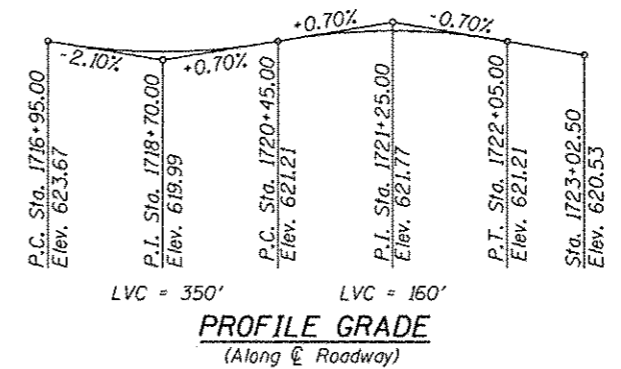
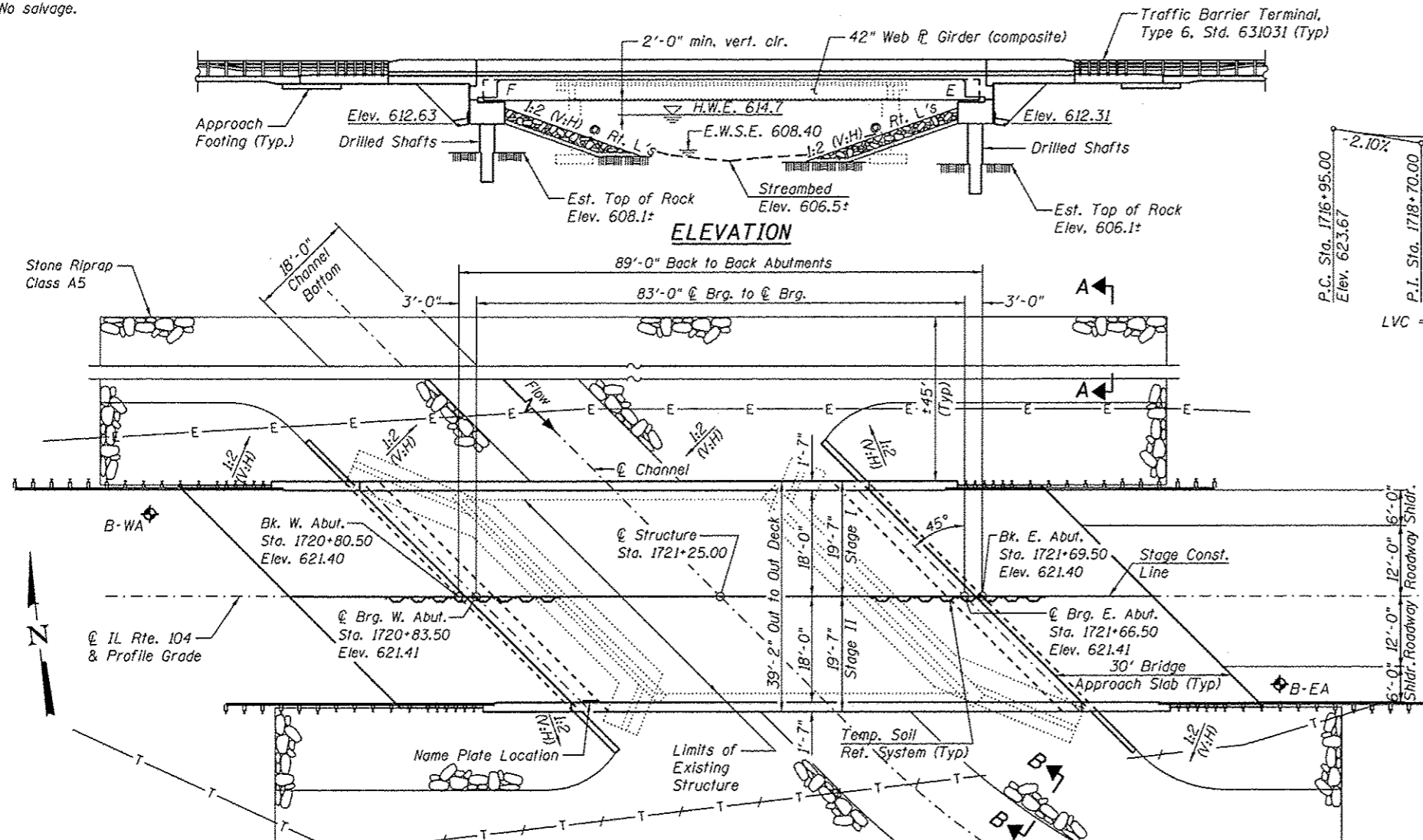


Bench Mark: Chiseled 'a' on Top of Wingwall at NE corner of existing structure, Elev. 617.90.

