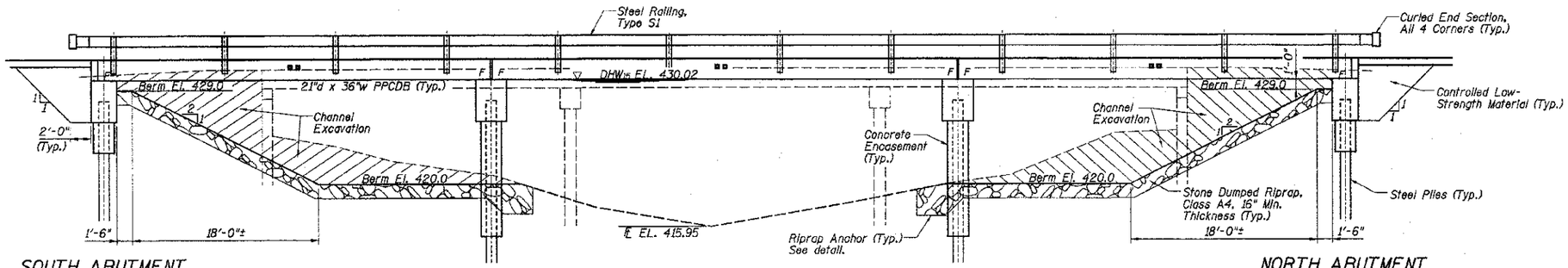
TBM 1 - RR spike in 24"ϕ Maple tree,
63.41' Rt. of Sta. 49+87.42 - Elev. 425.77

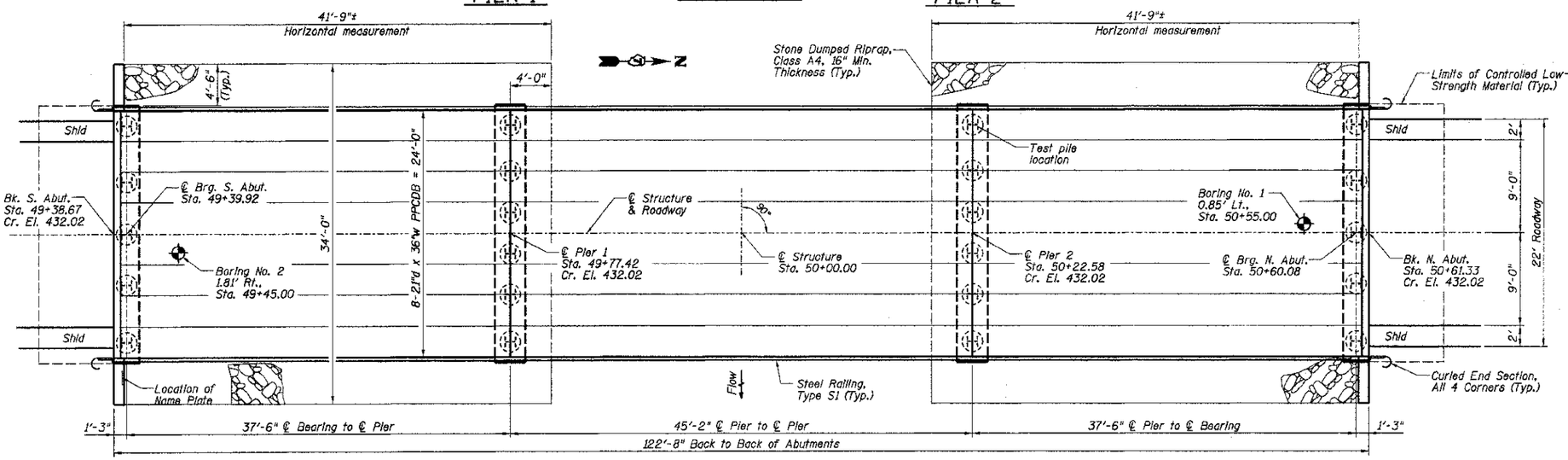
TBM 2 - RR spike in 18"ϕ tree,
65.06' Lt. of Sta. 50+91.27 - Elev. 430.45

Existing Structure: Three span bridge with precast concrete deck slabs on timber pile bents with concrete caps. To be removed. No salvage. 90'L. x 22.5'W.

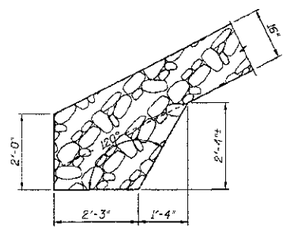
BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	613
Stone Dumped Riprap, Class A4	Ton	536
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	49.0
Concrete Encasement	Cu Yd	28.0
PPCDB (21" Depth)	Sq Ft	2904
Reinforcement Bars	Pound	6560
Steel Railing, Type S1	Foot	246
Furnishing Steel Piles HP14X73	Foot	713
Driving Piles	Foot	713
Test Pile Steel HP14X73	Each	1
Name Plates	Each	1
Controlled Low-Strength Material	Cu Yd	47.4
Terminal Marker - Direct Applied	Each	4

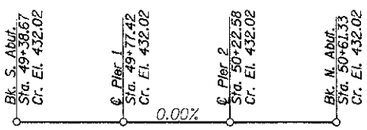




PLAN



RIPRAP ANCHOR DETAIL



PROFILE GRADE ACROSS STRUCTURE
Along ℄ Roadway

WATERWAY DATA

Drainage Area = 58.89 Sq. Mi. Low Grade Elev. 426.98 @ Sta. 48+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	5530	780	1080	430.02	0.23	0.23	430.25	430.25
Base	100	8880	780	1080	431.01	0.29	0.47	431.30	431.48
Max. Calc.	500	11800	780	1080	431.68	0.30	0.55	431.98	432.23

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_{pu} = 270,000 psi (½" ϕ low lax. strands)
f_{pbt} = 201,960 psi (½" ϕ low lax. strands)
f_y = 60,000 psi (reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Soil Site Classification = E
S_{D1} = 0.388 S_{DS} = 0.830

DESIGN SCOUR TABLE

Location	Design Scour Elevation
S. Abut.	425.9
Pier 1	416.5
Pier 2	416.5
N. Abut.	425.9

DESIGN SPECIFICATIONS

2010 AASHTO LRFD
Bridge Design Specifications

LOADING HL-93

50#/sq. ft. included in dead load for future wearing surface.

GENERAL NOTES

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.

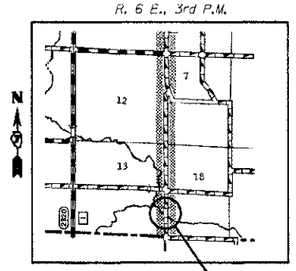
See Specifications for Soil Borings.

Do not scale these drawings.

The abutment and pier bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

RACCOON CREEK
BUILT 201_ BY
CLAY COUNTY
SEC. 99-04125-00-BR
LOADING HL-93
STRUCTURE NO. 013-3239

NAME PLATE
(See State Standard 515001 for details)



LOCATION SKETCH

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.

WILLIAM D. LUEKING
81-4341
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

William D. Lueking
William D. Lueking

02-21-2013
Date of Signing

11-30-2014
Date of License Expiration

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-003287

DESIGNED	BLT	REVISED -
DRAWN	JN	REVISED -
CHECKED	WDL	REVISED -
DATE	02/20/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 013-3239

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 212A	99-04125-00-BR	CLAY	15	4
		CONTRACT NO. 95704		
RAAI JOB NO. 51611	ILLINOIS FED. AID PROJECT			