Benchmarks: Chiseled square on northwest hub guard sta. 34+30; 16.1′ Lt.; Elev. 444.44 &
Chiseled square on southeast hub guard sta. 35+65; 16.1′ Rt.; Elev. 444.57

Existing Structure: S.N. 017-0007 originally constructed in 1933 as SBI 181, Section B. It was originally a single span truss on reinforced concrete closed abutments. In 1980 the superstructure was replaced with two span 103′-4" (49′-10¾", 49′-10¾") Back-to-back abutments constructed of 21" PPC deck beams built on reconstructed abutment caps and the construction of a center pier as FA Route 781, Section 108BR. The Out-to-out width of the deck is 33′-0". In 2011, deck beam 6 (span 1) and deck beam 11 (span 2) were replaced as FAP 781, Section D7 BEAM REPAIR 2012-1. The existing structure shall be removed and replaced while traffic is detoured.

No Salvage

Note:
Provide temporary support or excavation behind existing abutment prior to removal of existing superstructure.

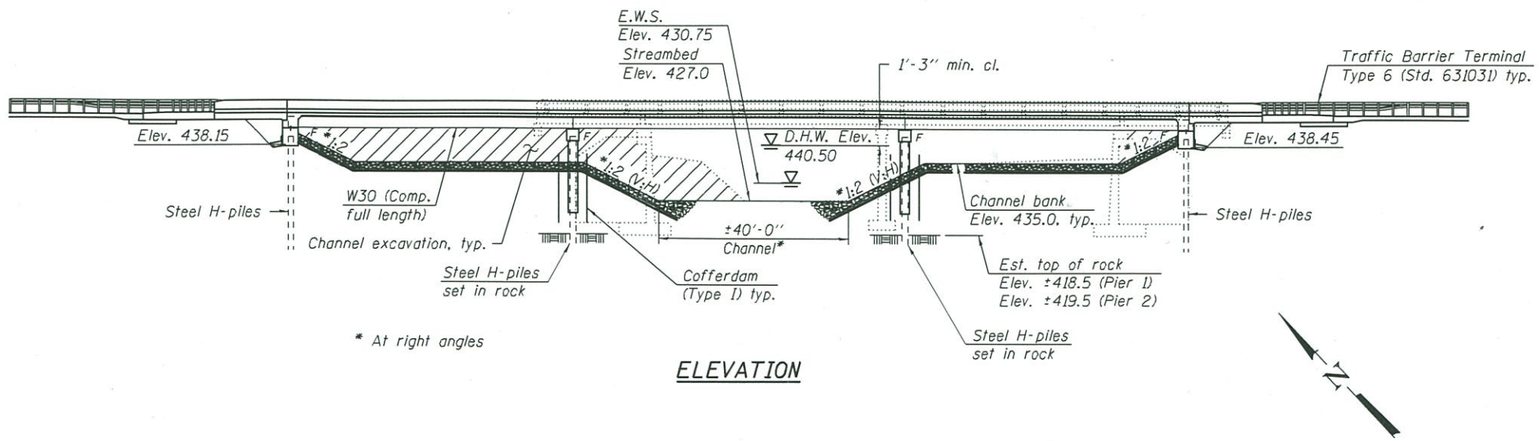
## DESIGN SPECIFICATIONS
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

## DESIGN STRESSES
FIELD UNITS
f′c = 3,500 psi
f′c = 4,000 psi (Superstructure)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

