

092-0058

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED BRIDGE REPLACEMENT REHABILITATION PROGRAM

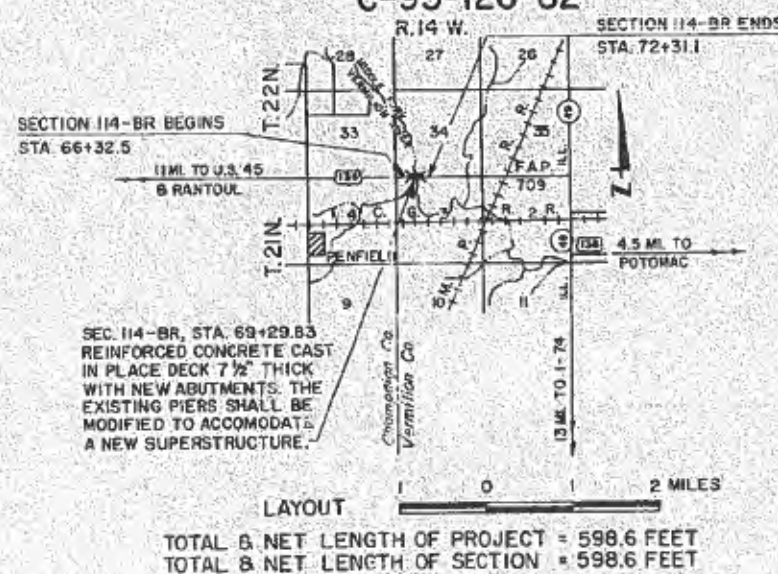
F. A. RTE. 709
SECTION 114-BR
VERMILION COUNTY
PROJ. MABR-F-709 (1)
BRIDGE RECONSTRUCTION
C-95-126-82

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2580-1	TRAFFIC BARRIER TERMINAL, TYPE 11

DESIGN DESIGNATION
225 (2001) AREA SERVICE

CONTRACT NUMBER 35986



PLAN
PROFILE HORIZONTAL
PROFILE VERTICAL
CROSS SECTIONS

1" = 20'
1" = 20'
1" = 5'
1" = 10' (HORIZ)
1" = 5' (VERT.)

"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 REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES."

Woodrow C. Chenault, Jr. 5-10-82
Date

WOODROW C. CHENAULT, JR.
ILLINOIS REGISTERED STRUCTURAL
ENGINEER NO. 3567
ILLINOIS REGISTERED PROFESSIONAL
ENGINEER NO. 28359

PROJECT NO.	709	SECTION	114-BR	VERMILION	28	1
DATE	P-95-016-79					



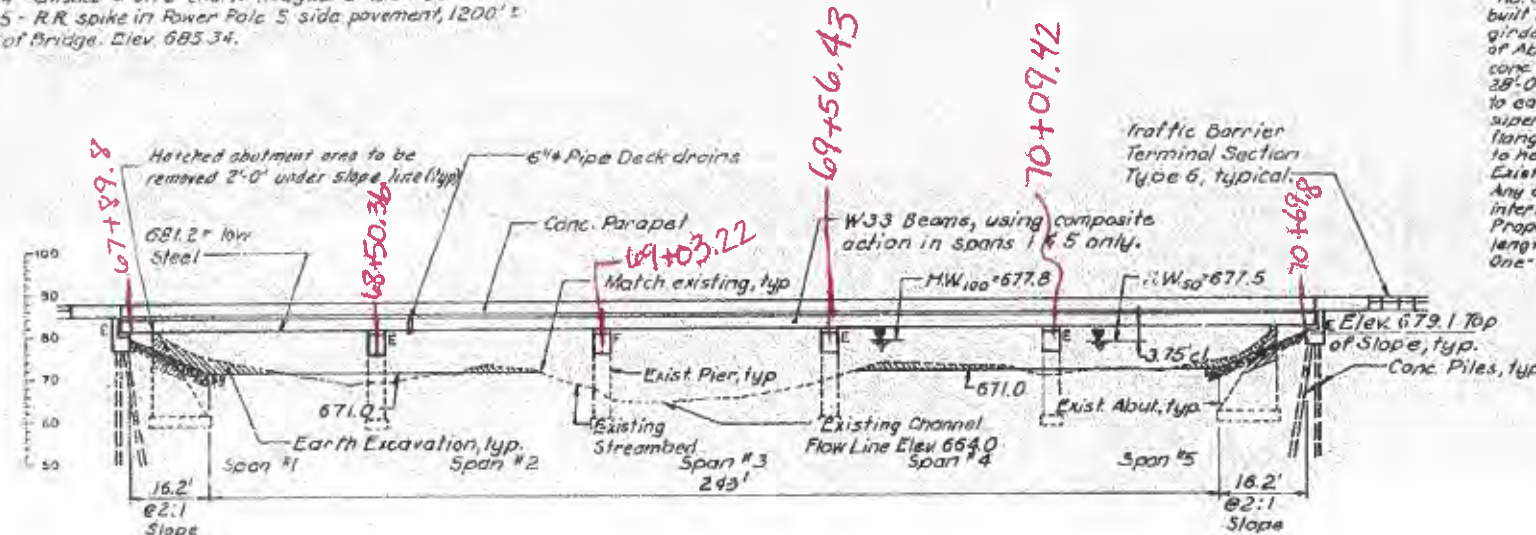
LOCATION OF SECTION INDICATED THUS: —

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DESIGNED BY	3-8	18-83	DATE
CHECKED BY	3-8	18-83	DATE
APPROVED BY	3-8	18-83	DATE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED	DATE
DIVISION ENGINEER	DATE

BENCH MARKS:
No. 4 - Crisled "o" on E end N Hubguard Elev 684.96.
No. 5 - RR spike in Power Pole S side pavement, 1200' West of Bridge. Elev 685.34.



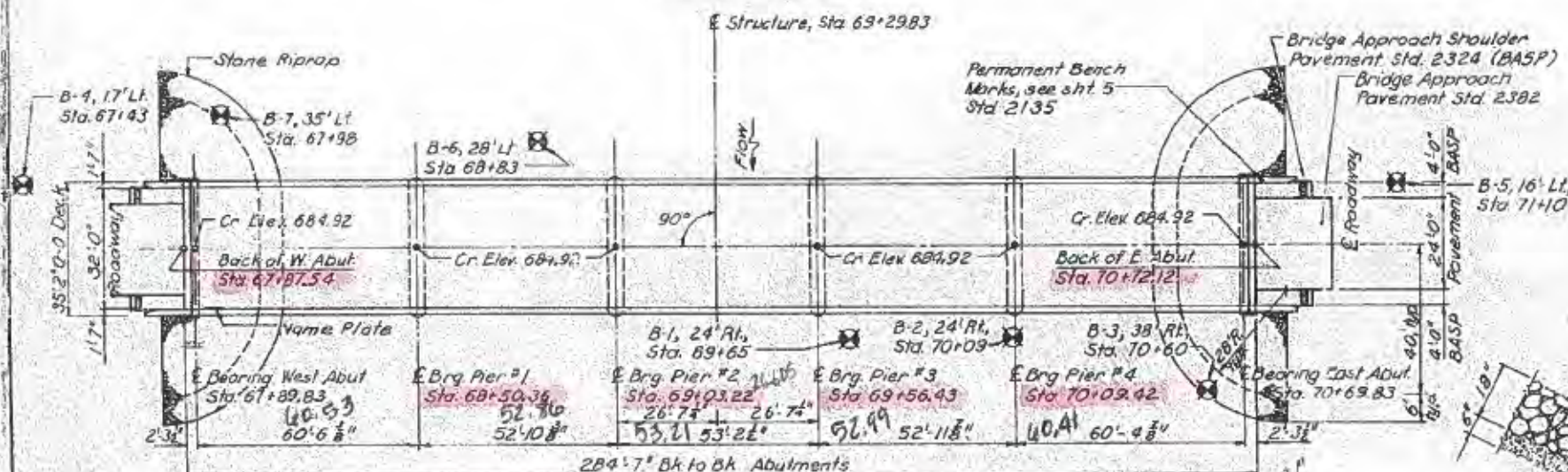
ELEVATION

EXISTING STRUCTURE

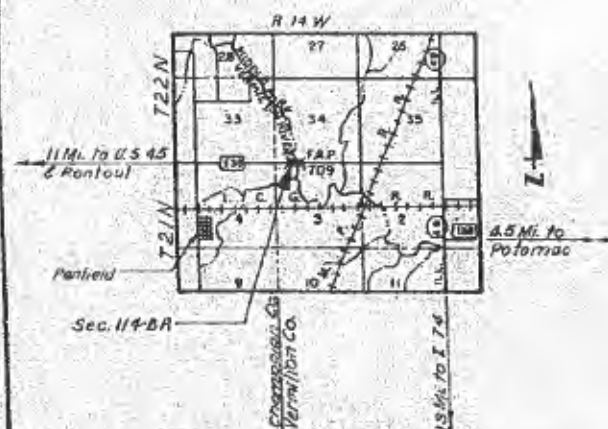
No. 092-0058, Section 114-BR, S.B.L. Rte. 112 at Sta 69+50, built in 1929. Five simple spans reinforced concrete deck girder bridge. Five spans of 63'-0" each, 26'-2" Bk-Bk of Abutments. 22'-0" Clear roadway on solid unreinforced concrete piers and spill thru abutments. Widened in 1957 to 38'-0" clear roadway. 2-27"x3'-0" PPC deck beams added to each side on widened piers and abutments. Existing superstructure shall be removed and replaced with wide flange beams and reinforced concrete deck. Existing piers to have portions removed and new cap section added. Existing Abutments to be removed to minimum levels shown. Any other portions of existing abutments or wingwalls that interfere with proposed construction, shall be removed. Proposed structure 26'-7" Bk-Bk Abutments, with lengthened and spans and new abutments. No salvage. One-way traffic to be maintained during construction.

STATION 69+29.83
BUILT 198_ BY
STATE OF ILLINOIS
F. A. RT. 709 SEC. 114BR
F. A. PROJ. MABRF-709(I
LOADING HS-20
STR. NO. 092-0058

NAME PLATE
(See Std. 2118)



PLAN



LOCATION SKETCH



ROADWAY PROFILE

DESIGN STRESSES

$f'_c = 3500 \text{ p.s.i.}$
 $f_y = 60,000 \text{ p.s.i. (Reinf.)}$
 $f_u = 50,000 \text{ p.s.i. (Struct.)}$

Allow 25¢/sq. ft. for future
wearing surface.
Design Specifications: 1977 AASHTO with 1978,
1979, 1980 and 1981 Specifications

Design Loading: HS 20-44

APPROVED
FOR STRUCTURAL AGENCY ONLY

WOODROW C. CHENAULT JR.
ILLINOIS REGISTERED STRUCTURAL
ENGINEER NO. 7567

WATERWAY INFORMATION

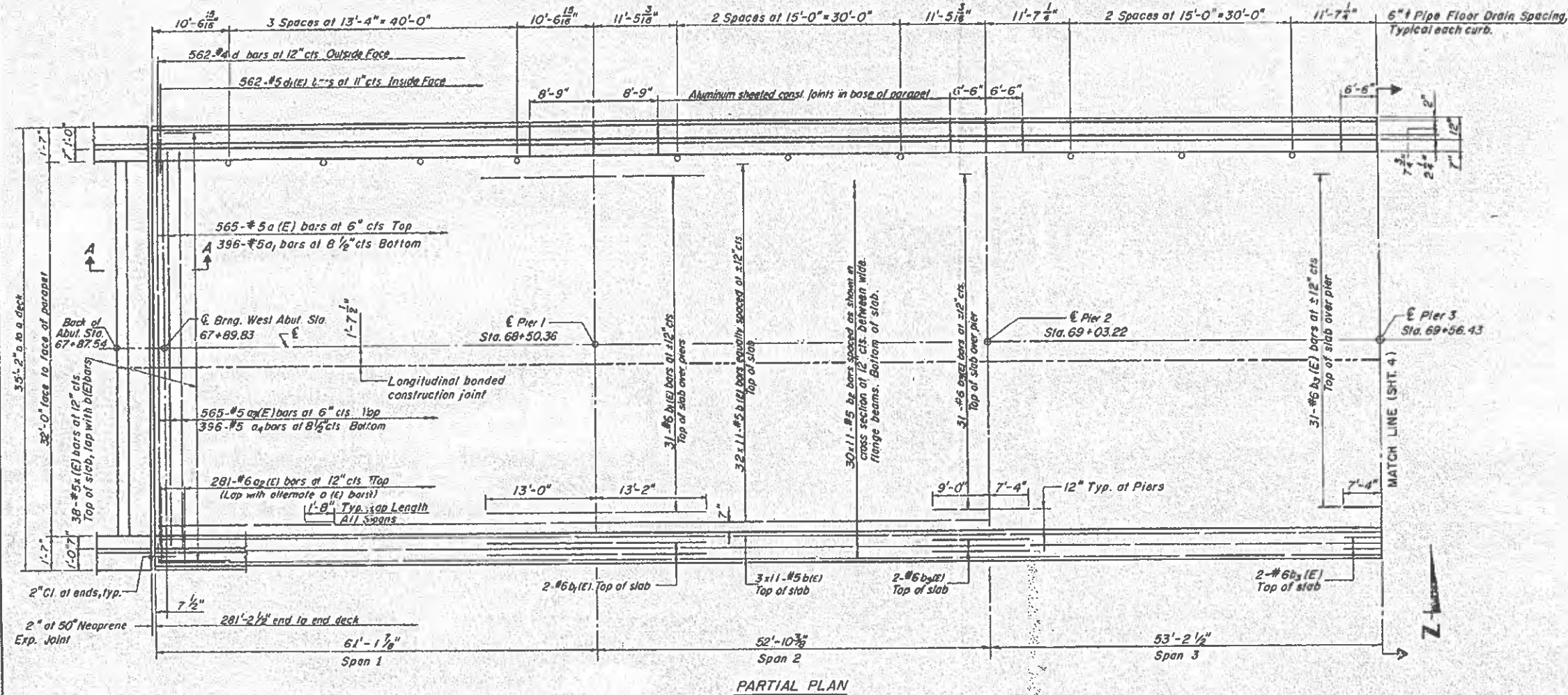
Drainage Area = 250 Sq. Mi. Low Grade Elev. = 684.29 of Sta. 68+00									
Flow	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		No. H.W.E.	Head - Ft.		Headwater Elev.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	8530	1828	1883	87.35	0.84	0.84	678.34	678.34
Base	100	9666	1903	1938	677.8	0.98	0.98	678.78	678.78
Overtopping									
Max. Col.	500	12,214	2053	2088	678.4	1.34	1.34	679.74	679.74

DESIGNED	PSD
CHECKED	WCC
DRAWN	CBH
CHECKED	WCC

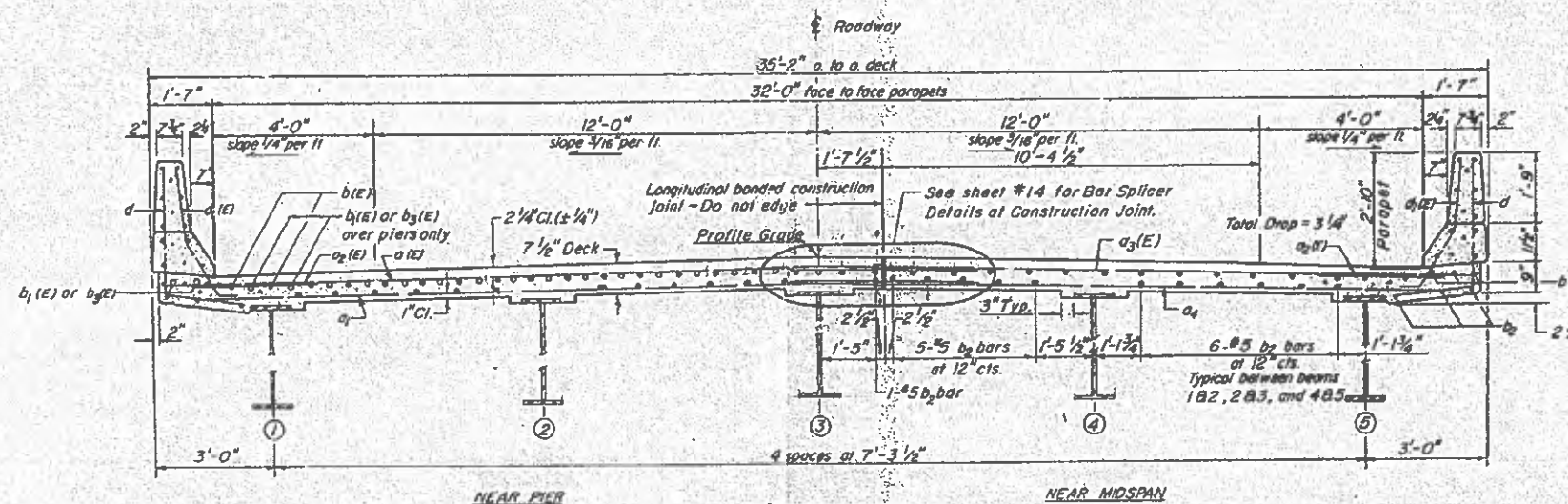
GENERAL PLAN AND ELEVATION
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 114-BR
VERMILION COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	PROJECT	SHEET NO.	SHEETS
709	114-BR	VERMILION	28	12
FOR ROAD 709 AND 1	SECTION 1	FOR 114-BR		



PARTIAL PLAN



CROSS SECTION

NOTES:
See sheet # 5 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Minimum bar lap #5 = 1'-8"

SUPERSTRUCTURE-DECK SPANS 1, 2 & 3
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 114-BR
VERMILION COUNTY
STA. 69+29.83

DESIGNED	JFS, RGD
CHECKED	WCC
DRAWN	BLW
CHECKED	WCC

S-1-U 8-30-80

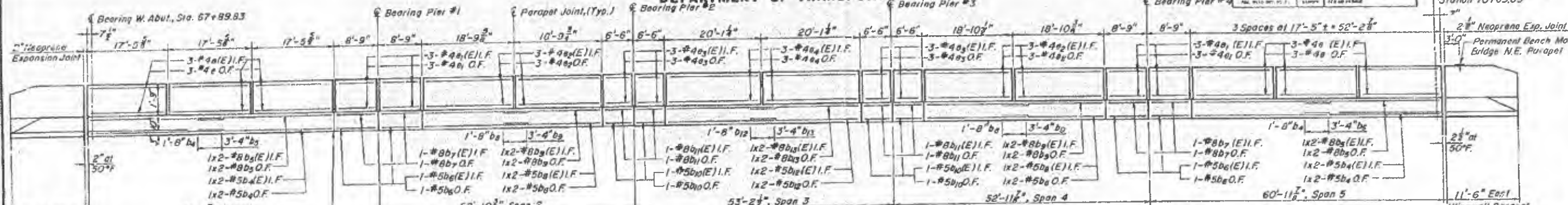
Prepared by: DAILY & ASSOCIATES ENGINEERS INC. CHAMPAIGN, ILLINOIS

D/A Job No. 43775

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DATE	BY	CHKD.	APP'D.
709	11-4-88	VERMILION	28	14

SHEET 5
SHEETS 16
Bearing East Abutment,
Station 70+69.83

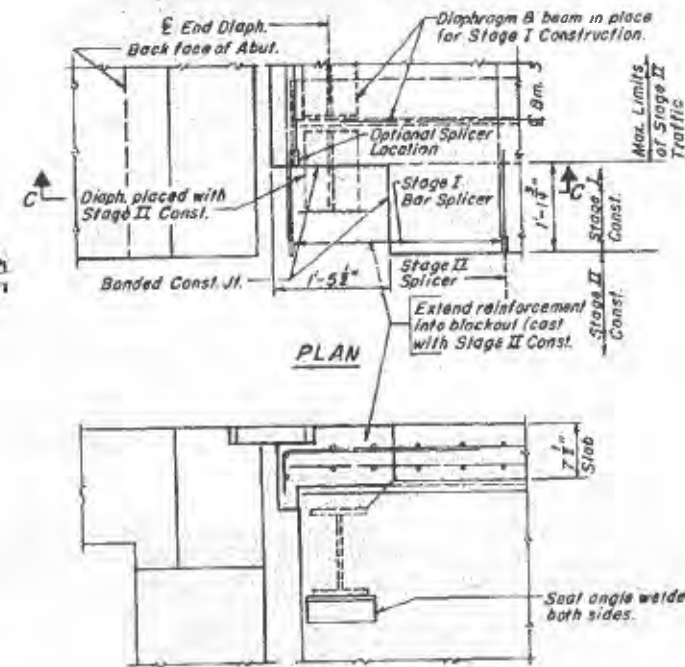


Wingwall Parapet.
See Sht. 12 for
reinforcing. Billed
with Abutment.

