

## SECTION 440

### CLEANOUT OF EXISTING CULVERTS

#### INDEX

**440.01 GENERAL**

**440.02 MEASUREMENT OF PAYMENT**

**440.03 BASIS OF PAYMENT**

**440.01 GENERAL**

Existing culverts to be cleaned out will be identified in the field by the Owner's Representative. The conditions of the site and the existing culverts shall be thoroughly assessed by the Contractor prior to the commencement of work, including the degree of pipe blockage and types of debris. Cleaning of existing culverts shall typically be accomplished by means of high velocity jet water propelled cleaning equipment. The equipment, nozzles, flow rates, and pressures necessary to complete the work shall be determined by the Contractor. The equipment shall be able to clear blockages and remove debris from pipe sewer systems with varied sizes and downstream constraints. If necessary, and as directed by the Owner's Representative, other means of culvert cleaning such as hand cleanout, hydraulically propelled or mechanically powered cleaning equipment with use of reamers, cutters or grinders, and flushed afterwards with a high-pressure water nozzle shall be utilized.

Pipe culverts shall be cleaned to the bottom face of the pipe, open bottom culverts shall be cleaned to the level of the top of footing, and concrete box culverts shall be cleaned to the bottom slab, unless otherwise directed by the Owner's Representative or specified in the Contract Documents. The culvert shall be considered clean when all debris, including vegetation at the inlet and outlet that obstructs the flow, sand or silt has been removed from the top, side and bottom (invert) of the culvert.

The Owner's Representative shall be notified of the location where cleaning will be performed a minimum of 24 hours in advance of commencing the work.

The Contractor shall ensure that cleaning operations do not damage the existing condition of the culverts. During cleaning operations the Contractor shall identify any areas of deterioration or damage and immediately notify the Owner's Representative. Water pressures and flow volume shall be appropriate for the age and condition of the existing culvert, and shall not cause damage to the culvert. Existing culverts damaged as a result

of negligence on behalf of the Contractor shall be repaired at the Contractor's expense. The Contractor is responsible for ensuring that cleanout operations do not cause flooding or damage to adjacent private properties. Any damage to the existing culverts or private property arising from cleanout operations shall be repaired at the Contractor's expense.

Cleanout shall include the removal and disposal of any debris, blockages, or any build-up of foreign material that may be obstructing the existing culvert at or immediately adjacent to the culvert's inlet and outlet. Any and all debris resulting from the cleaning operations shall be removed from the job site and properly disposed of by the Contractor, at their own expense. If debris accumulates in clean drainage infrastructure during construction, the Contractor shall clean the culvert again, at their own expense.

The Contractor shall provide unwatering as required to clean existing culverts in the dry. Unwatering shall be carried out as specified in Section 180 of the Department's Specifications Book. The watercourse shall be protected from the entry of any sediment or debris disturbed from the work. Removed sediment and debris shall be captured and collected by the Contractor as part of the work. Where sediment control measures are found to be insufficient, the contractor shall make immediate corrections to the control measures.

Before cleaning operations the Contractor shall remove and store all grates and other appurtenances from the culvert. When cleaning is complete, treat hardware required for the grates and other appurtenances with anti-seize compound. Then, reinstall the grate and appurtenances using the treated hardware.

While cleaning existing culverts, the road surface above the culvert shall be monitored for any visual signs that pavement or embankment sinkholes are developing. If sinkholes are suspected, all work shall stop immediately and the Owner's Representative must be notified.

Water source shall be as specified by the Contractor. Water shall be clean and free from oil, acid, alkali, organic matter, or other deleterious substances. Backflow prevention and air gap methods shall be used when water is taken from potable water systems, and shall be considered incidental to the work.

All work shall be carried out in accordance with Division 8 of the Department's Specifications Book.

#### **440.02 MEASUREMENT OF PAYMENT**

Measurement of payment for the cleanout of existing culverts shall be the length of culvert/pipes cleaned, measured in linear meters, rounded to one decimal place.

#### **440.03 BASIS OF PAYMENT**

Payment at the contract price shall be considered compensation in full to: provide all materials, labour, supervision and equipment required to cleanout existing culverts as required by the Owner's Representative.

Disposal of all materials collected from culvert cleanout shall be disposed of offsite at the Contractor's Expense.