

B.M.: R.R. Spike in power pole 36' Rt. Sta. 779+00
Elev. 396.90

Existing Structure: No 035-0004, built as S.B.I. Rte. 34, Sec. 3B in 1924, 2 spans R.C. thru girder on R.C. closed abutments & pier. The contractor shall remove the existing superstructure in stages and provide a new wider superstructure with 27" I-Beams. Widen the substructure. Repair the pier as required. Traffic shall be maintained at all times using stage construction.

No Salvage.

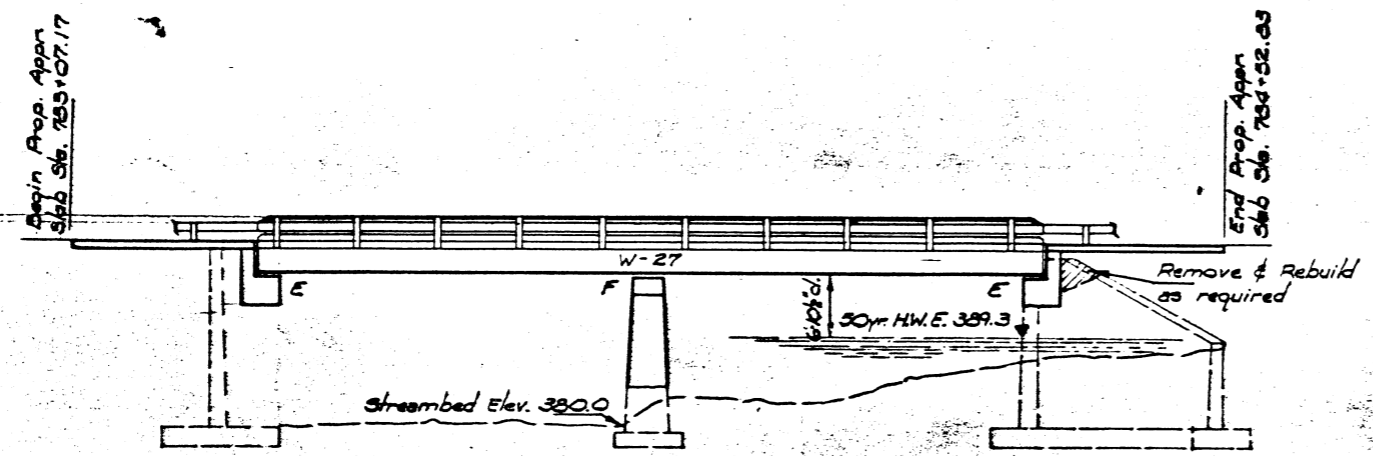
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SUBJECT	TOTAL SHEETS	SHEET NO.
778	3B-DR	Hardin	17	6

SHEET NO. 1
9 SHEETS

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $3/4"$; open holes $13/16"$, unless otherwise noted.
Calculated weight of Structural Steel = 49,980 Lbs.
All structural steel shall be AASHTO: M 222 unpainted except expansion joint angles and attached bars which shall be AASHTO: M 183 and shop painted with two coats of basic lead silica chromate paint.
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to 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.
It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
The concrete rail section above the mandatory construction 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.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material of the steel girders or wide flange beams.
All Reinforcement Bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
See Proposal for Boring Data.



ELEVATION

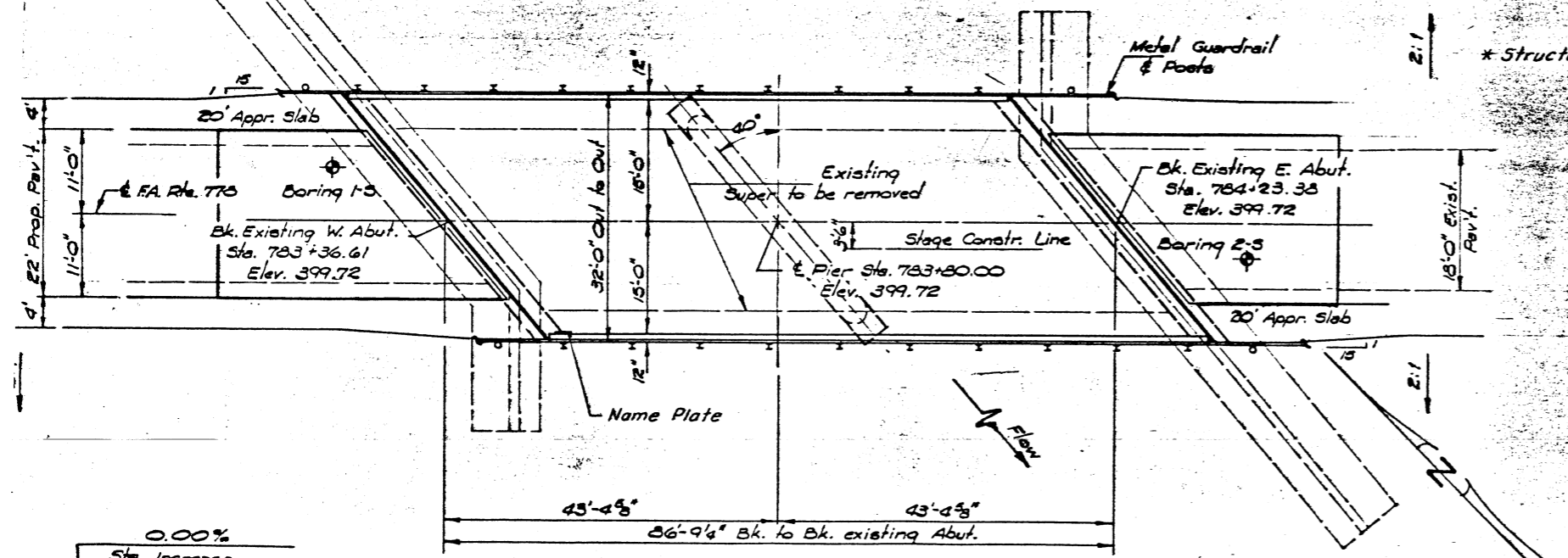
STATION 783+80.00
REBUILT 197 BY
STATE OF ILLINOIS
F.A. RT. 778 SEC. 3B-DR
LOADING HS20-44
* STR. NO. 035-0004

NAME PLATE

See Std. 2113

* Structure Number to be supplied by District.

035-0004



PLAN

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yds.		74	74
Protective Coat	Sq. Yds.	325		325
Class X Concrete	Cu. Yds.	74.3	102.9	177.2
Structural Steel	L.S.		0.74	0.74
Steel Railing (Type T)	Lin. Ft.	177		177
Reinforcement Bars	Lbs.	7,140	11,900	19,040
Reinforcement Bars (Epoxy Coated)	Lbs.	13,130		13,130
Name Plates	Each	1		1
Temporary Guardrail	Lin. Ft.	89		89
Preformed Joint Sealer (2 1/2")	Lin. Ft.	83		83
Temporary Support System	L.S.		1	1

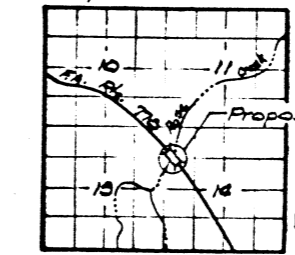
DESIGN STRESSES

$f_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_s = 20,000$ to $27,000$ psi (Structure)

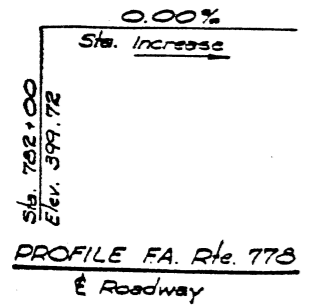
LOADING HS 20-44

Allow $25"/ft$ for future wearing surface.
Design Specification: 1973 AASHTO, 1974, 1975, 1976 and 1977 Interim Specifications. * Epoxy coated reinforcement bars shall be used in the top layer of the slab.

Range 7 E. 3rd RM.



LOCATION SKETCH



PROFILE FA. Rte. 778
Roadway

WATERWAY INFORMATION

Drainage Area	=	9.6 sq. mi
Existing Opening	=	430 sq. ft.
Required Opening	=	430 sq. ft.
Proposed Opening	=	430 sq. ft.
HW Elev. 50 yr.	=	389.3 Elev.
Created Head	=	2960 c.f.s.
HW Elev. 100 yr.	=	0.43
Created Head	=	389.8 Elev.
HW Elev. 100 yr.	=	3400 c.f.s.
Created Head	=	0.68

DESIGNED	Lee Sheng Hwang
CHECKED	R.P.S.
DRAWN	SA
CHECKED	SA

EXAMINED *March 15, 1978*
PASSED
APPROVED

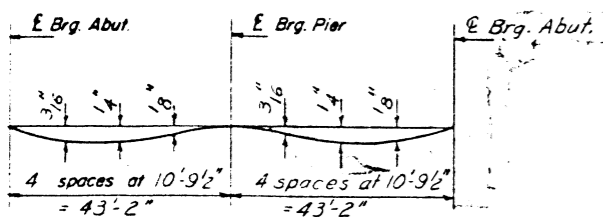
035-0004

-9-100



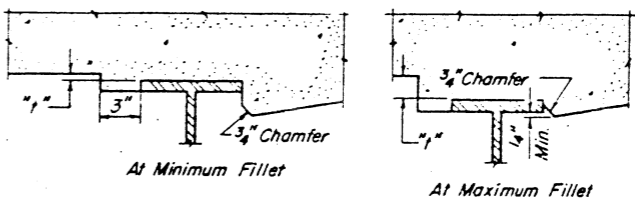
GENERAL PLAN & ELEVATION
FA. Rte. 778 Over ROSE CREEK
FA. Rte. 778 SECTION 3B-DR
HARDIN COUNTY
Sta. 783+80.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted For Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78322.919	-13.000	399.226	399.226
E Brg. W. Abut.	78325.924	-13.000	399.226	399.226
A	78335.924	-13.000	399.226	399.241
B	78345.924	-13.000	399.226	399.246
C	78355.924	-13.000	399.226	399.238
D	78365.924	-13.000	399.226	399.229
E Brg. Pier	78369.092	-13.000	399.226	399.226
E	78379.092	-13.000	399.226	399.235
F	78389.092	-13.000	399.226	399.245
G	78399.092	-13.000	399.226	399.243
H	78409.092	-13.000	399.226	399.231
E Brg. E. Abut.	78412.260	-13.000	399.226	399.226
Bk. E. Abut.	78415.265	-13.000	399.226	399.226

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78328.373	-6.500	399.473	399.473
E Brg. W. Abut.	78331.378	-6.500	399.473	399.473
A	78341.378	-6.500	399.473	399.488
B	78351.378	-6.500	399.473	399.493
C	78361.378	-6.500	399.473	399.485
D	78371.378	-6.500	399.473	399.476
E Brg. Pier	78374.546	-6.500	399.473	399.473
E	78384.546	-6.500	399.473	399.482
F	78394.546	-6.500	399.473	399.492
G	78404.546	-6.500	399.473	399.490
H	78414.546	-6.500	399.473	399.478
E Brg. E. Abut.	78417.714	-6.500	399.473	399.473
Bk. E. Abut.	78420.719	-6.500	399.473	399.473

BEAM 3 & ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78333.827	0.0	399.720	399.720
E Brg. W. Abut.	78336.832	0.0	399.720	399.720
A	78346.832	0.0	399.720	399.735
B	78356.832	0.0	399.720	399.740
C	78366.832	0.0	399.720	399.732
D	78376.832	0.0	399.720	399.723
E Brg. Pier	78380.000	0.0	399.720	399.720
E	78390.000	0.0	399.720	399.729
F	78400.000	0.0	399.720	399.739
G	78410.000	0.0	399.720	399.737
H	78420.000	0.0	399.720	399.725
E Brg. E. Abut.	78423.168	0.0	399.720	399.720
Bk. E. Abut.	78426.173	0.0	399.720	399.720

STAGE II CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78335.086	1.500	399.777	399.777
E Brg. W. Abut.	78338.091	1.500	399.777	399.777
A	78348.091	1.500	399.777	399.792
B	78358.091	1.500	399.777	399.797
C	78368.091	1.500	399.777	399.789
D	78378.091	1.500	399.777	399.780
E Brg. Pier	78381.255	1.500	399.777	399.777
E	78391.259	1.500	399.777	399.786
F	78401.259	1.500	399.777	399.796
G	78411.259	1.500	399.777	399.794
H	78421.259	1.500	399.777	399.782
E Brg. E. Abut.	78424.427	1.500	399.777	399.777
Bk. E. Abut.	78427.432	1.500	399.777	399.777

STAGE I CONSTRUCTION JOINT

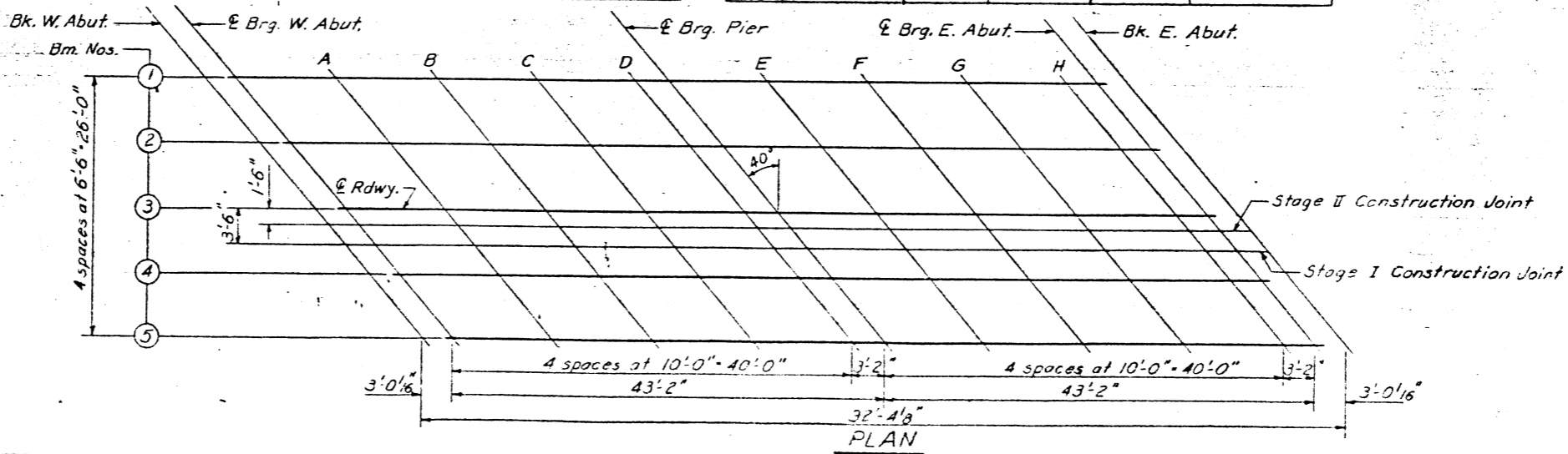
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78336.764	3.500	399.853	399.853
E Brg. W. Abut.	78339.769	3.500	399.853	399.853
A	78349.769	3.500	399.853	399.868
B	78359.769	3.500	399.853	399.873
C	78369.769	3.500	399.853	399.865
D	78379.769	3.500	399.853	399.856
E Brg. Pier	78382.937	3.500	399.853	399.853
E	78392.937	3.500	399.853	399.862
F	78402.937	3.500	399.853	399.872
G	78412.937	3.500	399.853	399.870
H	78422.937	3.500	399.853	399.858
E Brg. E. Abut.	78426.105	3.500	399.853	399.853
Bk. E. Abut.	78429.110	3.500	399.853	399.853