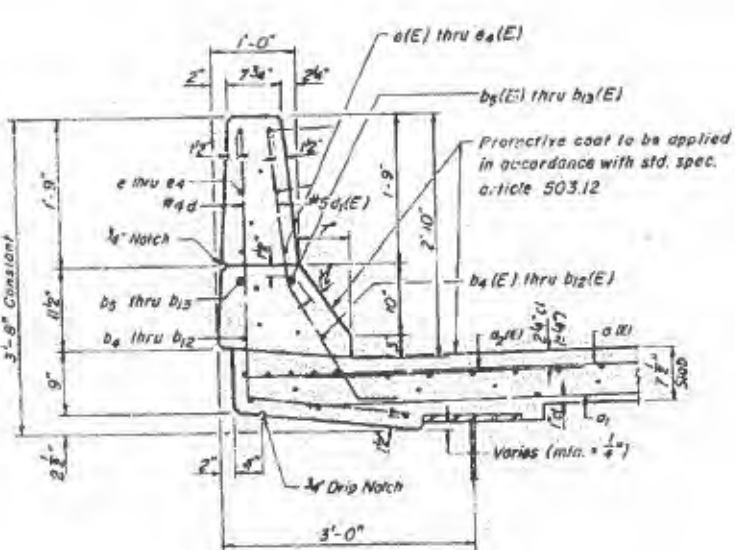
Aluminum sheet joints,
(Typ.) see Parapet Joint
Detail below.

INSIDE ELEVATION OF PARAPET
(North Parapet Shown)

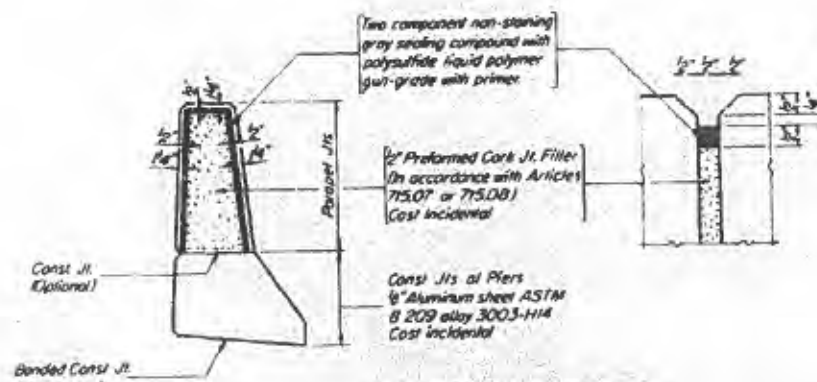
Note: Bars indicated thus 1x2-#5 etc.
indicates 1 line of bars with 2 lengths per line.



SECTION C-C
END DIAPHRAGM DETAIL AT STAGE CONST. LINE



SECTION THRU PARAPET

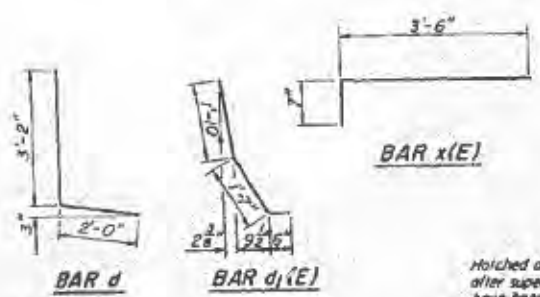


PARAPET JOINT DETAILS
(See Elevation View for Location)

* Place a(E) & h1 or h2 bars in back of
anchor bolt as shown if required
to maintain 1" cl. (1" O.C.)
Anchor bolts shall be tied to a(E)
& h1 or h2 bars.

Bar	No.	Size	Length	Shape
a(E)	565	#5	17'-8"	
b1	396	#5	17'-8"	
b2	562	#5	4'-0"	
b3	565	#5	14'-10"	
b4	396	#5	14'-10"	
b5	418	#5	27'-1"	
b6	70	#6	26'-2"	
b7	330	#5	27'-1"	
b8	70	#6	16'-4"	
b9	8	#5	26'-10"	
b10	8	#5	26'-10"	
b11	8	#5	27'-8"	
b12	8	#5	8'-5"	
b13	8	#5	8'-5"	
b14	8	#5	8'-5"	
b15	8	#5	19'-6"	
b16	8	#5	19'-6"	
b17	8	#5	20'-4"	
b18	8	#5	6'-2"	
b19	8	#5	6'-2"	
b20	4	#5	20'-9"	
b21	4	#5	20'-9"	
b22	4	#5	21'-7"	
b23	8	#5	27'-8"	
b24	8	#5	8'-5"	
b25	8	#5	20'-4"	
b26	8	#5	6'-2"	
b27	8	#5	21'-7"	
b28	8	#5	5'-2"	
b29	562	#5	3'-1"	
b30	36	#4	17'-0"	
b31	24	#4	8'-4"	
b32	24	#4	18'-5"	
b33	36	#4	17'-0"	
b34	24	#4	8'-4"	
b35	24	#4	18'-5"	
b36	24	#4	6'-1"	
b37	12	#4	19'-8"	
b38	24	#4	6'-1"	
b39	12	#4	19'-8"	
b40	76	#5	4'-1"	
Reinforcement Bars			Lbs.	27,940
Rein. Bars (Epoxy Coated)			Lbs.	44,680
Class X Concrete			Cu Yds.	296.7
Neoprene Exp. Jt. 2"			Lbs. Ft.	34
Neoprene Exp. Jt. 2 1/2"			Lbs. Ft.	34
Protective Coat			Sq. Yds.	1248
Floor Drains			Each	34
Perm. Bench Mark, BR			Each	1

Reinforcement bars designated
(E) shall be epoxy coated. See
Special Provisions.



Hatched area to be poured
after superstructure forms
have been removed.
Quantity of Class X Concrete
included with superstructure
reinforcement included with
Abutment.

Hatched area to be poured
after superstructure forms
have been removed.
Quantity of Class X Concrete
included with superstructure
reinforcement included with
Abutment.

SECTION A-A

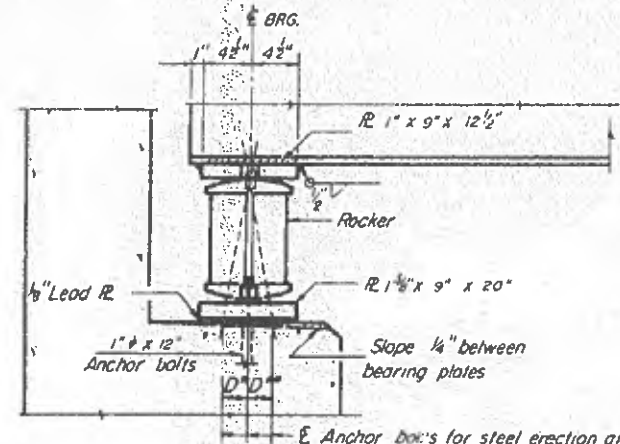
SECTION B-B

PARAPET DETAILS
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 114-BR
VERMILION COUNTY
Sta. 70+69.83

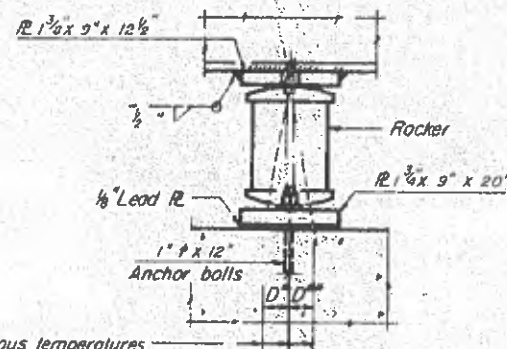
DESIGNED	J.S. RES
CHECKED	WCC
DRAWN	DB
CHECKED	WCC

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

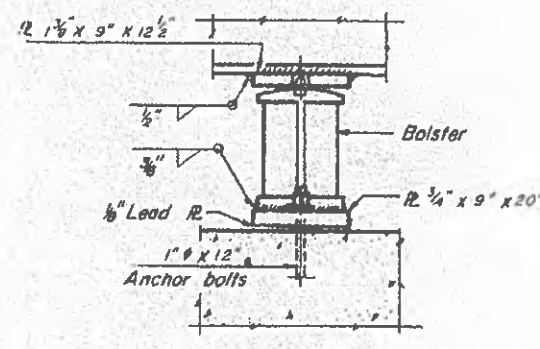
PROJECT NO.	SECTION	CONTRACT	SHEET NO.	16
709	14-BR	VERMILION	28	18



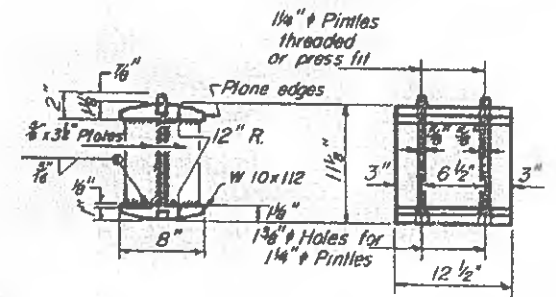
SECTION
 $1' + 11\frac{1}{8} + 13\frac{5}{8} = 13\frac{5}{8} = 1.4$



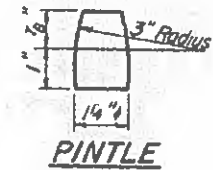
ELEVATION
 $13\frac{5}{8} + 11\frac{1}{8} + 13\frac{5}{8} = 14\frac{1}{8} = 1.20$



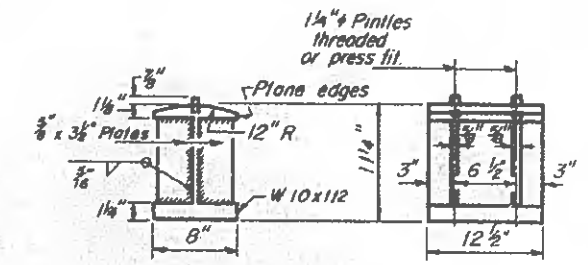
ELEVATION
 $13\frac{5}{8} + 11\frac{1}{8} + 13\frac{5}{8} = 13\frac{1}{2} = 1.125$



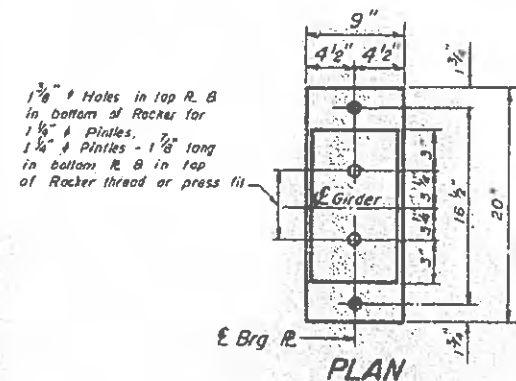
ROCKER



PINTLE

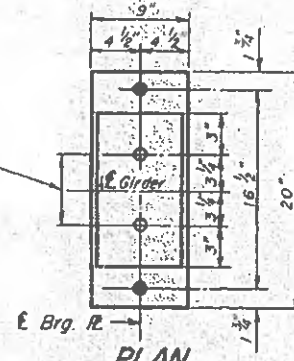


BOLSTER



AT ABUTMENTS
(EXPANSION)

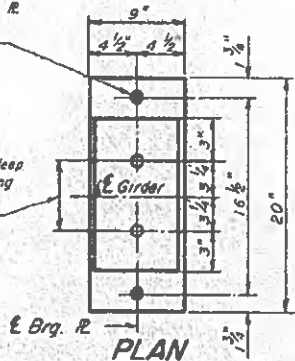
1 3/8\"/>



AT PIERS 1-3-4
(EXPANSION)

1 1/2\"/>

1 3/8\"/>



AT PIER 2
(FIXED)

TOP OF BEAM ELEVATIONS

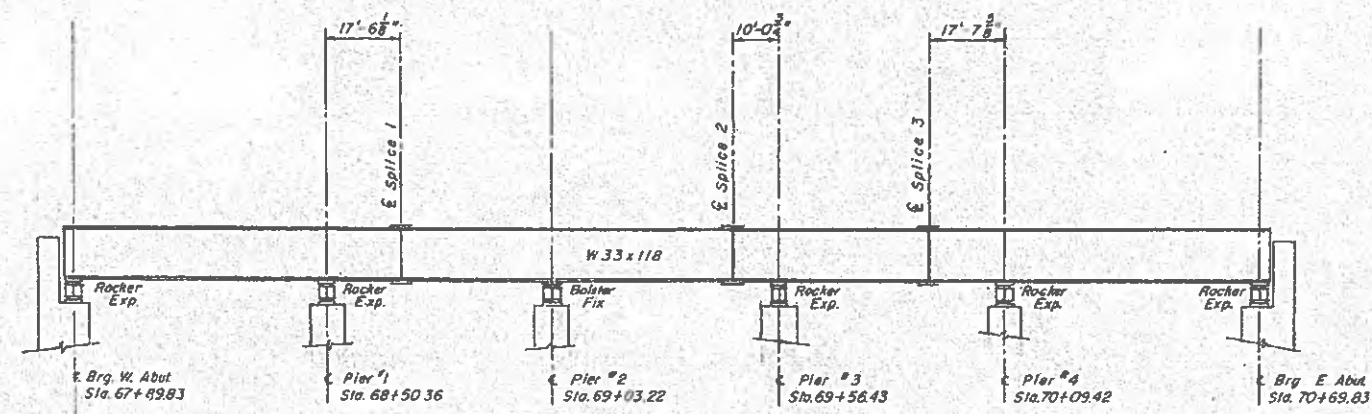
At Bearings and Splices	
Beams 1 & 5	683.95
Beams 2 & 4	684.08
Beam 3	684.20
For Fabrication Only	

INTERIOR BEAM REACTION TABLE

	W. Abut or E. Abut	Pier 1 or Pier 4	Pier 2 or Pier 3
RDL (K)	29.0	75.5	59.6
RLI	39.1	44.5	44.1
RIMP	10.6	12.5	12.3
RTOTAL (K)	78.7	132.5	116.0

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

- D* (Side of brg. away from fixed brg.)
D* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50°F
- D** (Side of brg. toward fixed brg.)
D** = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50°F
- After girders have been erected and dimensions D* or D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.



BEARING TYPE LOCATION
(ELEVATION VIEW)

DESIGNED	RGD
CHECKED	WCC
DRAWN	LFF
CHECKED	WCC

I-2-B 4-1-75

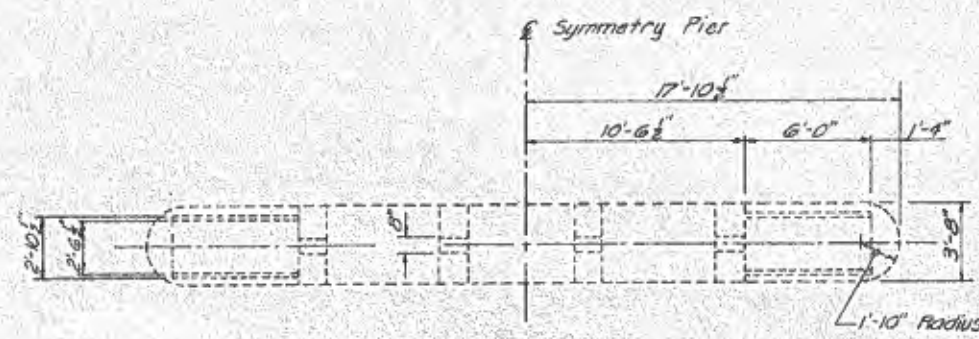
Prepared by: DAILY & ASSOCIATES ENGINEERS INC.

