

76H-19

MADISON

JLR

#102

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-(7,8,9,10)RS, 60-(8,9,10)BR	MADISON	150	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 76A73		

9-18-09 Letting, Item 102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

100%  
8-24-10

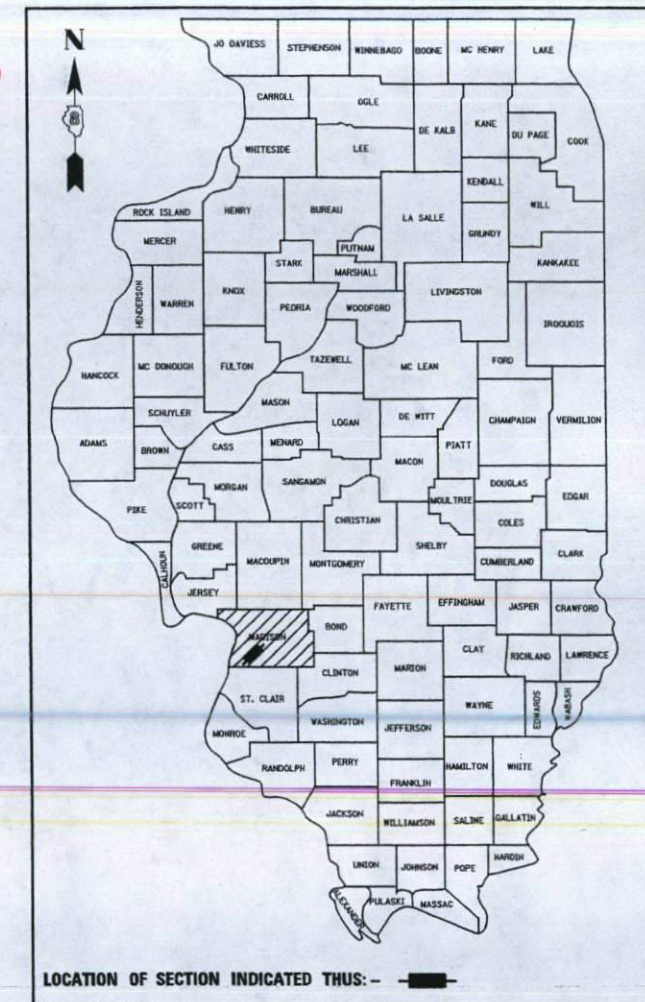
D-98-044-07

★ 150+2=152

FOR INDEX OF SHEETS, SEE SHEET NO. 2

**PROPOSED  
HIGHWAY PLANS**

F.A.I. ROUTE 70 (I-55/70)  
SECTION 60-(7,8,9,10)RS, 60-(8,9,10)BR  
PROJECT IM-070-1(183)011  
MADISON COUNTY  
C-98-046-07  
RESURFACING, BRIDGE REHABILITATION



URBAN PRINCIPAL ARTERIAL (INTERSTATE)  
F.A.I. 70  
ADT (2005) = 39,400  
ADT (2030) = 50,500  
PV = 73.0% SU = 3.7% MU = 23.3%  
DESIGN SPEED = 70 MPH



*James Paul Biggers*  
JAMES PAUL BIGGERS, P.E.

DATE 6/12/09  
LICENSE EXPIRES 11/30/09

PLANS PREPARED BY:



**JOHNSON, DEPP & QUISENBERRY**  
CONSULTING ENGINEERS  
6450 South Sixth Street Road, Suite B Springfield, Illinois 62712  
Phone: (217) 529-4534 Fax: (217) 529-8278

RESURFACING OMISSION  
STA. 791+96.66 TO STA. 793+95.11  
S.N. 060-0018/19  
STA. 792+96.00

RESURFACING OMISSION  
STA. 704+48.50 TO STA. 710+75.00  
S.N. 060-0269  
STA. 708+21.97

S.N. 060-0172  
STA. 665+88.58

RESURFACING OMISSION  
STA. 624+30.93 TO STA. 626+35.17  
STA. 625+31.29  
S.N. 060-0016/17 (NO WORK)

PROJECT ENDS  
STA. 1263+58

S.N. 060-0058  
STA. 1278+44

S.N. 060-0057  
STA. 1279+69

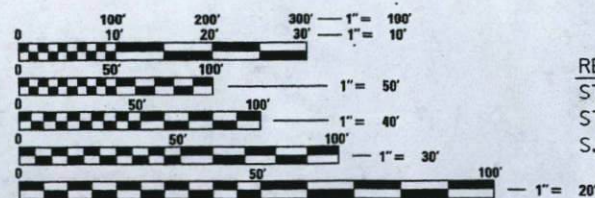
S.N. 060-0022  
STA. 913+23.71

RESURFACING OMISSION  
STA. 1351+13.53 TO  
STA. 1355+27.67  
(EX. P.C.C. PAVEMENT)

STATION EQUATION:  
STA. 856+00 BK. =  
STA. 1382+94 AH.

S.N. 060-0267  
STA. 833+50.90

STATION EQUATION:  
STA. 690+77.40 BK. =  
STA. 696+68.33 AH.



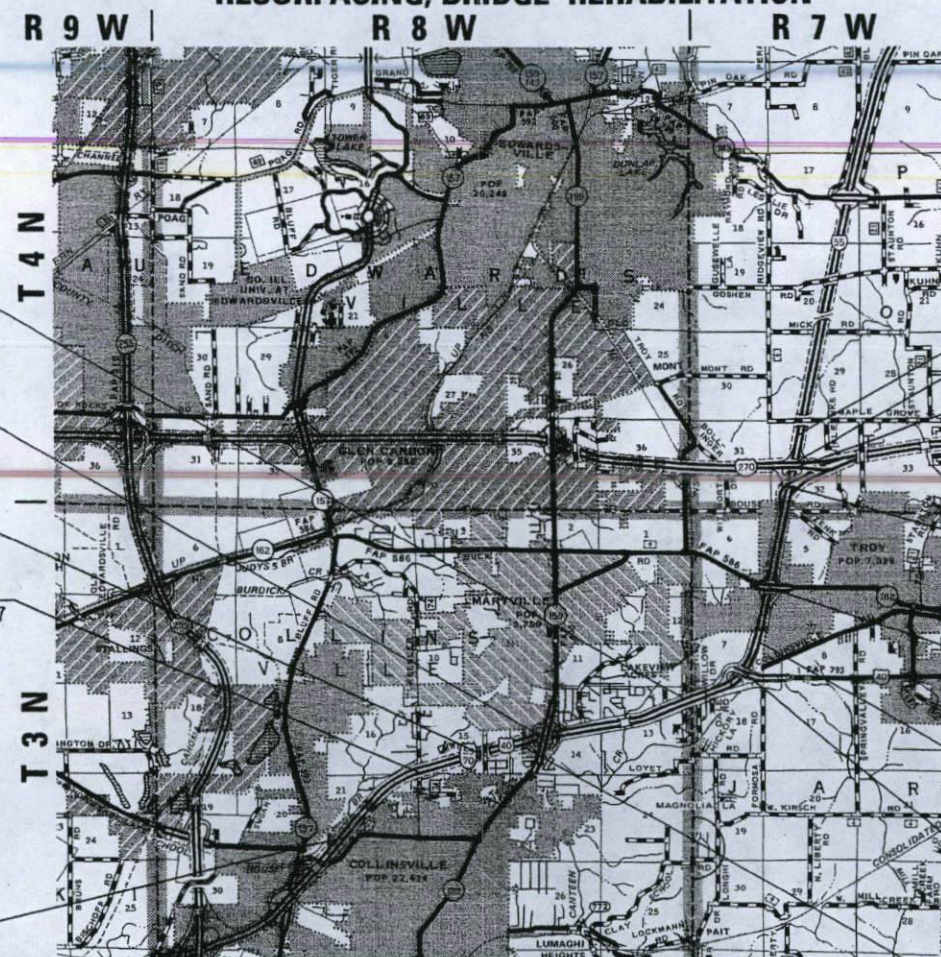
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: PATTI LEBEAU (618)346-3179  
PROJECT MANAGER: CHERYL KEPLAR (618)346-3186

CONTRACT NO. 76A73

060-0022



LOCATION MAP

GROSS LENGTH = 40,485.07 FEET = 7.668 MILES  
NET LENGTH = 39,240.19 FEET = 7.432 MILES

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

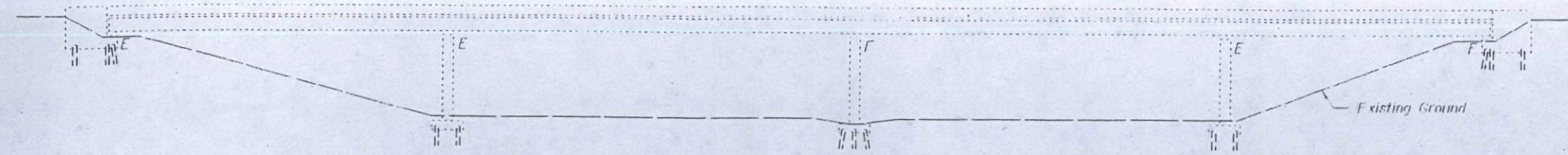
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *June 25, 2009*  
*Mr. C. Lami*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

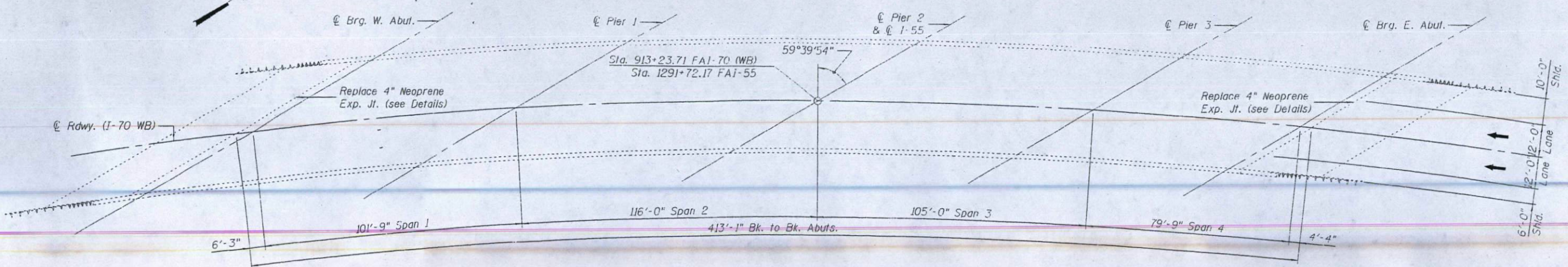
*August 14, 2009*  
*Charles G. Ingersoll*  
ENGINEER OF DESIGN AND ENVIRONMENT

*August 14, 2009*  
*Christine M. Reed*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

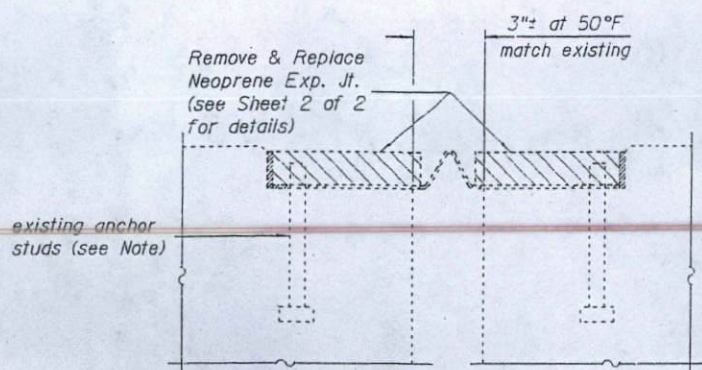
Sheet No.	Description
1	Gen. Plan, Gen. Notes & Total Bill of Mat'l
2	Expansion Joint Details



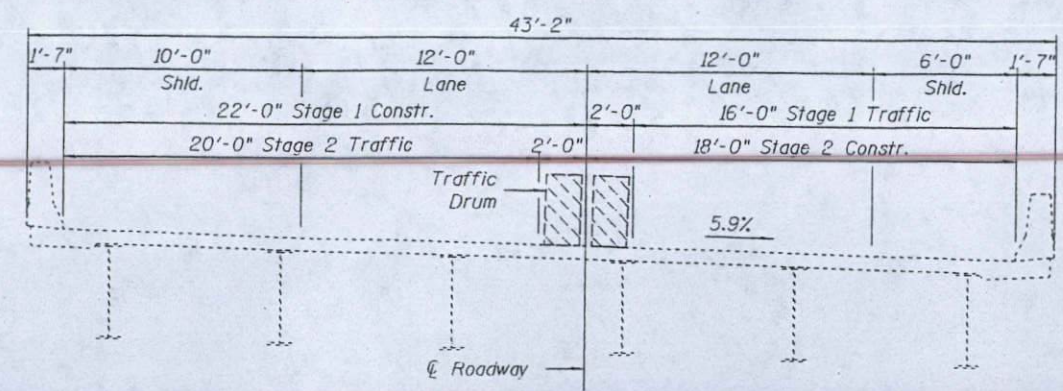
ELEVATION



PLAN



SECTION AT EXPANSION JOINT



CROSS SECTION  
(Looking East)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Neoprene Expansion Joint 4"	Foot	178	--	178
Bridge Washing No. 6	Each	1	--	1
Concrete Structures	Cu. Yd.	--	21.0	21.0
Reinforcement Bars, Epoxy Coated	Pound	--	2840	2840

Note:  
The new expansion joint assembly shall accommodate the existing dimensions, to be measured by the Contractor. Existing anchor studs shall be cut off flush with the bottom of the concrete blockout and sealed with epoxy. Install new studs by epoxy grouting into drilled holes according to Section 584 of the Standard Specifications. New studs shall be embedded a minimum of 5" into concrete, and shall be spaced to provide a minimum clear distance of 2" from the existing studs.

<b>JD</b> Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois	
DESIGNED: JDO	DRAWN: PTR
CHECKED: DCD	CHECKED: DCD

Signed: *[Signature]*  
Date: 6-8-2009  
Lic. Expires 11-30-2010

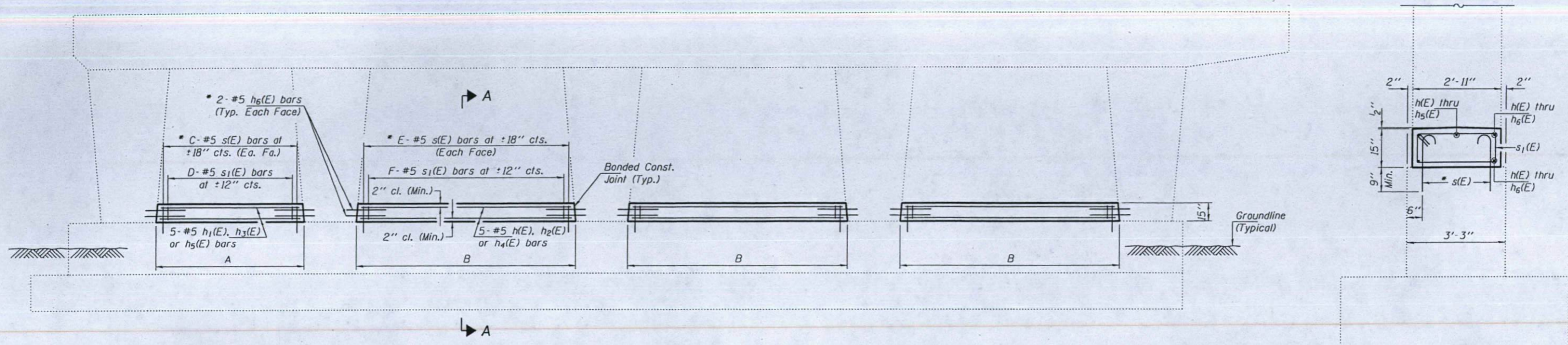


GENERAL PLAN & ELEVATION  
F.A.I. ROUTE 70 (WB) OVER  
F.A.I. ROUTE 55  
STRUCTURE NO. 060-0022

SHEET	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	70	60-(B,9,10)BR	MADISON	150	105
2		STA. 913+23.71			
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 76A73	

Revised sheet 04/12/2010 VHV

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



\* Epoxy grout bars in 9" min. holes according to Article 584 of the Standard Specifications.

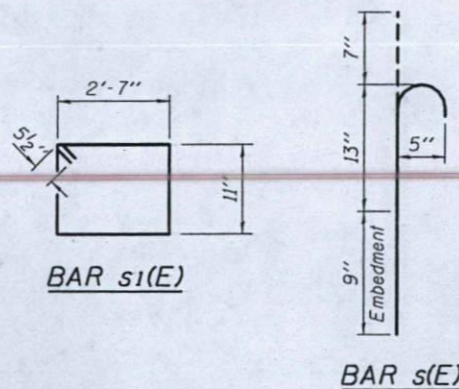
**ELEVATION**  
(Looking East)  
Reinf. details typical at all Crashwall Extension locations except as noted.

**SECTION A-A**

**TABLE OF DIMENSIONS**

DIM	PIER 1	PIER 2	PIER 3
A	±10'-3"	±11'-9"	±9'-9½"
B	±14'-9"	±14'-6"	±11'-0"
C	7	8	7
D	11	12	10
E	10	10	7
F	15	15	11

Note:  
Dimensions A & B are based on field dimensions.  
The Contractor shall field verify before ordering materials.



**PIER 1  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	15	#5	14'-1"	—
h1(E)	5	#5	9'-8"	—
h6(E)	32	#5	2'-9"	—
s(E)	74	#5	2'-5"	⌋
s1(E)	56	#5	7'-11"	□
Concrete Structures			Cu. Yd.	7.5
Reinforcement Bars, Epoxy Coated			Pound	1010

**PIER 2  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h2(E)	15	#5	13'-11"	—
h3(E)	5	#5	11'-2"	—
h6(E)	32	#5	2'-9"	—
s(E)	76	#5	2'-5"	⌋
s1(E)	57	#5	7'-11"	□
Concrete Structures			Cu. Yd.	7.6
Reinforcement Bars, Epoxy Coated			Pound	1030

**PIER 3  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h4(E)	15	#5	10'-5"	—
h5(E)	5	#5	9'-2"	—
h6(E)	32	#5	2'-9"	—
s(E)	56	#5	2'-5"	⌋
s1(E)	43	#5	7'-11"	□
Concrete Structures			Cu. Yd.	5.9
Reinforcement Bars, Epoxy Coated			Pound	800

**NOTES**

The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars (Epoxy Coated).  
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.  
Reinforcement bars designated (E) shall be epoxy coated.

**CRASHWALL EXTENSION DETAILS**  
**I-70 (W.B.) OVER I-55**  
**SN 060-0022**

DESIGNED	VHV
CHECKED	DAB
DRAWN	Kyle M. Steffen
CHECKED	VHV DAB

APRIL 12, 2010  
EXAMINED *A. Carl Proyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 1A 2 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	70	60-(8, 9, 10)BR	MADISON	150	105A
CONTRACT NO. 76A73					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

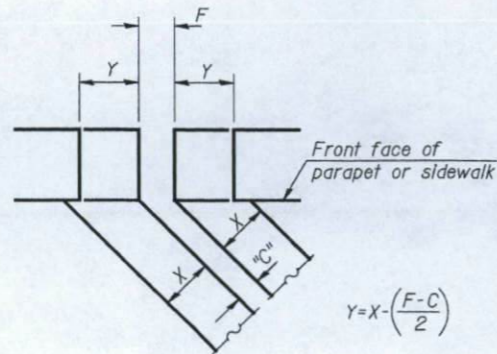
**INSTALLATION NOTES**

- Install continuous seal in roadway, parapet, curb, and sidewalk.
- Install anchor blocks as indicated.

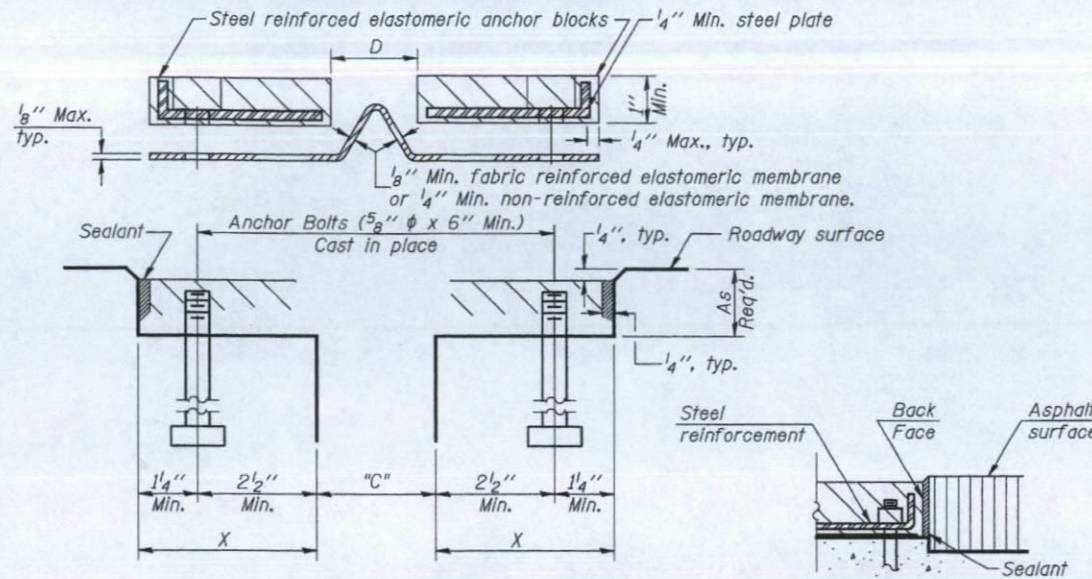
Note A:  
Maximum spacing of anchor bolts shall be 12" centers.

**SKEW LIMITATIONS**

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



**FORMING BLOCKOUT SKETCH**

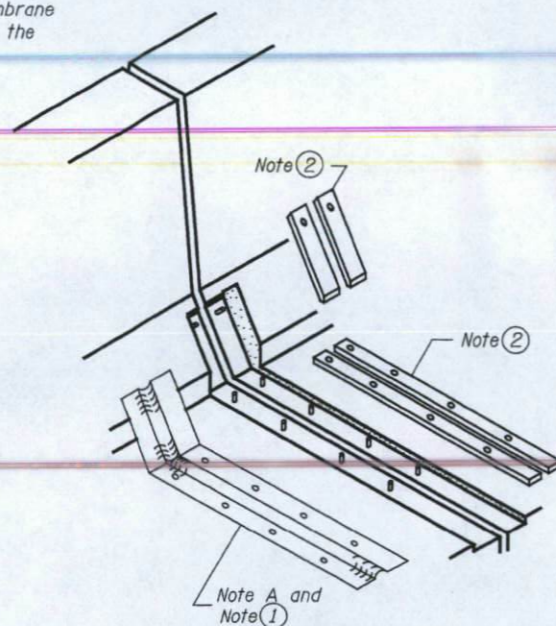


**CROSS SECTION**

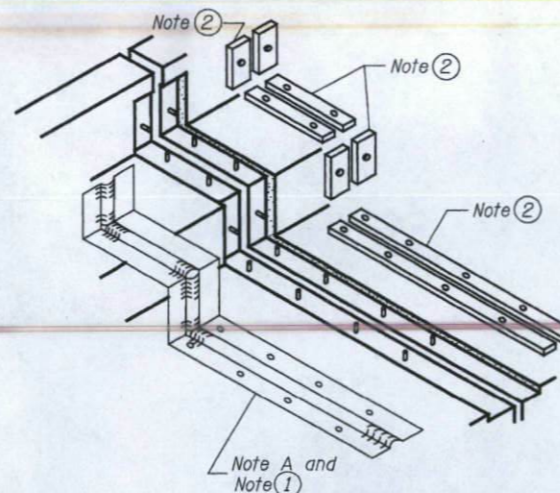
**ANCHOR BLOCK WITH ASPHALT SURFACE**

**GENERAL NOTES**

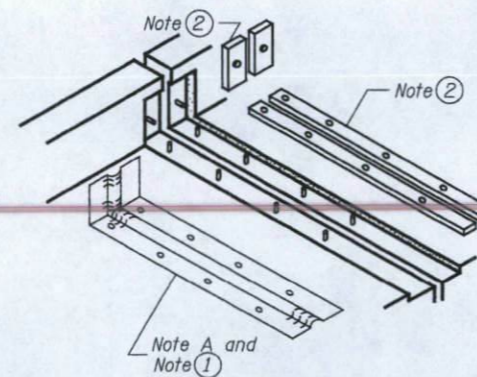
Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.  
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.  
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.  
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° F.  
The parapet and roadway membrane shall be made continuous by an approved vulcanizing process. Lapping will not be permitted.



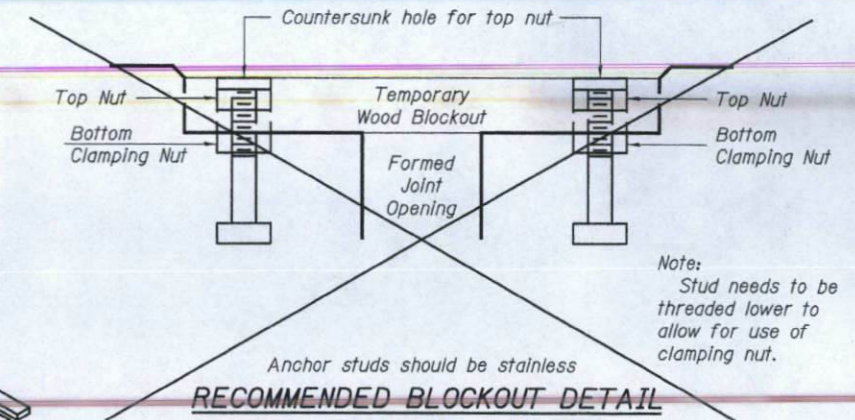
**AT PARAPET**



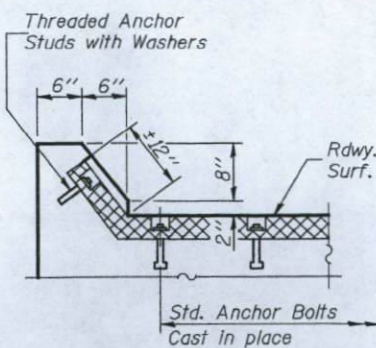
**AT SIDEWALK OR MEDIAN**



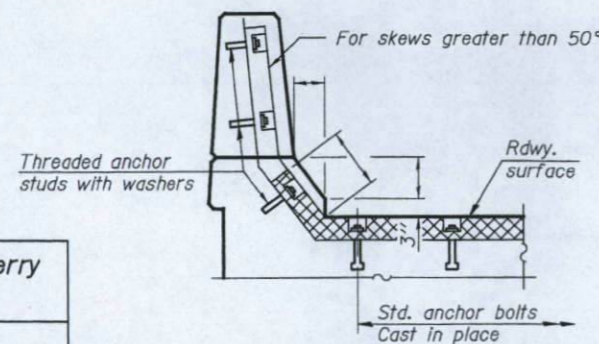
**AT WALL**



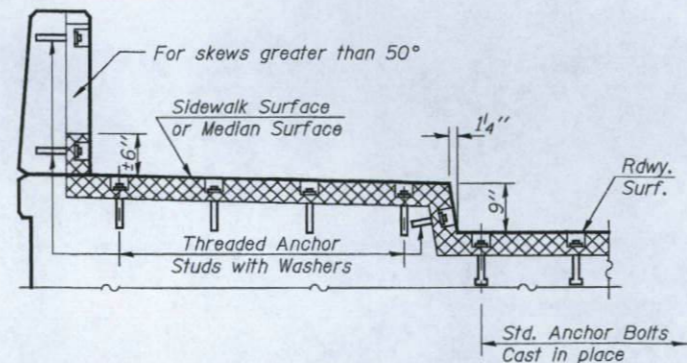
**RECOMMENDED BLOCKOUT DETAIL**



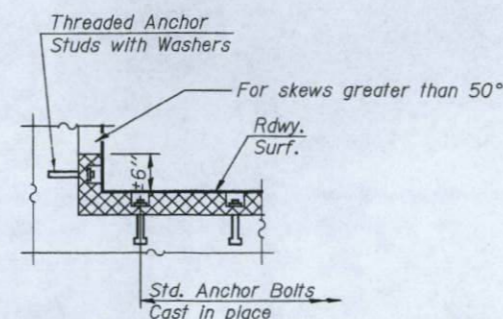
**AT CURB**



**AT PARAPET**



**AT SIDEWALK OR MEDIAN  
TYPICAL END TREATMENTS**



**AT WALL**

<b>JD Johnson, Depp &amp; Quisenberry CONSULTING ENGINEERS</b> Springfield, Illinois	
DESIGNED: JDQ	DRAWN: PTR
CHECKED: DCD	CHECKED: DCD

EJ-CS 10-22-04

**CONTINUOUS SEAL TYPE  
NEOPRENE EXPANSION JOINTS**  
F.A.I. ROUTE 70 (WB) OVER  
F.A.I. ROUTE 55  
STRUCTURE NO. 060-0022

SHEET 2 OF 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	70	60-18,9,101BR	MADISON	150	106
	STA. 913+23.71		CONTRACT NO. 76A73		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

76857

I & R MADISON

#5

CONTRACT NO. 76857

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-(10,11)RS	MADISON	158	1

158 Total Sheets

3-9-07 Letting, Item 005

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

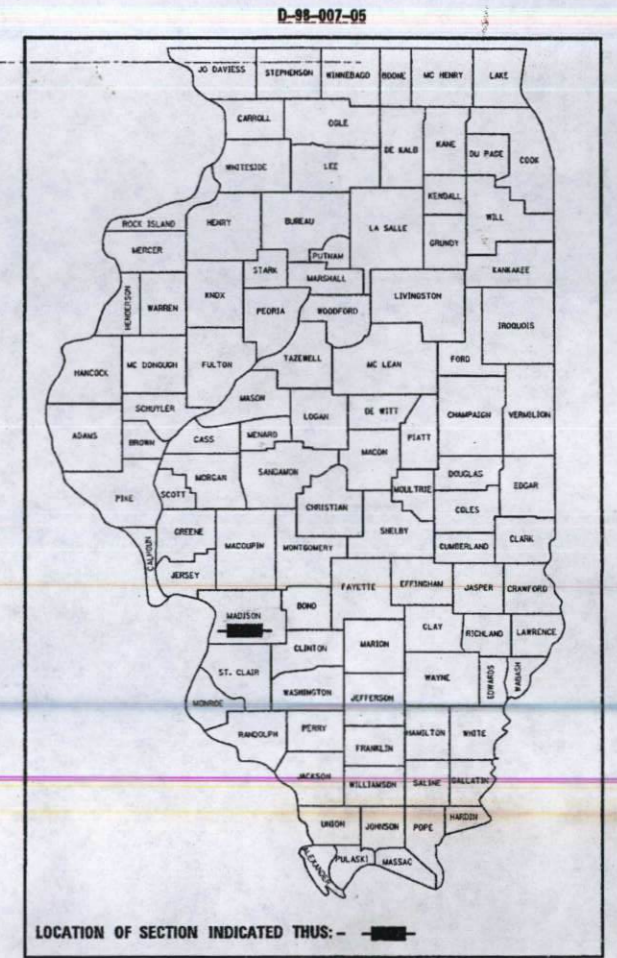
**PROPOSED  
HIGHWAY PLANS**

FAI ROUTE 70  
SECTION 60-(10, 11)RS  
PROJECT: ACIM-070-1(181)018  
MADISON COUNTY

C-98-025-05

FOR INDEX OF SHEETS, SEE SHEET NO. 2

99%  
5-24-2008

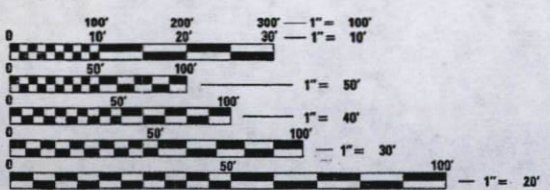


060-0022

PROJECT ENGINEER: PATTI LEBEAU (618)-346-3179  
SQUAD LEADER: CHERYL KEPLAR (618)346-3186

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_

AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS



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

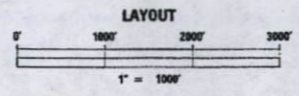
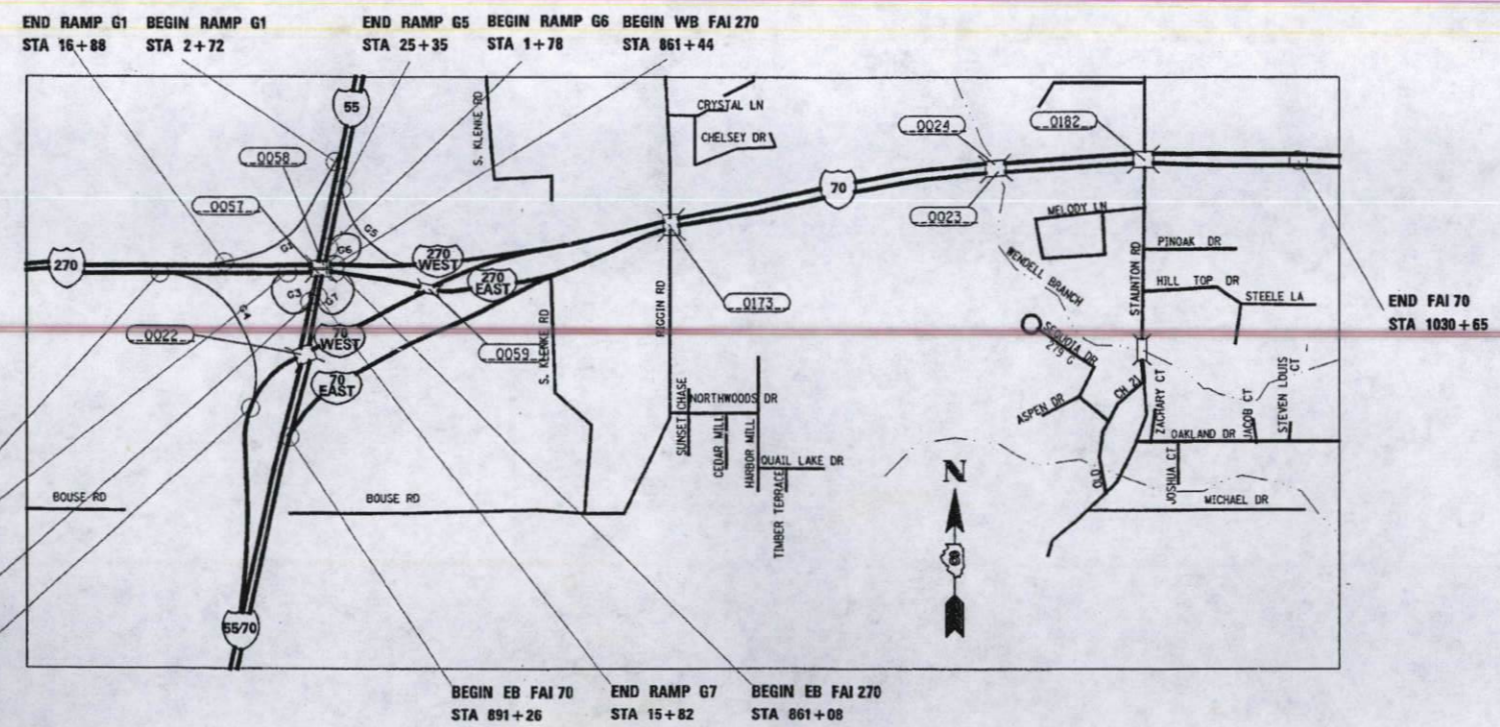
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123

CONTRACT NO. 76857 060-0022

2007 ADT - 31700  
2027 ADT - 38700  
MU% - 27.3, SU% - 4.9

GROSS LENGTH - 12955'  
NET LENGTH - 12955'

FUNCTIONAL CLASSIFICATION - INTERSTATE



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Dec 15, 20 06  
May C Lomis  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FIVE ENGINEER

February 2, 20 07  
Eric E. Harnett  
ENGINEER OF DESIGN AND ENVIRONMENT

February 2, 20 07  
Milton R. Sims, P.E.  
DIRECTOR, DIVISION OF HIGHWAYS

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OF THE STATE OF ILLINOIS**

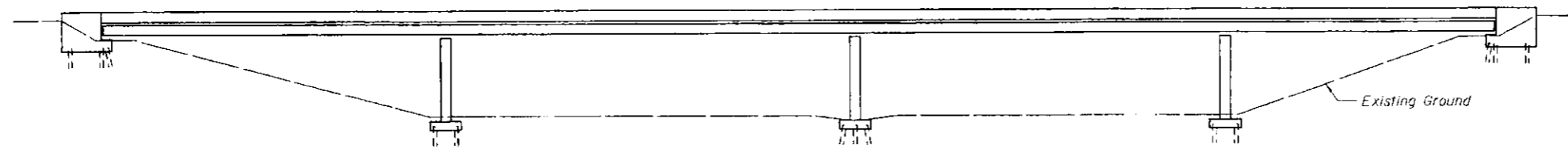
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Sheet No. 1  
Description: Gen. Plan, Gen. Notes & Total Bill of Mat'l

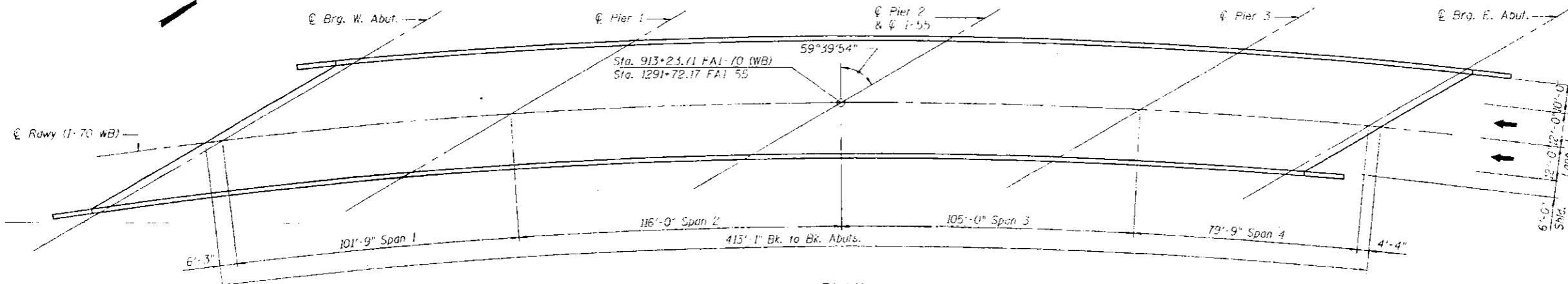
INDEX OF SHEETS

SHEET 1  
OF 1

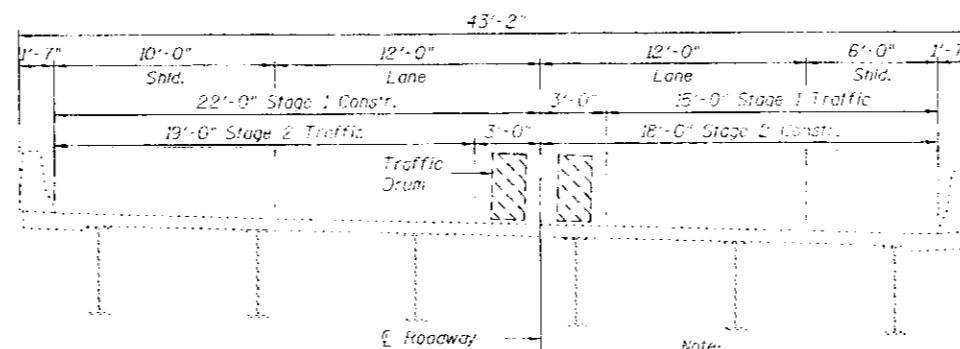
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO 60-10HB	MADISON	356	4	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76857	



ELEVATION



PLAN



CROSS SECTION  
(Looking East)

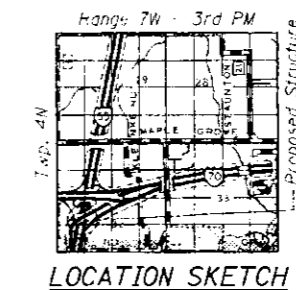
Note:  
Staging is for information only, to be coordinated with roadway staging.

