

Bench Mark:
Iron Pin in shoulder on East side of IL RT. 53. 32.76' North of PK Nail in end post of guardrail and 29.82' West of Light Pole with PK Nail. Sta. 158+55.45, Offset 19.19' Rt, Elev. 690.34.

Existing Structure:
The existing structure is a 2'x2' precast concrete box culvert.
The existing structure is to be removed and replaced. Traffic is to be maintained on the existing roadway during construction by staging the construction.

No salvage.

WATERWAY INFORMATION TABLE

					Proposed Low Grade Elev. = 691.1 @ Sta. 162+00				
Drainage Area = 28.0 Acres					Existing Low Grade Elev. = 688.6 @ Sta. 162+00				
Flood	Freq. Yr.	Q (C.F.S.)	Opening (Sq. Ft.)		Nat. H.W.E.	Head (Ft.)		Headwater Elev.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	30	4	11	687.3	1.7	0.2	689.0	687.5
Design	50	45	4	11	687.8	4.1	0.3	691.9	688.1
Base	100	51	4	12	688.1	5.7	0.3	693.8	688.4
Overtopping					Ex. Less than 10 years, Pr. 500+ years				
Max. Calc.	500	87	4	12	688.9	18.7	1.5	707.6	690.4
			Exist. Freeboard 0.0		Prop. Freeboard 3.0				

INDEX OF SHEETS

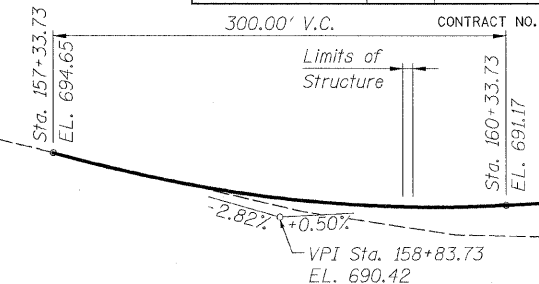
B1 - General Plan & Elevation

B2 - Culvert Details

Sheet B1 of B2

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2578	532B-1	DUPAGE	117	69
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

CONTRACT NO. 62881



PROFILE GRADE - IL RT. 53

GENERAL NOTES

- The Precast Concrete Box Culvert shall conform to the requirements of AASHTO M-259.
- Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-322, Grade 60. The cost of reinforcement is included with "Box Culvert End Sections".
- Welded wire fabric shall conform to the requirements of ASTM A185.
- The porous granular bedding material shall be gradation CA-7, CA-11, or CA-18 and shall be compacted to the satisfaction of the Engineer by mechanical means. Cost for porous granular bedding under the precast concrete portion of the culvert shall be included with "Precast Concrete Box Culverts 4' x 3'".
- Work this sheet with B2 for details of Cast-in-Place Sections.
- All exposed concrete edges shall be chamfered $\frac{3}{4}$ " unless otherwise noted.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS20-44

Allowance for Future Wearing Surface=50 lb/ft

DESIGN STRESSES

Precast Units

$f'_c=5,000$ psi
 $f_y=65,000$ psi (welded wire fabric)

Field Units

$f'_c=3,500$ psi
 $f_y=60,000$ psi (Reinf.)
 $f_y=65,000$ psi (welded wire fabric)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Box Culvert End Sections	Each	2
Precast Concrete Box Culvert 4'x3'	Foot	94
Box Culvert Removal	Foot	59
Concrete Slab	Sq.Yd.	60

