APPROVED

MAR 20 2003

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

533	11BR-1-B	McHenry	2	1

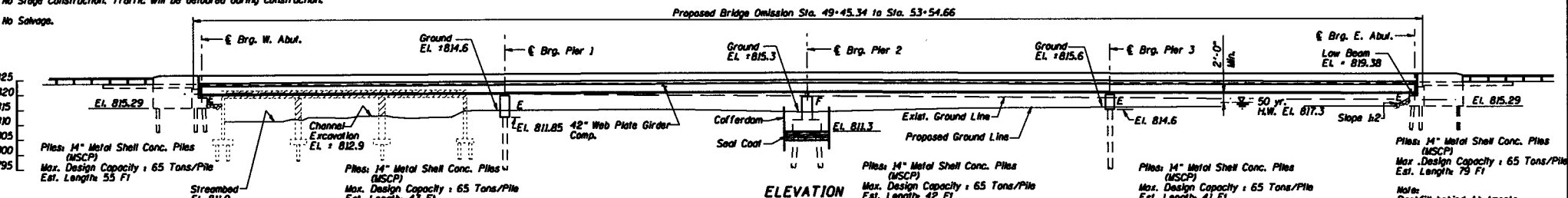
SHEET NO. 1 OF 2 SHEETS

B.M. - PK Nail at Centerline of Roadway at Sta. 72+18.32, Elev. 828.07

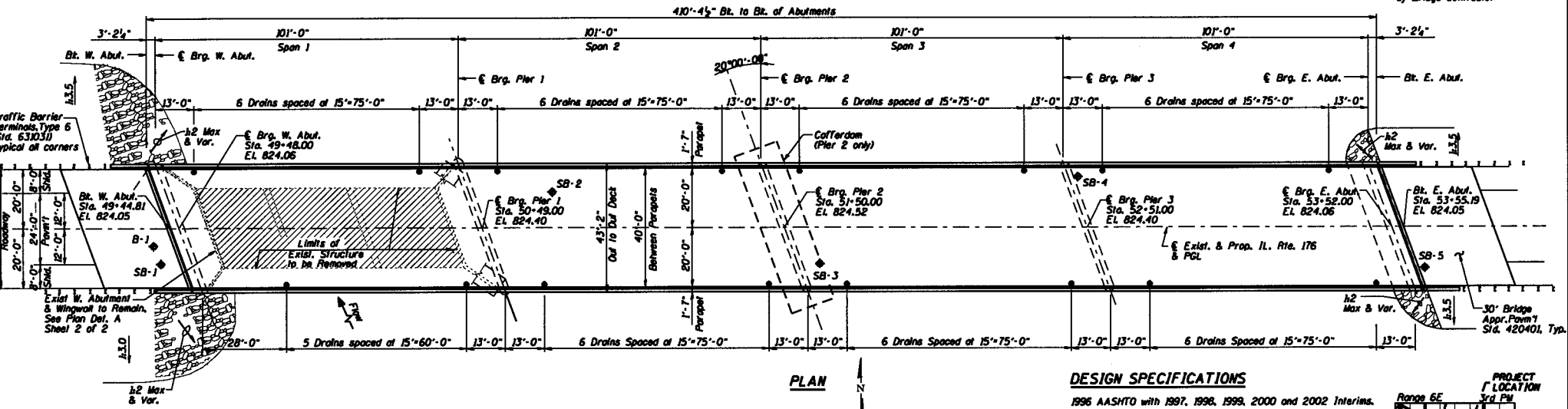
Existing Structure: S.N. 056-0004, built in 1932 as SBI-67. Reconstructed in 1971. The existing structure consists of a 3 (simple) span PPC deck beam superstructure on pile supported closed abutments and pile supported piers. The structure is ±78'-5" Bt. to Bt. abutments and 33'-0" O. to O. deck. The structure is to be removed and replaced. However, the west abutment will remain in place.

No Stage Construction. Traffic will be detoured during construction.

No Salvage.



ELEVATION

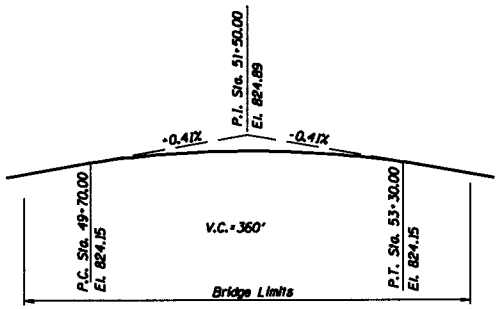


PLAN

NOTE:
The existing east wingwalls will be removed, but the footings of these wingwalls will remain in place and slightly conflict with the proposed Pier 1.