GENERAL NOTES

A Concrete Sealer shall be applied to the surfaces of the deck and parapets, including wings. (See Special Provisions for BRIDGE DECK CONCRETE SEALER.)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Sealer	Sq Ft	19756		19766



LOCATION SKETCH

GENERAL PLAN  
INTERSTATE 70 (WB) OVER  
INTERSTATE 55  
FAI ROUTE 70 SECTION 60-10HB  
MADISON COUNTY  
STATION 913+23.71  
STRUCTURE NO. 060-0022

FILE: J:\JDO\1042 R. 08\11\5 1-10 Bridge Repair\11-SN060-0022-1-55\01plan.dgn  
DATE: 11/30/2006 10:52:55  
USER: DCD

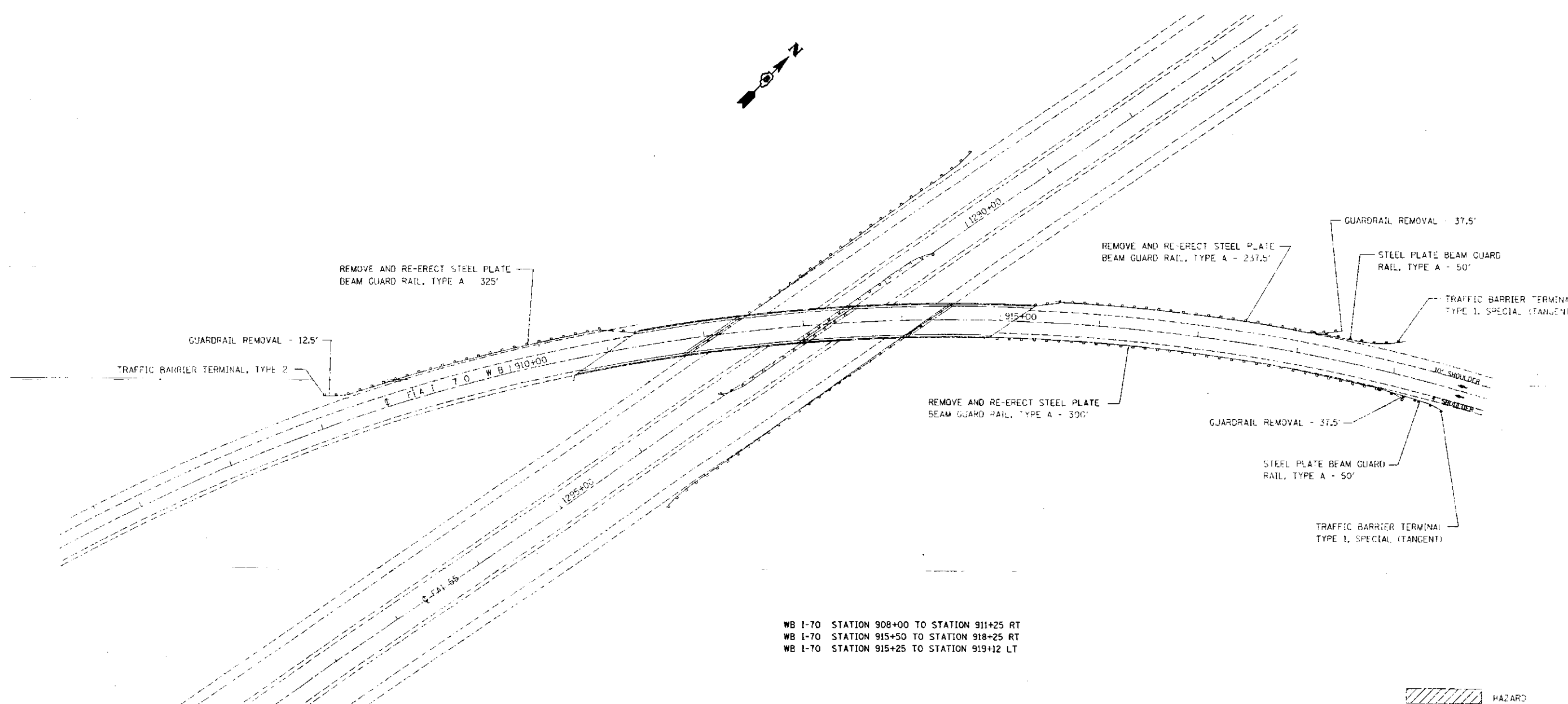
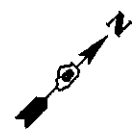
**JD Johnson, Depp & Quisenberry**  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB    DRAWN: SJS  
CHECKED: DCD    CHECKED: CDB/DCD

STATE OF ILLINOIS  
DAVID C. DEPP  
061-005117  
LICENSED PROFESSIONAL ENGINEER

Signed: *David Depp*  
Date: 12-1-2006  
Lic. Expires: 11-30-2008

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	60-(10,11)RS	MADISON	136	121
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



WB I-70 STATION 908+00 TO STATION 911+25 RT  
 WB I-70 STATION 915+50 TO STATION 918+25 RT  
 WB I-70 STATION 915+25 TO STATION 919+12 LT

- HAZARD
- EXISTING GUARDRAIL
- PROPOSED GUARDRAIL

PLOT DATE \* WATER  
 FILE NAME \* WFL64  
 PLOT SCALE \* 800/1  
 REFERENCE \* WEP4

REVISIONS		DATE
NAME		

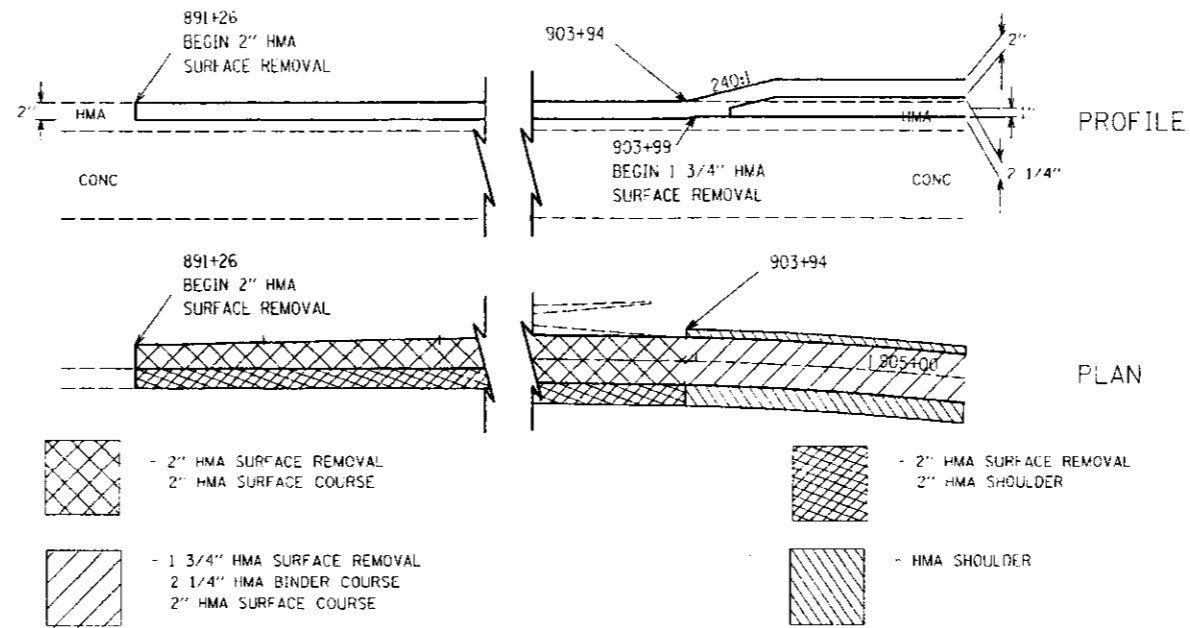
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GUARDRAIL DETAILS**  
 AT SN 060-0022  
 WB I-70 OVER I-55  
 FAI 70  
 SECTION 60-(10,11)RS  
 MADISON COUNTY

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

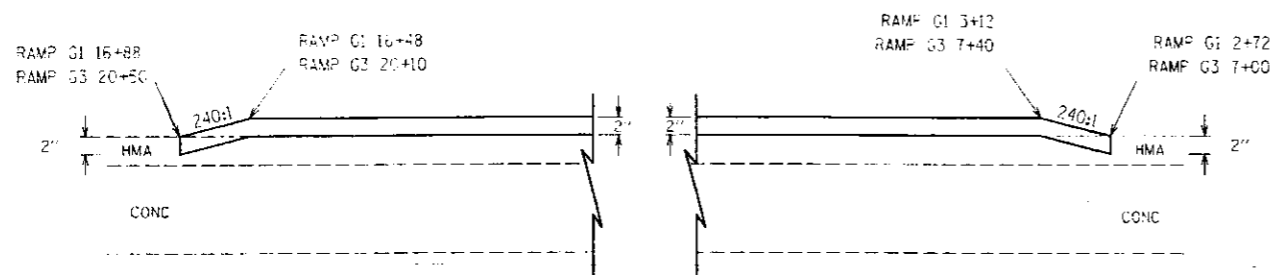
DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-110,11RS	MADISON	256	152
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

# EASTBOUND 70 RESURFACING DETAIL

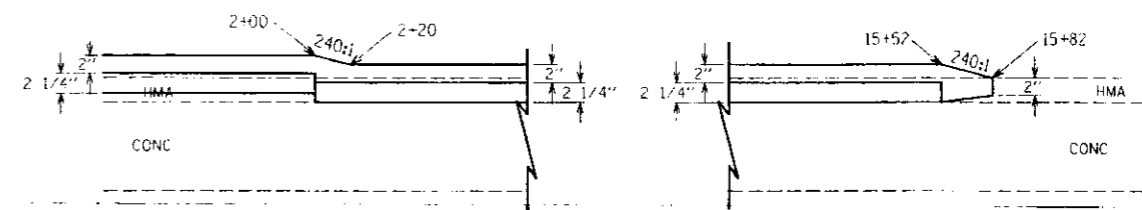


## RAMP G1 & RAMP G3 BUTT JOINT DETAILS



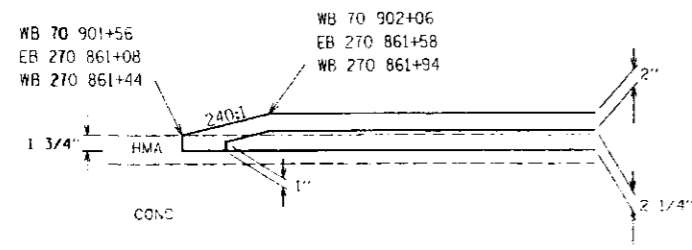
## RAMP G7

## RESURFACING DETAIL BUTT JOINT DETAIL



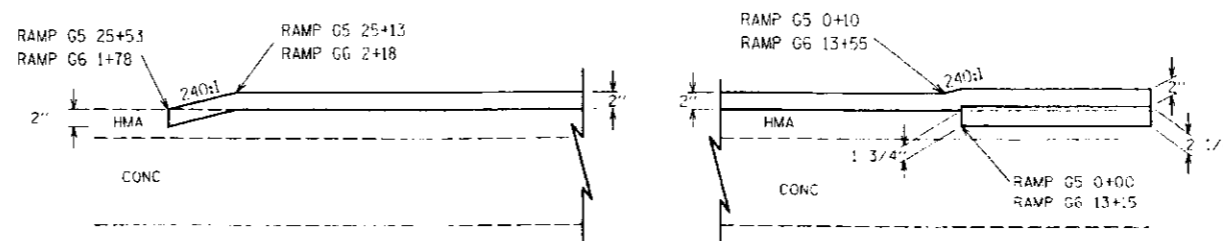
## WESTBOUND 70, EASTBOUND 270 WESTBOUND 270, RAMP G4

## RESURFACING DETAIL



## RAMP G5 & RAMP G6

## BUTT JOINT DETAIL RESURFACING DETAIL



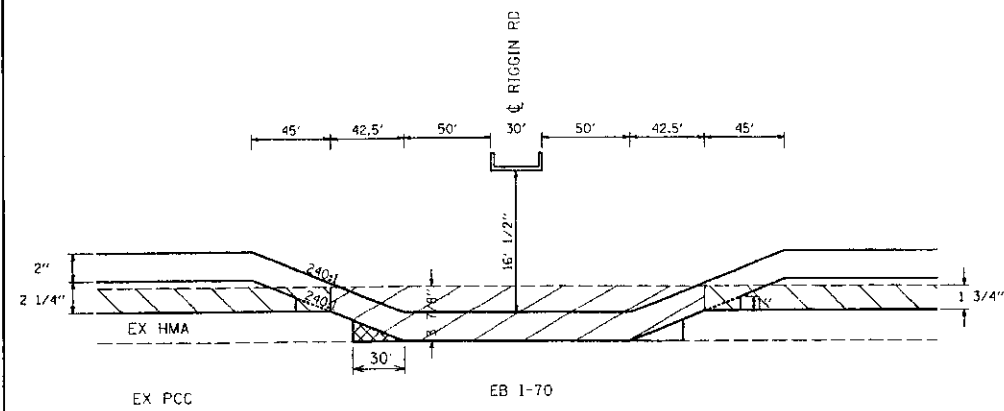
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
BUTT JOINT DETAILS  
FAI ROUTE 70  
SECTION 60-(10,11)RS  
MADISON COUNTY

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

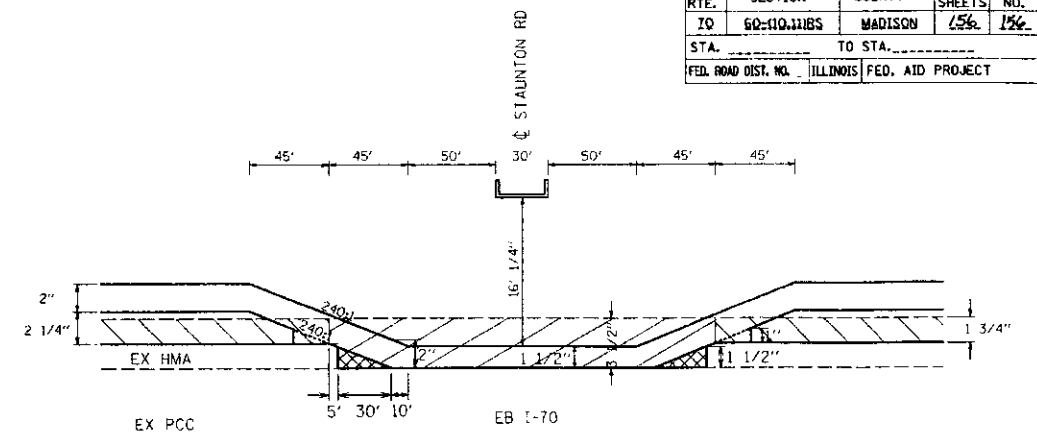


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
70	60-(10,11)RS	MADISON	156
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



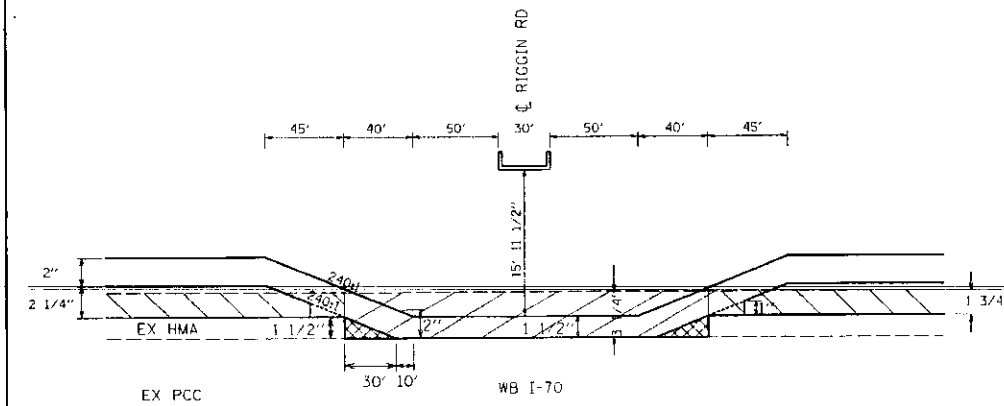
HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"  
 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH  
 HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

MILLING DETAIL - EASTBOUND I-70 UNDER RIGGIN RD



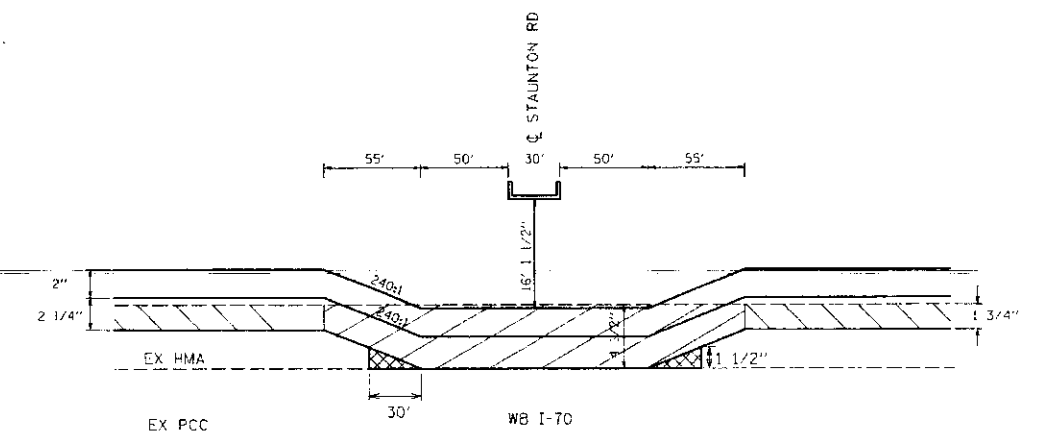
HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"  
 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH  
 HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

MILLING DETAIL - EASTBOUND I-70 UNDER STAUNTON RD



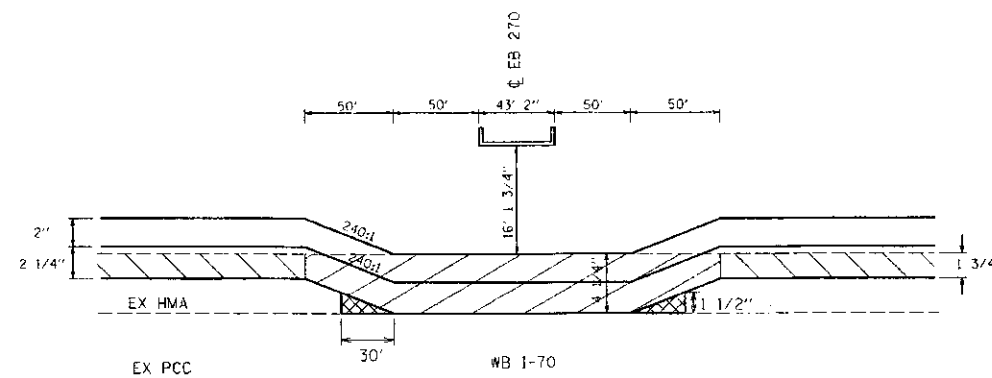
HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"  
 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH  
 HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

MILLING DETAIL - WESTBOUND I-70 UNDER RIGGIN RD



HOT-MIX ASPHALT SURFACE REMOVAL, 3/4"  
 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH  
 HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

MILLING DETAIL - WESTBOUND I-70 UNDER STAUNTON RD



HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"  
 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH  
 HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

MILLING DETAIL - WESTBOUND I-70 UNDER EASTBOUND 270

PLOT DATE = 04/25/08  
 FILE NAME = 07111111  
 PLOT SCALE = 0.5000  
 REFERENCE = 081111

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**RESURFACING DETAILS**  
 FAI ROUTE 70  
 SECTION 60-(10,11)RS  
 MADISON COUNTY

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

95%  
11-16-96

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SEE SHEET 2 FOR INDEX OF SHEETS  
AND STANDARDS

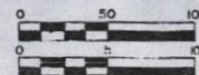
MTA, INCORPORATED  
Consulting Engineers  
SPRINGFIELD, ILLINOIS

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

## PLANS FOR PROPOSED FEDERAL AID INTERSTATE HIGHWAY

SCALE IN FEET

PLAN 1 INCH = 50 FEET  
PROFILE HORIZ 1 INCH = 50 FEET  
PROFILE VERT 1 INCH = 5 FEET

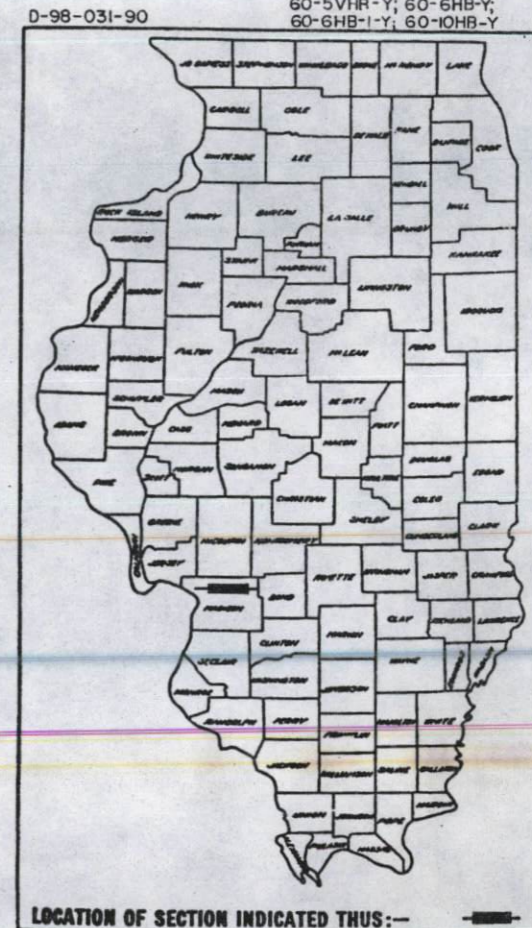


FULL SIZED PLANS HAVE BEEN PREPARED USING  
STANDARD ENGINEERING SCALES, REDUCED SIZED  
PLANS WILL NOT CONFORM TO STANDARD SCALES.  
IN MARKING MEASUREMENTS ON REDUCED PLANS,  
THE SCALES TO THE LEFT MAY BE USED.

FA.I. ROUTE 270/70  
SECTION 60-4VB-Y-1, 60-5VBR, 60-5HVB-Y,  
60-6HB-1-Y, 60-6HB-Y, 60-10HB-Y

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MADISON	228	1

SECTION: 60-4VB-Y-1; 60-5VBR;  
60-5HVB-Y; 60-6HB-Y;  
60-6HB-1-Y; 60-10HB-Y



### CONSTRUCTION LOCATION NO.2

SECTION 60-5VBR Includes the replacement of the existing steel WF beam structures carrying FA.I. 270 over Abandoned I.C.G.R.R. and Judy's Branch with twin, 4 span P.P.C. I-Beam superstructures on integral abutments and solid wall pile bent piers carrying FA.I. 270 over a Proposed Bicycle Path and Judy's Branch at Sta. 687+63.00 and Roadway Sta. 683+90 to Sta. 690+90.

### CONSTRUCTION LOCATION NO.1

SECTION 60-4VB-Y-1 Includes the deck replacement, widening and rehabilitation of two(2) parallel, twin, 5-span continuous steel WF beam structures carrying FA.I. 270 over the C.R.N.W.R.R. (2 Lines) and a stream on R.C. piers and pile bent abutments at Sta. 646+74.00 and Roadway Sta. 644+40 to 649+00.

### CONSTRUCTION LOCATION NO.3

SECTION 60-5HVB-Y Includes the deck replacement, widening and rehabilitation of two(2) parallel, twin, 4-span continuous steel WF beam structures carrying FA.I. 270 over the N.W.R.R. and County Highway 67 on R.C. piers and pile bent abutments at Sta. 796+28.69 and Roadway Sta. 793+55 to 798+50.

### CONSTRUCTION LOCATION NO.6

SECTION 60-10HB-Y Includes the deck replacement, beam replacement and rehabilitation of one(1) 4-span continuous welded composite girder bridge carrying Westbound FA.I. 70 over FA.I. 55 on R.C. piers and pile bent abutments at Sta. 913+23.71 and Roadway Sta. 910+10 to Sta. 916+40.

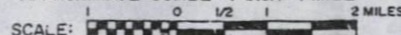
### PROJECT IM-270-6(91)49 MADISON COUNTY

C-98-056-94



LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE



NET LENGTH OF SECTION 60-4VB-Y-1	= 460.00 FEET = 0.087 MILES
NET LENGTH OF SECTION 60-5VBR	= 700.00 FEET = 0.133 MILES
NET LENGTH OF SECTION 60-5HVB-Y	= 495.00 FEET = 0.094 MILES
NET LENGTH OF SECTION 60-6HB-Y	= 264.00 FEET = 0.050 MILES
NET LENGTH OF SECTION 60-6HB-1-Y	= 476.00 FEET = 0.090 MILES
NET LENGTH OF SECTION 60-10HB-Y	= 630.00 FEET = 0.119 MILES
TOTAL NET LENGTH OF SECTIONS	= 3,025.00 FEET = 0.573 MILES

### CONSTRUCTION LOCATION NO.4

SECTION 60-6HB-Y Includes the deck overlay replacement and rehabilitation of two(2) non-parallel, similar, 4-span continuous steel WF beam structures carrying FA.I. 270 over FA.I. 55 on R.C. piers and pile bent abutments. Eastbound at Sta. 859+48.98 and Westbound at Sta. 859+81.62 and Roadway Sta. 858+36 to 861+00.

### CONSTRUCTION LOCATION NO.5

SECTION 60-6HB-1-Y Includes the deck replacement, beam replacement and rehabilitation of one(1) 3-span continuous welded composite girder bridge carrying FA.I. 270 over FA.I. 70 on R.C. piers and pile bent abutments at Sta. 873+24.63 and Roadway Sta. 870+75 to Sta. 875+51.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 11/9 1994  
Dale Klob DISTRICT ENGINEER

PASSED 11/16 1994  
J. A. ... ENGINEER OF DESIGN & ENVIRONMENT

APPROVED 11/16 1994  
... DIRECTOR OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
DIVISION ADMINISTRATOR



Dennis A. Huckaba 1-16-94  
Dennis A. Huckaba Illinois P.E. 062-038612 Date  
Expires 11-30-94

8-214

PROJECT ENGINEER: WILLIAM ULIVI PHONE 618-346-3180 SQUAD LEADER: DAVID MARTH PHONE 618-346-3191

060-0022

060-0022 CONTRACT NO. 96647

B.M. #3  
Chiseled "□" Top of Existing Concrete Abutment  
Seat, West Abutment, North Seat Sta. 911+45  
Elevation 579.54

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	60-10HB-Y	MADISON	228	200
ILLINOIS PROJECT			SHEET 1 OF 26	

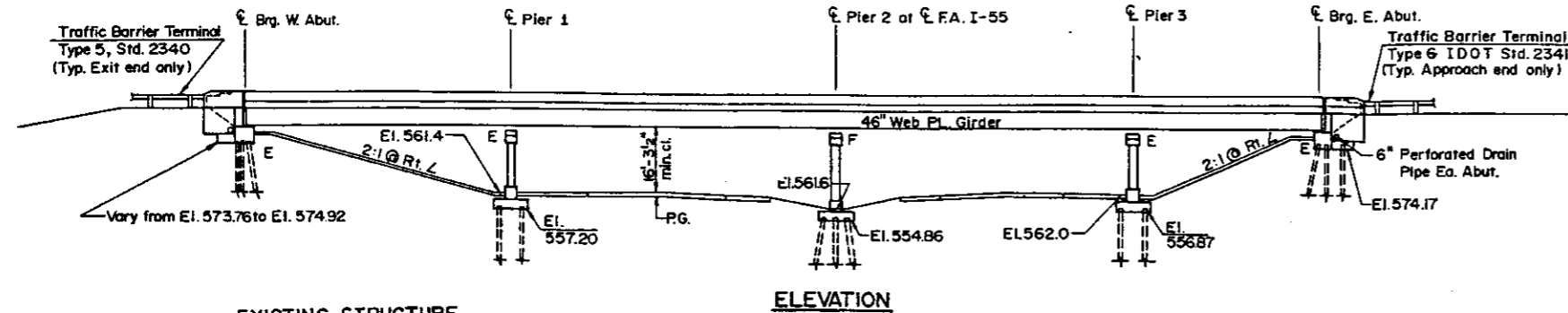
**TOTAL BILL OF MATERIALS**

ITEM	UNITS	SUPER	SUB	TOTAL
* Removal of Existing Superstr. No. 1	Each	1		1
Concrete Removal	Cu Yd		85.0	85.0
Structure Excavation	Cu Yd		370	370
Epoxy Crack Sealing	Foot		493	493
Neoprene Expansion Joint 4"	Foot	173		173
Concrete Superstructure	Cu Yd	516		516
Elastomeric Bearing Assembly, Type I	Each	12		12
Elastomeric Bearing Assembly, Type II	Each	12		12
Floor Drains	Each	7		7
① Protective Coat	Sq Yd	332		332
Concrete Structures	Cu Yd		239.5	239.5
* Formed Concrete Repair (Depth Equal to or Less than 5")	Sq Ft		52	52
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	5817		5817
Bridge Seat Sealer	Sq Ft		510	510
Reinforcement Bars, Epoxy Coated	Pound	128,520	24,520	153,040
Furnishing Steel Piles HP10x42	Foot		1,208	1,208
Driving Steel Piles	Foot		1,208	1,208
Test Pile Steel HP10x42	Each		2	2
Pipe Underdrains, 6"	Foot		205	205
Name Plates	Each		1	1
Slope Wall Removal	Sq Yd		97	97
②* Temporary Sheet Piling	Sq Ft		2,054	2,054
Bridge Deck Grooving	Sq Yd	1,802		1,802
Slope Wall 4"	Sq Yd		315	315

- \* See Special Provisions  
 ① Quantity does not include Bridge Deck Surface.  
 ② Temporary Sheet Pile See Sheet 6 of 26

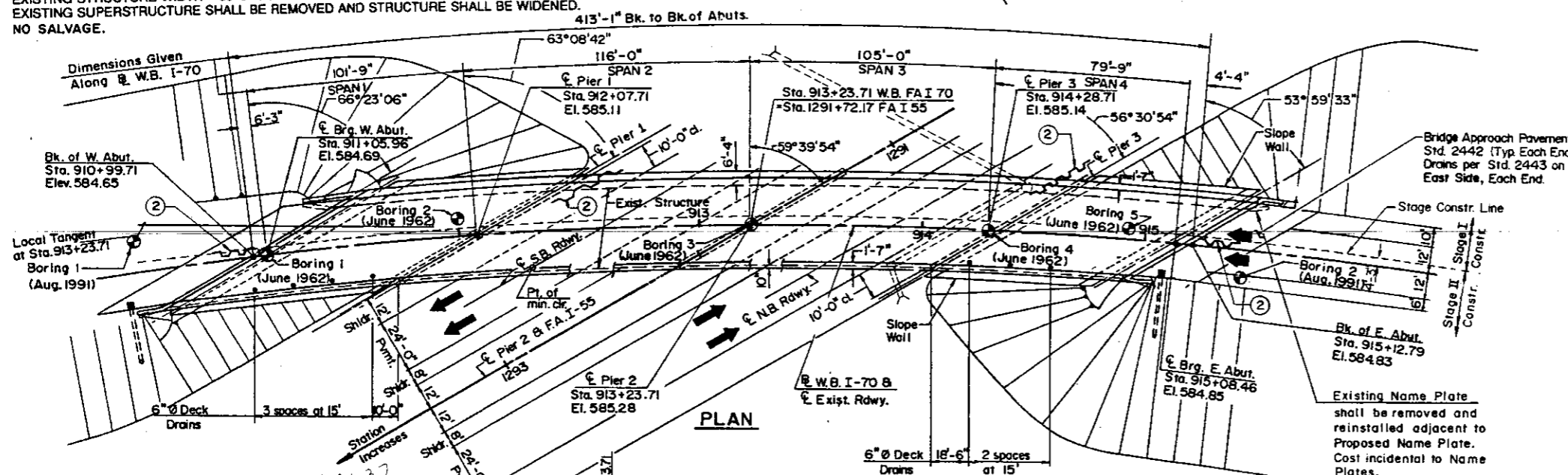


David Booher, Illinois S.E. 081-004775 Date 7-26-94  
 Expires 11-30-94



**EXISTING STRUCTURE**

STATION 913+23.71 of FAI 70 IN MADISON COUNTY WAS BUILT IN 1963. STRUCTURE NUMBER 060-0022. THE SUPERSTRUCTURE CONSISTS OF 4 SPANS OF 7 IN. REINFORCED CONCRETE DECK ON 48 IN. DEEP HORIZONTAL CURVED STEEL GIRDERS. THE SUBSTRUCTURE CONSISTS OF TWO CONCRETE ABUTMENTS ON STEEL PILES AND 3 MULTIPLE COLUMN CONCRETE PIERS ON STEEL PILES. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. EXISTING STRUCTURE LENGTH = 413'-1" BACK TO BACK OF ABUTMENTS. EXISTING STRUCTURE WIDTH = 36'-0" OUT TO OUT. EXISTING SUPERSTRUCTURE SHALL BE REMOVED AND STRUCTURE SHALL BE WIDENED. NO SALVAGE.

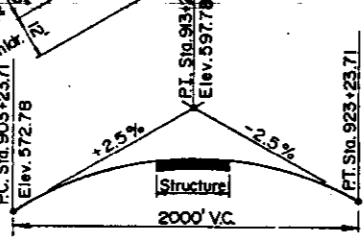


**CURVE DATA ALONG WESTBOUND F.A.I.-70**

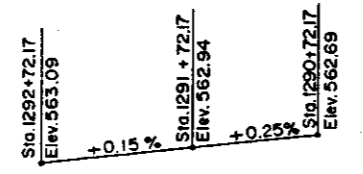
P.I. Sta. 910+86.36  
 P.C. Sta. 898+65.41  
 P.T. Sta. 920+38.10  
 $\Delta = 65^{\circ}10'50''$   
 $D = 3^{\circ}00'00''$   
 $T = 1220.95'$   
 $L = 2172.69'$   
 $R = 1909.86'$   
 $E = 356.92'$   
 Full S.E. = 0.0597ft

Handwritten notes: 910+86.37, 38.00, 65.1910, 1220.96, Length of curve L = 2171.579

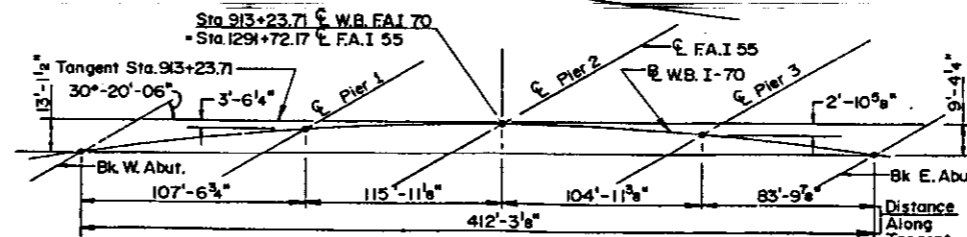
**PROFILE GRADE FAI 70**



**PROFILE GRADE F.A.I 55**



**OFFSET SKETCH**



**DESIGN SPECIFICATIONS**

1992 AASHTO Standard Specifications for Highway Bridges and 1993 Interim Specifications, 1993 Guide Specifications for Horizontally Curved Highway Bridges, FHWA/RD 83/007 Seismic Retrofitting Guidelines for Highway Bridges

**DESIGN STRESSES**

**FIELD UNITS**  
 $f_c = 3,500$  psi  
 $f_s = 20,000$  psi (Exist Reinf.)  
 $f_y = 60,000$  psi (New Reinf.)  
 $f_y = 50,000$  psi (Structural Steel)

**SEISMIC DATA**

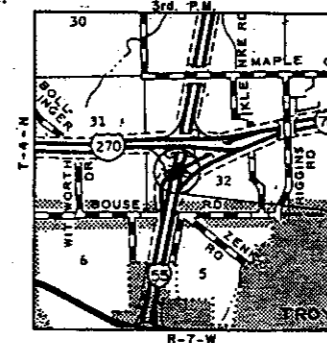
S.P.C. = B  
 $A = 0.10$   
 Site Coefficient = 1.5

**LOADING HS 20-44 and ALTERNATE**

Allow 25 psf for future Wearing Surface.

STATION 913+23.71  
 BUILT 199 BY  
 STATE OF ILLINOIS  
 F.A.I. RT. 70 SEC. 60-10HB-Y  
 PROJ. IM-270-6(41)49  
 LOADING HS20-44 & ALT.  
 STR. NO. 060-0022  
**NAME PLATE**  
 (STD. 2113)

Name Plate to be Located 4'-0" Above Crown of I-55 on West Side, North Column of Center Pier. Existing Name Plate shall be located directly under proposed.



LOCATION SKETCH

**GENERAL PLAN & ELEVATION**  
 W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 913+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N. 060-0022

MTA, INCORPORATED

DESIGNED G.B.M. CHECKED D.R.B.  
 DRAWN S.P.M. DATE 7/94 NO.

LOCATION NO. 6

**GENERAL NOTES**

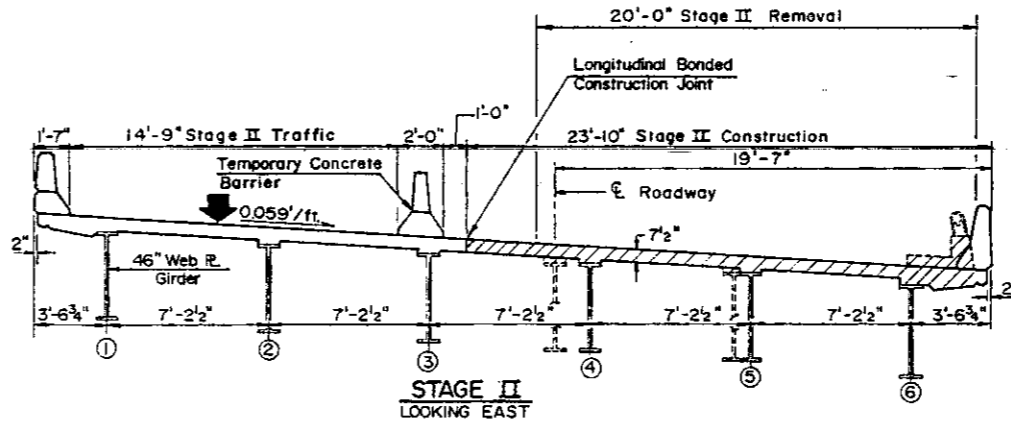
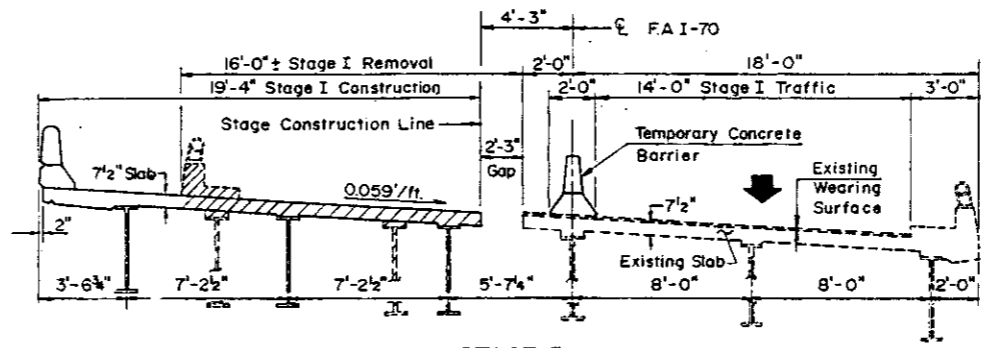
Fasteners shall be high strength bolts.  
 Bolts 7/8"  $\phi$ , open holes 15/16"  $\phi$ , unless otherwise noted.  
 Calculated weight of Structural Steel = 522,510 lbs. M 270 Grade 50.  
 The Inorganic Zinc-Silicate/Acrylic/Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G4/8.  
 All structural steel shall be AASHTO M 270 Grade 50.  
 All contact surfaces of joints for the bolted splices and diaphragms shall be free of paint or lacquer.  
 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.  
 The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.  
 The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs, and all splice material except fill plates.  
 Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.  
 Slope wall and repair extension shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.  
 Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
 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. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.  
 The Contractor shall drive 2 - HP 10x42 Test Piles in a permanent location at the West Abutment and Pier 2 as directed by the Engineer before ordering the remainder of piles.  
 The concrete for bridge floors finished in accordance with Article 503.17 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screening the concrete.  
 Bridge Seat Sealer shall be applied to the seat area of the Abutments.

In accordance with Article 505.08 of the Standard Specifications, the Contractor shall submit erection details prior to initiating steel erection. The erection details shall also describe the method proposed to maintain the girders in plumb.

"In addition to all other requirements of section 512 of the Standard Specifications, splices for Steel Joists shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection."

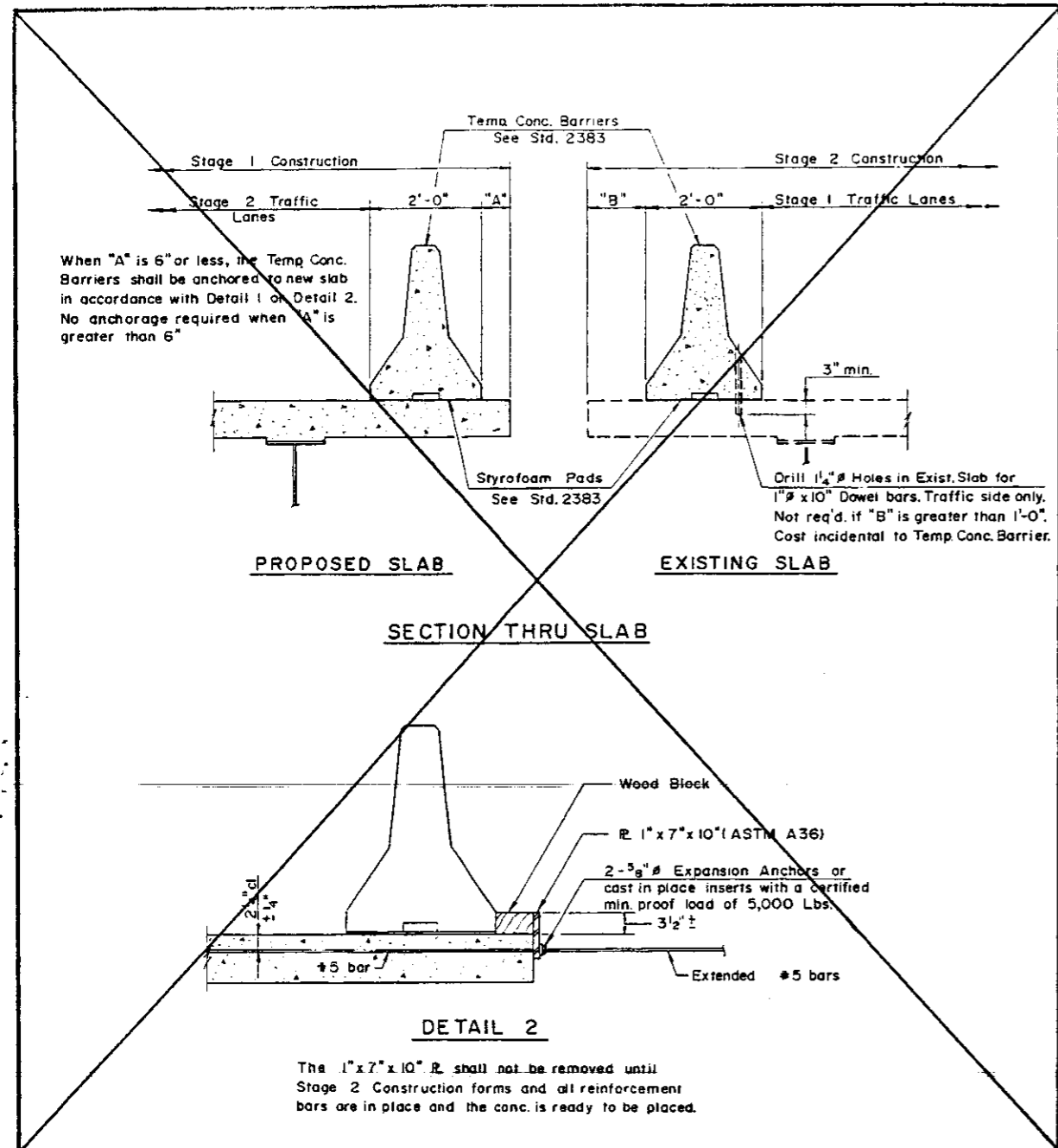
**STAGE CONSTRUCTION**  
 W.B. F.A.I. RTE. 70 OVER F.A.I. RTE 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 913+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N. 060-0022

MTA, INCORPORATED  
 DESIGNED GBM CHECKED CMS  
 DRAWN BOB DATE 7/94 NO.



