

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CURVE PDIXIE1-5
 @ F.A.U. RTE 2843
 PI STA. = 83+27.12
 Δ = 28° 46' 29" (RT)
 D = 4° 05' 36"
 T = 359.13'
 R = 1,400.00'
 L = 702.95'
 E = 45.33'
 SE = 2.4%
 P.C. STA. = 79+67.99
 P.T. STA. = 86+70.94
 Normal Crown
 Sta. 74+00.00
 Full Superlevation
 Sta. 77+19.00 to Sta. 79+91.00
 Normal Crown
 Sta. 84+25.00

F.A.U. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2843	3249B-R	COOK	64	25
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
Sheet 1 of 22			Contract No. 62539	

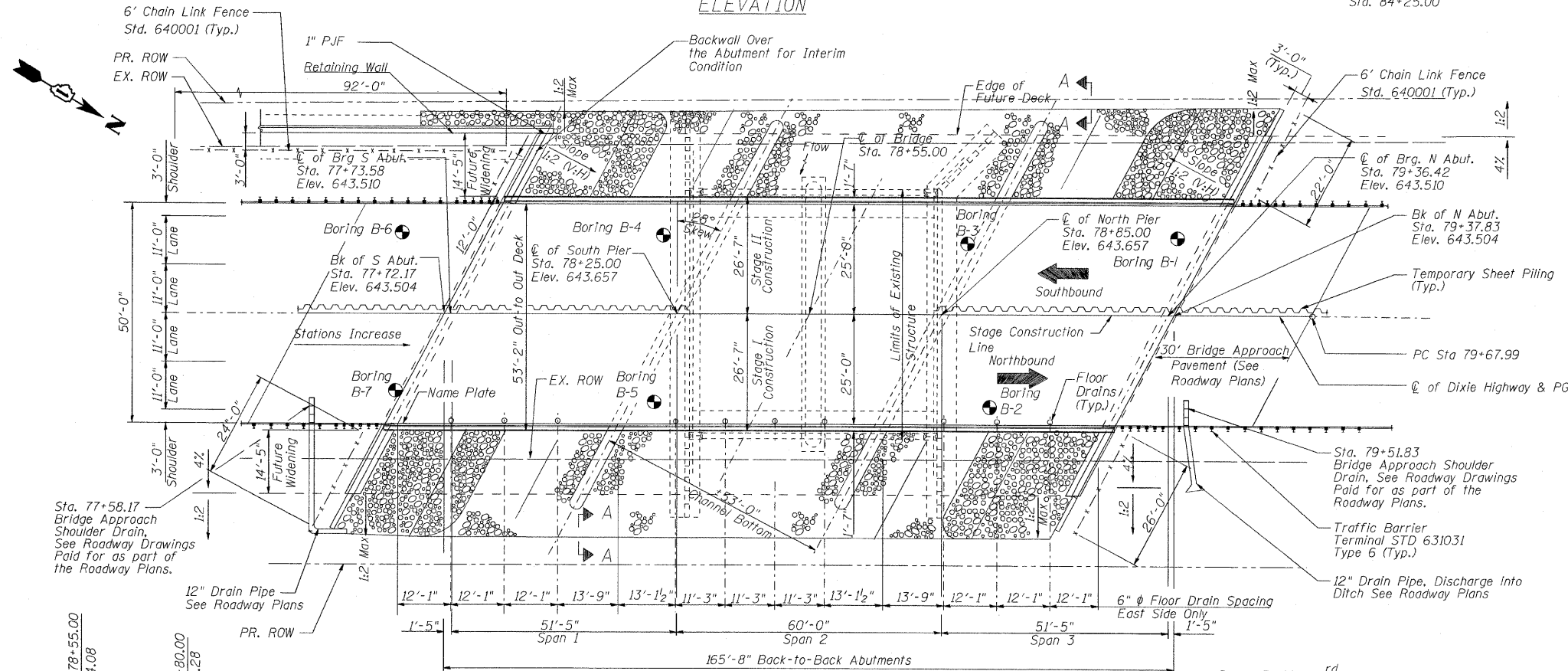
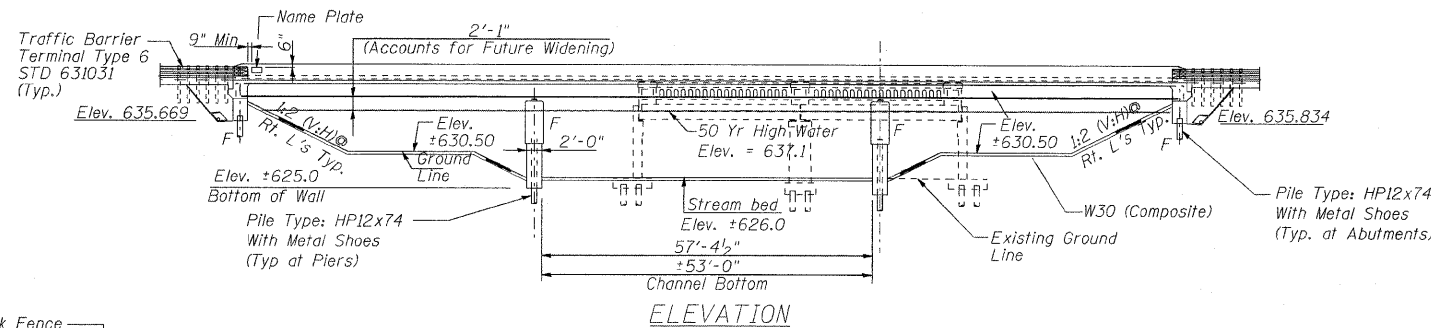
BENCH MARK: Control Point #1, "X" On Concrete Island at Southwest Quadrant of Dixie Highway and Flossmoor Road Elevation = 647.768.

