

**Bench Mark:**  
Chisel "□" on top of wall at southeast corner of southbound I-57 bridge. Structure Number 038-0167. Elevation 653.68

**Existing Structures:**  
SN 038-0167, Southbound I-57 Bridge  
SN 038-0168, Northbound I-57 Bridge  
The structures were built in 1967 as single span Reinforced Concrete Slab Bridges supported by Closed Concrete Abutments. Vertical cantilever retaining walls with spread footings connect the two structures on either side of the channel in the median area of the highway. The superstructures were resurfaced in 2000 with a microsilica concrete overlay. The bridges measure 20'-9" back to back of abutments and 42'-4" out to out of deck. The structures are to be replaced with a Double Box Culvert.

**Salvage:**  
No Salvage

**Staging:**  
One lane of traffic shall be maintained in each direction utilizing stage construction.

**GENERAL NOTES**

- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
- A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
- Removal of the existing reinforced concrete slabs creates an unstable condition for the abutment walls directly supporting the superstructures. Bracing of the abutment walls or excavation behind the abutments may be required to ensure the stability of the abutment walls during structure removal and construction activities.
- A precast concrete culvert alternate will not be allowed.

**TOTAL BILL OF MATERIAL**

Stone Riprap, Class A4	Sq. Yd.	108
Filter Fabric	Sq. Yd.	108
*** Removal of Existing Structures No. 3	Each	1
Furnishing and Erecting Structural Steel	Pound	4,260
Reinforcement Bars	Pound	70,770
Reinforcement Bars, Epoxy Coated	Pound	720
Bar Splicers	Each	194
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	392.7
*** Temporary Soil Retention System	Sq. Ft.	3,669

\*\*\*See Special Provisions

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	Upstream	Downstream
	635.30	634.80

**WATERWAY INFORMATION**

Drainage Area = 0.11 Sq. Mi.    Exlst. Low Grade Elev. 652.20 @ Sta. 503+00  
Prop. Low Grade Elev. 652.79 @ Sta. 503+00

Flood	Freq. (Yr.)	0 (c.f.s.)	Opening (Sq.Ft.)		Natural H.W.E.		Head (Ft.)		Headwater El.	
			Exlst.	Prop.	Exlst.	Prop.	Exlst.	Prop.	Exlst.	Prop.
-	10	137	95	126	647.2	0.1	0.0	647.3	647.2	
Design	50	241	122	128	649.0	0.1	0.1	649.1	649.1	
Base	100	289	132	128	649.7	0.2	0.2	649.9	649.9	
Overtopping										
Max. Calc.	500	412	150	128	650.9	0.2	0.3	651.1	651.2	

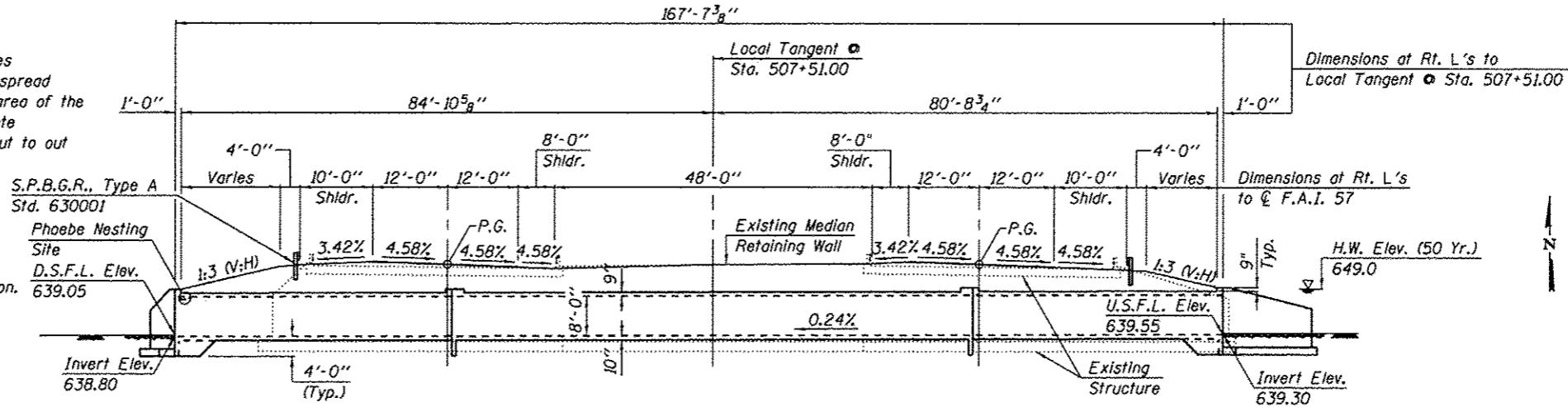
10-Year Velocity through Exlst. Structure = 1.4 f.p.s.  
10-Year Velocity through Prop. Structure = 1.1 f.p.s.