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78339.281	6.500	399.967	399.967
E Brg. W. Abut.	78342.286	6.500	399.967	399.967
A	78352.286	6.500	399.967	399.982
B	78362.286	6.500	399.967	399.987
C	78372.286	6.500	399.967	399.979
D	78382.286	6.500	399.967	399.970
E Brg. Pier	78385.454	6.500	399.967	399.967
E	78395.454	6.500	399.967	399.976
F	78405.454	6.500	399.967	399.986
G	78415.454	6.500	399.967	399.984
H	78425.454	6.500	399.967	399.972
E Brg. E. Abut.	78428.622	6.500	399.967	399.967
Bk. E. Abut.	78431.627	6.500	399.967	399.967

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	78344.735	13.000	400.214	400.214
E Brg. W. Abut.	78347.740	13.000	400.214	400.214
A	78357.740	13.000	400.214	400.229
B	78367.740	13.000	400.214	400.234
C	78377.740	13.000	400.214	400.226
D	78387.740	13.000	400.214	400.217
E Brg. Pier	78390.908	13.000	400.214	400.214
E	78400.908	13.000	400.214	400.223
F	78410.908	13.000	400.214	400.233
G	78420.908	13.000	400.214	400.231
H	78430.908	13.000	400.214	400.219
E Brg. E. Abut.	78434.076	13.000	400.214	400.214
Bk. E. Abut.	78437.081	13.000	400.214	400.214



DESIGNED *Thomas H. Clark*
 CHECKED *[Signature]*
 DRAWN *P.G. Barnett* R.P.S.
 CHECKED *[Signature]*
 E-S 8-1-65

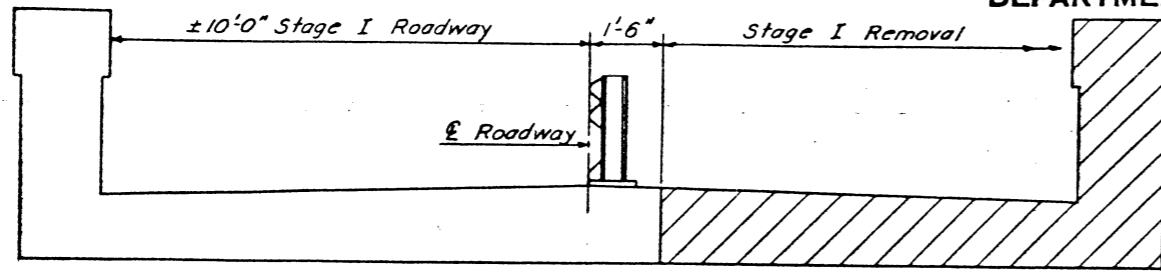
EXAMINED *[Signature]*
 PASSED
 APPROVED
 CHIEF OF DISTRICT
 DIVISION OF HIGHWAYS

TOP OF SLAB ELEVATIONS
 F.A. RT. 778 SEC 3B-DR
 HARDIN COUNTY
 STA. 783+80.00

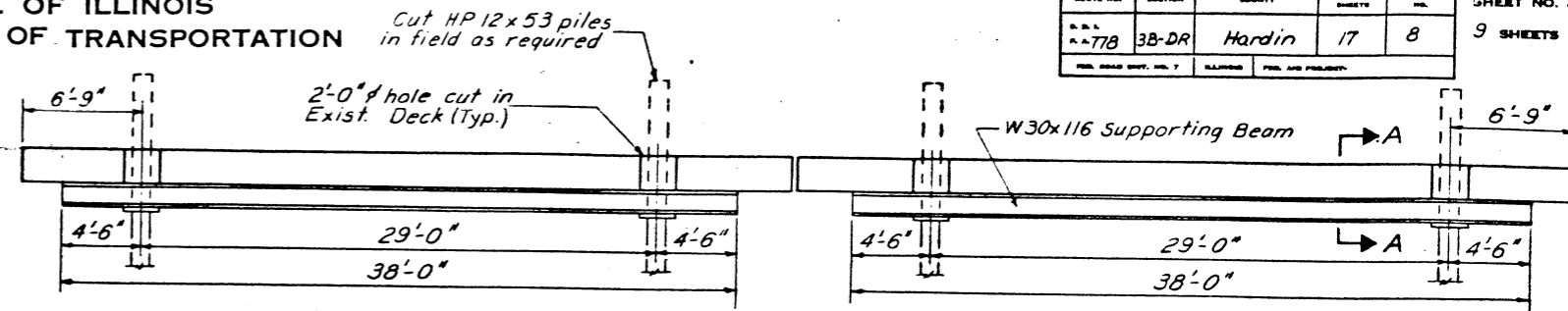
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
A-778	3B-DR	Hardin	17	8

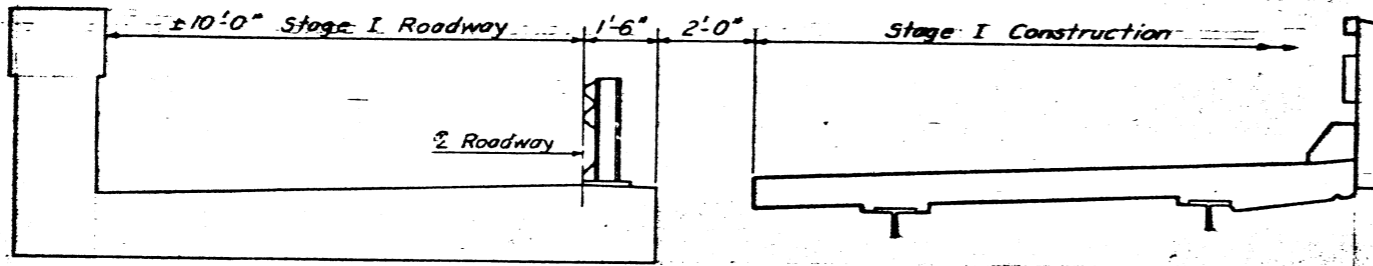
SHEET NO. 3
9 SHEETS



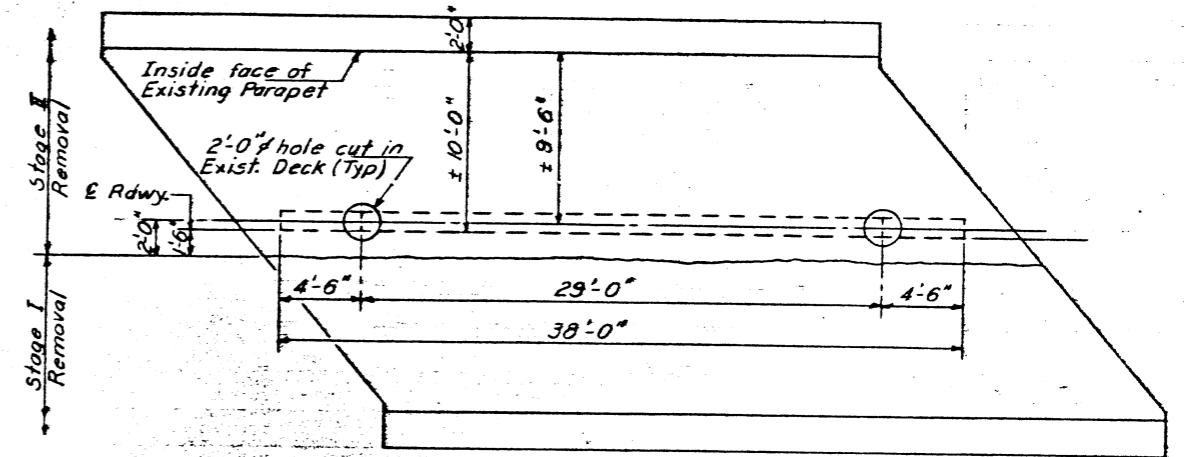
* STAGE I REMOVAL



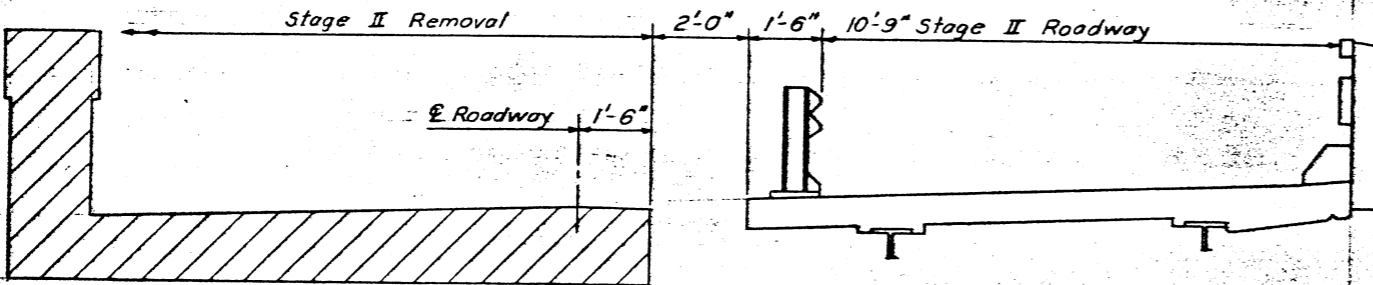
SECTION AT SUPPORTING BEAM



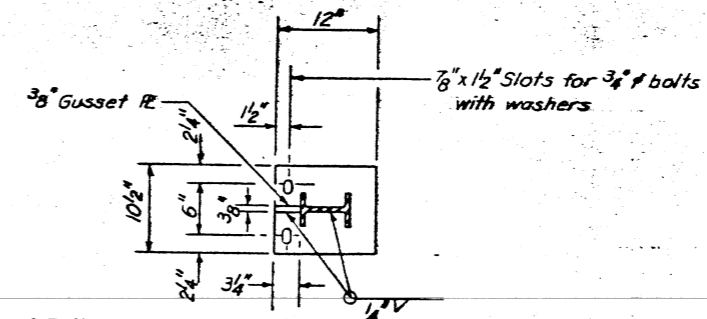
* STAGE I CONSTRUCTION



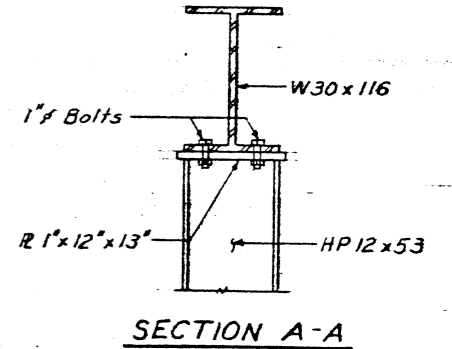
HALF PLAN
SHORING DETAILS



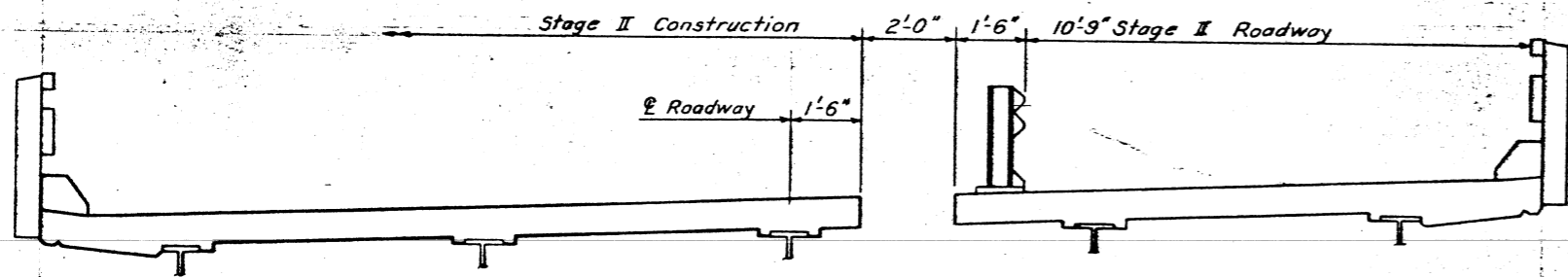
* STAGE II REMOVAL



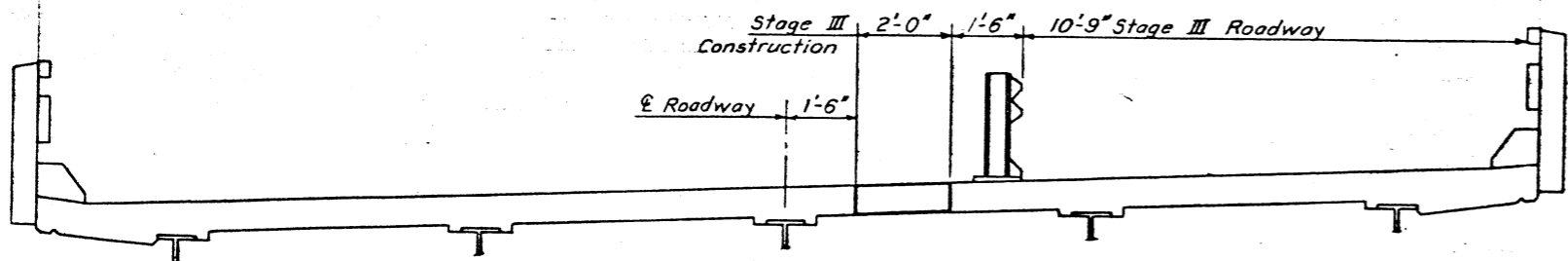
TEMPORARY GUARD RAIL DETAIL
See Special Provisions



SECTION A-A



* STAGE II CONSTRUCTION



* STAGE III CONSTRUCTION

Notes:
Before any removal of existing structure the supporting beam shall be completely in place.
Use shim plates between top of support beam and bottom of existing deck at ±5'-0" as required to insure full contact.
Estimated weight of structural steel not including shim R's. = 14,300 Lbs. (Cost incidental to temporary supporting system).
No paint required.
Drive piles to refusal.

