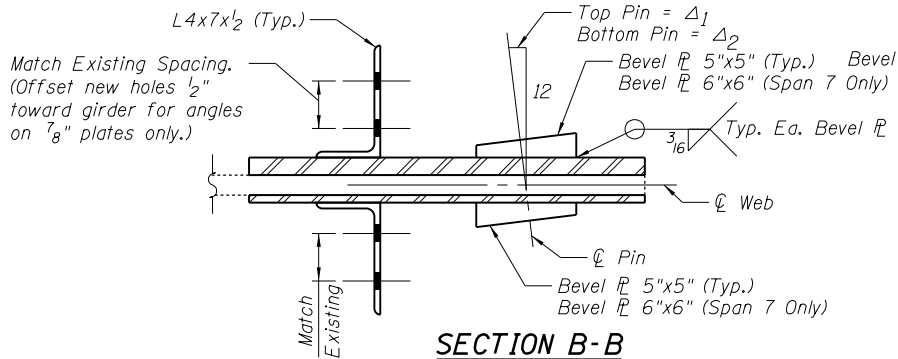


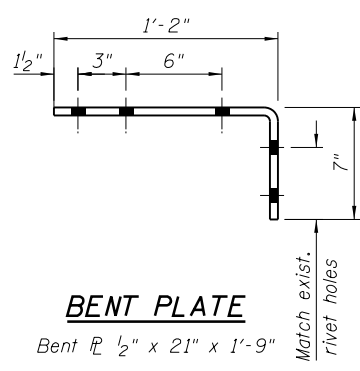
NOTE:  
Cost of work performed in Detail 8 is included with pay item Structural Steel Repair.

**DETAIL 8**

Span 5 Beams A, B, E and F Pin near Bent 5  
(Looking East for Beam B, E and F, Beam A Opposite Face)

