

98798 #154 6-B-03 FAP312 Jackson Sec BSMART FY04-1 J.R. #154

154 95%
1-3-2004

F.A.P. DTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

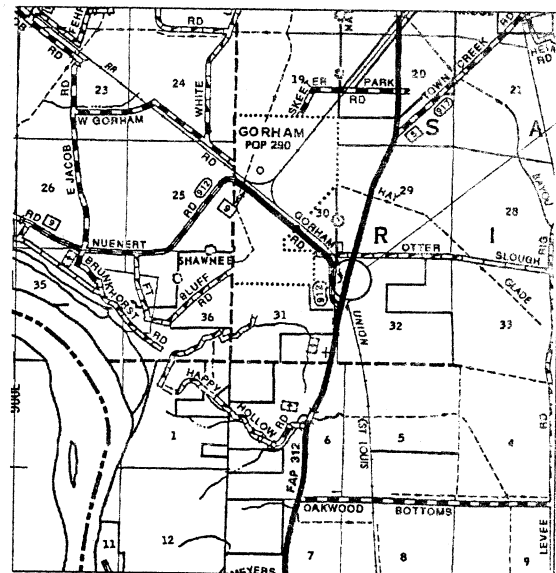
F.A.P. ROUTE 312 (ILLINOIS 3)
SECTION BSMART FY04-1

JACKSON COUNTY
C-99-037-03

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 2

TRAFFIC DATA
2002 ADT = 2150
16% TRUCKS
POSTED SPEED: 55MPH

TOWNSHIP: SAND RIDGE



PROPOSED BRIDGE REPAIRS (SN 039-0048):
ILLINOIS 3 OVER MISSOURI PACIFIC RAILROAD;
DECK REPAIRS, JOINT RECONSTRUCTIONS,
REPLACE BEARINGS AT ABUTMENTS, DRAIN
EXTENSIONS & ELIMINATION, MICROSILICA
CONCRETE OVERLAY.

LENGTH OF BRIDGE = 341'-6"
LENGTH OF PROJECT = 341'-6"



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 31, 2002

Thomas A. Zuercher DISTRICT ENGINEER

May 9, 2003
Michael Rhin
ENGINEER OF DESIGN AND ENVIRONMENT

May 9, 2003
Victor A. Modder pf
DIRECTOR, DIVISION OF HIGHWAYS

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OF THE STATE OF ILLINOIS

9-179

039-0048

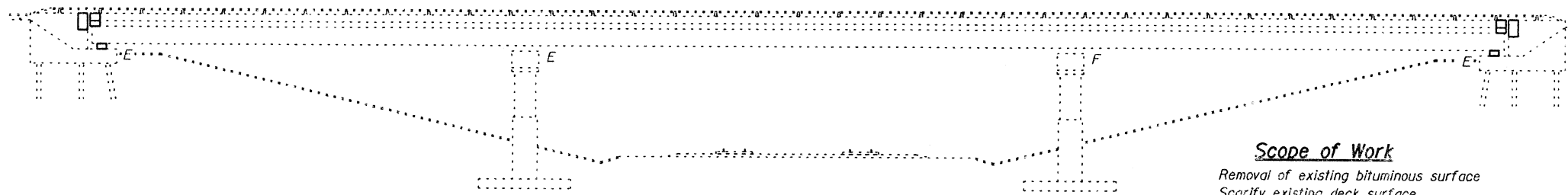
039-0048

CONTRACT NO. 98798

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123 or www.julietcall.com

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	3



- Removal of existing bituminous surface*
- Scarify existing deck surface*
- Deck patching*
- Microsilica concrete overlay*
- Bearing removal and replacement*
- at both abutments*
- Joint reconstruction*
- at both abutments*
- Drain extensions and eliminations*

1996 AASHTO with 1997, 1999 & 2000 Interims.

FIELD UNITS

$f'_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi (reinforcement)}$
 $f_y = 36,000 \text{ psi (structural steel) (M270 Gr. 36)}$

1. Remove Stage I Areas
2. Perform Stage I Repairs and Overlay
3. Remove Stage II Areas
4. Perform Stage II Repairs and Overlay

[illegible]

P=Designates Drains to be Plugged
E=Designates Drains to be Extended

Existing name plate to be cleaned & relocated. Cost included with "Concrete Superstructures".

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other loose, detrimental foreign material shall be removed from the surfaces of the beams in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams in contact with concrete. Tightly adhered paint shall remain unless otherwise noted. This removal be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

Protective coat shall be applied to the bridge deck Microsilica Concrete Overlay in accordance with article 503.19 of the Standard Specifications. The seasonal exception shall not apply. The rate of application for each coat on saw cut grooved areas shall be 25 Sq. Yds. per gallon of mixture.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type 1. Cost included with "Furnishing and Erecting Structural Steel".

All structural steel shall be AASHTO M 270 Grade 36.

Existing structural steel shall only be cleaned as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures". Shoulder work must be completed before the barrier wall is erected.

The quantity of Formed Concrete Repair (Depth equal to or less than 5") is for the abutment boxwalls. Any repairs required that are a result of damage done by the contractor during the removal of the hatchblock area shall be at the expense of the contractor.

* The contractor will be allowed the option of placing P.C.C. Pavement in lieu of the Bituminous concrete used in preparing shoulders for staged traffic. There will be no additional compensation if the P.C.C. Pavement is used.

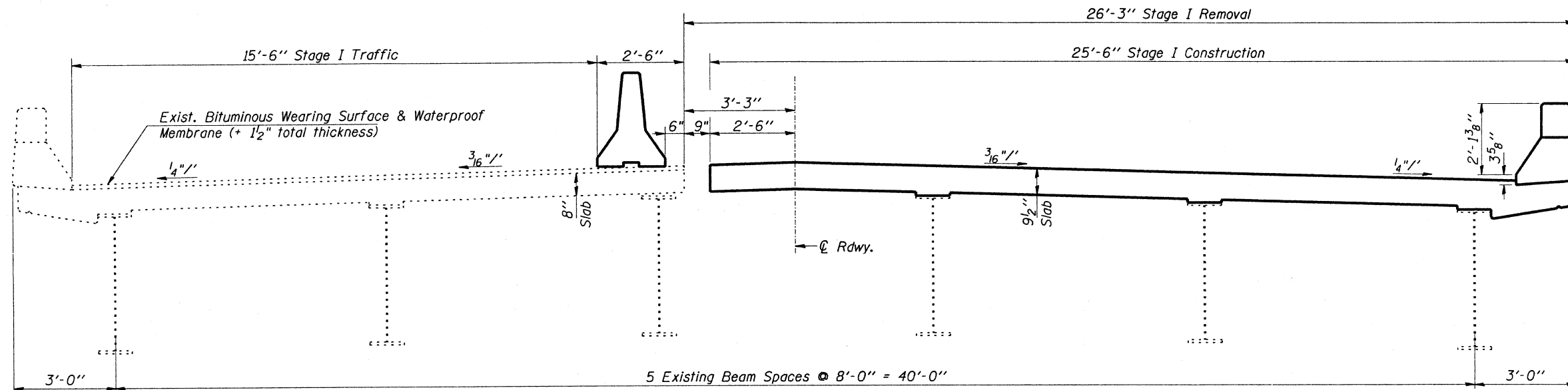
None

ITEM	UNIT	TOTAL
Bituminous Concrete Removal (Deck)	Sq. Yd.	1521
Concrete Bridge Deck Scarification (3/4 inch)	Sq. Yd.	1521
Deck Slab Repair (Partial)	Sq. Yd.	47
Concrete Removal	Cu. Yd.	27.5
Jack and Remove Existing Bearings	Each	12
Elastomeric Bearing Assembly, Type I	Each	6
Elastomeric Bearing Assembly, Type II	Each	6
Furnishing and Erecting Structural Steel	Pound	3770
Reinforcement Bars, Epoxy Coated	Pound	4470
Bar Splicers	Each	30
Concrete Superstructure	Cu. Yd.	31.0
Neoprene Expansion Joint (2")	Foot	102
Neoprene Expansion Joint (4")	Foot	102
Plug Existing Deck Drains	Each	38
Floor Drain Extensions	Each	30
Formed Concrete Repair (Depth < 5")	Sq. Ft.	30
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq. Yd.	1521
Bridge Deck Grooving	Sq. Yd.	1494
Protective Coat	Sq. Yd.	1568

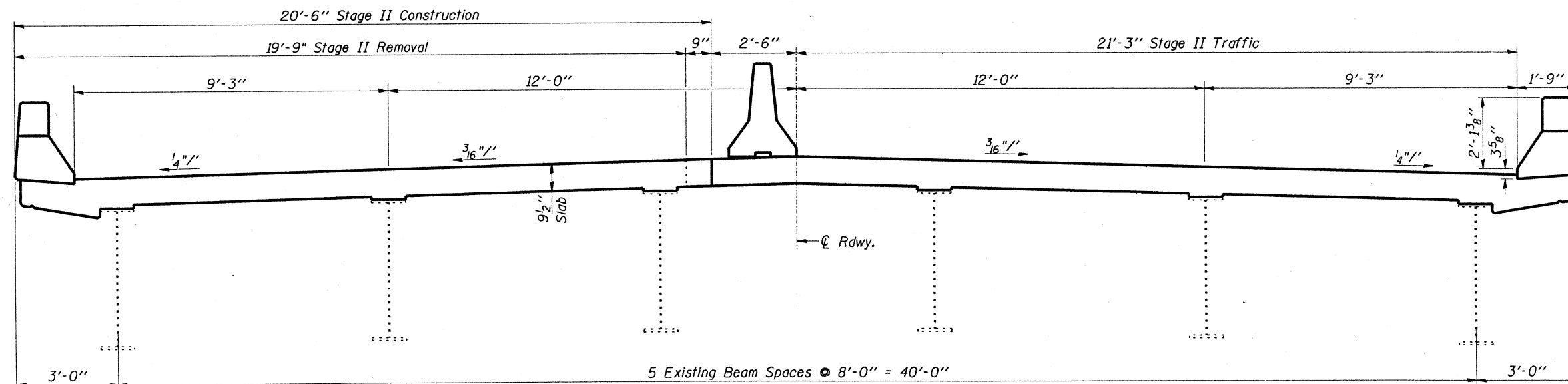
GENERAL PLAN AND ELEVATION
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	4



STAGE I CONSTRUCTION
(Looking South)

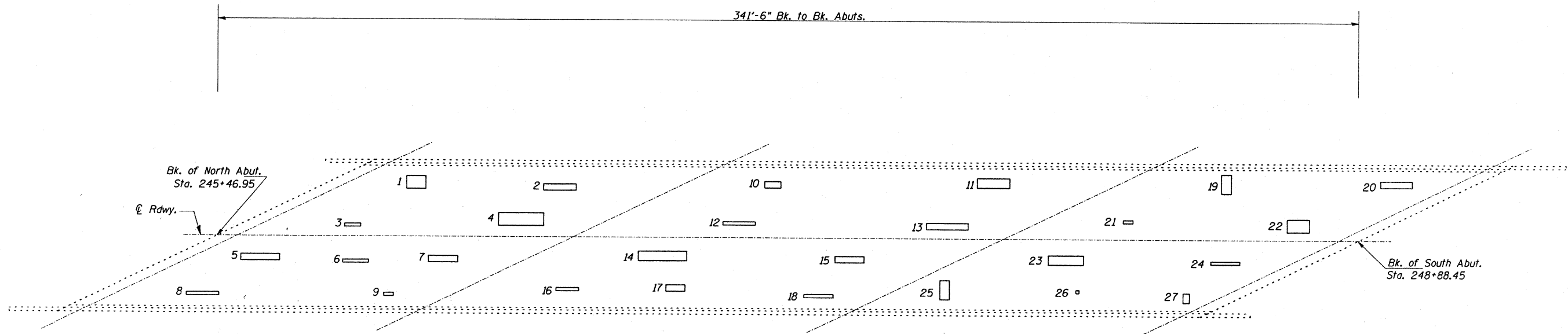


STAGE II CONSTRUCTION
(Looking South)

STAGING DETAILS • JOINT RECONSTRUCTION
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	8

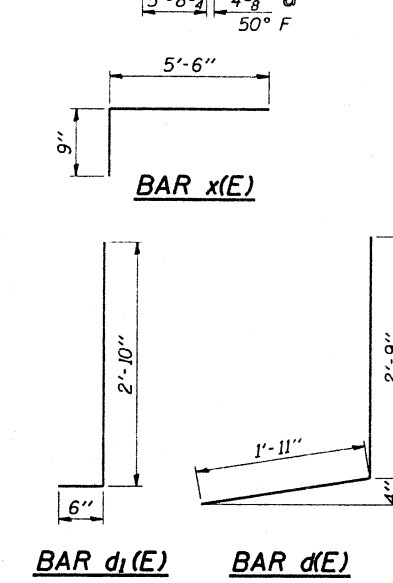
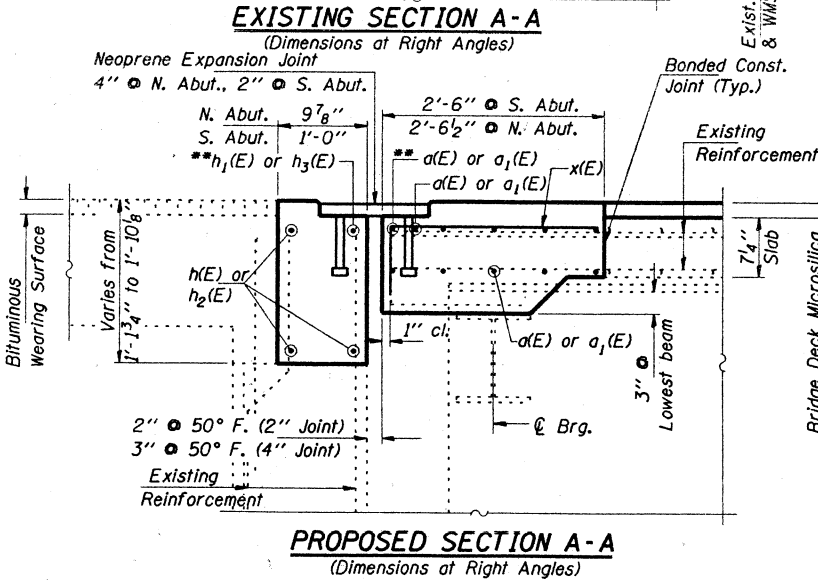
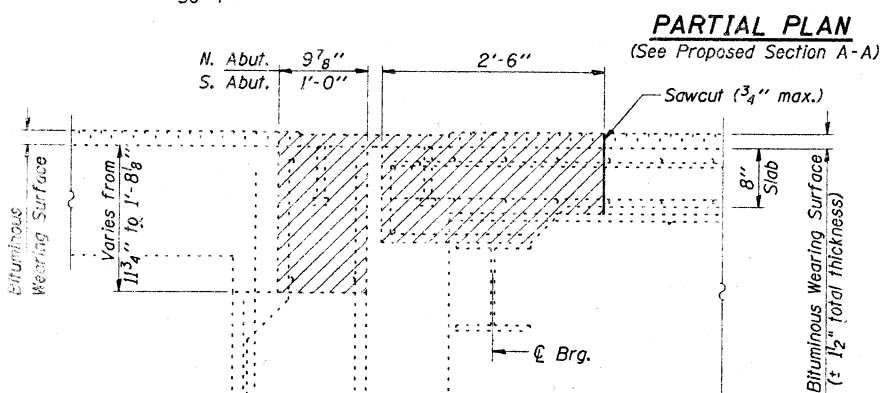
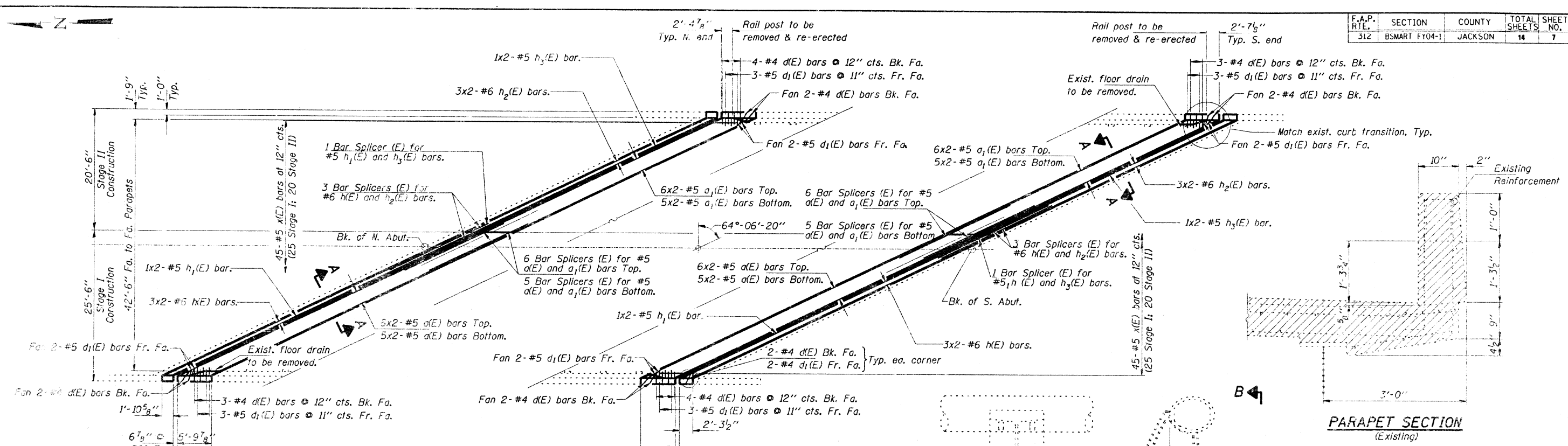


NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
1	6	4	2.7
2	9	2	2.0
3	5	1	0.6
4	12	4	5.3
5	11	2	2.4
6	8	1	0.9
7	9	2	2.0
8	9	1	1.0
9	3	1	0.3
10	5	2	1.1
11	9	3	3.0
12	9	1	1.0
13	13	2	2.9
14	14	3	4.7
15	8	2	1.8
16	6	1	0.7
17	5	2	1.1
18	8	1	0.9
19	3	6	2.0
20	9	2	2.0
21	3	1	0.3
22	6	4	2.7
23	11	3	3.7
24	8	1	0.9
25	3	2	0.7
26	1	1	0.1
27	2	3	0.7
TOTAL (SQ YD)			47.3

Notes: Deck sounding was performed on November 8, 2002

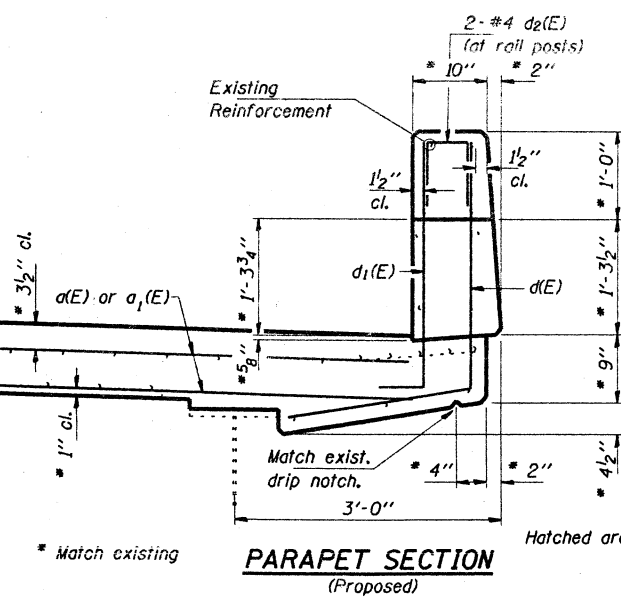
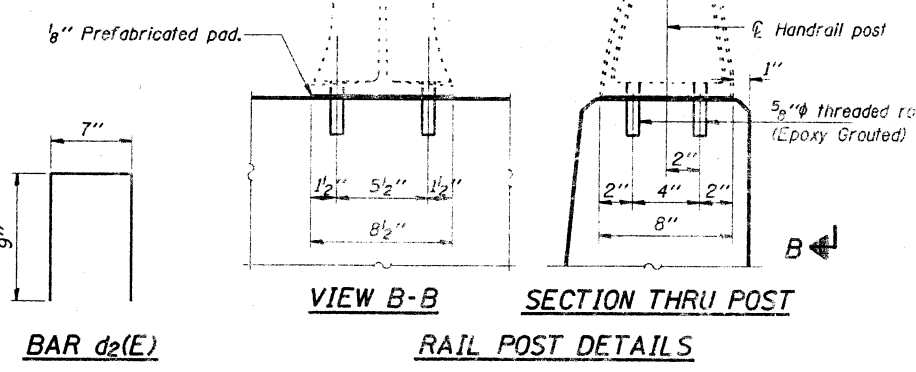
The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. The actual locations shall be included in the as built plans.

