

Benchmark: DuPage County Benchmark #L132001 atop Northwest wingwall Elev. 659.83. (DuPage County Datum)  
 Existing Structure: S.N. 022-3028. Built in 1969 as 79th Street Bridge is a 3-span PPC Deck Beam superstructure with closed abutments and solid walled piers. Bk. to Bk. abutments is 106'-6" and 46'-0" out to out deck. The contractor shall remove the superstructure and replace it with a reinforced concrete deck on continuous steel wide flange beams. Proposed out to out deck is 56'-7". The substructure will be partially removed and widened in-kind. The construction will be staged for the substructure widening and North sidewalk construction. Traffic will be detoured during superstructure replacement.

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. - 1 39 - SHEETS
1545	*	DUPAGE	97	22	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		CONTRACT NO. 83961
		00-00115-00-BR			

LOADING HS20-44

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

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specifications for Highway Bridges, 17th Edition

SEISMIC DATA

Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.04  
 Site Coefficient (S) = 1.0

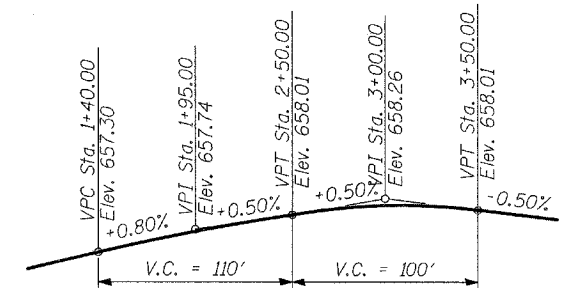
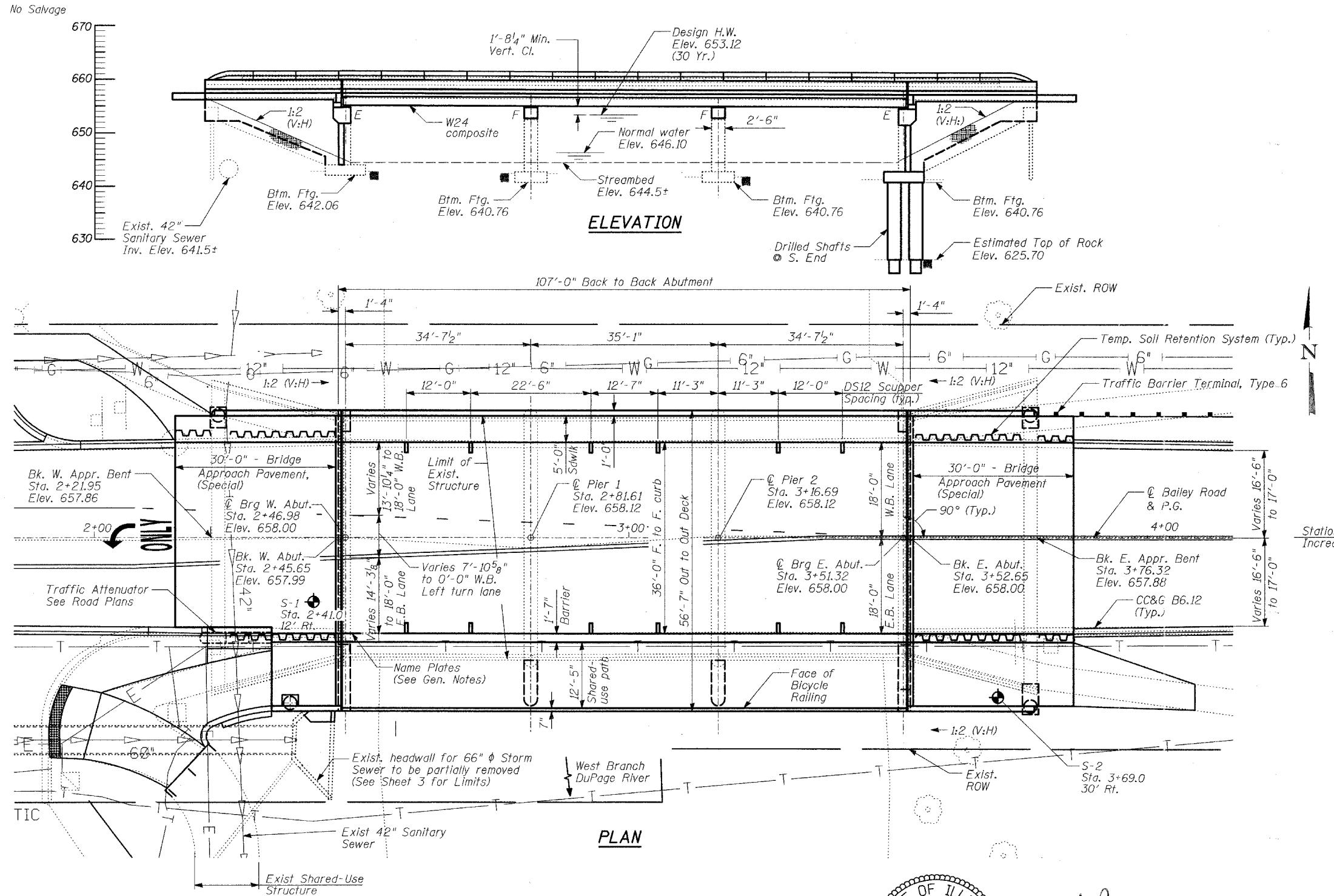
DESIGN STRESSES

FIELD UNITS (New Construction)

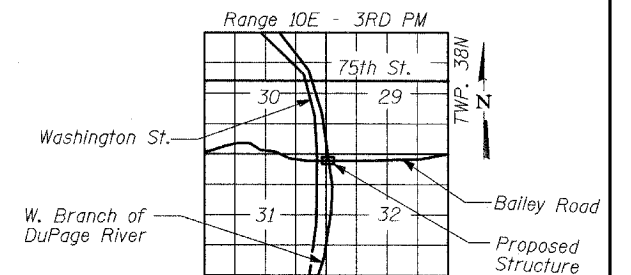
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $F_y = 50,000$  psi (M270 Grade 50W) Structural Steel

FIELD UNITS (Existing Construction)

$f'_c = 3,500$  psi (Piers)  
 $f'_c = 2,500$  psi (Abutments)  
 $f_y = 40,000$  psi (Reinforcement)



PROFILE GRADE  
 (along centerline roadway)



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 114.70 sq. mi.		Low Grade Elev. 656.65		Sta. 5+00					
Flood	Freq. Yr.	Opening Sq. Ft.		Nat. H.W.E.	Head-Ft.		Headwater El.		
		Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
Design	30	4703	850	850	652.15	0.11	0.10	652.26	652.25
Base	100	5600	914	914	653.12	0.17	0.16	653.29	653.28
Overtopping					653.77	0.22	0.21	653.99	653.98
Max. Calc.	500	7500	995	995	654.60	0.68	0.66	655.28	655.26

TYLIN INTERNATIONAL

DESIGNED	-	SP
CHECKED	-	PF
DRAWN	-	SP
CHECKED	-	PF



Signed *S. Pantazis*  
 Spiros Pantazis, S.E. II, Lic. No. 081-006448  
 Expires 11-30-2008.  
 Date July 12, 2007  
 For drawings 1 thru 39

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications of Highway Bridges".

GENERAL PLAN & ELEVATION

BAILEY ROAD OVER THE  
 WEST BRANCH OF THE DUPAGE RIVER  
 FAU 1545  
 SECTION 00-00115-00-BR STA. 2+99.15  
 DUPAGE COUNTY  
 S.N. 022-3028