**Concrete End Diaphragm**

**State of Minnesota**

**Department of Transportation**

**Concrete End Diaphragm**

(14", 18" and 22" Rectangular Prestressed Concrete Beams)

**Integral Abutment**

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**Bill of Reinforcement for End Diaphragm**

<table>
<thead>
<tr>
<th>Bar</th>
<th>No.</th>
<th>Length</th>
<th>Shape</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD501E</td>
<td>-</td>
<td>-</td>
<td>Horizontal End Tie</td>
<td></td>
</tr>
<tr>
<td>SD602E</td>
<td>-</td>
<td>-</td>
<td>Horizontal FF</td>
<td></td>
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<tr>
<td>SD603E</td>
<td>-</td>
<td>-</td>
<td>Horizontal BF</td>
<td></td>
</tr>
<tr>
<td>SD604E</td>
<td>-</td>
<td>-</td>
<td>Diaphragm/Fillet Tie</td>
<td></td>
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<tr>
<td>SD605E</td>
<td>-</td>
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<td>Diaphragm/Deck Tie</td>
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</tr>
<tr>
<td>SD606S</td>
<td>-</td>
<td>-</td>
<td>Horizontal</td>
<td></td>
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<tr>
<td>SD408E</td>
<td>-</td>
<td>-</td>
<td>Fillet Horizontal</td>
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</tr>
<tr>
<td>SD509E</td>
<td>-</td>
<td>-</td>
<td>Diaphragm Tie</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- **BF** denotes back face, **FF** denotes front face.
- **SD501E End Tie**
- **SD602E** 2" x 12" Keyway (between beams only)
- **SD603E** 12" x 24" x 1/2" Elastomeric Bearing Pad
- **SD604E** see beam detail sheets for dimension.
- **SD605E**<br> 6" min. type **B** polystyrene under complete flange
- **SD606S**<br> Space with threaded rods.
- **SD609E** tie bar to top mat.
- **SD606S, SD509E**<br> Membrane waterproofing system per Spec. 2481.3.B.

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**Partially Elevation**

- Space with Abutment Dowels

**Section B-B**

**Notes:**

- Diaphragm concrete and reinforcement quantities are included in superstructure quantities.
- Use same concrete mix for end diaphragms as used in deck.

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**Approved: May 24, 2012**

**Nancy Darbenzio**

State Bridge Engineer

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**Revision History:**

- **4-17-2013**
- **8-24-2016**
- **01-05-2017**
- **05-10-2017**
- **11-08-2018**

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**Detail No.:** B816