DECK PATCHING DETAILS
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048



** Place d(E) or a1(E) and h1(E) or h3(E) bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-1/8"). Anchor bolts should be tied to d(E) or a1(E) and h1(E) or h3(E) bars.

Existing Reinforcement, extending into removal areas, shall be cleaned, straightened and incorporated into the new construction. Cost included in "Concrete Removal".



PARAPET SECTION (Existing)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	44	#5	2'-10"	—
a1(E)	44	#5	2'-10"	—
h(E)	12	#5	30'-2"	—
h1(E)	4	#5	30'-2"	—
h2(E)	12	#6	24'-5"	—
h3(E)	4	#5	24'-5"	—
d(E)	30	#4	4'-8"	J
d1(E)	28	#5	3'-4"	I
d2(E)	8	#4	2'-1"	n
x(E)	90	#5	6'-3"	—
Reinforcement Bars, Epoxy Coated				Pound
Concrete				Cu. Yds.
Superstructure				31.0
Concrete Removal				Cu. Yds.
				27.5

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 6 x 4-#5 etc. indicates 6 lines of bars with 4 lengths per line.

MIN. BAR LAPS
#5 Bar = 2'-2"
#6 Bar = 2'-7"

JOINT RECONSTRUCTION DETAILS
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

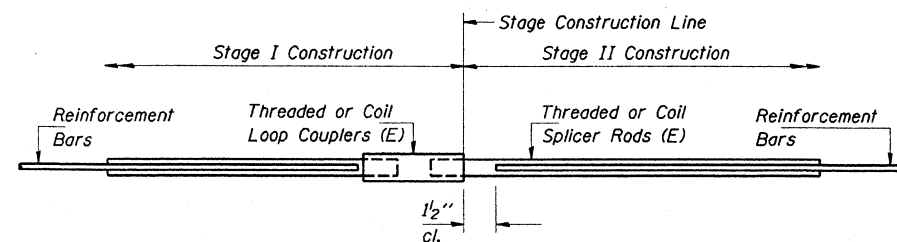
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{sallow} \times A_t$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 f_{sallow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



SPLICER DETAIL

Bar Size	No. Assemblies Required	Location
#5	12	N. Abutment
#5	12	S. Abutment
#6	3	N. Abutment
#6	3	S. Abutment

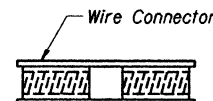
The diameter of this part is the same as the diameter of the bar spliced.

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



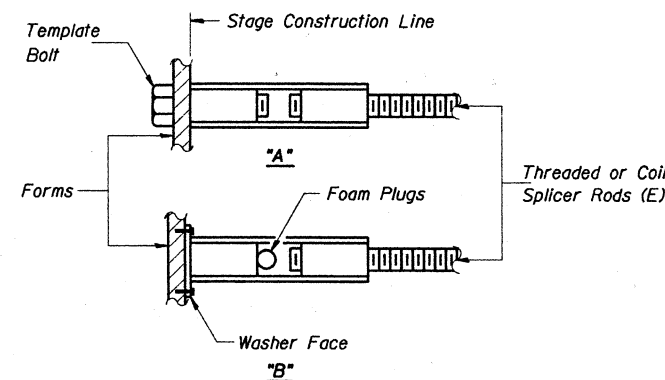
** ONE PIECE



WELDED SECTIONS

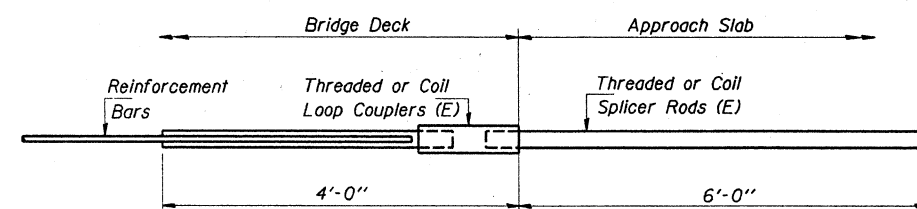
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

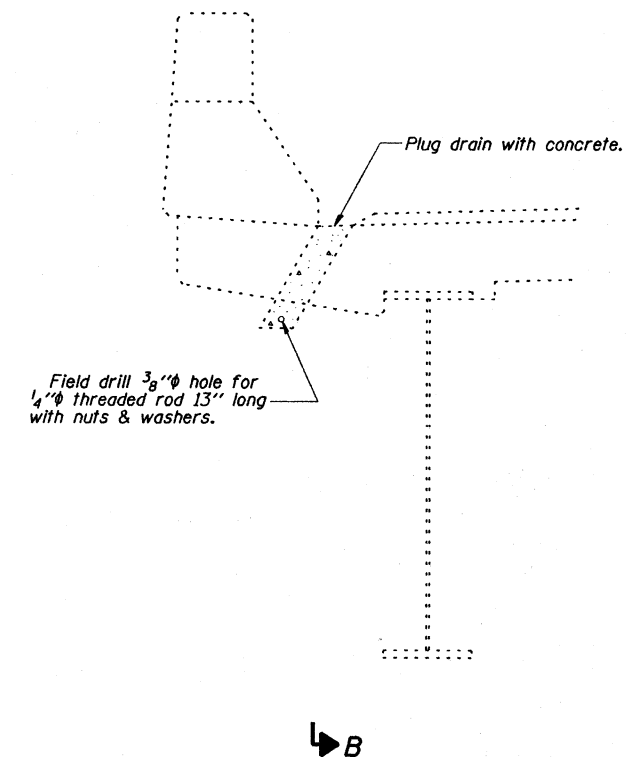


INTEGRAL ABUTMENT
BAR SPLICER ASSEMBLY DETAIL
FOR #5 BAR

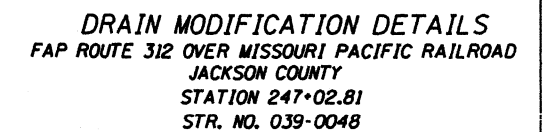
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =

BAR SPLICER ASSEMBLY DETAILS
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	10

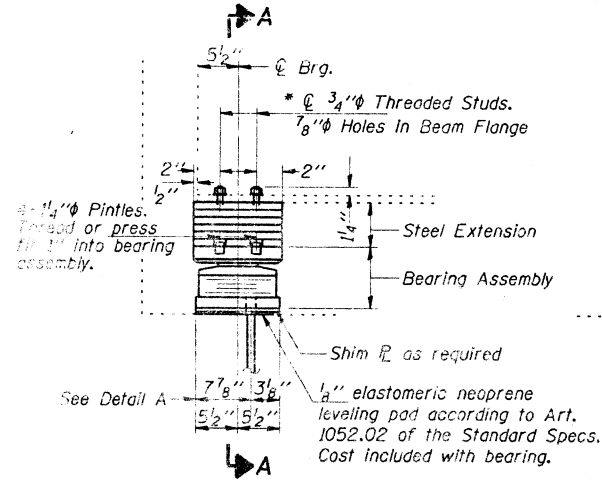


SECTION AT DRAIN
(Showing Drain Elimination)



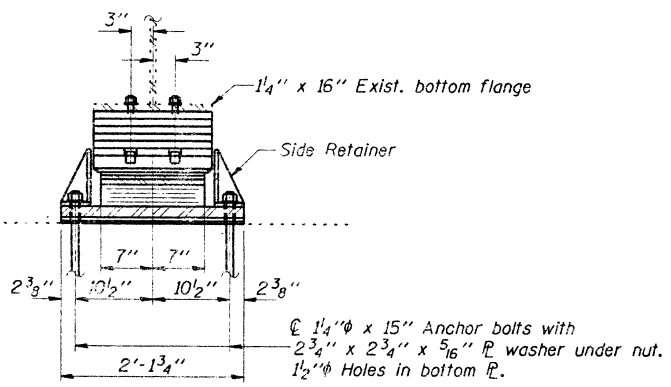
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	11

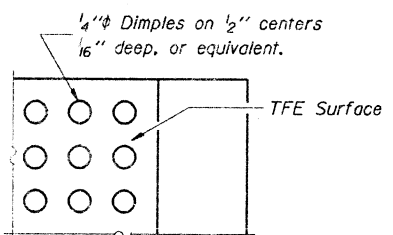


ELEVATION AT N. ABUT.

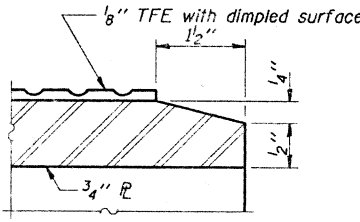
* 3/4" Threaded Studs
shall be placed in the field.



SECTION A-A



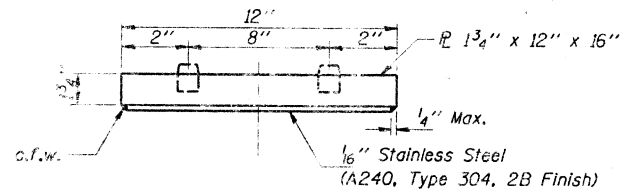
PLAN-TFE SURFACE



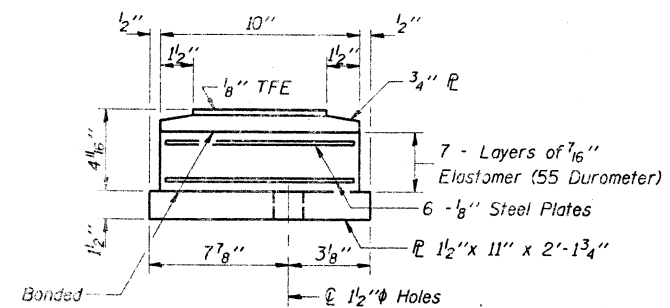
SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

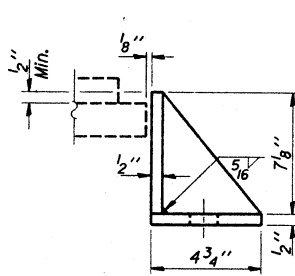
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



TOP BEARING ASSEMBLY

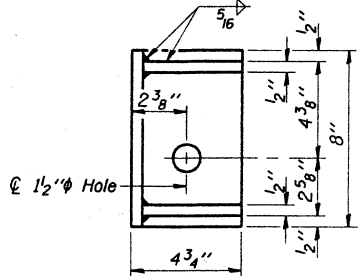


BOTTOM BEARING ASSEMBLY

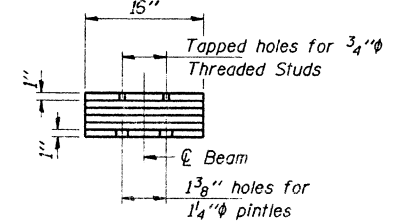


SIDE RETAINER

Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.
Weight included with Structural Steel.

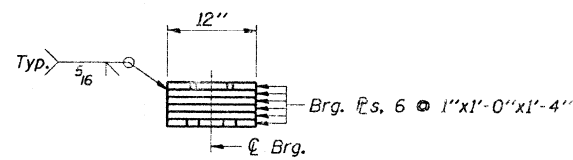


REACTIONS		
R ₂	(K)	52.1
R ₄	(K)	46.5
R ₁	(K)	10.3
R Total	(K)	108.9



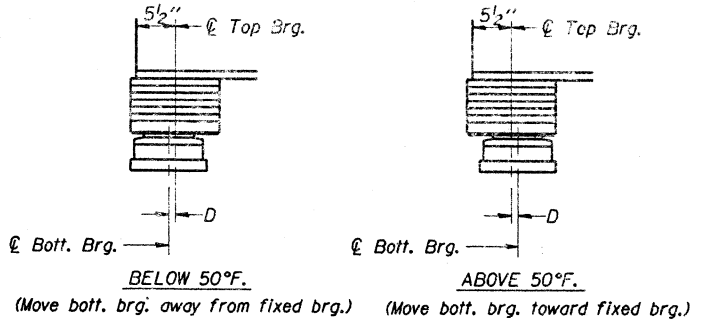
END VIEW STEEL EXTENSION

Note:
Prior to ordering any material,
the Contractor shall verify in the
field all bearing height and shim
thickness dimensions.



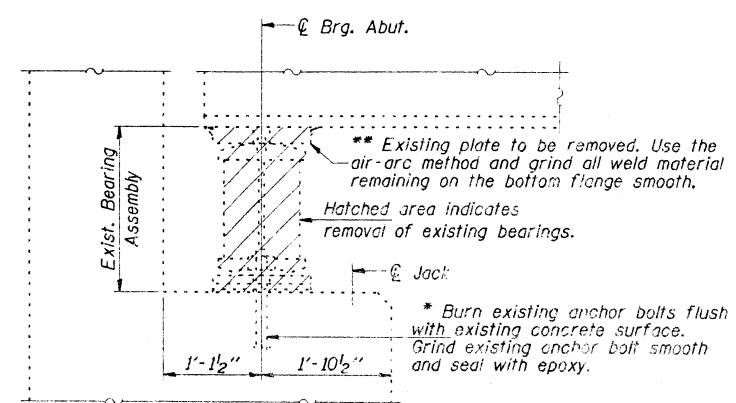
ELEVATION STEEL EXTENSION

Diaphragm removal & reinstallation may be required to facilitate drilling holes. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".
New steel extensions, side retainers, shim plates, connection bolts and anchor bolts are included in the cost of "Furnishing and Erecting Structural Steel".
See Sheet 13 of 14 for anchor bolt installation.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. Jack capacity = 60 Tons.
Anchor bolts at exist. beams shall be drilled and grouted in place.



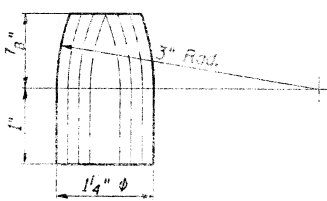
SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp.
change from the normal temp. of 50°F.

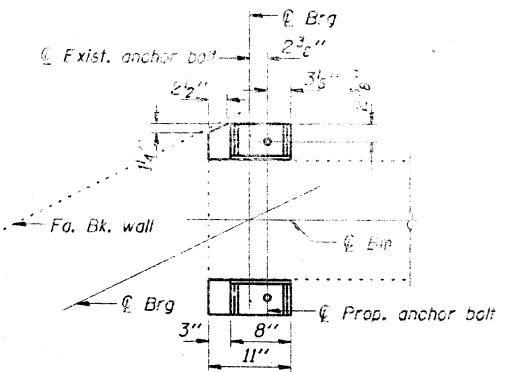


JACK AND REMOVE EXISTING BEARINGS

(Typ. at all abutments)
(Dimensions are at right angles)



PINTLE DETAIL



DETAIL A

Trim bottom plate, E side
of N. Abut. only as shown.

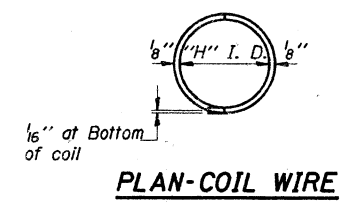
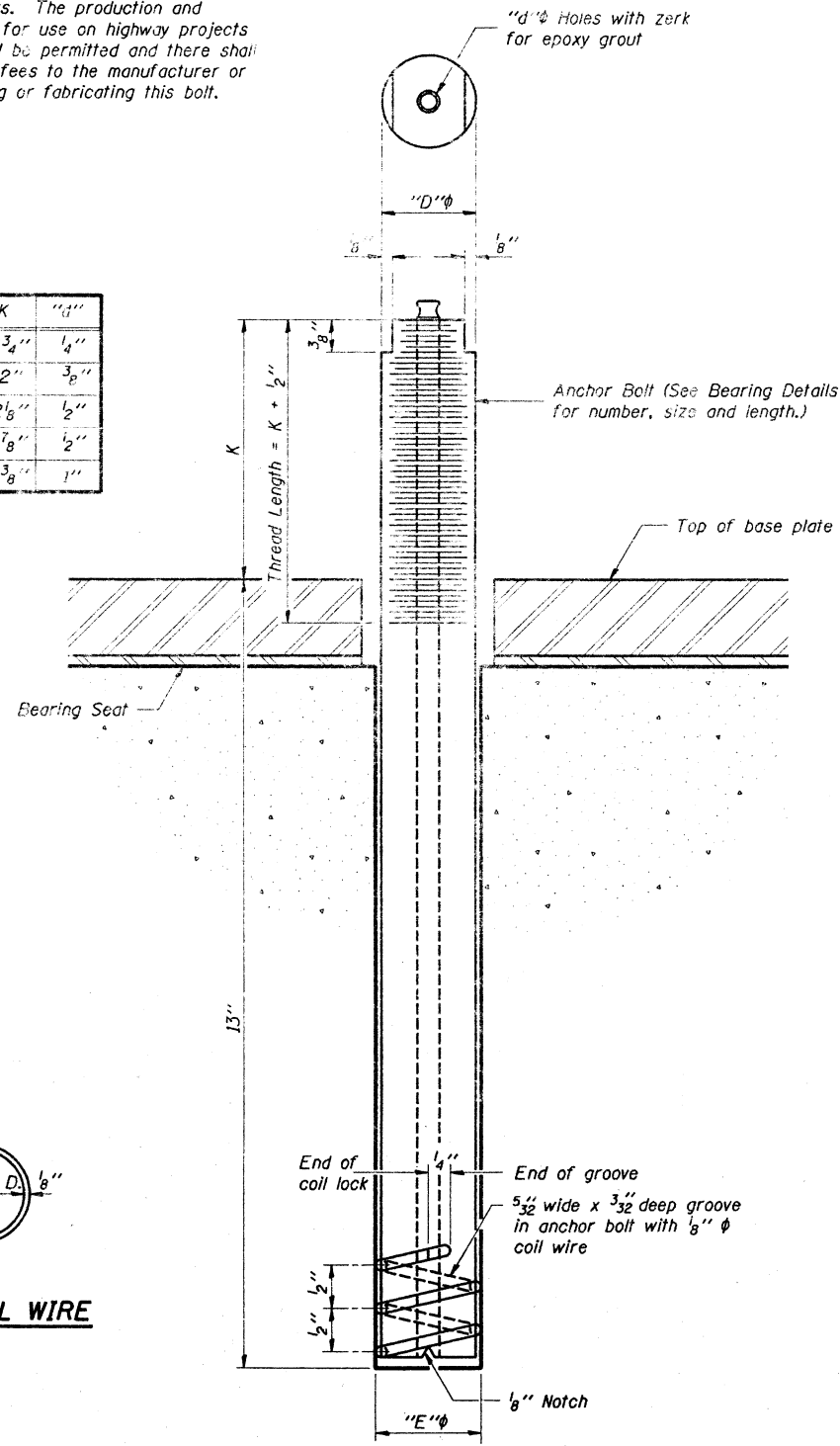
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	6

NORTH ABUTMENT BEARING DETAILS
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"I"
1"	1 1/8"	1 3/16"	1 3/4"	1 1/4"
1 1/4"	1 3/8"	1 1/2"	2"	1 3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1 1/2"
1 3/4"	2 1/8"	1 3/4"	2 3/8"	1 3/4"
2"	2 5/8"	2 1/16"	3 1/8"	2"



ILLINOIS COIL-LOCK ANCHOR BOLT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MATERIALS FOR ILLINOIS COIL-LOCK
ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.
The coil wire shall be made of any suitable soft steel wire.
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade I and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS
COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	A 307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

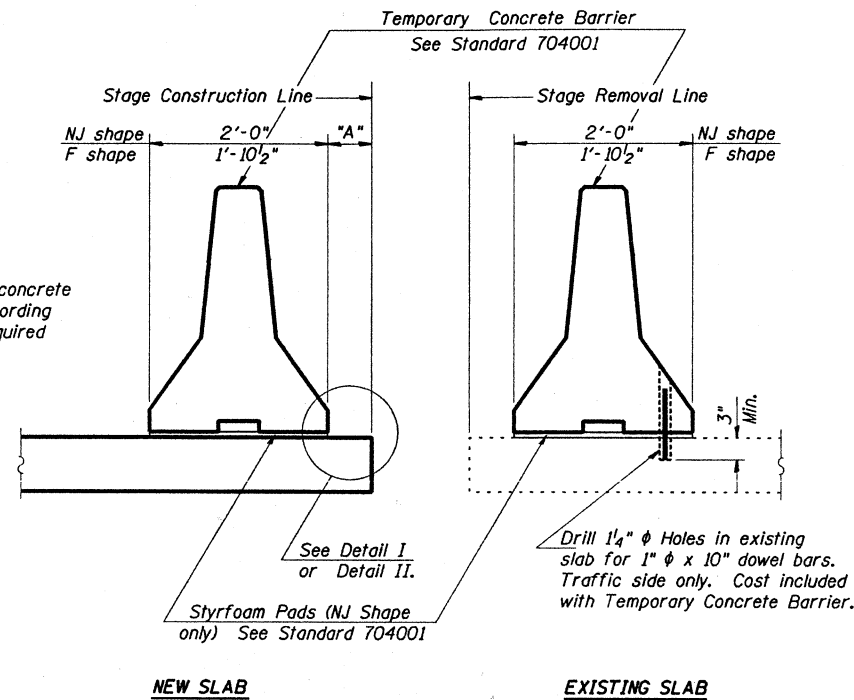
Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

ANCHOR BOLT DETAILS
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

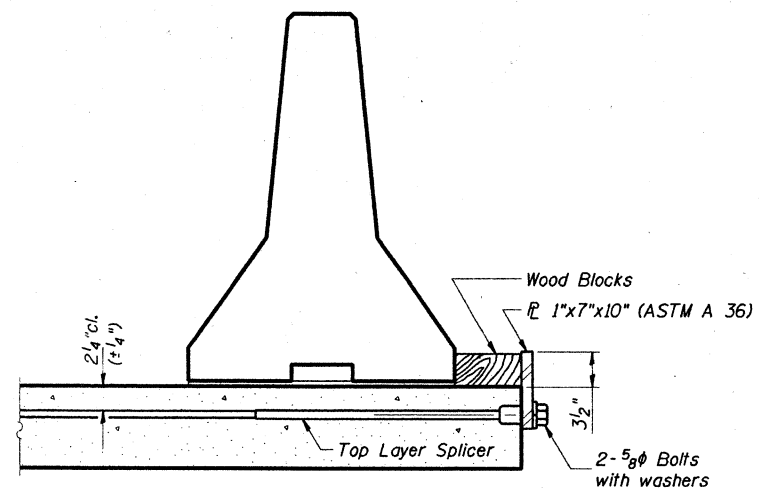
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	BSMART FY04-1	JACKSON	14	14

When "A" is 3'-6" or less, the temporary concrete barrier shall be Anchored to new slab according to Detail I or Detail II. No anchorage required when "A" is greater than 3'-6".

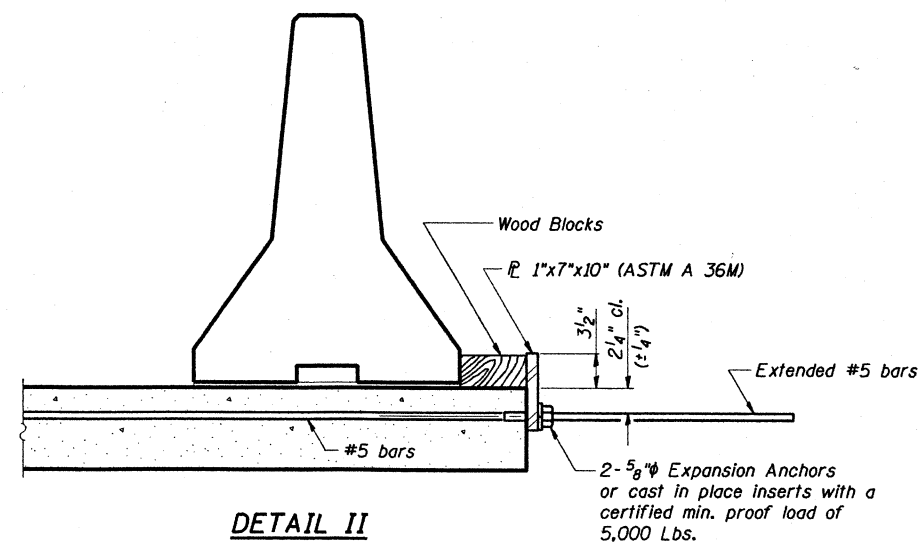


SECTIONS THRU SLAB



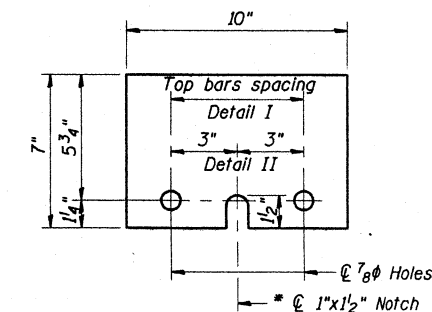
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



1" x 7" x 10"

* Required only with Detail II

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
FAP ROUTE 312 OVER MISSOURI PACIFIC RAILROAD
JACKSON COUNTY
STATION 247+02.81
STR. NO. 039-0048

034-0048

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

SCALES
PLAN 1 INCH = 100 FT.
PROFILE, HOR. 1 INCH = 100 FT.
PROFILE, VERT. 1 INCH = 10 FT.
CROSS-SECTIONS 1 INCH = 5 FT.

FA ROUTE 100
SEC. 130-IVB
PROJECT BR-F-194(23)
JACKSON COUNTY

INDEX OF SHEETS SHEET NO. 4
SUMMARY OF QUANTITIES SHEET NO. 4

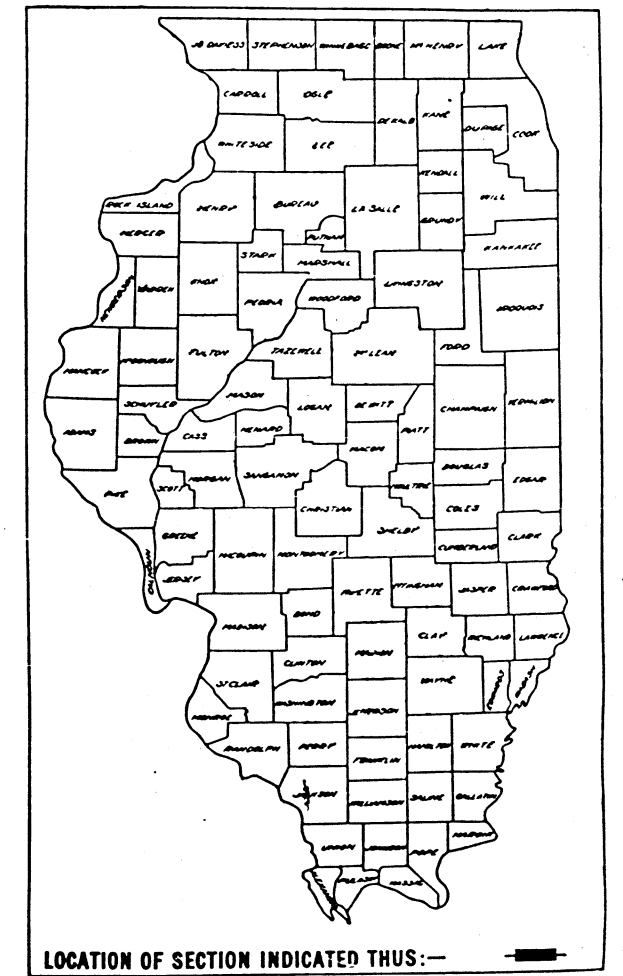


APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH SECTION 120-IVB = 338.80 FT. = 0.004 MILES
NET LENGTH PROJECT = 338.80 FT. = 0.064 MILE

SECTION 120-IVB
INCLUDES A 3 SPAN R. GIRDER
STRUCTURE WITH OPEN ABUTMENT
OVER THE MO. PAC. R. R.
SPANS 1 @ 100'-6", 1 @ 128'-6", 1 @ 100'-6"
341'-6" BK. TO JK. ABUTMENTS

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
100	*	JACKSON	34	1
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT BR-F-194(23)				

* 130-IVB
P-99-120-70



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUBMITTED FEBRUARY 16, 1972
EXAMINED [Signature] DISTRICT ENGINEER
ENGINEER OF PLANS AND CONTRACTS
PASSED [Signature]
APPROVED [Signature] DIRECTOR OF HIGHWAYS

9-91

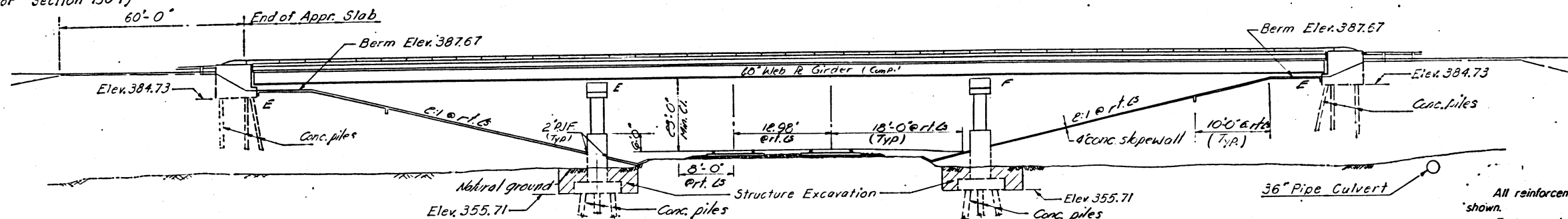
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ENGINEER DATE

REVISED SET
4-18-75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S.C. P.A. 100	130-1VB	JACKSON	34	10
FED. ROAD DIST. NO. 9		ILLINOIS	FED. AID PROJECT.	

SHEET NO. 10
15 SHEETS



GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}"$; open holes $\frac{13}{16}"$, unless otherwise noted.

Calculated weight of Structural Steel. = 473,700 Lbs.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

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 cross frames over supports.

Slope wall shall be reinforced with welded wire fabric 6"x 6" mesh, weighing 58# per 100 sq. ft.

The Contractor shall drive 4 Concrete test piles in a permanent location 1 at each Substructure Unit as directed by the Engineer before ordering the remainder of piles.

Concrete piles at S. Abut. shall be driven in holes precored through the embankment in accordance with Article 513.09(c) of the Standard Specifications

Concrete piles at N. Abut. shall be driven in holes precored to Elev. 350.00 and in accordance with the requirements of Article 513.09(C) of the Standard Specifications.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

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.

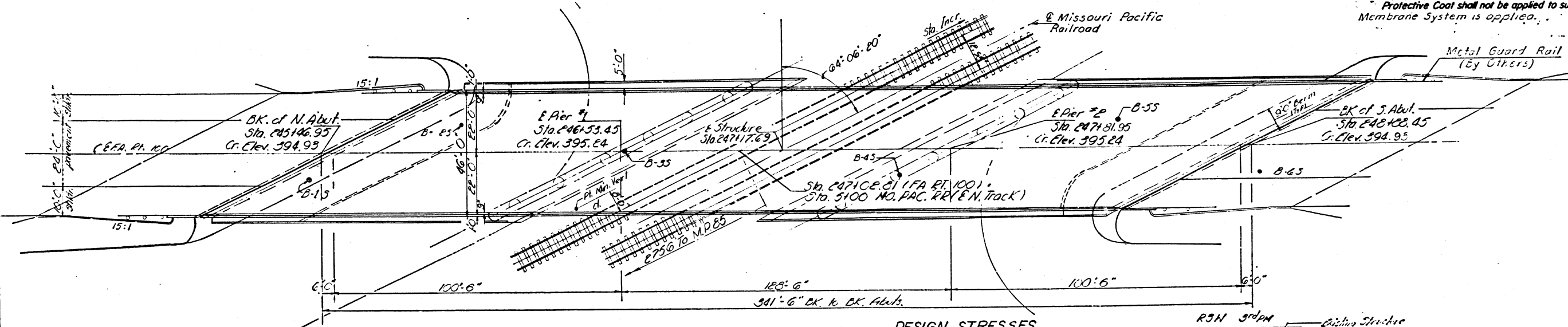
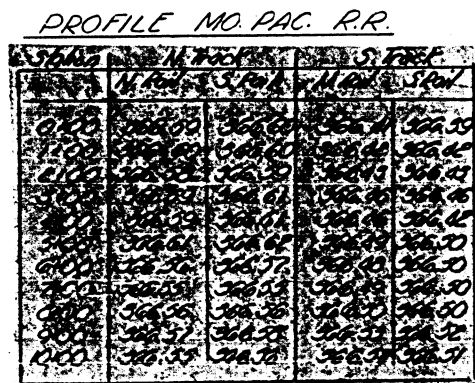
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

ELEVATION

TOTAL BILL OF MATERIAL

	Item	Unit	Super	Sub	Total
+	Bituminous Concrete Surface Course Class 1	Tons	128		128
+	Protective Coat	Sq. Yds.	250		250
	Class X Concrete	Cu. Yds	480.1	6670	1147.1
	Structural Steel	L. S.			L. S.
	Stud Shear Connectors	Each	3420		3420
	Aluminum Railing	Lin. Ft.	719		719
	Reinforcement Bars	Lbs.	138630	75830	214460
	Concrete Piles	Lin Ft.		8870	8870
	Test Piles (Concrete)	Each		4	4
	Name Plates	Each			1
	Slope Wall 4"	Sq. Yds.			1735
+	Waterproofing Membrane System	Sq. Yds.	1575		1575
	Neoprene Expansion Joint (2")	Lin. Ft.	102		102
	Neoprene Expansion Joint (4")	Lin Ft	102		102
	Structure Excavation	Cu Yds.			632
	* To be done under paving contract.				

* To be done under paving contract.



PLAN

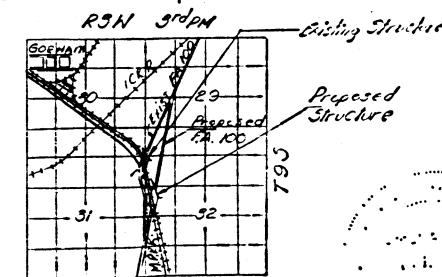
DESIGN STRESSES

fc = 1200 psi. (Deck Slab)
 fc = 1400 psi. (Curb, Parapet, Sub)
 fs = 20000 psi. (Reinf.)
 fs = 29,000 psi. (Struct.)
 Vc = 75 psi. (Ftgs.)
 n = 10

Allow 25¢/sq.ft. for Future W.S.

LOADING HS 20-14

Specifications: AASHTO 1969, as applicable.



LOCATION SKETCH

DESIGNED	John W. Burt
CHECKED	James Pence
R.P.S.	
DRAWN	daryl w. williams sk
CHECKED	JP

JANUARY 11 1972
 EXAMINED *and [Signature]*
 ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
 PASSED

 SUPERVISOR OF BRIDGES
 APPROVED

 DIRECTOR OF HIGHWAY

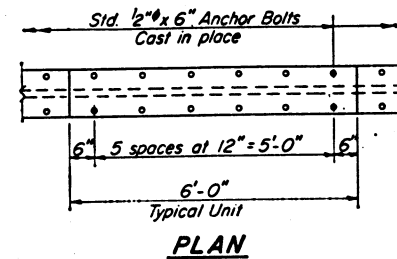
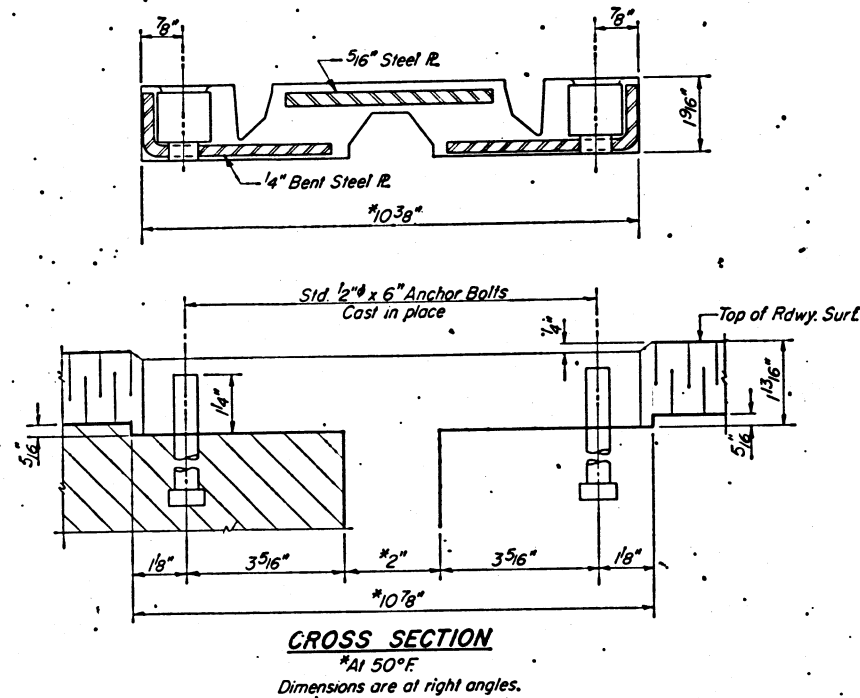
P.I. Sta. 2471.25
 Elev. 403.39
 2.0%
 VC = 1020'
 2.0%
PROFILE FA 100
 (proposed)

PROJECT E-194(23)
GENERAL PLAN & ELEVATION

FA. RTE. 100 OVER MISSOURI PACIFIC D.R.
FA. RTE. 100 SEC. 150-1NB
JACKSON COUNTY
STATION 24710281 FA. RTE. 100
STATION 5100.00 MC. PAC. R.R. ENTR'N

