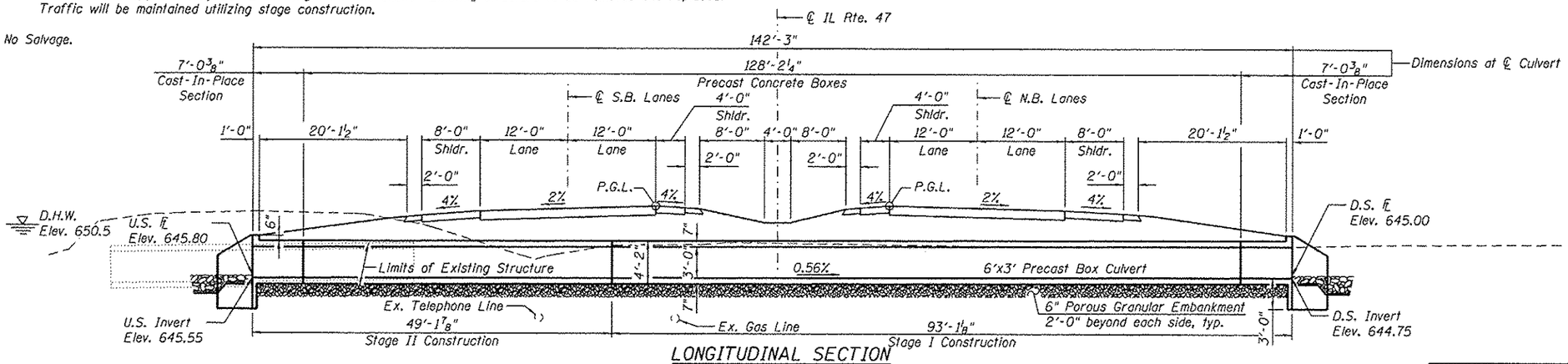
Benchmark: B.M. 1762. Vertical control disk in top of concrete monument. Stamped M 20 reset 1989. Northeast quadrant of the intersection of Route 47 and Plattville Road, 70' east of Route 47, 33' north of Plattville Road. Elevation 658.56.

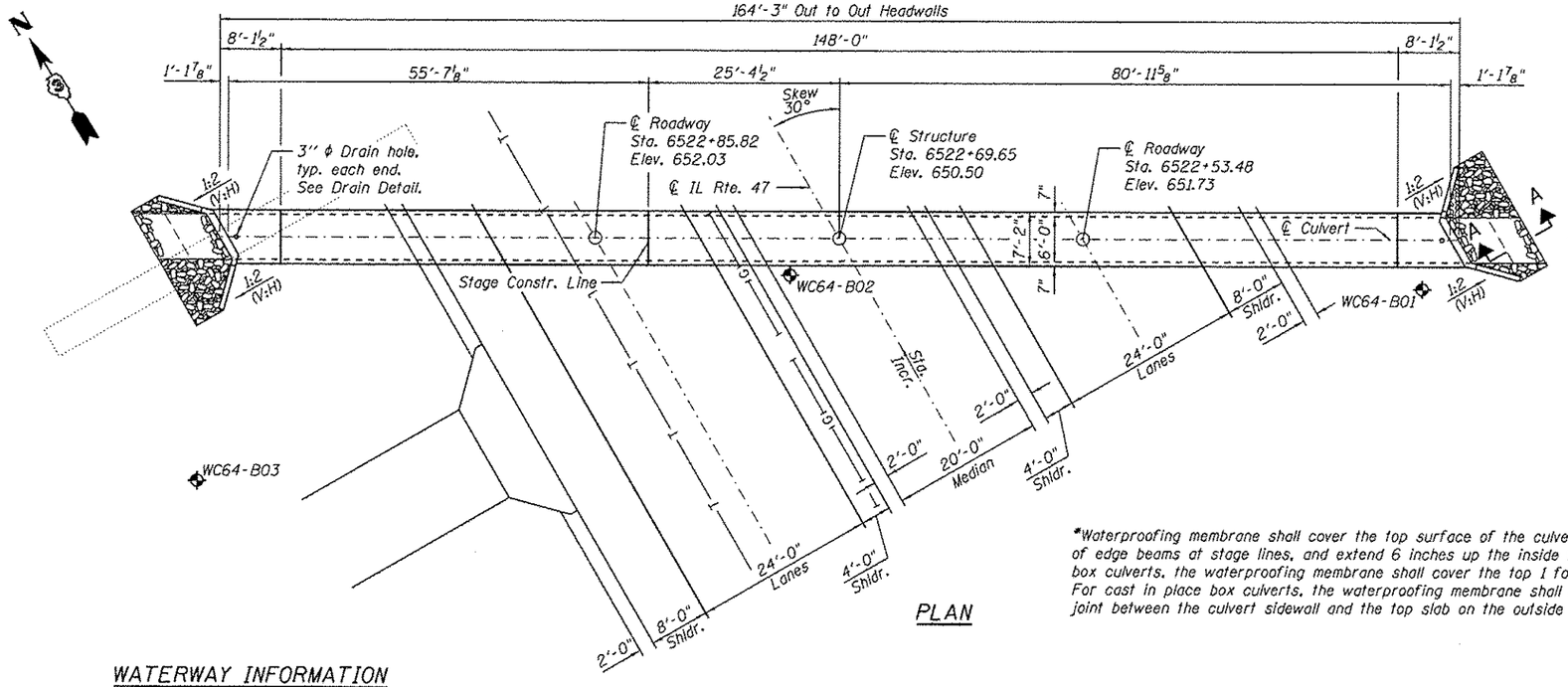
Existing Structure: The existing structure consists of a single 2'x2' concrete box culvert with concrete wingwalls. The culvert is approximately 55'-2" in length with no skew. Existing structure to be removed and replaced. Traffic will be maintained utilizing stage construction.

