

Bench Mark: Apex of ROW Marker, Sta. 644+50, 60' Rt. Elev. 802.55

Existing Structure: 071-2001. Built in 1928 as SBI 70, Section B-107 at Station 642+04.80 as a double 12'x5' RC box culvert, 42'-0" long and out-to-out width of 26'-2". Existing culvert to be removed and replaced. Culvert will be closed during construction, and traffic will be routed on a marked detour.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

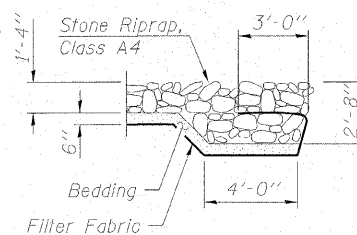
Sheet No.	Description
1	General Plan & Elevation
2	Culvert Details
3	Culvert Details
4	Grate Details
5	Precast Concrete Box Culvert 12'x5' (Special)
6	Boring Logs

STATION 642+04.80
BUILT 20__ BY
STATE OF ILLINOIS
F.A.S. 1042 SEC. 107T-1
LOADING HS 20-44
STRUCTURE NO. 071-2027

NAME PLATE
See Std. 515001

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	787.8	788.2



SECTION A-A

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

LOADING HS-20-44

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

DESIGN STRESSES

FIELD UNITS

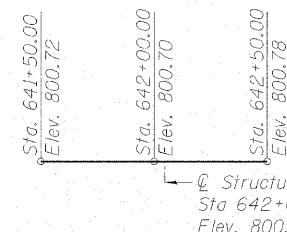
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

PRECAST UNITS

$f'_c = 5,000$ psi
 $f_y = 65,000$ psi (Welded Wire Fabric)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	194
Stone Riprap, Class A4	Sq. Yd.	61
Filter Fabric	Sq. Yd.	61
Removal of Existing Structures No. 1	Each	1
Reinforcement Bars, Epoxy Coated	Pound	1490
Reinforcement Bars	Pound	5800
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	72.8
Precast Concrete Box Culvert 12'x5' (Special)	Foot	128
Breaker Run Crushed Stone	Ton	262



PROFILE GRADE
F.A.S. 1042 (IL 251)
(Along C of Roadway)

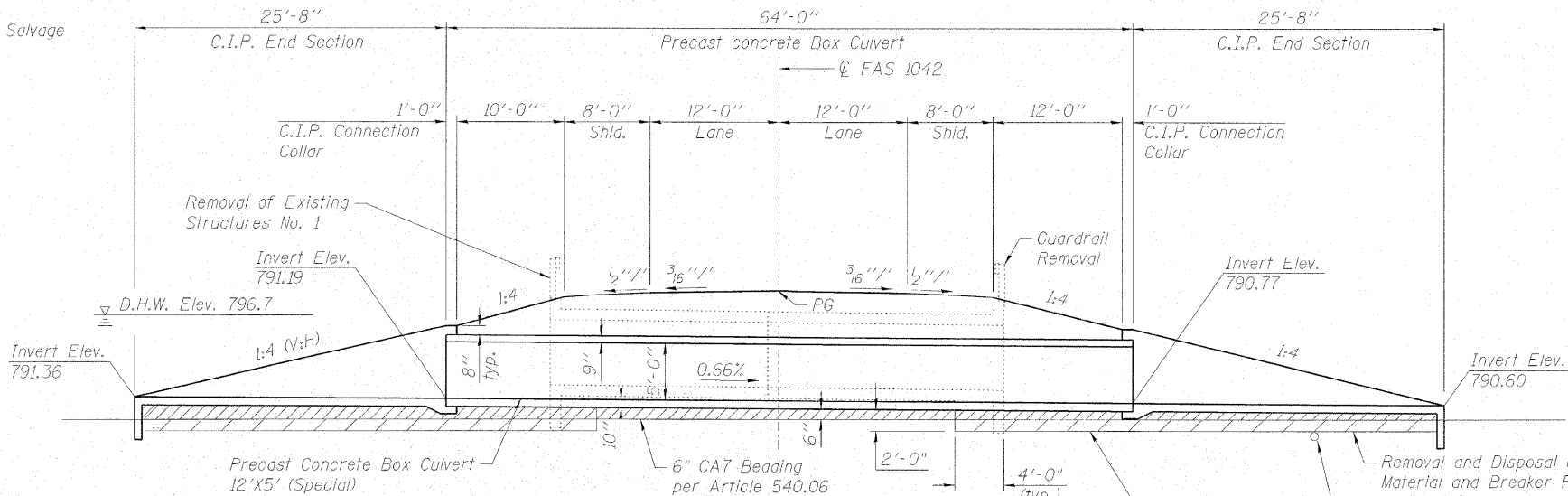
GENERAL NOTES

- Layout of Riprap may be varied in the field to suit ground conditions as directed by the Engineer.
- Cast-In-Place Concrete exposed edges shall be beveled $\frac{3}{4}$ in.
- Reinforcement Bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions
- Reinforcement bars designated (E) shall be epoxy coated.
- It shall be the responsibility of the Contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of water diversion shall be subject to the approval of the Engineer and the cost shall be included with the cost of "Concrete Box Culvert".
- Excavation behind existing culvert walls shall be performed before removing the existing top slab.
- Structural Seal is for Cast-In-Place Concrete portion of structure only.
- Precast Concrete Box Culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications and the applicable requirements of AASHTO M 259.
- Design Fill height shall be four feet.
- For Backfill and Embankment, see Special Provisions.
- Outside end of Precast sections shall not have a bell or spigot.
- The End Sections and Wingwalls shall be Cast-In-Place.
- Prior to excavating below the theoretical elevation of the bottom of the bedding material, the Engineer shall be contacted and shall be present to determine the actual limits and depth of excavation for Removal and Disposal of Unsuitable Material.
- Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.
- The joints between precast box sections shall be sealed and all voids filled with mastic joint sealer. In addition, the joints shall be externally sealed on all four sides using 13 inch wide external sealing bands. The seal shall be centered over the joint, secured in place and protected from damage during the backfilling operation.