DESIGNED	Lee Sheng Hwang
CHECKED	John W. Hunter
DRAWN	R. P. Summer
CHECKED	A. K. A.

EXAMINED	Mark 16 1978 Carl E. Strumman
PASSED	
APPROVED	

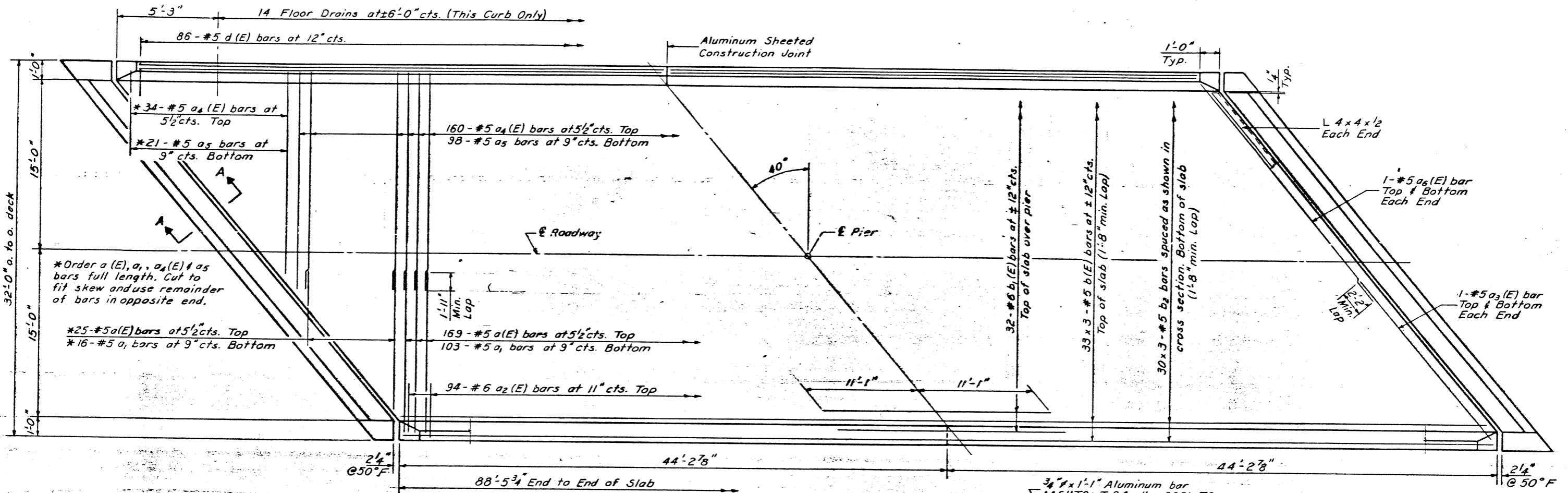
* LOOKING EAST

STAGE CONSTRUCTION DETAILS
F.A. RT. 778 SEC. 3B-DR -
HARDIN COUNTY
STA. 783+80.00

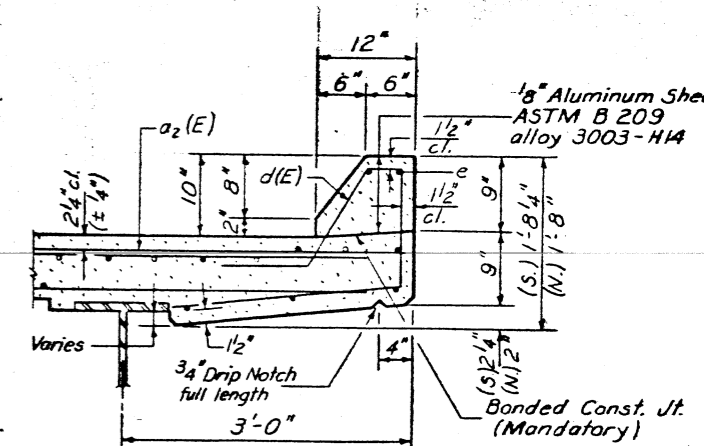
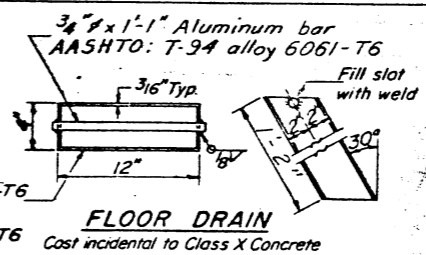
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	IDENTITY	TOTAL SHEETS	SHEET NO.
F.A. 778	3B-DR	Hardin	17	9
DATE	SCALE	FILE AND PROJECT		

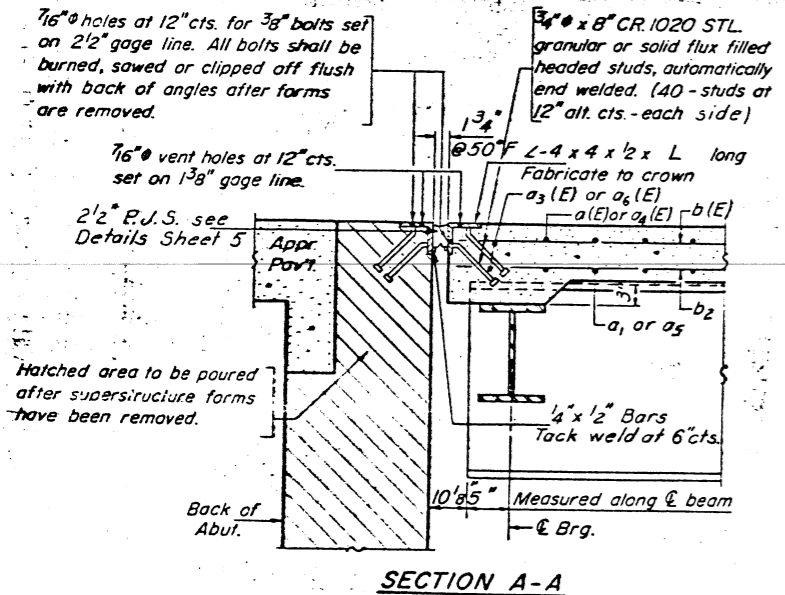
SHEET NO. 4
9 SHEETS



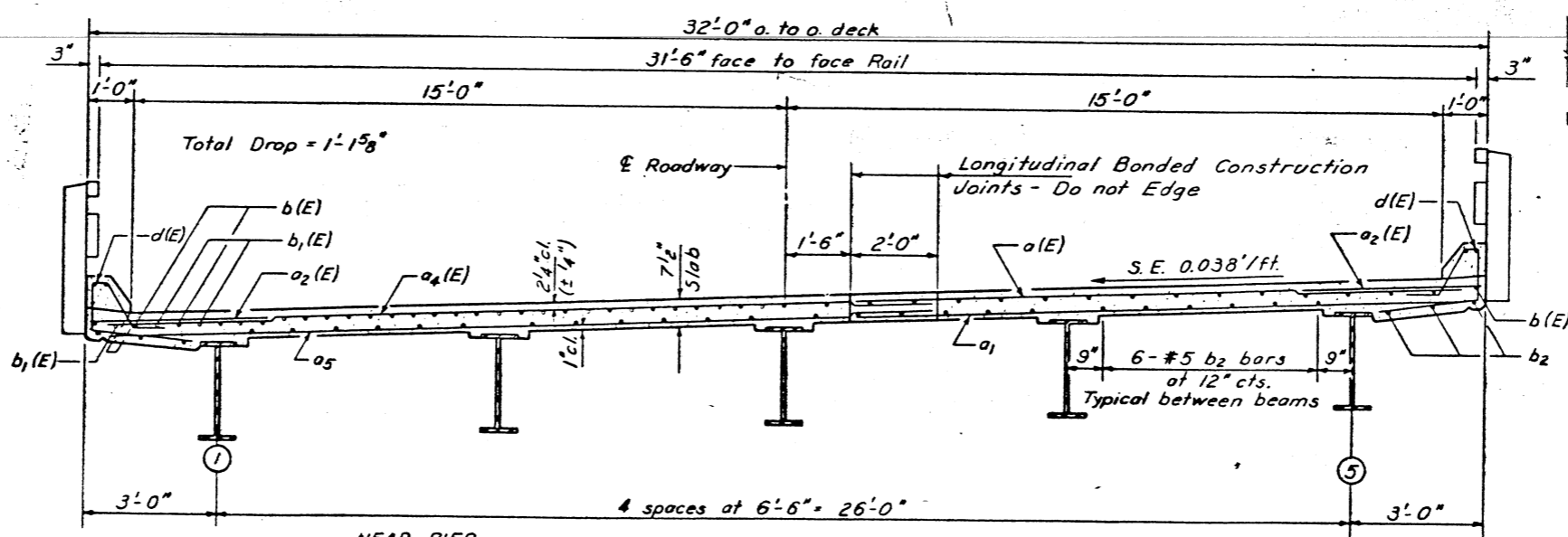
PLAN



CURB SECTION



L = 14' 11 7/8" Stage I
L = 24' 1 1/2" Stage II



NOTES:
See Sheet 5 for Rail details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line. See Sheet 3 for Stage Construction details.

DESIGNED	Richard Havel
CHECKED	R. P. Summer
DRAWN	R. P. Summer
CHECKED	H. K. A.

March 16 1978

EXAMINED Carl E. Thurman

PASSED

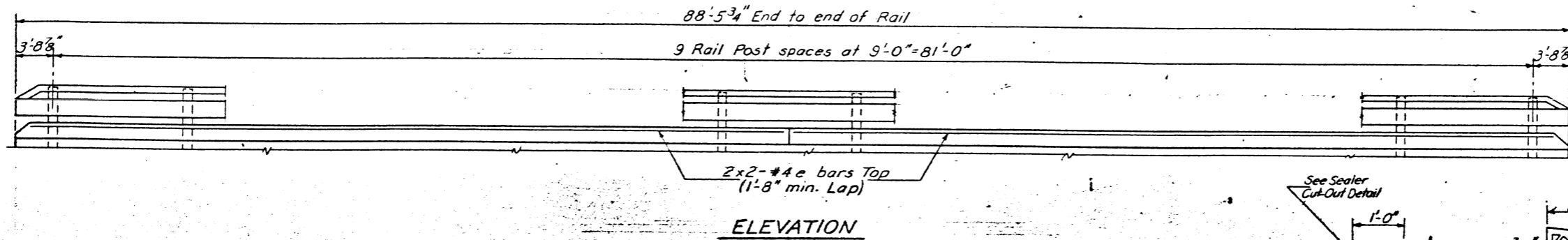
APPROVED

SUPERSTRUCTURE
F.A. RT. 778 SEC. 3B-DR
HARDIN COUNTY
STA. 783+80.00

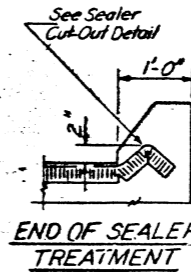
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	3B-DR	Hardin	17	10
FED. ROAD DIST. NO. 1		ALLIANCE	FED. AID PROJECT	

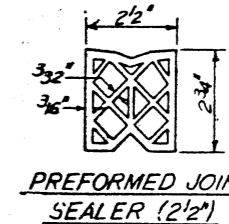
SHEET NO. 5
9 SHEETS



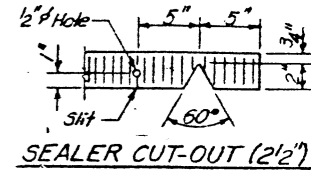
ELEVATION



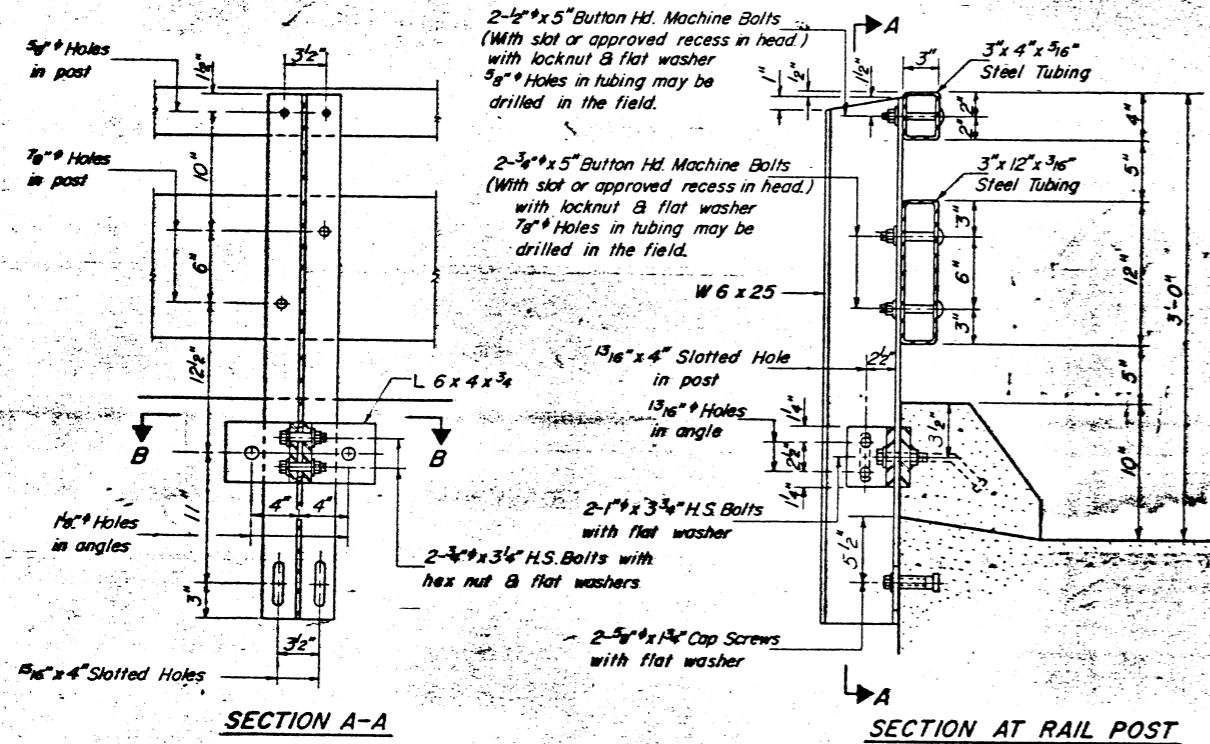
END OF SEALER TREATMENT



PREFORMED JOINT SEALER (2 1/2")