Existing Structure: S.N. 075-0029 built in 1934 as SBI 105, Section 108B. Superstructure replaced in 1975 as SBI 105, Section 108BR. Six PPC deck beams were replaced in 2008. The superstructure consists of PPC deck beams. Overall length is 54' back-to-back abutments, 32'-9" out-to-out deck. The structure is on a 45 degree right ahead skew and has a 5" concrete overlay. The substructure is composed of closed abutments on spread footings keyed into rock. The structure is to be replaced using stage construction while maintaining one lane of traffic.

No salvage.



**INDEX OF SHEETS**

1. General Plan and Elevation
2. General Data
3. Stage Construction Details
4. Temporary Concrete Barrier
5. Deck Elevations
6. Approach Slab Elevations
7. Superstructure
8. Superstructure Details
9. Concrete Parapet Silforming Option
10. Concrete End Diaphragms
- 11-12. Bridge Approach Slab Details
13. Framing Plan & Steel Details
14. Bearing Details
15. West Abutment
16. East Abutment
17. Bar Splicer Assembly Details
- 18-19. Soil Borings

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

**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.093g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.163g  
Soil Site Class = C

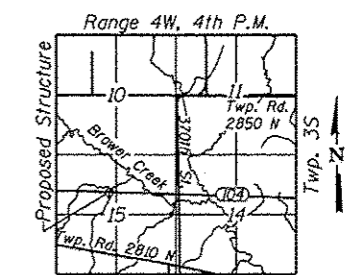
**DESIGN SPECIFICATIONS**  
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

**DESIGN STRESSES**  
**FIELD UNITS**  
 $f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (Reinforcement)  
 $f_y$  = 50,000 psi (M270 Grade 50W)

**APPROVED**  
For Structural Adequacy Only  
*Michael J. Haly*  
Engineer of Bridges & Structures



*Michael J. Haly* 6-11-14  
Michael T. Haly  
Licensed Structural Engineer  
State of Illinois No. 81-5991  
Expires 11/30/2014



LOCATION SKETCH

**GENERAL PLAN & ELEVATION**  
**ILLINOIS RTE. 104 OVER BROWER CREEK**  
**F.A.P. RTE. 745, SECTION 108B-3**  
**PIKE COUNTY**  
**STATION 1721+25.00**  
**STRUCTURE NO. 075-0511**

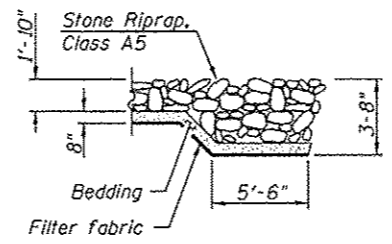
**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevations (ft.)		
	W. Abut.	E. Abut.
Q100	612.63	612.31
Q500	612.63	612.31

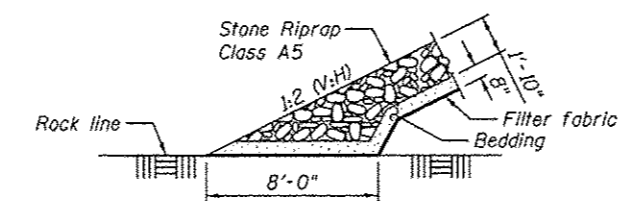
**WATERWAY INFORMATION**

		Exist. Low Grade Elev. 619.6 @ Sta. 1723+52		Prop. Low Grade Elev. 619.7 @ Sta. 1724+07		
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	1060	170	200	613.7	614.2
Base	50	1740	210	240	614.7	615.9
Overlapping	100	2050	230	260	615.1	616.1
Max. Calc.	500	2830	260	300	616.0	617.8

10 Year Velocity thru Exist. Bridge = 6.0 fps 10 Year Velocity thru Prop. Bridge = 5.4 fps



SECTION A-A



SECTION B-B

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



USER NAME *	DESIGNED - HP	REVISED -
FILE NAME *	CHECKED - MTH	REVISED -
PLOT SCALE *	DRAWN - AJF	REVISED -
PLOT DATE *	CHECKED - MTH	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
745	108B-3	PIKE	69	36
CONTRACT NO. 72B61				
ILLINOIS FED. AID PROJECT				