**INDEX OF SHEETS**

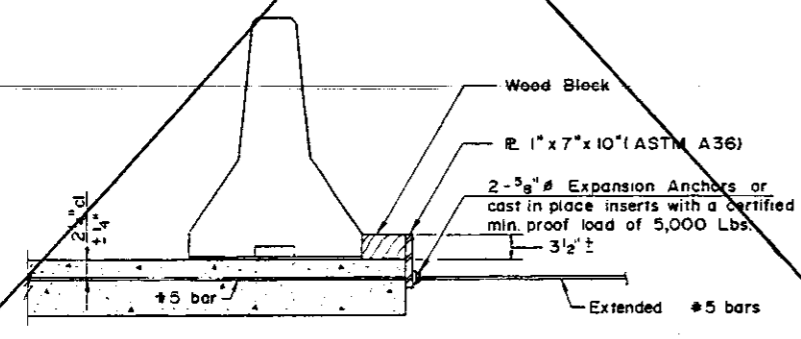
1. GENERAL PLAN & ELEVATION	14. CONCRETE REMOVAL AT ABUTMENT
2. STAGE CONSTRUCTION	15. WEST ABUTMENT DETAILS
3. DECK ELEVATIONS	16. EAST ABUTMENT DETAILS
4. DECK ELEVATIONS	17. ABUTMENT WINGWALL DETAILS
5. DECK ELEVATIONS	18. PIER 1 DETAIL
6. DECK ELEVATIONS	19. PIER 2 DETAIL
7. DECK DETAILS	20. PIER 3 DETAIL
8. PARAPET DETAILS	21. EXPANSION JOINT DETAIL
9. GIRDER DETAILS	22. ANCHOR BOLT DETAIL
10. STRESS TABLES	23. SUBSTRUCTURE REPAIR
11. CROSS FRAME DETAILS	24. TEMPORARY CONCRETE BARRIER
12. SPLICE DETAILS	25. SOIL BORINGS
13. BEARING DETAILS	26. SOIL BORINGS



PROPOSED SLAB

EXISTING SLAB

**SECTION THRU SLAB**



**DETAIL 2**

The 1" x 7" x 10" R shall not be removed until Stage 2 Construction forms and all reinforcement bars are in place and the conc. is ready to be placed.

**STAGE I CONSTRUCTION**

1. SET TEMPORARY CONCRETE BARRIER AS SHOWN.
2. ESTABLISH STAGE I TRAFFIC CONTROL AND INSTALL PROTECTIVE SHIELD UNDER NORTH HALF OF SUPERSTRUCTURE.
3. PLACE ABUTMENT TEMPORARY SHEET PILING AND REMOVE EXISTING CONCRETE PARAPETS, DECK, AND APPROACH SLABS ON NORTH PORTION.
4. REMOVE TWO GIRDERS, NORTH ENDS OF ABUTMENTS AND PIER CAPS AS SHOWN, CUT EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE & GRIND SMOOTH.
5. PLACE TEMPORARY SHEET PILING FOR PIERS, DRIVE ADDITIONAL PILES, AND CONSTRUCT EXTENSION OF NORTH ENDS OF PIERS AND ABUTMENTS. REMOVE TEMPORARY SHEET PILING AT PIERS.
6. CONSTRUCT GIRDERS 1, 2, AND 3, AND NORTH PORTION OF APPROACH SLAB, CONCRETE DECK, PARAPETS, AND ABUTMENT BACKWALL.

**STAGE II CONSTRUCTION**

1. SET TEMPORARY CONCRETE BARRIER AS SHOWN.
2. ESTABLISH STAGE II TRAFFIC CONTROL AND INSTALL PROTECTIVE SHIELD UNDER SOUTH HALF OF SUPERSTRUCTURE.
3. REMOVE REMAINING PORTION OF EXISTING DECK, PARAPETS, APPROACH SLAB AND WING WALLS. DRIVE ADDITIONAL PILES FOR PROPOSED SOUTH WING WALLS.
4. REMOVE REMAINING THREE EXISTING GIRDERS, CUT EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE & GRIND SMOOTH.
5. CONSTRUCT NEW GIRDERS 4, 5, AND 6, AND REMAINING PORTION OF NEW DECK, PARAPETS, ABUTMENT BACKWALL, AND WING WALLS. REMOVE ABUTMENT TEMPORARY SHEET PILING AND CONSTRUCT REMAINDER OF APPROACH SLABS.
6. OPEN BOTH LANES TO TRAFFIC.

GR-50

**GENERAL NOTES**

Fasteners shall be high strength bolts.  
 Bolts 7/8" φ, open holes 15/16" φ, unless otherwise noted.  
 Calculated weight of Structural Steel = 522,510 lbs. M 270 Grade 50.  
 The inorganic Zinc-Silicate/Acrylic/Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G4/8.

All structural steel shall be AASHTO M 270 Grade 50.  
 All contact surfaces of joints for the bolted splices and diaphragms shall be free of paint or lacquer.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders 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.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs, and all splice material except fill plates.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.

Slope wall and repair extension shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

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

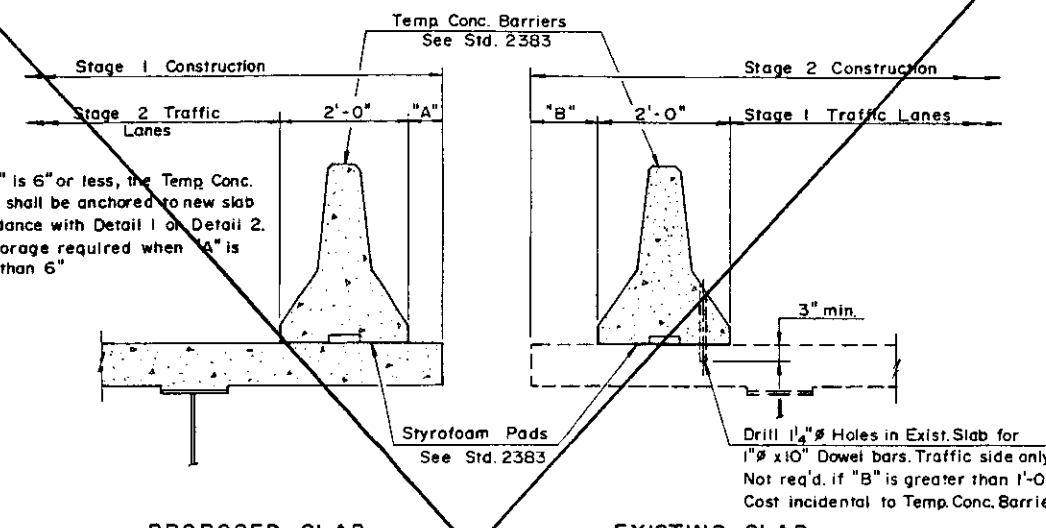
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.

The Contractor shall drive 2 - HP 10x42 Test Piles in a permanent location at the West Abutment and Pier 2 as directed by the Engineer before ordering the remainder of piles.

The concrete for bridge floors finished in accordance with Article 503.17 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screening the concrete.

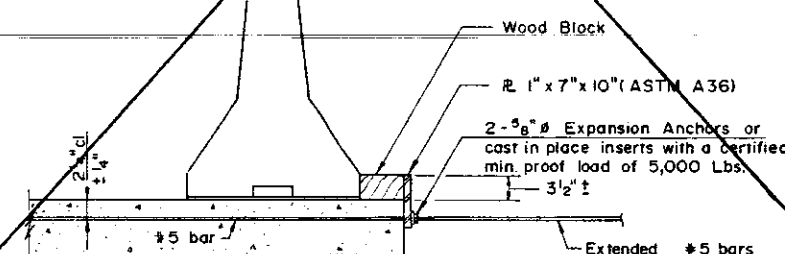
Bridge Seat Sealer shall be applied to the seat area of the Abutments.

In accordance with Article 505.08 of the Standard Specifications, the Contractor shall submit erection details prior to initiating steel erection. The erection details shall also describe the method proposed to maintain the girders in plumb.



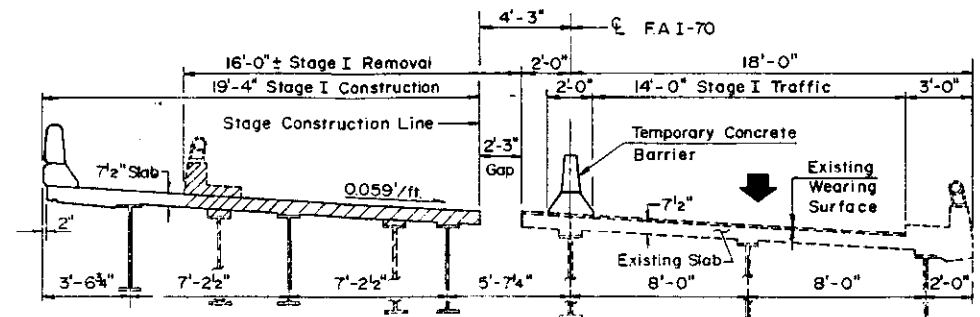
PROPOSED SLAB      EXISTING SLAB

**SECTION THRU SLAB**

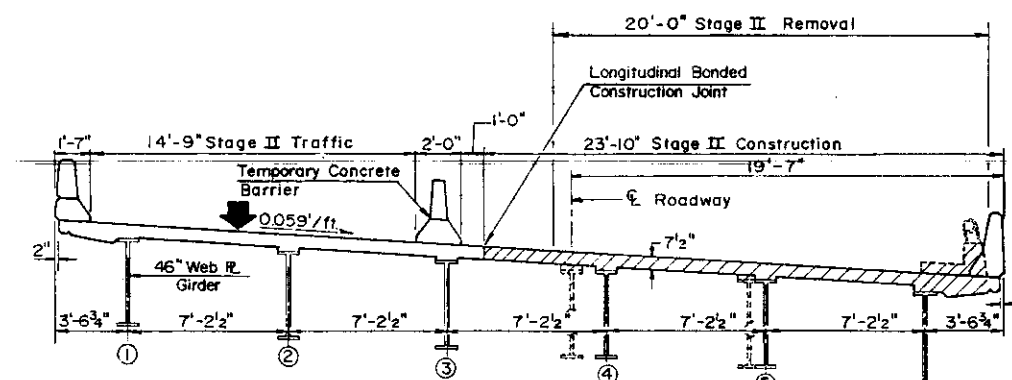


**DETAIL 2**

The 1" x 7" x 10" R shall not be removed until Stage 2 Construction forms and all reinforcement bars are in place and the conc. is ready to be placed.



**STAGE I  
LOOKING EAST**



**STAGE II  
LOOKING EAST**

**STAGE I CONSTRUCTION**

1. SET TEMPORARY CONCRETE BARRIER AS SHOWN.
2. ESTABLISH STAGE I TRAFFIC CONTROL AND INSTALL PROTECTIVE SHIELD UNDER NORTH HALF OF SUPERSTRUCTURE.
3. PLACE ABUTMENT TEMPORARY SHEET PILING AND REMOVE EXISTING CONCRETE PARAPETS, DECK, AND APPROACH SLABS ON NORTH PORTION.
4. REMOVE TWO GIRDERS, NORTH ENDS OF ABUTMENTS AND PIER CAPS AS SHOWN, CUT EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE & GRIND SMOOTH.
5. PLACE TEMPORARY SHEET PILING FOR PIERS, DRIVE ADDITIONAL PILES, AND CONSTRUCT EXTENSION OF NORTH ENDS OF PIERS AND ABUTMENTS. REMOVE TEMPORARY SHEET PILING AT PIERS.
6. CONSTRUCT GIRDERS 1, 2, AND 3, AND NORTH PORTION OF APPROACH SLAB, CONCRETE DECK, PARAPETS, AND ABUTMENT BACKWALL.

**STAGE II CONSTRUCTION**

1. SET TEMPORARY CONCRETE BARRIER AS SHOWN.
2. ESTABLISH STAGE II TRAFFIC CONTROL AND INSTALL PROTECTIVE SHIELD UNDER SOUTH HALF OF SUPERSTRUCTURE.
3. REMOVE REMAINING PORTION OF EXISTING DECK, PARAPETS, APPROACH SLAB AND WING WALLS. DRIVE ADDITIONAL PILES FOR PROPOSED SOUTH WING WALLS.
4. REMOVE REMAINING THREE EXISTING GIRDERS. CUT EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE & GRIND SMOOTH.
5. CONSTRUCT NEW GIRDERS 4, 5, AND 6, AND REMAINING PORTION OF NEW DECK, PARAPETS, ABUTMENT BACKWALL, AND WING WALLS. REMOVE ABUTMENT TEMPORARY SHEET PILING AND CONSTRUCT REMAINDER OF APPROACH SLABS.
6. OPEN BOTH LANES TO TRAFFIC.

**INDEX OF SHEETS**

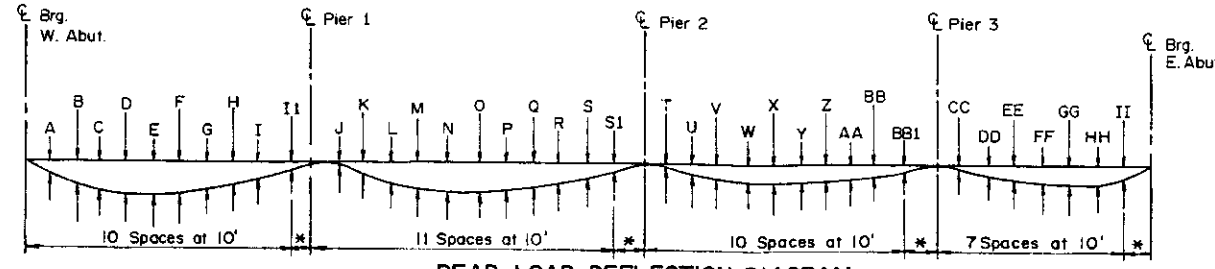
1. GENERAL PLAN & ELEVATION	14. CONCRETE REMOVAL AT ABUTMENT
2. STAGE CONSTRUCTION	15. WEST ABUTMENT DETAILS
3. DECK ELEVATIONS	16. EAST ABUTMENT DETAILS
4. DECK ELEVATIONS	17. ABUTMENT WINGWALL DETAILS
5. DECK ELEVATIONS	18. PIER 1 DETAIL
6. DECK ELEVATIONS	19. PIER 2 DETAIL
7. DECK DETAILS	20. PIER 3 DETAIL
8. PARAPET DETAILS	21. EXPANSION JOINT DETAIL
9. GIRDER DETAILS	22. ANCHOR BOLT DETAIL
10. STRESS TABLES	23. SUBSTRUCTURE REPAIR
11. CROSS FRAME DETAILS	24. TEMPORARY CONCRETE BARRIER
12. SPLICE DETAILS	25. SOIL BORINGS
13. BEARING DETAILS	26. SOIL BORINGS

**STAGE CONSTRUCTION**  
 W.B. F.A.I. RTE. 70 OVER F.A.I. RTE 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 913+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N. 060-0022

**MTA, INCORPORATED**  
 DESIGNED GBM      CHECKED CMS  
 DRAWN BOB      DATE 7/94 NO.

ROADWAY & PROFILE GRADE LINE

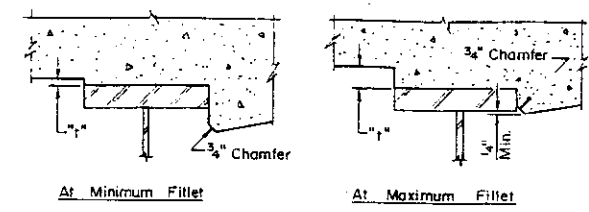
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	910+99.71	0.00	584.65	584.65
CL. BRG. W. ABUT.	911+05.96	0.00	584.69	584.69
A	911+15.96	0.00	584.74	584.77
B	911+25.96	0.00	584.79	584.86
C	911+35.96	0.00	584.84	584.93
D	911+45.96	0.00	584.89	584.99
E	911+55.96	0.00	584.93	585.03
F	911+65.96	0.00	584.97	585.05
G	911+75.96	0.00	585.01	585.07
H	911+85.96	0.00	585.04	585.08
I	911+95.96	0.00	585.08	585.10
CL PIER 1	912+07.71	0.00	585.11	585.11
J	912+17.71	0.00	585.14	585.15
K	912+27.71	0.00	585.16	585.18
L	912+37.71	0.00	585.19	585.23
M	912+47.71	0.00	585.21	585.27
N	912+57.71	0.00	585.23	585.30
O	912+67.71	0.00	585.24	585.30
P	912+77.71	0.00	585.25	585.31
Q	912+87.71	0.00	585.26	585.31
R	912+97.71	0.00	585.27	585.31
S	913+07.71	0.00	585.28	585.30
S1	913+17.71	0.00	585.28	585.29
CL PIER 2	913+23.71	0.00	585.28	585.28
T	913+33.71	0.00	585.28	585.28
U	913+43.71	0.00	585.28	585.29
V	913+53.71	0.00	585.27	585.30
W	913+63.71	0.00	585.26	585.30
X	913+73.71	0.00	585.25	585.30
Y	913+83.71	0.00	585.24	585.28
Z	913+93.71	0.00	585.22	585.26
AA	914+03.71	0.00	585.20	585.23
BB	914+13.71	0.00	585.18	585.19
BB1	914+23.71	0.00	585.16	585.16
CL PIER 3	914+28.71	0.00	585.14	585.14
CC	914+38.71	0.00	585.11	585.11
DD	914+48.71	0.00	585.08	585.09
EE	914+58.71	0.00	585.05	585.08
FF	914+68.71	0.00	585.02	585.06
GG	914+78.71	0.00	584.98	585.02
HH	914+88.71	0.00	584.94	584.97
II	914+98.71	0.00	584.90	584.92
CL BRG. E. ABUT.	915+08.46	0.00	584.85	584.85
BK. OF E. ABUT.	915+12.79	0.00	584.83	584.83



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete slab only)

NOTE: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown.

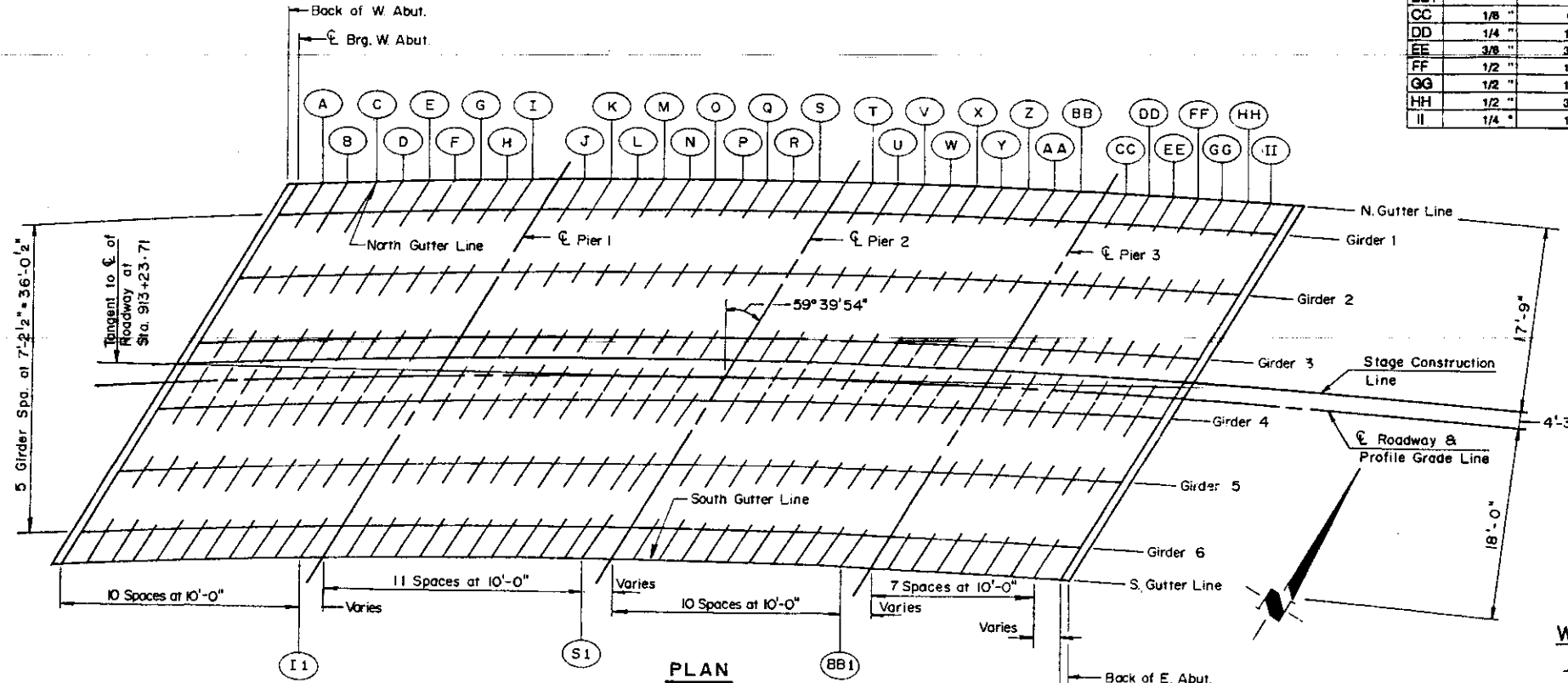


FILLET HEIGHTS

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

TABLE OF DEAD LOAD DEFLECTION

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
A	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"
B	3/4"	3/4"	7/8"	7/8"	7/8"	1"
C	1"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"
D	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"
E	7/8"	7/8"	1 1/8"	1 1/4"	1 1/4"	1 1/2"
F	3/4"	3/4"	1"	1"	1 1/8"	1 3/8"
G	1/2"	5/8"	5/8"	3/4"	7/8"	1 1/8"
H	1/4"	3/8"	3/8"	1/2"	5/8"	3/4"
I	1/8"	1/8"	1/8"	1/4"	3/8"	3/8"
II						
J	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
K	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
L	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"
M	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"
N	7/8"	7/8"	7/8"	7/8"	7/8"	3/4"
O	3/4"	3/4"	3/4"	3/4"	7/8"	7/8"
P	3/4"	3/4"	3/4"	3/4"	3/4"	7/8"
Q	1/2"	5/8"	5/8"	5/8"	5/8"	7/8"
R	1/4"	3/8"	1/2"	1/2"	1/2"	5/8"
S	1/8"	1/8"	1/4"	1/4"	1/4"	3/8"
S1					1/8"	1/8"
T	0"	0"	0"	0"	0"	0"
U	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
V	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
W	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
X	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Y	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Z	3/8"	3/8"	1/2"	1/2"	1/2"	5/8"
AA	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
BB	1/8"	1/8"	1/8"	1/8"	1/8"	1/4"
BB1						
CC	1/8"	0"	0"	0"	0"	0"
DD	1/4"	1/8"	1/8"	1/8"	1/8"	1/8"
EE	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
FF	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
GG	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
HH	1/2"	3/8"	3/8"	3/8"	3/8"	3/8"
II	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"



PLAN

NOTE: TABULATED DECK ELEVATIONS ARE GIVEN AT 10' INTERVALS ALONG EACH DESIGNATED CENTERLINE GIRDER OR PAVEMENT LINE. THE 10' INTERVALS FOR EACH SPAN ARE LAID OUT BEGINNING AT THE CENTERLINE BRG. TO THE WEST AND EXTEND EASTWARD. ALL STATIONS AND OFFSETS SHOWN ARE TO THE BASELINE (CENTERLINE OF ROADWAY).

DECK ELEVATIONS  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

MTA, INCORPORATED  
DESIGNED G.B.M. CHECKED O.R.B.  
DRAWN S.P.M. DATE 7/94 NO.

**GIRDER 3**

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	911+12.39	-5.60	585.05	585.05
CL. BRG. W. ABUT.	911+18.53	-5.60	585.08	585.08
A	911+28.50	-5.60	585.13	585.16
B	911+38.48	-5.60	585.18	585.25
C	911+48.45	-5.60	585.23	585.32
D	911+58.42	-5.60	585.27	585.37
E	911+68.39	-5.60	585.31	585.40
F	911+78.36	-5.60	585.35	585.43
G	911+88.33	-5.60	585.38	585.43
H	911+98.30	-5.60	585.41	585.44
I	912+08.27	-5.60	585.44	585.45
CL. PIER 1	912+18.88	-5.60	585.47	585.47
J	912+28.85	-5.60	585.50	585.51
K	912+38.82	-5.60	585.52	585.54
L	912+48.80	-5.60	585.54	585.58
M	912+58.77	-5.60	585.56	585.62
N	912+68.74	-5.60	585.57	585.64
O	912+78.71	-5.60	585.58	585.64
P	912+88.68	-5.60	585.59	585.65
Q	912+98.65	-5.60	585.60	585.65
R	913+08.62	-5.60	585.61	585.64
S	913+18.59	-5.60	585.61	585.62
CL. PIER 2	913+33.22	-5.60	585.61	585.61
T	913+43.19	-5.60	585.61	585.61
U	913+53.16	-5.60	585.60	585.61
V	913+63.13	-5.60	585.59	585.62
W	913+73.10	-5.60	585.58	585.62
X	913+83.07	-5.60	585.57	585.62
Y	913+93.04	-5.60	585.55	585.59
Z	914+03.01	-5.60	585.53	585.57
AA	914+12.98	-5.60	585.51	585.54
BB	914+22.96	-5.60	585.49	585.50
CL. PIER 3	914+37.13	-5.60	585.45	585.45
CC	914+47.10	-5.60	585.42	585.42
DD	914+57.07	-5.60	585.39	585.40
EE	914+67.04	-5.60	585.35	585.38
FF	914+77.01	-5.60	585.32	585.36
GG	914+86.98	-5.60	585.28	585.32
HH	914+96.95	-5.60	585.24	585.27
I	915+06.92	-5.60	585.19	585.21
CL. BRG. E. ABUT.	915+16.16	-5.60	585.15	585.15
BK. OF E. ABUT.	915+20.46	-5.60	585.13	585.13

**GIRDER 2**

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	911+28.33	-12.81	585.56	585.56
CL. BRG. W. ABUT.	911+34.34	-12.81	585.59	585.59
A	911+44.27	-12.81	585.63	585.66
B	911+54.20	-12.81	585.68	585.74
C	911+64.14	-12.81	585.72	585.79
D	911+74.07	-12.81	585.76	585.84
E	911+84.00	-12.81	585.79	585.86
F	911+93.94	-12.81	585.83	585.89
G	912+03.87	-12.81	585.86	585.91
H	912+13.80	-12.81	585.88	585.90
I	912+23.74	-12.81	585.91	585.92
CL. PIER 1	912+32.53	-12.81	585.93	585.93
J	912+42.46	-12.81	585.95	585.96
K	912+52.39	-12.81	585.97	585.99
L	912+62.33	-12.81	585.99	586.03
M	912+72.26	-12.81	586.00	586.06
N	912+82.19	-12.81	586.01	586.08
O	912+92.13	-12.81	586.02	586.08
P	913+02.06	-12.81	586.03	586.09
Q	913+11.99	-12.81	586.03	586.08
R	913+21.93	-12.81	586.04	586.07
S	913+31.86	-12.81	586.03	586.04
CL. PIER 2	913+45.25	-12.81	586.03	586.03
T	913+55.19	-12.81	586.02	586.02
U	913+65.12	-12.81	586.01	586.02
V	913+75.05	-12.81	586.00	586.03
W	913+84.99	-12.81	585.99	586.03
X	913+94.92	-12.81	585.97	586.02
Y	914+04.85	-12.81	585.95	585.99
Z	914+14.79	-12.81	585.93	585.96
AA	914+24.72	-12.81	585.91	585.93
BB	914+34.65	-12.81	585.88	585.89
CL. PIER 3	914+47.81	-12.81	585.84	585.84
CC	914+57.74	-12.81	585.81	585.81
DD	914+67.67	-12.81	585.78	585.79
EE	914+77.61	-12.81	585.74	585.77
FF	914+87.54	-12.81	585.70	585.74
GG	914+97.47	-12.81	585.66	585.70
HH	915+07.41	-12.81	585.61	585.64
I	915+17.34	-12.81	585.57	585.59
CL. BRG. E. ABUT.	915+25.95	-12.81	585.52	585.52
BK. OF E. ABUT.	915+30.20	-12.81	585.50	585.50

**GIRDER 1**

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	911+43.86	-20.02	586.06	586.06
CL. BRG. W. ABUT.	911+49.74	-20.02	586.08	586.08
A	911+59.64	-20.02	586.12	586.15
B	911+69.54	-20.02	586.16	586.22
C	911+79.43	-20.02	586.20	586.28
D	911+89.33	-20.02	586.24	586.32
E	911+99.22	-20.02	586.27	586.34
F	912+09.12	-20.02	586.30	586.36
G	912+19.02	-20.02	586.32	586.36
H	912+28.91	-20.02	586.35	586.37
I	912+38.81	-20.02	586.37	586.38
CL. PIER 1	912+46.08	-20.02	586.39	586.39
J	912+55.98	-20.02	586.40	586.41
K	912+65.87	-20.02	586.42	586.44
L	912+75.77	-20.02	586.43	586.47
M	912+85.67	-20.02	586.44	586.50
N	912+95.56	-20.02	586.45	586.52
O	913+05.46	-20.02	586.46	586.52
P	913+15.35	-20.02	586.46	586.52
Q	913+25.25	-20.02	586.46	586.50
R	913+35.15	-20.02	586.46	586.48
S	913+45.04	-20.02	586.46	586.47
CL. PIER 2	913+57.07	-20.02	586.45	586.45
T	913+66.97	-20.02	586.44	586.44
U	913+76.86	-20.02	586.43	586.44
V	913+86.76	-20.02	586.41	586.44
W	913+96.66	-20.02	586.39	586.43
X	914+06.55	-20.02	586.38	586.43
Y	914+16.45	-20.02	586.35	586.39
Z	914+26.35	-20.02	586.33	586.36
AA	914+36.24	-20.02	586.30	586.32
BB	914+46.14	-20.02	586.27	586.28
CL. PIER 3	914+58.32	-20.02	586.23	586.23
CC	914+68.21	-20.02	586.20	586.21
DD	914+78.11	-20.02	586.16	586.18
EE	914+88.00	-20.02	586.12	586.15
FF	914+97.90	-20.02	586.08	586.12
GG	915+07.80	-20.02	586.04	586.08
HH	915+17.69	-20.02	585.99	586.03
I	915+27.59	-20.02	585.94	585.96
CL. BRG. E. ABUT.	915+35.59	-20.02	585.90	585.90
BK. OF E. ABUT.	915+39.79	-20.02	585.88	585.88

**NORTH GUTTER LINE**

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	911+48.06	-22.00	586.19	586.19
CL. BRG. W. ABUT.	911+53.91	-22.00	586.22	586.22
A	911+63.79	-22.00	586.26	586.29
B	911+73.68	-22.00	586.30	586.36
C	911+83.57	-22.00	586.33	586.41
D	911+93.45	-22.00	586.37	586.45
E	912+03.34	-22.00	586.40	586.47
F	912+13.22	-22.00	586.43	586.49
G	912+23.11	-22.00	586.45	586.49
H	912+33.00	-22.00	586.48	586.50
I	912+42.88	-22.00	586.50	586.51
CL. PIER 1	912+49.75	-22.00	586.51	586.51
J	912+59.64	-22.00	586.53	586.54
K	912+69.53	-22.00	586.54	586.56
L	912+79.41	-22.00	586.55	586.59
M	912+89.30	-22.00	586.56	586.62
N	912+99.18	-22.00	586.57	586.64
O	913+09.07	-22.00	586.58	586.64
P	913+18.96	-22.00	586.58	586.64
Q	913+28.84	-22.00	586.58	586.62
R	913+38.73	-22.00	586.58	586.60
S	913+48.61	-22.00	586.57	586.58
CL. PIER 2	913+60.28	-22.00	586.56	586.56
T	913+70.17	-22.00	586.55	586.55
U	913+80.06	-22.00	586.54	586.55
V	913+89.94	-22.00	586.52	586.55
W	913+99.83	-22.00	586.51	586.55
X	914+09.71	-22.00	586.49	586.54
Y	914+19.60	-22.00	586.46	586.50
Z	914+29.48	-22.00	586.44	586.47
AA	914+39.37	-22.00	586.41	586.43
BB	914+49.26	-22.00	586.38	586.39
CL. PIER 3	914+61.17	-22.00	586.34	586.34
CC	914+71.06	-22.00	586.31	586.32
DD	914+80.95	-22.00	586.27	586.29
EE	914+90.83	-22.00	586.23	586.26
FF	915+00.72	-22.00	586.19	586.23
GG	915+10.60	-22.00	586.14	586.18
HH	915+20.49	-22.00	586.09	586.13
I	915+30.38	-22.00	586.04	586.06
CL. BRG. E. ABUT.	915+38.21	-22.00	586.00	586.00
BK. OF E. ABUT.	915+42.41	-22.00	585.98	585.98

**DECK ELEVATIONS**  
 W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 913+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N. 060-0022

<b>MTA, INCORPORATED</b>	
DESIGNED FTT	CHECKED GBM
DRAWN SPM	DATE 7/94

**SOUTH GUTTER LINE**

**GIRDER 6**

**GIRDER 5**

**GIRDER 4**

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	910+57.05	18.00	583.33	583.33	BK. OF W. ABUT.	910+61.90	16.02	583.48	583.48	BK. OF W. ABUT.	910+79.21	8.81	584.01	584.01	BK. OF W. ABUT.	910+96.03	1.60	584.54	584.54
CL BRG. W. ABUT.	910+63.70	18.00	583.37	583.37	CL BRG. W. ABUT.	910+68.50	16.02	583.52	583.52	CL BRG. W. ABUT.	910+85.64	8.81	584.05	584.05	CL BRG. W. ABUT.	911+02.31	1.60	584.57	584.57
A	910+73.80	18.00	583.44	583.48	A	910+78.58	16.02	583.58	583.62	A	910+95.69	8.81	584.11	584.14	A	911+12.32	1.60	584.63	584.66
B	910+83.89	18.00	583.50	583.58	B	910+88.67	16.02	583.64	583.72	B	911+05.74	8.81	584.17	584.24	B	911+22.33	1.60	584.68	584.73
C	910+93.99	18.00	583.56	583.67	C	910+98.75	16.02	583.70	583.81	C	911+15.78	8.81	584.22	584.31	C	911+32.34	1.60	584.73	584.82
D	911+04.08	18.00	583.62	583.74	D	911+08.84	16.02	583.76	583.88	D	911+25.83	8.81	584.27	584.37	D	911+42.35	1.60	584.77	584.87
E	911+14.18	18.00	583.67	583.79	E	911+18.92	16.02	583.81	583.93	E	911+35.88	8.81	584.32	584.42	E	911+52.35	1.60	584.82	584.92
F	911+24.27	18.00	583.72	583.83	F	911+29.01	16.02	583.86	583.97	F	911+45.92	8.81	584.37	584.46	F	911+62.36	1.60	584.86	584.94
G	911+34.37	18.00	583.77	583.86	G	911+39.09	16.02	583.91	584.00	G	911+55.97	8.81	584.41	584.48	G	911+72.37	1.60	584.90	584.96
H	911+44.46	18.00	583.82	583.88	H	911+49.17	16.02	583.95	584.01	H	911+66.01	8.81	584.45	584.50	H	911+82.38	1.60	584.94	584.98
I	911+54.56	18.00	583.86	583.89	I	911+59.26	16.02	584.00	584.03	I	911+76.06	8.81	584.49	584.52	I	911+92.39	1.60	584.97	584.99
II	911+64.65	18.00	583.90	583.91	II	911+69.34	16.02	584.04	584.05										
CL PIER 1	911+71.13	18.00	583.93	583.93	CL PIER 1	911+75.26	16.02	584.06	584.06	CL PIER 1	911+90.06	8.81	584.54	584.54	CL PIER 1	912+04.53	1.60	585.01	585.01
J	911+81.22	18.00	583.96	583.97	J	911+85.34	16.02	584.10	584.11	J	912+00.11	8.81	584.57	584.58	J	912+14.54	1.60	585.04	585.05
K	911+91.32	18.00	584.00	584.02	K	911+95.43	16.02	584.13	584.15	K	912+10.16	8.81	584.60	584.62	K	912+24.55	1.60	585.06	585.08
L	912+01.41	18.00	584.03	584.06	L	912+05.51	16.02	584.16	584.19	L	912+20.20	8.81	584.63	584.67	L	912+34.56	1.60	585.09	585.13
M	912+11.51	18.00	584.06	584.11	M	912+15.59	16.02	584.19	584.24	M	912+30.25	8.81	584.65	584.71	M	912+44.57	1.60	585.11	585.17
N	912+21.60	18.00	584.09	584.15	N	912+25.68	16.02	584.21	584.27	N	912+40.30	8.81	584.67	584.74	N	912+54.58	1.60	585.13	585.20
O	912+31.70	18.00	584.11	584.18	O	912+35.76	16.02	584.24	584.31	O	912+50.34	8.81	584.69	584.76	O	912+64.58	1.60	585.14	585.20
P	912+41.79	18.00	584.13	584.20	P	912+45.85	16.02	584.26	584.33	P	912+60.39	8.81	584.71	584.77	P	912+74.59	1.60	585.16	585.22
Q	912+51.89	18.00	584.15	584.22	Q	912+55.93	16.02	584.28	584.35	Q	912+70.43	8.81	584.72	584.77	Q	912+84.60	1.60	585.17	585.22
R	912+61.98	18.00	584.17	584.22	R	912+66.02	16.02	584.29	584.35	R	912+80.48	8.81	584.74	584.78	R	912+94.61	1.60	585.18	585.22
S	912+72.08	18.00	584.18	584.21	S	912+76.10	16.02	584.31	584.34	S	912+90.53	8.81	584.75	584.77	S	913+04.62	1.60	585.18	585.20
S1	912+82.18	18.00	584.20	584.21	S1	912+86.19	16.02	584.32	584.33	S1	913+00.57	8.81	584.75	584.76	S1	913+14.63	1.60	585.18	585.19
CL PIER 2	912+92.21	18.00	584.21	584.21	CL PIER 2	912+95.75	16.02	584.33	584.33	CL PIER 2	913+08.48	8.81	584.76	584.76	CL PIER 2	913+20.96	1.60	585.19	585.19
T	913+02.31	18.00	584.21	584.21	T	913+05.83	16.02	584.33	584.33	T	913+18.52	8.81	584.76	584.76	T	913+30.97	1.60	585.18	585.18
U	913+12.40	18.00	584.22	584.23	U	913+15.92	16.02	584.33	584.34	U	913+28.57	8.81	584.76	584.77	U	913+40.98	1.60	585.18	585.19
V	913+22.50	18.00	584.22	584.25	V	913+26.00	16.02	584.33	584.36	V	913+38.62	8.81	584.76	584.79	V	913+50.99	1.60	585.18	585.21
W	913+32.59	18.00	584.22	584.26	W	913+36.09	16.02	584.33	584.37	W	913+48.66	8.81	584.75	584.79	W	913+61.00	1.60	585.17	585.21
X	913+42.69	18.00	584.21	584.26	X	913+46.17	16.02	584.33	584.38	X	913+58.71	8.81	584.74	584.79	X	913+71.00	1.60	585.16	585.21
Y	913+52.78	18.00	584.21	584.26	Y	913+56.26	16.02	584.32	584.37	Y	913+68.75	8.81	584.73	584.78	Y	913+81.01	1.60	585.14	585.18
Z	913+62.88	18.00	584.20	584.25	Z	913+66.34	16.02	584.31	584.36	Z	913+78.80	8.81	584.72	584.78	Z	913+91.02	1.60	585.13	585.17
AA	913+72.97	18.00	584.19	584.22	AA	913+78.43	16.02	584.30	584.33	AA	913+88.85	8.81	584.71	584.74	AA	914+01.03	1.60	585.11	585.14
BB	913+83.07	18.00	584.17	584.19	BB	913+86.51	16.02	584.29	584.31	BB	913+98.89	8.81	584.69	584.70	BB	914+11.04	1.60	585.09	585.10
BB1	913+93.16	18.00	584.16	584.17	BB1	913+96.60	16.02	584.27	584.27	BB1	914+08.94	8.81	584.67	584.67	BB1	914+21.05	1.60	585.07	585.07
CL PIER 3	914+00.93	18.00	584.14	584.14	CL PIER 3	914+04.05	16.02	584.25	584.25	CL PIER 3	914+15.25	8.81	584.66	584.66	CL PIER 3	914+26.28	1.60	585.05	585.05
CC	914+11.03	18.00	584.12	584.12	CC	914+14.13	16.02	584.23	584.23	CC	914+25.30	8.81	584.63	584.63	CC	914+36.29	1.60	585.03	585.03
DD	914+21.12	18.00	584.10	584.11	DD	914+24.21	16.02	584.21	584.22	DD	914+35.35	8.81	584.60	584.61	DD	914+46.30	1.60	585.00	585.01
EE	914+31.22	18.00	584.07	584.10	EE	914+34.30	16.02	584.18	584.21	EE	914+46.39	8.81	584.58	584.61	EE	914+56.31	1.60	584.97	585.00
FF	914+41.31	18.00	584.05	584.09	FF	914+44.38	16.02	584.15	584.19	FF	914+55.44	8.81	584.54	584.58	FF	914+66.31	1.60	584.93	584.97
GG	914+51.41	18.00	584.01	584.05	GG	914+54.47	16.02	584.12	584.16	GG	914+65.49	8.81	584.51	584.55	GG	914+76.32	1.60	584.89	584.93
HH	914+61.51	18.00	583.98	584.01	HH	914+64.55	16.02	584.09	584.12	HH	914+75.53	8.81	584.47	584.50	HH	914+86.33	1.60	584.86	584.89
II	914+71.60	18.00	583.94	583.96	II	914+74.64	16.02	584.05	584.07	II	914+85.58	8.81	584.43	584.45	II	914+96.34	1.60	584.81	584.83
CL BRG. E. ABUT.	914+83.10	18.00	583.90	583.90	CL BRG. E. ABUT.	914+85.94	16.02	584.01	584.01	CL BRG. E. ABUT.	914+96.16	8.81	584.39	584.39	CL BRG. E. ABUT.	915+06.24	1.60	584.77	584.77
BK. OF E. ABUT.	914+87.56	18.00	583.88	583.88	BK. OF E. ABUT.	914+90.38	16.02	583.99	583.99	BK. OF E. ABUT.	915+00.56	8.81	584.37	584.37	BK. OF E. ABUT.	915+10.58	1.60	584.75	584.75

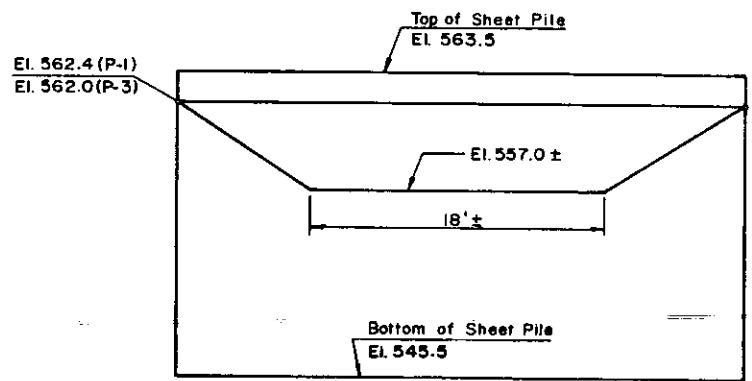
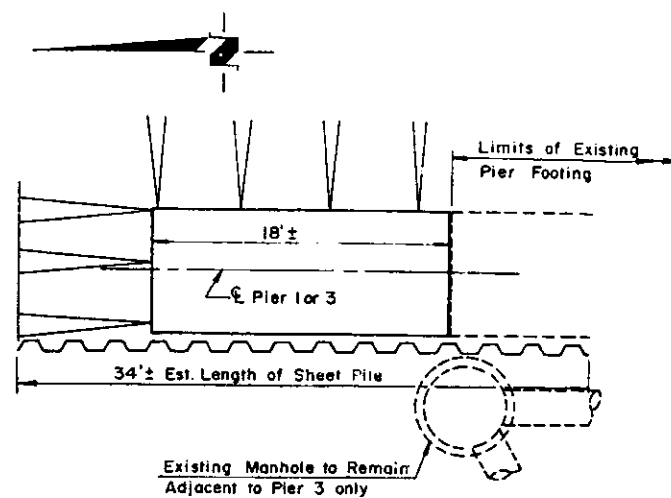
DECK ELEVATIONS  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

MTA, INCORPORATED  
DESIGNED FTT  
DRAWN SPM  
CHECKED GBM  
DATE 7/94 NO.

