# 54.10 REPAIR CULVERT ENDS

## 54.10.1 GENERAL

The Work consists of excavating material from the culvert end to allow reconnection or realignment of the culvert end, or reconstruction of the culvert bed and replacement of the rip-rap, or bending, cutting or otherwise reshaping the exposed culvert material to reinstate, as much as possible, the original shape.

#### 54.10.2 MATERIALS

The Contractor shall supply oakum, couplers, additional rip-rap when necessary.

### 54.10.3 EQUIPMENT

The extent of the repair work required for each pipe will dictate whether hand tools or larger equipment are necessary.

#### 54.10.4 PROCEDURES

Existing rip-rap material shall be removed and salvaged where applicable.

When the pipe end is distorted and no excavation is required, the culvert end can be reshaped to its original intended shape, by the use of hand tools.

When the repair to the culvert end requires reconnecting and/or realigning of the culvert end and/or reconstruction of the culvert bed and/or replacement of the existing rip-rap, excavation may be required. Reshaping of the pipe end may also be required as part of this Work.

Oakum may be required to provide a seal when reconnecting a culvert end.

# 54.10.5 ACCEPTANCE CRITERIA

Evaluation of the Work will be based on a visual inspection by the Engineer. To be acceptable, culvert ends must be properly connected, aligned and shaped. Rip-rap shall be reinstalled to the satisfaction of the Engineer and the culvert end shall allow normal drainage.

#### **54.10.6 TIME TO COMPLETE**

The Contractor shall complete the Work within 60 calendar days of the issuance of the Work Order.

# 54.10.7 MEASUREMENT AND PAYMENT

Separate measurement will be made of the number of culvert ends repaired by hand tools and of the number of culvert ends repaired by equipment.

Payment will be made at the unit price bid per culvert end for "Culvert End Repair - Using Hand Tools". This payment will be full compensation for reshaping the culvert end, and all labour, hand tools and incidentals necessary to complete the Work.

Payment will be made at the unit price bid per culvert end for "Culvert End Repair - Using Equipment". This payment will be full compensation for removing, salvaging and reinstalling rip-rap where applicable, excavating around the culvert end, rebuilding the culvert bed as required, reshaping the culvert end, realigning and reattaching the culvert end as required, and all labour, equipment, tools and incidentals necessary to complete the Work.

Payment for couplers, oakum and additional rip-rap, when required will be made as Extra Work in accordance with Specification 51.2, General (For Maintenance Work).

## 54.10.8 WARRANTY

There is no warranty period for this Work.