

CONST.  
CODE  
100%  
STATE  
0014

SUMMARY OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
30300104	AGGREGATE SUBGRADE IMPROVEMENT, 4"	SQ YD	170
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	24
40600990	TEMPORARY RAMP	SO YD	24
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	97
42001500	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SO YD	147
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SO YD	89
44004250	PAVED SHOULDER REMOVAL	SO YD	161
44213200	SAW CUTS	FOOT	137
48300500	PORTLAND CEMENT CONCRETE SHOULDERS 10"	SO YD	22
50102400	CONCRETE REMOVAL	CU YD	23
50300100	FLOOR DRAINS	EACH	116
50300255	CONCRETE SUPERSTRUCTURE	CU YD	27.1
50300260	BRIDGE DECK GROOVING	SO YD	4382
50300300	PROTECTIVE COAT	SO YD	915
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	9830
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	18,774
50800515	BAR SPLICERS	EACH	68
52000110	PREFORMED JOINT STRIP SEAL	FOOT	189
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	6
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	18
52100030	ELASTOMERIC BEARING ASSEMBLY, TYPE III	EACH	6

22  
• SPECIALTY ITEMS

CONST.  
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STATE  
0014

SUMMARY OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
52100520	ANCHOR BOLTS, 1"	EACH	72
52100530	ANCHOR BOLTS, 1/4"	EACH	48
52100540	ANCHOR BOLTS, 1/2"	EACH	24
58700300	CONCRETE SEALER	SO FT	2940
59000200	EPOXY CRACK INJECTION	FOOT	49
60260100	INLETS TO BE ADJUSTED	EACH	4
63300575	REMOVE AND REERECT RAIL ELEMENT OF EXISTING GUARDRAIL	FOOT	75
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3
67100100	MOBILIZATION	L SUM	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	1
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5
70300100	SHORT TERM PAVEMENT MARKING	FOOT	336
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	9460
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	2384
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1356
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1305
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1
78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	3450

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CONSULTING & DESIGN  
INSPECTION & TESTING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
HILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

DESIGNED - JMG	REVISED -
CHECKED - MJ	REVISED -
DRAWN - HH	REVISED -
CHECKED - JMG, MAI	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES (SHEET 1 OF 2)  
EB US ROUTE 20 OVER PEGATONICA RIVER STRUCTURE NO. 089-0042  
SHEET NO. 1 OF 2 SHEETS

Rev. 6-5-13  
F.A.P. SECTION COUNTY TOTAL SHEETS SHEET NO.  
0301 (177-4B-13M) STEPHENSON 43 3  
CONTRACT NO. 64J24  
ILLINOIS FED. AID PROJECT

**GENERAL NOTES**

- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bars noted thus, 3 x 2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
- All structural steel shall conform to AASHTO Classification M-270 Gr 36 (Spans 1 thru 6, 10 and 11) and Gr 50 (Spans 7 thru 9), unless otherwise noted.
- All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise.
- If the analysis submitted to the Contractor for the jacking/temporary support system to be used shows temporary stiffeners are required to prevent web crippling or buckling, the stiffeners shall be steel and bolted to the web. If stiffeners are not required, hardwood timbers shall be installed tightly between the top and bottom flange to prevent flange rotation.
- The Contractor shall take all necessary precautions for the protection of passing vehicles from falling objects and/or materials until completion of the work.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by method that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.
- Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50 °F.
- The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be interstate green.

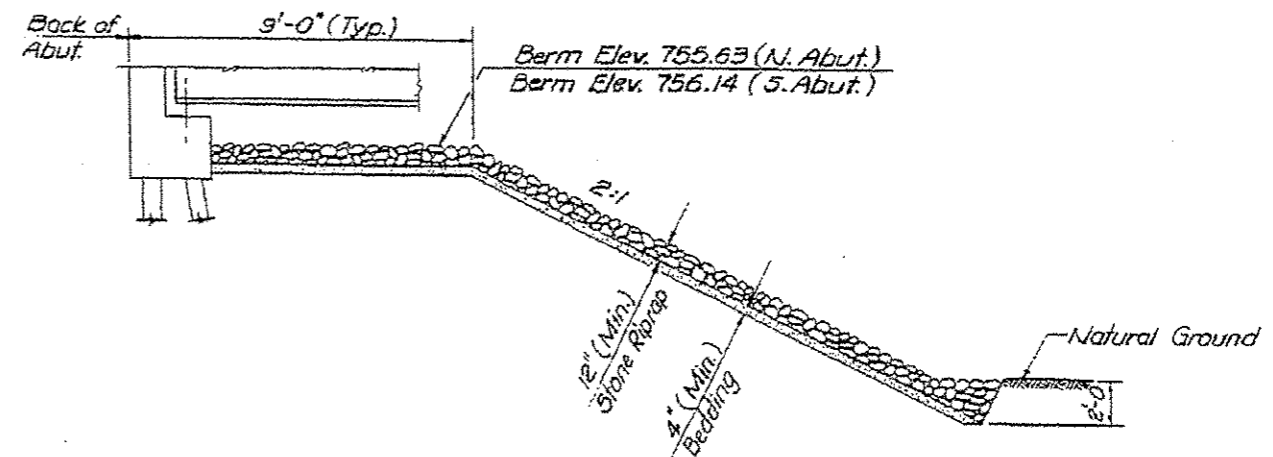
14. Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel as shown on the plans shall be cleaned per Near White Blast Cleaning SSPC-SP10. The exterior surfaces and bottom of the bottom flange of the fascia beams shall be cleaned per Commercial Grade Power Tool Cleaning SSPC-SP15. The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8.

