

66107 #12

131

8-02-02 F.A.I. 55 McLEAN (57-1,57-2)RS #13

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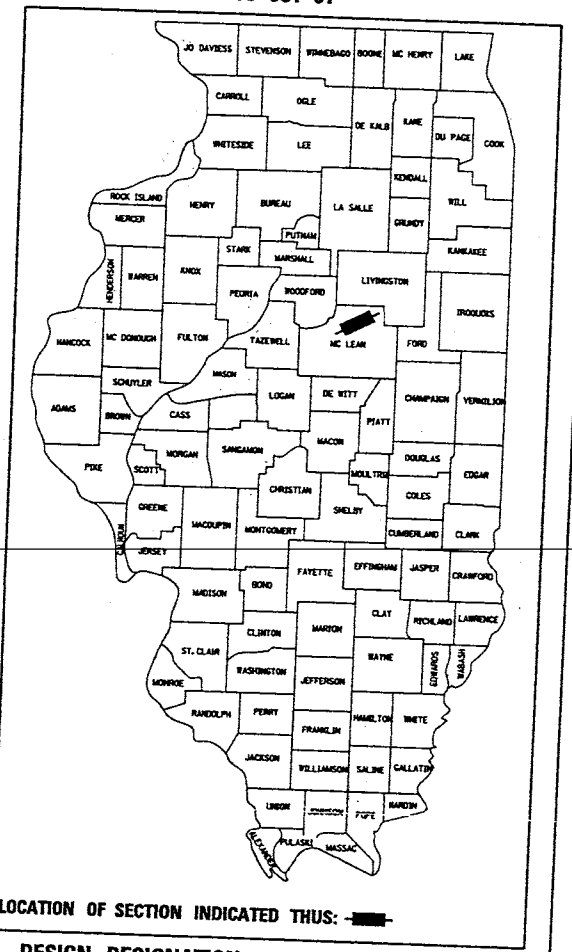
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11-8-2003

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

FAI 55 ( I-55 )  
SECTION (57-1,57-2)RS  
PROJECT ACIM-55-5 (106) 175  
MCLEAN COUNTY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
55		MCLEAN	205

ILLINOIS PROJECT  
57-1,57-2RS  
P-93-033-99  
D-93-081-01



SN 057-0152 (SB)  
SN 057-0153 (NB)  
STA 398+57

SN 057-0172  
STA 714+75.07

SN 057-0182 (SB)  
SN 057-0183 (NB)  
STA 711+75

SN 057-2005  
STA 686+50

SN 057-0171  
STA 645+71.31

BEGIN IMPROVEMENT  
STA 626+40 NB  
STA 622+77 SB



END IMPROVEMENT  
STA 461+67.02

SN 057-0178 (SB)  
SN 057-0179 (NB)  
STA 411+28.42

SN 057-0177  
STA 345+71.49

SN 057-2004  
STA 290+51

SN 057-0175  
STA 170+65.42

SN 057-0173 (SB)  
SN 057-0174 (NB)  
STA 781+50

DESIGN DESIGNATION - INTERSTATE  
ADT(2002) = 26700  
P.V. = 75.6%  
S.U. = 3.3%  
M.U. = 21.1%

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS \_\_\_\_\_

JULIE 1-800-892-0123

DISTRICT 3 NO. (815) 434-6131

PROJECT ENGINEER: DAN DRAPER  
UNIT CHIEF: MICHELE LINDEMANN  
TOWNSHIP: MONEY CREEK, LEXINGTON, CHENOA

CONTRACT NO. 66107 **057-0182(SB) 0183(NB)**

GROSS & NET LENGTH OF IMPROVEMENT:  
S.B. = 52,389.21 FT = 9.92 MI  
N.B. = 52,026.21 FT = 9.85 MI

STATION EQUATION 784+99.19 BK = 100+00 AH

SUBMITTED APRIL 10 2002  
James J. Smith DISTRICT ENGINEER  
May 10, 2002  
Michael Klein  
ENGINEER OF DESIGN AND ENVIRONMENT  
May 10 2002  
James R. Santolucito  
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

3-228

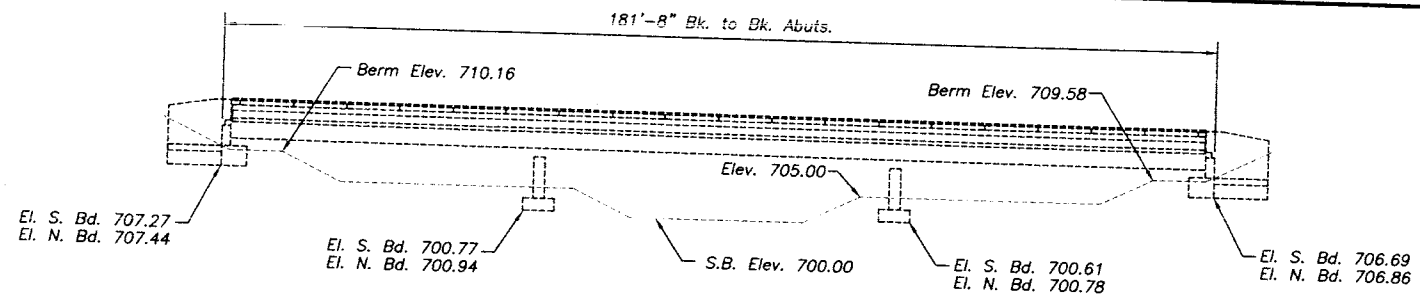
057-0182 & -0183

APRIL 02, 2002 / EPO3399/SHEETS .DCN

BENCH MARK:  
Bearing seat at south end  
of west abutment of northbound  
structure. Elev. = 710.94

FAI 55	*	McLEAN	205	71
* (57-1.57-2)RS				

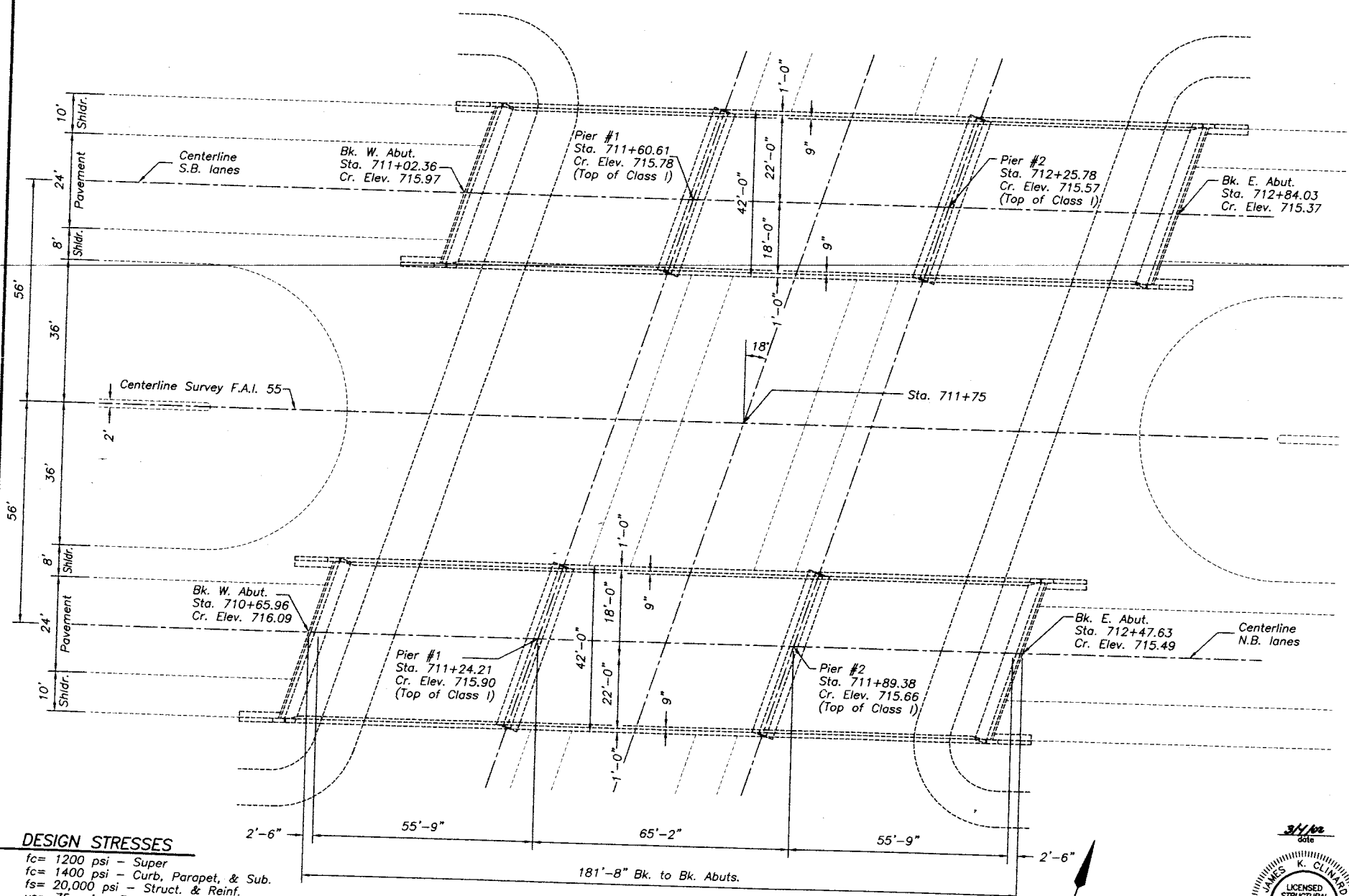
Sheet 1  
of 9 Sheets



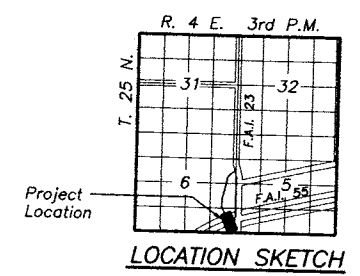
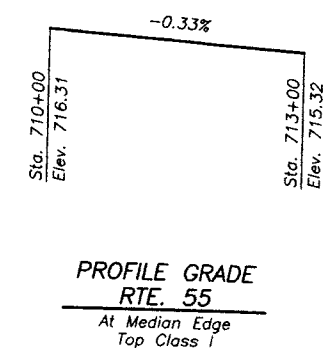
**ELEVATION**

**Proposed Work**  
Remove 1-11 and waterproofing  
Overlay with Microsilica Concrete  
Replace Expansion Joint Seal at both abutment for structure 057-0182  
Replace Expansion Joint Seal at east abutment for structure 057-0183  
Replace west expansion joint for structure 057-0183  
Repair cracks and areas of delamination at abutments & piers  
Fill gaps between slopewall and abutments with Controlled Low-Strength Material  
Extend or plug drains as noted  
Remove and repair loose concrete on underside of deck at drains

FOR GENERAL NOTES SEE SHEET 2 OF 9.

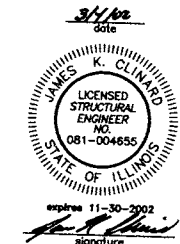


**PLAN**



**DESIGN STRESSES**  
fc = 1200 psi - Super  
fc = 1400 psi - Curb, Parapet, & Sub.  
fs = 20,000 psi - Struct. & Reinf.  
vc = 75 psi - Footings  
n = 10

**LOADING HS20-44 & ALT**  
Allow 25#/sq. ft. for future surface.



**GENERAL PLAN AND ELEVATION**  
F.A.I. ROUTE 55 OVER TURKEY CREEK  
SEC. (57-1, 57-2) RS  
McLEAN COUNTY  
SN 057-0182(SB) & SN 057-0183(NB)  
STA. 711+75

DATE	BY	NO.	REV.
FAI 55	*	McLEAN	205 72

Sheet 2  
of 9 Sheets

\* (57-1,57-2)RS

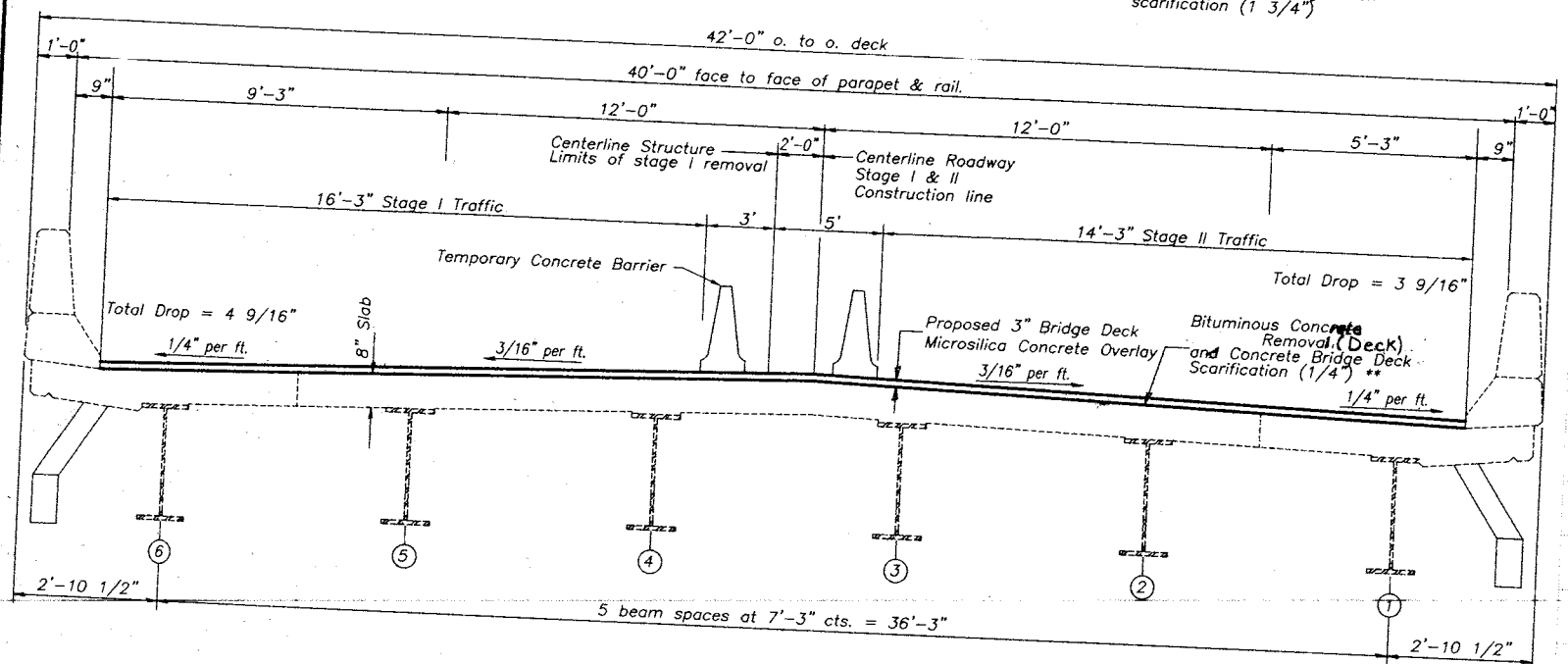
GENERAL NOTES

- All structural steel shall conform to AASHTO Classification M-270 Gr. 36 unless otherwise noted.
- All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300 Type 1. The cost shall be included in the cost of Furnishing and Erecting Structural Steel.
- The existing structural steel coating contains lead. The contractor should take appropriate precautions to deal with the presence of lead on this project.
- Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall 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.
- Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50 degrees Fahrenheit.
- 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 materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The area along the slopewalls as determined by the engineer should be cleared of vegetation, bushes, saplings, etc. according to Section 201 of the Standard Specs.

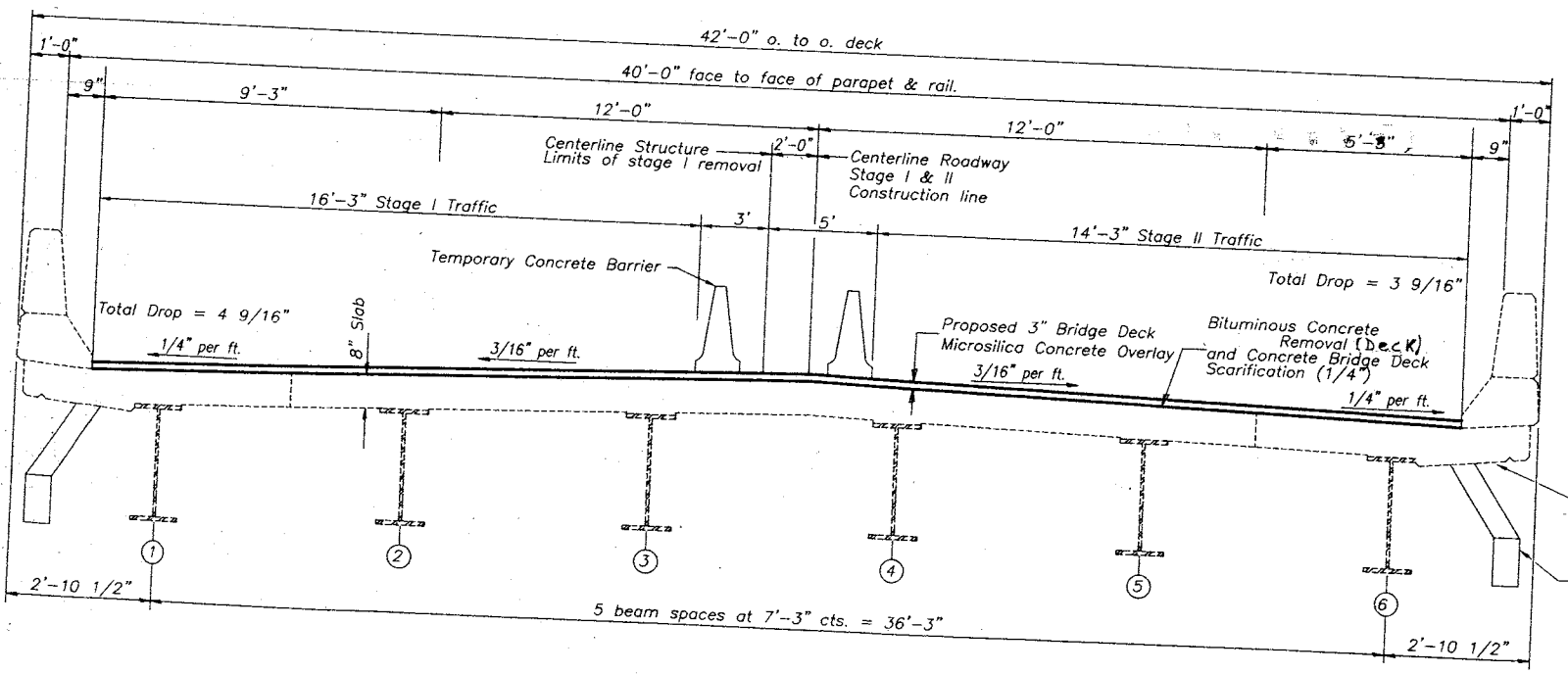
TOTAL BILL OF MATERIALS				
Item	Unit	Super.	Sub.	Total
BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	1512	--	1512
CONCRETE REMOVAL	CU YD	5.8	--	5.8
SILICONE JOINT SEALER, 1 3/4"	FOOT	86	--	86
SILICONE JOINT SEALER, 2 3/4"	FOOT	86	--	86
CONCRETE SUPERSTRUCTURE	CU YD	6.7	--	6.7
FLOOR DRAIN EXTENSION	EACH	40	--	40
FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	--	152.5	152.5
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2360	--	2360
REINFORCEMENT BARS, EPOXY COATED	POUND	840	--	840
EPOXY CRACK SEALING	FOOT	--	71	71
PLUG EXISTING DECK DRAINS	EACH	76	--	76
BAR SPLICERS	EACH	12	--	12
BRIDGE DECK MICROSILICA CONCRETE OVERLAY	SQ YD	1516	--	1516
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ YD	1512	--	1512
CONCRETE BRIDGE DECK SCARIFICATION (1 3/4 INCH)	SQ YD	13	--	13
CONTROLLED LOW-STRENGTH MATERIAL	CU YD	--	0.3	0.3
POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQ FT	1424	--	1424
BRIDGE DECK GROOVING	SQ YD	1516	--	1516

GENERAL NOTES  
F.A.I. RT. 55 OVER TURKEY CREEK  
SECTION (57-1,57-2)RS  
McLEAN COUNTY  
SN 057-0182(SB) & SN 057-0183(NB)  
STA. 711+75

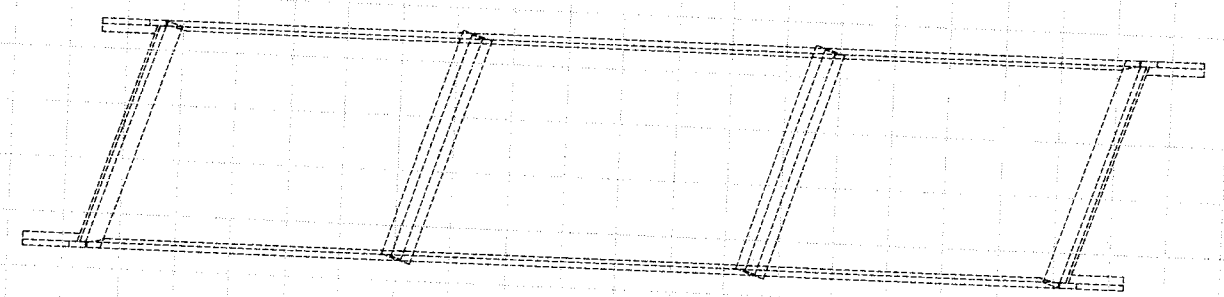
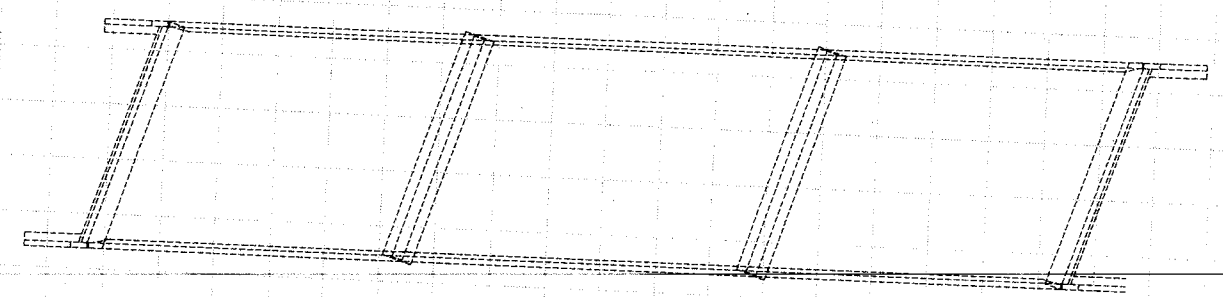
\*\* East 3' of NB structure shall receive concrete bridge deck scarification (1 3/4")



SN 057-0183 (NB)  
PROPOSED CROSS SECTION  
LOOKING WEST



SN 057-0182 (SB)  
PROPOSED CROSS SECTION  
LOOKING EAST



**DECK SLAB REPAIR RECORD**

NOTE: Based on testing results no areas of deck slab repair are anticipated

**BILL OF MATERIAL**

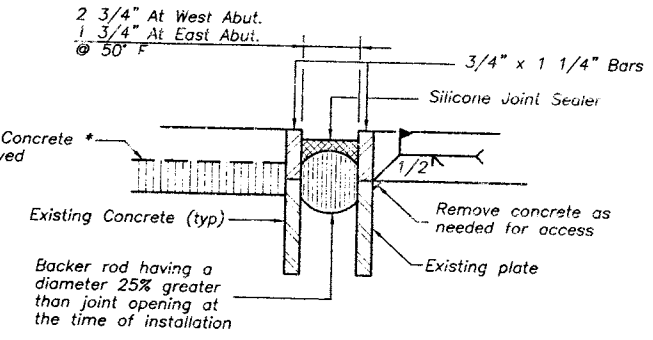
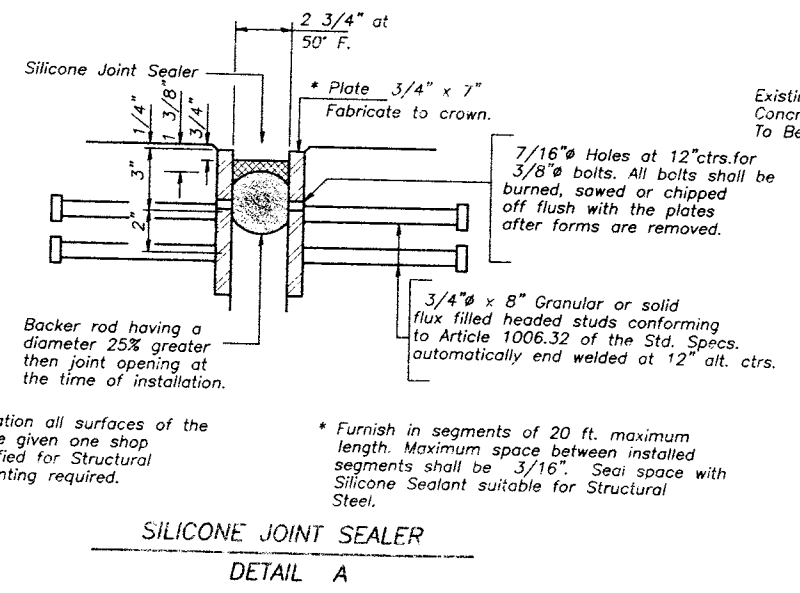
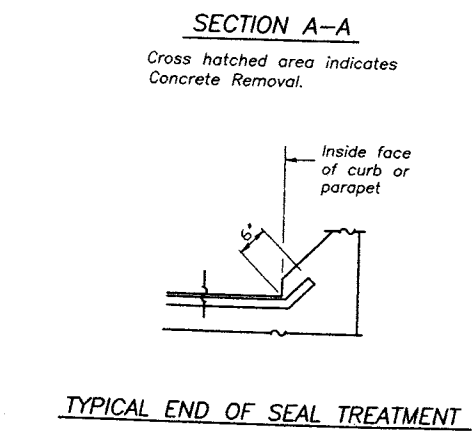
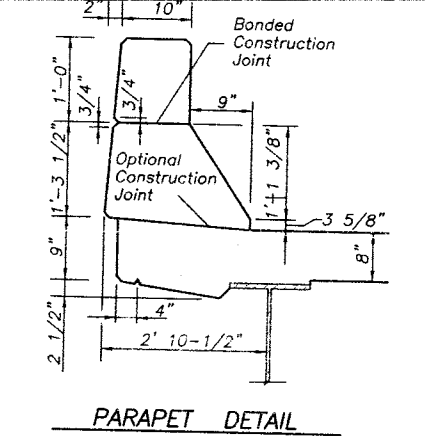
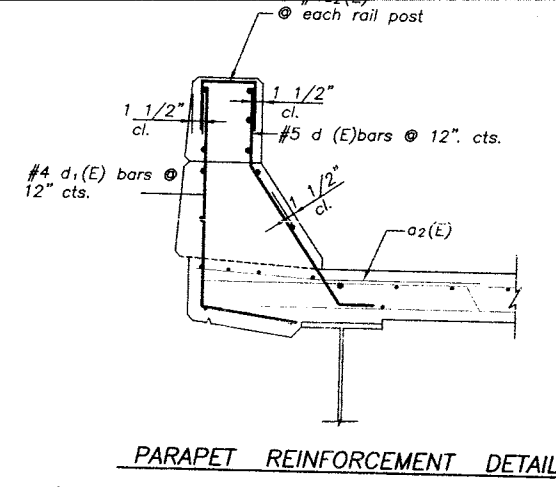
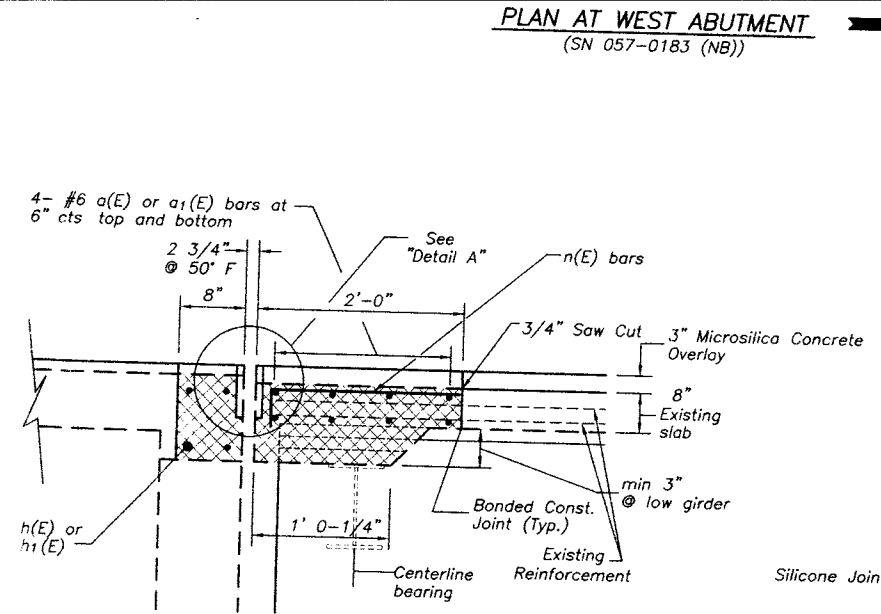
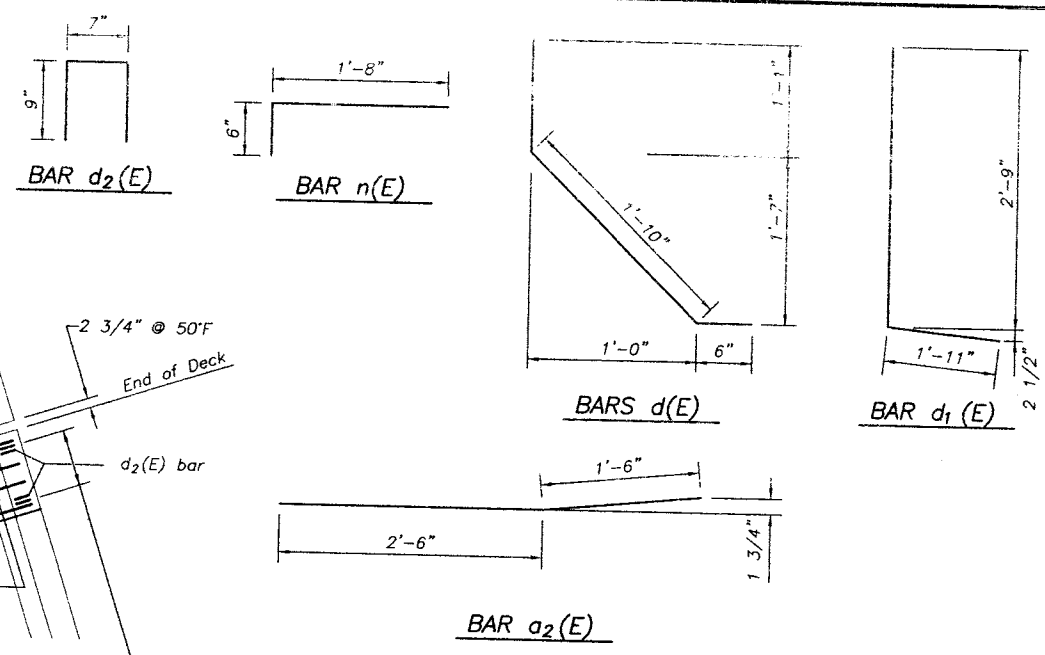
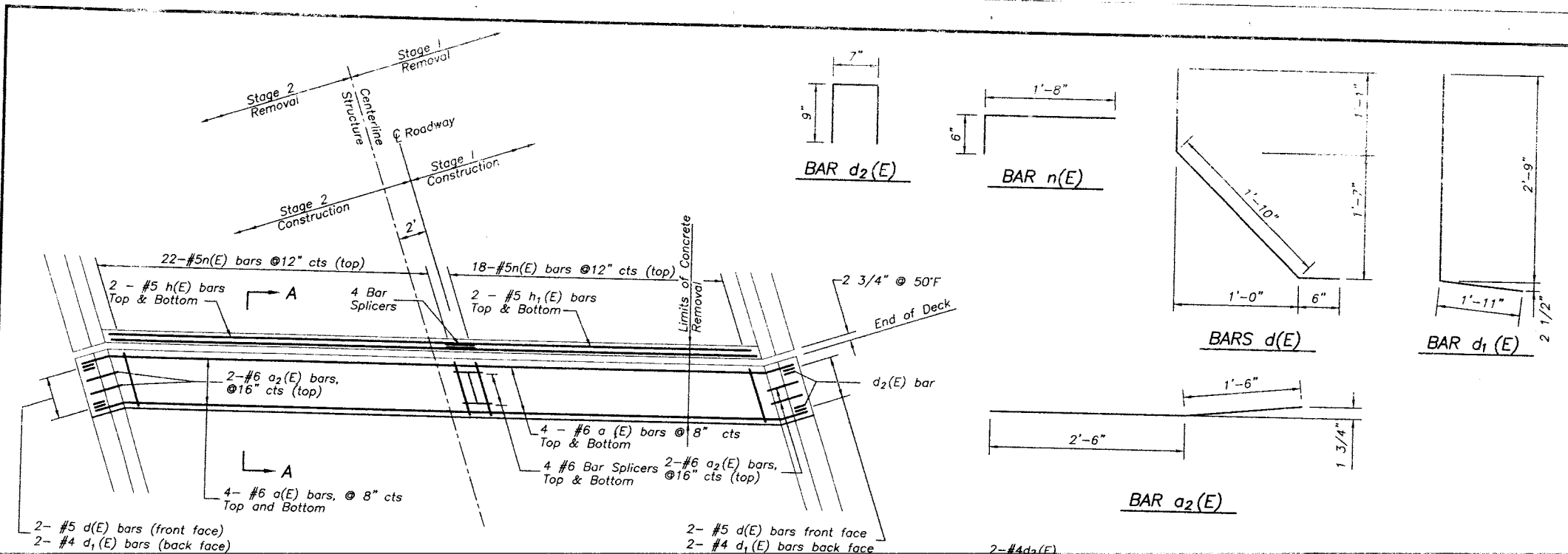
Item	Unit	Quantity
Bituminous Concrete Removal (Deck)	Sq Yd	1512
Bridge Deck Microsilica Concrete Overlay	Sq Yd	1516
Concrete Bridge Deck Scarification (1/4")	Sq Yd	1512
Concrete Bridge Deck Scarification (1 3/4")	Sq Yd	13

Remove loose/unsound concrete at each floor drain and patch.  
See Sheet 5 of 9 for details

See floor drain extension and plugging details on sheet 5 of 9 (typ. both structures)

DECK SLAB REPAIR RECORD  
SUPERSTRUCTURE CROSS SECTIONS  
F.A.I. ROUTE 55 OVER TURKEY CREEK  
SEC. (57-1, 57-2) RS  
McLEAN COUNTY  
SN 057-0182(SB) & SN 057-0183(NB)  
STA. 711+75

- Notes:
- The limits of all concrete removal shall be saw cut 3/4" into concrete. (This shall include top of deck and faces and sides of parapets and curbs).
  - Existing transverse bars in the deck and parapet shall be removed and replaced as shown. Cost included with "Concrete Removal".
  - Existing longitudinal bars in deck, vertical bars in abutment backwall, and parapet reinforcement extending into the removed area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in the cost of "Concrete Removal".
  - The parapet shall be removed on the deck side, but shall remain in place on the approach side.
  - Removal of existing PJS shall be included in the cost of "Concrete Removal".
  - The aluminum railing shall be temporarily removed and re-erected in the areas of parapet removal. Any portion of railing that is damaged during construction shall be replaced at the contractor's expense. The anchorage devices and bolts for the rail post shall be salvaged for reinstallation. After reinstallation, the base of the post shall be sealed with a two component non-staining gray sealing compound with polysulfide liquid polymers-gun grade with primer. Cost included with Concrete Removal.
  - Contractor must ensure that no damage is done to the existing joint plates to remain while doing bridge deck scarification in those areas.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	8	#6	23'-11"	—
a <sub>1</sub> (E)	8	#6	19'-9"	—
a <sub>2</sub> (E)	4	#6	4'-0"	—
d(E)	4	#5	3'-5"	L
d <sub>1</sub> (E)	4	#4	4'-8"	L
d <sub>2</sub> (E)	4	#4	2'-1"	L
h(E)	4	#5	22'-1"	—
h <sub>1</sub> (E)	4	#5	18'-0"	—
n(E)	40	#5	2'-2"	—
Concrete Removal			Cu. Yd.	5.8
Concrete Superstructure			Cu. Yd.	6.7
Reinforcement Bars, Epoxy Coated			Pound	840
Bar Splicers			Each	12
Silicone Joint Sealer 1 3/4"			Foot	86
Silicone Joint Sealer 2 3/4"			Foot	86
Furnishing and Erecting Structural Steel			Pound	2360

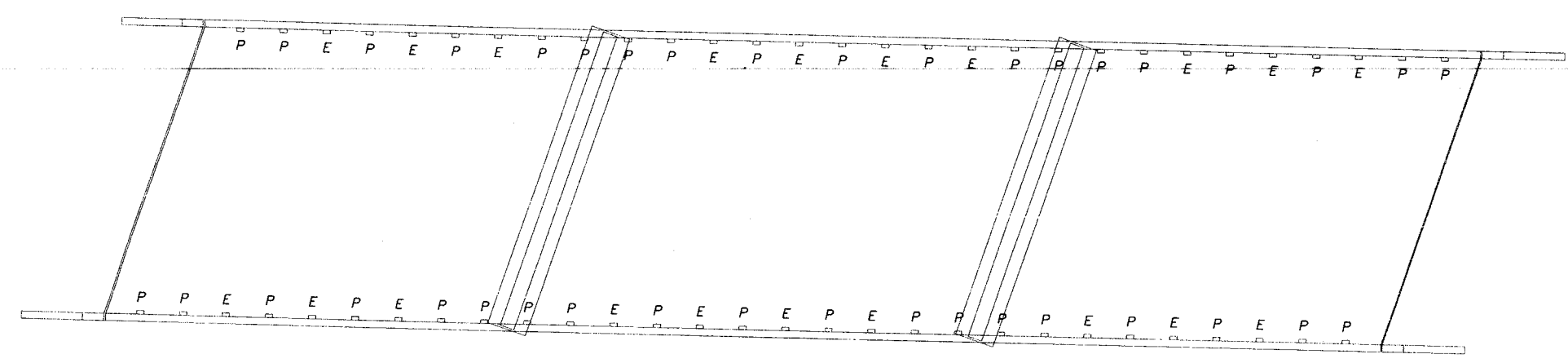
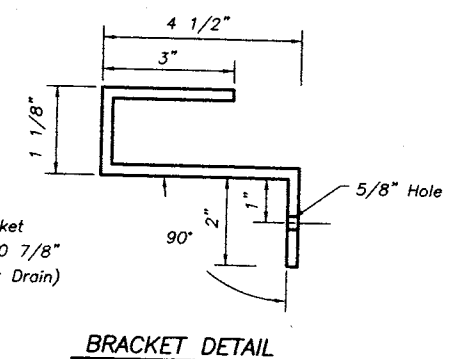
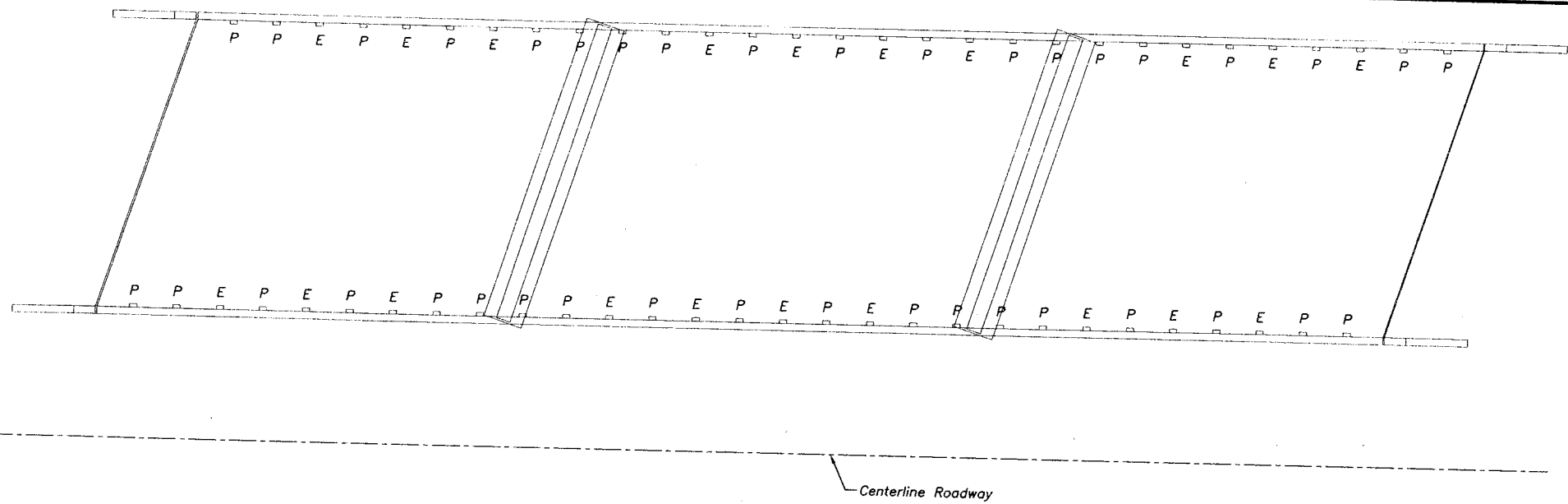
Note: Remove and replace existing joint sealer at each abutment.

