BENCHMARK: Steel Pin with Cap (found)
Sta. 21+51.32, 69.8' Lt.
El. 537.61

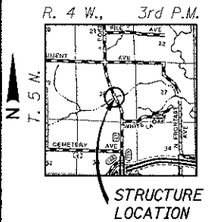
EXISTING STRUCTURE S.N. 003-3023

The existing structure, constructed in 1956, consists of a single span cast-in-place concrete deck supported by steel beams on timber pile bent abutments. The structure has an overall length of 42'-6" back-to-back of abutments and a width of 26'-0" out to out of the deck. Approximately 375' of approach guardrail shall be removed as part of Removal of Existing Structures.

The Contractor shall remove and dispose of the existing structure in accordance with Section 501 of the Standard Specifications.

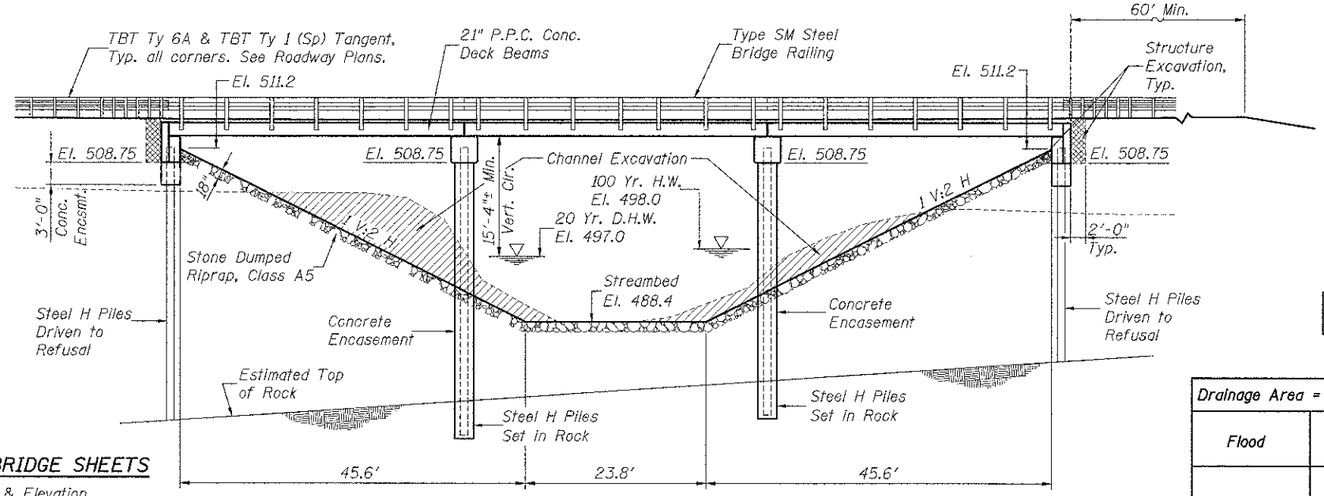
The existing roadway will be closed to traffic during the construction period.

SALVAGE: No salvage



LOCATION SKETCH

INDEX OF BRIDGE SHEETS



ELEVATION

Note:
Channel excavation shall be transitioned from the edge of the proposed deck to match the existing channel at the R.O.W. line.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES

PRECAST PRESTRESSED UNITS
f'c = 6,000 p.s.i.
f'ci = 5,000 p.s.i.
f's = 270,000 p.s.i. (½"ϕ Strands)
f'si = 201,960 p.s.i. (½"ϕ Strands)

FIELD UNITS
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (reinf.)
fy = 50,000 p.s.i. (M270 Grade 50)

LOADING HL-93
Allow 50 p.s.f. for future wearing surface

SEISMIC DATA
Seismic Performance Zone (SPZ): 2
Design Spectral Acceleration at 1.0 sec (S_{D1}) = 0.235 g
Design Spectral Acceleration at 0.2 sec (S_{Ds}) = 0.526 g
Soil Site Class = D