The Existing Structure (SN 016-0775) Was Built in 1917 and Widened in 1930. The Superstructure Consists of a Two Span Cast-in-Place Reinforced Concrete Slab. The Substructure Consists of Two Closed Abutments With Wing-Walls on Each Side and One Pier.

Stage Construction will be Utilized as Shown, Allowing One Lane of Traffic in Each Direction to Remain Open at All Times.

The Existing Bridge will be Removed and Replaced in Two Stages. The Substructure is Designed to Accommodate a Future Superstructure Widening.

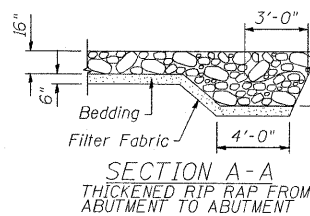
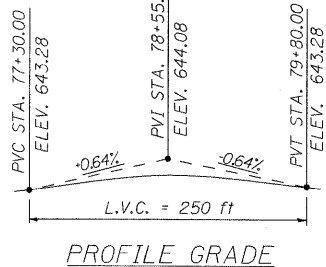
No Salvage



TOTAL BILL OF MATERIAL

ITEMS	UNITS	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)*	Cu. Yd.		270	270
Stone Riprap, Class A4	Sq. Yd.	1,900		1,900
Filter Fabric	Sq. Yd.	2,150		2,150
Removal of Existing Structures	EACH	1		1
Structure Excavation	Cu. Yd.		80	80
Floor Drains	EACH	10		10
Concrete Structures	Cu. Yd.		362	362
Concrete Superstructure	Cu. Yd.	300		300
Bridge Deck Grooving	Sq. Yd.	900		900
Protective Coat	Sq. Yd.	1,070		1,070
Furnishing and Erecting Structural Steel	L. SUM	1		1
Stud Shear Connectors	EACH	6,072		6,072
*Reinforcement Bars, Epoxy Coated	POUND	70,800	31,740	102,540
Furnishing Steel Piles HP 12 x 74	FOOT		2,550	2,550
Driving Piles	FOOT		2,550	2,550
Test Pile Steel, HP 12 x 74	EACH		4	4
Pile Shoes	EACH		56	56
Geocomposite Wall Drain	Sq. Yd.	180		180
*Pipe Underdrain for Structures 4"	FOOT		220	220
Chain Link Fence, 6'	FOOT	180		180
Temporary Soil Retention System*	Sq. Ft.		3,400	3,400
Name Plates	EACH	1		1
Bar Splicers	EACH	690	102	792
Underwater Structure Excavation Protection, Location 1	EACH		1	1
Underwater Structure Excavation Protection, Location 2	EACH		1	1
Concrete Encasement	Cu. Yd.		20	20
Anchor Bolts, 1" Dia.	EACH	64		64
Concrete Sealer	Sq. Ft.		3,480	3,480
Conduit Embedded in Structure 2" Dia. Galvanized Steel	FOOT	692		692
Junction Box Embedded in Structure Stainless Steel, 12"x8"x6"	EACH	4		4

*See Special Provisions



WATERWAY INFORMATION

Drainage Area = 22.7 Sq. Mi. Prop. Low Grade Elev. = 644.6 ft. @ Sta 75+50

Flood	Freq yr.	Q cfs	Opening ft ²		Nat. H.W.E.		Headwater EL.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
10	1650	337	946	636.4	0.7	0.2	637.1	636.6	
Design	50	2305	337	1038	637.1	1.1	0.2	638.2	637.3
Base	100	2775	337	1091	637.5	1.2	0.2	638.7	637.7
Max Calc	500	3920	337	1226	638.5	1.0	0.2	639.5	638.7

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, (17th Edition)

LOADING HS20-44

Allow 50 psf for Future Wearing Surface

DESIGN STRESSES

FIELD UNITS

f'c = 3500 psi

f_v = 50,000 psi

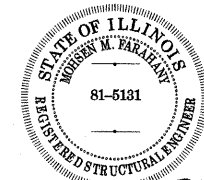
f_y = 60,000 psi (Reinf.)

SEISMIC DATA

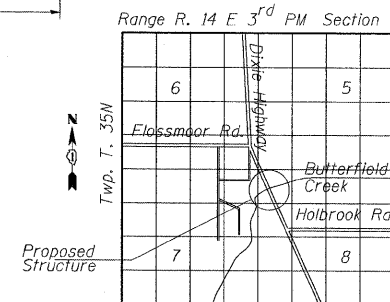
Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) 0.04 g
 Site Coefficient (S) = 1.0

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Robert E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



Mohsen Farahany
Mohsen Farahany
Licensed Structural Engineer
State of Illinois
Lic. No. 81-5131
Expires: 11-30-2010



LOCATION SKETCH

REVISIONS	
NAME	DATE
Rev-BK	9/25/09

GENERAL PLAN, ELEVATION & BILL OF MATERIAL

DIXIE HIGHWAY OVER
BUTTERFIELD CREEK
F.A.U. ROUTE 2843 SECTION 3249B-R
STA. 78+55.00
COOK COUNTY
STRUCTURE NUMBER 016-7946

SCALE: NOT-TO-SCALE
DATE 4-27-09

DRAWN BY BV
DESIGNED BY BS
CHECKED BY PK



SPL PLANS

SPL PLANS