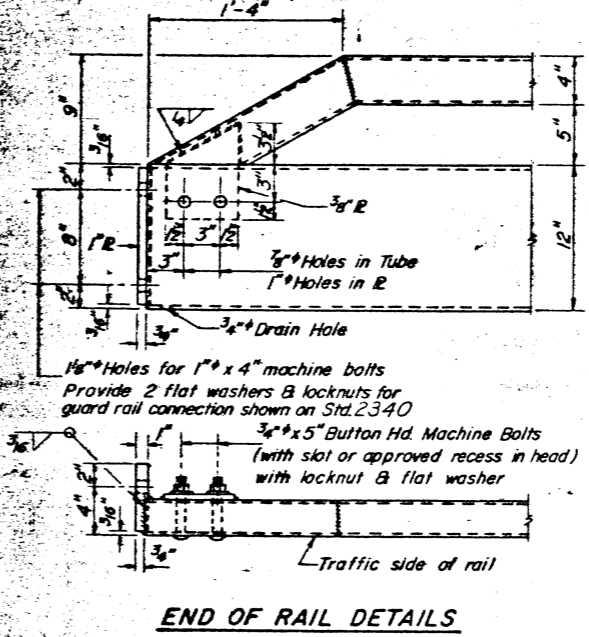


SEALER CUT-OUT (2 1/2")



SECTION A-A

SECTION AT RAIL POST



END OF RAIL DETAILS

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B or A-501 Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M-183 except posts shall conform to AASHTO M-188.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-11 and ASTM A-395. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE T.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

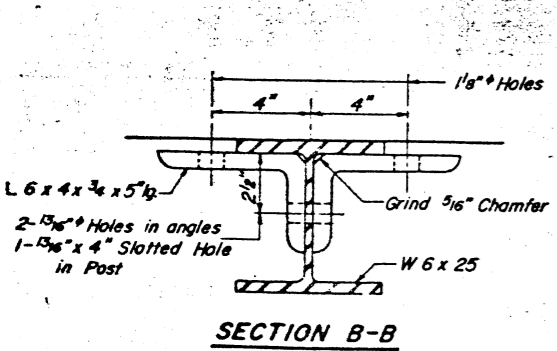
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/2" fabric bearing pad between the post and concrete.

The 3/4" high strength bolts used to connect the 6x4x3/4 angles to the post shall be tightened in accordance with Article 5070.4(g)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/4 turn.

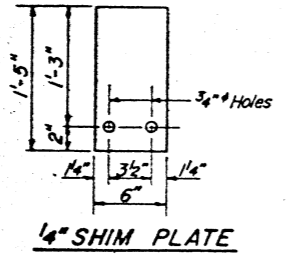
For multi-span bridges, sufficient 4"x6"x1'-5" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.

BILL OF MATERIAL

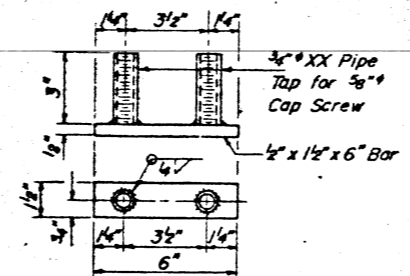
Bar	No.	Size	Length	Shape
a(E)	194	#5	13'-9"	—
a ₁	119	#5	13'-9"	—
a ₂ (E)	188	#6	4'-0"	—
a ₃ (E)	4	#5	18'-0"	—
a ₄ (E)	34	#5	18'-9"	—
a ₅	119	#5	18'-9"	—
a ₆ (E)	4	#5	24'-6"	—
b(E)	99	#5	30'-6"	—
b ₁ (E)	32	#6	22'-2"	—
b ₂	90	#5	30'-6"	—
d(E)	172	#5	5'-9"	—
e	16	#4	22'-4"	—
Reinforcement Bars			Lbs.	714.0
Class X Concrete			Cu. Yds.	74.3
Steel Railing, Type T			Lin. Ft.	177
Reinforcement Bars (Epoxy Coated)			Lbs.	13,130



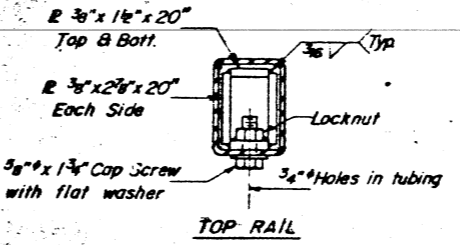
SECTION B-B



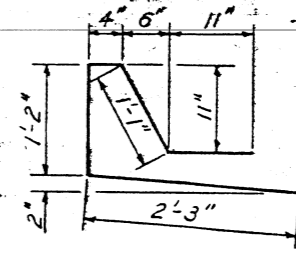
4" SHIM PLATE



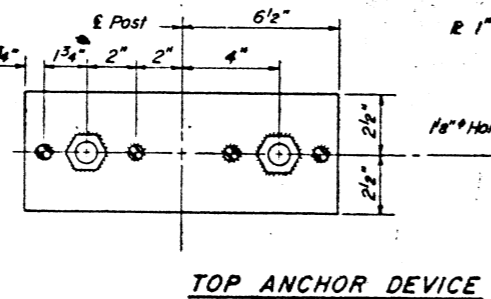
BOTTOM ANCHOR DEVICE



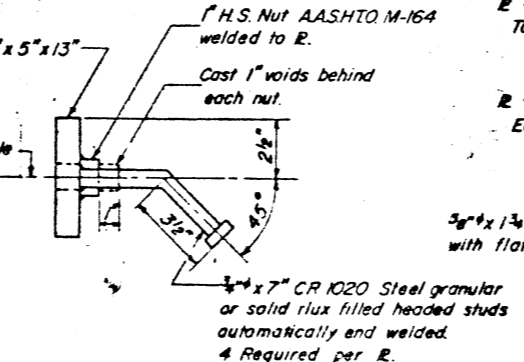
TOP RAIL



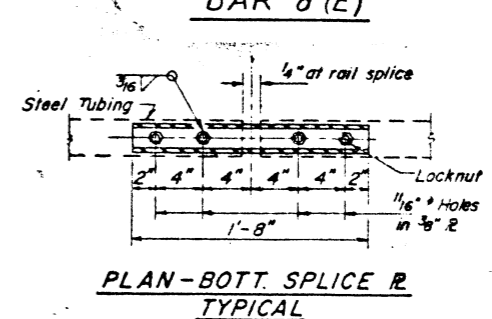
BAR d(E)



TOP ANCHOR DEVICE



SECTIONS AT RAIL SPLICE

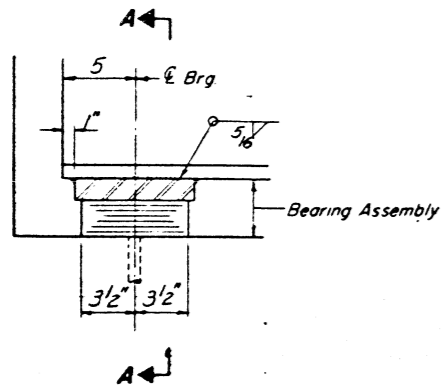


PLAN-BOTT SPLICE R TYPICAL

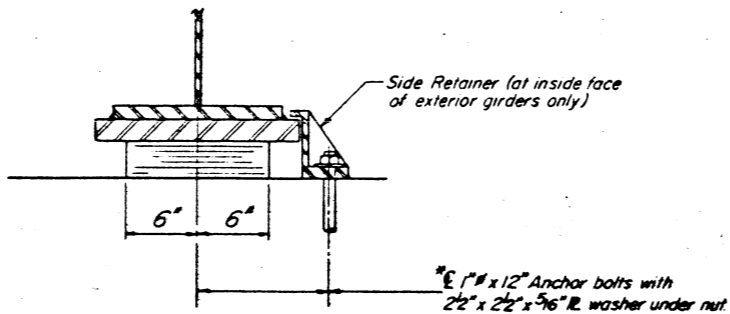
DESIGNED *Lee Sheng Hwang*
CHECKED *Lee Sheng Hwang*
DRAWN *R. P. Summer*
CHECKED *LKA*

EXAMINED *Mark E. Thurner*
PASSED
APPROVED

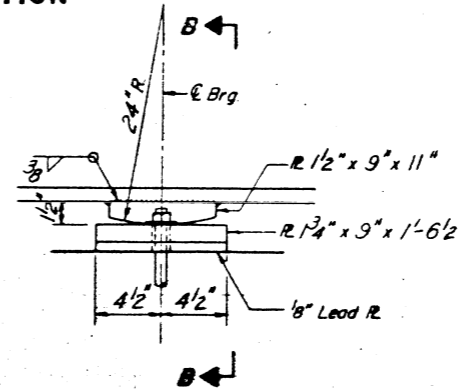
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



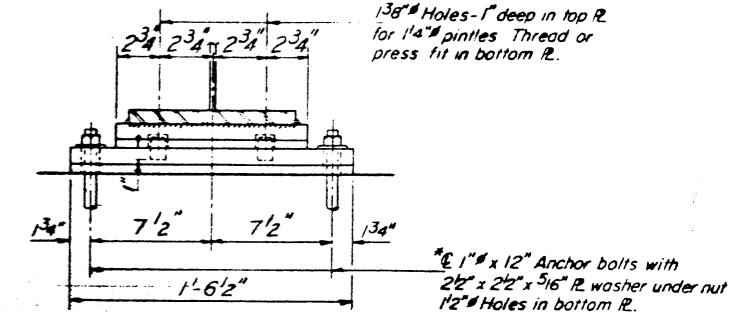
SECTION AT ABUT.



SECTION A-A



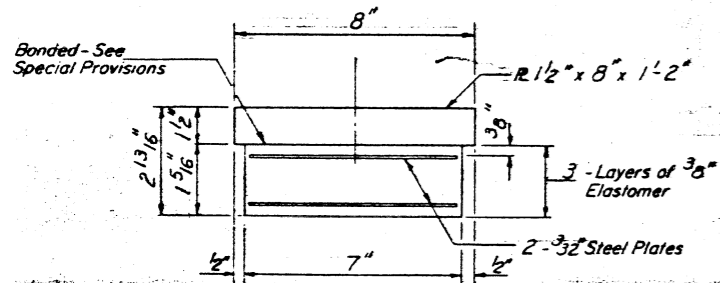
ELEVATION AT PIER



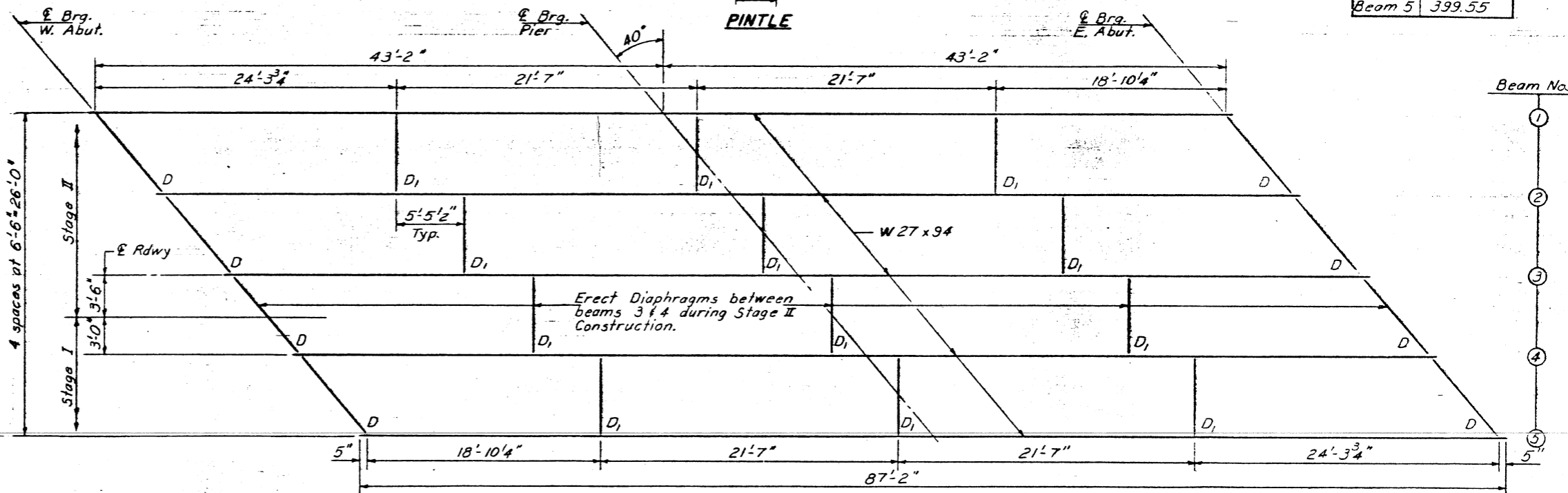
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.