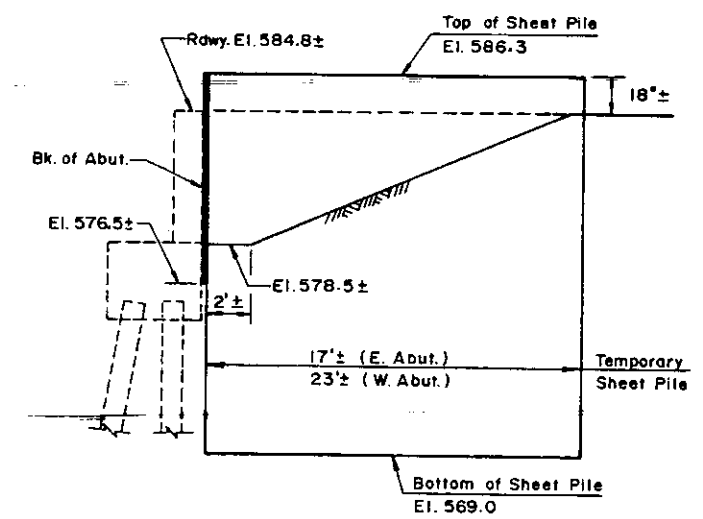
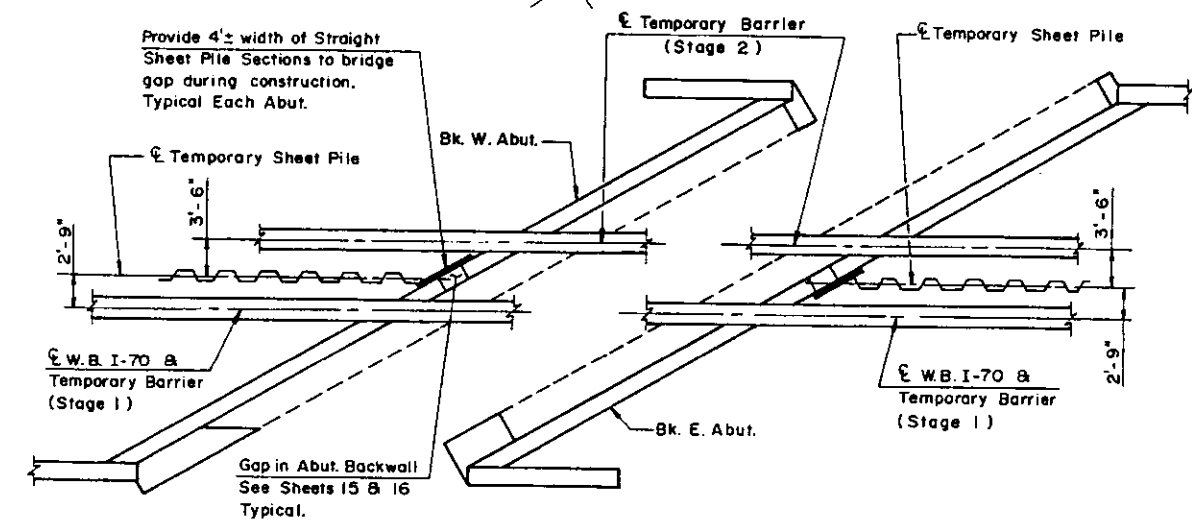


**STAGE CONSTRUCTION LINE**

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK.OF W. ABUT.	911+09.35	-4.25	584.96	584.96
CL. BRG. W. ABUT.	911+15.52	-4.25	584.99	584.99
A	911+25.50	-4.25	585.04	585.07
B	911+35.47	-4.25	585.09	585.16
C	911+45.45	-4.25	585.13	585.22
D	911+55.43	-4.25	585.18	585.28
E	911+65.41	-4.25	585.22	585.31
F	911+75.39	-4.25	585.26	585.34
G	911+85.36	-4.25	585.29	585.34
H	911+95.34	-4.25	585.32	585.35
I	912+05.32	-4.25	585.36	585.37
CL. PIER 1	912+16.05	-4.25	585.39	585.39
J	912+26.03	-4.25	585.41	585.42
K	912+36.00	-4.25	585.43	585.45
L	912+45.98	-4.25	585.46	585.50
M	912+55.96	-4.25	585.47	585.53
N	912+65.94	-4.25	585.49	585.56
O	912+75.92	-4.25	585.50	585.56
P	912+85.89	-4.25	585.51	585.57
Q	912+95.87	-4.25	585.52	585.57
R	913+05.85	-4.25	585.53	585.56
S	913+15.83	-4.25	585.53	585.54
SI	913+25.80	-4.25	585.53	585.53
CL. PIER 2	913+30.93	-4.25	585.53	585.53
CL. PIER 2	913+30.93	-4.25	585.53	585.53
T	913+40.91	-4.25	585.53	585.53
U	913+50.89	-4.25	585.52	585.53
V	913+60.87	-4.25	585.51	585.54
W	913+70.84	-4.25	585.50	585.54
X	913+80.82	-4.25	585.49	585.54
Y	913+90.80	-4.25	585.47	585.51
Z	914+00.78	-4.25	585.46	585.50
AA	914+10.76	-4.25	585.44	585.47
BB	914+20.73	-4.25	585.41	585.42
CL. PIER 3	914+35.10	-4.25	585.38	585.38
CC	914+45.08	-4.25	585.35	585.35
DD	914+55.06	-4.25	585.32	585.33
EE	914+65.04	-4.25	585.28	585.31
FF	914+75.02	-4.25	585.24	585.28
GG	914+84.99	-4.25	585.21	585.25
HH	914+94.97	-4.25	585.16	585.19
II	915+04.95	-4.25	585.12	585.14
CL. BRG. E. ABUT.	915+14.31	-4.25	585.08	585.08
BK. OF E. ABUT.	915+18.62	-4.25	585.06	585.06



NOTE: The information shown for the Temporary Sheet Piling is estimated. It is the Contractor's responsibility to provide a design and computations of the Temporary Sheet Piling and associated members, if required, subject to the approval of the Engineer.

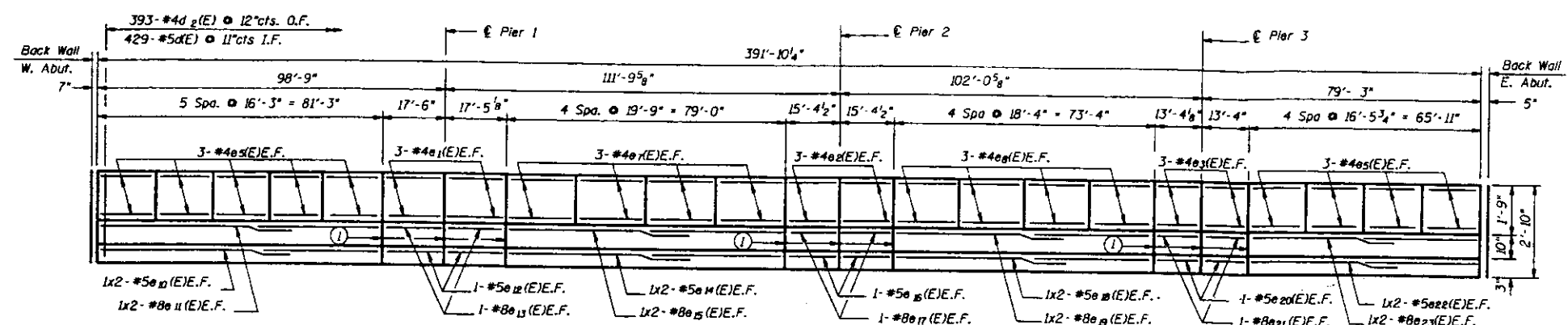


**DECK ELEVATIONS**  
**W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55**  
**F.A.I. RTE. 70 SECTION 60-10HB-Y**  
**STA. 913+23.71 F.A.I. 70**  
**STA. 1291+72.17 F.A.I. 55**  
**MADISON COUNTY**  
**S.N. 060-0022**

**MTA INCORPORATED**  
 DESIGNED: D.R.B. CHECKED: D.R.B.  
 DRAWN: J.P.H. DATE: 7/94

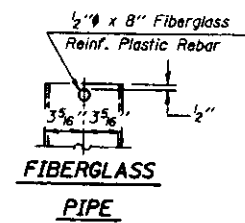


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	60-KHB-Y	MADISON	228	207
FED. ROAD DIST. NO. 7	PROJECT			
Sheet 8 of 26				



INSIDE ELEVATION OF NORTH PARAPET

① Aluminum Sheeted construction joints in base of parapet.



MIN. LAP LENGTH

Bar	Lap
#5	2'-2"
#8	4'-6"

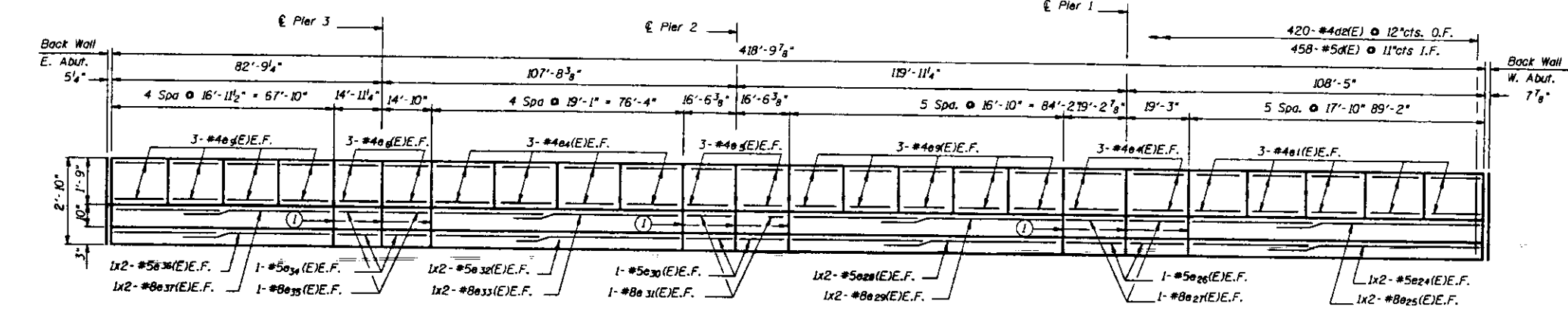
BILL OF MATERIALS

BAR	No.	SIZE	LENGTH	SHAPE
d (E)	887	#5	3'-0"	
d <sub>2</sub> (E)	813	#4	3'-0"	
e <sub>1</sub> (E)	42	#4	17'-2"	
e <sub>2</sub> (E)	12	#4	15'-0"	
e <sub>3</sub> (E)	12	#4	13'-0"	
e <sub>4</sub> (E)	36	#4	18'-10"	
e <sub>5</sub> (E)	66	#4	16'-0"	
e <sub>6</sub> (E)	12	#4	14'-7"	
e <sub>7</sub> (E)	24	#4	19'-6"	
e <sub>8</sub> (E)	24	#4	18'-1"	
e <sub>9</sub> (E)	54	#4	41'-6"	
e <sub>10</sub> (E)	4	#5	41'-8"	
e <sub>11</sub> (E)	4	#8	42'-9"	
e <sub>12</sub> (E)	4	#5	17'-2"	
e <sub>13</sub> (E)	4	#8	17'-2"	
e <sub>14</sub> (E)	4	#5	40'-6"	
e <sub>15</sub> (E)	4	#8	41'-8"	
e <sub>16</sub> (E)	4	#5	15'-0"	
e <sub>17</sub> (E)	4	#8	15'-0"	
e <sub>18</sub> (E)	4	#5	37'-7"	
e <sub>19</sub> (E)	4	#8	38'-9"	
e <sub>20</sub> (E)	4	#5	13'-0"	
e <sub>21</sub> (E)	4	#8	13'-0"	
e <sub>22</sub> (E)	4	#5	33'-8"	
e <sub>23</sub> (E)	4	#8	34'-10"	
e <sub>24</sub> (E)	4	#5	45'-5"	
e <sub>25</sub> (E)	4	#8	46'-7"	
e <sub>26</sub> (E)	4	#5	18'-11"	
e <sub>27</sub> (E)	4	#8	18'-11"	
e <sub>28</sub> (E)	4	#5	43'-1"	
e <sub>29</sub> (E)	4	#8	44'-3"	
e <sub>30</sub> (E)	4	#5	16'-3"	
e <sub>31</sub> (E)	4	#8	16'-3"	
e <sub>32</sub> (E)	4	#5	39'-1"	
e <sub>33</sub> (E)	4	#8	40'-3"	
e <sub>34</sub> (E)	4	#5	14'-6"	
e <sub>35</sub> (E)	4	#8	14'-6"	
e <sub>36</sub> (E)	4	#5	34'-11"	
e <sub>37</sub> (E)	4	#8	36'-0"	

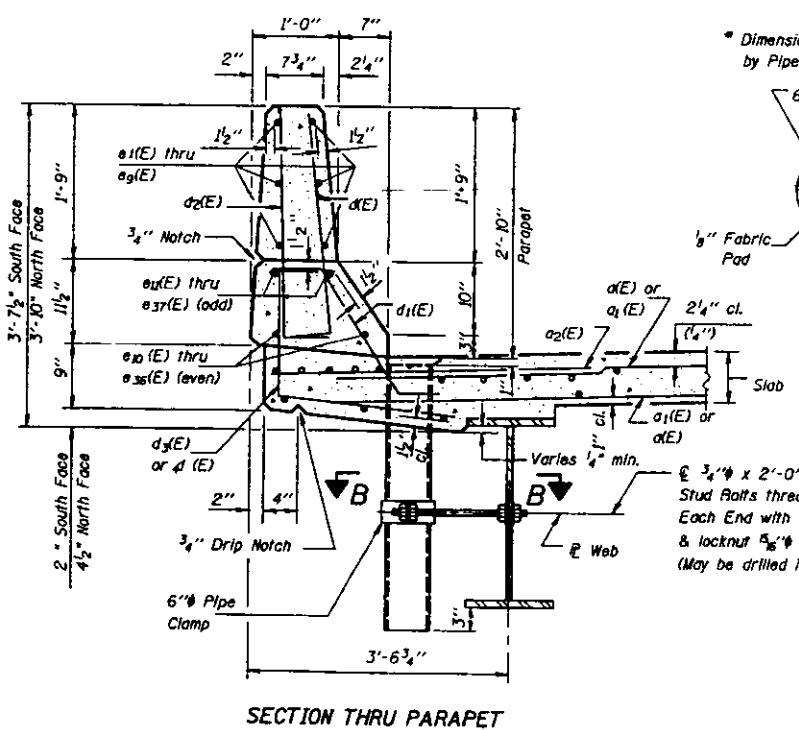
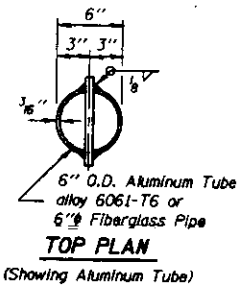
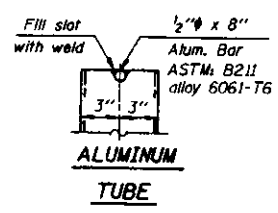
ITEM	UNIT	QTY.
Reinforcement Bars, Epoxy Coated	Pound	13,790
Concrete Superstructure	Cu. Yds.	81.8

Reinforcement Bars designated (E) shall be Epoxy Coated.

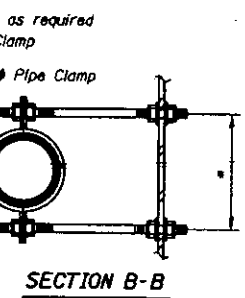
**PARAPET DETAILS**  
**W.B. F.A.I. RTE.70 OVER F.A.I. RTE.55**  
**F.A.I. RTE.70 SECTION 60-KHB-Y**  
**STA.913+23.71 F.A.I.70**  
**STA.1291+72.17 F.A.I.55**  
**MADISON COUNTY**  
**S.N.060-0022**



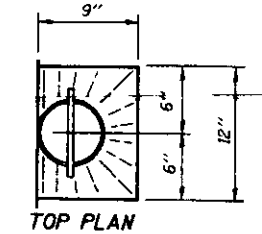
INSIDE ELEVATION OF SOUTH PARAPET



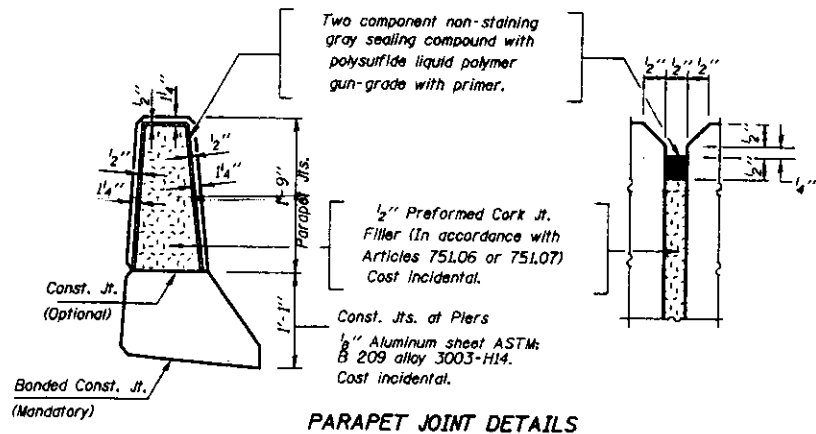
SECTION THRU PARAPET



SECTION B-B

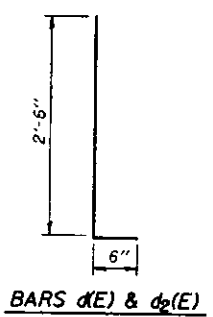


TOP PLAN



PARAPET JOINT DETAILS

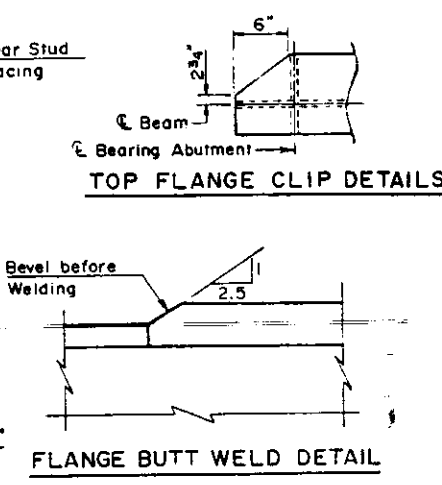
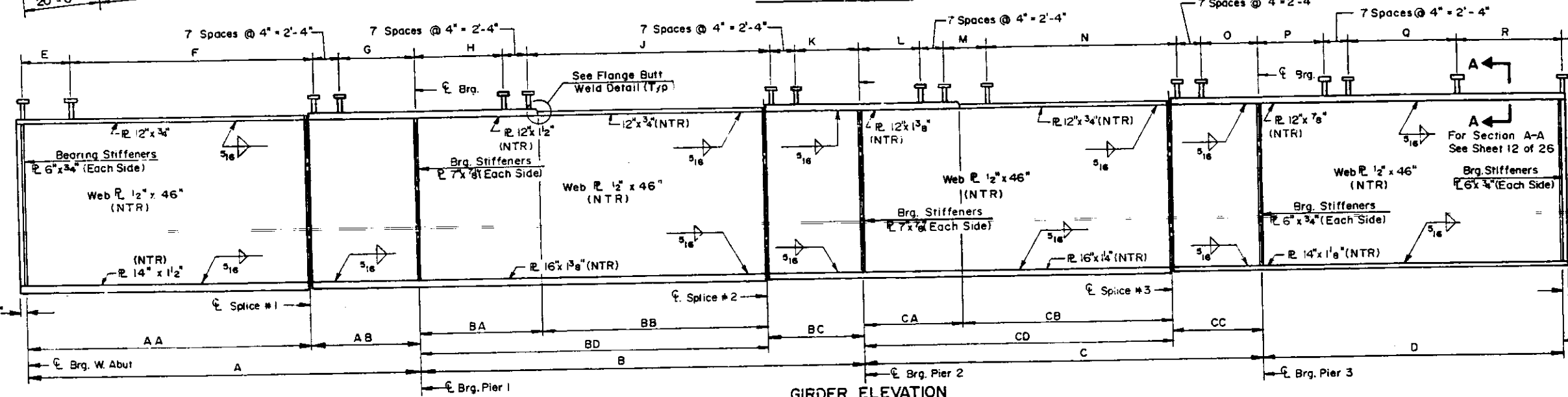
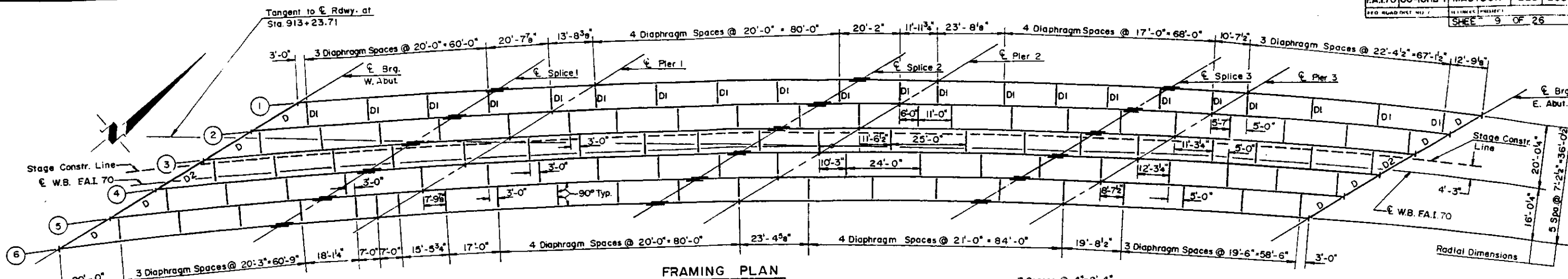
Notes:  
 The exterior surfaces of the Floor Drain shall be painted with the finish coat of the paint system specified for Structural Steel. The exterior surfaces of the drain shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SPI & SSPC-Paint 27 prior to painting.  
 Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.



BARS d(E) & d<sub>2</sub>(E)

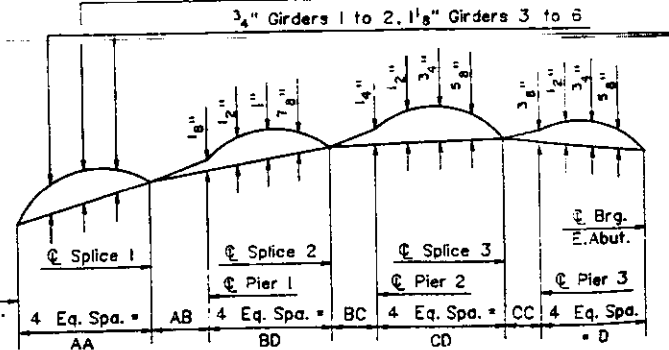
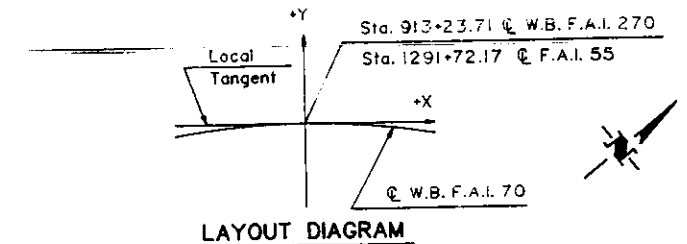
**MTA INCORPORATED**  
 DESIGNED: GBM CHECKED: CMS  
 DRAWN: TNJr. DATE: JULY 1994

LOCATION NO. 6



**GIRDER GEOMETRY**

LOCATION	A	AA	AB	B	BA	BB	BC	BU	C	CA	CB	CC	CD	D	RADIUS
GIRDER 1	97'-4 1/8"	70'-1 1/8"	27'-3 3/8"	112'-1 1/4"	31'-7 1/2"	55'-5"	25'-1 1/4"	87'-0 1/2"	102'-3 5/8"	26'-1"	53'-9 5/8"	22'-5"	79'-10 5/8"	78'-0 1/8"	1929.88
GIRDER 2	98'-10 1/4"	71'-2 1/8"	27'-8 1/8"	113'-5 3/4"	32'-0"	56'-1"	25'-4 3/4"	88'-1"	103'-2 7/8"	26'-4"	54'-3 5/8"	22'-7 1/4"	80'-7 5/8"	78'-7 1/8"	1922.67
GIRDER 3	100'-5 1/4"	72'-3 3/4"	28'-1 1/2"	114'-10 1/2"	32'-4 3/4"	56'-8 1/4"	25'-9 1/2"	89'-9 1/4"	104'-2 5/8"	26'-7"	54'-9 5/8"	22'-10"	81'-4 5/8"	79'-3 1/4"	1908.26
GIRDER 4	102'-1 1/4"	73'-6 1/2"	28'-7 1/4"	116'-4"	32'-9"	57'-0 1/4"	26'-6 3/4"	89'-9 1/4"	105'-3 3/4"	26'-10"	55'-4 1/4"	23'-0 1/2"	82'-2 1/4"	79'-10 5/8"	1908.26
GIRDER 5	103'-1 1/4"	74'-10 1/8"	29'-1 1/4"	117'-10 3/8"	33'-3"	57'-11 3/8"	26'-7 3/4"	91'-2 5/8"	106'-3 1/2"	27'-1 1/4"	55'-11"	23'-3 1/4"	83'-0 1/4"	80'-6 1/2"	1901.05
GIRDER 6	105'-10 1/2"	76'-2 7/8"	29'-7 3/8"	119'-5 3/4"	33'-8 1/4"	58'-1 1/4"	27'-8"	91'-9 1/2"	107'-4 3/8"	27'-4 3/4"	53'-7 5/8"	26'-4 1/4"	81'-0 3/8"	81'-2 1/2"	1893.84



**SHEAR STUD LAYOUT DIMENSION**

LOCATION	SPAN 1		SPAN 2		SPAN 3		SPAN 4	
	Spa. at 11" Dimension	Spa. at 12" Dimension	Spa. at 11" Dimension	Spa. at 12" Dimension	Spa. at 11" Dimension	Spa. at 12" Dimension	Spa. at 11" Dimension	Spa. at 12" Dimension
GIRDER 1	6	66	65	65	30	35	35	38
GIRDER 2	12	62	66	66	36	30	37	40
GIRDER 3	16	60	67	67	34	34	44	44
GIRDER 4	10	67	68	68	40	40	38	38
GIRDER 5	10	69	68	68	39	39	43	43
GIRDER 6	12	69	69	69	29	29	26	26

**TOP OF WEB ADJUSTED FOR DEFLECTION**

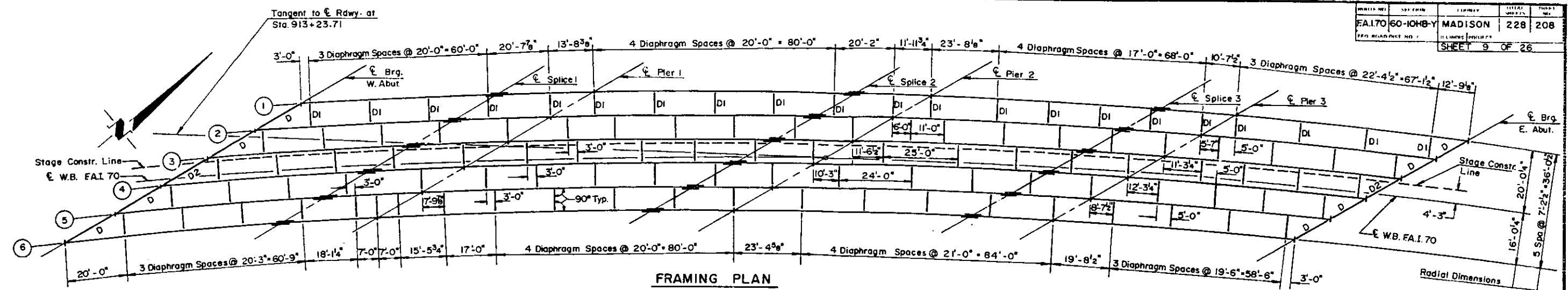
LOCATION	ABUT.	SPLICE 1	PIER 1	SPLICE 2	PIER 2	SPLICE 3	PIER 3	E. ABUT.
GIRDER 1	585.30	585.47	585.53	585.60	585.60	585.46	585.41	585.12
GIRDER 2	584.80	585.01	585.08	585.18	585.18	585.06	585.02	584.74
GIRDER 3	584.30	584.53	584.62	584.75	584.76	584.86	584.83	584.36
GIRDER 4	583.79	584.07	584.15	584.33	584.34	584.26	584.23	583.99
GIRDER 5	583.27	583.59	583.68	583.89	583.91	583.86	583.83	583.61
GIRDER 6	582.74	583.11	583.21	583.46	583.48	583.46	583.43	583.22

**LAYOUT DIMENSIONS**  
(In Ft. from Local Tangent)

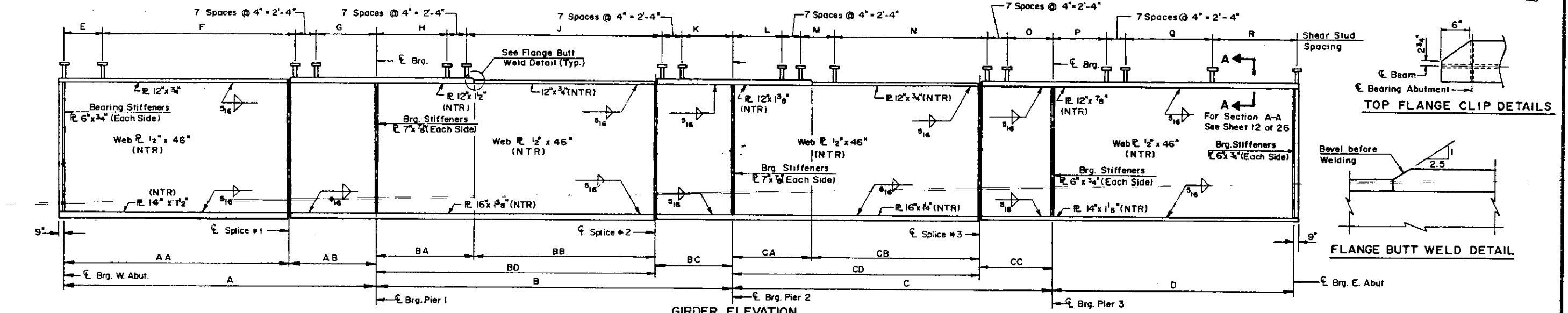
LOCATION	Brig. W. Abut.		Splice 1		Brig. Pier 1		Splice 2		Brig. Pier 2		Splice 3		Brig. Pier 3		Brig. E. Abut.	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
GIRDER 1	-175.56	12.02	-105.65	17.13	-78.42	18.43	8.61	20.00	33.71	19.73	113.54	16.68	135.91	15.23	213.66	8.16
GIRDER 2	-190.34	3.37	-119.39	9.10	-91.76	10.62	-3.71	12.81	102.28	10.09	124.84	8.76	203.21	2.04		
GIRDER 3	-205.39	-5.44	-133.35	0.96	-105.28	2.71	-16.26	5.54	9.54	5.58	90.89	3.45	113.69	2.23	192.69	-4.11
GIRDER 4	-220.73	-14.41	-147.53	-7.32	-119.00	-5.32	-29.31	-1.83	-2.74	-1.81	79.42	-3.62	102.44	-4.36	182.10	-10.31
GIRDER 5	-236.36	-23.56	-161.94	-15.72	-132.92	-13.46	-41.81	-9.27	-15.16	-8.87	67.84	-10.02	91.09	-11.00	171.42	-16.56
GIRDER 6	-252.33	-32.91	-176.59	-24.27	-147.06	-21.74	-55.38	-16.83	-27.72	-16.22	53.30	-16.77	79.64	-17.70	160.68	-22.85

**GIRDER DETAILS**  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

MTA, INCORPORATED  
DESIGNED GBM  
DRAWN SPM  
CHECKED BGH  
DATE 7/94



FRAMING PLAN



GIRDER ELEVATION

GIRDER GEOMETRY

LOCATION	A	AA	AB	B	BA	BB	BC	CD	C	CA	CB	CC	CD	D	RADIUS
GIRDER 1	97'-4 1/4"	70'-1 1/8"	27'-3 3/8"	112'-1 1/4"	31'-7 1/2"	55'-5"	25'-1 1/4"	87'-0 1/2"	102'-3 5/8"	26'-1"	53'-9 5/8"	22'-5"	79'-10 5/8"	78'-0 1/4"	1929.88
GIRDER 2	98'-10 1/4"	71'-2 1/8"	27'-8 1/8"	113'-5 1/4"	32'-0"	58'-1"	25'-4 1/4"	88'-1"	103'-2 1/8"	26'-4"	54'-3 5/8"	22'-7 1/4"	80'-7 5/8"	78'-7 1/8"	1922.67
GIRDER 3	100'-5 1/4"	72'-3 3/4"	28'-1 1/2"	114'-10 1/2"	32'-4 3/4"	56'-8 1/4"	25'-9 1/2"	89'-1"	104'-2 3/8"	26'-7"	54'-9 5/8"	22'-10"	81'-4 5/8"	79'-3 1/4"	1915.46
GIRDER 4	102'-1 1/4"	73'-6 1/2"	28'-7 1/4"	116'-4 1/4"	32'-9"	57'-0 7/8"	26'-6 3/4"	90'-9 3/8"	105'-2 3/4"	26'-10"	55'-4 1/4"	23'-0 1/2"	82'-2 1/4"	79'-10 5/8"	1908.26
GIRDER 5	103'-1 1/4"	74'-10 1/4"	29'-1 1/4"	117'-10 3/4"	33'-3"	57'-1 1/8"	26'-7 3/4"	91'-2 5/8"	106'-3 1/4"	27'-1 1/4"	55'-11"	23'-3 1/4"	83'-0 1/4"	80'-6 1/2"	1901.05
GIRDER 6	105'-10 1/2"	76'-2 3/8"	29'-7 5/8"	119'-5 3/4"	33'-8 1/4"	58'-1 1/4"	27'-8"	91'-9 1/2"	107'-4 3/8"	27'-4 3/4"	53'-7 5/8"	26'-4 1/4"	81'-0 3/8"	81'-2 1/2"	1893.84

SHEAR STUD LAYOUT DIMENSION

LOCATION	SPAN 1				SPAN 2				SPAN 3				SPAN 4							
	Spa. at 11" Dimension	Spa. at 12" Dimension	Dimension	Dimension	Spa. at 11" Dimension	Spa. at 12" Dimension	Dimension	Dimension	Spa. at 10" Dimension	Spa. at 11" Dimension	Dimension	Dimension	Spa. at 10" Dimension	Spa. at 11" Dimension	Dimension	Dimension				
GIRDER 1	6	5'-6"	66	66'-0"	23'-6 1/4"	26'-1"	65	59'-7"	21'-9 3/4"	22'-6"	30	25'-0"	35	32'-1"	18'-0 5/8"	18'-4 7/8"	38	31'-8"	28	25'-8"
GIRDER 2	12	11'-0"	62	62'-0"	23'-6 1/4"	26'-6"	66	60'-6"	21'-9 3/4"	22'-10"	36	30'-0"	30	27'-6"	18'-2 7/8"	18'-8 7/8"	35	29'-2"	31	28'-5"
GIRDER 3	16	14'-8"	60	60'-0"	23'-5 1/4"	26'-11"	66	60'-6"	22'-9 1/2"	23'-1"	29	24'-2"	37	33'-11"	18'-4 5/8"	18'-10 1/4"	40	33'-4"	27	24'-9"
GIRDER 4	10	9'-2"	67	67'-0"	23'-7 3/4"	27'-5"	67	61'-5"	22'-10 1/2"	23'-5"	33	27'-6"	34	31'-2"	18'-5 3/4"	18'-10 5/8"	44	36'-8"	24	22'-0"
GIRDER 5	10	9'-2"	69	69'-0"	23'-5 3/8"	27'-10"	68	62'-4"	23'-0 5/8"	23'-9"	27	22'-6"	40	36'-8"	18'-8 1/2"	19'-0 1/2"	38	31'-8"	30	27'-6"
GIRDER 6	12	11'-0"	69	69'-0"	23'-6 1/2"	28'-4"	69	63'-3"	23'-2 3/4"	24'-0"	29	24'-2"	39	35'-9"	18'-9 5/8"	19'-2 1/2"	43	35'-10"	26	23'-10"

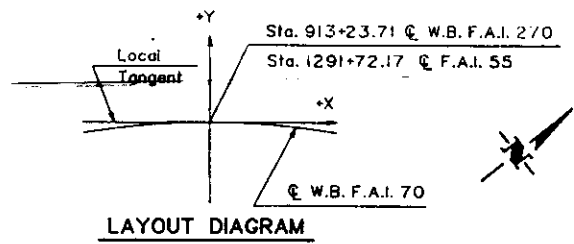
TOP OF WEB ADJUSTED FOR DEFLECTION

LOCATION	W. ABUT.	SPLICE 1	PIER 1	SPLICE 2	PIER 2	SPLICE 3	PIER 3	E. ABUT.
GIRDER 1	585.30	585.47	585.53	585.60	585.60	585.46	585.41	585.12
GIRDER 2	584.80	585.01	585.08	585.18	585.18	585.06	585.02	584.74
GIRDER 3	584.30	584.53	584.62	584.75	584.76	584.66	584.63	584.36
GIRDER 4	583.79	584.07	584.15	584.33	584.34	584.26	584.23	583.99
GIRDER 5	583.27	583.59	583.68	583.89	583.91	583.86	583.83	583.61
GIRDER 6	582.74	583.11	583.21	583.46	583.48	583.46	583.43	583.22

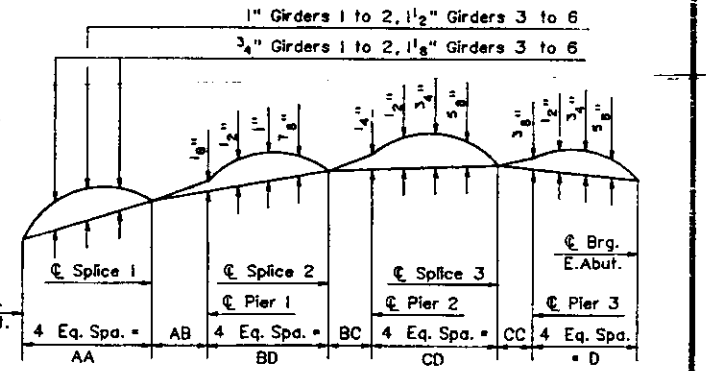
LAYOUT DIMENSIONS

(In Ft. from Local Tangent)

LOCATION	W. Abut.		Splice 1		Brg. Pier 1		Splice 2		Brg. Pier 2		Splice 3		Brg. Pier 3		Brg. E. Abut.	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
GIRDER 1	-175.56	12.02	-105.65	17.13	-78.42	18.43	8.61	20.00	33.71	19.73	113.54	16.68	135.91	15.23	213.66	8.16
GIRDER 2	-190.34	3.37	-119.39	9.10	-91.76	10.62	-3.71	12.81	21.69	12.69	102.28	10.09	124.84	8.76	203.21	2.04
GIRDER 3	-205.39	-5.44	-133.35	0.96	-105.28	2.71	-16.28	5.54	9.54	5.58	90.89	3.45	113.69	2.23	192.69	-4.11
GIRDER 4	-220.73	-14.41	-147.53	-7.32	-119.00	-5.32	-29.31	-1.83	-2.74	-1.61	79.42	-3.62	102.44	-4.36	182.10	-10.31
GIRDER 5	-236.36	-23.56	-161.94	-15.72	-132.92	-3.46	-41.81	-9.27	-15.16	-8.87	67.84	-10.02	91.09	-11.00	171.42	-16.56
GIRDER 6	-252.33	-32.91	-176.59	-24.27	-147.06	-21.74	-55.38	-16.83	-27.72	-16.22	53.30	-16.77	79.64	-17.70	160.68	-22.85



LAYOUT DIAGRAM



CAMBER DIAGRAM

GIRDER DETAILS  
 W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 913+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N. 060-0022

MTA, INCORPORATED  
 DESIGNED GBM CHECKED BGH  
 DRAWN SPM DATE 7/94 NO.

