

ITEM 603.64XXYY08 - PRECAST CONCRETE BOX CULVERT INSTALLATION
(FILL HEIGHT LESS THAN 0.6 M)

DESCRIPTION

This work shall consist of placing single or multi-cell precast reinforced concrete box culvert sections of the type indicated in the plans in accordance with these specifications in the locations indicated and in a manner approved by the Engineer.

MATERIALS

Precast concrete box culvert shall meet the requirements of Section 706-17 Precast Concrete Box Culverts, and will be provided by the state.

CONSTRUCTION DETAILS

A. Inspection, Storage and Handling - Precast box sections will be inspected at the construction site to determine any damage during shipment and for conformance to the dimensional tolerances. An additional inspection will be made prior to placement of precast box sections to determine any damage during storage.

B. Installation

1. Excavation. The requirements specified in Section 206 Trench, Culvert and Structure Excavation, that apply to culverts and storm drains shall govern, except as modified in the plans.

2. Placement. The precast manufacturer shall have a representative available to assist in the installation of the box culvert. Precast box sections shall be installed, true to line and grade, in accordance with the contract plans. Placement of the box sections shall start at the downstream end and proceed upstream, unless otherwise indicated in the contract plans.

3. Joints. Precast box sections shall be installed with the female end upstream and the male joints fully entered therein. The joint openings between adjacent precast units shall not exceed 20 mm. The joints shall be sealed with a continuous gasket installed at the precast plant. Joints shall be drawn together with mechanical connectors, as shown on the approved working drawings. Culverts with a clear rise greater than 1.3 m shall have a minimum of four connectors per joint. Smaller culverts shall have a minimum of two connectors per joint. The number of mechanical connectors supplied shall be equal to the number of connectors required per joint multiplied by the number of joints unless otherwise approved by the Engineer. After installation, connectors may be left on or removed at the contractor's option, unless otherwise noted in the contract plans.

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When the contract plans require, or the contractor chooses to leave the connectors in place, they shall be located so that they do not create an obstruction inside the culvert. Gaps which occur on the interior surfaces of the culvert due to misalignment or grade difference shall be filled as ordered by the Engineer, with an approved concrete repair material so as to produce a smooth continuous surface.

4. Backfilling. The types of materials to be used in backfilling and the procedure of placement shall conform to the contract plans and the applicable provisions of Subsection 203-3.15.

METHOD OF MEASUREMENT

The quantity to be measured for concrete box culvert sections shall be the number of meters (laying length) installed in the work. Meters (laying length) shall be measured by multiplying the number of whole units by the nominal length of each unit and adding thereto to the length of any fractional units incorporated in the work. The nominal length of a unit or fractional unit shall be the inside measured length from one butting end to the other butting end measured along the bottom centerline of the unit.

BASIS OF PAYMENT

The quantity to be paid for shall be the number of meters of each size box culvert section incorporated in the work. The unit price bid shall include the cost of furnishing all labor, materials, equipment and installation supervision by the precast manufacturers representative, necessary to satisfactorily complete the work. The cost of installing headwalls, wingwalls and cut off walls shall also be included in the unit price bid, as will the closure pours for these items.

Payment shall be made under Item 08603.64XXYY M where XX and YY, as indicated in the itemized proposal shall mean the inside span and rise dimensions respectively in meters and tenths of a meter, of the precast section.