Reinforcement bars designated (E) shall be epoxy coated.

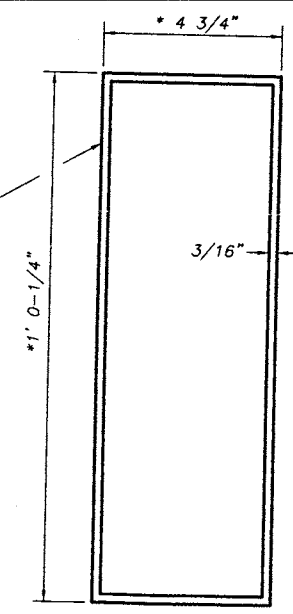
Removal of existing joint sealer shall be included in the cost of the Silicone Joint Sealer of the size required.

SUPERSTRUCTURE AND EXPANSION JOINT DETAILS  
 F.A.I. RT. 55 OVER TURKEY CREEK  
 SECTION (57-1,57-2)RS  
 McLEAN COUNTY  
 SN 057-0182(SB) & SN 057-0183(NB)  
 STA. 711+75

East And West Abutments SN 057-0182  
 East Abutment SN 057-0183 \*

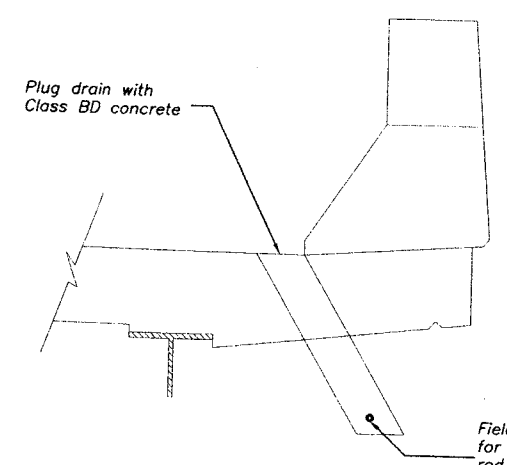


3/16" Aluminum sheets welded, ASTM: B209 alloy 6061-T6 or Aluminum Extrusions ASTM: B221 alloy 6061-T6



SECTION A-A  
\* Field Verify to match existing

PLAN  
N  
P= Plug Floor Drain  
E= Extend Floor Drain

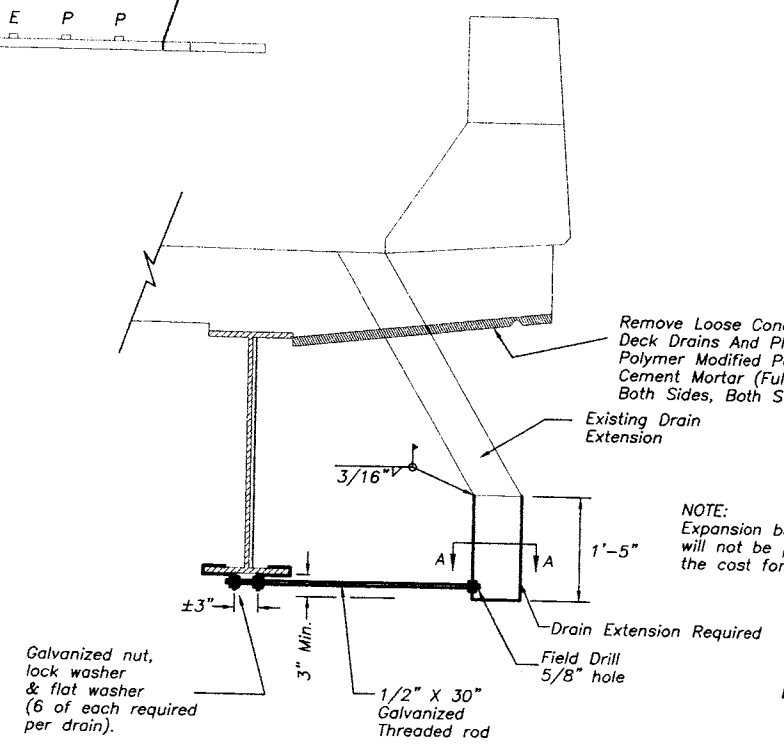


SECTION AT DRAINS TO BE PLUGGED

Field Drill 3/8"  $\phi$  hole for 1/4"  $\phi$  Threaded rod 13" long with nuts and washers

**BILL OF MATERIAL**

Item	Unit	Quantity
Plug Existing Deck Drains	Each	76
Floor Drain Extension	Each	40
Polymer Modified Portland Cement Mortar	Sq Ft	1424



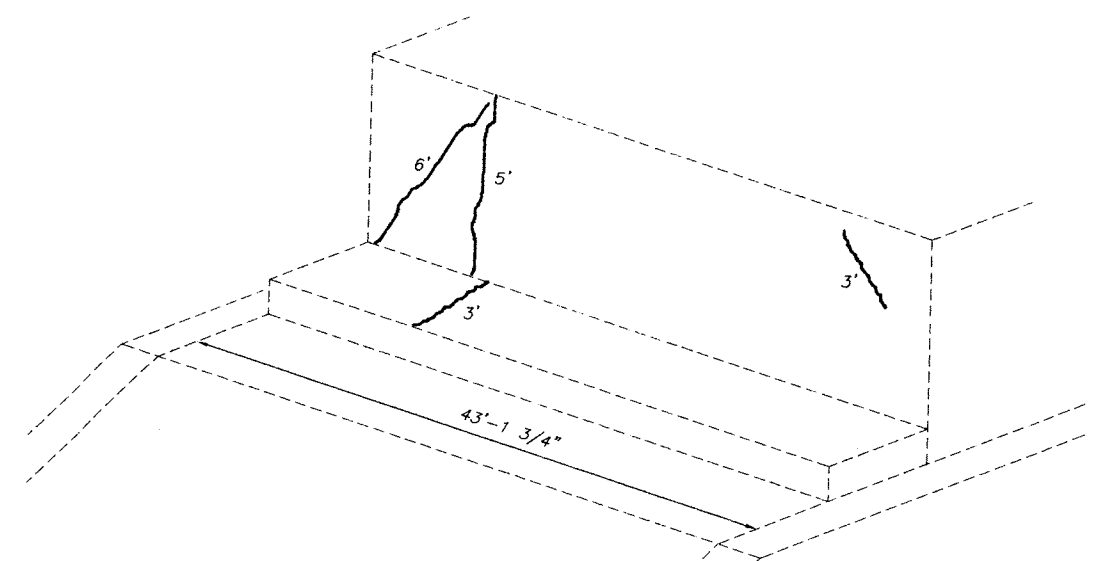
FLOOR DRAIN EXTENSION DETAIL

NOTE:  
Expansion bolts, washers, nuts, threaded rods, and brackets will not be paid for separately but shall be included in the cost for "Floor Drain Extension".

**DRAIN PLUGGING DETAILS**  
F.A.I. RT. 55 OVER TURKEY CREEK  
SECTION (57-1,57-2)RS  
McLEAN COUNTY  
SN 057-0182(SB) & SN 057-0183(NB)  
STA. 711+75

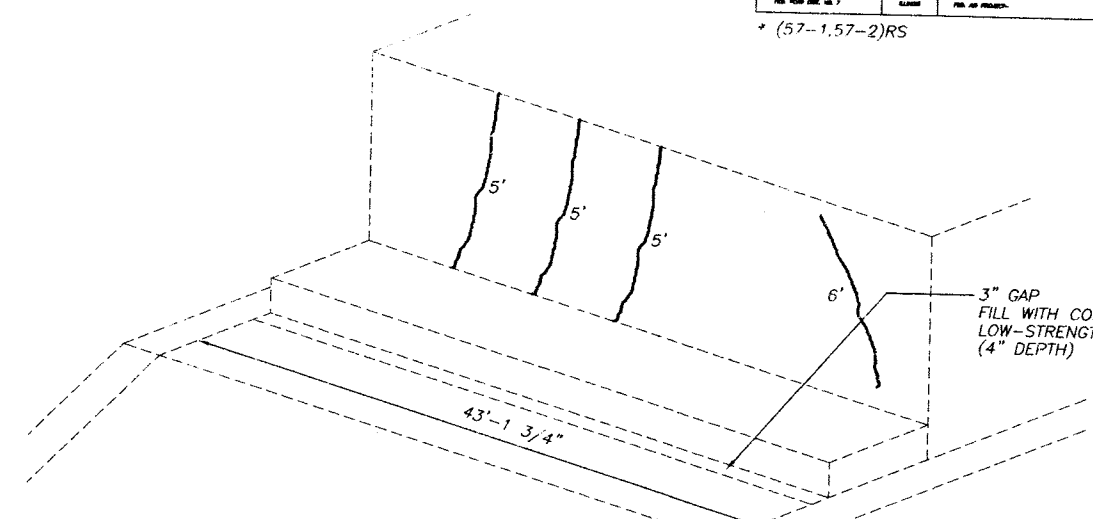
DATE	BY	CHECKED	DATE	BY
FBI 55	*	McLEAN	205	76
* (57-1.57-2)RS				

Sheet 6  
of 9 Sheets



SN 057-0182  
SLOPEWALL  
WEST ABUTMENT

EPOXY CRACK SEALING

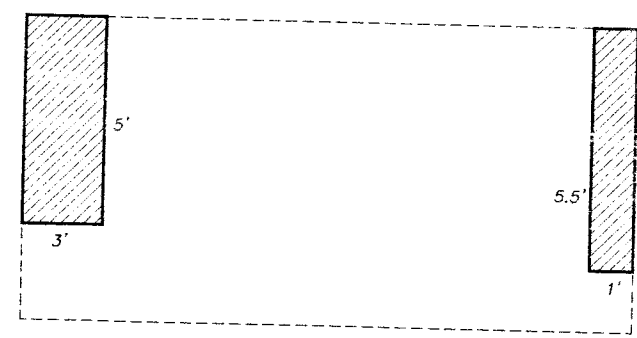


SN 057-0182  
SLOPEWALL  
EAST ABUTMENT

EPOXY CRACK SEALING

**BILL OF MATERIAL**

Item	Unit	Quantity
Controlled Low-Strength Material	Cu Yd	0.2
Epoxy Crack Sealing	Foot	38
Formed Concrete Repair (Depth Equal to or Less Than 5")	Sq Ft	20.5



SN 057-0182  
EAST PIER  
SOUTH FACE

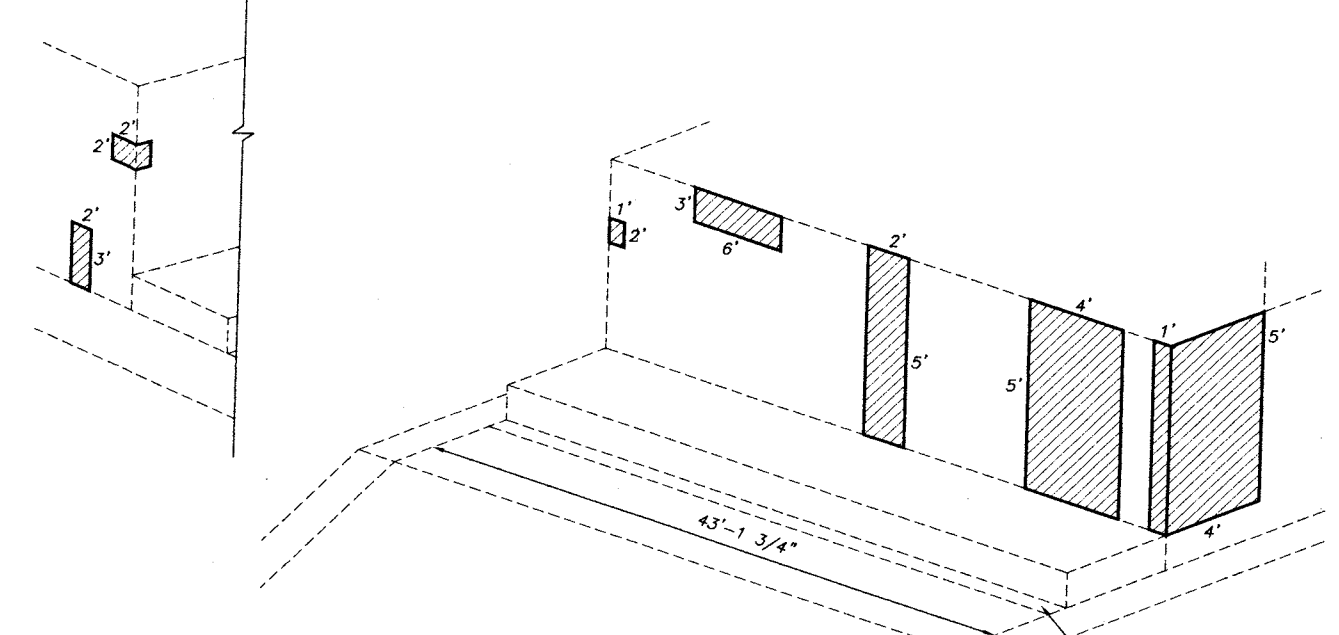
FORMED CONCRETE REPAIR  
(DEPTH LESS THAN OR EQUAL TO 5")

SUBSTRUCTURE REPAIR DETAILS  
(SN 057-0182)  
F.A.I. RT. 55 OVER TURKEY CREEK  
SECTION (57-1,57-2)RS  
McLEAN COUNTY  
SN 057-0182(SB) & SN 057-0183(NB)  
STA. 711+75

FAI 55	*	McLEAN	205	77
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Sheet 7  
of 9 Sheets

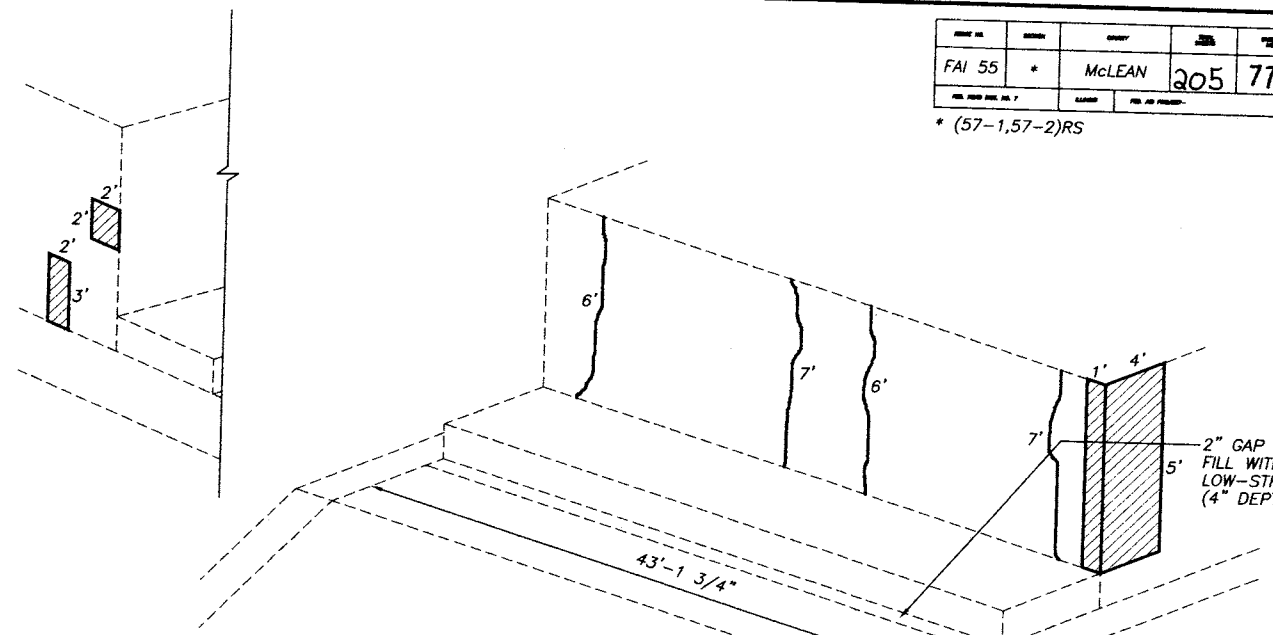
\* (57-1,57-2)RS



**SN 057-0183**  
**SLOPEWALL**  
WEST ABUTMENT

FORMED CONCRETE REPAIR  
(DEPTH EQUAL TO OR LESS THAN 5")

1 1/4" GAP  
FILL WITH CONTROLLED  
LOW-STRENGTH MATERIAL  
(4" DEPTH)

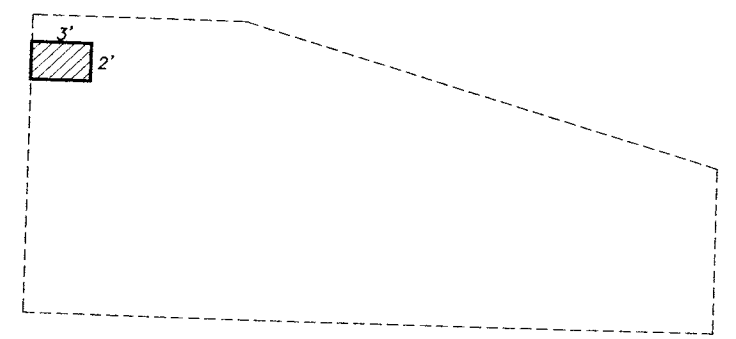


**SN 057-0183**  
**SLOPEWALL**  
EAST ABUTMENT

FORMED CONCRETE REPAIR  
(DEPTH EQUAL TO OR LESS THAN 5")

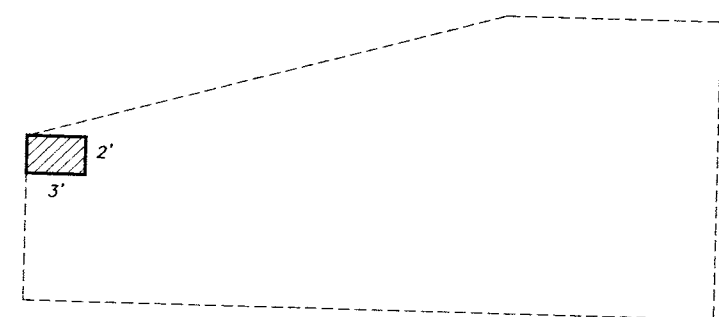
EPOXY CRACK SEALING

2" GAP  
FILL WITH CONTROLLED  
LOW-STRENGTH MATERIAL  
(4" DEPTH)



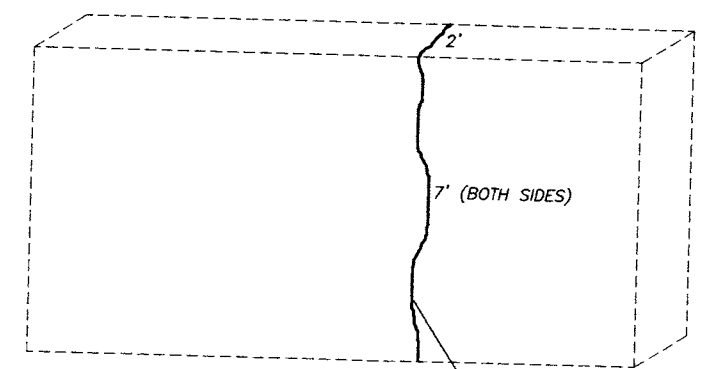
**SN 057-0183**  
**NORTH EAST PARAPET**

FORMED CONCRETE REPAIR  
(DEPTH EQUAL TO OR LESS THAN 5")



**SN 057-0183**  
**NORTH WEST PARAPET**

FORMED CONCRETE REPAIR  
(DEPTH EQUAL TO OR LESS THAN 5")



**SN 057-0183**  
**EAST AND WEST PIERS**  
WEST FACE

CRACK GOES ALL THE WAY  
THRU TO THE EAST FACE

EPOXY CRACK SEALING

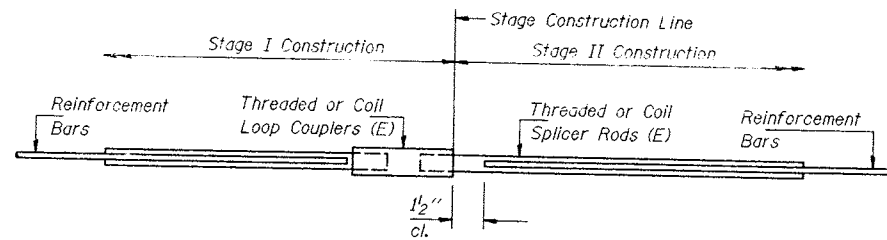
**BILL OF MATERIAL**

Item	Unit	Quantity
Controlled Low-Strength Material	Cu Yd	0.1
Epoxy Crack Sealing	Foot	33
Formed Concrete Repair (Depth Equal to or Less Than 5")	Sq Ft	132

**SUBSTRUCTURE REPAIR DETAILS**  
**(SN 057-0183)**  
**F.A.I. RT. 55 OVER TURKEY CREEK**  
**SECTION (57-1,57-2)RS**  
**McLEAN COUNTY**  
**SN 057-0182(SB) & SN 057-0183(NB)**  
**STA. 711+75**



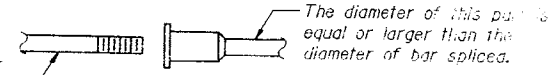
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**SPLICER DETAIL**

Bar Size	No. Assemblies Required	Location
#5	8	SN 057-0183
#6	4	SN 057-0183

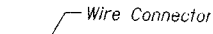
The diameter of this part is the same as the diameter of the bar spliced.



**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.

**NOTES**

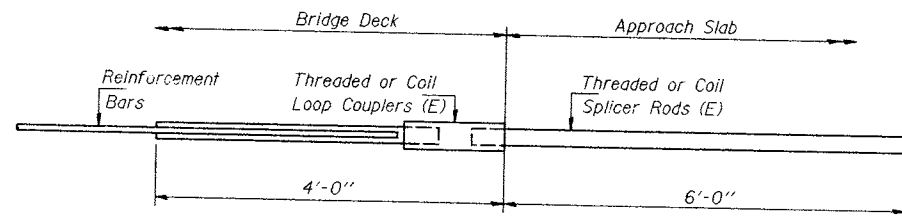
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to 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 =  $1.25 \times f_{s_{allow}} \times A_t$   
(Tension in kips)

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

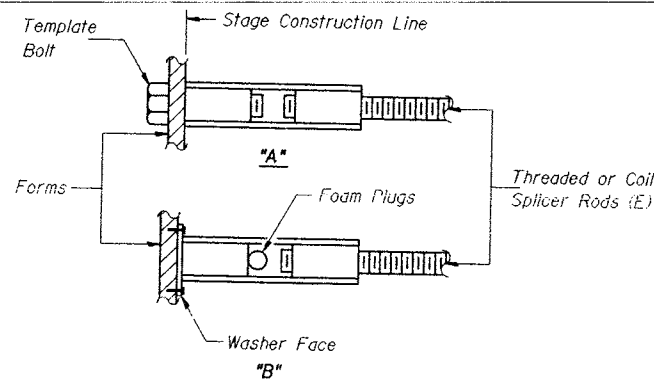
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

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."



**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 =



**INSTALLATION AND SETTING METHODS**

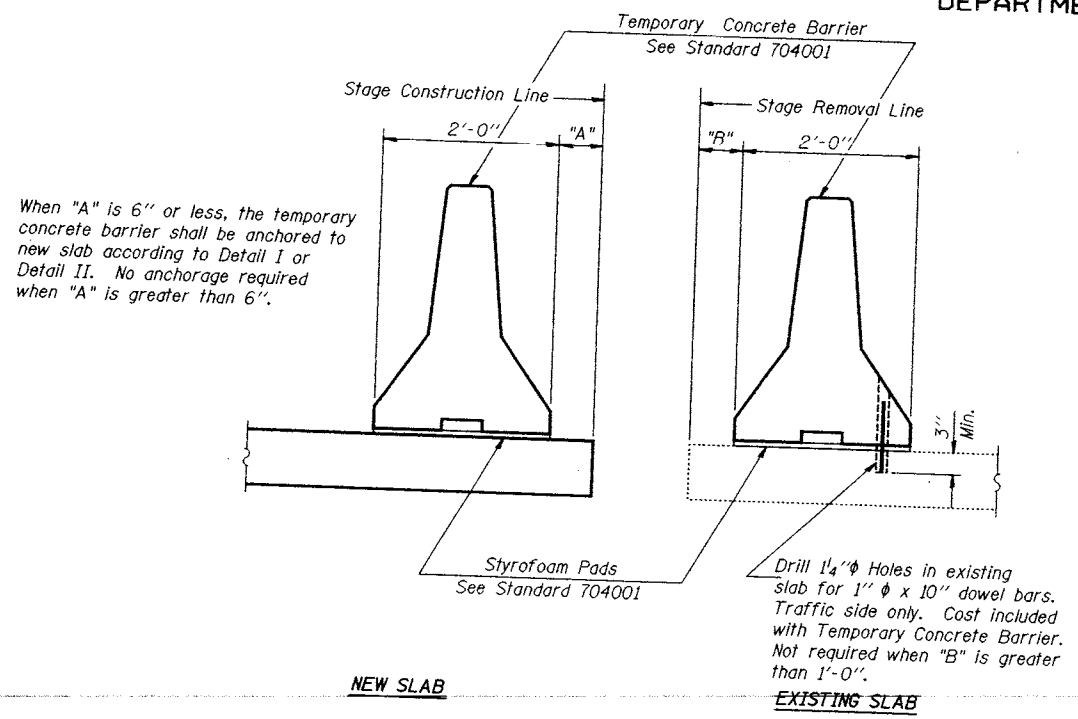
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FAI 55	McLEAN	205	79
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Sheet 9  
of 9 Sheets

(57-1,57-2)RS

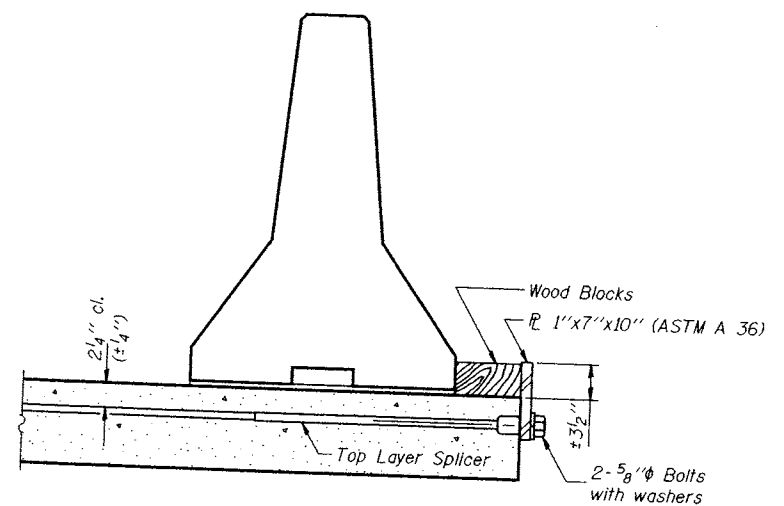


When "A" is 6" or less, the temporary concrete barrier shall be anchored to new slab according to Detail I or Detail II. No anchorage required when "A" is greater than 6".

**NOTES**

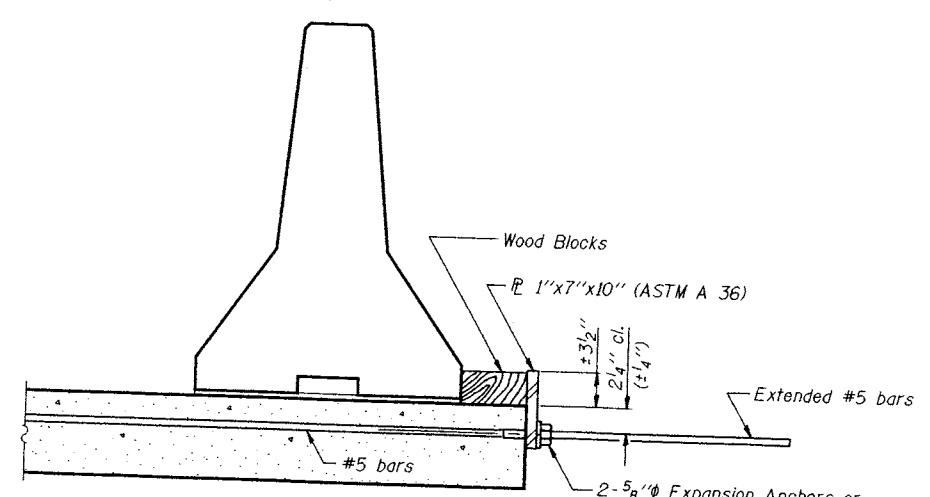
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each 10'-0" barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the concrete slab with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each 10'-0" barrier panel.  
Cost of anchorage is included with Temporary Concrete Barrier.

**SECTIONS THRU SLAB**



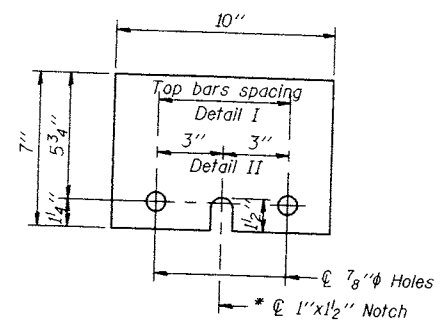
**DETAIL I**

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.



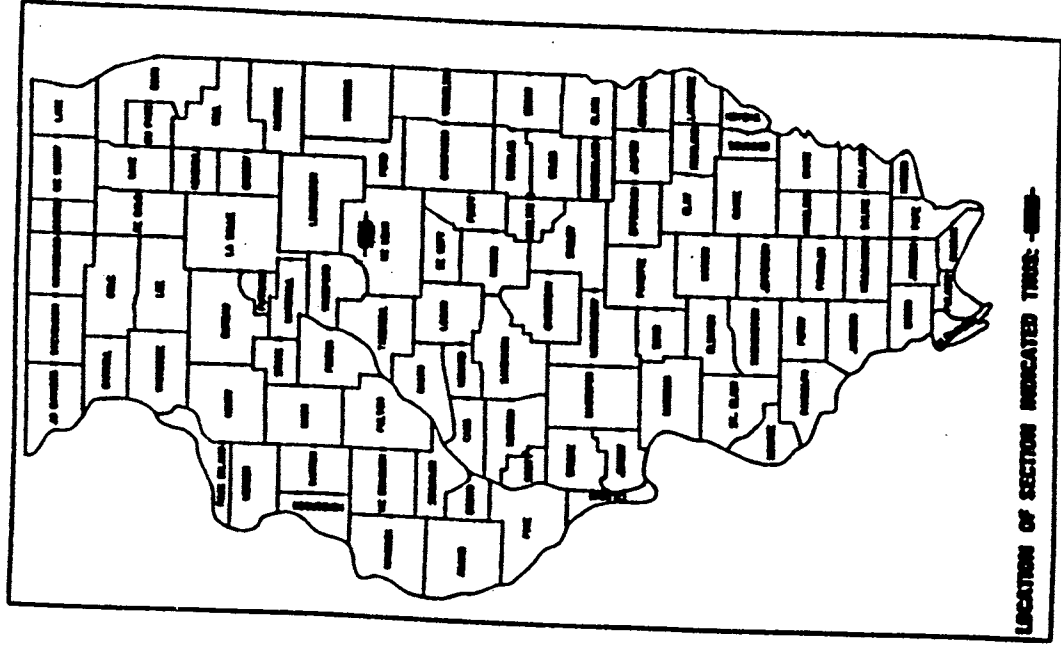
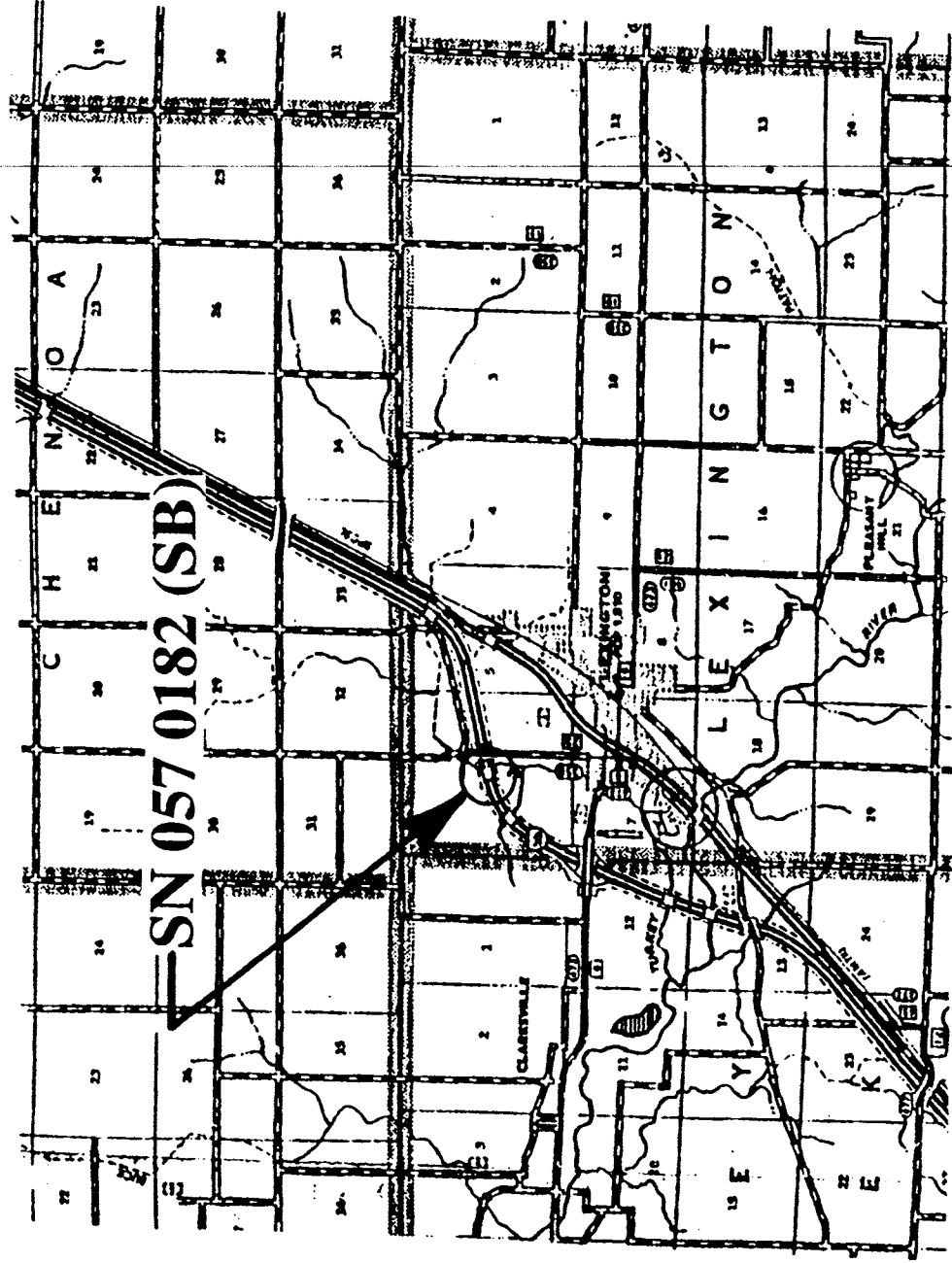
**1" x 7" x 10"**

\* Required only with Detail II

057-0182(SB) & 057-0183(N)

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

FAI 55 (I-55)  
SECTION (57-2B-2)I  
MCLEAN COUNTY  
C - 93 - 004 - 98



1997 ADT 23100  
PC 79.2 SU 2.3 MU 18.5

FAI 55 (I-55)  
SECTION (57-2B-2)I  
MCLEAN COUNTY  
SHEET 1 OF 16

D - 93 - 012 - 98

**INDEX OF SHEETS**

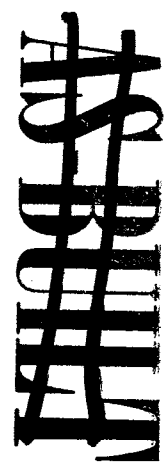
- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 SCHEDULES
- 5 PLAN VIEW
- 6 SECTION A-A
- 7 REINFORCEMENT DETAILS
- 8 STRUCTURAL STEEL DETAILS
- 9 SILICONE JOINT SEALER DETAILS
- 10 TRAFFIC CONTROL DETAILS - STAGE I
- 11 TRAFFIC CONTROL DETAILS - STAGE II
- 12 - 16 EXISTING PLAN FOR INFORMATION ONLY

**STANDARDS**

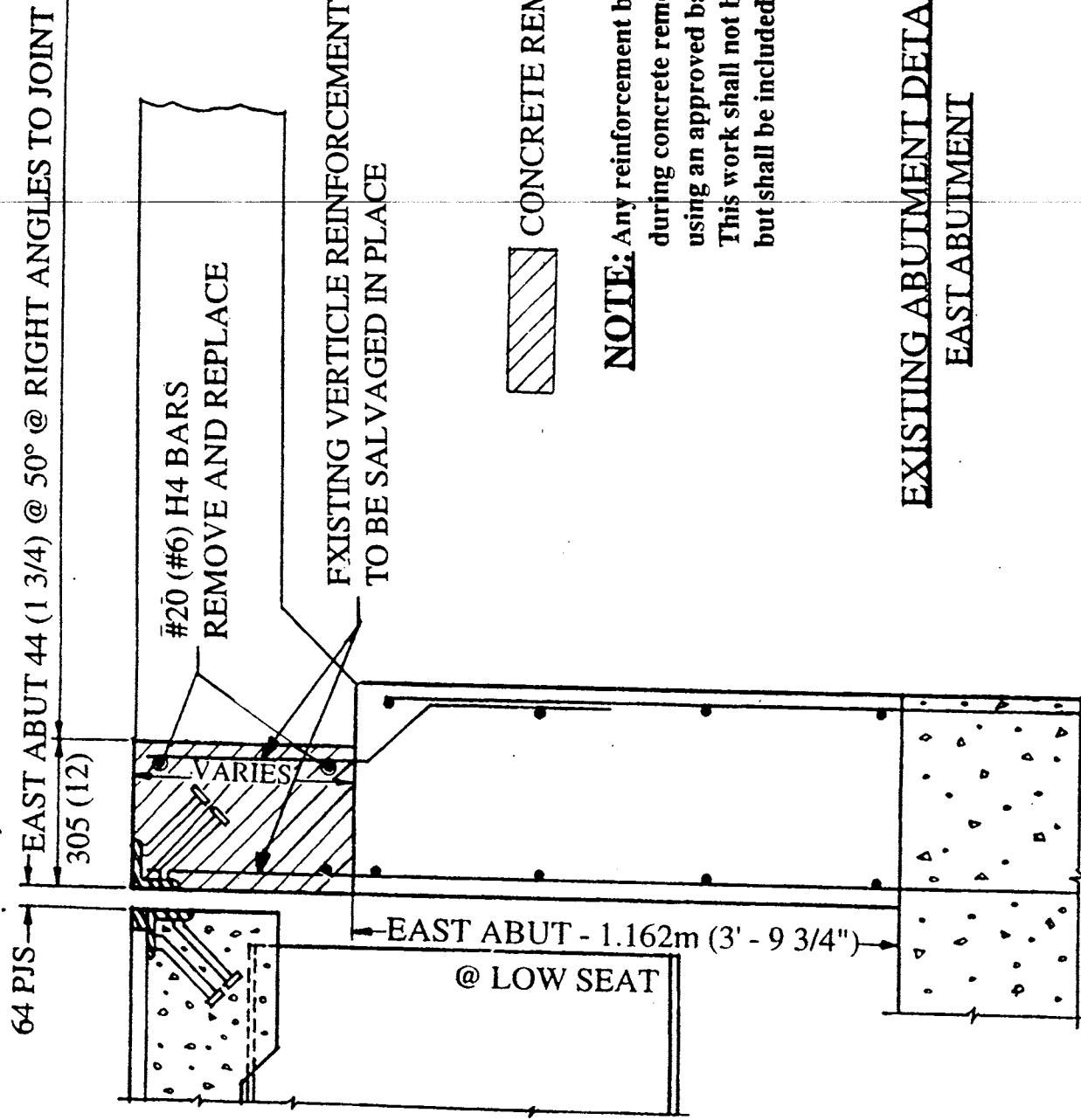
- 515001 NAME PLATE FOR BRIDGES
- 701101 OFF-RD OPERATIONS, MULTILANE LESS THAN 4.5 m (15') AWAY FOR SPEEDS > 45 MPH
- 701401 LANE CLOSURE, MULTILANE FOR SPEEDS > 45 MPH
- 702001 TRAFFIC CONTROL DEVICES
- 780001 TYPICAL PAVEMENT MARKINGS

