December 28, 2017

REVISION OF SECTIONS 206 AND 703

STRUCTURE BACKFILL (FLOW-FILL)

**NOTICE**

This is a standard special provision that revises or modifies CDOT’s *Standard Specifications for Road and Bridge Construction.* It has gone through a formal review and approval process and has been issued by CDOT’s Project Development Branch with formal instructions for its use on CDOT construction projects. It is to be used as written without change. Do not use modified versions of this special provision on CDOT construction projects, and do not use this special provision on CDOT projects in a manner other than that specified in the instructions unless such use is first approved by CDOT’s Standards and Specifications Unit. The instructions for use on CDOT construction projects appear below.

Other agencies which use the *Standard Specifications for Road and Bridge Construction* to administer construction projects may use this special provision as appropriate and at their own risk.

**Instructions for use on CDOT construction projects:**

Use on projects having Structure Backfill. The Designer shall determine the locations of Structure Backfill (Flow-Fill) which will require future excavation for utility work or other related work. These locations shall be shown on the plans.

Sections 206 and 703 of the Standard Specifications are hereby revised for this project as follows:

Subsection 206.02 (a) 1 shall include the following:

The Contractor may also substitute Structure Backfill (Class 3) as backfill for culverts and sewer pipes.

In subsection 206.02(a) 2, first paragraph, delete the last sentence and replace with the following:

Flash fill is a rapid setting Flow-Fill that may be used when approved by the Engineer and will be tested, accepted, and paid for as Flow-Fill.

Subsection 206.02(a) 2 shall include the following as the last paragraph:

The Contractor shall submit a Process Control (PC) Plan with the mix design to the Engineer. The PC plan shall address the batching, mixing, testing and placement of the structure backfill (Flow-Fill).

In subsection 206.03 delete the 17th paragraph and replace with the following:

When Flash Fill is used, it shall be batched with a volumetric mixing truck. Volumetric mixing trucks used to produce Flow-Fill and Flash Fill shall have a computer batching system, capable of producing the approved mix design and printing tickets. For Flash Fill, the batch weights of cement and/or fly ash per cubic yard shall be within 2 percent of the mix design batch weights and the batch weight of water per cubic yard shall be within 2 percent of the mix design batch weight.

Prior to the placement of structure backfill (Flow-Fill), the Contractor shall sample the structure backfill (Flow-Fill) in accordance with ASTM D5971. The Contractor shall test the structure backfill (Flow-Fill) unit weight in accordance with ASTM D6023. For Flash Fill, the measured unit weight shall be within 5.0 percent or 5.0 pounds per cubic foot, whichever is larger, of the approved mix design unit weight. The Contractor shall test the structure backfill (Flow-Fill) for slump in accordance with ASTM C143 or flow consistency according to ASTM D6103.

Subsection 703.08 shall include the following:

1. Class 3 structure backfill shall be a sandy gravel and meet the following gradation:

**Mass Percent Passing**

**Sieve Size** **Square Mesh Sieves**

9.5mm (3/8”) 90 to 100

4.75mm (#4) 45 to 80

0.075mm (#200) 5 to 12