**INDEX OF SHEETS**

- S01. General Plan and Elevation
- S02. General Notes, Index of Sheets & Total Bill of Material
- S03. Preliminary Stage & Stage I Construction
- S04. Stage II Construction & Final Deck Cross Section
- S05. Temporary Concrete Barrier
- S06. Bridge Deck Repair Plan (Spans 1 thru 6)
- S07. Bridge Deck Repair Plan (Spans 7 thru 11)
- S08. Bridge Deck Final Cross Sections
- S09. North Abutment Joint Removal and Replacement
- S10. South Abutment Joint Removal and Replacement
- S11. Pier 6 Joint Removal and Replacement
- S12. Pier 9 Joint Removal and Replacement
- S13. Prefabricated Joint Strip Seal
- S14. Drainage Plan & Details
- S15. Framing Plan
- S16. Structural Steel Repair Sections & Details (Sheet I of II)
- S17. Structural Steel Repair Sections & Details (Sheet II of II)
- S18. Type I Elastomeric and Fixed Bearings Details
- S19. Type II Elastomeric Bearings Details
- S20. Type III Elastomeric Bearings Details
- S21. North Abutment Repairs
- S22. South Abutment Repairs
- S23. Pier 6 Repairs
- S24. Pier 8 Repairs
- S25. Pier 9 Repairs
- S26. Bar Splicer Assembly Details

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	23.0	-	23.0
Floor Drains	Each	116	-	116
Concrete Superstructure	Cu. Yd.	27.1	-	27.1
Bridge Deck Grooving	Sq. Yd.	4,382	-	4,382
Protective Coat	Sq. Yd.	915	-	915
Furnishing and Erecting Structural Steel	Pound	9,830	-	9,830
Cleaning and Painting Structural Steel, Location I	L Sum	1	-	1
Reinforcement Bars, Epoxy Coated	Pound	4,414	-	4,414
Bar Splicers	Each	68	-	68
Prefabricated Joint Strip Seal	Foot	189	-	189
Elastomeric Bearing Assembly, Type I	Each	6	-	6
Elastomeric Bearing Assembly, Type II	Each	18	-	18
Elastomeric Bearing Assembly, Type III	Each	6	-	6
Anchor Bolts, 1"	Each	-	72	72
Anchor Bolts, 1 1/4"	Each	-	48	48
Anchor Bolts, 1 1/2"	Each	-	24	24
Concrete Sealer	Sq. Ft.	-	2,940	2,940
Epoxy Crack Injection	Foot	-	49	49
Jack and Remove Existing Bearings	Each	11	-	11
Structural Steel Removal	Pound	9,170	-	9,170
Structural Steel Repair	Pound	12,330	-	12,330
Removal of Existing Bearings	Each	25	-	25
Bridge Deck Latex Concrete Overlay, 2 1/4 Inches	Sq. Yd.	4,533	-	4,533
Containment and Disposal of Lead Paint Cleaning Residues	L Sum	1	-	1
Cleaning Bridge Seats	Sq. Ft.	-	532	532
Bridge Deck Scarification, 3/4"	Sq. Yd.	4,533	-	4,533
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	-	459	459
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq. Ft.	23	60	83
Plug Existing Deck Drains	Each	68	-	68
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	51	-	51
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	165	-	165
Temporary Shoring and Cribbing	Each	-	25	25



**SECTION THRU EXISTING STONE RIPWRAP SLOPEWALL**

(For information only, taken from existing plans)

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & TESTING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
MILLSBORO, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

DESIGNED - LAK, MI	REVISION - <b>VAH</b> 05/31/13
CHECKED - MI	REVISION -
DRAWN - LAK, JJS	REVISION -
CHECKED - MAL, MI	REVISION -

DATE - 03/13/2013

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

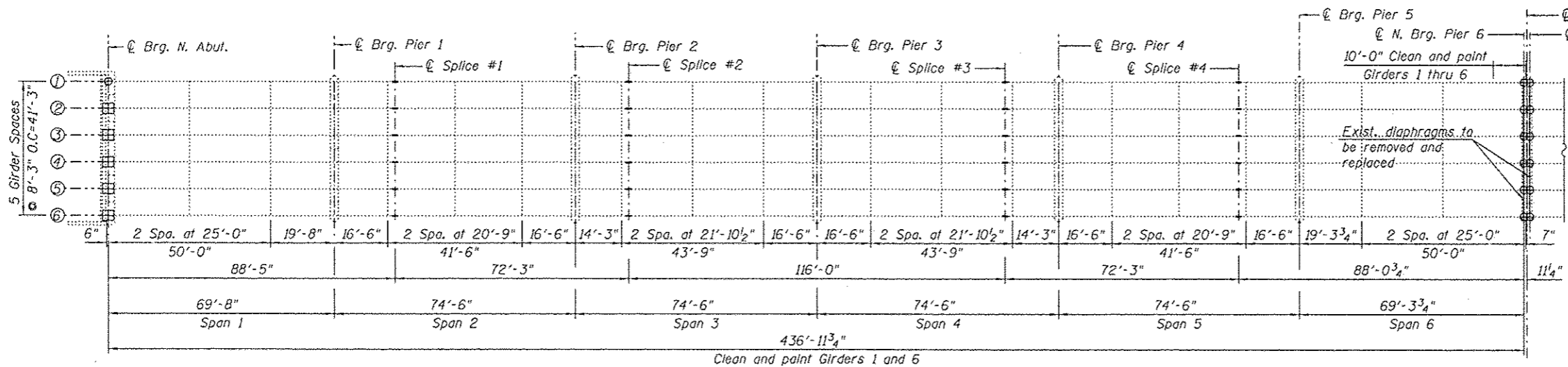
GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL  
EB US ROUTE 20 OVER PECATONICA RIVER STRUCTURE NO. 089-0042

