

Bench Mark: BM chiseled on the NW wingwall of S.N. 088-0017. Elevation = 707.77

Existing Structure: S.N. 088-0017 Built in 1932 as S.B.I.-93, Section 107-B at Station 85+27. The structure is a single span reinforced concrete slab bridge supported on timber pile closed abutments 20 ft. Bk. to Bk. The existing structure is to be removed and replaced. The traffic will be detoured during construction.

No salvage

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.S. 22-44	(107B) BR	STARK	39 14	10 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

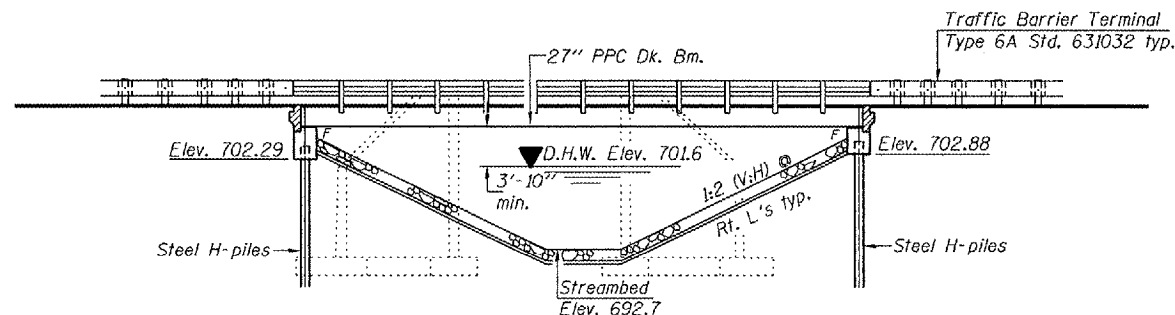
Contract #68115

INDEX OF SHEETS

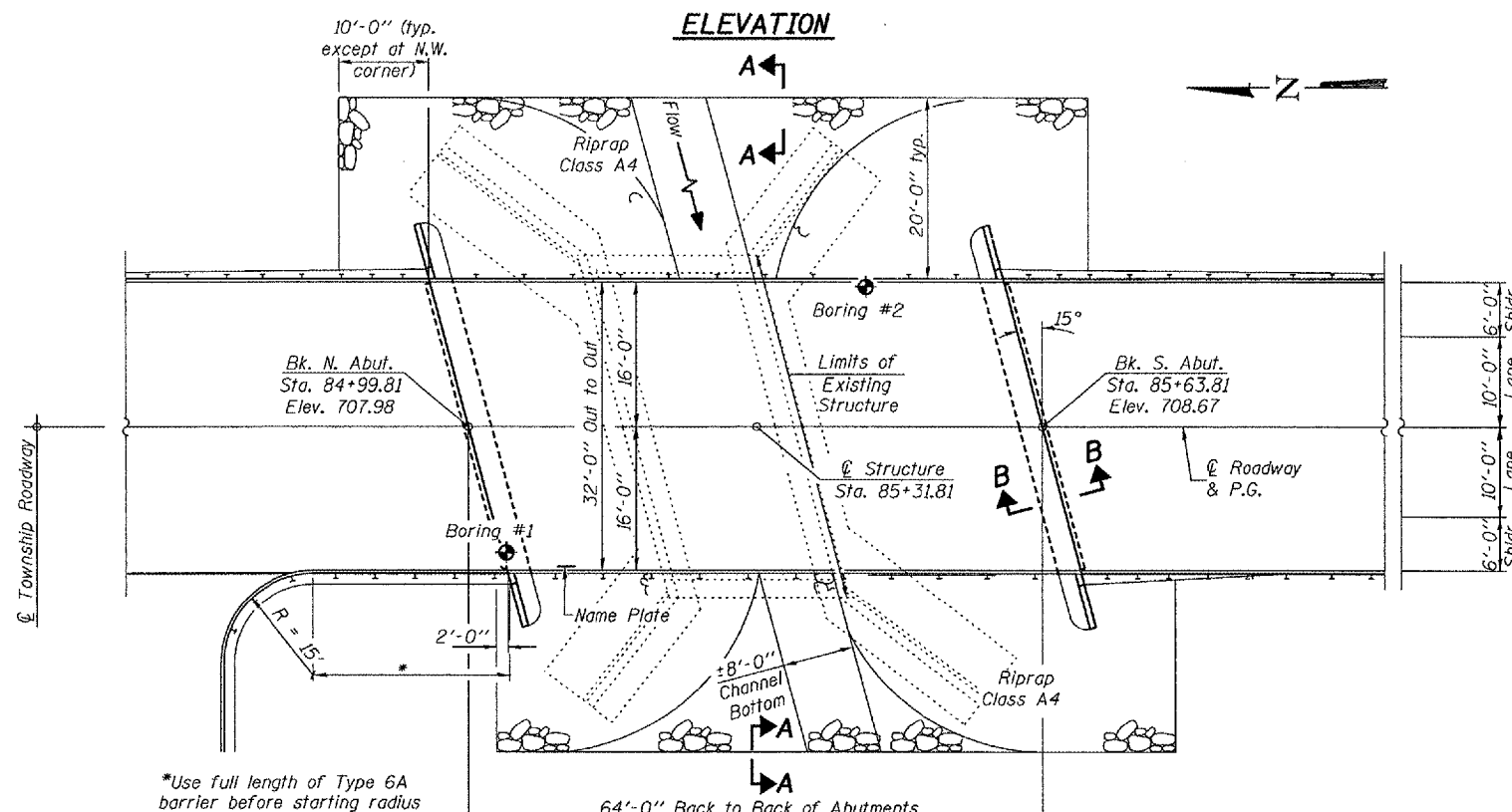
1. General Plan & Elevation
2. Superstructure
3. Superstructure Details
- 4.-5. 27x48 PPC Deck Beam Details
6. Steel Railing, Type SM
7. Abutments
8. Abutment Details
9. Steel H-Pile Details
10. Boring Logs

