

Existing Structure: The existing structure was built in 1982. The structure is an 11-span steel beam and plate girder bridge that measures 47'-2" Out-to-Out Deck and 943'-0" Bk.-to-Bk. Abutments (along E. Rt. 20). Spans 1 thru 6 are continuous and consist of W36x230 beams. Spans 7 thru 9 are continuous and consist of 48" deep web plate girders. Spans 10 and 11 are continuous and consist of W36x230 beams. The substructure consists of reinforced concrete abutments and reinforced concrete piers supported on concrete piles and/or steel H-piles.

Traffic is to be maintained utilizing stage construction.

No Salvage.

LOADING

HS20-44 & ALTERNATE ORIGINAL CONSTRUCTION (1982)
Allow 25 #/sq. ft. for future wearing surface

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges
ORIGINAL CONSTRUCTION (1982)
1977 AASHTO, 1978 and 1979 AASHTO Interim Specifications

DESIGN STRESSES

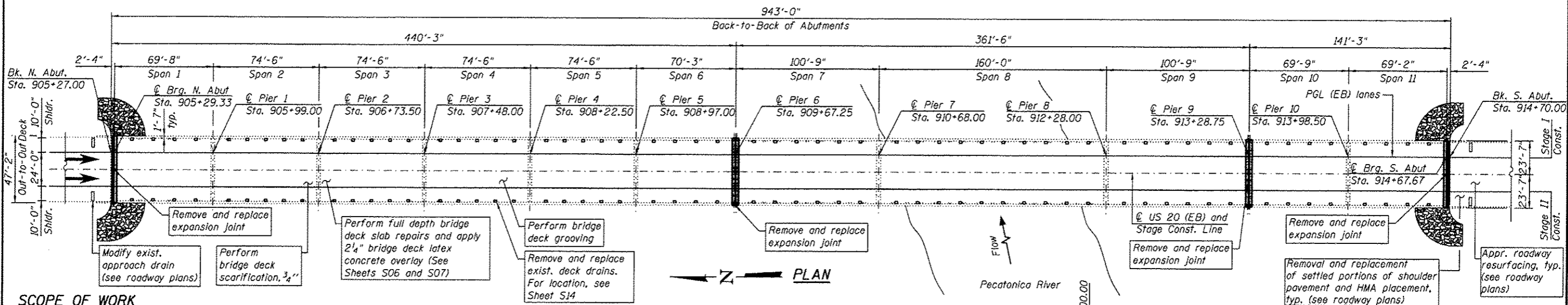
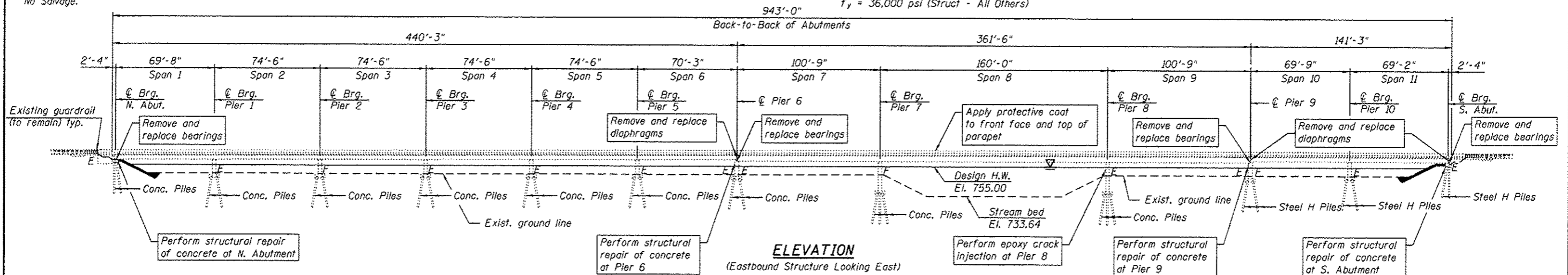
FIELD UNITS
f_c = 3,500 psi (Concrete)
f_y = 60,000 psi (Reinforcement)
f_y = 50,000 psi (Struct - Spans 7 thru 9)
f_y = 36,000 psi (Struct - All Others)
ORIGINAL CONSTRUCTION (1982)
f_c = 3,500 psi (Concrete)
f_y = 60,000 psi (Reinforcement)
f_y = 50,000 psi (Struct - Spans 7 thru 9)
f_y = 36,000 psi (Struct - All Others)

WATERWAY INFORMATION

ORIGINAL CONSTRUCTION (1982)
Drainage Area = 1540 sq. Miles
Design Discharge (50yr) = 20,520 c.f.s
None
Exist. Opening (Below 50 yr. H.W.E) = 6,550 sq. ft.
Req'd Opening (Below 50 yr. H.W.E) = 6,550 sq. ft.
Opening (Below 50 yr. H.W.E) = 0.52 ft.
Created Head for Design Flood = 23,815 c.f.s
100-Year Discharge = 0.55 ft.
Created Head for 100-Year Flood = 0.55 ft.

