

Bench Mark: Brass disk on NE headwall of S.N. 039-0016(WB), Elev. 405.45

Existing Structure: S.N. 039-0016(WB) & 039-0017(EB) Built in 1954 as F.A. Rt. 14, Sec. 12-1B at Sta. 57+95.26 as a simple span WF dual structure 55'-8" Bk.-Bk. abutments, supported on timber piles. Existing bridge to be removed and replaced with raised median.

No salvage

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STATION 57+91.70  
BUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. RT. 331 SEC. (12-1)B-1  
LOADING HL-93  
STR. NO. 039-0071

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 331	(12-1) B-1	JACKSON	224	32 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract #98827

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts 3/4" φ, open holes 5/16" φ, unless otherwise noted.  
Calculated weight of Structural Steel = 266830 Lbs. (AASHTO M270, Grade 50)  
22880 Lbs. (AASHTO M270, Grade 36)

Field welding of construction accessories will not be permitted to beams.  
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams.

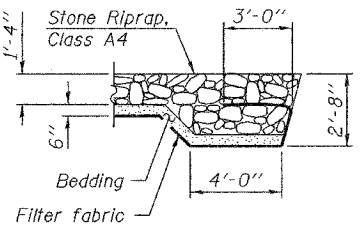
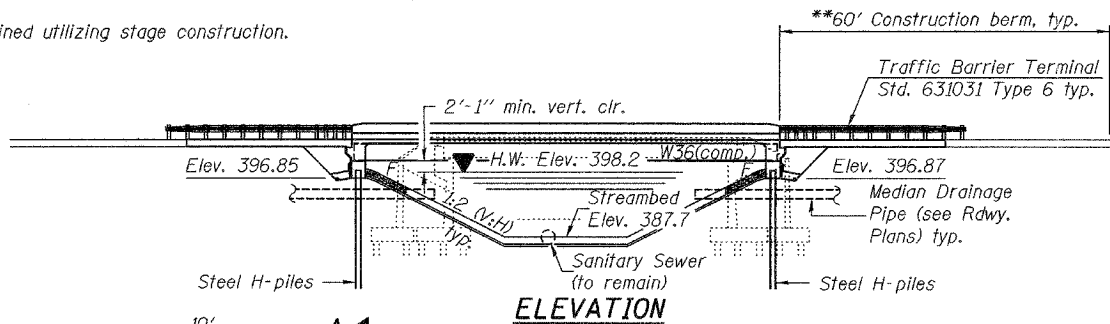
Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.  
The Contractor shall drive one HP 12x84 test pile in a permanent location at the East Abut. as directed by the Engineer before ordering the remainder of piles.

In addition to all other requirements of section 512 of the Standard Specifications, splices for HP 12x84 piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project. All construction joints shall be bonded.

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, Munsell No. 7.5G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

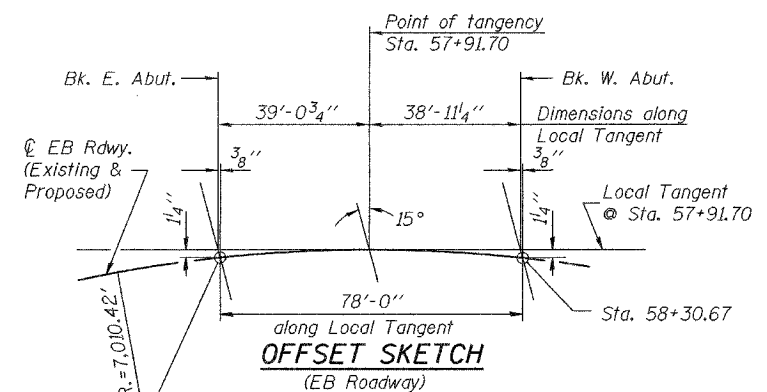


SECTION A-A

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Details
- 3 Footing Layout
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- 30-32 Soil Boring Logs

\* Raised median to be constructed along specific EB & WB Curve Data.



