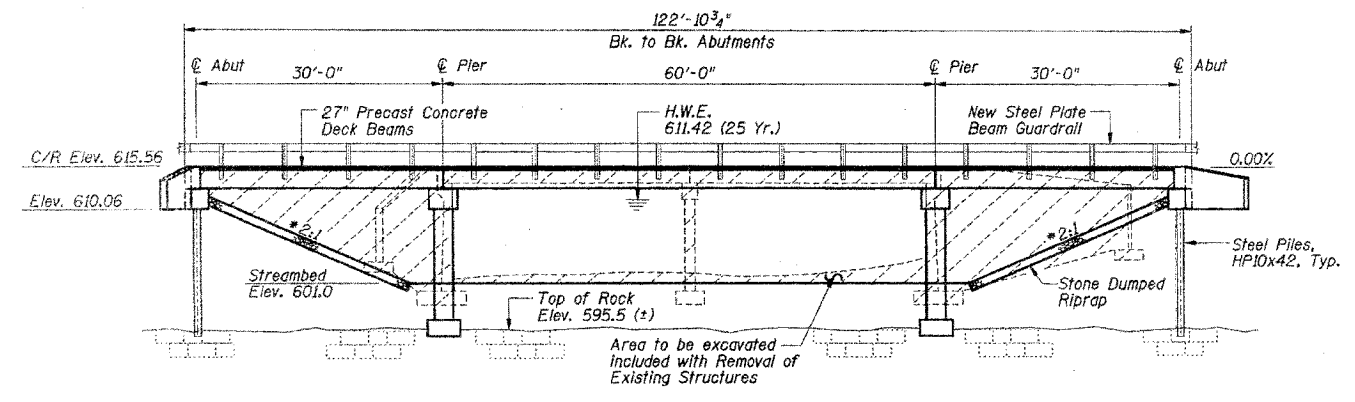


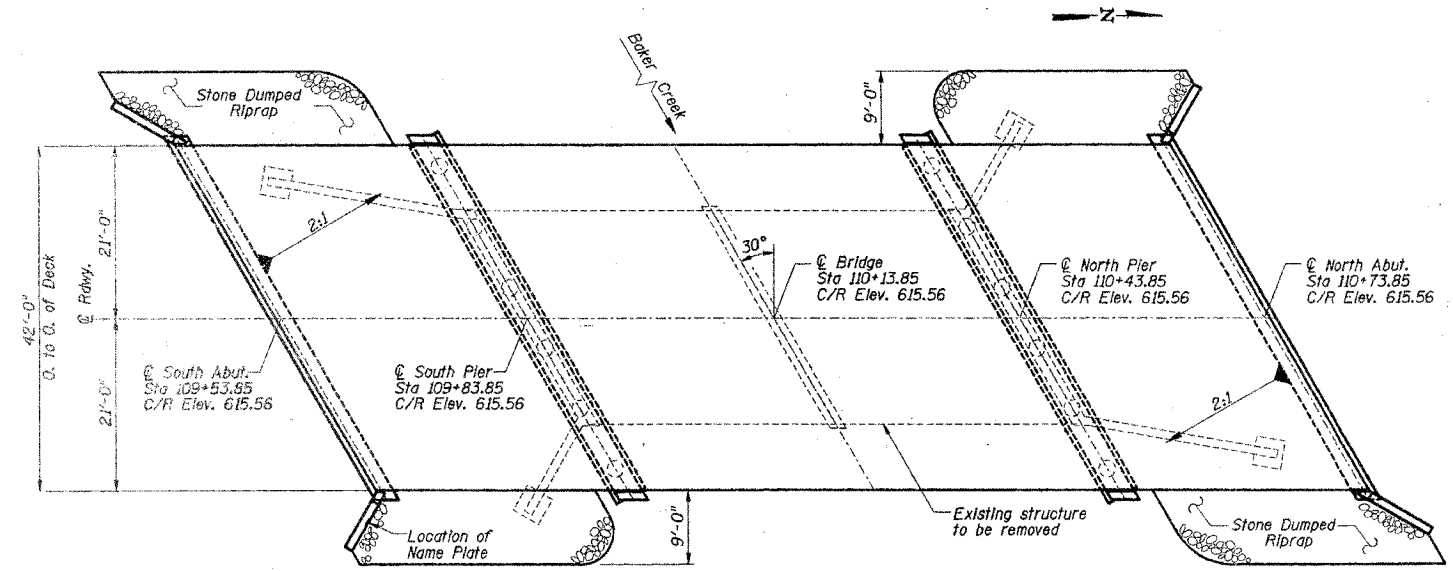
Existing Structure: Existing Structure is a two-span precast concrete deck beam bridge supported by concrete gravity abutments and concrete piers supported on a spread footing, 61'-10 1/2" B/B Abutments and 26'-0" O/O. Skew is 30 degrees RT.

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
CH 38	*	Kankakee	83	49
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 87314 *02-00284-00-WR



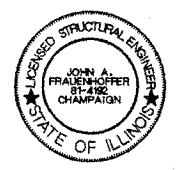
PROFILE



PLAN

GENERAL NOTES

- The Contractor shall drive 1 steel test pile in a permanent location at each abutment as directed by the Engineer before ordering the remainder of piles. Test piles shall be driven to 110 percent of the Nominal Required Bearing Indicated in the pile data information.
- Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.
- Class SI or MS Concrete shall be used in the abutments and piers.
- Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.



