

Stamped "IDNR" Brass Plug in Southwest Headwall, Elev. 671.36.

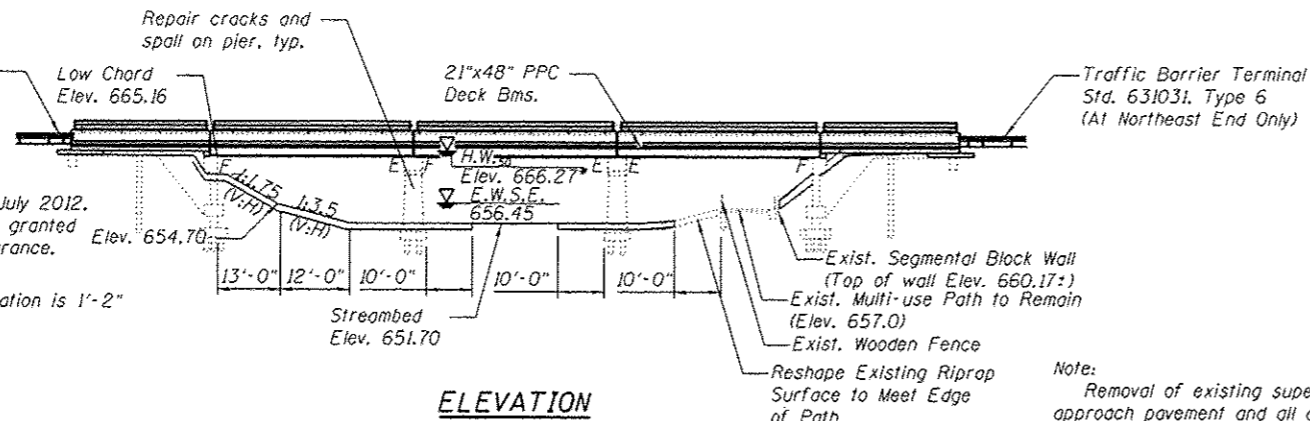
Existing Structure: Built as SN 049-0062 in 1920 as FAP-541 Section X-6B; a 3 span concrete T-beam superstructure with abutments and piers on pile caps with timber piles. Widened in 1957 by extending abutments and piers and placing PPC Dk. Bms. for the superstructure. Superstructure widened to 73' in 1995 by replacing the PPC Dk. Bms. and cantilevering the abut and pier caps; 131'-2" bk.-bk. abutments. Superstructure to be removed and replaced with PPC deck beams; minor spalls in substructure to be repaired. Traffic to be maintained using stage construction.

No Salvage.

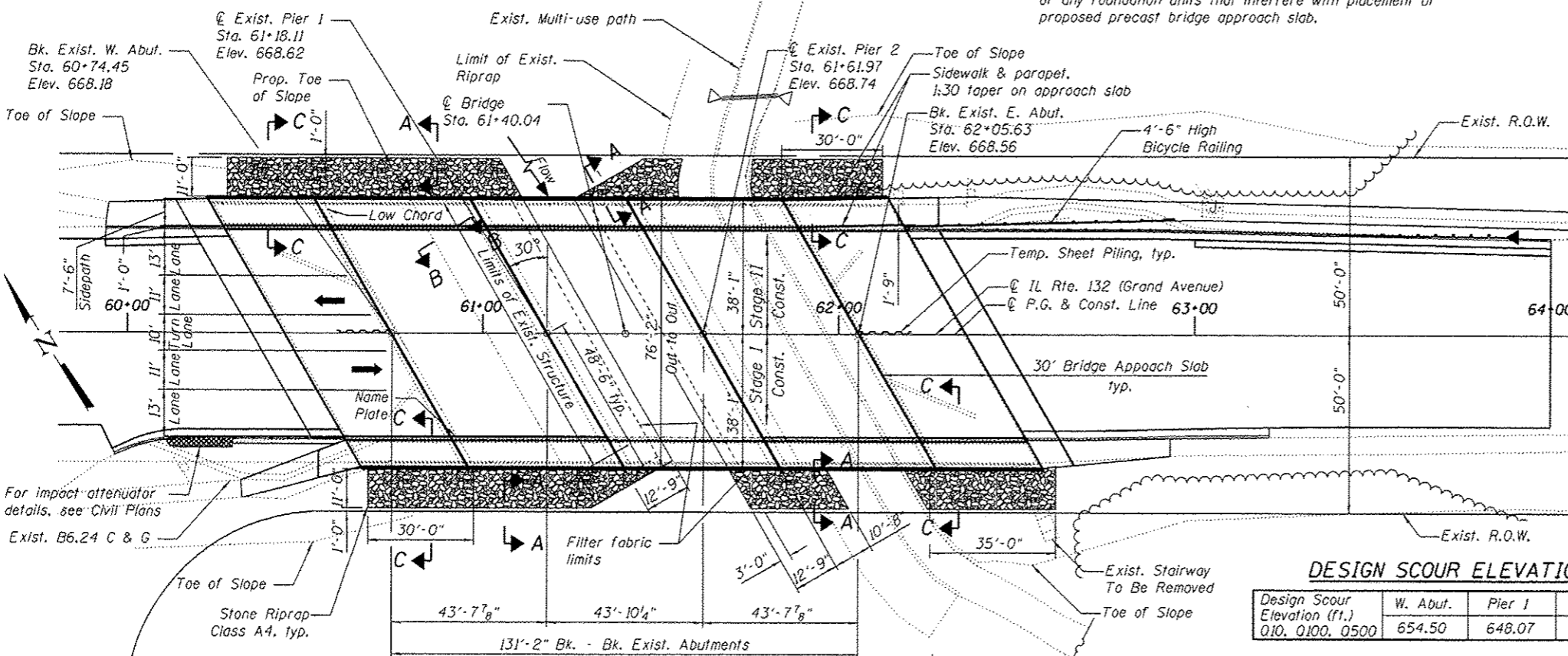
Traffic Barrier Terminal Type 6 (Modified), (At Southwest End Only) See Civil Plans

