

TBM 8/3/05"B" - RR Spike set in power pole
 31.4' Rt., Sta. 9+76.9 - Elev. 560.73
 TBM 8/3/05"A" - RR Spike set in power pole
 29.5' Rt., Sta. 13+38.08 - Elev. 562.02

Existing Structure No. 061-3017, Single span
 bridge with cast in place concrete deck on steel
 stringers supported on closed concrete abutments.
 22'L x 20'W. No salvage (See Special Provisions).

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 16	00-00115-01-BR	MARION	14	5
		ILLINOIS	FEDERAL AID PROJECT	
CONTRACT NO. 97287				

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	SUB	SUPER	TOTAL
CHANNEL EXCAVATION	CU YD	380	-	380
POROUS GRANULAR EMBANKMENT	TON	32	-	32
STONE DUMPED RIPRAP, CLASS A4	TON	131	-	131
REMOVAL OF EXISTING STRUCTURES	EACH	-	1	1
CONCRETE STRUCTURES	CU YD	19.6	-	19.6
CONCRETE ENCASEMENT	CU YD	2.8	-	2.8
PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	-	1750	1750
REINFORCEMENT BARS	POUND	3240	-	3240
STEEL RAILING, TYPE S1	FOOT	-	128	128
FURNISHING STEEL PILES HP12X53	FOOT	400	-	400
DRIVING PILES	FOOT	400	-	400
TEST PILE STEEL HP12X53	EACH	1	-	1
NAME PLATES	EACH	1	-	1

GENERAL NOTES

See Section 502 of the Standard Specifications for Structural Excavation.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the ROW line. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

See Specifications for Soil Borings.

Do not scale these drawings.

The Contractor shall drive one (1) Steel HP12x53 Test Pile in a production pile location at the West Abutment as directed by the Engineer before ordering the remainder of the piles.

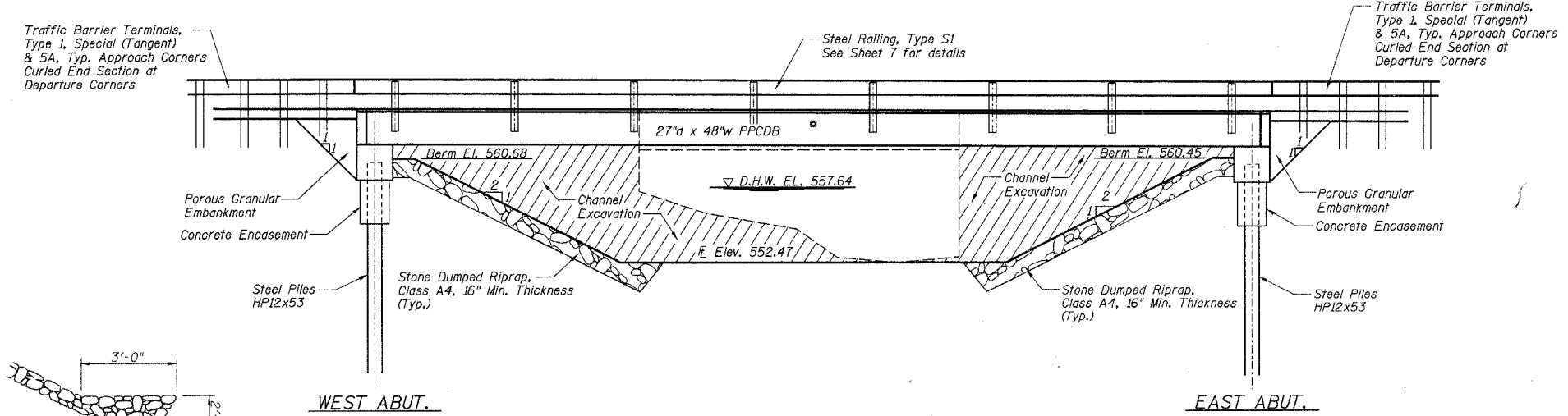
The test pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