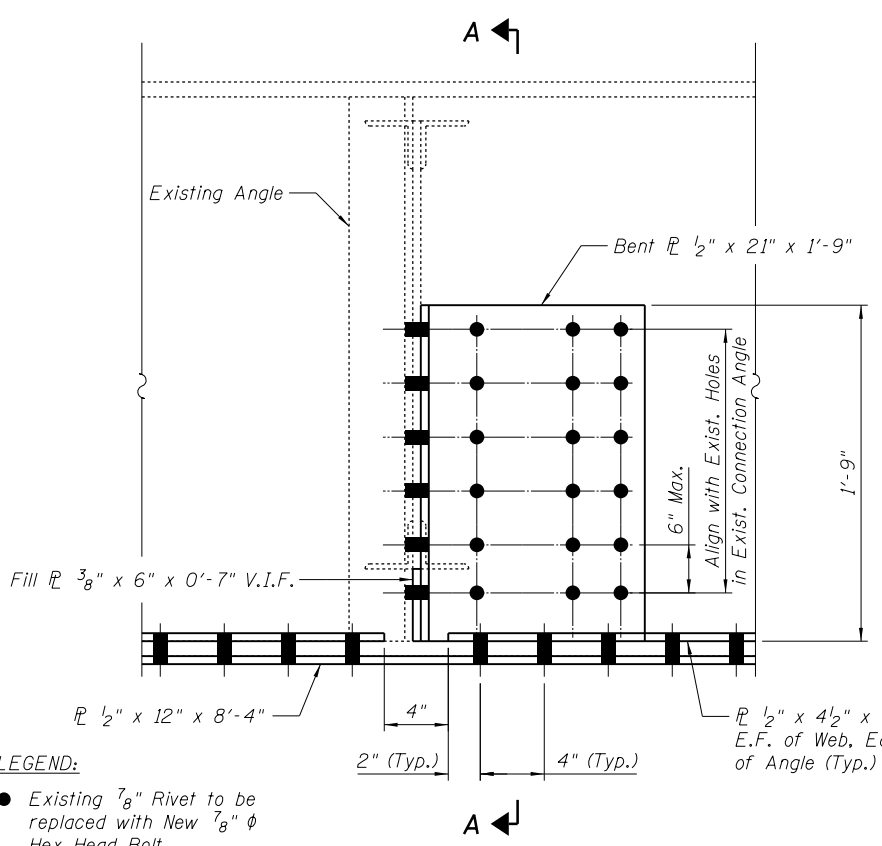


**SECTION B-B**



**BENT PLATE**

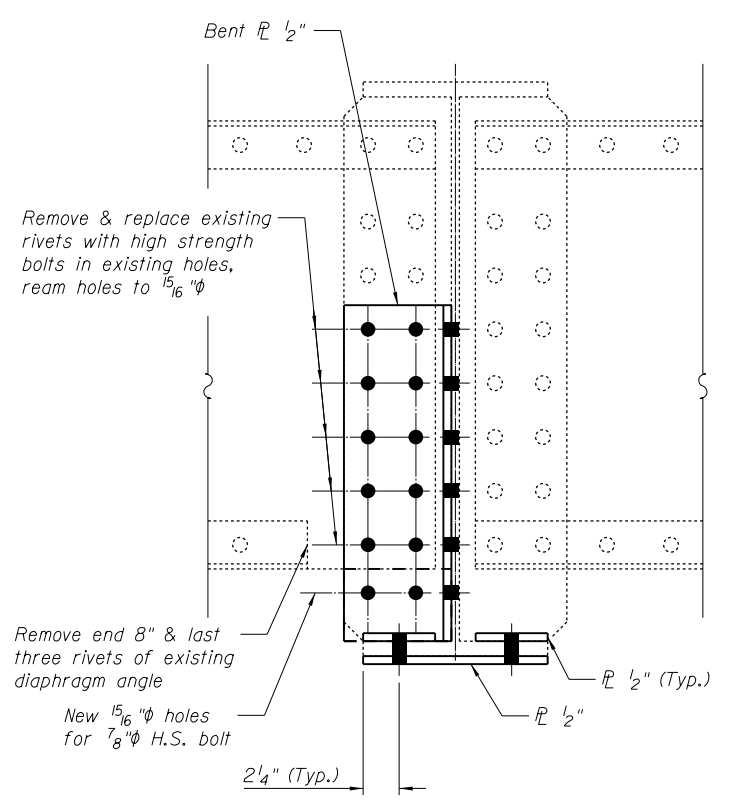
Bent 1/2" x 21" x 1'-9"



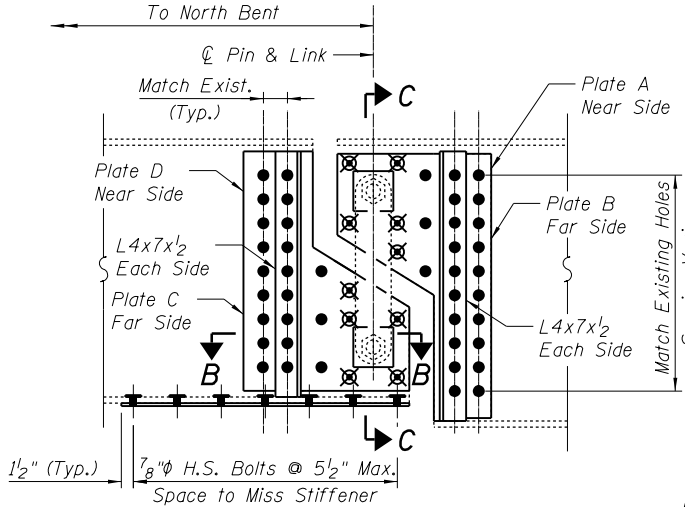
**DETAIL 9**

Span 18 Bm. D @ Mid. Span  
(Looking East)

- LEGEND:**
- Existing 7/8" Rivet to be replaced with New 7/8" φ Hex Head Bolt
  - ⊗ Existing Flattened Rivet to be replaced with New 7/8" φ H.S. Flat Socket Cap Screw. Holes in plates to be tapped for 7/8" φ Flat Socket Cap Screw.



**SECTION A-A**



**DETAIL 10**

See Plate A & B Detail, Plate C & D Detail, and Table for Plate Sizes and Locations.  
Repair at Span 19, Beam B is similar and opposite.

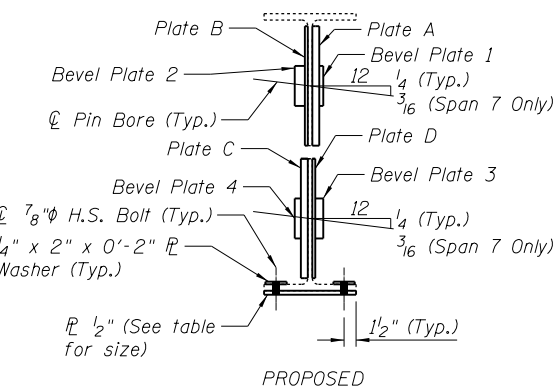
Notes:  
7/8" φ H.S. Flat Socket Cap Screw shall be installed from Plate A side on South Girder and Plate C side on North Girder. In the locations shown, Plates A and C shall have beveled holes to match the 7/8" φ H.S. Flat Socket Cap Screws.

