

Bench Mark: TA-4 Set Chiseled "□" NE corner concrete pad picnic table ± 100' north of PT Sta 676+03.93 NAVD 88 Elev 526.16
 Existing Structure: Structure Number 034-0023 was built in 1936 as S.B.I. Rte 96, Section 120 B-WPH at Sta 667+68 over Branch Riley Creek. The Superstructure was replaced in 1979 as Section 120 BR-1. The existing structure is 40'-0" out to out of deck, 0° skew, 32'-0" back to back of abutments. It is single span with 17" precast prestressed concrete deck beams on closed abutments. The abutments and wingwalls are on spread footings keyed into rock. The existing structure shall be removed and replaced. Traffic to be maintained utilizing stage construction.
 No Salvage.

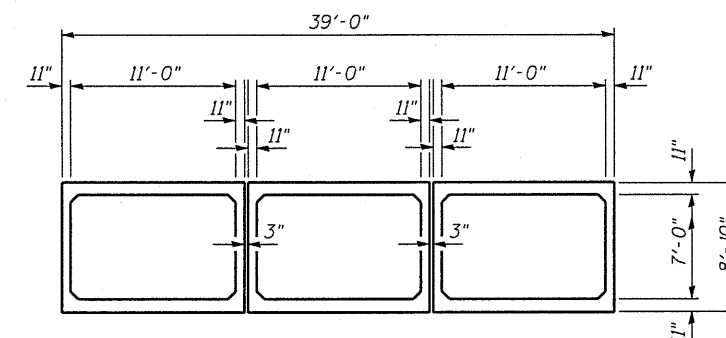
INDEX OF SHEETS

1. General Plan & Longitudinal Section
2. West Cast-In-Place End Section
3. East Cast-In-Place End Section
4. Support Beam Details
5. General Data
6. Boring Logs

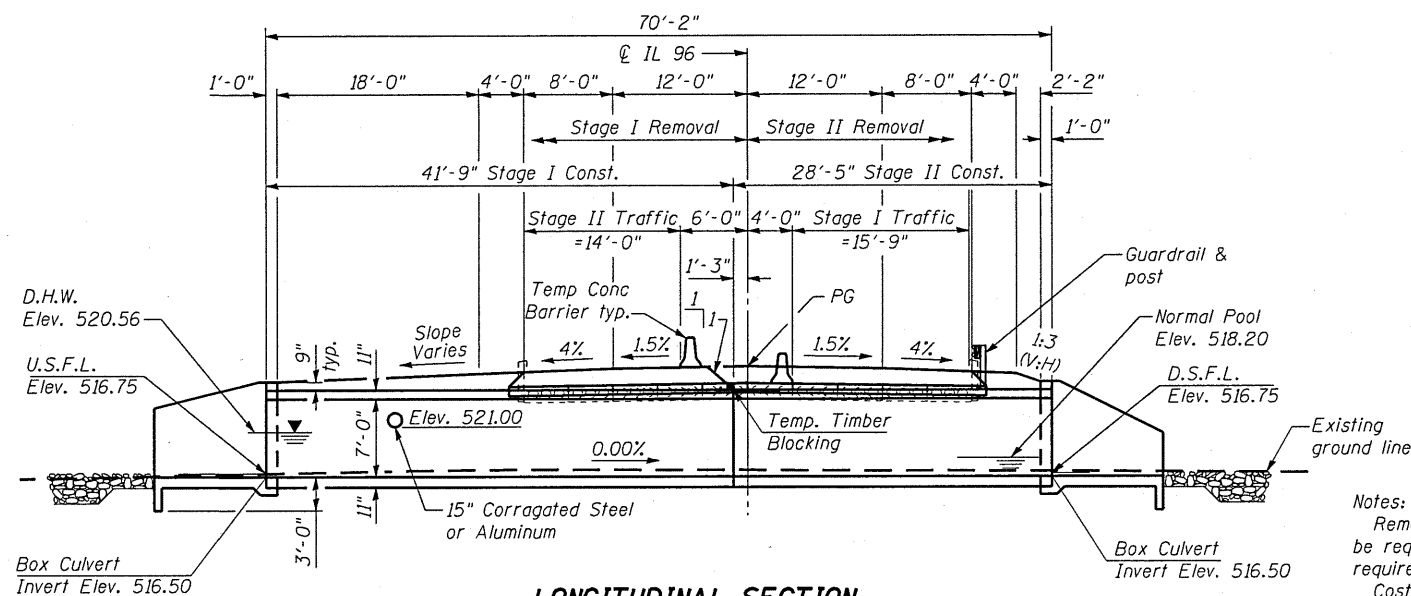
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 2	Each	1
Name Plates	Each	1
Precast Concrete Box Culvert 11'x7' (M273)	Foot	210.5
Box Culvert End Section, Culvert No. 2	Each	2
Reinforcement Bars	Pound	2,260
Stone Dumped Riprap, Class A5	Sq. Yd.	173
Temporary Soil Retention System	Sq. Ft.	165
Structure Excavation	Cu. Yd.	1,020
Rock Fill Foundation	Ton	290
Granular Culvert Backfill	Cu. Yd.	241
Dewatering Structure No. 2	Each	1
Furnishing & Erecting Structural Steel	L. Sum	1