* Per Project Report dated July 2012, Design Exception has been granted for inadequate vertical clearance.

** The Design High Water elevation is 1'-2" higher than the low beam.



Note: Removal of existing superstructures includes removal of approach pavement and all appurtenances attached to the approach pavement and adjacent sidewalks, and the removal of any foundation units that interfere with placement of proposed precast bridge approach slab.



WATERWAY INFORMATION

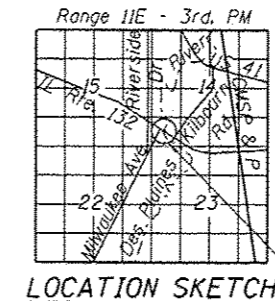
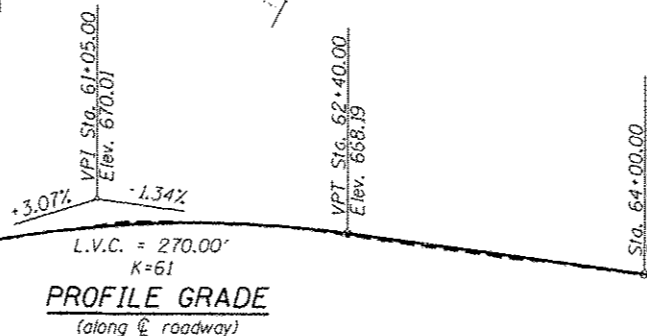
Flood	Freq. Yr.	Q	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.	
				Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.
Design	10	3027	1030	1030	663.84	0.06	0.06	663.90	663.90
Base	50	4836	1197	1224	666.27	0.11	0.11	666.38	666.38
Overlapping	100	5644	1197	1224	667.19	0.06	0.06	667.25	667.25
Max. Calc.	500	7723	1197	1224	669.58	0.02	0.02	669.60	669.60

Existing Low Grade Elev. 662.95 (East of Bridge)
Proposed Low Grade Elev. 662.95 (East of Bridge)

Drainage Area = (225 Sq. Mi.)

10 year velocity through existing and proposed structures = 1.95 ft/sec

PROFILE GRADE
(along roadway)



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
Q10, Q100, Q500	654.50	648.07	648.04	654.50

LOCATION SKETCH

Proposed Improvement

STATION 61+40.04
RE-BUILT 2013 BY
STATE OF ILLINOIS
LOADING HL-93
STRUCTURE NO. 049-0062

NAME PLATE

See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition for Superstructure
2002 AASHTO LRFD Bridge Design Specifications
17th Edition for Substructure

LOADING HL-93

ORIGINAL DESIGN STRESSES

FIELD UNITS

f'c = 1,400 psi (Superstructure)
f'c = 800 psi (Substructure)
fs = 20,000 psi (Reinforcement)
fs = 18,000 psi (Structural)
n = 10

DESIGN STRESSES

FIELD UNITS

f'c = 5,000 psi (Wearing Surface)
f'c = 3,500 psi (Substructure)
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" φ Low Relaxation Strands)
fpbt = 201,960 psi (1/2" φ Low Relaxation Strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Horizontal Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

APPROVED
For Structural Adequacy Only

Dr. Carl Perry
Engineer of Bridges & Structures



Sheets: S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23

Arwin R. Youngquist
Expires: 11/30/2014

GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 132 OVER DES PLAINES RIVER

F.A.P. 541 (IL 132) - SECTION X-6B-R

LAKE COUNTY

STATION 61+40.04

STRUCTURE NO. SN 049-0062



USER NAME: ryanf
FILE NAME: 049-0062.01.DP&E.dgn
PLOT DATE: 8/24/2013

DESIGNED - OY
CHECKED - DB
DRAWN - CM
CHECKED - OY

REVISED
REVISED
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 049-0062
SHEET NO. S1 OF S23 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	X-6B-R	LAKE	93	42

CONTRACT NO. 60N22
[ILLINOIS] FED. AID PROJECT