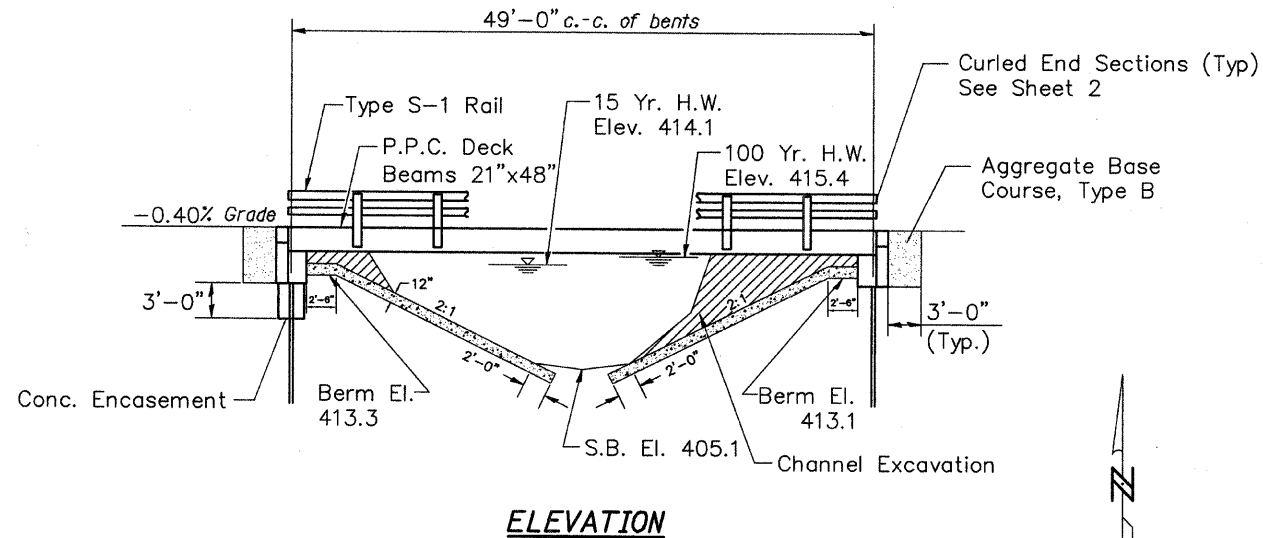
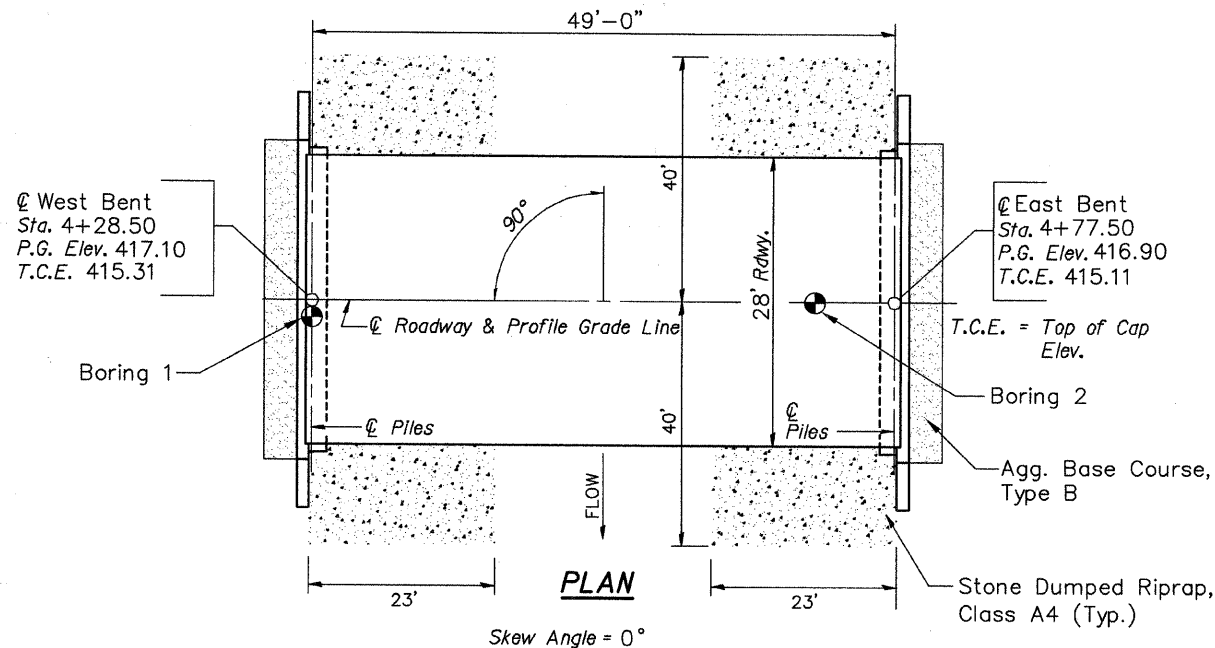


