

Bench Mark: BM #6 Set at Sta. 28+97.8, Elev 922.00. Square cut on light pole foundation ±35' north of the north gas pump of "BP" gas station at the southwest corner of U.S. route 20 and IL Route 72.

Existing Structure: SN 045-2028 was built in 1935 as part of S.B.I. Illinois Route 72, Section 109-NRS. A low flow profile was cut into the West barrel. The structure is a 2-cell cast-in-place concrete box culvert approximately 26.9 feet in width and 43 feet in length. The structure is skewed 42 degrees 15 minutes from the roadway centerline and carries two 13-foot traffic lanes (one Eastbound and Westbound) and two variable width shoulders. Traffic to be maintained utilizing stage construction. Structure to be removed and replaced with a double-cell cast-in-place concrete box culvert.

No Salvage.

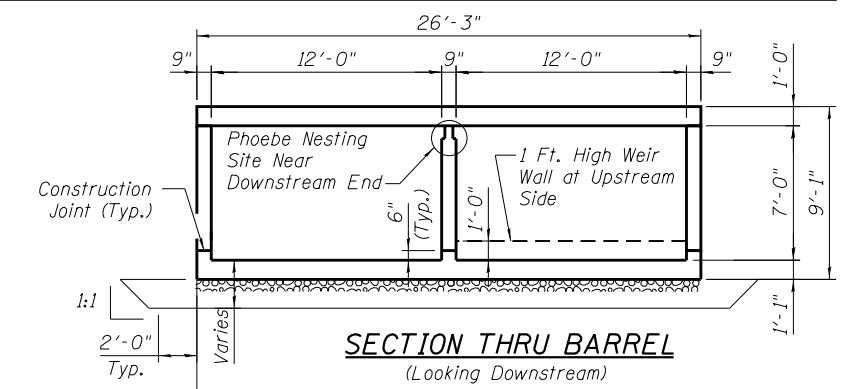
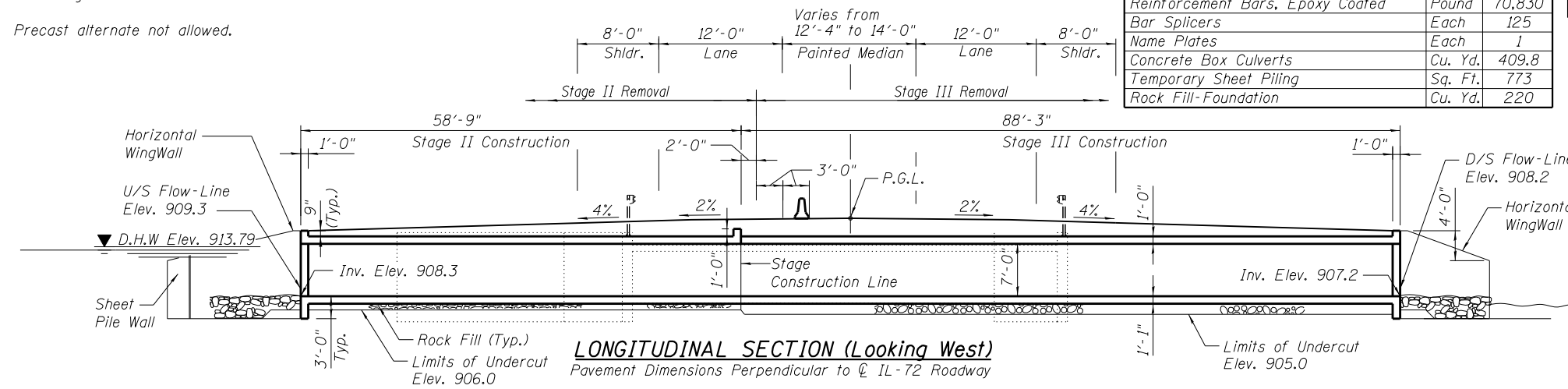
Precast alternate not allowed.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. Yd.	119
Filter Fabric	Sq. Yd.	194
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	357
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	201
Protective Coat	Sq. Yd.	8
Reinforcement Bars, Epoxy Coated	Pound	70,830
Bar Splicers	Each	125
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	409.8
Temporary Sheet Piling	Sq. Ft.	773
Rock Fill-Foundation	Cu. Yd.	220

**WATERWAY INFORMATION**

Drainage Area = 0.95 Sq. Mi.		Existing Low Grade Elev. = 917.78 ft. @ Sta. 37+37		Proposed Low Grade Elev. = 917.78 ft. @ Sta. 37.78						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	127	58.14	65.50	912.56	0	0	912.56	912.56	912.56
Base	100	245	80.28	95.00	913.79	0	0	913.79	913.79	913.79
Overtopping	N/A	335	90.72	109.2	914.38	0	0	914.38	914.38	914.38
Max. Calc.	500	498	98.10	118.56	914.77	0.44	0.49	915.21	915.26	915.26



STATION 36+05.46  
BUILT 20... BY  
STATE OF ILLINOIS  
LOADING HL-93  
STRUCTURE NO. 045-2041

**NAME PLATE**  
See Std. 515001

**HIGHWAY CLASSIFICATION**

F.A.P. Route 345, Illinois Route 72  
Function Class: Other Principal Arterial  
ADT: 8,800 (2011); 11,450 (2040)  
ADTT: 500 (2011); 690 (2040) 6%  
DHW: 880 (2011)  
Design Speed: 60 mph  
Posted Speed 55 mph  
Two-Way Traffic  
Directional Distribution: 45 WB; 55 EB

**LOADING HL-93**

Allow 50#/Sq ft. Future Wearing Surface

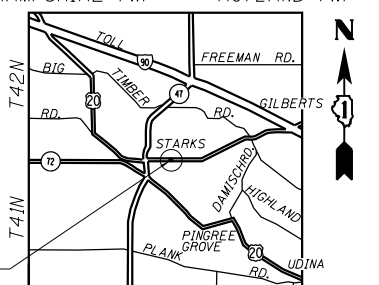
**DESIGN SPECIFICATIONS**

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)

R6E HAMPSHIRE TWP R7E RUTLAND TWP



**GENERAL PLAN**

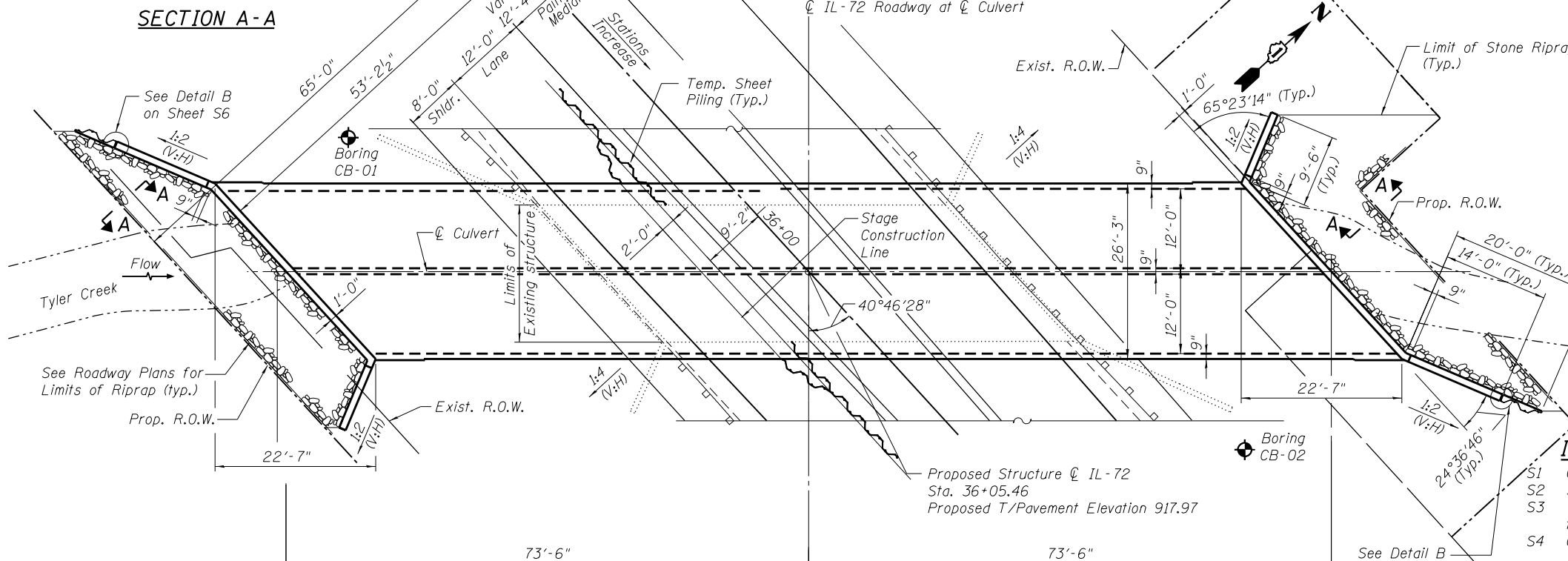
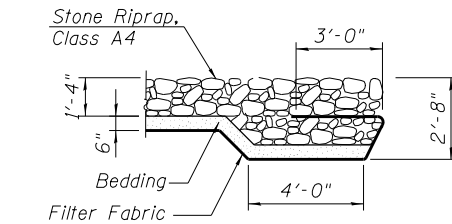
ILLINOIS ROUTE 72 OVER TYLER CREEK

F.A.P. ROUTE 345 - SECTION 106-S-N-1

KANE COUNTY

STATION 36+05.46

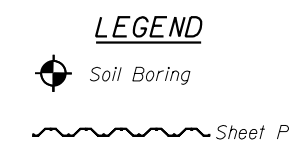
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Note: The contractor shall grade around the wingwalls in such manner to create a positive drainage away from the culvert.

**INDEX OF SHEETS**

- S1 General Plan and Elevation
- S2 Stage Construction
- S3 Temporary Concrete Barrier for Stage Construction
- S4 Culvert Plan, Top Slab, Bottom Slab and Sections
- S5 Culvert Plan, Top Slab, Bottom Slab, Elevations and Details
- S6 Culvert Sections and Details
- S7 Bar Splicer Assembly and Mechanical Splicer Details
- S8 Soil Boring Logs I
- S9 Soil Boring Logs II



PLOT DATE = \$DATE\$  
FILE NAME = \$FILEL\$

USER NAME =	DESIGNED - MBC	REVISED -
PLOT SCALE =	DRAWN - SSR	REVISED -
PLOT DATE =	CHECKED - GFP	REVISED -
FILE NAME =	DATE - 5/12/14	REVISED -



**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 045-2041**

SHEET NO. S1 OF S9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	95
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

CONTRACT NO. 60T10