BEARING DETAILS
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 14-8R
VERMILION COUNTY
STA. 69+29.83

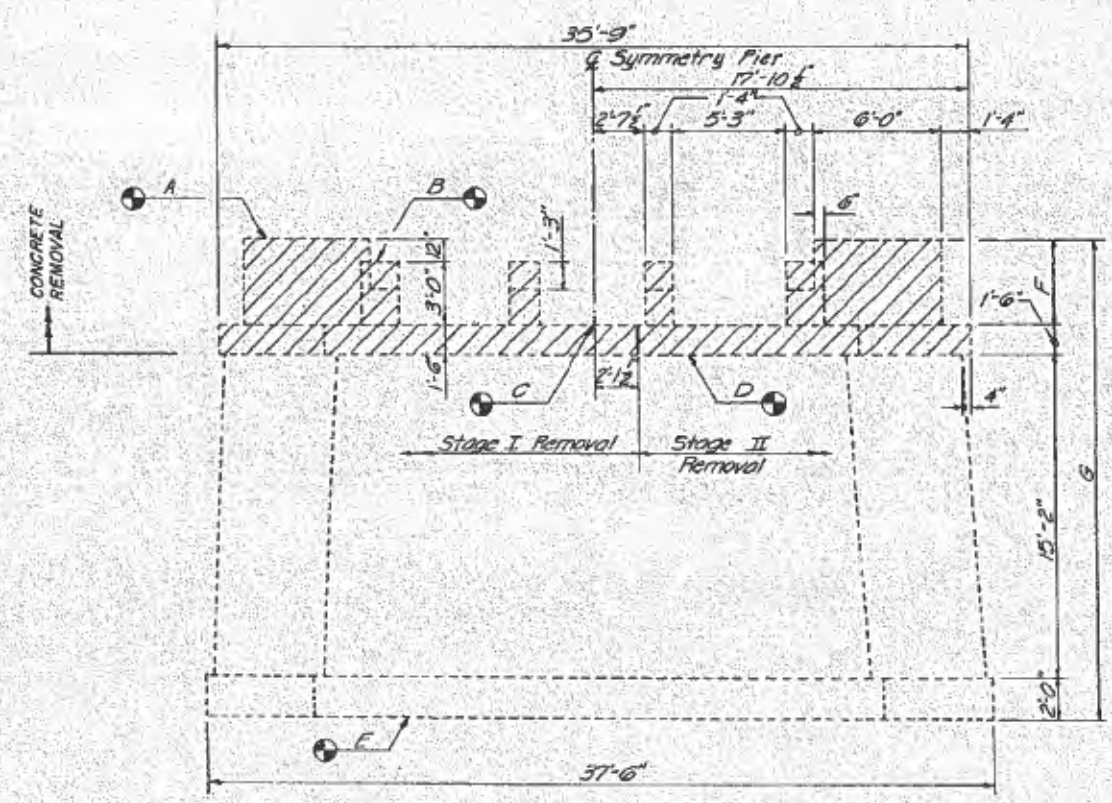
D/A JOB NO. 43773

DATE	REVISION	DATE	REVISION
10-10-80	20	10-10-80	15
PROJECT NO.	100-00	SCALE	1" = 10' HORIZ.

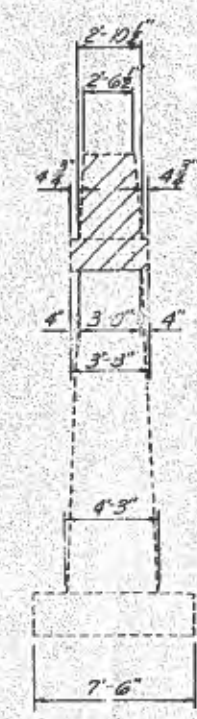
SHEET NO. 10
SHEETS 16



TOP OF EXISTING PIER PLAN



ELEVATION

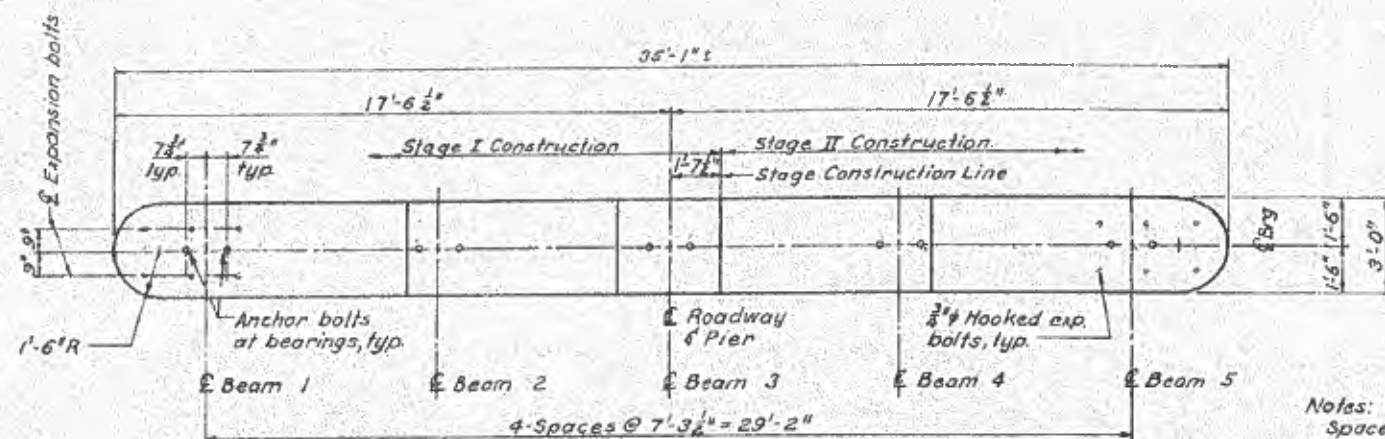


END ELEVATION

DIMENSIONS, ELEVATIONS & CONG. REMOVAL				
	PIER 1	PIER 2	PIER 3	PIER 4
Elevation A	681.77	681.99	681.85	681.77E - 681.91 W
Elevation B	680.83	680.91	680.91	680.83
Elevation C	677.83	677.91	677.91	677.83
Elevation D	676.33	676.41	676.41	676.33
Elevation E	659.16	659.24	659.24	659.16
F	3'-11 3/8"	4'-1"	3'-11 3/8"	3'-11 3/8" E - 4'-1" W
G	22'-7 3/8"	22'-9"	22'-7 3/8"	22'-7 3/8" E - 22'-9" W
Concrete Removal (cu yd)	13.3	14.2	13.3	13.6

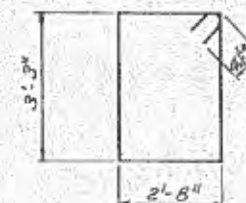
DESIGNED	RGD
CHECKED	WOC
DRAWN	RAS
CHECKED	WOC

PIER CONCRETE REMOVAL DETAILS
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 114-BR
VERMILION COUNTY
STA. 69+29.83

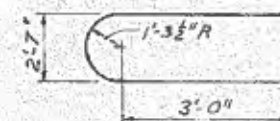


PLAN

Notes:
Space reinforcement in cap
to miss anchor bolts.
Four steps monolithically
with cap.



Bar s



Bar u

Note: All dimensions are O to O.

BAR BENDS

TABLE OF ELEVATIONS & DIMENSIONS

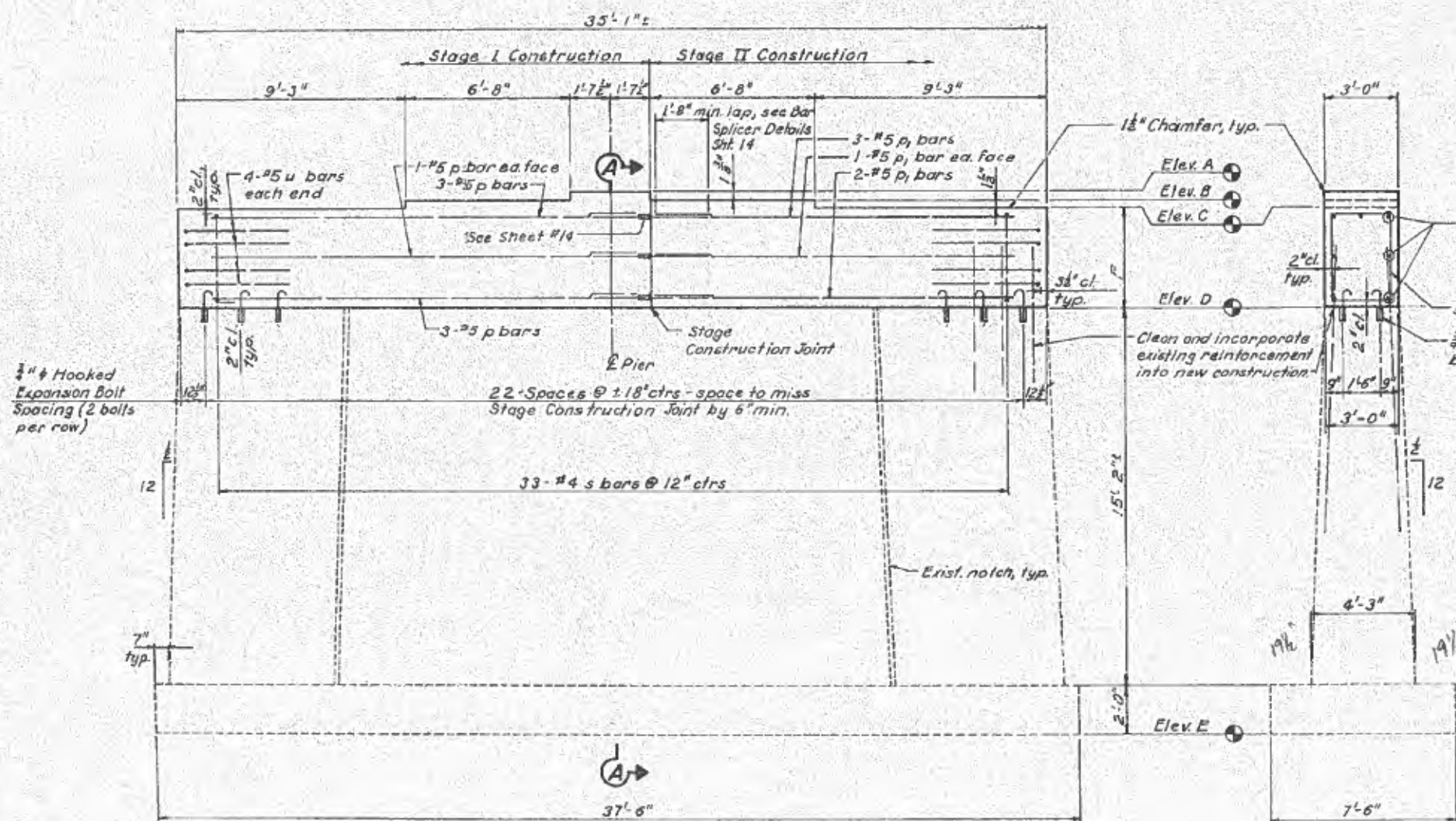
Elev. or Dim.	Pier 1	Pier 2	Pier 3	Pier 4
A	680.26	680.33	680.26	680.26
B	680.15	680.22	680.15	680.15
C	680.02	680.09	680.02	680.02
D	678.33	678.41	678.41	678.33
E	659.16	659.24	659.24	659.16
F	3'-8 1/2"	3'-8 1/2"	3'-7 1/2"	3'-8 1/2"

BILL OF MATERIAL - 4 PIERS

Bar	No. Ea. Pier	Size	Length	Shape	Total No. 4 Piers
D	7	#5	17'-2"	—	28
D ₁	7	#5	14'-3"	—	28
s	33	#4	12'-7"	□	132
u	8	#5	10'-1"	—	32

Item	Unit	Quantity
Class X Concrete	Cu. Yd.	56.8
Reinforcement Bars	Lbs.	2360
Expansion Bolts, 1/2"	Each	184

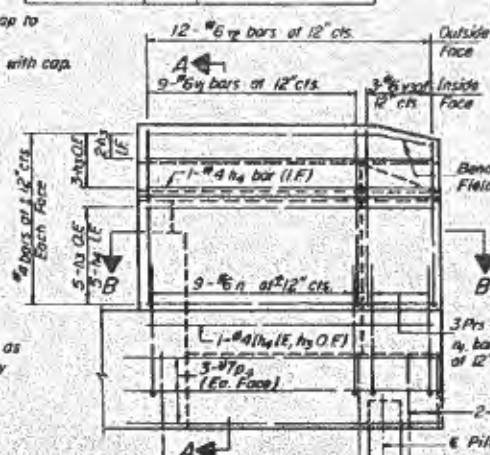
PIER MODIFICATION DETAILS
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 114-BR
VERMILION COUNTY
STA. 69+29.83



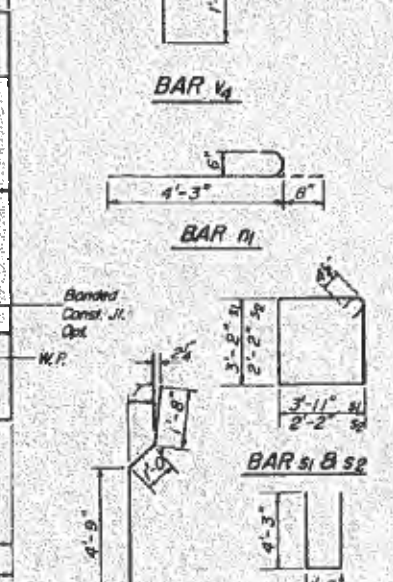
ELEVATION
(Looking East)

SECTION A-A

DESIGNED	RGD
CHECKED	WDC
DRAWN	GB4
CHECKED	WDC



WING WALL ELEVATION
Reinforcement



SEC THRU ARJIT

TOP VIEW-(East Abut. Details Shown)

Diagram of a stepped bar with four segments:

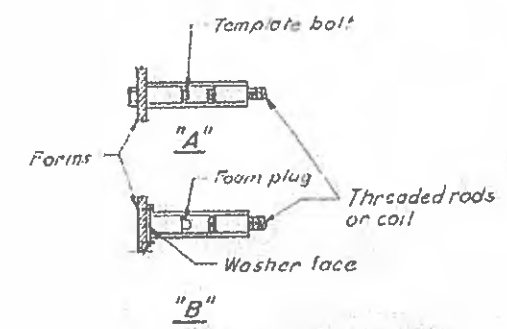
- BAR 1**: Length 5'-6", Diameter 26", Offset 1'-6"
- BAR 2**: Length 4'-0", Offset 3'-0"
- BAR 3**: Length 3'-0", Offset 1'-6"
- BAR 4**: Length 2'-5", Offset 8'-9"

Total length: 14'-3"

BILL OF MATERIAL-2 ABUTS

ABUTMENT DETAILS
F.A.P. ROUTE 709
OVER MIDDLE FORK
VERMILION RIVER
SECTION 114-BR
VERMILION COUNTY
STA. 69+29.83

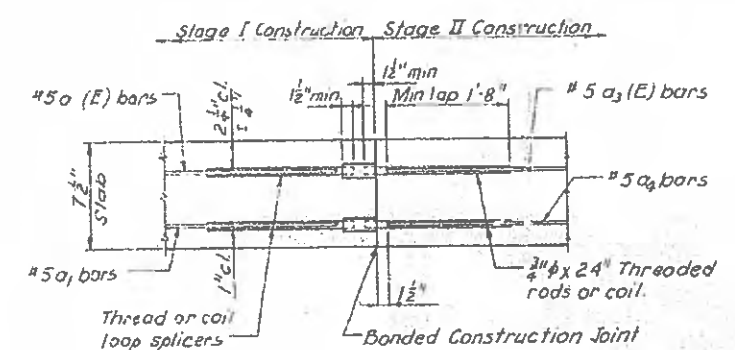
PLAN-PILE CAP



INSTALLATION AND SETTING METHODS
 'A': Set splicer by means of a template bolt.
 'B': Set splicer by nailing to wood forms or cementing to steel forms.



SPLICER ALTERNATIVES



SECTION THRU SLAB

BAR SPLICER DETAILS

Pier & Abut. Caps similar - reinforcement bars & clearance differ.

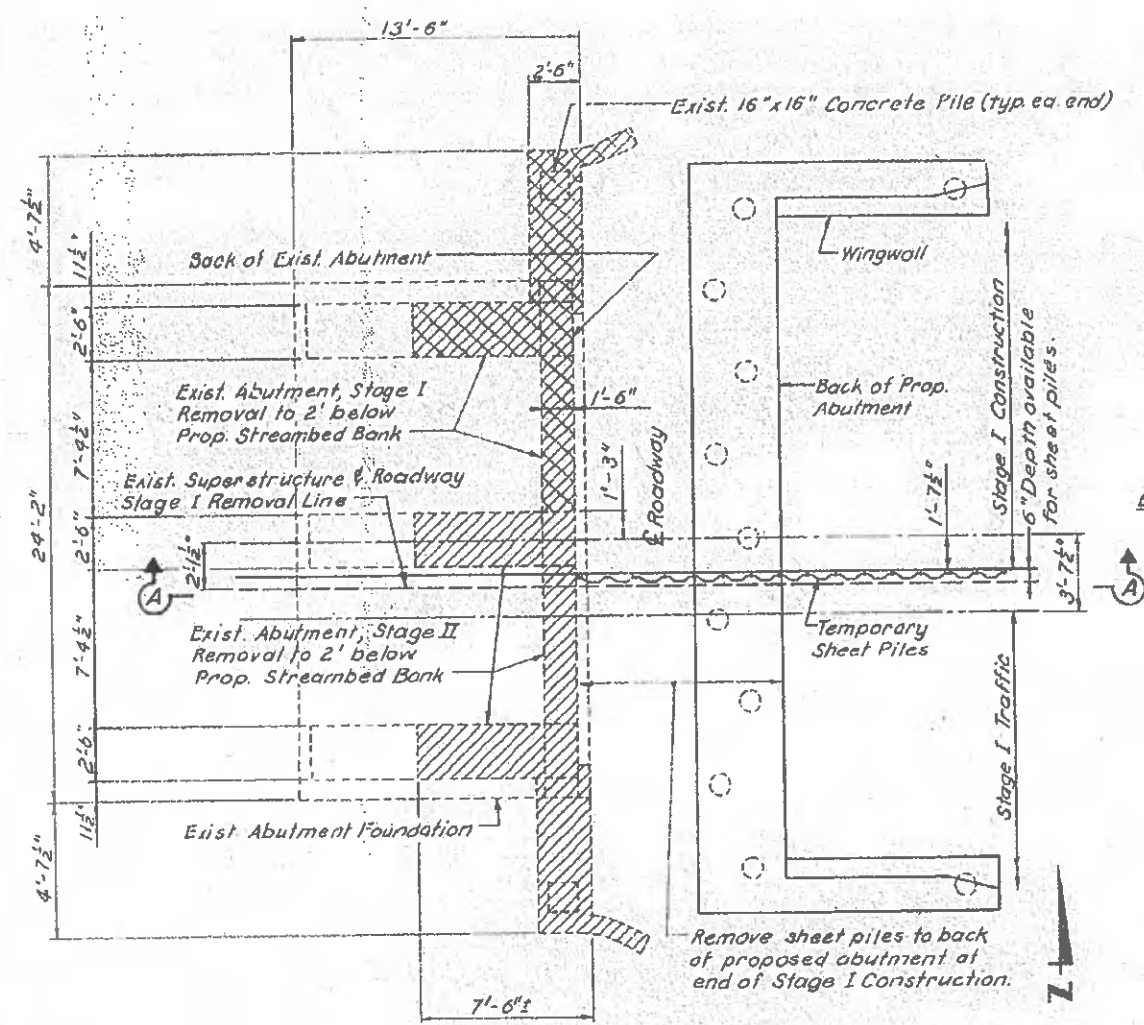
Pier & Abutment Spliced Bars
 Pier: 8-#5 p or p1 bars
 Abut: 8-#7 p2 or p1 bars
 8-#5 h or h5 bars
 4-#6 h, or h6 bars

