

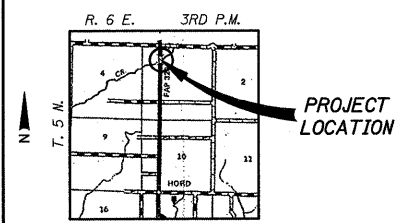
0130039-74310-01-6FEL.DGN AUG. 14, 2009

**BENCHMARK** T.B.M. Chiseled "□" Top N.E.  
Corner of Bridge  
Sta. 812+27±, 17.5' Lt.  
El. 504.13

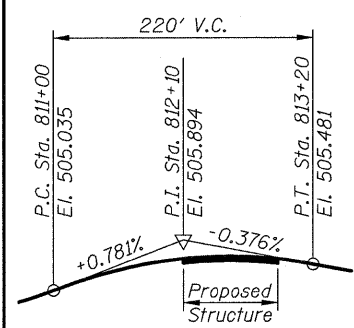
**EXISTING STRUCTURE**  
Structure Number 013-0009 was originally built in 1920 under Section 4A and reconstructed in 1974. It consists of a single span 21' precast, prestressed concrete deck beam bridge supported on closed concrete abutments. The lower portion of the abutments are from the original 1920 structure and are supported on spread footings while the reinforced concrete caps are from the 1974 reconstruction. The structure measures 48'-0" back to back of the abutments and 33'-0" out to out of the deck.

The existing structure is to be removed and replaced.  
The existing roadway will remain open to one lane of traffic during the construction period utilizing stage construction.

**SALVAGE** No salvage



**LOCATION SKETCH**

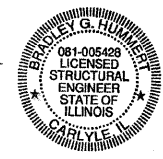


**PROFILE GRADE**  
F.A.P. RTE. 328 (U.S. 45)  
along U.S. Rte. 45

DESIGNED	B.G.H.
CHECKED	L.D.G.
DRAWN	K.H.L.
CHECKED	B.G.H.

*Bradley J. Hummert*  
Bradley J. Hummert  
Licensed Structural Engineer  
in Carlyle, Illinois  
No. 081-005428, Expires 11/30/2010