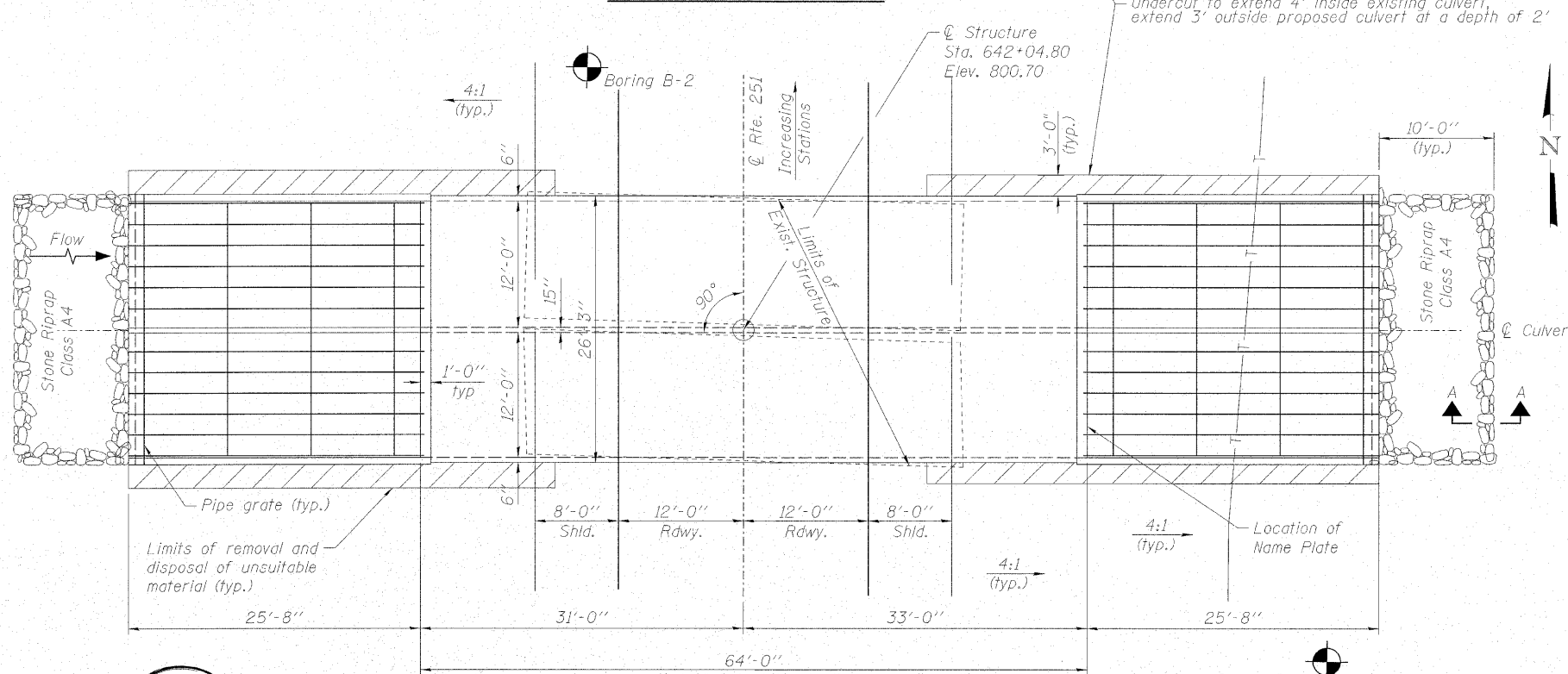
GENERAL PLAN & ELEVATION

ILL. RTE. 251 OVER UNNAMED TRIBUTARY TO KILBUCK CREEK

SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5 SHEETS	1042	107T-1	OGLE	53	26
		STRUCTURE NO. 071-2027	CONTRACT NO. 64B09		
		FED. ROAD DIST. NO. _	ILLINOIS FED. AID PROJECT		



LONGITUDINAL SECTION



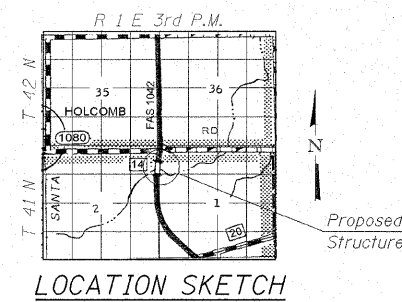
PLAN

WATERWAY INFORMATION

Drainage Area = 2.26 sq. mi. Proposed Low Grade Elev. 800.3 @ Sta. 642+04.8

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	479	103	120	796.37	0.33	0.17	796.70	796.54	
Base	50	731	119	120	796.74	0.91	0.80	797.65	797.54	
Max (Overtopping)	100	835	120	120	796.87	1.22	1.16	798.09	798.03	
	500	1081	120	120	797.14	2.08	2.17	799.22	799.31	

10-Year velocity through Existing structure = 5.0 fps
10-Year velocity through Proposed structure = 3.5 fps



LOCATION SKETCH



Kristen Fields 11-24-00
Date Signed:
Exp. Date: 11-30-08



DESIGNED - BAB
CHECKED - KEF
DRAWN - LAD
CHECKED - GBM