Benchmark: Metal disc at Station 326+53.34, 29.94' Left, Elevation 732.93. Metal disc at Station 311+71.76, 26.90' Right, Elevation 730.10.

Existing Structure: S.N. 043-0040 was originally built in 1925 as SBI Route 40, Section 10B. The original structure was a two-span reinforced concrete girder and deck supported by closed concrete abutments and a soil wall pier founded on spread footings. In 1981 the original structure was removed and replaced as F.A.P. Route 642 Section 10 BR-3 with a two-span PPC Deck Beam superstructure founded on pile-supported stub-type abutments and a solid wall pier on a spread footing. The existing structure is 155'-6" bk to bk of abutments and 36'-0" wide out to out of deck. The structure is to be removed and replaced utilizing stage construction.

No Salvage

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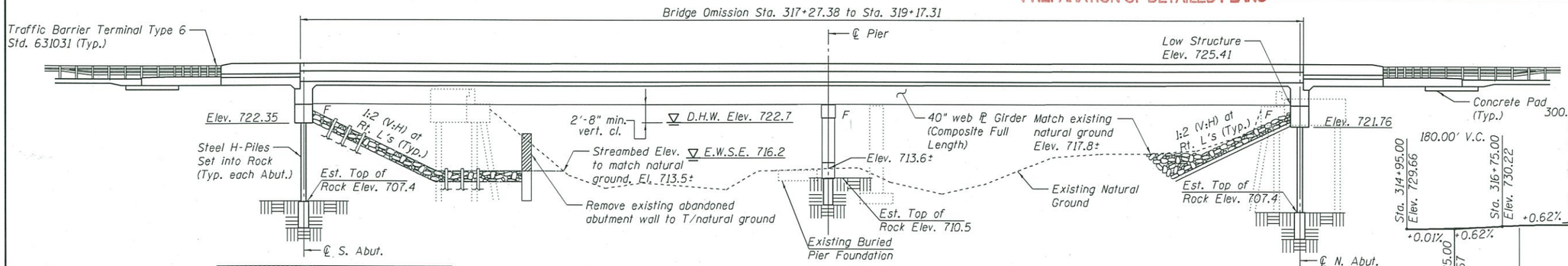
APR 1 6 2015

AS A BASIS FOR PREPARATION OF DETAILED PLANS

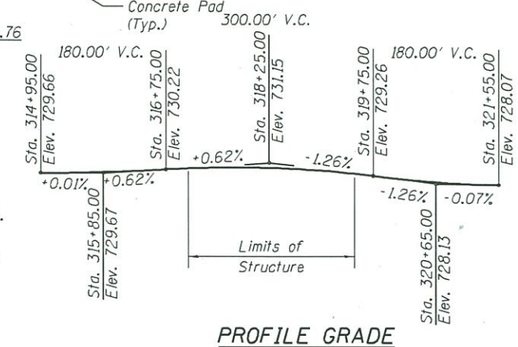
WATERWAY INFORMATION

Drainage Area = 13.8 sq. mi. Low Grade Elev. 728.1 @ Sta. 321+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2270	613	636	722.0	2.0	2.0	724.0	724.0
Design	50	3710	706	737	722.7	3.0	2.9	725.7	725.6
Base	100	4380	747	781	723.0	4.3	3.2	727.3	726.2
Overtopping	200	4800	774	811	723.2	4.9	4.9	728.1	728.1
Max. Calc.	-	-	-	-	-				