**INTERIOR GIRDER MOMENT TABLE**

		.4 Span 1	Pier 1	.5 Span 2	Pier 2	.5 Span 3	Pier 3	.6 Span 4
I <sub>s</sub>	(in. <sup>4</sup> )	19254	26421	19533	24370	18818	18253	18253
S <sub>s</sub> (TOP)	(in. <sup>3</sup> )	660	1017	662	947	654	691	691
S <sub>s</sub> (BOTTOM)	(in. <sup>3</sup> )	1010	1154	1049	1065	980	846	846
I <sub>c</sub>	(3n) (in. <sup>4</sup> )	36735	---	37439	---	35789	---	32640
S <sub>c</sub> (TOP)	(3n) (in. <sup>3</sup> )	1897	---	1899	---	1889	---	1928
S <sub>c</sub> (BOTTOM)	(3n) (in. <sup>3</sup> )	1272	---	1318	---	1232	---	1051
I <sub>L</sub>	(n) (in. <sup>4</sup> )	52367	---	53613	---	50809	---	45009
S <sub>L</sub> (TOP)	(n) (in. <sup>3</sup> )	4924	---	4905	---	4932	---	5086
S <sub>L</sub> (BOTTOM)	(n) (in. <sup>3</sup> )	1392	---	1441	---	1348	---	1150
S <sub>w</sub> (TOP)	(in. <sup>3</sup> )	18	36	18	33	18	21	21
S <sub>w</sub> (BOTTOM)	(in. <sup>3</sup> )	49	59	59	53	53	37	37
DL	(K/1)	.910	.914	.917	.909	.900	.893	.885
M <sub>q</sub>	(K)	694	1302	467	1011	409	762	396
f <sub>s</sub> (TOP) (non-comp)	(Ksi)	12.62	15.36	8.47	12.81	7.50	13.23	6.88
f <sub>s</sub> (BOTTOM)	(Ksi)	8.25	13.54	5.34	11.39	5.01	10.81	5.62
SDL	(K/1)	.310	.310	.310	.310	.310	.310	.310
M <sub>s q</sub>	(K)	267	376	211	310	179	228	155
f <sub>s</sub> (TOP) (comp)	(Ksi)	1.68	4.44	1.33	3.93	1.14	3.96	.96
f <sub>s</sub> (BOTTOM)	(Ksi)	2.52	3.91	1.92	3.49	1.74	3.23	1.77
M <sub>l</sub>	(K)	907	704	881	648	793	476	668
M <sub>i</sub>	(K)	197	149	180	136	170	109	162
s/3 (M <sub>l</sub> + I)	(K)	1840	1422	1768	1307	1605	975	1384
f <sub>s</sub> s/3 (M <sub>l</sub> + I) (TOP)	(Ksi)	4.48	16.78	4.33	16.56	3.91	16.93	3.27
f <sub>s</sub> s/3 (M <sub>l</sub> + I) (BOTTOM)	(Ksi)	15.86	14.79	14.72	14.73	14.29	13.83	14.44
M <sub>o</sub>	(K)	3641	4030	3180	3416	2851	2555	2516
M <sub>w</sub> (TOP)	(K)	4.1	2.2	2.7	20.3	2.6	12.4	2.2
M <sub>w</sub> (BOTTOM)	(K)	16.4	2.2	14.0	20.3	13.9	12.4	10.6
f <sub>w</sub> (TOP)	(Ksi)	2.73	.73	1.80	7.38	1.73	7.08	1.26
f <sub>w</sub> (BOTTOM)	(Ksi)	4.02	.44	2.85	4.60	3.15	4.02	3.44
(f <sub>s</sub> + $\frac{M_o}{L}$ ) OVERLOAD (TOP) (Ksi)		20.89	37.14	15.51	38.98	13.88	39.57	12.10
(f <sub>s</sub> + $\frac{M_o}{L}$ ) OVERLOAD (BOT) (Ksi)		29.72	32.58	24.17	33.15	23.46	30.96	24.48
f <sub>s</sub> TOTAL (TOP)	(Ksi)	24.41	47.55	18.37	43.29	16.32	44.36	14.44
f <sub>s</sub> TOTAL (BOTTOM)	(Ksi)	34.62	41.91	28.57	38.49	27.35	36.23	28.38
f <sub>s</sub> TOTAL (TOP) + f <sub>w</sub> (TOP)	(Ksi)	27.14		20.17		18.05		
f <sub>s</sub> TOTAL (BOT.) + f <sub>w</sub> (BOT.)	(Ksi)	38.64		31.42		30.5		
F <sub>b</sub> (Top)	(Ksi)	34.22	50.0	34.91	50.0	33.45	50.0	40.03
F <sub>b</sub> (Bottom)	(Ksi)	50.0	49.28	50.0	49.92	50.0	41.50	50.0
V <sub>r</sub>	(K)	56.3		58.2		58.6		55.8

NOTE: Steel Sections in positive moment areas are controlled by fatigue criteria.

**DEFINITIONS**

I<sub>s</sub> and S<sub>s</sub> are the moment of inertia and section modulus of the steel section used in computing f<sub>s</sub> from the non-composite dead loads.

I<sub>c</sub> and S<sub>c</sub> are the moment of inertia and section modulus of the composite section used in computing f<sub>s</sub> from the composite dead loads.

I<sub>L</sub> and S<sub>L</sub> are the moment of inertia and section modulus of the composite section used in computing f<sub>s</sub> from the live loads and impact.

S<sub>w</sub> is the section modulus for one flange plate for lateral flange bending.

M<sub>w</sub> is the factored lateral bending moment on the flange.

f<sub>w</sub> is the calculated normal stress at the edge of flange due to lateral bending (factoring).

(f<sub>s</sub> +  $\frac{M_o}{L}$ ) (OVERLOAD) is the sum of the stress due to M<sub>q</sub> + M<sub>s q</sub> + 5/3 M<sub>l</sub> + I) + M<sub>w</sub>/L3

f<sub>s</sub> (TOTAL) is the sum of the stress due to L3 (M<sub>q</sub> + M<sub>s q</sub> + 5/3 M<sub>l</sub> + I) + M<sub>w</sub> VR is the maximum live load + impact shear range in span.

F<sub>b</sub> is the maximum allowable stress F<sub>bu</sub> or F<sub>by</sub> computed according to AASHTO "Guide Specifications for Horizontally Curved Highway Bridges", Section 2.12 (B) and 2.16.

R<sub>q</sub> is the reaction due to dead load.

R<sub>l</sub> is the reaction due to live load.

R<sub>imp</sub> is the reaction due to impact.

M<sub>l</sub> & R<sub>l</sub> include the effects of centrifugal force and superelevation.

**REACTION TABLE**

	W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.
R <sub>q</sub> (K)	48.3	157.2	138.5	122.2	36.3
R <sub>l</sub> (K)	42.3	71.9	69.6	62.5	41.0
R <sub>imp</sub> (K)	9.2	15.2	14.6	14.3	9.9
R TOTAL (K)	99.8	244.3	222.7	199.0	87.2

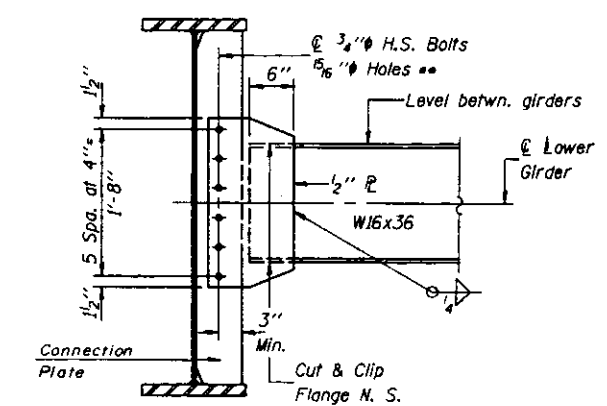
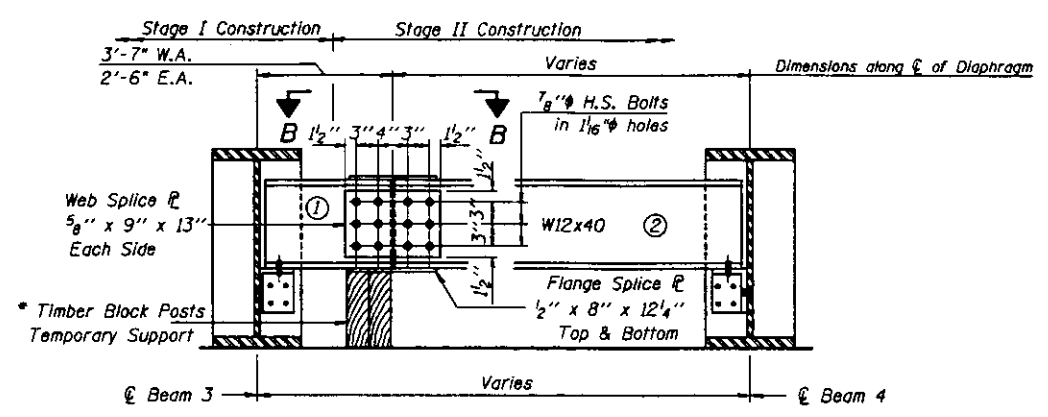
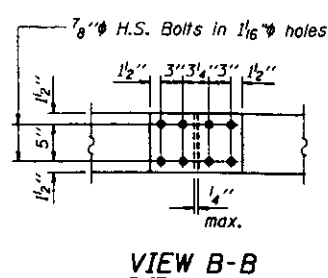
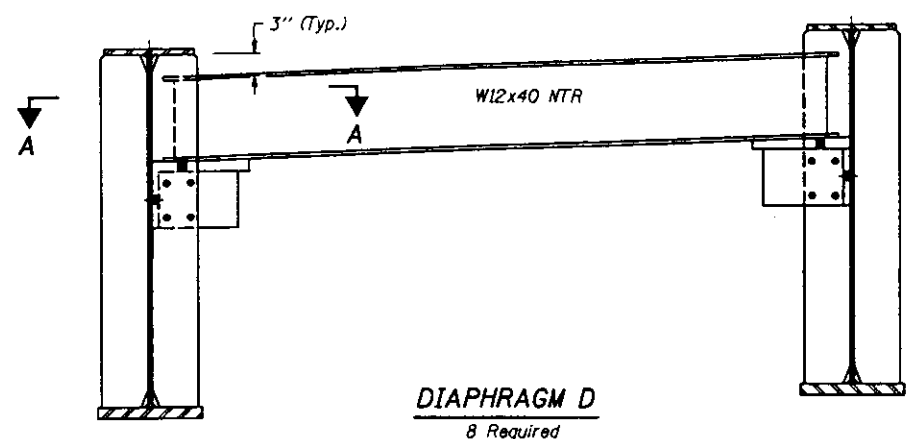
**STRESS TABLES**  
**W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55**  
**F.A.I. RTE. 70 SECTION 60-10HB-Y**  
**STA. 913+23.71 F.A.I. 70**  
**STA. 1291+72.17 F.A.I. 55**  
**MADISON COUNTY**  
**S N. 060-0022**

**MTA INCORPORATED**  
DESIGNED: GBW CHECKED: BGH  
DRAWN: TNJr. DATE: July, 1994

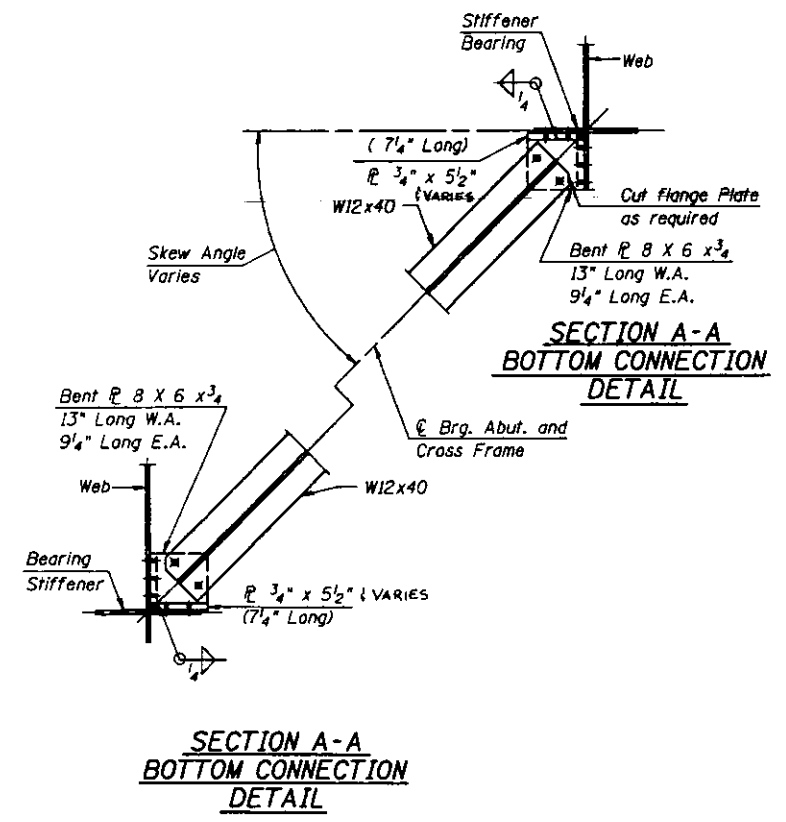
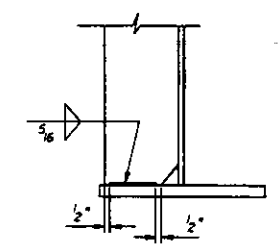
LOCATION NO. 6



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-10HB-1	MADISON	228	210
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT		Sheet 11 of 26	



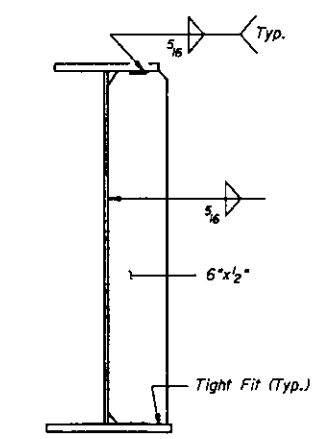
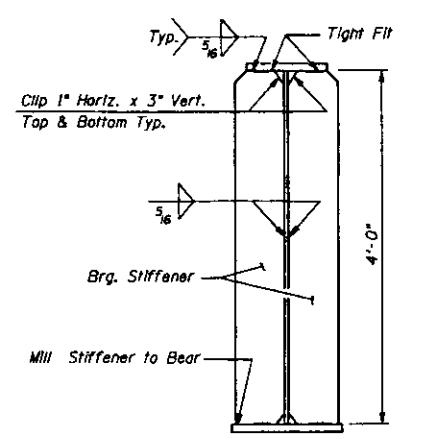
\*\* Use vertically oriented long slotted 1/16" x 1/2" holes in Web Stiffeners on Girder 4 North side and Girder 3 South side. Use Structural Plate Washers over holes.



\* Cost of Timber Block Posts is incidental to Structural Steel.

**DIAPHRAGM D<sub>2</sub> CONSTRUCTION SEQUENCE**

- 1.) Order Diaphragm D<sub>2</sub> in two sections.
- 2.) Attach section ① of Diaphragm to Beam 3 and top flange splice during Stage I Construction
- 3.) Place Timber Block Posts between section ① of diaphragm and abutment bearing seat.
- 4.) Attach section ② of diaphragm to both Beam 4 and section ① of diaphragm during Stage II Construction.
- 5.) Attach all remaining splice plates to sections ① and ② of diaphragms.
- 6.) Remove Timber Block Posts.



**NOTE:**  
Unless otherwise noted, all Bolts are 3/4" High Strength AASHTO M164 (ASTM A325) with 5/16" holes.  
Two Hardened Washers shall be required over all oversize holes.  
Bolts on Diaphragm D between Girders 3 & 4 shall be finger tight only prior to the Deck Slab pouring and shall be fully tightened immediately after Deck Slab is poured.

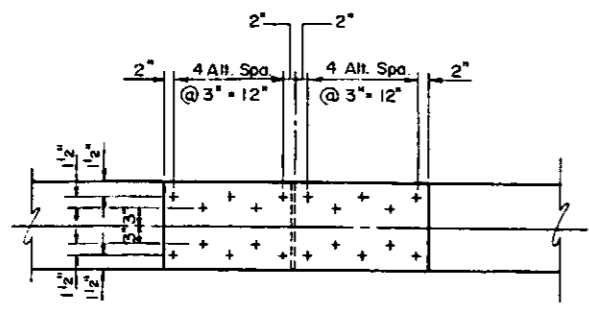
**STEEL DETAILS**  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

<b>MTA INCORPORATED</b>	
DESIGNED: GBM	CHECKED: BGH
DRAWN: T.N.Jr.	DATE: July 1994

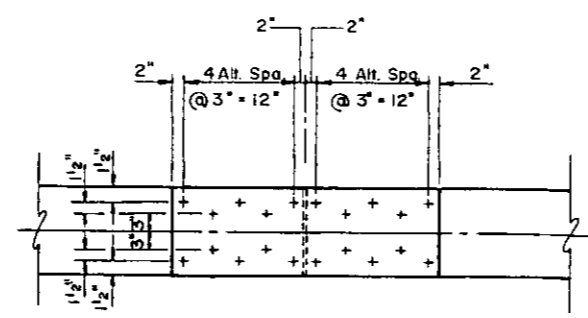
WORK THIS SHEET WITH SHEETS 8 & 10.

**LOCATION NO. 6**

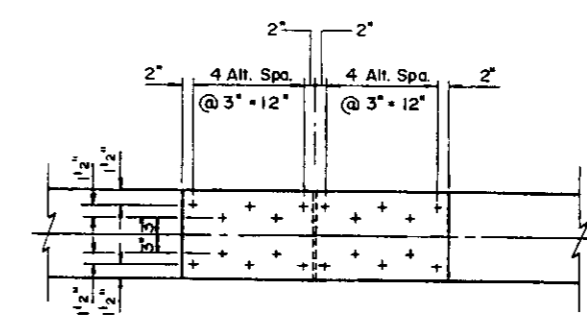




TOP FLANGE

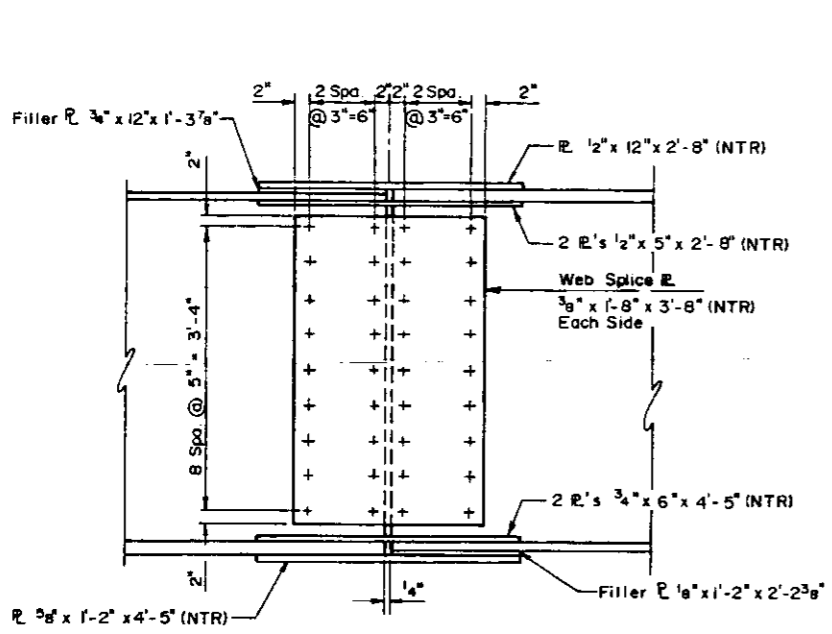


TOP FLANGE

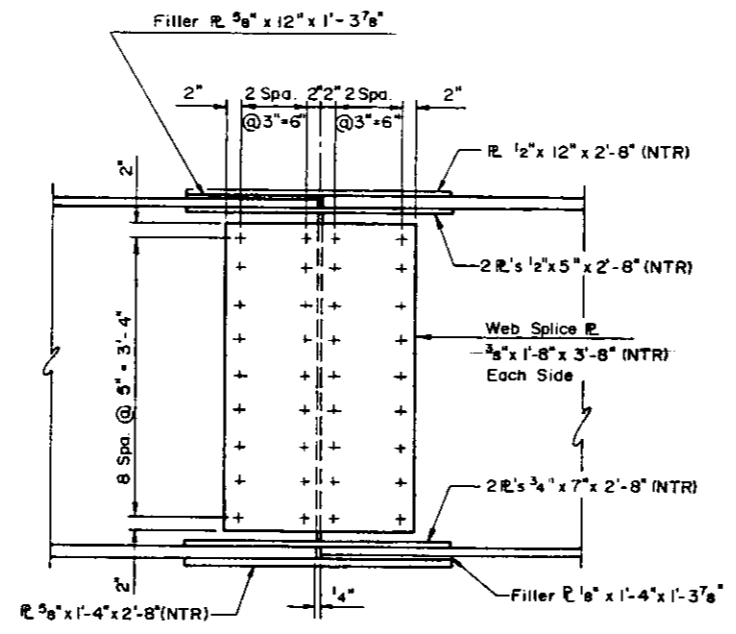


TOP FLANGE

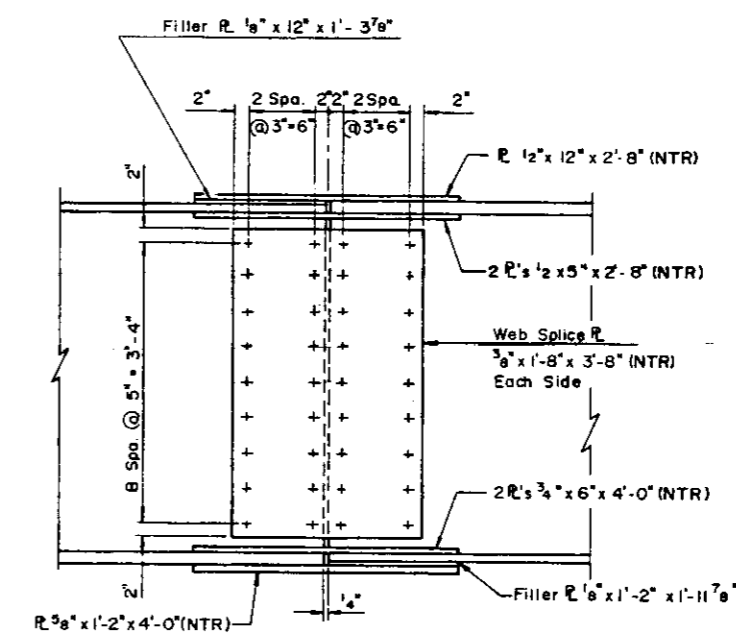
NOTE:  
 All field splices shall be 7/8" # High Strength Bolts. Notch Toughness Requirements are applicable to all splice plates except filler plates. Adjust shear stud locations on splice plates to clear bolts.



SIDE VIEW

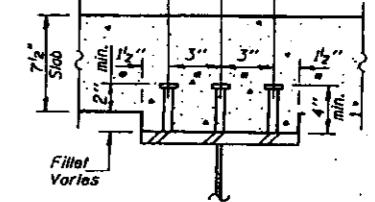


SIDE VIEW



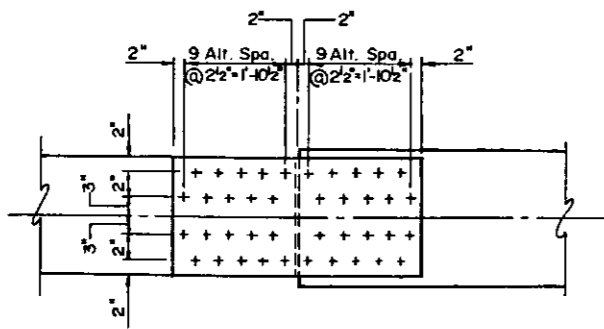
SIDE VIEW

3/4" # Granular or solid flux filled headed studs automatically and welded to flange. (No. Req'd. = 5,817)



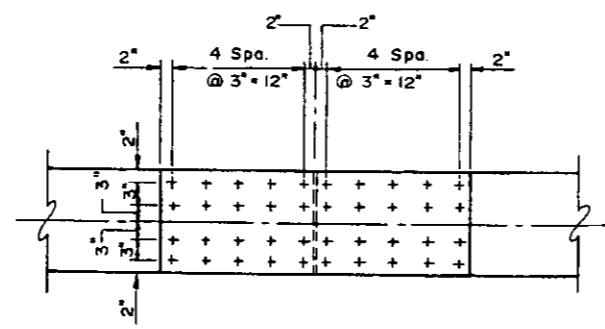
NOTE:  
 Adjust Stud Spacing to Clear Bolts on Splice

SECTION A-A  
 (See Sheet 9 of 26 for Location)



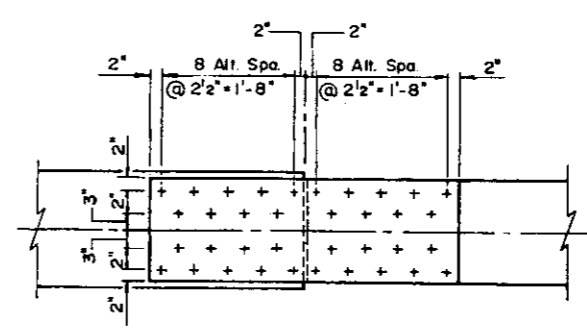
BOTTOM FLANGE

SPLICE 1



BOTTOM FLANGE

SPLICE 2

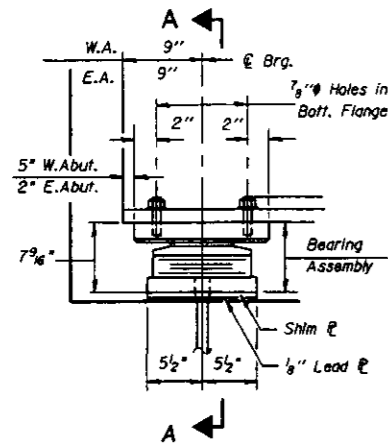


BOTTOM FLANGE

SPLICE 3

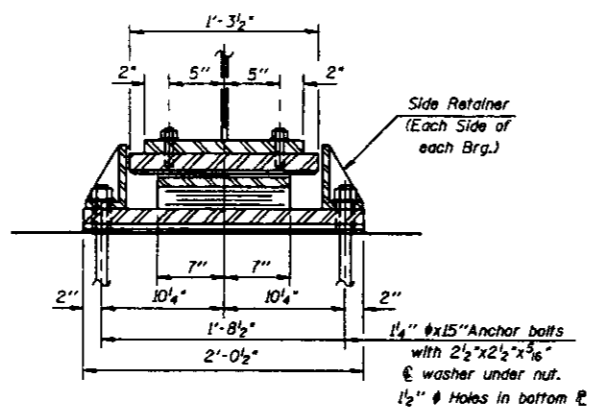
**SPLICE DETAILS**  
 W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 913+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N. 060-0022

MTA, INCORPORATED  
 DESIGNED GBM  
 DRAWN MAM  
 CHECKED GBH  
 DATE 7/94 NO. S-133

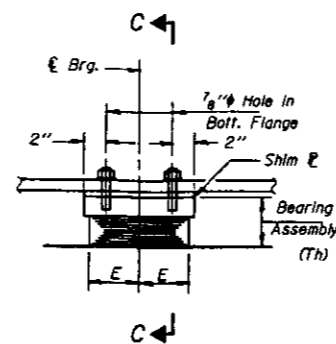


ELEVATION AT ABUT.

TYPE II TFE ELASTOMERIC EXP. BRG.  
(Typical at Abutments)

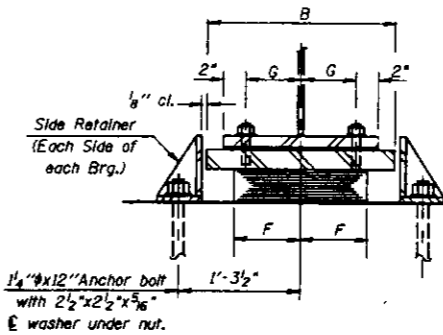


SECTION A-A

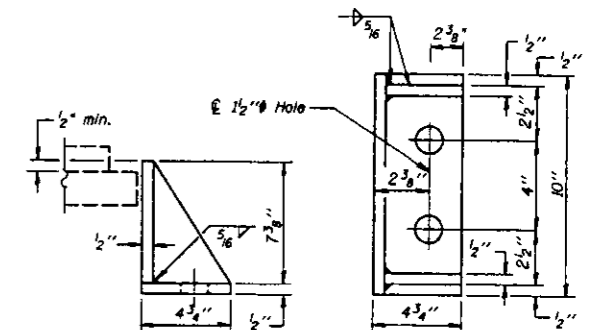


ELEVATION AT PIER 1 & 3

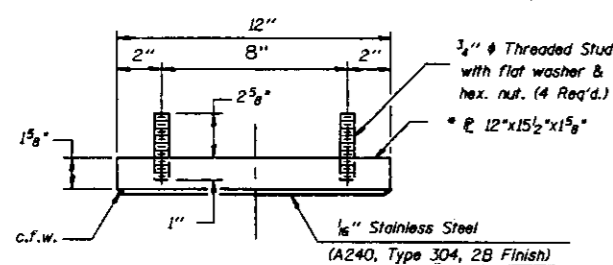
TYPE I ELASTOMERIC EXP. BRG.  
(Typical at Pier 1 & 3)



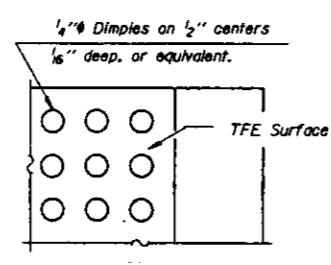
SECTION C-C



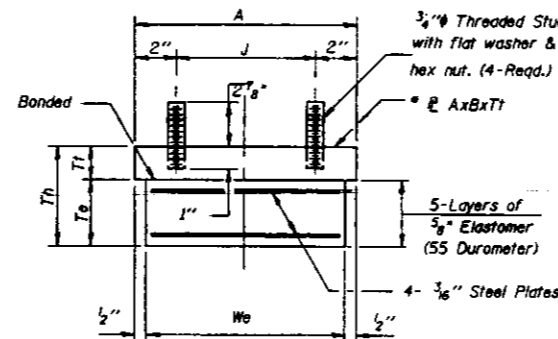
SIDE RETAINER PIER 1 & 3  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



TOP BEARING ASSEMBLY - TYPE II

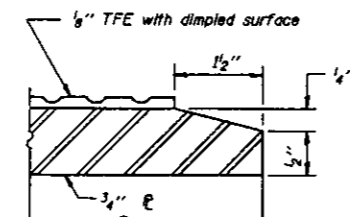


PLAN-TFE SURFACE

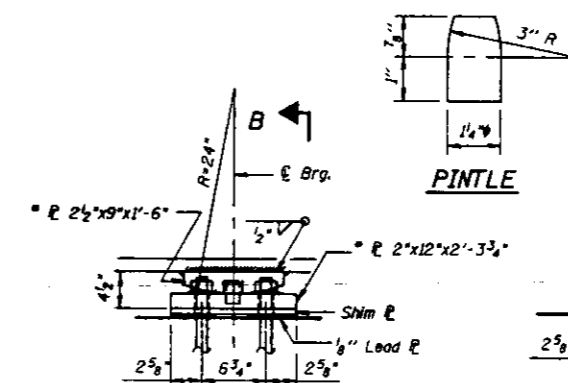


BEARING ASSEMBLY - TYPE I

Note: Shim plates shall not be placed under Bearing Assembly.

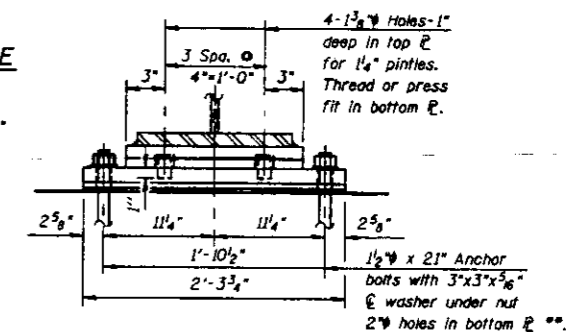


SECTION THRU TFE

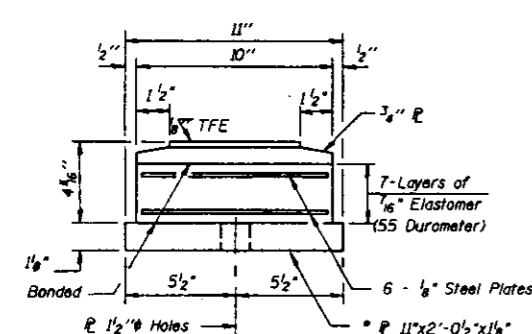


ELEVATION AT PIER 2

FIXED BEARING  
(6 - Req'd.)



SECTION B-B



BOTTOM BEARING ASSEMBLY - TYPE II

\*\*\* clip corner of one side retainer at each abutment bearing

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

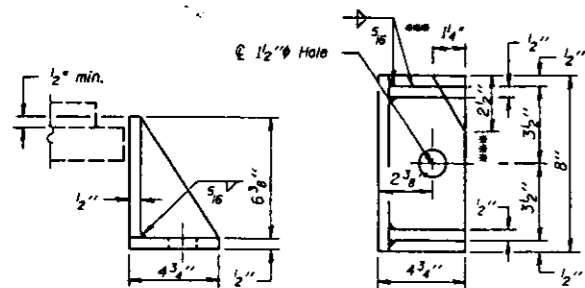
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

DIMENSIONS

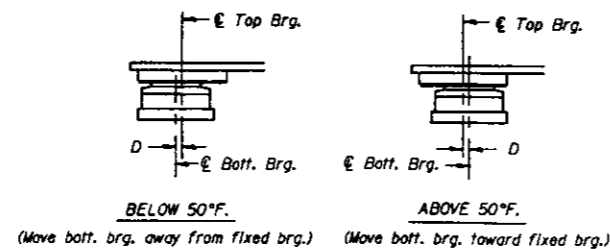
LOCATION	BRG. TYPE	NO. REQ'D	TOP PLATE									
			A	B	Tt	To	Th	We	E	F	G	J
PIER 1	I	6	15"	26"	3 1/2"	3 3/8"	7 3/8"	14"	7"	12"	6"	11"
PIER 3	I	6	13"	26"	3 1/2"	3 3/8"	7 3/8"	12"	6"	12"	5"	9"

All steel plates used as components of fixed bearings and elastomeric bearings shall conform to the requirements of AASHTO 270 Grade 50 except the internal steel laminates of the elastomeric bearings which shall conform to the requirements of Article 783.05 (b) of the Standard Specifications.

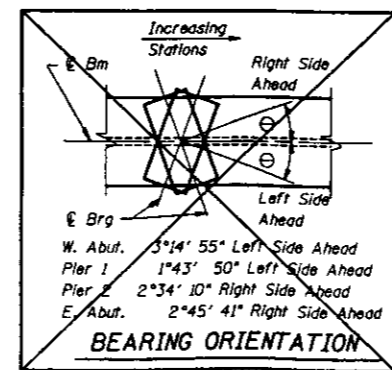
\*\* Notes  
See Sheets # 21 for Anchor Bolt Installation  
Anchor bolts at fixed bearings may be built into the masonry. Cost of Fixed Bearings, Anchor Bolts, Side Retainers and Shim Plates is Included in "Furnishing and Erecting Structural Steel".



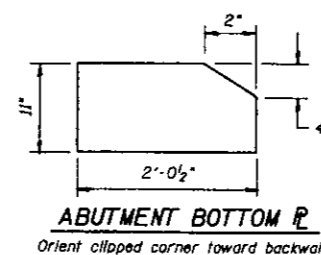
SIDE RETAINER  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.  
D = 1/4" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



BEARING ORIENTATION



ABUTMENT BOTTOM FL  
Orient clipped corner toward backwall

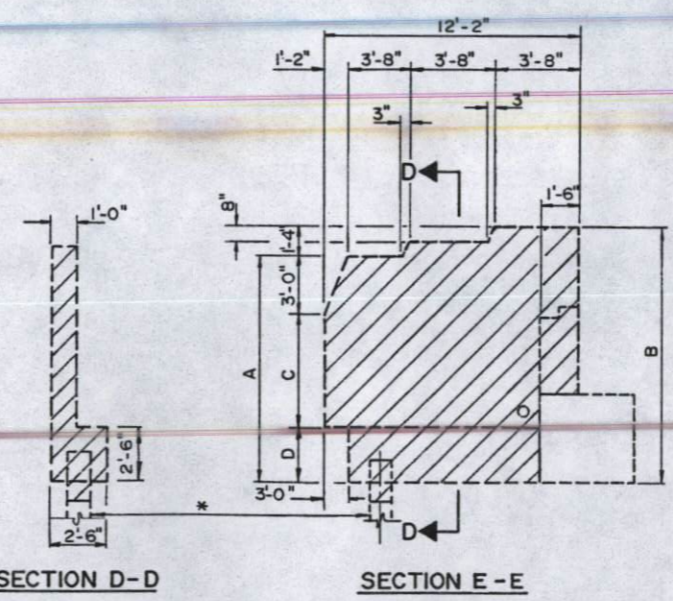
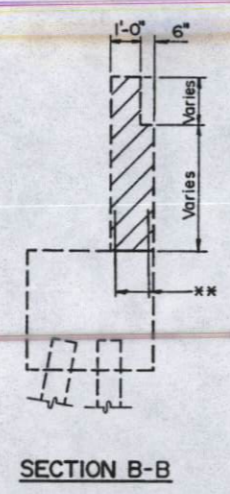
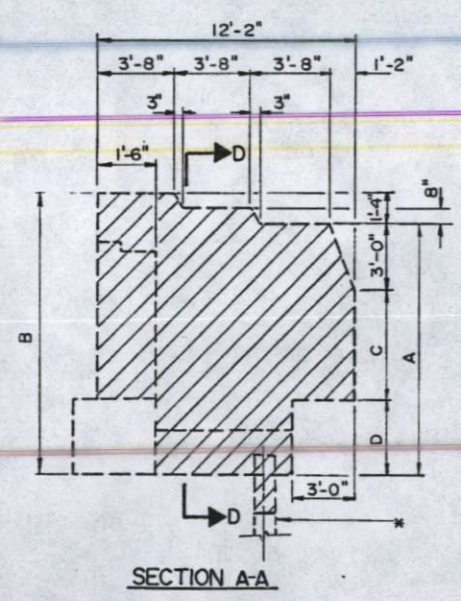
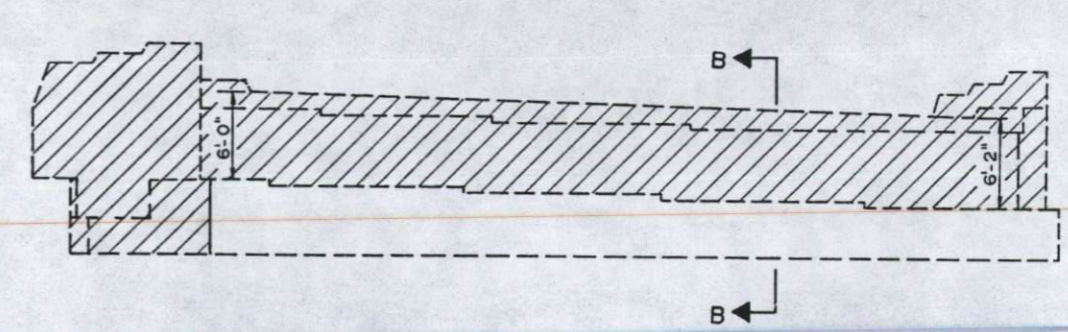
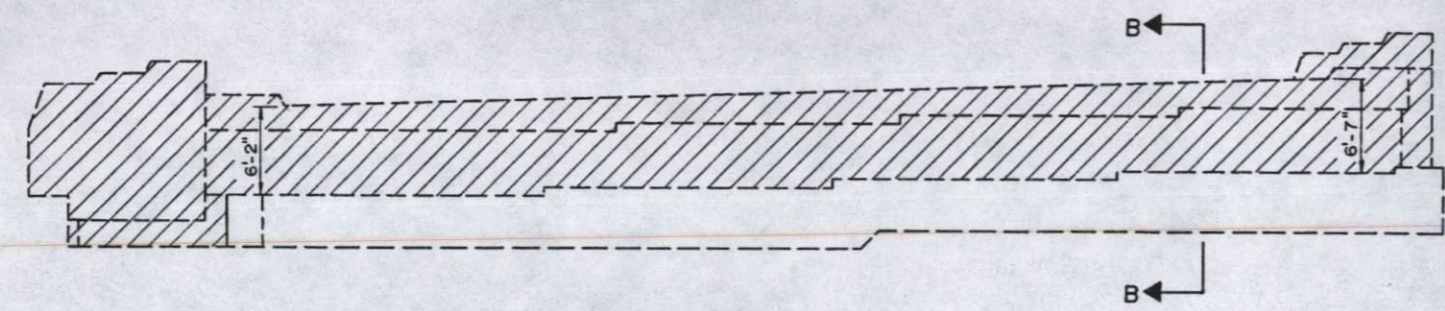
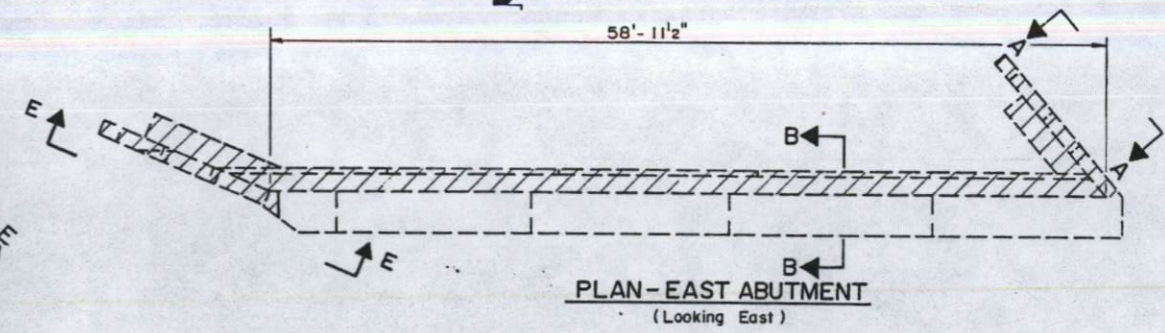
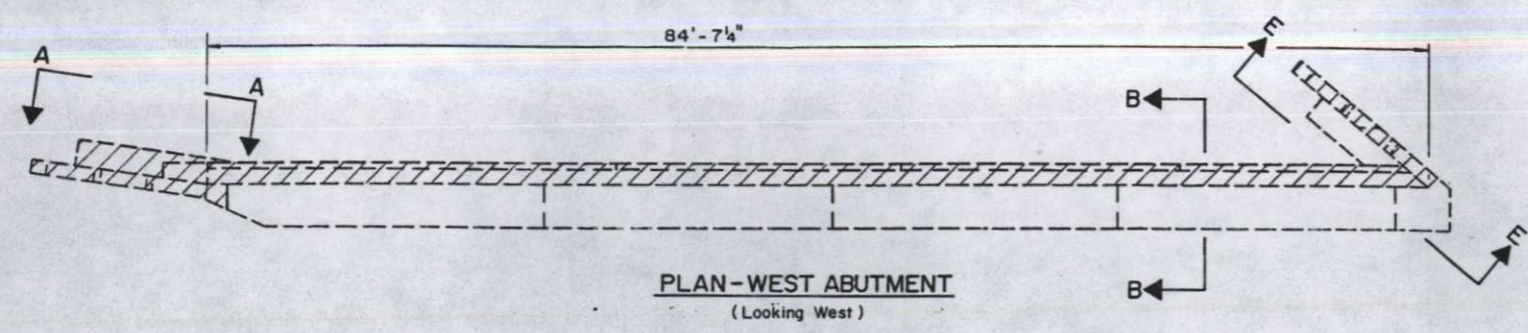
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type I	Each	12
Elastomeric Bearing Assembly Type II	Each	12

BEARING DETAILS  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE.55  
F.A.I. RTE. 70 SECTION 60-10-HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

MTA INCORPORATED  
DESIGNED: GBM CHECKED: BGM  
DRAWN: T.N.R. DATE: July 1994

LOCATION NO. 6



	A	B	C	D
East Abut. North W.W.	13'-0 <sup>3</sup> / <sub>4</sub> "	14'-3 <sup>1</sup> / <sub>2</sub> "	4'-10 <sup>1</sup> / <sub>2</sub> "	5'-2 <sup>1</sup> / <sub>4</sub> "
East Abut. South W.W.	11'-6"	12'-11"	5'-0"	3'-6"
West Abut. North W.W.	12'-6 <sup>3</sup> / <sub>8</sub> "	13'-11"	4'-10 <sup>7</sup> / <sub>8</sub> "	4'-7 <sup>1</sup> / <sub>2</sub> "
West Abut. South W.W.	11'-5 <sup>5</sup> / <sub>8</sub> "	12'-10 <sup>5</sup> / <sub>8</sub> "	4'-11 <sup>5</sup> / <sub>8</sub> "	3'-6"

**BILL OF MATERIAL**

ITEM	UNIT	QTY.
Concrete Removal	Cu.Yd.	71

NOTE: Hatched area indicates "Concrete Removal"

\*\* Existing vertical reinforcement shall be cleaned, straightened and incorporated into the new construction.  
Cost incidental to "Concrete Removal."

