

Benchmark: Chiseled "□" on south headwall; just west of N. 48th Street and U.S. 24 intersection, Sta. 2255+48.0, 34.0' Lt., Elev. 669.12.  
 Existing Structure: S.N. 001-7098 was originally built as a 39'-6" box culvert at a 3° left ahead skew. The original year of construction is unknown. In 1955 the headwalls were removed and the structure was extended 6'-8" left and 4'-11" right under SBI Route 31, Section (1.2.3)W and (1.2.3)RS. The left extension was constructed at a 45° angle to the original box culvert and the right extension followed the existing 3° skew. In 1970 the headwalls were removed again and the structure was extended 27'-6" left and 27'-6" right under SBI Route 31, Section (1.2.3&4) RS-2. The right extension was constructed at a 45° angle to the original box culvert.  
 The existing structure shall be removed and replaced. The roadway will be closed to all traffic during construction. Precast alternate is not allowed. No Salvage.

**INDEX OF SHEETS**

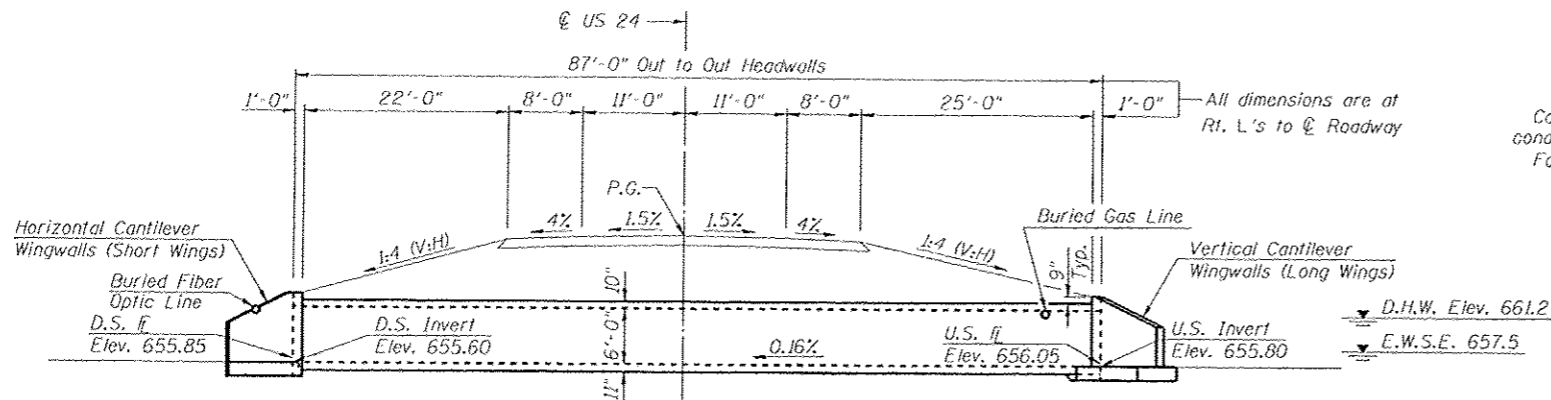
1. General Plan
2. General Data
- 3-4. Culvert Details
- 5-6. Boring Logs

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 2	Each	1
Structure Excavation	Cu. Yd.	1,446
Rock Excavation for Structures	Cu. Yd.	86
Name Plates	Each	1
Reinforcement Bars	Pound	31,720
Reinforcement Bars, Epoxy Coated	Pound	140
Concrete Box Culverts	Cu. Yd.	152.8
Granular Culvert Backfill	Cu. Yd.	1,167

**GENERAL NOTES**

Contact District Geotechnical Engineer to verify foundation conditions meet plan requirements.  
 For riprap layout and quantity, see Roadway Plans.

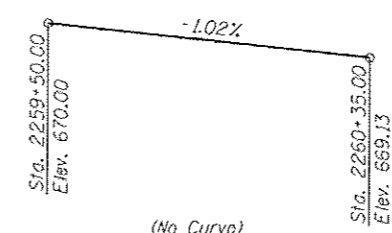


**LONGITUDINAL SECTION**  
(Looking West)

**WATERWAY INFORMATION**

		Exist. Low Grade Elev. 668.7 @ Sta. 2261+50		Prop. Low Grade Elev. @ Sta.		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Nat. H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	10	390	50 50	660.2	0.7 0.7	660.9 660.9
Base	50	650	55 65	661.2	3.8 2.2	665.0 663.4
Max. Calc.	100	780	55 70	661.6	5.4 3.4	667.0 665.0
	500	1,080	55 72	662.5	6.9 6.3	669.3 668.8