Note: After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



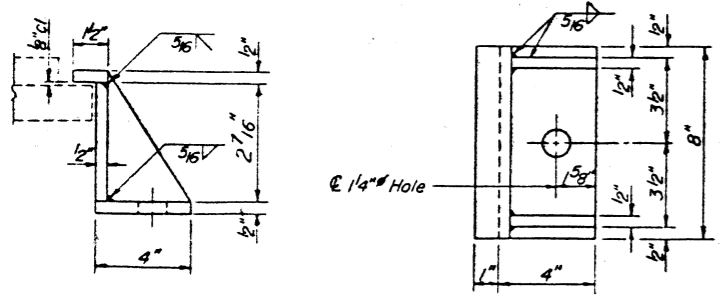
BEARING ASSEMBLY



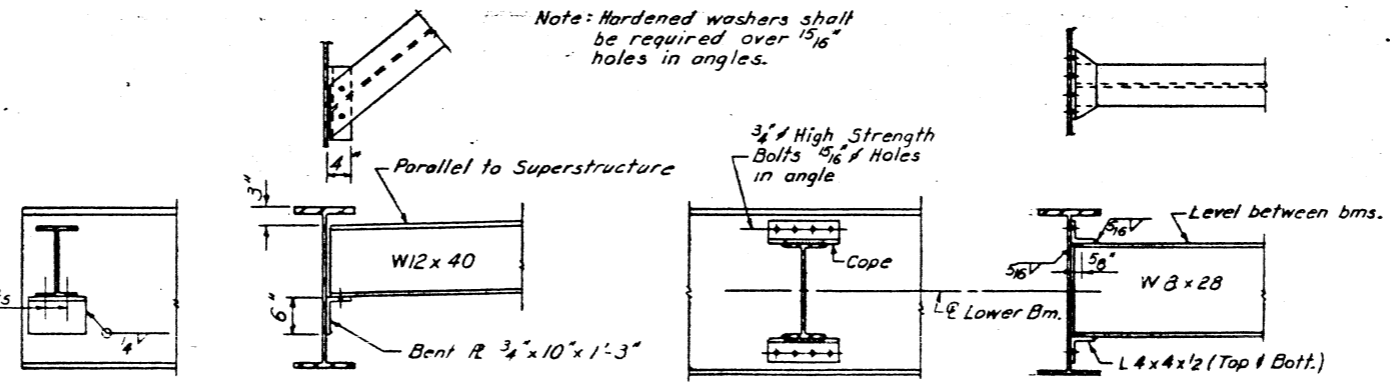
FRAMING PLAN

TOP OF BEAM ELEVATION

Beam 1	398.56
Beam 2	398.81
Beam 3	399.05
Beam 4	399.30
Beam 5	399.55



SIDE RETAINER



DIAPHRAGM D

DIAPHRAGM D1

INTERIOR BEAM MOMENT TABLE

	0.4 Sp. 1	Pier
I (in ⁴)	3270	3270
Q (k/ft)	0.9707	0.9707
M ₀ (k)	127.01	226.87
M ₁ (k)	238.49	176.31
Imp. (k)	71.55	52.89
M _{TOTAL} (k)	437.05	456.07
F _s (ksi)	21.58	22.52

INTERIOR BEAM REACTION TABLE

	Abut.	Pier
R ₀ (k)	15.74	52.46
R ₁ (k)	31.56	39.82
Imp. (k)	9.47	11.95
R _{TOTAL} (k)	56.77	102.23

DESIGNED *Frederick Hank*
CHECKED *R. P. Summer*
DRAWN *R. P. Summer*
CHECKED *R. P. Summer*

EXAMINED *March 16 1978 Carl E. Thompson*
PASSED
APPROVED

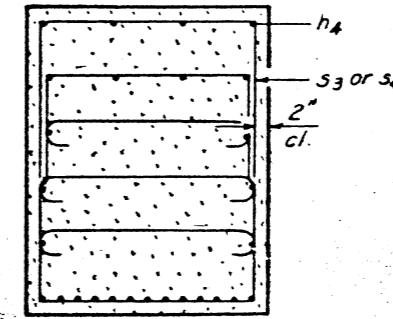
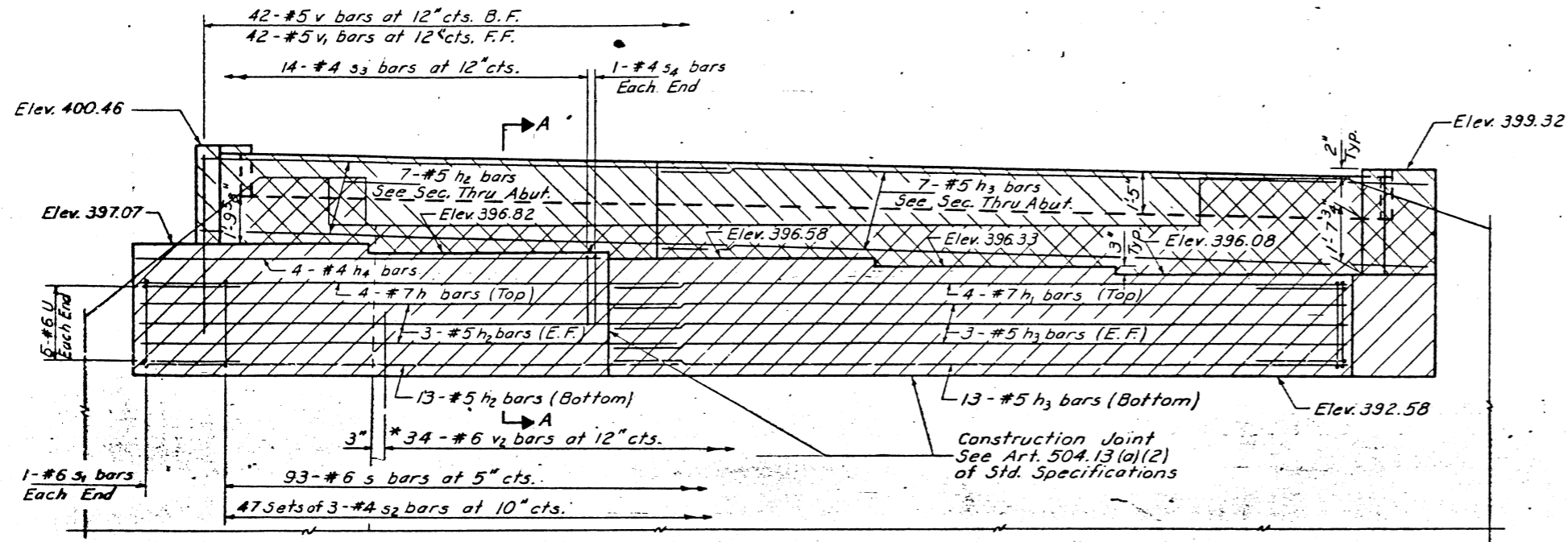
3/4" H.S. Bolts
1/2" Holes in Angle

STRUCTURAL STEEL
F.A. RT. 778 SEC. 3B-DR
HARDIN COUNTY
STA. 783+80.00

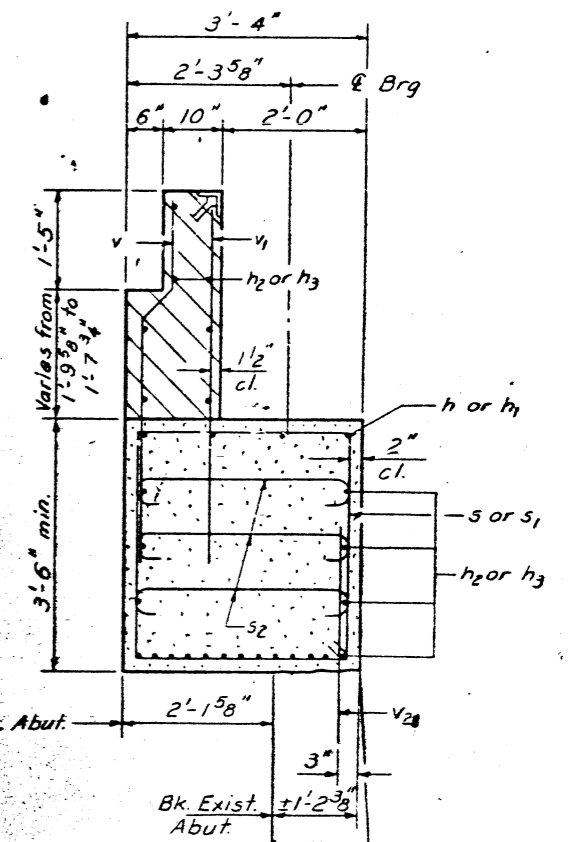
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.
RT. 778	38-DR	Hardin	17	12

SHEET NO. 7
9 SHEETS



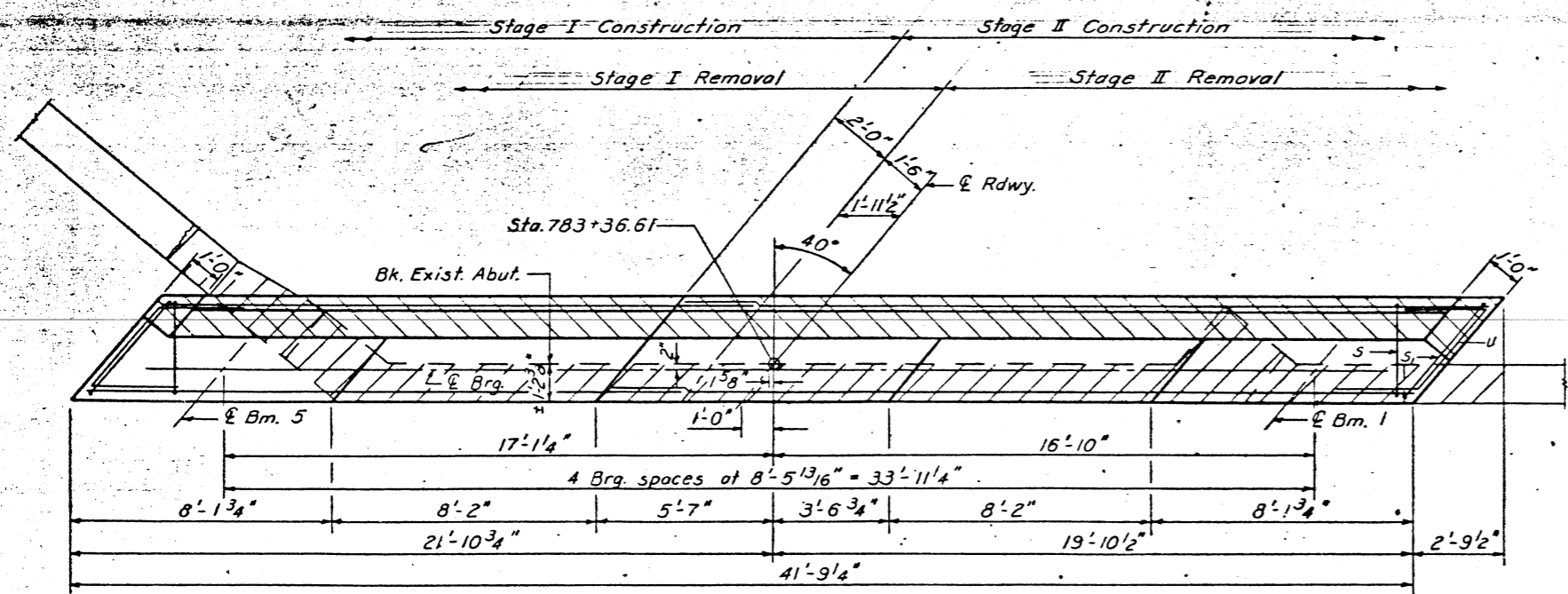
SEC. A-A



SEC. THRU ABUT.

* Drill 1" x 1'-0" hole fill half full with epoxy before placement of v₂ bars
* See Special Provisions for Epoxy Grouting

ELEVATION



PLAN

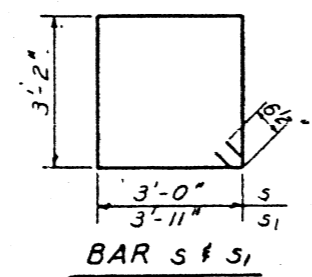
NOTES:
 indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
 shall be poured after Superstructure falsework has been removed.
 All edges shall have standard 3/4" chamfers

BILL OF MATERIAL

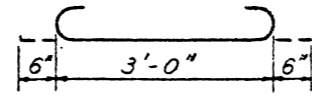
Bar	No.	Size	Length	Shape
h	4	#7	18'-8"	—
h ₁	4	#7	25'-2"	—
h ₂	26	#5	18'-8"	—
h ₃	26	#5	25'-2"	—
h ₄	4	#4	16'-0"	—
s	93	#6	13'-5"	□
s ₁	2	#5	15'-3"	□
s ₂	141	#4	4'-0"	□
s ₃	14	#4	7'-4"	□
s ₄	2	#4	8'-3"	□
u	10	#6	8'-9"	□
v	42	#5	5'-5"	—
v ₁	42	#5	5'-0"	—
v ₂	34	#6	3'-3"	—
Reinforcement Bars				Lbs. 4,720
Class X Concrete				Cu. Yds. 25.1
Concrete Removal				Cu. Yds. 1.1

DESIGNED *Tai Sheng Hwang*
 CHECKED *L. J. ...*
 DRAWN *R. P. Summer*
 CHECKED *S. K. A.*

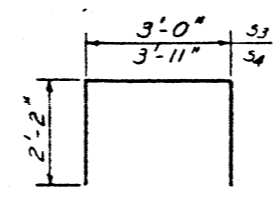
EXAMINED *March 16, 1970*
Carl E. ...
 PASSED
 APPROVED



