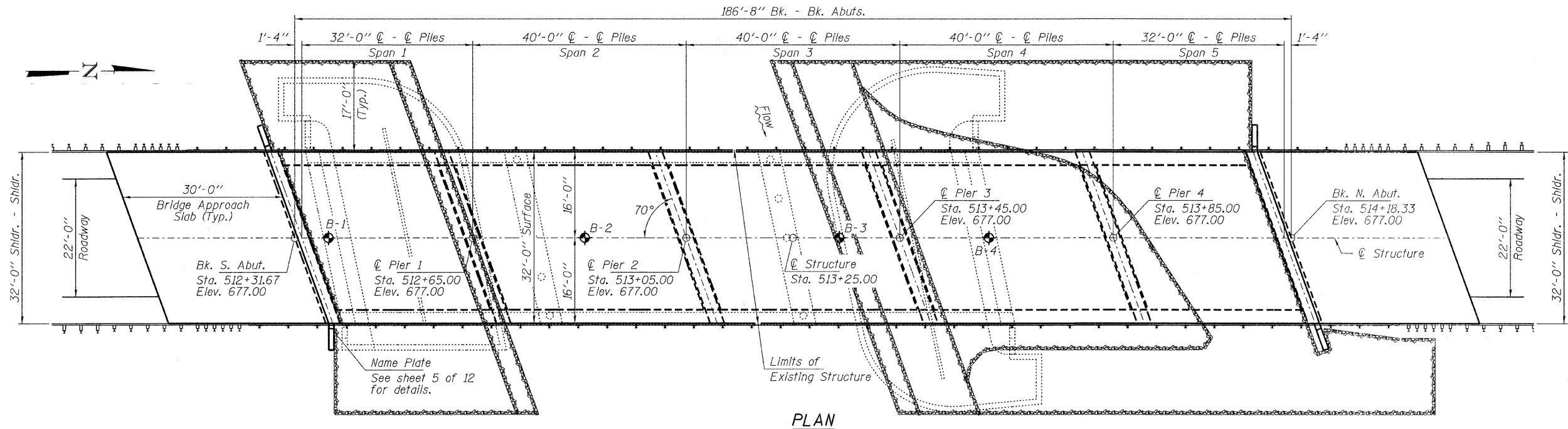
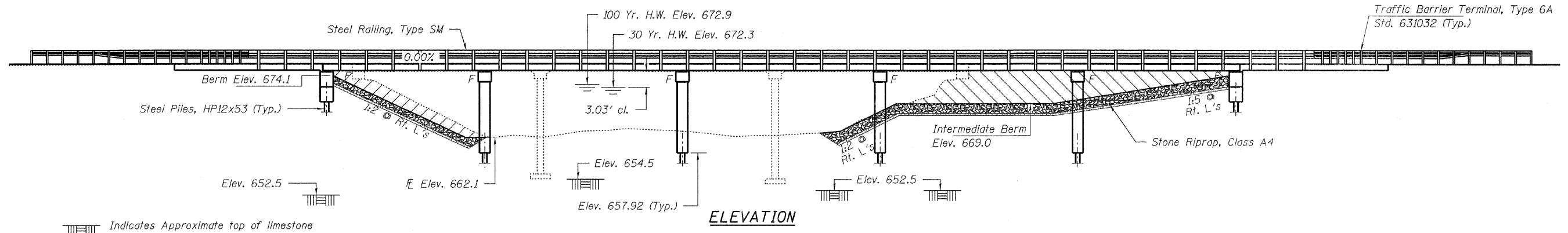


BENCHMARK: Chiseled "□" on S.E. wingwall. 17' Rt., Sta. 512+41, Elev. 677.622.

EXISTING STRUCTURE 053-3415: Three span R.C. slab bridge with concrete curb and handrail on concrete abutments, piers and wingwalls. 118.3' fc.-fc. abuts.; 32.5' o.-o. deck

Salvage: No Salvage



DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi Load Resistance
 $f_y = 60,000$ psi (Reinf.) Factor Design

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with all applicable Interims.
50#/Sq. Ft. Included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.113g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.184g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	N. Abut.
	671.1	653.0	653.0	653.0	653.0	671.1

WATERWAY INFORMATION

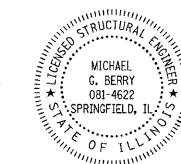
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	10	3730	750	940	671.58	0.36	0.25	671.94	671.83
Base	30	5160	810	1030	672.21	0.67	0.53	672.88	672.74
Overtop	100	6770	870	1130	672.81	1.09	0.84	673.90	673.65
	500	8980	950	1250	673.55	1.32	0.87	674.87	674.42

Existing Low Grade Elev. 674.8 @ Sta. 520+50
Proposed Low Grade Elev. 674.8 @ Sta. 520+50
Drainage Area = 68.2 Sq. Mi.

10 Year Velocity through Existing Bridge = 5.0 fps
10 Year Velocity through Proposed Bridge = 4.0 fps

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 LRFD Specifications."

Michael H. Berry 2/13/2012
ILLINOIS STRUCTURAL NO. 081-4622



Expires 11-30-2012

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. General Details
- 3-4. Slab Elevations
5. Superstructure
6. Superstructure Details
- 7-8. Bridge Approach Slab Details
9. Steel Railing, Type SM
10. Bar Splicer Assembly and Mechanical Splicer Details
11. HP Pile Details
12. Borings

FILE NAME = 128191-sht-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS LIVINGSTON COUNTY HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 053-3457	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3345 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62701	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			351	08-00145-05-BR	LIVINGSTON	29	18
ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184 000859	PLOT DATE = 2/13/2012	DRAWN - D.A.B.	REVISED -			SOUTH 7TH STREET		CONTRACT NO. 87494		
		CHECKED - S.W.M.	REVISED -			SHEET NO. 1 OF 12 SHEETS		ILLINOIS FED. AID PROJECT		