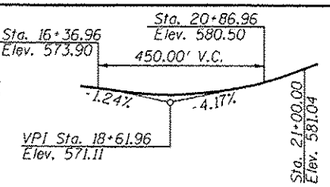
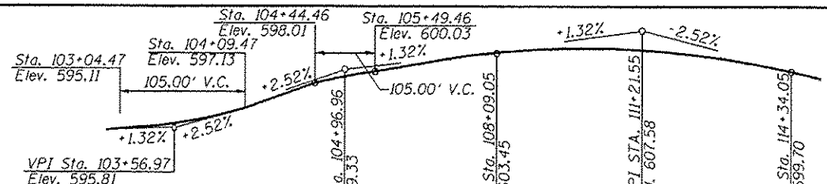
Benchmark: BM 09 - Cut square on top of wall at tunnel on East side, SE corner, Sta. 17+69.0, Offset 35 ft Rt., El. 598.615.

Existing Structure: S.N. 016-2573 built in 1991 as F.A.I.90/ 94 under Sec. 0303 (474HB, 477 HB-BR & 479 K) 89. The existing bridge is a single span PPC deck beam bridge supported on soldier pile type abutments with a concrete base slab below Ramp A pavement. The 21"x48" deck beams form a 238'-5" long tunnel over Ramp A. The exist. span length is 40'-5". There is a protective concrete slab adjacent to parapets on both sides of the ramp C pavement constructed on top of subgrade fill and a 4" bituminous concrete overlay with waterproofing membrane that protects the deck beams. The beam replacement will be performed using stage construction. The construction of two temporary runarounds of Ramp C will be required and coordinated with stage construction of SN 016-1322. There will be overnight closures on the Ramp A for setting beams.

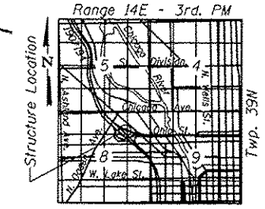
No Salvage.