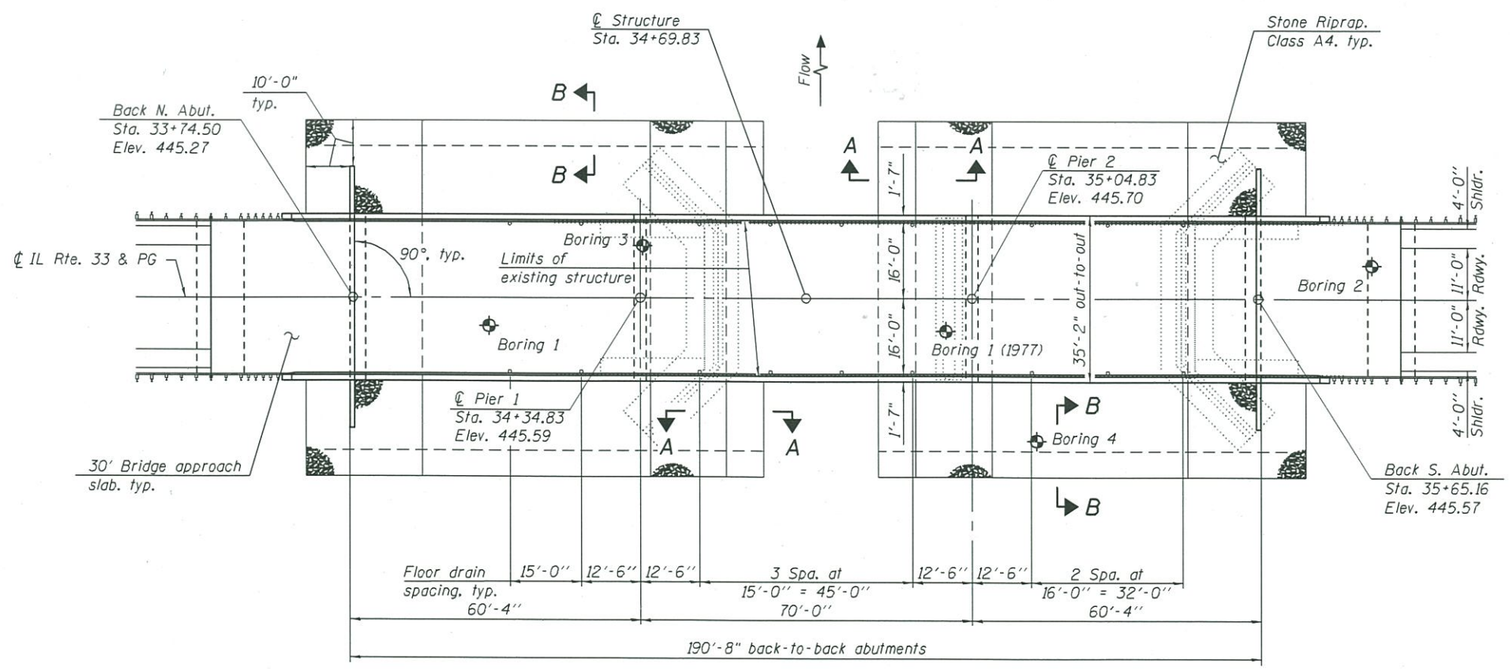
## HIGHWAY CLASSIFICATION
F.A.P. Rte. 781 - IL Rte. 33
Functional Class: Rural Minor Arterial
ADT: 1000 (2007); 1299 (2013)
ADTT: 72 (2007)
DHV: 120 (One Way)
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

## LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

## SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. ($S_{D1}$) = 0.142 g
Design Spectral Acceleration at 0.2 sec. ($S_{DS}$) = 0.344 g
Soil Site Class = C

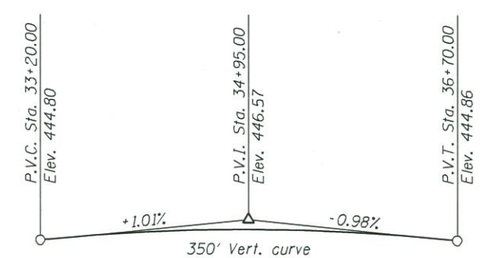



ELEVATION

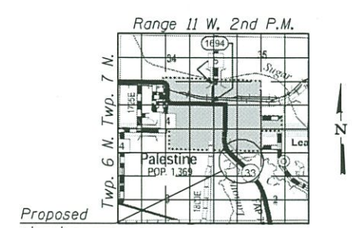



PLAN

APPROVED
FEB 11 2016
AS A BASIS FOR PREPARATION OF DETAILED PLANS




PROFILE GRADE
(Along ℄ roadway)




