

Benchmark: A chiselled square on the northwest wingwall of existing S.N. 055-0023. Elevation 646.17

Existing Structure: S.N. 055-0023, single span 16'-0" bk. to bk. abutments, reinforced concrete slab bridge on closed abutments restrained top and bottom, with wingwalls. Built as SBI Rte. 98, Sec. 108-B at Sta. 143+05.5 in 1928. Structure to be removed and replaced with a cast-in-place 5'x8' double box culvert. The road shall be kept open to one lane of traffic at all times by utilizing stage construction.

No Salvage.

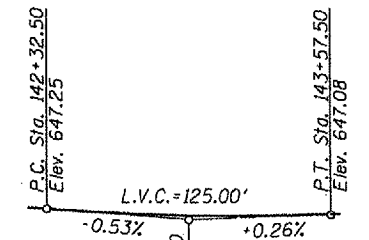
- ① Invert Elev. 644.23 (SE wing only)
- ② Invert Elev. 643.35 (NE wing only)
- ③ Invert Elev. 642.70 (SW wing only)
- ④ Invert Elev. 644.16 (NW wing only)

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A. 315	(108B) BR, BR-1	McDonough	80 46	9 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract #88799

**OPENINGS FOR 12" OUTLET PIPES**  
(Included in cost of Concrete Box Culverts)

\* The limits and quantities of removal and replacement shown are based on the boring data. After removal of the existing structure the District Geotechnical Engineer is to be contacted to establish the final removal limits for Unsuitable Material. Replace with CA5, CA7 or CA11 Porous Granular Embankment.

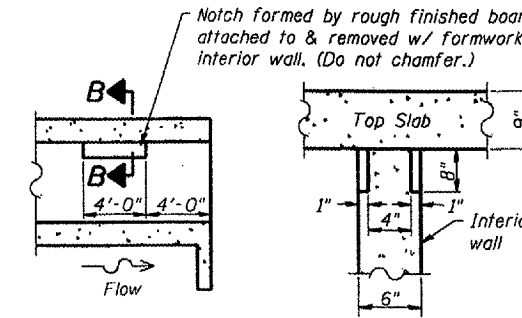


**APPROVED**  
For Structural Adequacy Only  
*Ralph E. Anderson (TSD)*  
Engineer of Bridges & Structures

**PROFILE GRADE**  
(Along U.S. 136)

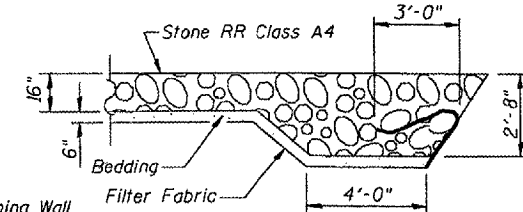
**GENERAL NOTES**

- Reinforcement Bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- Excavation behind existing abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before Stage I removal.
- A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
- Precast culvert alternate is not allowed.
- All construction joints shall be bonded.
- The concrete finish on the parapets and sidewalks shall be in accordance with 503.17 of the IDOT Standard Specs.



**LONGITUDINAL SECTION SECTION B-B**

**PHOEBE NESTING SITE DETAIL**  
(Downstream End Only)



**SECTION A-A**

**CURVE DATA**

PI Sta. = 142+80.94  
 $\Delta$  = 5°16'40" (RT)  
D = 8°43'46"  
T = 30.25'  
R = 656.35'  
L = 60.46'  
E = 0.70'  
PC Sta. = 142+50.69  
PT Sta. = 143+11.15

