Bench Mark: Chiseled "□" on top of NW wingwall of Illinois Route 140 bridge over Cahokia Creek. Elevation 479.28

Existing Structure: S.N. 060-0097 built in 1927 as S.B.I. Route 160, Section 134C, at Station 623+90. Bridge was built as a five span bridge with a 234 foot length. Four spans were spanned by concrete T girders and the center span by a 100 foot truss. In 1971 the superstructure was removed, a center pier constructed, existing piers and abutments widened, and precast deck beams placed as the new superstructure.
Traffic to be maintained utilizing stage construction.
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Note: Soil will need to be removed to provide the required waterway opening under the proposed bridge. Hatched area gives a rough indication of the removal area. See roadway plans for quantities.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 785	134-1BR-2	MADISON	22	56
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

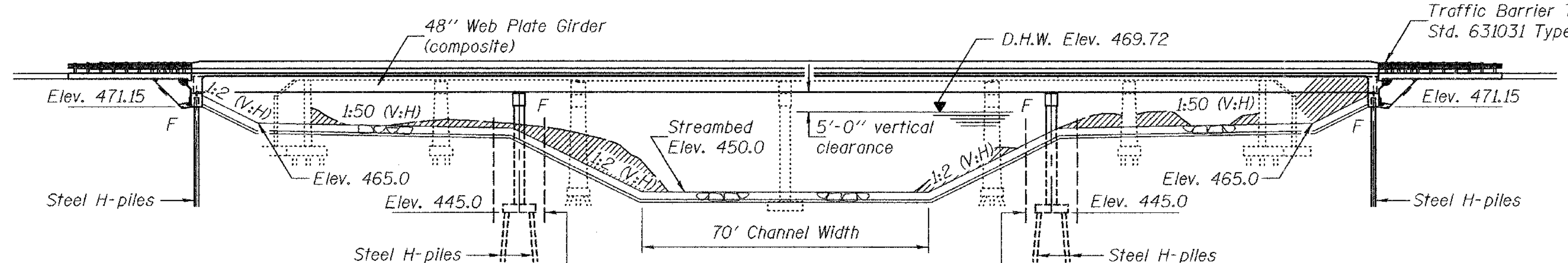
SHEET NO. 1
23 SHEETS

Contract #76902

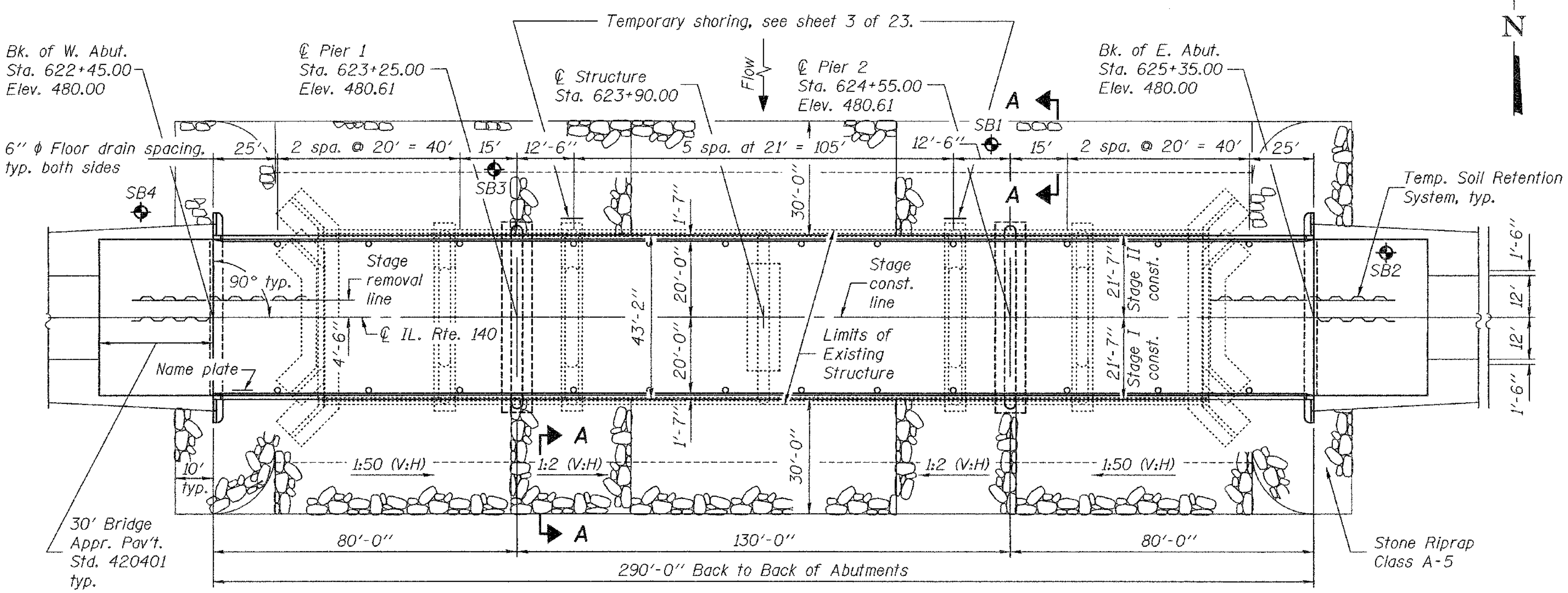
INDEX OF SHEETS

STATION 623+90.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 785 SEC. 134-1BR-2
LOADING HL-93
STRUCTURE NO. 060-0240