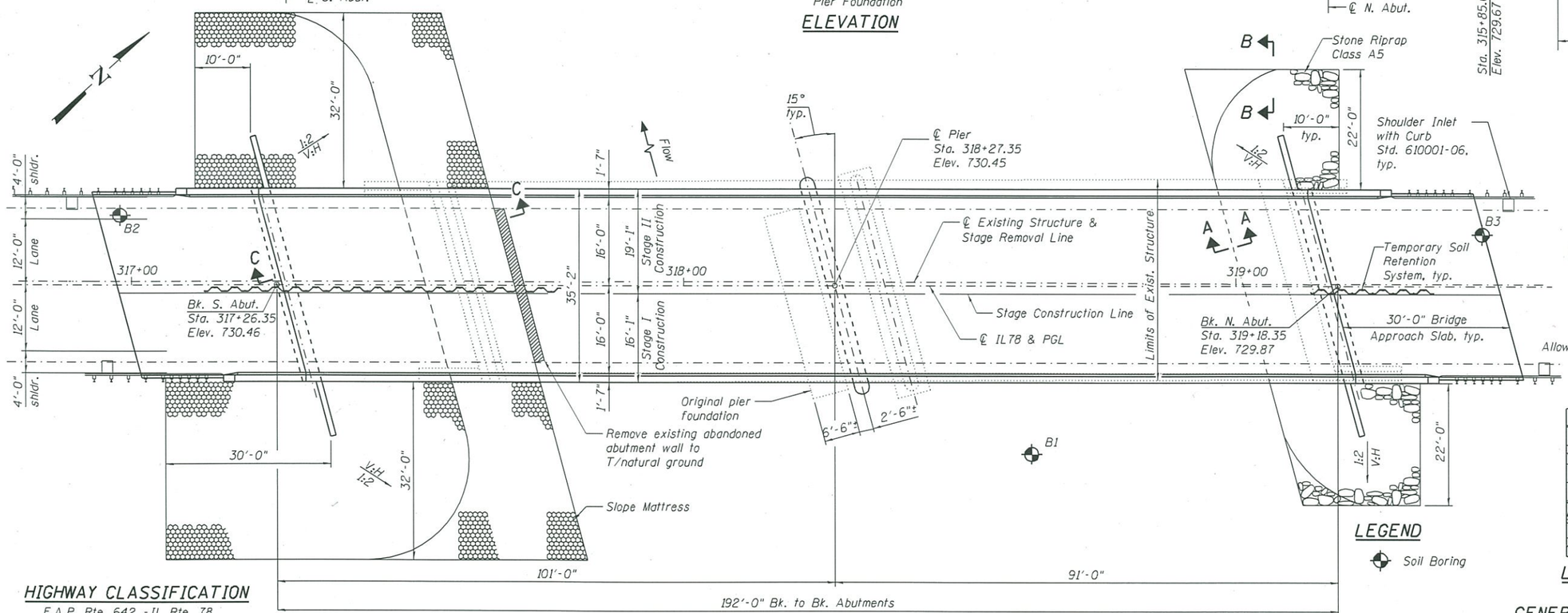


ELEVATION



PROFILE GRADE

(Along ℄ IL78)



PLAN

DESIGN STRESSES

FIELD UNITS

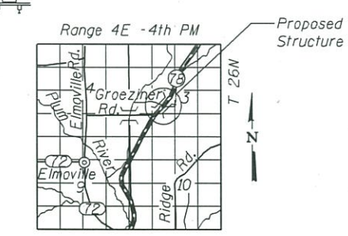
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition.

LOADING HL-93

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



LOCATION SKETCH

LEGEND

Soil Boring

HIGHWAY CLASSIFICATION

F.A.P. Rte. 642 - IL Rte. 78
Functional Class: Minor Arterial (Non-Urban)
ADT: 875 (2016); 975 (2036)
ADTT: 134 (2016); 150 (2036)
DHV: 100 (2036)
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

DESIGN SCOUR ELEVATION TABLE

	S. Abut.	Pier	N. Abut.	Item 113
0100	722.35	710.50	721.76	B
0200	722.35	710.50	721.76	
Design	722.35	710.50	721.76	
Check	722.35	710.50	721.76	

Notes:
1. See Roadway Plans for river training and bank stabilization details.
2. See Sheet 2 for Sections A-A through C-C.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.053g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.083g
Soil Site Class = C

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 78 OVER PLUM RIVER
F.A.P. ROUTE 642 - SECTION 10BR-5
JO DAVIESS COUNTY
STATION 318+27.45
STRUCTURE NO. 043-0081

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME =	DESIGNED -	CMM	REVISED
FILE NAME = 043D0401-64H58-001-TSL.dgn	CHECKED -	JSD	REVISED
PLOT SCALE =	DRAWN -	CMM	REVISED
PLOT DATE =	CHECKED -	JSD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
642	10BR-5	JODAVIES	2	1
		ILLINOIS FED. AID PROJECT		

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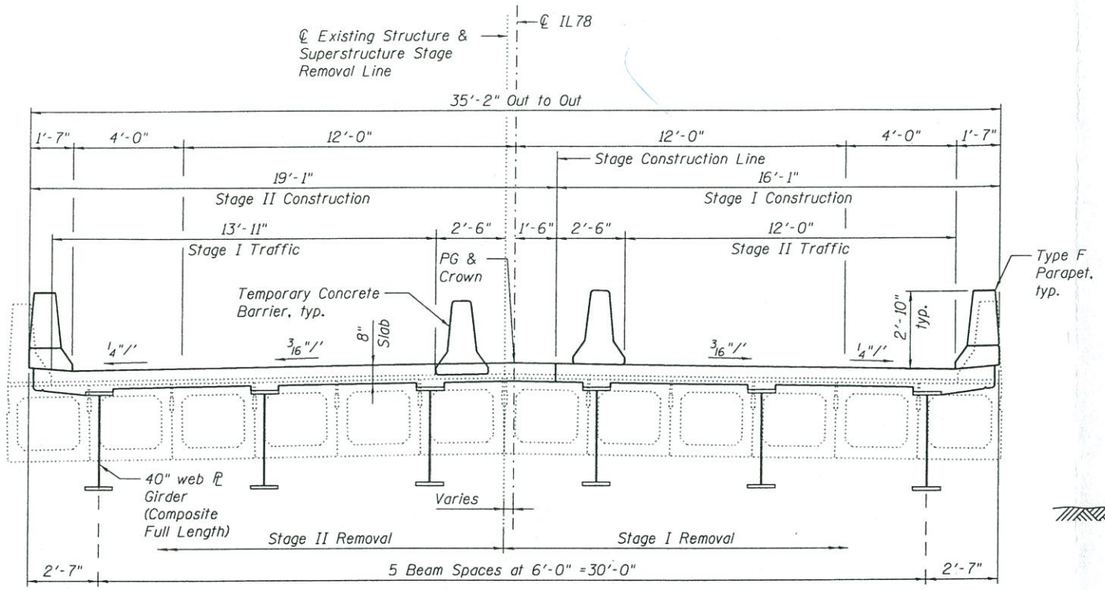
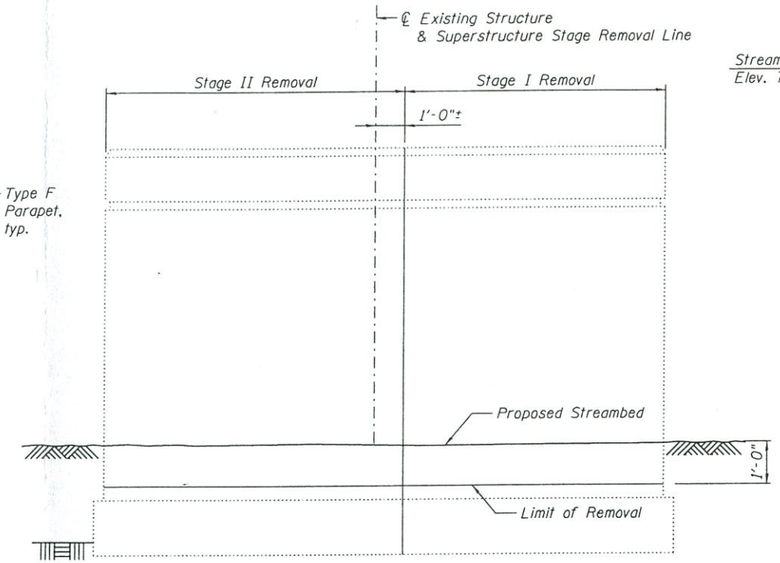


CROSS SECTION

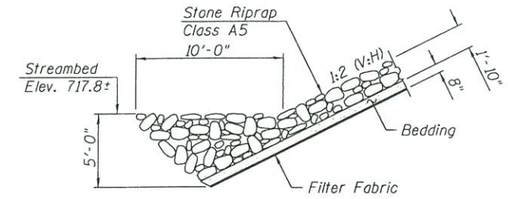
(Looking North)

Note:
The condition of the existing deck beams for the duration of Stage I traffic should be verified during final design. If the condition warrants, the proposed staging sequence shall be re-evaluated. If a beam replacement or beam support contract is required, the designer shall provide the necessary plans.

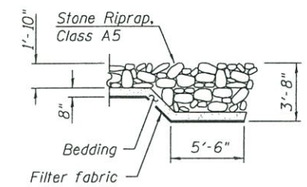


EXISTING PIER SKETCH

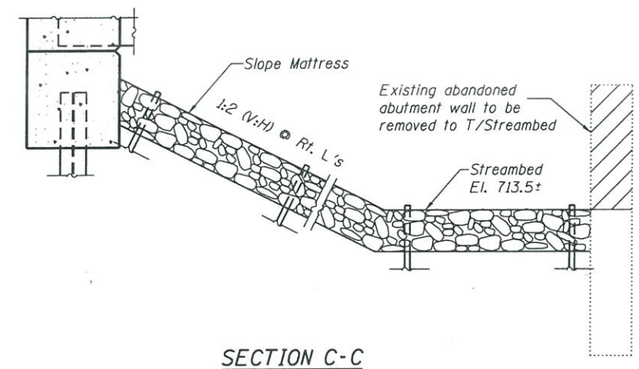
(Looking North)



SECTION A-A

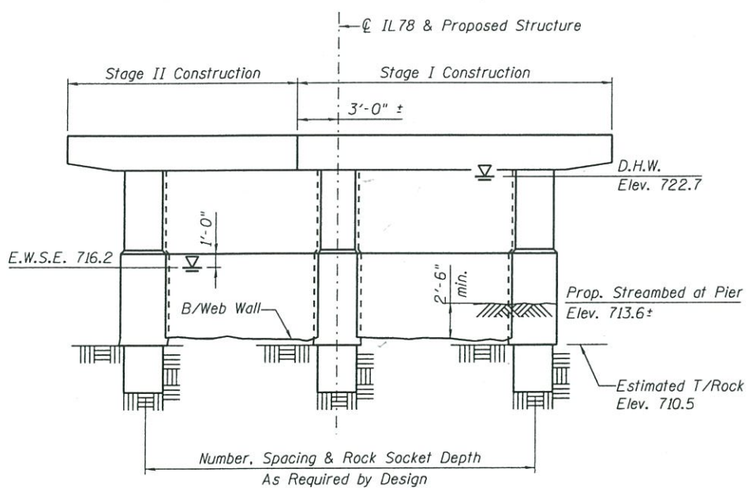


SECTION B-B



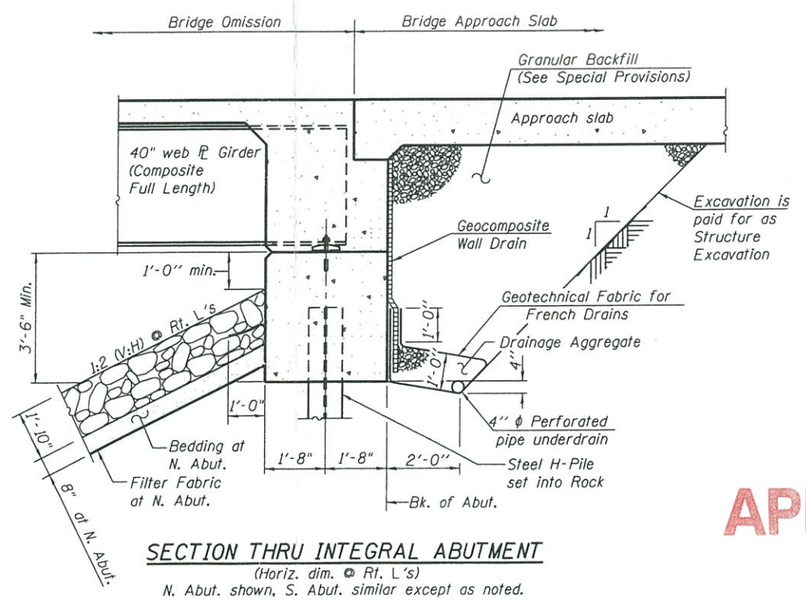
SECTION C-C

(Horiz. dim. @ Rt. L's)



PIER SKETCH

(Looking North)



SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. L's)

N. Abut. shown, S. Abut. similar except as noted.
See Section C-C for slope protection at S. Abut.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

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APR 16 2015

AS A BASIS FOR PREPARATION OF DETAILED PLANS

DETAILS
ILLINOIS ROUTE 78 OVER PLUM RIVER
F.A.P. ROUTE 642 - SEC. 10BR-5
JODAVIESS COUNTY
STATION 318+27.45
STRUCTURE NO. 043-0081

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LOCHNER	USER NAME =	DESIGNED - CMM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
H. W. LOCHNER, INC. 225 WEST WASHINGTON STREET 12 TH FLOOR CHICAGO, ILLINOIS 60606	FILE NAME = $FILES$	CHECKED - JSD	REVISED	
	PLOT SCALE =	DRAWN - CMM	REVISED	
	PLOT DATE =	CHECKED - JSD	REVISED	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
642	10BR-5	JODAVIES	2	2
		ILLINOIS FED. AID PROJECT		