LOCATION SKETCH

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 33 OVER
LAMOTTE CREEK
F.A.P. ROUTE 781 - SEC. (108 BR)B
CRAWFORD COUNTY
STA. 34+69.83
STRUCTURE NO. 017-0035

| | |
|---|---|
| DESIGNED - | JACEK EJMONT |
| CHECKED - | RICHARD J. CHAPUT |
| DRAWN - | J.M.W. / M.B.M. |
| CHECKED - | MARCUS K. CHRISTENSEN |

FEBRUARY 11, 2016

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

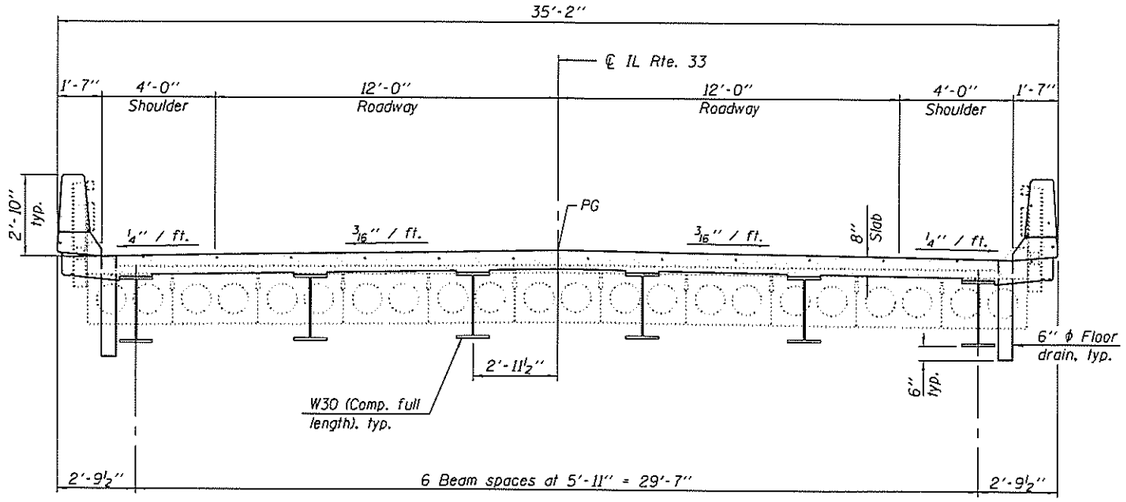
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 781 | (108 BR)B | CRAWFORD | | |
| | | CONTRACT NO. 74322 | | |
| | | ILLINOIS FED. AID PROJECT | | |

## WATERWAY INFORMATION

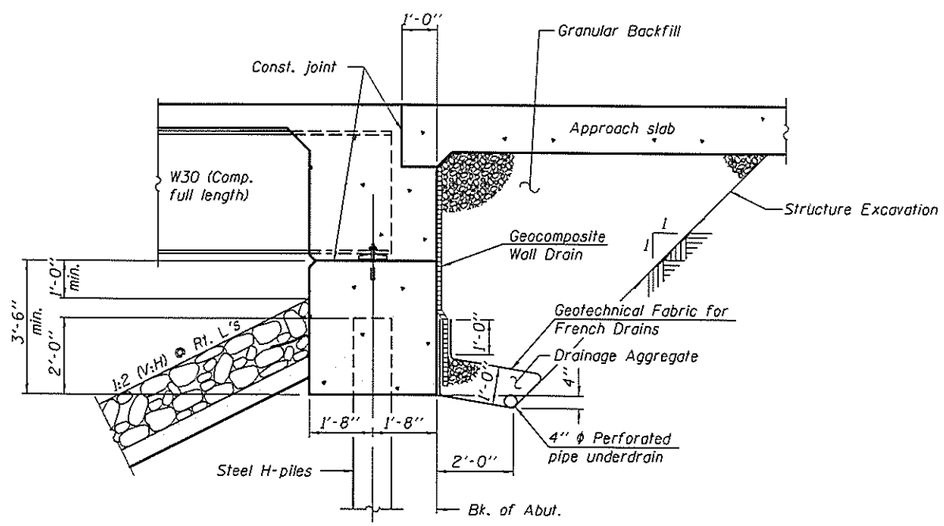
| Drainage Area = 26.7 Sq. Mi. Low Grade Elev. 443.48 @ Sta. 33+00 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. Exist. | Opening Sq. Ft. Prop. | Nat. H.W.E. | Head - Ft. Exist. | Head - Ft. Prop. | Headwater El. Exist. | Headwater El. Prop. |
| | 10 | 2690 | 682 | 1069 | 438.5 | 0.9 | 0.5 | 439.4 | 439.0 |
| Design | 50 | 4740 | 877 | 1384 | 440.5 | 1.0 | 0.4 | 441.5 | 440.9 |
| Base | 100 | 5540 | 926 | 1465 | 441.0 | 1.6 | 0.5 | 442.6 | 441.5 |
| Overtopping | - | - | - | - | - | - | - | - | - |
| Max. Calc. | 500 | 7500 | 994 | 1578 | 442.1 | 1.4 | 0.7 | 443.5 | 442.8 |

## DESIGN SCOUR ELEVATION TABLE

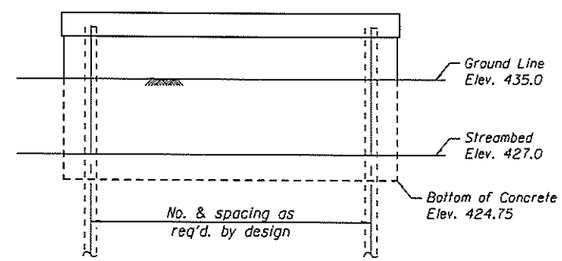
| Event / Limit State | Design Scour Elevations (ft.) N. Abut. | Pier 1 | Pier 2 | S. Abut. | Item 113 |
|---|---|---|---|---|---|
| 0100 | 438.15 | 418.0 | 418.1 | 438.45 | 5 |
| 0200 | 438.15 | 417.3 | 418.1 | 438.45 | |
| Design | 438.15 | 418.0 | 418.1 | 438.45 | |
| Check | 438.15 | 417.3 | 418.1 | 438.45 | |



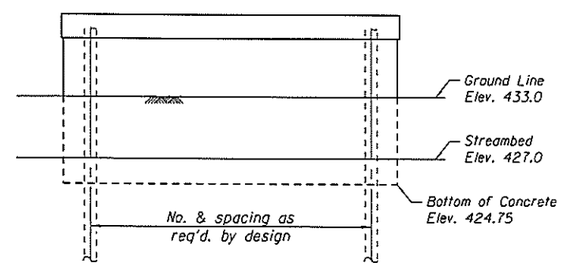

CROSS SECTION
(Looking South)



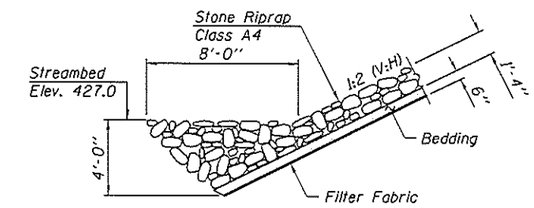

SECTION THRU INTEGRAL ABUTMENT



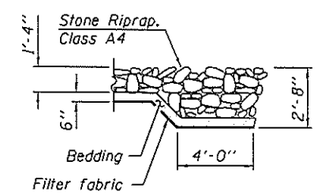

PIER 1 SKETCH




PIER 2 SKETCH




SECTION A-A




SECTION B-B

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 33 OVER
LAMOTTE CREEK
F.A.P. ROUTE 781 - SEC. (108 BR)B
CRAWFORD COUNTY
STA. 34+69.83
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| CHECKED - | MARCUS K. CHRISTENSEN | |

FEBRUARY 11, 2016

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 2 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 781 | (108 BR)B | CRAWFORD | | |
| | | CONTRACT NO. 74322 | | |
| | | ILLINOIS FED. AID PROJECT | | |