No Salvage.

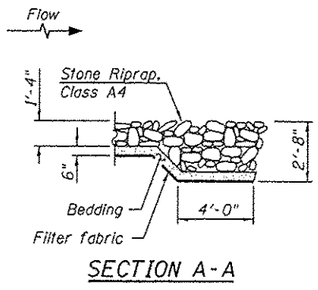


LONGITUDINAL SECTION

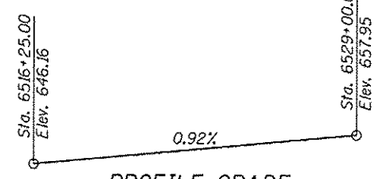
(Dimensions at Rt L's to ℄ Roadway, unless noted otherwise)
(Looking North)



PLAN

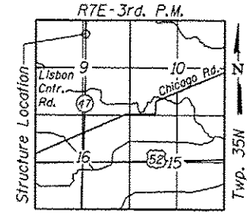


SECTION A-A



PROFILE GRADE

(Along IL Rte. 47 P.G.)



LOCATION SKETCH

INDEX OF SHEETS

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 3 of 5.

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

STATION 6522+69.65
BUILT 20 BY
STATE OF ILLINOIS
LOADING HL-93
STRUCTURE NO. 047-2566

NAME PLATE

See Std. 515001

*Waterproofing membrane shall cover the top surface of the culvert, including the top and inside face of edge beams at stage lines, and extend 6 inches up the inside face of the headwall. For precast box culverts, the waterproofing membrane shall cover the top 1 foot of the outside face of the sidewalls. For cast in place box culverts, the waterproofing membrane shall extend to 6 inches below the construction joint between the culvert sidewall and the top slab on the outside face of the sidewalls.

WATERWAY INFORMATION

Drainage Area = 0.45 sq mi
Exist. Low Grade Elev. 651.41
Prop. Low Grade Elev. 651.45

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	76	4	16	650.2	1.8	0.0	652.0	649.3
Design	50	140	4	18	650.5	1.7	0.0	652.2	650.2
Base	100	183	4	18	650.6	1.6	0.6	652.2	651.2
Overtopping	-	209	4	18	-	-	-	-	651.5
Max. Calc.	500	311	4	18	650.9	1.6	1.3	652.5	652.2

10 year velocity through Existing Structure = 9.1 fps
10 year velocity through Proposed Structure = 4.8 fps

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	34
Stone Riprap, Class A4	Sq. Yd.	23
Filter Fabric	Sq. Yd.	23
Removal of Existing Structures No. 8	Each	1
Reinforcement Bars	Pound	2010
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	12.5
Precast Concrete Box Culvert 6'x3'	Foot	148.0
*Membrane Waterproofing for Culverts	Sq. Yd.	167

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	D.S. Invert
	642.55	641.75

LICENSED STRUCTURAL ENGINEER — VINCENT P. TABOR 081-007047 — STATE OF ILLINOIS

Vincent P. Tabor 7/14/2014
Vincent P. Tabor — Date
Licensed Structural Engineer
State of Illinois No. 081-007047
Expires 11/30/2014

GENERAL PLAN & ELEVATION
IL. RTE. 47 OVER
DRAINAGE DITCH
F.A.P. RTE. 326
SEC-(109, 110)R-1
KENDALL COUNTY
STATION 6522+69.65
STRUCTURE NO. 047-2566

REVISED -	USER NAME =	DESIGNED -	PSS
REVISED -	FILE NAME =	CHECKED -	VPT
REVISED -	PLOT SCALE =	DRAWN -	AJF
REVISED -	PLOT DATE =	CHECKED -	VPT

LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 047-2566
SHEET NO. 1 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(109, 110)R-1	KENDALL	619	389
		CONTRACT NO. 66884		
	ILLINOIS FED. AID PROJECT			