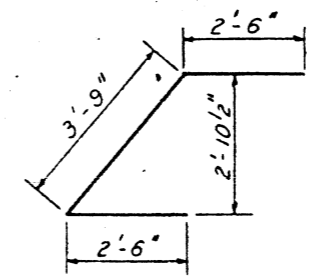
BAR s & s₁



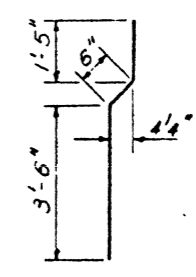
BAR s₂



BAR s₃ & s₄



BAR u

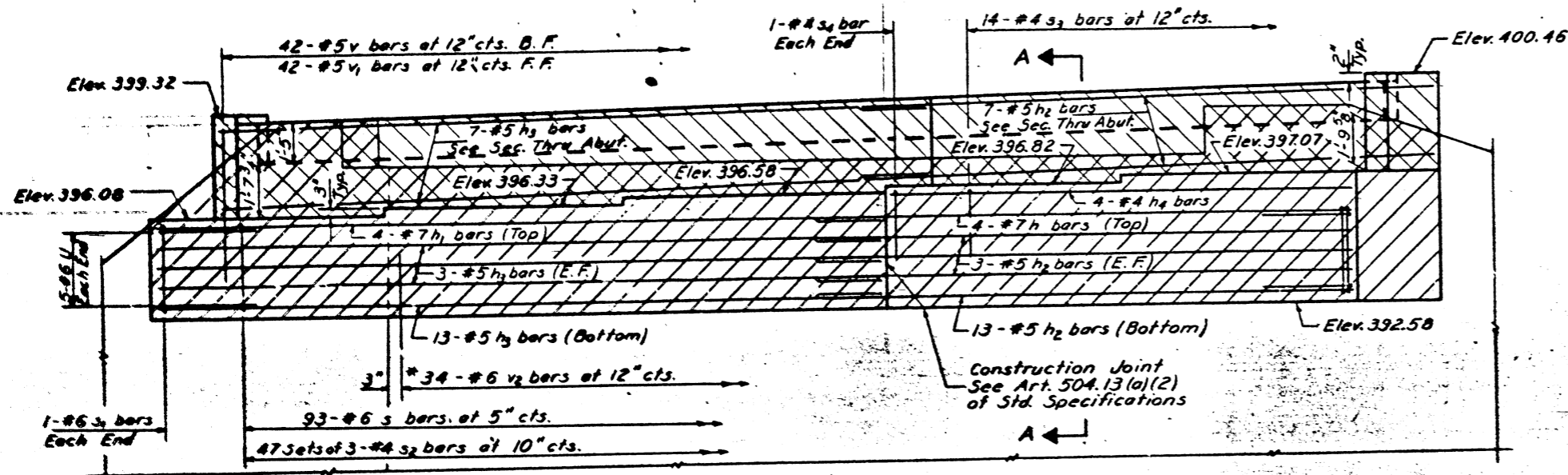


BAR v

WEST ABUTMENT
 F.A. RT. 778 SEC 38-DR
 HARDIN COUNTY
 STA 783+80.00

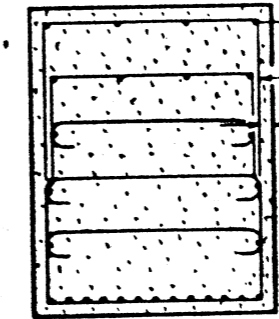
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.
778	38-DR	Hardin	17	13
SHEET NO. 8 9 SHEETS				

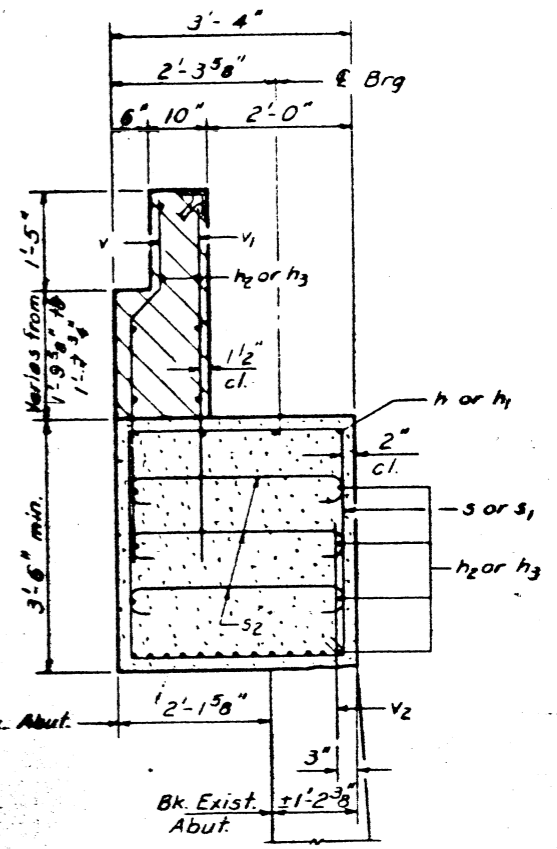


* Drill 1" x 1'-0" hole fill half full with epoxy before placement of v2 bars.
* See Special Provisions for Epoxy Grouting

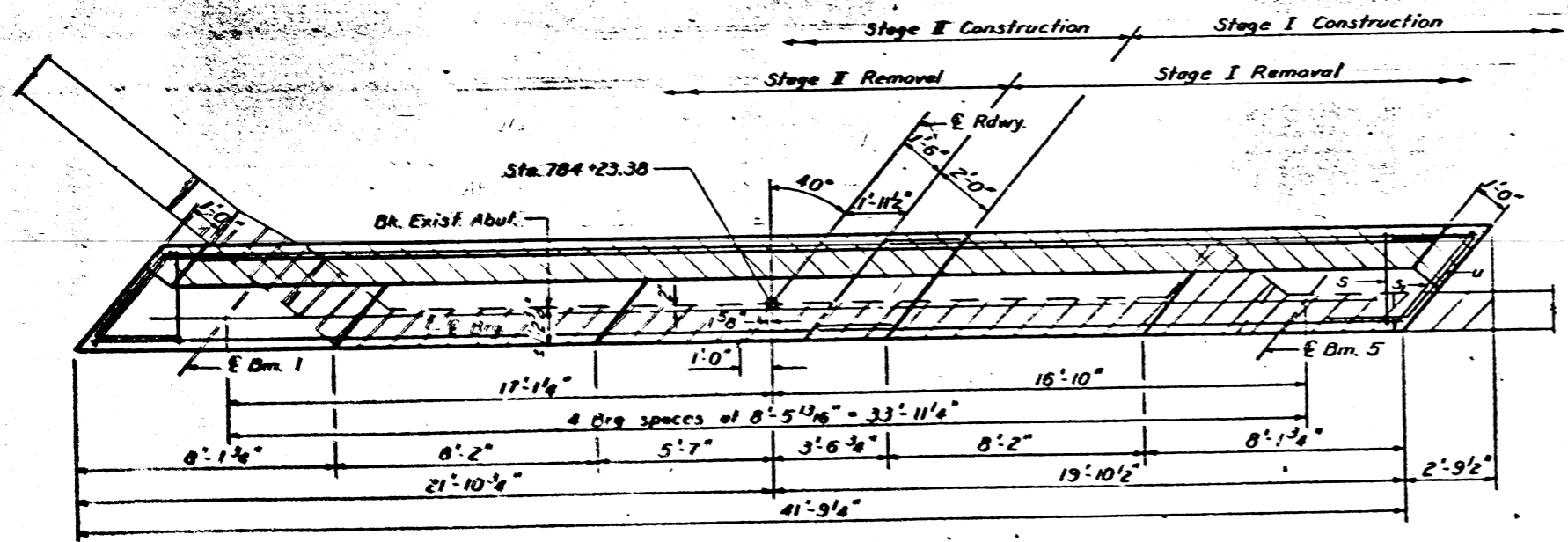
ELEVATION



SEC. A-A



SEC. THRU ABUT.

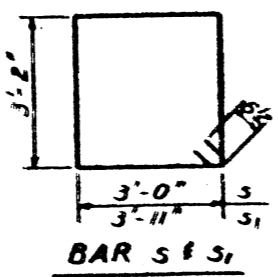


PLAN

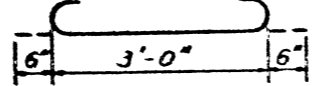
NOTES:
 indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
 shall be poured after Superstructure falsework has been removed.
 All edges shall have standard 3/4" chamfers

BILL OF MATERIAL

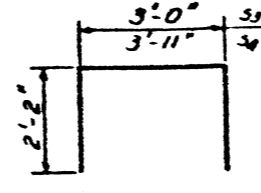
Bar	No.	Size	Length	Grade
h	4	#7	18'-8"	—
h1	4	#7	25'-2"	—
h2	26	#5	18'-8"	—
h3	26	#5	25'-2"	—
h4	4	#4	16'-0"	—
s	93	#6	13'-5"	
s1	2	#6	15'-3"	
s2	141	#4	4'-0"	
s3	14	#4	7'-4"	
s4	2	#4	8'-3"	
u	10	#6	8'-9"	
v	42	#5	5'-5"	—
v1	42	#5	5'-0"	—
v2	34	#6	3'-3"	—
Reinforcement Bars				Lbs. 4720
Class X Concrete				Cu Yds. 26.1
Concrete Removal				Cu Yds. 11



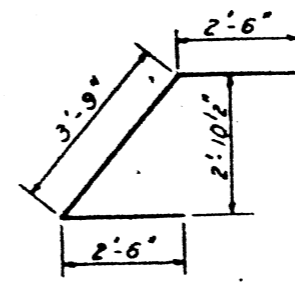
BAR S & S1



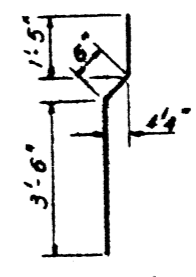
BAR S2



BAR S3 & S4



BAR U



BAR V

DESIGNED BY	Checked
DRAWN BY	Checked
APPROVED	Checked

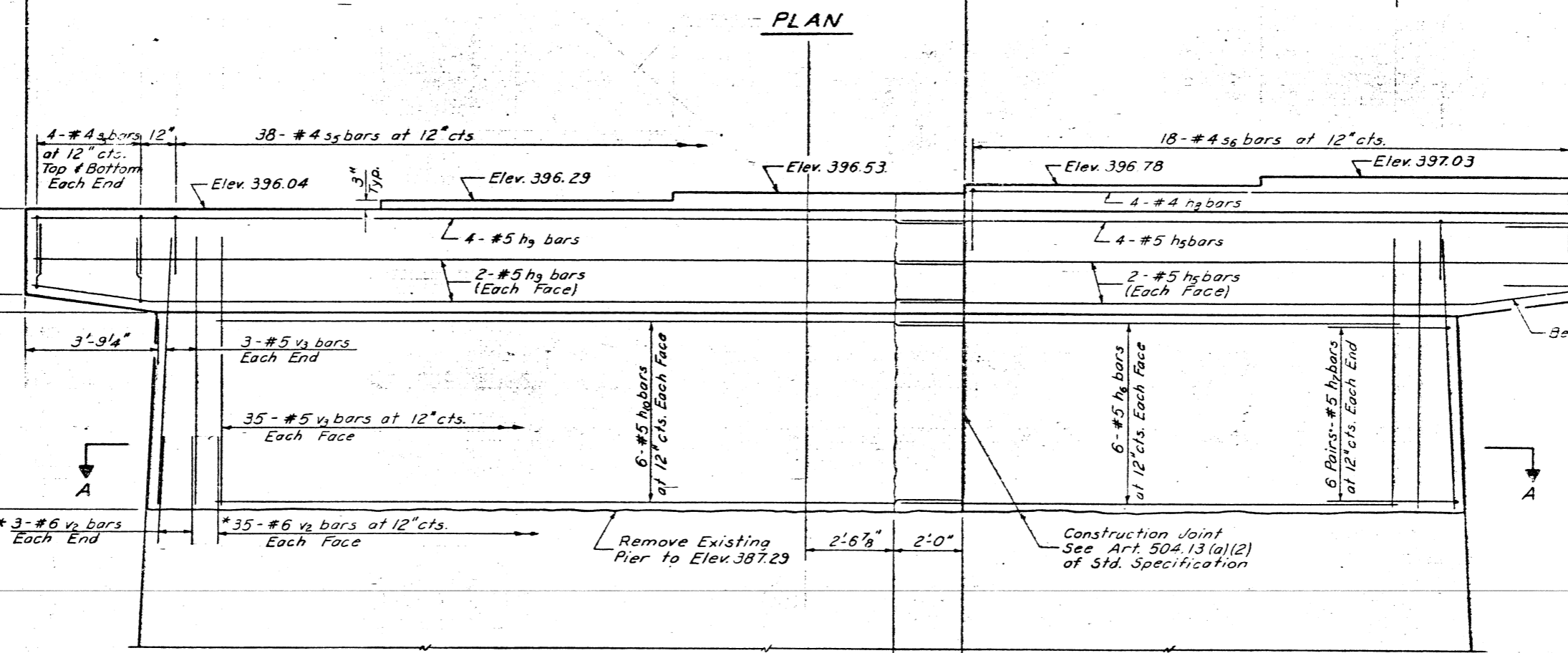
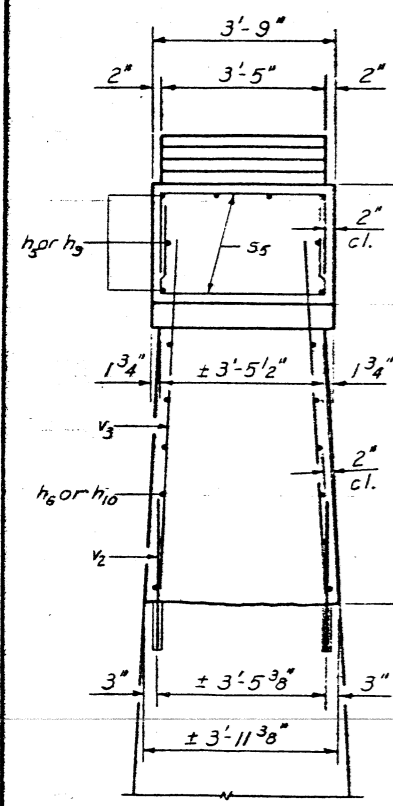
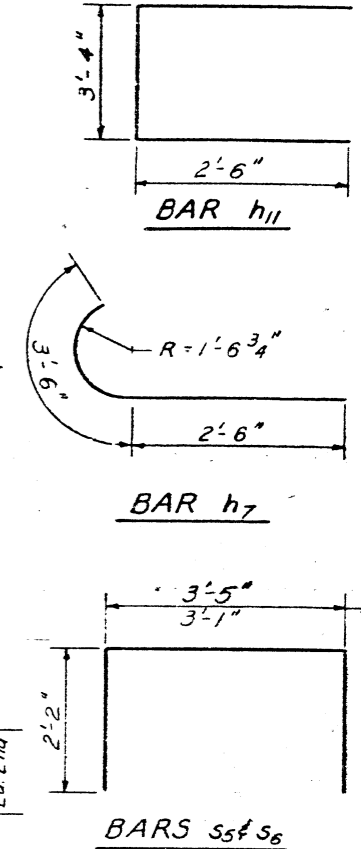
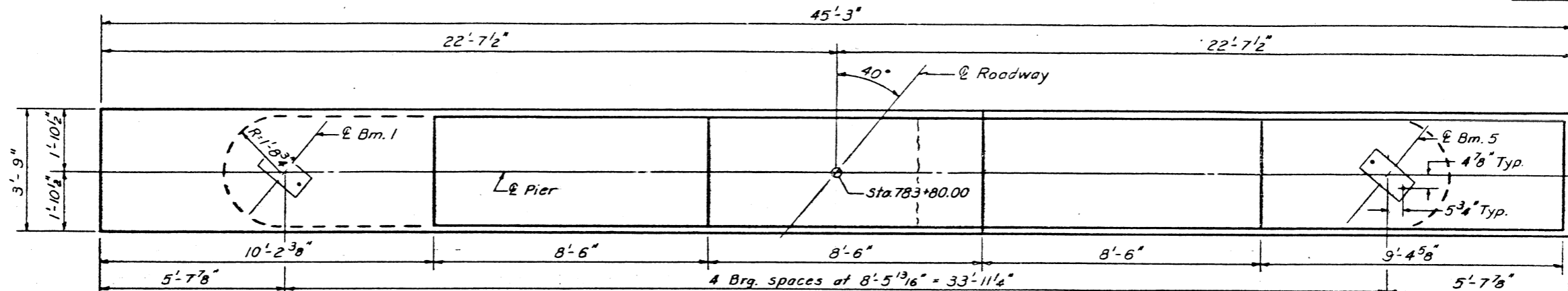
March 15, 1970
 [Signature]
 [Signature]
 [Signature]

