

60504b

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Designer Note: Discuss usage with your Project Engineer. For use with large culverts, boxes, or bridges. Also include a plan detail for filling each culvert.

*List drainage structure by Station, Size, and Description.

Example: Station 100+10 - 24' (7 m) span x 56' (17 m) long RC slab bridge
2 @ 30" (750 mm) CMP culverts inserted

FILLING DRAINAGE STRUCTURES

Effective October 15, 1995

Revised April 1, 2017

This work shall consist of filling existing drainage structures with granular backfill material and/or Controlled Low Strength Material. Controlled Low Strength Material shall meet the requirements of Sections 593 and 1019 of the Standard Specifications and granular material shall meet the requirements of Article 1003. Drainage structures to be filled are as follows:

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The Contractor may fill a portion of the structure with granular material where the size of the structure allows conventional placement and compaction methods. Granular material shall be placed in maximum 8" (200 mm) layers, loose measurement, and compacted in a manner approved by the Engineer. The remainder of the structure shall be filled with Controlled Low Strength Material. The structure shall be plugged on both ends with a plug material meeting the approval of the Engineer. The plug shall be adequate to withstand the hydrostatic load created during the filling operation. If the plug fails during the filling operation, the Contractor shall be responsible for the cost of repairing the plugs and filling the remainder of the culvert.

Structures with a vertical height exceeding 3' (1 m) shall be filled in at least two phases, with a minimum 24 hour elapsed period between pours. Structures with a vertical height exceeding 6' (1.8 m) shall be filled in at least three phases, with a minimum 24-hour elapsed period between each pour.

For structures with culvert insertions present, the Contractor shall be responsible for assuring that the insertion culvert is not damaged by the hydrostatic load of the CLSM. Measures shall also be taken to assure that the insertion culvert does not "float" out of position during the filling process. Measures may include internal and/or external bracing of the insertion culvert and placement of the CLSM in stages. The method of placement and protective measures to be used shall be approved by the Engineer prior to the start of the filling operation. Approval by the Engineer shall in no way relieve the Contractor of responsibility for damage to the insertion culvert or failure of the end plugs.

This work, including the cost of the end plugs and any bracing or other protection measures, will be paid for at the contract unit price Each for FILLING DRAINAGE STRUCTURE. Each structure location filled will be paid for separately.