B.M.—Lt. Sta. 2+04, spike in P.P., Elev. 419.20

Existing Structure — Existing structure No. 051-3129 consists of an existing concrete deck beam Deck beams are 30' long by 3' wide by 21" deep. Deck is 30' long by 22' wide.



ELEVATION



PLAN

Station	Elevation
STA 4+28.50	ELEV 417.10
STA 4+53.00	ELEV 417.00
STA 4+77.50	ELEV 416.90

PROFILE GRADE
(along centerline roadway)

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $F_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $F'_s = 270,000$ psi ($\frac{1}{2}$ " low relax. strands)
 $F_{si} = 201,960$ psi ($\frac{1}{2}$ " low relax. strands)

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications — 4th ed.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.235g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.540g
Soil Site Class = D

PILE DATA (2-ABUTS.)

Type	HP 10 X 42
Nominal Required Bearing	335 kips
Factored Resistance Available	183 kips
Estimated Pile Length	35 Feet
Number of Production Piles	9
Number of Test Piles	1

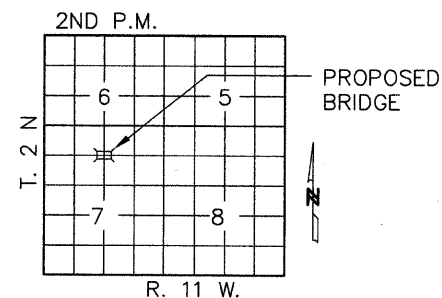
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

STATION 4+53.00
BIG SLOUGH
SEC. 10-05124-00-BR BUILT 201
DENISON ROAD DISTRICT
LAWRENCE COUNTY
LOADING HL-93
STR. NO. 051-3299

LETTERING FOR NAME PLATE

Locate Name Plate at S.W. Corner of Bridge (See Std. 515001)



LOCATION SKETCH

WATERWAY INFORMATION

Flood		Q.		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.	
Freq. Yr.	C.F.S.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	15	1330	195	245	414.1	0.0	0.0	414.1	414.1
Base	100	2350	230	295	415.4	0.04	0.04	415.4	415.4
Overtopping									
Max. Calc.	500								

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 237	10-05124-00-BR	LAWRENCE	13	4
CONTRACT NO. 95642		ILLINOIS		

GENERAL NOTES

- The Contractor shall drive test pile to 110% of the nominal required bearing specified in production locations at the West Abutment as approved by the Engineer before ordering the remainder of piles.
- See Plan Sheet 11 for boring logs.
- A Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Concrete sealer shall be applied to exterior face of each fascia beam.
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- The Steel H-piles shall be according to AASHTO M270 Grade 50.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Fr 60 (IL Modified). See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each	-	-	-	1
Concrete Structures	Cu. Yd.	-	-	24.4	24.4
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1400	-	-	1400
Steel Railing, Type S-1	Foot	102	-	-	102
Reinforcement Bars, Epoxy Coated	Pound	-	-	3000	3000
Furnishing Steel Piles HP 10x42	Foot	-	-	315	315
Driving Piles	Foot	-	-	315	315
Test Pile Steel HP 10x42	Each	-	-	1	1
Name Plates	Each	-	-	1	1
Concrete Encasement	Cu. Yd.	-	-	3.5	3.5
Aggregate Base Course, Type B	Tons	-	-	60	60
Stone Dumped Riprap, Class A4	Tons	-	-	200	200
Channel Excavation	Cu. Yd.	-	-	150	150

I certify that to the best of 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.



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GENERAL PLAN & ELEVATION

STRUCTURE NO. 051-3299

T.R. 237

OVER BIG SLOUGH

SECTION 10-05124-00-BR

LAWRENCE COUNTY

STATION 4+53.00