LEGEND

- Existing Structure to be Removed
- Existing Structure to Remain in Place
- SB-1 - Soil Boring
- B-1 - Previous Boring at W. Abutment



ROADWAY PROFILE
Along ℄ IL Rte. 176

WATERWAY INFORMATION

Drainage Area = 72.7 mi² Low Grade Elev. 822.5 ft @ Sta. 55+00 - 56+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.
Overtop	2	1408	285		816.2	1.0		817.2	
-	10	2035	320	709	818.7	1.1	0.3	817.8	817.0
Design	50	3034	363	922	817.3	0.9	0.4	818.2	817.7
Base	100	3913	398	1100	817.8	0.8	0.5	818.6	818.3
Max. Calc.	500	5736	430	1389	818.6	0.5	0.6	819.1	819.2

DESIGN SPECIFICATIONS

1996 AASHTO with 1997, 1998, 1999, 2000 and 2002 Interims.

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Structural Steel M270 Grade50)

SEISMIC DATA

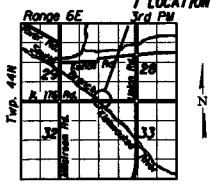
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.035g
Site Coefficient (S) = 1.0

HIGHWAY CLASSIFICATION

F.A.P. Route 533
Class: Other Principal Arterial
A.D.T.: 8,300 (1999)
9,960 (2019)
A.D.T.T.: 822 (1999)
Posted Speed: 55m.p.h.
Design Speed: 65m.p.h.

LOADING HS20-44

Allow 50 #/ sq. ft. for Future Wearing Surface



LOCATION SKETCH

DESIGNED	R.A.D.
CHECKED	S.D.H.
DRAWN	E.B.
CHECKED	R.A.D.

GENERAL PLAN 1
IL Route 176 over
South Branch of the Kishwaukee River
F.A.P. RTE 533, SECTION 11BR-1-B
McHENRY COUNTY
STATION 51+50.00
DATE: 03-10-03 S.N. 056-0071

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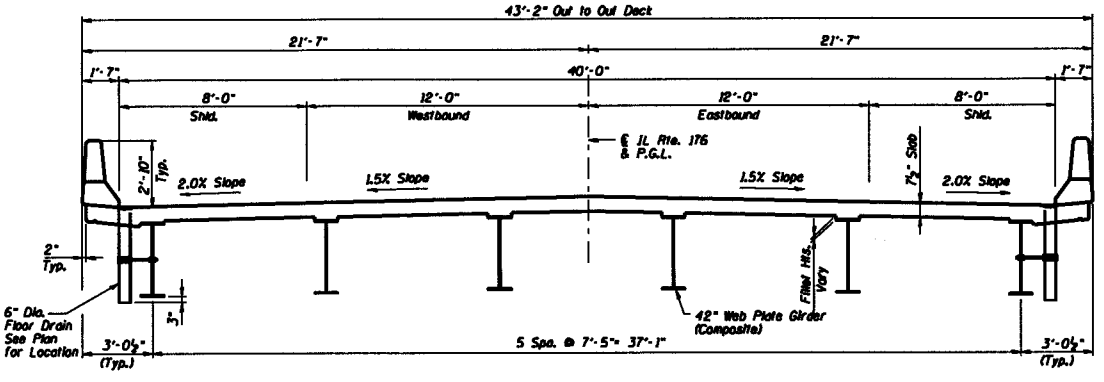
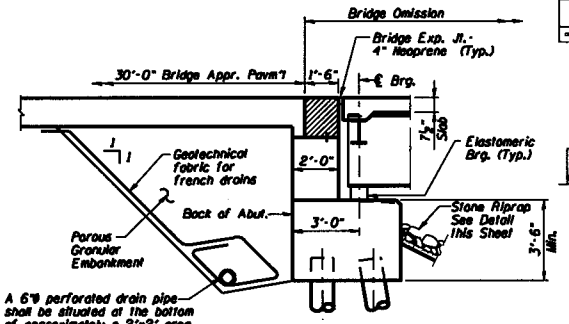
					SHEET NO. 2 OF 2 SHEETS
533	119R-1-B	McHenry	2	2	



SECTION THRU BRIDGE

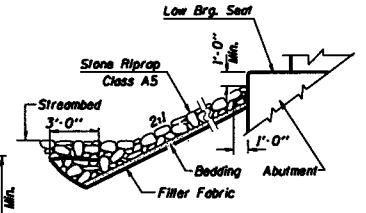
(Looking East)

Note: The deck will be composite with the steel stringers in the positive moment areas.