D.O.T. Dist.#3: (815) 434-6131  
ULIE (800) 892-0123  
PROJECT ENGINEER: TOM SCHEAFER  
QUAD CHIEF: ROYCE DAVIS (815) 434-8419  
OWNSHIP: LEXINGTON

CONTRACT NO. 86804

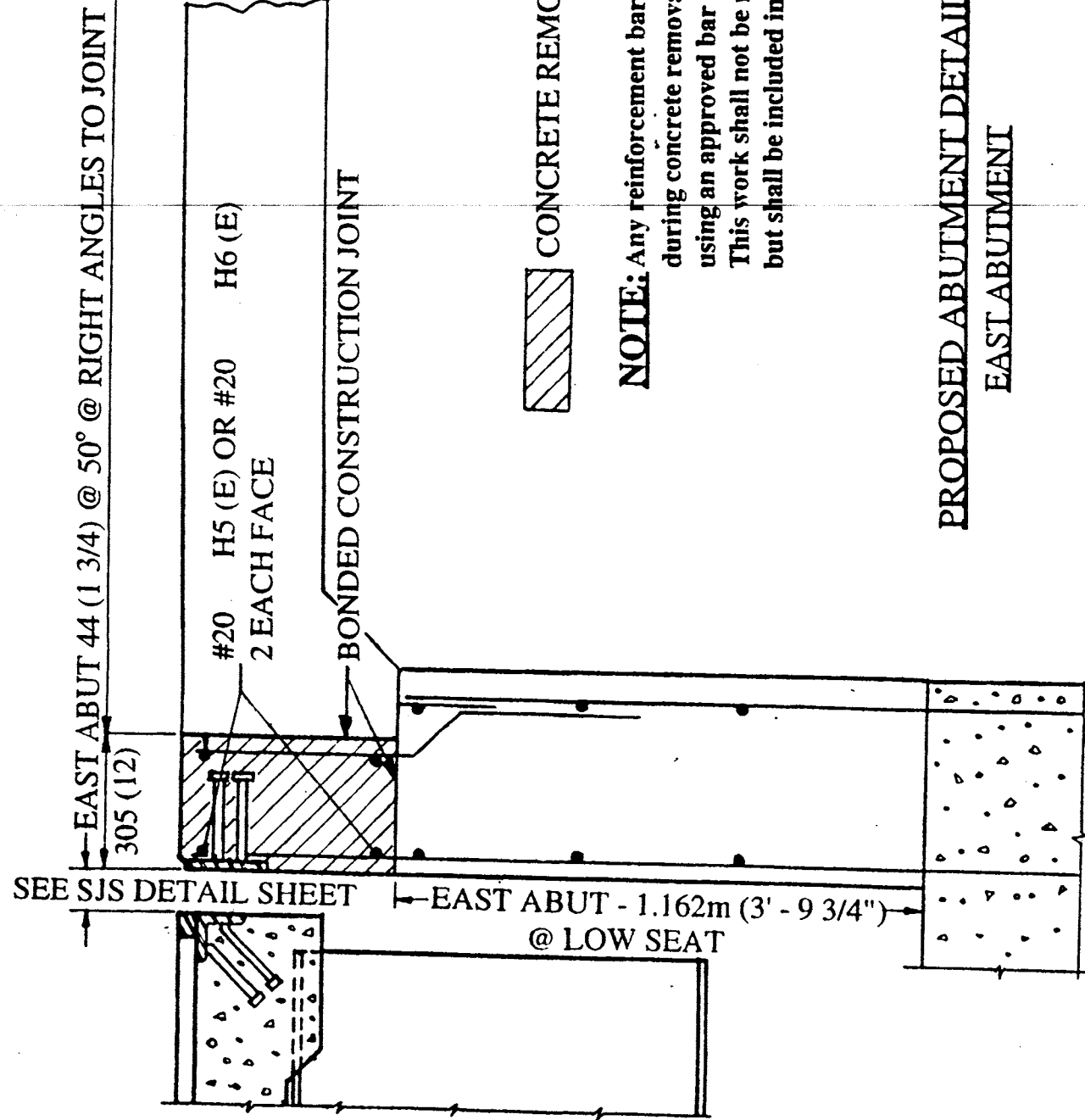






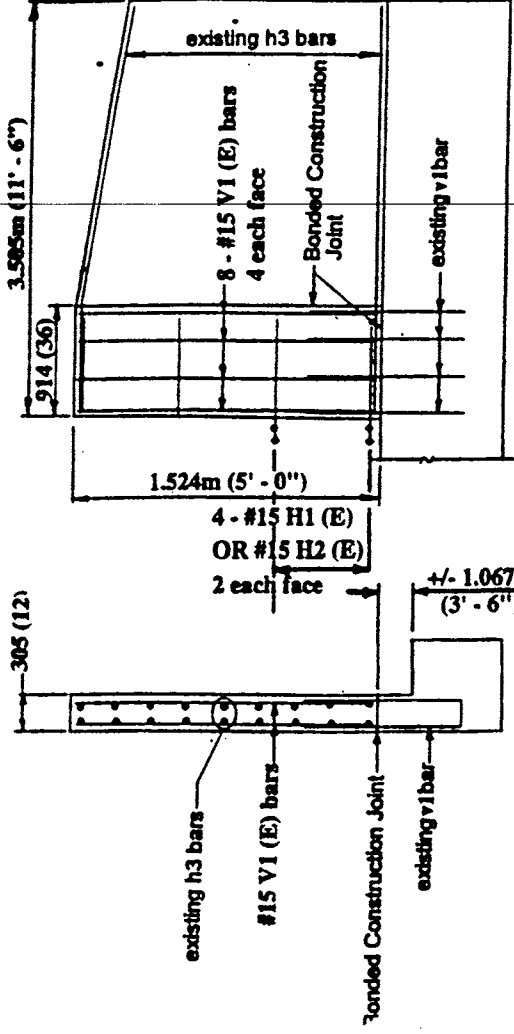
**NOTE:** Any reinforcement bars that are damaged by the contractor during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. This work shall not be measured or paid for separately, but shall be included in the unit bid price for concrete removal.

**EXISTING ABUTMENT DETAIL  
 EAST ABUTMENT**

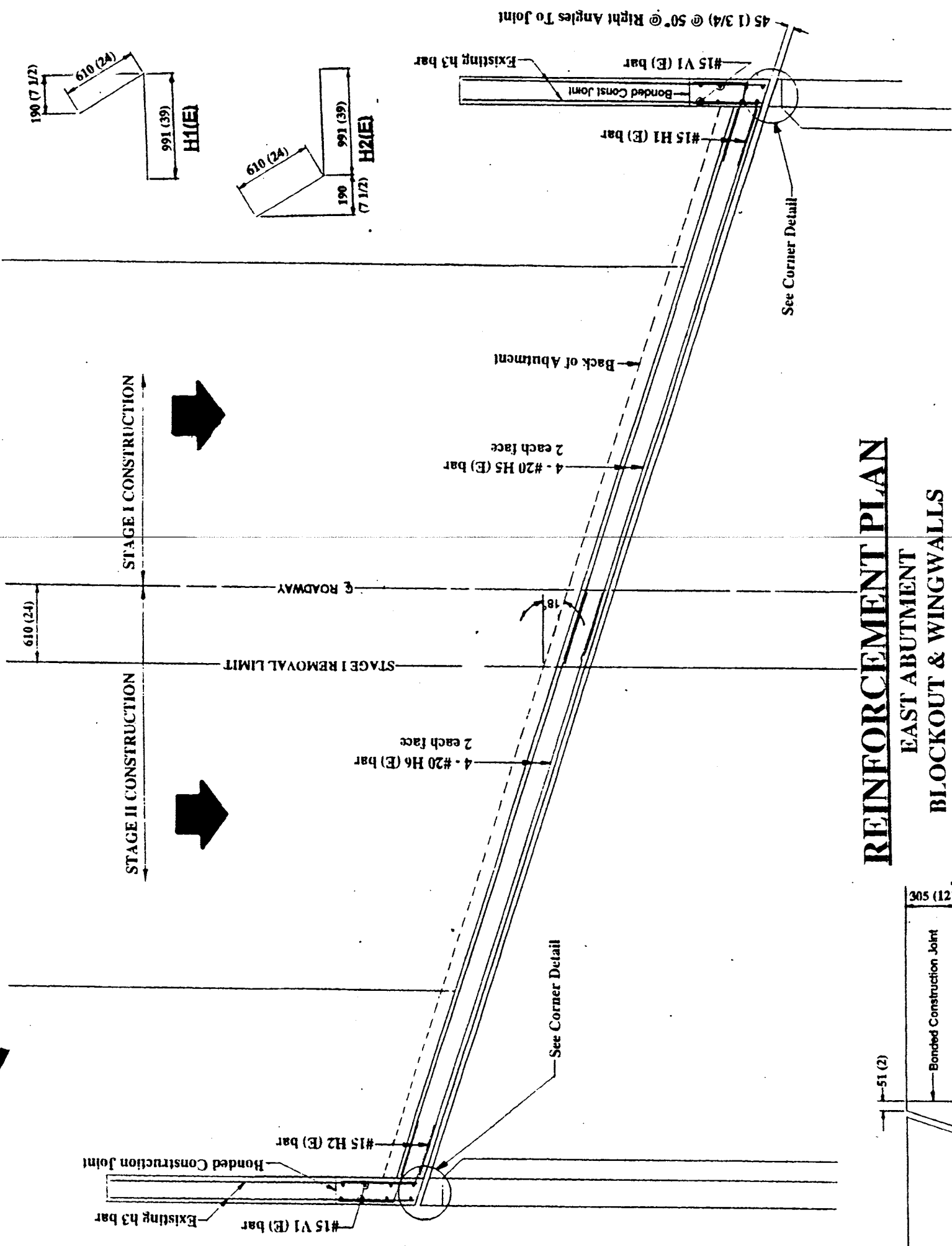


**NOTE:** Any reinforcement bars that are damaged by the contractor during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. This work shall not be measured or paid for separately, but shall be included in the unit bid price for concrete removal.

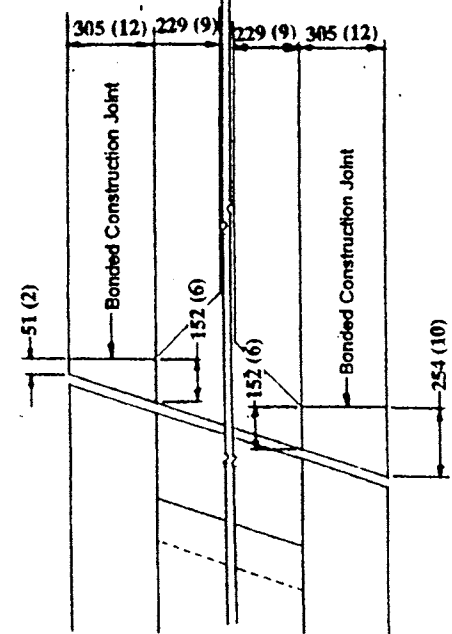
**PROPOSED ABUTMENT DETAIL  
 EAST ABUTMENT**



**WINGWALL REINFORCEMENT**



**REINFORCEMENT PLAN  
EAST ABUTMENT  
BLOCKOUT & WINGWALLS**



**CORNER DETAIL**

REINFORCEMENT SCHEDULE					
LOCATION	BAR SIZE	NO.	LENGTH METER	KG/M	SHAPE WEIGHT KG
EAST ABUTMENT	H1(E) /15	8	1.6	1.570	20
	H5(E) /20	4	6.325	2.355	60
	V1(E) /15	8	1.372	1.570	17
		<b>STAGE I</b>			
EAST ABUTMENT	H2(E) /15	8	1.6	1.570	20
	H5(E) /20	4	6.325	2.355	60
	V1(E) /15	8	1.372	1.570	17
		<b>STAGE II</b>			
<b>TOTAL WEIGHT</b>					<b>194</b>

(e) Denotes Epoxy Coated

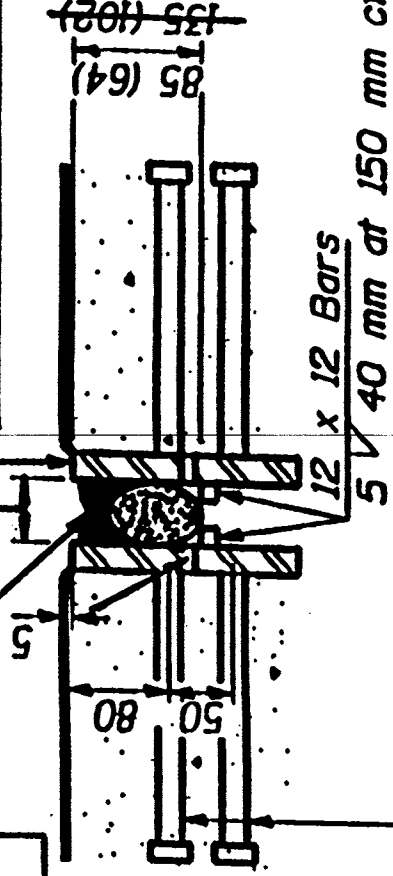
**REINFORCEMENT DETAILS**

45 mm at 10°

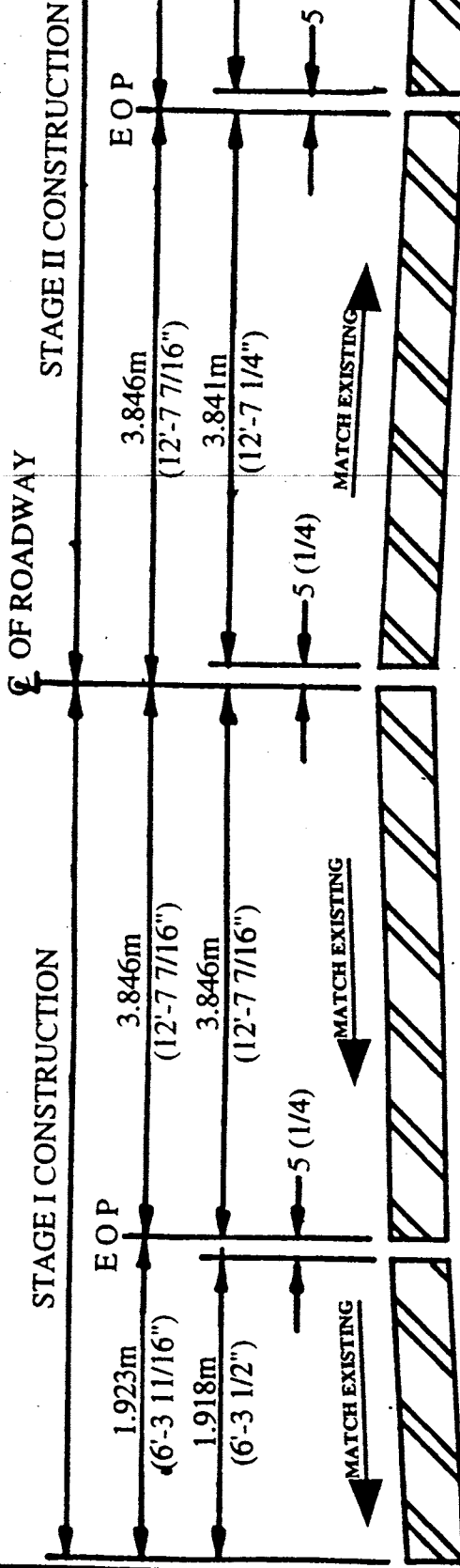
SEE SILICONE JOINT SEALER DETAILS

12 mm  $\phi$  Holes at 300 mm cts. for 10 mm  $\phi$  bolts. All bolts shall be burned, sawed or chipped off flush with the plates after forms are removed. (Typ.)

20 x 180 Plate  
Fabricate to crown (Typ.)  
Furnish in segments of 6 m maximum length. Maximum space between installed segments shall be 5 mm. Seal space with Silicone Sealant suitable for Structural Steel.



19 mm  $\phi$  x 200 mm Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Spec's. automatically end welded at 300 Alt. cts.



**NOTES:**

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) PARALLEL TO JOINT UNLESS OTHERWISE NOTED.

AFTER FABRICATION ALL SURFACES OF STEEL PLATES SHALL BE GIVEN ONE SHOP COAT OF PAINT SPECIFIED FOR STRUCTURAL STEEL. NO FIELD PAINTING WILL BE REQUIRED.

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 MAKE NECESSARY 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 FURNISHED AT THE UNIT PRICE BID FOR THE WORK COMPLETED.

**STRUCTURAL STEEL DETAILS**

**STRUCTURAL STEEL DETAILS**

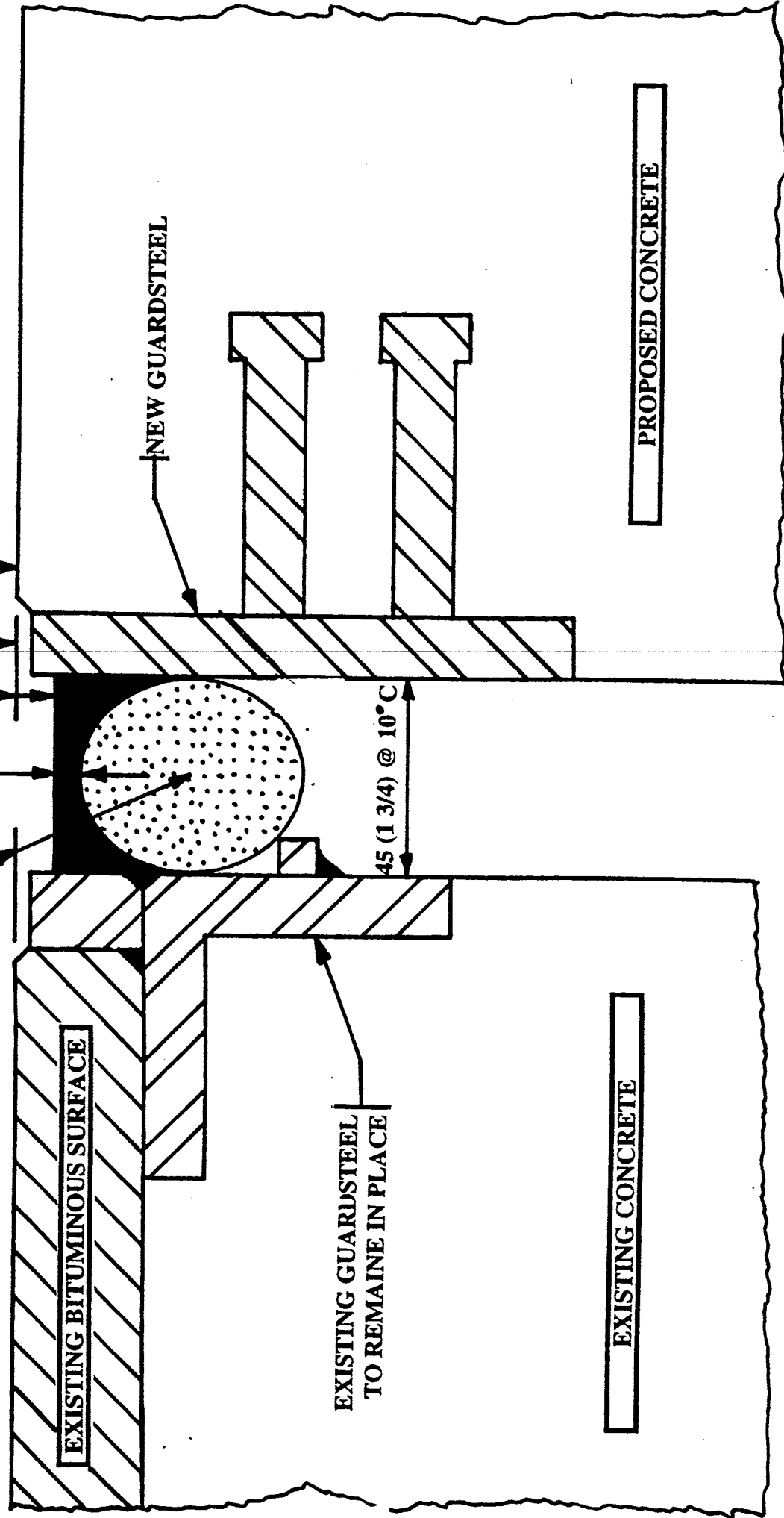
TOP OF BACKER ROD  
RECESS 33.5 (1 5/16) +/-1.5 (1/16)  
FROM ROADWAY SURFACE.

THE BACKER ROD USED SHALL BE 25% TO 33  
LARGER THAN THE ACTUAL JOINT OPENING  
AT TIME OF INSTALLATION.

SILICONE BRIDGE JOINT SEALER  
14 (9/16) +/-1.5 (1/16)  
THICKNESS AT TOP OF BACKER ROD

TOP OF SEALANT RECESS 19 (3/4)  
FROM ROADWAY SURFACE

ROADWAY SURFACE

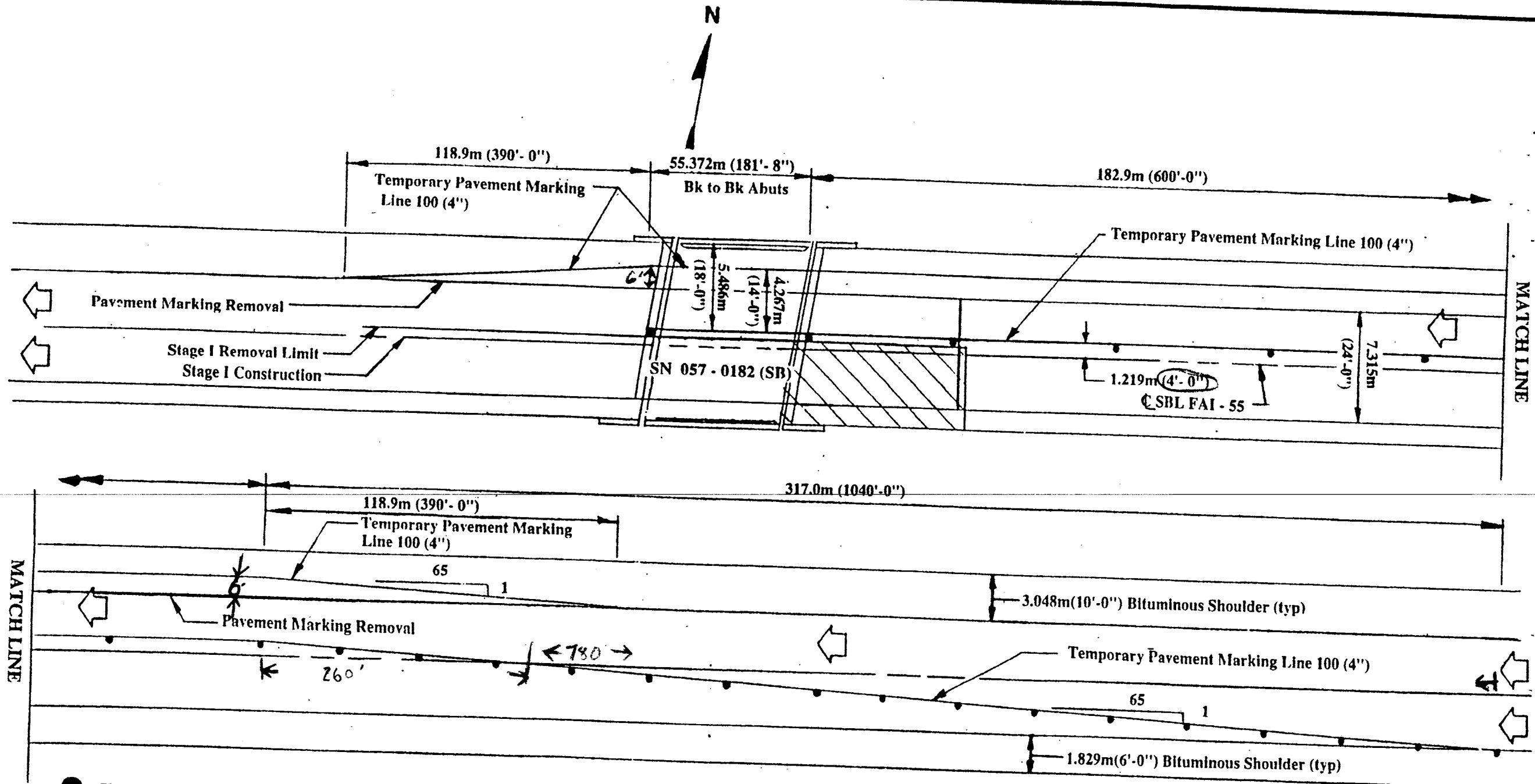


**SILICONE JOINT SEALER DETAILS**

**SILICONE JOINT SEALER DETAILS**



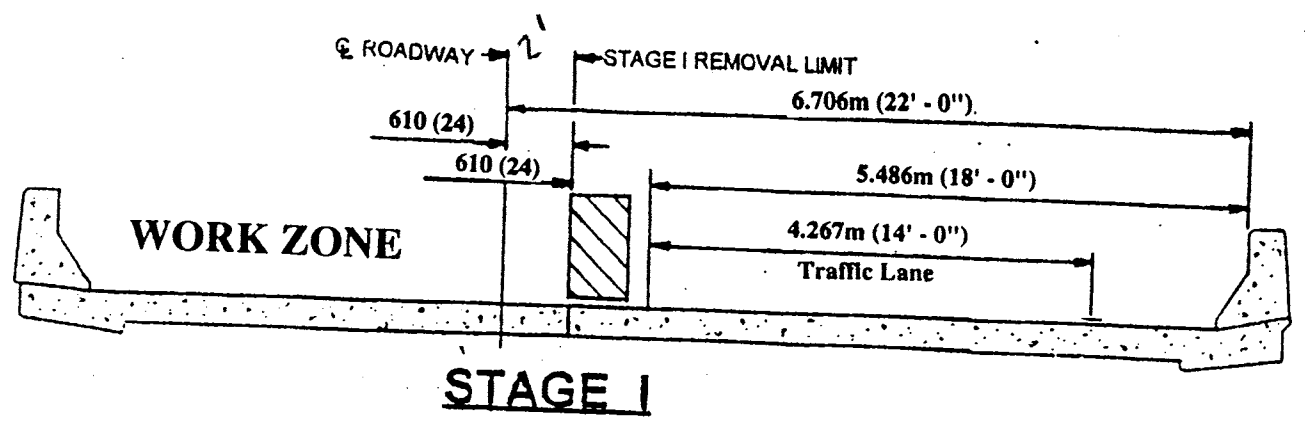
**TRAFFIC CONTROL DETAILS - STAGE I**



- Reflectorized Nonmetallic Barricades or Drums
- ▨ Work Zone

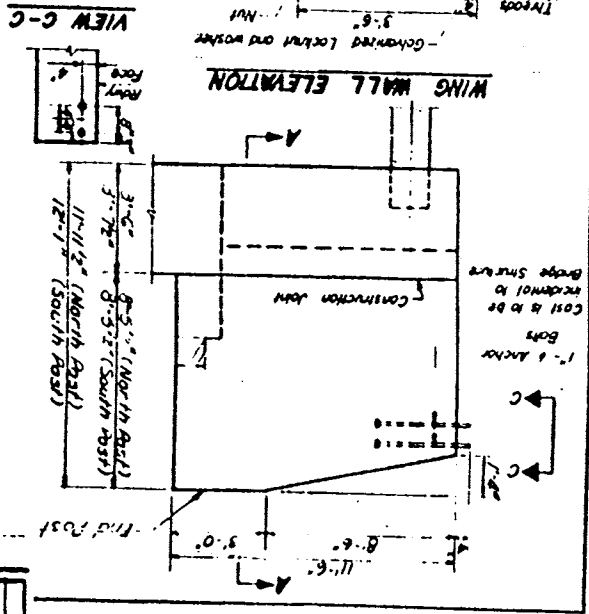
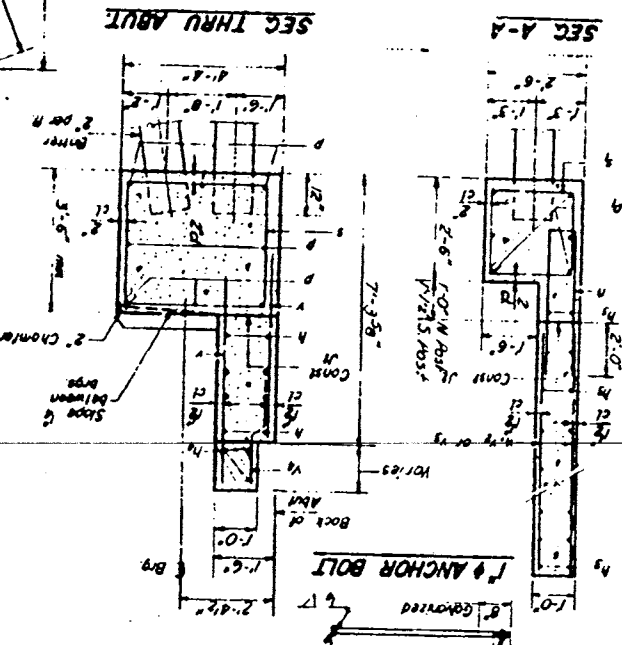
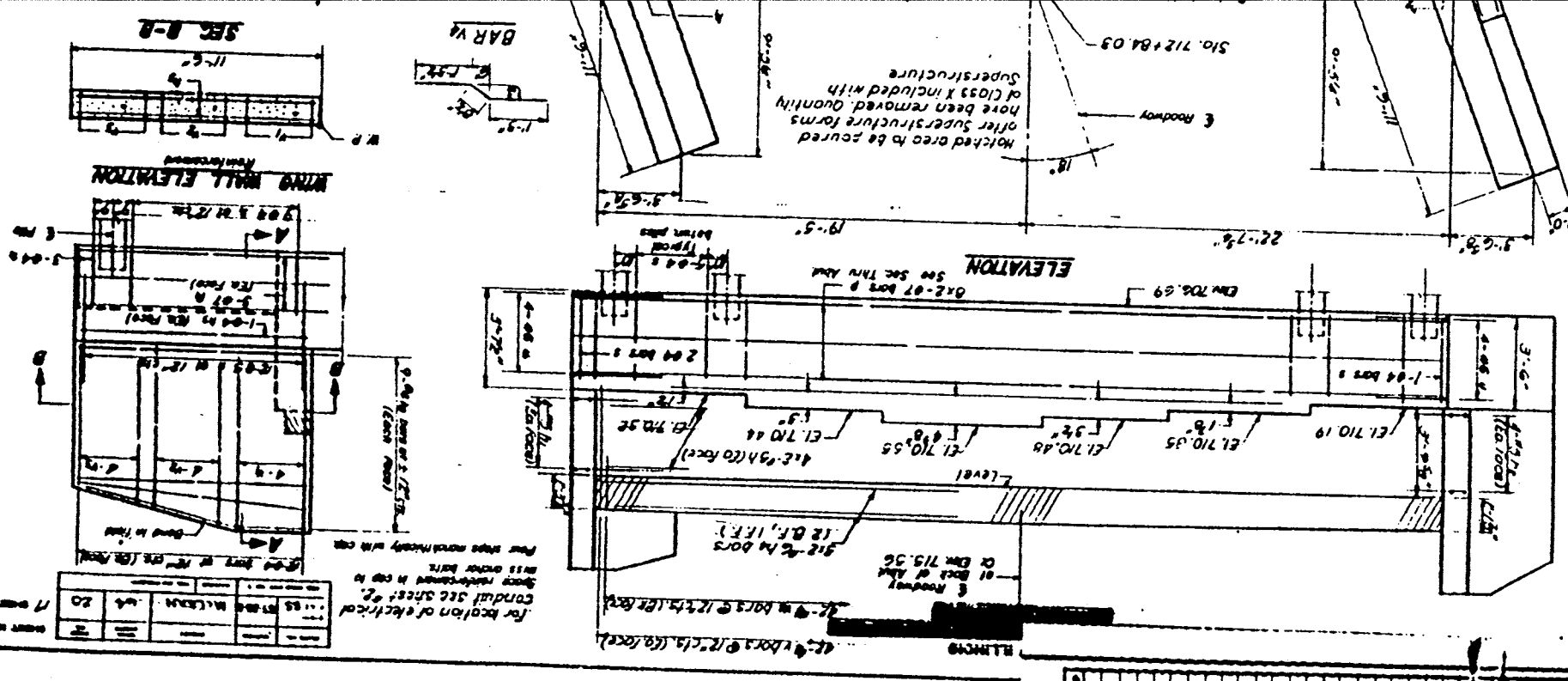
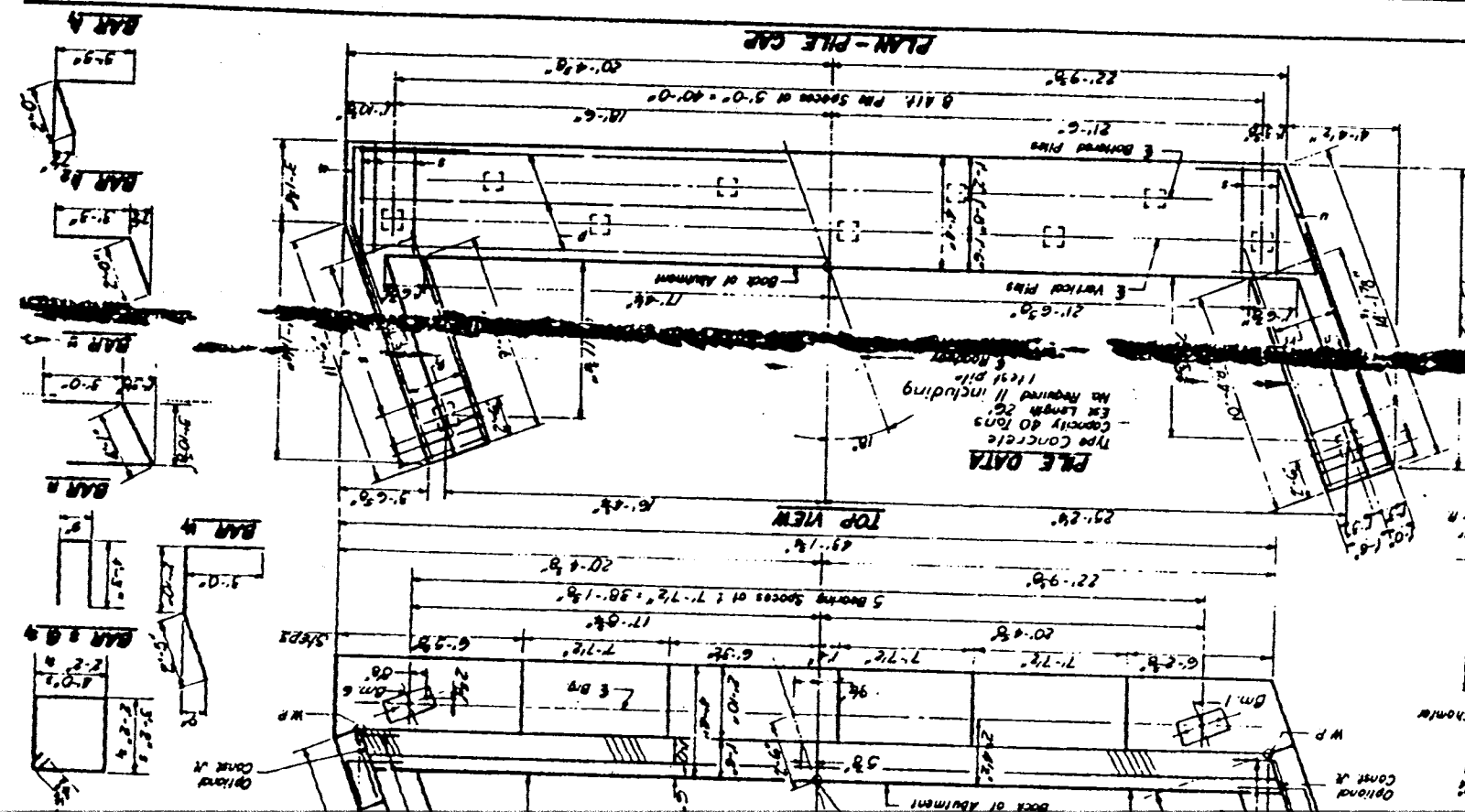
**TRAFFIC CONTROL DETAILS - STAGE I**

NOTE: All signing and additional details not shown shall be in accordance with STANDARD 701401.



