

Bench Mark: BM #BD8: Chiseled square on northeast corner of existing structure. NGVD '29 Datum, Elev. 578.73

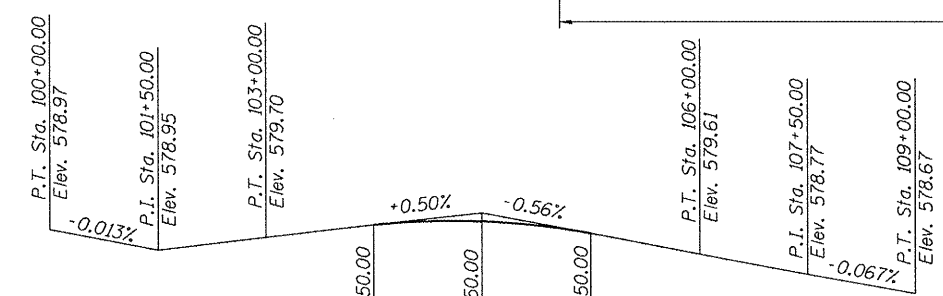
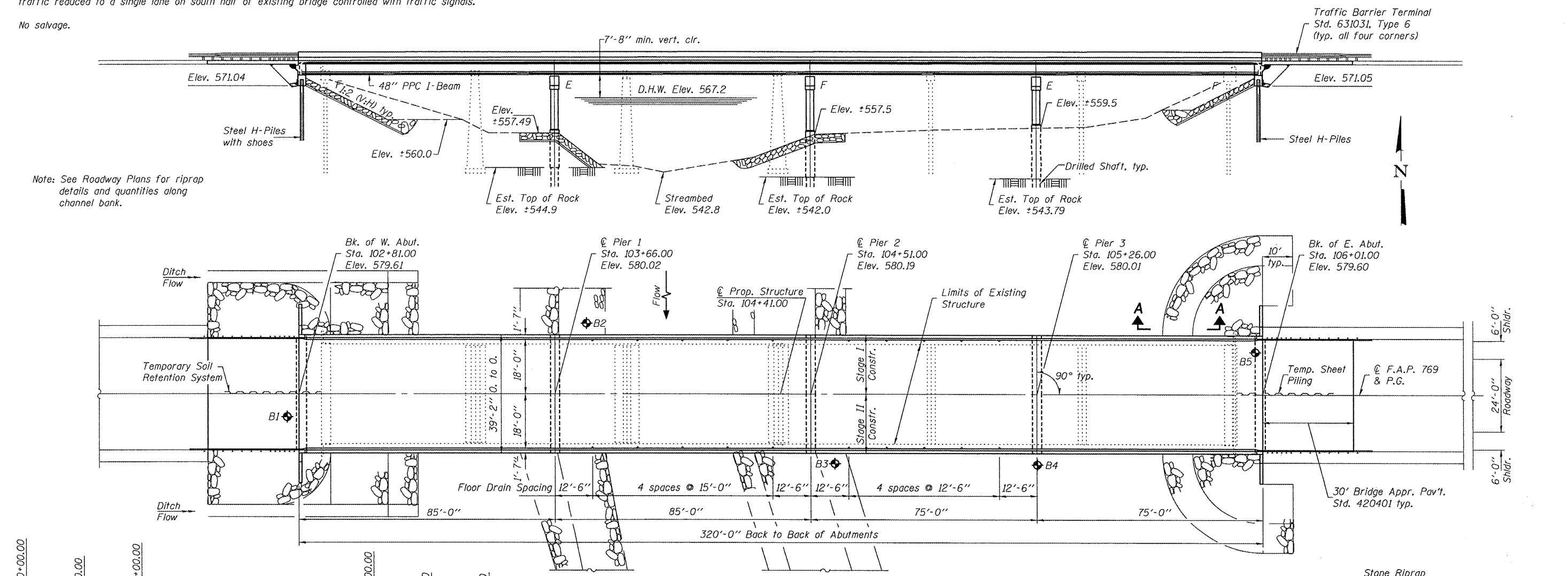
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAP 769	110B-2	MACOUPIN	98	41	38 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72813

Existing Structure: S.N. 059-0023, originally built in 1932 as F.A. Route 769, Section 110 B.C. In 1982, the thru truss was replaced with PPC deck beams and superstructure and substructure were widened and one new pier was constructed. The existing structure consists of six spans; spans 1, 4, 5 and 6 are steel beams with a concrete deck and spans 2 & 3 are PPC deck beams. The structure is 304'-3³/₄" back to back of abutments and 33'-0" out to out of deck. The existing structure is to be removed and replaced. Traffic is to be maintained utilizing stage construction. Existing traffic reduced to a single lane on south half of existing bridge controlled with traffic signals.

No salvage.



DESIGNED *Tom X. Kuttel*
CHECKED *Jay D. Edwards*
DRAWN W.D. Collins
CHECKED *TKK JDE*

EXAMINED *Thomas J. Dwyer*
PASSED *Ralph E. Anderson*

PROFILE GRADE
(IL. Rte. 108)
June 17, 2008



EXPIRES 11-30-2008

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	West Abut.	Pier 1	Pier 2	Pier 3	East Abut.
	571.0	544.9	542.0	543.8	571.0

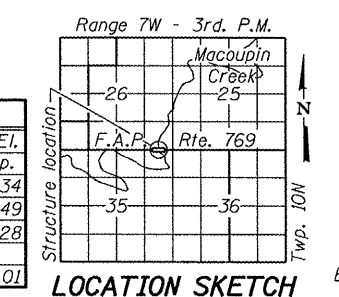
WATERWAY INFORMATION

Drainage Area = 160.97 sq. mi. Low Grade Elev. 578.48 @ Sta. 109+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Nat. Prop.	Head - Ft. H.W.E. Exist.	Prop.	Headwater El. Exist.	Prop.
Min. Calc.	10	8028	2118	2389	565.17	0.21	0.17	565.38
Design	50	11859	2603	2955	567.24	0.28	0.25	567.52
Base	100	13453	2804	3186	567.99	0.33	0.29	568.32
Overlapping	NA							
Max. Calc.	500	17211	3216	3656	569.63	0.39	0.38	570.02

STATION 104+41.00
BUILT 200 BY
STATE OF ILLINOIS
FAP ROUTE 769 - SECTION 110B-2
LOADING HL93
STRUCTURE NO. 059-0509

NAME PLATE
See Std. 515001



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

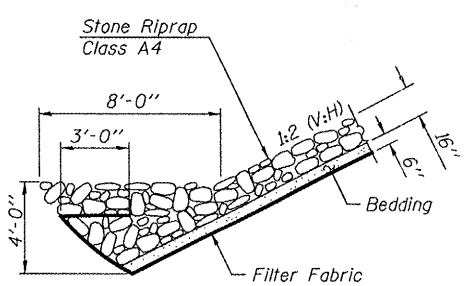
DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications, 4th. Edition

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS
 $f'_c = 7,000$ psi
 $f'_{ci} = 6,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax strands)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.062g
Site Coefficient (S) = 1.0



GENERAL PLAN AND ELEVATION
IL. ROUTE 108 OVER
MACOUPIN CREEK
F.A.P. ROUTE 769 - SEC. 110B-2
MACOUPIN COUNTY
STATION 104+41.00
STRUCTURE NO. 059-0509