

**BENCH MARK "B-1"**

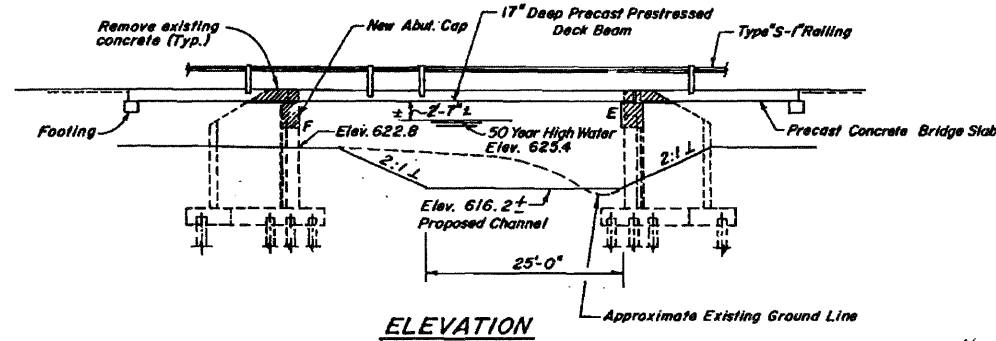
1" CUT IN S.W. CORNER OF CONCRETE BLOCK AT GUYWIRE STA. 240+06.141' LT. - ELEV. 633.05 EXISTING STRUCTURE BUILT AS S.B.1 RTE. 80, SEC.103-B, STA. 242+47 IN 1930

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

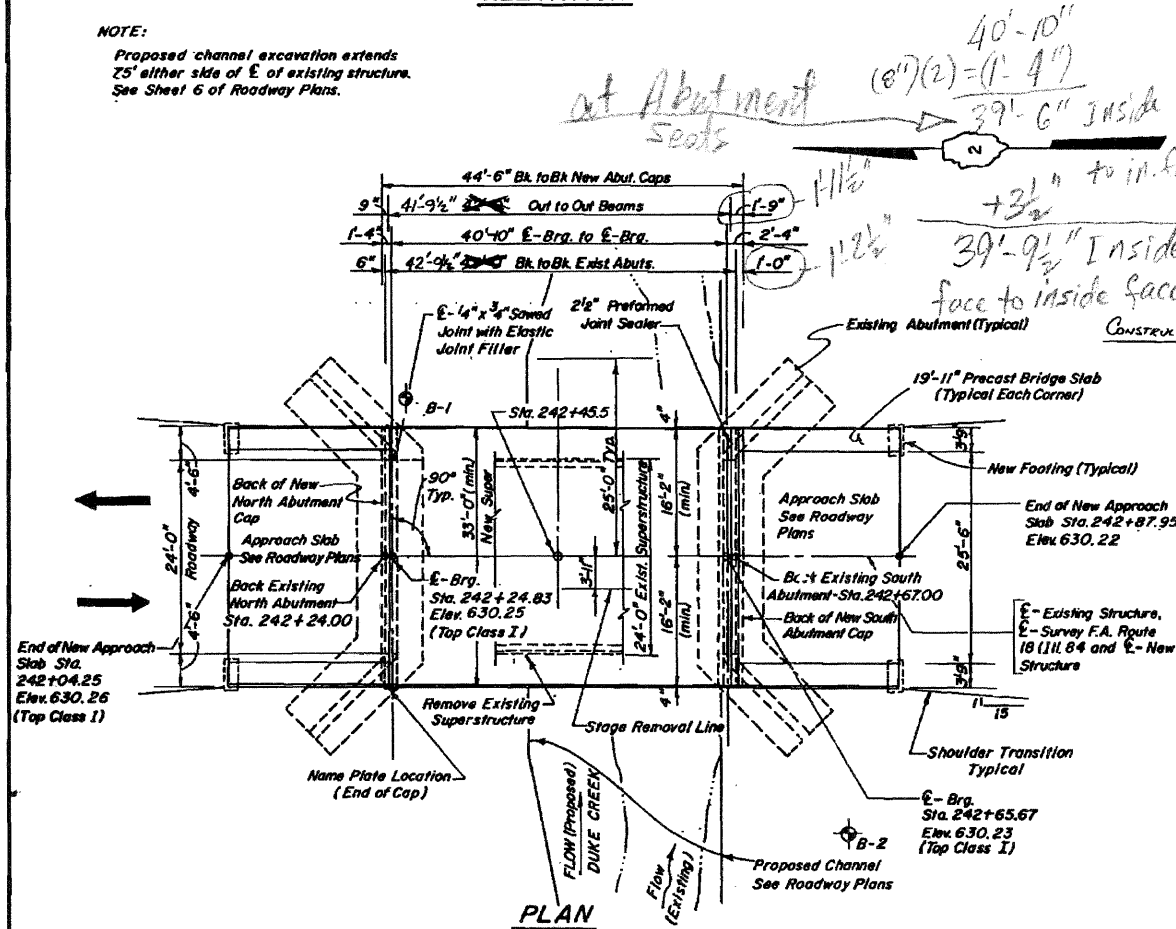
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.1	103 BR-2	JO DAVIESS	18	7
F.A. 18		ILLINOIS FED. AID PROJECT		

SHEET NO. 1  
SHEETS 7

Sheet 94 of 126



NOTE:  
Proposed channel excavation extends 25' either side of E. of existing structure. See Sheet 6 of Roadway Plans.



DESIGNED	<i>J. Amari</i>
CHECKED	R.F.C.
DRAWN	<i>J. Amari</i>
CHECKED	ES, I.R.F.C.

PROFILE GRADE PROPOSED STRUCTURE

**GENERAL NOTES**

- See Proposal for Boring Data.
  - Structure shall be open to traffic at all times during construction. Contractor shall submit schedule of construction to the Engineer for approval well in advance of construction.
  - Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
  - Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.
  - The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specification except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a min. of 1/4".
  - All structural steel shall be shop pointed with two coats of basic lead silico chromate paint.
  - Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
  - Anchor bolts shall consist of approved cast-in anchors, providing minimum proof certified load = 4,080 lbs., and 3/4" x 12" hooked bolts, and shall be cast incidental to Class X Concrete.
  - A Cobium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck Beams.
- CONSTRUCTION NOTE: Due to greater than anticipated number in the PPL Deck Beams, it was necessary to eliminate the protective sand seal from the waterproofing system in order to obtain a smooth riding surface over the bridge.

**WATERWAY INFORMATION**

Drainage Area 2.77 Sq. Mile		Low Grade Elevation 629.75'		Station 242 + 45.5				
Flood Year	Q C.F.S.	Opening Existing	Proposed	Net. H.W.E.	Head-Foot Existing	Proposed	Headwater Elev. Existing	Proposed
Design	50 1649	237	301	625.4'	1.37	0.91	626.77	626.31
Base	100 1908	249	313	626.7'	1.45	0.91	627.15	626.61
Overtopping								
Max. Calc.	500 2528	273	277	626.3'	2.54	1.59	628.84	627.89

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		46	46
Class "X" Concrete	Cu. Yd.		23.1	23.1
Name Plates	Each		1	1
Channel Excavation	Cu. Yd.		451	451
Reinforcement Bars	Lbs.		2136	2136
Epoxy Crack Sealing	Lin. Ft.		25	25
Bituminous Concrete Surface Course, Mixture D, C1	Tons	18.5		18.5
Precast Prestressed Concrete Deck Beams (17" Deep)	Sq. Ft.	1386		1386
Waterproofing Membrane System	Sq. Yd.	156		156
Removal of Existing Superstructure ①	Each	1		1
Concrete Removal	Cu. Yd.		6.7	6.7
Temporary Bridge Roll	Lin. Ft.	83		83
Repair Concrete Structures ②	Sq. Ft.		36	36
Preformed Joint Seal (2 1/2")	Lin. Ft.	33		33
Structural Steel	Lbs.	2320		2320
Steel Railing, Type S-1	Lin. Ft.	166		166
Portland Cement Mortar Fairing Course	Lin. Ft.	250		250
Precast Concrete Bridge Slabs	Sq. Ft.	299		299

- ① Approximate quantity of Existing Superstructure Concrete is 78.0 cubic yards.  
② Deteriorated Concrete Surface Areas of the Existing Abutment Walls consisting of hollow, cracked and spalled areas specified by the Engineer shall be removed and replaced with pneumatic concrete in accordance with the Special Provisions. Table quantity is approximate.

STATION 242+45.50 (FA Rte. 18)  
REBUILT 198 BY  
STATE OF ILLINOIS  
FA Rte. 18 SEC. 103 BR-2  
LOADING HS 20  
STRUCTURE NO. 043-0027

PROJECT GR-18 (115)

BRIDGE NAME PLATE  
SEE STD. DWG. 2113

**DESIGN STRESSES**

**PRECAST UNITS**

f'c = 4500 psi  
fc = 1800 psi  
fs = 20,000 psi  
n = 8

**FIELD UNITS**

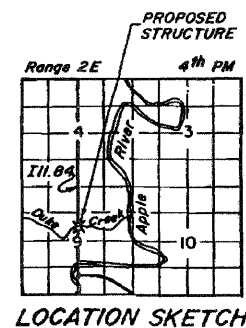
f'c = 3500, fy = 60,000 psi Reinforcement  
fy = 36,000 psi Structural Steel (M183)  
**PRECAST PRESTRESSED UNITS**  
f'c = 5000 psi  
f'cl = 4000 psi  
f's = 270,000 psi, 1/2" Strands  
f'sl = 185,000 psi, 1/2" Strands  
fy = 60,000 psi (Non-prestressed Reinforcement)

**LOADING HS 20-44**

Allow 25 P.S.F. for Future Wearing Surface

**DESIGN SPECIFICATIONS**

AASHTO 1977 and Interims 1978, 1979 and 1980



LOCATION SKETCH

APPROVED



EXISTING SUPERSTRUCTURE: #043-0027  
Reinforced Concrete Deck Girder, 41" ±  
E-Brg. to E-Brg. with Concrete Railing  
EXISTING SUBSTRUCTURE:  
Reinforced Concrete Abutments on  
Untreated Timber Piles

**FOR INFORMATION ONLY**

**GENERAL PLAN**  
PROJECT GR-18 (115) SEC. 103 BR-2  
FA 18 (III. 84) OVER DUKE CREEK  
JO DAVIESS COUNTY  
STA. 242+45.5