STATION 143+07.44  
BUILT 20 BY  
STATE OF ILLINOIS  
F.A. RTE. 315 SEC. (108B)BR  
LOADING HS20  
STR. NO. 055-2500

**NAME PLATE**

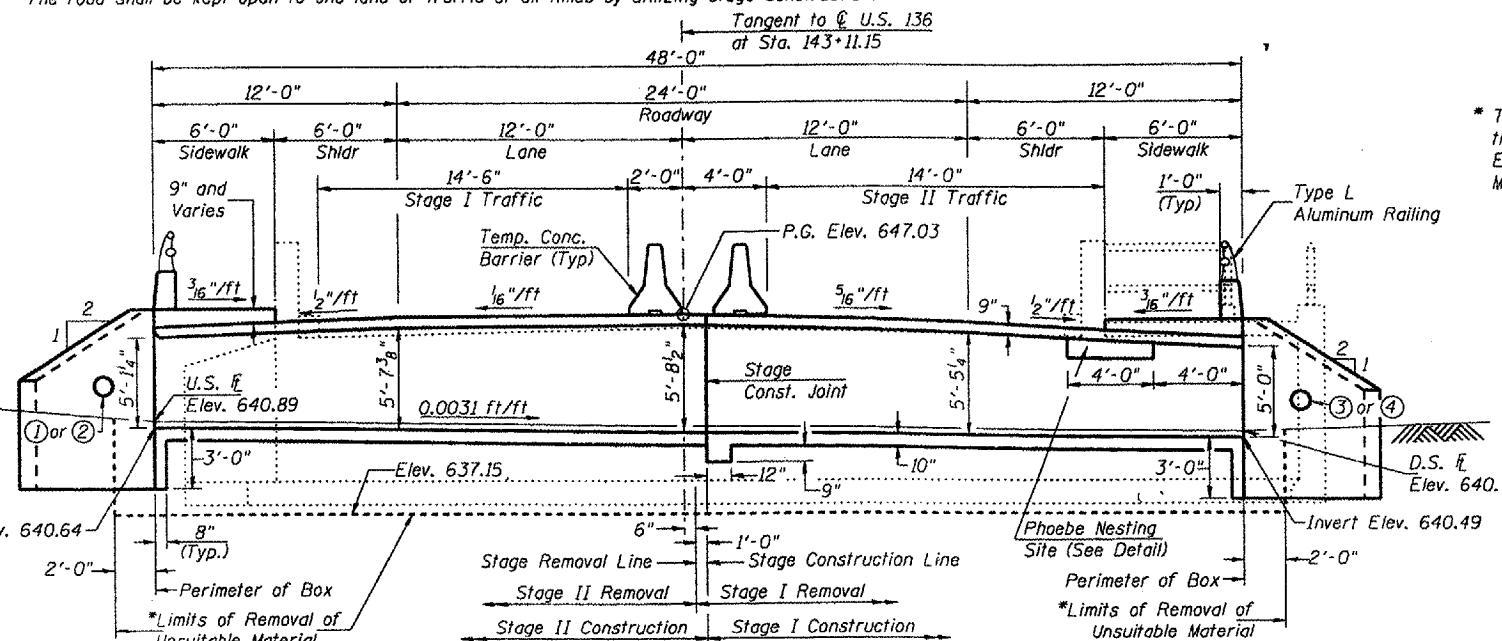
See Std. 515001



*Michael J. Haley* 3-16-06  
Michael T. Haley  
Licensed Structural Engineer  
State of Illinois No. 81-5991

