April 20, 2005

MEMORANDUM TO TEAM LEADERS AND CONSULTANTS

SUBJECT: Bid Item for Aggregate Underdrain (Aggr.#789)

Payment for the aggregate underdrain and perforated pipe at the beginning and end of bridge and ends of approach slabs shall be made under:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Bid Item</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8011210</td>
<td>Aggregate Underdrain #789 W/4” Perf. Pipe For Structures</td>
<td>Ton</td>
<td></td>
</tr>
</tbody>
</table>

For estimating the weight of the aggregate, a 1 ½ ton per cubic yard weight shall be assumed. The weight shall be rounded to the nearest ton.

The attachment of this memorandum shall replace the attachment of DM0504. For previously completed plans that do not conform to the requirements of this memorandum, the Bridge Design Engineer will, on a case-by-case basis, assess the need for revisions.

DEM
Douglas E. McClure, P. E.
Bridge Design Engineer

DEM/slb
Attachment
cc: Assistant Bridge Design Engineers
    Bridge Construction Engineer
    Bridge Maintenance Engineer
    FHWA

File: PC/YIA
AGGREGATE UNDERDRAIN DETAIL

Note:
4" Dia. Perforated PVC Pipe Underdrain shall comply with Section 802.07 of the Standard Specifications. Aggregate for underdrain shall be uncompacted *789 Coarse Aggregate and shall comply with Section 70.11 of the Standard Specifications. Filter Sock shall be Geotextile for Drainage Filtration, Class I Fabric (Protected) - See Special Provisions. All costs of furnishing and installing the 4" Dia. Perforated PVC Pipe Underdrain, Filter Sock, *789 Coarse Aggregate, 4" Dia. Non-Perforated PVC Outlet Pipe, Riprap, and Geotextile Fabric for Riprap shall be Included in the unit price bid for "Aggregates Underdrain *789 With 4" Perforated Pipe for Structures." All costs associated with the construction of the Outlets shall be considered Incidental and Included In the unit price bid for "Aggregates Underdrain *789 With 4" Perforated Pipe for Structures."

A Second Method Waterproofing shall extend the full length of the End Wall. See Section 814 of the Standard Specifications.
B Slope Pipe a minimum of 0.5% to drain.

PIPE OUTLET DETAIL

Place Outlet Pipe Beneath Wing Wall

4" Dia. Non-Perforated PVC Outlet Pipe - Slope Down at 3% Minimum.