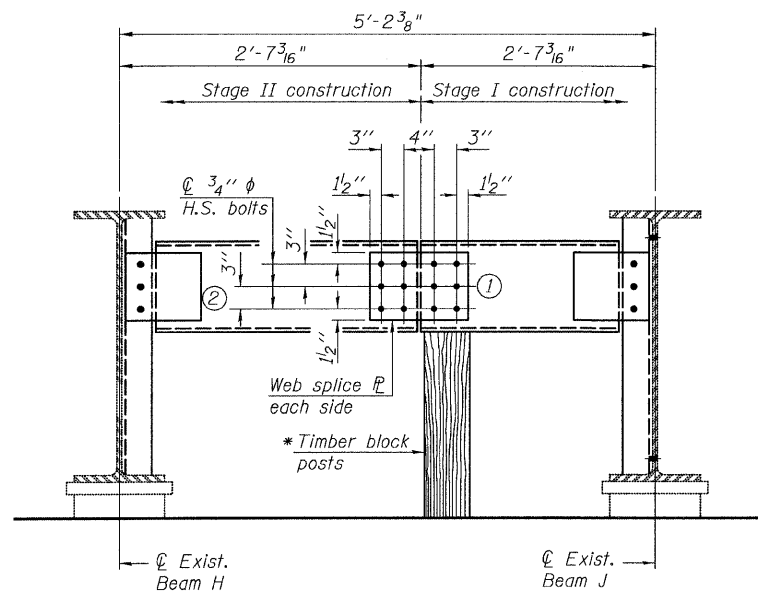


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* Cost of Timber Block Posts is included with "Erecting Structural Steel."



END DIAPHRAGM - D3

(At stage construction line, looking north)

CONSTRUCTION SEQUENCE

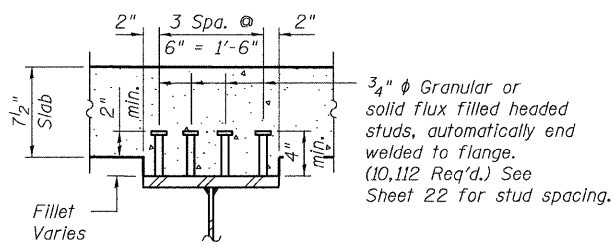
- 1.) Order diaphragm in two sections.
- 2.) Attach section ① of diaphragm to girder H
- 3.) Place timber block posts between section ① of diaphragm and abutment bearing seat.
- 4.) Attach section ② of diaphragm to beam J and section ① of diaphragm during stage II construction with splice plates.
- 5.) Remove timber block posts.

TABLE OF DIAPHRAGM DIMENSIONS

See Detail A

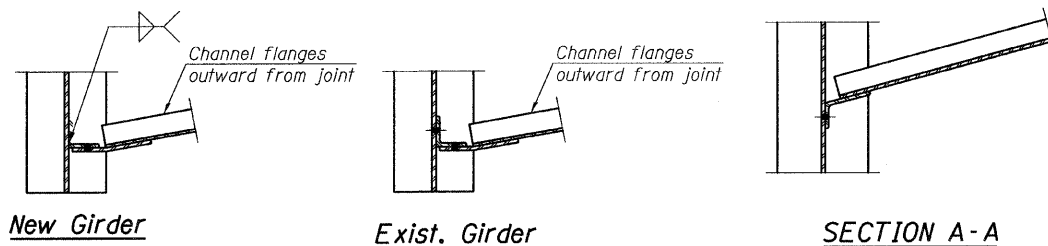
Diaphragm	* Length	Section	No. Req'd.
D1	6'-2 1/4"		15
D2	7'-9 3/4"		3
D3	5'-2 3/8"		1
D4	5'-6 7/8"		3
D5	7'-1 1/2"		2
D6	7'-2 3/4"		1
D7	4'-10"		2
D8	5'-2 1/2"		4
D9	7'-7 7/8"		2
D10	5'-3 3/8"		3

* Length determined from center of girder to center of girder



SECTION B-B
(NOT IN CONTRACT)

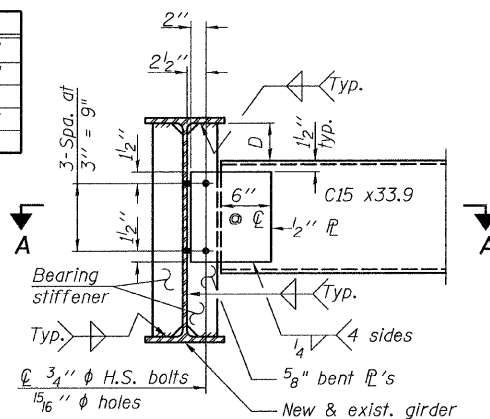
3/4" ϕ Granular or solid flux filled headed studs, automatically end welded to flange. (10,112 Req'd.) See Sheet 22 for stud spacing.



DIMENSION "D"

Girder	D
NG1 thru NG3, NG7	5 5/8"
A thru R (max.)	4 3/8"
NG4, NG5, NG8 & NG9	6 1/4"
NG10	6 3/8"
NG6	7"

SECTION A-A

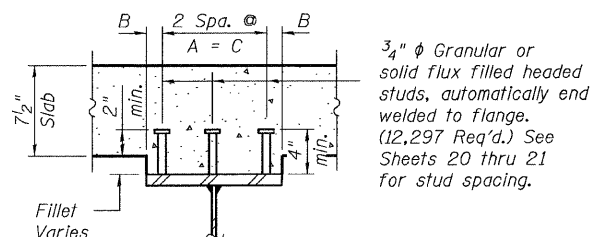


END DIAPHRAGM (D1-D2, D4-D6)

(At new and existing girders)

(24 required)

Note: Two hardened washers required for each set of oversized holes.



SECTION A-A
(NOT IN CONTRACT)

DIMENSIONS A, B AND C

Girder	A	B	C
W36 x 150	3"	1 1/2"	9"
W36 x 210	3"	1 5/8"	9"
W36 x 231	5 1/4"	3"	10 1/2"

BILL OF MATERIAL

ITEM	UNIT	TOTAL
* Stud Shear Connectors	EACH	22,085

* NOT IN CONTRACT

INTERIOR DIAPHRAGM (D7-D10)

(At new and existing girders)
(11 required)

Note:

Two hardened washers required for each set of oversized holes.
*Alternate channels (C15 X 50) are 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" ϕ HS bolts, 1 5/16" ϕ holes

SUGGESTED SEQUENCE OF CONSTRUCTION FOR INTERIOR DIAPHRAGMS (D7) AT STAGE CONSTRUCTION

1. Prior to Stage II deck work, connect diaphragm to girder J. Temporarily support the west end of the diaphragm with timber posts off the bottom flange of girder H.
2. Set slab forms and place reinforcement.
3. Place Stage II concrete slab. As girder H deflects, connect diaphragm to girder.

NOTES:

1. Two hardened washers shall be required over all oversize holes for diaphragms.
2. Provide 1 5/16" ϕ holes for all H.S. bolted connections.
3. Cost of Field Drilling is included with "Erecting Structural Steel."

DIAPHRAGMS SPAN II
STRUCTURE NO. 016-3240

TYLIN INTERNATIONAL	DESIGNED - DY, LS	REVISIONS		SHEET NO. 23	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - AMD, LS	NAME	DATE		55	0711.2R & 1011.1BR	COOK	200	190
	DRAWN - DY, LS				CONTRACT NO. 60L39				
	CHECKED - AMD, LS				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	DATE - 08/02/10			33 SHEETS					