure snug fit.

.3 Insert and tighten bolts.

.4 Repair spots where damage has occurred to spelter coating by applying two coats of zinc rich paint as approved by Departmental Representative.

3.5 BACKFILLING

.1 Backfill around and over culverts as indicated or as directed by Departmental Representative.

.2 Place granular backfill material, approved by Departmental Representative, in 150 mm layers to full width, alternately on each side of culvert, so as not to displace it laterally or vertically.

.3 Compact each layer to 98% maximum density to ASTM D698 taking special care to obtain required density under haunches.

.4 Protect installed culvert with minimum 600 mm cover of compacted fill before heavy equipment is permitted to cross. During construction, width of fill, at its top, to be at least twice diameter or span of pipe and with slopes not steeper than 1:2.

.5 Place backfill in unfrozen condition.

END OF SECTION