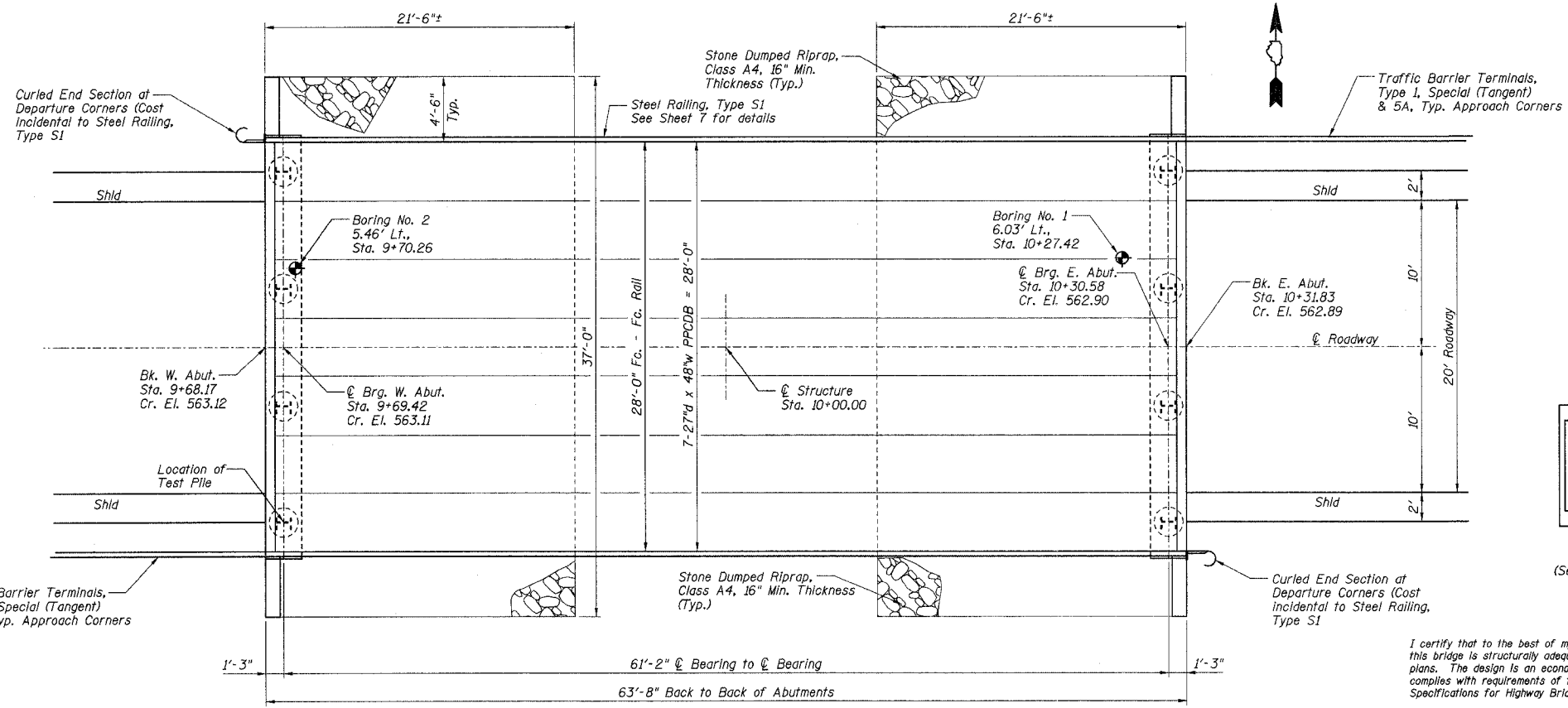
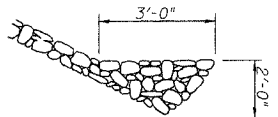
The Contractor is hereby advised that very stiff soils may be encountered prior to the location of anticipated refusal. See the Soil Borings for further information.

In addition to all other requirements of Section 512 of the Standard Specifications, splices for Steel H-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 an 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.

The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 1/2" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.



STONE RIPRAP ANCHOR DETAIL



PLAN

WATERWAY DATA

Drainage Area = 1.98 Sq. Mi.		Low Grade Elev. 562.54 @ Sta. 11+00						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Natural H.W.E. Prop.	Head - Ft. Exist.	Headwater El. Prop.	Headwater El. Prop.	
Design	20	806	73	192	557.64	1.79	559.43	558.13
Base	100	1208	80	209	557.98	3.55	561.53	558.95
Max. Calc.	500	1597	86	222	558.25	5.06	563.31	559.59

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi

DESIGN SPECIFICATIONS

AASHTO - 2002 17th Edition

LOADING HS 20-44

Allow 25#/sq. ft. for future wearing surface.

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi (1/2" strands)
 $f'_{si} = 189,000$ psi (1/2" strands)

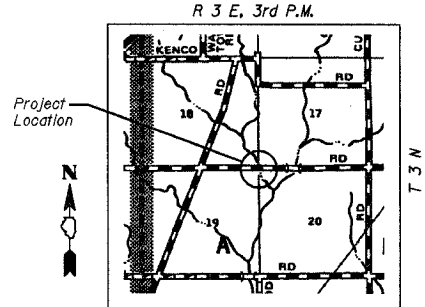
GRADE ON STRUCTURE

-0.361%

BRANCH TO CROOKED CREEK
 BUILT 200 BY
 MARION COUNTY
 PROJECT NO. RS-BRS-2789(106)
 SEC. 00-00115-01-BR
 LOADING HS-20
 STRUCTURE NO. 061-3301

NAME PLATE

(See State Standard 515001 for details)



LOCATION SKETCH

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



10-11-06
 GARY L. HAHN
 CENTRALIA, ILLINOIS
 ILLINOIS LICENSED STRUCTURAL
 ENGINEER NO. 81-4853
 EXPIRES NOV. 30, 2006

**GENERAL PLAN AND ELEVATION
 PROPOSED BRIDGE CARRYING CH 16
 OVER BRANCH TO CROOKED CREEK
 SECTION 00-00115-01-BR
 MARION COUNTY, ILLINOIS**

Sheet
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 of 14
 Job No. 50805

8/13/2006