Bench Mark: Chiseled square on top of crashwall at south end of east-most pier. Elevation 742.33.

Existing Structure: S.N. 049-0058 was built in 1958 by the Illinois State Toll Highway Commission. The existing structure has four spans, with a length of 229'-10¼" from back-to-back of abutments, and a constant out-to-out width of 64'-4". The superstructure consists of a 7½" thick reinforced concrete deck built composite with 48" deep PPC I-beams. The substructure consists of two stub abutments on reinforced concrete piles and three multi-column piers on prestressed concrete piles. The bridge will be replaced utilizing staged construction, maintaining one lane of traffic in each direction throughout the project duration. The replacement bridge will be assigned SN 049-0535.

No Salvage.

See Special Provisions for Status of Utilities to be Adjusted.

LEGEND

SB-XX = Soil Boring Location/Identifier

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications with 2012 Interims
Design Manual for Tollway Transportation Structures and Facilities, March 2012
Illinois Department of Transportation Bridge Manual, March 2012

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Permanent Bracing)
fy = 50,000 psi (Steel H-Piles)

PRECAST PRESTRESSED UNITS

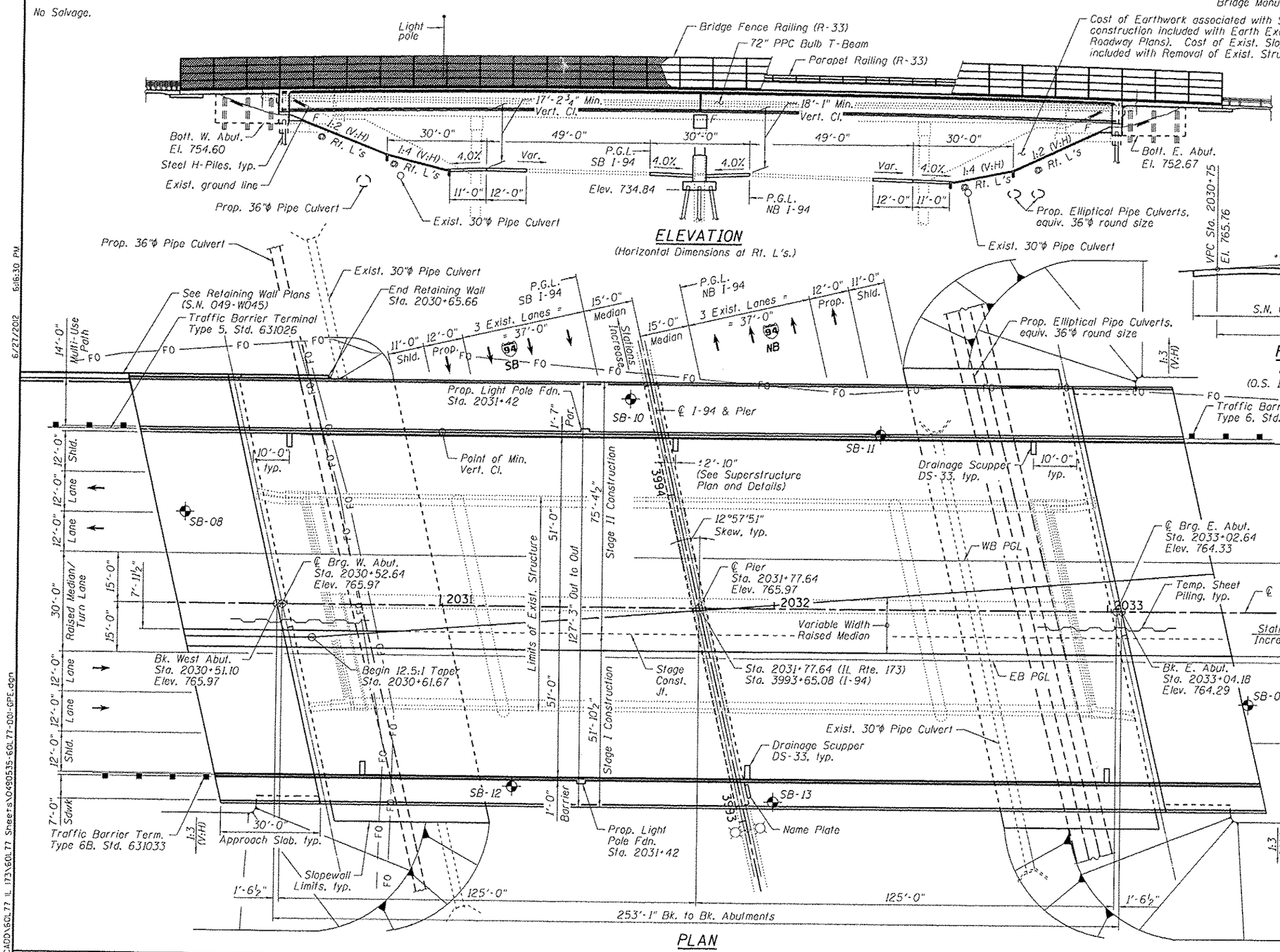
f'c = 7,000 psi
f'ci = 6,000 psi
fpu = 270,000 psi (½" ϕ low-lax strands)
fpbt = 201,960 psi (½" ϕ low-lax strands)

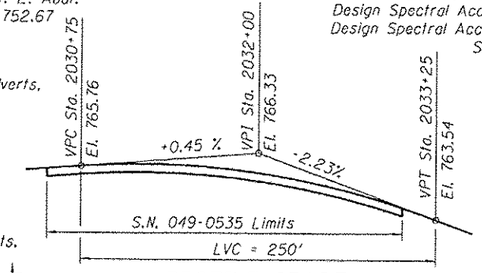
LOADING HL-93

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

SEISMIC DATA

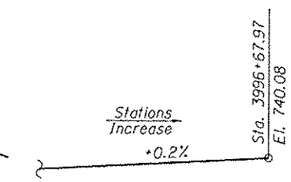
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.053g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.090g
Soil Site Class = C





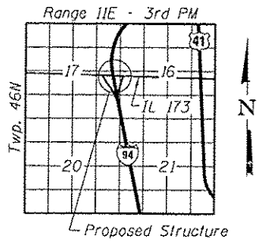
PROFILE GRADE

EB & WB IL RTE. 173
(O.S. 15'-0" Rt./Lt. from ℄ Rdwy.)



PROFILE GRADE

NB & SB I-94
(O.S. 15'-0" Rt./Lt. from ℄ Rdwy.)



LOCATION SKETCH

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005584
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED:
DATE: June 19, 2012
EXPIRES: November 30, 2012

GENERAL PLAN & ELEVATION
IL RTE. 173 (ROSECRANS ROAD) OVER I-94
F.A.P. RTE. 0303 - SEC. 49-1-R-1
LAKE COUNTY
STATION 2031+77.64
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

USER NAME =	DESIGNED - MRM	DATE - 6/19/2012	
	CHECKED - TL	REVISED -	
PLOT SCALE =	DRAWN - MTR	REVISED -	
PLOT DATE =	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	439

CONTRACT NO. 60L77
ILLINOIS FED. AID PROJECT

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