

Benchmark: Chiseled "□" on the west end of the southwest parapet of the structure carrying WB I-80 over East Bureau Creek (SN 006-0025); Elev. 663.02

Existing Structures: The existing structures, SN 006-0024 & 0025, were built in 1963 as FAI Route 80 Station 1434+82. The existing 3-span wide flange superstructures are supported by pile bent abutments and hammerhead piers on footings. The existing structures lengths are 185'-10" back to back of abutments and the overall width of each structure 35'-8". The existing structures will be removed entirely and replaced with dual 3-span PPC I-beam superstructures supported by integral abutments and pile bent piers. One lane of traffic in each direction will be maintained at all times using crossovers.

No Salvage.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft)	W. Abut. WB	Pier 1 WB	Pier 2 WB	E. Abut. WB
	654.71	628.3	627.8	654.70
Design Scour Elevation (ft)	W. Abut. EB	Pier 1 EB	Pier 2 EB	E. Abut. EB
	654.53	627.0	629.8	654.88

STATION 3285+21.33
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 80 SEC. 06-6BR
LOADING HS20
SN 006-0172 (EB)

STATION 3285+21.33
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 80 SEC. 06-6BR
LOADING HS20
SN 006-0173 (WB)

NAME PLATES
See Std. 515001

LOADING HS20-44 & ALT.

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

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST UNITS

$f'_c = 6,000$ psi
 $f_{ai} = 5,000$ psi
 $f'_s = 270,000$ psi (1/2" ϕ Low Relaxation Strands)
 $f_{si} = 201,960$ psi (1/2" ϕ Low Relaxation Strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.036 g
Site Coefficient (S) = 1

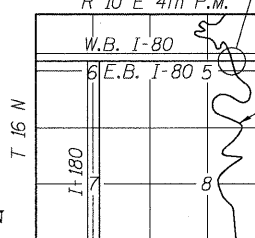
CURVE DATA

(ϕ Survey FAI Route 80)
PI Sta. = 3302+13.75
 $\Delta = 7^{\circ}09'06''$ (Lt)
 $D = 0^{\circ}10'03''$
 $R = 34,212.07'$
 $L = 4270.33'$
 $T = 2,137.94'$
 $E = 66.74'$
PC Sta. 3280+75.81
PT Sta. 3323+46.14
Normal Crown

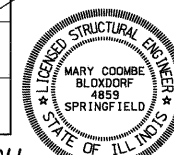
APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Proposed Structure Replacement
R 10 E 4th P.M.



LOCATION SKETCH



WATERWAY INFORMATION

Drainage Area = 26.4 Sq. Mi. Low Grade Elev. 662.16 @ Sta. 3285+10 EB

Flood	Freq. Yr.	Q C.F.S.	Opening Exist. Prop.	Sq. Ft. Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	50	3943	594 836	643.9	0.9 0.4	644.8 644.3
Base	100	4611	627 877	644.3	1.1 0.6	645.4 644.8
Overtopping	—	—	—	—	—	—
Max. Calc.	500	6243	694 963	645.1	1.7 1.0	646.9 646.1

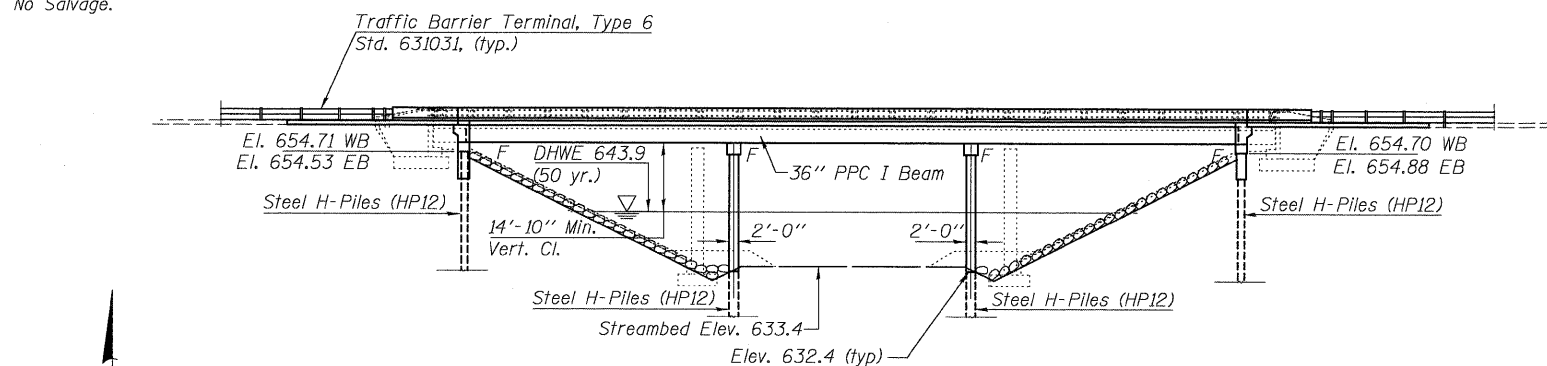
10 yr. vel. thru exist. Str. = 4.85 ft/sec 10 yr. vel. thru Prop. Str. = 3.37 ft/sec