EAST ABUTMENT
 F.A. RT. 778 SEC. 38-DR
 HARDIN COUNTY
 STA. 783+80.00

All edges shall have standard 3/4" chamfers

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DESIGN	SECTION	TOTAL SHEETS	SHEET NO.
778	38-DR	Hardin	17	9
SHEET NO. 9		9 SHEETS		



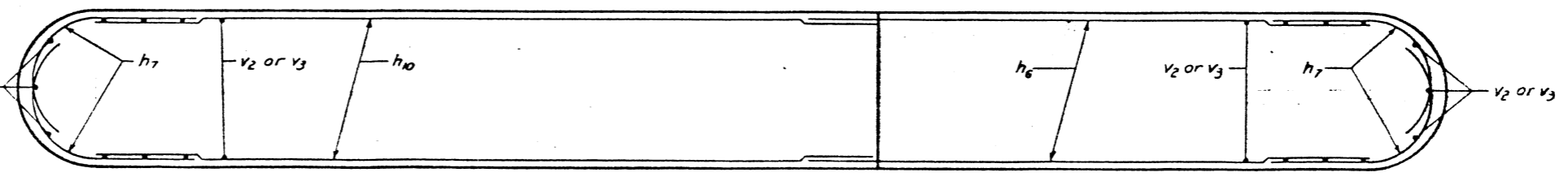
* Drill 1" x 1'-0" hole fill half full with epoxy before placement of v₂ bars. See Special Provisions for Epoxy Grouting.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₅	3	#5	19'-9"	—
h ₆	12	#5	14'-3"	—
h ₇	24	#5	6'-0"	⌋
h ₈	4	#4	17'-6"	—
h ₉	3	#5	25'-11"	—
h ₁₀	12	#5	21'-5"	—
h ₁₁	6	#5	8'-4"	□
s ₅	54	#4	7'-9"	□
s ₆	18	#4	7'-5"	□
v ₂	76	#6	3'-3"	—
v ₃	76	#5	8'-0"	—
Reinforcement Bars		Lbs.	2,460	
Class X Concrete		Cu.Yds.	50.7	
Concrete Removal		Cu.Yds.	52	

DESIGNED: Lee Shing Havel
CHECKED: R. P. Summer
DRAWN: R. P. Summer
CHECKED: [Signature]

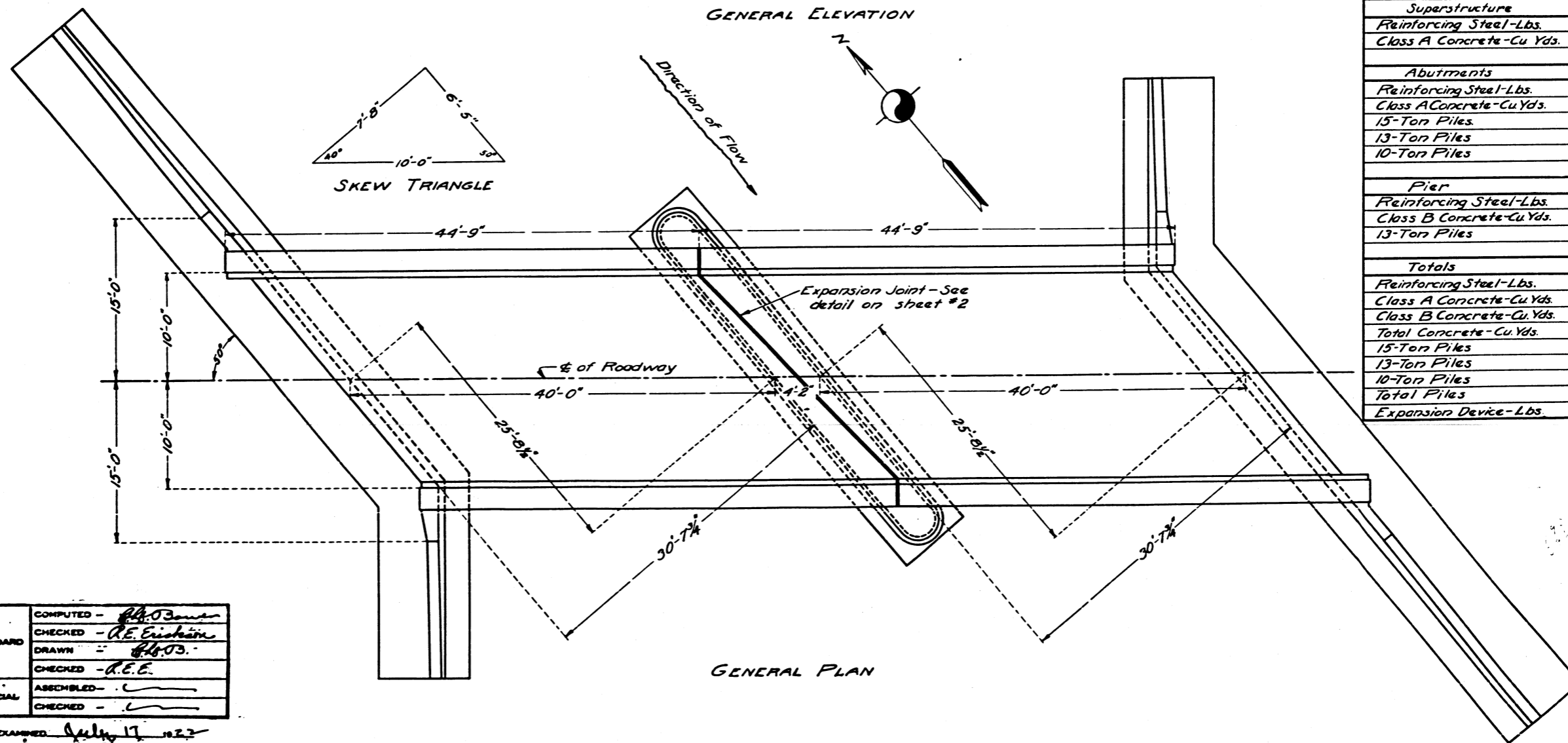
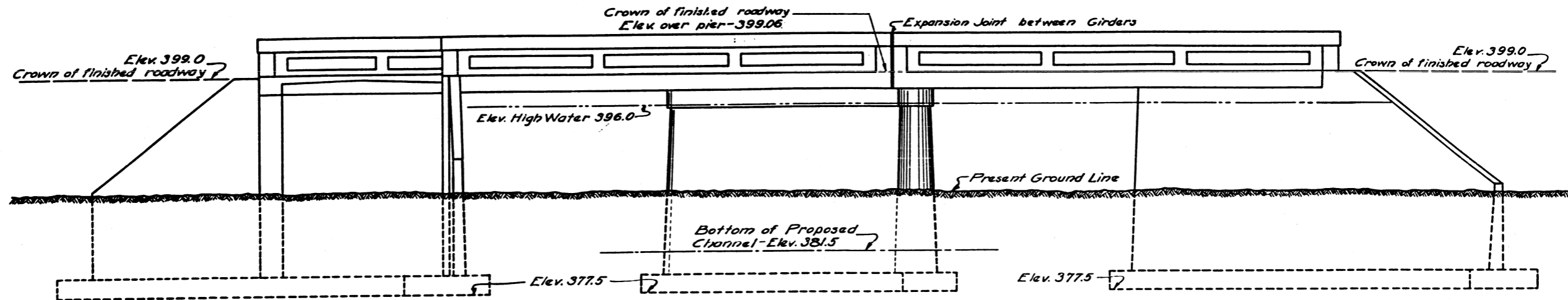
EXAMINED: [Signature]
PASSED
APPROVED: [Signature]



PIER
F.A. RT. 778 SEC. 38-DR
HARDIN COUNTY
STA. 783+80.00

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

BOND ISSUE ROUTE NO. 34 COUNTY HARDIN SEC. 36 TOTAL SHEETS 58 SHEET NO. 1 4 sheets



TOTAL BILL OF MATERIAL

Superstructure	
Reinforcing Steel-Lbs.	33380
Class A Concrete-Cu.Yds.	144.8
Abutments	
Reinforcing Steel-Lbs.	18890
Class A Concrete-Cu.Yds.	241.1
15-Ton Piles	20
13-Ton Piles	48
10-Ton Piles	74
Pier	
Reinforcing Steel-Lbs.	40
Class B Concrete-Cu.Yds.	116.4
13-Ton Piles	31
Totals	
Reinforcing Steel-Lbs.	52250
Class A Concrete-Cu.Yds.	385.9
Class B Concrete-Cu.Yds.	116.4
Total Concrete-Cu.Yds.	502.3
15-Ton Piles	20
13-Ton Piles	79
10-Ton Piles	74
Total Piles	173
Expansion Device-Lbs.	630

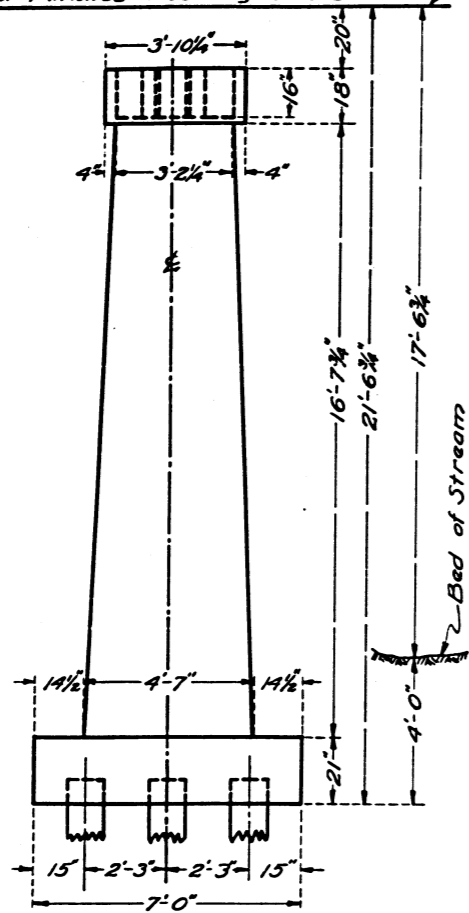
COMPUTED -	<i>R.A. Jones</i>
CHECKED -	<i>R.E. Eischen</i>
DRAWN -	<i>R.A. Jones</i>
CHECKED -	<i>R.E.E.</i>
SPECIAL ASSEMBLED -	<i>[Signature]</i>
CHECKED -	<i>[Signature]</i>

EXAMINED July 17, 1923
[Signature]
 BRIDGE ENGINEER
 PASSED
[Signature]
 DIVISION OF HIGHWAYS
 APPROVED
[Signature]
 DIVISION OF HIGHWAYS

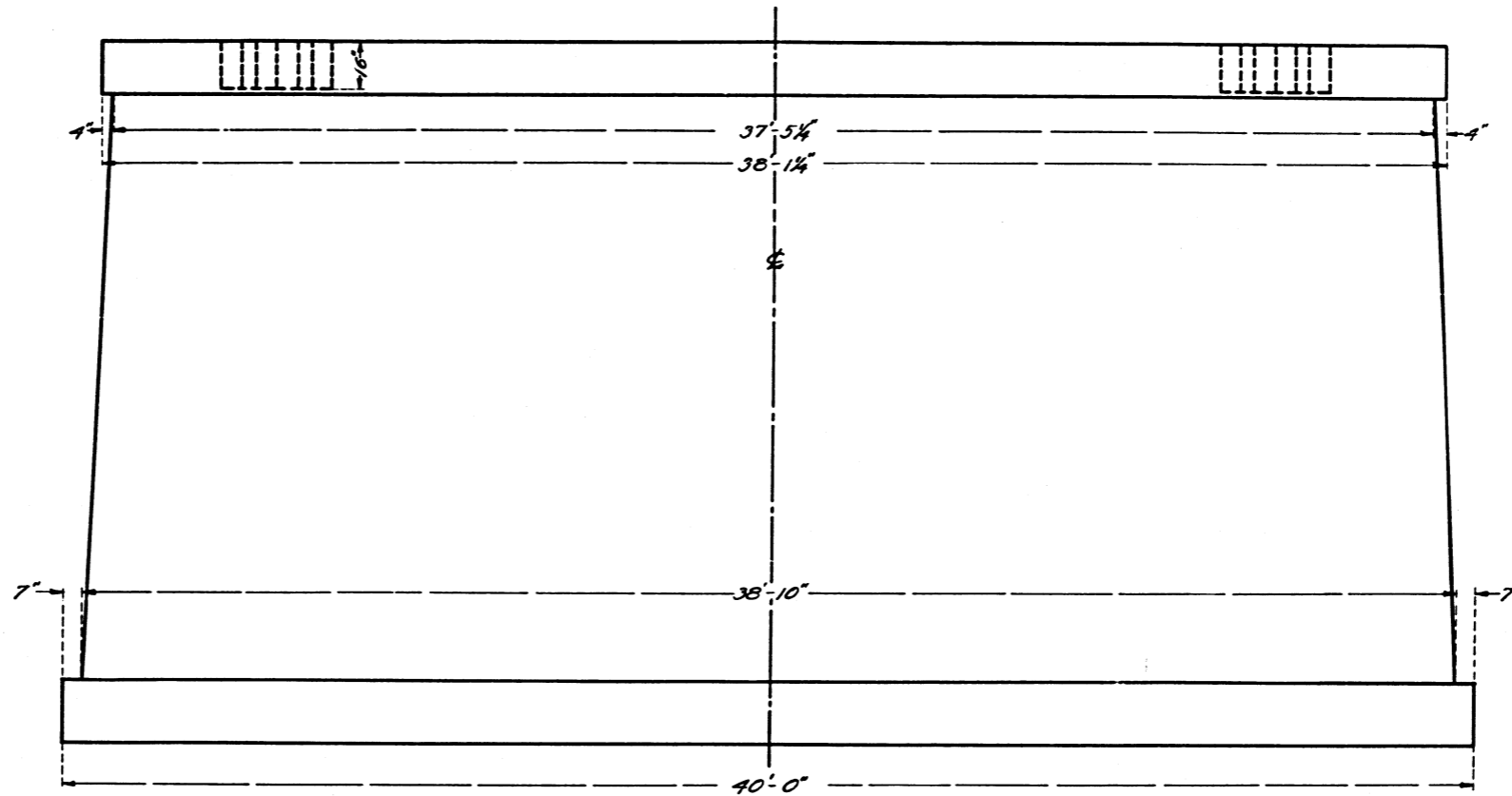
STA. 783+80
STATE BOND ISSUE - ROUTE 34
SECTION 36 - HARDIN COUNTY