SHEET NO. 502 OF 526 SHEETS

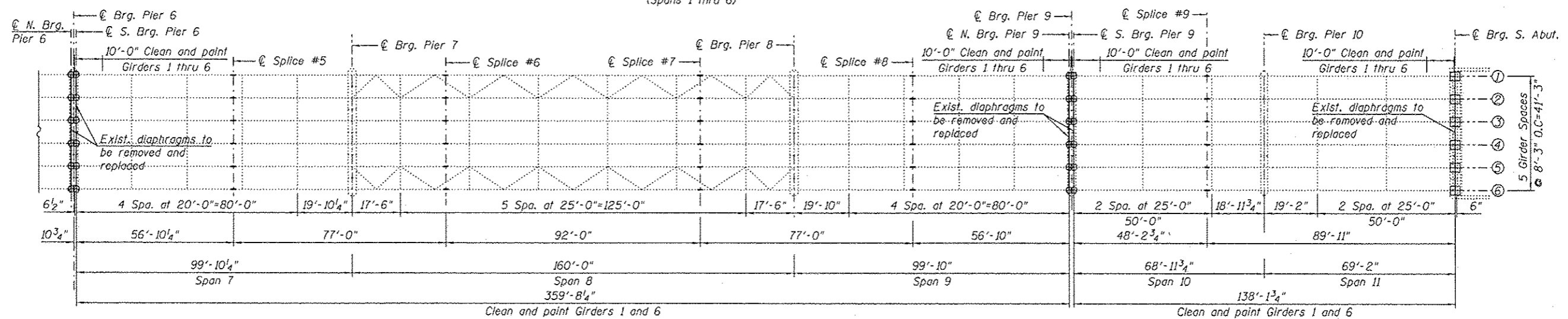
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0301	(177-4B-10M)	STEPHENSON	43	19
			CONTRACT NO. 64J24	
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

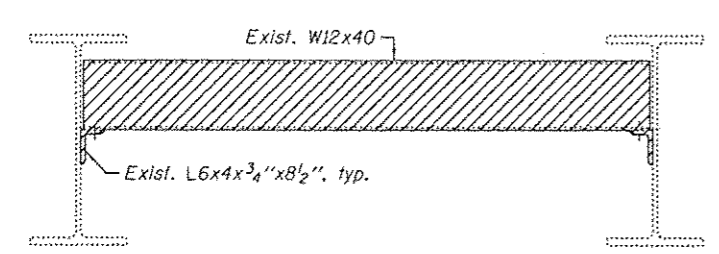
ITEM	UNIT	QUANTITY
Cleaning and Painting Structural Steel, Location 1	L Sum	1
Containment and Disposal of Lead Paint Cleaning Residues	L Sum	1



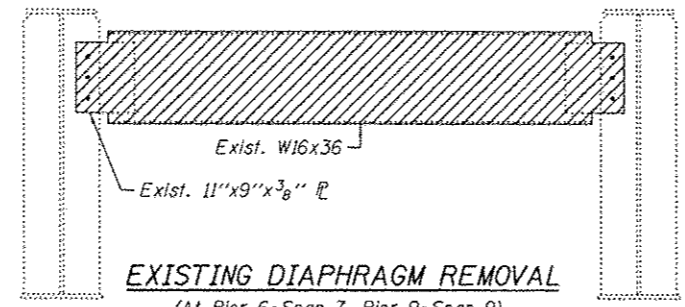
**PARTIAL FRAMING PLAN**  
(Spans 1 thru 6)



**PARTIAL FRAMING PLAN**  
(Spans 7 thru 11)



**EXISTING DIAPHRAGM REMOVAL**  
(At Pier 6-Span 6, Pier 9-Span 10 & S. Abut.)



**EXISTING DIAPHRAGM REMOVAL**  
(At Pier 6-Span 7, Pier 9-Span 9)

**NOTES:**

- Jacking and Removing Existing Bearings shall be done after scarification is completed and before the new deck overlay is poured.
- All work is to be performed under staged construction. See Stage Construction Sheets S03 and S04 for details.
- The new bearings shall be in place and the jacks shall be lowered before the new deck overlay is poured.
- Jacking of existing bearing for Girder 1 at North Abutment, Girders 1 thru 6 at Pier 6 (Spans 6 & 7) and Pier 9 (Spans 9 & 10) will be paid under Temporary Shoring and Cribbing.
- For diaphragm replacement details see Sheet S16 and S17.
- For painting of steel beam details see Sheet S16 and S17.

**SUMMARY OF REACTIONS - PIERS 6, 9 & NORTH AND SOUTH ABUTS.**

Loads	North Abut Pier 6-Span 6	Pier 6-Span 7 Pier 9-Span 9	South Abut Pier 9-Span 10
R <sub>P</sub> (k)	36.7	40.0	35.0
R <sub>L</sub> (k)	45.0	47.8	45.0
R <sub>M</sub> (k)	11.6	10.6	11.6
R <sub>Total</sub> (k)	93.3	98.4	91.6

**LEGEND**

- Bearing Removal
- Jack and Remove Existing Bearings
- Remove Existing Bearing and Perform Temporary Shoring and Cribbing
- Remove and replace existing diaphragms