**FAI 55 (I-55)**  
**SECTION (57-2B-2)**  
**MCLEAN COUNTY**  
**SHEET 10 OF 16**

A-9-7 (15-34) 2-1-66, 8-1-70  
 DESIGNED D.A.P.  
 CHECKED A.V.K.  
 DRAWN Rev Robinson  
 PASSED J.E. Williams  
 CHECKED A.V.K.  
 DATE 11-25-61



ONE ABUTMENT

Bar	No.	Size	Length	Shape
1	16	0.5	47'-7"	L
2	8	0.5	27'-0"	L
3	40	0.5	51'-3"	L
4	8	0.5	27'-0"	L
5	8	0.5	27'-0"	L
6	8	0.5	27'-0"	L
7	8	0.5	27'-0"	L
8	8	0.5	27'-0"	L
9	8	0.5	27'-0"	L
10	8	0.5	27'-0"	L
11	8	0.5	27'-0"	L
12	8	0.5	27'-0"	L
13	8	0.5	27'-0"	L
14	8	0.5	27'-0"	L
15	8	0.5	27'-0"	L
16	8	0.5	27'-0"	L
17	8	0.5	27'-0"	L
18	8	0.5	27'-0"	L
19	8	0.5	27'-0"	L
20	8	0.5	27'-0"	L
21	8	0.5	27'-0"	L
22	8	0.5	27'-0"	L
23	8	0.5	27'-0"	L
24	8	0.5	27'-0"	L
25	8	0.5	27'-0"	L
26	8	0.5	27'-0"	L
27	8	0.5	27'-0"	L
28	8	0.5	27'-0"	L
29	8	0.5	27'-0"	L
30	8	0.5	27'-0"	L
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47	8	0.5	27'-0"	L
48	8	0.5	27'-0"	L
49	8	0.5	27'-0"	L
50	8	0.5	27'-0"	L

EAST ABUTMENT  
 SOUTH BOUND LANES  
 FAI R.L. 55 SEC. 57-2B-2  
 MCLEAN COUNTY  
 514-711-73

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
FA 55	57-2B-2	LEXINGTON	8
AREA NO. 1			

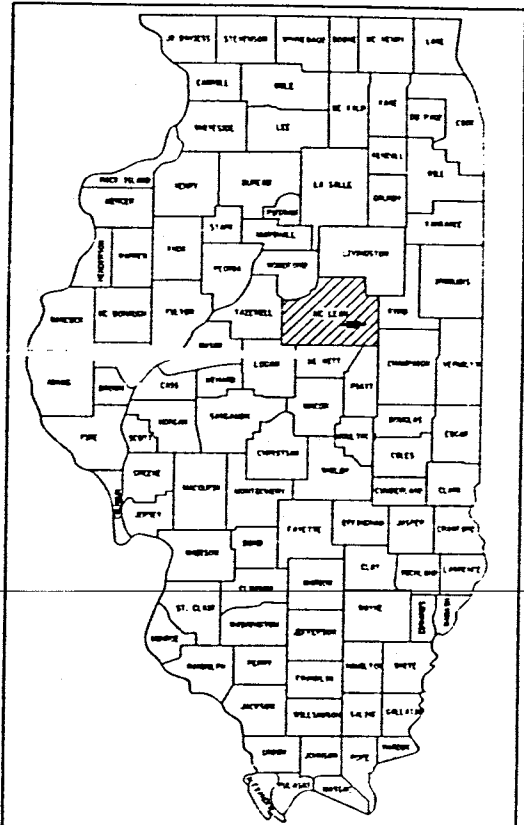
# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISIONS OF HIGHWAYS PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SPECIAL PROVISIONS/QUANTITIES
3.	PLAN VIEW
4.	ABUTMENT DETAILS
5.	REINFORCEMENT DETAILS
6.	BRIDGE APPROACH PAVEMENT (SPECIAL) DETAILS
7.	PREFORMED JOINT SEAL 4" DETAILS
8.	TRAFFIC CONTROL DETAILS

**HIGHWAY STANDARDS**

2298  
2316  
2383

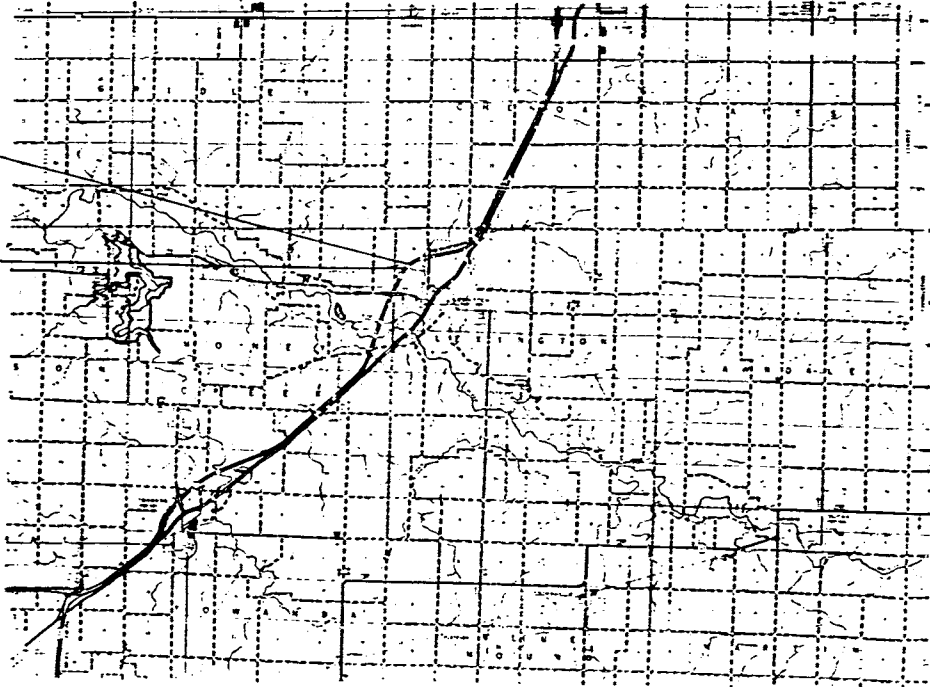
**DAY LABOR PROJECT  
BRIDGE REPAIR  
S.N. 057 - 0182(SB)  
PROJECT #97F302**



LOCATION OF SECTION INDICATED THUS: 1993 A. D. T. 18,300

Project Begins  
Sta. 711+02.36

Project Ends  
Sta. 712+84.03



MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS \_\_\_\_\_

JULIE 1-800-892-0123

DISTRICT 3 NO. (815) 434-6131

PROJECT ENGINEER: BRUCE HUCKER  
SQUAD LEADER: R. WOODSHANK  
TOWNSHIP: LEXINGTON

**CONTRACT NO.**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

SUBMITTED \_\_\_\_\_ 19\_\_\_\_  
PASSED \_\_\_\_\_ 19\_\_\_\_  
APPROVED \_\_\_\_\_ 19\_\_\_\_

DISTRICT ENGINEER  
ENGINEER OF DESIGN AND ENVIRONMENT  
DIRECTOR, DIVISION OF HIGHWAYS

DL-8

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FAI 55	57-2B-2	McLEAN	8	2
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GENERAL NOTES

- Concrete Structures to be used throughout the abutment reconstruction.
- 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 fro a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit bed price for the work.
- All exposed Deck reinforcement bars are to be cleaned, straightened, and incorporated into the new concrete.
- The existing vertical reinforcement bars in the end dam shall be cleaned, straightened, and incorporated into the new concrete.
- If any reinforcement bars that are to be saved, damaged during concrete removal, they shall be removed and replaced with approved expansion bolts.
- After fabrication, all surfaces of the expansion joint plates will receive one shop coat of the Inorganic zinc rich primer/Acrylic/Acrylic Paint System. Cost incidental to F & E Structural Steel.
- The removal and replacement of the bituminous concrete shoulders to facilitate the expansion joint repair is considered incidental to Concrete Removal

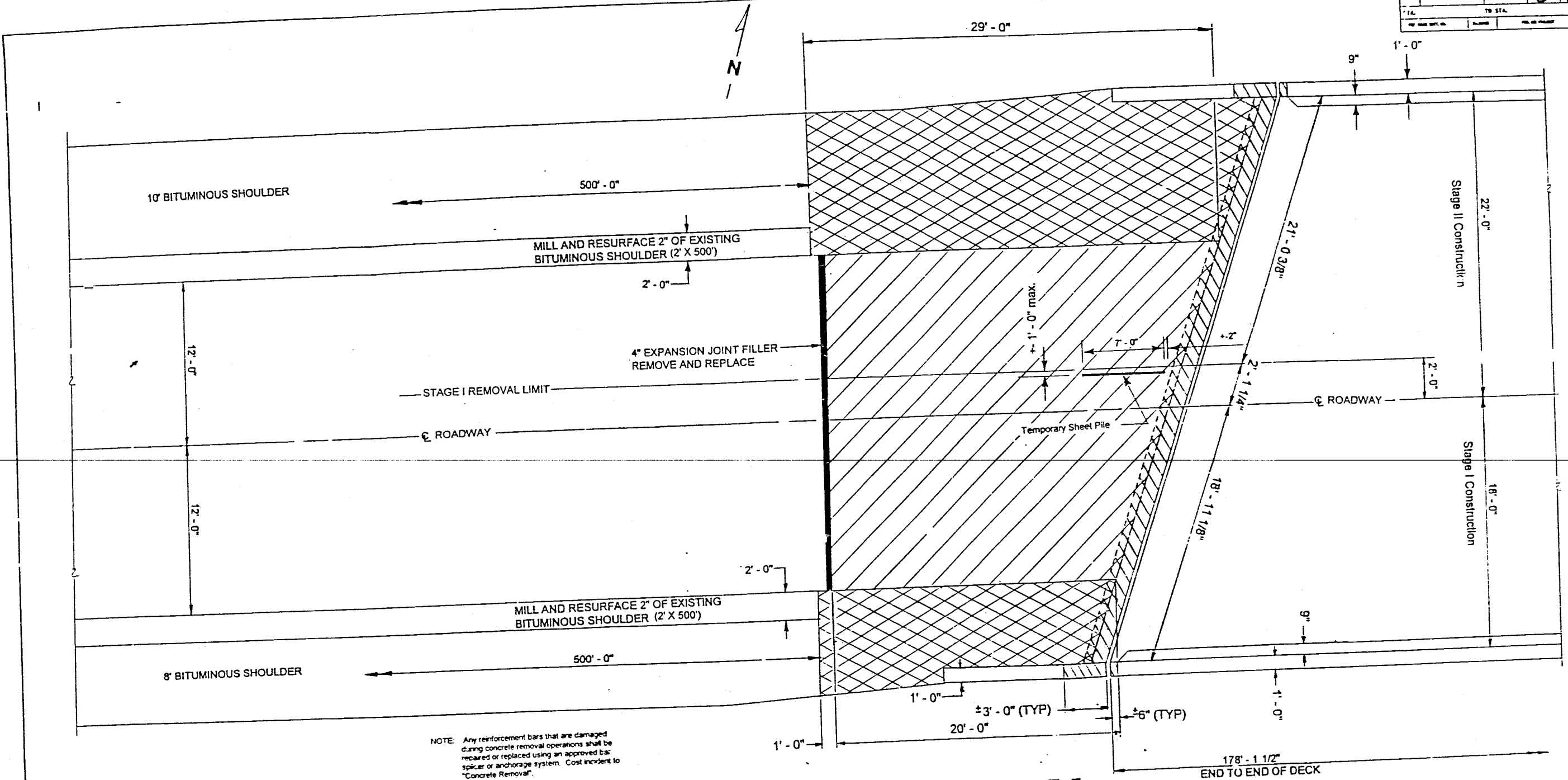
SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RURAL
20700220	POROUS GRANULAR EMBANKMENT	CU YD	22	..
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	64	64
42001675	REINFORCEMENT BARS, EPOXY COATED	POUND	1100	1100
44000075	BITUMINOUS SURFACE REMOVAL (COLD MILLING)	SQ YD	444	444
44000700	APPROACH SLAB REMOVAL	SQ YD	64	64
44001430	BITUMINOUS SHOULDER REMOVAL	SQ YD	50	50
48200600	BITUMINOUS SHOULDERS 8"	SQ YD	50	50
50102400	CONCRETE REMOVAL	CU YD	14	14
50200100	STRUCTURE EXCAVATION	CU YD	28	28
50300130	PREFORMED JOINT SEAL 4"	FOOT	44	44
50300225	CONCRETE STRUCTURES	CU YD	14	14
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	828	828
50800105	REINFORCEMENT BARS	POUND	3898	3898
51205100	TEMPORARY SHEET PILING	L SUM	1	1
90100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 2316	L SUM	1	1
90301810	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	2050	2050
90400100	TEMPORARY CONCRETE BARRIER	FOOT	350	350
90400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	320	320
90400300	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	EACH	1	1
TS020200	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2050	2050
Z0037400	PAVEMENT MARKING REMOVAL	FOOT	2050	2050
	MOBILIZATION	L SUM	1	1

DESIGNED R. WOODSHANK	EXAMINED
CHECKED	PASSED
DRAWN R. WOODSHANK	APPROVED
CHECKED	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**BRIDGE REPAIR**  
FY-96 DAY LABOR  
FAI 55 SEC. 57-2B-2  
McLEAN COUNTY  
STA. 711+75  
VERT. S. N. 057-0182 (SB)  
SCALE: HORIZ. DATE 1/3/94  
DRAWN BY RLW  
CHECKED BY



NOTE: Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incident to "Concrete Removal".

# PLAN VIEW

## S.N. 057 - 0182 (SB)

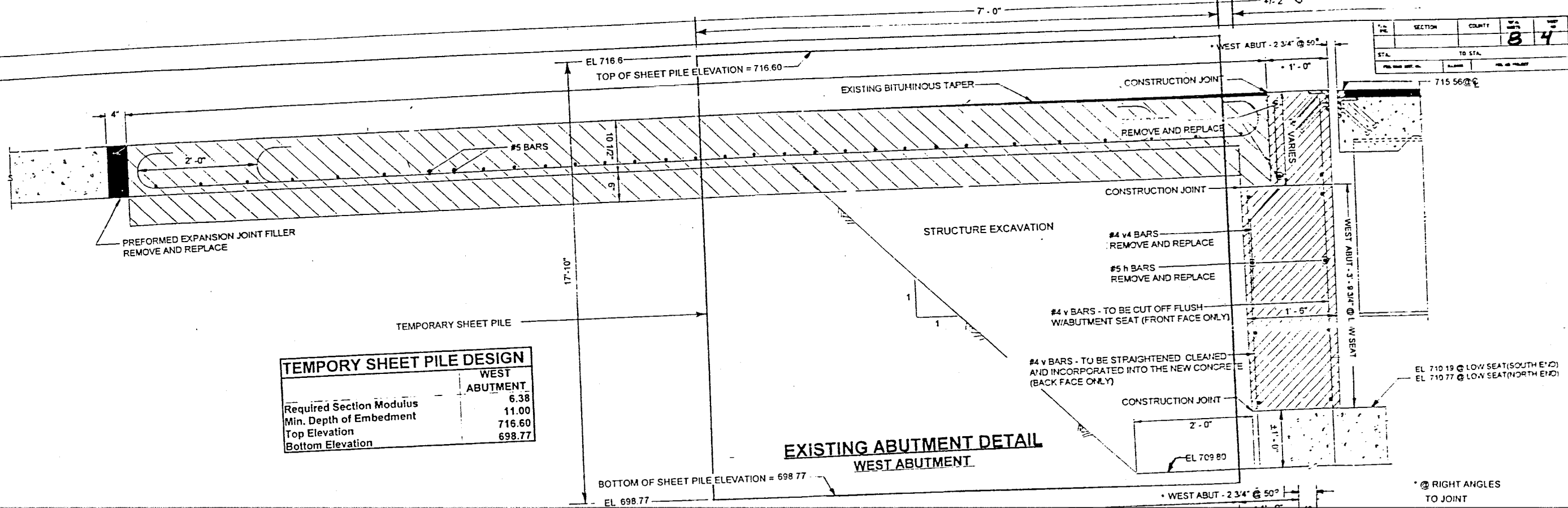
- CONCRETE REMOVAL & CONCRETE STRUCTURES
- BRIDGE APPROACH PAVEMENT (SPECIAL)
- BITUMINOUS SHOULDER REMOVAL AND REPLACEMENT

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PLAN VIEW**  
 FAI 55 SEC 57-2B-2  
 McLEAN COUNTY  
 STA. 711+75  
 S.N. 057-0182(SB)

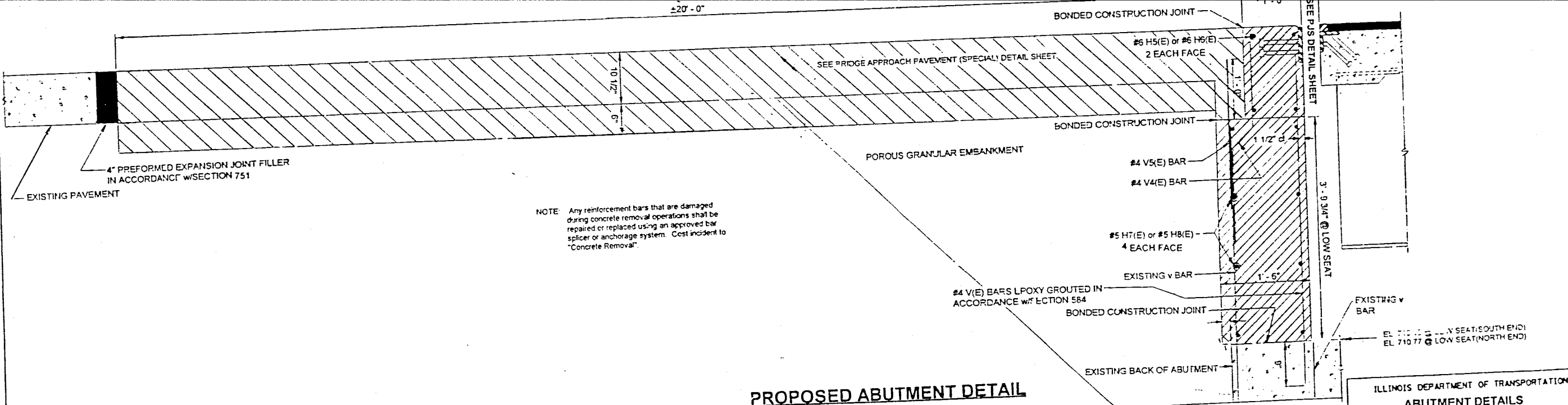
SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_



TEMPORARY SHEET PILE DESIGN	
	WEST ABUTMENT
Required Section Modulus	6.38
Min. Depth of Embedment	11.00
Top Elevation	716.60
Bottom Elevation	698.77

**EXISTING ABUTMENT DETAIL  
WEST ABUTMENT**



NOTE: Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incident to "Concrete Removal".

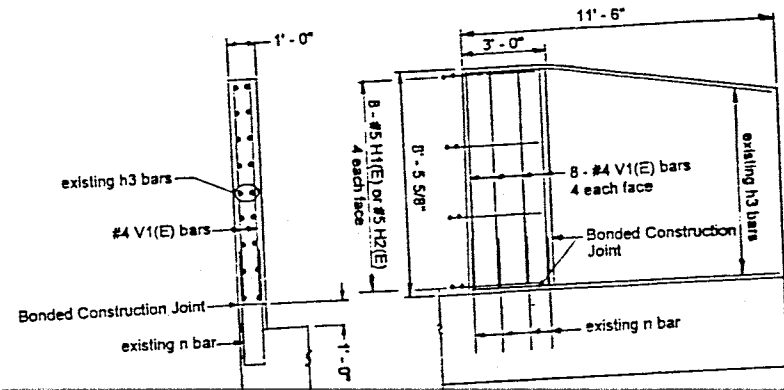
**PROPOSED ABUTMENT DETAIL  
WEST ABUTMENT**

- BRIDGE APPROACH PAVEMENT (SPECIAL)
- CONCRETE REMOVAL & CONCRETE STRUCTURES
- 4" PREFORMED EXPANSION JOINT

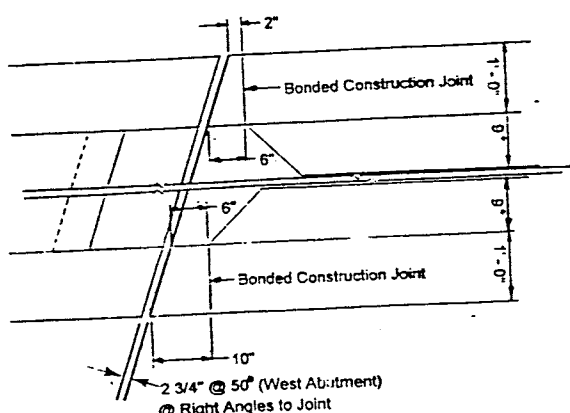
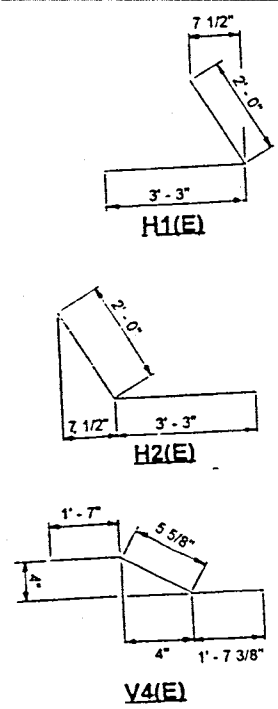
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**ABUTMENT DETAILS**  
 FAI 55 SEC 57-2B-2  
 McLEAN COUNTY  
 STA 711+75  
 S.N. 057-0182(SB)

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_



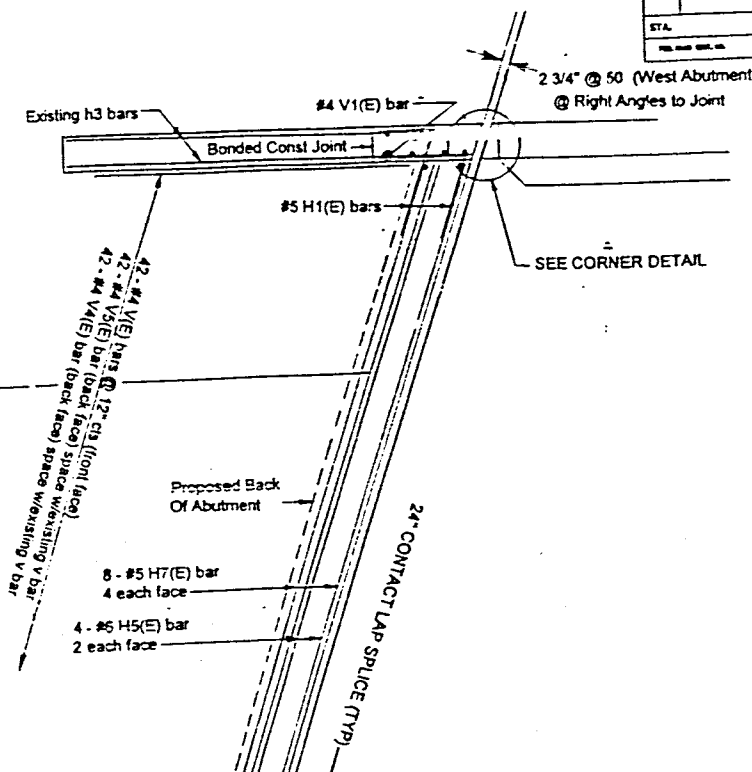
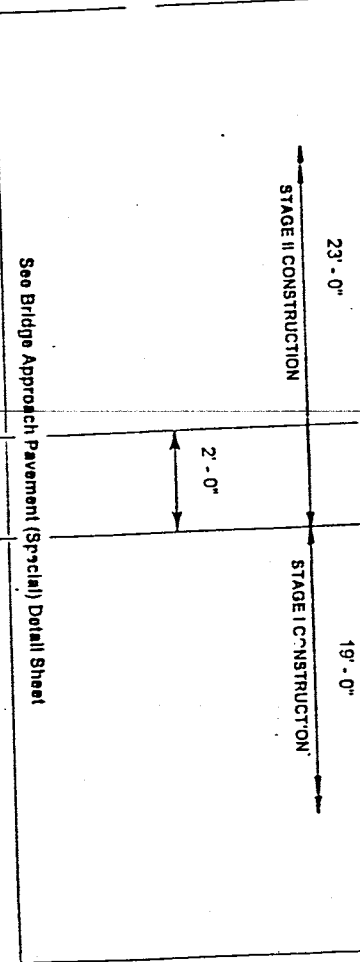
**WINGWALL REINFORCEMENT**



**CORNER DETAIL**

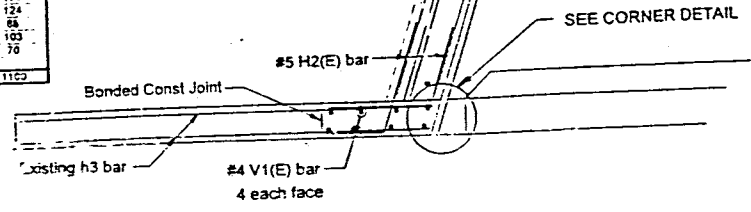
BAR	SIZE	NO.	LENGTH	SHAPE	POUNDS
H1(E)	#3	8	5'-3"		45
H2(E)	#3	8	5'-3"		45
H3(E)	#3	8	22'-10"		137
H4(E)	#3	4	29'-9"		125
H5(E)	#3	8	22'-10"		130
H6(E)	#3	4	29'-9"		124
V1(E)	#3	18	8'-3"		88
V2(E)	#3	42	3'-4"		103
V3(E)	#3	42	7'-6"		76
TOTAL					1122

(E) DENOTES EPOXY COATED



Minimum Bar Splice	
#5	1'-8"
#6	2'-0"

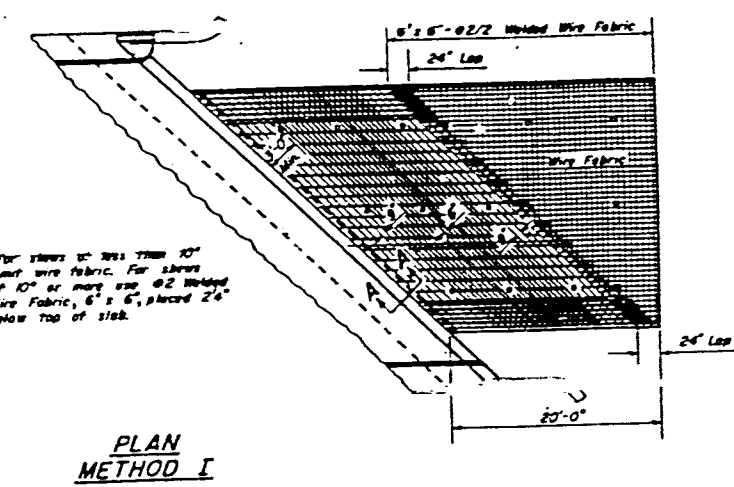
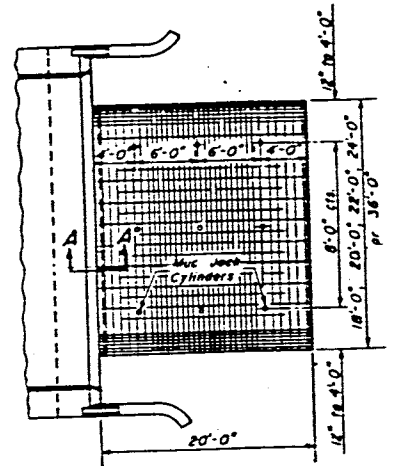
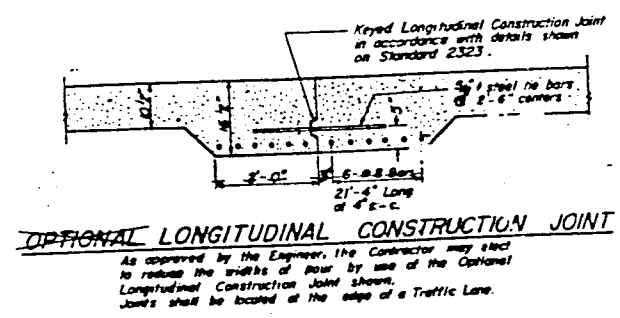
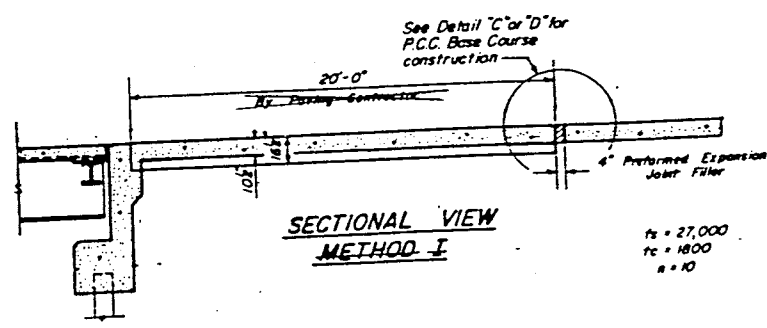
**REINFORCEMENT PLAN WEST ABUTMENT**



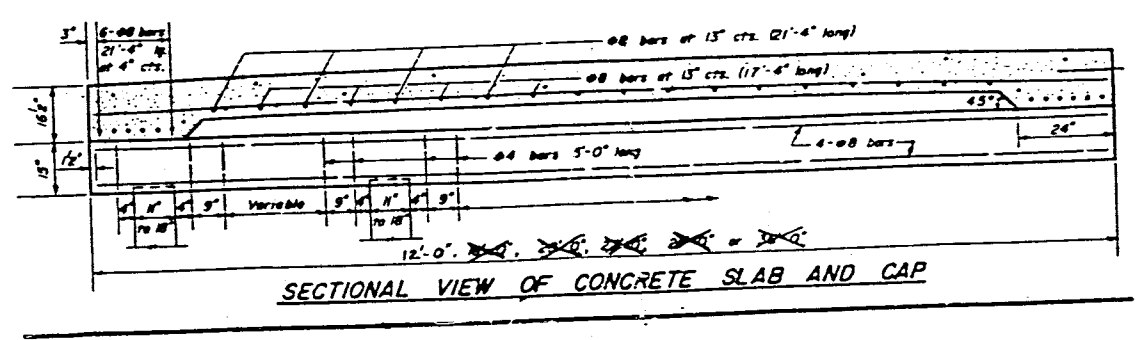
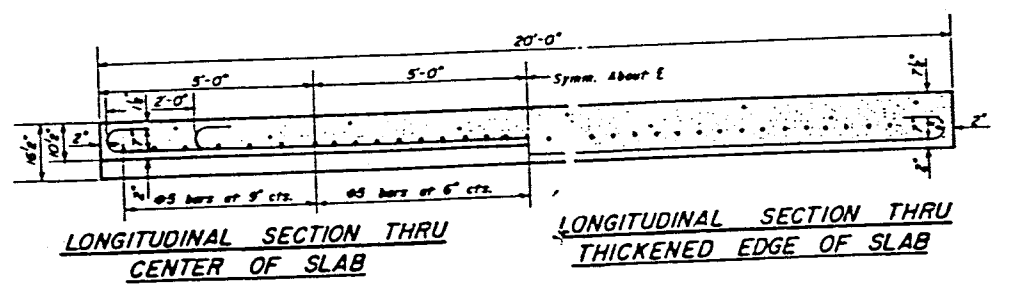
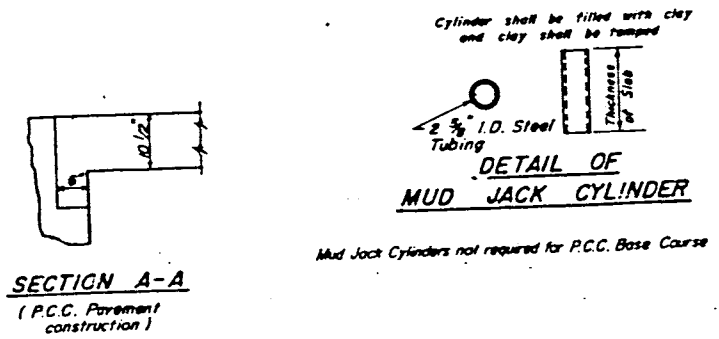
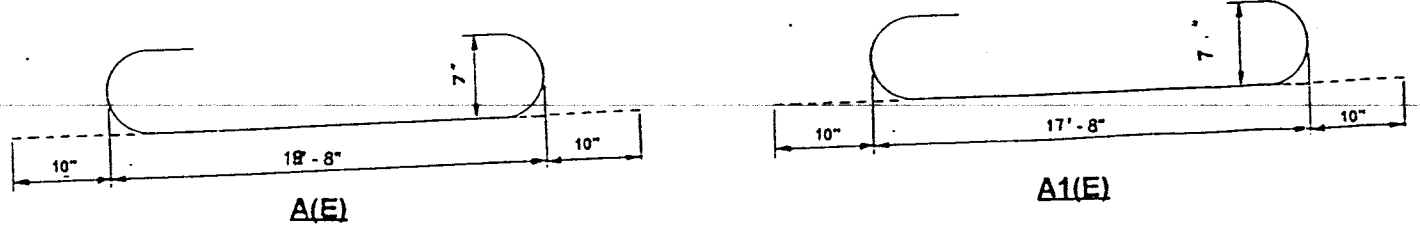
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**REINFORCEMENT DETAILS**  
 FAI 55 SEC 57-2B-2  
 McLEAN COUNTY  
 STA. 711+75  
 S.N. 057-0182(SB)

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_ DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_



Expanded Metal weighing not less than 75 lbs. per 100 sq. ft. or a welded bar mat weighing not less than 75 lbs. per 100 sq. ft. having members of equal size in both directions and spaced not over 8" apart may be used instead of the #2 Welded Wire Fabric, 6" x 6", provided the expanded metal or bar mat is furnished at no additional cost to the State.



REINFORCEMENT SCHEDULE					
WEST APPROACH SLAB					
BAR	SIZE	NO	LENGTH	SHAPE	POUNDS
A	#8	40	21'-4"		2278
A1	#8	14	19'-4"		723
B	#5	68	12'-4"		874
C	#5	9	2'-6"		23
TOTAL					3898

**GENERAL NOTES**

- The slab will be paid for at the contract unit price for BRIDGE APPROACH PAVEMENT (SPECIAL).
- All reinforcement bars will be paid for at the contract unit price for REINFORCEMENT BARS, except as noted.
- The welded Wire Fabric, Mud Jack Cylinders, and Preformed Expansion Joint Filler shall be included in the unit price bid for BRIDGE APPROACH PAVEMENT (SPECIAL).
- Preformed Expansion Joint Filler shall conform to Section 751 of the Standard Specification.
- The Contractor shall, after completion of the finishing operations, mark the location of the Mud Jack Cylinders.

REVISIONS	
NAME	DATE

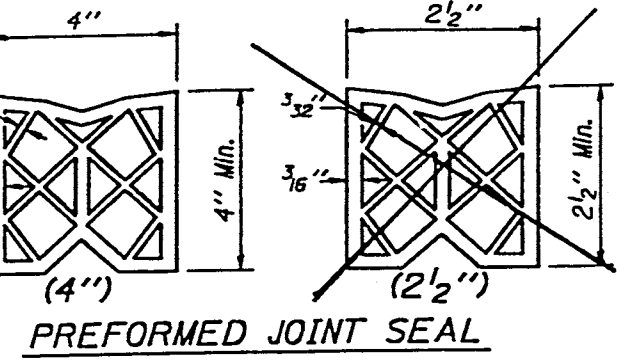
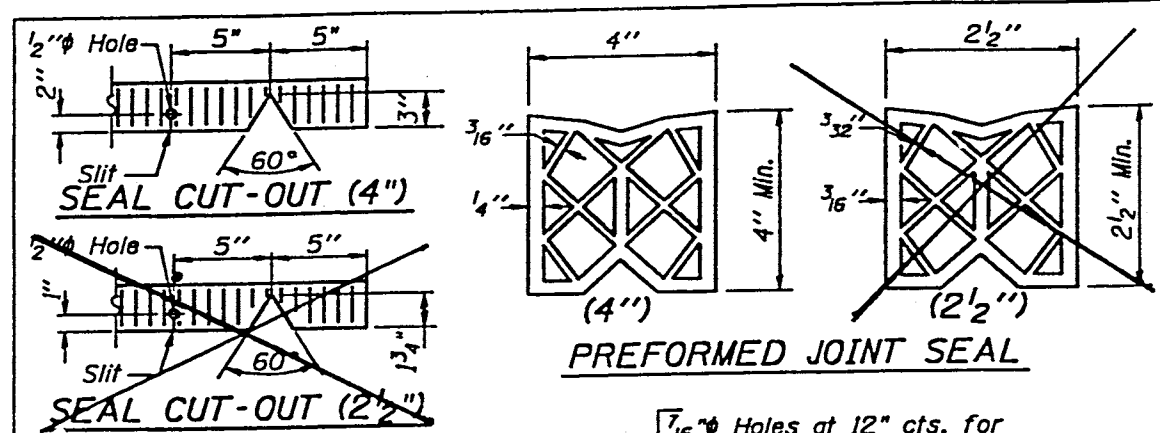
ILLINOIS DEPARTMENT OF TRANSPORTATION  
BRIDGE APPROACH PAVEMENT DETAILS  
FAI 55 SEC 57-2B-2  
MCLEAN COUNTY  
STA. 711+75  
S.N. 057-0182(SB)

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_

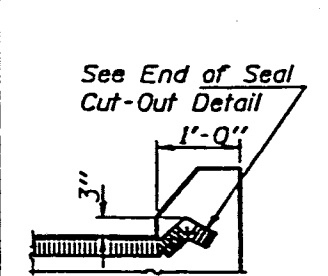
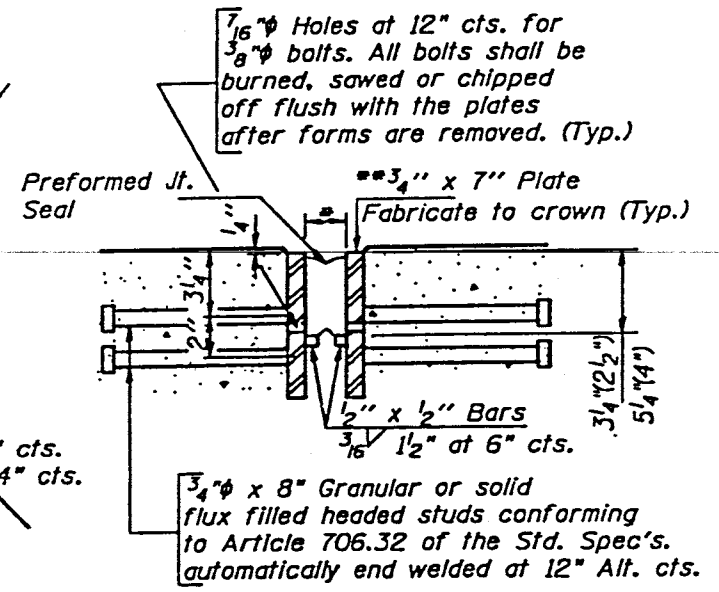
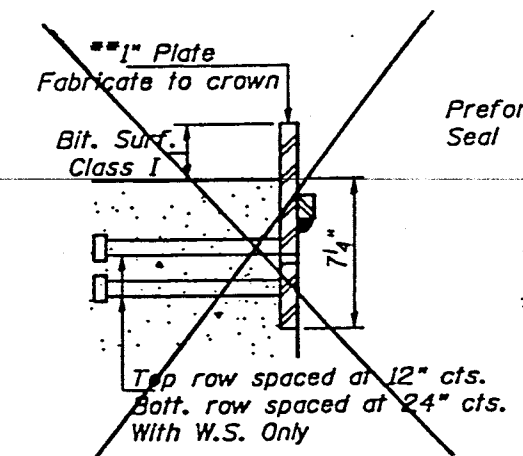
DATE \_\_\_\_\_ DRAWN BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

**BRIDGE APPROACH PAVEMENT (SPECIAL)**





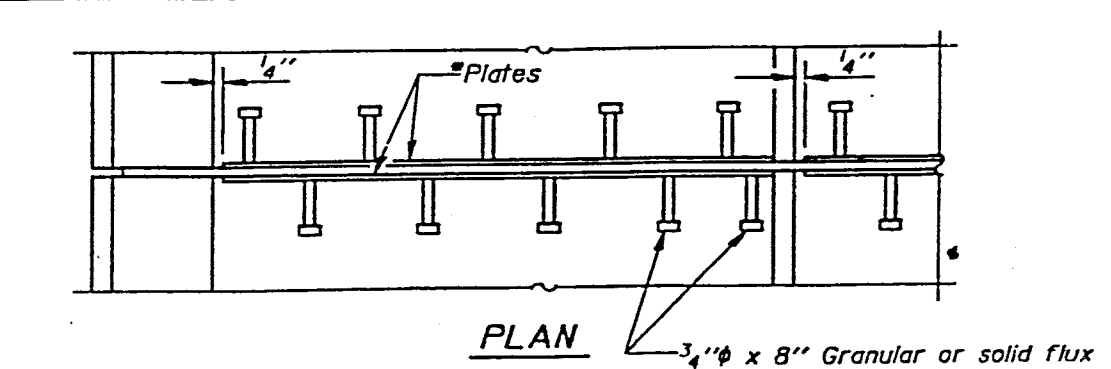
**PREFORMED JOINT SEAL**



**TYPICAL END OF SEAL TREATMENTS**

Note: After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for Structural Steel. No field painting required.

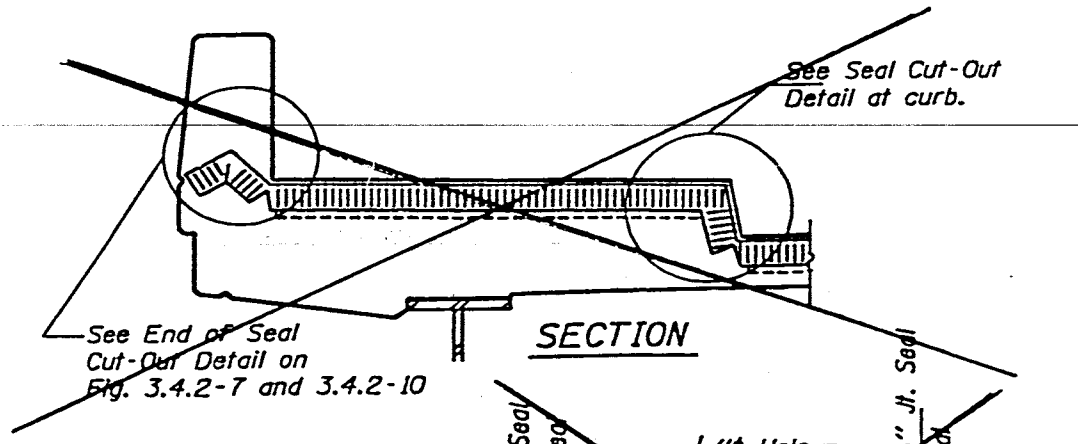
**PREFORMED JOINT SEAL**  
~~2 1/2" & 4"~~ 4"



**PLAN**

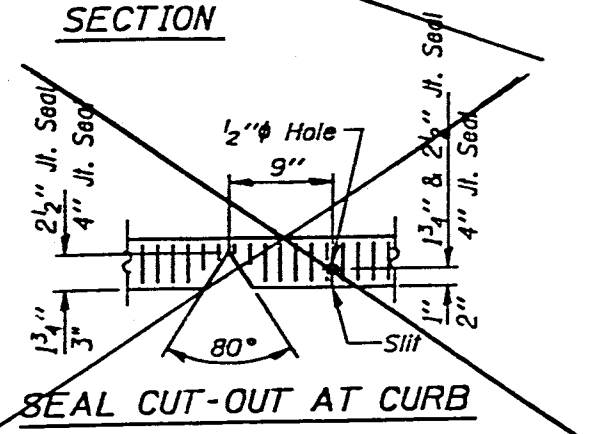
3/4" φ x 8" Granular or solid flux filled headed studs conforming to Art. 706.32 of the Std. Spec's. automatically end welded at 12" Alt. cts.

Cut retainer bars in sidewalk 6" short of sidewalk face.



