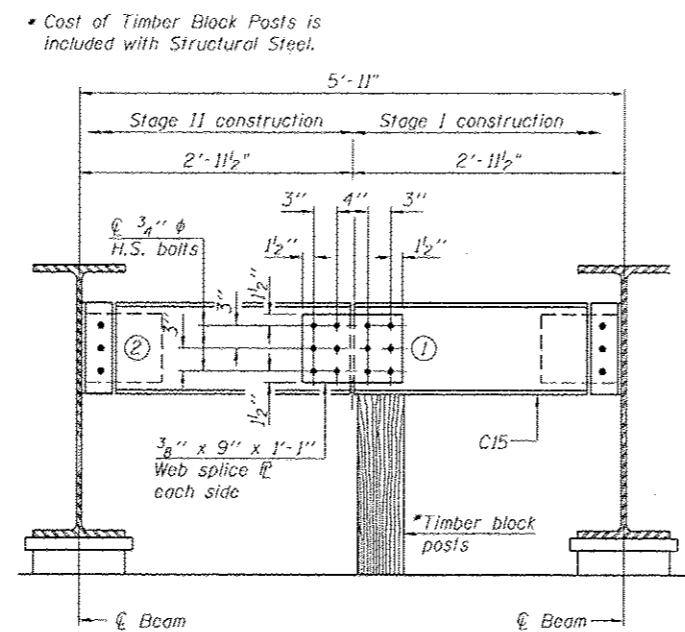


END DIAPHRAGM

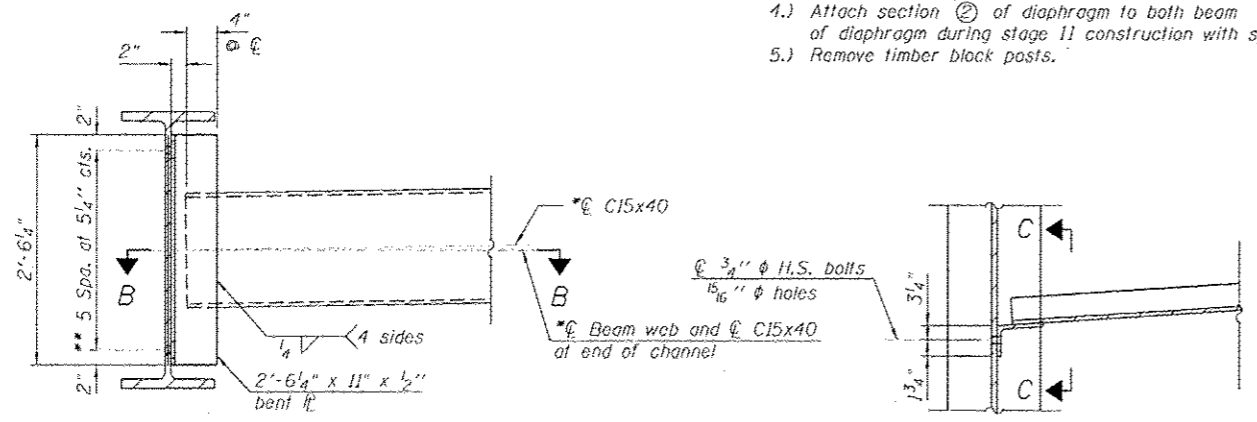
Note: (22 Required)  
Two hardened washers required for each set of oversized holes.



END DIAPHRAGM

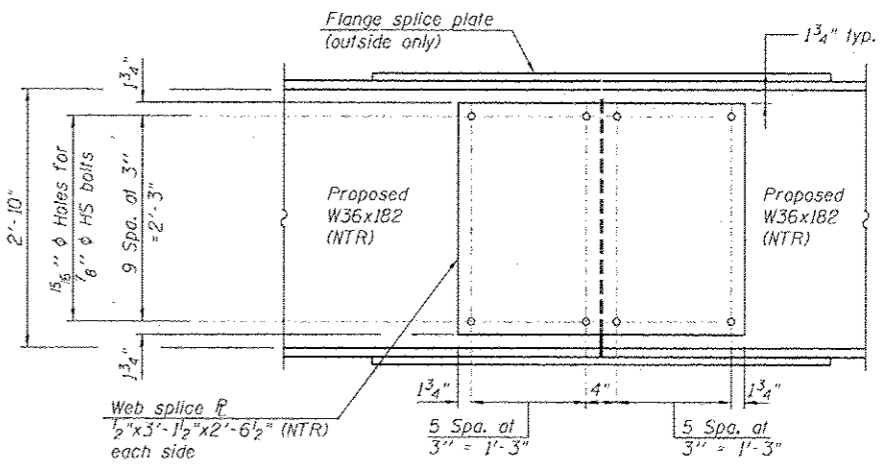
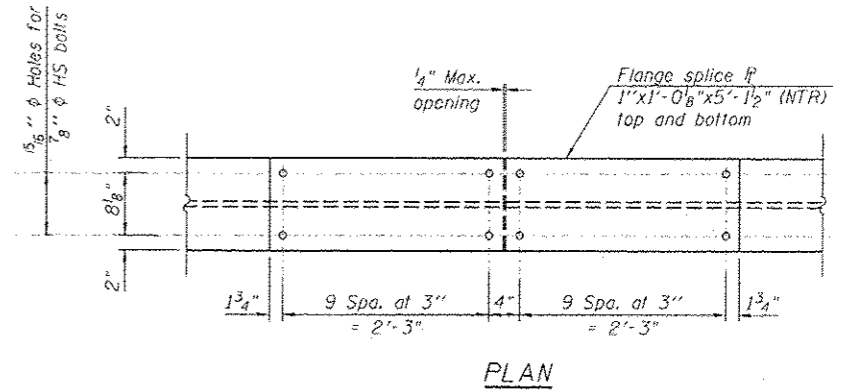
END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

