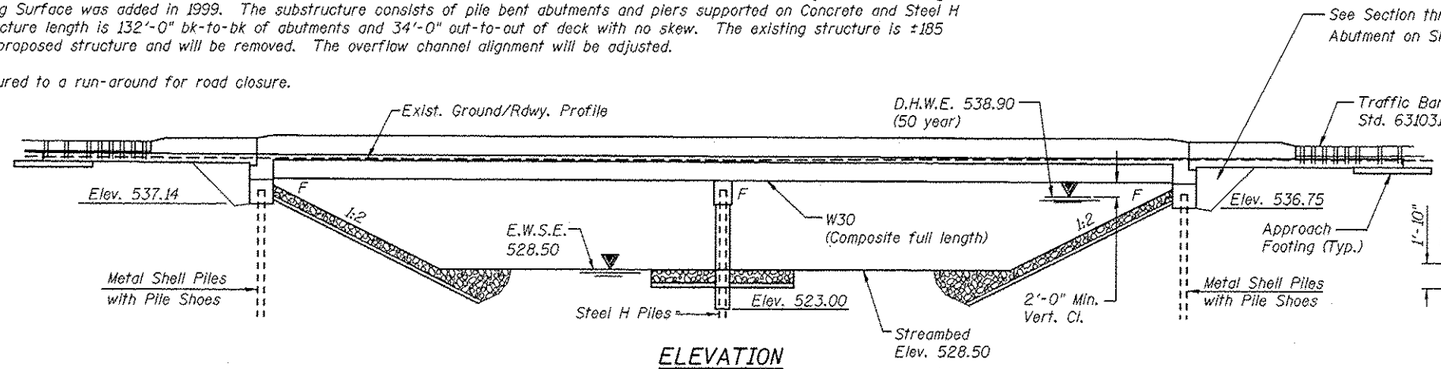
Bench Mark: B.M. 53 Chiseled square set in the northwest headwall of structure 054-0008, Elevation 543.97.

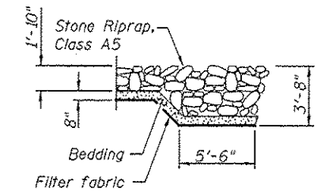
Existing Structure: S.N. 054-0008 built in 1931 as S.B.I. Rte. 120, Section 102-B and reconstructed in 1983 as F.A. 717, Section 102BR-1 at Station 509+65. The three-span superstructure consists of precast, prestressed concrete deck beams with a HMA wearing surface. A 5½" Concrete Wearing Surface was added in 1999. The substructure consists of pile bent abutments and piers supported on Concrete and Steel H Piles. The structure length is 132'-0" bk-to-bk of abutments and 34'-0" out-to-out of deck with no skew. The existing structure is ±185 ft west of the proposed structure and will be removed. The overflow channel alignment will be adjusted.

Traffic to be detoured to a run-around for road closure.