10 Year Velocity through Proposed Culvert = 9.1 fps



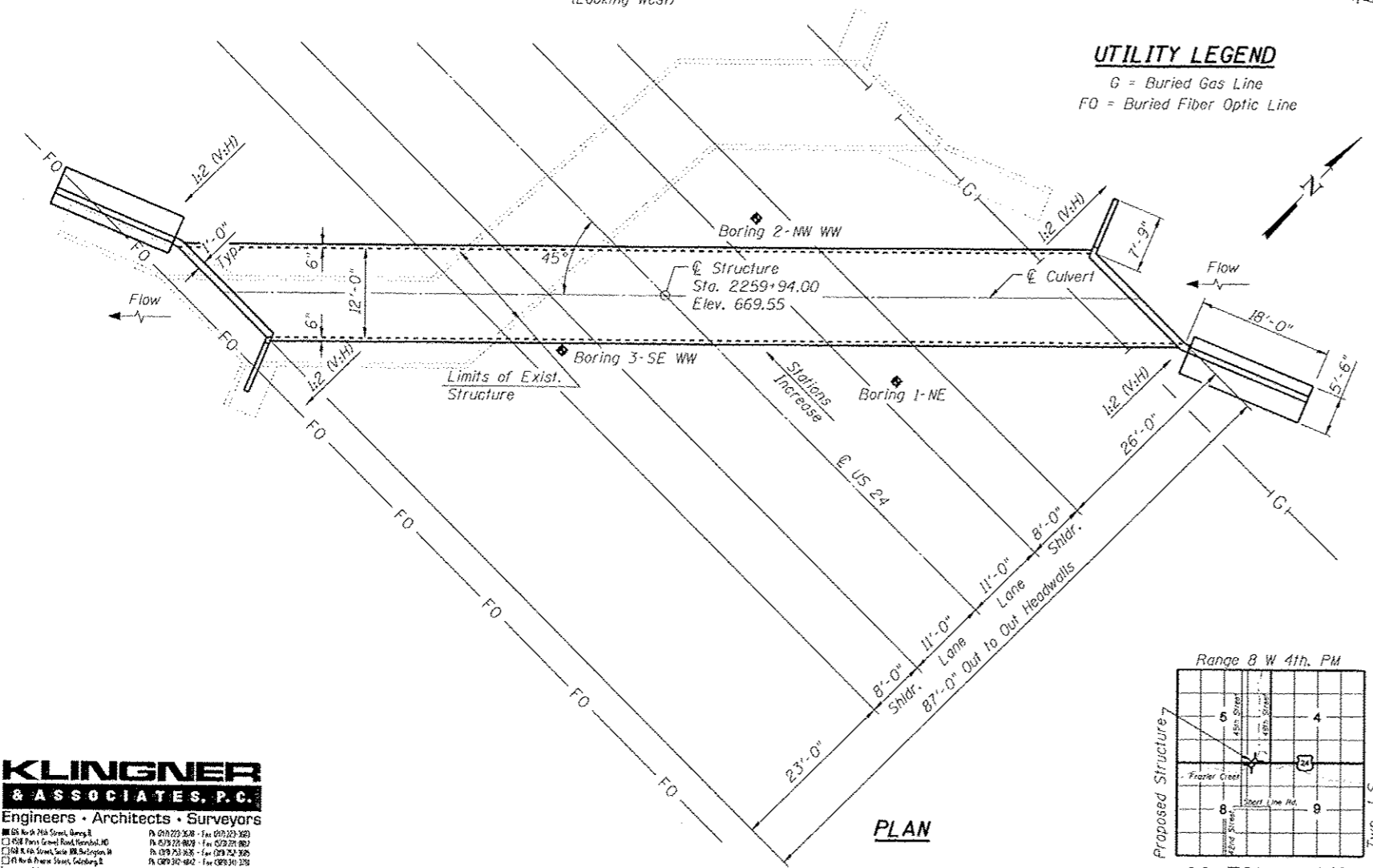
**PROFILE GRADE**  
(along roadway US Rte. 24)

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	Upstream	Downstream
	654.30	654.10

**UTILITY LEGEND**

- G = Buried Gas Line
- FO = Buried Fiber Optic Line



**PLAN**

STATION 2259+94.00  
 BUILT 20L BY  
 STATE OF ILLINOIS  
 F.A.P. RTE. 63 SEC. 1RS-5, CR-1.2.3) 2(RS-6)  
 LOADING HL-93  
 STRUCTURE NO. 001-2509

**NAME PLATE**  
See Std. 515001



Alan D. Lukens  
 Licensed Structural Engineer  
 State of Illinois No. 081-005167  
 License Expires 11/30/2014

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Specifications with 2013 Interims

**DESIGN STRESSES**

**FIELD UNITS**

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

**GENERAL PLAN & LONGITUDINAL SECTION**

**US 24 OVER FRAZIER CREEK**

**F.A.P. ROUTE 63**

**SECTION (1RS-5, CR-1.2.3) 2(RS-6)**

**ADAMS COUNTY**

**STATION 2259+94.00**

**S.N. 001-2509**



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 100 N. 7th Street, Suite 800, Chicago, IL 60610  
 100 N. 7th Street, Suite 900, Chicago, IL 60610  
 100 N. 7th Street, Suite 1000, Chicago, IL 60610

DESIGNED - RJP	EXAMINED	DATE -
CHECKED - ADL	ENGINEER OF BRIDGE DESIGN	
DRAWN - RJP	PASSED	REVISED
CHECKED - ADL	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN  
 STRUCTURE NUMBER 001-2509

SHEET NO. 1 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
63	(1)CR-1, (2)CR	ADAMS	43	22

CONTRACT NO. T2C12

Klingner & Associates P.C.