

Bench Mark: Cross cut at southeast corner of IL Route 64/Thatcher Avenue Intersection, Sta. 100+28.1, 50.0' RT., Elev. 625.23

Existing Structure: S.N. 016-0501 built 1926, widened in 1956 as S.B.I Route 54, Section 541-Y-3. The existing three simple span superstructure consists of cast-in-place tee beams, with some tee beams replaced by ppc box beams in 1995. Superstructure supported on closed abutments and solid wall piers, all on spread footings. The structure is 159'-0" back to back of abutments and 101'-8" out to out of deck. The existing structure will be replaced. Stage construction will be utilized to maintain two lanes of traffic in each direction at all times on IL64. Portions of Thatcher Avenue will be alternately closed and traffic detoured during construction. No salvage

WATERWAY INFORMATION

Drainage Area = 455 square miles		Low Grade Elev. 622.64 @ Sta. 92+20.83							
Flood	Freq. Yr.	Discharge (cfs)	Waterway Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Overtop Existing	10	4,990	2,423	2,980	621.78	0.02	0.01	621.80	621.79
Overtop Proposed	20	5,499	2,557	3,144	622.64	0.00	0.00	622.64	622.64
Design	50	6,100	2,740	3,368	623.81	0.07	0.02	623.88	623.83
Base	100	6,508	2,846	3,499	624.49	0.08	0.02	624.57	624.51
Max. Calc.	500	7,286	3,046	3,746	625.78	0.05	0.03	625.83	625.81

10-year Velocity through Existing Bridge = 2.45 fps
 10-year Velocity through Proposed Bridge = 2.45 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	621.0	601.3	601.3	601.3

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

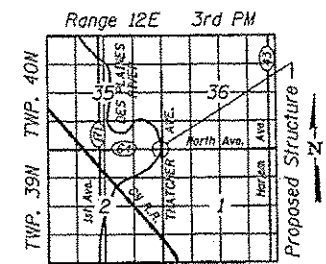
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (M270 Grade 50)

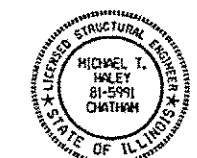
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S₀₁) = 0.061
 Design Spectral Acceleration at 0.2 sec. (S₀₅) = 0.111
 Soil Site Class = C

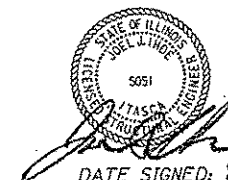


APPROVED
 For Structural Adequacy Only

Michael J. Haley
 Engineer of Bridges & Structures



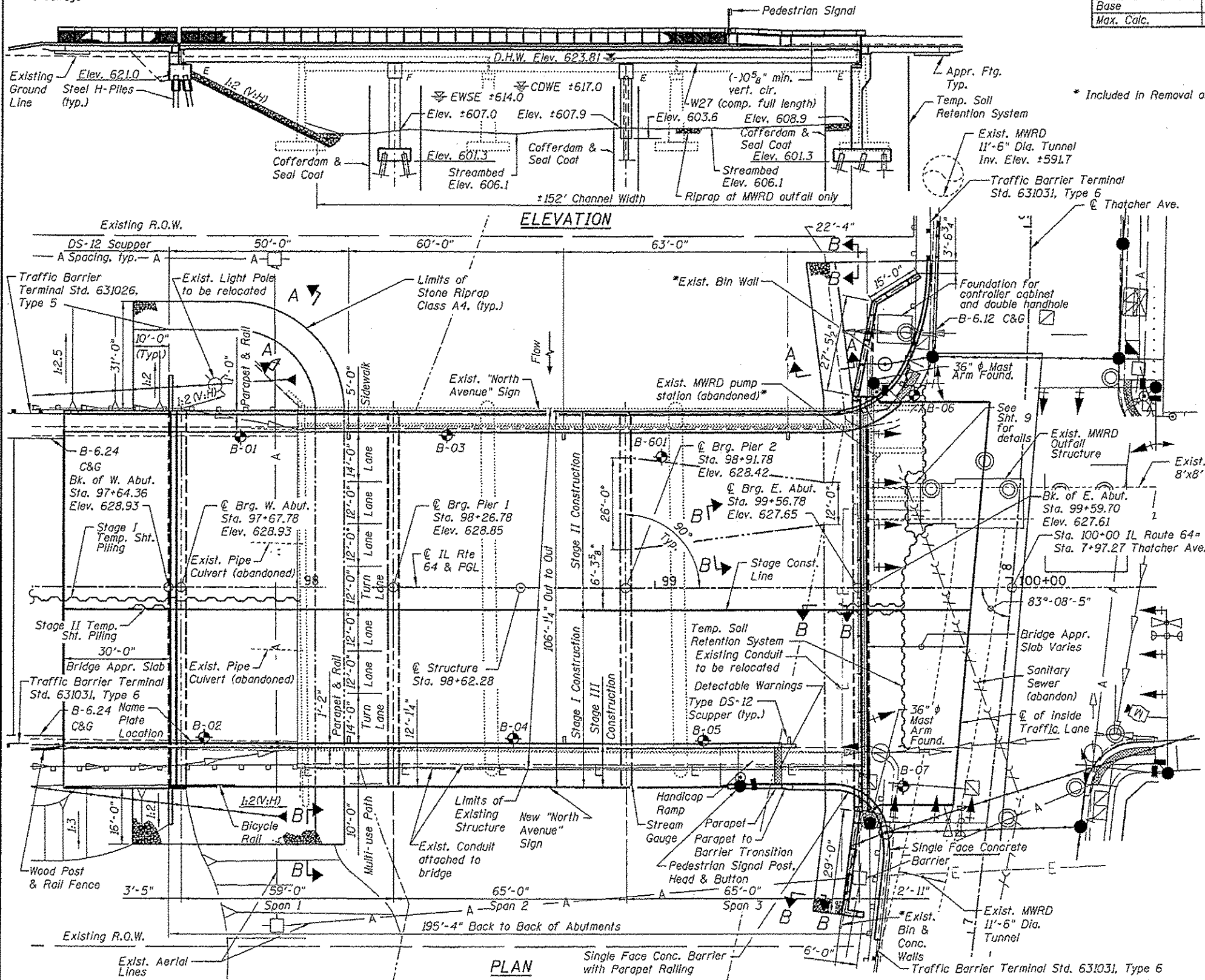
Michael T. Haley 8-21-13
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2014
 Shts. 17-21 of 62



DATE SIGNED: 8-22-13
 EXP. DATE: 11-30-2014
 Shts. 1-16 & 22-62 of 62

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 64 OVER DES PLAINES RIVER
 F.A.P. RTE. 307 - SEC. 541Y-3-B

COOK COUNTY
STATION 98+62.28
STRUCTURE NO. 016-3035



Bollinger, Lach & Associates, Inc.
 PLANNING, ENGINEERING, ARCHITECTURE
 CHICAGO, ILLINOIS

USER NAME *	DESIGNED - JJI	REVISED
PLOT SCALE *	CHECKED - JMT	REVISED
PLOT DATE *	DRAWN - GM	REVISED
	CHECKED - JMT	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
307	541Y-3-B	COOK	143	62

CONTRACT NO. 60J11
 ILLINOIS FED. AID PROJECT