**SECTION**

See End of Seal Cut-Out Detail on Fig. 3.4.2-7 and 3.4.2-10



**SEAL CUT-OUT AT CURB**

**TYPICAL SEAL TREATMENTS AT SIDEWALK**

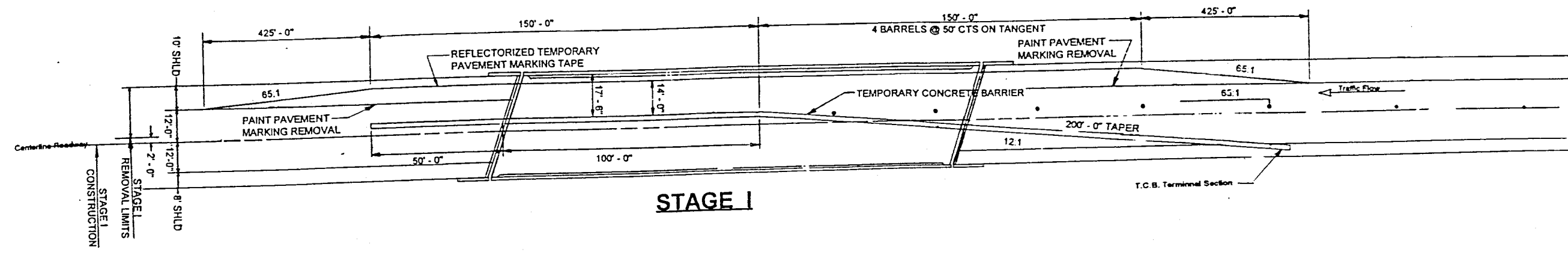
**PREFORMED JOINT SEAL**  
~~(2 1/2" & 4")~~ & (4")

MISSOURI DEPARTMENT OF TRANSPORTATION

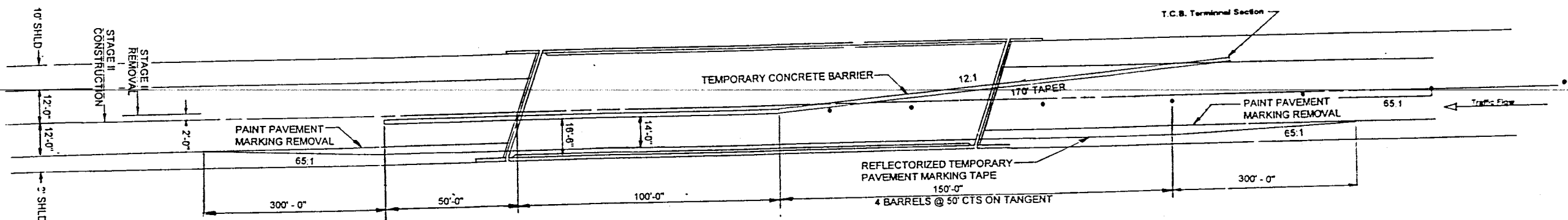
DATE	
SCALE: VERT.	
SCALE: HORIZ.	
DRAWN BY	
CHECKED BY	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

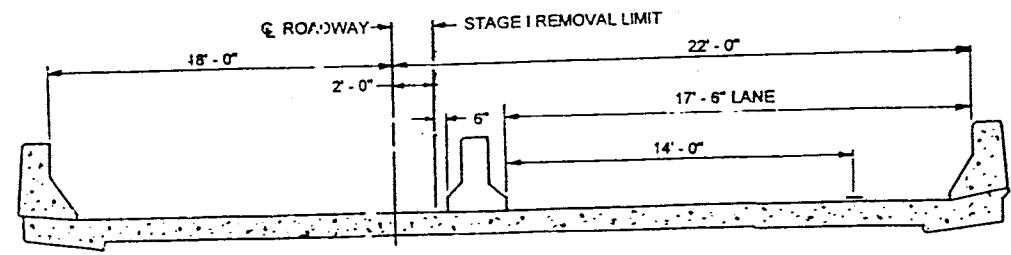
DATE	BY	NO.	REV.
7/2/88	ST-88-1	8	8



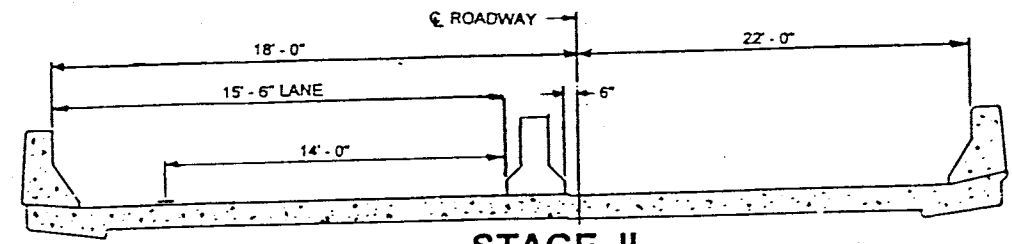
**STAGE I**



**STAGE II**



**STAGE I**



**STAGE II**

DESIGNED R. WOODSHANK	EXAMINED
CHECKED	PREPARED
DRAWN R. WOODSHANK	APPROVED
CHECKED	

REVISIONS	
NAME	DATE

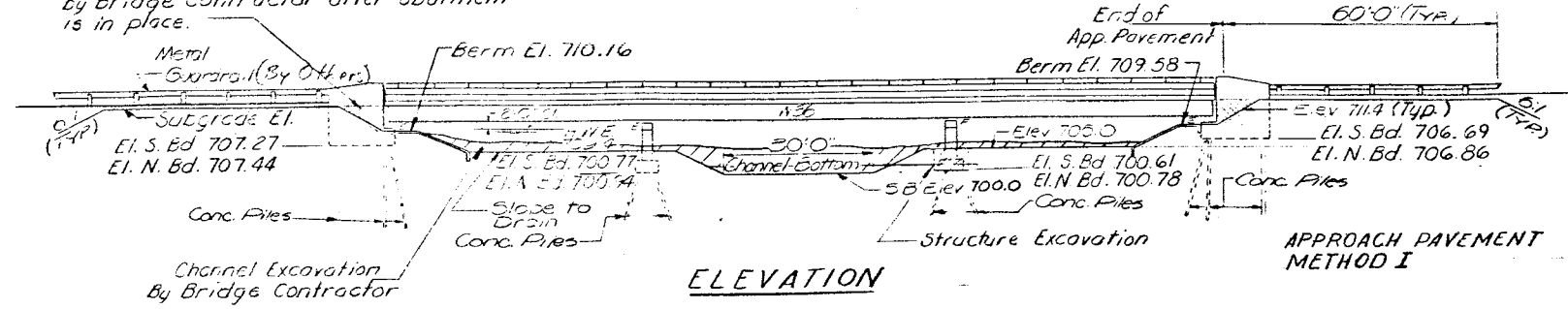
ILLINOIS DEPARTMENT OF TRANSPORTATION  
TRAFFIC CONTROL DETAILS  
FAI 55 SEC 57-2B-2  
MCLEAN COUNTY  
STA. 711+75  
S.N. 057-0182(SB)  
SCALE: VERT. NOT TO SCALE HORIZ. DRAWN BY RLW  
DATE CHECKED BY

B.M. #28A R.R. Spikes in Fence Corner 350' Rt  
Sta. 713+25 Elev. 710.05

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. / 17 SHEETS
FAI 55	57-2B-2	MCLEAN	64	10	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

This portion of Embankment backfill by Bridge Contractor after abutment is in place.

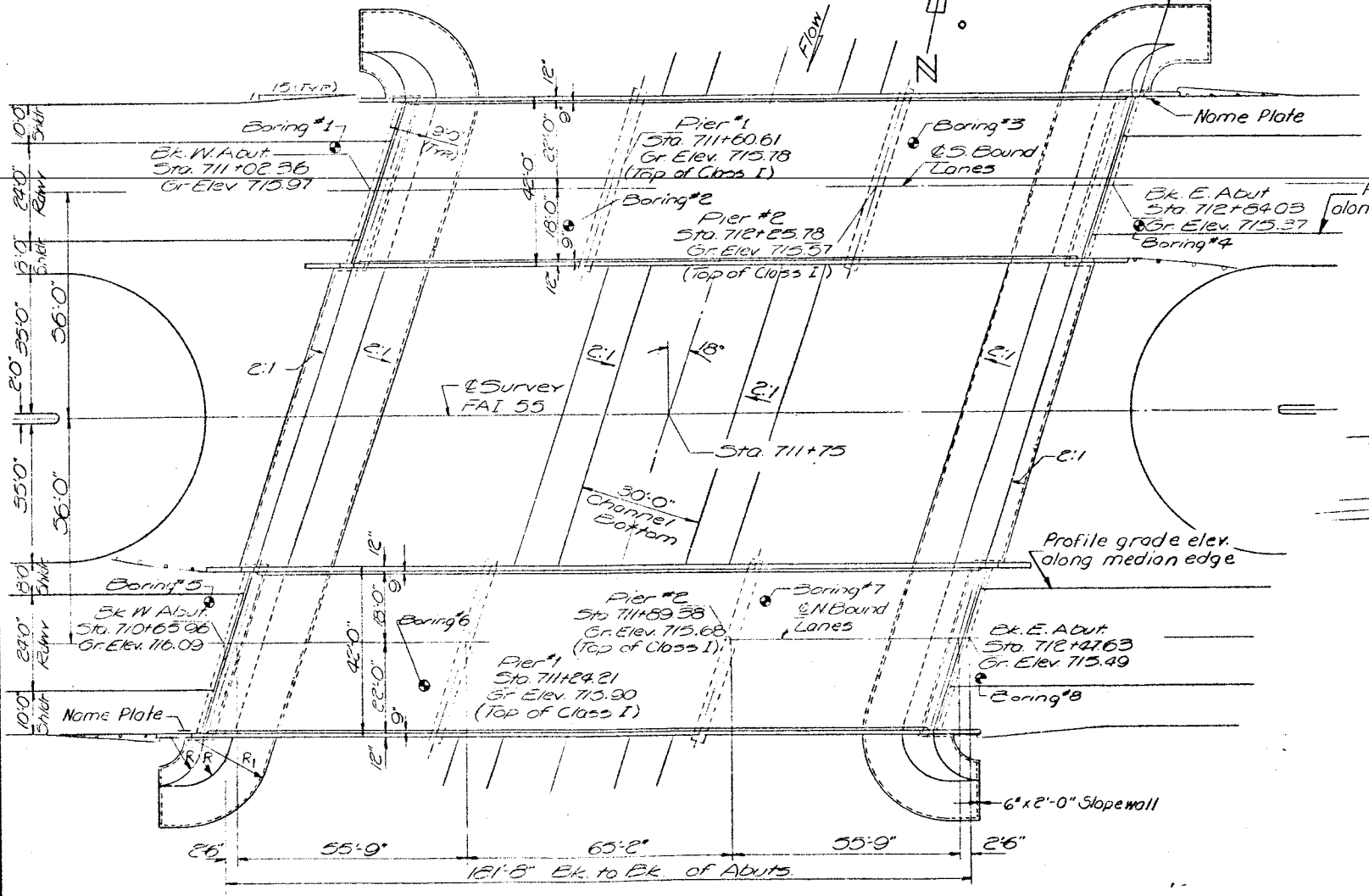
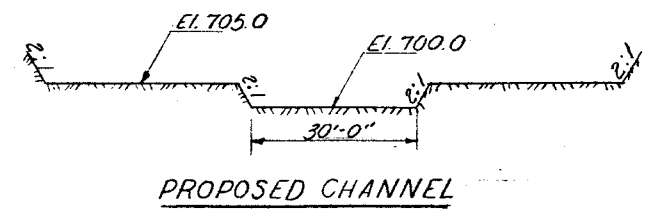
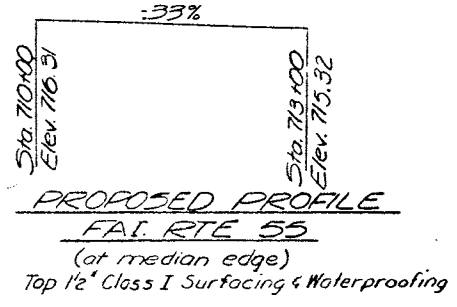


**DESIGN STRESSES**

fc = 1200 psi Super  
fc = 1400 psi Curb, Parapet & Sub.  
fs = 20000 psi Struct & Reinf.  
vc = 75 psi Ftgs  
n = 10  
Design Specifications 1969 AASHTO (as applicable)  
LOADING HS20-44 & ALT.  
Allowance for future wearing surface 25#/sq. ft.

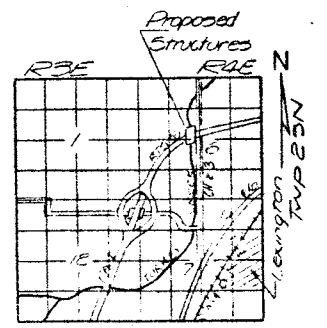
**WATERWAY INFORMATION**

Drainage Area 17280 Acres  
Character Cultivated, Pasture  
Reach Opening 812 Sq. Ft.  
Proposed Opening 812 Sq. Ft.  
Q(50) 4060 cfs  
Low Water Elevation 700.5



STATION 711+75  
BUILT BY  
STATE OF ILLINOIS  
FAI. RT. 55 SEC. 57-2B-2  
FA. PROJ. I-55-5 (36)  
LOADING HS20 & ALT.

NAME PLATE  
See Std 2115



LOCATION SKETCH

PROJ. I-55-5 (36) 177  
GENERAL PLAN & ELEVATION  
FAI. RTE. 55 SEC. 57-2B-2  
McLEAN COUNTY  
STA. 711+75

DESIGNED	DAR
CHECKED	A.Y.K.
DRAWN	FERRINCO
CHECKED	A.Y.K.

Mar 25 1971  
EXAMINED  
PASSED  
APPROVED

W. Abut. R = 12'-0" R1 = 22'-3"  
E. Abut. R = 12'-0" R1 = 21'-3"

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.  
Fasteners shall be high strength bolts.  
Bolts 3/4" dia; open holes 1 1/4" dia, unless otherwise noted.

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 diaphragms over supports.

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

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

The concrete rail section above the main deck construction joint at the top of the span shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Standard Concrete.

Protective coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.

The Contractor shall drive four concrete test piles in permanent locations, one each at the Abut and Pier 1 of South Bd. Lanes; N. Abut. and Pier 2 of North Bd. Lanes as directed by the Engineer before ordering the remainder of piles.

Calculated weight of Structural Steel is 27600 lbs.

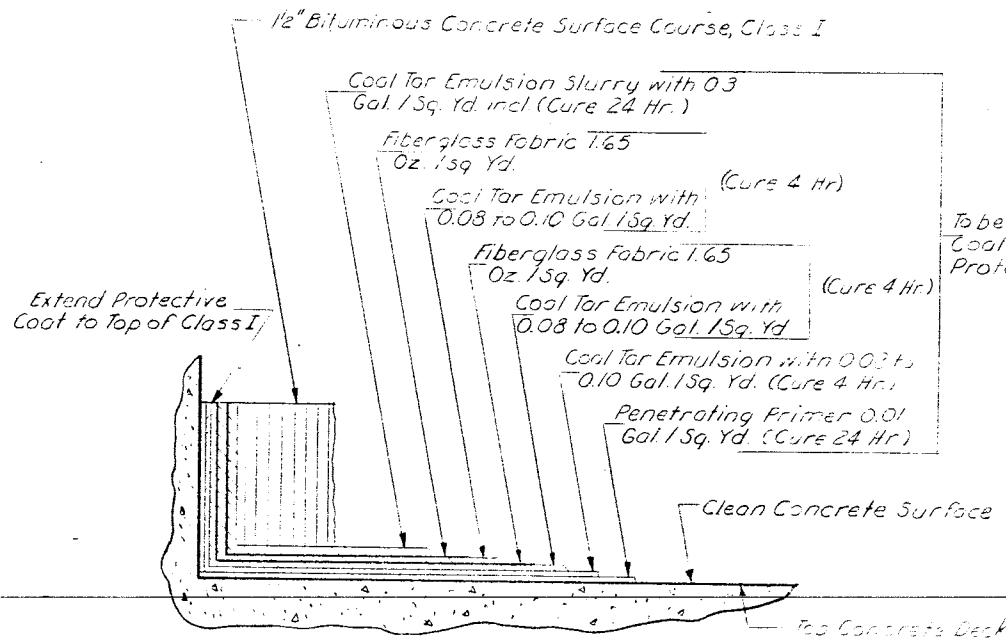
Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 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.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
* Bituminous Concrete Surface Course, Class I	Tons	126		126
* Coal Tar Interlayer Protective Coat	Sq. Yds.	1,524		1,524
* Protective Coat	Sq. Yds.	310		310
Class X Concrete	Cu. Yds.	457.7	134.2	591.9
Class A Concrete	Cu. Yds.		175.2	175.2
Structural Steel	Lbs.			27,600
Aluminum Railing	Lin. Ft.			
Reinforcement Bars	Lbs.	28,020	28,020	56,040
Concrete Piles	Lin. Ft.		2,653	2,653
Test Piles Concrete	Yds.		4	4
Name Plates	Each		2	2
Preformed Asphalt	Sq. Yds.			
Grade Wall (A)	Sq. Yds.		1136	1136
Structural Steel	Lbs.		27600	27600

\* By Paving Contractor

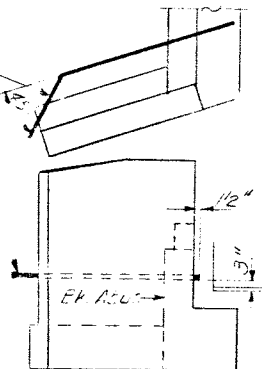


DETAIL OF DECK SURFACING  
(BY PAVING CONTRACTOR)

To be paid for as:  
Coal Tar Interlayer  
Protective Coat

Extend Protective Coat to Top of Class I

Locate 2" x 4 Galv. Conduit (Std. 40 Pipe) ± 12" inside of fascia beam web and parallel to beam line. Extend to clear the wing wall and terminate at a point outside of shoulder. Dress and cap each end. Place conduit on one two outside corners of each dual bridge.  
(31-F-4) Cast In Situ

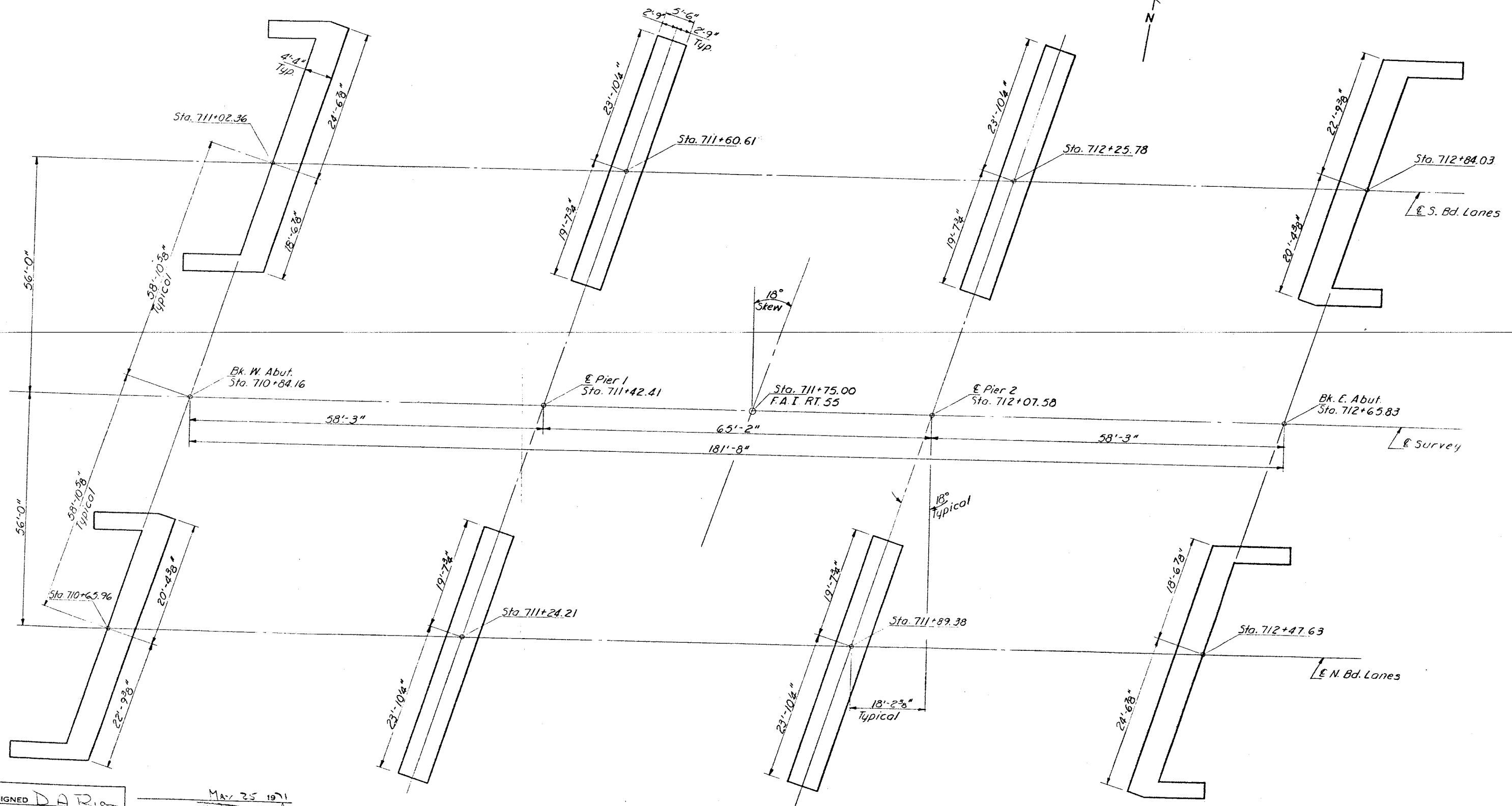


ELECTRICAL CONDUIT LOCATION

DESIGNED	D.A.P.
CHECKED	A.J.K.
DRAWN	By E. J. ...
CHECKED	A.J.K.

EXAMINED	MAY 25 1971
PASSED	W. B. ...
APPROVED	Leif ...

REVISIONS  
NO. 1  
DATE  
BY



FOOTING LAYOUT

DESIGNED DARja  
 CHECKED A.V.K.  
 DRAWN Bev Robinson  
 CHECKED A.V.K.

EXAMINED [Signature]  
 ENGINEER OF DESIGN AND TRAFFIC STRUCTURES

PASSED W.G. Baumann  
 ENGINEER OF DESIGN

APPROVED Richard H. Waltermann  
 CHIEF HIGHWAY ENGINEER

MAY 25 1971

FOOTING LAYOUT  
 F.A.I. RT. 55 SEC. 57-2B-2  
 MCLEAN COUNTY  
 STA. 711+75

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. A. Abut.	71108.899	-20.125	715.784	715.784
Brig. W. Abut.	71111.399	-20.125	715.776	715.776
A	71121.399	-20.125	715.743	715.757
B	71131.399	-20.125	715.710	715.732
C	71141.399	-20.125	715.677	715.700
D	71151.399	-20.125	715.644	715.658
E	71161.399	-20.125	715.611	715.616
Brig. Pier 1	71167.149	-20.125	715.592	715.592
F	71177.149	-20.125	715.559	715.565
G	71187.149	-20.125	715.526	715.538
H	71197.149	-20.125	715.493	715.510
I	71207.149	-20.125	715.460	715.474
J	71217.149	-20.125	715.427	715.446
K	71227.149	-20.125	715.394	715.397
Brig. Pier 2	71232.316	-20.125	715.377	715.377
L	71242.316	-20.125	715.344	715.343
M	71252.316	-20.125	715.311	715.328
N	71262.316	-20.125	715.278	715.302
O	71272.316	-20.125	715.245	715.265
P	71282.316	-20.125	715.212	715.220
Brig. E. Abut.	71288.066	-20.125	715.193	715.193
Bk. E. Abut.	71290.566	-20.125	715.185	715.185

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71104.188	-5.625	716.068	716.068
Brig. W. Abut.	71106.688	-5.625	716.060	716.060
A	71116.688	-5.625	716.027	716.041
B	71126.688	-5.625	715.994	716.016
C	71136.688	-5.625	715.961	715.984
D	71146.688	-5.625	715.928	715.942
E	71156.688	-5.625	715.895	715.900
Brig. Pier 1	71162.438	-5.625	715.876	715.876
F	71172.438	-5.625	715.843	715.849
G	71182.438	-5.625	715.810	715.822
H	71192.438	-5.625	715.777	715.794
I	71202.438	-5.625	715.744	715.758
J	71212.438	-5.625	715.711	715.720
K	71222.438	-5.625	715.678	715.691
Brig. Pier 2	71227.604	-5.625	715.661	715.661
L	71237.604	-5.625	715.628	715.637
M	71247.604	-5.625	715.595	715.613
N	71257.604	-5.625	715.562	715.586
O	71267.604	-5.625	715.529	715.550
P	71277.604	-5.625	715.496	715.504
Brig. E. Abut.	71283.354	-5.625	715.477	715.477
Bk. E. Abut.	71285.854	-5.625	715.469	715.469

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71101.832	1.625	716.139	716.139
Brig. W. Abut.	71104.332	1.625	716.130	716.130
A	71114.332	1.625	716.097	716.112
B	71124.332	1.625	716.064	716.096
C	71134.332	1.625	716.031	716.054
D	71144.332	1.625	715.998	716.012
E	71154.332	1.625	715.965	715.970
Brig. Pier 1	71160.082	1.625	715.946	715.946
F	71170.082	1.625	715.913	715.919
G	71180.082	1.625	715.880	715.892
H	71190.082	1.625	715.847	715.854
I	71200.082	1.625	715.814	715.829
J	71210.082	1.625	715.781	715.790
K	71220.082	1.625	715.748	715.751
Brig. Pier 2	71225.249	1.625	715.731	715.731
L	71235.249	1.625	715.698	715.707
M	71245.249	1.625	715.665	715.683
N	71255.249	1.625	715.632	715.656
O	71265.249	1.625	715.599	715.620
P	71275.249	1.625	715.566	715.577
Brig. E. Abut.	71280.999	1.625	715.547	715.547
Bk. E. Abut.	71283.499	1.625	715.539	715.539

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71097.121	16.125	715.906	715.906
Brig. W. Abut.	71099.621	16.125	715.898	715.898
A	71109.621	16.125	715.865	715.879
B	71119.621	16.125	715.832	715.854
C	71129.621	16.125	715.799	715.822
D	71139.621	16.125	715.766	715.780
E	71149.621	16.125	715.733	715.738
Brig. Pier 1	71155.371	16.125	715.714	715.714
F	71165.371	16.125	715.681	715.687
G	71175.371	16.125	715.648	715.660
H	71185.371	16.125	715.615	715.632
I	71195.371	16.125	715.582	715.596
J	71205.371	16.125	715.549	715.558
K	71215.371	16.125	715.516	715.519
Brig. Pier 2	71220.537	16.125	715.499	715.499
L	71230.537	16.125	715.466	715.475
M	71240.537	16.125	715.433	715.451
N	71250.537	16.125	715.400	715.424
O	71260.537	16.125	715.367	715.388
P	71270.537	16.125	715.334	715.342
Brig. E. Abut.	71276.287	16.125	715.315	715.315
Bk. E. Abut.	71278.787	16.125	715.307	715.307

**BEAM 2**

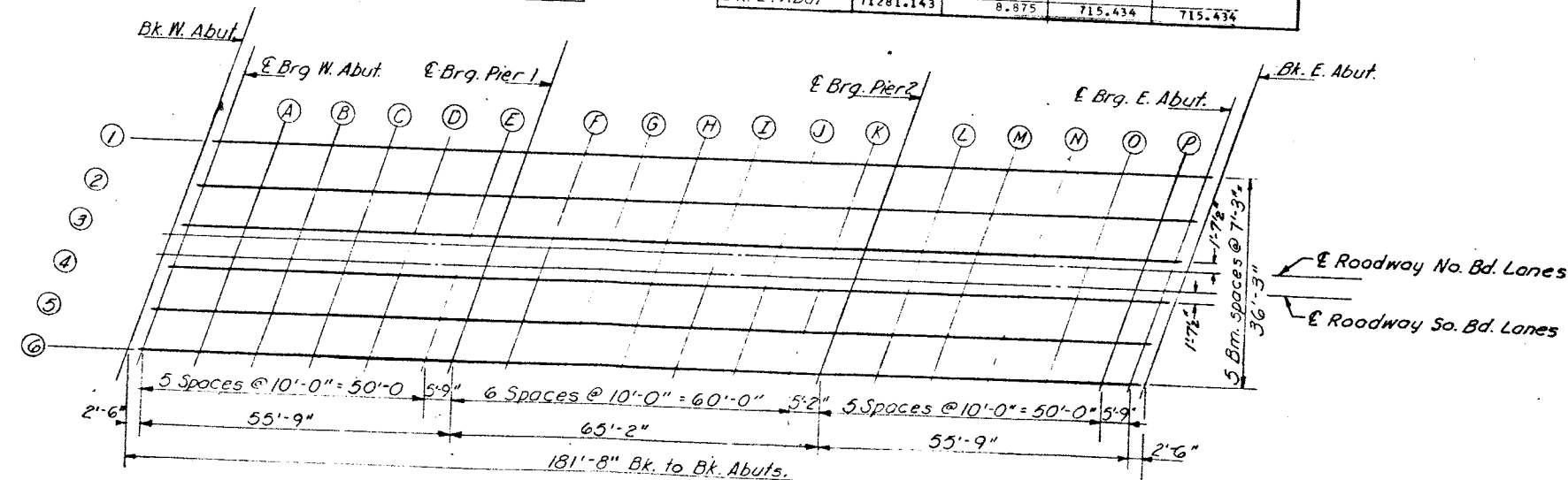
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71106.543	-12.875	715.943	715.943
Brig. W. Abut.	71109.043	-12.875	715.934	715.934
A	71119.043	-12.875	715.901	715.916
B	71129.043	-12.875	715.868	715.890
C	71139.043	-12.875	715.835	715.858
D	71149.043	-12.875	715.802	715.816
E	71159.043	-12.875	715.769	715.775
Brig. Pier 1	71164.793	-12.875	715.750	715.750
F	71174.793	-12.875	715.717	715.723
G	71184.793	-12.875	715.684	715.696
H	71194.793	-12.875	715.651	715.668
I	71204.793	-12.875	715.618	715.633
J	71214.793	-12.875	715.585	715.594
K	71224.793	-12.875	715.552	715.556
Brig. Pier 2	71229.960	-12.875	715.535	715.535
L	71239.960	-12.875	715.502	715.511
M	71249.960	-12.875	715.469	715.487
N	71259.960	-12.875	715.436	715.460
O	71269.960	-12.875	715.403	715.424
P	71279.960	-12.875	715.370	715.379
Brig. E. Abut.	71285.710	-12.875	715.351	715.351
Bk. E. Abut.	71288.210	-12.875	715.343	715.343

**ROADWAY**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71102.360	0.0	716.162	716.162
Brig. W. Abut.	71104.860	0.0	716.154	716.154
A	71114.860	0.0	716.121	716.135
B	71124.860	0.0	716.088	716.110
C	71134.860	0.0	716.055	716.078
D	71144.860	0.0	716.022	716.036
E	71154.860	0.0	715.989	715.994
Brig. Pier 1	71160.610	0.0	715.970	715.970
F	71170.610	0.0	715.937	715.943
G	71180.610	0.0	715.904	715.916
H	71190.610	0.0	715.871	715.888
I	71200.610	0.0	715.838	715.852
J	71210.610	0.0	715.805	715.814
K	71220.610	0.0	715.772	715.775
Brig. Pier 2	71225.777	0.0	715.755	715.755
L	71235.777	0.0	715.722	715.731
M	71245.777	0.0	715.689	715.707
N	71255.777	0.0	715.656	715.680
O	71265.777	0.0	715.623	715.644
P	71275.777	0.0	715.590	715.598
Brig. E. Abut.	71281.527	0.0	715.571	715.571
Bk. E. Abut.	71284.027	0.0	715.563	715.563

**BEAM 5**

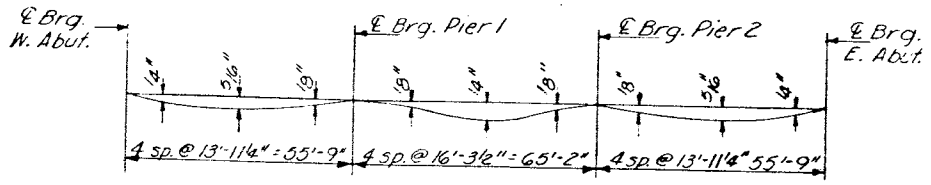
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71099.476	8.875	716.033	716.033
Brig. W. Abut.	71101.976	8.875	716.025	716.025
A	71111.976	8.875	715.992	716.006
B	71121.976	8.875	715.959	715.991
C	71131.976	8.875	715.926	715.968
D	71141.976	8.875	715.893	715.907
E	71151.976	8.875	715.860	715.865
Brig. Pier 1	71157.726	8.875	715.841	715.841
F	71167.726	8.875	715.809	715.814
G	71177.726	8.875	715.775	715.786
H	71187.726	8.875	715.742	715.768
I	71197.726	8.875	715.709	715.723
J	71207.726	8.875	715.676	715.685
K	71217.726	8.875	715.643	715.646
Brig. Pier 2	71222.893	8.875	715.626	715.626
L	71232.893	8.875	715.593	715.632
M	71242.893	8.875	715.560	715.577
N	71252.893	8.875	715.527	715.551
O	71262.893	8.875	715.494	715.514
P	71272.893	8.875	715.461	715.459
Brig. E. Abut.	71278.643	8.875	715.442	715.442
Bk. E. Abut.	71281.143	8.875	715.434	715.434



DESIGNED: [Signature]  
 EXAMINED: [Signature] May 25 1971  
 CHECKED: [Signature]  
 DRAWN: BKR  
 CHECKED: [Signature]  
 APPROVED: [Signature]

SOUTH BOUND LANES  
 TOP OF CLASS I ELEVATIONS  
 E.A.I. RT. 55 SEC. 51-2B-2  
 MCLEAN COUNTY  
 STA. 711+75

PLAN



DEAD LOAD DEFLECTION DIAGRAM

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.

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71071.199	-16.125	715.992	715.992
W. Abut.	71073.699	-16.125	715.983	715.983
A	71083.699	-16.125	715.956	715.965
B	71093.699	-16.125	715.917	715.939
C	71103.699	-16.125	715.984	715.907
D	71113.699	-16.125	715.951	715.965
E	71123.699	-16.125	715.918	715.924
W. Pier 1	71129.449	-16.125	715.800	715.800
F	71139.449	-16.125	715.767	715.772
G	71149.449	-16.125	715.734	715.745
H	71159.449	-16.125	715.701	715.717
I	71169.449	-16.125	715.668	715.682
J	71179.449	-16.125	715.635	715.644
K	71189.449	-16.125	715.602	715.605
Pier 2	71194.616	-16.125	715.584	715.584
L	71204.616	-16.125	715.551	715.560
M	71214.616	-16.125	715.518	715.536
N	71224.616	-16.125	715.485	715.509
O	71234.616	-16.125	715.452	715.473
P	71244.616	-16.125	715.419	715.428
E. Abut.	71250.366	-16.125	715.400	715.400
Bk. E. Abut.	71252.866	-16.125	715.392	715.392

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71066.488	-1.625	716.255	716.255
W. Abut.	71068.988	-1.625	716.247	716.247
A	71078.988	-1.625	716.214	716.228
B	71088.988	-1.625	716.181	716.203
C	71098.988	-1.625	716.148	716.171
D	71108.988	-1.625	716.115	716.129
E	71118.988	-1.625	716.082	716.087
Pier 1	71124.738	-1.625	716.063	716.063
F	71134.738	-1.625	716.030	716.036
G	71144.738	-1.625	715.997	716.009
H	71154.738	-1.625	715.964	715.991
I	71164.738	-1.625	715.931	715.945
J	71174.738	-1.625	715.898	715.907
K	71184.738	-1.625	715.865	715.868
Pier 2	71189.905	-1.625	715.848	715.848
L	71199.905	-1.625	715.815	715.824
M	71209.905	-1.625	715.782	715.800
N	71219.905	-1.625	715.749	715.773
O	71229.905	-1.625	715.716	715.737
P	71239.905	-1.625	715.683	715.691
E. Abut.	71245.655	-1.625	715.664	715.664
Bk. E. Abut.	71248.155	-1.625	715.656	715.656

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71068.844	-8.875	716.134	716.134
W. Abut.	71071.344	-8.875	716.126	716.126
A	71081.344	-8.875	716.093	716.107
B	71091.344	-8.875	716.060	716.082
C	71101.344	-8.875	716.027	716.050
D	71111.344	-8.875	715.994	716.008
E	71121.344	-8.875	715.961	715.966
Pier 1	71127.094	-8.875	715.942	715.942
F	71137.094	-8.875	715.909	715.915
G	71147.094	-8.875	715.876	715.898
H	71157.094	-8.875	715.843	715.860
I	71167.094	-8.875	715.810	715.824
J	71177.094	-8.875	715.777	715.786
K	71187.094	-8.875	715.744	715.747
Pier 2	71192.260	-8.875	715.727	715.727
L	71202.260	-8.875	715.694	715.703
M	71212.260	-8.875	715.661	715.678
N	71222.260	-8.875	715.628	715.652
O	71232.260	-8.875	715.595	715.615
P	71242.260	-8.875	715.562	715.570
E. Abut.	71248.010	-8.875	715.543	715.543
Bk. E. Abut.	71250.510	-8.875	715.535	715.535

**ROADWAY**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71065.960	0.0	716.282	716.282
W. Abut.	71068.460	0.0	716.274	716.274
A	71078.460	0.0	716.241	716.255
B	71088.460	0.0	716.208	716.230
C	71098.460	0.0	716.175	716.198
D	71108.460	0.0	716.142	716.156
E	71118.460	0.0	716.109	716.114
Pier 1	71124.210	0.0	716.090	716.090
F	71134.210	0.0	716.057	716.063
G	71144.210	0.0	716.024	716.036
H	71154.210	0.0	715.991	716.008
I	71164.210	0.0	715.958	715.972
J	71174.210	0.0	715.925	715.934
K	71184.210	0.0	715.892	715.895
Pier 2	71189.377	0.0	715.875	715.875
L	71199.377	0.0	715.842	715.851
M	71209.377	0.0	715.809	715.827
N	71219.377	0.0	715.776	715.800
O	71229.377	0.0	715.743	715.764
P	71239.377	0.0	715.710	715.718
E. Abut.	71245.127	0.0	715.691	715.691
Bk. E. Abut.	71247.627	0.0	715.683	715.683

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71064.132	5.625	716.200	716.200
W. Abut.	71066.632	5.625	716.192	716.192
A	71076.632	5.625	716.159	716.174
B	71086.632	5.625	716.126	716.148
C	71096.632	5.625	716.093	716.116
D	71106.632	5.625	716.060	716.074
E	71116.632	5.625	716.027	716.032
Pier 1	71122.382	5.625	716.008	716.008
F	71132.382	5.625	715.975	715.981
G	71142.382	5.625	715.942	715.954
H	71152.382	5.625	715.909	715.926
I	71162.382	5.625	715.876	715.891
J	71172.382	5.625	715.843	715.852
K	71182.382	5.625	715.810	715.815
Pier 2	71187.549	5.625	715.793	715.793
L	71197.549	5.625	715.760	715.769
M	71207.549	5.625	715.727	715.745
N	71217.549	5.625	715.694	715.718
O	71227.549	5.625	715.661	715.692
P	71237.549	5.625	715.628	715.636
E. Abut.	71243.295	5.625	715.609	715.609
Bk. E. Abut.	71245.799	5.625	715.601	715.601

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71061.777	12.875	716.090	716.090
W. Abut.	71064.277	12.875	716.082	716.082
A	71074.277	12.875	716.049	716.064
B	71084.277	12.875	716.016	716.038
C	71094.277	12.875	715.983	716.006
D	71104.277	12.875	715.950	715.964
E	71114.277	12.875	715.917	715.922
Pier 1	71120.027	12.875	715.898	715.898
F	71130.027	12.875	715.865	715.871
G	71140.027	12.875	715.832	715.844
H	71150.027	12.875	715.799	715.816
I	71160.027	12.875	715.766	715.781
J	71170.027	12.875	715.733	715.742
K	71180.027	12.875	715.700	715.703
Pier 2	71185.193	12.875	715.683	715.683
L	71195.193	12.875	715.650	715.659
M	71205.193	12.875	715.617	715.635
N	71215.193	12.875	715.584	715.608
O	71225.193	12.875	715.551	715.572
P	71235.193	12.875	715.518	715.526
E. Abut.	71240.943	12.875	715.499	715.499
Bk. E. Abut.	71243.443	12.875	715.491	715.491

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71059.421	20.125	715.947	715.947
W. Abut.	71061.921	20.125	715.939	715.939
A	71071.921	20.125	715.906	715.921
B	71081.921	20.125	715.873	715.895
C	71091.921	20.125	715.840	715.863
D	71101.921	20.125	715.807	715.821
E	71111.921	20.125	715.774	715.779
Pier 1	71117.671	20.125	715.755	715.755
F	71127.671	20.125	715.722	715.728
G	71137.671	20.125	715.689	715.701
H	71147.671	20.125	715.656	715.673
I	71157.671	20.125	715.623	715.638
J	71167.671	20.125	715.590	715.594
K	71177.671	20.125	715.557	715.560
Pier 2	71182.838	20.125	715.540	715.540
L	71192.838	20.125	715.507	715.516
M	71202.838	20.125	715.474	715.492
N	71212.838	20.125	715.441	715.465
O	71222.838	20.125	715.408	715.429
P	71232.838	20.125	715.375	715.383
E. Abut.	71238.588	20.125	715.356	715.356
Bk. E. Abut.	71241.088	20.125	715.348	715.348

For Plan see sheet #4

DESIGNED	...
CHECKED	...
DRAWN	BKR
CHECKED	...