\* When Existing Pile Interferes with Proposed Footing Construction, Cut off Existing Pile to 1 Foot Below Proposed Footing Elevation and Backfill to the Satisfaction of the Engineer.  
Cost incidental to "Concrete Removal."

**CONCRETE REMOVAL AT ABUTMENTS**  
**W.B. F.A.I. RTE. 70 OVER F.A.I. RTE.55**  
**F.A.I. RTE. 70 SECTION 60-10HB-Y**  
**STA. 913+23.71 F.A.I. 70**  
**STA. 1291 + 72.17 F.A.I. 55**  
**MADISON COUNTY**  
**S.N. 060-0022**

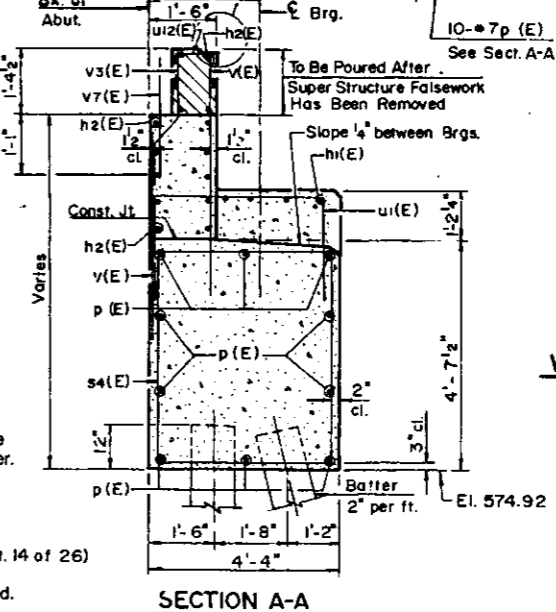
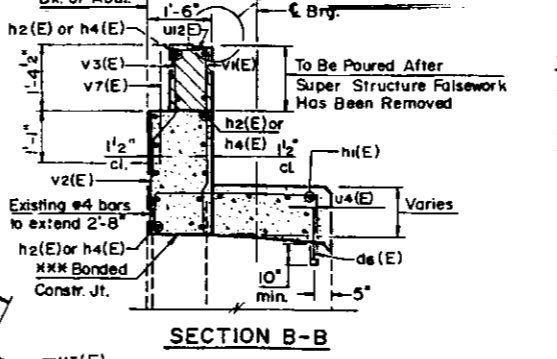
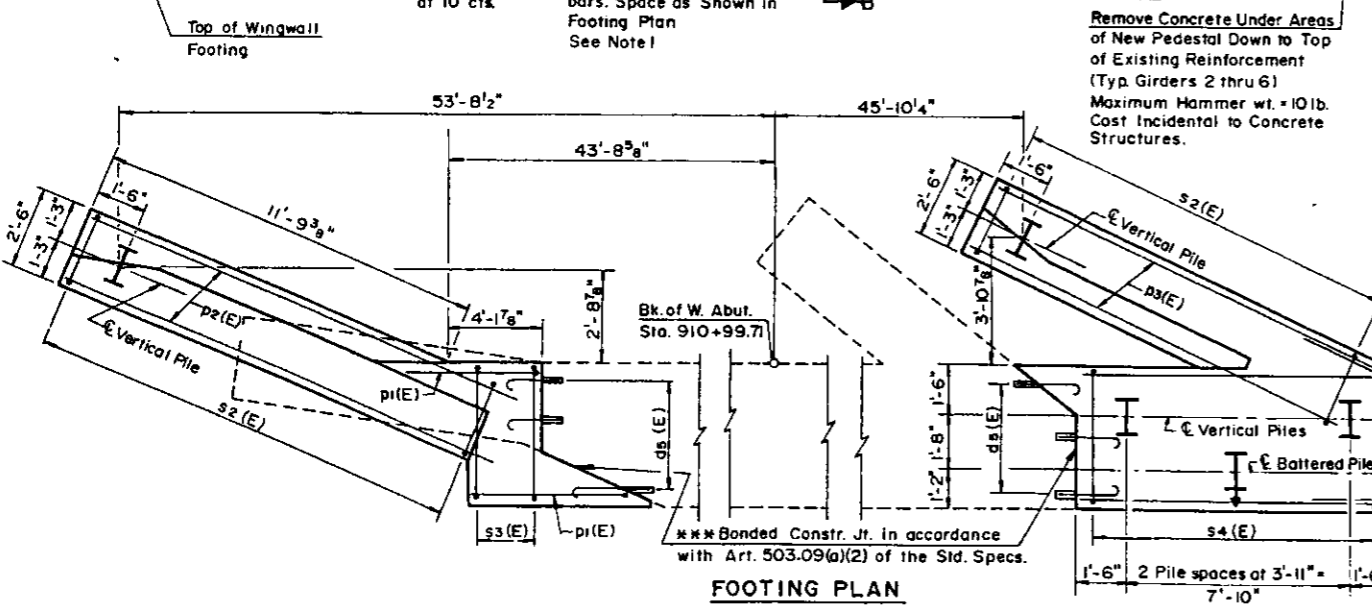
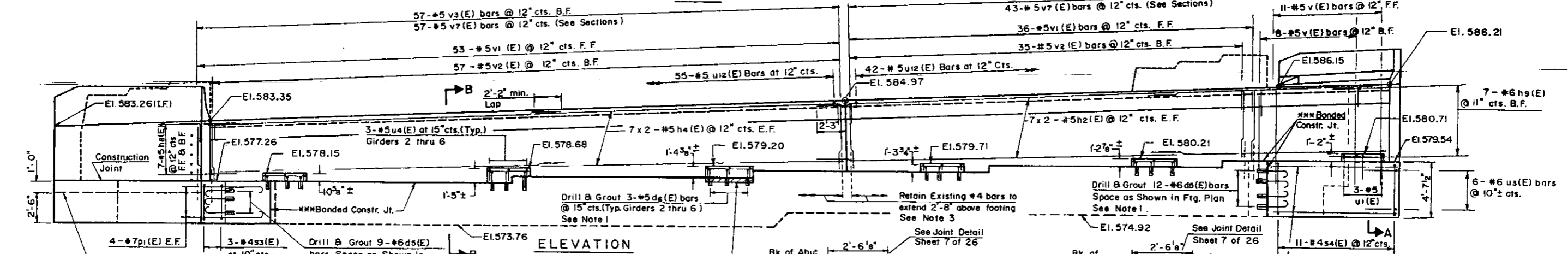
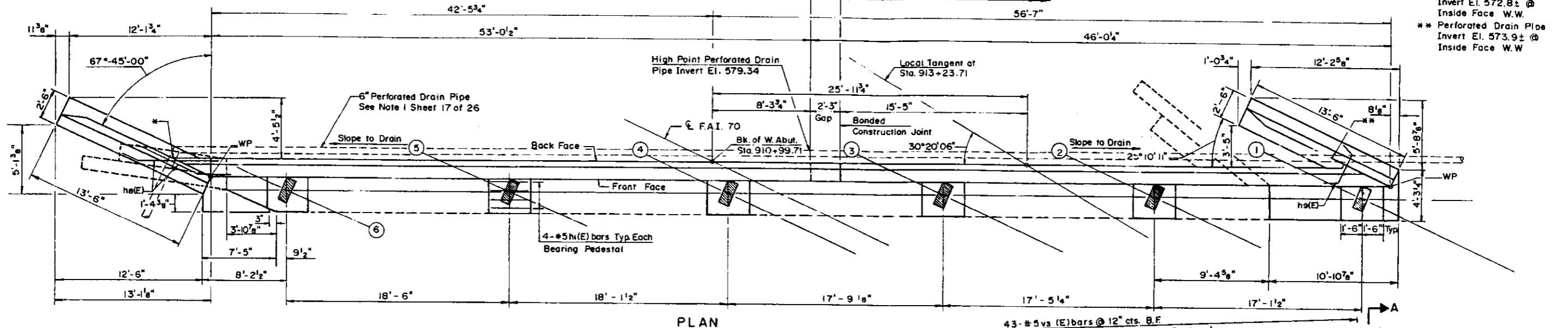
**MTA, INCORPORATED**  
 DESIGNED GBM CHECKED CMS  
 DRAWN JPH DATE 7/94 NO.

Note: Elevations and Dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.

See Sheet 22 of 26  
for Anchor Bolt Layout

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA.I.70	60-10HB-Y	MADISON	228	214
PROJECT		SHEET 15 OF 26		

\* Perforated Drain Pipe  
Invert El. 572.8 ± @  
Inside Face W.W.  
\*\* Perforated Drain Pipe  
Invert El. 573.9 ± @  
Inside Face W.W.



**PILE DATA**

Type	HP 10 x 42
Capacity	Drive to Refusal
Estimated Length	57'
Number Required	5 (Includes 1 Test Pile)

See Sheet 16 of 26 for Wingwall  
Details and Bill of Material.

**WEST ABUTMENT**  
**W.B. FA.I. RTE. 70 OVER FA.I. RTE.55**  
**FA.I. RTE. 70 SECTION 60-10HB-Y**  
**STA. 913+23.71 FA.I. 70**  
**STA. 1291+72.17 FA.I. 55**  
**MADISON COUNTY**  
**S.N. 060-0022**

<b>MTA, INCORPORATED</b>	
DESIGNED BGH	CHECKED GRM
DRAWN DRH	DATE 7/94 NO.

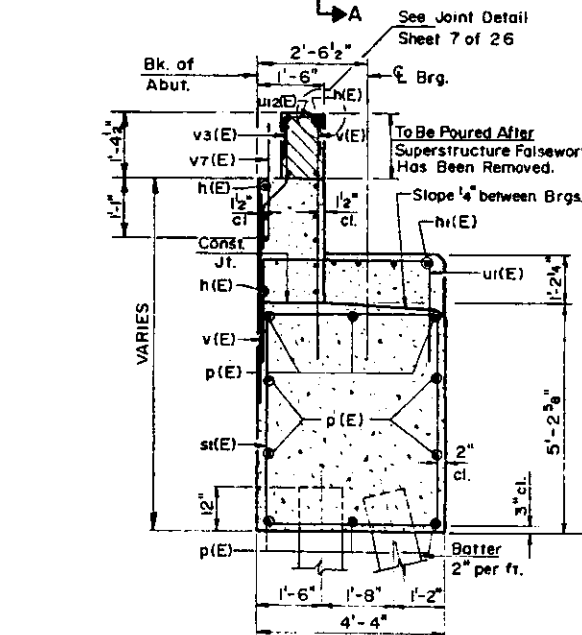
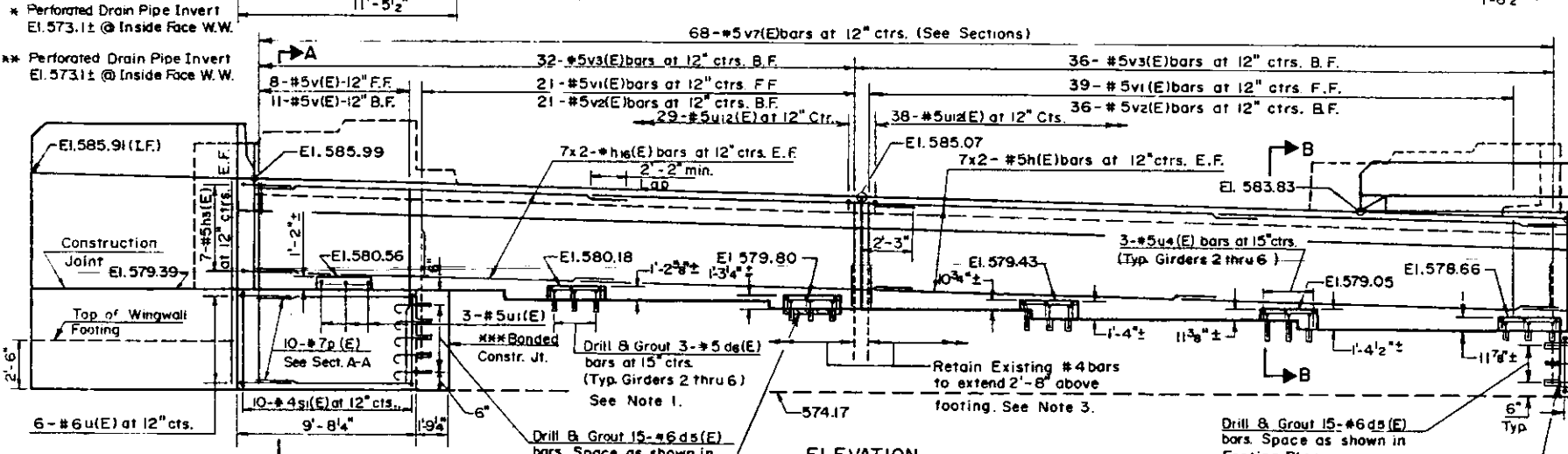
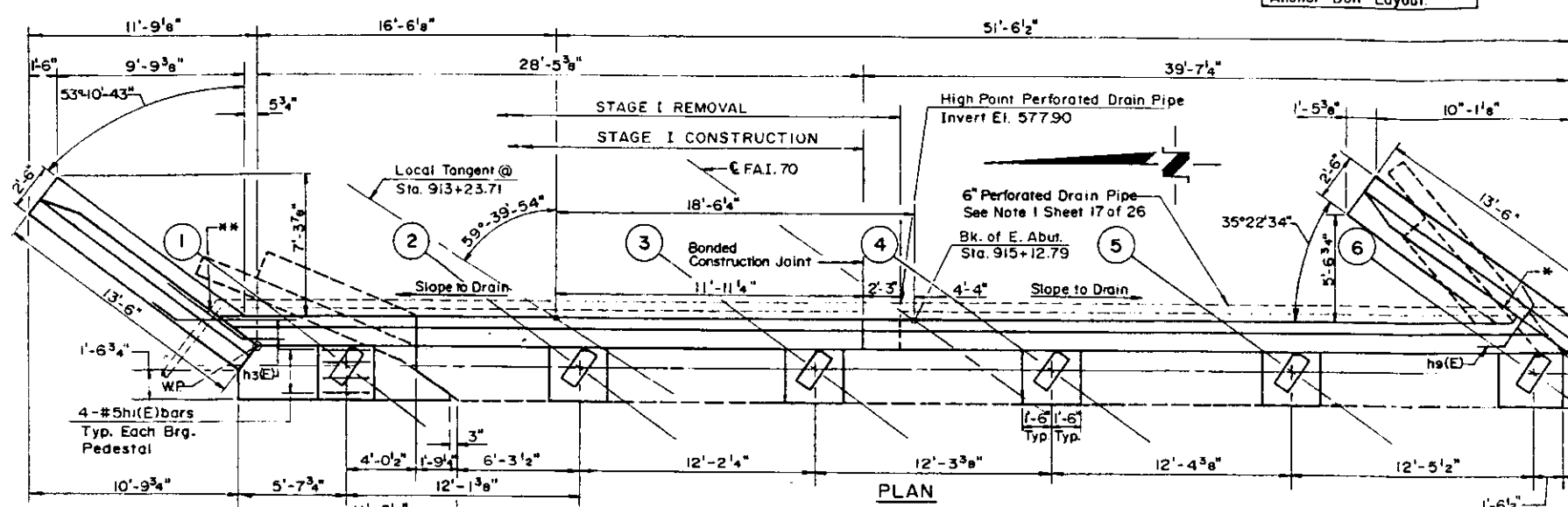
- NOTES:**
- Epoxy grout bars in 1" diameter x 9" minimum drilled holes. Use a grout approved by the Department or epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
  - The Contractor shall verify elevations and dimensions of existing piers and abutments before ordering materials.
  - The Contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction. (See Sht. 14 of 26)
  - Space reinforcement in cap to miss anchor bolts.
  - All edges shall have standard 3/4" chamfers except as noted.
  - Work this sheet with sheet 17 and 22 of 26

**LOCATION NO. 6**

See Sheet 22 of 26 for Anchor Bolt Layout.

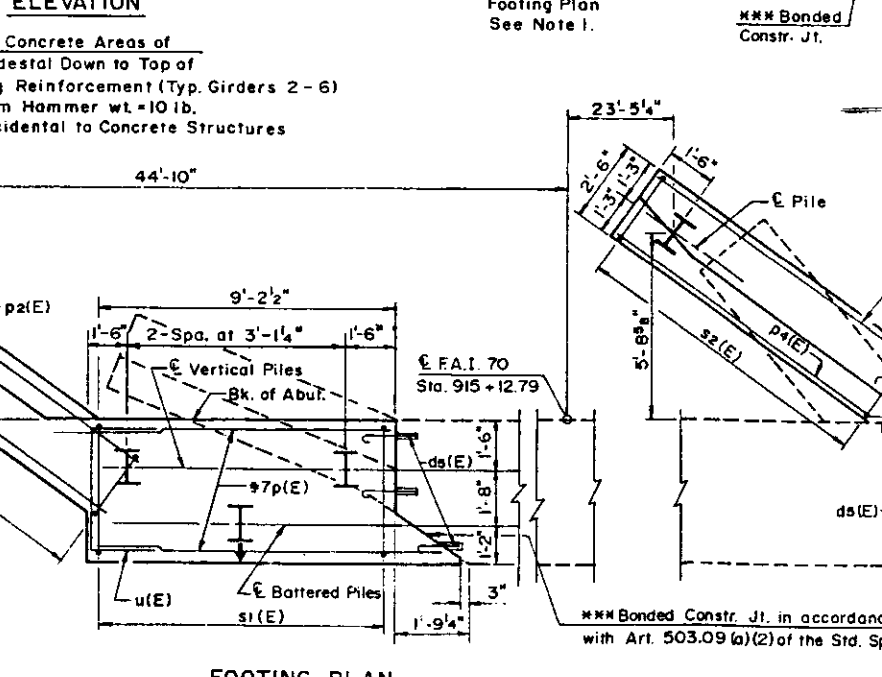
Note: Elevations and Dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI.70	60-10HB-Y	MADISON	228	215
ILLINOIS PROJECT				
SHEET 16 OF 26				



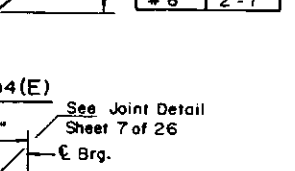
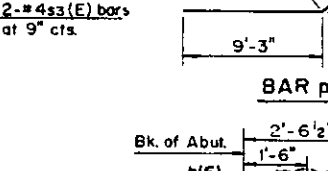
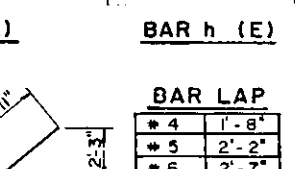
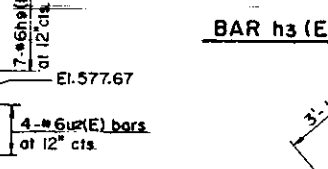
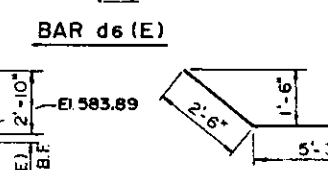
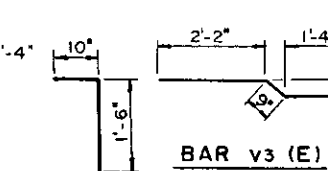
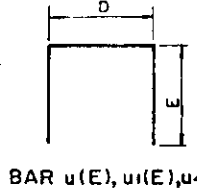
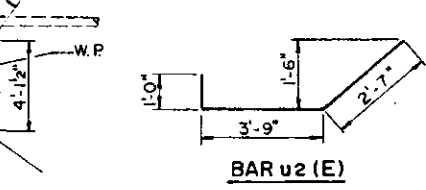
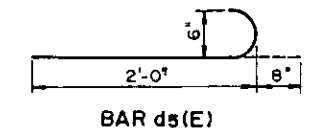
**PILE DATA**

Type	HP 10x42
Capacity	Drive to Refusal
Est. Length	50'
Number Req'd.	5



**BAR s1(E) & s3(E)**

BAR	B	C
s1(E)	4'-0"	4'-9"
s2(E)	2'-2"	2'-1"
s3(E)	3'-11"	3'-1"



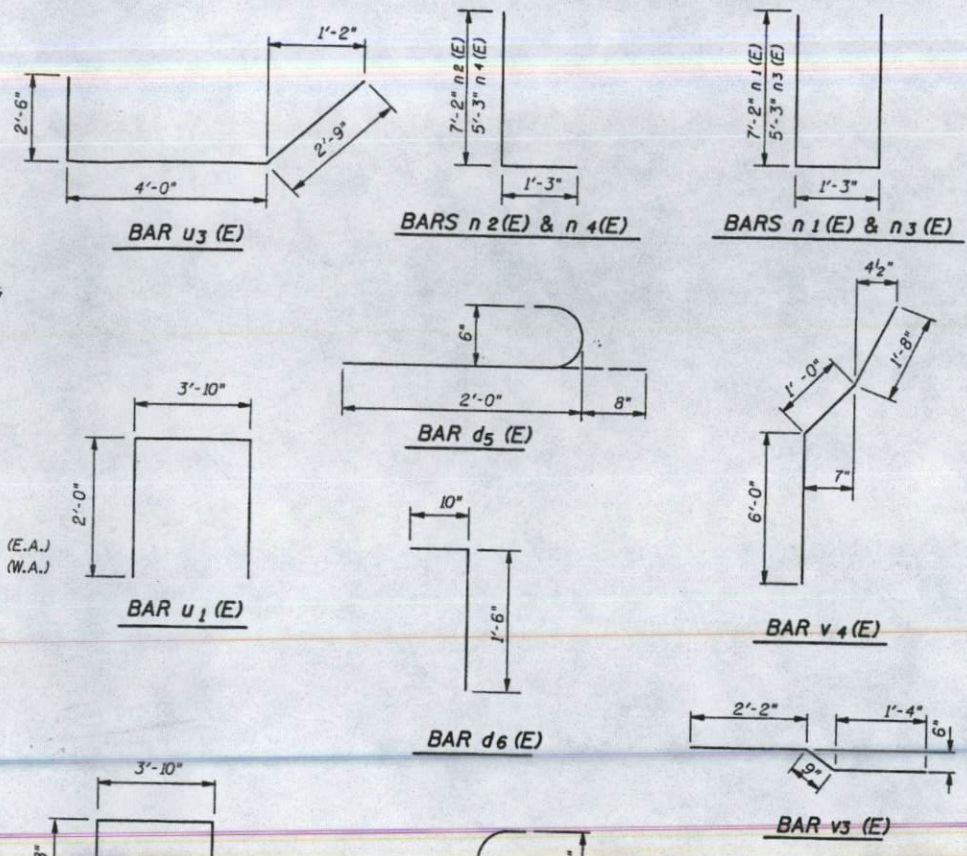
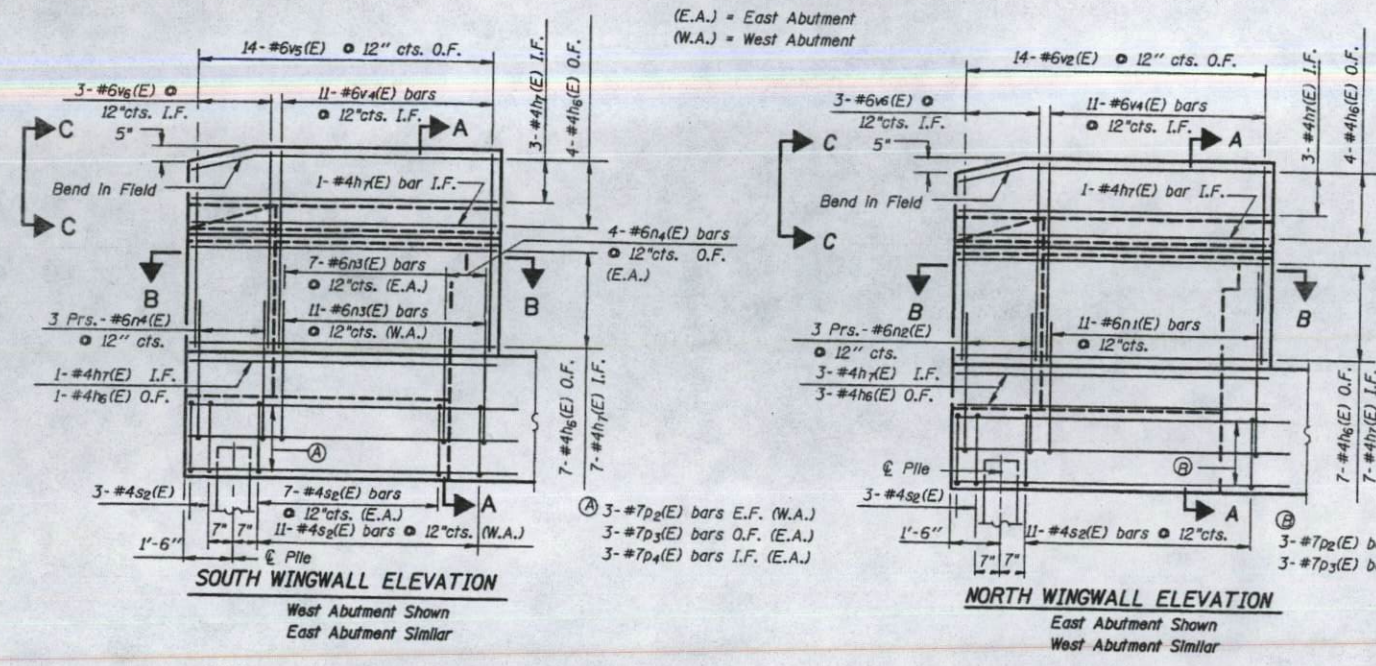
**EAST ABUTMENT  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
ds(E)	30	#6	2'-8"	
ds(E)	15	#5	2'-4"	
h(E)	28	#5	20'-3"	
h1(E)	24	#5	2'-8"	
h3(E)	14	#5	7'-9"	
h5(E)	26	#4	13'-2"	
h7(E)	26	#4	13'-2"	
h9(E)	7	#6	5'-3"	
h9(E)	28	#5	16'-9"	
ni(E)	11	#6	15'-7"	
nz(E)	6	#6	8'-5"	
n3(E)	7	#6	11'-9"	
n4(E)	10	#6	6'-6"	
p(E)	10	#7	10'-6"	
p2(E)	6	#7	15'-3"	
p3(E)	3	#7	13'-2"	
p4(E)	3	#7	13'-2"	
s1(E)	10	#4	18'-3"	
s2(E)	24	#4	9'-3"	
s3(E)	2	#4	14'-9"	
u(E)	6	#6	9'-1"	
u1(E)	3	#5	7'-10"	
u2(E)	4	#6	7'-4"	
u4(E)	15	#5	5'-2"	
u2(E)	67	#5	1'-11"	
v(E)	19	#5	8'-3"	
v1(E)	60	#5	5'-6"	
v2(E)	57	#5	4'-2"	
v3(E)	68	#5	4'-3"	
v4(E)	22	#6	8'-8"	
v5(E)	28	#6	8'-6"	
v6(E)	6	#6	8'-6"	
v7(E)	68	#5	2'-3"	
<b>ITEM</b>		<b>UNITS</b>	<b>QTY.</b>	
Structure Excavation		Cu. Yds.	113	
Reinforcement Bars, Epoxy Coated		Pound	5,640	
Concrete Structures		Cu. Yds.	55.8	
Bridge Seat Seater		Sq. Ft.	210	
Steel Piles, HP 10x42		Foot	250	

- NOTES:**
- Epoxy grout bars in 1" diameter x 9" minimum drilled holes. Use a grout approved by the Department or epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
  - The Contractor shall verify elevations and dimensions of existing piers and abutments before ordering materials.
  - The Contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction. (See Sht. 14 of 26)
  - Space reinforcement in cap to miss anchor bolts.
  - All edges shall have standard 3/4" chamfers except as noted.
  - Work this sheet with sheet 17 and 22 of 26

**EAST ABUTMENT  
W.B. FAI. RTE. 70 OVER FAI. RTE. 55  
FAI. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 FAI. 70  
STA. 1291+72.17 FAI. 55  
MADISON COUNTY  
S.N. 060-0022**

**MTA, INCORPORATED**  
DESIGNED BGM  
DRAWN SPM  
CHECKED GBM  
DATE 7/94

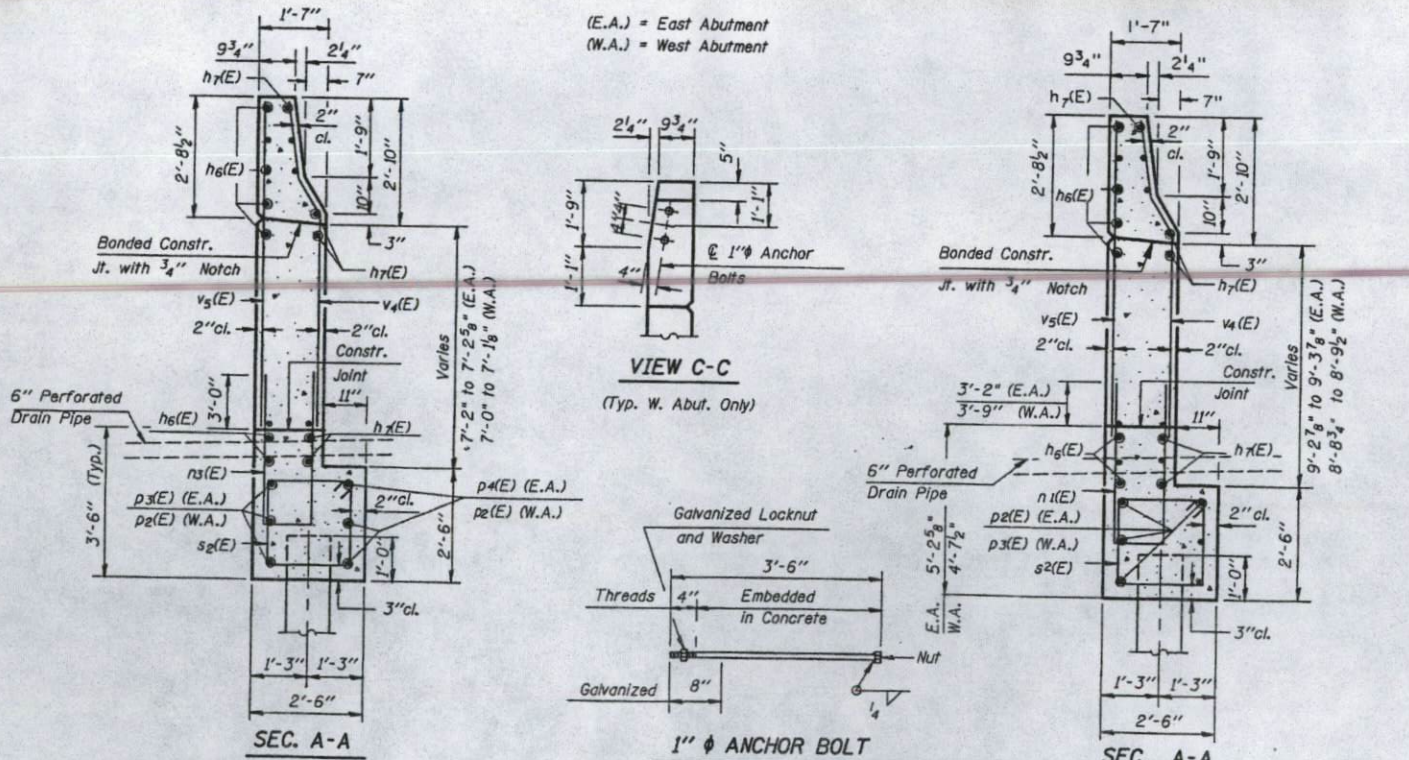
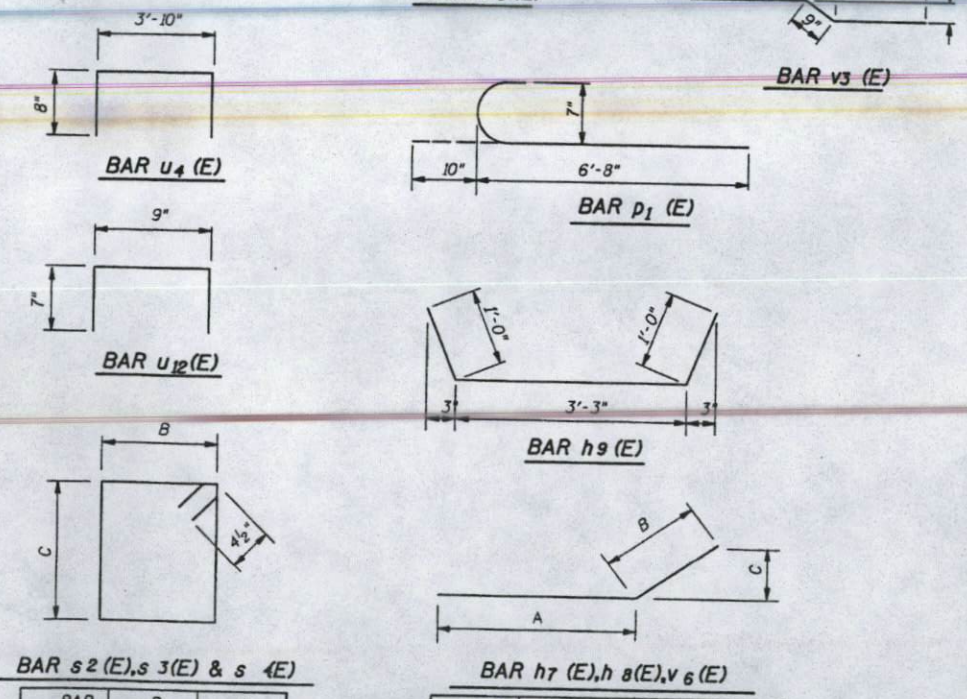
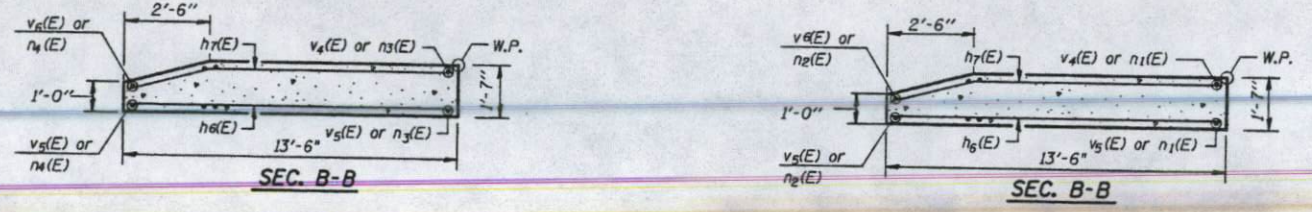


**WEST ABUTMENT BILL OF MATERIALS**

BAR	No.	SIZE	LENGTH	SHAPE
d5(E)	21	#6	2'-8"	[Symbol]
d6(E)	15	#5	2'-4"	[Symbol]
h1(E)	24	#5	2'-8"	[Symbol]
h2(E)	28	#5	24'-0"	[Symbol]
h4(E)	28	#5	28'-3"	[Symbol]
h6(E)	26	#4	13'-2"	[Symbol]
h7(E)	26	#4	13'-2"	[Symbol]
h8(E)	14	#5	7'-9"	[Symbol]
h9(E)	7	#6	5'-3"	[Symbol]
n1(E)	11	#6	15'-7"	[Symbol]
n2(E)	6	#6	8'-5"	[Symbol]
n3(E)	11	#6	11'-9"	[Symbol]
n4(E)	6	#6	6'-6"	[Symbol]
p(E)	10	#7	10'-6"	[Symbol]
p1(E)	8	#7	7'-6"	[Symbol]
p2(E)	6	#7	15'-3"	[Symbol]
p3(E)	6	#7	13'-2"	[Symbol]
s2(E)	28	#4	9'-3"	[Symbol]
s3(E)	3	#4	14'-9"	[Symbol]
s4(E)	11	#4	17'-1"	[Symbol]
u1(E)	3	#5	7'-10"	[Symbol]
u2(E)	6	#6	9'-3"	[Symbol]
u4(E)	15	#5	5'-2"	[Symbol]
u12(E)	97	#5	1'-11"	[Symbol]
v(E)	19	#5	8'-3"	[Symbol]
v1(E)	89	#5	5'-6"	[Symbol]
v2(E)	92	#5	4'-2"	[Symbol]
v3(E)	100	#5	4'-3"	[Symbol]
v4(E)	22	#6	8'-8"	[Symbol]
v5(E)	28	#6	8'-6"	[Symbol]
v6(E)	6	#6	8'-6"	[Symbol]
v7(E)	100	#5	2'-3"	[Symbol]

ITEM	UNIT	QTY.
Reinforcement Bars, Epoxy Coated	Pound	6,800
Concrete Structures	Cu.Yds.	67.0
Bridge Seat Sealer	Sq. Ft.	300
Steel Piles, HPI0x42	Foot	228
Test Piles	Each	1
Structure Excavation	Cu.Yds.	146



**BAR s2(E), s3(E) & s4(E)**

BAR	B	C
s2(E)	2'-2"	2'-1"
s3(E)	3'-11"	3'-1"
s4(E)	4'-0"	4'-2"

**BAR h7(E), h8(E), v6(E)**

BAR	A	B	C
h7(E)	10'-9"	2'-5"	7"
h8(E)	5'-3"	2'-6"	11 1/2"
v6(E)	6'-10"	1'-8"	2 1/4"

NOTE 1:  
A 6" Perforated Drain Pipe shall be situated at the bottom of an approximate 2'x2' area of Porous Granular Embankment. The 2'x2' area shall be wrapped completely in Geotechnical Fabric for French Drains. Cost included in "Pipe Underdrains, 6."

