ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
S.B.I. 27 F.A. 17	4BR-2	CARROLL	18	11	SHEETS 8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

Benchmark: Chiseled □ on N.W. wingwall Sta. 104+35.4 El. 747.08

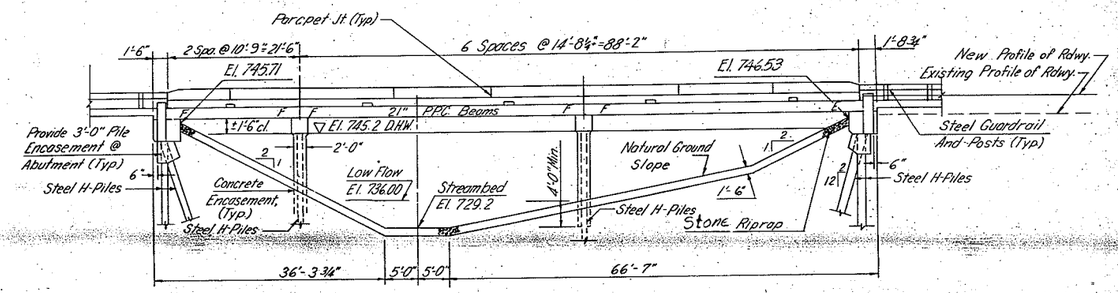
Existing Structure: S.N. 008-0003 built as S.B.I. Route 27 Section 4B in 1929 @ Sta. 104+65.60 RCDG. Bridge, back to back of abutments 63'-0", out to out width of Structure 24'-3". Existing Structure to be removed to Elevations 2'-0" below proposed ground Elevations. Where potential conflict exists, existing structure and piles shall be exposed and removed as necessary to drive new piles.

STATION 104+40.00
REBUILT 1982 BY
STATE OF ILLINOIS
F.A. RT. 17 SEC. 4BR-2
F.A. PROJ. BR-F-17(63)
LOADING HS20
STR. NO.

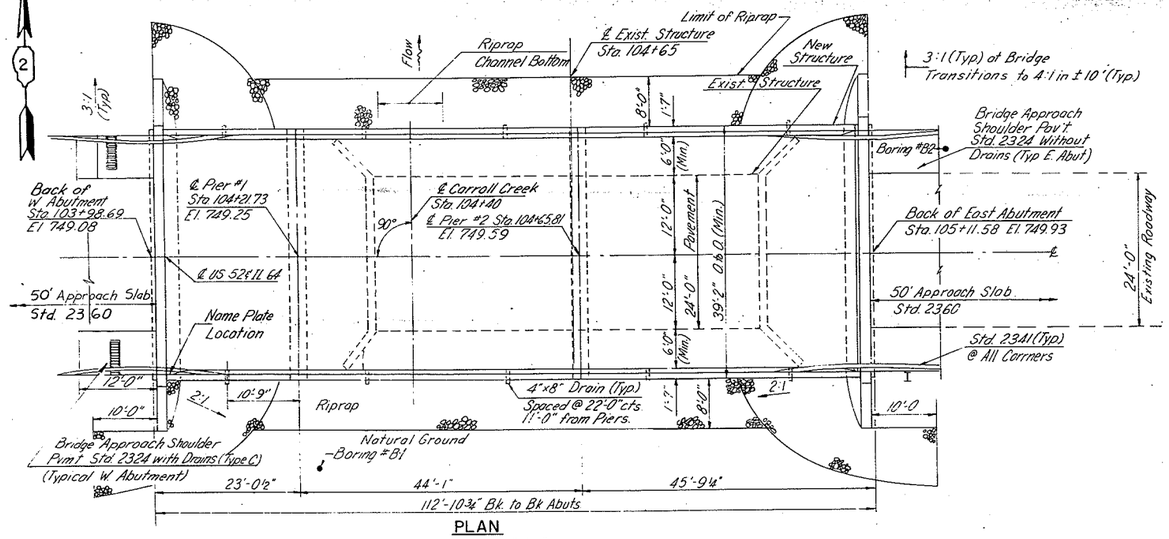
NAME PLATE
(SEE STANDARD 2113)

LOCATE NAMEPLATE ON SOUTHWEST CORNER OF BRIDGE STRUCTURE, SEE PLANS

Str. No. to be supplied by Dist.



