

Benchmark: Chiseled square on top of headwall for abandoned concrete railroad structure west of S.M. 083-2000, Elevation 366.694.

Existing Structures: Structure No. 4 - S.M. 083-2000 was built in 1951 under SBI Rte. 1, Section 30-B-Y as a double 11' x 11' R.C. box culvert, measuring 56'-10" perpendicular to the roadway and 80'-4 1/2" along the culvert. The culvert is on a 45° right-hand skew, with L-type wingwalls and approximately 4ft of fill. Two lane traffic is to be maintained utilizing stage construction.
Structure No. 5 - Existing single 16' x 8' R.C. box culvert under abandoned Railroad tracks. The structures are to be removed and replaced with an 11'x11' cast-in-place Double Barrel Box Culvert.

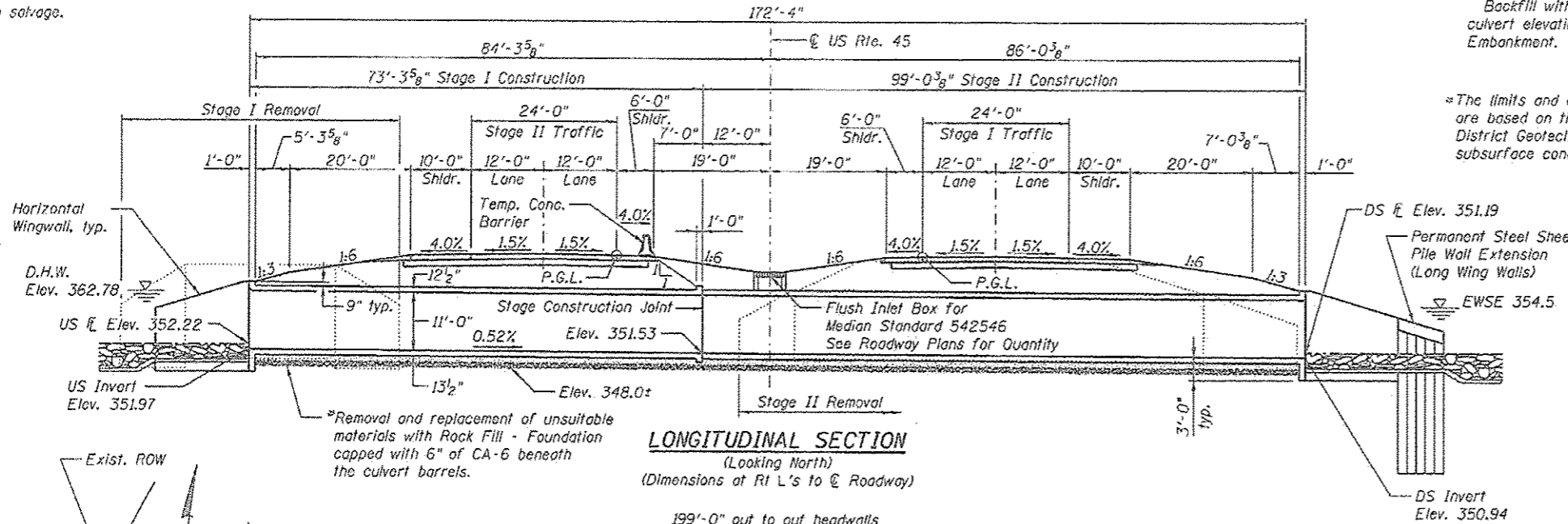
No salvage.

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. Precast alternate is not allowed. See Roadway plans for location and quantity of Median Inlet. Backfill within the limits of the paved surface to the top of culvert elevation shall be performed using Porous Granular Embankment.

INDEX OF SHEETS

1. General Plan and Elevation
2. Stage Construction Details
3. Temporary Concrete Barrier
- 4-5. Culvert Details
- 6-7. Soil Boring Logs



*The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

APPROVED
For Structural Adequacy Only
Michael T. Haley
Engineer of Bridges & Structures

