

**B816**

**Concrete End Diaphragm (14", 18" & 22" Rectangular Prestressed Concrete Beams)  
(Integral Abutment)**

Approved, and signed, May 24, 2012. Last date revised: November 08, 2018

**Revised 11-08-2018**

At SECTION B-B:

- Changed the  $\Phi$  Threaded Inserts note to  $\Phi$  Bearing and  $\Phi$  Threaded Inserts.

At the Bar Bend Details:

- Changed the bar bending slope designation *from 1 to 1 to 12 to 12.*

**Revised 05-10-2017**

At PARTIAL ELEVATION:

- Changed the edge of deck to represent 9" thickness and changed under the barrier from level to sloped.

**Revised 01-05-2017**

Under NOTES:

- Changed the 2<sup>nd</sup> note to read: "Use same concrete mix for end diaphragms as used in deck".

**Revised 08-24-2016**

At PARTIAL ELEVATION:

- Changed the shape of the barrier from an F shape to an S shape.

**Revised 04-17-2013**

This B-detail was updated to convert reinforcing bar marks from metric to U.S. customary bar designations.

**Re-Approved 05-24-2012**

At PARTIAL ELEVATION:

- Changed the look of the barrier by adding the 2" x 1'-0" coping and by removing the rustication.
- Moved the fascia beam out slightly to show less cantilever.
- Added reinforcement bar SD1308E (fillet bar) to the detail.
- Changed the size of the SD1602E front face bars to SD1902 and also changed the SD1602E at the threaded rod location to SD1607E.
- Changed the size of SD1605E to SD1905E, and SD1603E to SD1903E.
- Added the SD1609E bar to the detail and changed the dimension line to read "SD1904E\*, SD1905E\*, SD1906S\* & SD1609E\*" to represent the reinforcement changes between the beams.

At SECTION A-A:

- Moved the fascia beam out slightly to show less cantilever.
- Changed the SD1603E back face bar designation to SD1903E.
- Changed the SD1904E (epoxy) approach panel tie to SD1906S (stainless steel).
- Changed the size of the SD1602E front face bars to SD1902 and also changed the SD1602E at the threaded rod location to SD1607E.
- Added reinforcement bar SD1308E (fillet bar) to the detail.
- Added reinforcement bar "SD1609E (TYP.)" \* "to the detail.
- Changed the SD1605E bar designation to SD1905E.
- Added "(See Abutment Sheet)" to the A16\_\_E DOWEL FF (TYP.)
- Added "A\_\_E TIE BF (TYP.)(SEE ABUT. SHT.) with circled leader line.

At SECTION B-B:

- Changed the size of SD1605E to SD1905E.
- Added BF and FF representing back face and front face of integral abutment.
- Changed bar designation *from "A16\_\_E TIE BF" to "A\_\_E TIE BF"* and also changed the bar shape.

- Replaced “3-PLY JOINT WATERPROOFING” with numbered note ⑨.
- Changed note: 4” x ½” BIT FELT to 7” x ½” BIT FELT and changed the look of the bit felt accordingly.
- Changed the SD1904E (epoxy) approach panel tie to SD1906S (stainless steel).
- Changed the shape of SD1906S and SD1904E by adding a leg at the bottom of the diaphragm.
- Added “1’-9” Embedment” and “1’-9” Projection” for the front face dowel.
- Changed the fillet size from 6” to 8” and also added the SD1308E bar with leader line to the fillet.
- Added the 2’-6” dimension showing the distance from end of fillet to the end of the SD1904E bar.
- Added the 3’-8” dimension showing the distance from end of deck to the end of the SD1905E bar.
- Added the SD1609E bar with leader line.
- Changed the dimension showing the distance from end of deck to end of beam from 2” (Min.) to 5”(Min.).
- Changed the note from “Ⓞ END DIAPHRAGM AND THREADED INSERTS” to “Ⓞ THREADED INSERTS”
- Added numbered note ⑩ to the SD1904E and SD1905E bars.

Added bubbled DESIGNER NOTE: “Use B-Detail when bars are not called out in superstructure plan. Concrete volume and rebar weight shall be included in the superstructure quantities. Maximum beam spacing is 13 feet. Adjust section A-A and bar SD1601E for skew.”

Under NOTES:

- At numbered note ⑨ the bar sizes have been changed from #16 to #19 bars.
- Changed numbered note ⑩ to read: “½” MIN. TYPE B POLYSTYRENE UNDER COMPLETE FLANGE”
- Added numbered note: “⑩ TIE BAR TO TOP MAT.”
- Added numbered note : “⑩ MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3B.

At the BAR BENDING DETAILS:

- Changed the shape of the SD1904E and also added the SD1906S to the same shape noting that the SD1906S bar is stainless steel.
- Added the SD1609E shaped bar.

At the BILL OF REINFORCEMENT FOR END DIAPHRAGM:

- Changed the SD1602E bar size to SD1902E and updated the location to “Horizontal FF”.
- Changed the SD1603E bar size to SD1903E.
- Changed the SD1605E bar size to SD1905E.
- Changed the shape of the SD1904E bar and updated the location to “Diaph./Fillet Tie”.
- Added SD1906S, SD1607E, SD1308E and SD1609E reinforcement.

**Revised 12-17-08**

Under NOTES:

- Added the following note; "Concrete for end diaphragms shall be the same mix as used in deck", per SSRC meeting 12/01/08.

11-30-2004

NEW DETAIL