Date: 8/14/09

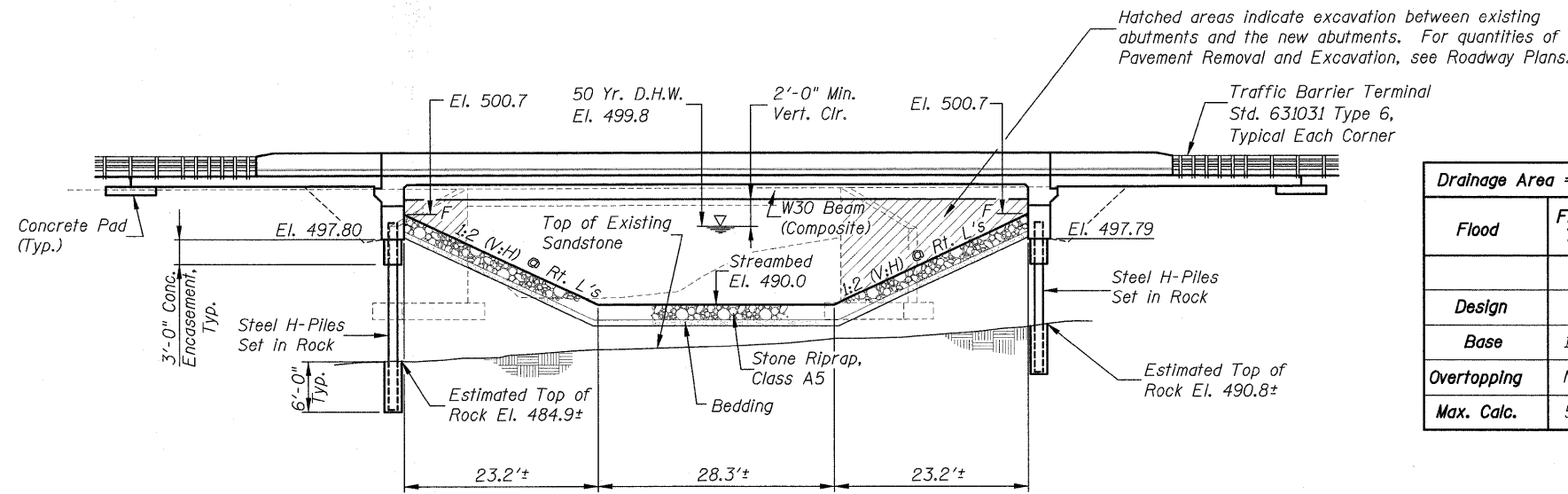


**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

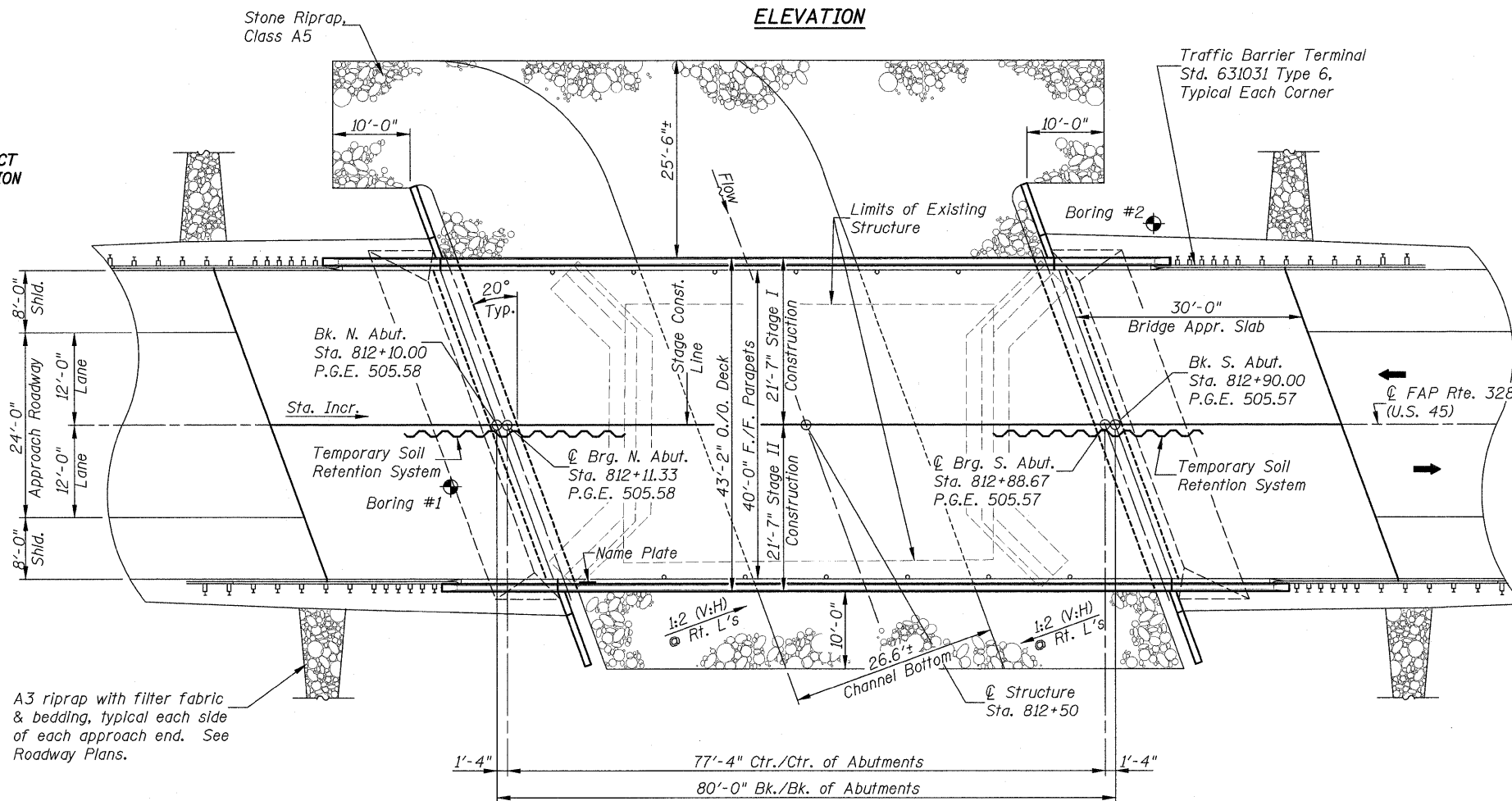
*Ralph E. Anderson (TSD)*  
Ralph E. Anderson (TSD)  
ENGINEER OF BRIDGES AND STRUCTURES

STATION 812+50  
BUILT 20 BY  
STATE OF ILLINOIS  
F.A.P. RT. 328 SEC. (4BR-1)B  
LOADING HL93  
STRUCTURE NO. 013-0039

**NAME PLATE**  
See Std. 515001



**ELEVATION**



**PLAN**

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (Feet)	N. Abut.	S. Abut.
	494.80	494.79

**WATERWAY INFORMATION**

Drainage Area = 10.2 Sq. Mi. Low Grade El. = 504.59 @ Sta. 809+87

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exlst.	Prop.		Exlst.	Prop.	Exlst.	Prop.
	10	1,560	309	416	499.0	0.4	0.2	499.4	499.2
<b>Design</b>	50	2,460	344	472	499.8	0.9	0.5	500.7	500.3
<b>Base</b>	100	2,860	358	494	500.1	1.1	0.7	501.2	500.8
<b>Overtopping</b>	N/A								
<b>Max. Calc.</b>	500	3,830	431	614	500.7	2.6	1.9	503.3	502.6

**INDEX OF SHEETS**

- General Plan & Elevation
- General Data
- Stage Construction Details
- Temporary Concrete Barrier for Stage Construction
- Top Of Slab Elevations
- Top Of Slab Elevations
- Top Of Slab Elevations
- Top of North Approach Slab Elevations
- Top of South Approach Slab Elevations
- Superstructure
- Superstructure Details
- Integral Abutment Diaphragm Details
- Bridge Approach Slab Details
- Bridge Approach Slab Details
- Structural Steel
- Steel Details
- North Abutment
- South Abutment
- Bar Splicer Assembly Details
- HP Pile Details
- Soil Boring Logs

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

**DESIGN STRESSES**

**FIELD UNITS**

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

**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. (SD1) = 0.098g  
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.354g  
Soil Site Class = B

**GENERAL PLAN & ELEVATION**

**U.S. RTE. 45**  
**OVER LUCAS CREEK**  
**STATION 812+50**

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	328	(4BR-1)B	CLAY	42	19
21 SHEETS		S.N. 013-0039		CONTRACT NO. 74310	
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT	

H.M.G. NO. 4915.19