**1" ANCHOR BOLT**  
Cost to be incidental to Bridge Structure (Typ. W. Abut. Only)

**ABUTMENT WINGWALL DETAILS**  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-7  
STA. 913+23.71 F.A.I.70  
STA. 1291+72.17 F.A.I.55  
**MADISON COUNTY**  
S.N. 060-0022

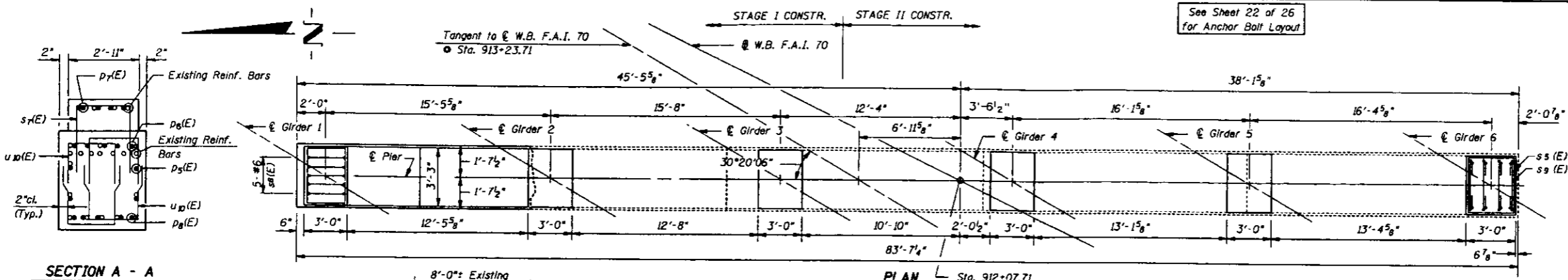
**MTA INCORPORATED**  
DESIGNED: B.G.H. CHECKED: GBM  
DRAWN: T.M.Jr. DATE: July 1994

WORK THIS SHEET WITH SHEETS 14, 15, AND 16 OF 26

**LOCATION NO. 6**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	60-10HB-Y	MADISON	228	217
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT		Sheet 18 of 26

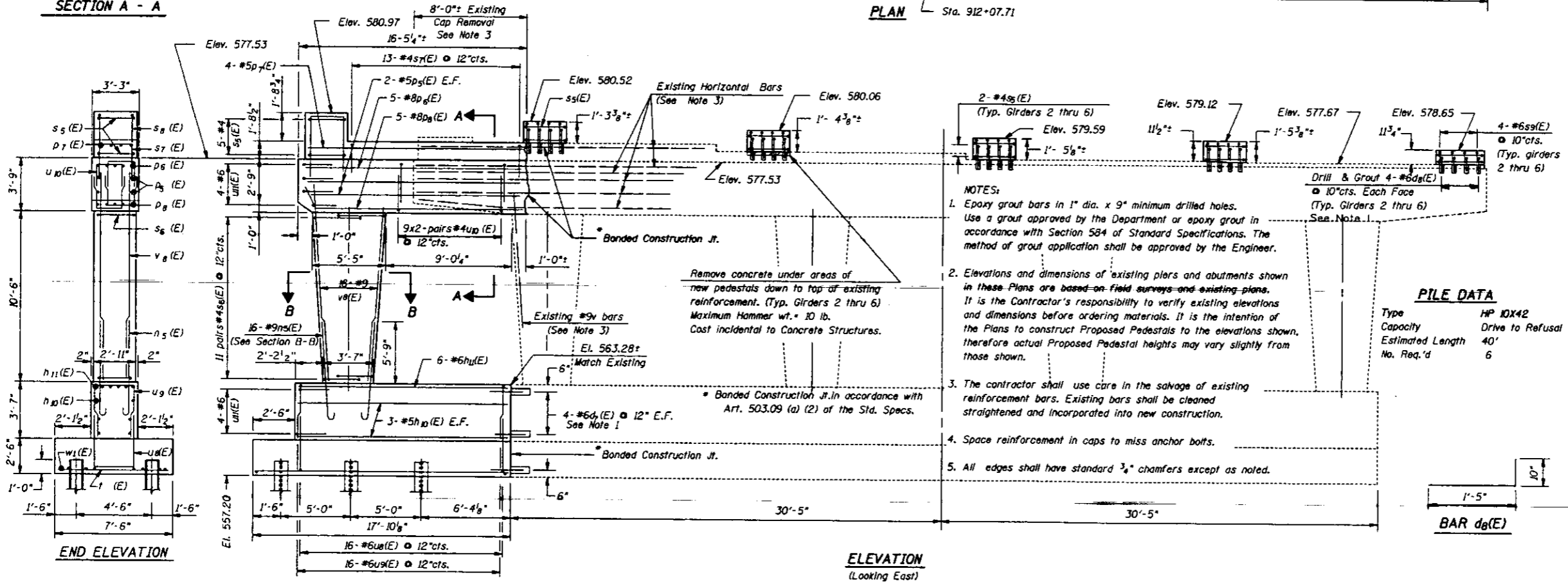
See Sheet 22 of 26 for Anchor Bolt Layout



BAR	A	B
u <sub>8</sub> (E)	2'-11"	4'-9"
u <sub>9</sub> (E)	2'-11"	3'-3"
u <sub>10</sub> (E)	2'-3"	2'-6"
u <sub>11</sub> (E)	2'-8"	2'-8"
s <sub>7</sub> (E)	2'-7"	3'-3"
s <sub>8</sub> (E)	2'-7"	4'-10"
s <sub>9</sub> (E)	2'-7"	7"

BARS u<sub>8</sub>(E), u<sub>9</sub>(E), u<sub>10</sub>(E), u<sub>11</sub>(E), s<sub>7</sub>(E), s<sub>8</sub>(E), & s<sub>9</sub>(E)

SECTION A - A



ELEVATION (Looking East)

PILE DATA

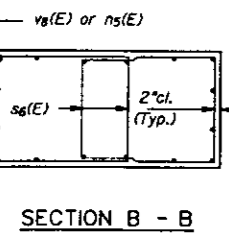
Type: HP 10X42  
Capacity: Drive to Refusal  
Estimated Length: 40'  
No. Req'd: 6

- NOTES:
- Epoxy grout bars in 1" dia. x 9" minimum drilled holes. Use a grout approved by the Department or epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
  - Elevations and dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.
  - The contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction.
  - Space reinforcement in caps to miss anchor bolts.
  - All edges shall have standard 3/4" chamfers except as noted.

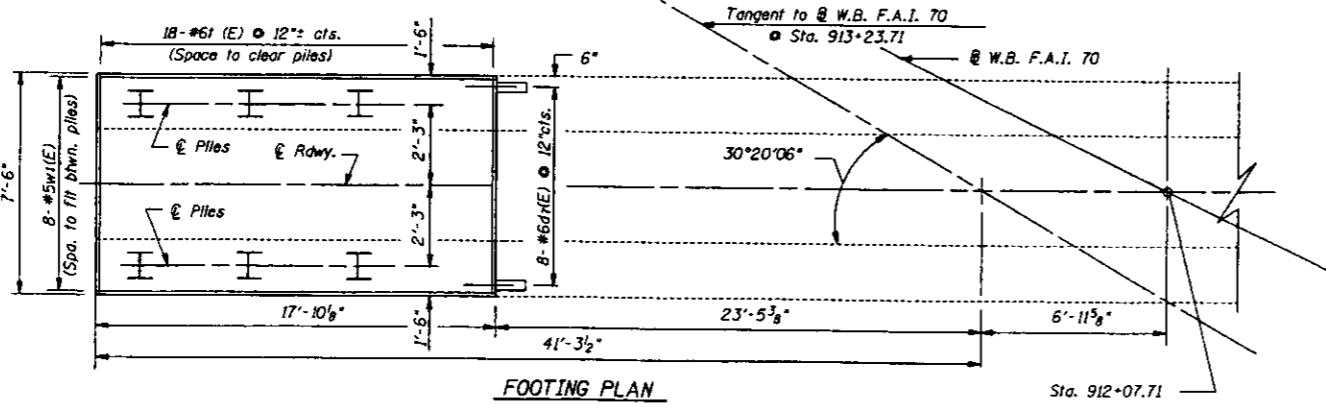
PIER 1 BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
d7(E)	16	#6	2'-6"	—
d8(E)	40	#6	2'-3"	—
h8(E)	6	#5	15'-0"	—
h11(E)	6	#6	15'-0"	—
n5(E)	16	#9	9'-0"	—
p5(E)	4	#5	15'-0"	—
p6(E)	5	#8	15'-0"	—
p7(E)	4	#5	14'-6"	—
p8(E)	5	#8	15'-6"	—
s5(E)	15	#4	11'-3"	□
s6(E)	22	#4	11'-11"	□
s7(E)	13	#4	9'-1"	—
s8(E)	5	#6	12'-3"	—
s9(E)	20	#6	3'-9"	—
t(E)	18	#6	7'-0"	—
u8(E)	16	#6	12'-5"	—
u9(E)	16	#6	9'-5"	—
u10(E)	36	#4	7'-3"	—
u11(E)	8	#6	8'-0"	—
v8(E)	16	#9	13'-9"	—
w1(E)	8	#5	17'-3"	—

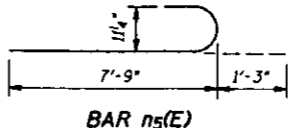
ITEM	UNIT	QTY.
Reinforcement Bars, Epoxy Coated	Pound	3,900
Concrete Structures	Cu. Yds.	37.0
Steel Piles, HP 10x42	Foot	240
Structure Excavation	Cu. Yds.	36
Concrete Removal	Cu. Yds.	4.8



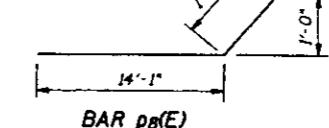
SECTION B - B



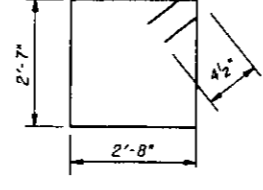
FOOTING PLAN



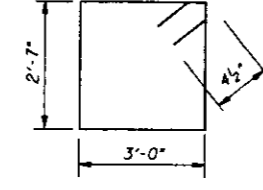
BAR n<sub>5</sub>(E)



BAR p<sub>8</sub>(E)



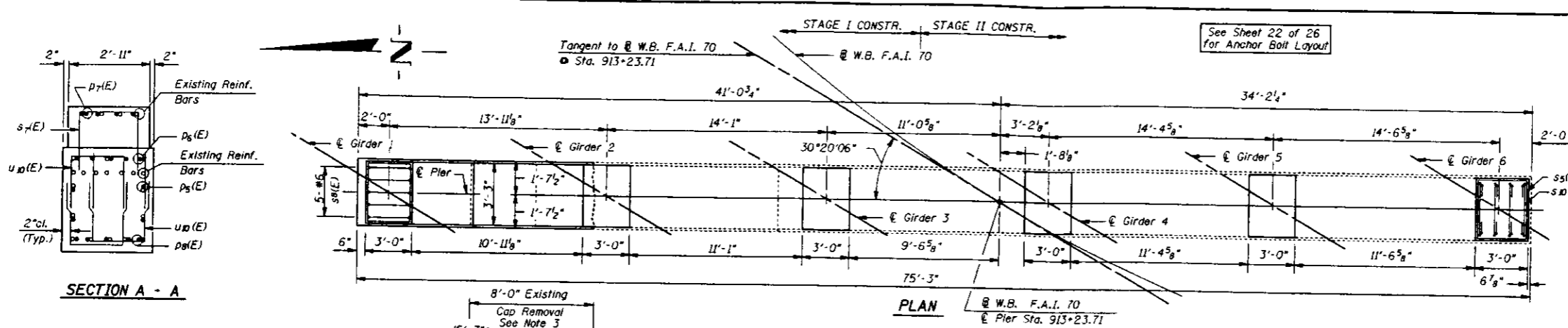
BAR s<sub>5</sub>(E)



BAR s<sub>6</sub>(E)

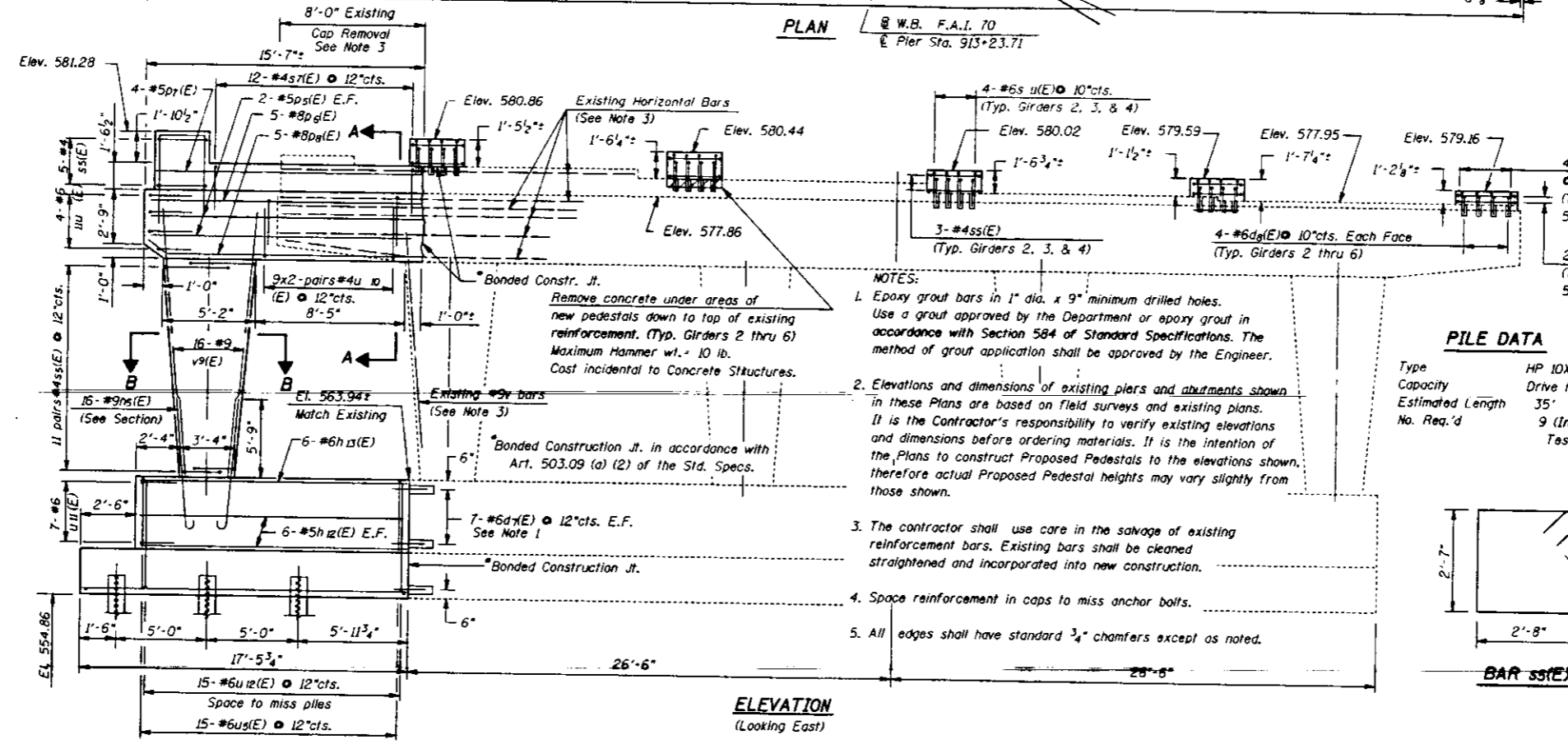
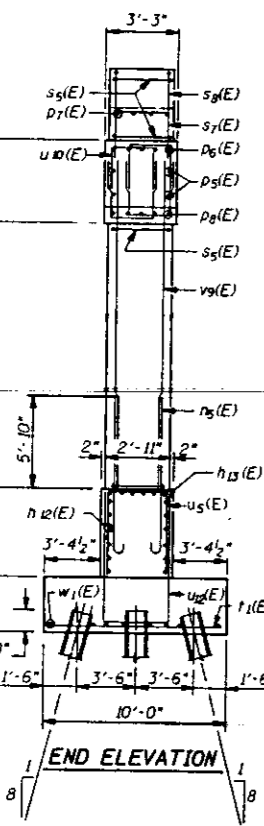
PIER 1  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

MTA INCORPORATED  
DESIGNED: CMS CHECKED: GBM  
DRAWN: T.M.J. DATE: July 1994



BAR	A	B
u <sub>5</sub> (E)	2'-11"	6'-3"
u <sub>10</sub> (E)	2'-3"	2'-6"
u <sub>11</sub> (E)	2'-8"	2'-8"
u <sub>12</sub> (E)	2'-11"	8'-7"
s <sub>7</sub> (E)	2'-7"	3'-3"
s <sub>8</sub> (E)	2'-7"	4'-10"
s <sub>10</sub> (E)	2'-6"	1'-0"
s <sub>11</sub> (E)	2'-6"	1'-4"

BARS u<sub>5</sub>(E), u<sub>10</sub>(E), u<sub>11</sub>(E), u<sub>12</sub>(E), s<sub>7</sub>(E), s<sub>8</sub>(E), s<sub>10</sub>(E) & s<sub>11</sub>(E)



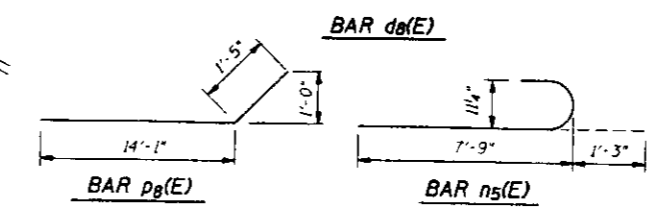
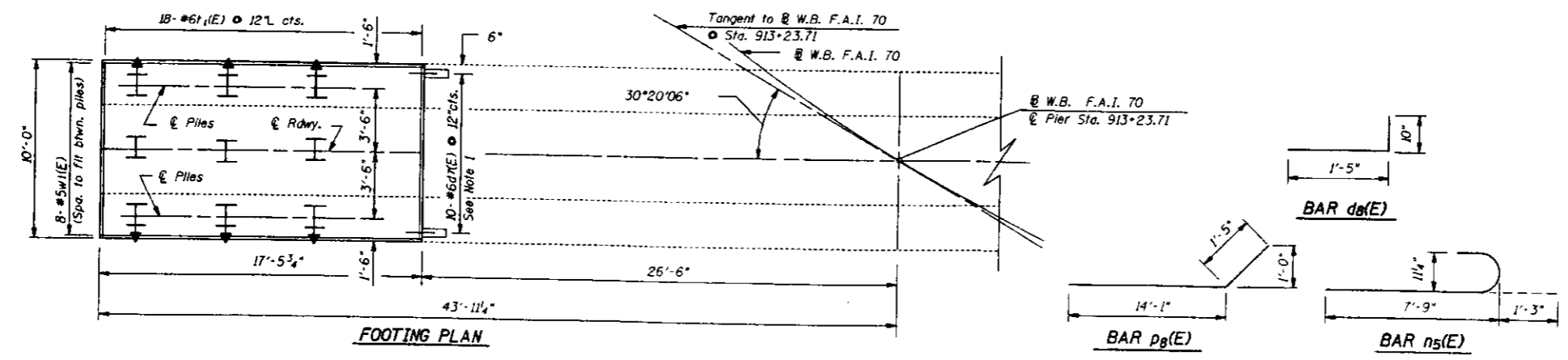
**PILE DATA**

Type	HP 10X42
Capacity	Drive to Refusal
Estimated Length	35'
No. Req'd	9 (Includes 1 Test Pile)

**PIER 2  
BILL OF MATERIALS**

BAR	No.	SIZE	LENGTH	SHAPE
d <sub>7</sub> (E)	24	#6	2'-6"	—
d <sub>8</sub> (E)	40	#6	2'-3"	—
h <sub>12</sub> (E)	12	#5	14'-7"	—
h <sub>13</sub> (E)	6	#6	14'-7"	—
n <sub>9</sub> (E)	16	#9	9'-0"	—
p <sub>5</sub> (E)	4	#5	15'-0"	—
p <sub>6</sub> (E)	5	#8	15'-0"	—
p <sub>7</sub> (E)	4	#5	14'-6"	—
p <sub>8</sub> (E)	5	#8	15'-6"	—
s <sub>5</sub> (E)	40	#4	11'-3"	—
s <sub>7</sub> (E)	12	#4	9'-1"	—
s <sub>8</sub> (E)	5	#6	12'-3"	—
s <sub>10</sub> (E)	8	#6	4'-6"	—
s <sub>11</sub> (E)	12	#6	5'-2"	—
u <sub>1</sub> (E)	18	#6	9'-6"	—
u <sub>5</sub> (E)	15	#6	15'-5"	—
u <sub>10</sub> (E)	36	#4	7'-3"	—
u <sub>11</sub> (E)	7	#6	8'-0"	—
u <sub>12</sub> (E)	15	#6	20'-1"	—
v <sub>9</sub> (E)	16	#9	13'-3"	—
w <sub>1</sub> (E)	8	#5	17'-0"	—

ITEM	UNIT	QTY.
Reinforcement Bars, Epoxy Coated	Pound	4,350
Concrete Structures	Cu. Yds.	45.2
Steel Piles, HP 10x42	Foot	280
Test Piles	Each	1
Structure Excavation	Cu. Yds.	41
Concrete Removal	Cu. Yds.	4.6



**PIER 2**  
**W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55**  
**F.A.I. RTE. 70 SECTION 60-10HB-Y**  
**STA. 913+23.71 F.A.I. 70**  
**STA. 1291+72.17 F.A.I. 55**  
**MADISON COUNTY**  
**S.N. 060-0022**

**MTA INCORPORATED**  
DESIGNED: C.M.S. CHECKED: GBM  
DRAWN: TNJ. DATE: July 1994

**LOCATION NO. 6**



See Sheet 22 of 25 for Anchor Bolt Layout

BAR	A	B
u <sub>8</sub> (E)	2'-11"	4'-9"
u <sub>9</sub> (E)	2'-11"	3'-3"
u <sub>10</sub> (E)	2'-3"	2'-6"
u <sub>11</sub> (E)	2'-8"	2'-8"
s <sub>7</sub> (E)	2'-7"	3'-3"
s <sub>8</sub> (E)	2'-7"	4'-10"
s <sub>9</sub> (E)	2'-7"	7"

BARS u<sub>8</sub>(E), u<sub>9</sub>(E), u<sub>10</sub>(E), u<sub>11</sub>(E)  
s<sub>7</sub>(E), s<sub>8</sub>(E), & s<sub>9</sub>(E)

**PIER 3  
BILL OF MATERIALS**

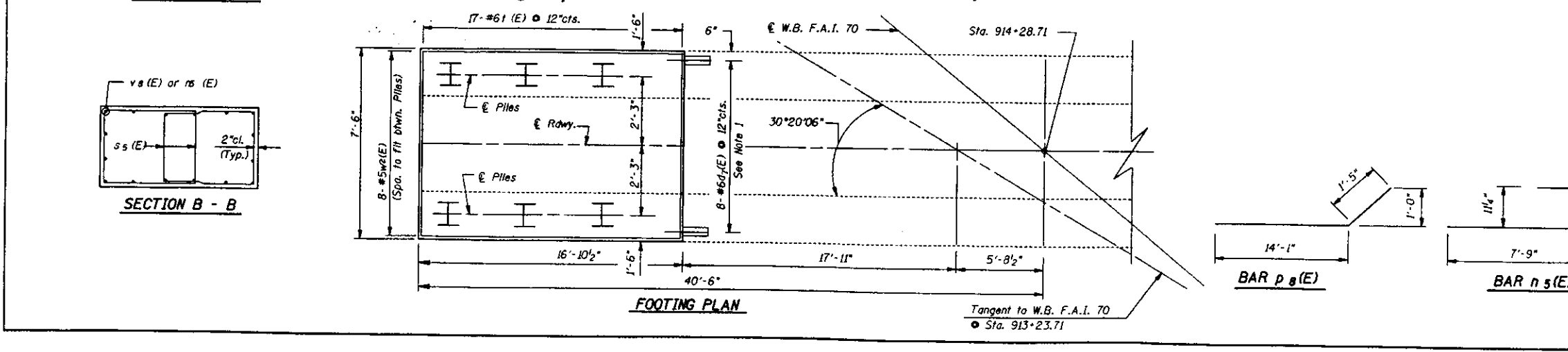
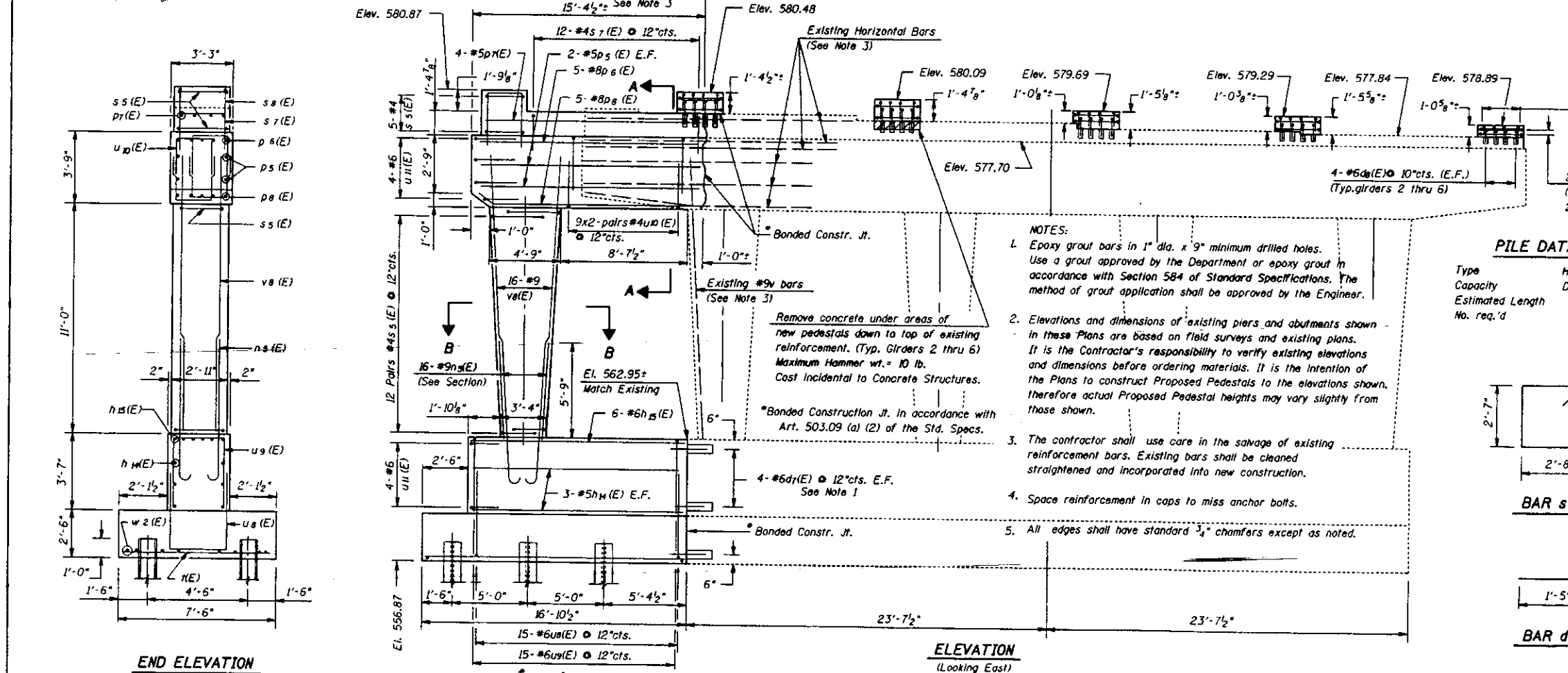
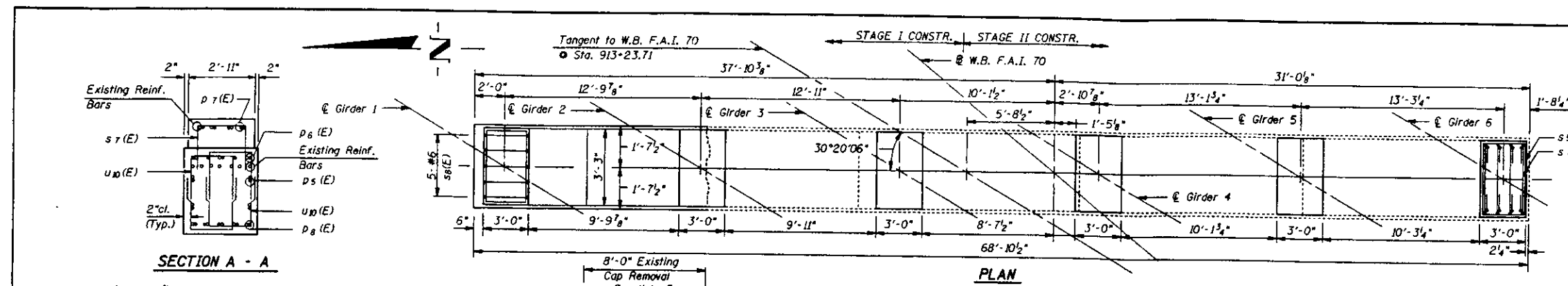
BAR	NO.	SIZE	LENGTH	SHAPE
d <sub>7</sub> (E)	16	#6	2'-6"	
d <sub>8</sub> (E)	40	#6	2'-3"	
h <sub>14</sub> (E)	6	#5	14'-0"	
h <sub>15</sub> (E)	6	#6	14'-0"	
n <sub>5</sub> (E)	16	#9	9'-0"	
p <sub>5</sub> (E)	4	#5	14'-6"	
p <sub>6</sub> (E)	5	#8	15'-0"	
p <sub>7</sub> (E)	4	#5	15'-0"	
p <sub>8</sub> (E)	5	#8	15'-6"	
s <sub>5</sub> (E)	39	#4	11'-3"	
s <sub>7</sub> (E)	12	#4	9'-1"	
s <sub>8</sub> (E)	5	#6	12'-3"	
s <sub>9</sub> (E)	20	#6	3'-9"	
t <sub>1</sub> (E)	17	#6	7'-0"	
u <sub>8</sub> (E)	15	#6	12'-5"	
u <sub>9</sub> (E)	15	#6	9'-5"	
u <sub>10</sub> (E)	36	#4	7'-3"	
u <sub>11</sub> (E)	8	#6	8'-0"	
v <sub>8</sub> (E)	16	#9	13'-9"	
w <sub>2</sub> (E)	8	#5	16'-3"	

ITEM	UNIT	QTY.
Reinforcement Bars, Epoxy Coated	Pound	3,830
Concrete Structures	Cu. Yds.	34.5
Steel Piles, HP 10x42	Foot	210
Structure Excavation	Cu. Yds.	34
Concrete Removal	Cu. Yds.	4.6

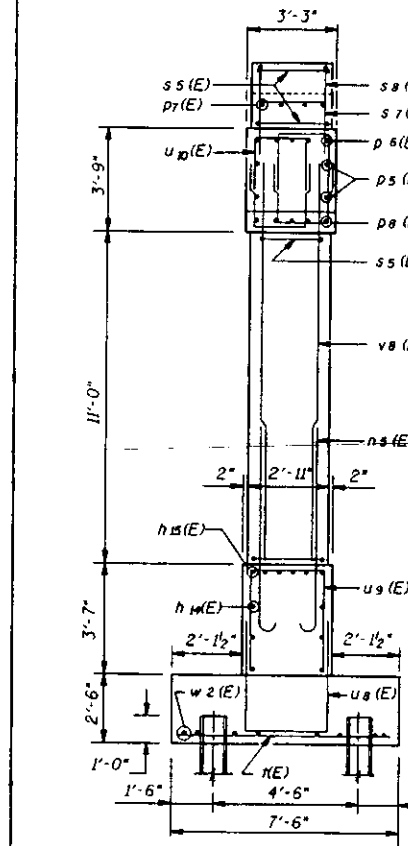
**PIER 3**  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55  
F.A.I. RTE. 70 SECTION 60-10HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S. N. 060-0022

MTA INCORPORATED  
DESIGNED: C.M.S. CHECKED: GBM  
DRAWN: T.N.J. DATE: July 1994

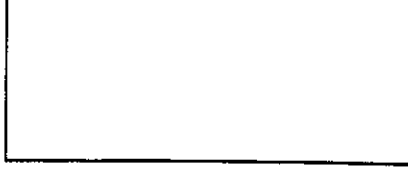
LOCATION NO. 6



**SECTION A - A**



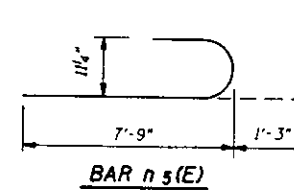
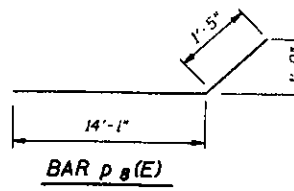
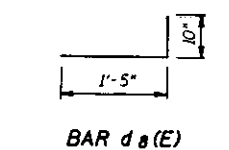
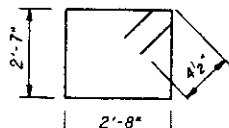
**SECTION B - B**

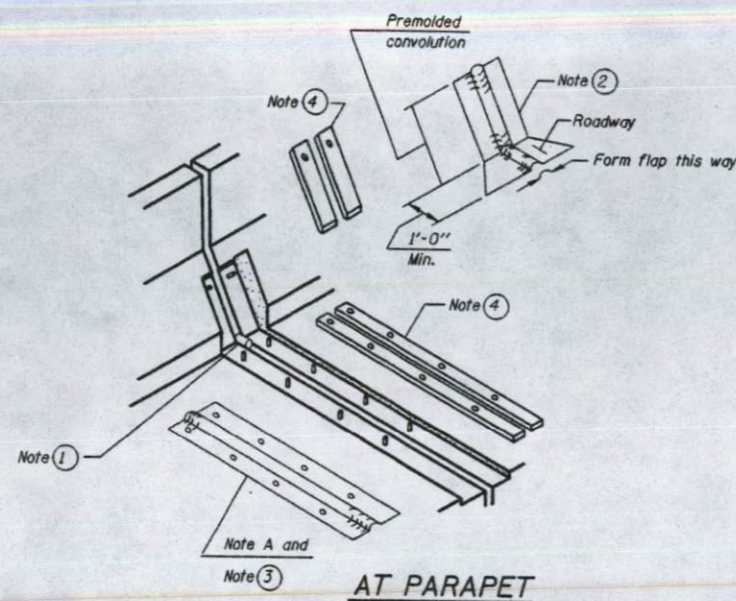


- NOTES:**
- Epoxy grout bars in 1" dia. x 9" minimum drilled holes. Use a grout approved by the Department or epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
  - Elevations and dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.
  - The contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction.
  - Space reinforcement in caps to miss anchor bolts.
  - All edges shall have standard 3/4" chamfers except as noted.

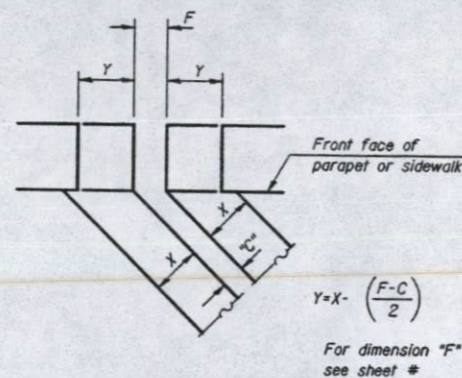
**PILE DATA**

Type: HP 10x42  
Capacity: Drive to Refusal  
Estimated Length: 35'  
No. req'd: 6

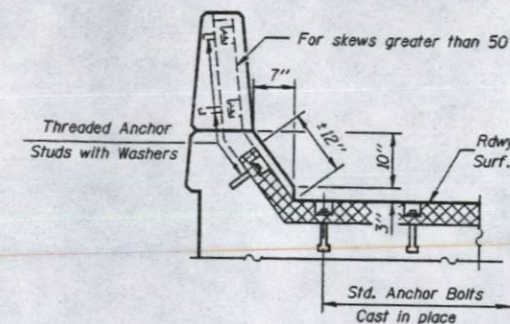




**AT PARAPET**



**FORMING BLOCKOUT SKETCH**



**AT PARAPET**

Joint Size	C to 50°F	D to 50°F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

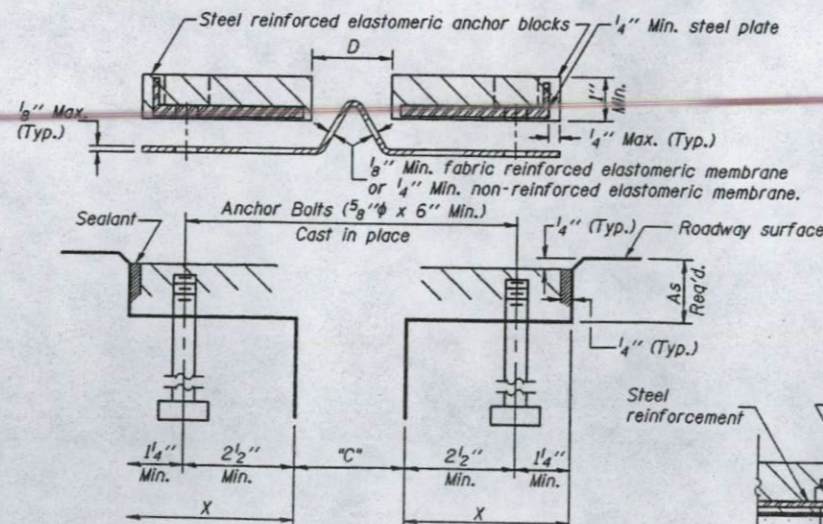
**INSTALLATION NOTES**

- ① Install sponge mandrels into positions shown to form flap convolution.
- ② Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
- ③ Install continuous seal in roadway.
- ④ Install anchor blocks as indicated.

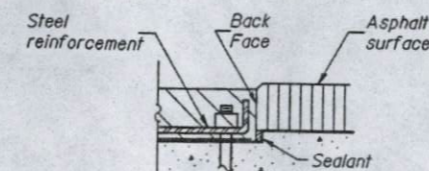
**NOTE A:** Maximum spacing of anchor bolts shall be 12" centers.

**SKEW LIMITATIONS**

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



**CROSS SECTION**



**ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE**

**GENERAL NOTES**

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

The steel reinforcement must extend up the back face of anchor blockout.

The convolution length shall be such that the extended length will expand in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.

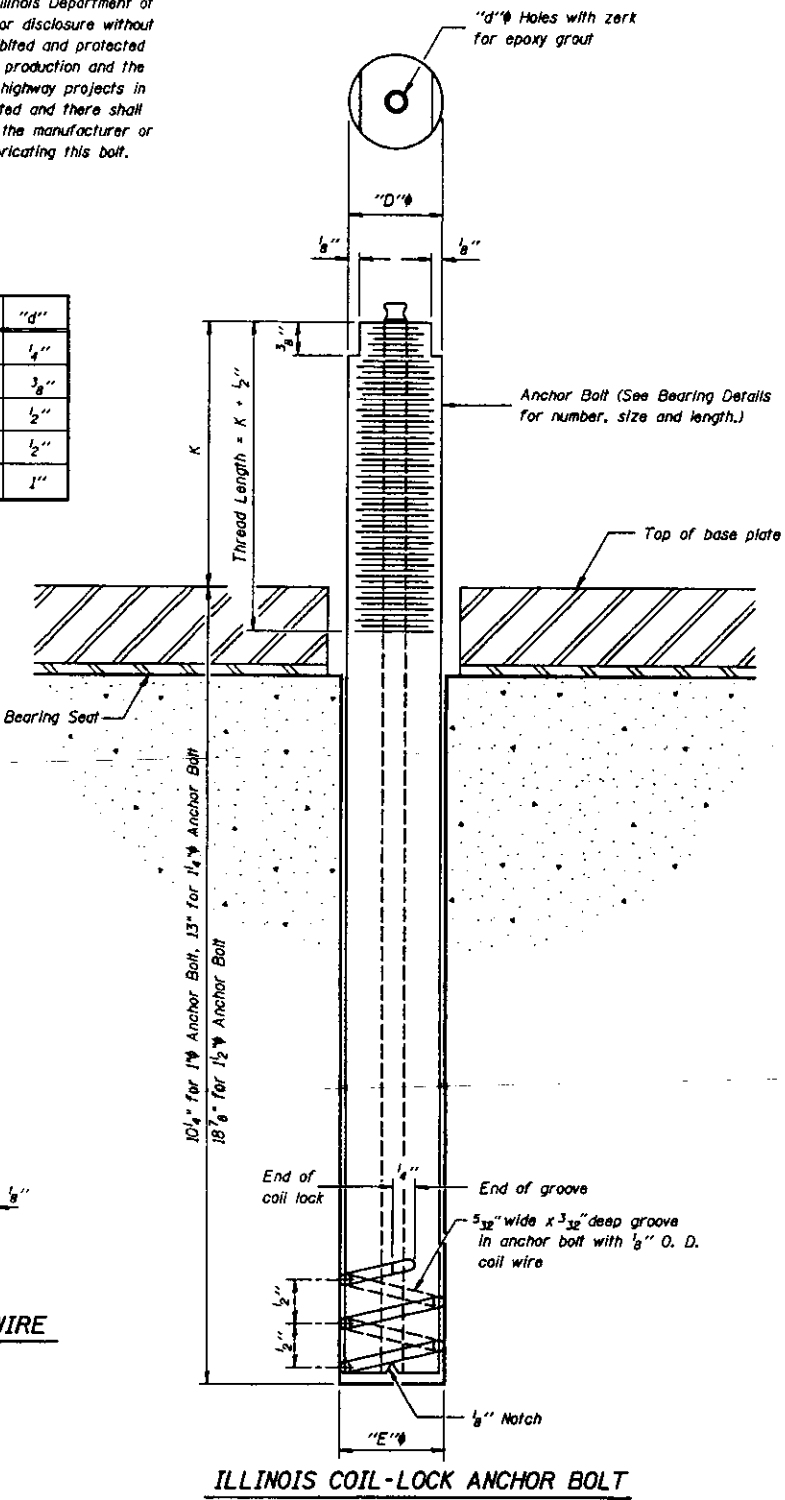
**EXPANSION JOINT DETAIL**  
**W.B. F.A.I. RTE. 70 OVER RTE. 55**  
**F.A.I. RTE. 70 ION 60-10HB-Y**  
**STA. 913+23.71 F.A.I. 70**  
**STA. 11291+72.17 F.A.I.**  
**MADISON COUNTY**  
**S.N. 060-0022**

**MTA INCORPORATED**  
 DESIGNED: GBM CHECKED: BGH  
 DRAWN: TNJr. DATE: July 1994

**LOCATION NO. 6**

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

D	E	H	K	"d"
1"	1 1/8"	1 3/8"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 5/8"	2"	3/8"
1 1/2"	1 5/8"	1 5/8"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/8"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

**MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT**

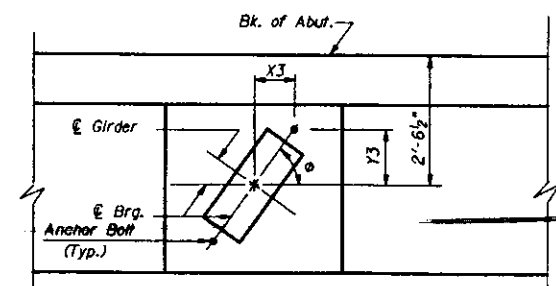
The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers. The coil wire shall be made of any suitable soft steel wire. The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881 Type I, Grade 1 and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT**

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

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures. The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:  
 1. A threaded rod stud with nut and washer conforming to ASTM A307.  
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.