* Estimated Structural Steel Weight = 2,810 pounds



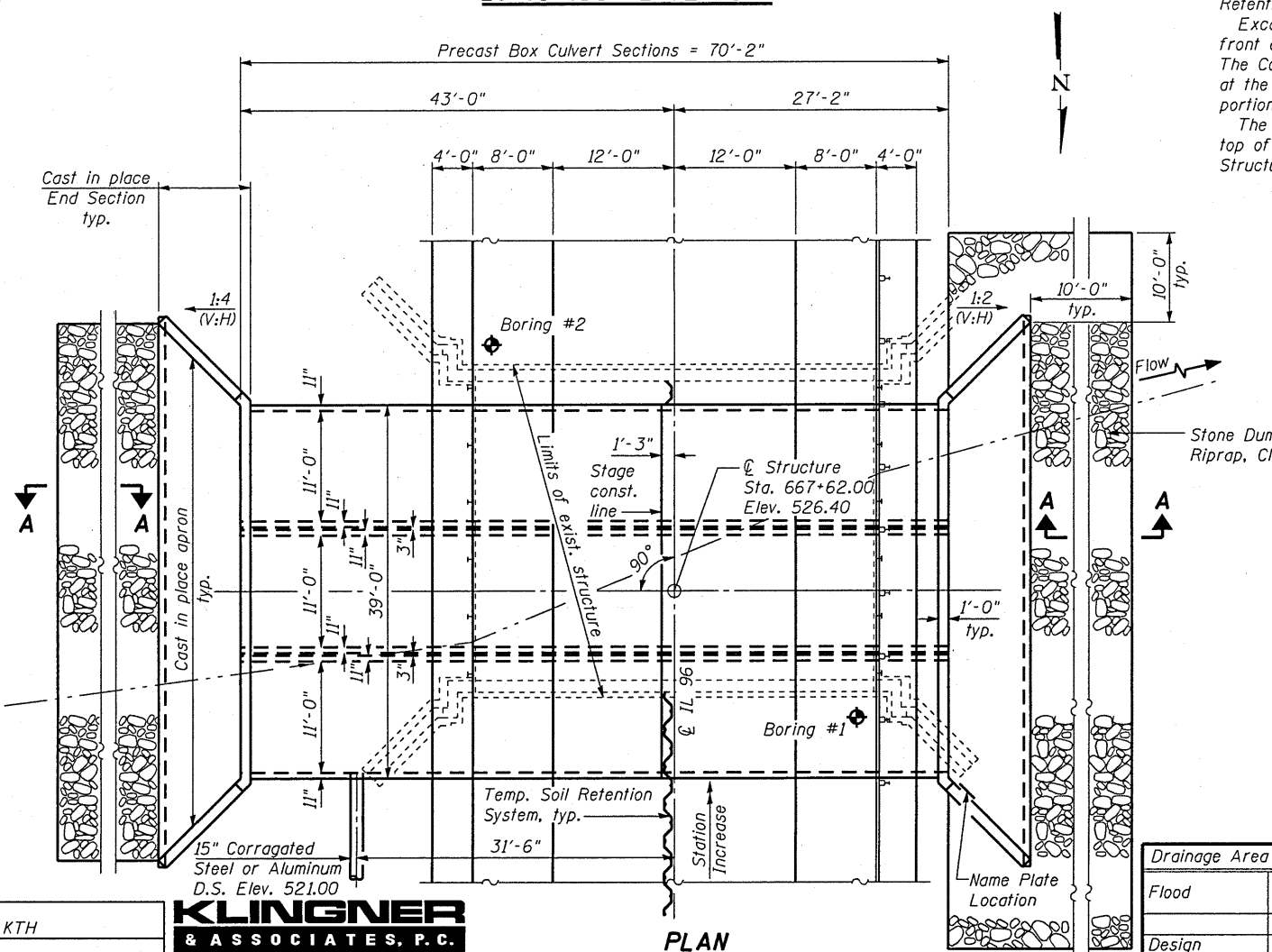
SECTION THRU BARREL



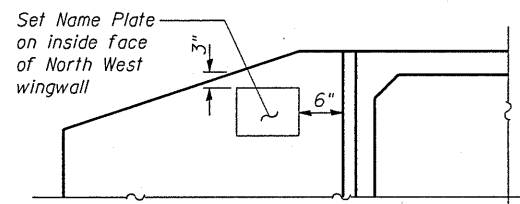
LONGITUDINAL SECTION

Notes:

Removal and replacement of weak soil with Rockfill-Foundation may be required beneath the culvert. The Engineer will determine the required depth following excavation to plan grade.
 Cost of Temporary Timber Blocking included with Temporary Soil Retention System.
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
 The existing South Abutment shall be removed to 1.0 feet below the top of the proposed culvert. Cost included with Removal of Existing Structures No. 2.



PLAN



NAME PLATE LOCATION

STATION 667+62.00
 BUILT 2011 BY
 STATE OF ILLINOIS
 FAP RT. 510 SEC. 120 (B-4, B-5)
 LOADING HS20-44
 STR. NO. 034-2526

NAME PLATE

See Std. 515001

DESIGN SCOUR ELEVATION TABLE

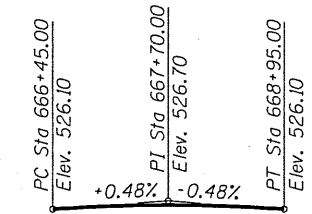
Design Scour Elevation (ft.)	D.S. Toewall	U.S. Toewall
	513.5	513.5

WATERWAY INFORMATION

Drainage Area = 1.38 Sq. Mi. Low Grade Elev. 524.7 @ Sta. 668+50

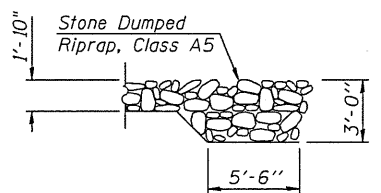
Flood Yr.	Freq. C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.			
		Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.		
10	649	72	226	520.09	1.31	0.04	521.40	520.13	
Design	50	1067	85	226	520.56	2.41	1.51	522.97	522.07
