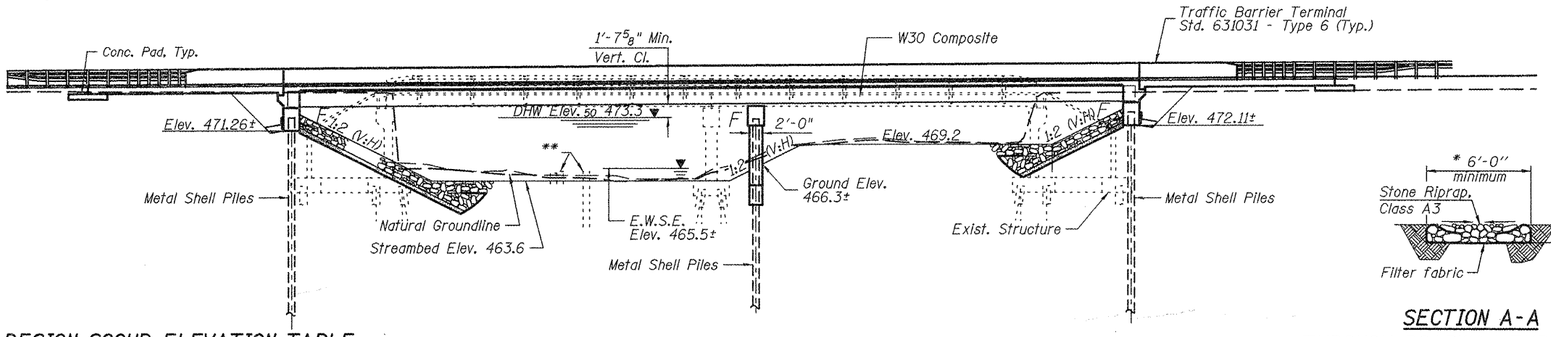
Benchmark: RR Spike in powerpole north of S.N. 102-0039 northwest wingwall. (Sta. ±263+20.89, Offset 26.6' Left) Elev. 476.76.

Existing Structure: S.N. 102-0039. Built in 1974 as F.A.S. Route 2370, Section 29-BR at Station 262+40. Existing structure consists of two simple symmetrical spans of PPC deck beams. The back to back of abutment length is 103'-0" and the out to out bridge width is 33'-0" plus overrun (steel bridge rail). Structure is supported on pile bent abutments and a solid shaft pier. Existing structure to be removed and replaced using stage construction.

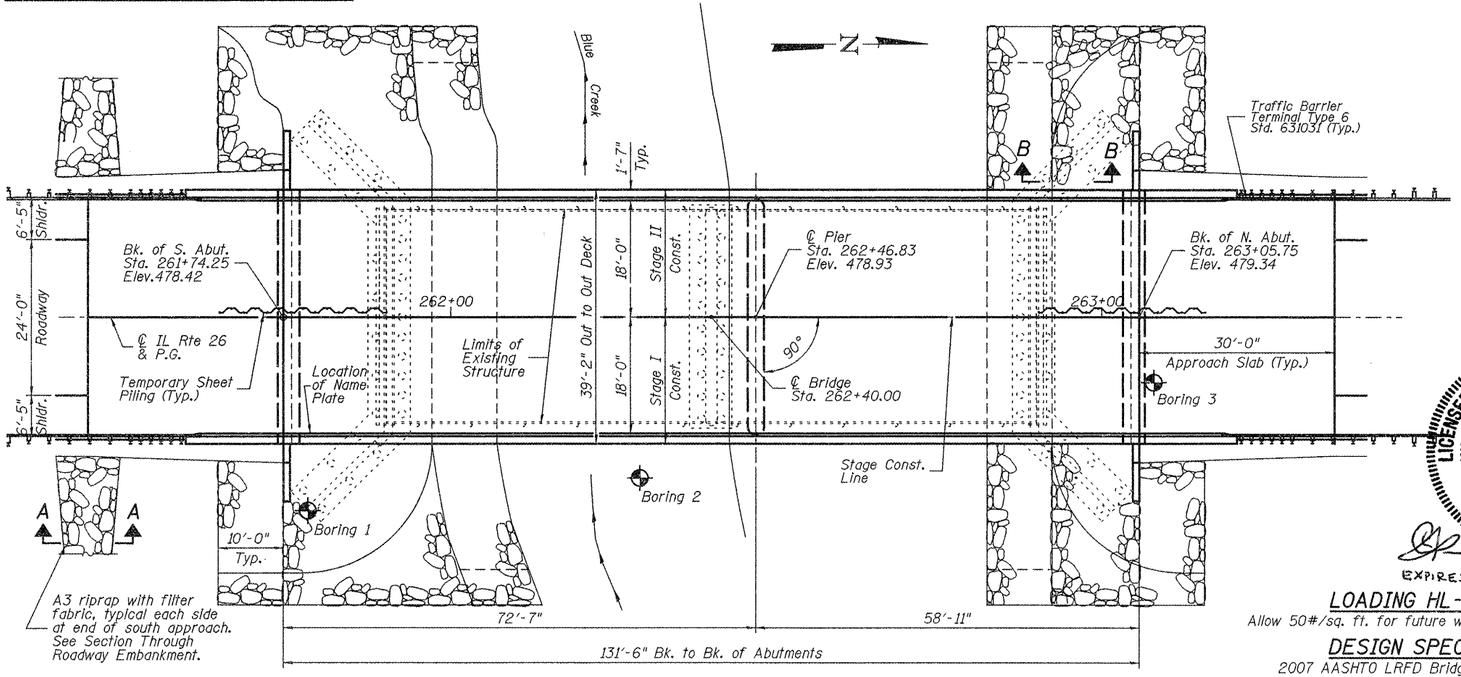
No Salvage.

# STATE OF ILLINOIS
# DEPARTMENT OF TRANSPORTATION




## ELEVATION

**Timber piling/Stone remnants of older structure.




## PLAN




## SECTION A-A
## THROUGH ROADWAY EMBANKMENT

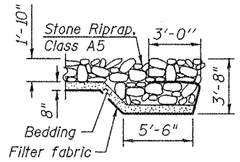
* Provides drainage down embankment from bridge appr. slab.

## TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---|---|---|---|
| Porous Granular Embankment (Special) | Cu. Yd. | | 78 | 78 |
| Stone Dumped Riprap, Class A3 | Ton | | 23 | 23 |
| Stone Dumped Riprap, Class A5 | Ton | | 963 | 963 |
| Filter Fabric | Sq. Yd. | | 717 | 717 |
| Removal of Existing Structures | Each | | | 1 |
| Structure Excavation | Cu. Yd. | | 185 | 185 |
| Concrete Structures | Cu. Yd. | | 97.5 | 97.5 |
| Concrete Superstructure | Cu. Yd. | 302.5 | | 302.5 |
| Bridge Deck Grooving | Sq. Yd. | 726 | | 726 |
| Concrete Encasement | Cu. Yd. | | 5.5 | 5.5 |
| Protective Coat | Sq. Yd. | 909 | | 909 |
| Furnishing and Erecting Structural Steel | L. Sum | 1 | | 1 |
| Stud Shear Connectors | Each | 2394 | | 2394 |
| Reinforcement Bars, Epoxy Coated | Pound | 69,750 | 13,530 | 83,280 |
| Bar Splicers | Each | 631 | 90 | 721 |
| Furnishing Metal Shell Piles 14"x0.250" | Foot | | 600 | 600 |
| Furnishing Metal Shell Piles 14"x0.312" | Foot | | 666 | 666 |
| Driving Piles | Foot | | 1266 | 1266 |
| Test Pile Metal Shells | Each | | 3 | 3 |
| Temporary Sheet Piling | Sq. Ft. | | 1265 | 1265 |
| Name Plates | Each | 1 | | 1 |
| Anchor Bolt, 1" | Each | 36 | | 36 |
| Geocomposite Wall Drain | Sq. Yd. | | 68 | 68 |
| Pipe Underdrains for Structures, 4" | Foot | | 136 | 136 |
| Mechanical Splice | Each | | 36 | 36 |
| Underwater Structure Excavation Protection, Location 1 | Each | | 1 | 1 |
| Asbestos Bearing Pad Removal | Each | | | 22 |

## DESIGN SCOUR ELEVATION TABLE

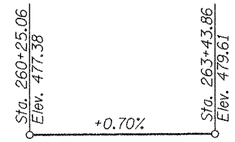
| Design Scour Elevation (ft.) | S. Abut. | Pier | N. Abut. |
|---|---|---|---|
| | 471.26 | 450.70 | 472.16 |




## STONE RIPRAP FLANK DETAIL

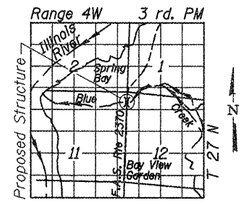
## INDEX OF SHEETS






## PROFILE GRADE

(along ℄ Roadway)




## LOCATION SKETCH

LICENSED STRUCTURAL ENGINEER
CHRIS LINNEMAN
081-006445
STATE OF ILLINOIS
EXPIRES 11/30/2010
10/30/2009

## LOADING HL-93

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

## DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

## DESIGN STRESSES

### FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

## SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. ($S_{D1}$) = 0.109g
Design Spectral Acceleration at 0.2 sec. ($S_{DS}$) = 0.170g
Soil Site Class = D

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

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

## WATERWAY INFORMATION

Exist. Low Grade Elev. 477.05 @ Sta. 261+88±
Drainage Area = 10.65 mi.² Prop. Low Grade Elev. 478.00 @ Sta. 261+74±

| 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 | 2190 | 376 | 486 | 470.8 | 0.3 | 0.2 | 471.1 | 471.0 |
| Design | 50 | 3720 | 603 | 766 | 473.3 | 0.6 | 0.5 | 473.8 | 473.8 |
| Base | 100 | 4430 | 692 | 880 | 474.2 | 0.8 | 0.8 | 475.0 | 475.0 |
| Max. Calc. | 500 | 6220 | 743 | 1010 | 476.0 | 1.6 | 0.7 | 477.6 | 476.7 |

| | |
|---|---|
| DESIGNED | CTW |
| CHECKED | CDL |
| DRAWN | DP |
| CHECKED | CTW/CDL |

# GENERAL PLAN & ELEVATION
# IL ROUTE 26 OVER BLUE CREEK
# F.A.S. ROUTE 2370 SEC. 29BR-1
# WOODFORD COUNTY
# STATION 262+40.00
# STRUCTURE NO. 102-0068


EFK•Moen, LLC
Civil Engineering Design
331 Salem Place
Suite 225
Fairview Heights, IL 62208
Phone 618-206-4250
Fax 618-206-4253


| SHEET NO. 1 | F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|---|
| 26 SHEETS | 2370 | 29BR-1 | WOODFORD | 73 | 23 |
| | | | CONTRACT NO. 68466 | | |
| | FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |