Bench Mark:

Existing Structure: S.N. 050-0062 was originally constructed in 1947. The existing structure is a 40'-6" wide cast-in-place reinforced concrete slab bridge on closed concrete abutments. The structure measures 30'-4 3/4" back to back of abutments.

Staging shall be used during construction of the proposed double box culvert.

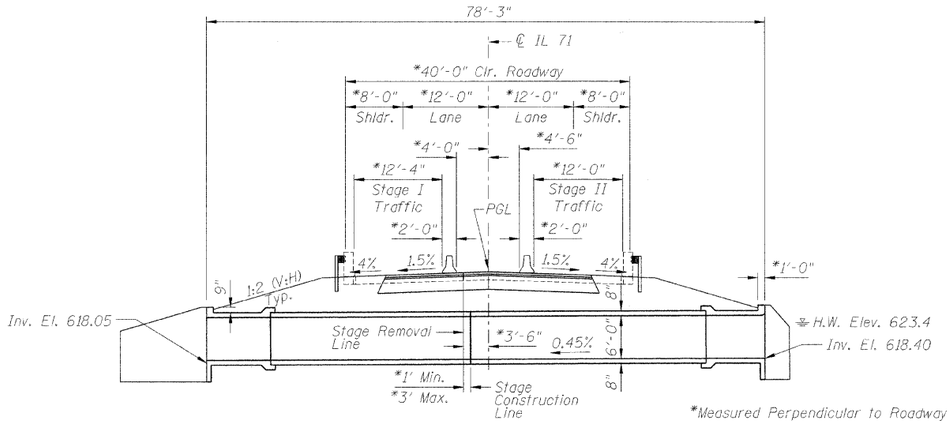
No Salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 311	*	LaSalle	66	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