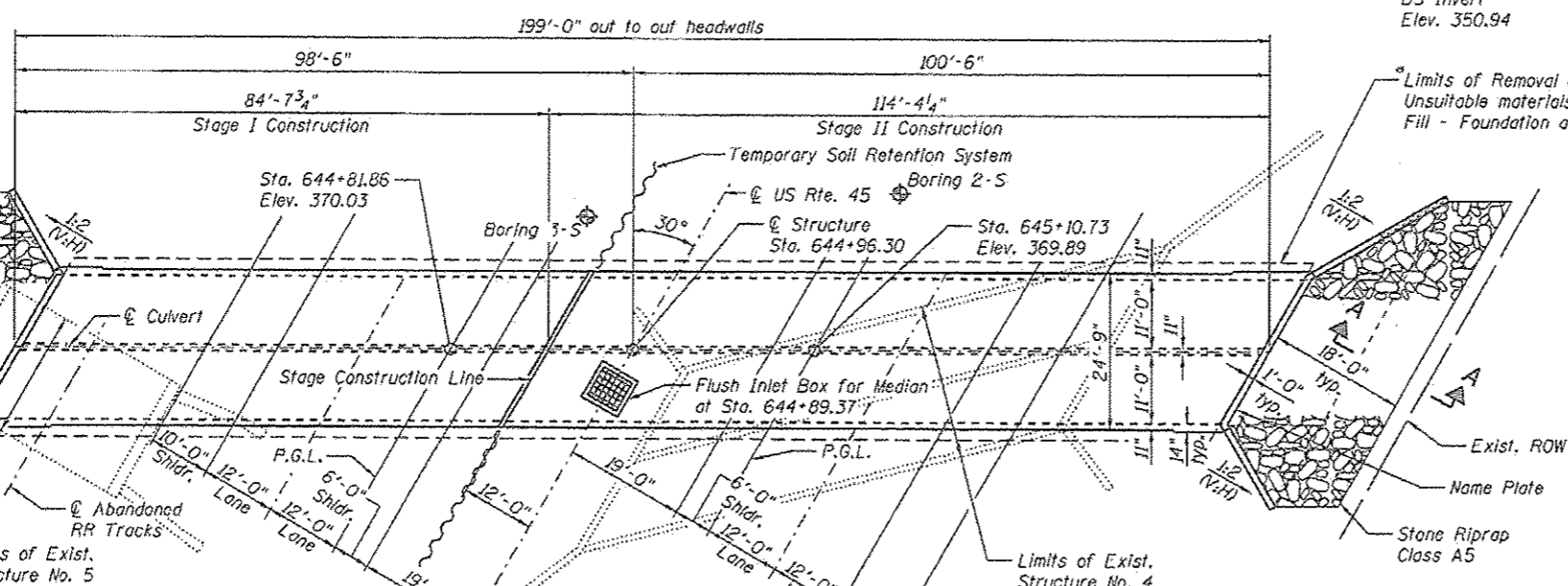
DESIGN SPECIFICATIONS
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

DESIGN STRESSES
FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (ASTM A 572, Grade 50)

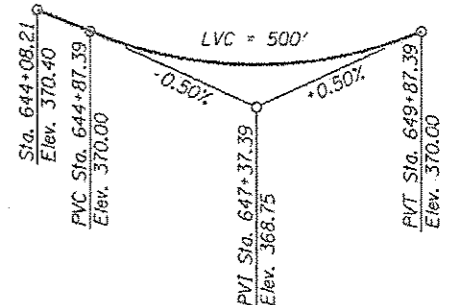
LOADING HL-93

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

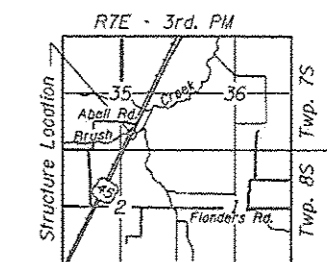


STATION 644+96.30
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 332 SEC. (29.30)R-1
LOADING HL-93
STRUCTURE NO. 083-2023

NAME PLATE
See Std. 515001



PROPOSED PROFILE GRADE
(25.00' Lt./Rt. of & Roadway)



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	D.S. Invert
	348.97	347.94

WATERWAY INFORMATION

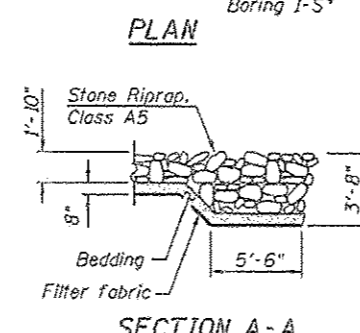
Drainage Area = 3.71 Sq Mi
Exist. Low Grade Elev. 369.70 @ Sta. 647+00
Prop. Low Grade Elev. 369.38 @ Sta. 647+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. Head - Ft.		Prop. Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	1140	227	229	362.61	2.62	0.61	365.23	363.22
Base	50	1850	231	233	362.78	5.03	1.51	367.81	364.29
Overtopping	100	2170	233	235	362.87	5.59	2.04	368.46	364.91
Max. Calc.	500	2990	238	240	363.12	6.80	3.82	369.92	366.94

10-Year Velocity through Existing Structure = 5.00 fps
10-Year Velocity through Proposed Structure = 4.95 fps

TOTAL BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu. Yd.	469
Stone Riprap, Class A5	Sq. Yd.	183
Filter Fabric	Sq. Yd.	183
Removal of Existing Structures No. 4	Each	1
Removal of Existing Structures No. 5	Each	1
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	424
Reinforcement Bars	Pound	134960
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	668.6
Permanent Steel Sheet Piling	Sq. Ft.	567
Rock Fill - Foundation	Ton	687
Temporary Soil Retention System	Sq. Ft.	393



Michael T. Haley 1-27-14
Michael T. Haley
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State of Illinois No. 81-5991
Expires 11/30/2014

GENERAL PLAN & ELEVATION
US RTE. 45 OVER BRUSH CREEK
F.A.P. RTE. 332 - SEC. (29.30)R-1
SALINE COUNTY
STATION 644+96.30
STRUCTURE NO. 083-2023

LE LIN ENGINEERING, LTD.
Consulting Engineers
Serving Illinois

USER NAME: RPW
FILE NAME: LMS
PLOT SCALE: AJF
PLOT DATE: LMS

DESIGNED - RPW
CHECKED - LMS
DRAWN - AJF
CHECKED - LMS

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REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 083-2023
SHEET NO. 1 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(29.30)R-1	SALINE	745	466

CONTRACT NO. 78077
ILLINOIS FED. AID PROJECT