NOTES

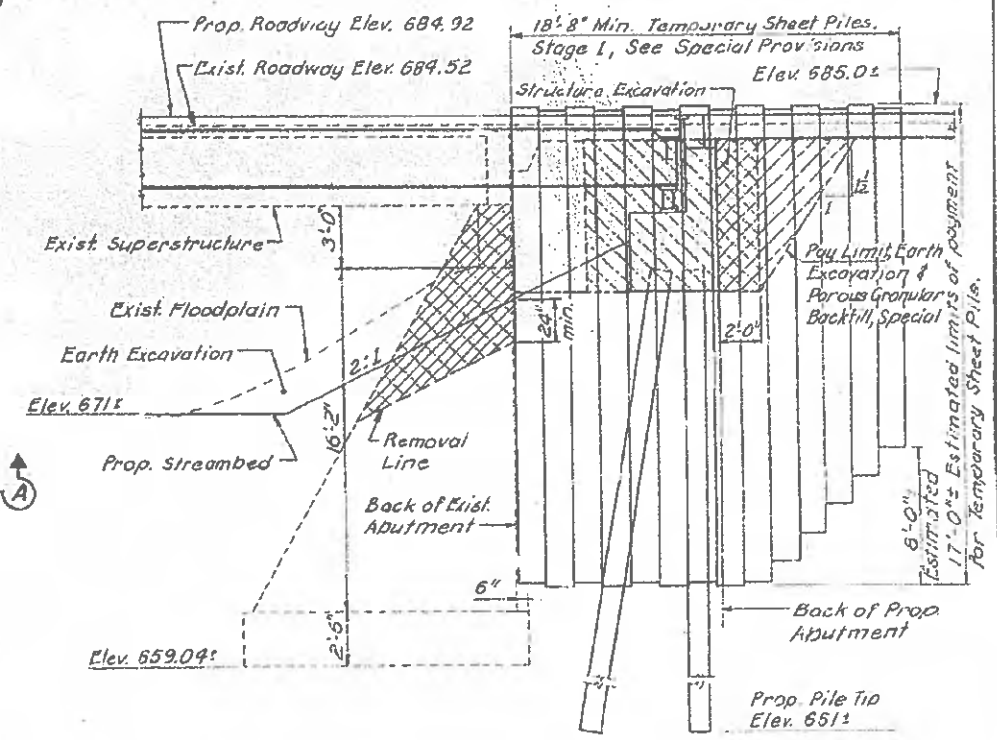
THREADED OR COIL RODS SHALL BE 3/4" STEEL, WITH A MINIMUM YIELD STRENGTH OF 60 KSI.
 SPLICERS SHALL BE OF AN APPROVED TYPE AND SHALL DEVELOP THE FULL TENSILE STRENGTH OF THE THREADED OR COIL RODS (MINIMUM ROOT DIAMETER OF TRENCHES EQUAL TO 0.875").
 THREADED OR COIL RODS SHALL BE THREADED INTO THE SPLICERS A MINIMUM OF 1 1/2".
 SPLICER ASSEMBLIES IN SLAB ONLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS. SPLICER ASSEMBLIES IN PIER NEED NOT BE EPOXY COATED. SPLICER ASSEMBLY MATERIALS SHALL BE AS FOLLOWS:
 SPLICERS: AASHTO M-109
 WIRE CONNECTORS: STEEL ASTM A510 GRADE 1008
 OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED AND GRADE SATISFIES THE FOLLOWING REQUIREMENTS (PER AASHTO):

	#6 BAR	#7 BAR	#8 BAR
MINIMUM CAPACITY (TENSION IN KIPS)	23.0 Kips	33.0 Kips	45.0 Kips
MINIMUM PULL-OUT STRENGTH (TENSION IN KIPS)	9.2 Kips	13.2 Kips	18.0 Kips

TESTS ARE BASED ON 14 DAY COMPRESSIVE STRENGTH OF CONCRETE = 3000 PSI.
 TEST METHOD IS IN ACCORDANCE WITH REINFORCEMENT BARS SPLICED.



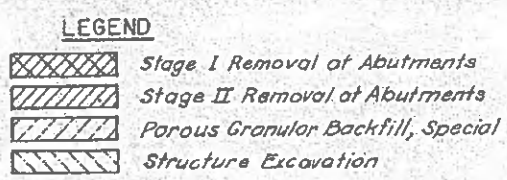
PLAN EAST ABUTMENT
 West Abutment Similar



Notes:
 1. See sh. 13 for additional Exist. Abutment Details.
 2. All exist. abutment concrete including conc. piles above Removal Line shall be paid for as Concrete Removal.

SECTION A-A

TEMPORARY SHEET PILE DETAILS



BILL of MATERIAL

Item	Unit	Quantity
Temporary Sheet Piling	Sq. Ft.	581
Structure Excavation	Cu. Yd.	236
Concrete Removal	Cu. Yd.	31.5
Porous Granular Backfill, Special	Cu. Yd.	215

MISCELLANEOUS DETAILS
 F.A.P. ROUTE 709
 OVER MIDDLE FORK
 VERMILION RIVER
 SECTION 114-BR
 VERMILION COUNTY
 STA 69+29.83

STATE OF ILLINOIS

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

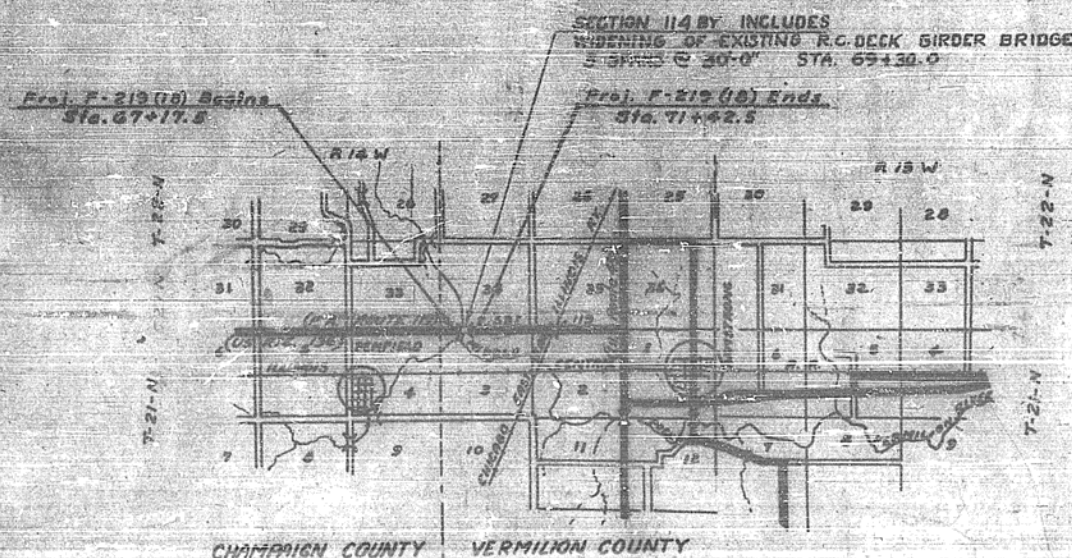
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED

STATE BOND ISSUE HIGHWAY

PLAN 1 INCH = 50 FT.
 PROFILE HOR. 1 INCH = 50 FT.
 PROFILE VERT. 1 INCH = 10 FT.
 CROSS-SECTIONS 1 INCH = 5 FT.

S.B.I. ROUTE 119 SECTION 114 BY VERMILION CO.
PROJECT F-219(18)



SCALE: 1" = 1 MILE (APPROX.)
 1" = 1 MILE (APPROX.)

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
 DIVISION OF HIGHWAYS

SUBMITTED Nov. 8, 1956
C. C. Wiedelich, Jr.

EXAMINED Nov. 9, 1956
R. B. Riddle

APPROVED Nov. 9, 1956
R. B. Riddle

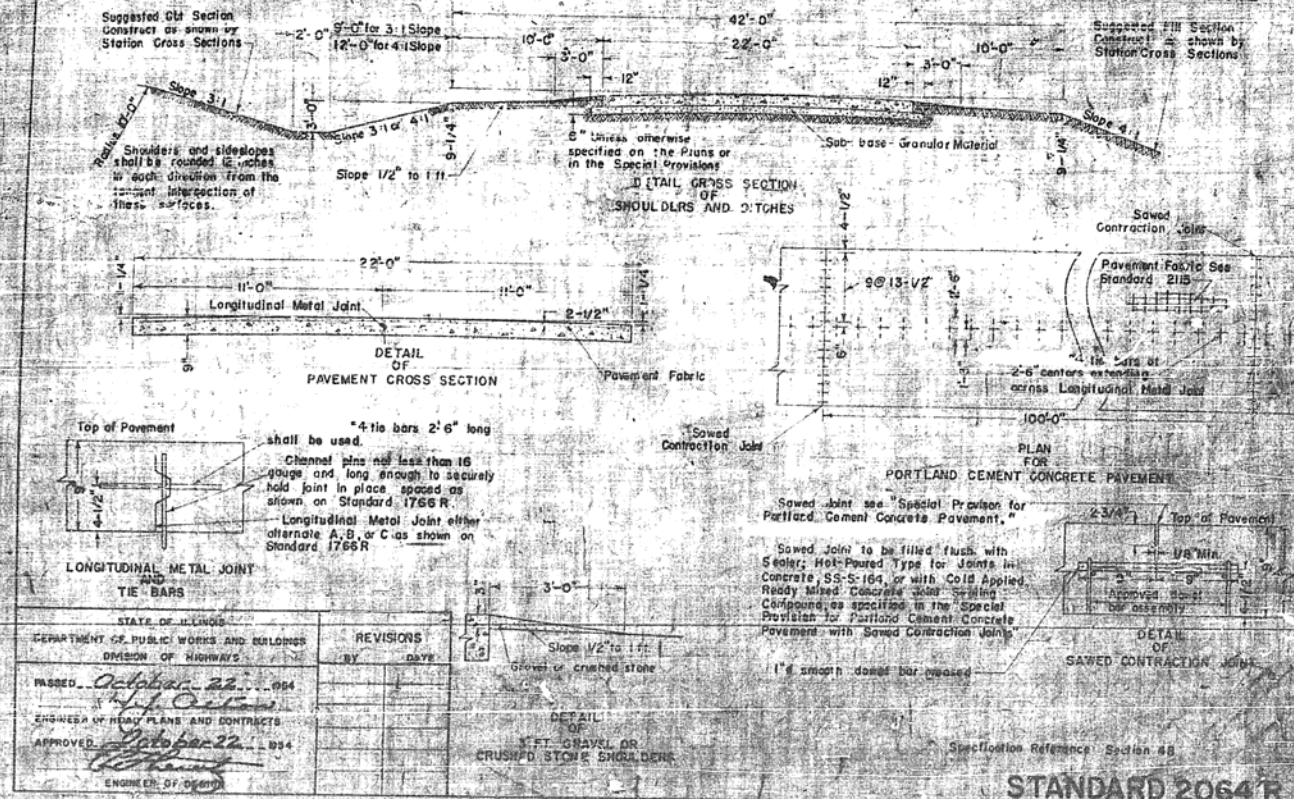
APPROVED Nov. 9, 1956
[Signature]

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

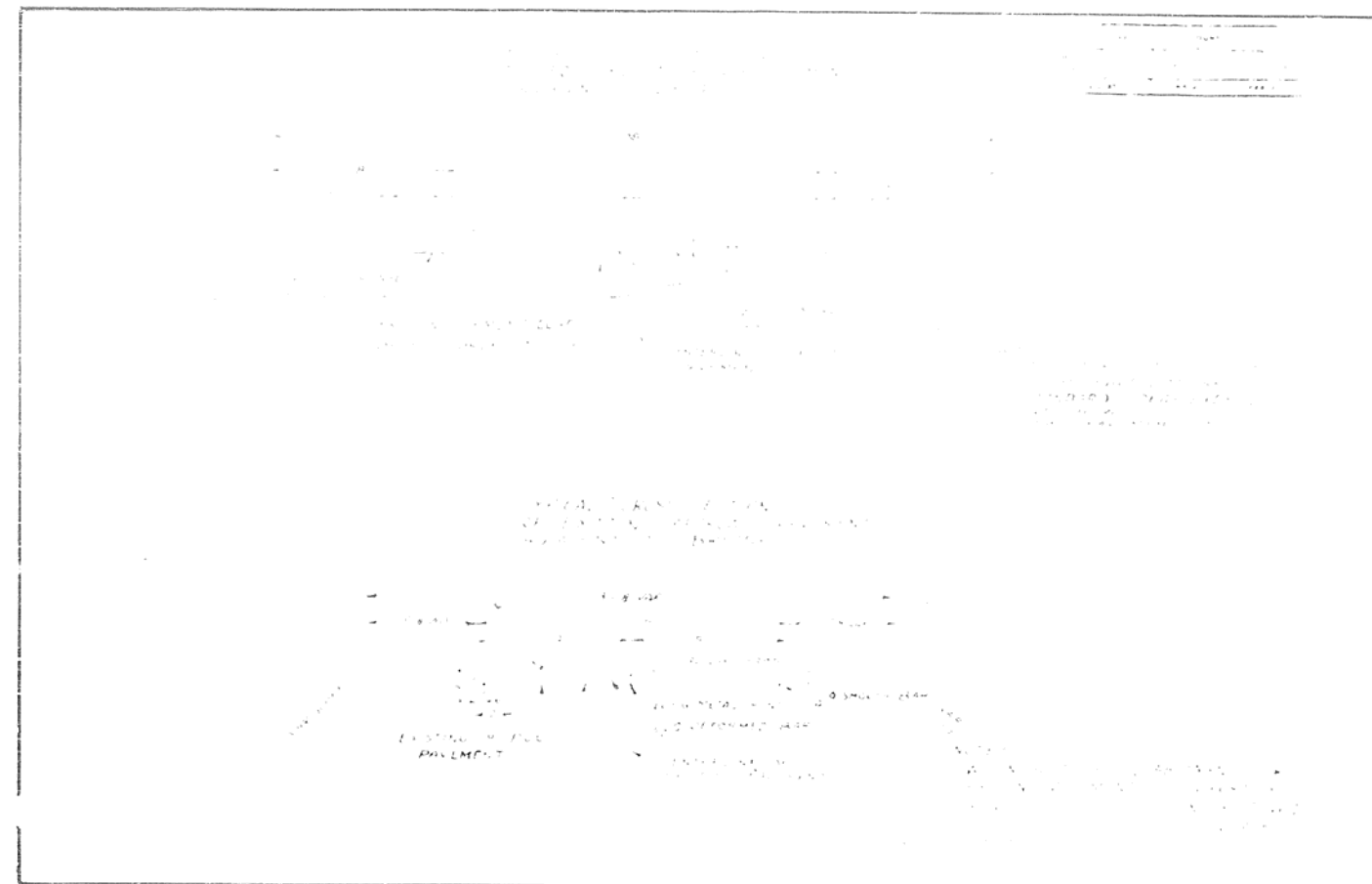
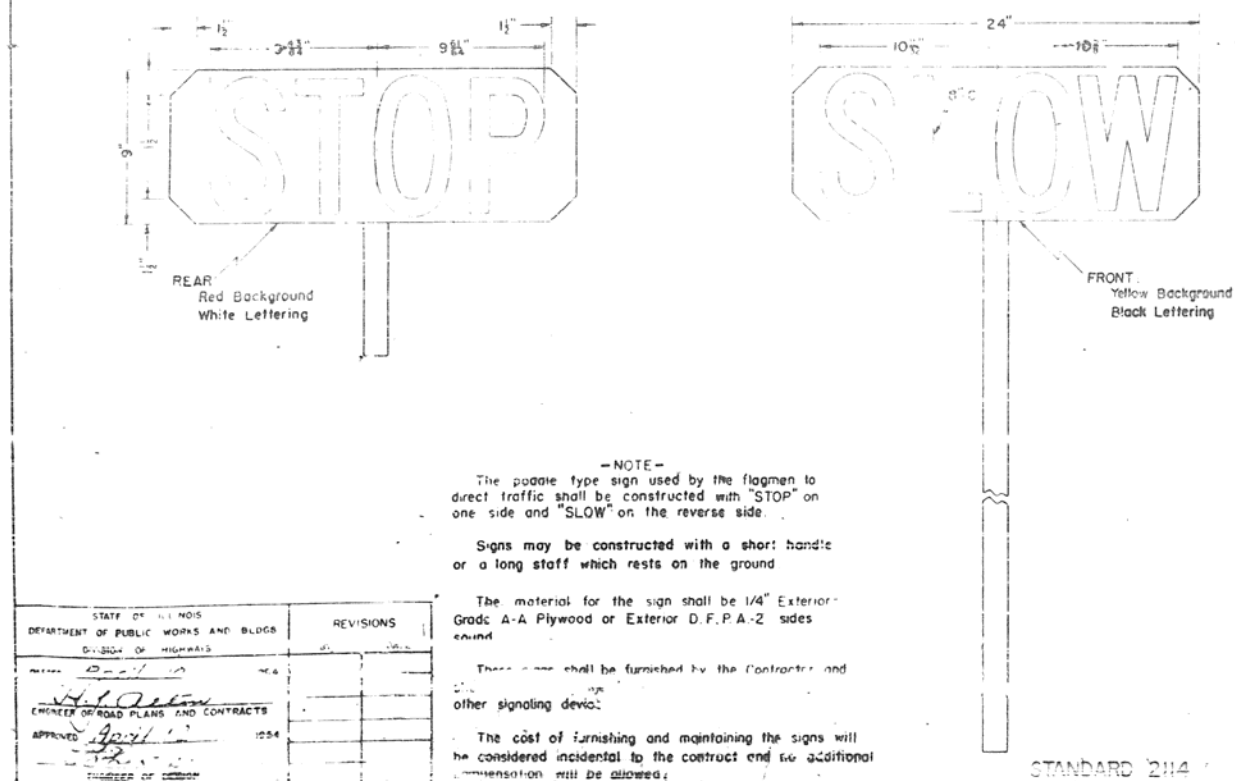
APPROVED _____
 DISTRICT ENGINEER

DATE _____

STANDARD DESIGN FOR 22FT. PORTLAND CEMENT CONCRETE PAVEMENT WITH 10FT. SHOULDERS



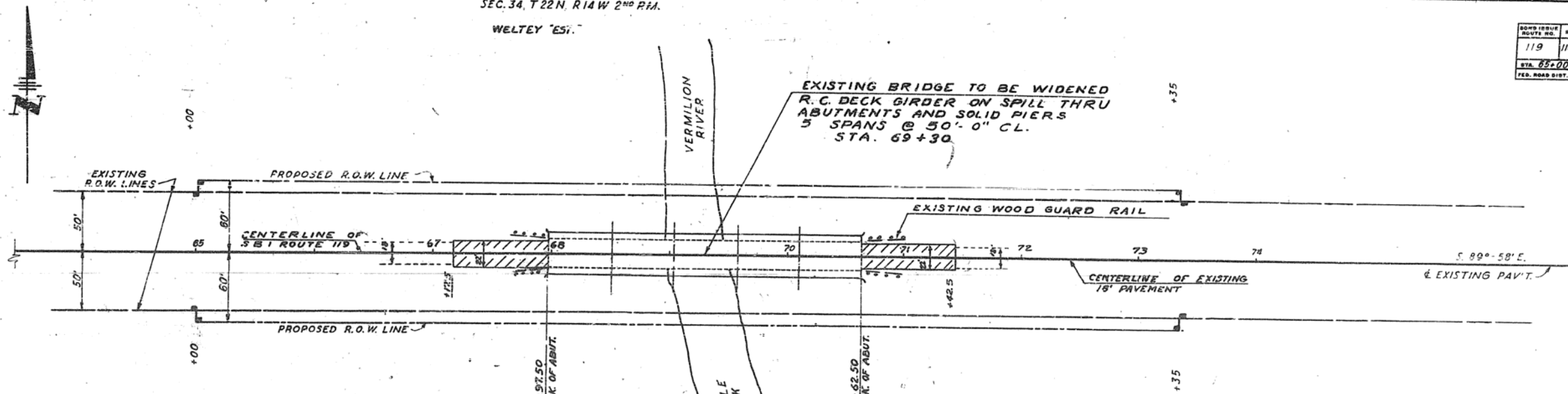
STANDARD DESIGN FOR FLAGMAN TRAFFIC CONTROL SIGN



SEC. 34, T22N, R14W 2ND P.M.