I-80 OVER E. BUREAU CREEK
FAI ROUTE 80 SECTION 06-6BR

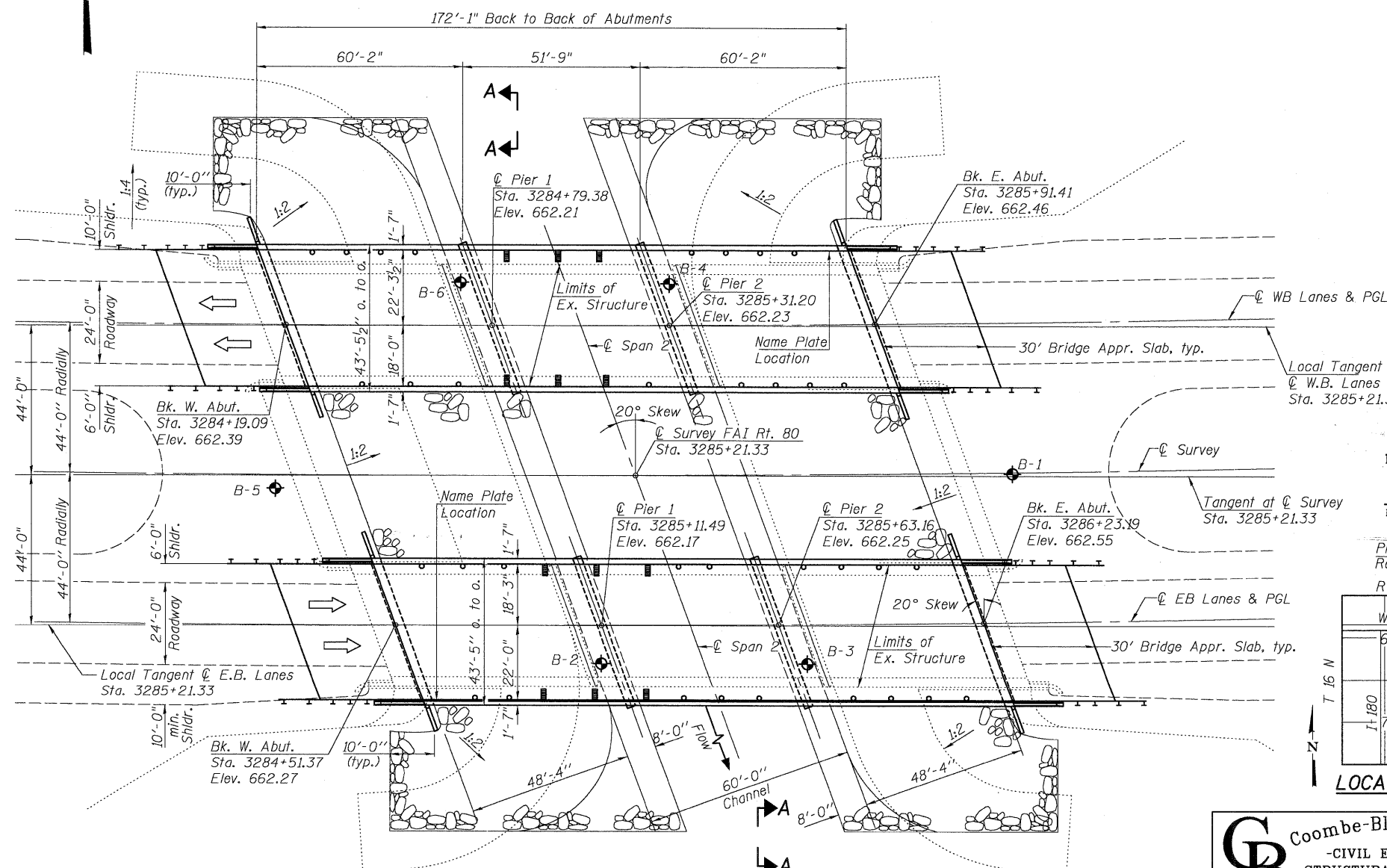
BUREAU COUNTY

STATION 3285+21.33

SN 006-0172 (EB) & SN 006-0173 (WB)



ELEVATION



PLAN

CB Coombe-Bloxdorf P.C.
- CIVIL ENGINEERS -
- STRUCTURAL ENGINEERS -
- LAND SURVEYORS -
Design Firm License No. 184-002703

PROJECT NO.	05061
SCALE	
DATE	6/25/09
DESIGN BY	RM/MCB
DRAWN BY	TFG
CHECKED BY	MCB

SHEET NO. 1
45 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	BUREAU	344	154
CONTRACT NO. 66908				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

*06-I7BR & BR-1, TVB-M, 6BR & 6, 7 RS-1 & IJ

PLOT DATE = 09/08/2009
FILE NAME = \\0060172\0173\66908-001-ops.dgn
PLOTTER = HP DesignJet 5000 Series
USER NAME = EFC