**HBM**  
4415 WEST HARRISON ST.  
SUITE 231  
MILLSBRO, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0902

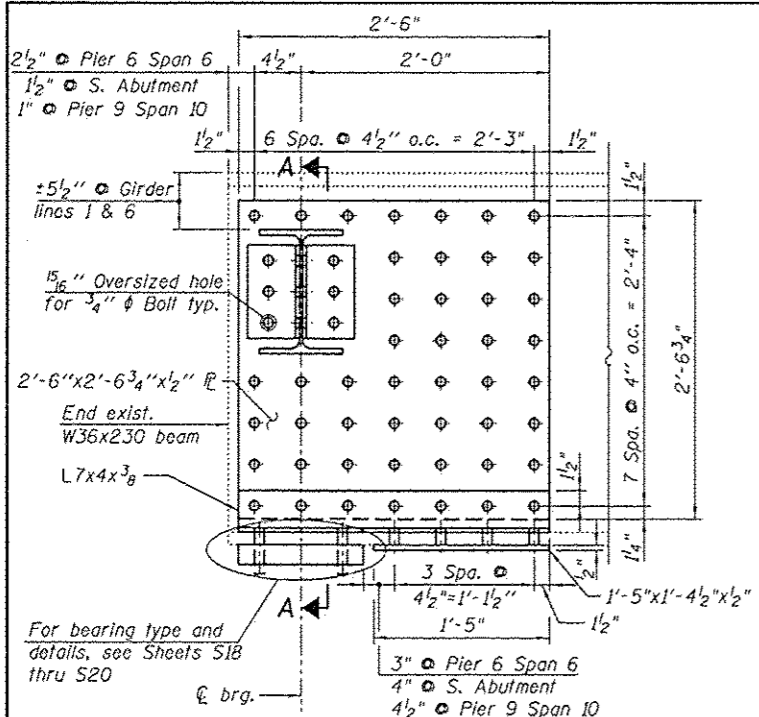
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DRAWN - HH	
CHECKED - MAI, MI	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

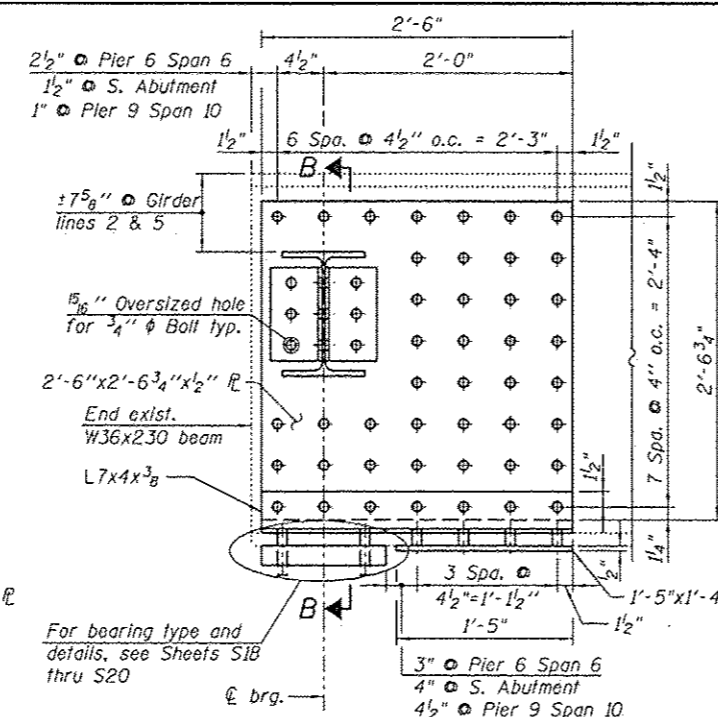
**FRAMING PLAN**  
EB US ROUTE 20 OVER PECATONICA RIVER STRUCTURE NO. 089-0042  
SHEET NO. S15 OF S26 SHEETS

F.A.P. RTE. 0301	SECTION 1177-4B-11M	COUNTY STEPHENSON	TOTAL SHEETS 43	SHEET NO. 32
CONTRACT NO. 64J24				

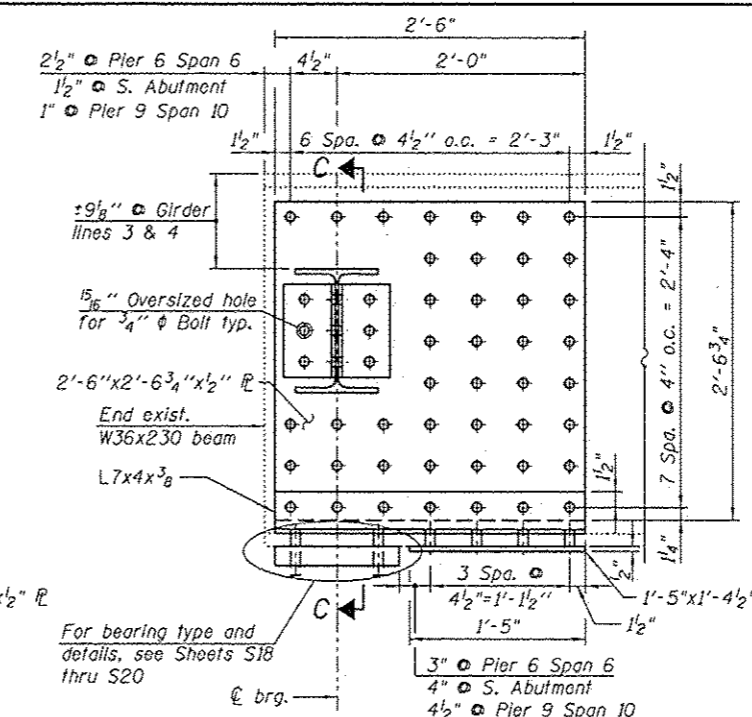
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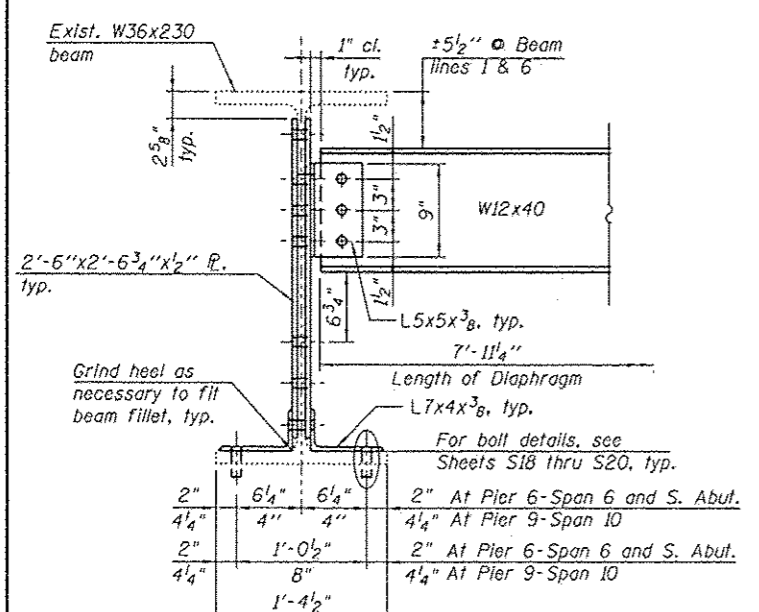
**DIAPHRAGM AND GIRDER REPAIR DETAIL**  
**(GIRDER LINES 1 & 6)**  
 At Pier 6 - Span 6  
 Pier 9 - Span 10  
 and South Abutment



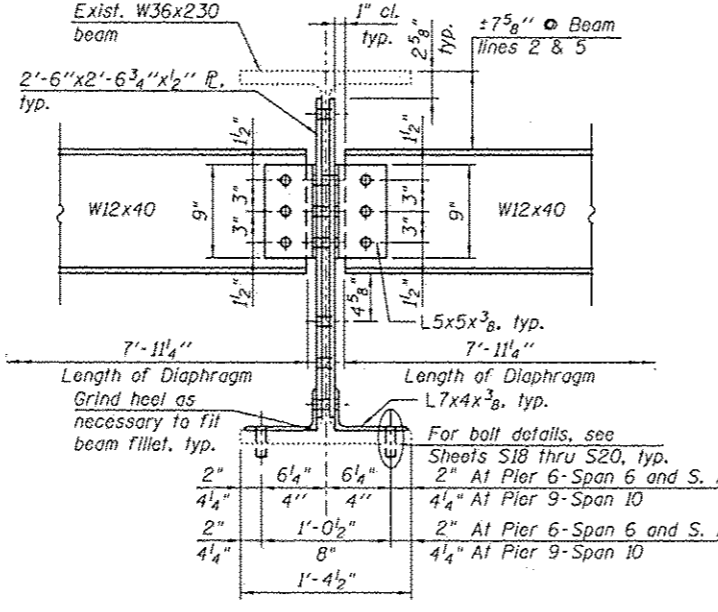
**DIAPHRAGM AND GIRDER REPAIR DETAIL**  
**(GIRDER LINES 2 & 5)**  
 At Pier 6 - Span 6  
 Pier 9 - Span 10  
 and South Abutment



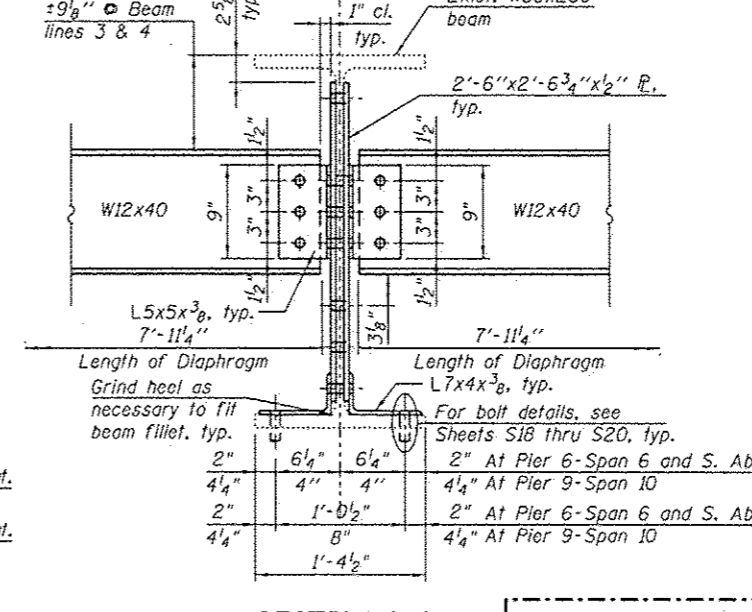
**DIAPHRAGM AND GIRDER REPAIR DETAIL**  
**(GIRDER LINES 3 & 4)**  
 At Pier 6 - Span 6  
 Pier 9 - Span 10  
 and South Abutment



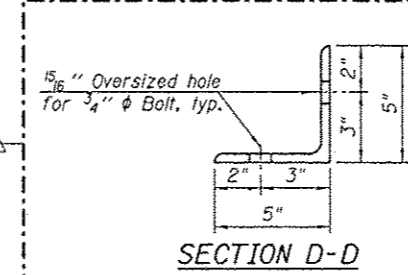
**SECTION A-A**  
 (Typ. for girder lines 1 and 6)



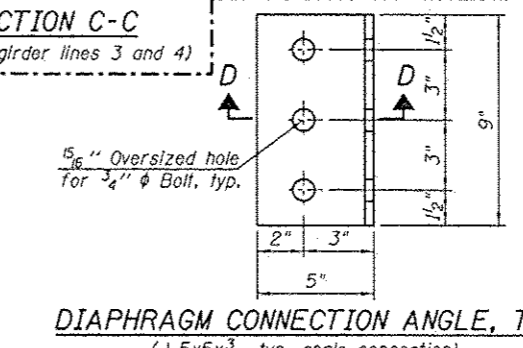
**SECTION B-B**  
 (Typ. for girder lines 2 and 5)



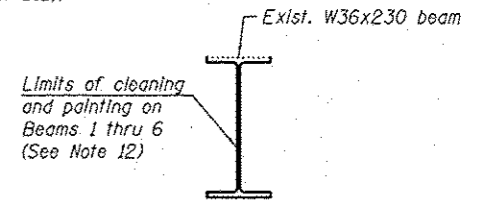
**SECTION C-C**  
 (Typ. for girder lines 3 and 4)



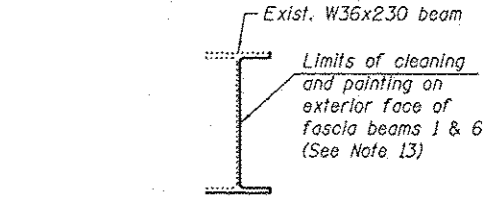
**SECTION D-D**



**DIAPHRAGM CONNECTION ANGLE, TYP.**  
 (L5x5x3/8, typ. angle connection)



**TYP. INTERIOR AND EXTERIOR W36x230 GIRDER**  
 (Pier 6 - Span 6, Pier 9 - Span 10, Span 1 at N. Abut. & Span 11 at S. Abut.)



