

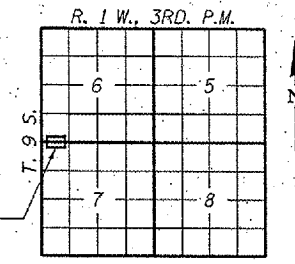
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
T.R. 209A	04-02119-00-BR	JACKSON	20	11
CONTRACT NO. 99261				

**GENERAL NOTES**

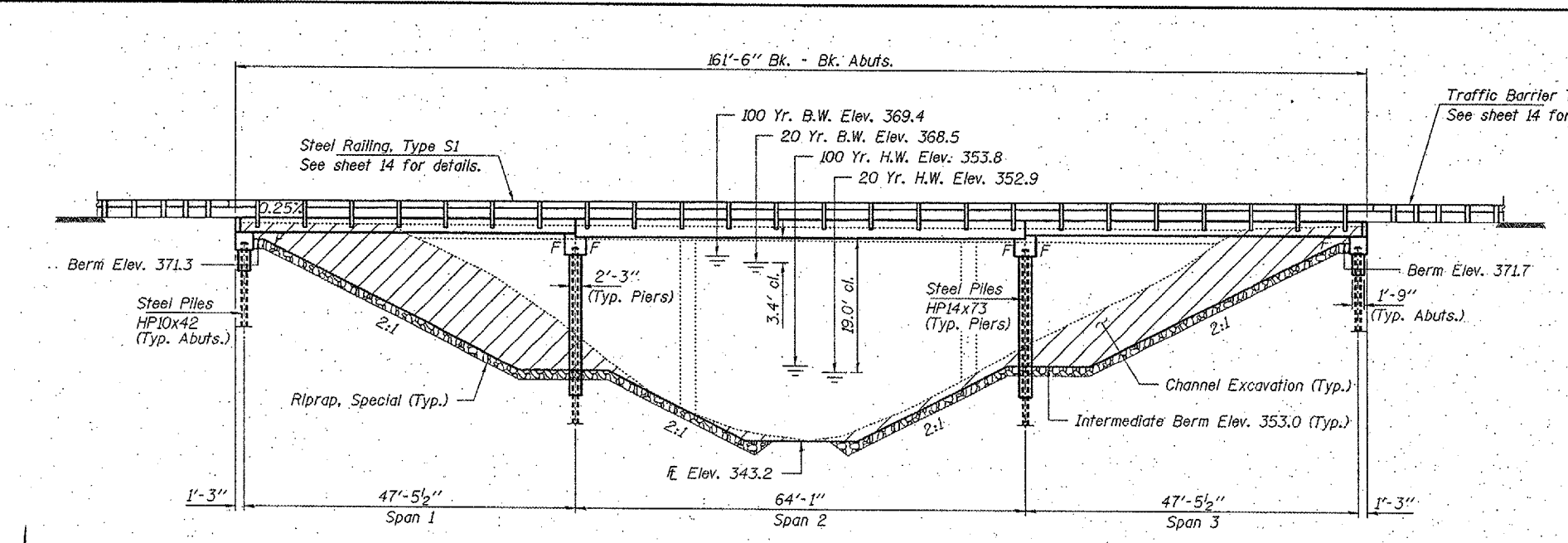
Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer. The Contractor shall drive two steel test piles in a permanent location at the West Abutment & Pier 2, as directed by the Engineer before ordering the remainder of the piles. Excavation required to construct the Abutments shall be considered incidental to Concrete Structures. No additional compensation will be allowed for Structure Excavation. All proposed construction activity shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. In addition to all other requirements of section 512 of the standard specifications, splices for Steel HP10x42 and HP14x73 Piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the contractor to use alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection. See sheets 19 & 20 for Borings.

SUGAR CREEK  
BUILT 200\_ BY  
CARBONDALE ROAD DISTRICT  
JACKSON COUNTY  
SEC. 04-02119-00-BR  
F.A. PROJ. BROS-077(4)  
LOADING HS 20 / STR. NO. 039-3255