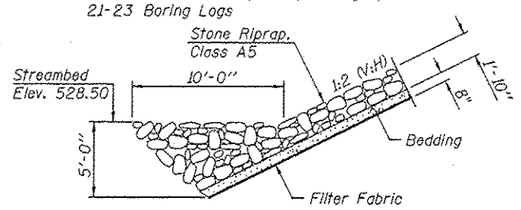
No Salvage



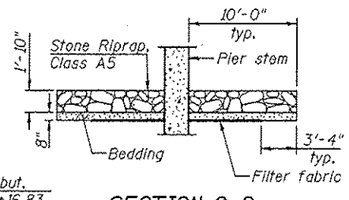
ELEVATION



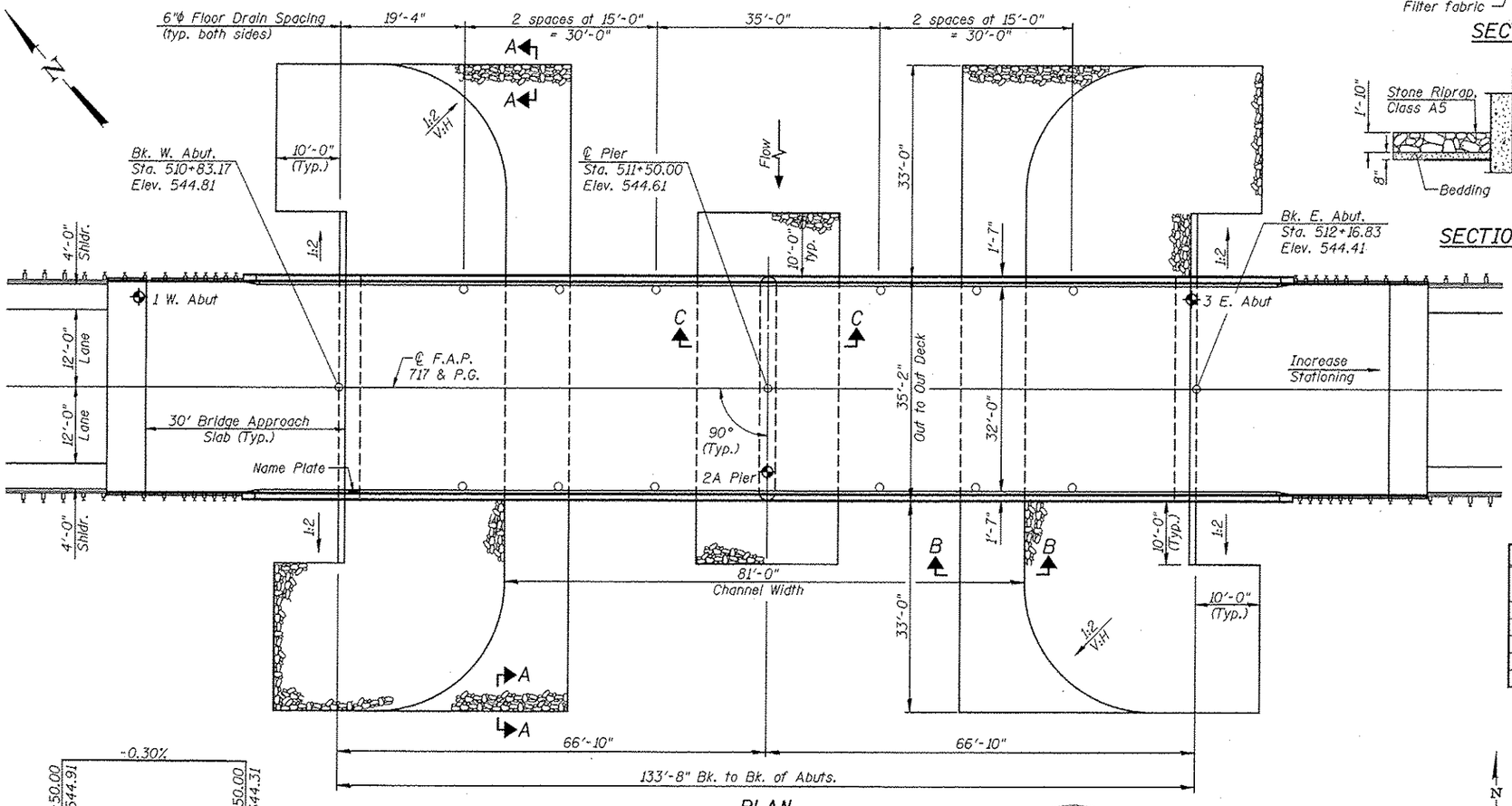
SECTION A-A



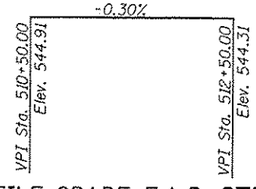
SECTION B-B



SECTION C-C



PLAN



PROFILE GRADE F.A.P. RTE. 717
Along ℄ Roadway

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)			
	W. Abut.	Pier	E. Abut.
Q_{100}	537.14	520.30	536.75
Q_{500}	537.14	520.30	536.75

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

LICENSED STRUCTURAL ENGINEER * MARY COOMBE BLOXDORF 4859 SPRINGFIELD * STATE OF ILLINOIS

ILLINOIS STRUCTURAL NO. 4859
EXPIRES 11/30/14
DATE: 10/22/13

INDEX OF SHEETS

1	General Plan and Elevation
2	General Data
3-4	Top of Slab Elevations
5	Top of West Approach Slab Elevations
6	Top of East Approach Slab Elevations
7	Superstructure
8	Superstructure Details
9	Diaphragm Details
10-11	Bridge Approach Slab Details
12	Framing Plan
13	Structural Steel Details
14	Bearing Details
15	West Abutment
16	East Abutment
17	Pier
18	HP Pile Details
19	Metal Shell Pile Details
20	Concrete Parapet Slipforming Option
21-23	Boring Logs

LOADING HL-93

Allow 50 psf. for future wearing surface.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition

DESIGN STRESSES

FIELD UNITS

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

SEISMIC DATA

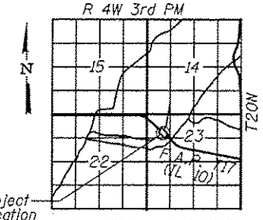
Seismic Performance Zone (SPZ)= 1
Design Spectral Acceleration at 1.0 sec. (SD1)= 0.132
Design Spectral Acceleration at 0.2 sec. (SDs)= 0.221
Soil Site Class= D

WATERWAY INFORMATION

Drainage Area = 365 sq. mi. Low Grade Elev. 540.61 @ Sta. 496+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	3791	586	689	536.7	1.0	1.0	537.7	537.7
Design	50	8267	830	954	538.9	2.0	2.0	540.9	540.9
Base	100	11469	938	1068	539.8	3.4	3.4	543.2	543.2
Overtopping		<500 Yr.							
Max. Calc.	500	19560	1189	1212	542.1	3.2	3.2	545.3	545.3

10 year velocity through Existing Bridge = 4.79 ft/s
10 year velocity throught Proposed Bridge = 5.66 ft/s



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
IL 10 OVER SUGAR CREEK OVERFLOW
F.A.P. 717
SEC. (102B-1, 102CR, 102BR-2)RS-5
LOGAN COUNTY
STATION 511+50.00
STRUCTURE NO. 054-0515

FILE NAME = c:\054-0515-72882-281-gpe.dgn
IDOT PROJECT NO 97834-9

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

USER NAME = _MML_	DESIGNED AMC	REVISED -	
	CHECKED MCB	REVISED -	
PLOT SCALE = 21.3334 ' / IN.	DRAWN MML	REVISED -	
PLOT DATE = 10/24/2013	CHECKED MCB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 23 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
717	(102B-1, 102CR, 102BR-2)RS-5	LOGAN	218	55
		CONTRACT NO. 72882		
		ILLINOIS FED. AID PROJECT		