

Bench Mark: BM #1-Chiseled square on top of Northwest wingwall Sta. 24+63.02, 19.09° LT, Elev. 640.84

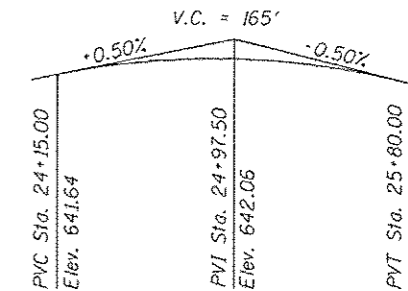
Existing Structure: S.N. 053-0159 was originally built in 1983 as F.A. Route 681, Section 113BR which replaced S.N. 053-0069 built in 1928. The structure consists of a single span PPC deck beam superstructure on pile supported stub abutments. Riprap was added at the abutments in 2004. Five precast prestressed concrete deck beams were replaced in 2009. The back to back abutment length is 58'-3" while the out-to-out width measures 36'-0". Structure to be removed and replaced.

Traffic Control: One lane of traffic will be maintained by utilizing staged construction.

Salvage: None

Notes:

- Table assumes the 10 year backwater of the Vermilion River for the downstream boundary condition.
- For riprap limits not shown, see Roadway Plans.
- Remnants of existing 1928 abutments may be encountered during excavation, which shall be removed according to Section 501 of the Standard Specifications. If encountered, removal shall be paid for according to Section 109.04 of the Standard Specifications.



PROFILE GRADE
(along E Roadway)

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications
with 2010 Interims

DESIGN STRESSES
FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (AASHTO M 270 Grade 50W)

SEISMIC DATA

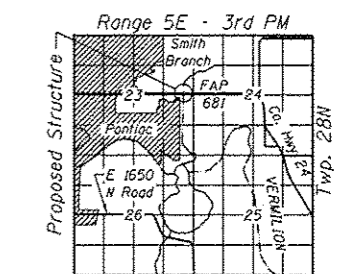
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.078g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.133g
Soil Site Class = C

LOADING HL-93

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

STATION 24+91.50
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 681 SEC. (113 BR)BR
LOADING HL-93
STR. NO. 053-0190