Contractor to provide Flat Socket Cap Screws such that 1/4" of threads are exposed. Mar exposed threads to prevent screw from rotating out of hole.

Existing teflon bushing shall be replaced. New bushing thickness shall match existing. Bushings shall be a self lubricating filament wound epoxy matrix backed Duralon Bearing, metal backed Fiber Glide Bearing, or equivalent. No primer or grease shall be allowed on bushings. Bushings shall be suitable for dynamic loads of 20,000 psi. Teflon bushing replacement shall be included in Structural Steel Repair pay item.

Immediately before reinstalling existing link plates, apply 3/8" bead of Silicone Sealant to face of the web reinforcing plates approximately 1/2" from bushing. Place sealant around nuts after installation. Sealant shall be suitable for prolonged exterior exposure without losing flexibility or adhesion to painted steel surfaces. Proposed products shall be subject to Department's acceptance based on documented testing or other evidence. Silicone Sealant shall be included in Structural Steel Repair pay item.

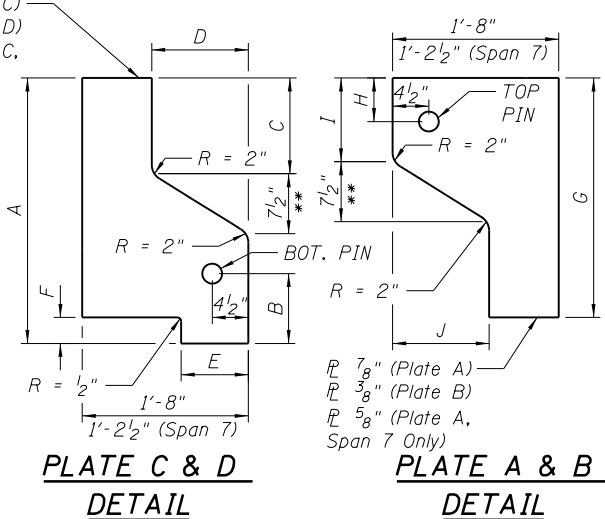
Contractor shall temporarily support girder while performing repairs at Pin and Link joints. Dead load reactions provided for temporary shoring and cribbing. Contractor to add construction live loads. All work associated with temporarily supporting girder shall be paid for as Temporary Shoring and Cribbing. See Special Provisions.



**SECTION C-C**

- 7/8" (Plate C)
- 3/8" (Plate D)
- 5/8" (Plate C, Span 7 Only)

SPAN	BEAM	LOCATION	NEW BOTTOM REPAIR PLATE	ANGLE LENGTH		BEVEL PLATE THICKNESS				PIN BORE DIA. *		Δ1	Δ2	
				NORTH	SOUTH	PLATE 1	PLATE 2	PLATE 3	PLATE 4	TOP PIN	BOT. PIN			
**	7	A	21' North of Bent 6	NOT REQUIRED	-	-	3/4" to 1/8"	3/4" to 1/8"	3/4" to 1/8"	3/4" to 1/8"	3"	3"	-	11/32
	7	C	24' North of Bent 6	PL 1/2" x 12" x 3'-0"	-	-	-	-	-	-	-	-	-	-
	17	B	16'-10 1/2" North of Bent 10	NOT REQUIRED	2'-7 3/16"	2'-9 13/16"	3/4" to 7/8"	7/8" to 1"	13/16" to 1/16"	11/16" to 15/16"	3"	3"	-	7/16
	17	C	16'-11 1/2" North of Bent 10	NOT REQUIRED	2'-7 3/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	2 1/2"	2 1/2"	-	1/16
	17	E	17'-1" North of Bent 10	NOT REQUIRED	2'-7 3/16"	2'-9 13/16"	7/8" to 1"	3/4" to 7/8"	13/16" to 1/16"	11/16" to 15/16"	3"	3"	-	1/16
	17	F	17'-2" North of Bent 10	NOT REQUIRED	2'-9 13/16"	2'-9 13/16"	11/16" to 15/16"	15/16" to 1/16"	3/4" to 1"	3/4" to 1"	3"	3"	-	1/16
	19	B	16'-10 1/2" South of Bent 13	NOT REQUIRED	2'-9 13/16"	2'-7 3/16"	13/16" to 15/16"	11/16" to 15/16"	13/16" to 1/16"	11/16" to 15/16"	3"	3"	7/16	-
	23	A	North Side of Bent 16	NOT REQUIRED	2'-9 13/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	3"	3"	-	17/32
	23	B	North Side of Bent 16	NOT REQUIRED	2'-9 13/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	3"	3"	-	17/32
	23	C	North Side of Bent 16	PL 1/2" x 11 1/2" x 3'-0"	2'-7 3/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	3/4" to 1/8"	11/16" to 1/16"	2 1/2"	2 1/2"	-	17/32
	23	D	North Side of Bent 16	PL 1/2" x 11 1/2" x 3'-0"	2'-7 3/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	3/4" to 1/8"	11/16" to 1/16"	2 1/2"	2 1/2"	-	17/32
	23	E	North Side of Bent 16	PL 1/2" x 11 1/2" x 3'-0"	2'-9 13/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	13/16" to 15/16"	3"	3"	-	17/32
	23	F	North Side of Bent 16	PL 1/2" x 12" x 3'-0"	2'-9 13/16"	2'-9 13/16"	13/16" to 15/16"	13/16" to 15/16"	3/4" to 1/8"	3/4" to 1/8"	3"	3"	-	17/32