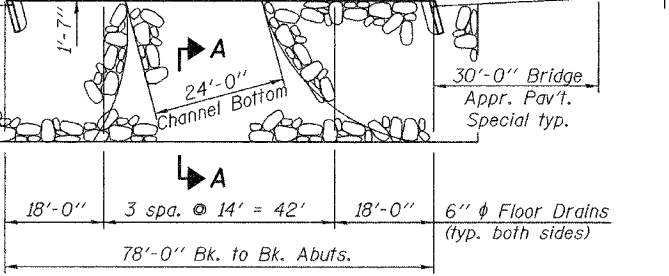
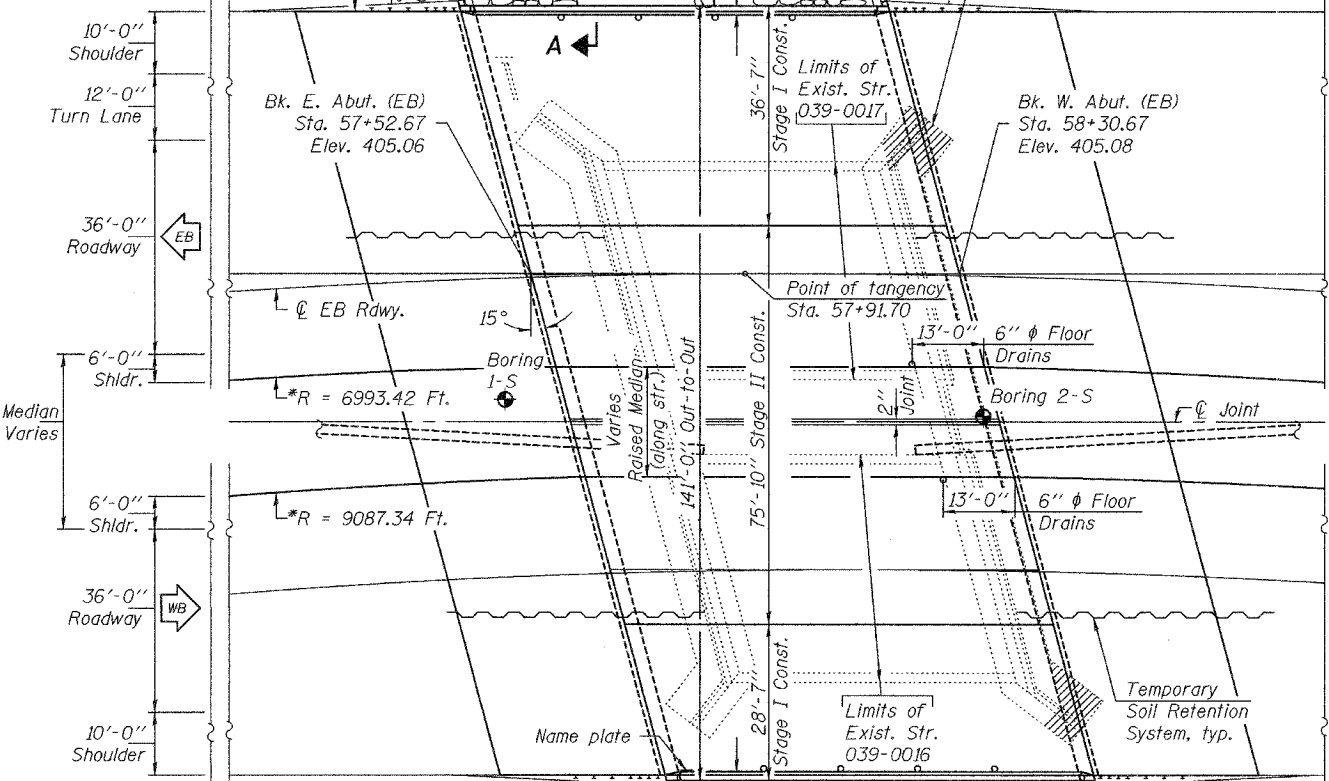
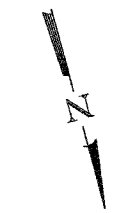
OFFSET SKETCH (EB Roadway)

CURVE DATA

(Existing 48-WB)  
P.I. Sta. = 55+11.03  
Δ = 12°25'59" (RT)  
D = 0°37'54"  
R = 9,070.34 FT.  
T = 988.00 FT.  
L = 1,968.24 FT.  
E = 53.93 FT.  
P.C. Sta. = 45+23.03  
P.T. Sta. = 64+91.27

CURVE DATA

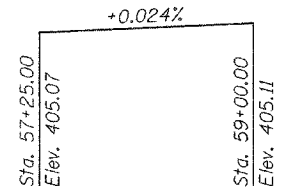
(Existing 3-EB)  
P.I. Sta. = 76+59.01  
Δ = 33°04'47" (RT)  
D = 0°49'02"  
R = 7,010.42 FT.  
T = 2,081.89 FT.  
L = 4,047.47 FT.  
E = 302.60 FT.  
P.C. Sta. = 55+77.12  
P.T. Sta. = 96+24.59



PLAN

WATERWAY INFORMATION

Exist. Low Grade Elev. 404.30 @ Sta. 54+00 (Exist. Alignment)		Prop. Low Grade Elev. 404.30 @ Sta. 54+00 (Prop. Alignment)							
Drainage Area = 7.4 mi. <sup>2</sup>									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.			
		Exist.	Prop.	Exist.	Exist.	Prop.			
Design	50	2310	374	473	398.2	0.4	0.1	398.6	398.3
Base	100	2620	387	486	398.4	0.5	0.1	398.9	398.5
Max. Calc.	500	3360	409	520	398.9	0.6	0.1	399.5	399.0



PROFILE GRADE

(1' South of EB Rdwy. Existing & Proposed)

DESIGNED	<i>Curtis M. Eng</i>
CHECKED	<i>Robert J. Mitchell</i>
DRAWN	M.B.M. / W.D.C.
CHECKED	<i>CME / WDM</i>

EXAMINED *Thomas J. Anderson*  
PASSED *Ralph J. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

EXPIRES 11-30-2006

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

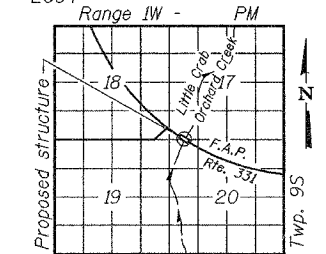
AASHTO LRFD Bridge Design Specifications, US, 3rd. Edition - 2004

DESIGN STRESSES

FIELD UNITS  
f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)  
f<sub>y</sub> = 50,000 psi (AASHTO M270, Gr. 50)  
f<sub>y</sub> = 36,000 psi (AASHTO M270, Gr. 36)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2  
Bedrock Acceleration Coefficient (A) = 13.0  
Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN  
ILLINOIS ROUTE 13 OVER  
LITTLE CRAB ORCHARD CREEK  
F.A.P. ROUTE 331 - SEC. (12-1)B-1  
JACKSON COUNTY  
STATION 57+91.70  
STRUCTURE NO. 039-0071