* See Special Provisions

ILLINOIS DEPARTMENT OF TRANSPORTATION

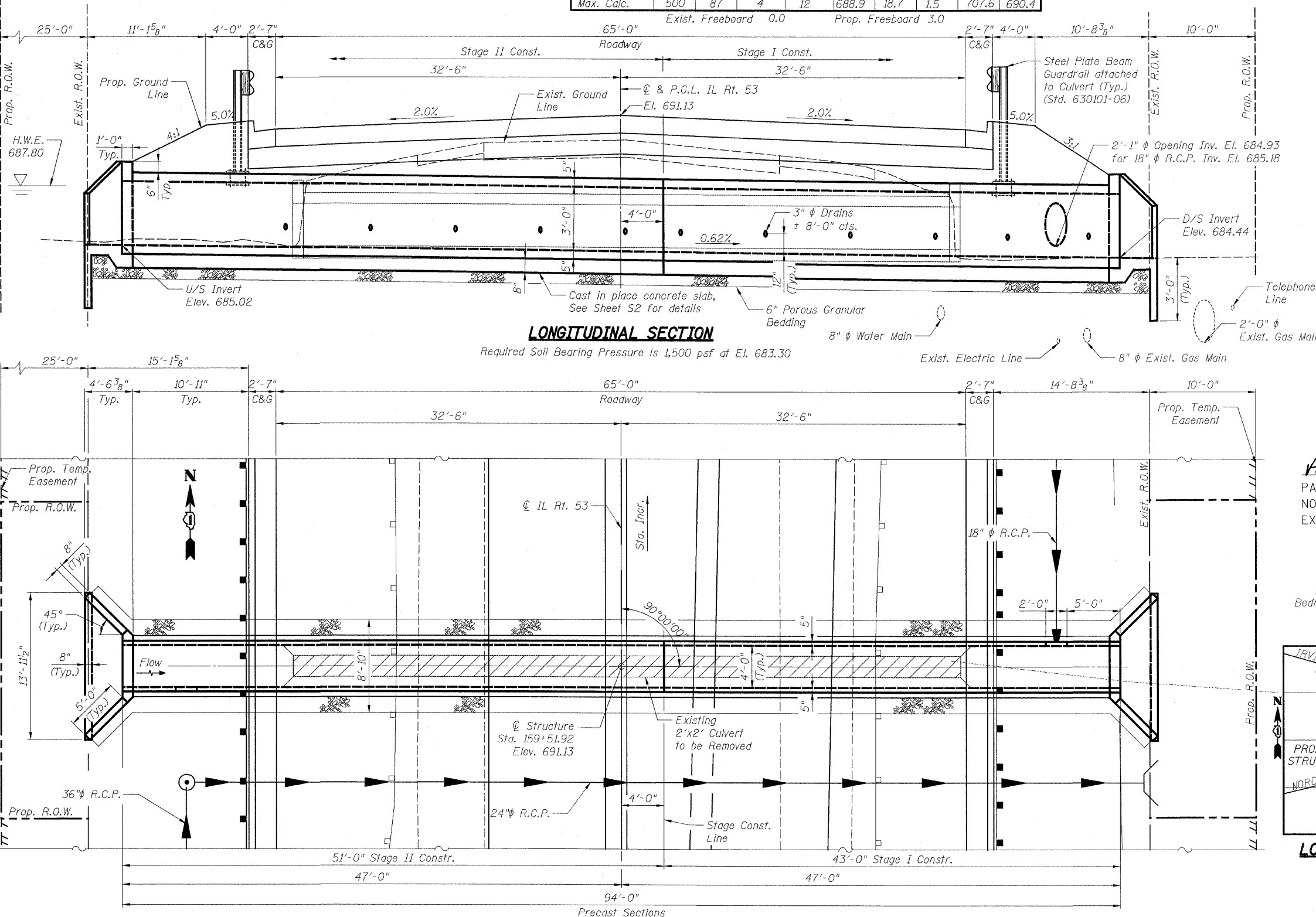
4'x3' BOX CULVERT 6P&E

ILLINOIS ROUTE 53
FAU 2578 SECTION 532B-1

DUPAGE COUNTY STATION 159+51.92

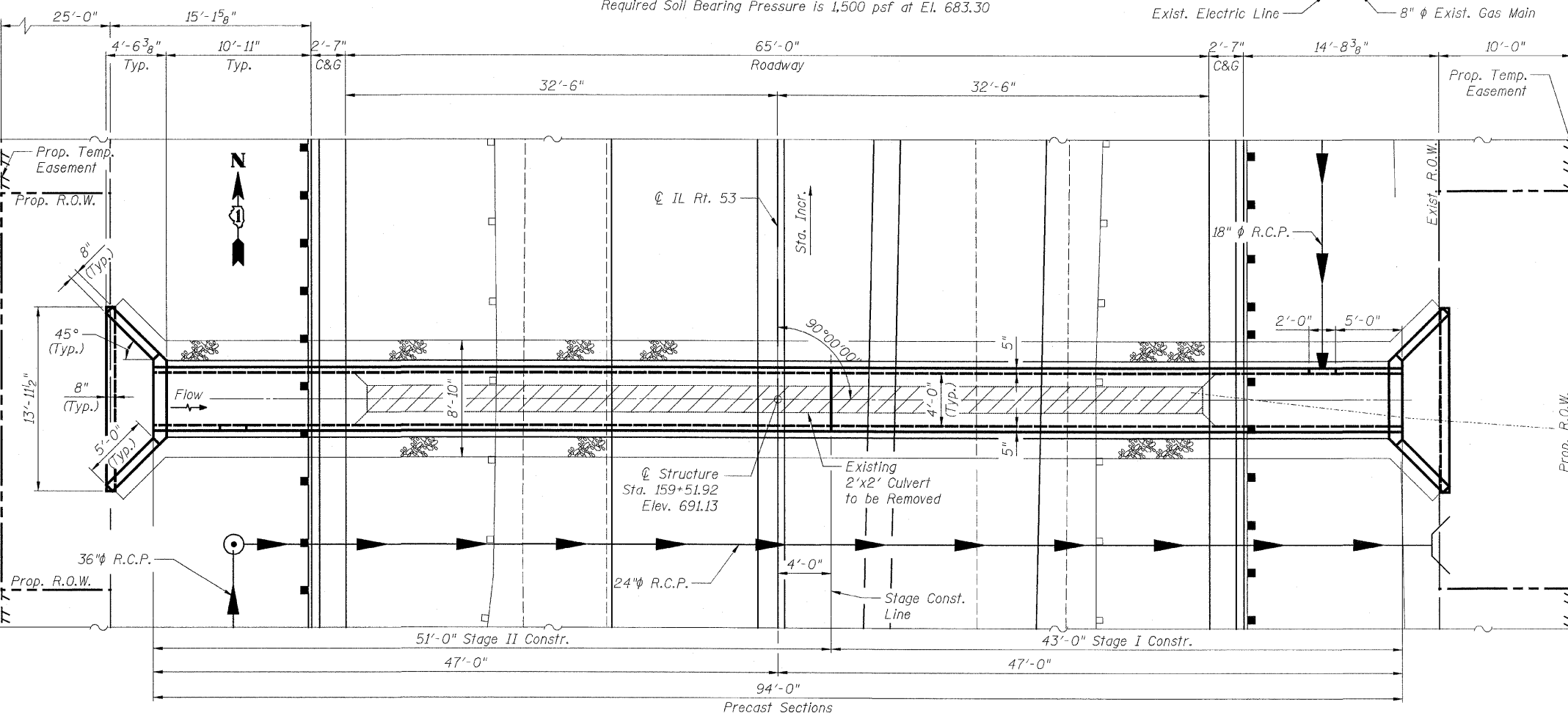
SCALE: NONE
DATE: 6/12/09

DRAWN BY: M.T./ E.M.
CHECKED BY: A. YARGICOGU



LONGITUDINAL SECTION

Required Soil Bearing Pressure is 1,500 psf at El. 683.30



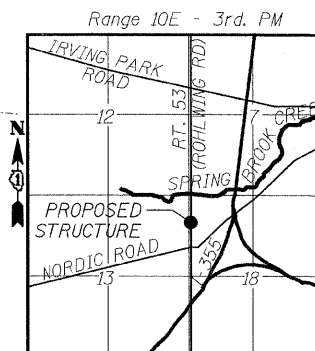
PLAN



Paul M. Lopez
PAUL M. LOPEZ, P.E., S.E.
NO. 081-005231
EXP. DATE: 11/30/10

SEISMIC DATA

Seismic Performance Category (SPC)=A
Bedrock Acceleration Coefficient (A)=0.035g
Site Coefficient (S)=1.0



LOCATION SKETCH

REVISIONS	
NAME	DATE