GENERAL NOTES

- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions
- Reinforcement bars designated (E) shall be epoxy coated.
- Concrete Sealer shall be applied to exterior vertical face and to outer one foot of bottom face of each fascia beam.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
- Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

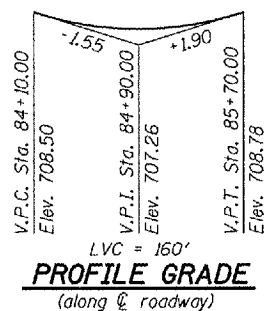


ELEVATION



PLAN

\*Use full length of Type 6A barrier before starting radius see Roadway Plans.



STATION 85+31.81  
BUILT 20 BY  
STATE OF ILLINOIS  
F.A.S. RT. 2244 - SEC. (107B)BR  
LOADING HS20  
STR. NO. 088-0029

NAME PLATE  
See Std. 515001

WATERWAY INFORMATION

Drainage Area = 2.33 Sq. Mi. Low Grade Elev. 707.9 @ Sta. 84+68

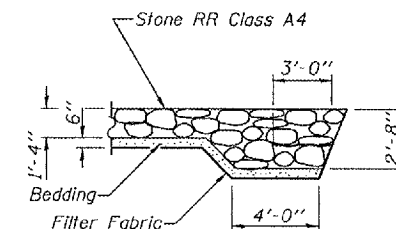
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	682	141	216	701.3	0.1	0.0	701.4	701.3	
Base	20	839	146	229	701.6	0.2	0.0	701.8	701.6	
Overtopping	100	1302	159	262	702.3	0.8	0.0	703.1	702.3	
Max. Calc.	500	1769	169	290	702.9	1.7	0.0	704.6	702.9	

DESIGNED *Stephan Ryan*  
CHECKED *Daniel F. Gorman*  
DRAWN *R. Sommer*  
CHECKED *SMR/DFZ/SEM*

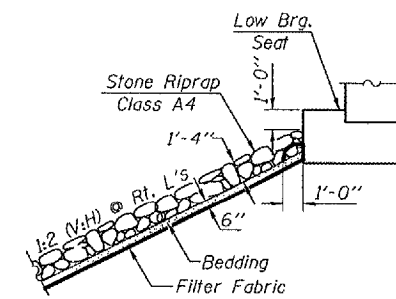
EXAMINED *Thomas J. ...*  
PASSED *Robert E. ...*  
March 2008



EXPIRES 11-30-2008



SECTION A-A



SECTION B-B

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		617	617
Filter Fabric	Sq. Yd.		617	617
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		18.3	18.3
Driving Piles	Foot		329	329
Concrete Structures	Cu. Yd.		31.9	31.9
Bridge Deck Grooving	Sq. Yd.	213		213
Protective Coat	Sq. Yd.	228		228
Concrete Wearing Surface, 5"	Sq. Yd.	218.4		218.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1965		1965
Reinforcement Bars, Epoxy Coated	Pound	2780	4630	7410
Steel Railing, Type SM	Foot	126		126
Furnishing Steel Piles HP12x53	Foot		329	329
Test Pile Steel HP12x53	Each		1	1
Name Plates	Each		1	1
Concrete Sealer	Sq. Ft.	399		399

LOADING HS20-44  
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO

DESIGN STRESSES

FIELD UNITS

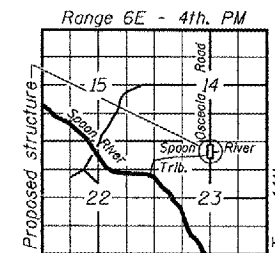
- $f'_c = 5000$  psi (Concrete Wearing Surface)
- $f'_c = 3500$  psi (Substructure)
- $f_y = 60000$  psi (Reinforcement)

PRECAST PRESTRESSED UNITS

- $f'_c = 5000$  psi
- $f'_a = 4000$  psi
- $f'_s = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low lax. strands)
- $f'_s = 189,000$  psi ( $\frac{3}{8}$ "  $\phi$  low lax. strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 3.8%  
Site Coefficient (S) = 1.2



LOCATION SKETCH

GENERAL PLAN & ELEVATION  
OSCEOLA ROAD OVER  
SPOON RIVER TRIBUTARY  
F.A.S. ROUTE 2244 - SECTION (107B)BR  
STARK COUNTY  
STATION 85+31.81  
STRUCTURE NO. 088-0029