**TYP. EXTERIOR W36x230 GIRDER**  
 (Spans 1 thru 6 & Spans 10 and 11)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	5,850
Structural Steel Removal	Pound	6,190
Structural Steel Repair	Pound	7,320

- NOTES:**
- For locations of Diaphragm Repairs, see framing plan Sheet S15.
  - All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
  - All repair plates and angles, diaphragms and their connection plates shall conform to AASHTO Classification M-270 Gr 36.
  - Diaphragm connection holes shall be 15/16" φ for 3/4" φ bolts. Two hardened washers shall be required at diaphragm connection.
  - Hardened washers shall be required over all oversized holes.
  - Cost of field drilling 15/16" φ holes is included with Furnishing and Erecting Structural Steel.
  - Unless otherwise noted in the plans or specifications, field bolted connections shall use 3/4" φ high strength bolts with 15/16" φ holes.
  - All connection bolts and fasteners shall be incidental to Furnish and Structural Steel Erect and Structural Steel Repair areas.
  - Existing diaphragm and clip angle removal shall be paid for as Structural Steel Removal.
  - New diaphragm and clip angles shall be paid for as Furnishing and Erecting Structural Steel.
  - For cleaning and painting limits, see Sheet S15.
  - Structural steel within the 10'-0" limits, near bearings shall be cleaned according to SSPC-SP10 (for cleaning and painting limits see Sheet S15).
  - Structural steel for fascia beams outside the 10'-0" limits, near bearings shall be cleaned according to SSPC-SP15 (for cleaning and painting limits see Sheet S15).

**HBM**  
 ENGINEERING GROUP, INC.  
 CONSULTING & DESIGN  
 RESEARCH & TESTING

4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSIDE, IL 60162  
 PHONE: (708) 234-0900  
 FAX: (708) 234-0902

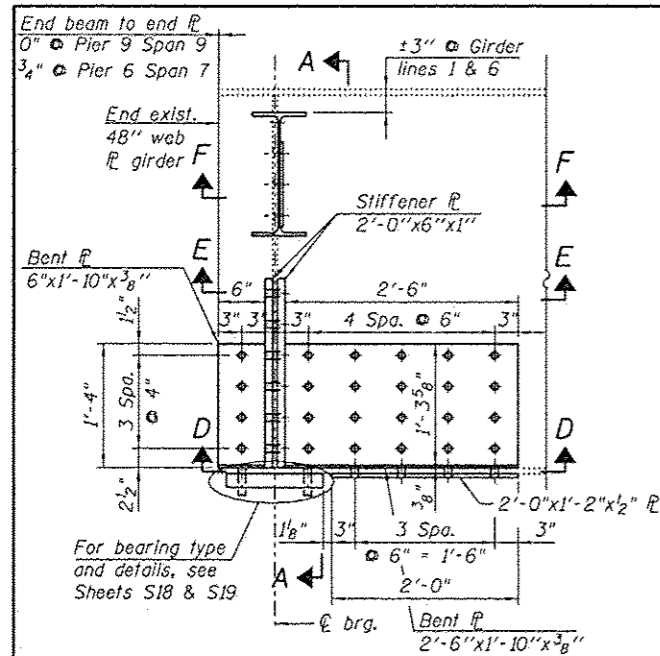
DESIGNED - WM, JJS	6/4/2013 VHM
CHECKED - MI	REVISED -
DRAWN - WM	REVISED -
CHECKED - MAI, MI	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR SECTIONS & DETAILS (SHEET I OF II)  
 EB US ROUTE 20 OVER PECATONICA RIVER STRUCTURE NO. 089-0042

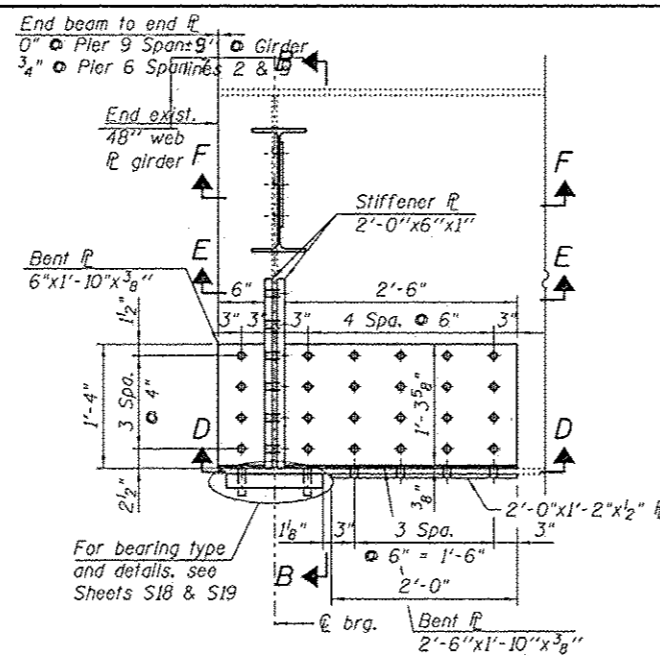
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0301	(177-46-13M)	STEPHENSON	43	33