WELTEY "EST."

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	114 BY	VERMILION	11	3
STA. 65+00		TO STA. 74+00		
FED. ROAD DIST. NO. 7		FED. AID PROJECT		



EXISTING WOOD GUARD RAIL TO BE REMOVED
 LT. & RT. STA. 67+64 TO STA 67+96 = 64 LIN. FT.
 LT. & RT. STA. 70+66.5 TO STA 70+98.5 = 64 LIN. FT.
 TOTAL = 128 LIN. FT.

GRAVEL OR CRUSHED STONE SHOULDERS
 TO BE BUILT:
 LT. & RT. STA. 67+17.5 TO 67+97.5 = 35 TONS
 LT. & RT. STA. 70+62.5 TO 70+98.5 = 35 TONS
 TOTAL = 70 TONS

EXISTING PAVEMENT TO BE REMOVED:
 STA. 67+17.5 TO STA 67+97.5 = 160 SQ YDS.
 STA. 70+62.5 TO STA 70+98.5 = 160 SQ YDS.
 TOTAL = 320 SQ YDS.

FURNISHING AND ERECTING
 RIGHT OF WAY MARKERS:
 8 EACH

MARY EFFIE STOVER

SEC. 3, T21N, R14W 2ND P.M.

EXISTING BRIDGE TO BE WIDENED
 R.C. DECK GIRDER ON SPILL THRU
 ABUTMENTS AND SOLID PIERS
 5 SPANS @ 50'-0" CL.
 STA. 69+30

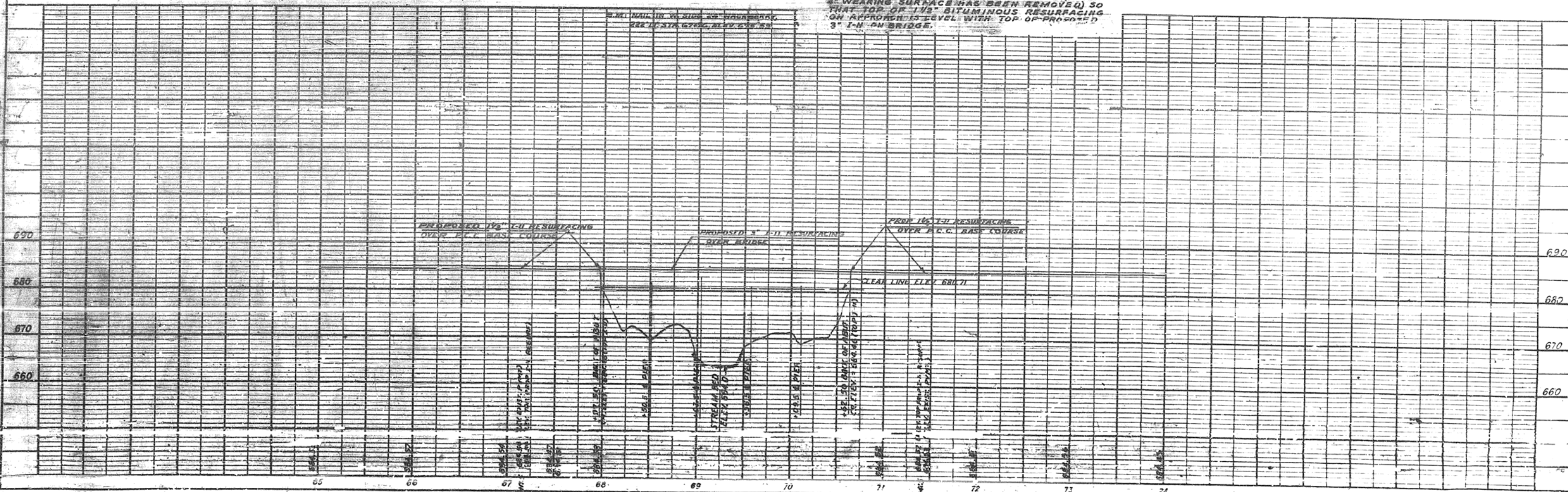
ESTIMATED QUANTITIES FOR RESURFACING
 P.C. CONCRETE BASE COURSE APPROACHES
 31 TONS BITUMINOUS CONCRETE SURFACE
 COURSE, FINE DENSE GRADED
 AGGREGATE TYPE SUBCLASS I-II
 39 GALS BITUMINOUS MATERIAL (PRIME COAT)
 2 TONS AGGREGATE (PRIME COAT) *

* INCLUDES 1.2 TONS AGGREGATE FOR BRIDGE

PORTLAND CEMENT CONCRETE BASE COURSE
 5 INCH (22 FT. WIDE) TO BE BUILT:
 STA 67+17.5 TO STA 67+97.5: 196 SQ YDS
 STA 70+62.5 TO STA 70+98.5: 196 SQ YDS
 TOTAL = 392 SQ YDS.

EARTH EXCAVATION TO CONSTRUCT SHOULDERS
 AND EMBANKMENT TO BE OBTAINED
 WITHIN 1000 FEET EAST AND WEST OF
 THE BRIDGE SITE.
 ESTIMATED QUANTITY = 250 CU. YDS EARTH EXCAVATION

NOTE: CONSTRUCT P.C. CONCRETE BASE COURSE
 1/2" BELOW ELEVATION OF EXISTING PAVEMENT AND 1/2"
 ABOVE ELEVATION OF EXISTING BRIDGE SLAB (AFTER
 WEARING SURFACE HAS BEEN REMOVED) SO
 THAT TOP OF 1/2" BITUMINOUS RESURFACING
 OR AGGREGATE LEVEL WITH TOP OF PROPOSED
 3" I-N ON BRIDGE.



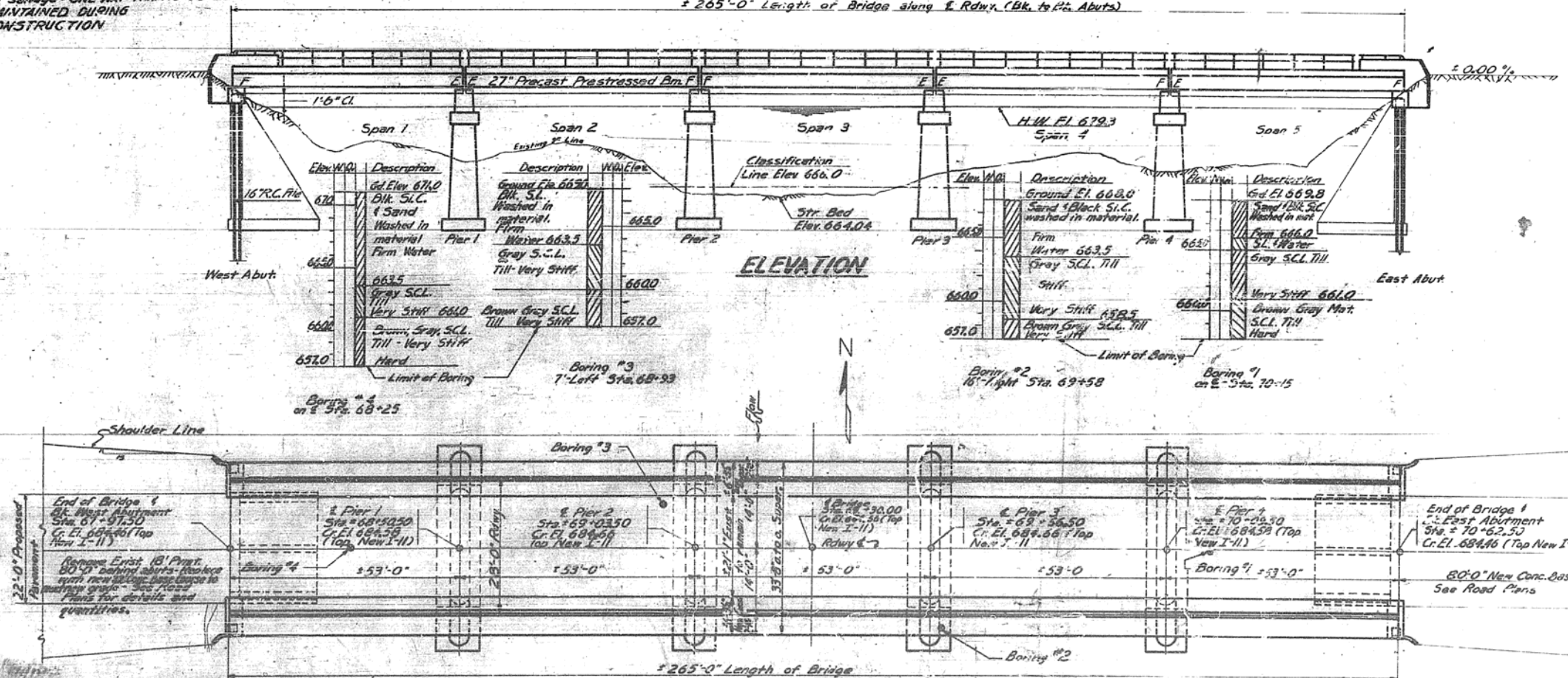
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 119	1148	Vermilion	11	4
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

6 SHEETS

S.M. - Nail in west side of 24" Hackberry tree
222' Lt. of Sta. 67+70 El. 673.33
Existing Struct. R.C.D. Girder 5 spans @ 50'-00" Cl.
22' Rwy. on Conc. Spill thru abuts and solid piers
Portions of superstructure to be removed as
shown on plans.
No change - ONE WAY TRAFFIC TO BE
MAINTAINED DURING
CONSTRUCTION

± 265'-0" Length of Bridge along E. Rwy. (Bk. to Pk. Abuts)

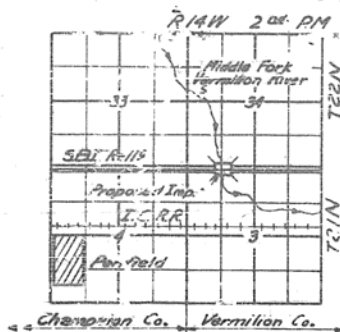


GENERAL NOTES

Class X concrete shall be used thru-out, except in piers and end posts.
Handrail concrete shall be used in the end posts.
Class A concrete shall be used in all piers.
Metal Handrail and structural steel shall receive one shop coat of red lead paint and two field coats of Aluminum paint after inspection by the Illinois Division of Highways. See Art. 57.1 to 57.5 inclusive of the Standard Specs.
All paint shall be furnished and applied by the contractor.
For item "Precast Prestressed Concrete Bridge Deck" see special provisions.
Strand used as prestressing element shall be American Steel & Wire Company's Type R5, Special High Strength Strand for Prestressed Concrete (Stress Relieved - Bright - Twire) or equal.
Pockets that receive transverse tie bars on the outside beams shall be filled with grout after transverse tie assembly is in place.
The following items shall also be included in the unit price bid for "Precast Prestressed Concrete Bridge Deck":
(1) Furnishing and placing of Imbedment hooks and Top Brg. R5 and Expansion Guards and Straps cast in beams.
(2) Furnishing and placing reinforcement bars marked "d" and "g".
(3) Dry packing of longitudinal joints between existing structure and first unit.
Lower bearing R Assembly, lead R5, and anchor bolts shall be furnished and set by the contractor in accordance with Art. 51.14 of the Std. Specs. and are included for payment as Structural Steel.
Header Angles are included for payment as Structural Steel. Estimated weight of Structural Steel is 2,710 lbs.

TOTAL BILL OF MATERIALS

ITEM	Super	Substr	Total
Precast Prestressed Conc. Bridge Deck	Sq. Ft. 3175		3175
Class X Concrete	Cu. Yds. 58.5	6.8	65.3
Class A Concrete	Cu. Yds.	141.0	141.0
Handrail Concrete	Cu. Yds. 3.1		3.1
Reinforcement Bars	Lbs. 3400	5610	9010
Structural Steel	Lbs. 2,710		2,710
Metal Handrail	Lin. Ft. 530		530
Concrete Removal	Cu. Yds. 183		183
Class A Exc. for structures	Cu. Yds.	130	130
Class B Exc. for structures	Cu. Yds.	240	240
16" Precast Conc. Piles	Lin. Ft. 75		75
Test Piles (16" Precast Conc.)	Eq.	1	1
Expansion Bolts	Eq.	166	166
Bituminous Conc. Surf. Coat I-II Tons	61		61
Bituminous Conc. Bit. for Grd. Tons	67		67
Bituminous Materials (Prime Coat) Gal.	81		81
Name Plate	Each	1	1
Wood Guard Rail Removal	Lin. Ft.		128



LOCATION SKETCH

WATERWAY INFORMATION
Drainage Area 131,000 Ac. ±
Character Level, r.m. Cell Paved
Present Opening 2232' ±
Required Opening 2200' ±
Proposed Opening 2232' ±
(30 Year Flood Frequency)

DESIGN STRESSES
PRECAST PRESTRESSED UNITS
16" 3000 psi fci 4000 psi
16" 250,000 psi (Cables) fci 160,000
16" 18,000 psi (Struct)
FIELD UNITS
16" 1400 psi (Super) fci 22,000 psi (Reinfd)
16" 800 psi (Sub) fci 18,000 psi (Struct)
n=10

STATION 69+30.0
BUILT 195 BY
STATE OF ILLINOIS
SBI RT. 119 SEC. 114 BY
P.A. FROM F. 219 (10)
LOADING H-20-44
NAME PLATE DATA
(See Std. 2113)