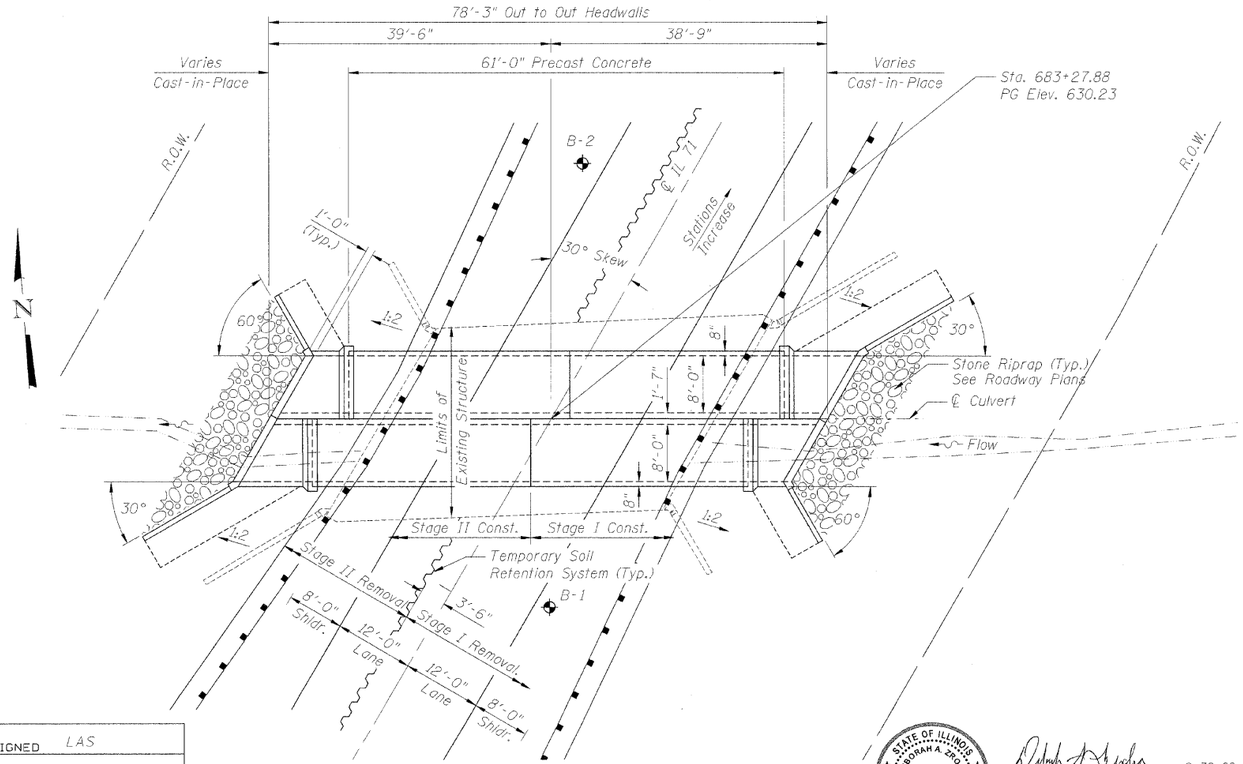
SHEET NO. 1
7 SHEETS

*(3)BR-1,2,3 & (4)BR Contract #66741



*Measured Perpendicular to Roadway

LONGITUDINAL SECTION



PLAN

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

STATE OF ILLINOIS
DEBORAH A. ZRUBA
081-005152
LICENSED STRUCTURAL ENGINEER

Signature 9-30-09 Date

November 30, 2010
Expires

GENERAL NOTES

1. Precast Concrete Box Culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications and the applicable requirements of AASHTO M. 259.
2. Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified). See Special Provisions.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Reinforcement Bars	Pound	7,510
Reinforcement Bars (Epoxy Coated)	Pound	230
Furnishing & Erecting Structural Steel	Pound	3,250
Temporary Soil Retention System	Sq. Ft.	188
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	60.6
Precast Concrete Box Culvert 8'x6'	Foot	122
Sheet Waterproofing Membrane System	Sq. Yd.	449

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.
Design Fill Ht. > 2'

DESIGN SPECIFICATIONS

2002 AASHTO

DESIGN STRESSES

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

CAST-IN-PLACE
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

HORIZONTAL CURVE DATA

PI Sta. = 683+80.98
Δ = 10° 55' 03" (LT)
D = 0° 30' 13"
R = 11,375.00'
T = 1,087.01'
L = 2,167.44'
E = 51.82'
P.C. Sta. = 672+93.97
P.T. Sta. = 694+61.41

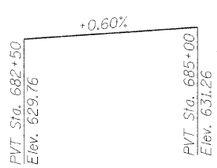
WATERWAY INFORMATION

Drainage Area = 0.65 Sq. Mi.
Exist. Low Grade Elev. 629.06 @ Sta. 181+00 Prop. Low Grade Elev. 629.06 @ Sta. 181+00

Flood	Freq. Year	Q cfs	Opening Sq. Ft. Existing	Opening Sq. Ft. Proposed	Nat. H.W.E.	Head - Foot Existing	Head - Foot Proposed	Headwater Elev. (ft) Existing	Headwater Elev. (ft) Proposed
	10	162	48	70	622.8	0.4	0	623.2	622.8
Design	50	252	61	80	623.4	0.5	0	623.9	623.4
Base	100	289	66	83	623.6	0.5	0	624.1	623.6
Overtopping									
Max. Calc.	500	379	76	90	624.0	0.6	0	624.6	624.0

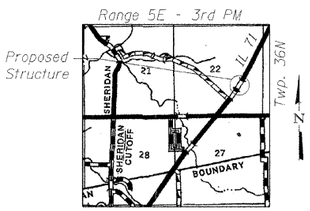
DESIGN SCOUR ELEVATION TABLE

	Upstream	Downstream
Design Scour Elevation (ft.)	615.40	615.05



PROFILE GRADE

(along ℄ IL Route 71)



LOCATION SKETCH

GENERAL PLAN
IL 71 OVER MISSION CREEK
FAP ROUTE 311
SECTION (3)BR-1,2,3 & (4)BR
LASALLE COUNTY
STA. 683+27.88
S.N. 050-2048