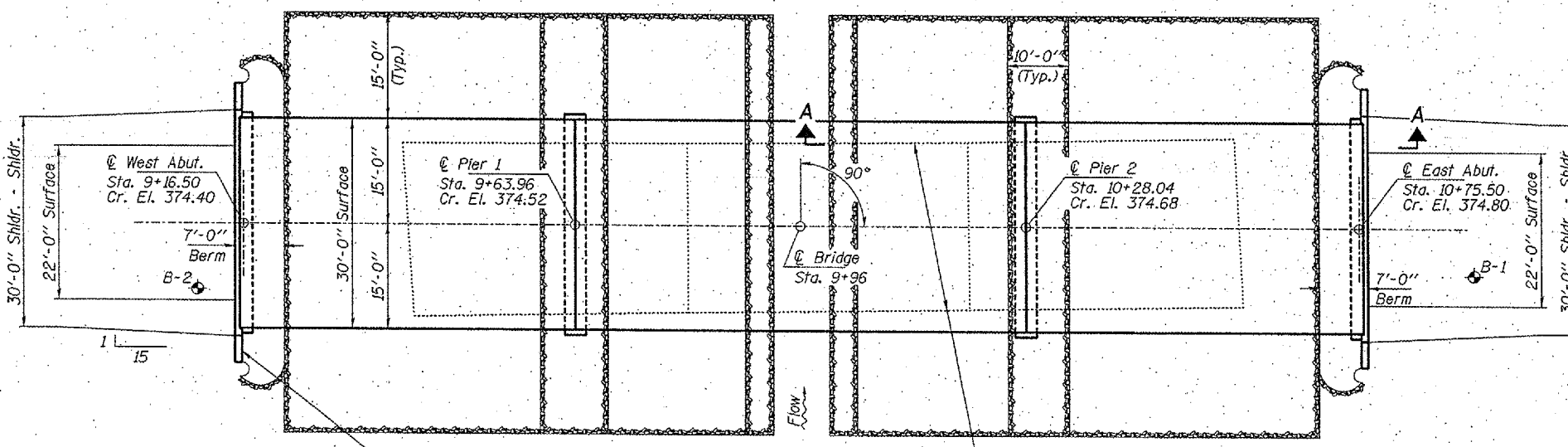
**NAME PLATE**  
See Std. 515001



**LOCATION SKETCH**



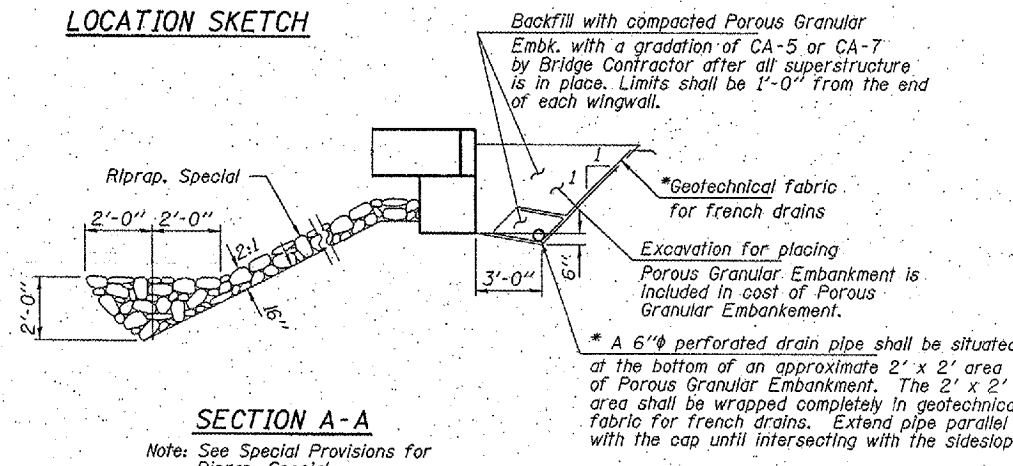
**ELEVATION**



**PLAN**

Name Plate  
See sheet 15 for location.

Limits of Existing Structure



**SECTION A-A**

Note: See Special Provisions for Riprap, Special.

\* Cost included with unit price for Porous Granular Embankment.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	Cu. Yd.		40.8	40.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	2,880		2,880
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,920		1,920
Stud Shear Connectors	Each		60	60
Reinforcement Bars	Pound		5,400	5,400
Steel Railing, Type S1	Foot	327		327
Steel Piles HP10x42	Foot		630	630
Steel Piles HP14x73	Foot		630	630
Test Pile Steel HP10x42	Each		1	1
Test Pile Steel HP14x73	Each		1	1
Concrete Encasement	Cu. Yd.		31.4	31.4
Name Plates	Each		1	1
Porous Granular Embankment	Ton			90
Riprap, Special	Ton			850

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)

**PRECAST PRESTRESSED UNITS**

$f'_c = 5,000$  psi  
 $f'_ci = 4,000$  psi  
 $f'_s = 270,000$  psi ( $1/2$ " low lax. strands)  
 $f'_si = 201,960$  psi ( $1/2$ " low lax. strands)  
 $f_y = 60,000$  psi (Reinf.)

Loading HS 20-44  
Design Specifications: 2002 AASHTO & all applicable Interims.  
25#/Sq. Ft. included in dead load for future wearing surface.

**SEISMIC DATA**

Seismic Performance Category (SPC) = B  
Bedrock Acceleration Coefficient (A) = 0.13g  
Site Coefficient (S) = 1.5

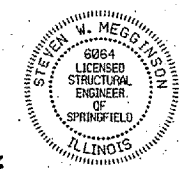
**WATERWAY INFORMATION**

Drainage Area = 4.6 Sq. Mi. Low Grade Elev. 372.0 @ Sta. 9+96

Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Sq. Ft. Prop.	Natural H.W.E. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Prop. Exist.
Design	20	1,350	300	340	352.9	0.2	0.0	353.1
Base	100	1,930	350	410	353.8	0.5	0.2	354.3
Overtopping								
Max. Calc.	500	2,480	390	460	354.5	0.7	0.3	355.2

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".

*Steven Megginis* 5/1/06  
ILLINOIS STRUCTURAL NO. 6064



Expires 11-30-06

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-47-0017-1 DATE: 05/15/06  
DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

**GENERAL PLAN AND ELEVATION**

SECTION 04-02119-00-BR  
CARBONDALE ROAD DISTRICT  
JACKSON COUNTY  
STATION 9+96 / STRUCTURE NO. 039-3255