EXAMINED: ... **MAY 25 1971**

PASSED: ...

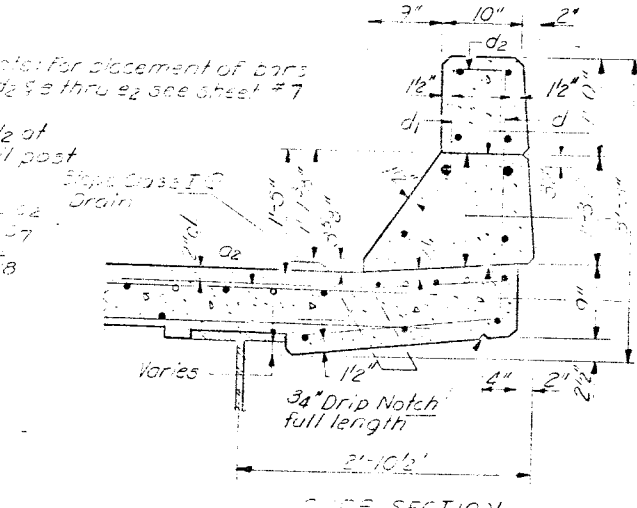
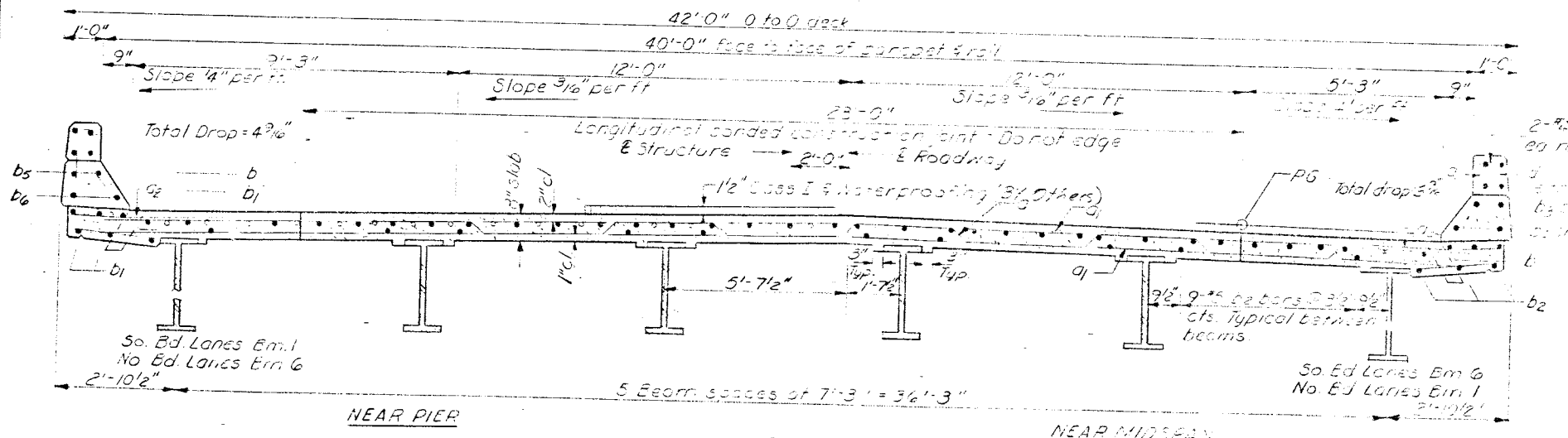
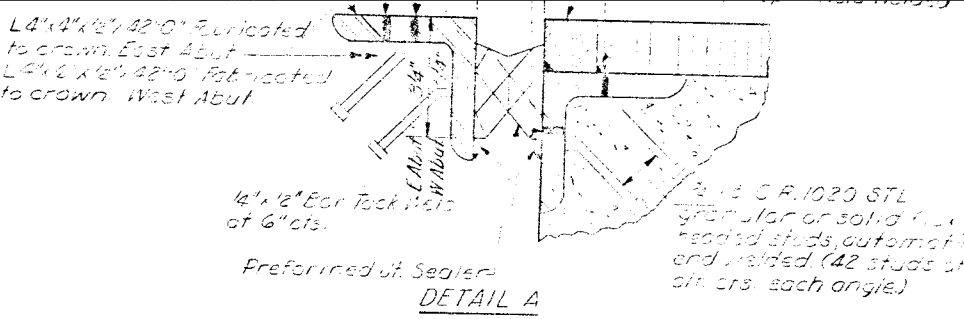
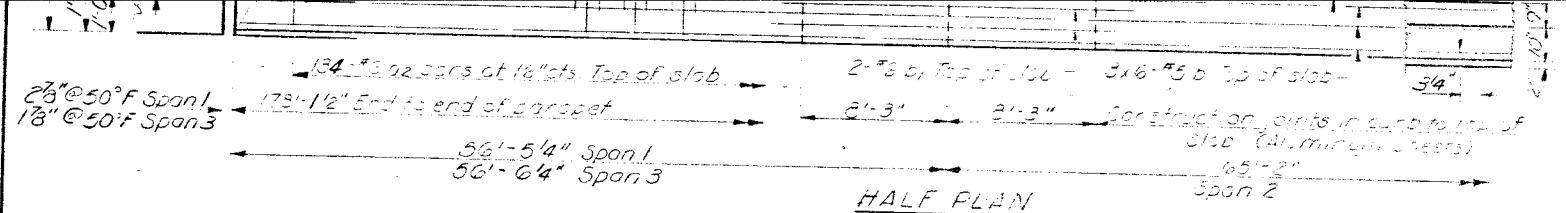
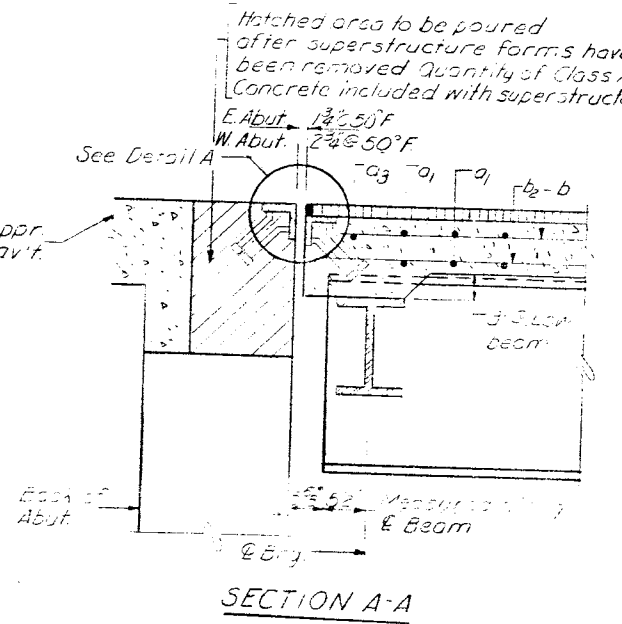
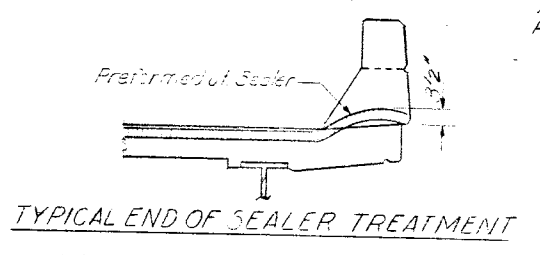
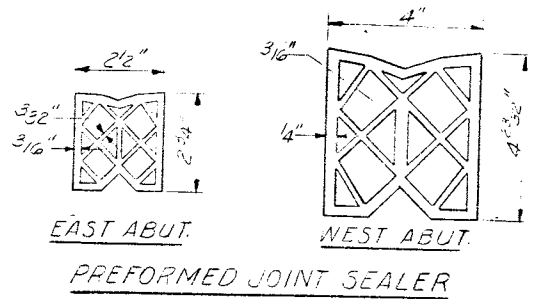
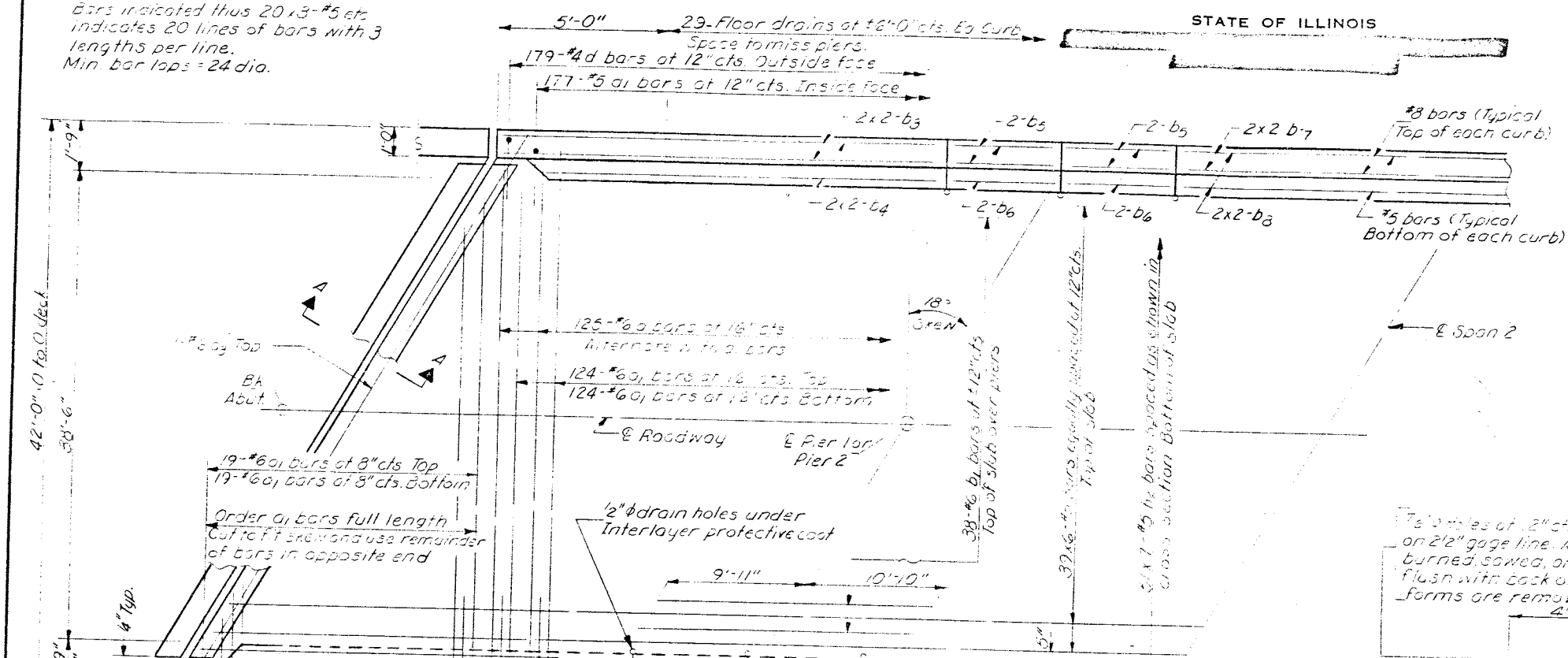
APPROVED: ...

Note:  
 Bars indicated thus 20x3-#5 etc  
 indicates 20 lines of bars with 3  
 lengths per line.  
 Min. bar laps = 24 dia.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	51-28.2	McLEAN	64	15

STATE OF ILLINOIS  
 ILLINOIS FED. AID PROJECT

SHEET NO. 6  
 17 SHEETS



TWO STRUCTURES BILL OF MATERIALS

0	252	#6	252
a1	372	#6	372
a2	576	#6	576
a3	4	#6	4
b	540	#5	540
b1	163	#6	163
b2	714	#5	714
b3	32	#3	32
b4	32	#5	32
b5	32	#8	32
b6	32	#6	32
b7	16	#8	16
b8	16	#5	16
d	716	#4	716
e	703	#5	703

Reinforcement Bars Laps 15940  
 Class X Concrete Cords 444.7

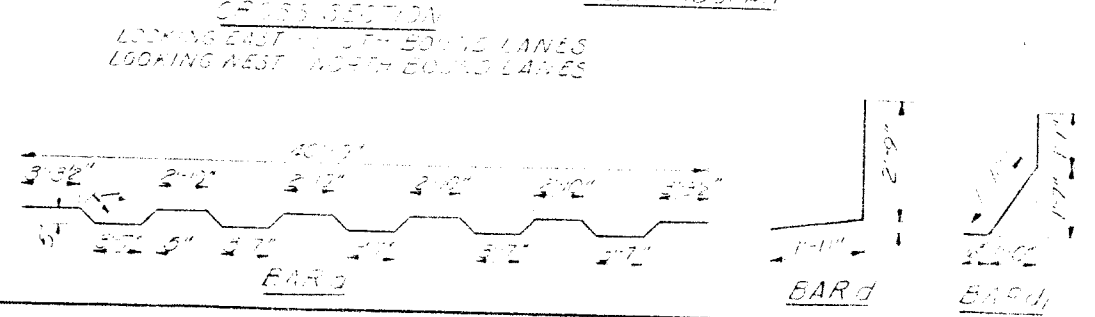
Parapet Reinforcement and Class X Concrete are billed on sheet #7

DESIGNED JAD  
 CHECKED  
 DRAWN Ed Robinson  
 CHECKED

EXAMINED  
 PASSED  
 APPROVED

MAY 25 1971

Richard A. Holtmann



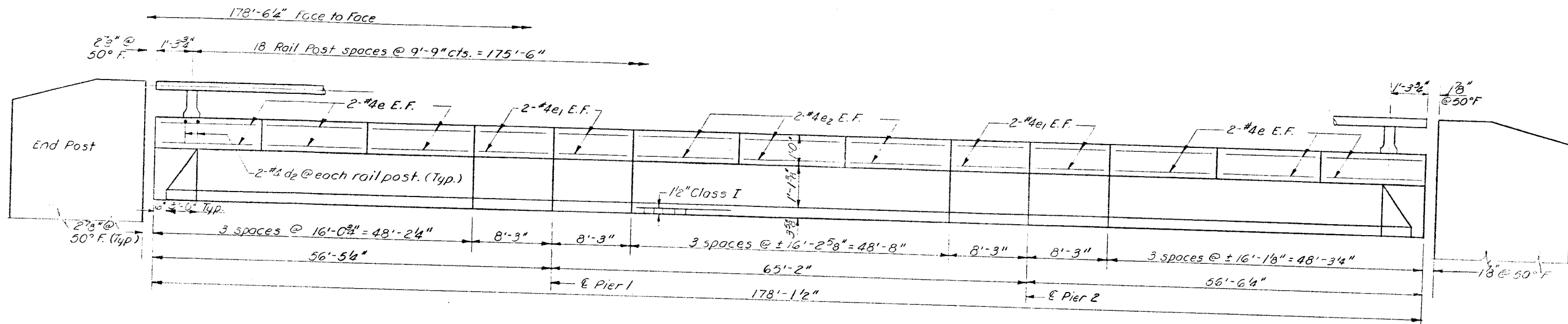
3/4" x 1 1/4" Aluminum bar  
 ASTM B211-69 806-78

Aluminum Studs used  
 ASTM B603  
 or Minimum Ext. 1/2" dia  
 ASTM B603 only

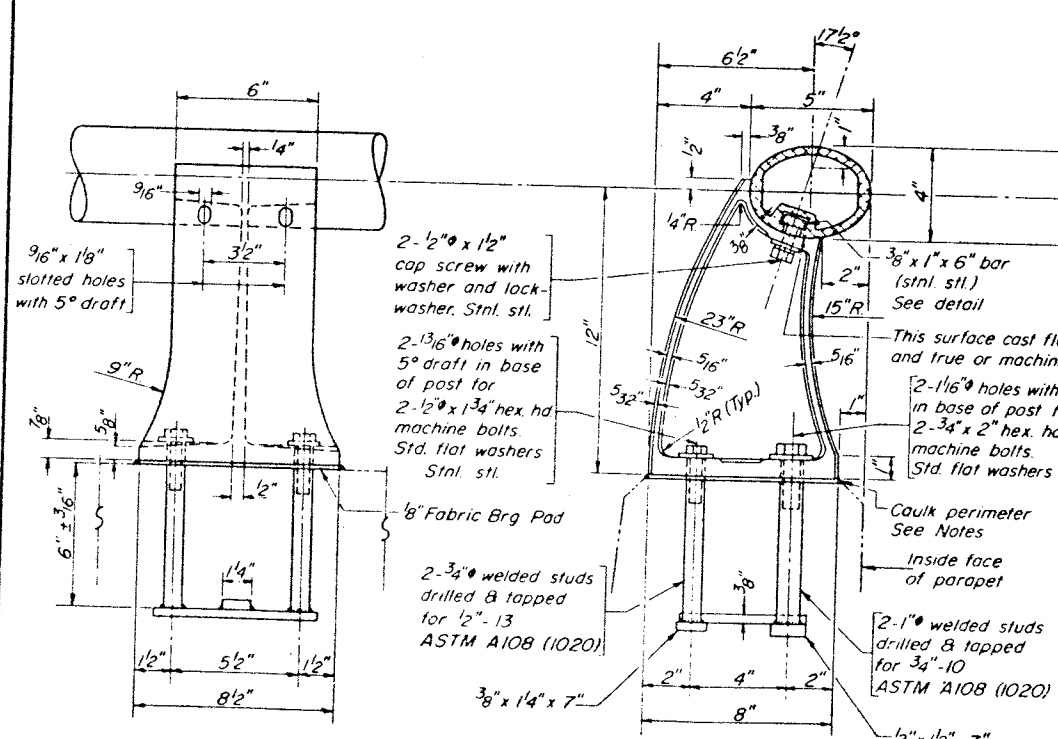
SUPPLY LIST  
 F.D. # 15 150-152-2  
 MISSOURI  
 411-26-75



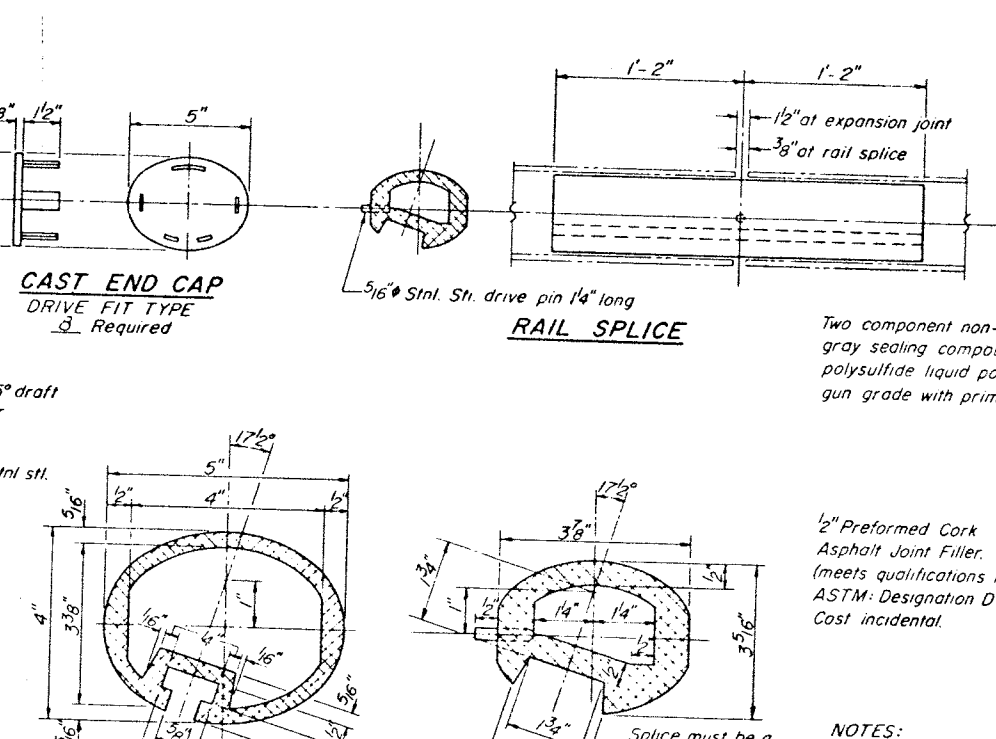
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	51-282	McLEAN	64	16
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	



ELEVATION



RAIL POST DETAILS

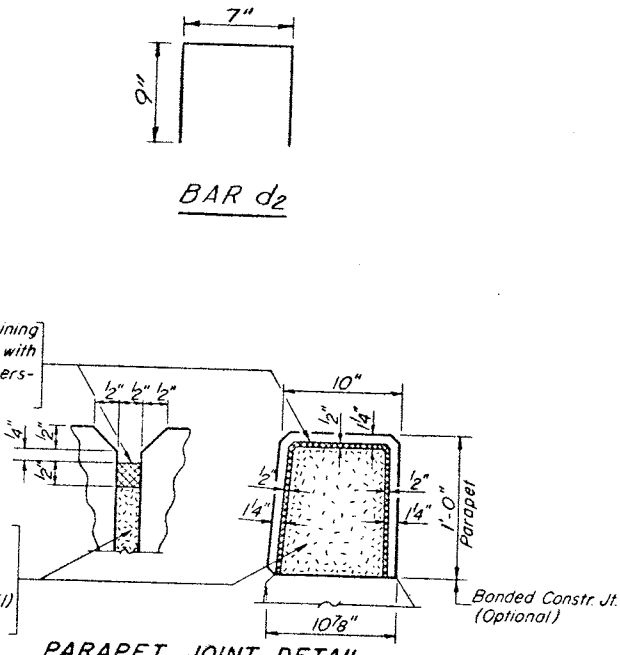


CAST END CAP DRIVE FIT TYPE

RAIL SPLICE

SEC. THRU ELLIPTICAL RAIL SECTION

SEC. THRU SPLICE



PARAPET JOINT DETAIL

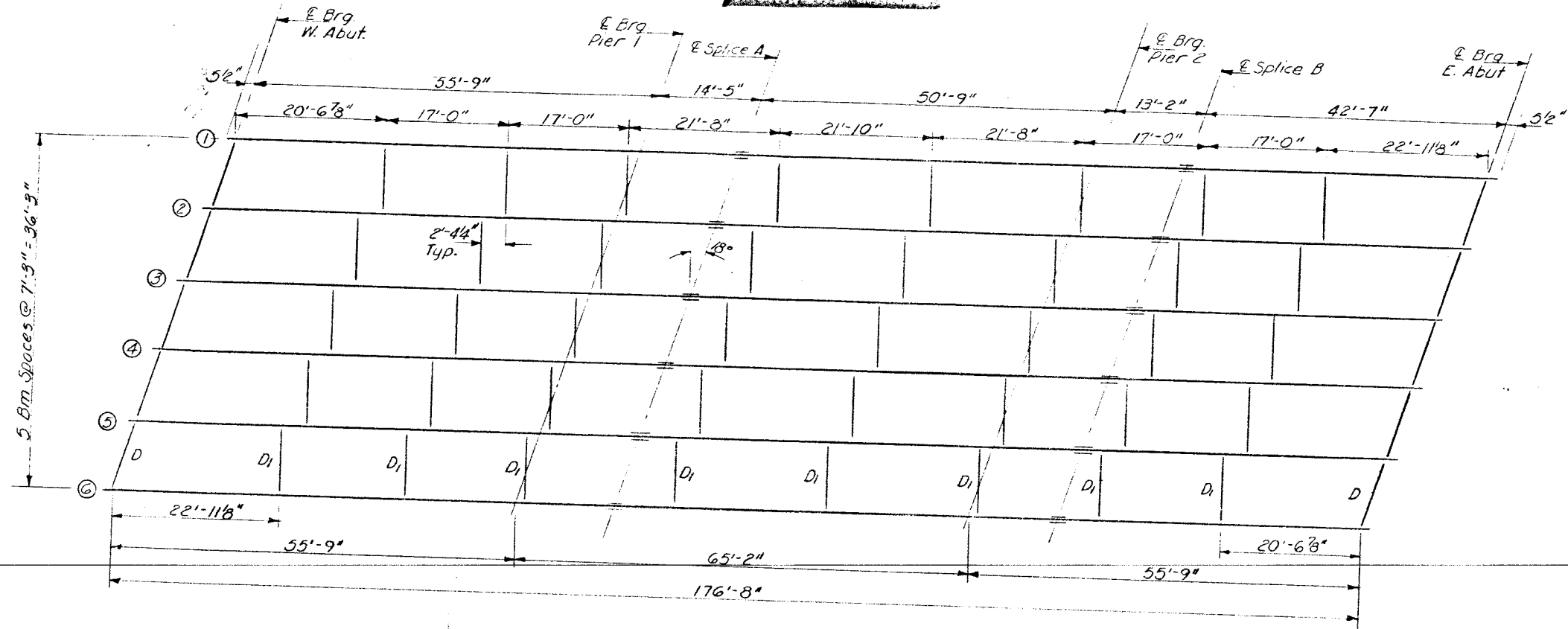
PARAPETS & RAILS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d2	152	#4	2'-11"	
e	96	#4	6'-0"	
e1	64	#4	8'-0"	
e2	48	#4	16'-0"	
Reinforcement Bars		Lbs.	2250	
Class X Concrete		Cu Yds.	53.0	
Aluminum Railing		Lin Ft	713	

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 1-8" and 2-1/8" 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 elongation of 10% in 2 inches.

DESIGNED D.A.R.  
 CHECKED A.Y.K.  
 DRAWN Eav. Potinson  
 CHECKED A.Y.K.  
 EXAMINED [Signature]  
 PASSED [Signature]  
 APPROVED [Signature]

ALUMINUM RAILING  
 FAL RT 55 SEC. 51-282  
 McLEAN COUNTY  
 STA. 711+75



**FRAMING PLAN**  
South Bound - North Bound  
All Beams - W 36 x 160

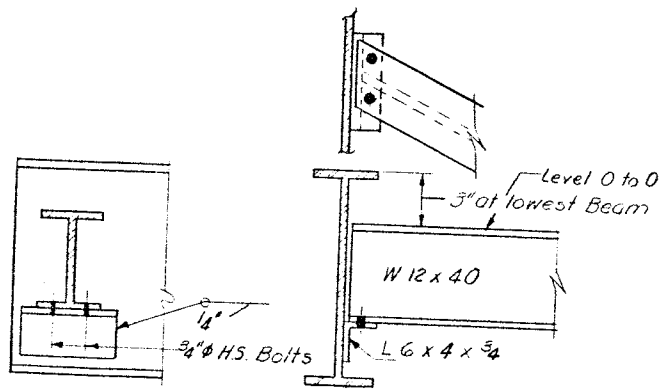
**TOP OF BEAM ELEVATION**  
For Fabrication Only

**SOUTH BOUND LANES**

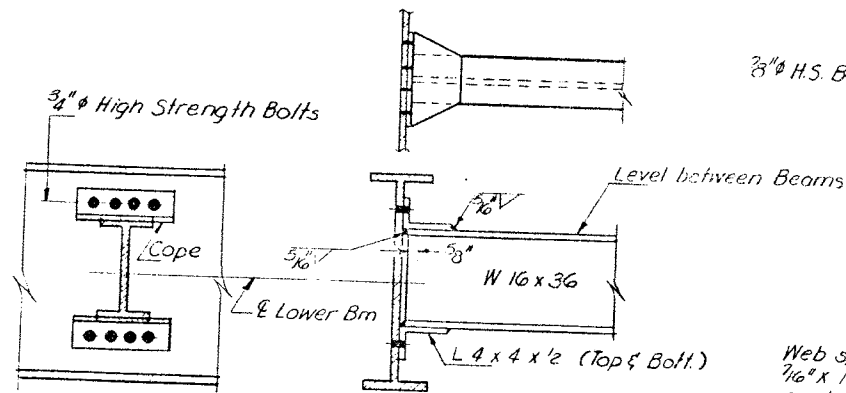
	Em. 1	Em. 2	Em. 3	Em. 4	Em. 5	Em. 6
± Brg. W. Abut.	714.91	715.07	715.20	715.27	715.16	715.04
± Brg. Pier 1	714.73	714.89	715.02	715.09	714.98	714.86
± Field Splice A	714.68	714.84	714.97	715.04	714.93	714.81
± Brg. Pier 2	714.51	714.67	714.80	714.87	714.76	714.64
± Field Splice B	714.47	714.63	714.76	714.83	714.72	714.60
± Brg. E. Abut.	714.33	714.49	714.62	714.69	714.58	714.46

**NORTH BOUND LANES** 715.33

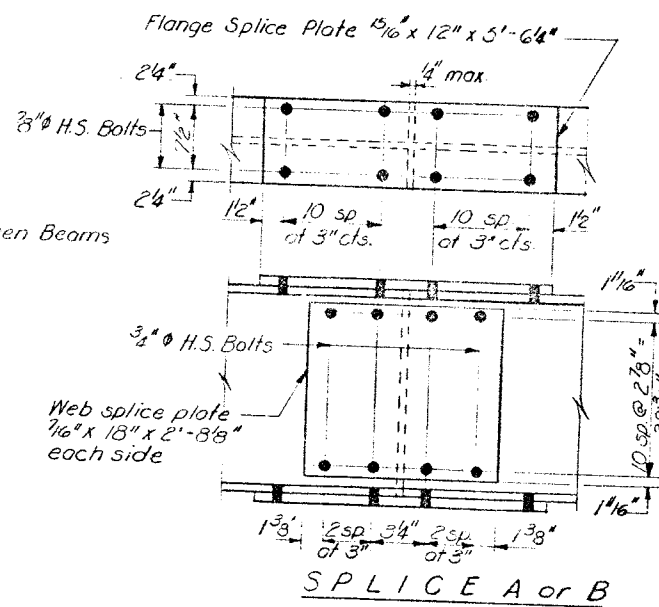
	Em. 1	Em. 2	Em. 3	Em. 4	Em. 5	Em. 6
± Brg. W. Abut.	715.12	715.26	715.35	715.42	715.31	715.19
± Brg. Pier 1	714.94	715.08	715.20	715.27	715.04	714.95
± Field Splice A	714.89	715.03	715.15	715.22	714.99	714.88
± Brg. Pier 2	714.72	714.86	714.98	715.05	714.82	714.73
± Field Splice B	714.68	714.82	714.94	715.01	714.78	714.64
± Brg. E. Abut.	714.54	714.68	714.80	714.87	714.63	714.50



**DIAPHRAGM D**  
20 Required

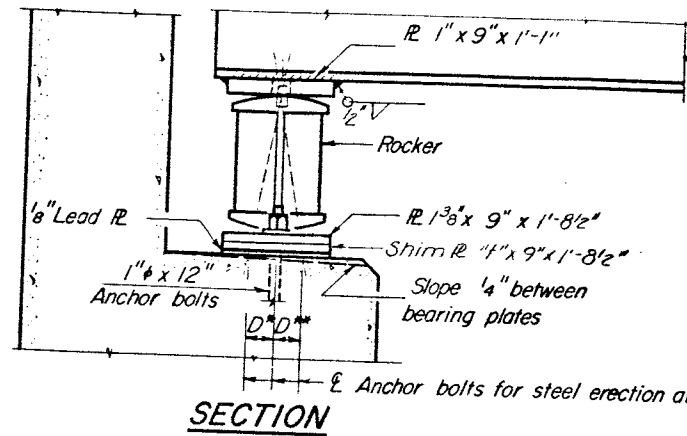


**DIAPHRAGM D1**  
80 Required

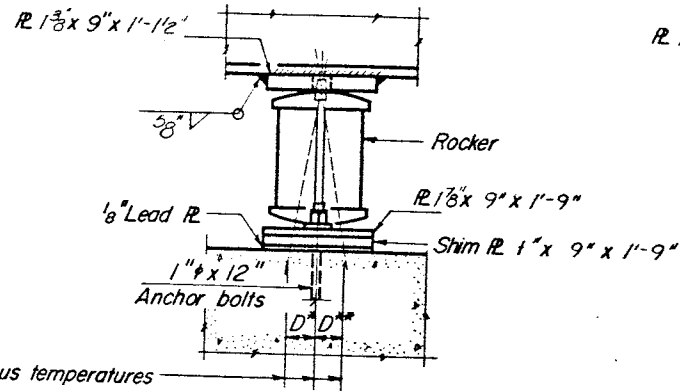


DESIGNED D.A.Ryo  
CHECKED A.Y.K.  
DRAWN Dev Robinson  
CHECKED A.Y.K.

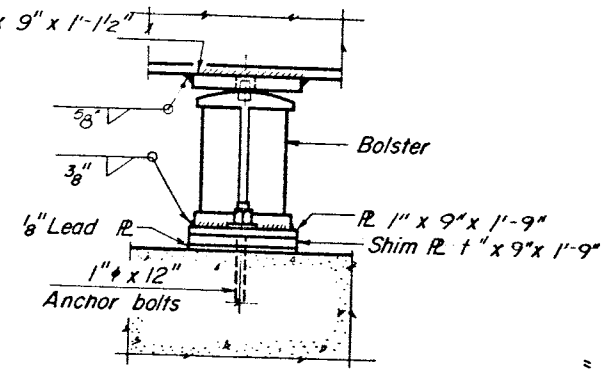
EXAMINED Carl Hummer May 25 1971  
PASSED W.C. Baumann  
APPROVED Richard H. Holloman  
CHIEF HIGHWAY ENGINEER



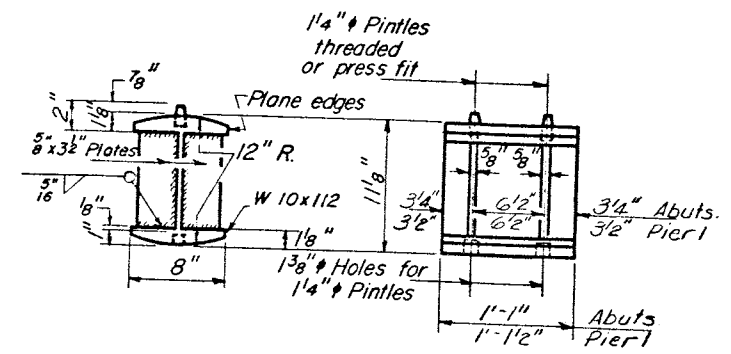
**SECTION**



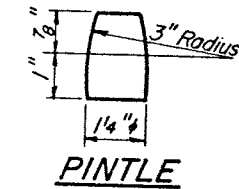
**ELEVATION**



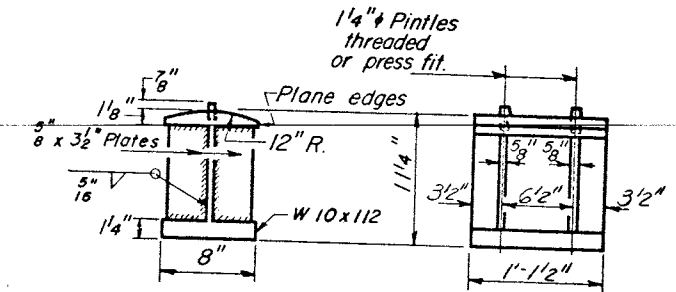
**ELEVATION**



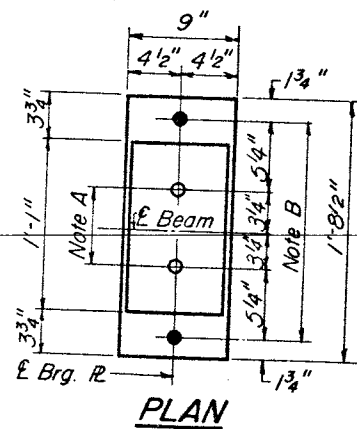
**ROCKER**



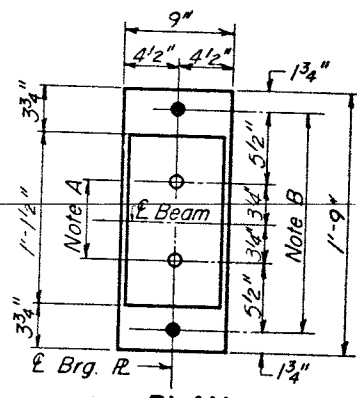
**PINTLE**



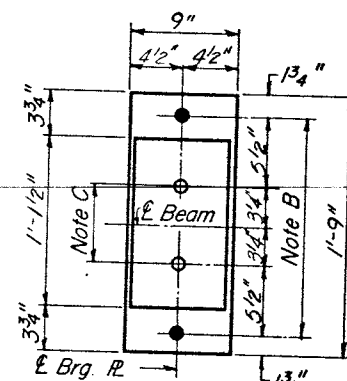
**BOLSTER**



**PLAN AT ABUTMENT**



**PLAN AT PIER 1**



**PLAN AT PIER 2**

**NOTE A**  
1 3/8" Holes - 1" deep in top R for pintles. Thread or press fit pintles into bottom R.

**NOTE B**  
1 1/2" Holes for 1" anchor bolts. 1/8 x 2 1/2 x 2 1/2 R. Washers under nut.

**NOTE C**  
1 3/8" Holes 1" deep in top R only for 1 1/4" pintles.

**NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.**

- a) D\* (Side of brg. away from fixed brg.)  
D\* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
- D\*\* (Side of brg. toward fixed brg.)  
D\*\* = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50°F.
- 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 ASSEMBLY DETAILS**

**INTERIOR BEAM MOMENT TABLE**

	0.5 span	Pier 1 or 2	0.5 span
I (in <sup>4</sup> )	9760	9760	9760
Q (k/ft)	1.389	1.389	1.389
M <sub>Q</sub> (k)	314	510	229
M <sub>L</sub> (k)	386	306	369
Imp (k)	107	82	97
M <sub>Total</sub> (k)	807	898	695
f <sub>s</sub> (Ksi)	17.9	19.9	15.4

**SHIM PLATES "t" in inches**  
North Bound Lanes only

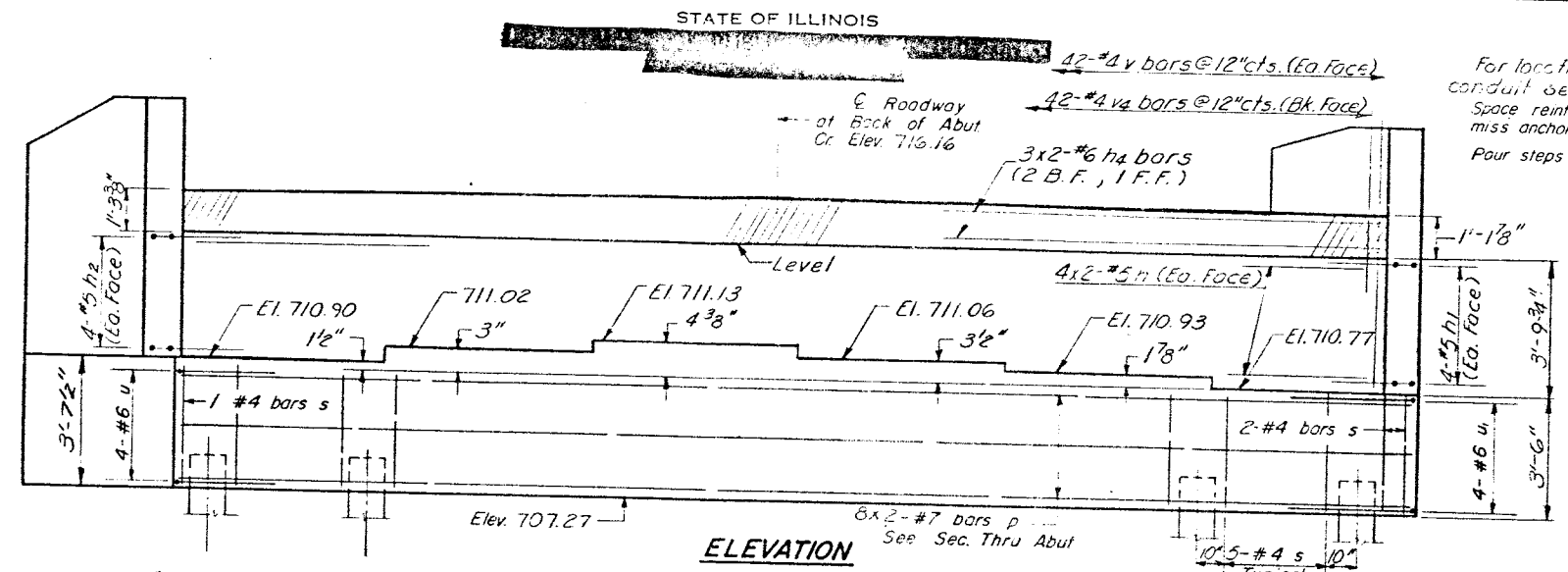
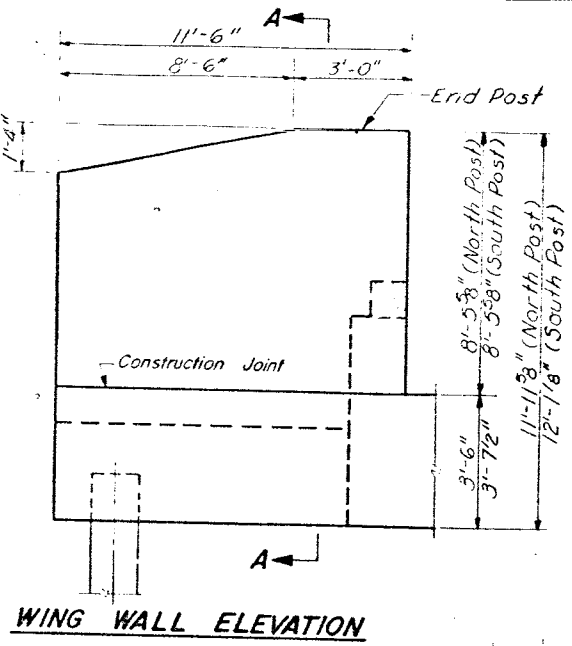
	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6
West Abut.	1/2	—	5/8	—	—	—
Pier 1	1/2	—	5/8	—	—	—
Pier 2	1/2	—	5/8	—	—	—
East Abut.	1/2	—	5/8	—	—	—