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

Crown of Finished Roadway - Elev. 399.06



END ELEVATION

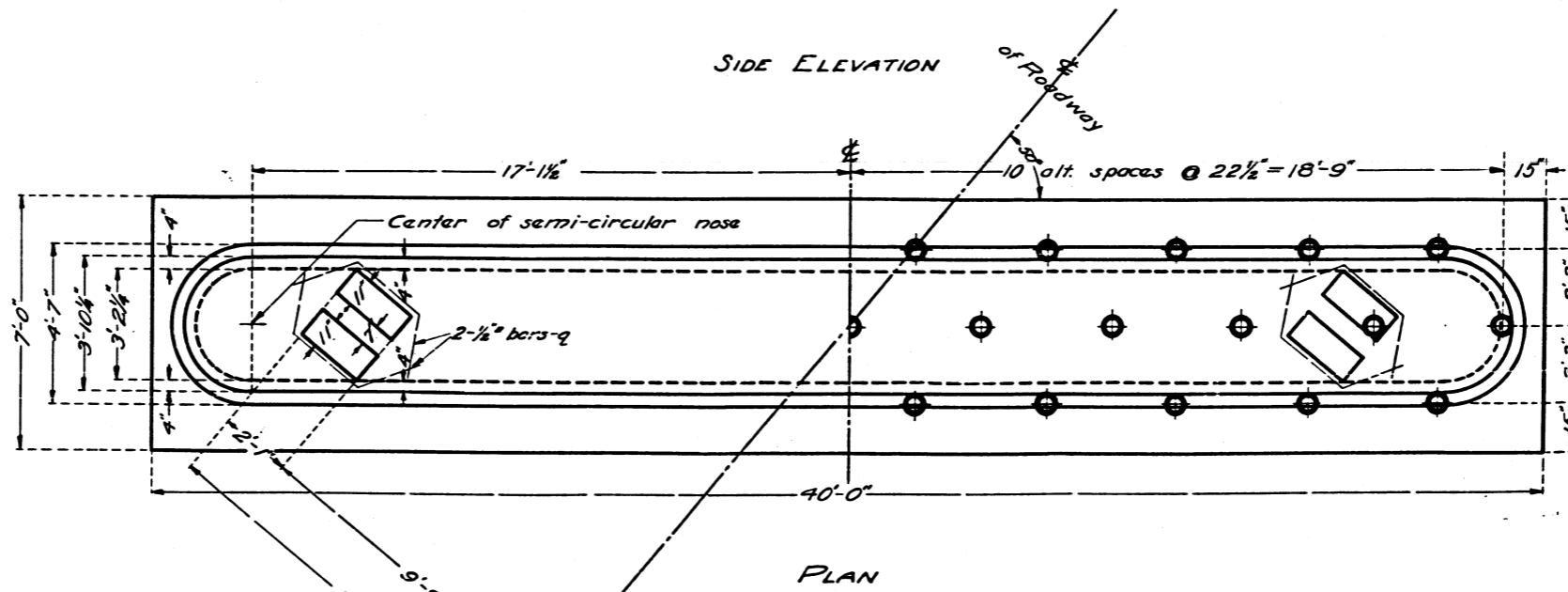


SIDE ELEVATION

BILL OF MATERIAL

Bar	No.	Size	Length
9	8	1/2"	6'-0"
Reinforcing Steel - Lbs. 40			
Concrete - Cu. Yds. 116.4			

Class B concrete to be used thruout. Proportions 1:3:5.



PLAN

13-Top piles - Untreated
31 required
12" butt - 10" tip

STANDARD	COMPUTED - <i>R.H.O. Jones</i>
	CHECKED - <i>U.E. Erickson</i>
	DRAWN - <i>R.H.O.</i>
	CHECKED - <i>R.E.C.</i>
SPECIAL	ASSEMBLED - <i>[Signature]</i>
	CHECKED - <i>[Signature]</i>

EXAMINED *July 17, 1923*

[Signature]
BRIDGE ENGINEER

PASSED *[Signature]*
ENGINEER OF DISTRICT

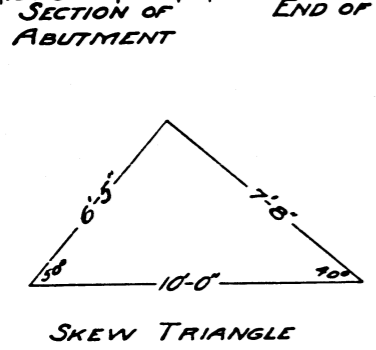
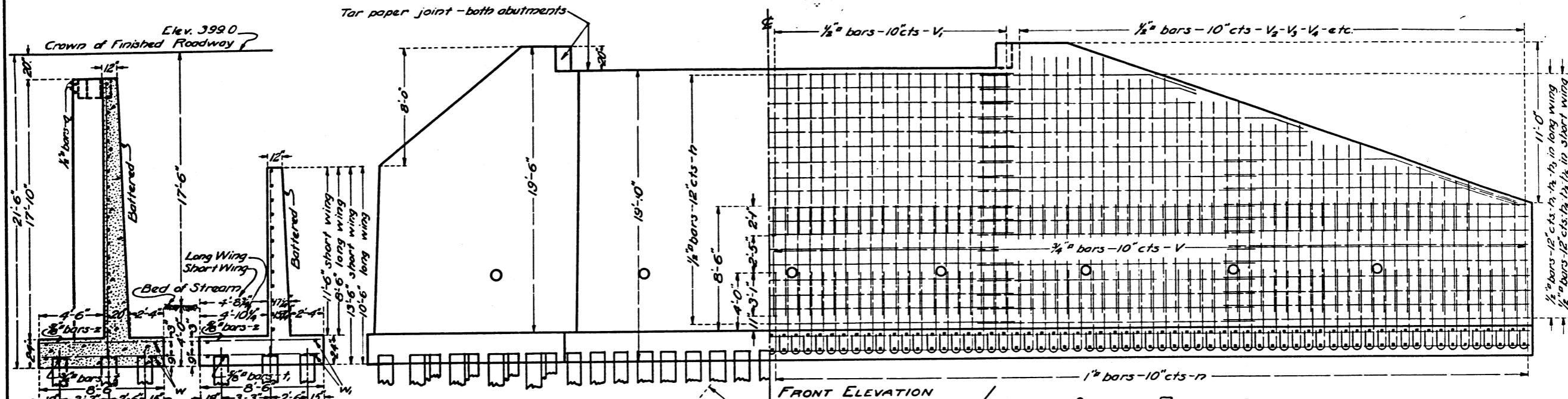
APPROVED *[Signature]*
CHIEF HIGHWAY ENGINEER

B.M. Will be shown on road plans
No existing structure

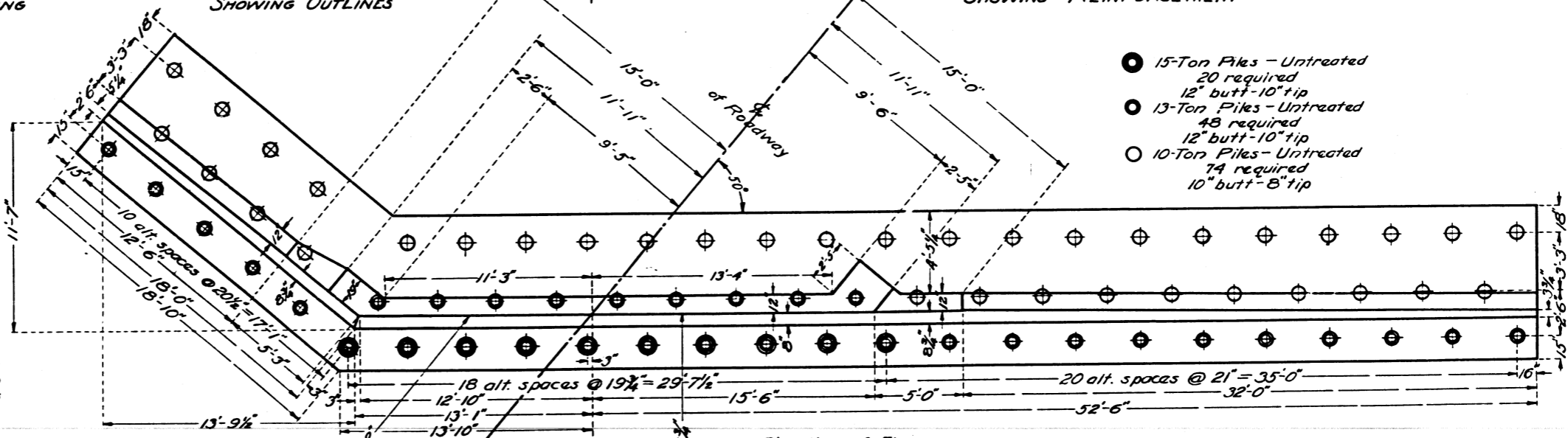
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
34	POPE HARDIN	3A	58	54

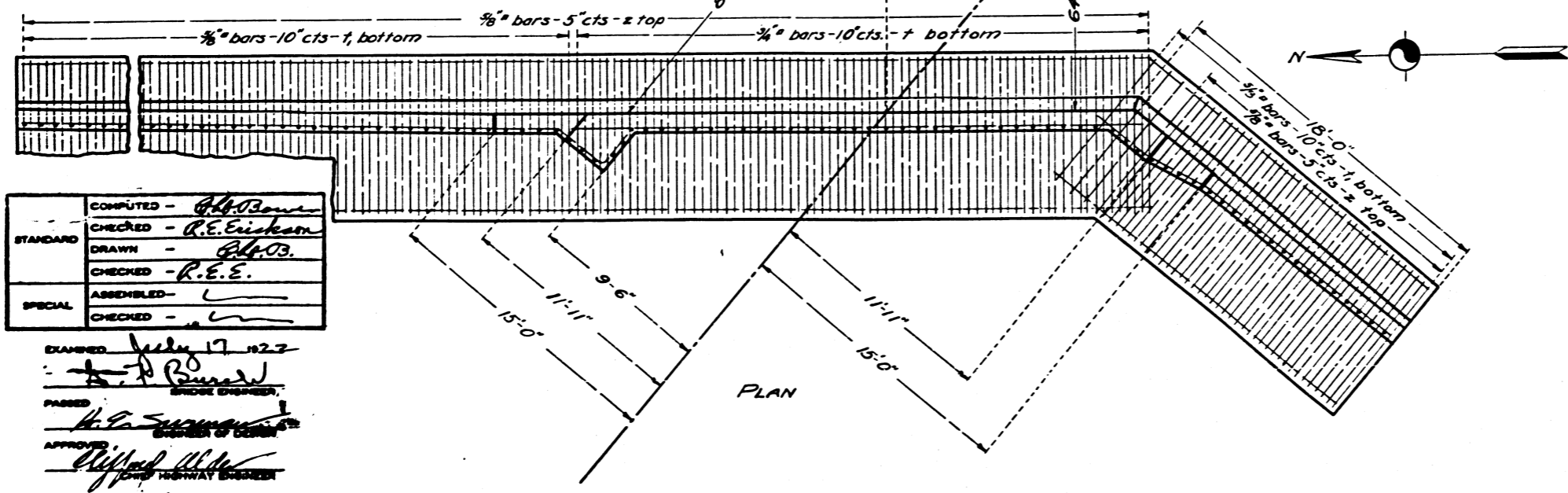
SHEET No. 4
4 sheets



NOTE:
New channel to be 45' wide at bottom at right angles to $\frac{1}{2}$ of new channel. Side slopes of 1 to 1. Bridge contractor to dig new channel within limits of bridge.



- 15-Ton Piles - Untreated
20 required
12" butt-10" tip
- 13-Ton Piles - Untreated
48 required
12" butt-10" tip
- 10-Ton Piles - Untreated
74 required
10" butt-8" tip



COMPUTED	- R.E. Eickson
CHECKED	- R.E. Eickson
DRAWN	- R.E. Eickson
CHECKED	- R.E. Eickson
ASSEMBLED	-
CHECKED	-

DRAWN July 17 1923
R. E. Eickson
BRIDGE ENGINEER
H. G. ...
APPROVED
DIVISION OF HIGHWAYS

BILL OF MATERIAL

Bar No.	Size	Length	Quantity	Notes
V	200	7'-6"	26	1/4
V1	76	11'-0"	6	1/2
V2	30	12'-0"	4	1/4
V3	16	10'-6"	200	1"
V4	18	9'-0"	74	3/4"
V5	16	7'-6"	128	3/8"
V6	14	6'-0"	392	3/8"
V7	14	4'-6"		
V8	8	3'-6"		
h1	72	16'-0"		
h2	48	21'-0"		
h3	6	25'-0"		
h4	6	17'-0"		
w	24	23'-6"		
w1	8	19'-0"		

Steel - Lbs 18890
Concrete - Cu Yds 2411

Class A concrete to be used thruout. Proportions 1:2 1/2:4

STA. 783+80
STATE BOND ISSUE - ROUTE 34
SECTION 3b - HARDIN COUNTY