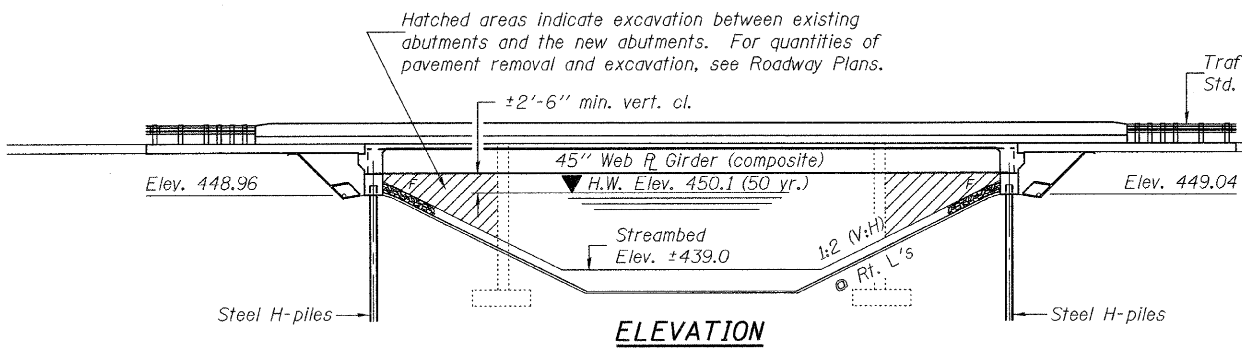
Bench Mark: RAN 3-6-IDOT. Disk in NW WW. 20.68' W. of centerline of Rte. 4, of bridge over Plum Creek stamped "RAN 3-6" @ Sta. 793+15.13. Elev. 454.84

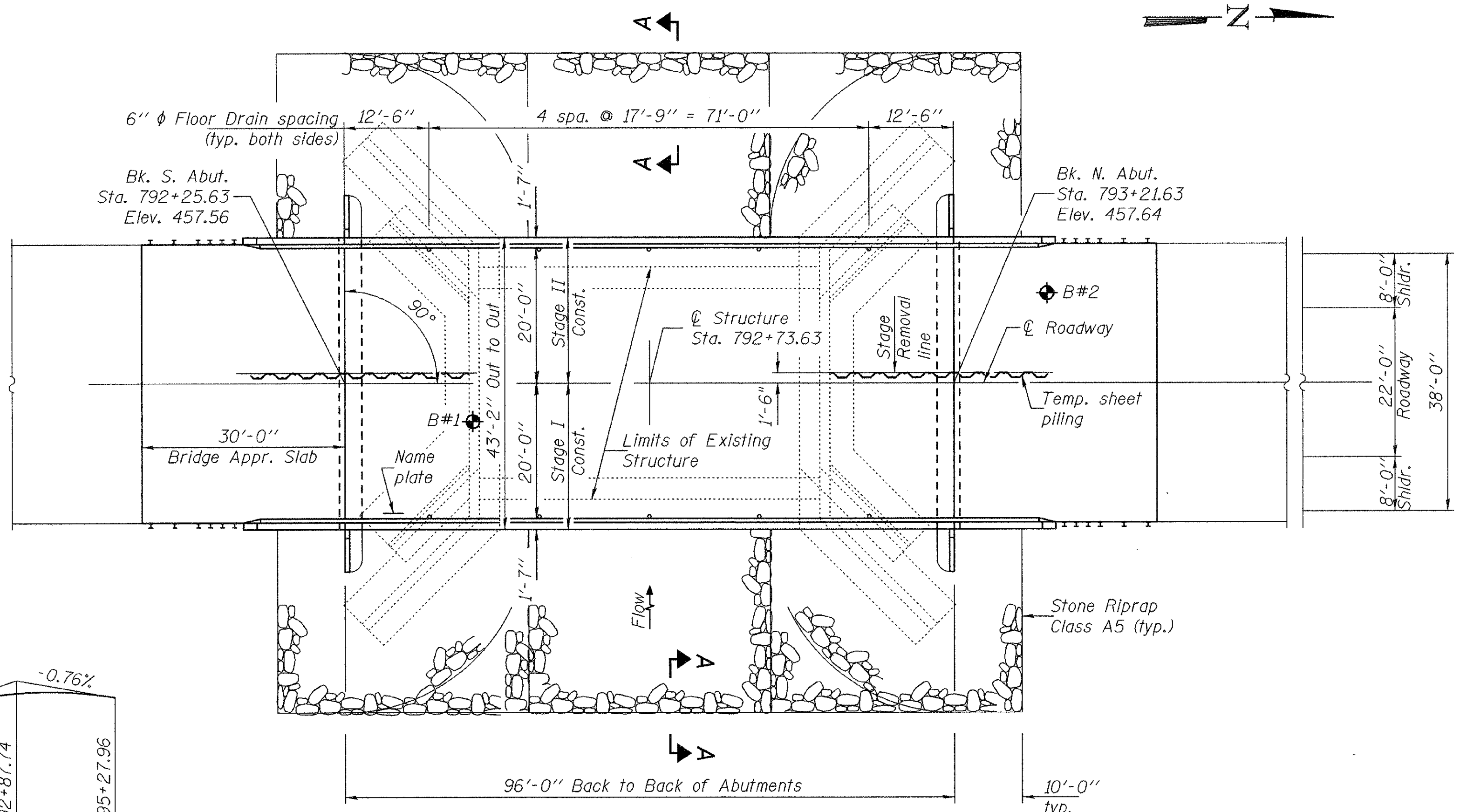
Existing Structure: S.N. 079-0006 built in 1924 as S.B.I. Rte. 13, Section 21B. The existing structure is a single span concrete T-beams on closed abutments. In 1954 the structure was widened. The structure length is 53'-6" Bk. to Bk. abutments and the width is 34'-4" out to out of deck. The contractor shall remove the existing structure and replace it with the proposed structure. Traffic to be maintained utilizing stage construction.

