

III. TECHNICAL SPECIFICATIONS

DIVISION 15

MINOR STRUCTURE EXCAVATION (BOX CULVERT)

- 15.01 SCOPE:** The Contractor shall be required to furnish all labor and equipment necessary to satisfactorily remove and dispose of all materials necessary to accommodate box culvert construction as shown on the plans.
- 15.02 EXECUTION:** Minor structure excavation shall include all excavation required to remove in-place material to the locations and inverts shown on the plans for construction of the box culvert. In addition it includes disposal of all unsuitable material, pumping, sheeting, and dewatering of the trench and backfilling and compacting with either regular excavation or select fill to the existing ground elevation. The following requirements will apply for work to be performed under minor structure excavation.
- A. Material deposited within the stream area from foundation or other excavation shall be removed and the stream area freed from all obstructions caused by the Contractor's operations. The Contractor shall exercise every reasonable precaution throughout the duration of the project to prevent erosion of the soil and the pollution and siltation of rivers, streams and lakes.
 - B. Regular excavation may be used for backfill if the material substantially conforms with Division 4 of these Specifications for Select Material Type I, and 100% of the material passes the three inch sieve.
 - C. Backfill and compaction shall be advanced simultaneously on both sides of the box culvert. The fill above the top of the box culvert shall be completed as specified for regular excavation.
 - D. Backfill shall be placed along the box culvert in uniform layers and shall be thoroughly compacted within 95% of its maximum density at (\pm) 20% of its optimum moisture as per VTM-1. Each layer shall be compacted by rolling, tamping with mechanical rammers, or by hand tamping with heavy metal tampers.
 - E. Compaction Tests: The City, or its authorized representatives reserve the right to perform compaction tests on any or all portion(s) of backfill placed in the trench at no costs to the Contractor. However, in the event the compaction of this backfill is not in compliance with the Specification, Section 2.03.C, then the Contractor shall take corrective measures at no costs to the City to bring the backfill within the limits of the Specifications, Section 2.03.C. The Contractor shall then be responsible for

reimbursing the City all costs associated with the performance of compaction test(s) in those sections of the backfill that failed the compaction test(s). If however the tests should bear out that the backfill is sufficiently compacted, the City will absorb all costs thereof.

15.03 MEASUREMENT AND PAYMENT:

- A. The contract prices specified in the Unit Price Table shall include full compensation for all labor, equipment, and materials necessary to remove and dispose of all unsuitable material as well as furnish, place and compact backfill material. Minor structure excavation required to construct headwalls and endwalls or to install storm drainage pipes and pipe culverts will not be measured but considered incidental to the contract price for each item specified in the Unit Price Table.
- B. Minor structure excavation for box culverts will not be measured in-place but will be based on the plan quantity for the location and elevation shown on the plan or directed in the field by the Engineer. Payment will be made based on the contract price per cubic yard as specified in the Unit Price Table.