CONTRACT NO. 64J24  
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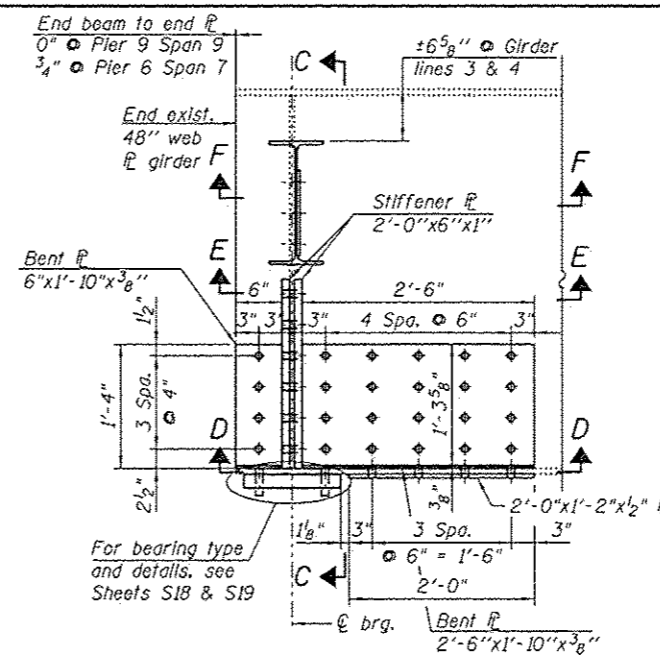
**DIAPHRAGM AND GIRDER REPAIR  
DETAIL (GIRDER LINES 1 & 6)**

At Pier 6 - Span 7  
and Pier 9 - Span 9



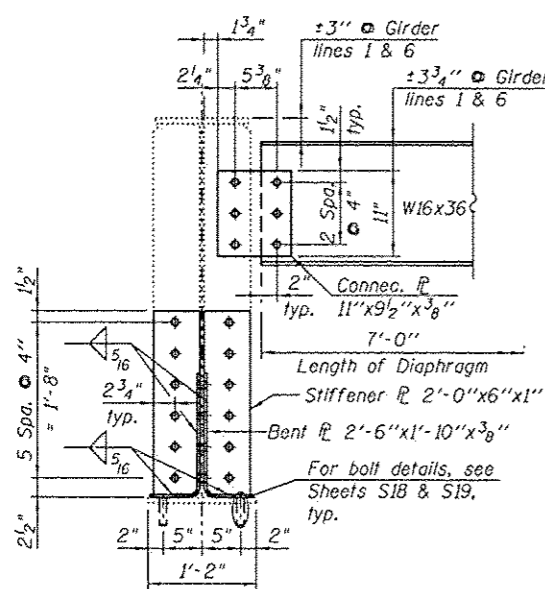
**DIAPHRAGM AND GIRDER REPAIR  
DETAIL (GIRDER LINES 2 & 5)**

At Pier 6 - Span 7  
and Pier 9 - Span 9

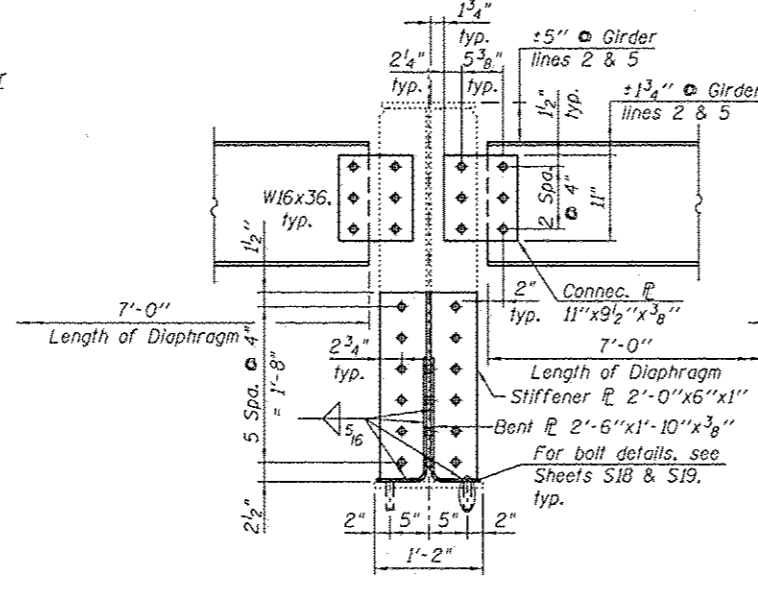


**DIAPHRAGM AND GIRDER REPAIR  
DETAIL (GIRDER LINES 3 & 4)**

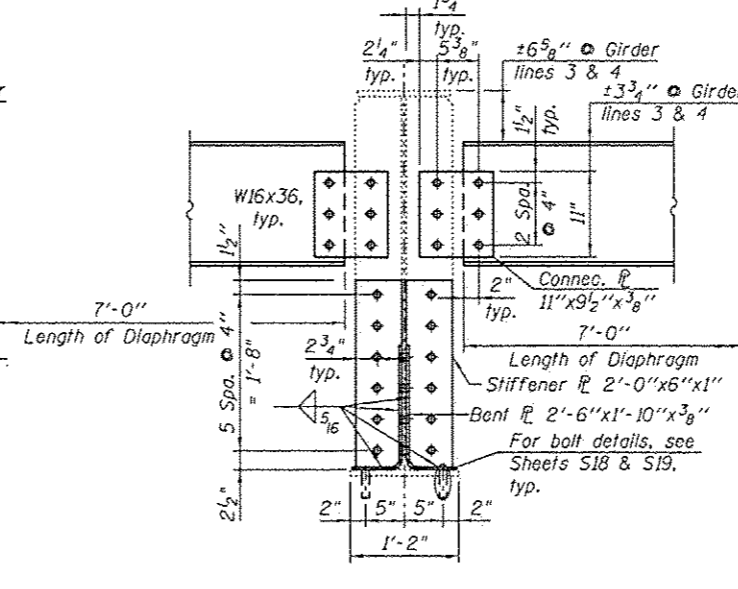
At Pier 6 - Span 7  
and Pier 9 - Span 9