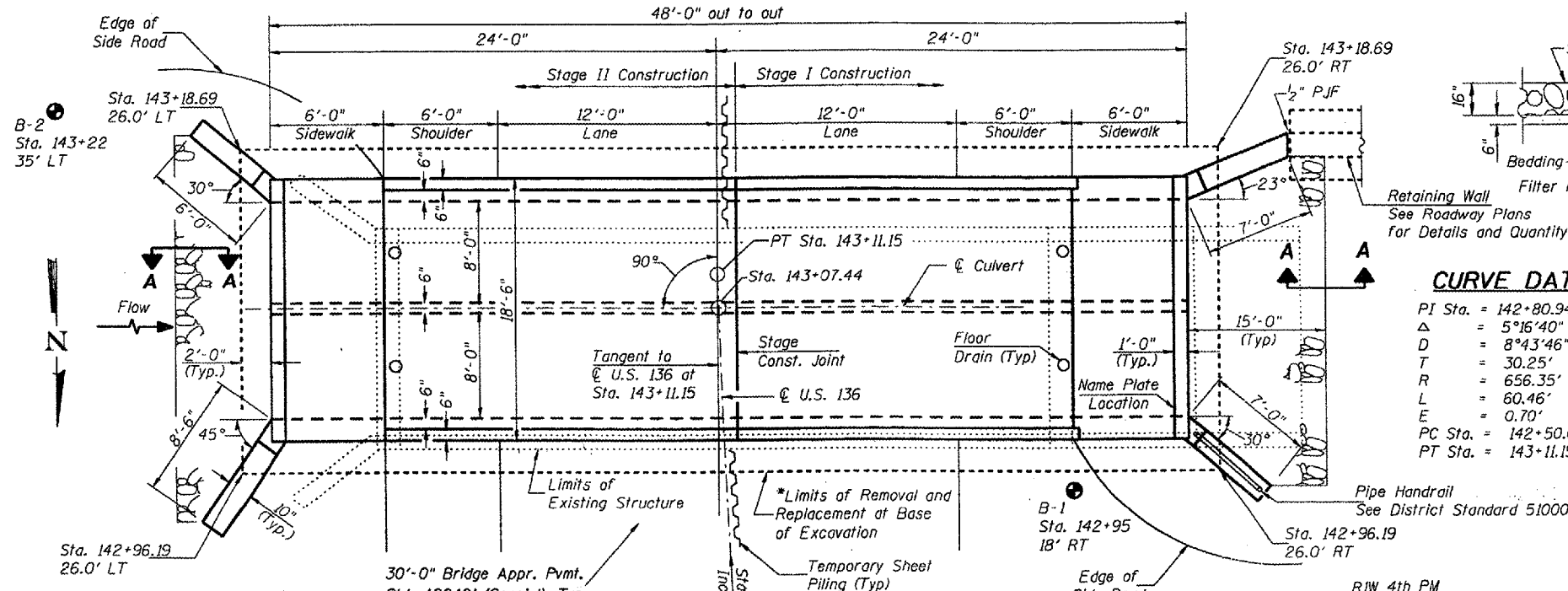
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Box Culverts	Cu. Yd.	92.2
Removal of Existing Structures No. 2	Each	1
Reinforcement Bars, Epoxy Coated	Pound	15,370
Floor Drains	Each	4
Bar Splicers	Each	120
Aluminum Railing, Type L	Foot	35
Protective Coat	Sq. Yd.	112
Bridge Deck Grooving	Sq. Yd.	66
Temporary Sheet Piling	Sq. Ft.	338
Name Plates	Each	1
Porous Granular Embankment	Cu. Yd.	64
Stone Riprap, Class A4	Sq. Yd.	73
Filter Fabric	Sq. Yd.	73
Removal and Disposal of Unsuitable Material	Cu. Yd.	112
Pipe Handrail	Foot	12.0



**LONGITUDINAL SECTION**

Dimensions at Right angles to Tangent at Sta. 143+11.15



**PLAN**

**WATERWAY INFORMATION**

Drainage Area = 1.0 sq. mi. Low Grade Elev. 647.0 ft @ Sta. 143+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. Head-Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Ten-Year	10	304	57	80.0	646.4	1.3	0.1	647.7	646.5
Design	50	489	57	80.0	646.8	1.4	0.3	648.2	647.1
Base	100	570	57	80.0	647.0	1.4	0.2	648.4	647.2
Max. Calc.	500	767	57	80.0	647.3	1.3	0.1	648.6	647.4
Ex. Overtop	< 10	< 304	57	80.0	645.7	1.3		647.0	
Prop. Overtop	50	489		80.0	646.7		0.3		647.0

**DESIGN SPECIFICATIONS**

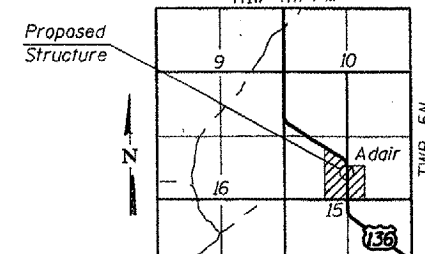
1996 AASHTO "Standard Specifications for Highway Bridges", with 1997 thru 2002 Interims

**DESIGN STRESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)

**LOADING HS20-44**

Allow 50 lb/sq. ft for future wearing surface



**LOCATION MAP**

**LIN ENGINEERING, LTD.**  
208 S. Chestnut  
Chicago, Illinois 60604  
(312) 463-4666 Fax (312) 463-4706  
Designed By: MTH Checked By: MTH Drawn By: JAD  
Date: 03/20/06 File: 0552500.DWG

REVISIONS	
NAME	DATE
D.M.L.	
BILL OF MATL.	8/16
D.G.E. HND RL	

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL PLAN**  
**F.A. RTE 315 (U.S. ROUTE 136)**  
**OVER CAMP CREEK TRIBUTARY**  
**SECTION (108B)BR**  
**McDONOUGH COUNTY**  
**STA. 143+07.44**  
**S.N. 055-2500**