**PLATE C & D DETAIL**

**PLATE A & B DETAIL**

SPAN	BEAM	PLATE C & D DIMENSIONS						PLATE A & B DIMENSIONS				DEAD LOAD REACTIONS (KIPS)	
		A	B	C	D	E	F	G	H	I	J		
**	7	A	2'-0 1/4"	8 3/8"	N/A	1'-0 1/8"	N/A	N/A	2'-0 1/4"	8 3/8"	1'-0 9/16"	1'-0 1/8"	61
	7	C	-	-	-	-	-	-	-	-	-	-	39
	17	B	2'-6 1/2"	5 3/8"	1'-0 5/8"	1'-0"	N/A	N/A	2'-9"	5 1/4"	10 3/4"	1'-0"	25
	17	C	2'-6 1/2"	5 3/8"	1'-0 5/8"	1'-0"	N/A	N/A	2'-9"	5 1/2"	11"	1'-0"	22
	17	E	2'-6 1/2"	5 3/8"	1'-0 5/8"	1'-0"	N/A	N/A	2'-9"	5 1/4"	10 3/4"	1'-0"	25
	17	F	3'-0"	8 1/2"	1'-2"	1'-0"	9"	2"	2'-8 1/2"	5 1/4"	1'-0 1/4"	1'-0"	34
	19	B	2'-6 1/2"	5 3/8"	1'-0 5/8"	1'-0 1/2"	N/A	N/A	2'-9"	5 1/4"	10 3/4"	1'-0 3/4"	25
	23	A	2'-11 1/8"	8 1/4"	1'-2"	1 1/4"	9"	1 3/4"	2'-8 1/2"	5 3/8"	1'-0 1/8"	1'-0 1/4"	36
	23	B	2'-9"	3 3/4"	1'-2"	1 1/4"	N/A	N/A	2'-9"	5 1/4"	1'-0"	1'-0 1/4"	32
	23	C	2'-6 3/8"	5"	1'-0 5/8"	1 1/4"	N/A	N/A	2'-9"	5 1/2"	11"	1'-0 1/4"	27
	23	D	2'-6 3/8"	5"	1'-0 5/8"	1 1/4"	N/A	N/A	2'-9"	5 1/2"	11"	1'-0 1/4"	27
	23	E	2'-9"	3 3/4"	1'-2"	1 1/4"	N/A	N/A	2'-9"	5 1/4"	1'-0"	1'-0 1/4"	32
	23	F	2'-11 1/8"	8 1/4"	1'-2"	1 1/4"	9"	1 3/4"	2'-8 1/2"	5 3/8"	1'-0 1/8"	1'-0 1/4"	36

Verify all dimensions in field prior to ordering steel.  
\* Contractor shall increase given pin bore diameters by the thickness of the new teflon bushing. Thickness of new teflon bushing shall match existing.  
\*\* Replace 5/8" web plates at pins only. Plate dimensions provided for Span 7 Beam A repair are estimates only. Contractor shall verify dimensions prior to ordering steel.

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USER NAME = pattisjm	DESIGNED - MJK	REVISED
PLOT SCALE = 2:0.0000 '1' / in.	CHECKED - JAN	REVISED
PLOT DATE = 1/24/2014	DRAWN - JMP	REVISED
	CHECKED - SB	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS, SHEET 3  
STRUCTURE NO. 081-9905  
SHEET NO. 14 OF 33 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
308	(3BRM	ROCK ISLAND	47	27
C-92-090-12		CONTRACT NO. 64H28		
ILLINOIS FED. AID PROJECT				