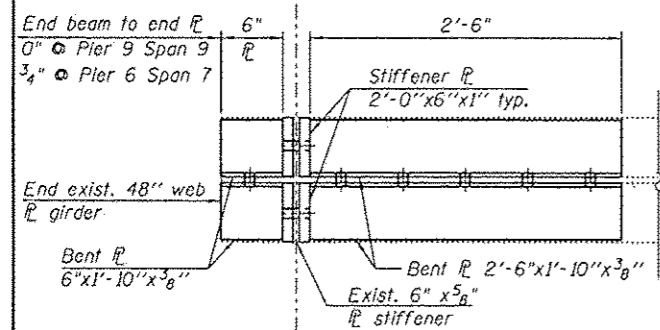
**SECTION A-A**



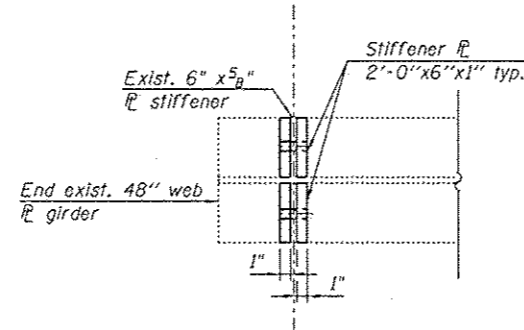
**SECTION B-B**



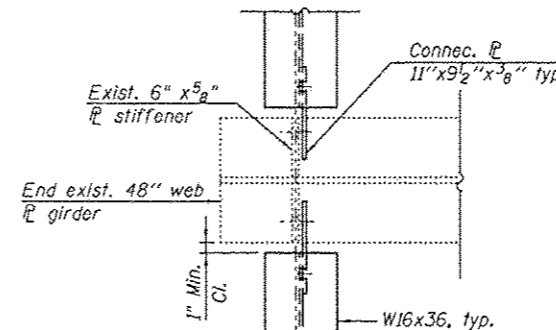
**SECTION C-C**



**SECTION D-D**



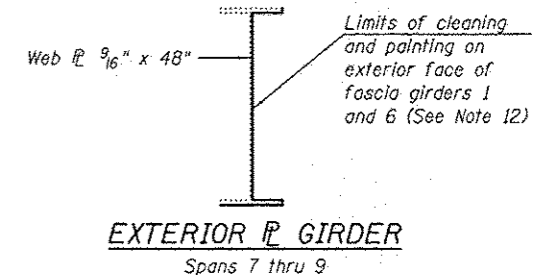
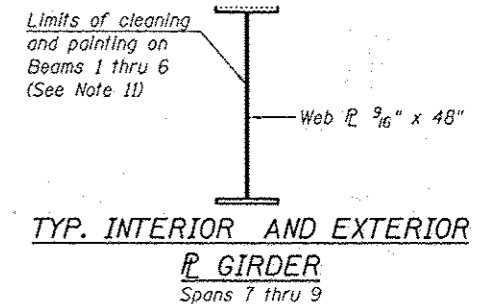
**SECTION E-E**



**SECTION F-F**

**NOTES:**

1. For locations of Diaphragm Repairs, see Framing plan Sheet S15.
2. All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
3. All diaphragms shall conform to AASHTO Classification M-270 Gr 36. All repair plates, fill plates, stiffener angles, connection plates and connection angles shall conform to AASHTO Classification M-270 Gr 50.
4. Diaphragm connection holes shall be 15/16" φ for 3/4" φ bolts. Two hardened washers shall be required at diaphragm connection.
5. Hardened washers shall be required over all oversized holes.
6. Cost of field drilling is included with Furnishing and Erecting Structural Steel.
7. Unless otherwise noted in the plans or specifications, field bolted connections shall use 3/4" φ high strength bolts with 15/16" φ holes.
8. All connection bolts and fasteners shall be incidental to Furnish and Erect Structural Steel and Structural Steel Repair areas.
9. Existing diaphragm and clip angle removal shall be paid for as Structural Steel Removal.
10. New diaphragm and clip angles shall be paid for as Furnishing and Erecting Structural Steel.
11. Structural steel within the 10'-0" limits, near bearings, shall be cleaned according to SSPC-SP10 (for cleaning and painting limits see Sheet S15).
12. Structural steel for fascia beams outside the 10'-0" limits, near bearings, shall be cleaned according to SSPC-SP15 (for cleaning and painting limits see Sheet S15).



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	3,020
Structural Steel Removal	Pound	2,980
Structural Steel Repair	Pound	5,010

**HBM**  
HARRISON BRIDGE MAINTENANCE  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING  
4415 WEST HARRISON ST.  
SUITE 231  
KILGORE, IL 60142  
PHONE: (708) 234-0900  
FAX: (708) 234-0902

DESIGNED - WM, JJS, LAB  
CHECKED - MI  
DRAWN - WM, JJS, LAB  
CHECKED - MAL, MI  
DATE - 03/13/2013

6/4/2013 VHV  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR SECTIONS & DETAILS (SHEET II OF II)**  
EB US ROUTE 20 OVER PECATONICA RIVER STRUCTURE NO. 089-0042  
SHEET NO. S17 OF S26 SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0301	(117-4B-11M)	STEPHENSON	43	34

CONTRACT NO. 64J24  
ILLINOIS FED. AID PROJECT