DESIGNED -	S.F.M.
CHECKED -	J.A.M.
DRAWN -	S.A.P.
CHECKED -	S.F.M. & J.A.M.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

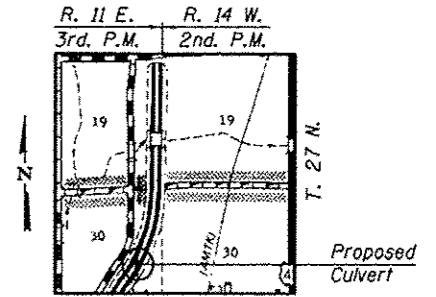
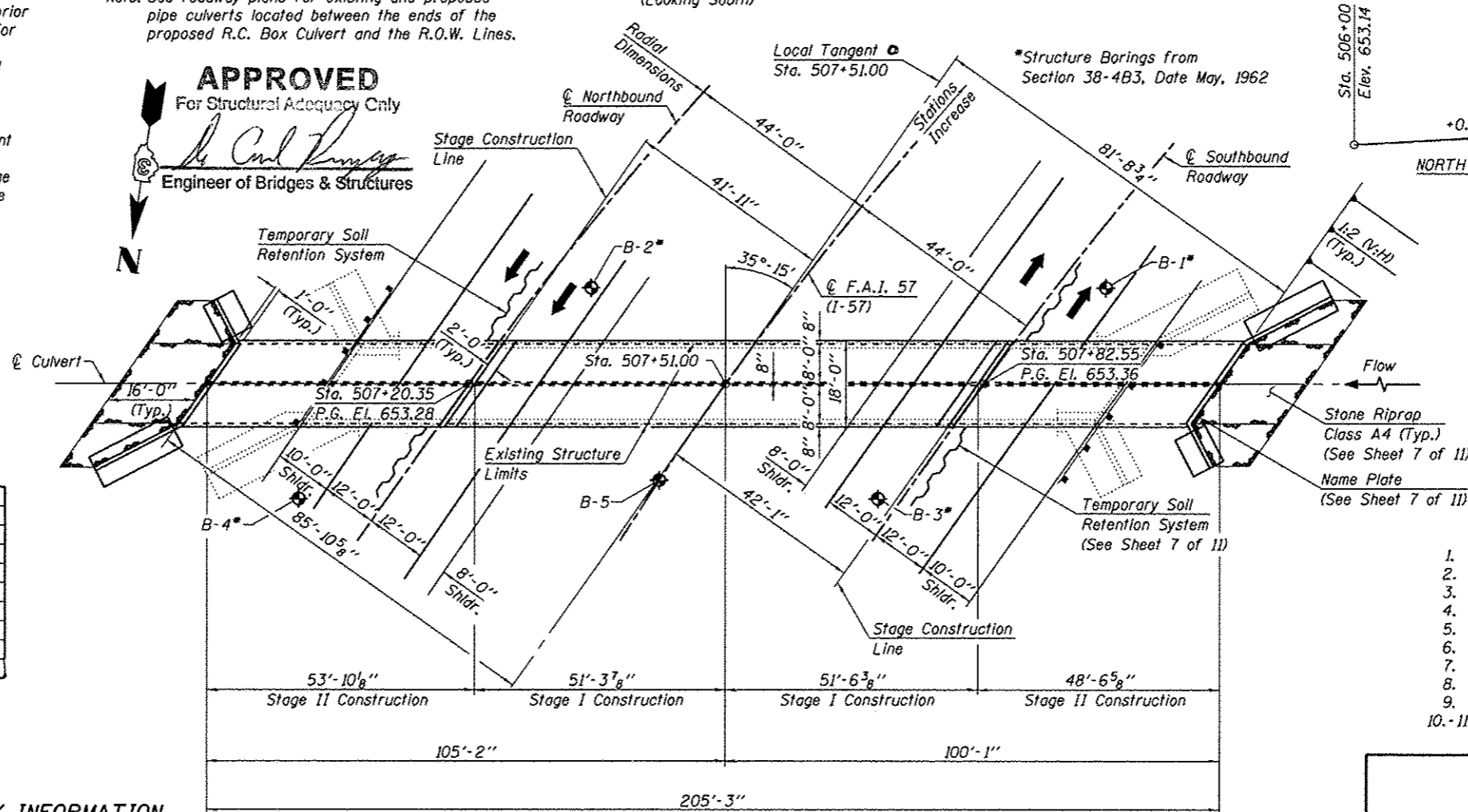
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	**	IROQUOIS	190	68
FED. ROAD DIST. NO.	ILLINOIS			
** (38-3.4)RS-2, (38-4)BR3		CONTRACT NO. 66757		