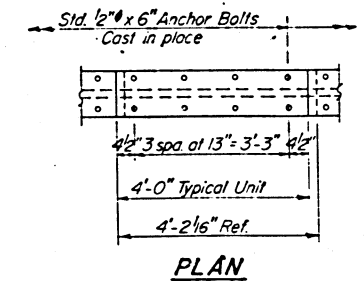
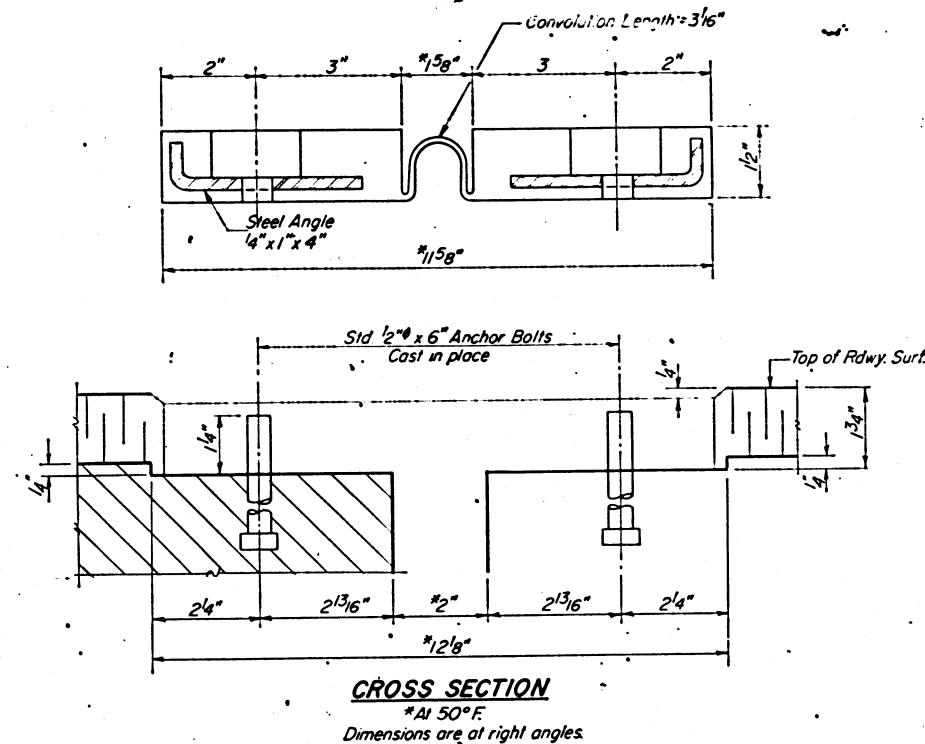
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
100	130-IVB	JACKSON	34	11	18 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					



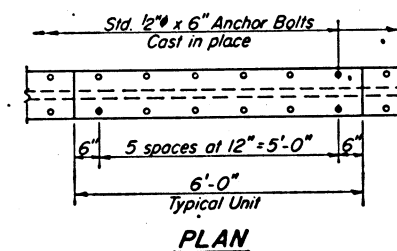
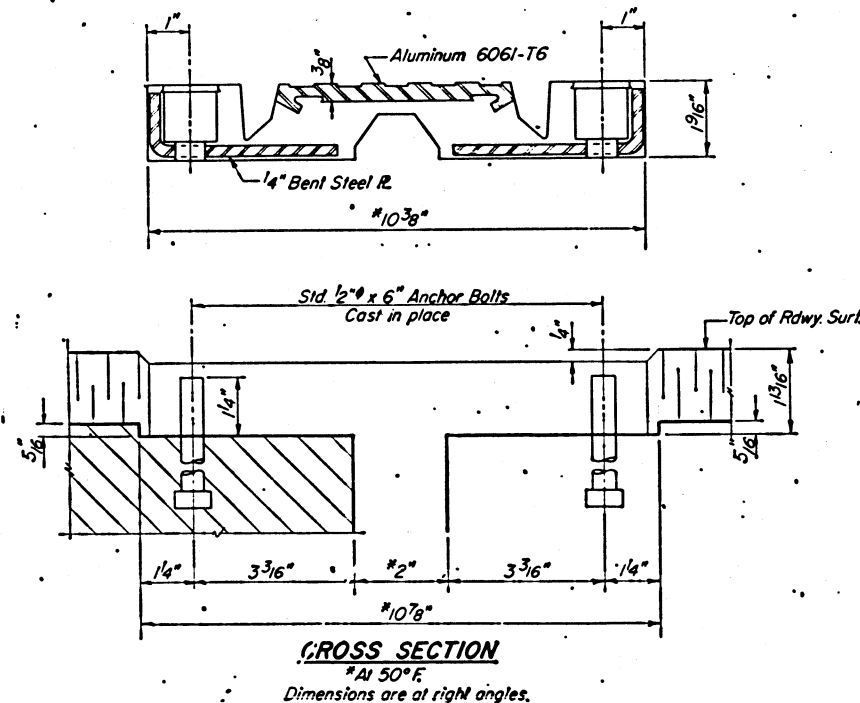
Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

TRANSFLEX MODEL 200A
(Structural Rubber Products Co.)



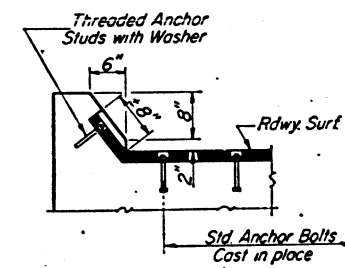
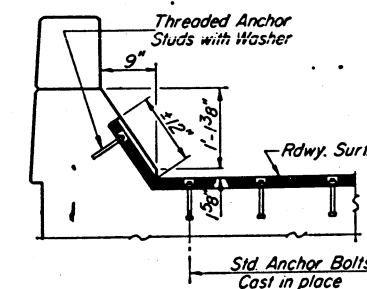
Note: Anchor bolts require a flat washer and locknut.

FEL-SPAN MODEL T-30
(Fel-Pro Building Products Inc.)

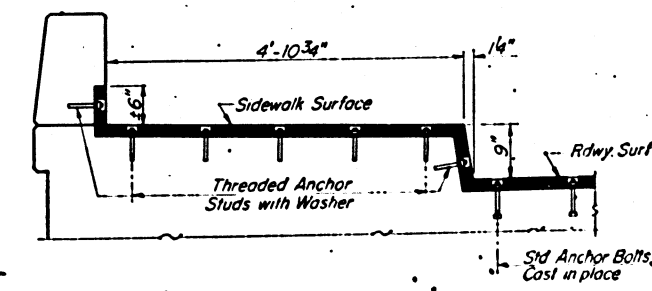
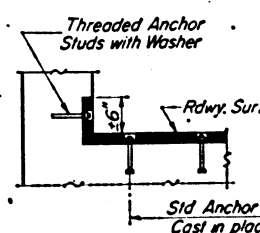


Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

WABOFLEX MODEL SR 2
(Watson-Bowman Associates Inc.)



NOTE: Joint openings shall be adjusted in accordance with Article 503.07(c) of the Std. Spec's. when the deck is poured at an ambient temperature other than 50°F.



TYPICAL END TREATMENTS

NEOPRENE EXPANSION JOINTS (2")
FOR EXPANSION LENGTH OF DECK = 0 TO 16.0 IN

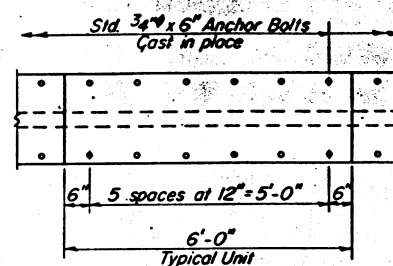
F.A. RT. 100 SEC. 130-IVB
JACKSON COUNTY
STATION 247+02.81

DESIGNED G. Ruxter
CHECKED J. Pence
DRAWN R.P. Summer
CHECKED J.P.

EXAMINED *[Signature]*
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*** ** 100	130-148	JACKSON	34	11A
FED. ROAD DIST. NO. 1		ALIGNED	FED. AID PROJECT	

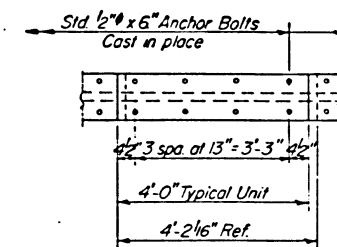
SHEET NO. 2A
18 SHEETS



PLAN

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

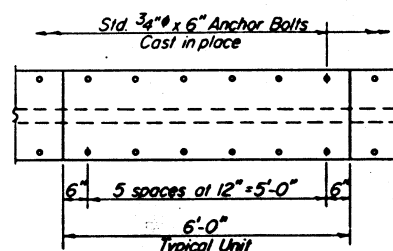
TRANSFLEX MODEL 400A
(Structural Rubber Products Co.)



PLAN

Note: Anchor bolts require a flat washer and locknut.

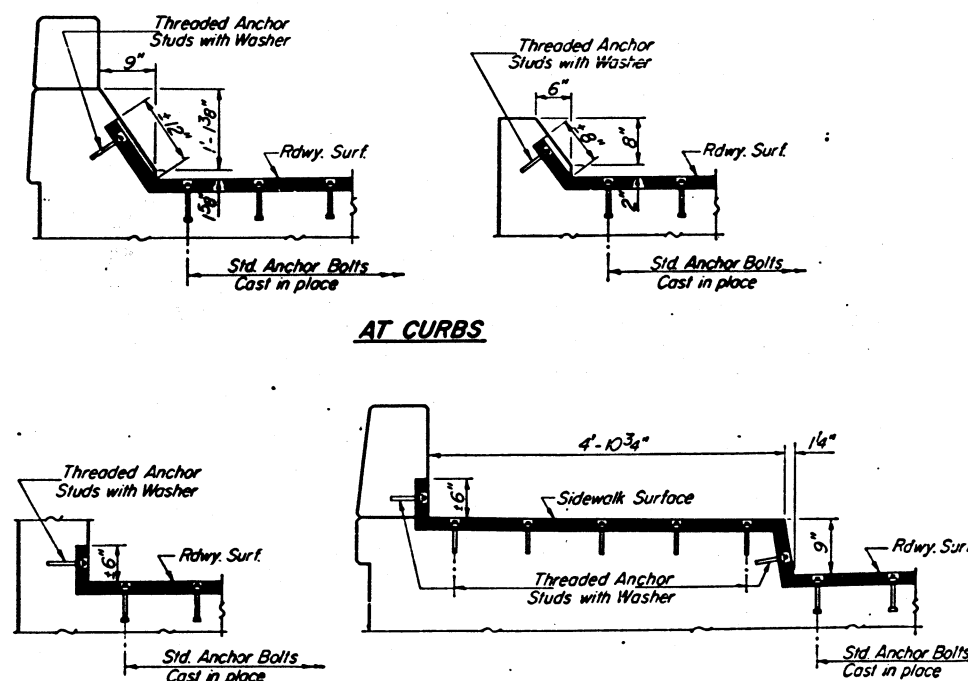
FEL-SPAN MODEL T-40
(Fel-Pro Building Products Inc.)



PLAN

Note: Anchor bolts require a clipped washer, lockwasher and hex nut

WABOFLEX MODEL SR 4
(Watson-Bowman Associates, Inc.)



AT CURBS

AT ABUTMENT

AT SIDEWALK

TYPICAL END TREATMENTS

NOTE:
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Std. Specs when the deck is poured at an ambient temperature other than 50°F.

*Max. Expansion Length for the Fel-Span Model T-40 = 300 ft.

NEOPRENE EXPANSION JOINTS (4")
FOR EXPANSION LENGTH OF DECK = 200 ft. to 320 ft.

F.A. RT.100 SEC.130-IVB
JACKSON COUNTY
STATION 247+02.81

DESIGNED	G. Baxter
CHECKED	J. Pence
DRAWN	R. P. Summer.
CHECKED	J. P.

Feb 19 1975

EXAMINED *[Signature]*

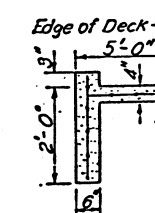
PASSED

APPROVED

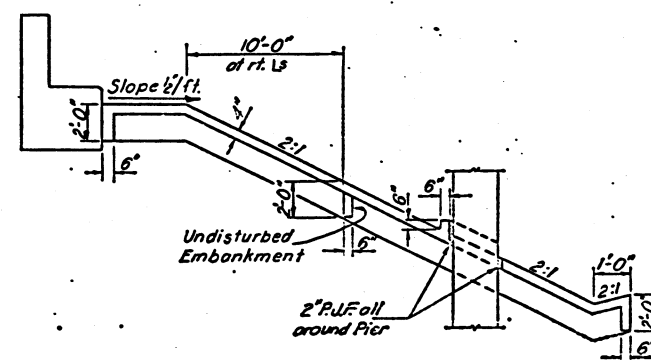
DIRECTOR OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. R. L. P. S. 100	130-17B	JACKSON	34	12
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT.	

18 SHEETS



SECTION A-A



SECTION THRU SLOPEWALL

Jan. 11 1972

EXAMINED *[Signature]*

PASSED

APPROVED

SLOPEWALL DETAILS
F.A. RT.100 SEC.130-1VB
JACKSON COUNTY
STATION 247+02.81

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
130-IVB	JACKSON	34	13	18
SHEET NO. 4				
18 SHEETS				

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24505.752	20.000	394.380	394.380
Q Brg. N. Abut.	24511.752	20.000	394.411	394.411
A	24521.752	20.000	394.461	394.493
B	24531.752	20.000	394.508	394.572
C	24541.752	20.000	394.553	394.636
D	24551.752	20.000	394.595	394.682
E	24561.752	20.000	394.635	394.726
F	24571.752	20.000	394.672	394.763
G	24581.752	20.000	394.707	394.796
H	24591.752	20.000	394.739	394.770
I	24601.752	20.000	394.769	394.785
J	24611.752	20.000	394.797	394.797
Q Pier 1	24612.252	20.000	394.798	394.798
K	24622.252	20.000	394.823	394.840
L	24632.252	20.000	394.845	394.879
M	24642.252	20.000	394.865	394.915
N	24652.252	20.000	394.883	394.949
O	24662.252	20.000	394.898	394.980
P	24672.252	20.000	394.910	395.009
Q	24682.252	20.000	394.920	395.017
R	24692.252	20.000	394.928	395.028
S	24702.252	20.000	394.933	395.097
T	24712.252	20.000	394.936	395.083
U	24722.252	20.000	394.936	395.067
V	24732.252	20.000	394.934	395.048
Q Pier 2	24740.752	20.000	394.930	394.930
W	24750.752	20.000	394.923	394.938
X	24760.752	20.000	394.914	394.943
Y	24770.752	20.000	394.902	394.950
Z	24780.752	20.000	394.887	394.957
AA	24790.752	20.000	394.871	394.962
BB	24800.752	20.000	394.852	394.939
CC	24810.752	20.000	394.830	394.913
DD	24820.752	20.000	394.806	394.872
EE	24830.752	20.000	394.779	394.813
FF	24840.752	20.000	394.750	394.732
Q Brg. S. Abut.	24841.252	20.000	394.749	394.749
Bk. S. Abut.	24847.252	20.000	394.730	394.730

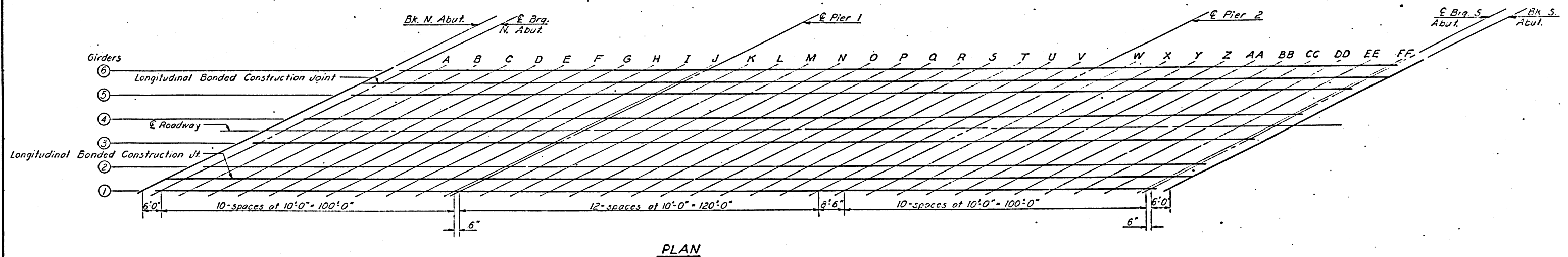
GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24513.991	16.000	394.505	394.505
Q Brg. N. Abut.	24519.991	16.000	394.535	394.535
A	24529.991	16.000	394.583	394.615
B	24539.991	16.000	394.628	394.692
C	24549.991	16.000	394.671	394.754
D	24559.991	16.000	394.711	394.798
E	24569.991	16.000	394.749	394.840
F	24579.991	16.000	394.784	394.882
G	24589.991	16.000	394.817	394.916
H	24599.991	16.000	394.847	394.978
I	24609.991	16.000	394.875	394.991
J	24619.991	16.000	394.901	394.901
Q Pier 1	24620.491	16.000	394.902	394.902
K	24630.491	16.000	394.925	394.941
L	24640.491	16.000	394.945	394.978
M	24650.491	16.000	394.963	395.013
N	24660.491	16.000	394.978	395.045
O	24670.491	16.000	394.991	395.074
P	24680.491	16.000	395.002	395.101
Q	24690.491	16.000	395.010	395.106
R	24700.491	16.000	395.016	395.096
S	24710.491	16.000	395.019	395.087
T	24720.491	16.000	395.019	395.067
U	24730.491	16.000	395.017	395.048
V	24740.491	16.000	395.013	395.027
Q Pier 2	24748.991	16.000	395.007	395.007
W	24758.991	16.000	394.999	395.013
X	24768.991	16.000	394.987	395.017
Y	24778.991	16.000	394.973	395.021
Z	24788.991	16.000	394.957	395.027
AA	24798.991	16.000	394.938	395.029
BB	24808.991	16.000	394.917	395.005
CC	24818.991	16.000	394.893	394.977
DD	24828.991	16.000	394.867	394.933
EE	24838.991	16.000	394.839	394.872
FF	24848.991	16.000	394.807	394.809
Q Brg. S. Abut.	24849.491	16.000	394.806	394.806
Bk. S. Abut.	24855.491	16.000	394.786	394.786

LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24522.231	12.000	394.629	394.629
Q Brg. N. Abut.	24528.231	12.000	394.658	394.658
A	24538.231	12.000	394.704	394.736
B	24548.231	12.000	394.747	394.811
C	24558.231	12.000	394.787	394.870
D	24568.231	12.000	394.826	394.913
E	24578.231	12.000	394.861	394.953
F	24588.231	12.000	394.895	394.985
G	24598.231	12.000	394.925	394.974
H	24608.231	12.000	394.954	394.984
I	24618.231	12.000	394.980	394.995
J	24628.231	12.000	395.003	395.004
Q Pier 1	24628.731	12.000	395.004	395.004
K	24638.731	12.000	395.025	395.042
L	24648.731	12.000	395.043	395.076
M	24658.731	12.000	395.059	395.109
N	24668.731	12.000	395.073	395.139
O	24678.731	12.000	395.083	395.166
P	24688.731	12.000	395.092	395.191
Q	24698.731	12.000	395.098	395.196
R	24708.731	12.000	395.101	395.182
S	24718.731	12.000	395.102	395.166
T	24728.731	12.000	395.101	395.148
U	24738.731	12.000	395.097	395.128
V	24748.731	12.000	395.091	395.103
Q Pier 2	24757.231	12.000	395.083	395.083
W	24767.231	12.000	395.073	395.068
X	24777.231	12.000	395.059	395.089
Y	24787.231	12.000	395.043	395.091
Z	24797.231	12.000	395.025	395.095
AA	24807.231	12.000	395.004	395.095
BB	24817.231	12.000	394.981	395.068
CC	24827.231	12.000	394.955	395.028
DD	24837.231	12.000	394.927	394.993
EE	24847.231	12.000	394.896	394.930
FF	24857.231	12.000	394.863	394.865
Q Brg. S. Abut.	24857.731	12.000	394.861	394.861
Bk. S. Abut.	24863.731	12.000	394.840	394.840

GIRDER 2

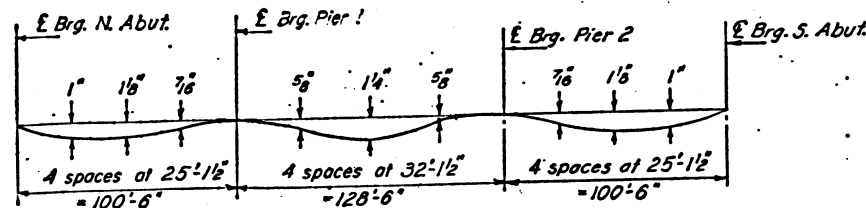


PLAN

DESIGNED	L. J. W. Bantz
CHECKED	James P. Loe
DRAWN	R. P. Summer
CHECKED	JP

EXAMINED	Jan. 11 1972
PASSED	
APPROVED	

TOP OF CLASS I ELEVATIONS
F.A. RT.100 SEC.130-IVB
JACKSON COUNTY
STATION 247+02.81



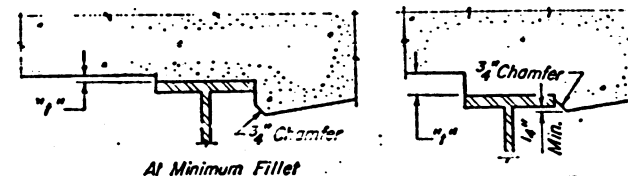
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete and Class I 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.

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24538.710	4.000	394.831	394.831
Q Brg. N. Abut.	24544.710	4.000	394.857	394.857
A	24554.710	4.000	394.898	394.930
B	24564.710	4.000	394.937	395.002
C	24574.710	4.000	394.974	395.057
D	24584.710	4.000	395.008	395.093
E	24594.710	4.000	395.040	395.131
F	24604.710	4.000	395.069	395.160
G	24614.710	4.000	395.096	395.185
H	24624.710	4.000	395.120	395.151
I	24634.710	4.000	395.142	395.158
J	24644.710	4.000	395.161	395.162
Q Pier 1	24645.210	4.000	395.162	395.162
K	24655.210	4.000	395.179	395.195
L	24665.210	4.000	395.193	395.224
M	24675.210	4.000	395.205	395.255
N	24685.210	4.000	395.214	395.280
O	24695.210	4.000	395.221	395.304
P	24705.210	4.000	395.225	395.324
Q	24715.210	4.000	395.227	395.324
R	24725.210	4.000	395.227	395.307
S	24735.210	4.000	395.224	395.288
T	24745.210	4.000	395.218	395.266
U	24755.210	4.000	395.210	395.241
V	24765.210	4.000	395.200	395.214
Q Pier 2	24773.710	4.000	395.189	395.189
W	24783.710	4.000	395.174	395.189
X	24793.710	4.000	395.157	395.187
Y	24803.710	4.000	395.137	395.182
Z	24813.710	4.000	395.114	395.184
AA	24823.710	4.000	395.090	395.181
BB	24833.710	4.000	395.062	395.150
CC	24843.710	4.000	395.032	395.114
DD	24853.710	4.000	395.000	395.086
EE	24863.710	4.000	394.965	394.999
FF	24873.710	4.000	394.928	394.930
Q Brg. S. Abut.	24874.210	4.000	394.926	394.926
Bk. S. Abut.	24880.210	4.000	394.903	394.903

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



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 1 1/2" Bit. Surf., equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

Q ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24546.950	0.0	394.929	394.929
Q Brg. N. Abut.	24552.950	0.0	394.954	394.954
A	24562.950	0.0	394.993	395.025
B	24572.950	0.0	395.030	395.095
C	24582.950	0.0	395.065	395.148
D	24592.950	0.0	395.097	395.184
E	24602.950	0.0	395.127	395.218
F	24612.950	0.0	395.154	395.224
G	24622.950	0.0	395.176	395.228
H	24632.950	0.0	395.201	395.231
I	24642.950	0.0	395.220	395.236
J	24652.950	0.0	395.238	395.239
Q Pier 1	24653.450	0.0	395.239	395.239
K	24663.450	0.0	395.253	395.270
L	24673.450	0.0	395.265	395.299
M	24683.450	0.0	395.275	395.325
N	24693.450	0.0	395.283	395.349
O	24703.450	0.0	395.287	395.370
P	24713.450	0.0	395.290	395.382
Q	24723.450	0.0	395.290	395.386
R	24733.450	0.0	395.287	395.367
S	24743.450	0.0	395.282	395.346
T	24753.450	0.0	395.274	395.322
U	24763.450	0.0	395.264	395.295
V	24773.450	0.0	395.252	395.266
Q Pier 2	24781.950	0.0	395.250	395.250
W	24791.950	0.0	395.222	395.237
X	24801.950	0.0	395.203	395.233
Y	24811.950	0.0	395.181	395.229
Z	24821.950	0.0	395.157	395.226
AA	24831.950	0.0	395.130	395.221
BB	24841.950	0.0	395.100	395.188
CC	24851.950	0.0	395.068	395.152
DD	24861.950	0.0	395.034	395.100
EE	24871.950	0.0	394.997	394.931
FF	24881.950	0.0	394.958	394.960
Q Brg. S. Abut.	24882.450	0.0	394.956	394.956
Bk. S. Abut.	24888.450	0.0	394.931	394.931

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24555.190	-4.000	394.900	394.900
Q Brg. N. Abut.	24561.190	-4.000	394.924	394.924
A	24571.190	-4.000	394.961	394.994
B	24581.190	-4.000	394.996	395.061
C	24591.190	-4.000	395.029	395.112
D	24601.190	-4.000	395.059	395.146
E	24611.190	-4.000	395.087	395.178
F	24621.190	-4.000	395.112	395.182
G	24631.190	-4.000	395.134	395.184
H	24641.190	-4.000	395.152	395.185
I	24651.190	-4.000	395.172	395.188
J	24661.190	-4.000	395.188	395.188
Q Pier 1	24661.690	-4.000	395.188	395.188
K	24671.690	-4.000	395.201	395.218
L	24681.690	-4.000	395.211	395.244
M	24691.690	-4.000	395.219	395.269
N	24701.690	-4.000	395.224	395.290
O	24711.690	-4.000	395.227	395.310
P	24721.690	-4.000	395.227	395.326
Q	24731.690	-4.000	395.225	395.322
R	24741.690	-4.000	395.221	395.301
S	24751.690	-4.000	395.213	395.277
T	24761.690	-4.000	395.204	395.251
U	24771.690	-4.000	395.192	395.223
V	24781.690	-4.000	395.177	395.192
Q Pier 2	24790.190	-4.000	395.163	395.163
W	24800.190	-4.000	395.144	395.159
X	24810.190	-4.000	395.123	395.152
Y	24820.190	-4.000	395.099	395.147
Z	24830.190	-4.000	395.072	395.142
AA	24840.190	-4.000	395.043	395.134
BB	24850.190	-4.000	395.012	395.099
CC	24860.190	-4.000	394.978	395.061
DD	24870.190	-4.000	394.942	395.008
EE	24880.190	-4.000	394.903	394.937
FF	24890.190	-4.000	394.861	394.863
Q Brg. S. Abut.	24890.690	-4.000	394.859	394.859
Bk. S. Abut.	24896.690	-4.000	394.833	394.833

DESIGNED	Harry W. Best
CHECKED	James Price
DRAWN	R.P. Summer
CHECKED	JP

EXAMINED	Jan. 11 1972
PASSED	
APPROVED	

TOP OF CLASS I ELEVATIONS
 F.A. RT.100 SEC.130-1VB
 JACKSON COUNTY
 STATION 247+02.81

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
100	130-IVB	JACKSON	34	15
SHEET NO. 6				
18 SHEETS				

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24571.669	-12.000	394.838	394.838
E Brg. N. Abut.	24577.669	-12.000	394.859	394.859
A	24587.669	-12.000	394.893	394.925
B	24597.669	-12.000	394.924	394.988
C	24607.669	-12.000	394.952	395.035
D	24617.669	-12.000	394.978	395.065
E	24627.669	-12.000	395.002	395.093
F	24637.669	-12.000	395.023	395.093
G	24647.669	-12.000	395.041	395.091
H	24657.669	-12.000	395.058	395.088
I	24667.669	-12.000	395.071	395.087
J	24677.669	-12.000	395.082	395.083
E Pier 1	24678.169	-12.000	395.083	395.083
K	24688.169	-12.000	395.092	395.108
L	24698.169	-12.000	395.098	395.131
M	24708.169	-12.000	395.101	395.151
N	24718.169	-12.000	395.102	395.169
O	24728.169	-12.000	395.101	395.184
P	24738.169	-12.000	395.097	395.196
Q	24748.169	-12.000	395.091	395.188
R	24758.169	-12.000	395.083	395.163
S	24768.169	-12.000	395.071	395.135
T	24778.169	-12.000	395.058	395.105
U	24788.169	-12.000	395.042	395.072
V	24798.169	-12.000	395.023	395.037
E Pier 2	24806.669	-12.000	395.005	395.005
W	24816.669	-12.000	394.982	394.997
X	24826.669	-12.000	394.957	394.987
Y	24836.669	-12.000	394.929	394.977
Z	24846.669	-12.000	394.898	394.968
AA	24856.669	-12.000	394.865	394.956
BB	24866.669	-12.000	394.830	394.917
CC	24876.669	-12.000	394.792	394.875
DD	24886.669	-12.000	394.751	394.817
EE	24896.669	-12.000	394.708	394.742
FF	24906.669	-12.000	394.663	394.665
E Brg. S. Abut.	24907.169	-12.000	394.661	394.661
Bk. S. Abut.	24913.169	-12.000	394.632	394.632

LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24579.909	-16.000	394.784	394.784
E Brg. N. Abut.	24585.909	-16.000	394.804	394.804
A	24595.909	-16.000	394.833	394.867
B	24605.909	-16.000	394.864	394.929
C	24615.909	-16.000	394.891	394.976
D	24625.909	-16.000	394.915	395.002
E	24635.909	-16.000	394.936	395.028
F	24645.909	-16.000	394.955	395.026
G	24655.909	-16.000	394.972	395.021
H	24665.909	-16.000	394.986	395.016
I	24675.909	-16.000	394.997	395.013
J	24685.909	-16.000	395.007	395.007
E Pier 1	24686.409	-16.000	395.007	395.007
K	24696.409	-16.000	395.014	395.030
L	24706.409	-16.000	395.018	395.051
M	24716.409	-16.000	395.019	395.065
N	24726.409	-16.000	395.018	395.082
O	24736.409	-16.000	395.015	395.098
P	24746.409	-16.000	395.009	395.108
Q	24756.409	-16.000	395.001	395.098
R	24766.409	-16.000	394.990	395.070
S	24776.409	-16.000	394.977	395.041
T	24786.409	-16.000	394.962	395.009
U	24796.409	-16.000	394.943	394.974
V	24806.409	-16.000	394.923	394.937
E Pier 2	24814.909	-16.000	394.903	394.903
W	24824.909	-16.000	394.878	394.893
X	24834.909	-16.000	394.851	394.880
Y	24844.909	-16.000	394.820	394.868
Z	24854.909	-16.000	394.788	394.857
AA	24864.909	-16.000	394.753	394.844
BB	24874.909	-16.000	394.715	394.803
CC	24884.909	-16.000	394.675	394.759
DD	24894.909	-16.000	394.632	394.699
EE	24904.909	-16.000	394.588	394.622
FF	24914.909	-16.000	394.541	394.542
E Brg. S. Abut.	24915.409	-16.000	394.538	394.538
Bk. S. Abut.	24921.409	-16.000	394.508	394.508

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	24586.148	-20.000	394.728	394.728
E Brg. N. Abut.	24594.148	-20.000	394.747	394.747
A	24604.148	-20.000	394.776	394.808
B	24614.148	-20.000	394.803	394.867
C	24624.148	-20.000	394.827	394.910
D	24634.148	-20.000	394.849	394.937
E	24644.148	-20.000	394.869	394.960
F	24654.148	-20.000	394.886	394.976
G	24664.148	-20.000	394.900	394.945
H	24674.148	-20.000	394.912	394.943
I	24684.148	-20.000	394.922	394.938
J	24694.148	-20.000	394.929	394.930
E Pier 1	24694.648	-20.000	394.929	394.929
K	24704.648	-20.000	394.934	394.951
L	24714.648	-20.000	394.936	394.969
M	24724.648	-20.000	394.936	394.985
N	24734.648	-20.000	394.933	394.999
O	24744.648	-20.000	394.927	395.010
P	24754.648	-20.000	394.920	395.018
Q	24764.648	-20.000	394.909	395.006
R	24774.648	-20.000	394.896	394.977
S	24784.648	-20.000	394.881	394.945
T	24794.648	-20.000	394.864	394.911
U	24804.648	-20.000	394.843	394.874
V	24814.648	-20.000	394.821	394.835
E Pier 2	24823.148	-20.000	394.800	394.800
W	24833.148	-20.000	394.772	394.787
X	24843.148	-20.000	394.743	394.773
Y	24853.148	-20.000	394.711	394.759
Z	24863.148	-20.000	394.676	394.746
AA	24873.148	-20.000	394.639	394.730
BB	24883.148	-20.000	394.599	394.687
CC	24893.148	-20.000	394.557	394.641
DD	24903.148	-20.000	394.513	394.579
EE	24913.148	-20.000	394.466	394.500
FF	24923.148	-20.000	394.417	394.518
E Brg. S. Abut.	24923.648	-20.000	394.414	394.414
Bk. S. Abut.	24929.648	-20.000	394.383	394.383

DESIGNED	Jan 11 1972
CHECKED	James P. Preece
DRAWN	R. P. Summer
CHECKED	JP

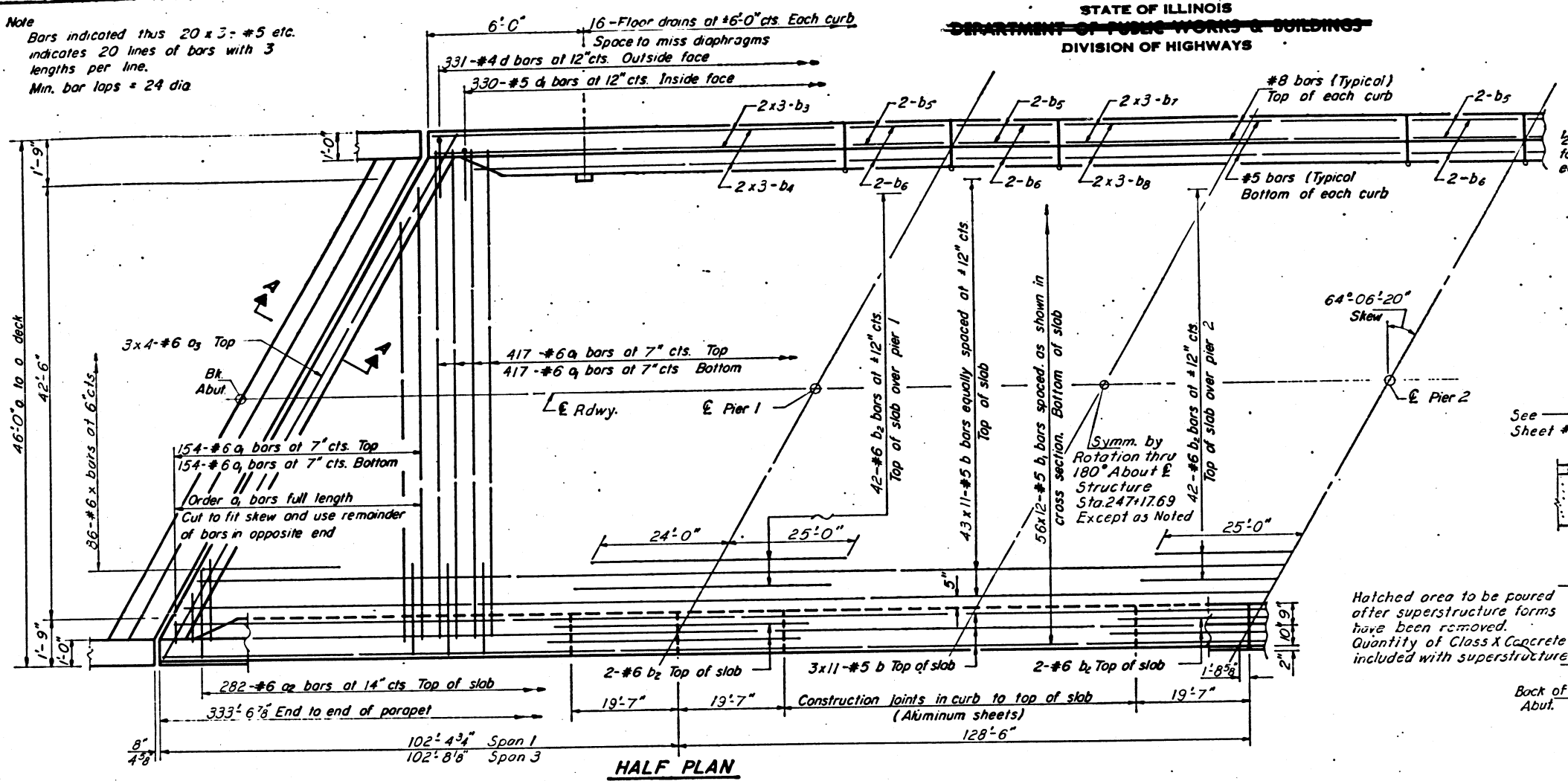
EXAMINED	Jan 11 1972
PASSED	
APPROVED	

TOP OF CLASS I ELEVATIONS
F.A. RT.100 SEC.130-IVB
JACKSON COUNTY
STATION 247+02.81

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

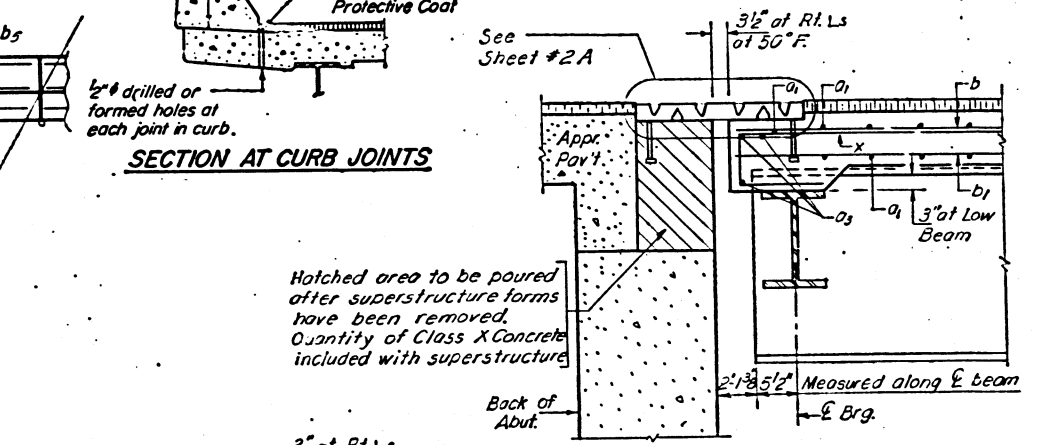
ROUTE NO.	SECTION	COUNTY	PROJECT NO.	SHEET NO.
100	130-IVB	JACKSON	34	16
18 SHEETS				

Note
Bars indicated thus 20 x 3-#5 etc.
indicates 20 lines of bars with 3
lengths per line.
Min. bar laps = 24 dia



HALF PLAN

SECTION AT CURB JOINTS

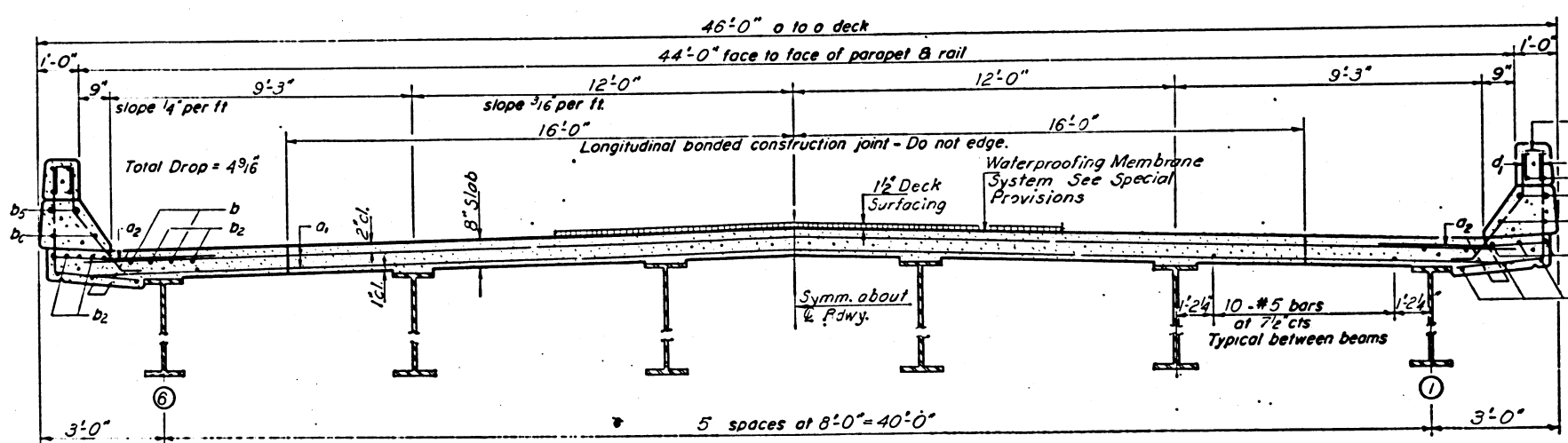


SECTION A-A
Thru North Abut.

SECTION A-A
Thru South Abut.

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a ₁	1142	#6	44'-3"	
a ₂	564	#6	4'-0"	
a ₃	24	#6	27'-6"	
b	539	#5	31'-6"	
b ₁	672	#5	29'-0"	
b ₂	92	#6	49'-0"	
b ₃	24	#8	29'-0"	
b ₄	24	#5	28'-6"	
b ₅	16	#8	19'-3"	
b ₆	16	#5	19'-3"	
b ₇	12	#8	31'-3"	
b ₈	12	#5	30'-9"	
d	662	#4	4'-6"	J
d ₁	560	#5	3'-7"	J
d ₂	148	#4	2'-1"	Π
x	172	#6	7'-7"	
Reinforcement Bars			Lbs.	136880
Class X Concrete			Cu Yds.	458.5

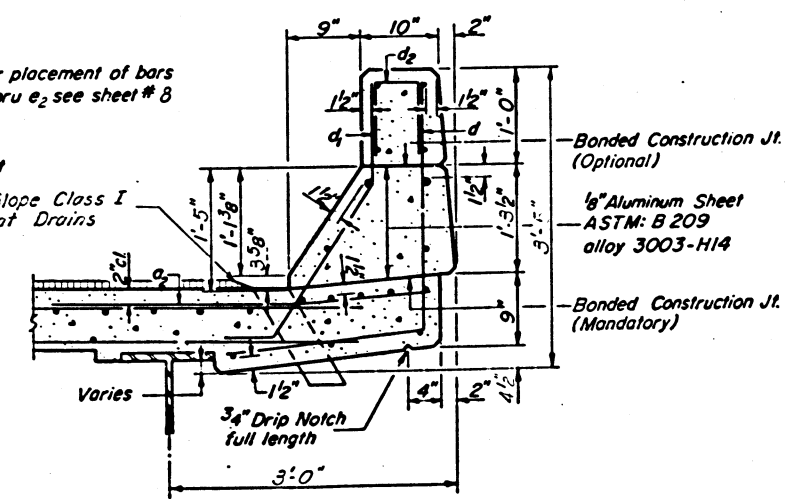


NEAR PIER

CROSS SECTION
LOOKING SOUTH

NEAR MIDSPAN

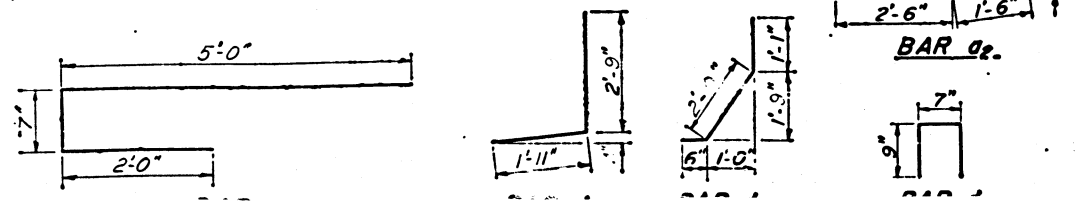
Note For placement of bars
d₂ & e thru e₂ see sheet # 8



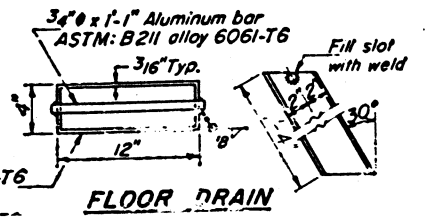
CURB SECTION

Cost of Aluminum Drains and Sheets
shall be incidental to Class X Concrete

DESIGNED	Mary W. Bayler
CHECKED	James P. Power
DRAWN	R. P. Summer
CHECKED	JP



Aluminum Sheets Welded
ASTM: B209 alloy 6061-T6
or Aluminum Extrusions



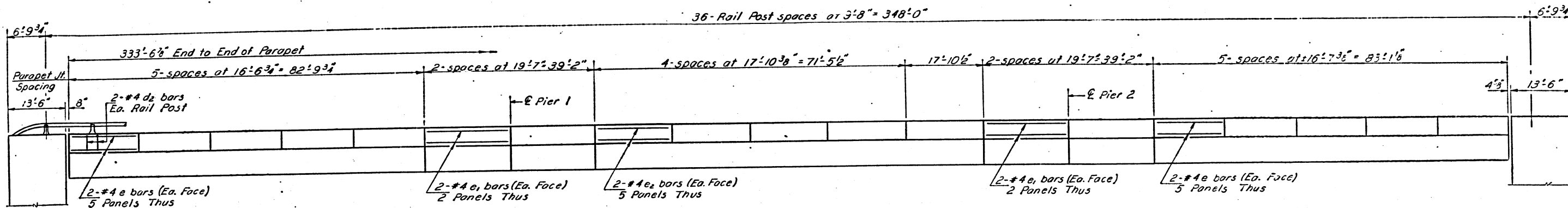
FLOOR DRAIN

The lengths and quantities of longitudinal
reinforcement and Class X Concrete in
parapets are not included in above
quantities. See sheet 8

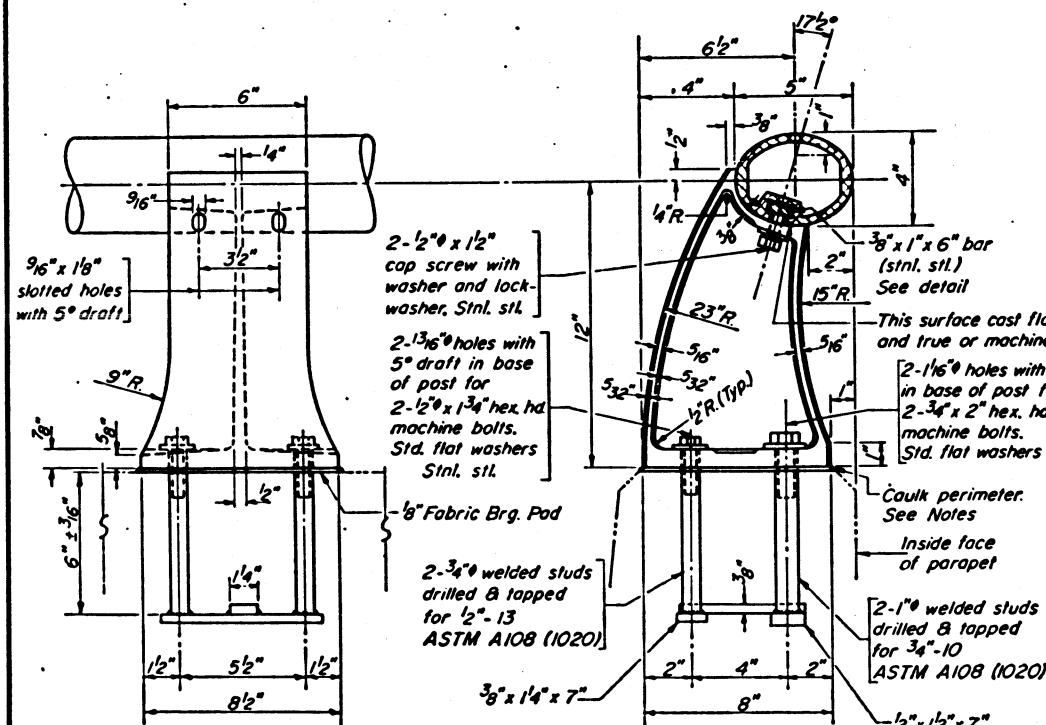
SUPERSTRUCTURE
F.A. RT. 100 SEC. 130-IVB
JACKSON COUNTY
STATION 247+02.81

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

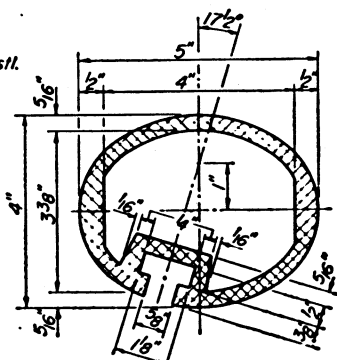
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
100	130-IVB	JACKSON	34	17	17
SHEET NO. 8					
15 SHEETS					



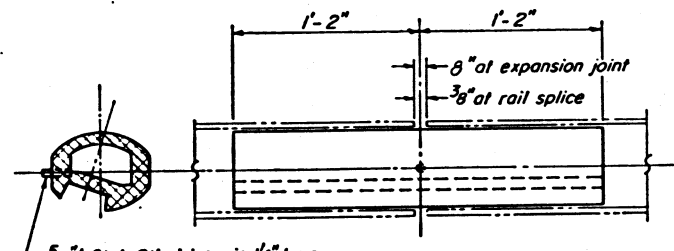
ELEVATION



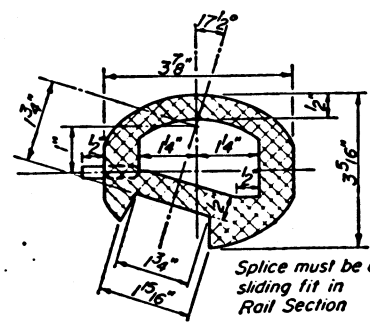
RAIL POST DETAILS



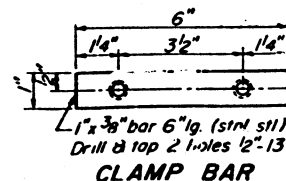
SEC. THRU ELLIPTICAL
RAIL SECTION



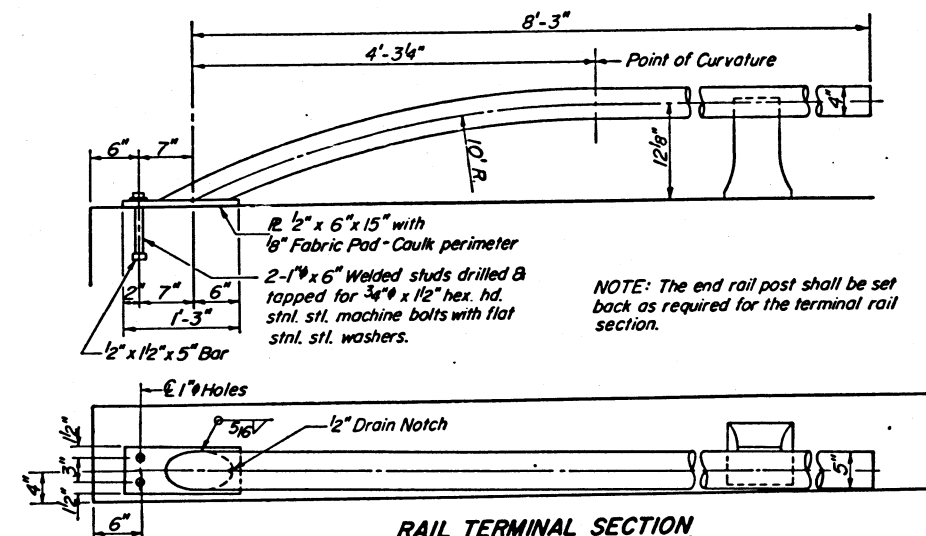
RAIL SPLICE



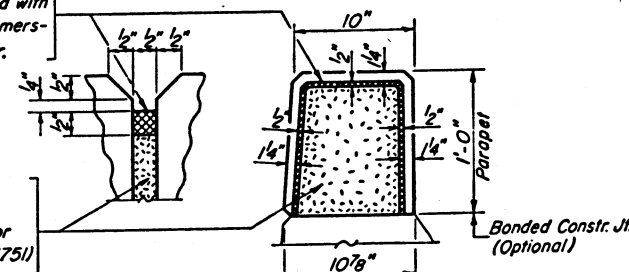
SEC. THRU SPLICE



CLAMP BAR



RAIL TERMINAL SECTION



PARAPET JOINT DETAIL

NOTE: The end rail post shall be set back as required for the terminal rail section.

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e	80	#4	16'-3"	
e ₁	32	#4	19'-3"	
e ₂	40	#4	17'-6"	
Reinforcement Bars			Lbs.	1750
Class X Concrete			Cu. Yds.	216
Aluminum Railing			Lin. Ft.	719

ALUMINUM RAILING
F.A. RT.100 SEC.130-IVB
JACKSON COUNTY
STATION 247+02.81

NOTES:

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.

All joints in rail shall be spliced per detail.

Provide 1-1/8" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

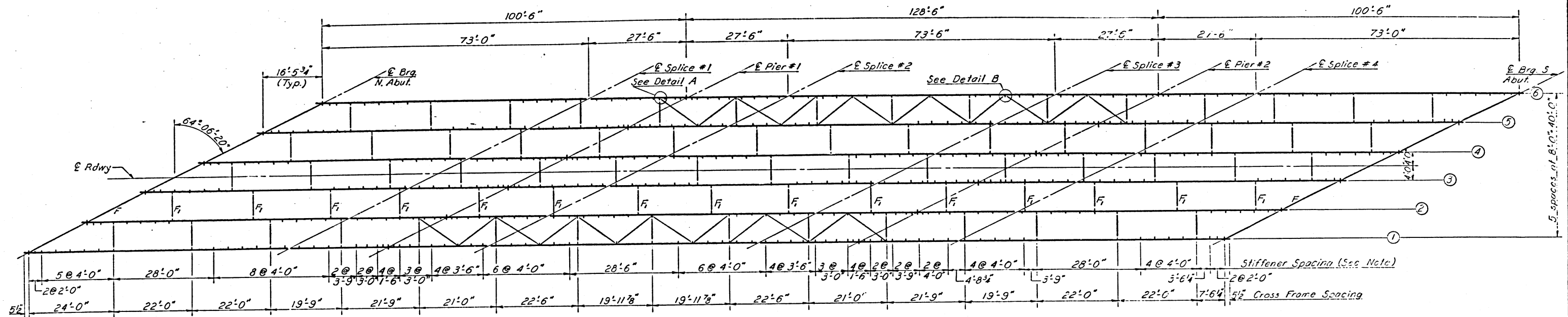
Aluminum alloy rail shall conform to ASTM B221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min. tensile 38 ksi, and

DESIGNED	Angus W. Bogle
CHECKED	James P. Poree
DRAWN	R. P. Summer
CHECKED	JP

EXAMINED	Jan 11 1972
PASSED	
APPROVED	

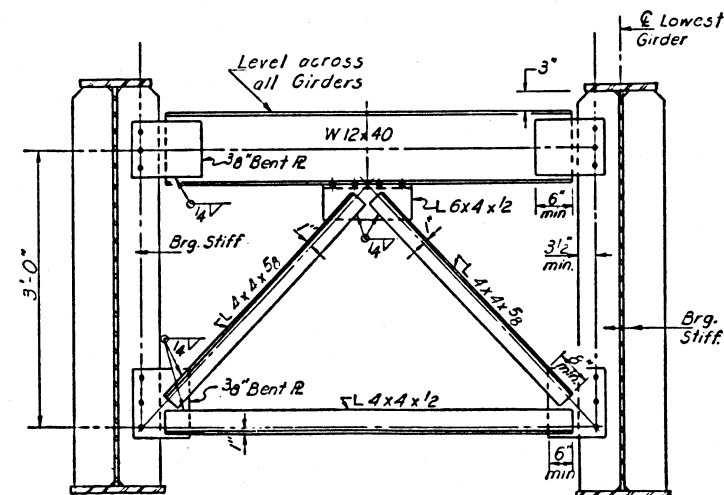
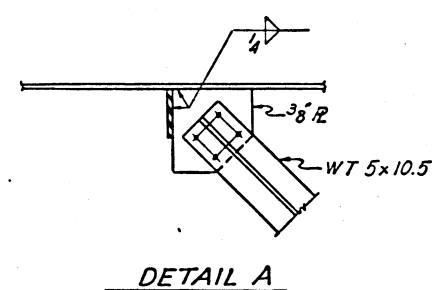
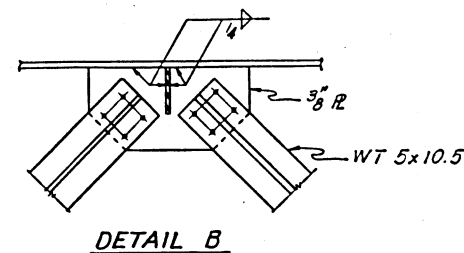
STATE OF ILLINOIS
~~DEPARTMENT OF PUBLIC WORKS & BUILDINGS~~
 DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
100	130-IVB	JACKSON	34	18	18 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT.					



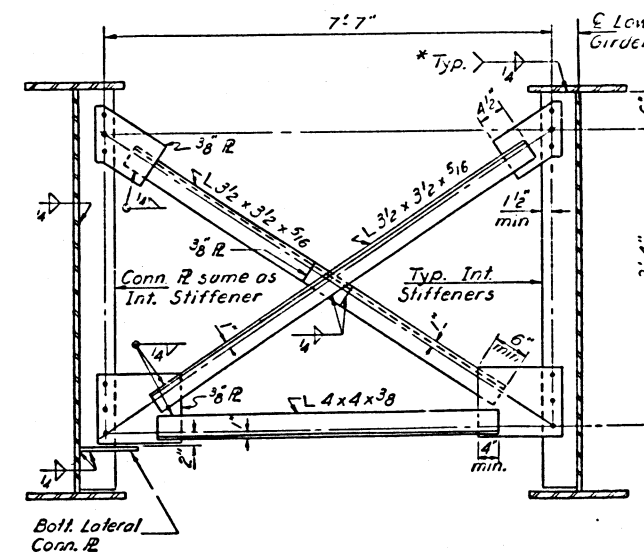
PLAN

Note: Stiffener spacing is for Girders 1, 3, & 5.
 Reverse order of dimensions for Girders 2, 4, & 6.



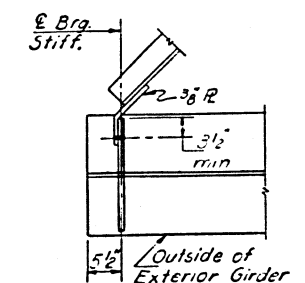
CROSS FRAME F
 (10 Req'd.)
 Use 7/8" H.S. Bolts

Note: 15/16" holes in gusset Rs for 3/4" bolts
 1/16" holes in gusset Rs for 5/8" bolts
 Hardened washers shall be required
 over holes in gusset Rs.



CROSS FRAME F1
 (75 Req'd.)

* Omit weld between stiffener & flange on
 first stiffener each side of splice.

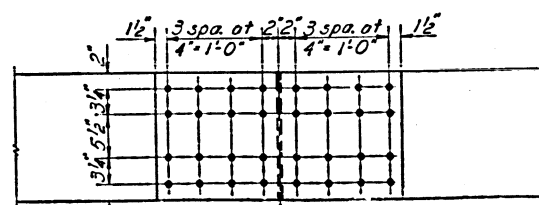


CROSS FRAME CONNECTION
 DETAIL AT ABUTMENT

DESIGNED	Jim O'Brien
CHECKED	James Price
DRAWN	R. P. Summer
CHECKED	JP

EXAMINED	JAN. 11 1972
PASSED	
APPROVED	

STRUCTURAL STEEL
 F.A. RT.100 SEC.130-IVB
 JACKSON COUNTY
 STATION 247+02.81



SPLICES
7/8" H.S. Bolts

	0.4 Sp. 1 or 0.6 Sp 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s (in ⁴)	19347		19347
I_G (in ⁴)	52282		52282
S_s (in ³)	995	2057	995
S_C (in ³)	1318		1318
$\bar{Q}$ (%)	1.028	1.484	1.046
M/Q (ik)	591	2225	520
$f_s Q$ (ksi)	7.1	13.0	6.3
$S Q$ (k/ft)	.447		.447
$M_s Q$ (ik)	308		338
M_R (ik)	920	935	944
M_{Imp} (ik)	204	207	211
TOTAL (ik)	1432	1142	1493
$f_s \pm S Q$ (ksi)	13.1	6.7	13.6
f_s TOTAL (ksi)	20.2	19.7	19.9
V_R (k)	64.3		56.6

INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
R _D (k)	52.1	190.4
R ₄ (k)	46.5	81.4
Imp. (k)	10.30	18.10
R _{TOTAL} (k)	108.9	289.9

I_3 and S_3 are the moment of inertia and section modulus of the steel section.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s .
 VR is the maximum $\frac{1}{4}$ * Impact shear in span.

TOP OF WEB ELEVATION

<i>Gir.</i> <i>Loc.</i>	1	2	3	4	5	6
<i>E Brg.</i> <i>N. Abut.</i>	393.52	393.76	393.96	394.03	393.96	393.85
<i>E Splice</i> <i>#1</i>	393.69	393.90	394.07	394.11	394.02	393.85
<i>E Pier</i> <i>#1</i>	393.76	393.96	394.12	394.15	394.04	393.85
<i>E Splice</i> <i>#2</i>	393.83	394.01	394.17	394.18	394.07	393.95
<i>E Splice</i> <i>#3</i>	393.90	394.07	394.18	394.17	394.02	393.84
<i>E Pier</i> <i>#2</i>	393.89	394.04	394.15	394.12	393.96	393.76
<i>E Splice</i> <i>#4</i>	393.87	394.02	394.11	394.07	393.90	393.65
<i>E Brg.</i> <i>S. Abut.</i>	393.85	393.97	394.03	393.96	393.77	393.55

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.

STRUCTURAL STEEL
F.A. RT.100 SEC.130-IVB
JACKSON COUNTY
STATION 247+02.81

DESIGNED	Larry W. Bostus
CHECKED	James H. H. H.
DRAWN	R. P. Summer
CHECKED	JP

Jan. 11 1972

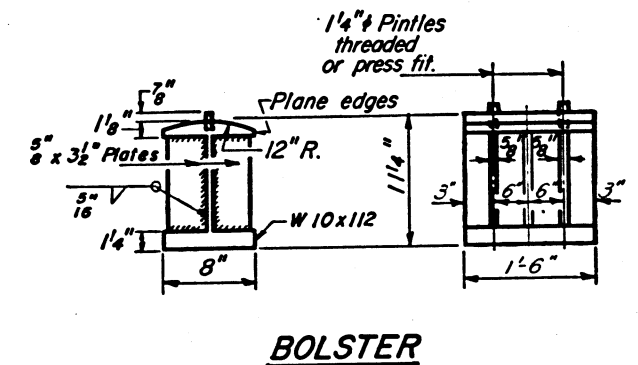
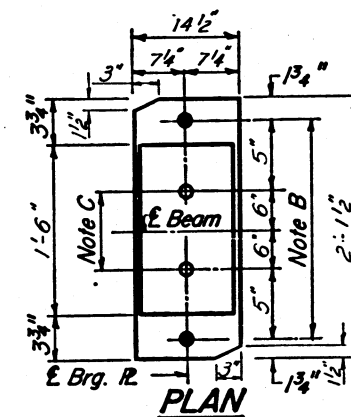
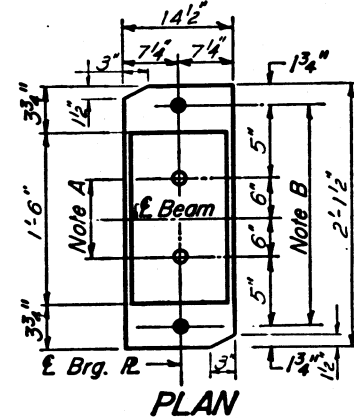
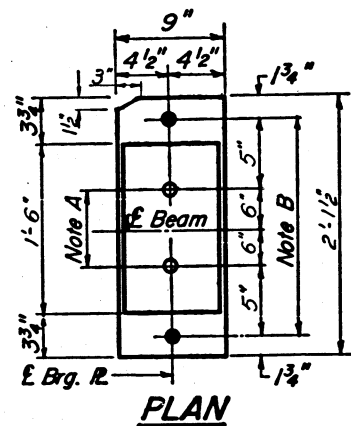
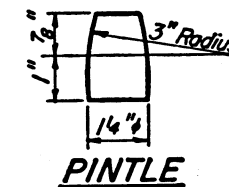
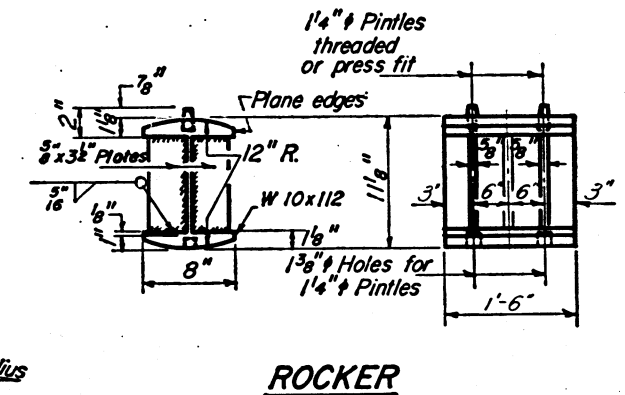
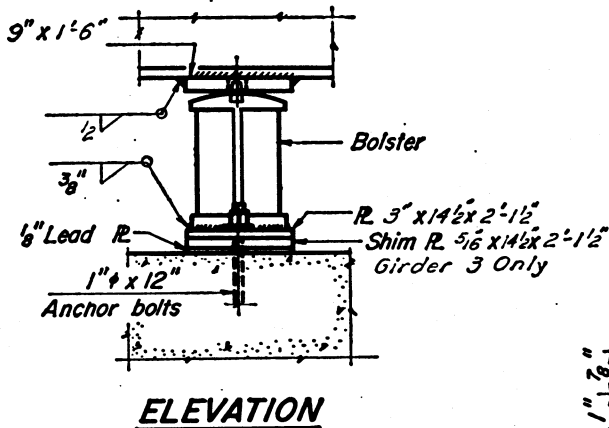
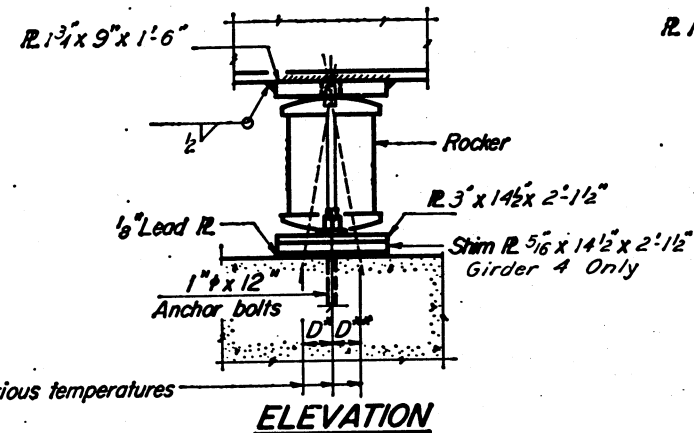
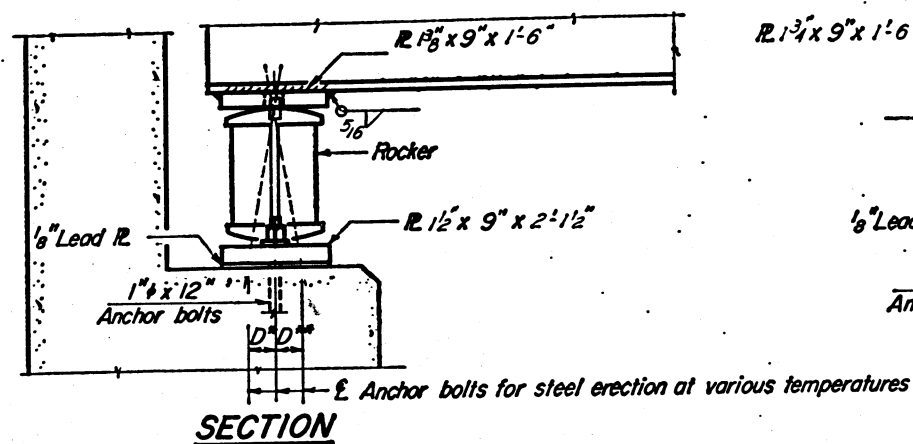
EXAMINED *[Signature]*

PASSED

APPROVED

[Signature]

Director of School



NOTE A
1³/₈" Holes - 1" deep in top R.
for pintles. Thread or press fit
pintles into bottom R.

NOTE B
1 1/2" ϕ Holes for 1" ϕ anchor bolts.
5/16 x 2 1/2" x 2 1/2" R. Washers
under nut.

NOTE C
1³/₈" Holes 1" deep in top R.
only for 1¹/₄" pintles.

BEARING ASSEMBLY DETAILS

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

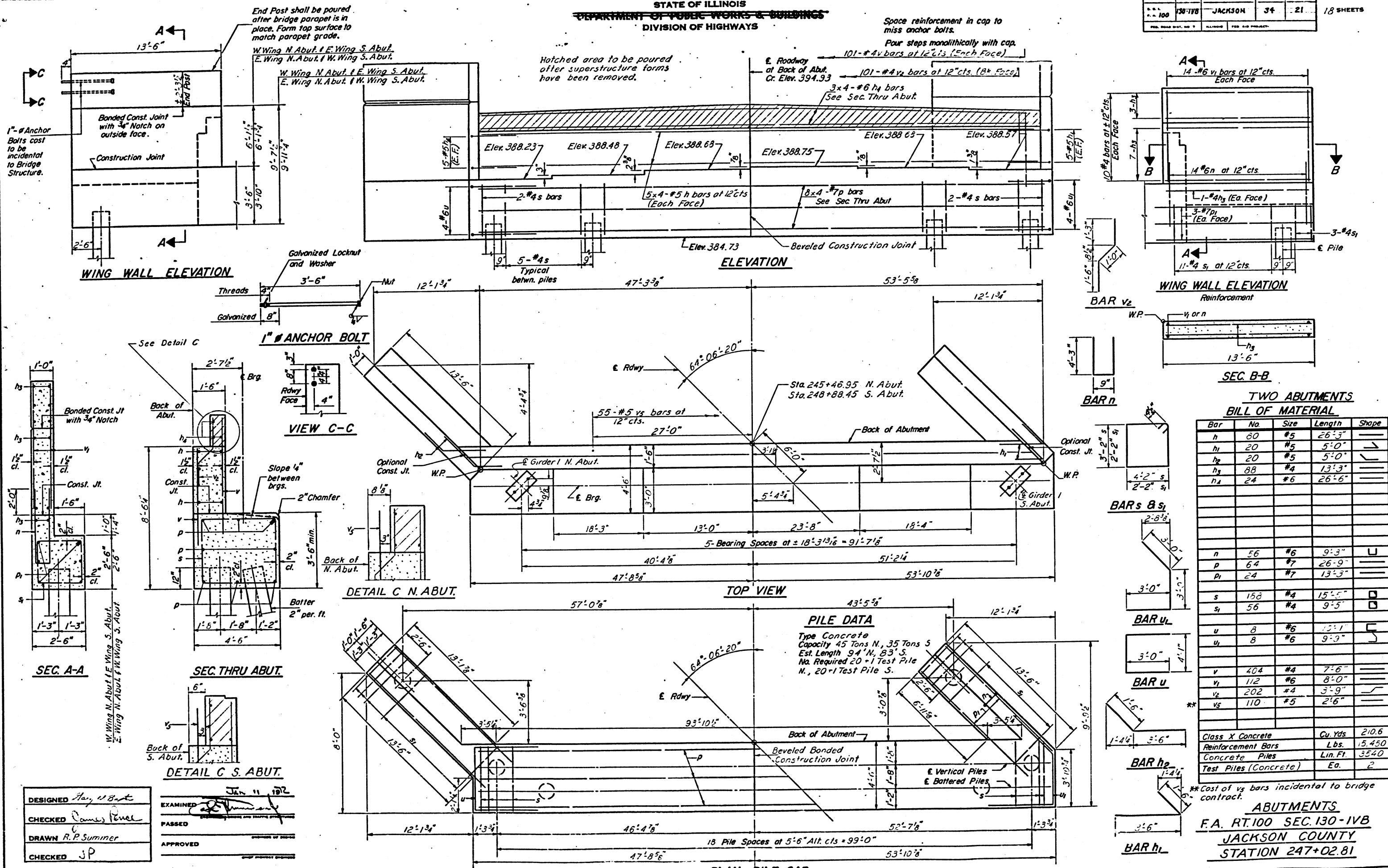
- a) D^* (Side of brg. away from fixed brg.)
 $D^* = .18''$ per each 100' of expansion for
 every 15° fall below the normal temp.
 of 50°F.
 D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = .18''$ per each 100' of expansion for
 every 15° rise above the normal temp.
 of 50°F.
- b) After beams have 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 seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\pm \frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}$ " adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

DESIGNED	Mary W. Boykin
CHECKED	James P. Ruel
	R. P. Summer
DRAWN	P. G. Barnett
CHECKED	JP

JAN. 11 1972
 EXAMINED *[Signature]*
 ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
 PASSED
 ENGINEER OF BRIDGE
 APPROVED
 CHIEF HIGHWAY ENGINEER

BEARING DETAILS
F.A. RT.100 SEC.130-IVB
JACKSON COUNTY
STATION 247+02.81



Bar	No.	Size	Length	Shape
<i>h</i>	80	#5	26'-3"	—
<i>h₁</i>	20	#5	5'-0"	└
<i>h₂</i>	20	#5	5'-0"	└
<i>h₃</i>	88	#4	13'-3"	—
<i>h₄</i>	24	#6	26'-6"	—
<i>n</i>	56	#6	9'-3"	U
<i>p</i>	64	#7	26'-9"	—
<i>p₁</i>	24	#7	13'-3"	—
<i>s</i>	158	#4	15'-5"	□
<i>s₁</i>	56	#4	9'-5"	□
<i>u</i>	8	#6	15'-1"	┌
<i>u₁</i>	8	#6	9'-3"	┌
<i>v</i>	404	#4	7'-6"	—
<i>v₁</i>	112	#6	8'-0"	—
<i>v₂</i>	202	#4	3'-9"	—
<i>v₃</i>	110	#5	2'-6"	—
Class X Concrete			Cu. Yds.	210.6
Reinforcement Bars			Lbs.	15,450
Concrete Piles			Lin. Ft.	3540
Test Piles (Concrete)			Ea.	2

* Cost of vs bars incidental to bridge contract.

ABUTMENTS

F.A. RT.100 SEC.130-1VB
JACKSON COUNTY
STATION 247+02.81

DESIGNED	Harry W. Burt
CHECKED	James Pence
DRAWN	R. P. Sumner
CHECKED	JP

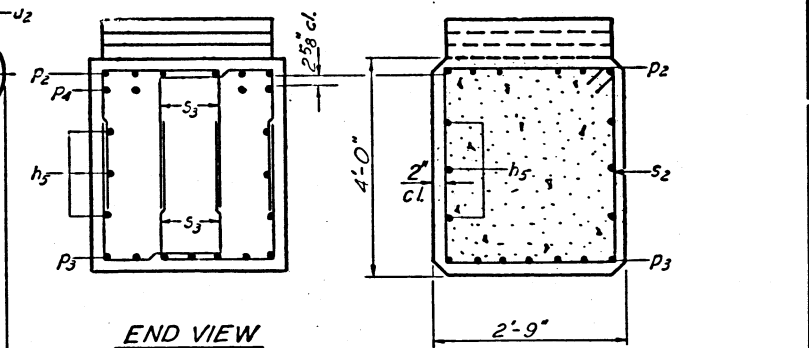
Jan 11 1972

EXAMINED *[Signature]*

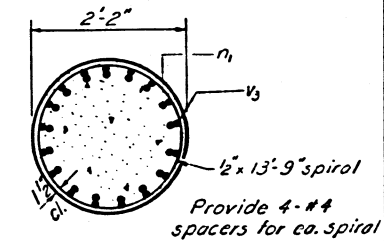
PASSED

APPROVED

Space Reinforcement in cap to miss anchor bolts.
All edges shall have standard $\frac{3}{4}$ " chamfer except as noted.
Pour steps monolithically with cap.
Min. Spiral lap = $1\frac{1}{2}$ turns.



SEC. A-A



SEC. B-B

TWO PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_5	48	#5	24'-0"	—
h_6	36	#6	28'-3"	—
h_7	168	#5	28'-0"	—
n_1	204	#10	6'-11"	—
n_2	12	#6	4'-11"	—
p_2	24	#14	46'-8"	—
p_3	56	#6	25'-0"	—
p_4	16	#14	16'-6"	—
s_2	140	#5	13'-1"	☒
s_3	144	#6	6'-9"	☐
s_4	164	#5	30'-8"	☐
s_5	164	#6	10'-8"	☐
sp	12	#4	13'-9"	www
f	164	#8	9'-3"	—
u_2	16	#6	9'-8"	—
u_3	60	#5	7'-3"	—
v_3	204	#10	14'-6"	—
v_4	12	#6	14'-3"	—
w	60	#5	29'-3"	—

Class X Concrete	Cu. Yds.	456.
Reinforcement Bars	Lbs.	6038
Concrete Piles	Lin. Ft	533
Test Piles Concrete	Each	2

* Includes 4-#4 spacers

<i>Bar</i>	<i>A</i>	<i>B</i>
<i>S₃</i>	<i>1'·9"</i>	<i>2'·6"</i>
<i>S₄</i>	<i>2'·2"</i>	<i>14'·3"</i>
<i>S₅</i>	<i>2'·2"</i>	<i>4'·5"</i>

PIERS #1 & #2
F.A. RT.100 SEC.130-1VB
JACKSON COUNTY
STATION 247+02.81

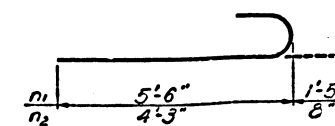
Preliminary	
DESIGNED	Mary W. Bayne
CHECKED	James Price
DRAWN	R. P. Summer
CHECKED	JP

JAN. 11 1973
 EXAMINED *[Signature]*
 ENGINEER IN CHARGE AND TRAFFIC STRUCTURE
 PASSED
 ENGINEER OF DESIGN
 APPROVED
 CHIEF ENGINEER BRIDGES

PILE LAYOUT & DIMENSIONS

FOOTING PLAN

REINFORCEMENT



SHEET NO. 14
18 SHEETS

Boring No. 2-S			Station 245+06			C'ct 10' LEFT			Ground Surface			SHELBY TUBED FROM 0.0 TO 50.0 FEET SEE BORING A-25			SEE BORING A-25					
Elevation			N			Q or A.L.			P (%)			Surface Water El.			Groundwater El. at Completion			Flow Hours		
362.8			0									MEDIUM WET BROWN COARSE SAND								
312.8			10									BOTTOM OF HOLE = 71.5 FEET DURING DRILLING OPERATIONS IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 23.0 FEET			291.3			19		
27			-			-														
28			-			-														
23			-			-														
30			-			-														
52			-			-														

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

Jan. 11 1972

EXAMINED *[Signature]*

PASSED

APPROVED

ENGINEER OF DESIGN

CHIEF ENGINEER

BORINGS
F.A. RT.100 SEC.130-1VB
JACKSON COUNTY
STATION 247+02.81

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U. S. L. U. S. 100	130-1VB	JACKSON	34	24
FED ROAD DIST NO 9		ILLINOIS	FED AID PROJECT-	

SHEET NO. 15
18 SHEETS

Coring No.	Elev		Borehole	N	Gt 1/L L	(ft)	Surface Water El. Groundwater El. at Completion After Hours	HOMF NONE NONE	Elevation	N	Gt 1/L L	(ft)
Section 7A76.1												
Cut + In RIGHT												
Ground Surface	363.1	0					SEE PRECEDING COLUMN		-			
AUGURED MED MOIST DARK BROWN SILTY CLAY LOAM AA(8)									-	17	-	
	360.1								-25			
VERY STIFF MOIST BROWN SILTY CLAY A6(10)			10	5.05	18	MEDIUM TO LOOSE WET BROWN FINE SAND			13	-	-	
	357.6								-30			
VERY STIFF TO MEDIUM VERY MOIST BROWN CLAY LOAM AA(8-9)			12	1.65	31				13	-	-	
	356.0								-30			
	352.6		6	0.58	22				3	-	-	
	350.1								-35			
VERY SOFT VERY MOIST BROWN SAND LOAM AA(4)			4	0.35	20				3	-	-	
	350.1								-35			
LOOSE MOIST BROWN MOTTLED GREY FINE SAND			5	-	-				3	-	-	
	345.1								-35			
LOOSE MOIST BROWN FINE SAND			8	-	-				9	-	-	
	342.6	20							-35			
LOOSE TO MEDIUM BROWN VERY MOIST MEDIUM TO COARSE SAND			6	-	-				9	-	-	
	342.6	20							-35			
	342.6	20					SEE NEXT SHEET		-43			

Boring No.	Station	Offset	Elevation	N	Q ₁ /L	P (%)	Surface Water El.	Groundwater El. at Completion	After	Hours	Elevation	N	Q ₁ /L	P (%)
323.0	0													
SEE PRECEDING SHEET							SEE PRECEDING COLUMN							
311.6	9	-	-											
MEDIUM TO LOOSE WET BROWN MEDIUM SAND							MEDIUM TO LOOSE WET BROWN MEDIUM SAND							
283.1	0													
SEE PRECEDING SHEET							SEE PRECEDING COLUMN							
271.6	29	-	-											
BOTTOM OF HOLE = 91.5 FEET							DURING DRILLING OPERATIONS IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 23.0 FEET							

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

Jan. 11 1973
EXAMINED *[Signature]*
PASSED
APPROVED

BORINGS
F.A. RT.100 SEC.130-140
JACKSON COUNTY
STATION 247+02.81

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E. L. P. A. 100	130-IVB	JACKSON	34	25
PER. ROAD DIST. NO. 7		ILLINOIS	PER. AID PROJECT.	

18 SHEETS

Daring No. <u>5-6</u> Station <u>248+39.19</u> Offset <u>10' LEFT</u>				Surface Water El. <u>-</u> Groundwater El. at Completion <u>-</u> After <u>1</u> Years <u>-</u>							
Elevation	N	Qs 1/4 L.	V (%)		Elevation	N	Qs 1/4 L.	V (%)			
Current Surface <u>40</u> SEE PRECEDING SHEET				MEDIUM TO DENSE WET BROWN FINE SAND TO MEDIUM SAND							
	7	-	-			11	-	-			
	7	-	-			8	-	-			
<u>43</u> 315.8											
	9	-	-			16	-	-			
MEDIUM TO LOOSE WET BROWN FINE SAND											
	20	-	-			14	-	-			
	12	-	-			15	-	-			
	13	-	-			19	-	-			
<u>45</u>											
	19	-	-			18	-	-			
	11	-	-			22	-	-			
<u>46</u>											
	8	-	-								
301.3				SEE NEXT SHEET							
SEE NEXT COLUMN											

Doring No. <u>5-5</u> Station <u>248+39.10</u> Chit of <u>10' LEFT</u>			Elevation	N	Q _u 1/4 L	V (%)	Surface Water El. _____ Groundwater El. at Completion _____ After _____ Hours _____	Elevation	N	Q _u 1/4 L
SEE PRECEDING SHEET	80									
	18	-	-							
	22	-	-							
	85									
	23	-	-							
274.8	37	-	-							
BOTTOM OF HOLE = 89.0 FEET DURING DRILLING OPERATIONS IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 23.0 FEET										

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

DESIGNED *Fry W. Baxter*
CHECKED *JP*
DRAWN *R. P. Summer*
CHECKED *JP*

Jan. 11 1972

EXAMINED *[Signature]*

PASSED

APPROVED

BORINGS
F.A. RT. 100 SEC. 130-14
JACKSON COUNTY
STATION 247+02.81

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

BOREHOLE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6-S	130-IVB	JACKSON	34	26
F.A. 100				
FEED BACK SHEET NO. 7	PLANNED	FEED AND PROJECT		

SHEET NO. 17
18 SHEETS

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After Hours	Elevation	N	Q _u /L.T.	w (%)	Q _u /L.T.	w (%)
6-S	248+91.77	10' RIGHT	NONE	NONE	NONE						
SEE PRECEDING COLUMN											
Ground Surface											
AUGERED MEDIUM MOIST DARK GRAY SILTY CLAY LOAM A4(3)											
	363.4	0									
	360.4										
VERY STIFF MOIST BROWN SILTY CLAY A6(10)											
	357.9										
STIFF MOIST TO VERY MOIST BROWN CLAY LOAM A4(3-9)											
	353.4	10									
	350.4										
SOFT VERY MOIST BROWN SAND LOAM A4(0-3)											
	328.4	35									
LOOSE MOIST BROWN MOTTLED GRAY FINE SAND											
	318.4	45									
MEDIUM TO LOOSE WET BROWN FINE SAND											
	315.4										
MEDIUM MOIST TO VERY MOIST BROWN FINE TO MEDIUM SAND											
	312.4										
	309.4										
	306.4										
	303.4										
	300.4										
	297.4										
	294.4										
	291.4										
	288.4										
	285.4										
	282.4										
	279.4										
	276.4										
	273.4										
	270.4										
	267.4										
	264.4										
	261.4										
	258.4										
	255.4										
	252.4										
	249.4										
	246.4										
	243.4										
	240.4										
	237.4										
	234.4										
	231.4										
	228.4										
	225.4										
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	219.4										
	216.4										
	213.4										
	210.4										
	207.4										
	204.4										
	201.4										
	198.4										
	195.4										
	192.4										
	189.4										
	186.4										
	183.4										
	180.4										
	177.4										
	174.4										
	171.4										
	168.4										
	165.4										
	162.4										
	159.4										
	156.4										
	153.4										
	150.4										
	147.4										
	144.4										
	141.4										
	138.4										
	135.4										
	132.4										
	129.4										
	126.4										
	123.4										
	120.4										
	117.4										
	114.4										
	111.4										
	108.4										
	105.4										
	102.4										
	99.4										
	96.4										
	93.4										
	90.4										
	87.4										
	84.4										
	81.4										
	78.4										
	75.4										
	72.4										
	69.4										
	66.4										
	63.4										
	60.4										
	57.4										
	54.4										
	51.4										
	48.4										
	45.4										
	42.4										
	39.4										
	36.4										
	33.4										
	30.4										
	27.4										
	24.4										
	21.4										
	18.4										
	15.4										
	12.4										
	9.4										
	6.4										
	3.4										
	0.4										
	318.4	45									

SEE NEXT SHEET

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After Hours	Elevation	N	Q _u /L.T.	w (%)	Q _u /L.T.	w (%)
6-S	247+02.81	10' RIGHT	NONE	NONE	NONE						
SEE PRECEDING COLUMN											
Ground Surface											
MEDIUM WET BROWN FINE SAND											
	318.4	45									
MEDIUM WET GREY FINE SILTY SAND WITH COAL AND ORGANIC MATTER MIXED											
	298.4	55									
LOOSE TO MEDIUM BROWN MEDIUM TO COARSE SAND											
	293.4	65									
	281.9										
BOTTOM OF HOLE = 81.5 FEET											
DURING DRILLING OPERATIONS IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 23.0 FEET											

N-Standard Penetration Test-
Blows per foot to drive 2"
O.D. Split Spoon Sampler 12" with
140 # hammer falling 30".

Q_u-Unconfined Compressive
Strength-t/sf
w-Water Content-percentage
of oven dry weight-%.

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

DESIGNED *Ray W. Soper*
CHECKED *JP*
DRAWN *R.P. Summer*
CHECKED *JP*

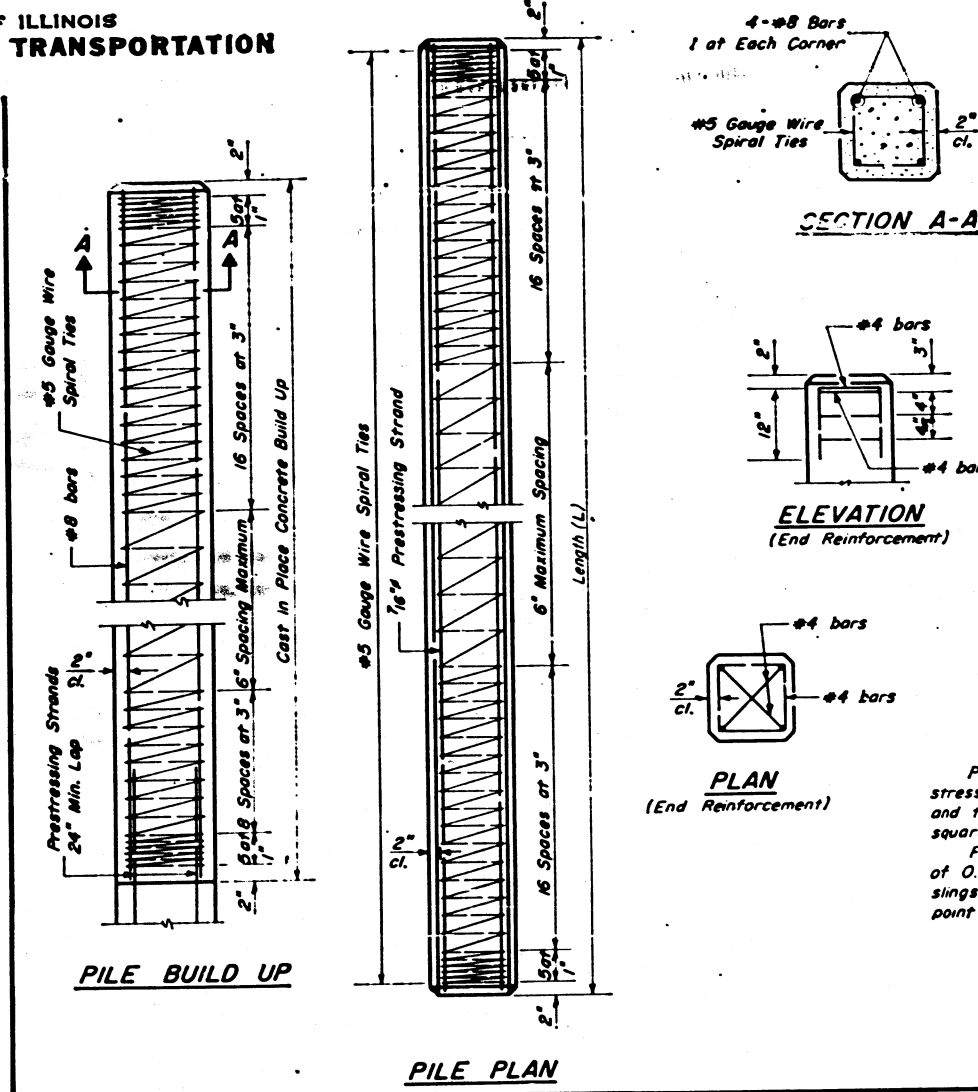
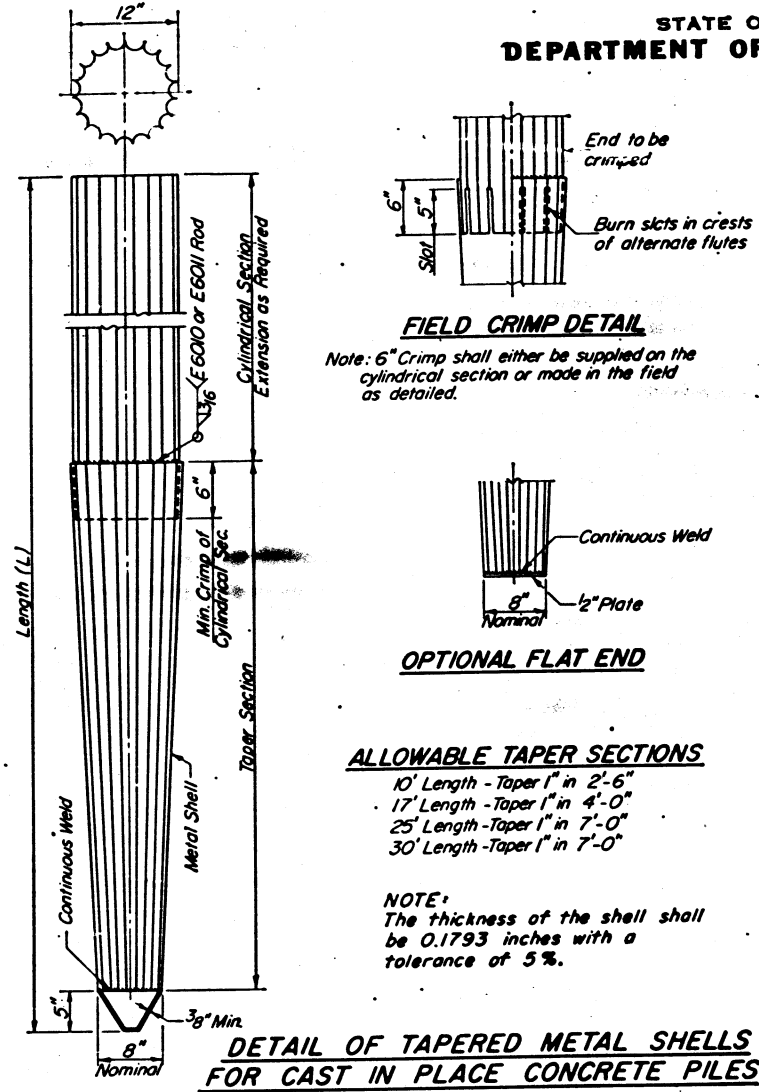
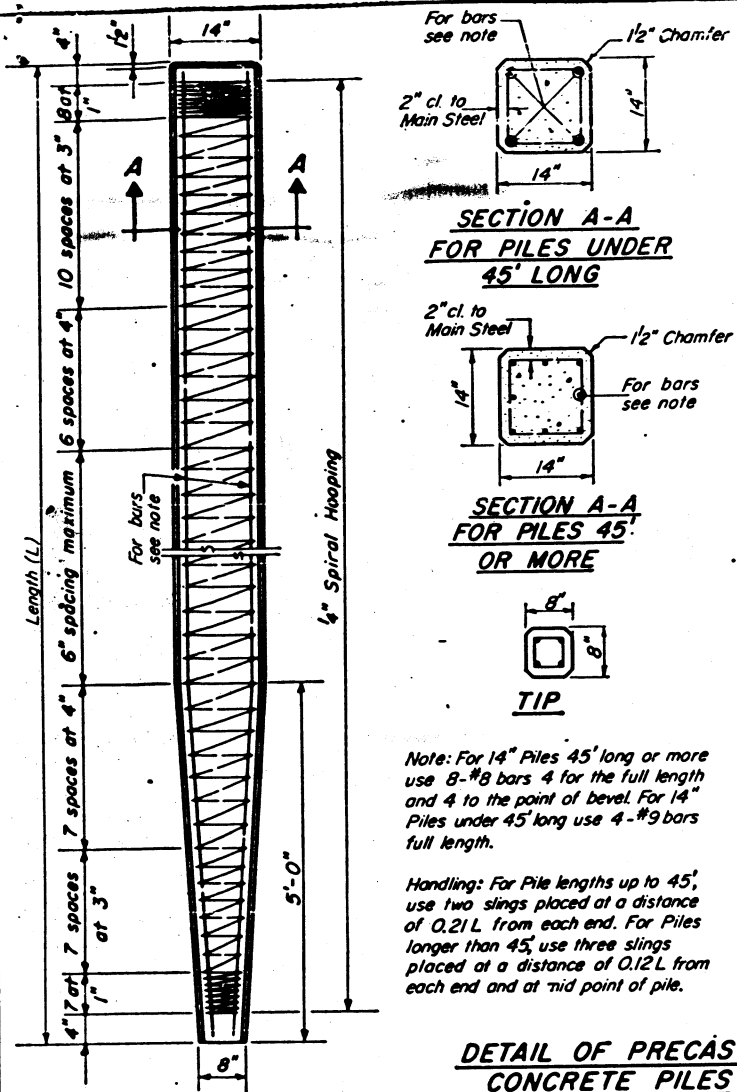
EXAMINED *Jan. 11 1972*
PASSED
APPROVED

BORINGS
F.A. RT. 100 SEC. 130-IVB
JACKSON COUNTY
STATION 247+02.81

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SUBJECT	TOTAL SHEETS	SHEET NO.
RT. 100	130-1VB	JACKSON	34	27
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	

SHEET NO. 18
18 SHEETS



DESIGN STRESSES

$f_c = 5,000$ psi
 $f_t = 4,000$ psi
 $f_s = 268,000$ psi (31,000 lbs.)
 $f_s' = 188,000$ psi (21,700 lbs.)

NOTES

Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.1155 square inch.

For Pile lengths up to 65', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L from each end and at mid-point of pile. * L = Over all length of pile to be handled.