**INTERIOR BEAM REACTION TABLE**

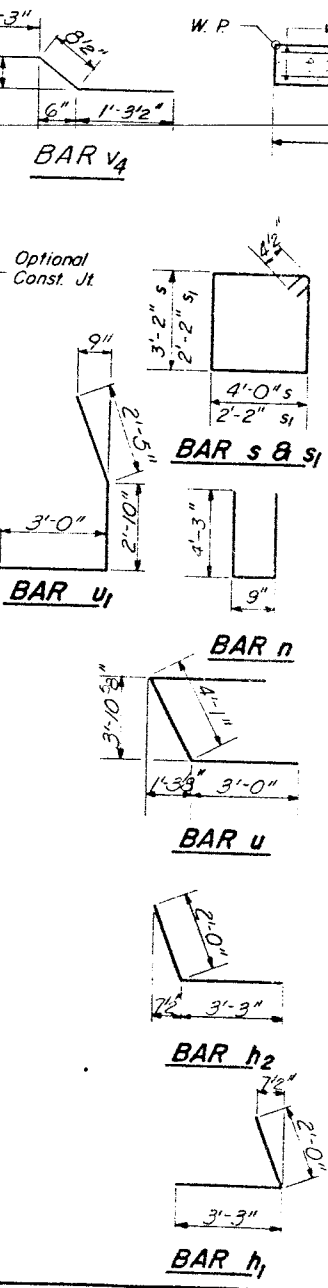
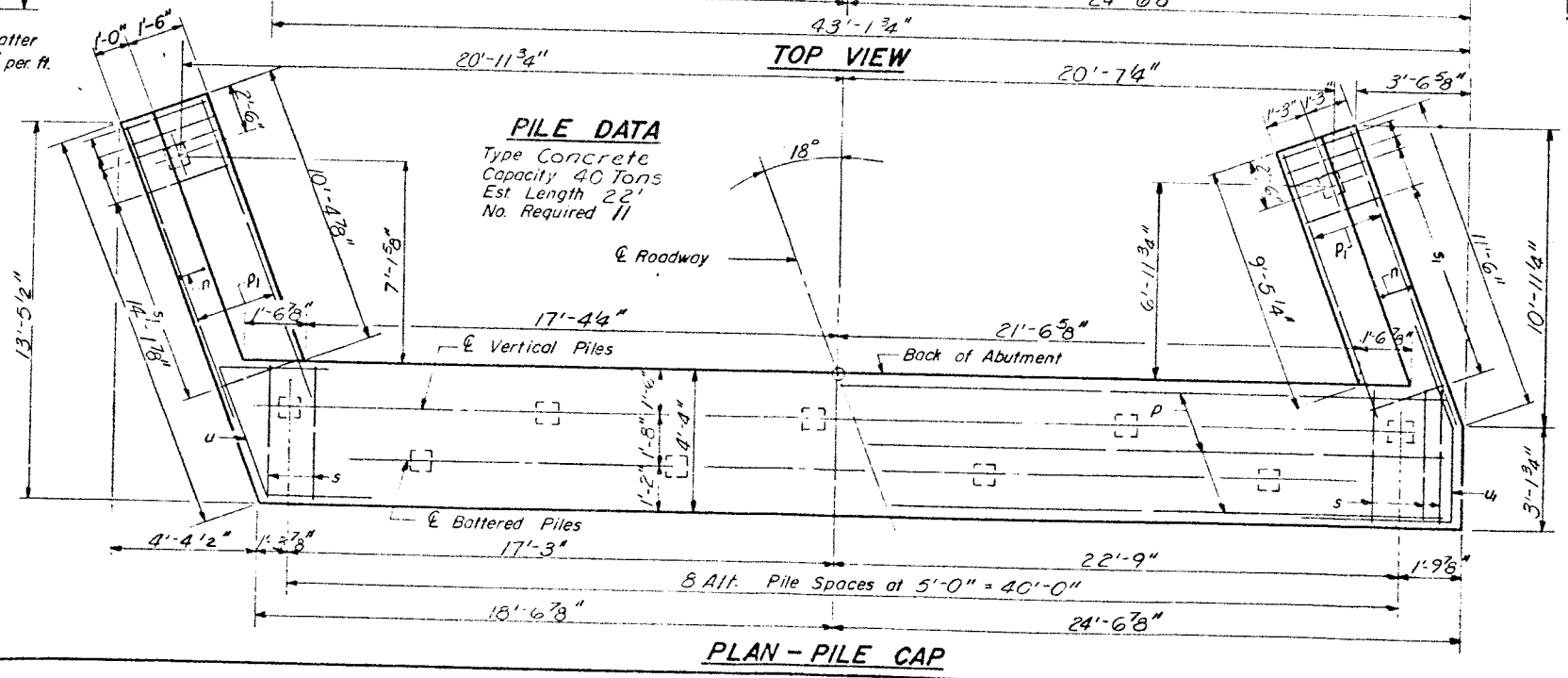
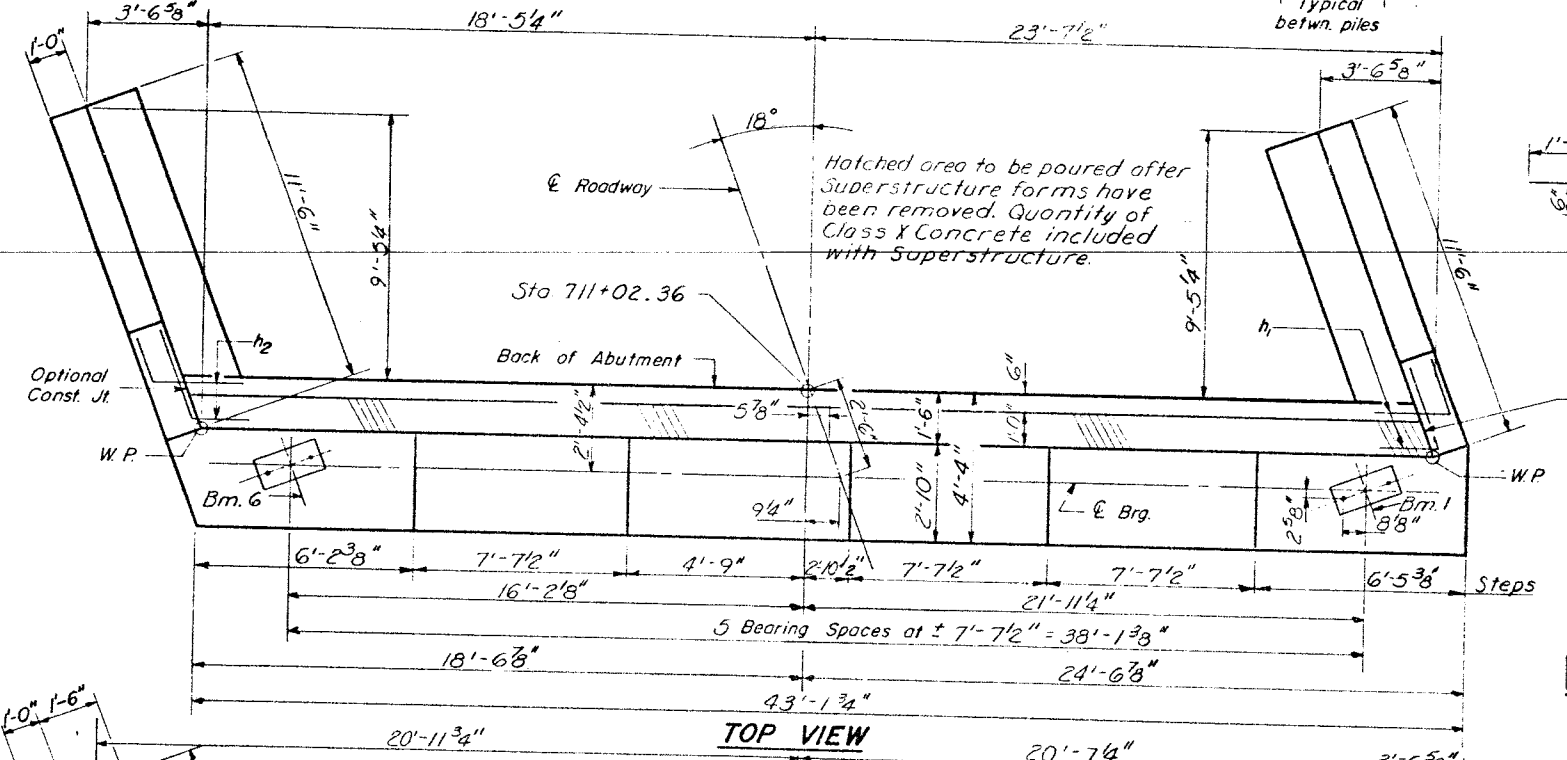
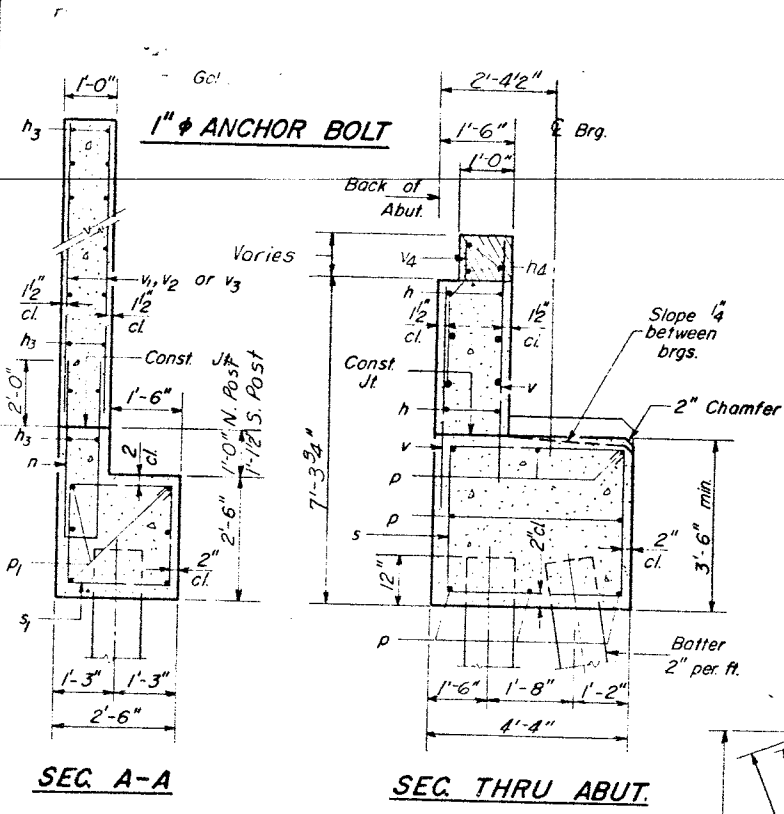
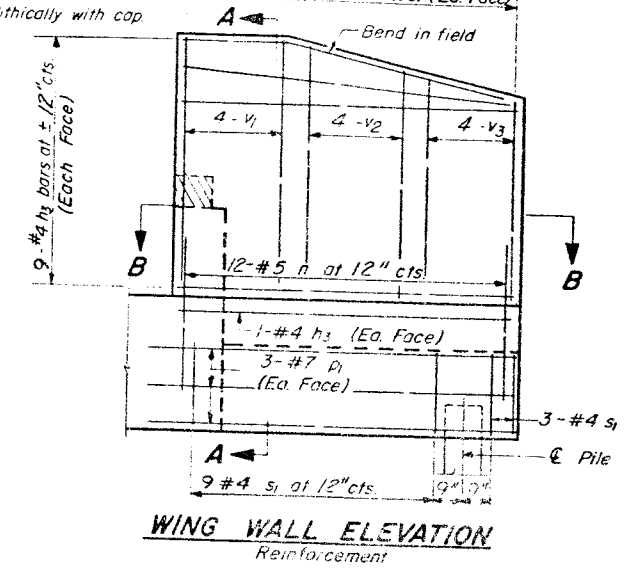
	Abut	Pier
R <sub>Q</sub> (k)	29.6	93.2
R <sub>L</sub> (k)	37.8	47.4
Imp. (k)	10.4	12.8
R <sub>Total</sub> (k)	77.8	153.4

DESIGNED D.A. Rjo  
CHECKED A.Y.K.  
DRAWN P.G. Barnett BKR  
CHECKED A.Y.K.

EXAMINED Richard H. Hottel May 25 1971  
PASSED W.G. Bauman  
APPROVED Richard H. Hottel



For location of electrical conduit see sheet #2. Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.

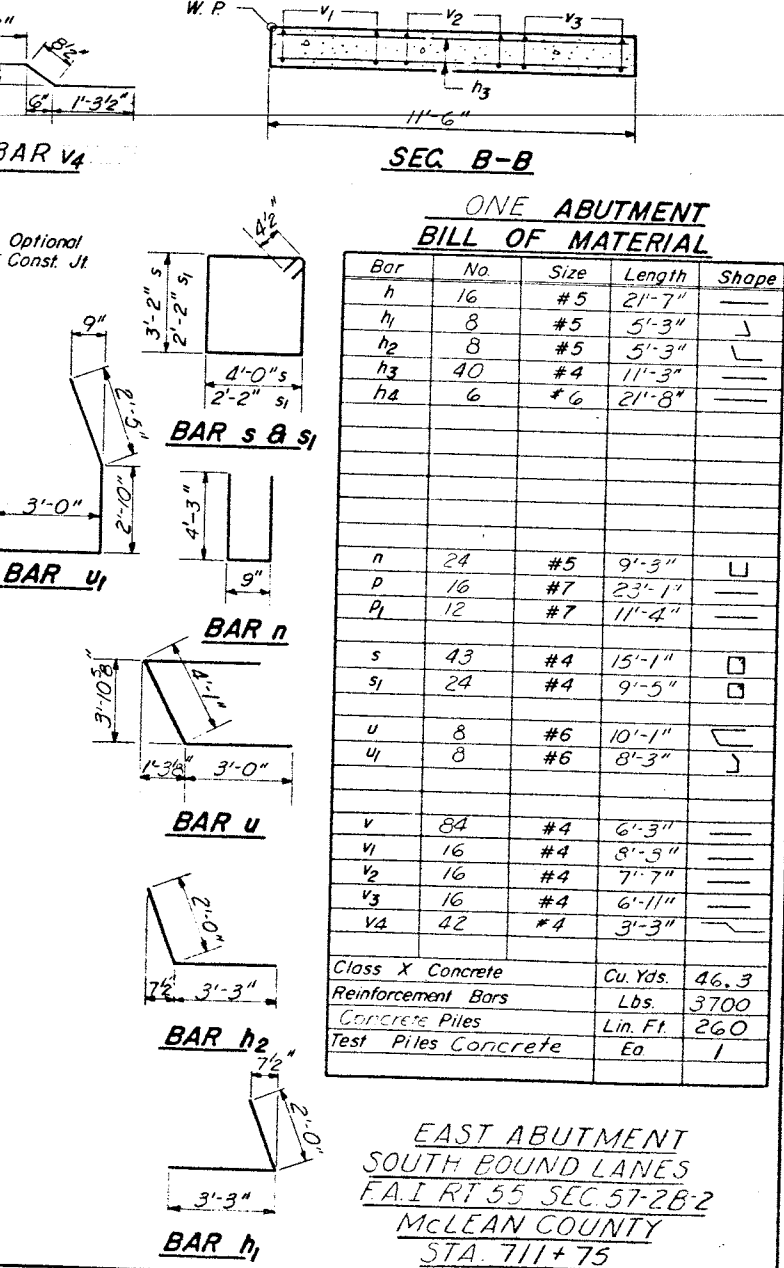
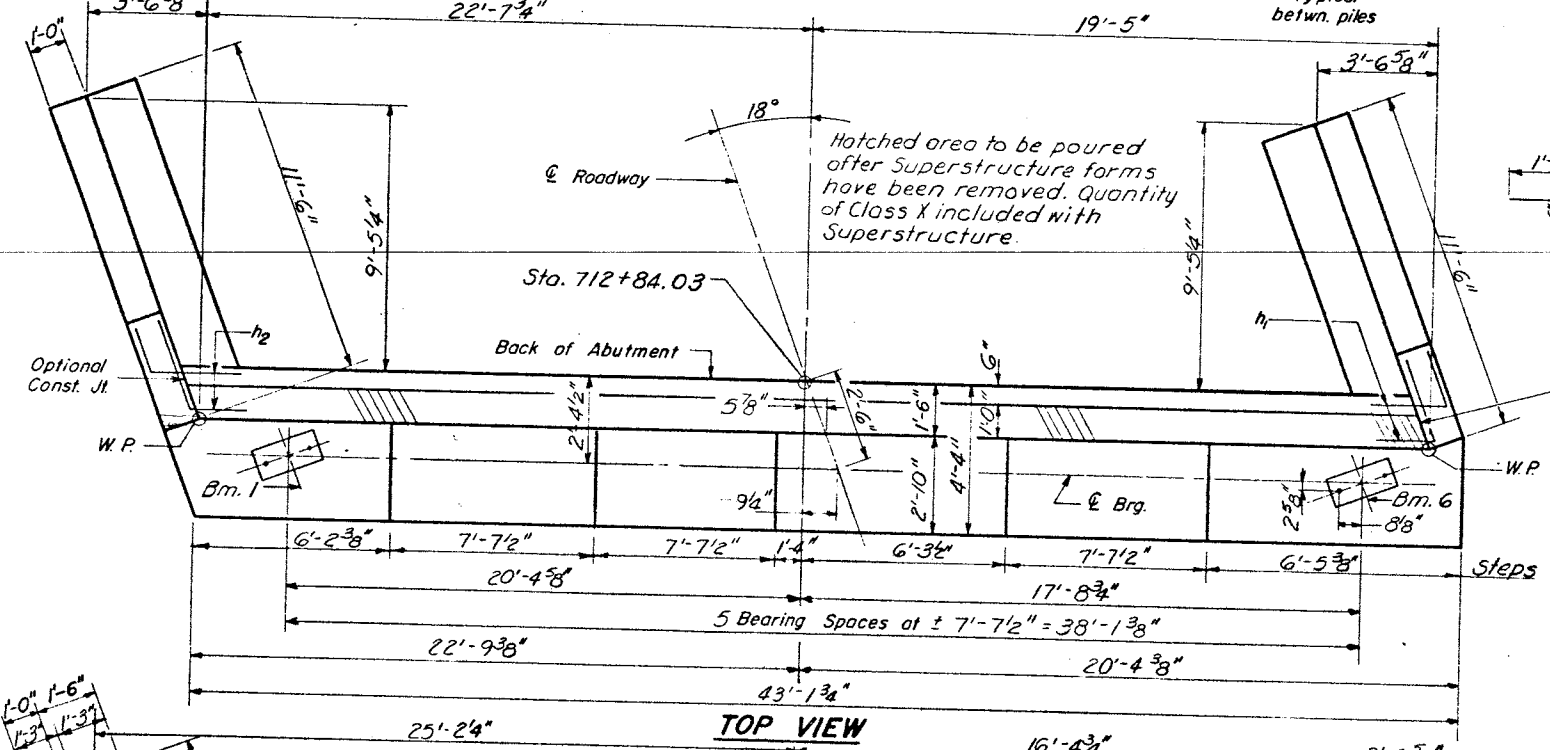
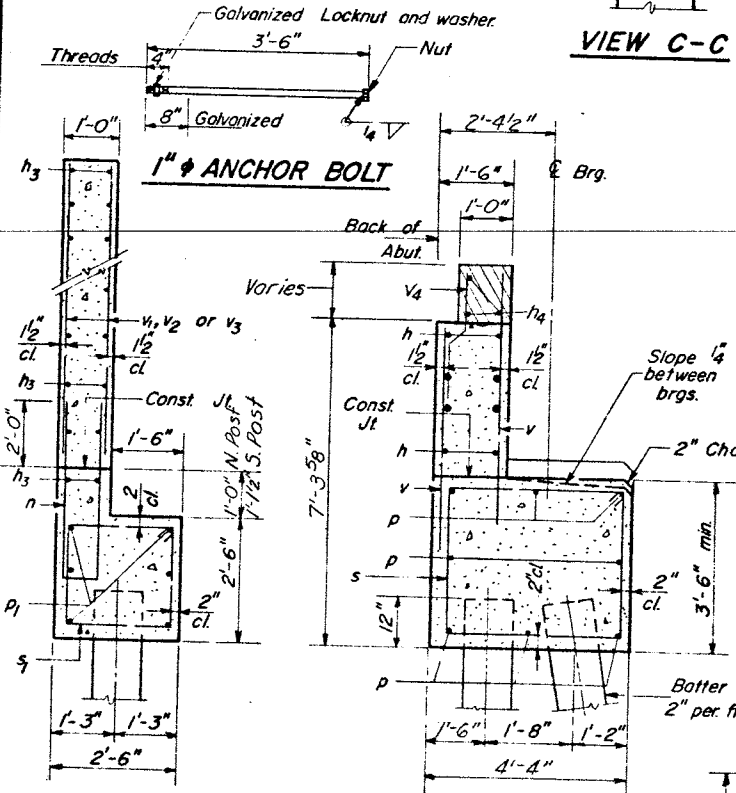
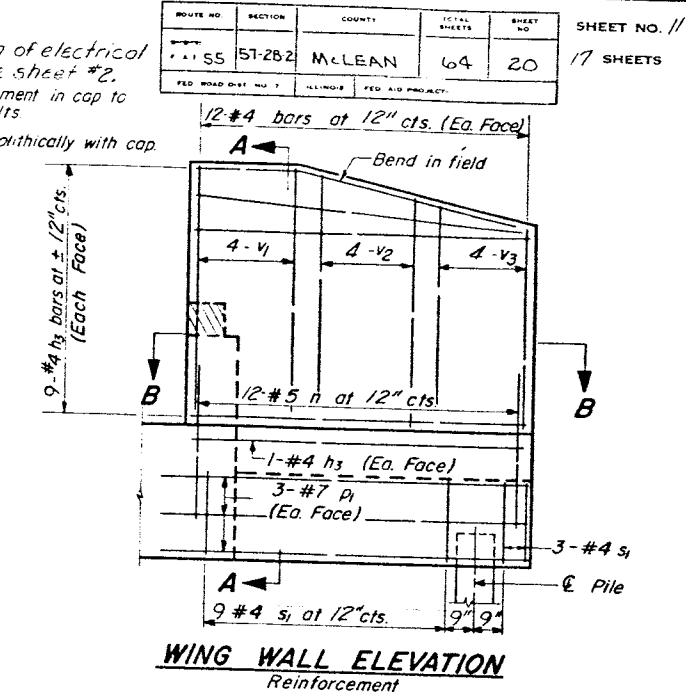
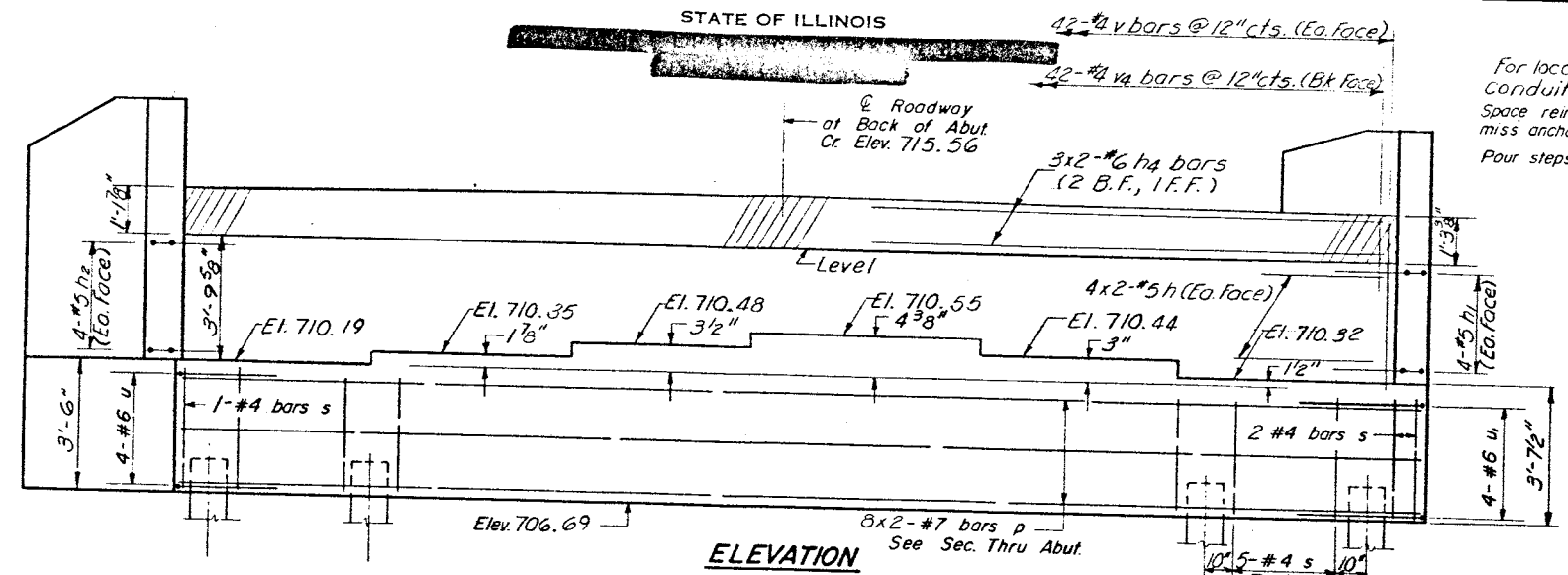
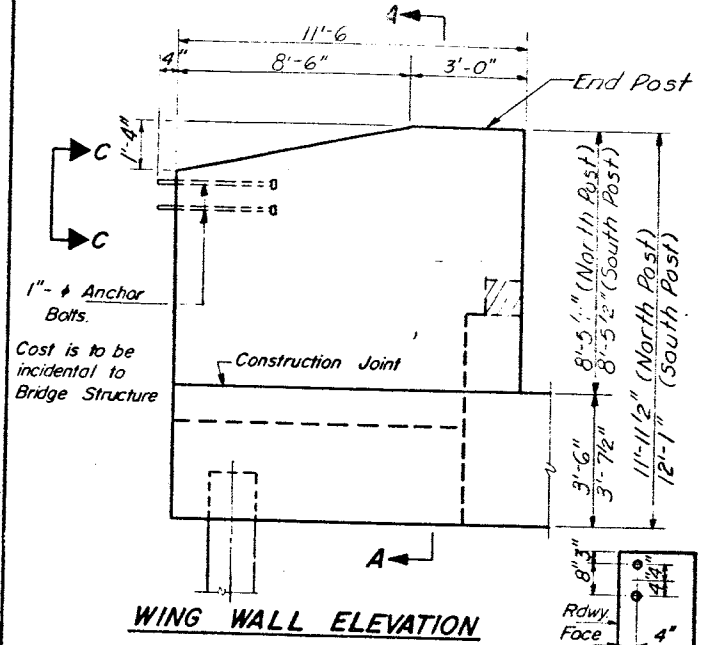


ONE ABUTMENT BILL OF MATERIAL

Bar	No	Size	Length	Shape
h	16	#5	21'-1"	—
h1	5	#5	5'-3"	—
h2	8	#5	5'-3"	—
h3	40	#4	11'-3"	—
h4	6	#6	6'-8"	—
n	24	#5	9'-3"	U
p	16	#7	23'-7"	—
p1	12	#7	11'-4"	—
s	43	#4	15'-1"	—
s1	24	#4	9'-5"	—
u	8	#6	10'-1"	—
u1	8	#5	9'-3"	—
v	84	#4	6'-3"	—
v1	16	#4	5'-3"	—
v2	16	#4	7'-7"	—
v3	16	#4	6'-11"	—
v4	42	#4	3'-3"	—
Class X Concrete		Cu. Yds.	46.3	
Reinforcement Bars		Lbs.	3700	
Concrete Piles		Lin. Ft.	242	

WEST ABUTMENT SOUTH BOUND LANES FAI RT 55 SEC 57-2B-2 HALL COUNTY STA 711+75

DESIGNED D A Rja  
 CHECKED A Y K  
 DRAWN EBY RODINSON  
 CHECKED A Y K  
 MAY 25 1971  
 EXAMINED  
 PASSED  
 Richard H. Goltzman  
 LICENSED PROFESSIONAL ENGINEER



**PILE DATA**  
 Type Concrete  
 Capacity 40 Tons  
 Est. Length 26'  
 No. Required 11 including 1 test pile  
 & Roadway

**ONE ABUTMENT BILL OF MATERIAL**

Bar	No	Size	Length	Shape
h	16	#5	21'-7"	—
h1	8	#5	5'-3"	┘
h2	8	#5	5'-3"	┘
h3	40	#4	11'-3"	—
h4	6	#6	21'-8"	—
n	24	#5	9'-3"	U
p	16	#7	23'-1"	—
p1	12	#7	11'-4"	—
s	43	#4	15'-1"	□
s1	24	#4	9'-5"	□
u	8	#6	10'-1"	┘
u1	8	#6	8'-3"	┘
v	84	#4	6'-3"	—
v1	16	#4	8'-5"	—
v2	16	#4	7'-7"	—
v3	16	#4	6'-11"	—
v4	42	#4	3'-3"	—
Class X Concrete		Cu. Yds.	46.3	
Reinforcement Bars		Lbs.	3700	
Concrete Piles		Lin. Ft.	260	
Test Piles Concrete		Ea	1	

DESIGNED D.A. Ryan  
 CHECKED A.Y.K.  
 DRAWN Bev Robinson  
 CHECKED A.Y.K.

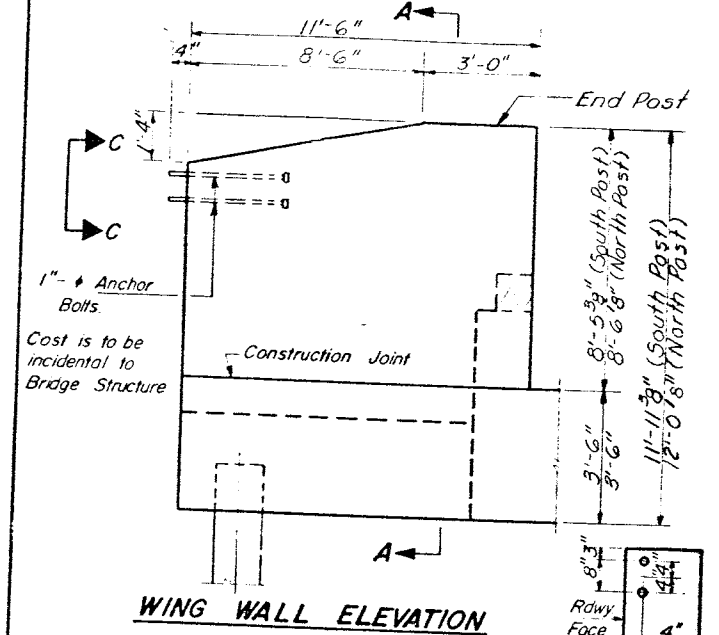
EXAMINED [Signature]  
 PASSED [Signature]  
 APPROVED [Signature]

A-9-L (15°-34°) 2-1-66, 8-1-70

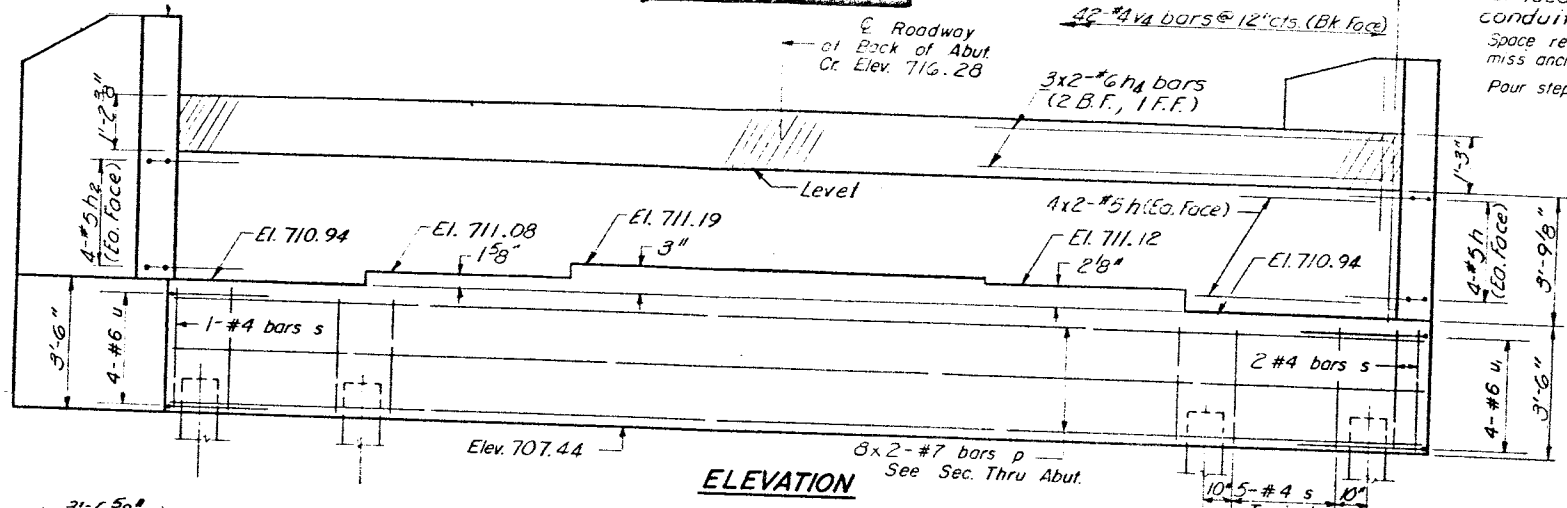
EAST ABUTMENT  
 SOUTH BOUND LANES  
 F.A.I. RT 55 SEC. 57-2B-2  
 McLEAN COUNTY  
 STA. 711+75

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	572B2	MCLLEAN	64	21

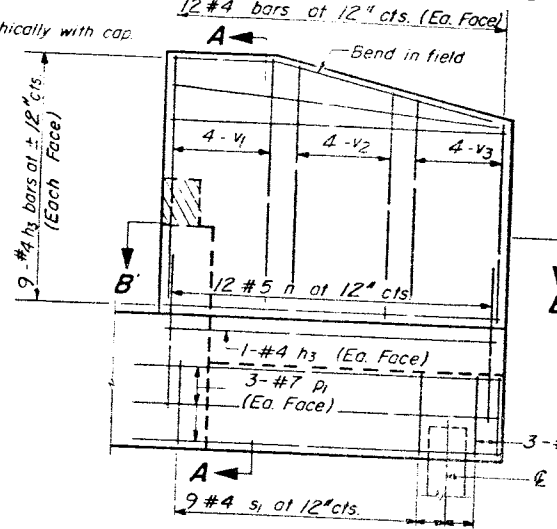
For location of electrical conduit see sheet #2  
Space reinforcement in cap to miss anchor bolts  
Four steps monolithically with cap



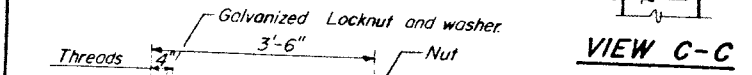
WING WALL ELEVATION



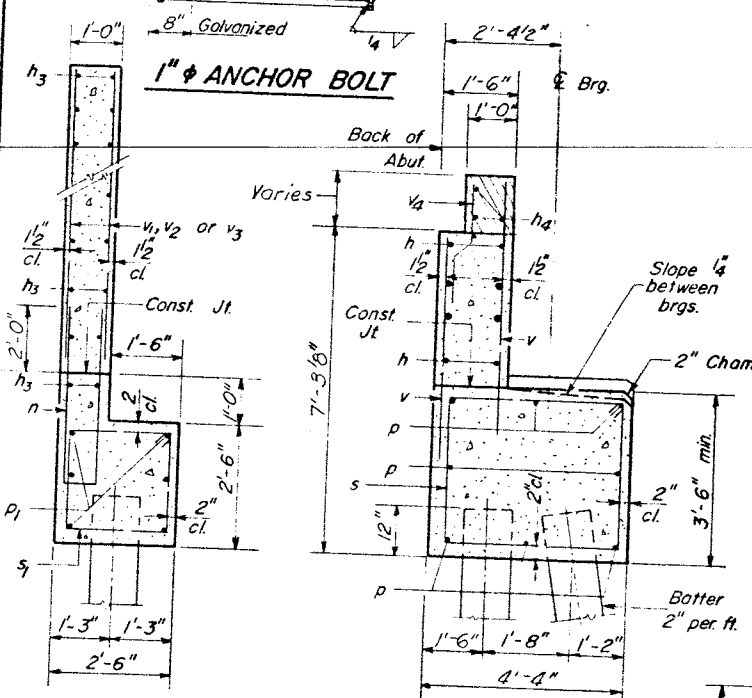
ELEVATION



WING WALL ELEVATION Reinforcement

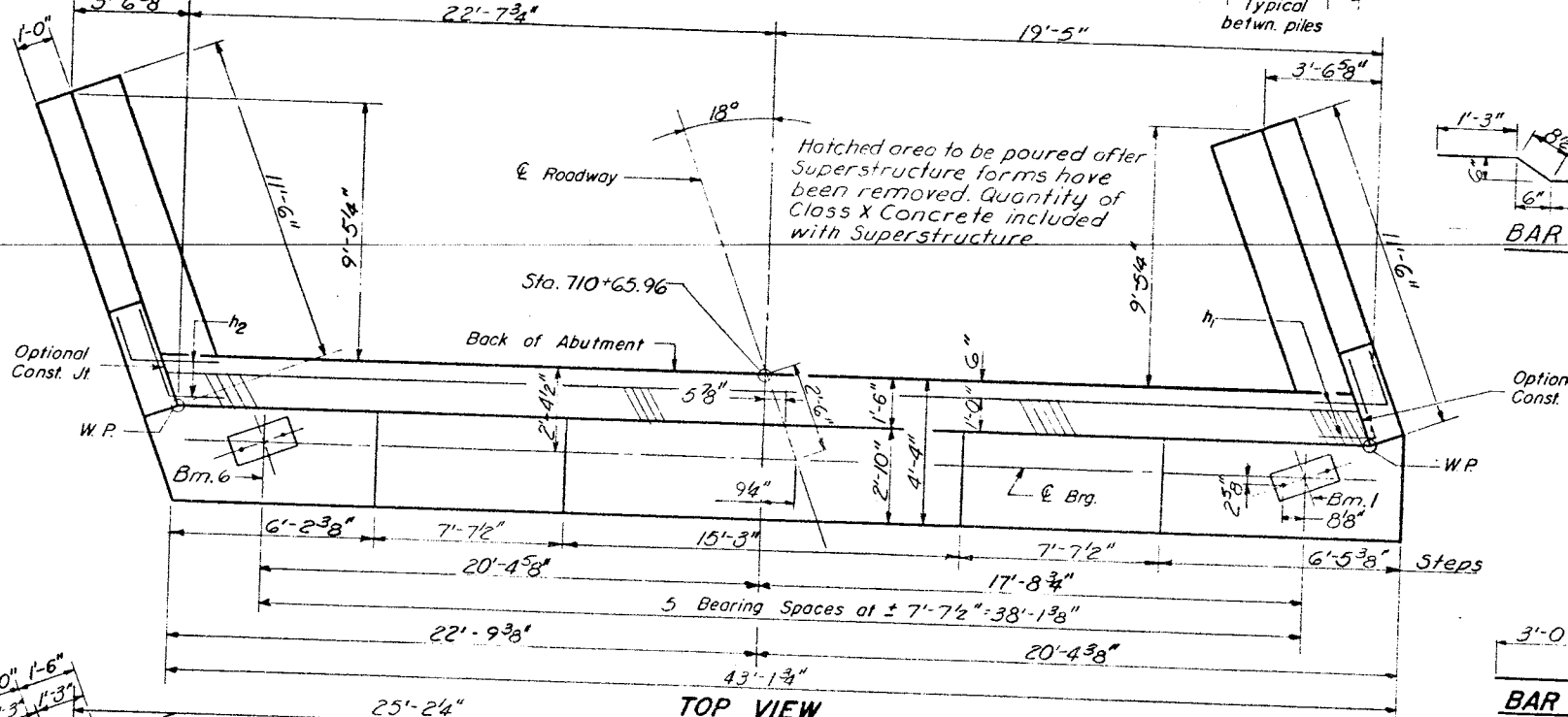


VIEW C-C

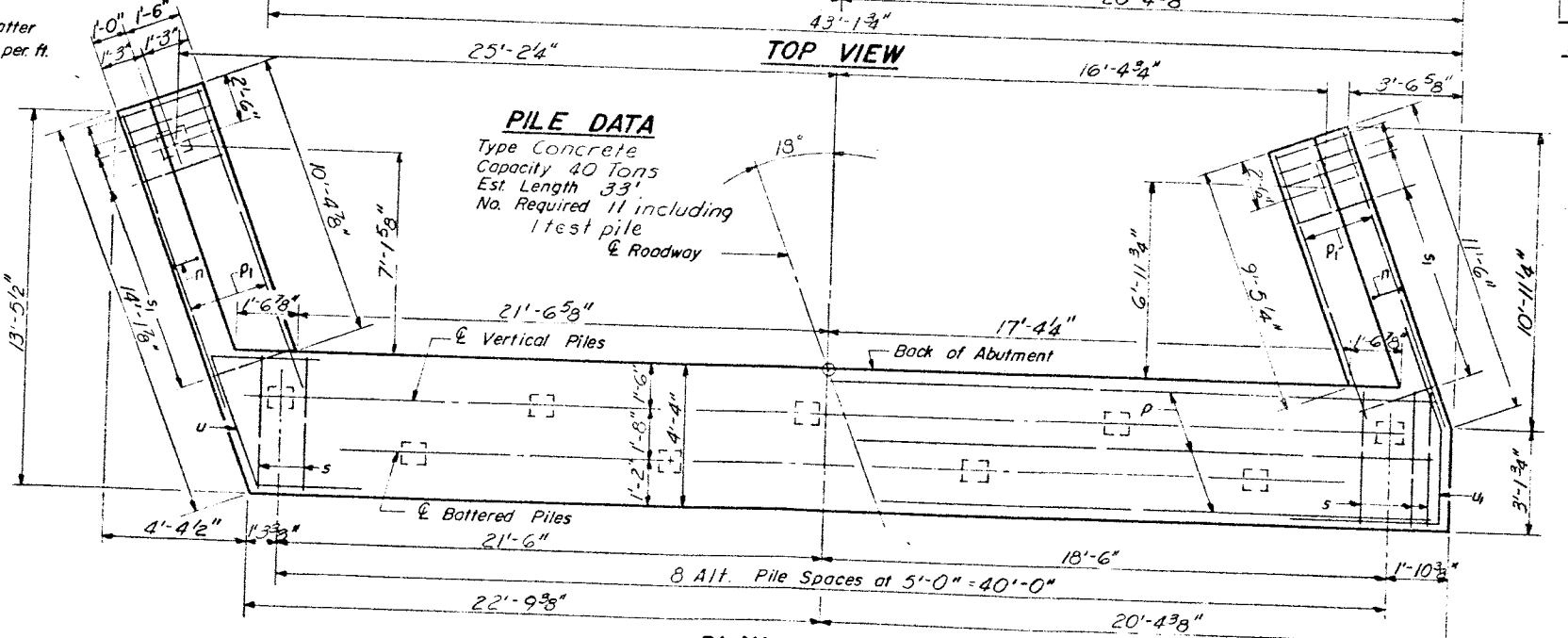


SEC. A-A

SEC. THRU ABUT.