Sheet 1 of 11 Sheets

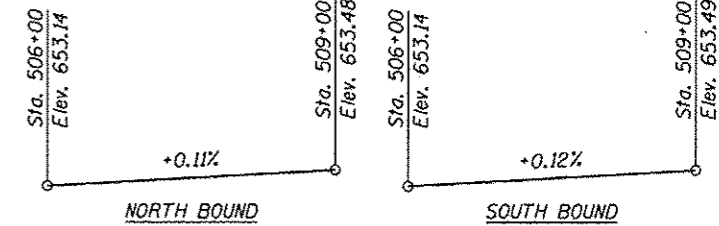


Note: See roadway plans for existing and proposed pipe culverts located between the ends of the proposed R.C. Box Culvert and the R.O.W. Lines.

**APPROVED**  
For Structural Adequacy Only  
*John A. Morris*  
Engineer of Bridges & Structures



LOCATION PLAN



**PROFILE GRADE**

F.A.I. 57 (P.G.L. @ Rdwy.)

**HORIZONTAL CURVE DATA**

P.I. Sta 501+63.51  
Δ = 43°-02'-17.77"  
D = 01°-30'-00"  
T = 1,506.10  
L = 2,869.22  
R = 3,819.72  
E = 286.20  
P.C. Sta. 486+57.41  
P.T. Sta. 515+26.63  
S.E. = 4.58%

**INDEX OF SHEETS**

1. General Plan and Elevation
2. Stage Construction Details
3. Edge Beam Details
4. Stage I Culvert Construction
5. Stage II Culvert Construction - Southbound Lanes
6. Stage II Culvert Construction - Northbound Lanes
7. Culvert Details
8. Bar Splicer Assembly Details
9. Temporary Concrete Barrier
10. Soil Boring Logs

**DESIGN STRESSES PLAN**

**FIELD UNITS**

f'c = 3,500 psi  
fy = 60,000 psi

Allowable Bearing Pressure under footings = 6,800 lbs./Sq. Ft.

**LOADING HS 20-44 & ALTERNATE**

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

**DESIGN SPECIFICATIONS**

2002 AASHTO Specifications



*John A. Morris* 12-14-12  
ILLINOIS STRUCTURAL NO. 4277 (Expires 11/30/14)

**GENERAL PLAN & ELEVATION**  
**I-57 OVER**  
**DANFORTH TOWNSHIP DRAINAGE DITCH**  
**F.A.I. ROUTE 57**  
**SECTION (38-3.4)RS-2, (38-4)BR3**  
**IROQUOIS COUNTY**  
**STATION 507+51.00**  
**S.N. 038-2019**

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JOB NO.: 46810K  
FILE: 46810H-TSL.DGN  
DATE: 11/11/08