No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



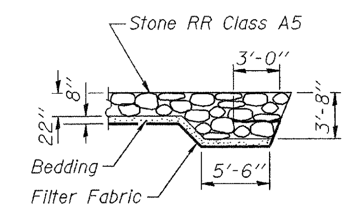
ELEVATION



PLAN

STATION 792+73.63
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 682 SEC. 21BR, 21-I-1
LOADING HS20-44
STRUCTURE NO. 079-0050

NAME PLATE
See Std. 515001



SECTION A-A

INDEX OF SHEETS

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

1996 AASHTO with 1997, 1998, 1999, 2000 & 2002 Interims

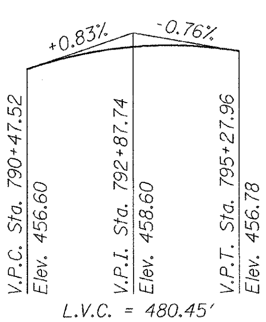
DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel) (AASHTO M270, Grade 50)
f_y = 36,000 psi (structural steel) (AASHTO M270, Grade 36)

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 12.5%g
Site Coefficient (S) = 1.5



PROFILE GRADE
(along ℄ roadway)

DESIGNED	
CHECKED	htd
DRAWN	Amber M. Seiber
CHECKED	GRA

EXAMINED — ENGINEER OF BRIDGE DESIGN — March 2, 2010

PASSED — ENGINEER OF BRIDGES AND STRUCTURES

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

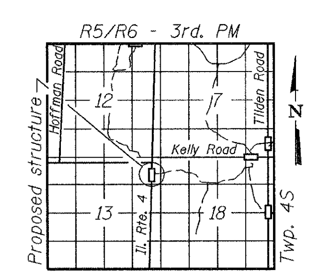
EXPIRES 11-30-2010

WATERWAY INFORMATION

Existing Low Grade Elev. 452.0 @ Sta. 774+96

Drainage Area = 13.3 mi.²			Proposed Low Grade Elev. 452.0 @ Sta. 774+96						
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	2717	413	561	449.7	0.3	0.4	450.0	450.1
Design	50	4232	433	591	450.1	1.6	1.0	451.7	451.1
Overtopping	75	4500	434	-	450.2	1.8	-	452.0	-
Base	100	4884	434	598	450.2	2.2	1.4	452.4	451.6
Max. Calc.	500	6459	434	613	450.4	4.5	1.7	454.9	452.1

10 Year Velocity through Existing Bridge = 6.9 fps
10 Year Velocity through Prop. Bridge = 5.3 fps
All-Time H.W.E. 452.3



LOCATION SKETCH

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 4 OVER
PLUM CREEK
F.A.P. ROUTE 682 - SECTION 21BR, 21-I-1
RANDOLPH COUNTY
STATION 792+73.63
STRUCTURE NO. 079-0050

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	682	21BR, 21-I-1	RANDOLPH	77	40
			CONTRACT NO. 76126		
	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

0790050-76126.dgn 03/02/2010 2:34:28 PM