TOP VIEW



PLAN - PILE CAP

PILE DATA

Type Concrete  
Capacity 40 Tons  
Est. Length 33'  
No. Required 11 including 1 test pile  
Roadway

ONE ABUTMENT BILL OF MATERIALS

Bar	No.	Size	Length	Notes
n	16	#5	21'-7"	
h <sub>2</sub>	8	#5	5'-3"	
h <sub>3</sub>	8	#5	5'-3"	
h <sub>4</sub>	40	#4	17'-3"	
h <sub>5</sub>	6	#6	21'-3"	
n	25	#5	9'-5"	
p	16	#7	23'-1"	
p <sub>1</sub>	16	#7	11'-3"	
s	43	#4	15'-11"	
s <sub>1</sub>	24	#4	9'-5"	
u	8	#6	10'-7"	
u <sub>1</sub>	8	#6	8'-3"	
v	84	#4	6'-3"	
v <sub>1</sub>	16	#4	8'-3"	
v <sub>2</sub>	16	#4	7'-7"	
v <sub>3</sub>	16	#4	6'-11"	
v <sub>4</sub>	42	#4	3'-2"	
Class X Concrete		Cu Yds	45.8	
Reinforcement Bars		Lbs.	3700	
Concrete Piles		Lin. Ft	330	
Test Piles Concrete		Ea.	1	

WEST ABUTMENT  
NORTH BOUND LANES  
FAI RT 55 SEC. 57-2B-2  
MCLLEAN COUNTY  
STA. 711+75

DESIGNED: D. A. Rja  
CHECKED: A. Y. K.  
DRAWN: Bev Robinson  
CHECKED: A. Y. K.

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

MAY 25 1971

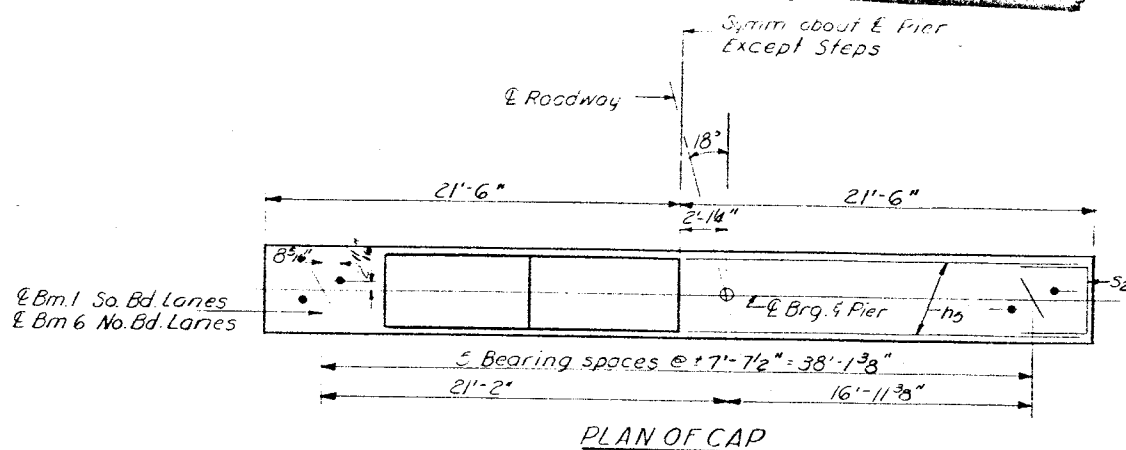


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	57-2B-2	MCLEAN	64	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

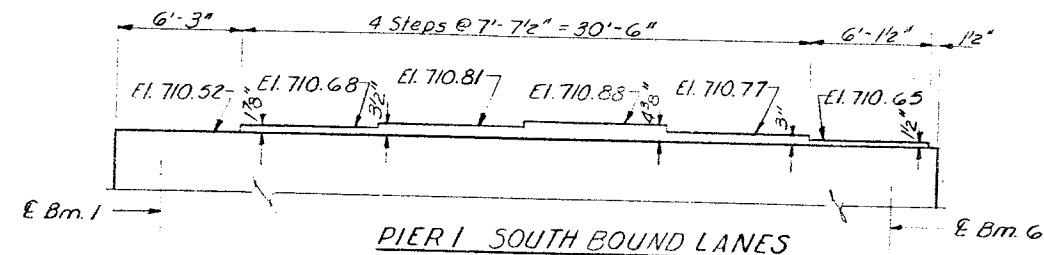
**PILE DATA**

Type Concrete  
Capacity: 30 Tons  
Est. Length: Pier 1 South 23'  
Pier 2 South 26'  
Pier 1 North 16'  
Pier 2 North 21'  
No. Req'd. 72 including 2 test piles,  
1st Pier 1 South Bound and 1st  
Pier 2 North Bound

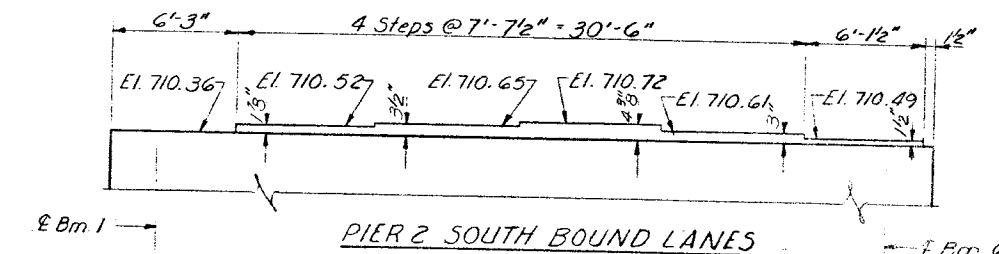
Notes:  
Space Reinforcement in cap to miss anchor bolts.  
All edges shall have standard 3/4" chamfer except as noted.  
Four steps monolithically with cap.



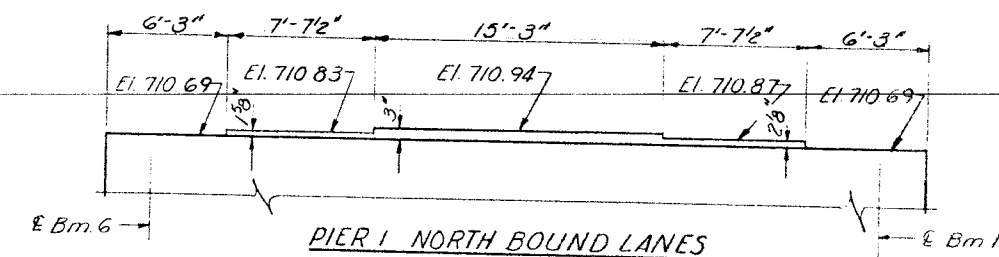
PLAN OF CAP



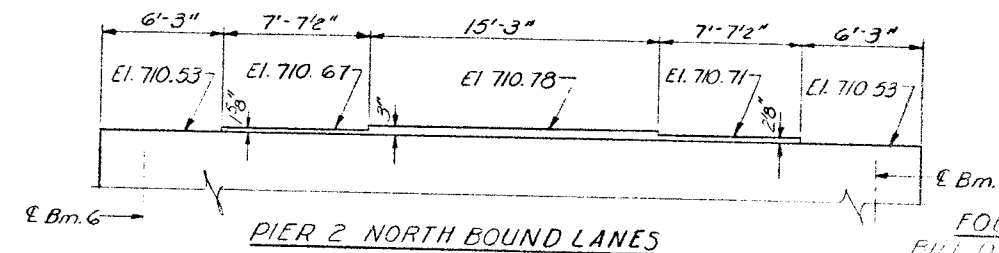
PIER 1 SOUTH BOUND LANES



PIER 2 SOUTH BOUND LANES



PIER 1 NORTH BOUND LANES



PIER 2 NORTH BOUND LANES

STEPS DETAIL

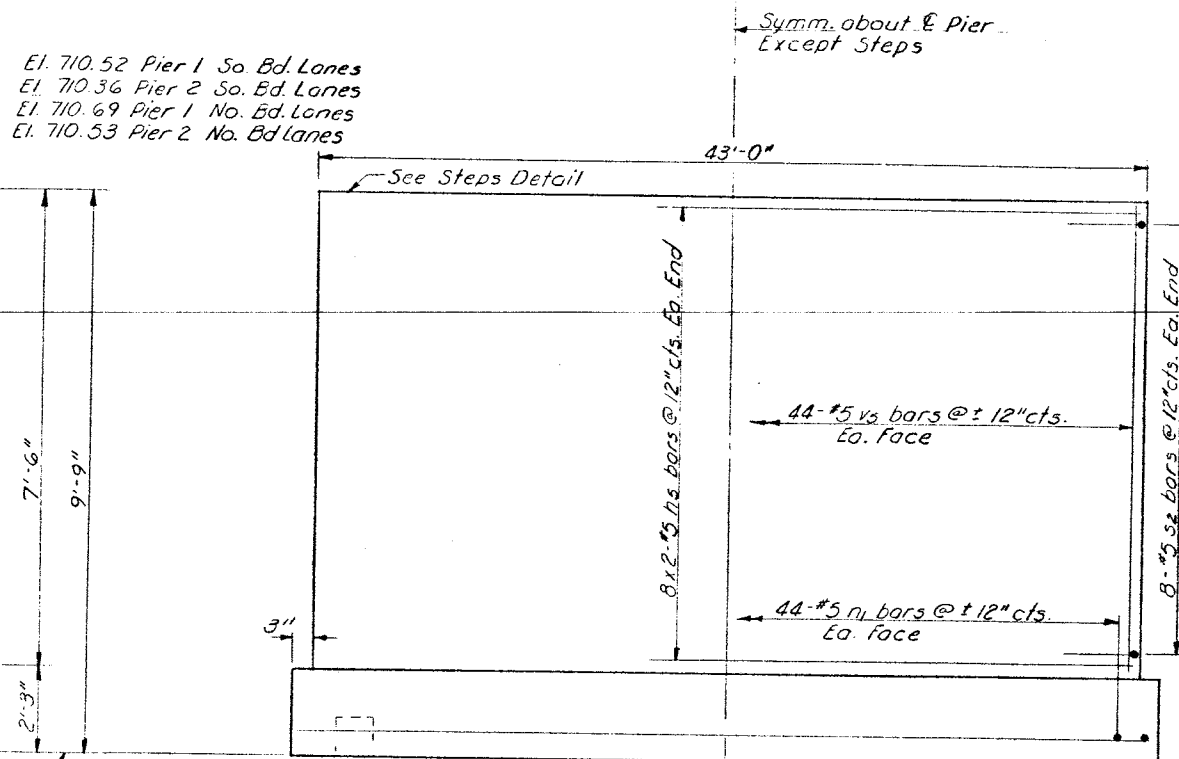
FOUR PIERS  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h5	128	#5	22'-0"	—
n1	352	#5	3'-10"	—
s2	64	#5	4'-2"	—
t	168	#5	5'-3"	—
vs	352	#5	7'-3"	—
w	40	#5	22'-5"	—

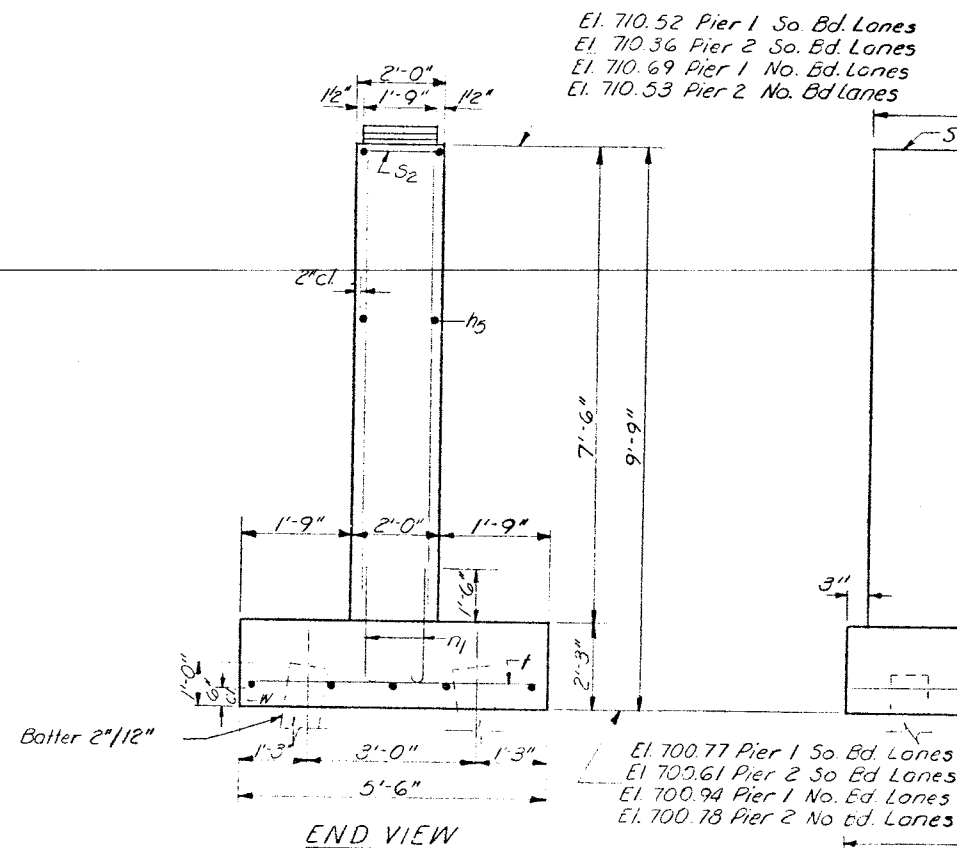
Class A Concrete	Cu. Yds.	175.2
Reinforcement Bars	Lbs.	9140
Concrete Piles	Lin. Ft.	1504
Test Piles Concrete	Cu. Yds.	2

PIERS  
FAI RT. 55 SEC. 57-2B-2  
MCLEAN COUNTY  
STA 711+75



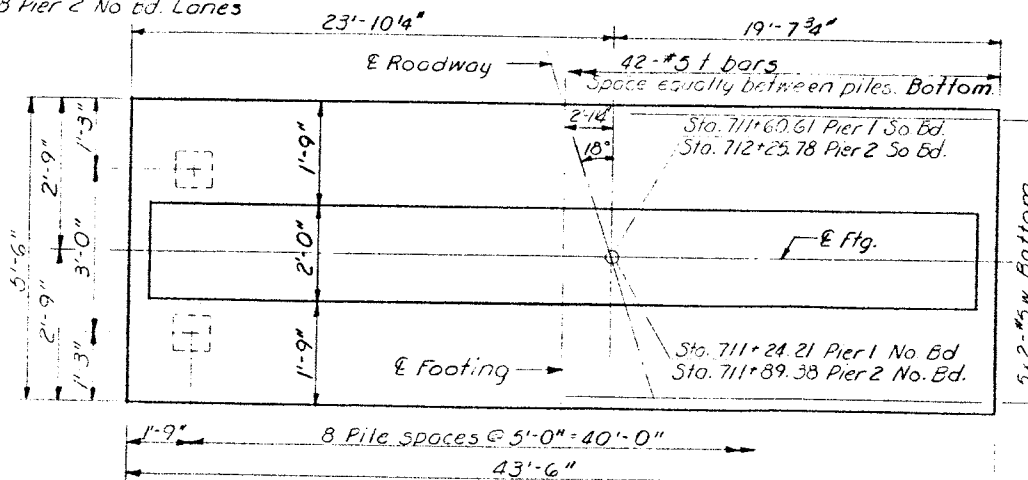
ELEVATION PIERS

South Bd Lanes Looking East  
North Bd Lanes Looking West

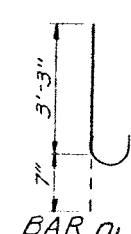
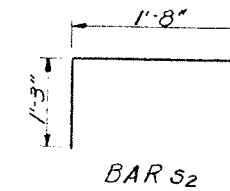


END VIEW

El. 710.77 Pier 1 So. Bd. Lanes  
El. 707.61 Pier 2 So. Bd. Lanes  
El. 700.94 Pier 1 No. Bd. Lanes  
El. 700.78 Pier 2 No. Bd. Lanes



FOOTING PLAN



DESIGNED	D.H.P.
CHECKED	A.Y.K.
DRAWN	Ev Robinson
CHECKED	A.Y.K.

EXAMINED	May 25 1971
PASSED	Richard J. Gosterman
APPROVED	Richard J. Gosterman



Boring No. 1  
Station 710+97  
Offset 67' Lt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 706.2					Groundwater El. at Completion -3.5'					
BLACK, SILTY CLAY (STIFF, WET)					After 24 Hours -3.0'					
703.2	15	1.94	27	10						
BROWN, SILTY CLAY w/tr. MED. SAND (SOFT, V. WET)										
701.7	2	0.63	40							
GREY, CLAY LOAM w/ -5 FINE TO COARSE SAND & FINE GRAVEL (SOFT, WET)										
700.7	4	0.25	28	100						
GREY, FINE TO COARSE SAND & FINE GRAVEL (MEDIUM)										
687.7	28			100						
(DENSE)										
-10	37			100						
(DENSE)										
-15	43			100						
(DENSE)										
-20	42			100						
(DENSE)										
(MEDIUM)										
687.7	22			50						
GREY, SILT (HARD, MOIST)										
-20	42			100						
(V. DENSE)										
680.2	33			50						
GREY, FINE TO COARSE SAND & TR./FINE TO MED. GRAVEL (DENSE)										
-25	40			50						
GREY, FINE SAND (DENSE)										
682.7	29			50						
(V. STIFF, MOIST)										
-20	29			50						

Surface Water El. \_\_\_\_\_  
Groundwater El. at Completion -3.5'  
After 24 Hours -3.0'

(SAME MATERIAL AUGERED)

(V. DENSE) 651.7 45  
GREY, CLAY LOAM w/TR. FINE TO COARSE SAND & TR. OF FINE TO MED. GRAVEL (HARD, DRY)  
END OF EXPLORATION @ 55'

Boring No. 2  
Station 711+50  
Offset 46' Lt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 706.0					Groundwater El. at Completion -4.5'					
BLACK, SILTY CLAY (STIFF, MOIST)					After 24 Hours -3.0'					
703.0	9	1.1	22	100						
BROWN, SILTY CLAY, w/tr. FINE TO MED. SAND (SOFT, MOIST)										
701.0	4	0.3	22	100						
GREY, FINE TO COARSE SAND & TR. OF FINE TO MED. GRAVEL (MEDIUM)										
688.0	18			50						
(V. DENSE)										
-15	24			100						
(MEDIUM)										
-10	17			100						
(MEDIUM)										
-25	25			100						
(V. DENSE)										
-30	62			50						
(V. DENSE)										
-35	57			75						
(V. DENSE)										
-40	33			N.S.						
GREY, CLAY LOAM, W/FINE TO COARSE SAND & TR. FINE GRAVEL (IDENTIFICATION MADE FROM WASH WATER SOIL LUMPS) (HARD)										
671.0	130			75						
(V. DENSE)										
-35	130			75						
END OF EXPLORATION @ 35'										

Surface Water El. \_\_\_\_\_  
Groundwater El. at Completion -4.5'  
After 24 Hours -3.0'

Boring No. 3  
Station 712+34  
Offset 67' Lt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 705.8					Groundwater El. at Completion -3.5'					
BLACK, SILTY CLAY (STIFF)					After 24 Hours -3.0'					
702.8	13	1.0	50							
BROWN, SILTY CLAY w/tr. FINE TO MED. SAND (MEDIUM)										
700.8	7	0.3		100						
FINE TO COARSE SAND & TR./FINE TO MED. GRAVEL (MEDIUM)										
691.8	16			10						
(V. DENSE)										
-15	47			N.S.						
GREY, CLAY LOAM w/FINE TO COARSE SAND & TR. FINE GRAVEL (HARD) CLASSIFICATION MADE FROM WASHINGS (V. STIFF)										
670.8	106			100						
(V. DENSE)										
-35	106			100						
END OF EXPLORATION @ 35'										
699.8	17			100						
(HARD)										
-25	16			100						
(V. STIFF)										
-20	13			50						
GREY SILT (V. STIFF)										
684.8	22			50						
(V. STIFF)										
-20	22			50						
GREY SILT (V. STIFF)										
-20	22			50						
BLACK, SILTY CLAY (STIFF)										
705.8	13			100						
(HARD)										
-20	13			100						
BLACK, SILTY CLAY (STIFF)										
705.8	13			100						
(HARD)										

Surface Water El. \_\_\_\_\_  
Groundwater El. at Completion -3.5'  
After 24 Hours -3.0'

DESIGNED [Signature]  
CHECKED [Signature]  
DRAWN Bev Robinson  
CHECKED [Signature]

EXAMINED [Signature] MAY 25 1971  
PASSED [Signature]  
APPROVED [Signature]  
CHIEF HIGHWAY ENGINEER

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

Boring No. 4  
Station 712+58  
Offset 45' Lt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Groundwater El. at Completion	After 24 Hours
705.9					-20	-3.5'	-3.5'
703.4	10	0.87	33	20	(HARD, DAMP)		
700.9	5	0	34	0			
698.4	24	0.82	23	100			
695.4	32	2.57	18	109			
692.9	36	7.26	13	100			
690.4	34	3.65	19	100			
	49	7.37	10	100			
-20	69	10.2	12	100			

Boring No. 6  
Station 711+14  
Offset 67' Rt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Groundwater El. at Completion	After 24 Hours
705.7					-20	-3.0'	-2.5'
704.2							
702.2	8	0.7	25	50	(V. DENSE)		
701.7	3			32			
	6			100			
	25			100			
	27			100			
	43			100			
	43			100			
	49			100			
	49			100			
	70			100			
	29			0			
	37			0			
	54			0			
	54			0			

Boring No. 8  
Station 712+50  
Offset 67' Rt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Groundwater El. at Completion	After 24 Hours
706.0					-20	-3.0'	-3.0'
703.0	11	0.5	34	5	(HARD, MOIST)		
701.0	4	0.5	31	20			
	47			100			
	47			100			
	47			100			
	42			50			
	28			14			
	23			22			
	23			22			
	14			23			

Boring No. 5  
Station 710+61  
Offset 46' Rt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Groundwater El. at Completion	After 24 Hours
706.3					-20	-3.0'	-2.5'
703.8	9	1.0	28	50			
	2	0.6	31	100			
	5			100			
	22			100			
	32			100			
	26			100			
	22			100			
	21						

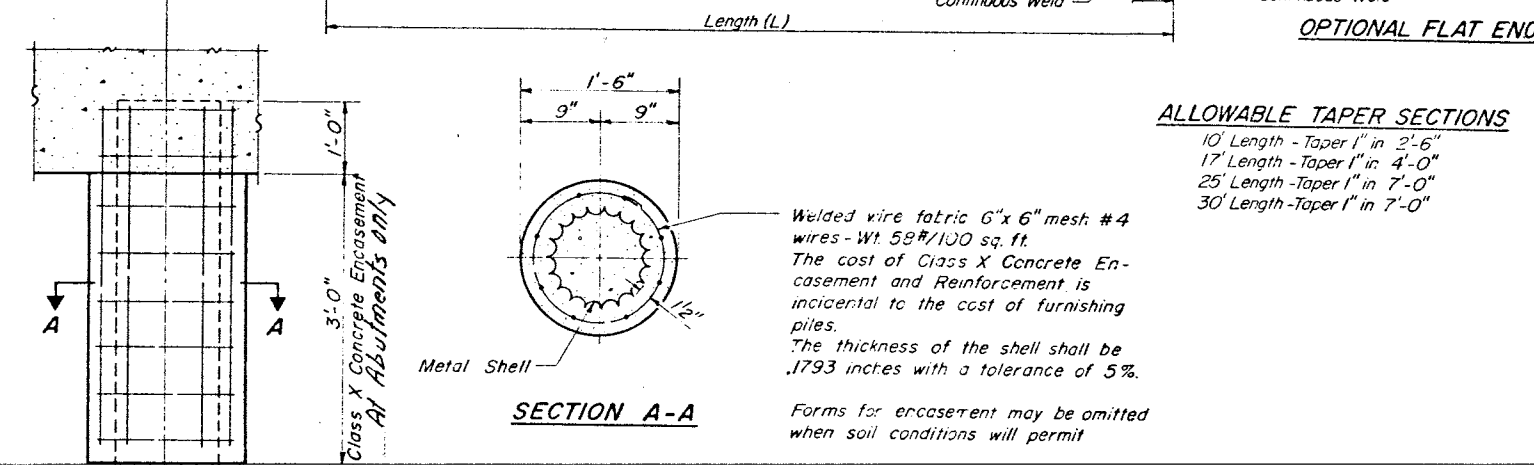
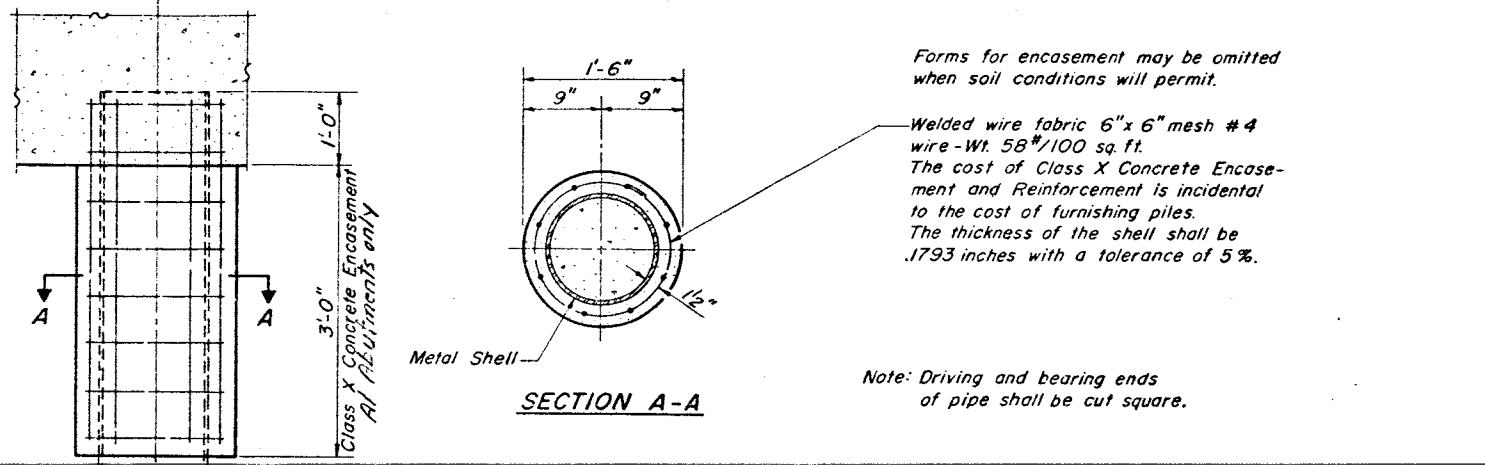
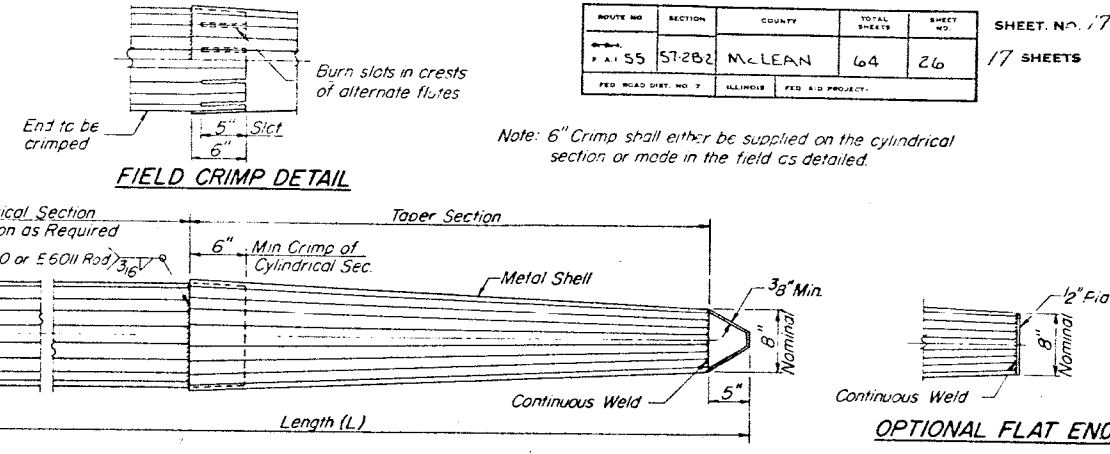
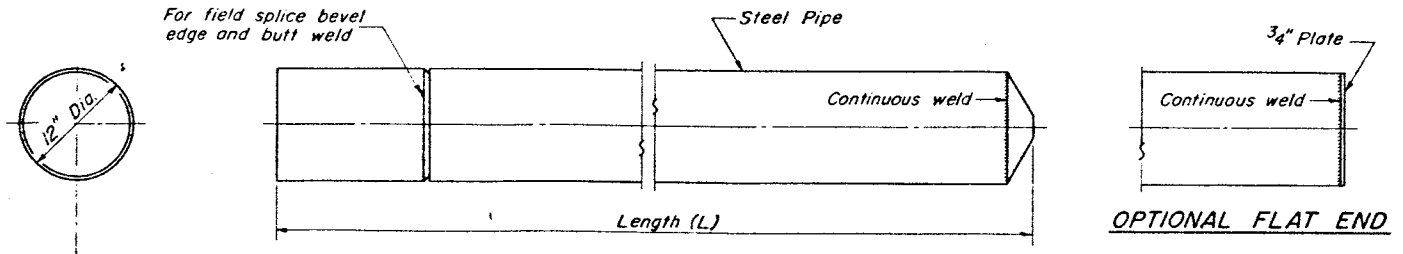
Boring No. 7  
Station 711+98  
Offset 46' Rt. C

Elevation	N	Qu(t/sf)	w(%)	Recovery	Surface Water El.	Groundwater El. at Completion	After 24 Hours
705.2					-20	-2.5'	-2.0'
702.7	7	0.5	42	5	(DENSE)		
701.2	5						
	25			100			
	34			100			
	18			100			
	25			5			
	22			80			
	19			80			
	29			50			

DESIGNED  
CHECKED  
DRAWN By Robinson  
CHECKED

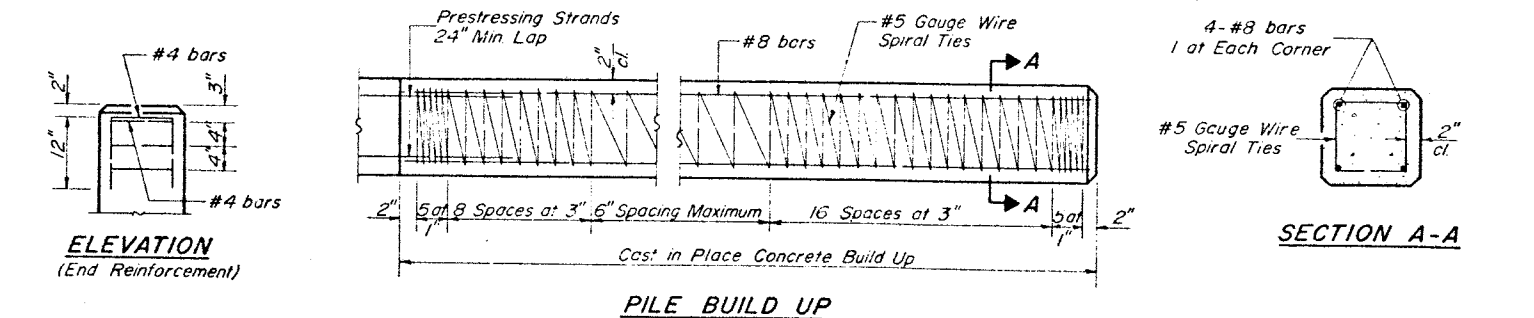
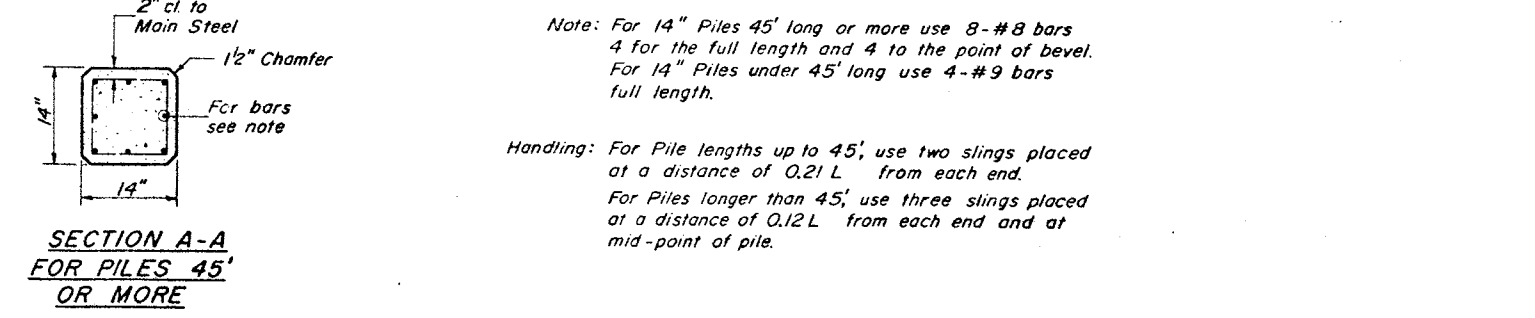
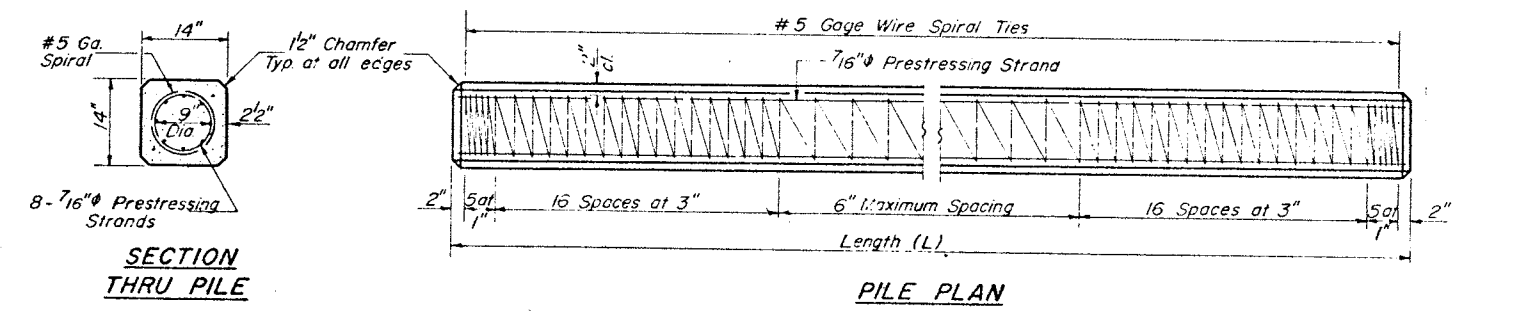
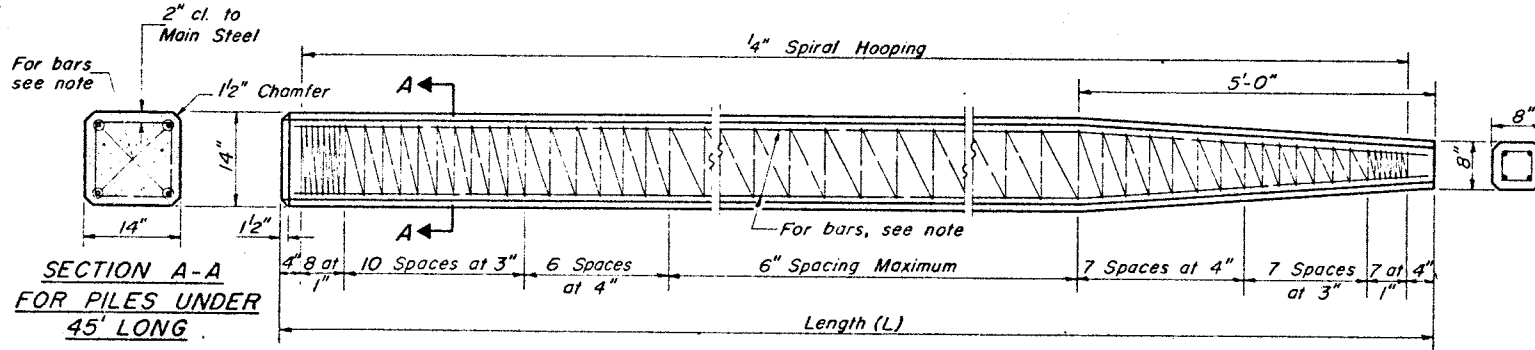
EXAMINED  
PASSED  
APPROVED

MAY 25 1971



DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONCRETE PILES



DESIGNED	May 25 1971
CHECKED	EXAMINED
DRAWN Eev Robinson	PASSED
CHECKED	APPROVED

DESIGN STRESSES

$f_c' = 5,000$  psi.

$f_c^i = 4,000$  psi.

$f_s' = 268,000$  psi. (31,000 lbs.)

$f_s^i = 188,000$  psi. (21,700 lbs.)

Note: 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.

Handling: For pile lengths up to 65', use two slings placed at a distance of 0.21L from each end. For piles longer than 65', use three slings placed at a distance of 0.12L from each end at midpoint of pile.

PILE DETAILS  
 ILL. RT. 55 SEC. 57-2B-2  
 McLEAN COUNTY  
 STA. 711+75