GENERAL PLAN & ELEVATION

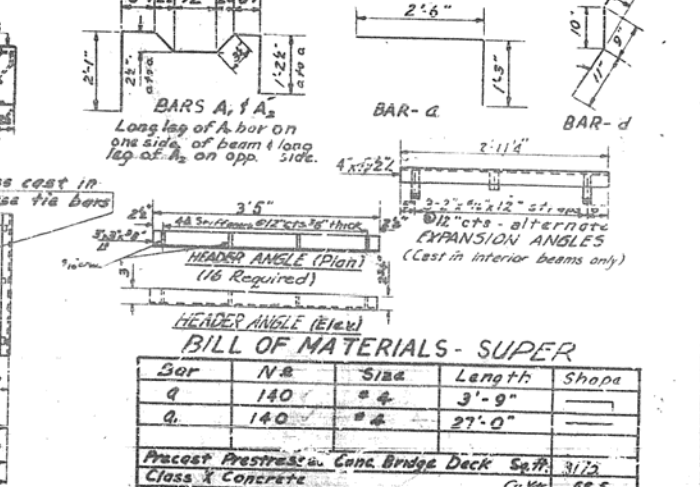
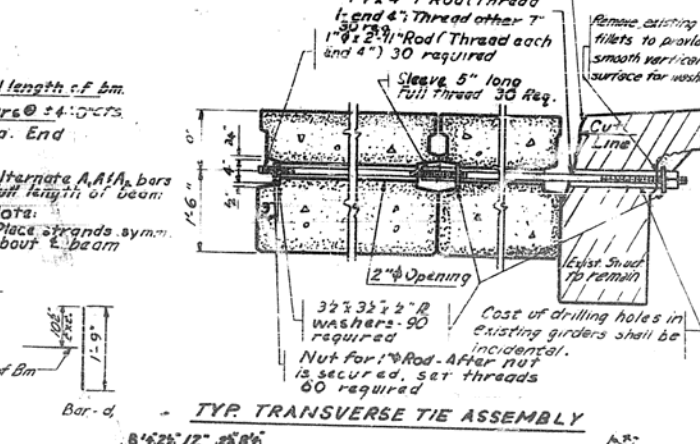
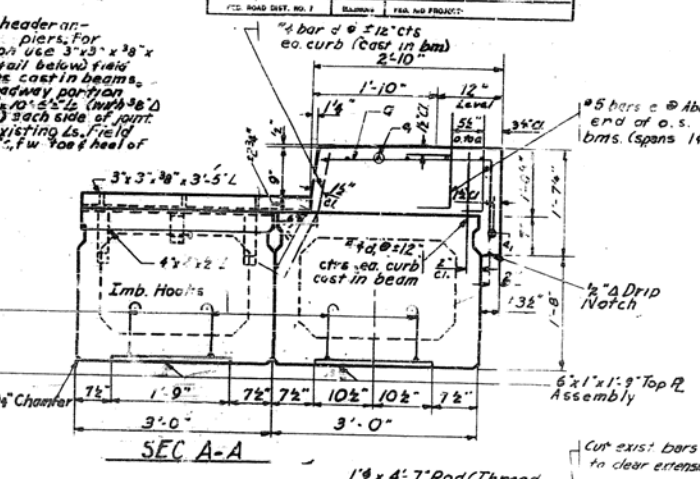
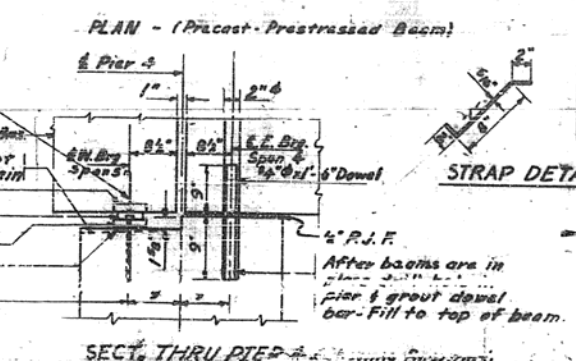
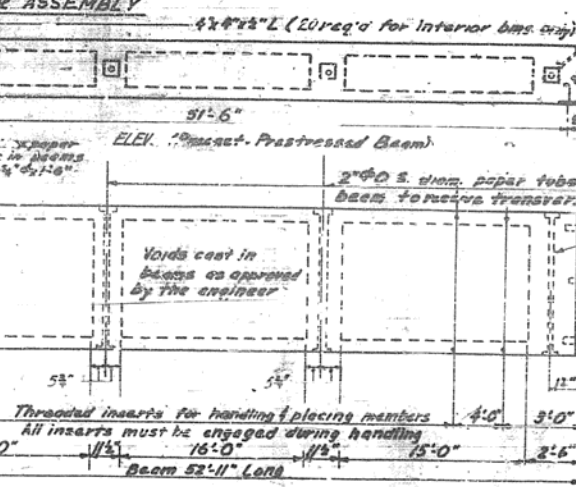
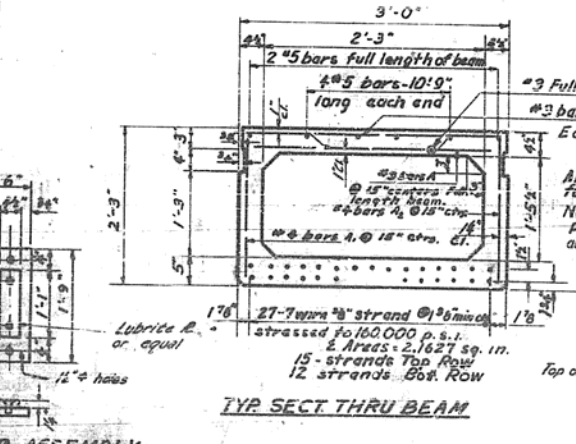
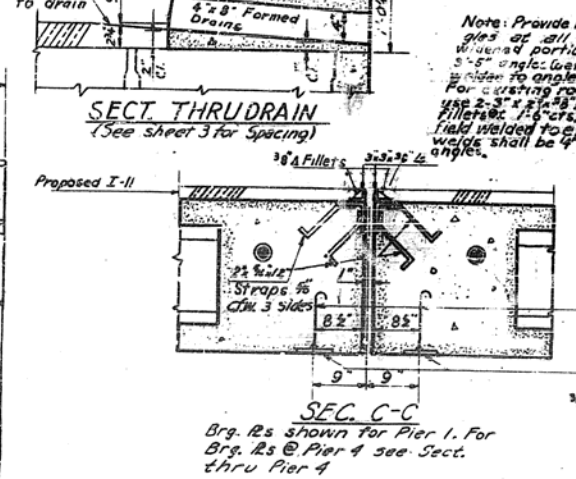
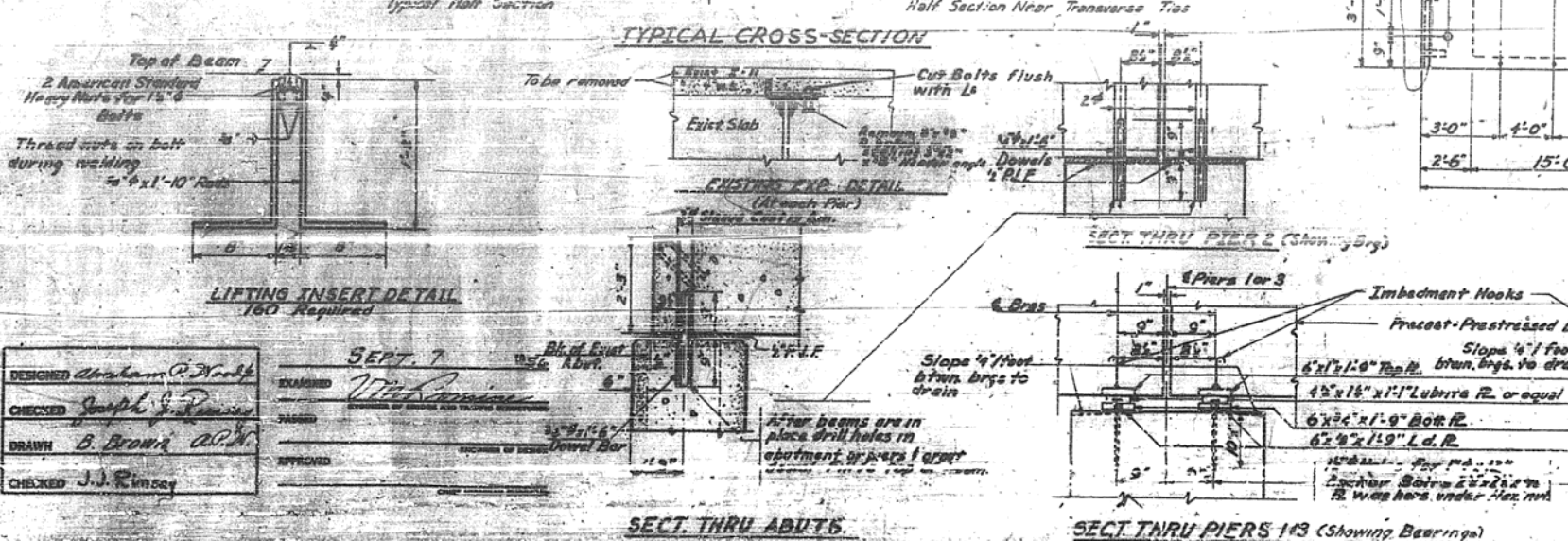
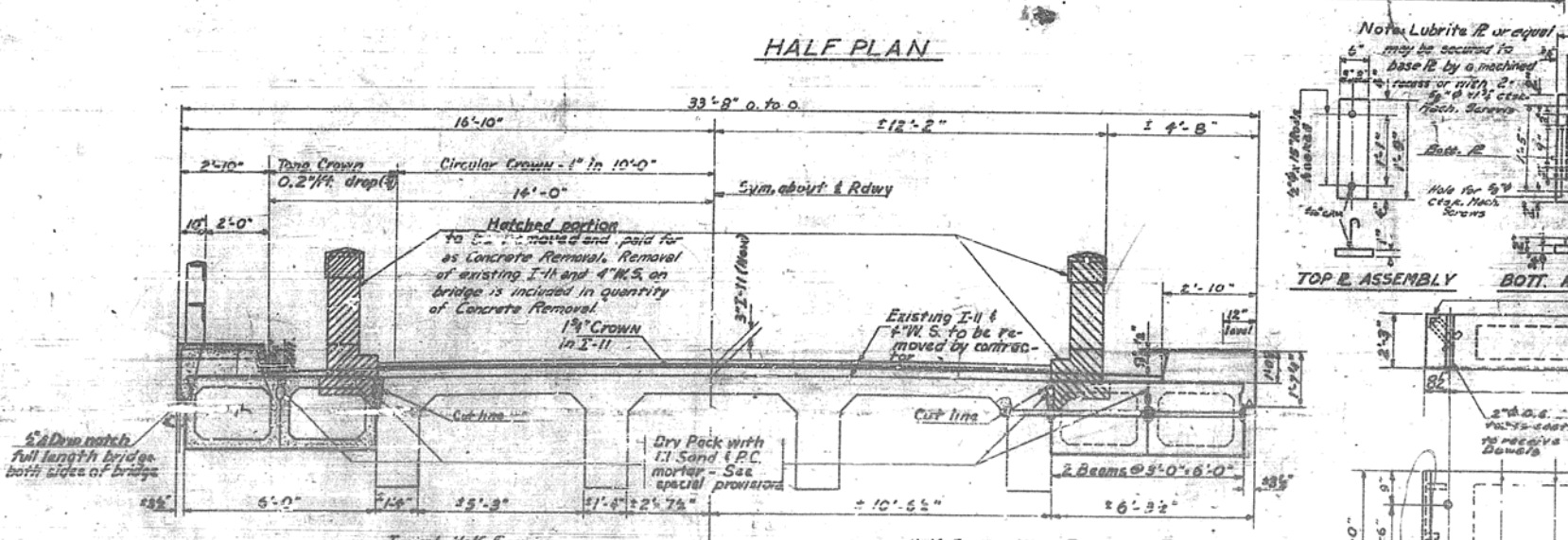
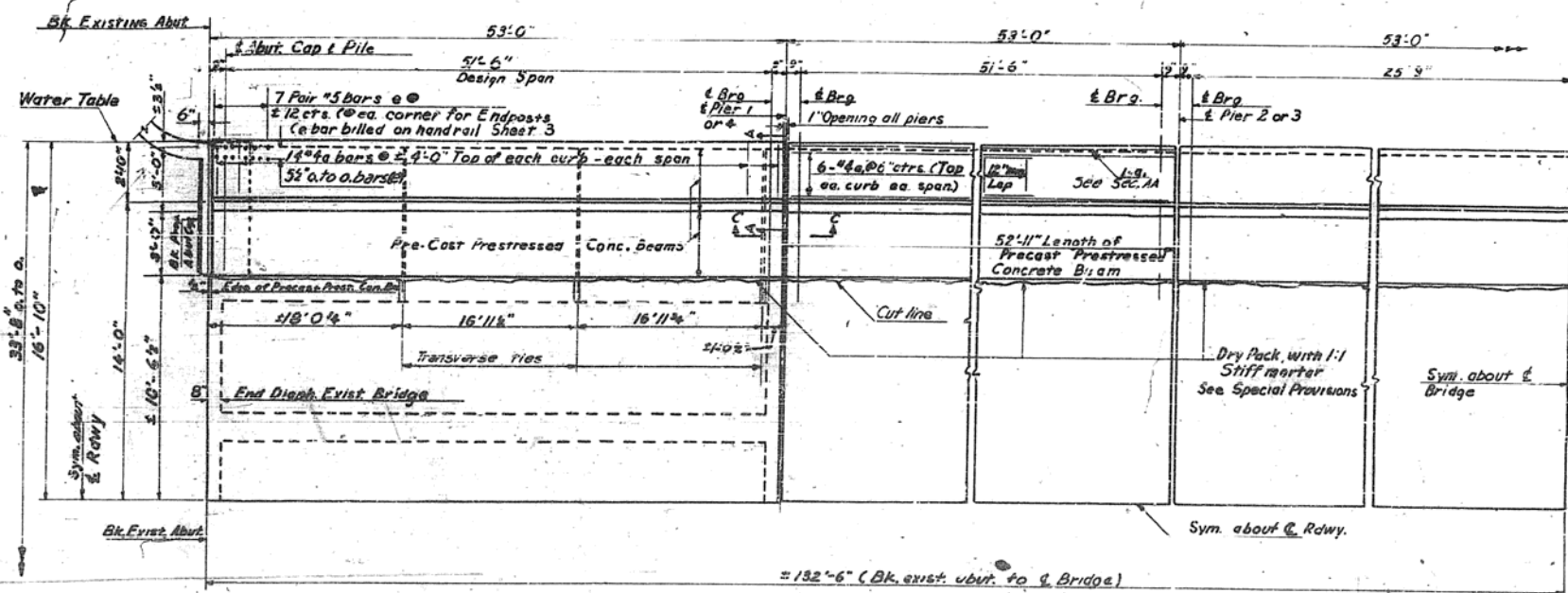
BRIDGE OVER
MIDDLE FORK OF VERMILION RIVER
SBI RT. 119 SEC. 114 BY
VERMILION COUNTY
STA 69+30.00

LOADING H-20-44

Revised Nov. 28, 1956, A.R.N.
Checked Nov. 28, 1956, J.A.P.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJECT NO. 114-81
SHEET NO. 2
SHEETS 6



SUPERSTRUCTURE
BRIDGE OVER MIDDLE FORK
OF VERMILION RIVER
S.B.I.P. 119-SEC. 114-81
VERMILION COUNTY
STATION 69+30.00

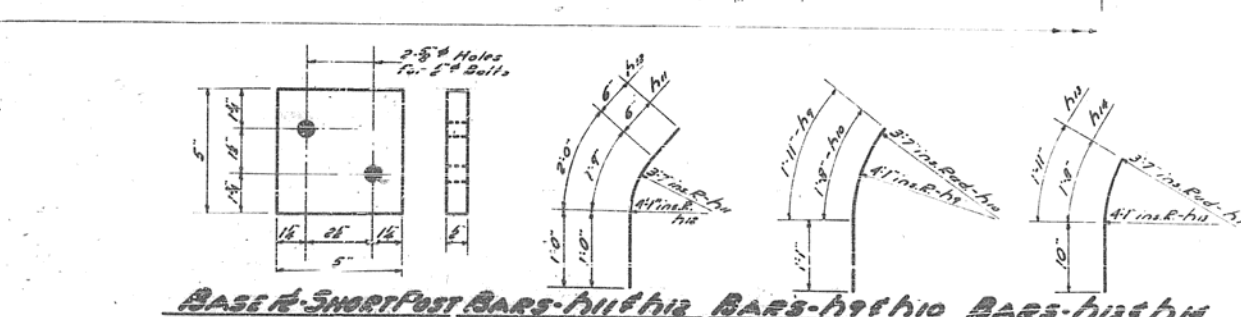
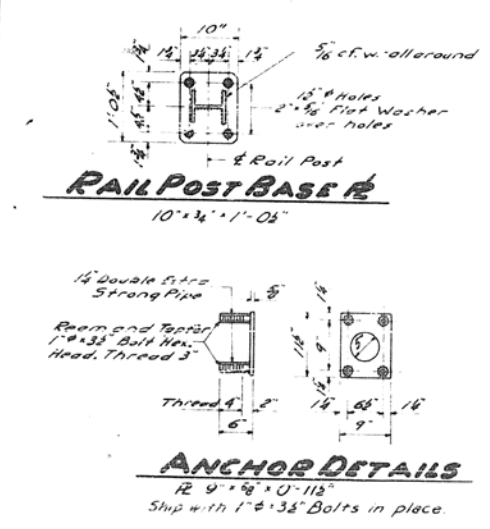
DESIGNED: Abraham P. Hark
CHECKED: Joseph J. Ramsey
DRAWN: B. Brown, A.P.N.
CHECKED: J. J. Ramsey

SEPT. 7
APPROVED: [Signature]
[Signature]

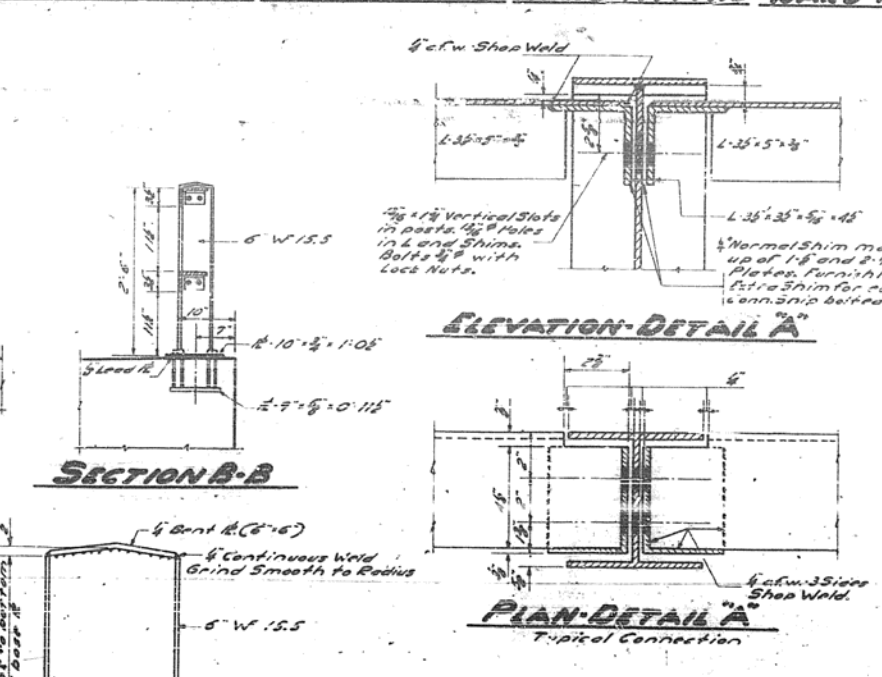
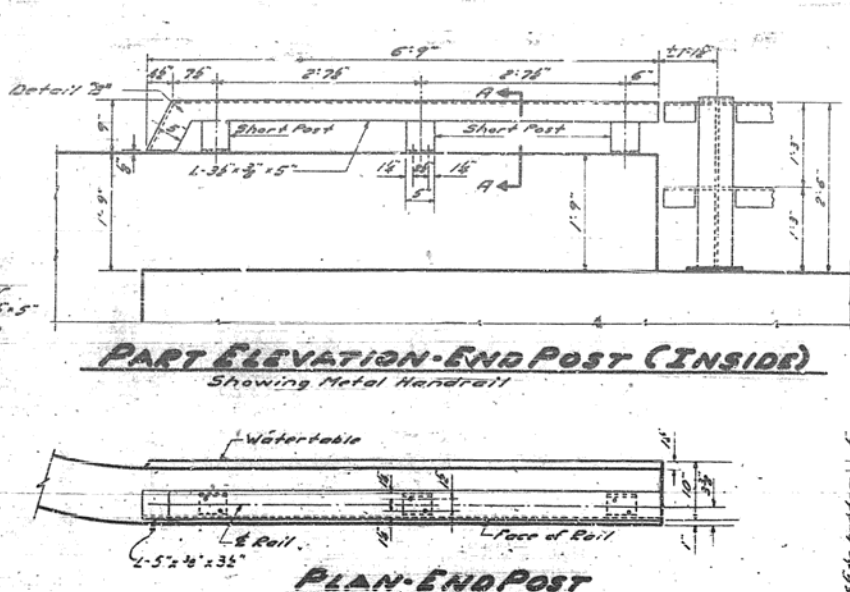
Revised - Nov. 28, 1956. G.R.T.
Checked - Nov. 28, 1956. J.G.E.

ROUTE NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
E.A. 119	114-BY	Vermilion	11	6
FED. ROAD DIST. No. 7		FED. AID PROJECT		

SHEET NO. 6
6 SHEETS



BILL OF MATERIAL-PAV				
BAR	NO	SIZE	LENGTH	SHAPE
6	56	#5	2'-9"	U
61	32	#5	4'-9"	U
h9	16	#4	3'-0"	U
h10	16	#4	2'-9"	U
h11	4	#4	3'-3"	U
h12	4	#4	3'-6"	U
h13	4	#4	2'-9"	U
h14	4	#4	2'-6"	U
h15	24	#4	6'-6"	U
Handrail Concrete			Cu Yds.	3.1
Reinforcement Bars			Lbs.	540
Metal Handrail			Lbs. Pl.	530



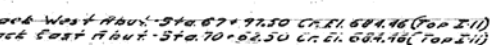
Note: Lin. ft. of Metal Handrail shall be measured end to end of top rail.
Anchor Bolts on concrete end posts shall be included in Cost of Lin. ft. of Metal Handrail.