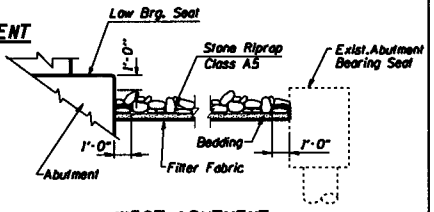


SECTION THRU WEST ABUTMENT

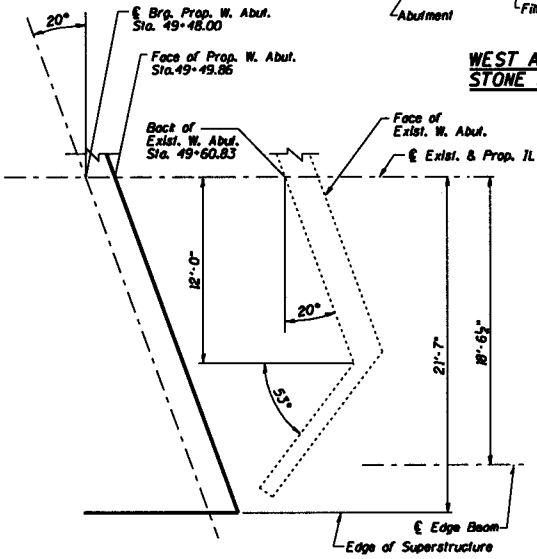
(Dimensions @ Rt. L's)



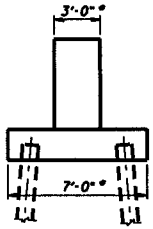
EAST ABUTMENT STONE RIPRAP ANCHOR DETAIL



WEST ABUTMENT STONE RIPRAP DETAIL

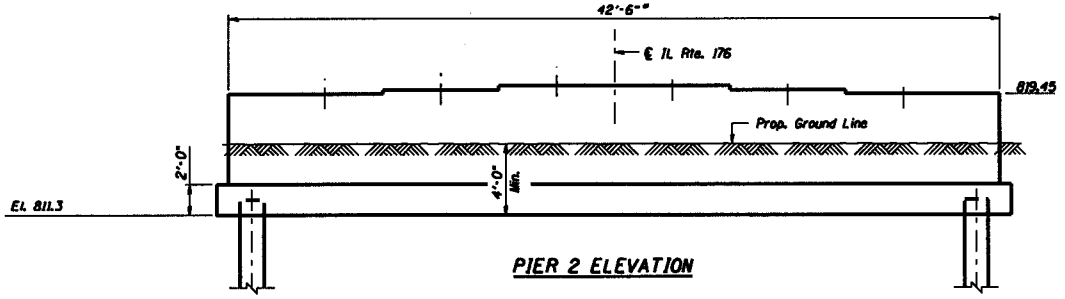


PLAN DETAIL A

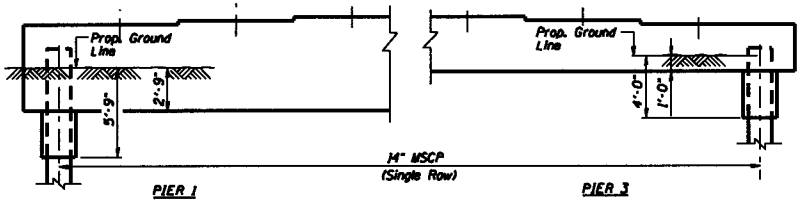


END VIEW

* - Subject to refinement during final design



PIER 2 ELEVATION



PIER 1 AND 3 ELEVATION

NOTE:

Use Elastomeric Bearings at Abutments, Pier 1 and 3.

DESIGNED	R.A.D.
CHECKED	S.D.H.
DRAWN	E.B.
CHECKED	R.A.D.

GENERAL PLAN II
IL Route 176 over
South Branch of the Kishwaukee River
F.A.P. RTE 533, SECTION 119R-1-B
McHENRY COUNTY
STATION 51+50.00
DATE: 03-10-03 S.N. 056-0071

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