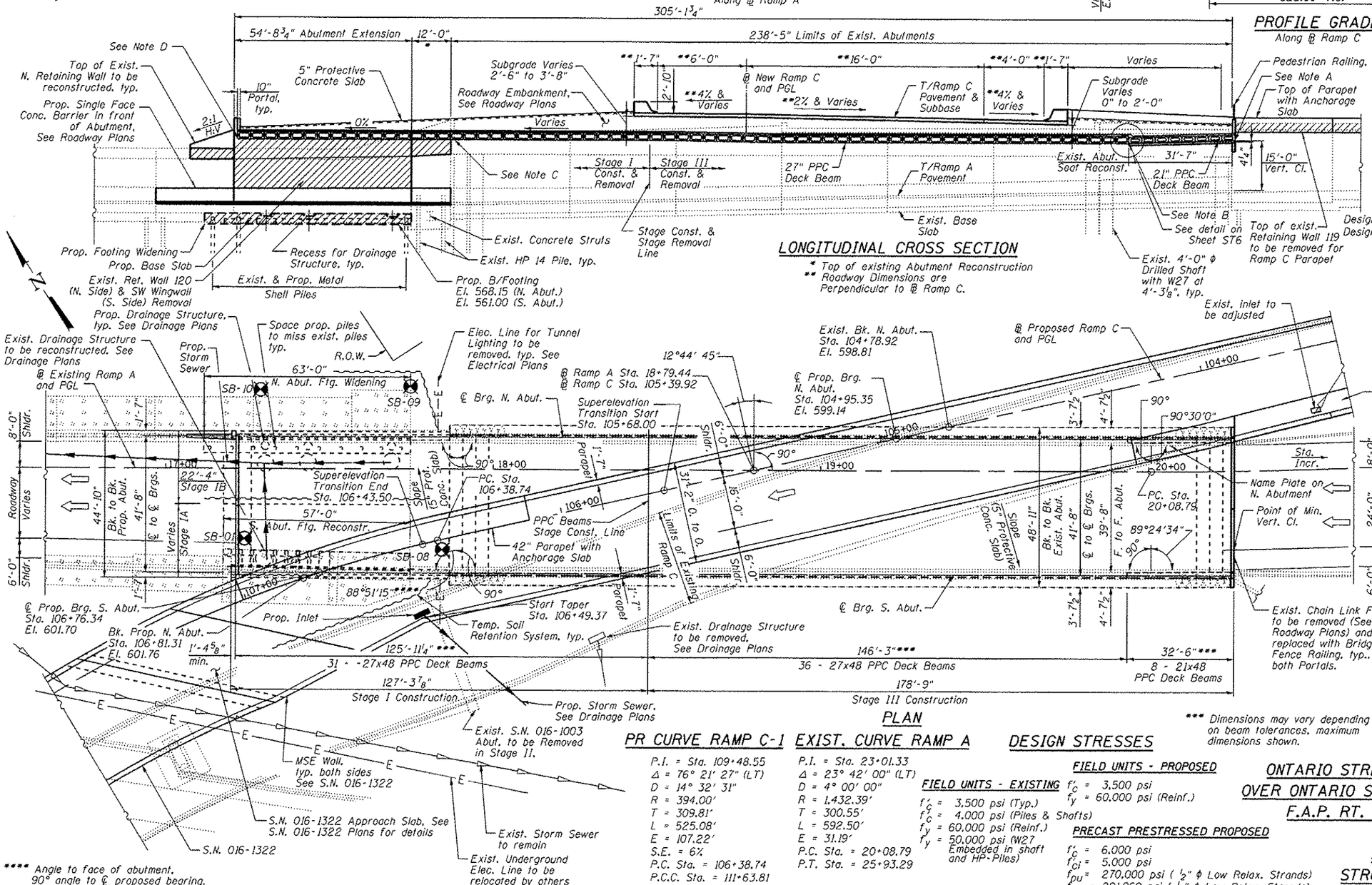
EXIST. PROFILE GRADE
Along ℄ Ramp A



PROFILE GRADE
Along ℄ Ramp C



LOCATION SKETCH



LONGITUDINAL CROSS SECTION

* Top of existing Abutment Reconstruction
** Roadway Dimensions are Perpendicular to ℄ Ramp C.

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.085g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.143g
Soil Site Class = D

Note A: Proposed Seat Elevations
593.11 (N. Abut.), 594.58 (S. Abut.)

Note B: Proposed Seat Elevations
592.21 (N. Abut.), 593.68 (S. Abut.)

Note C: Existing and Proposed Seat Elevations
592.58 (N. Abut.), 594.05 (S. Abut.)

Note D: Proposed Seat Elevations
592.58 (N. Abut.), 594.05 (S. Abut.)

PLAN

**** Angle to face of abutment, 90° angle to ℄ proposed bearing.

*** Dimensions may vary depending on beam tolerances, maximum dimensions shown.

PR CURVE RAMP C-1

P.I. = Sta. 109+48.55
Δ = 76° 21' 27" (LT)
D = 14° 32' 31"
R = 394.00'
T = 309.81'
L = 525.08'
E = 107.22'
S.E. = 6%
P.C. Sta. = 106+38.74
P.C.C. Sta. = 111+63.81

EXIST. CURVE RAMP A

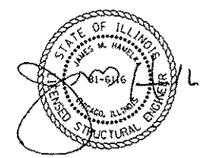
P.I. = Sta. 23+01.33
Δ = 23° 42' 00" (LT)
D = 4° 00' 00"
R = 1,432.39'
T = 300.55'
L = 592.50'
E = 31.19'
P.C. Sta. = 20+08.79
P.T. Sta. = 25+93.29

DESIGN STRESSES

FIELD UNITS - EXISTING
f'_c = 3,500 psi (Typ.)
f'_c = 4,000 psi (Piles & Shafts)
f_y = 60,000 psi (Reinf.)
f_y = 50,000 psi (W27 Embedded in shaft and HP-Piles)

FIELD UNITS - PROPOSED
f'_c = 3,500 psi
f_y = 60,000 psi (Reinf.)

PRECAST PRESTRESSED PROPOSED
f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f_{pu} = 270,000 psi (½" ϕ Low Relax. Strands)
f_{pbt} = 201,960 psi (½" ϕ Low Relax. Strands)



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 81-6116
EXPIRES 11-30-2013

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

Note:
Stage II Construction involves the removal of S.N. 016-1003.

GENERAL PLAN
ONTARIO STREET TO E.B. I-90/94 (RAMP C)
OVER ONTARIO STREET TO W.B. I-90/94 (RAMP A)
F.A.P. RT. 0383 - SEC. 0303-474HB-R
COOK COUNTY
STATION 18+79.44
STRUCTURE NO. 016-2573

COLLINS ENGINEERS
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000993

USER NAME =	DESIGNED - EKM	REVISED
	CHECKED - LDB	REVISED
PLOT SCALE =	DRAWN - DR/PRH	REVISED
PLOT DATE =	CHECKED - EKM	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 016-2573
SHEET NO. ST1 OF ST30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	0303-474HB-R	COOK	368	283
		CONTRACT NO. 60F63		
		ILLINOIS FED. AID PROJECT		