Base	100	1263	90	226	520.74	2.89	1.99	523.63	522.73
Max. Calc.	500	1742	98	226	521.01	4.10	3.07	525.11	524.08

*Upstream face of culvert



PROFILE GRADE

(along centerline of roadway)



SECTION A-A

LOADING HS20-44
 Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)

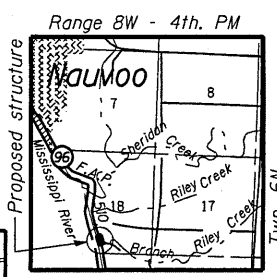
PRECAST UNITS

f'c = 5,000 psi
 fy = 65,000 psi (Welded Wire Fabric)



Alan D. Lukens, Structural Engineer
 Licensed Structural Engineer
 State of Illinois No. 081-005167
 License Expires 11/30/12

GENERAL PLAN & LONGITUDINAL SECTION
IL 96 OVER BRANCH RILEY CREEK
FAP ROUTE 510 SECTION 120 (B-4, B-5)
HANCOCK COUNTY
STATION 667+62.00
S.N. 034-2526



LOCATION SKETCH

DESIGNED KTH
CHECKED ADL
DRAWN KTH
CHECKED ADL

KLINGNER & ASSOCIATES, P.C.
 Engineers • Architects • Surveyors
 166 North 216 Street, Aurora, IL 61702-2233
 6388 Paris Grand Road, Normal, IL 61751-2233
 1418 North 14th Street, Moline, IL 61704-2233
 101 North 14th Street, Moline, IL 61704-2233
 Phone: (815) 223-3678 Fax: (815) 223-3683
 Phone: (815) 223-8829 Fax: (815) 223-8822
 Phone: (309) 753-1526 Fax: (309) 753-2365
 Phone: (309) 342-4442 Fax: (309) 342-3750
 Internet Address: www.klingner.com
 STATE OF ILLINOIS DESIGN FIRM # 1842738

SHEET NO. 1	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS					
CONTRACT NO. 72A65			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT		