Bench Mark: BM #5 Set at Sta. 131+88.6, Elev 915.520. Square cut on the 3rd step from the road level on concrete stairs to brick pump house about 90' northwest of railroad bridge over IL. Routes 47 and 72, and U.S. Route 20

Existing Structure: SN 045-2029 was built in 1936 as part of S.B.I. Route 47, Section 106-S. A low flow profile was cut into the south barrel. The structure is a 2-cell cast-in-place concrete box culvert approximately 23.8 feet in width and 91.8 feet in length. The structure is skewed 32 degrees 15 minutes from the roadway centerline and carries four 12-foot traffic lanes and two variable width shoulders. Structure to be removed and replaced with a double-cell cast-in-place concrete box culvert. Traffic to be maintained utilizing stage construction.

No Salvage.

Note: Precast alternate not allowed.

TOTAL BILL OF MATERIAL

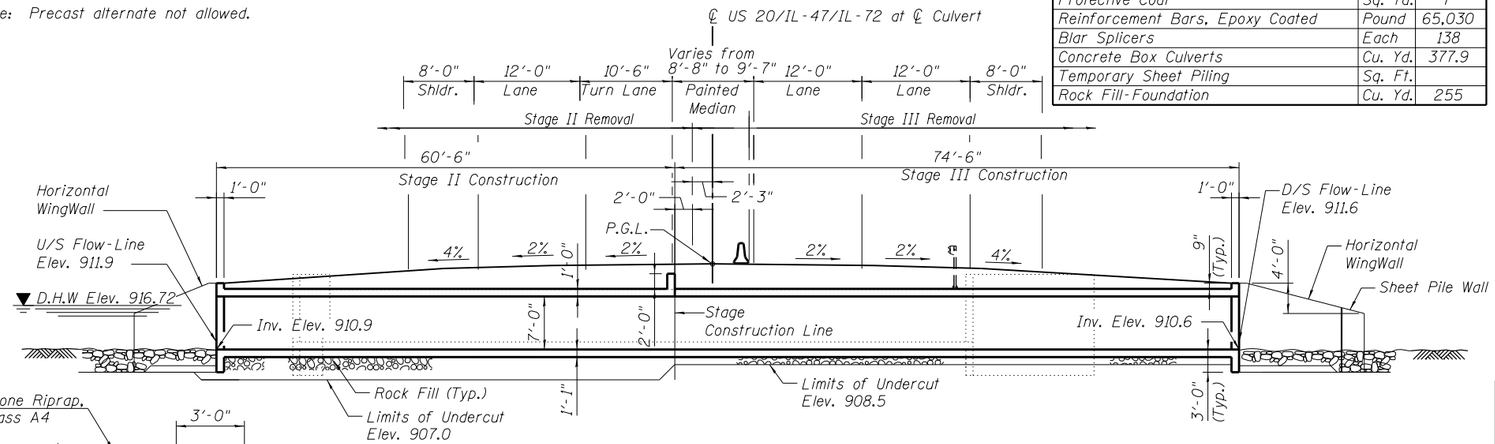
ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. Yd.	202
Filter Fabric	Sq. Yd.	275
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	762
Removal and Disposable of Unsuitable Material for Structures	Cu. Yd.	294
Protective Coat	Sq. Yd.	7
Reinforcement Bars, Epoxy Coated	Pound	65,030
Blar Splicers	Each	138
Concrete Box Culverts	Cu. Yd.	377.9
Temporary Sheet Piling	Sq. Ft.	
Rock Fill-Foundation	Cu. Yd.	255

WATERWAY INFORMATION

Drainage Area = 0.95 Sq. Mi.

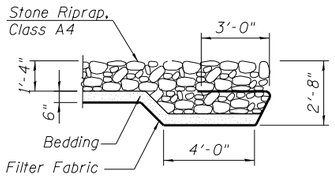
Existing Low Grade Elev. = 921.10 ft. @ Sta. 140+23
Proposed Low Grade Elev. = 921.10 ft. @ Sta. 140+23

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	127	51.84	82.08	915.82	0	0	915.82	915.82
Design	50	245	67.5	103.7	916.72	0.24	0.15	916.96	916.87
Base	100	335	74.88	113.5	917.13	0.60	0.44	917.73	917.57
Overtopping	N/A								
Max. Calc.	500	498	86.04	127.2	917.7	1.04	0.83	918.74	918.53

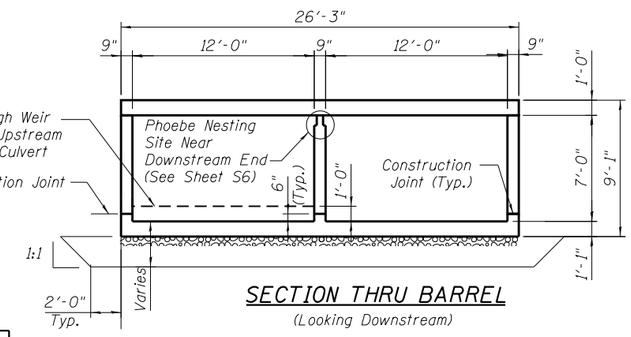


LONGITUDINAL SECTION (Looking North)

