

Benchmark: R.R. spike in west face of last P.P. on west side of IL. Rte. 47 north of Sherrill Rd., Elev. 594.19

Existing Structure: The existing structure consists of a 59" x 38" elliptical CMP pipe. The pipe is approximately 42'-4" in length at a 10° right ahead skew. Existing structure to be removed and replaced. Traffic to be detoured during construction.

No Salvage.

INDEX OF SHEETS

1. General Plan & Elevation
2. Culvert Details
3. Soil Borings

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

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

PRECAST UNITS

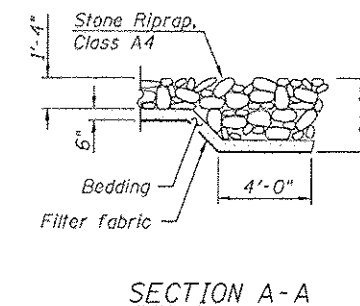
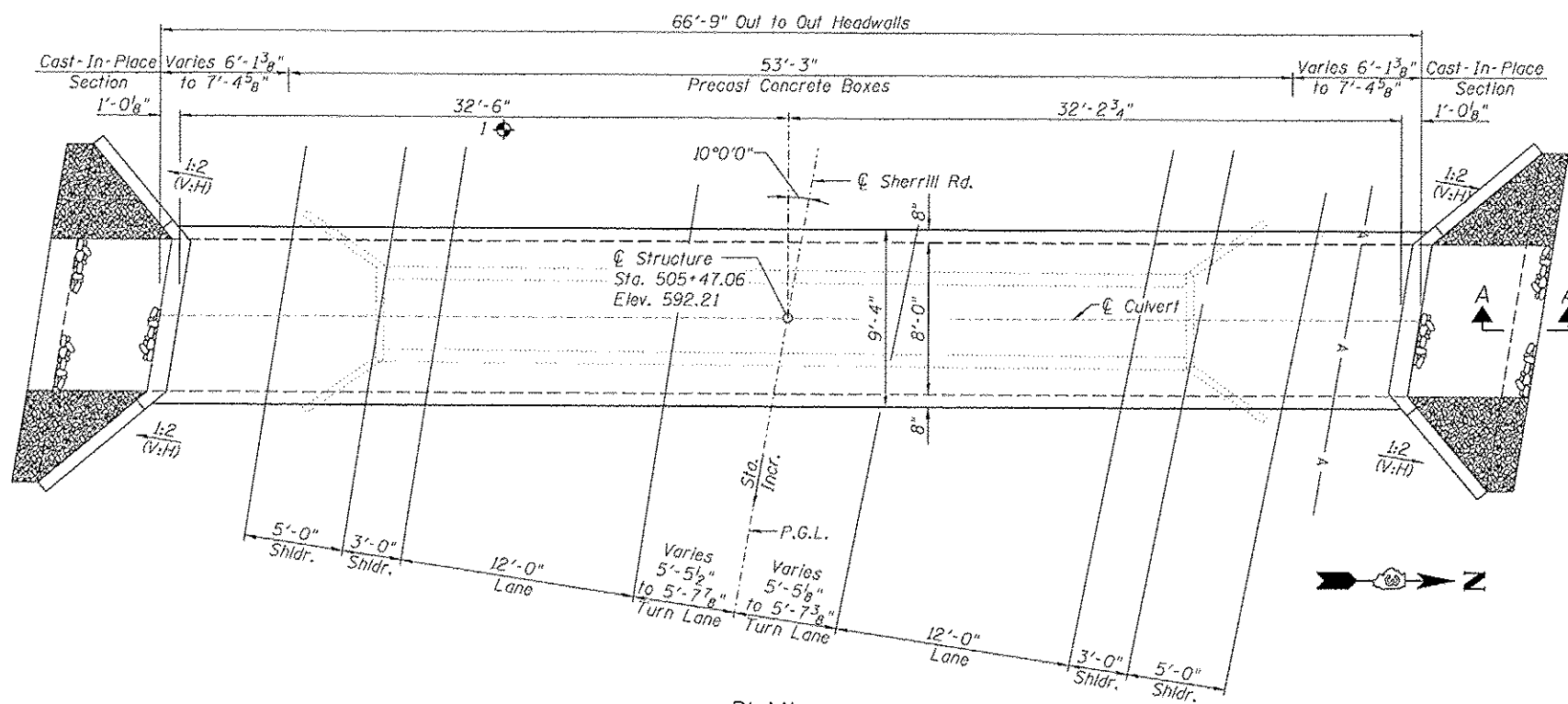
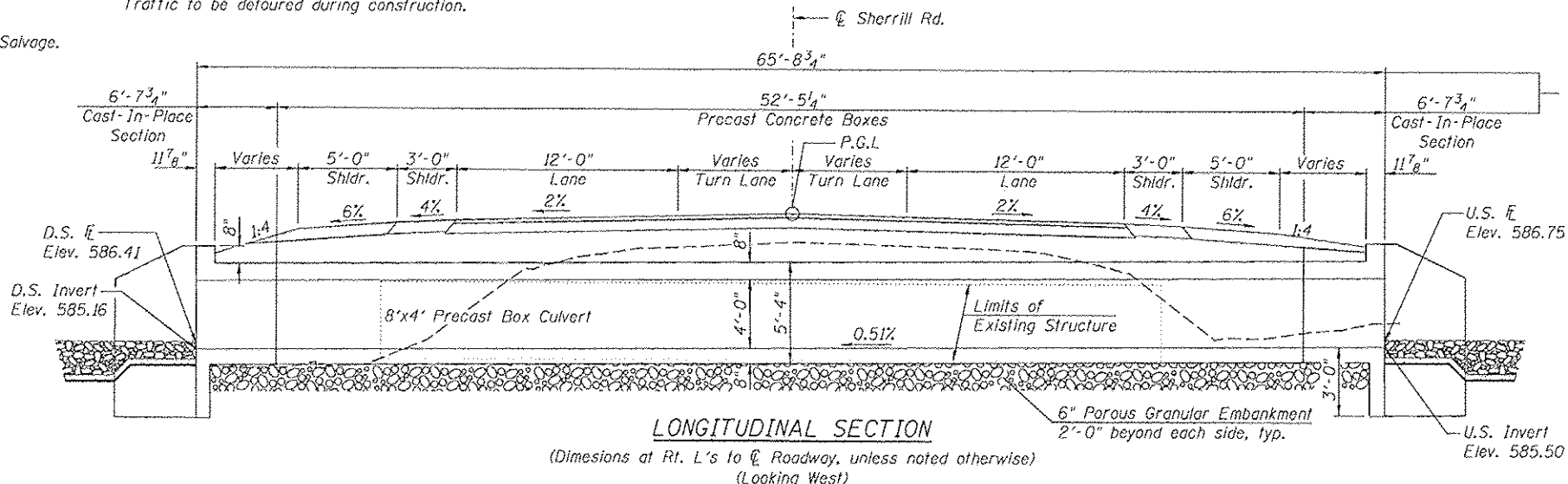
f'c = 5,000 psi
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The last section of precast culvert on each end shall have reinforcing bars extending from the precast culvert to be incorporated into the cast-in-place end sections as shown on sheet 2.