I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO Standard Specifications for Highway Bridges."

John A. Frauenhoffer
 JOHN A. FRAUENHOFFER
 Illinois Licensed Structural Engineer Number 4192
 License Expires 11/30/08

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Frauenhoffer				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

BORING DATA

N - Standard Penetration Test - Blows per foot to drive 2" O.D. split spoon sampler 12" with 140 lb. hammer falling 30".
 Qu - Unconfined Compressive Strength - Tons/Sq. Ft.
 W - Water Content - Percentage of oven dry weight - %
 B - Buige Failure, V - Shear Failure, P - Penetrometer

BORING B-1

Location: STA 110+52, 8' LT
 Elev. 615.2 (±)

Water Levels
 White Drilling: El. 603.2 (±)
 At Completion: -

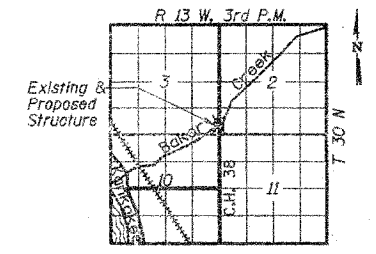
Depth (ft)	N	Qu	W	Notes
0				5" Blt. Conc. Surface
1.8				Crushed Stone, FILL
7.0	1.0P	18.0		Blk. SILTY CLAY, some crushed stone
9.2	1.2P	19.2		Blk SILTY CLAY, TOPSOIL
10.0	1.0P	20.3		
16.0				Wet, yellow fine to coarse SAND, trace gravel, silt, & clay
18.2				Moist, gray sandy SILT, little gravel & broken limestone
75.0				Limestone End of Boring

BORING B-2

Location: STA 110+13.85, 7' RT
 Elev. 615.2 (±)

Water Levels
 White Drilling: El. 602.2 (±)
 At Completion: -

Depth (ft)	N	Qu	W	Notes
0				5" Blt. Conc. Surface
2.1	1.1P	18.7		Crushed Stone, FILL
9.0	1.0P	19.7		Brn & Blk SILTY CLAY-FILL
7.0	1.0P	19.0		
6.0	1.0P	20.2		Yellow & gray SILTY CLAY
4.8				Gray SILTY CLAY, trace sand & gravel
6.0				Gray sandy SILT, little gravel & broken limestone
8.6				Limestone End of Boring

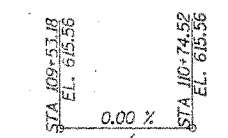


LOCATION SKETCH

STRUCTURE NO. 046-3493
 SEC. 02-00284-00-WR BUILT 2000
 COUNTY HIGHWAY 38
 KANKAKEE COUNTY
 LOADING HS-20-44

NAME PLATE

See Standard 515001



PROFILE GRADE

DESIGN SPECIFICATIONS

AASHTO (2002) and applicable Interims

DESIGN LOADING

HS 20-44
 25 P.S.F Future Wearing Surface

DESIGN STRESSES

- $f'_c = 3,500$ psi (Cast In Place Concrete)
- $f'_c = 5,000$ psi (P.P.C. Units)
- $f'_{ci} = 4,000$ psi (P.P.C. Units)
- $f_y = 60,000$ psi (Reinforcement)
- $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ Strands)
- $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ Strands)

WATERWAY DATA

Drainage Area	41.54	Sq. Mi.
Existing Opening	442.5	Sq. Ft.
Required Opening (25 Yr.)	598.4	Sq. Ft.
Proposed Opening (25 Yr.)	640.3	Sq. Ft.
Design Discharge (25 Yr.)	2066.2	C.F.S.
Computed Discharge (100 Yr.)	2644.1	C.F.S.
25 Yr. Head	0.00	Ft.
100 Yr. Head	0.12	Ft.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Dumped Riprap, Class A4	Sq. Yds.		391	391
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yds.		186	186
Cofferdam Excavation	Cu. Yds.		220	220
Rock Excavation for Structures	Cu. Yds.		15	15
Cofferdams	Each		2	2
Concrete Structures	Cu. Yds.		111.4	111.4
Precast Prestressed Concrete Deck Beams (27" Deep)	Sq. Ft.	5089		5089
Reinforcement Bars	Pound		18110	18110
Steel Railing, Type S-1	Foot	243		243
Furnishing Steel Piles HP 10x42	Foot		170	170
Driving Piles	Foot		170	170
Test Piles, Steel HP10x42	Each		2	2
Pile Shoes	Each		12	12
Name Plate	Each		1	1
Waterproofing Membrane System	Sq. Yds.	566		566
Concrete Cut-off Wall	Cu. Yds.		9.5	9.5

FRAUENHOFFER
 Frauenhoffer and Associates, P.C. Consulting Engineers
 3002 Crossing Court Champaign, IL 61822 217-351-6268

GENERAL PLAN AND ELEVATION
 COUNTY HIGHWAY 38
 SECTION 02-00284-00-WR
 KANKAKEE COUNTY

SHEET	49
DWG NO.	3104gpb.dgn
DATE	AUG 2006
PROJ NO.	3104