ark: #4835-2 - Chiseled square on the Southeast corner of Structure No. 074-0008. Station 50+39.20 17.6 ft. Rt. Elev. 708.91.

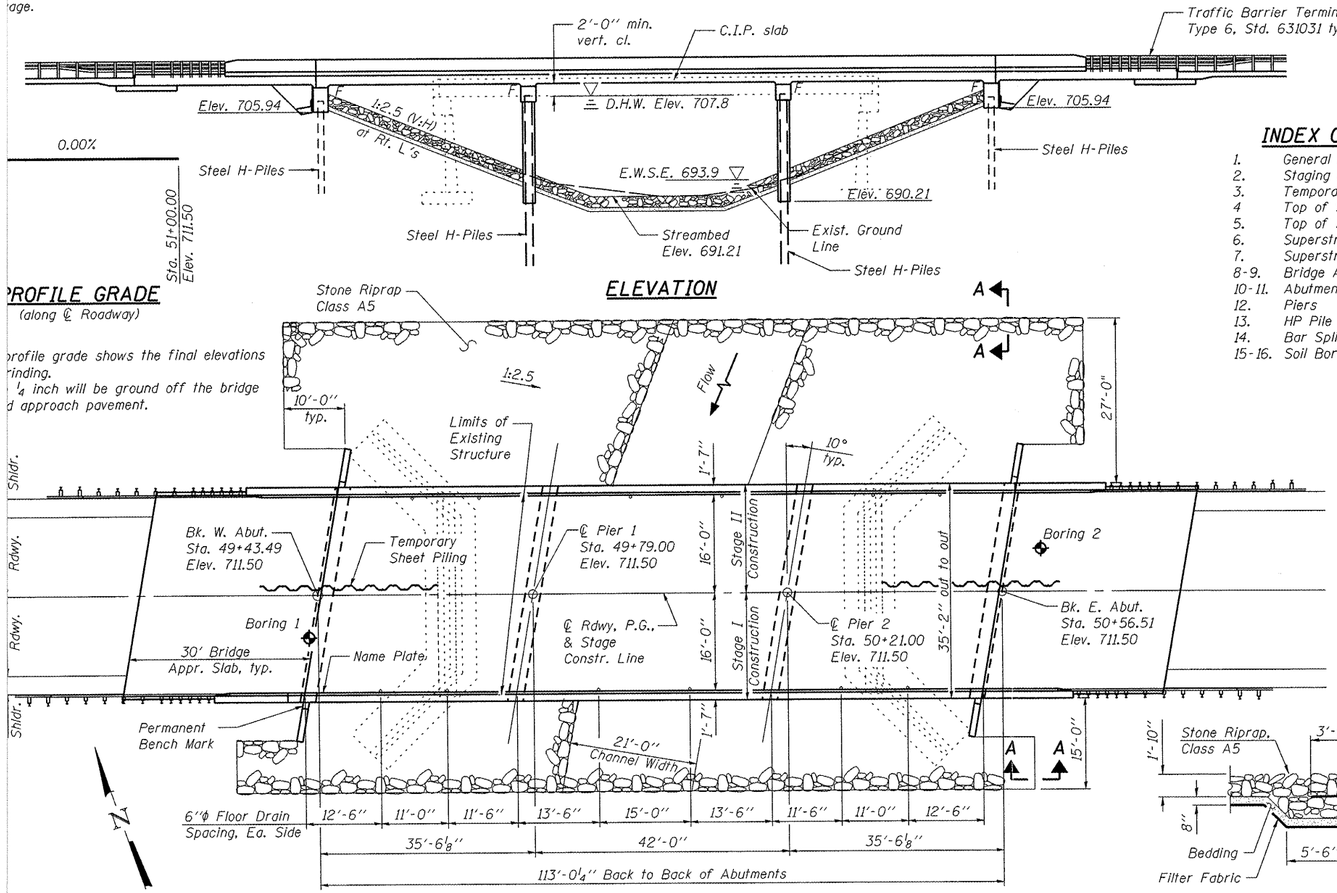
g Structure: S.N. 074-0008 was built in 1925 as S.B.I. Route 39, Section 11C, at Station 5+25. The original cture was a thru truss with closed concrete abutments, spanning 70'-0" between centerline of bearings. The ments were widened and the superstructure was replaced with PPC deck beams in 1970. The existing structure single span PPC deck beam bridge with no skew, measuring 73'-4" back to back of abutments and 33'-5" out ut. Four beams on the north side were replaced in 2008 to allow for stage construction traffic. The existing cture will be removed and replaced with a three-span C.I.P. concrete slab bridge utilizing stage construction to tain one lane of traffic.

age.

# STATE OF ILLINOIS
# DEPARTMENT OF TRANSPORTATION

## DESIGN SCOUR ELEVATION TABLE

| Design Scour Elevation (ft.) | W. Abut. | Pier 1 | Pier 2 | E. Abut. |
|---|---|---|---|---|
| | 705.9 | 677.6 | 677.6 | 705.9 |




profile grade shows the final elevations rinding.
1/4 inch will be ground off the bridge d approach pavement.

## INDEX OF SHEETS



## GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

An aluminum tablet of the type shown on Standard 667101 shall be placed on the proposed structure as indicated in these plans. The bench mark elevation will be established and marked by the Department. This work shall be paid for at the contract unit price Each for Permanent Bench Marks.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

Slipforming of the parapets is not allowed.

The Contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the structure.

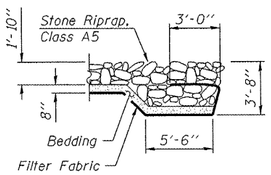
## TOTAL BILL OF MATERIAL

| | ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---|---|---|---|---|
| * | Porous Granular Embankment, Special | Cu. Yd. | | 51 | 51 |
| | Stone Riprap, Class A5 | Sq. Yd. | | 1071 | 1071 |
| | Filter Fabric | Sq. Yd. | | 1071 | 1071 |
| | Removal of Existing Structures | Each | | | 1 |
| | Structure Excavation | Cu. Yd. | | 156 | 156 |
| | Floor Drains | Each | 12 | | 12 |
| # | Concrete Structures | Cu. Yd. | | 150.2 | 150.2 |
| # | Concrete Superstructure | Cu. Yd. | 343.7 | | 343.7 |
| # | Bridge Deck Grooving | Sq. Yd. | 576 | | 576 |
| | Concrete Encasement | Cu. Yd. | | 9.8 | 9.8 |
| # | Protective Coat | Sq. Yd. | 738 | | 738 |
| # | Reinforcement Bars, Epoxy Coated | Pound | 91040 | 15980 | 107020 |
| # | Bar Splicers | Each | 435 | 176 | 611 |
| | Furnishing Steel Piles HP12x53 | Foot | | 1210 | 1210 |
| | Driving Piles | Foot | | 1210 | 1210 |
| | Test Pile Steel HP12x53 | Each | | 4 | 4 |
| | Pile Shoes | Each | | 28 | 28 |
| * | Temporary Sheet Piling | Sq. Ft. | | 1257 | 1257 |
| | Name Plates | Each | 1 | | 1 |
| | Geocomposite Wall Drain | Sq. Yd. | | 31 | 31 |
| * | Pipe Underdrains for Structures 4" | Foot | | 127 | 127 |
| *# | Diamond Grinding (Bridge Section) | Sq. Yd. | 535 | | 535 |
| * | Underwater Structure Excavation Protection - Location 1 | Each | | 1 | 1 |
| * | Underwater Structure Excavation Protection - Location 2 | Each | | 1 | 1 |
| * | Mechanical Splicers | Each | | 72 | 72 |
| | Permanent Bench Marks | Each | | | 1 |
| | | | | | |

* Special Provision Included
\# Includes Quantity for Approach Slabs

STATION 50+00
BUILT 20_ BY
STATE OF ILLINOIS
F.A.S. RT. 1517 SEC. 11BR-1
LOADING HL-93
STRUCTURE NO. 074-0087

## NAME PLATE
See Std. 515001




## SECTION A-A

## PLAN

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

## DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications with 2008 and 2009 Interims

## DESIGN STRESSES
### FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

## SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. ($S_{D1}$) = 0.132g
Design Spectral Acceleration at 0.2 sec. ($S_{DS}$) = 0.224g
Soil Site Class = D

## WATERWAY INFORMATION

Drainage Area = 23.6 sq. mi. Low Grade Elev. 710.6 @ Sta. 48+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 | 2070 | 655 | 672 | 705.3 | 0.1 | 0.1 | 705.4 | 705.4 |
| Design | 50 | 3320 | 789 | 887 | 707.8 | 0.2 | 0.2 | 708.0 | 708.0 |
| Base | 100 | 3870 | 789 | 963 | 708.6 | 0.4 | 0.1 | 709.0 | 708.7 |
| Overtopping | | | | | | | | | |
| Max. Calc. | 500 | 5230 | 789 | 1010 | 709.2 | 0.7 | 0.1 | 709.9 | 709.3 |

10 Year Velocity Through Exist. Bridge = 3.2 fps
10 Year Velocity Through Prop. Bridge = 3.1 fps

**APPROVED**
**For Structural Adequacy Only**

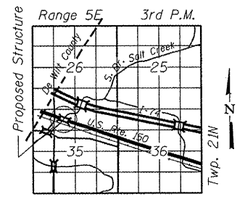
Ralph E. Anderson (TJD)
**Engineer of Bridges & Structures**

MAURER & STUTZ, INC. ENGINEERS SURVEYORS

| | |
|---|---|
| DESIGNED | - BAS |
| CHECKED | - KEF |
| DRAWN | - SGM |
| CHECKED | - BAS |

STATE OF ILLINOIS
BRYAN A. SWANSON
081-006716
PEORIA, IL
LICENSED STRUCTURAL ENGINEER

Bryan Swanson
Date Signed: 8-11-10
Exp. Date: 11-30-10




## LOCATION SKETCH

## GENERAL PLAN AND ELEVATION
## U.S. RTE. 150 OVER
## S. BRANCH SALT CREEK
## F.A.S. RTE. 1517 SEC. 11BR-1
## PIATT COUNTY
## STATION 50+00.00
## STRUCTURE NO. 074-0087

| SHEET NO. 1 | F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|---|
| 16 SHEETS | 1517 | 11BR-1 | PIATT | 48 | 18 |
| | | | CONTRACT NO. 70613 | | |
| | FED. ROAD DIST. NO. _ | ILLINOIS | FED. AID PROJECT | | |