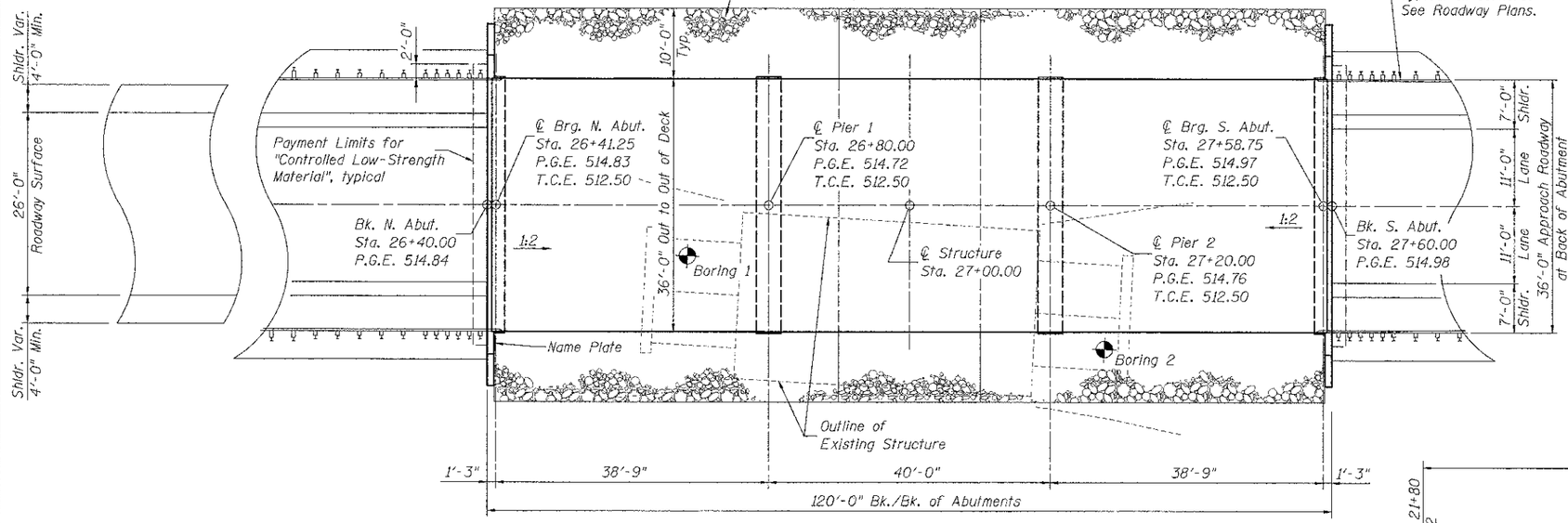
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (Feet)	N. Abut.	Pier 1	Pier 2	S. Abut.
	505.75	484.4	484.4	505.75

WATERWAY INFORMATION

Drainage Area = 4.13 Sq. Mi. Low Grade Elev. = 505.69 ℄ Sta. 26+98

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1,440	265	277	496.4	0.7	0.7	497.1	497.1
Design	20	1,830	286	310	497.0	0.4	0.6	497.4	497.6
Base	100	2,800	322	380	498.0	0.5	0.3	498.5	498.3
Max. Calc.	500	3,860	345	438	498.9	1.0	0.7	499.9	499.6



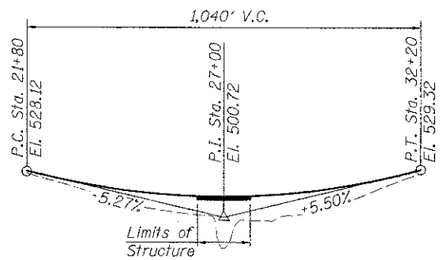
T.C.E. = Top of Cap Elevation

PLAN

Note:
The Existing Structure has Deadman Anchors behind the abutments. These Deadmen shall be removed and disposed of as part of Removal of Existing Structures.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Channel Excavation	Cu. Yd.	———	———	1,193
Stone Dumped Riprap, Class A5	Ton	———	———	627
Hot-Mix Asphalt Surface Course, Mix "C", N70	Ton	141	———	141
Removal of Existing Structures	Each	———	———	1
Structure Excavation	Cu. Yd.	———	114	114
Concrete Structures	Cu. Yd.	———	69.0	69.0
Concrete Encasement	Cu. Yd.	———	71.4	71.4
Prec. Pres. Conc. Dk. Bms. (21" Depth)	Sq. Ft.	4,266	———	4,266
Reinforcement Bars, Epoxy Coated	Pound	———	8,840	8,840
Steel Railing, Type SM	Foot	240	———	240
Furnishing Steel Piles HP 12x53	Foot	———	828	828
Driving Piles	Foot	———	372	372
Test Pile Steel HP 12x53	Each	———	1	1
Name Plates	Each	———	———	1
Waterproofing Membrane System	Sq. Yd.	475	———	475
Portland Cement Mortar Fairing Course	Foot	950	———	950
Controlled Low-Strength Material	Cu. Yd.	———	———	28.0
Setting Piles in Rock	Each	———	12	12



PROFILE GRADE

Along ℄ C.H. 21 (N. Pokey Rd.)

"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 LRFD Bridge Design Specifications' including seismic design."

Bradley G. Hummert Date: 9/6/12

Bradley G. Hummert
Licensed Structural Engineer
In Illinois No. 081-005428 Expires: November 30, 2012

BRADLEY G. HUMMERT 081-005428 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS CARLYLE, IL

GENERAL PLAN & ELEVATION
C.H. 21/F.A.S. 779 (N. POKEY RD.)
OVER TRIBUTARY TO SHOAL CREEK
SECTION 07-00085-00-BR
BOND COUNTY
STATION 27+00.00
STRUCTURE NO. 003-3053

FILE NAME = H:\5790\Designed_C_17_Bridge_spec_5790_01.dgn	USER NAME = USERDESCR.	DESIGNED - B.I.B.	REVISED -
		DRAWN - K.M.L.	REVISED -
	PLOT SCALE = 10.0000 ' / IN.	CHECKED - L.D.G.	REVISED -
	PLOT DATE = 9/6/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION

SCALE: | SHEET NO. 1 OF 10 SHEETS | STA. | TO STA.

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
779	07-00085-00-BR	BOND	41	17
	SN 003-3053	CONTRACT NO. 97508		
	ILLINOIS FEDERAL AID PROJECT			

HMG NO. 5790