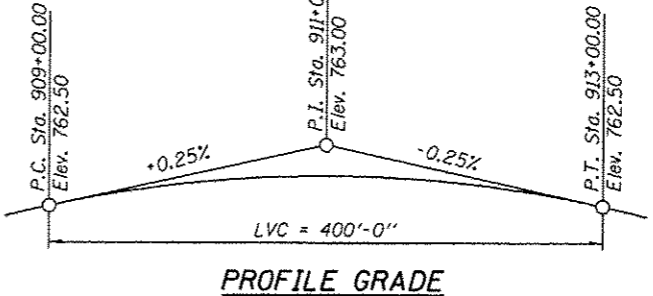
LEGEND

- Concrete Removal
- Limits of protective shielding
- Traffic Direction



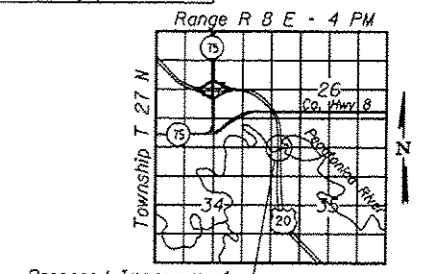
SCOPE OF WORK

1. Scarify 3/4" from the bridge deck slab.
2. Perform full-depth deck slab repairs.
3. Remove existing deck drains and install new drains based on drainage study.
4. Remove and replace transverse expansion joints at the South and North Abutments and Piers 6 and 9 with preformed joint strip seals.
5. Apply a 2 1/4" bridge deck latex concrete overlay to the bridge deck slab.
6. Apply bridge deck grooving for the 2 1/4" bridge deck latex concrete overlay and reconstructed transverse expansion joint areas.
7. Install temporary shoring for beams 1 thru 6 at the north and south sides of Piers 6 and 9 and for Beam 1 at the North Abutment.
8. Perform structural steel repairs for steel members and paint steel as shown on Sheet S16.
9. Perform structural concrete repairs for the Abutments, Piers 6 and 9 and the parapets.
10. Perform epoxy crack injection for Pier 8.
11. Jack and remove existing bearings at the South Abutment (total 6) and at the North Abutment (total 5).
12. Install appropriate bearing type (as indicated in the plans) at Pier 6 (total 12), Pier 9 (total 12), South Abutment (total 6) and North Abutment (total 6).
13. Remove temporary shoring at Pier 6, Pier 9 and Beam 1 at the North Abutment.
14. Remove existing diaphragms at the South Abutment (total 5), Pier 6 (total 10) and Pier 9 (total 10) and replace in kind.
15. Apply protective coat for the parapets and reconstructed transverse expansion joint areas.
16. Repaint pavement markings on the top of deck.
17. For bridge approach pavement resurfacing and bridge approach shoulder pavement replacement and resurfacing, see roadway plans.



PROFILE GRADE

(F.A.P. Route 040)
(Information taken from 1980 plans)



LOCATION SKETCH



Signed **Moussa A. Issa**
Dr. Moussa A. Issa, S.E.
Il. Lic. No. 081-005738 Expires 11-30-2014
Date **March 18, 2013**
For Sheets S01 Thru S26

HBM
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DESIGNED - WM, MI	REVISIONS
CHECKED - MI	REVISIONS
DRAWN - WM	REVISIONS
CHECKED - MAI, MI	REVISIONS
DATE - 03/13/2013	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
EB US ROUTE 20 OVER PECATONICA RIVER STRUCTURE NO. 089-0042
SHEET NO. 501 OF 526 SHEETS

F.A.P. RTE. 0301	SECTION 1177-4B-11M	COUNTY STEPHENSON	TOTAL SHEETS 43	SHEET NO. 18
			CONTRACT NO. 64J24	
ILLINOIS FED. AID PROJECT				