



# Illinois Department of Transportation

## Memorandum

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To: All Regional Engineers  
From: Omer M. Osman, P.E.   
Subject: Special Provision for Material Transfer Device  
Date: April 18, 2014

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This special provision was developed by the Bureau of Materials and Physical Research. It has been revised to increase the roadway contact pressure in which the use of a Material Transfer Device (MTD) is allowed for partially completed segments of full-depth HMA pavement where the thickness of in place pavement is less than 10 in.

This special provision shall be inserted into interstate hot-mix asphalt (HMA) paving and full depth HMA contracts. For full depth HMA contracts the MTD shall be used for constructing all lifts of pavement. It should be inserted in other HMA paving contracts at the district's discretion.

The special provision contains three fill in the blank areas, which must be determined by the district and are considered project specific requirements. The following guidelines should be considered:

- (1) Type of materials to be placed with the MTD (to be determined by the district). Example wording: This work shall consist of placing HMA binder and surface course mixtures according to Section 406 of the Standard Specifications, except that these materials shall be placed using a material transfer device.
- (2) Location where the MTD will be used on the project (to be determined by the district). Example wording: The material transfer device shall be used for the placement of all HMA binder and surface course mixtures placed with a paver including ramps but excluding shoulders.
- (3) Based on (1) above, the designer must restate, which materials are placed with the MTD (to be determined by the district). If square yard pay items are placed with the MTD, conversion factors must be shown on the plans. Example wording: This work will be measured for payment in tons (metric tons) for all HMA binder and surface course materials placed with a material transfer device.

The operation or transportation of heavy equipment on pavement or structures within contract limits is governed by Article 107.16 of the Standard Specifications and implemented through Construction Memorandum No. 39. Additionally, this special provision contains specific restrictions regarding travel

information to the Bureau of Bridges and Structures identifying the structures that will be crossed by the MTD. The Bureau of Bridges and Structures will analyze the structures to verify that they have the capacity to safely carry an emptied MTD and will provide the designer with recommendations. The recommendations provided by the Bureau of Bridges and Structures will identify any structure, which due to general deterioration or insufficient load carrying capacity, cannot be crossed by an emptied MTD. The plans shall include notice to the contractor of special requirements and restrictions for structures that cannot be crossed by an emptied MTD. The notice shall indicate to the contractor that the emptied MTD must be transported over the identified structures on a transport vehicle and that information describing axle loads and axle spacing of the transport vehicle must be provided to the Engineer for review by the Bureau of Bridges and Structures.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the August 1, 2014 and subsequent lettings. The Project Development and Implementation Section will include a copy in the contract.

This special provision will be available on the transfer directory April 18, 2014.

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## **MATERIAL TRANSFER DEVICE (BDE)**

Effective: June 15, 1999

Revised: August 1, 2014

Description. This work shall consist of placing \_\_\_\_\_ (1) \_\_\_\_\_, except that these materials shall be placed using a material transfer device (MTD).

Materials and Equipment. The MTD shall have a minimum surge capacity of 15 tons (13.5 metric tons), shall be self-propelled and capable of moving independent of the paver, and shall be equipped with the following:

- (a) Front-Dump Hopper and Conveyor. The conveyor shall provide a positive restraint along the sides of the conveyor to prevent material spillage. MTDs having paver style hoppers shall have a horizontal bar restraint placed across the foldable wings which prevents the wings from being folded.
- (b) Paver Hopper Insert. The paver hopper insert shall have a minimum capacity of 14 tons (12.7 metric tons).
- (c) Mixer/Agitator Mechanism. This re-mixing mechanism shall consist of a segmented, anti-segregation, re-mixing auger or two full-length longitudinal paddle mixers designed for the purpose of re-mixing the hot-mix asphalt (HMA). The longitudinal paddle mixers shall be located in the paver hopper insert.

## **CONSTRUCTION REQUIREMENTS**

General. The MTD shall be used for the placement of \_\_\_\_\_ (2) \_\_\_\_\_. The MTD speed shall be adjusted to the speed of the paver to maintain a continuous, non-stop paving operation.

Use of a MTD with a roadway contact pressure exceeding 25 psi (172 kPa) will be limited to partially completed segments of full-depth HMA pavement where the thickness of binder in place is 10 in. (250 mm) or greater.

Structures. The MTD may be allowed to travel over structures under the following conditions:

- (a) Approval will be given by the Engineer.
- (b) The vehicle shall be emptied of HMA material prior to crossing the structure and shall travel at crawl speed across the structure.
- (c) The tires of the vehicle shall travel on or in close proximity and parallel to the beam and/or girder lines of the structure.

Method of Measurement. This work will be measured for payment in tons (metric tons) for \_\_\_\_\_  
\_\_\_\_\_ (3) \_\_\_\_\_ materials placed with a material transfer device.

Basis of Payment. This work will be paid for at the contract unit price per ton (metric ton) for MATERIAL TRANSFER DEVICE.

The various HMA mixtures placed with the MTD will be paid for as specified in their respective specifications. The Contractor may choose to use the MTD for other applications on this project; however, no additional compensation will be allowed.

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