- Order diaphragm in two sections.
- Attach section ① of diaphragm to beam
- Place timber block posts between section ① of diaphragm and abutment bearing section.
- Attach section ② of diaphragm to both beam and section ① of diaphragm during stage II construction with splice plates.
- Remove timber block posts.

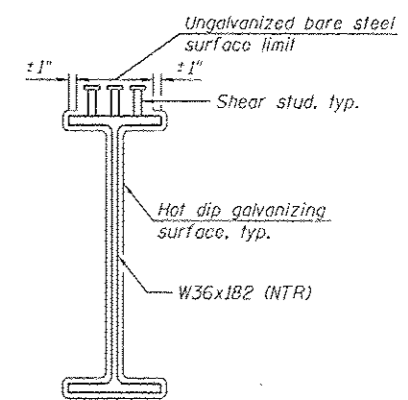
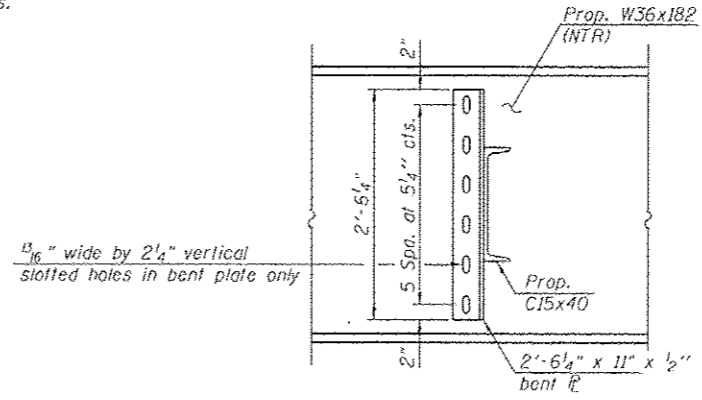


INTERIOR DIAPHRAGM (110 Required)

Note: Two hardened washers required for each set of oversized holes.  
\*Alternate channel C15x50 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.  
\*\*3/4"  $\phi$  HS bolts, 5/16"  $\phi$  holes.



FIELD SPLICE DETAIL (48 Required)



SUGGESTED SEQUENCE OF CONSTRUCTION FOR INTERIOR DIAPHRAGMS AT STAGE CONSTRUCTION

- Prior to Stage II deck work, connect diaphragm to Girder 7. Bolts in slots of Girder 6 shall be finger tight until the second stage pour is complete.
- Set slab forms and place reinforcement.
- Place Stage II concrete slab. As Girder 6 deflects, connect diaphragm to girder.

NOTE: Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

C:\Users\jwilliams\Documents\Projects\11-25-2013\StructSteel\Drawings\

<b>HBM</b> ENGINEERING GROUP, LLC 4415 WEST HARRISON ST. SUITE 231 WILKSON, IL 60162 PHONE: (708) 236-0900 FAX: (708) 236-0901	01G1799-68W20-524-StructSteelDet.dgn USER NAME: williamsj PLOT SCALE: 1/8"=1'-0" / in. PLOT DATE: 7/15/2013	DESIGNED - MI, LAS, MMW DRAWN - LAB, MMW CHECKED - MAI, MI, JJS DATE - 6/17/2013	REVISIONS: 01/19/2015 MI, JJS 07/15/2013 MI, JJS	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>STRUCTURAL STEEL DETAILS</b> <b>STRUCTURE NO. 016-1709</b>	SCALE: SHEET S1-24 OF 51 SHEETS STA. TO STA.	F.A.I. RTE. 90/94/290	SECTION 2013-007R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 168	CONTRACT NO. 60W25 ILLINOIS FED. AID PROJECT
	Entire sheet revised											
	*Alternate channel C15x50 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.											
	Note: Two hardened washers required for each set of oversized holes.											
	SUGGESTED SEQUENCE OF CONSTRUCTION FOR INTERIOR DIAPHRAGMS AT STAGE CONSTRUCTION											