

**IOWA DEPARTMENT OF TRANSPORTATION**

To Office Bridges and Structures

Date July 8, 2005

Attention All Employees

Ref No. 521.1

From Gary Novey

Office Bridges and Structures

Subject: Method's Memo No. 121 (Use of Special Concrete Mixes on Bridges)

With the use of high performance concrete (HPC) on bridge decks on I-235 and the use of improved durability concrete (IDC) on some projects in District 3 (see MM No. 114 for description), questions have been raised about statewide policy on their use and how they should be included in the bridge projects. Therefore, for the interim use of HPC or IDC on bridge projects will only be done if requested by the District Office with the approval of the assistant bridge engineer.

When HPC or IDC is included in a bridge project the following additions should be made to the plans:

1. The concrete quantity shall be separated in the concrete placement quantities table to show the total quantity for HPC or IDC and regular structural concrete. The slab, abutment diaphragms, pier diaphragms, intermediate diaphragms and wingwalls shall be designated as HPC or IDC. Abutment footing, wings, and paving blocks shall be regular structural concrete. The contractor also has the option of using regular structural concrete for the intermediate diaphragms if it is placed separate from the deck placement.
2. Include one of the following notes in the item reference notes:

For HPC:

**THIS BID ITEM INCLUDES THE CONCRETE FOR THE SLAB, ABUTMENT, INTERMEDIATE AND PIER DIAPHRAGMS, AND WINGWALLS. REFER TO THE DEVELOPMENTAL SPECIFICATION FOR "HIGH PERFORMANCE CONCRETE FOR STRUCTURES" FOR ADDITIONAL INFORMATION. THE CONTRACTOR HAS THE OPTION OF USING REGULAR STRUCTURAL CONCRETE FOR THE INTERMEDIATE DIAPHRAGM IF IT IS PLACED SEPARATE FROM THE DECK POUR.**

For IDC:

**THIS BID ITEM INCLUDES THE CONCRETE FOR THE SLAB, ABUTMENT, INTERMEDIATE AND PIER DIAPHRAGMS, AND WINGWALLS. REFER TO THE DEVELOPMENTAL SPECIFICATION**

FOR “IMPROVED DURABILITY CONCRETE FOR BRIDGE DECKS” FOR ADDITIONAL INFORMATION. THE CONTRACTOR HAS THE OPTION OF USING REGULAR STRUCTURAL CONCRETE FOR THE INTERMEDIATE DIAPHRAGM IF IT IS PLACED SEPARATE FROM THE DECK POUR.

3. The “Trial Batch High Performance Structural Concrete” bid item is required when specifying the use of HPC as per the developmental specification (DS-01033).
4. Longitudinal grooving in hardened concrete is required for all bridge decks (MM No. 128). However, if there are several bridge projects along the same route, the District can decide to include the longitudinal grooving bid item in the paving plan rather than the bridge plan. In the event that this occurs, the bridge plan shall include one of the following general notes depending on whether IDC or HPC is used (E203/M203 or E204/M204) informing the bridge contractor of the bid item change.

#### E203/M203

LONGITUDINAL GROOVING OF THE BRIDGE DECK WILL BE DONE BY THE PAVING CONTRACTOR. THEREFORE, THE PORTION OF DEVELOPMENTAL SPECIFICATION FOR IMPROVED DURABILITY CONCRETE FOR BRIDGE DECKS CONCERNING THE GROOVING IS NOT APPLICABLE.

#### E204/M204

LONGITUDINAL GROOVING OF THE BRIDGE DECK WILL BE DONE BY THE PAVING CONTRACTOR. THEREFORE, THE PORTION OF THE DEVELOPMENTAL SPECIFICATION FOR HIGH PERFORMANCE CONCRETE FOR BRIDGE DECKS CONCERNING THE GROOVING IS NOT APPLICABLE.

GAN/dgb/bj