Precast concrete box culverts shall conform to the design requirements of ASTM C1577.

See Box Culvert Backfilling Detail within roadway detail sheets for limits of Granular Culvert Backfill.



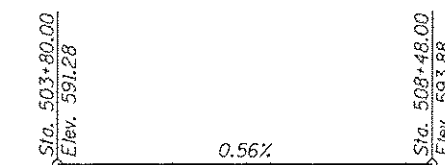
STATION 505+47.06
BUILT BY
STATE OF ILLINOIS
F.A.P. RTE. 326
SEC. (110)R, BR & BR-1
LOADING HL-93
WATER CROSSING 143

NAME PLATE
See Std. 515001



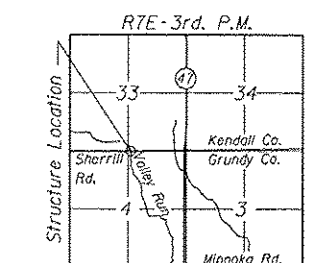
Vincent P. Tabor 7/15/2013
Date

Vincent P. Tabor
Licensed Structural Engineer
State of Illinois No. 081-007047
Expires 11/30/2014



PROFILE GRADE

(Along Sherrill Rd. P.G.)



LOCATION SKETCH

GENERAL PLAN & ELEVATION

SHERRILL RD. OVER

DRAINAGE DITCH

F.A.P. RTE. 326-SEC (110)R,

BR & BR-1

GRUNDY/KENDALL COUNTY

STATION 505+47.06

WATER CROSSING 143

WATERWAY INFORMATION

Drainage Area = 0.69 sq mi					Exist. Low Grade Elev. 589.37 Prop. Low Grade Elev. 590.69					
Flood Yr.	0 C.F.S.	Opening	Sq. Ft.	Nat. Head - Ft.	Headwater El.	Exist.	Prop.	Exist.	Prop.	
10	128	147	8	40	588.7	1.3	0.2	590.0	588.9	
Design	50	196	226	8	42	588.8	1.4	0.7	590.2	589.5
Base	100	224	258	8	42	588.8	1.4	1.0	590.2	589.8
Overtopping	-	-	-	-	-	-	-	-	-	-
Max. Calc.	500	290	336	9	43	588.9	1.5	1.5	590.4	590.4

10 year velocity through Existing Structure = 7.05 fps
10 year velocity through Proposed Structure = 3.74 fps

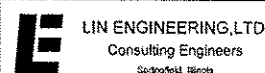
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	16.5
Stone Riprap, Class A4	Sq. Yd.	31
Filter Fabric	Sq. Yd.	31
Removal of Existing Structures	Each	1
Reinforcement Bars	Pound	2220
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	14.6
Precast Concrete Box Culverts 8'x4'	Foot	53.5

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	D.S. Invert
	582.50	582.16

REVISIONS	USER NAME	DESIGNED - PSS
REVISIONS	FILE NAME	CHECKED - VPT
REVISIONS	PLDT SCALE	DRAWN - AJF
REVISIONS	PLDT DATE	CHECKED - VPT



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
WATER CROSSING 143

SHEET NO. 1 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(110)R, BR & BR-1	GRUNDY	644	396
			CONTRACT NO. 66883	
ILLINOIS FED. AID PROJECT				