NAME PLATE
See Std. 515001



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

IL 116 OVER SMITH BRANCH

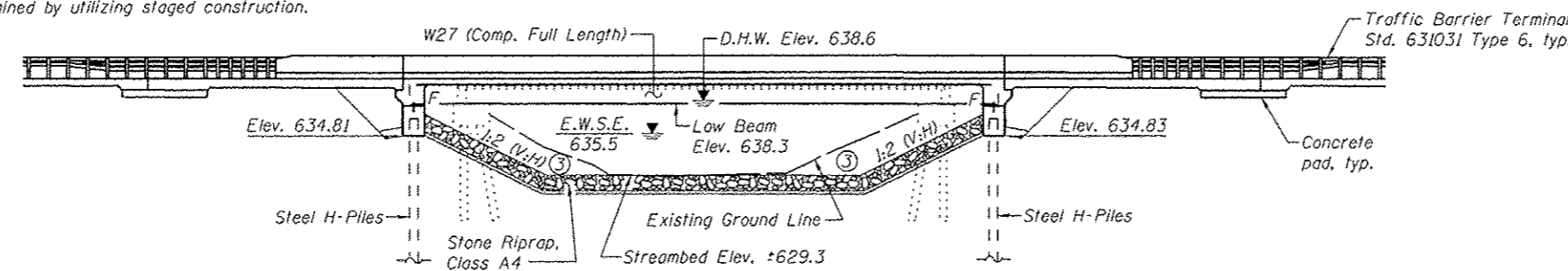
F.A.P. RTE. 681

SECTION (113 BR)BR

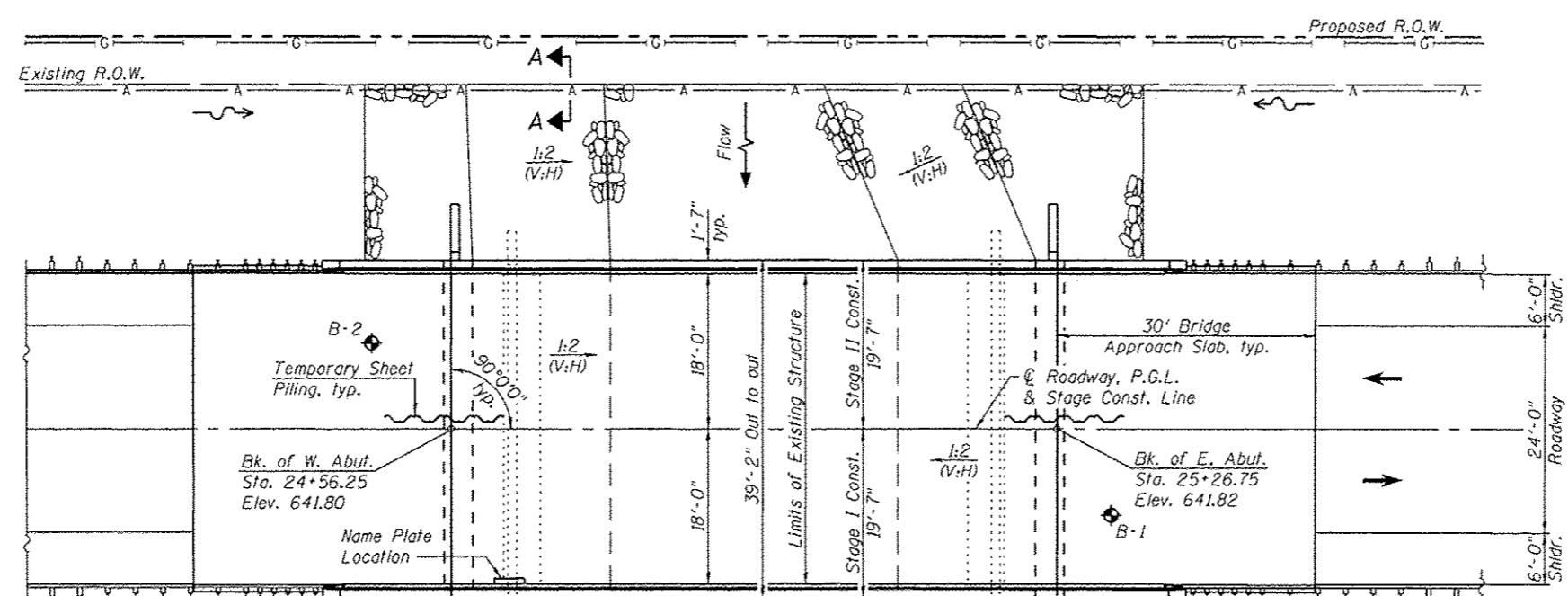
LIVINGSTON COUNTY

STATION 24+91.50

STRUCTURE NO. 053-0190



ELEVATION



PLAN

DESIGN SCOUR ELEVATION TABLE

| | | |
|------------------------------|----------|----------|
| Design Scour Elevation (ft.) | E. Abut. | W. Abut. |
| | 634.8 | 634.8 |

APPROVED
For Structural Adequacy Only

D. Carl Purney
Engineer of Bridges & Structures

DANIEL GEORGE LUTZ
081 006772
12/03/2012
Exp. 11/30/2014

WATERWAY INFORMATION ①

| Drainage Area = 11.9 Sq. Mi. | | Exist. Low Grade Elev. 640.74 @ Sta. 25+50.00 | | Prop. Low Grade Elev. 640.78 @ Sta. 28+00.00 | | |
|------------------------------|-----------|---|-----------------|--|--------------|---------------|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. | Nat. H.W.E. | Head - Ft. | Headwater El. |
| | | | Exist. Prop. | Exist. Prop. | Exist. Prop. | Exist. Prop. |
| Design | 10 | 1,760 | 298 456 | 638.2 0.5 0.4 | 638.7 638.7 | 638.7 |
| Base | 50 | 2,850 | 307 467 | 638.6 2.0 0.8 | 640.6 639.3 | 639.3 |
| Exist. Overtopping | 100 | 3,330 | 307 467 | 638.7 2.2 1.0 | 640.9 639.7 | 639.7 |
| Prop. Overtopping | 460 | 4,000 | 307 467 | 639.2 2.2 1.9 | 640.9 640.9 | 640.9 |
| Max Calc. | 500 | 4,510 | 307 467 | 639.2 2.2 1.9 | 641.4 641.1 | 641.1 |



| | | |
|--------------|----------------|----------|
| USER NAME * | DESIGNED - DBB | REVISION |
| PLOT SCALE * | CHECKED - JAD | REVISION |
| PLOT DATE * | DRAWN - DBB | REVISION |
| | CHECKED - JAD | REVISION |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 22 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|------------|--------------|--------------------|
| 681 | (113 BR)BR & (113 BR-1)BR | LIVINGSTON | 22 | 31 |
| | | | | CONTRACT NO. 66832 |
| ILLINOIS FED. AID PROJECT | | | | |