HANDRAIL
BRIDGE OVER MIDDLE FORK
OF VERMILION RIVER
S. B. T. R. 119-SEC. 14-B-Y
VERMILION COUNTY
STA. 69+30.00

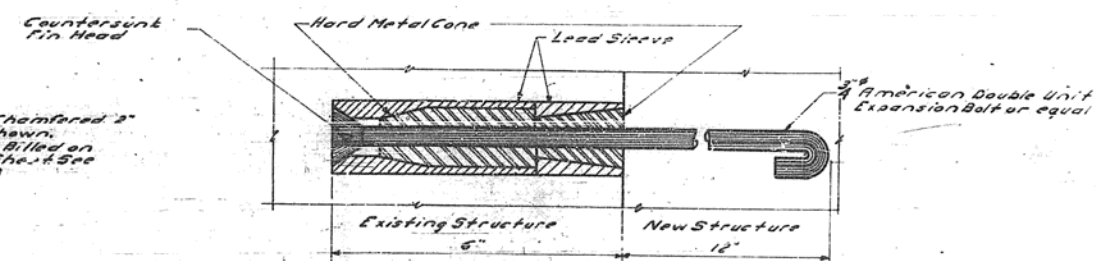
DESIGNED <i>William P. Wall</i>	EXAMINED <i>W. P. Wall</i> CHIEF OF POLICE AND CHIEF OF STRATEGY
CHECKED <i>Joseph J. Kimsa</i>	PASSED <i>W. P. Wall</i> CHIEF OF POLICE
DRAWN <i>W. P. Wall</i>	APPROVED <i>W. P. Wall</i> CHIEF OF POLICE
CHECKED <i>J. J. Kimsa</i>	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E. L. 119 F. A.	114-BY	Vermilion	11	7
FED. ROAD DIST. NO. 1		BLINDS	FED. AIR MAILING	

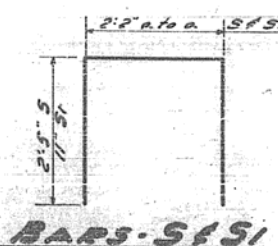
SHEET NO. 7
6 SHEETS



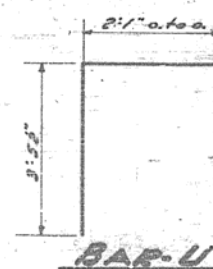
HALF PLAN



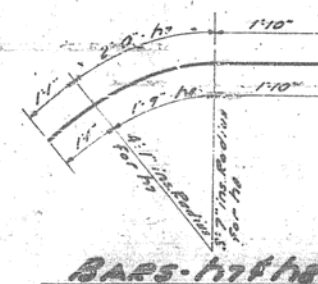
DETAIL OF EXPANSION BOLT



BARB-S-51



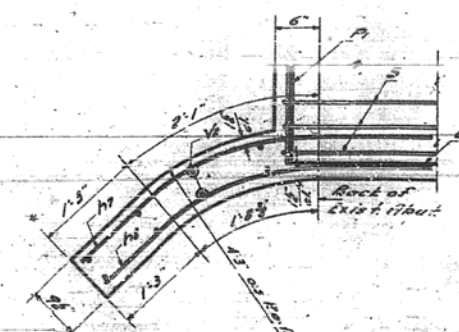
BAR-U



BAR5-4744

HAIR ELEVATION

West & East Route
E1.659.04



Section Two Wins

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
A7	12	#6	4'-11"	—
A8	12	#6	4'-8"	—
V6	32	#4	3'-9"	—
P	4	#7	5'-0"	—
P1	20	#7	5'-9"	—
P2	16	#7	3'-0"	—
S	28	#4	7'-0"	□
S1	28	#4	8'-0"	□
U	16	#6	9'-0"	□

Class X Concrete	Cu. Yds.	6.4
Reinforcement Bars	Lbs.	1050
Expansion Bolts	Ea.	16
Precast Concrete Piles-16" Lin. Ft.		75
Cast Piles-Precast Conc. 16"	Ea.	1
Class H Excav. for Structures	Cu. Yds.	34

ADJUSTMENTS
BRIDGE OVER MIDDLE FORK OF
VERMILION RIVER
C. & F. E. - 117.55 - 118.5
VERMILION COUNTY
STATION 69+30.00

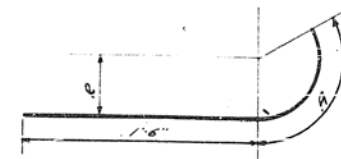
DECLASSIFIED	5807.1	056
BY: <i>William P. Hall</i>	EXAMINED	<i>W. K. Rine</i>
DATE: <i>June 1, 1994</i>	REVIEWED	<i>W. K. Rine</i>
APPROVED	REASON	<i>W. K. Rine</i>
<i>J. J. Roth</i>	APPROVED	<i>W. K. Rine</i>
DATE: <i>June 1, 1994</i>		

Pile Data	
16" Precast Concrete Piles	
No. Required	4 (Circle Test Pile)
Capacity	30 Tons
Est. Length	25'-0"
Test Pile	1

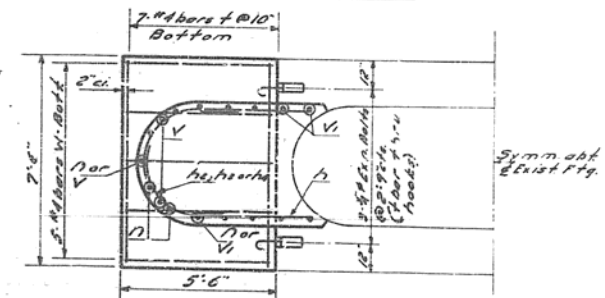
The Contractor shall drive One Test Pile in a permanent pile location, as directed by the Engineer, before casting remaining piles.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	114 BY	Vermilion	11	8
FED. ROAD DIST. NO. 1		BLANKS	FED. AID PROJECT	

SHEET NO. 5
OF SHEETS



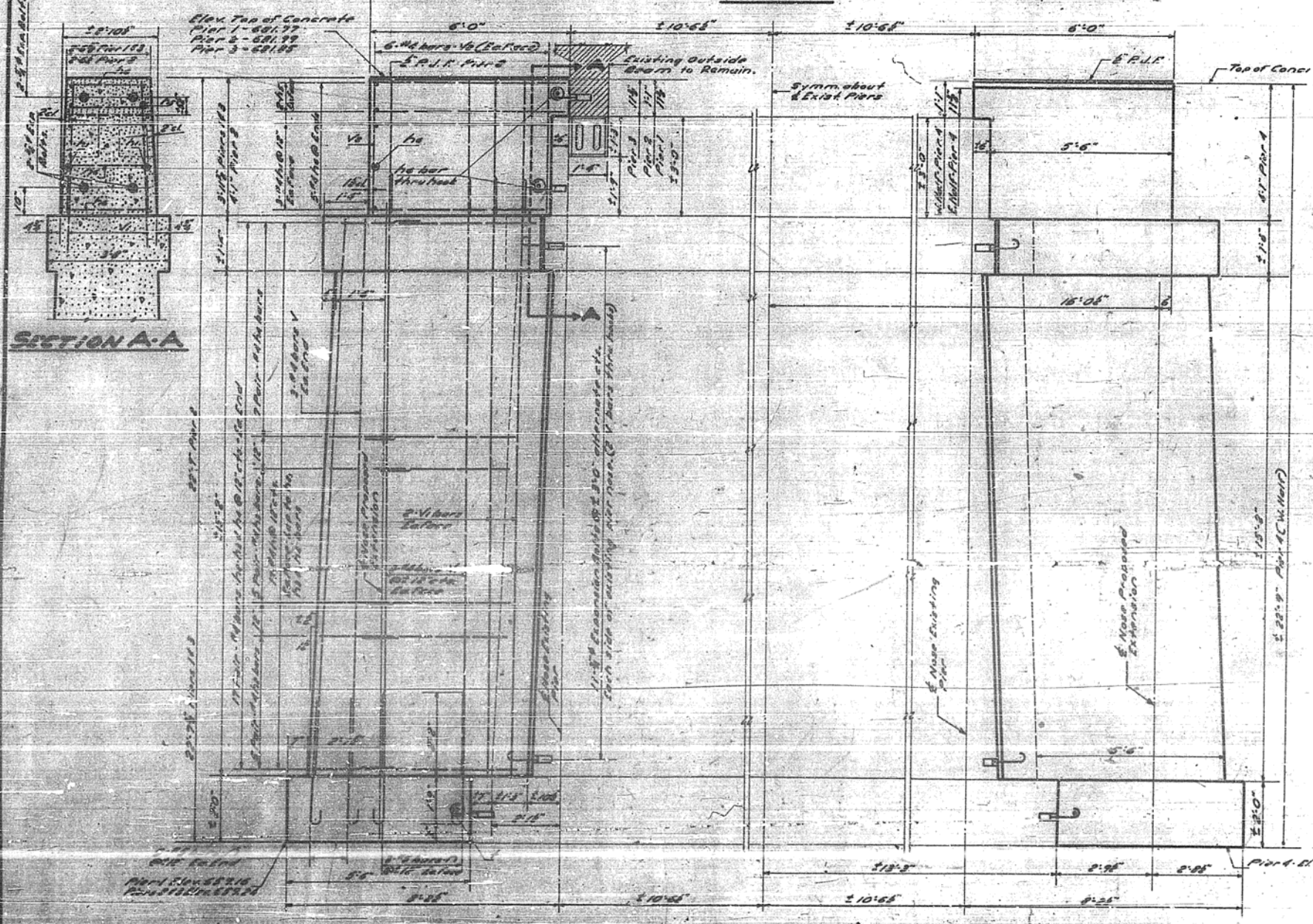
BAR	R	A
h ₂	1' 10"	3' 6"
h ₃	1' 7 1/2"	3' 3"
h ₄	1' 5"	2' 9"



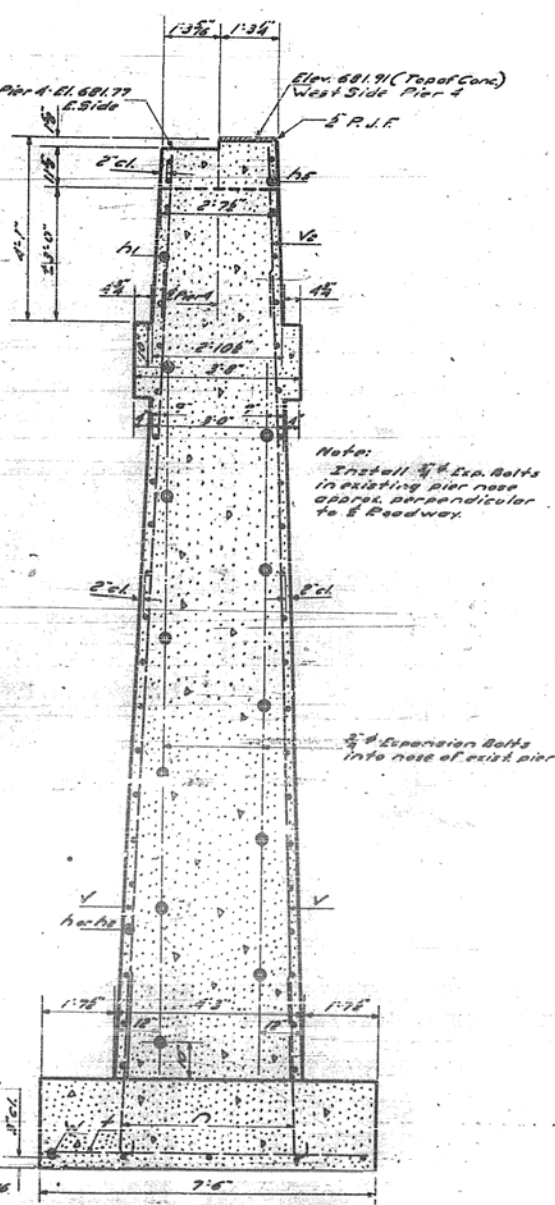
FOOTING PLAN

BILL OF MATERIAL-4 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
A	272	#4	4'-6"	—
A1	48	#4	5'-9"	—
A2	80	#4	5'-0"	—
A3	80	#4	4'-9"	—
A4	112	#4	4'-3"	—
A5	32	#4	5'-9"	—
A6	56	#4	2'-5"	—
V	40	#4	16'-6"	—
V1	90	#4	18'-0"	—
V2	104	#4	3'-9"	—
7	88	#5	4'-6"	—
#	64	#4	7'-3"	—
W	40	#6	5'-3"	—
Class A Concrete			Cu Yds.	141.0
Reinforcement Bars			Lbs.	4,550
Class A Excav for Structures Cu Yds.				96
Class B Excav for Structures Cu Yds.				240
Expansion Bolts			Ea.	144



TYPICAL SECTION



TYPICAL SECTION

ELEVATION-LOOKING WEST

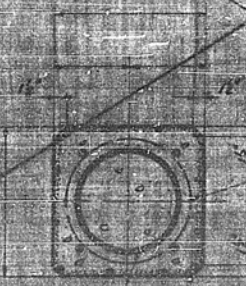
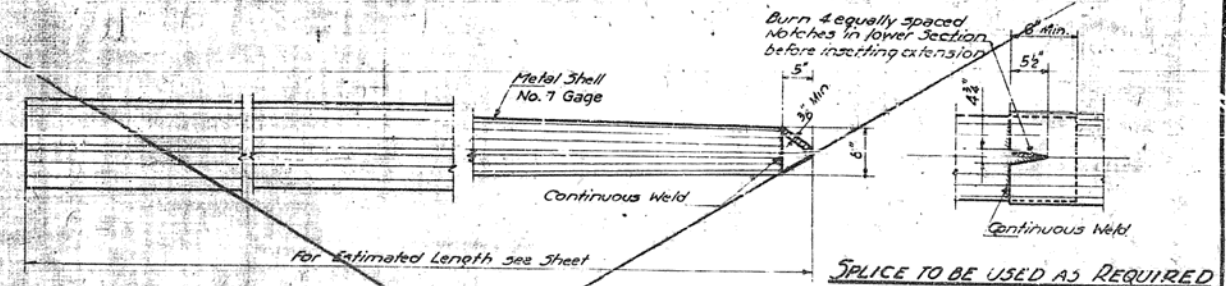
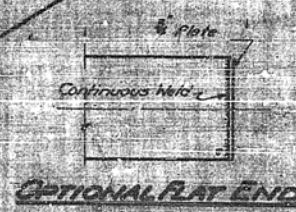
DESIGNED	<i>Abraham D. Koff</i>	VERSION	<i>27th June</i>
CHECKED	<i>Joseph J. Roney</i>	ISSUED	<i>27th June</i>
DRAWN	<i>C.R.T. E. Puller</i>	APPROVED	<i>John J. Roney</i>
CHECKED	<i>J.J. Roney</i>		

Reinforcement same for all Piers
Dimensions same for all Piers
except as noted.
See Sheet 4 for Expansion Bolt
detail.

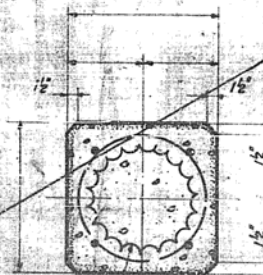
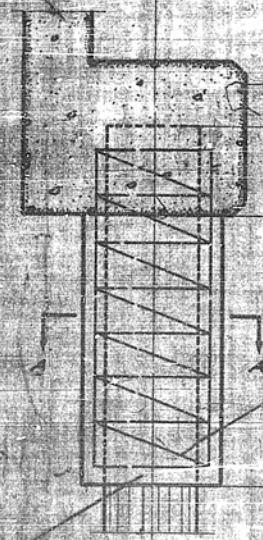
PIERS
BRIDGE OVER MIDDLE FORK
OF VERMILION RIVER
S.B.T.P. 119 S.E.C. 114 B-Y
VERMILION COUNTY
STATION 67+30.00

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
119	114-BY	Vermilion	11	9	6 SHEETS
DESIGN NO.	119-BY	REVISIONS	NO. 1	DATE	NO. 1



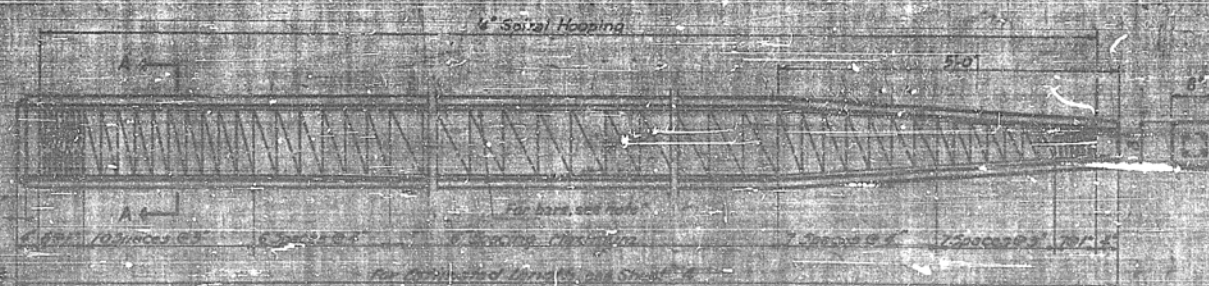
ALTERNATE A
DETAIL OF SPIRALLY WELDED STEEL SHELL
FOR CAST IN PLACE CONCRETE PILES



- ALLOWABLE TAPERS
- 1. Taper 1/4" for 1' for Cylindrical Section Extension
 - 2. Taper 1/4" for 1' for Cylindrical Section Extension
 - 3. Taper 1/4" for 1' for Cylindrical Section Extension

Diagonal #2 Wire 6" Pitch
2 extra turns top and bottom
4 #4 Tie Bars. The cost of Class A Concrete Encasement and Reinforcement is incidental to the cost of furnishing Piles.

ALTERNATE B
DETAIL OF METAL SHELL FOR
CAST IN PLACE CONCRETE PILES



DETAIL OF PRECAST CONCRETE PILES

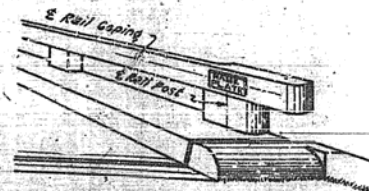
FILE DETAILS
BRIDGE OVER MIDDLE FORK
OF VERMILION RIVER
S.B.I. RT. 119 - SEC. 114B-Y
VERMILION COUNTY
STA. 69+30

SEPT. 7, 1934

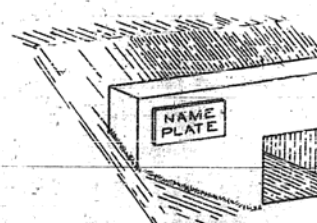
DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS
DIVISION OF HIGHWAYS

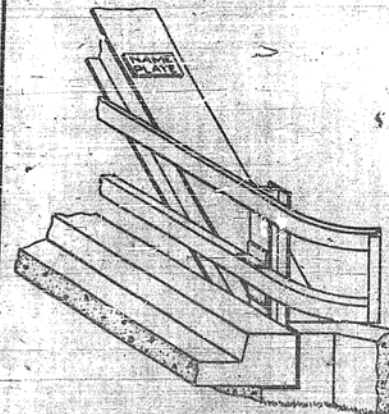
Sheet 1 of 1



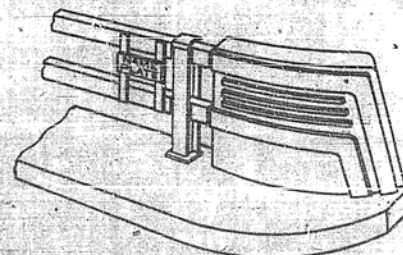
FOR CONCRETE RAILS



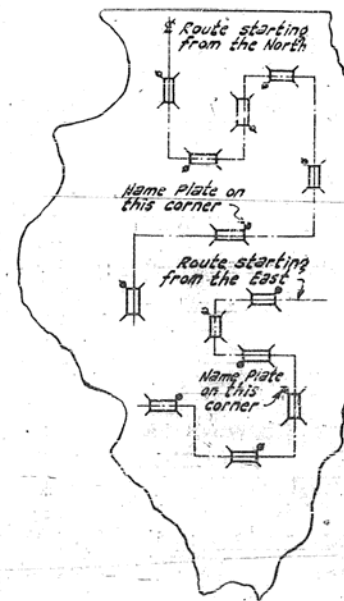
FOR CULVERT HEADWALLS



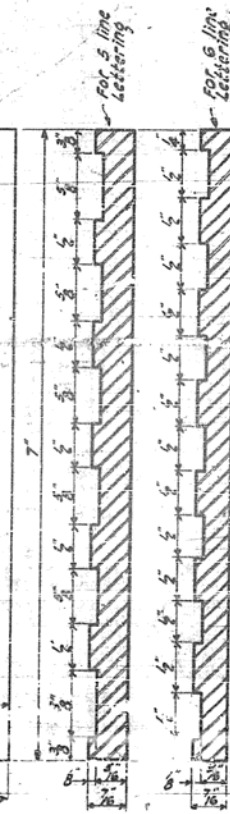
FOR TRUSSES



FOR STEEL RAILS



SEE DESIGN PLANS
FOR
LETTERING



SEC. A-A

DETAIL OF
NAME PLATE FOR BRIDGES

STD. No. 2113

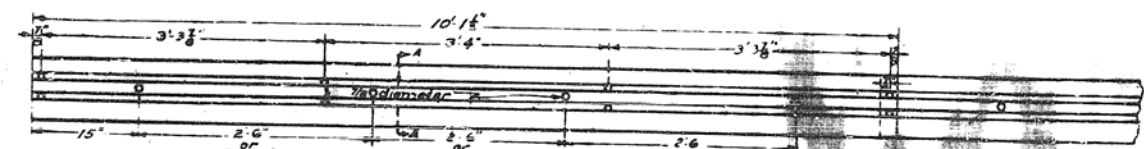
MATERIAL: Best quality brass or bronze.
BORDER: LETTERING: Raised & inch. Square cut and not tapered. Top surface polished.
FOR CONCRETE RAILS, CULVERT HEADWALLS, TRUSSES, STEEL RAILS, STEEL TRUSS SPAN: Plate to be fastened on steel member at fabricating shop by being around entire perimeter of plate.
FOR STEEL TRUSS SPAN: Plate to be centered on 4" of rail post and 8" of handrail coping.
FOR STEEL RAILS: Plate to end post about five feet above roadway.
FOR SUBWAYS: See design plans for location.

DRAWN: March 4, 1937
W. B. Hanson
ENGINEER OF BRIDGE & TRAFFIC STRUCTS
CHECKED: E. P. H.
ENGINEER OF DESIGN
APPROVED: H. J. B.
CHIEF, HIGHWAY ENGINEER

2-27-53-J.S.H.

ALTERNATE DESIGNS
FOR
LONGITUDINAL METAL JOINT

TYPE A

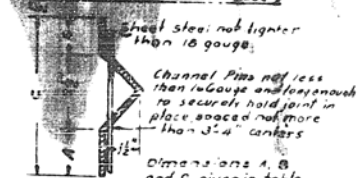


Top of Pavement or Base

TYPE	A	B	C
P.C. Concrete (8")	3 1/2"	2 1/2"	1 1/2"
Brick (8" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"
Bituminous (8" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"
P.C. Concrete (10")	3 1/2"	2 1/2"	1 1/2"
Brick (10" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"
Bituminous (10" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"

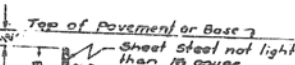
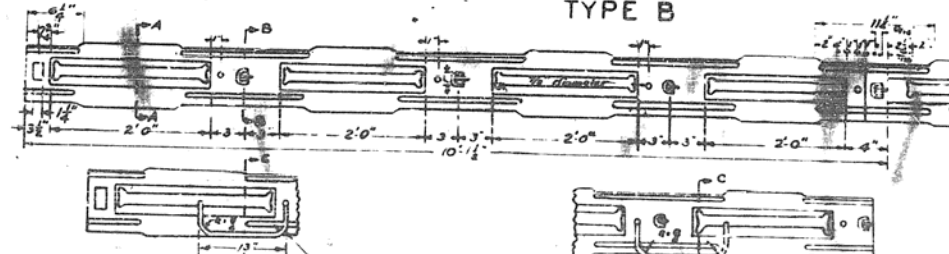
Dimensions A, B, and C given in table. This type permitted when pavement on the sides of the joint is constructed in one or separate operations. Metal joints shall remain in place in all cases.

Top of Pavement or Base



Alternate Section

TYPE B



Section A-A

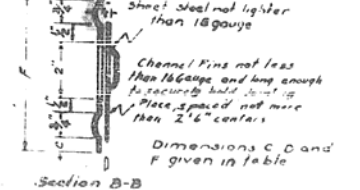
Dimensions A, B, and C given in table.

This type permitted where pavement on the sides of the joint is constructed in one operation.

DIMENSIONS FOR TYPE B METAL JOINT

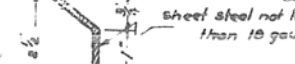
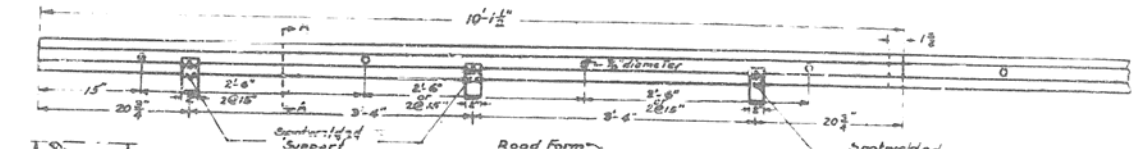
TYPE	A	B	C	D	E	F
P.C. Concrete (8")	3 1/2"	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Brick (8" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Bituminous (8" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
P.C. Concrete (10")	3 1/2"	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Brick (10" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Bituminous (10" PC Conc Base)	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"

Top of Pavement or Base



Section B-B

TYPE C



Section A-A

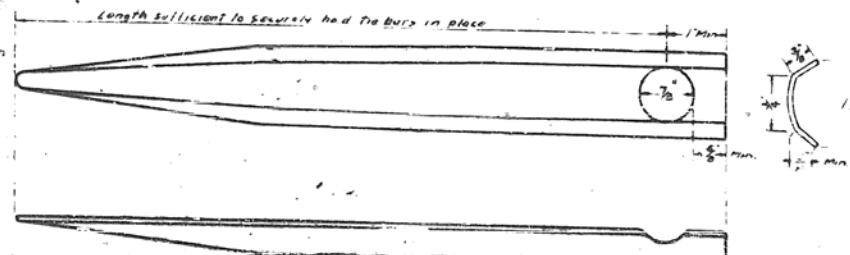
This type permitted only where pavement on the sides of the joint is constructed in separate operations. The metal joint shall remain in place.

Road Form

Supporting Chair

Alternate

DESIGN FOR SUPPORT PINS
FOR
TIE BARS THRU LONGITUDINAL METAL JOINTS

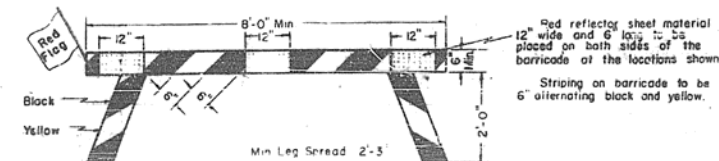
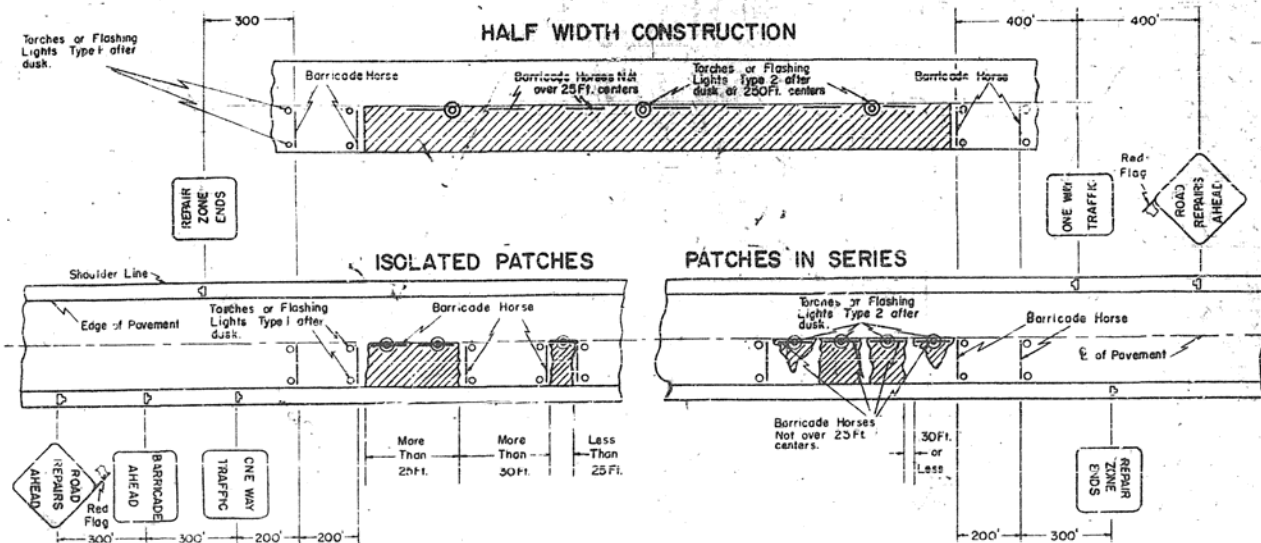


16 GAUGE U.S. STANDARD

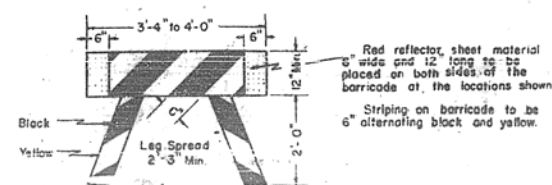
STANDARD 1766R

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS
DIVISION OF HIGHWAYS
EXAMINED: July 26, 1937
J. D. B.
ENGINEER OF DESIGN
APPROVED: July 26, 1937
J. D. B.
CHIEF, HIGHWAY ENGINEER

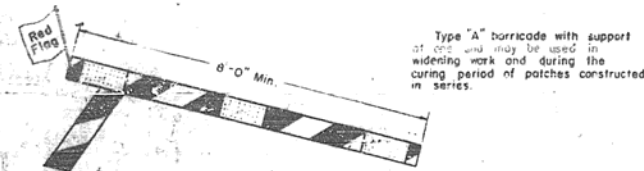
TYPICAL PLACEMENT
OF
BARRICADES, SIGNS AND LIGHTS FOR PATCHING AND REPAIRS



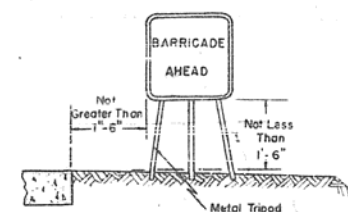
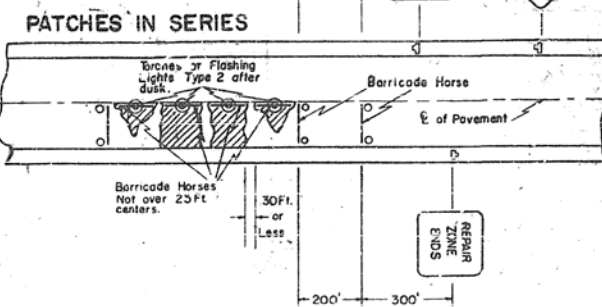
BARRICADE HORSE
TYPE "A"



BARRICADE HORSE
TYPE "B"



BARRICADE HORSE
TYPE "C"



SIGN DISPLAY

NOTES

The location of signs of each repair job as indicated in detail on the sketch shall be varied for local conditions. Judgment shall be used in the placement of these signs to give traffic ample warning of the obstruction.

The "ROAD REPAIRS AHEAD" signs are to be placed only at the limits of the zone of repairs as shown in the sketch.

Red flags shall be displayed on the "ROAD REPAIRS AHEAD" signs at each end of the zone of repairs. The frequency of display of flags on the barricade horses, will rest with the judgment of the Engineer or Foreman in charge of the repair crew. It is suggested, however, that the flags be displayed at least on the first barricade of a zone of repairs, for traffic in each direction.

Barricades placed parallel to center line shall not project into lane open to traffic.

Reflectorized signs will be furnished the Contractor by the Department in accordance with Article 7.11 of the Standard Specifications.

Torches or Flashing Lights and Barricades shall be furnished and maintained by the Contractor.

Type 1 Flashing Light shall have one 4" diameter red lens.
Type 2 Flashing Light shall have two 4" diameter yellow lens.

type 2 Finish: Light shall have two 4" diameter yellow lens; lights shall be placed approximately 2'-0" above the pavement. In construction of legs for portable barricades, steel or pipe may be substituted for timber. Timber legs shall be painted with alternate black and yellow "strips."

No word message will be permitted on the horizontal panel.
A name plate not exceeding 6" in width bearing the owners

Type 3 barricades may be used on widening sections and

Red reflector sheet material shall be smooth and self cleaning

STATE OF ILLINOIS		REVISIONS	
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS		BY	DATE
DIVISION - OF HIGHWAYS			
PREPARED	<i>January 12</i> 1958		
ENGINEERED BY ROAD PLANS AND CONTRACTS	<i>W. J. [Signature]</i>		
APPROVED	<i>January 12</i> 1958		
<i>[Signature]</i>			
[Signature]			

STANDARD 1977.T

STANDARD DESIGN
FOR
ROAD UNDER CONSTRUCTION SIGN

GENERAL NOTES

The border and letters shall be printed block on a white background.

The letters shall have a stroke $\frac{1}{4}$ " wide and a width in proportion to the dimensions shown.

The Contractor shall furnish all materials and labor for constructing and erecting this sign at each end of the construction section or as directed by the Engineer. The signs shall be placed prior to the actual starting of construction operations.

Furnishing and erecting these signs will be considered incidental to the contract and no additional compensation will be allowed.

Additional compensation will be allowed.

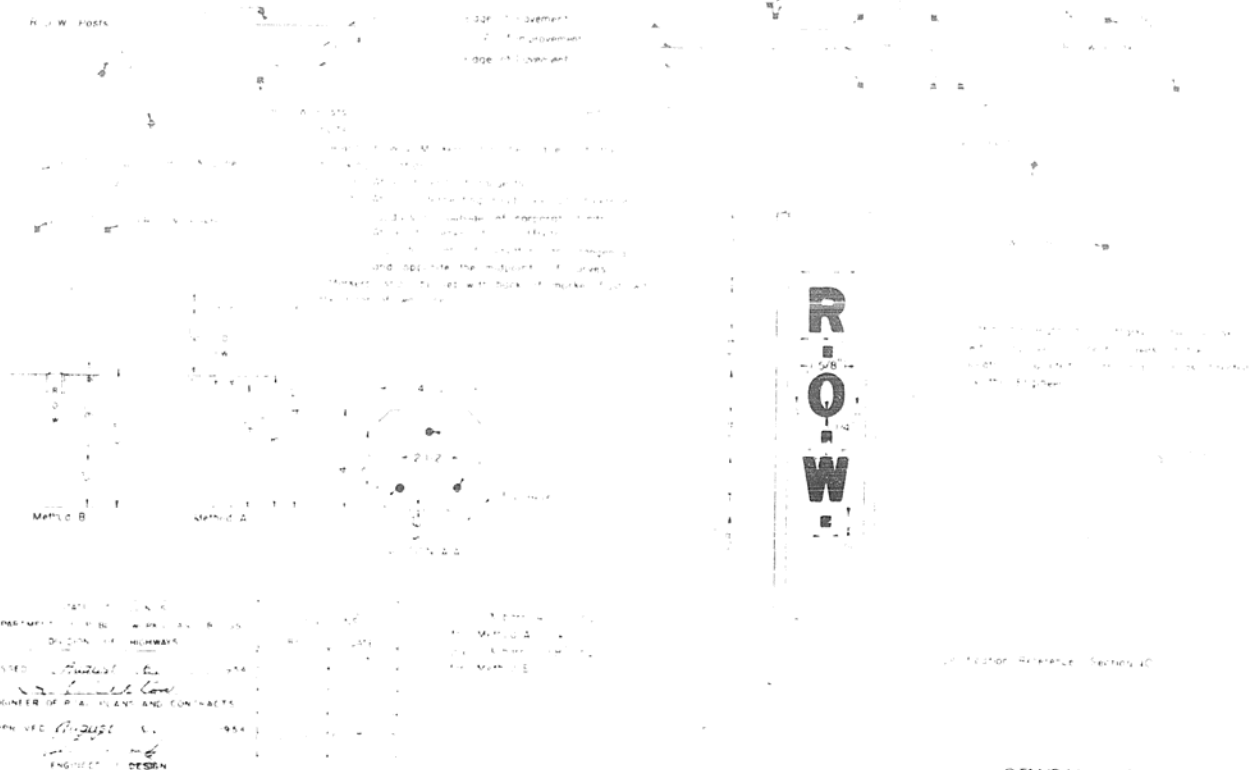


Sign may be made of wood, rigidly cleated or of metal.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS		REVISIONS BY DATE See Redbook 5-2-54	
PASSED	Nov. 22 1951 <i>H. J. Quinn</i>		
ENGINEER OF ROAD PLANS AND CONTRACTS			
APPROVED TO FILE	<i>Robert S.</i> 1951		
ENGINEER OF DIVISION			

STANDARD 1971S

STANDARD DESIGN FOR RIGHT OF WAY MARKERS



STADLER, J. 1993.