ELEVATION
SCALE: 3/32" = 1'-0"

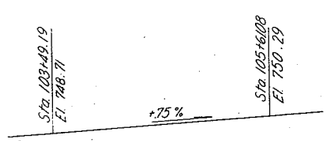


PLAN
SCALE: 3/32" = 1'-0"

WATERWAY INFORMATION

Drainage Area 42 Sq. Mi. Low Grade Elev. 747.32 @ Sta. 101+18.90

Flood	Freq. Yr.	Q CFS	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. HWE	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	4780	405	733	745.2	2.4	0.46	747.6	745.66
Base	100	5465	405	786	745.6	2.06	0.58	747.86	746.18
Overtopping									
Max Calc.	500	7045	405	900	746.5		0.87		747.37



GRADE PROFILE
F.A. 17 (S.B.I. 27)
(AT ℄ ROADWAY)

STATE OF ILLINOIS
RONALD A. ROLSING
81-3581
CHICAGO
REGISTERED STRUCTURAL ENGINEER

DESIGNED R.A.R.
CHECKED G.S.P.
DRAWN P.V.
CHECKED R.A.R. G.S.P.

DESIGN SPECIFICATIONS

—A.A.S.H.T.O. 1977 Standard Specifications for Highway Bridges and 1978, 1979, 1980, and 1981 Interims

—Standard Specifications for Road and Bridge Construction, State of Illinois (Adopted Oct. 1, 1979)

DESIGN CRITERIA

Loading HS 20-44
Allow 25#/sq. ft. Future Wearing Surface

DESIGN STRESS

Prestressed Deck Beams

Concrete

f'c = 5,000 psi
f'ci = 4,000 psi

Steel Tendons

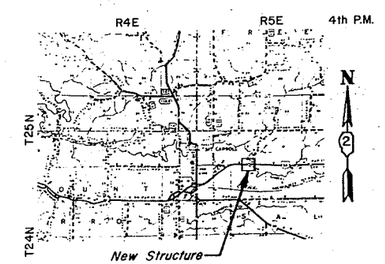
f's = 270,000 psi
fsi = 189,000 psi

Intermediate Reinforcement

fy = 60,000 psi

Concrete, Cast in Place

f'c = 3,500 psi
fy = 60,000 psi unless otherwise noted.



LOCATION MAP

GENERAL NOTES

See Proposal for Boring Data

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53, Grade 60 unless otherwise noted.

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.

The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in P.C. concrete for precast prestressed concrete deck beams.

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.

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.

All structural steel shall be shop painted with two coats of basic lead silico chromate paint.

Existing east abutment shall be removed to ±2'-0" below finished rip rap grade.

Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is to be applied. Protective coat shall be applied to the top and inside surfaces of all concrete parapets.

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Structure Excavation	Cu. Yd.		133	133
Bituminous Concrete Surface Course, Class I (Mixture D)	Ton	67		67
Removal of Existing Structures	Lump Sum			1
Class X Concrete	Cu. Yd.	24.9	154.6	179.5
Precast Prestressed Concrete Deck Beams (21 Inch Depth)	Sq. Ft.	4270.5		4270.5
Reinforcement Bars	Pound	1750	11760	13510
Reinforcement Bars (Epoxy Coated)	Pound	1980		1980
Steel Piles, HP12 X 53	Lin. Ft.		1124	1124
Temporary Sheet Piling	Sq. Ft.		1872	1872
Name Plates	Each			1
Stone Rip Rap	Sq. Yd.		691	691
Temporary Bridge Rail	Lin. Ft.			173
Portland Cement Mortar Fairing Course	Lin. Ft.	1392		1392
Waterproofing Membrane System	Sq. Yd.	442.7		442.7
Preformed Joint Seal (4")	Lin. Ft.	41		41
Structural Steel	Pound	2470		2470
Protective Coat	Sq. Yd.	93.6		93.6

REVISIONS	
DATE	DESCRIPTION

GENERAL PLAN AND ELEVATION
F.A. 17 (S.B.I. ROUTE 27) SEC. 4BR-2
CARROLL COUNTY
STA. 104+40

SCALE: AS NOTED
DATE 4/30/82

SCHUMACHER AND SVOBODA, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS