

ROUTE NO.	DISTANCE	COUNTY	SHEET NO.	TOTAL SHEETS
U.S. 1	161-1-2	ROCK ISLAND	532	201A
FA 403				
DESIGNED BY	DRAWN BY	CHECKED BY	DATE	

GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN. FIELD CONNECTIONS SHALL BE BOLTED USING HIGH STRENGTH BOLTS. BOLTS 3/4" Ø, OPEN HOLES 13/16" Ø, UNLESS OTHERWISE NOTED.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED IN THE BOTTOM OF FLANGE OF BEAMS OR GIRDERS NOR ON THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" x 6" MESH, WEIGHING 58# PER 100 SQ. FT..

THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONTRACTOR SHALL DRIVE ONE STEEL TEST PILES IN A PERMANENT LOCATION, AT ABUTMENT 'A' AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONST. JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF HANDRAIL CONCRETE.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.

LAYOUT OF SLOPE WALLS MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

Bearing steel surfaces shall be constructed or adjusted to the elevations within a tolerance of ± 1/8 inch. Adjustment shall be made by grinding the surface or by shimming the bearing. Two 1/2" adjustment dimensions of the bottom bearing plate, shall be provided for each in addition to all other plates or shims.

CURVE DATA FA 403

R1 Sta. 732+54.457
 $\Delta = 53^\circ 27' 12''$
 $D = 1^\circ 00' 00''$
 $T = 28850.19$
 $L = 5345.333$
 $R = 5729.58$
 $SE = 0.04 \frac{1}{ft}$

WATERWAY DATA

Drainage Area 4800 Acres.
 Character Hilly
 Required Opening 400-Sq.Ft.
 Provided Opening 412 Sq.Ft.
 Bottom of Channel El. 573.8
 Q(50) 2000 cfs

NOTES:

DESIGN LOADING:
 HS 20-44 And Allowance For 25 P.S.F.
 Future Wearing Surface.

DESIGN STRESSES:

$f_c = 1400$ P.S.I. Except As follows:
 $f_c = 1200$ P.S.I. For Deck Slab
 $f_c = 1000$ P.S.I. For Conc. In Contact With Earth
 $f_s = 27,000$ P.S.I. - M222 Structural Steel
 $f_s = 20,000$ P.S.I. Reinforcement Steel
 $v = 75$ P.S.I. Allowable Shear In Footings.
 $n = 10$
 Allowable Live Load Deflection =
 $L/1200$ (Composite)
 DESIGN SPECIFICATIONS: AASHTO 1973 As Applicable.
 For Footing Layout see Sheet #3

TYPICAL SECTION THRU SLOPE WALL

STATION 710+50.00
 BUILT BY
 STATE OF ILLINOIS
 FA 403 SECTION 161-1B-2
 FA 10J.EBRF-403-1(6)
 LOADING HS 20

NAME PLATE
 SEE STD 2113

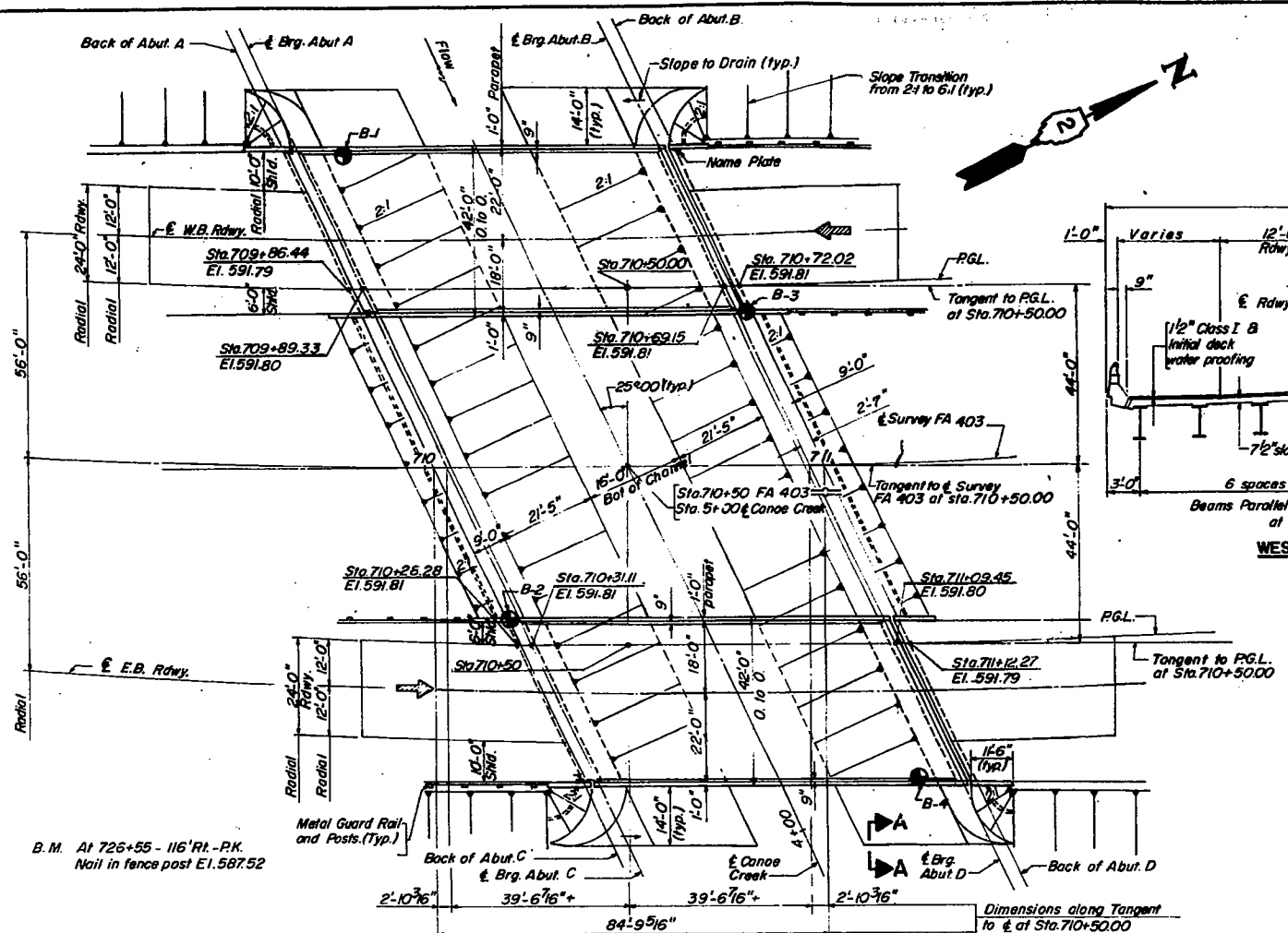
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
PROTECTIVE COAT	SQ. YDS.	184	--	184
CLASS "X" CONCRETE	CY. YDS.	204.2	219.7	423.9
STRUCTURAL STEEL	L. SUM	0.06	--	0.06
ALUMINUM RAILING	LIN. FT.	326	--	326
REINFORCEMENT BARS	LBS.	47,880	16,580	64,460
STUD SHEAR CONNECTORS	EACH	2,184	--	2,184
STEEL PILES HP8 x 36	LIN. FT.	--	817	817
TEST PILE (STEEL) HP8 x 36	EACH	--	1	1
NAME PLATES	EACH	1	--	1
SLOPE WALL 6"	SQ. YDS.	--	1,638	1,638
BIT. CONC. SURFACE COURSE CLASS I	TONS	60.0	--	60.0
WATERPROOFING MEMBRANE SYS.	SQ. YDS.	704.0	--	704.0
PREFORMED JOINT SEALER 2 1/2"	LIN. FT.	94.0	--	94.0
PERMANENT B.M. TYPE I	EACH	1	--	1

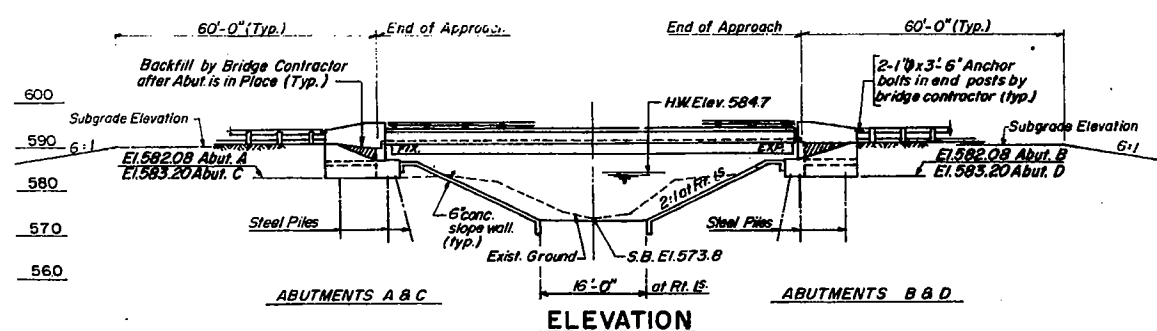
* CALCULATED WEIGHT OF STRUCTURAL STEEL = 234,200 LBS.

GENERAL PLAN & ELEVATION

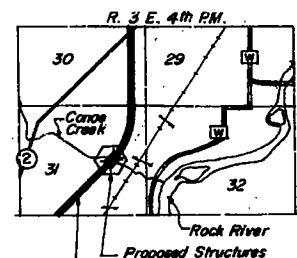
FA 403 SECTION 161-1B-2
 FA 403 OVER CANOE CREEK
 ROCK ISLAND COUNTY
 STATION 710+50.00



PLAN



ELEVATION



LOCATION MAP

DESIGNED	D.N.
CHECKED	H.S.
DRAWN	A.M.
CHECKED	N.S.

PROFILE FA 403 ALONG E SURVEY

AS REVISED

SECTION A-A

Rev. Reinf. Bars Sub from 16,260# to 16,580# Total from 64,140# to 64,460# 8-1-74 D.D.

As Revised 2-3-75 L.W.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FA 403	161-1B-2	ROCK ISLAND	532	204	11 SHEETS
FED. ROAD DIST. NO. 7	ALLEGHENY	FED. AID PROJECT			

BILL OF MATERIAL (ONE BRIDGE ONLY)

BAR	NO.	SIZE	LENGTH	SHAPE
a	63	#5	41'-11"	U
a ₁	200	#5	40'-0"	—
a ₂	164	#6	4'-0"	—
a ₃	3	#5	43'-8"	—
b	291	#5	28'-2"	—
b ₁	12	#8	28'-3"	—
d	164	#4	4'-7"	J
d ₁	160	#5	3'-8"	J
X	80	#6	5'-6"	C

* Reinforcement Bars	Lbs.	23,450
* Class X Concrete	Cu. Yds.	96.8
* Structural Steel	Lbs.	17,100
* Waterproof Membrane Sys.	Sq. Yds.	352
* Parapet Reinforcement	Sq. Yds.	30
* Protective Coat	Sq. Yds.	92
* Preformed J. Sealer (2 1/2")	Lin. Ft.	47

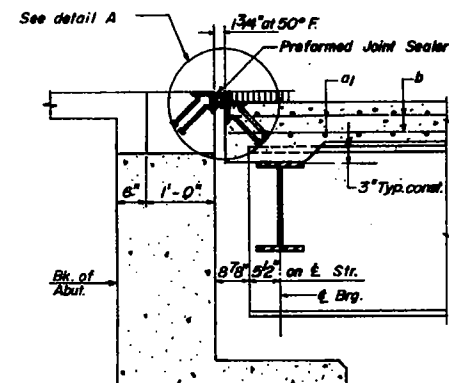
*Weight of bearing assemblies with lead plates and anchor bolts are included in Structural Steel.

*Parapet Reinforcement and Class X Concrete are billed on sheet No. 5

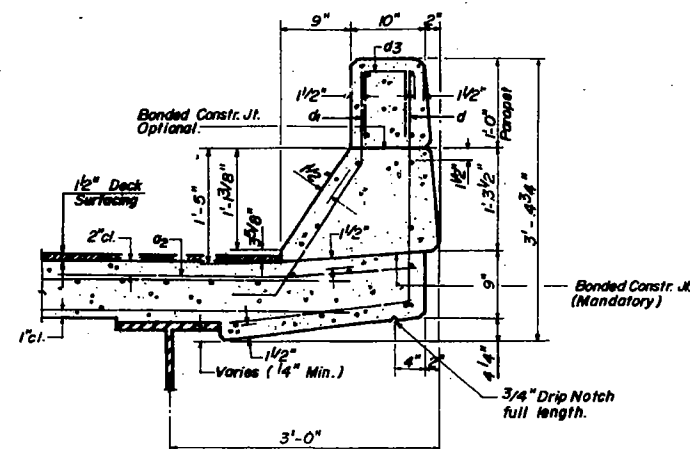
Note: Work this Sheet with Sheet No. 3

DECK DETAILS

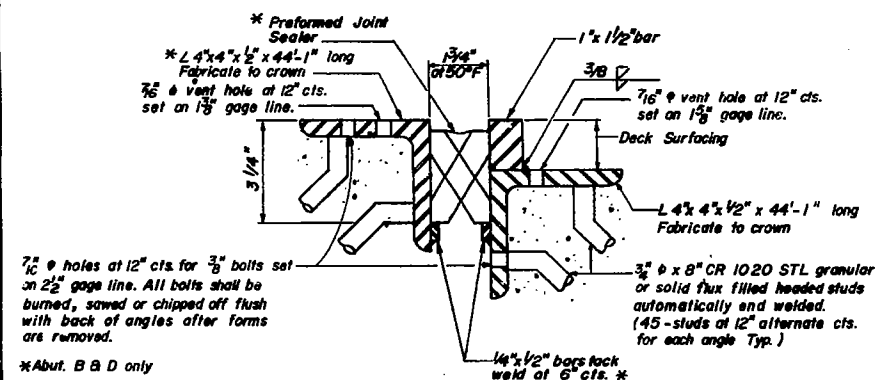
FA 403 SECTION 161-1B-2
FA 403 OVER CANOE CREEK
ROCK ISLAND COUNTY
STATION 710 + 50.00



SECTION A-A
At Abut. B & D

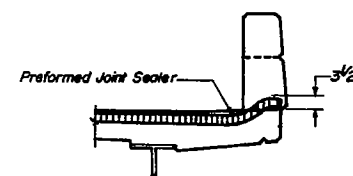


CURB SECTION

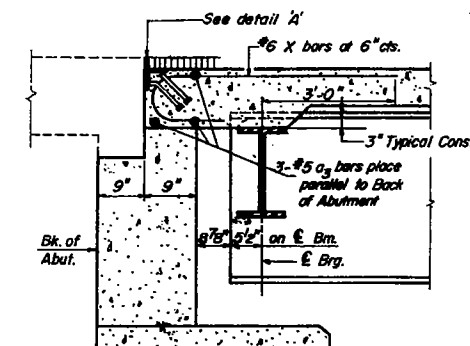


DETAIL A
Scale: 3/8"=1'

PREFORMED JOINT SEALER (2 1/2")

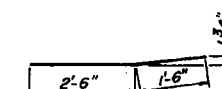


TYPICAL END OF SEALER TREATMENT

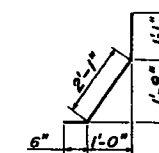


SECTION B-B
At Abut. A & C

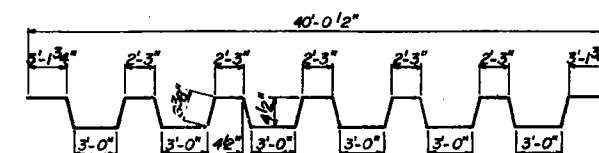
BAR d



BAR a₂



BAR d₁



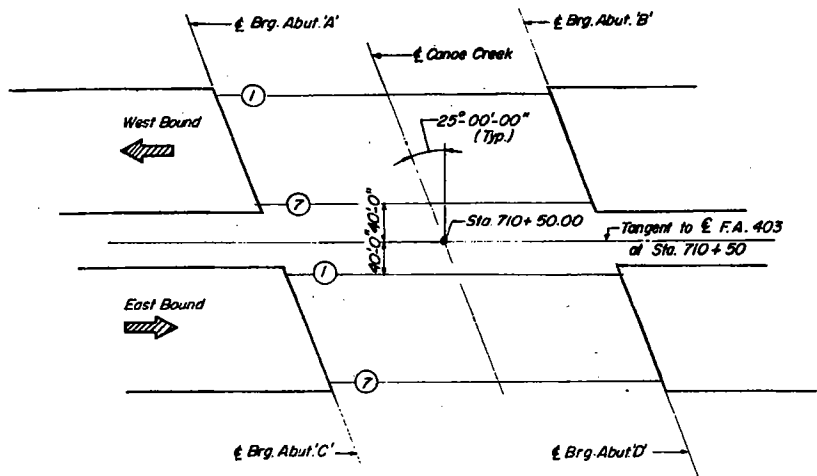
BAR a

NOTE:
a Longitudinal bonded construction joint - Do not edge.

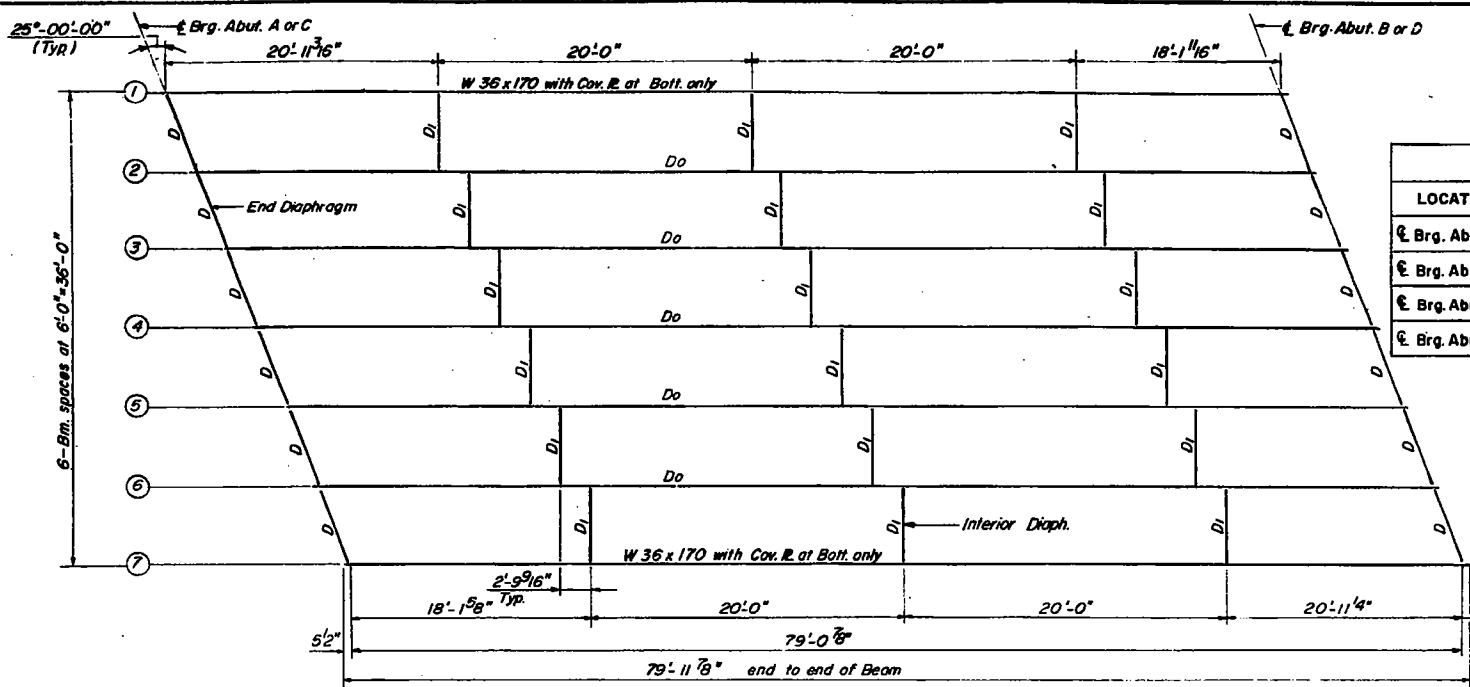
DESIGNED	B.T.M.
CHECKED	H.R.S.
DRAWN	G.G.
CHECKED	A.A.

CROSS SECTION
LOOKING AHEAD STATION

BAR X



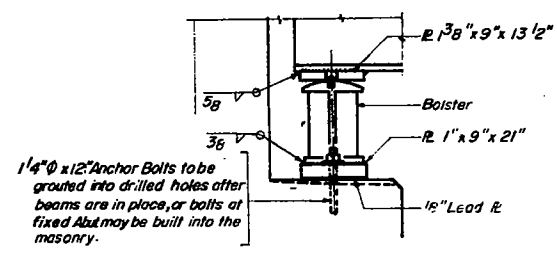
KEY PLAN



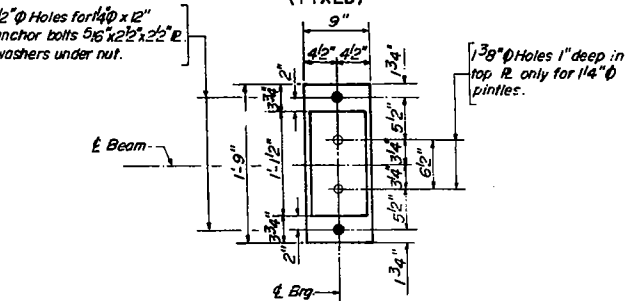
FRAMING PLAN

TOP OF BEAM ELEVATION							
LOCATION	BM. #1	BM. #2	BM. #3	BM. #4	BM. #5	BM. #6	BM. #7
E Brg. Abut. 'A'	589.74	589.98	590.22	590.46	590.70	590.94	591.18
E Brg. Abut. 'B'	589.74	589.98	590.22	590.46	590.70	590.94	591.18
E Brg. Abut. 'C'	590.86	591.10	591.34	591.58	591.82	592.06	592.30
E Brg. Abut. 'D'	590.86	591.10	591.34	591.58	591.82	592.06	592.30

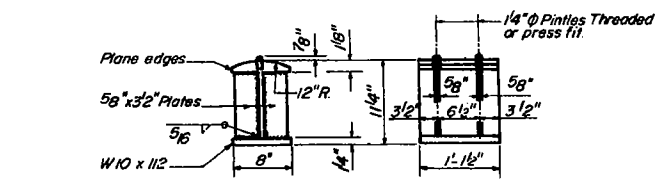
"The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges, webs, and splice plates of the steel girders or wide flange beams."



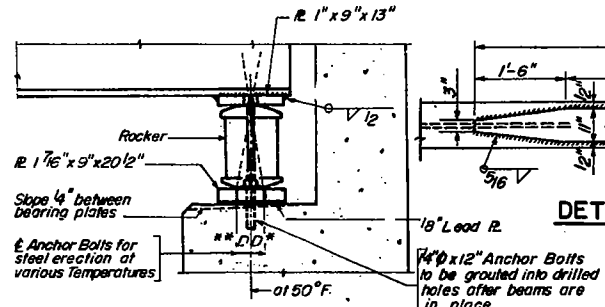
ABUTS. A & C (FIXED)



PLAN

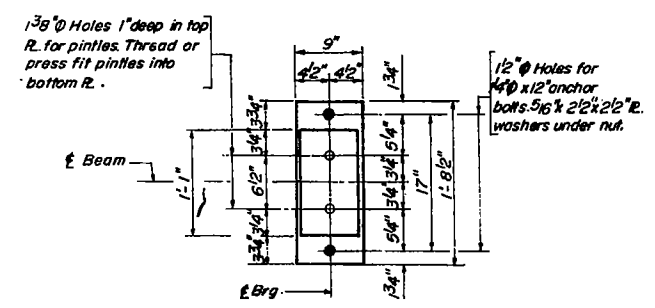


DETAIL OF BOLSTER ABUTS. A & C

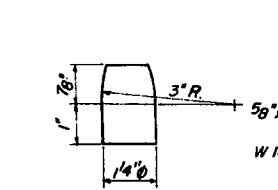


DETAIL OF COVER PLATE

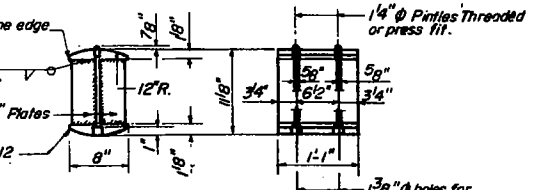
ABUTS. B & D BEARING (EXP.)



PLAN



DETAIL OF PINTLE



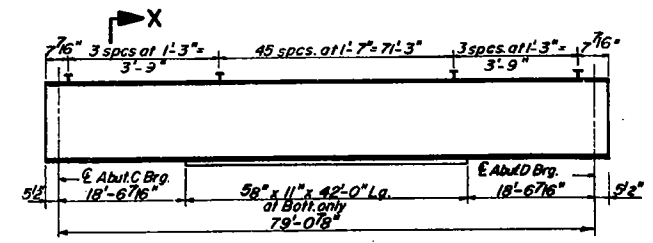
DETAIL OF ROCKER ABUTS. B & D

INTERIOR BEAM MOMENT TABLE	
0.5 Span	
Is (in ⁴)	12,559
Ic (in ⁴)	29,587
Ss (in ³)	762
Sc (in ³)	1039
I _x (in ⁴)	0.784
M _x (in ³)	607
S _x (in ³)	9.56
S _y (in ³)	0.346
M _s (in ³)	270
M _{L+Imp} (in ³)	776
Total (in ³)	1046
I _s (in ⁴)	12.08
I _s Total (in ⁴)	21.64
VR (in ³)	43.1

END DIAPHRAGM D

Note: Hardened washers shall be req. over 5/16" holes.

INTERIOR DIAPHRAGM D₁



BEAM ELEVATION

INTERIOR BEAM REACTION TABLE	
Abutment	
R _D (k)	44.1
R _{L+Imp} (k)	47.9
R Total (k)	92.0

Is and Ss are the moment of inertia and section modulus of the steel section.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing Is.
VR is the maximum L+Imp shear range in span.

NOTE: All Structural Steel to be M222 Steel.

SUPERSTRUCTURE STEEL
FA 403 SECTION 161-1B-2
FA 403 OVER CANOE CREEK
ROCK ISLAND COUNTY
STATION 710+50.00

DESIGNED	H.R.S.
CHECKED	A.A.
DRAWN	A.M.
CHECKED	A.A.