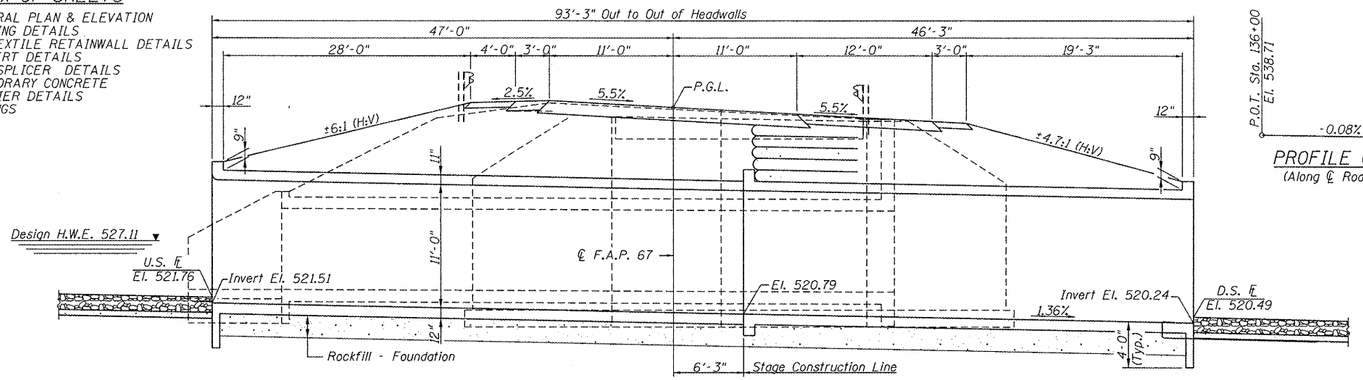
Benchmark: JJ27 Found Chiseled "□" on S.E. Wingwall of S.N. 009-2000. Sta. 136+83.0, 20' Rt., Elev. 537.51

Existing Structure: S.N. 009-2000 built in 1955 as Double Barrel 14'-0" x 7'-3" R.C. Box Culvert, with a Culvert Length of ±47'-2". Traffic to be maintained utilizing Stage Construction. No salvage.

## INDEX OF SHEETS






LONGITUDINAL SECTION




PLAN




PROFILE GRADE
(Along ℄ Roadway)

## TOTAL BILL OF MATERIAL

| Item | Unit | Quantity |
|---|---|---|
| Removal of Existing Structures No. 1 | Each | 1 |
| Concrete Box Culverts | Cu. Yd. | 327.6 |
| Reinforcement Bars | Pound | 52200 |
| Name Plates | Each | 1 |
| Temporary Soil Retention System | Sq. Ft. | 853 |
| Rockfill - Foundation | Ton | 375 |
| Bar Splicers | Each | 133 |
| Geotextile Retaining Wall | Sq. Ft. | 153.0 |
| Granular Culvert Backfill | Cu. Yd. | 1600 |

## WATERWAY INFORMATION

Drainage Area = 1.72 Sq. Mi. Low Grade Elev. = 538.63 @ Sta. 137+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 | 791 | 78 | 94 | 525.88 | 0.17 | 0.03 | 526.05 | 525.91 |
| Design | 50 | 1321 | 113 | 121 | 527.11 | 0.66 | 0.27 | 527.77 | 527.38 |
| Base | 100 | 1559 | 136 | 139 | 527.96 | 0.93 | 0.73 | 528.89 | 528.69 |
| Overtopping | - | - | - | - | - | - | - | - | - |
| Max. Calc. | 500 | 2154 | 187 | 179 | 529.76 | 0.73 | 0.58 | 530.49 | 530.34 |

** Upstream face of culvert

## GENERAL NOTES

A Precast Box Culvert alternative will not be allowed at this site.

Excavation behind existing culvert walls shall be done before removing the existing top slab. The Contractor shall sawcut the existing culvert at the stage removal line before Stage I Removal.

The layout of the stone riprap may be varied in the field to suit ground conditions as directed by the Engineer.

Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60. See Special Provisions.

For backfilling and embankment, see Standard Specifications.

Exposed edges shall have standard 3/4 " chamfer unless otherwise noted.

Removal and replacement of weak soils with Rockfill - Foundation may be required beneath the culvert.

The Engineer will determine the required depth following excavation to plan grade.

A ±1.4 ft. void exists between the bottom of the existing bridge and the top of the exising culvert.

Removal of the slab on the existing bridge creates an unstable condition for the existing abutment walls. The primary vertical reinforcement is in the face of the wall closest to the stream. Bracing of the walls or excavation prior to Stage I removal will be necessary to prevent collapse.

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

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

## DESIGN SPECIFICATIONS

2002 A.A.S.H.T.O. Specifications

## LOADING HS 20-44

Allow 50#/Sq. Ft. for future wearing surface.

## DESIGN STRESSES

FIELD UNITS

f'c = 3500 psi
fy = 60000 psi (Reinf.)

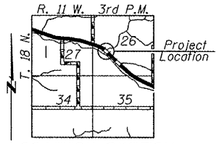
MARK A. HENDERSON
553
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

Mark A Henderson 2/4/09
Expiration Date: 11/30/2010

STA. 136+64.40
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 67 SECTION (6X-1)B-2
LOADING HS 20-44
STR. NO. 009-2506

## NAME PLATE

(Standard 515001)




LOCATION SKETCH

## GENERAL PLAN
## IL. ROUTE 125 OVER TRIBUTARY TO LOST CREEK
## F.A.P. ROUTE 67 - SECTION (6X-1)B-2
## CASS COUNTY
## STA. 136+64.40
## S.N. 009-2506


Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907


SHEET NO. 1 OF 9 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 67 | (6X-1_B-2 | CASS | 71 | 35 |
| | | CONTRACT NO. 72875 | | |
| FED. ROAD DIST. NO. _ | ILLINOIS | FED. AID PROJECT | | |