



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

## Design Memorandum No. 07-13 Technical Advisory

October 16, 2007

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Anthony L. Uremovich  
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**SUBJECT:** Structure Backfill and Flowable Backfill

**REVISES:** *Indiana Design Manual Section 17-2.9*

**EFFECTIVE:** April 2, 2008, Letting

### I. Structure-Backfill Types

Structure backfill has been subdivided into types. They should be specified as described below.

#### **A. Type 1**

This type should be specified for a location as follows:

1. longitudinal or transverse structure placed under, or within 5 ft (1.5 m) of, the back of paved shoulder or back of sidewalk of a new facility, or
2. such a structure for an existing facility where all existing pavement is to be replaced.

#### **B. Type 2**

This type should be specified for a location as follows:

1. longitudinal or transverse structure placed under, or within 5 ft (1.5 m) of, the back of paved shoulder or back of sidewalk where undisturbed existing pavement is to remain; or
2. precast-concrete three-sided or four-sided structure with height of cover of 2 ft (0.6 m) or greater.

### **C. Type 3**

This type should be specified for use behind a mechanically-stabilized-earth retaining wall.

### **D. Type 4**

This type should be specified for a location as follows:

1. trench where a utility line is present; or
2. behind a reinforced-concrete slab-bridge end bent.

### **E. Type 5**

This type should be specified for a location as follows:

1. precast-concrete three-sided or four-sided structure with height of cover of less than 2 ft (600 mm);
2. filling voids in an underground facility;
3. filling in an abandoned pipe or structure; or
4. other application that does not require excavation.

## **II. Flowable Backfill**

Flowable backfill for use other than as structure backfill should be specified as either removable flowable or non-removable flowable backfill.

### **III. Information to be Shown on Plans**

The Structure Data spreadsheets have been revised to include columns for structure-backfill type and flowable-backfill type. For flowable backfill, R should be entered in the column if the material is removable. N should be entered in the column if the material is non-removable.

### **IV. Specifications and Pay Items**

Recurring Special Provisions 211-R-543 and 213-R-446 are attached hereto. The 211 provision should be called for if a structure-backfill pay item is required. The 213 provision should be called for if a flowable-backfill pay item is required. The provisions are required through the August 12, 2009, letting. After that time they will be incorporated into the INDOT *Standard Specifications*.

The pay item for structure backfill should always include the type. If the 211 provision is required, the new pay item code numbers and names are as follows. The pay unit is cubic yard (cubic meter).

211-09264	Structure Backfill, Type 1
211-09265	Structure Backfill, Type 2
211-09266	Structure Backfill, Type 3
211-09267	Structure Backfill, Type 4
211-09268	Structure Backfill, Type 5

The pay item for flowable backfill not used as structure backfill should always include the type. If the 213 provision is required, the new pay items and code numbers are as follows. The pay unit is cubic yard (cubic meter).

213-09269	Flowable Backfill, Non-Removable
213-09270	Flowable Backfill, Removable

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Attachments