Pavement Dimensions Perpendicular to ℄ US 20/IL-47/IL-72 Roadway



SECTION A-A



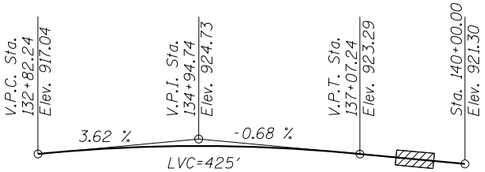
SECTION THRU BARREL

(Looking Downstream)

STATION 138+44.22
BUILT 20__ BY
STATE OF ILLINOIS
LOADING HL-93
STRUCTURE NO. 016-2040

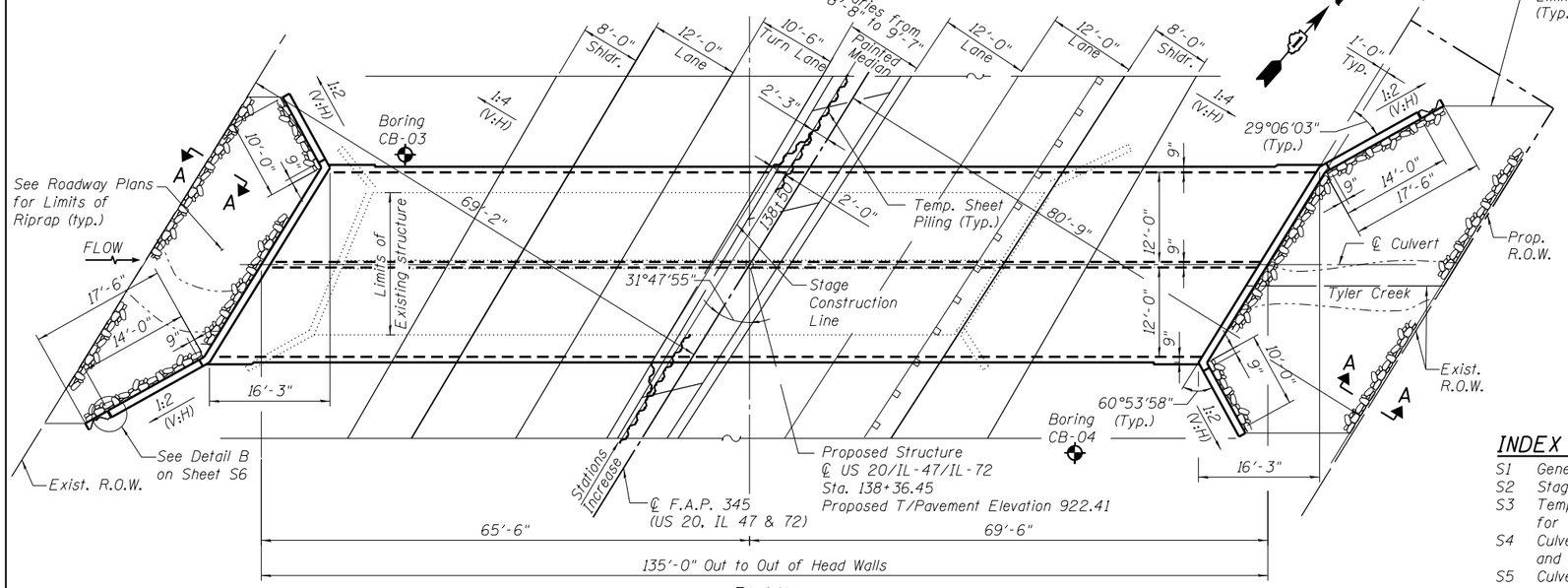
NAME PLATE

See Std. 515001



PROFILE GRADE LINE

(IL. US. 20 /IL Rte. 47 and 72 Along ℄ Roadway)



PLAN

Pavement Dimensions Perpendicular to ℄ US 20/IL-47/IL-72 Roadway

HIGHWAY CLASSSFICATION

F.A.P. Route 345, US Route 20
Function Class: Other Principal Arterial
ADT: 15,500 (2011); 20,150 (2040)
ADTT : 900 (2011); 1,210 (2040) 6%
DHV: 1,550 (2011)
Design Speed: 60 mph
Posted Speed 55 mph
Two-Way Traffic
Direction Distribution: 55 NB: 45 SB

LOADING HL-93

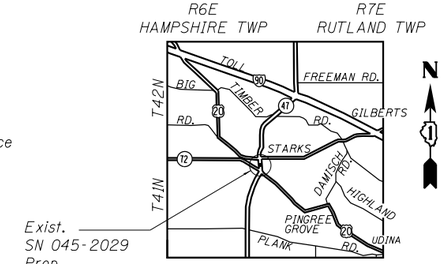
Allow 50#/Sq ft. Future Wearing Surface

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

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



LOCATION SKETCH

INDEX OF SHEETS

LEGEND

Soil Boring
Sheet Piling

GENERAL PLAN
US RTE 20 / IL RTE 47 / IL RTE 72
OVER TYLER CREEK
F.A.P. ROUTE 345-SECTION 106-S-N-1
KANE COUNTY
STATION 138+36.45
STRUCTURE NO. 045-2040

PLOT DATE = $DATE$
FILE NAME = $FILE1$

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

DBS STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE, SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1008 FAX. (312)857-1056

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 045-2040
SHEET NO. S1 OF S9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	104
		CONTRACT NO. 60T10		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		