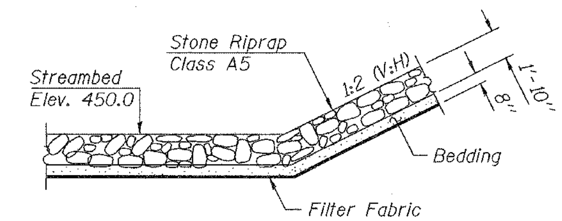
NAME PLATE
See Std. 515001



ELEVATION



PLAN



STONE RIPRAP DETAIL

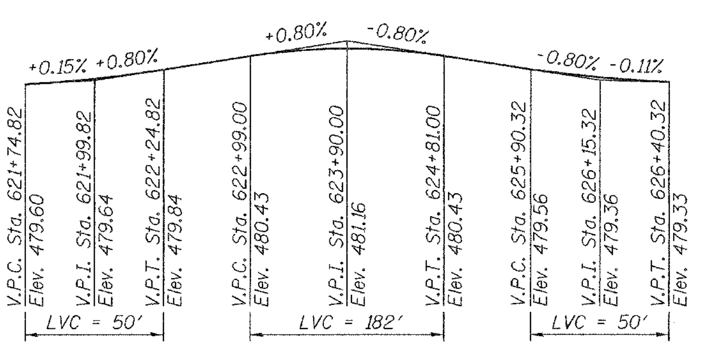
WATERWAY INFORMATION

Drainage Area = 176.6 Sq. Miles   Low Grade Elev. 479.32 Ft. @ Sta. 626+47

Flood	Freq. Yr.	S.N.	Q Exist. (CFS)	Q Prop. (CFS)	Opening Exist. (SQ FT)	Opening Prop. (SQ FT)	Natural H.W.E. (FT)	Created Head Exist. (FT)	Created Head Prop. (FT)	H.W.E. Exist. (FT)	H.W.E. Prop. (FT)
Design	50	060-0097	7394.28	7833.30	1686.58	1805.93	469.72	1.32	1.20	471.04	470.92
		060-0237	4835.50	4483.35	783.72	783.72					
		Culvert	1124.22	1037.35	200.00	200.00					
		Total	13354.00	13354.00	2670.30	2789.65					
Base	100	060-0097	8495.67	8975.92	1740.46	1869.33	469.97	1.45	1.32	471.42	471.29
		060-0237	5218.41	4832.31	804.90	804.90					
		Culvert	1166.92	1072.77	200.00	200.00					
		Total	14881.00	14881.00	2745.36	2874.23					
Over-topping	N/A									0.00	0.00
		Total	0.00	0.00	0.00	0.00					
Max. Calc.	500	060-0097	11212.24	11860.89	1861.14	2012.24	470.53	1.80	1.61	472.33	472.14
		060-0237	6205.61	5670.98	853.34	853.34					
		Culvert	1270.15	1156.13	200.00	200.00					
		Total	18688.00	18688.00	2914.48	3065.58					
Scour	10	060-0097	4582.57	4947.07	1531.42	1624.75	469.00	0.94	0.86	469.94	469.86
		060-0237	3912.73	3625.25	724.27	724.27					
		Culvert	995.70	918.68	187.80	187.80					
		Total	9491.00	9491.00	2443.49	2536.82					

10 yr. velocity through existing bridge = 3.45 fps
10 yr. velocity through proposed bridge = 3.57 fps

Design Scour Elevation (feet)	W. Abutment	Pier 1	Pier 2	E. Abutment
	471	445	445	471



PROFILE GRADE

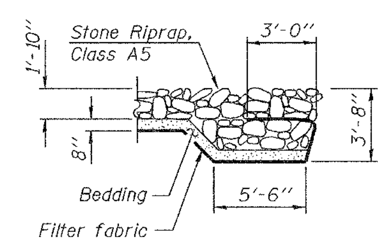
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
AASHTO LRFD Bridge Design Specifications
U.S. 3rd. Edition - 2004 w/ 2005 Interims

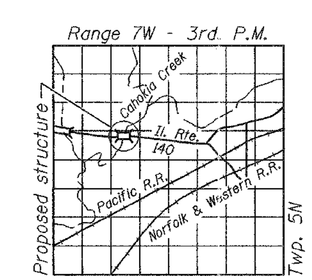
DESIGN STRESSES
FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel M 270, Gr. 50)
f_y = 36,000 psi (structural steel M 270, Gr. 36)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.085g
Site Coefficient (S) = 1.5



SECTION A-A



LOCATION SKETCH

DESIGNED	
CHECKED	
DRAWN	h.t. duong
CHECKED	

EXAMINED
April 9, 2007
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2008

GENERAL PLAN
ILLINOIS ROUTE 140 OVER CAHOKIA CREEK
F.A.P. RTE. 785 - SEC. 134-1BR-2
MADISON COUNTY
STATION 623+90.00
STRUCTURE NO. 060-0240

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