TYPICAL BEAM SEAT PLAN AT ABUTMENT

**WEST ABUTMENT BEARING GEOMETRY & ANCHOR BOLT LAYOUT**

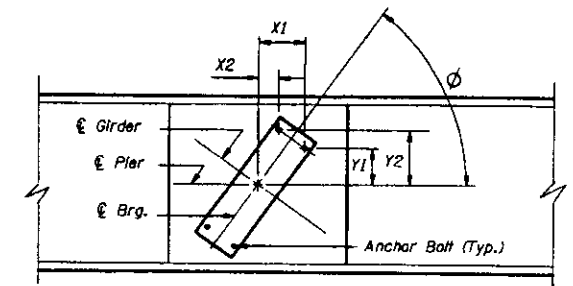
GIRDER	1	2	3	4	5	6
Ø	64° 52' 58"	65° 20' 42"	65° 48' 49"	66° 19' 40"	66° 47' 57"	67° 18' 41"
X3	4 3/8"	4 1/4"	4 1/4"	4 1/8"	4"	4"
Y3	9 1/4"	9 3/8"	9 3/8"	9 3/8"	9 3/8"	9 1/2"

**EAST ABUTMENT BEARING GEOMETRY & ANCHOR BOLT LAYOUT**

GIRDER	1	2	3	4	5	6
Ø	53° 17' 12"	53° 34' 33"	53° 54' 51"	54° 10' 31"	54° 28' 44"	54° 47' 07"
X3	6 1/8"	6 1/8"	6"	6"	6"	5 7/8"
Y3	8 1/4"	8 1/4"	8 1/4"	8 1/4"	8 3/8"	8 3/8"

**GENERAL NOTES**

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



TYPICAL BEAM SEAT PLAN AT PIERS

**PIER 1 BEARING GEOMETRY & ANCHOR BOLT LAYOUT**

GIRDER	1	2	3	4	5	6
Ø	61° 58' 57"	62° 23' 21"	62° 49' 18"	63° 14' 13"	63° 41' 34"	64° 06' 11"
X1	9"	9"	8 7/8"	8 3/4"	8 5/8"	8 5/8"
Y1	1'-0 3/4"	1'-0 3/4"	1'-0 7/8"	1'-1"	1'-1"	1'-1 1/8"
X2	5 1/2"	5 3/8"	5 1/4"	5 1/4"	5 1/8"	5"
Y2	1'-2 5/8"	1'-2 5/8"	1'-2 3/4"	1'-2 3/4"	1'-2 3/4"	1'-2 7/8"

**PIER 2 BEARING GEOMETRY & ANCHOR BOLT LAYOUT**

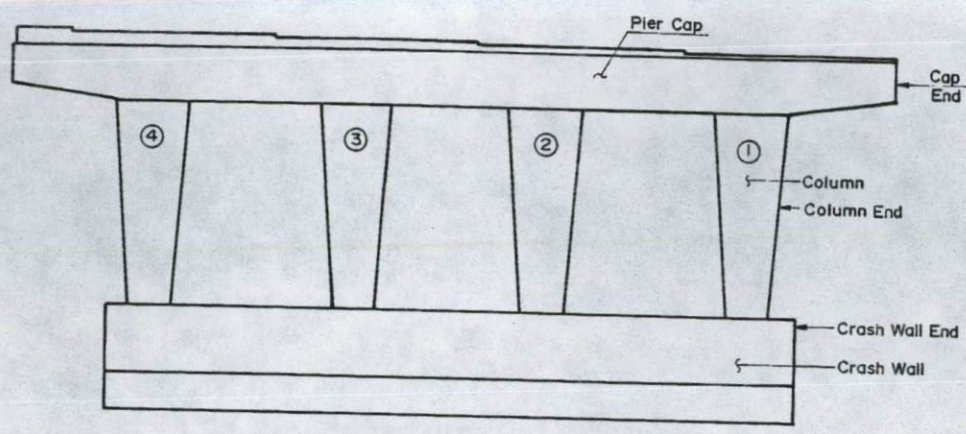
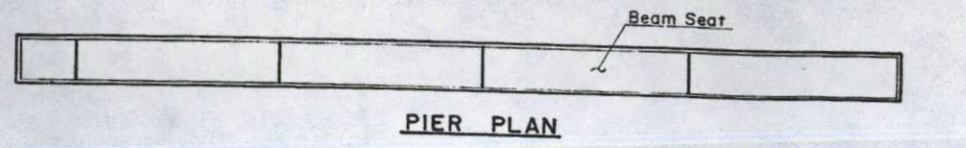
GIRDER	1	2	3	4	5	6
Ø	58° 38' 30"	58° 59' 47"	59° 22' 45"	59° 43' 59"	60° 08' 57"	60° 30' 11"
X1	8 3/4"	8 3/4"	8 5/8"	8 5/8"	8 1/2"	8 1/2"
Y1	7 7/8"	7 7/8"	8"	8"	8 1/8"	8 1/8"
X2	3"	2 7/8"	2 7/8"	2 3/4"	2 5/8"	2 5/8"
Y2	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 1/2"

**PIER 3 BEARING GEOMETRY & ANCHOR BOLT LAYOUT**

GIRDER	1	2	3	4	5	6
Ø	55° 39' 21"	55° 58' 17"	56° 14' 27"	56° 33' 40"	56° 55' 27"	57° 15' 18"
X1	10 3/8"	10 3/8"	10 1/4"	10 1/4"	10 1/8"	10 1/8"
Y1	11 5/8"	11 3/4"	11 3/4"	11 7/8"	11 7/8"	1'-0"
X2	7 1/8"	7"	7"	6 7/8"	6 3/4"	6 3/4"
Y2	1'-1 1/8"	1'-2"	1'-2"	1'-2"	1'-2 1/8"	1'-2 1/8"

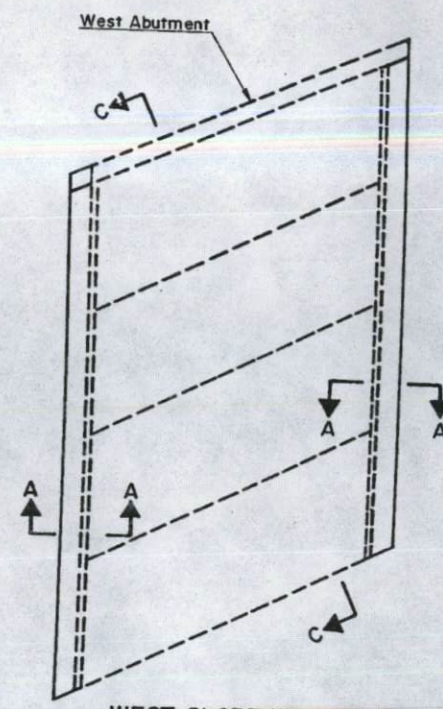
**ANCHOR BOLT DETAILS**  
 W.B. F.A.I. 70 OVER F.A.I. RTE. 55  
 F.A.I. RTE. 70 SECTION 60-10HB-Y  
 STA. 931+23.71 F.A.I. 70  
 STA. 1291+72.17 F.A.I. 55  
 MADISON COUNTY  
 S.N.060-0022

MTA INCORPORATED  
 DESIGNED: G.B.M. CHECKED: BGH  
 DRAWN: TNJR. DATE: July 1994

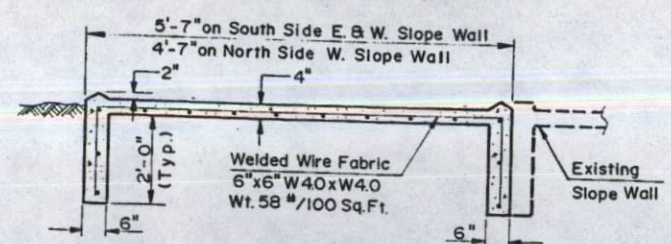


**PIER ELEVATION**  
Looking East

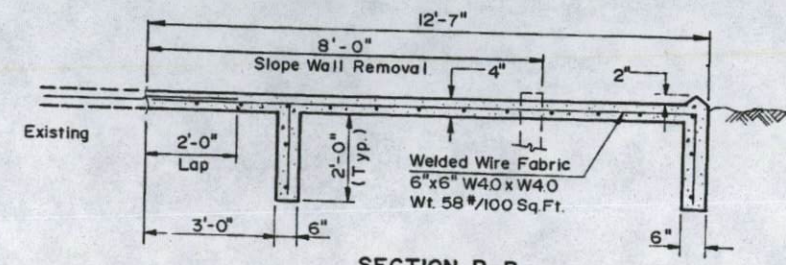
NOTE: Columns are numbered 1 thru 4 Each Face.



**WEST SLOPE WALL**



**SECTION A-A**



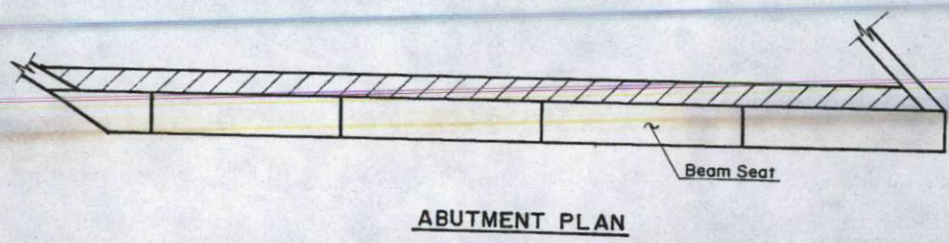
**SECTION B-B**

NOTE: Existing welded wire fabric to be incorporated into new construction shall be cleaned and lapped 2'-0" with new fabric. Cost incidental to Slope Wall Removal. Cost of slope wall shall be incidental to Slope Wall 4".

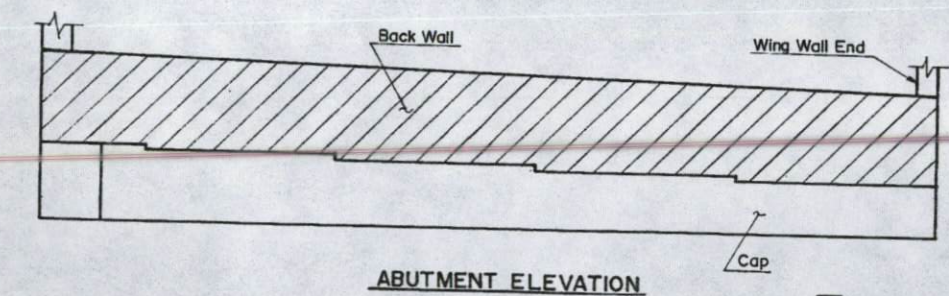
LOCATION	DAMAGE DESCRIPTION	FORMED CONC. REPAIR (Sq. Ft.)	EPOXY CRACK SEALING (Foot)	HIGH PERF. ENH. SHOT. (Sq. Ft.)
East Abutment	Cracks in Beam Seat		42	
Pier 1 East Face	Cracks in Crashwall		111	
Pier 1 West Face	Cracks in Crashwall		81	
Pier 2 East Face	Spall in Column 1	12		8
Pier 2 East Face	Spall in Column 4			8
Pier 2 East Face	Spall in Crashwall	8		
Pier 2 East Face	Cracks in Crashwall		32	
Pier 2 West Face	Cracks in Cap		8	
Pier 2 West Face	Crack in Column 4		4	
Pier 2 West Face	Crack in Crashwall		27	
Pier 2 North End	Spall in Column 4	4		
Pier 2 North End	Spall in Crashwall	4		
Pier 3 East Face	Cracks in Cap		8	
Pier 3 East Face	Cracks in Crashwall		61	
Pier 3 East Face	Crack in Column 4		6	
Pier 3 South End	Spall in Column 1			8
Pier 3 South End	Crack in Column 1		4	
Pier 3 West Face	Cracks in Crashwall		109	
<b>TOTAL</b>		<b>28</b>	<b>493</b>	<b>24</b>

**LAP DIMENSIONS**

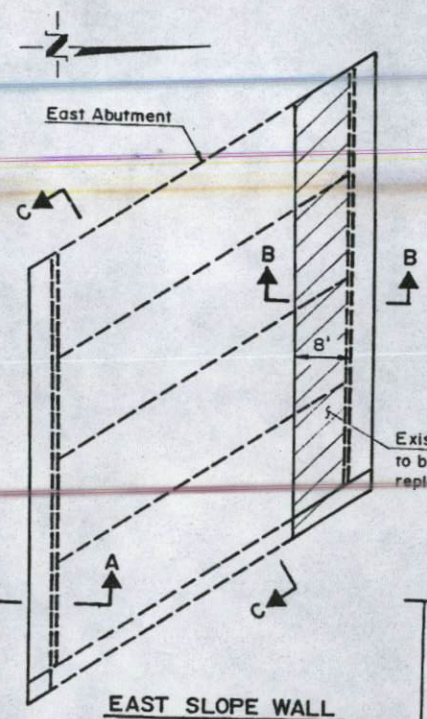
Bar Size	Bar Length
#4	1'-3"
#5	1'-7"



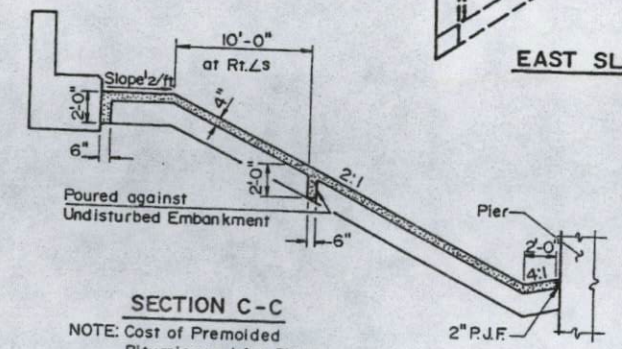
**ABUTMENT PLAN**



**ABUTMENT ELEVATION**

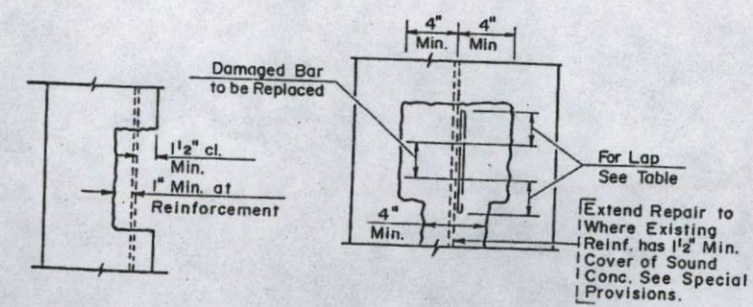


**EAST SLOPE WALL**



**SECTION C-C**

NOTE: Cost of Premolded Bituminous Joint Filler will be considered incidental to Slope Wall 4".



**CONCRETE REPAIR DETAIL**

NOTE: All repair dimensions are approximate. Existing reinforcement having 20% or more cross sectional area lost due to corrosion or damage during concrete removal shall be replaced by new reinforcement bar lapped as shown or noted. Cost of additional reinforcement will be paid for at the contract unit price for Reinforcement Bars, Epoxy Coated.

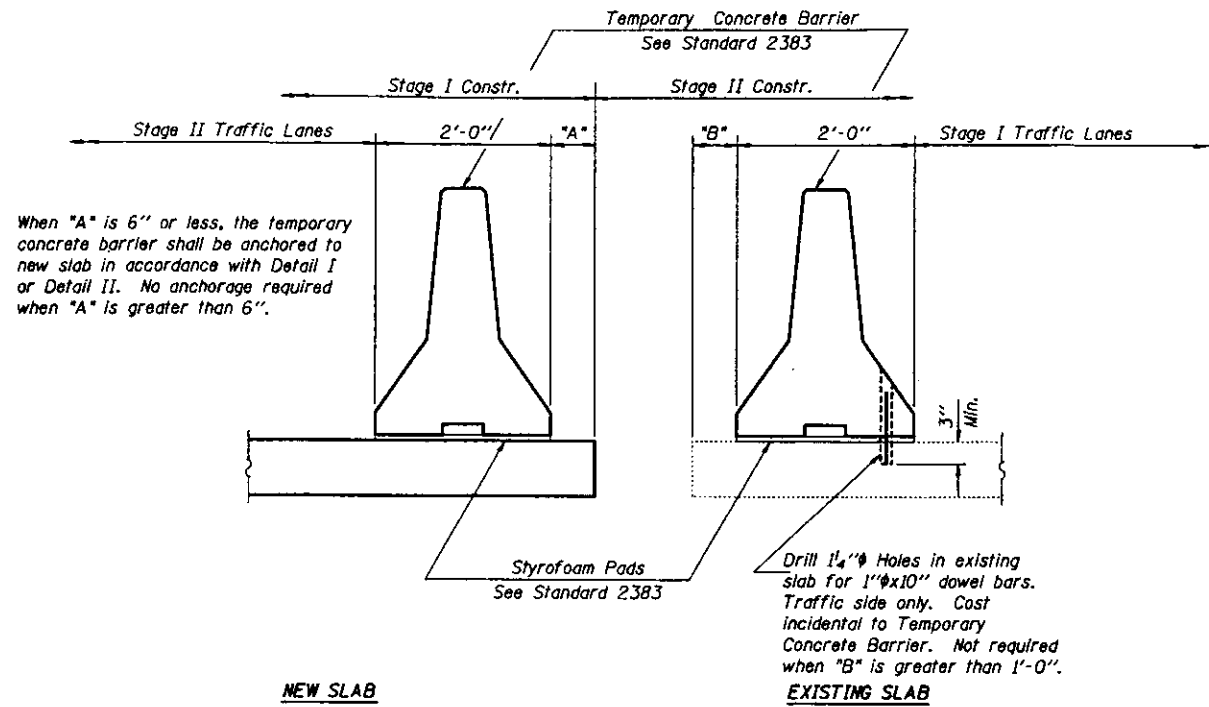
**BILL OF MATERIALS**

ITEM	UNIT	QUANTITY
Formed Conc. Repair (S. 5)	Sq. Ft.	28
High Perf. Enh. Shotcrete	Sq. Ft.	24
Slope Wall Removal	Sq. Yd	97
Epoxy Crack Sealing	Foot	493
Slope Wall 4"	Sq. Yd	315

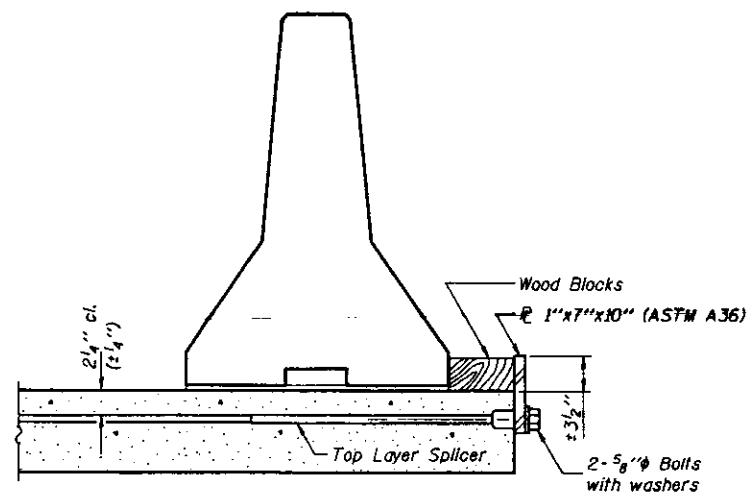
**SUBSTRUCTURE REPAIR**  
**W.B. F.A.I. RTE. 70 OVER F.A.I. RTE. 55**  
**F.A.I. RTE. 70 SECTION 60-10HB-Y**  
**STA. 913+23.71 F.A.I. 70**  
**STA. 1291+72.17 F.A.I. 55**  
**MADISON COUNTY**  
**S.N. 060-0022**

**MTA, INCORPORATED**  
 DESIGNED T.H.W. CHECKED C.M.S.  
 DRAWN TNJ. DATE 7/94 NO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-10-HB-Y	MADISON	228	223
FED. ROAD DIST. NO. 7	S.L. DATE PROJECT		Sheet 24 of 26	

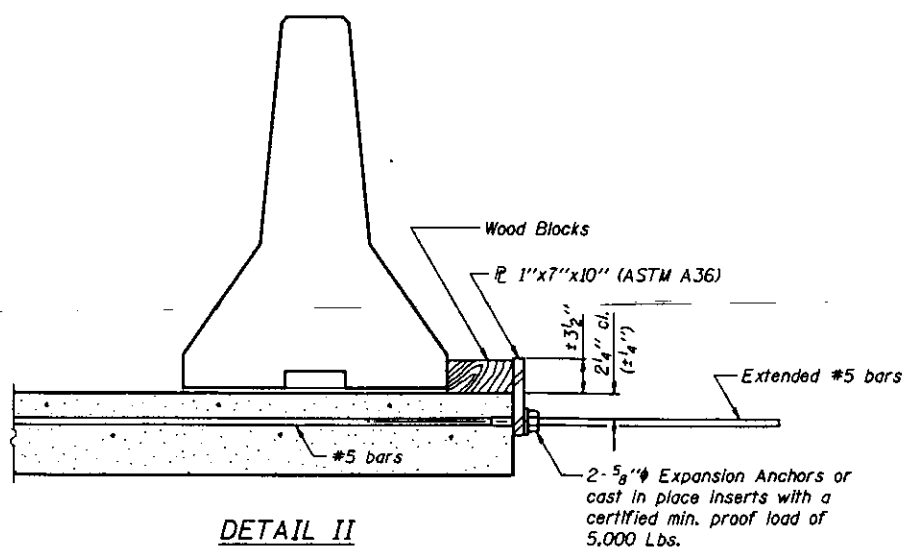


SECTIONS THRU SLAB



DETAIL I

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

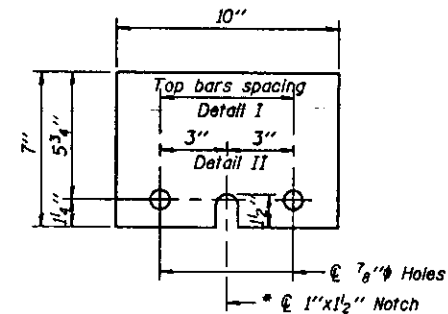


DETAIL II

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.

NOTES

- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{c}$  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  $\bar{c}$  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 incidental to Temporary Concrete Barrier.



1"x7"x10"

\* Required only with Detail II

**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION**  
W.B. F.A.I. RTE. 70 OVER F.A.I. RTE.55  
F.A.I. RTE. 70 SECTION 60-10-HB-Y  
STA. 913+23.71 F.A.I. 70  
STA. 1291+72.17 F.A.I. 55  
MADISON COUNTY  
S.N. 060-0022

MTA INCORPORATED

DESIGNED: THW CHECKED: GBM  
DRAWN: THW DATE: July, 1994

LOCATION NO. 6





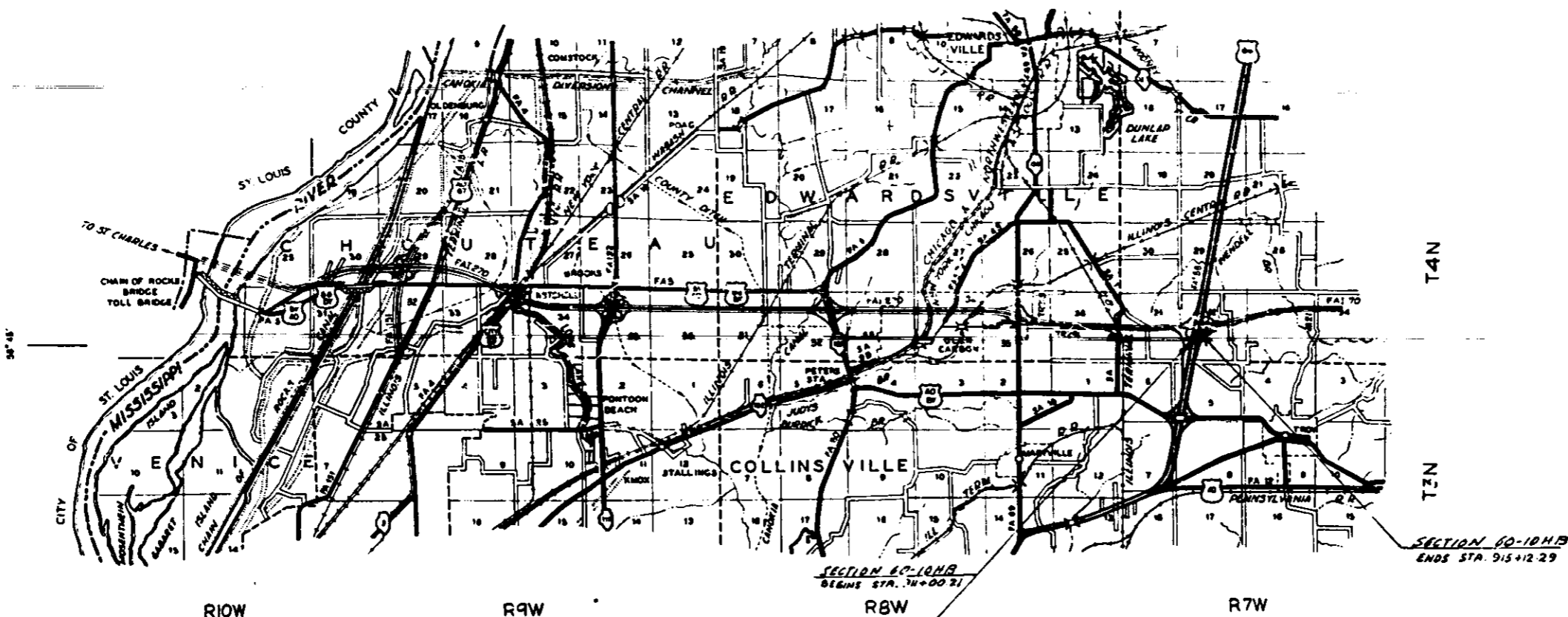
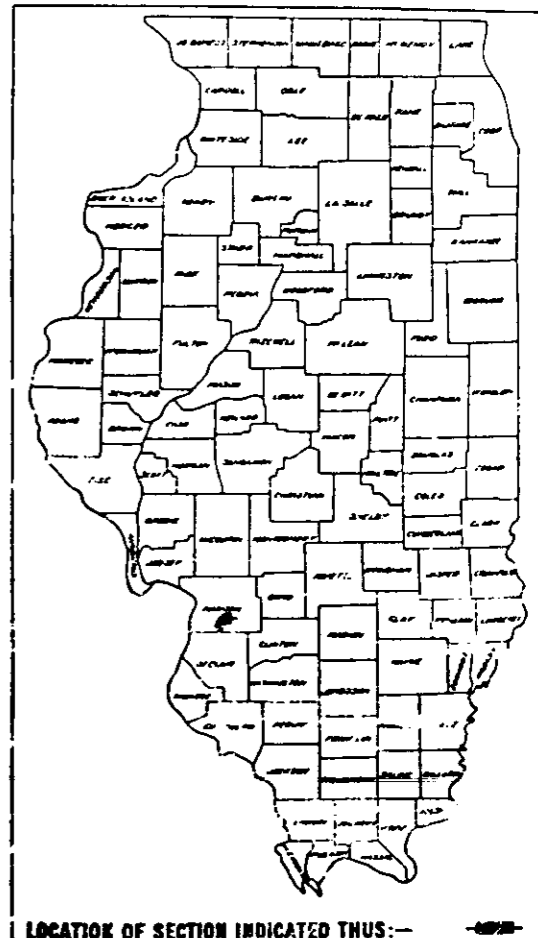
# STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SECTION	REC	COUNTY	DATE	SHEET
FAI 70	60-10HB	MADISON	23	1

SET  
NO  
4

SCALES { PLAN 1 INCH = 80 FT.  
PROFILE HOR. 1 INCH = 80 FT.  
PROFILE VERT. 1 INCH = 5 FT.  
CROSS-SECTIONS 1 INCH = 10 FT.

## FAI ROUTE 70 SECTION 60-10HB PROJECT I-70-2 (49) 18 MADISON COUNTY



SECTION 60-10HB includes the complete construction of one (1) welded composite girder bridge at Sta. 913+23.71 carrying Westbound FAI 70 over FAI 55 having 4 continuous spans at 101'-9", 116'-0", 105'-0", and 79'-9", the placement of the embankments at the ends of the bridge, and the installation of drainage structures as shown by these plans.



NET LENGTH TO BE IMPROVED:  
NET SECTION LENGTH = NET LENGTH OF BRIDGE: WESTBOUND ONLY 412.08 FEET = 0.078 MILES

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS  
DIVISION OF HIGHWAYS  
APPROVED: *W. H. Baumann*  
DATE: FEBRUARY 7, 1963

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS  
APPROVED: \_\_\_\_\_  
DIVISION ENGINEER DATE

*R. H. Schmitt*  
July 24, 1963

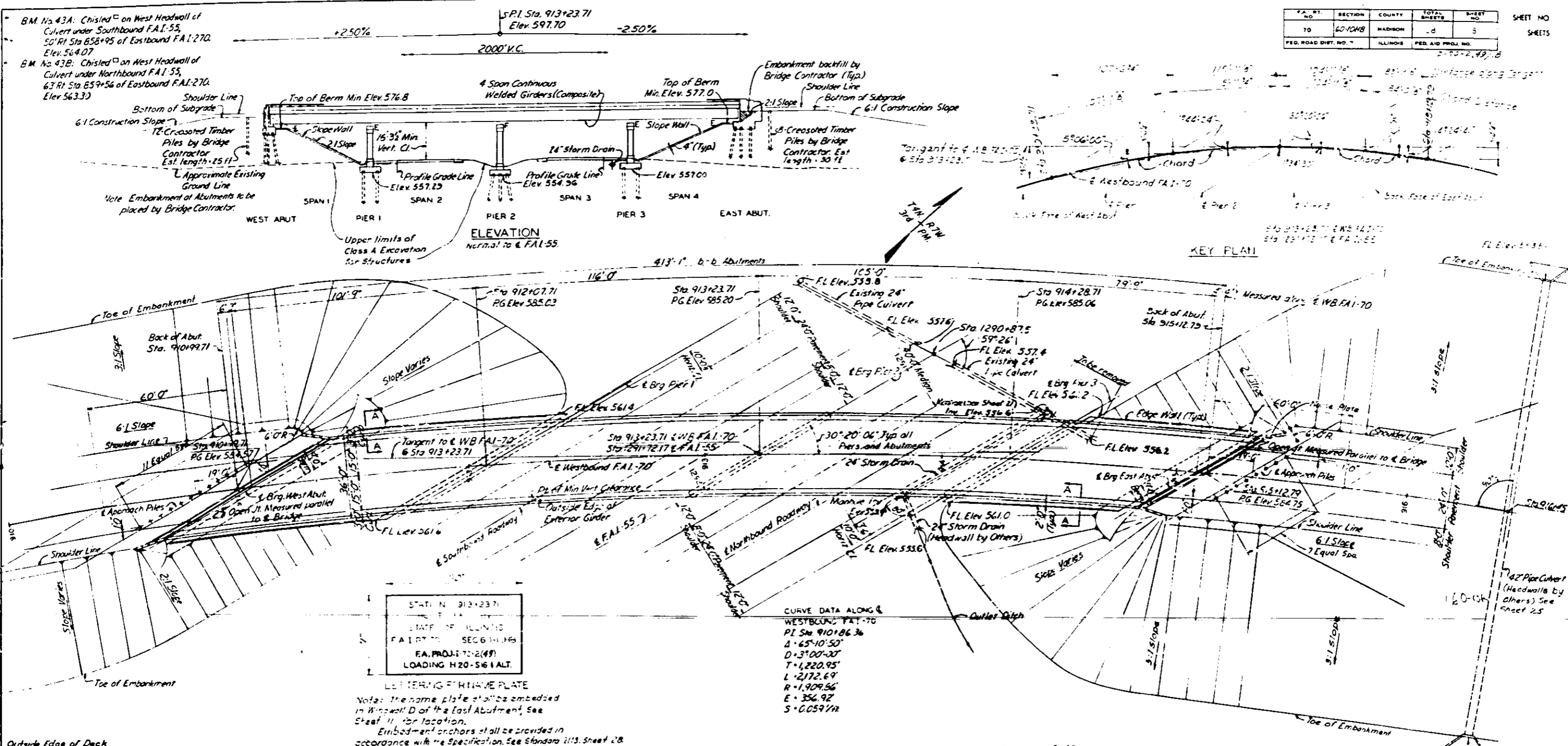
Reel 18-58  
913+23.71

060-0022  
1185-T-70 (FAI 55)  
ROAD CLASSIFICATION: S-C-B-T-70 (W.B. FAI 70) CONTRACT NO. 23385



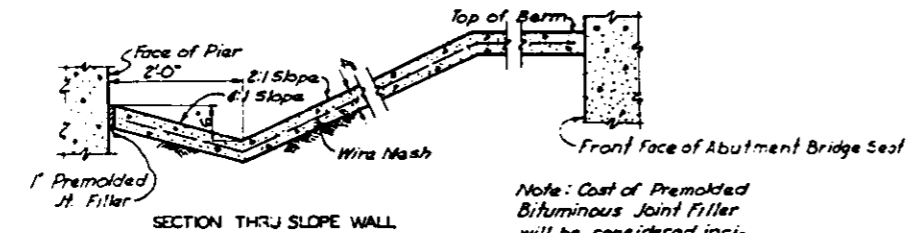
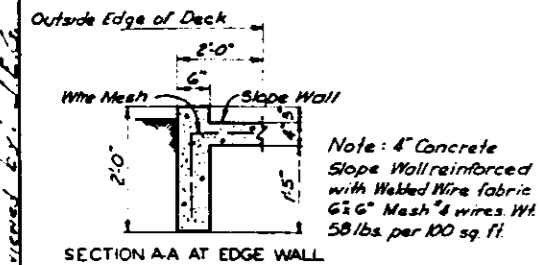
B.M. No. 43A: Chisled on West Headwall of Culvert under Southbound FAI-55, 50' RI Sta 858+95 of Eastbound FAI-270, Elev. 564.07  
 B.M. No. 43B: Chisled on West Headwall of Culvert under Northbound FAI-55, 63' RI Sta 859+56 of Eastbound FAI-270, Elev. 563.33

FA. RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
TO	60-104B	MADISON	4	3	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJ. NO.	2-70-2, 48, 18		



STATION 913+23.71  
 STATE OF ILLINOIS  
 FAI RT. 70 - SEC 6-11-113  
 FA. PROJ. 70-2(49)  
 LOADING H20-S16.1 ALT.

CURVE DATA & WESTBOUND FAI-70  
 PI Sta. 910+86.36  
 Δ = 65°10'50"  
 D = 3°00'00"  
 T = 1220.95'  
 L = 2172.69'  
 R = 1909.56'  
 E = 356.92'  
 S = 0059.71'



SLOPE WALL DETAILS

• For Approach Slabs

Item	Unit	W. Abut	Pier 1	Pier 2	Pier 3	E. Abut	Separ. Total
Class 'A' Excavation for Structures	Cu Yd		66	128	98		292
Test Piles (Steel)	Each	1		1			2
Furnishing Steel Piles (10BP42)	Lin Ft	912	1120	1120	840	700	4692
Driving Steel Piles	Lin Ft	312	1120	1120	840	700	4692
Furnishing Cressed Piles 201-35'	Lin Ft	#300				#240	#540
Driving Timber Piles	Lin Ft	#300				#240	#540
Class 'X' Concrete	Cu Yd	873	1299	1270	1041	675	4723
Reinforcement Bars	Lb	5,280	6,910	16,730	14,450	4,490	119,883
Furnishing & Erecting Structural Steel	Lb						393,130
Aluminum Handrail	Lin Ft						815
Slope Wall	Sq Yd	463				355	818
Name Plate	Each					1	1
Protective Coat	Sq Yd	19				16	35
Bridge Seal Sealant	Lin Ft						818

BRIDGE OVER - FAI 55

STATION - 913 + 23.71  
 F.A.I. ROUTE - 70  
 SECTION - 60-10113  
 MADISON COUNTY, ILLINOIS

SCALE - NONE

DRAWN BY: R.V. Butterfield, June 1962  
 CHECKED BY: W. Littlefield, June 1963

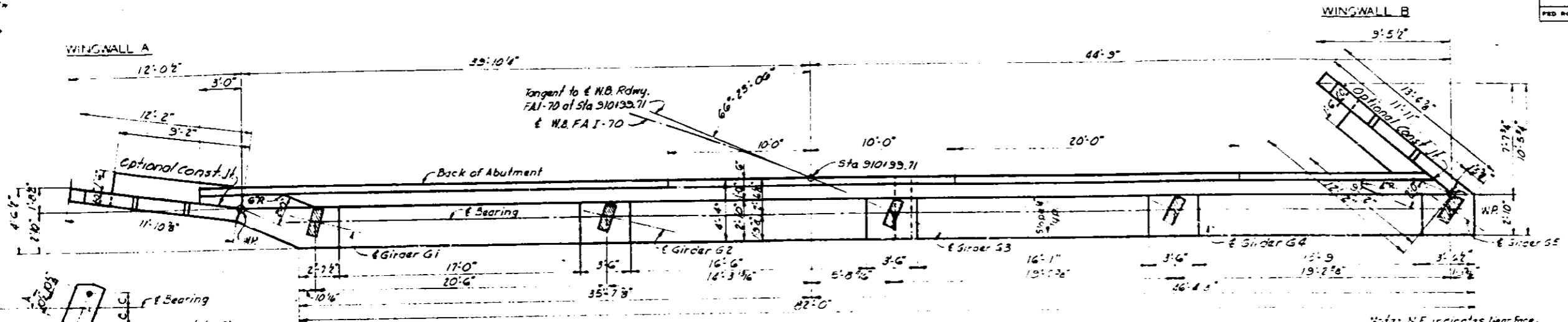
OVERDRUP & PARCEL, INC.  
 ENGINEERS-ARCHITECTS  
 ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions. Bridge Seal Sealant required on Abutment seats only. See Special Provisions. Rev. 3/9/64. N.R.D. Bridge Seal Sealant from 1 to 8-3

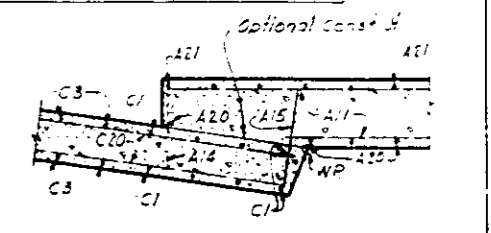


Note: For Wingwall Details see Sheet 11

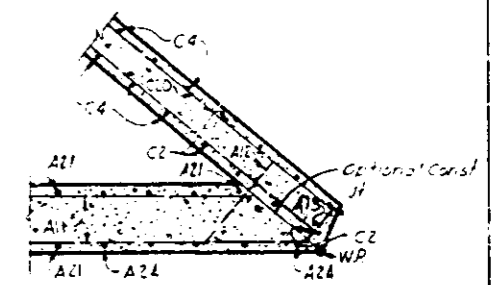
F.A.I. RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
70	60-10HB	MADISON	28	10	SHEETS
FED. ROAD DIST. NO. 7			ILLINOIS FED. AID PROJ. NO.		



PLAN



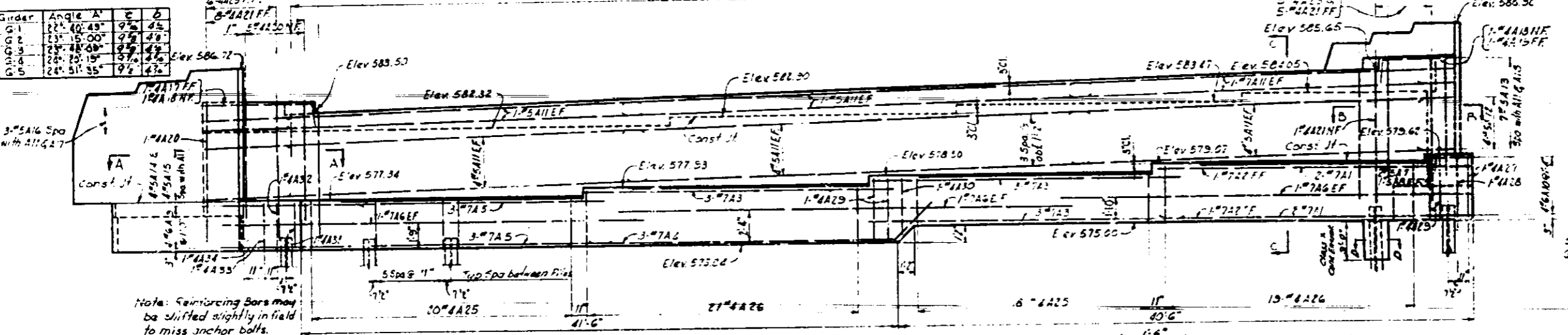
SECTION A-A



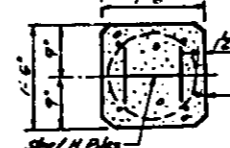
SECTION B-B

TYPICAL PLAN OF BEARINGS

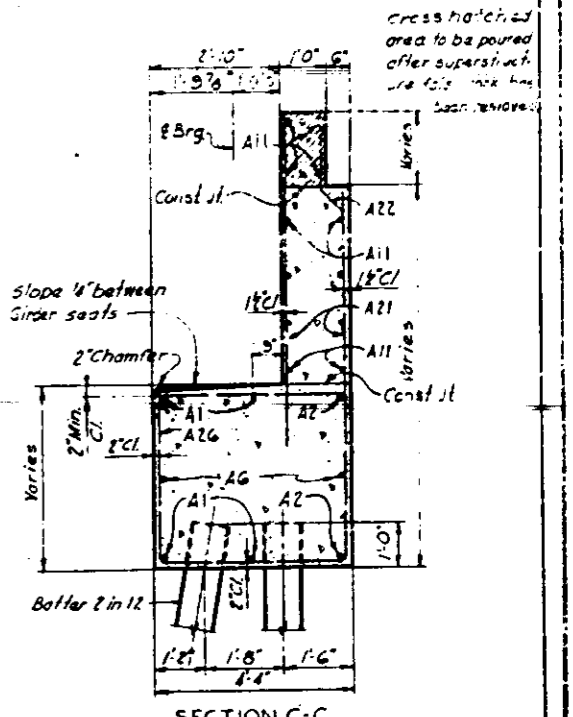
Girder	Angle A	E	B
G-1	22° 40' 49"	9 1/2"	4 1/2"
G-2	23° 15' 00"	9 1/2"	4 1/2"
G-3	24° 48' 08"	9 1/2"	4 1/2"
G-4	24° 25' 15"	9 1/2"	4 1/2"
G-5	24° 51' 35"	9 1/2"	4 1/2"



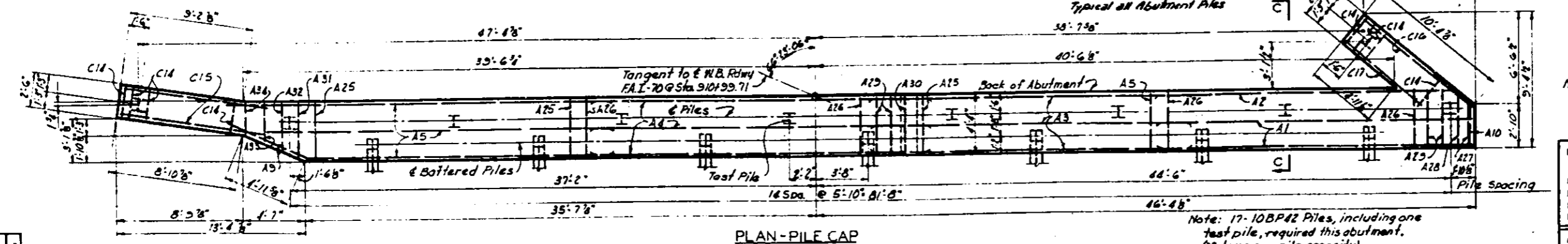
ELEVATION



SECTION D-D  
Typical all Abutment Piles



SECTION C-C



PLAN - PILE CAP

Note: Do not scale this drawing. Follow dimensions.

Notes: For key Plan see Sheet B.  
For pile splice detail see Sheet 12.

WEST ABUTMENT

BRIDGE OVER - F.A.I. 55

STATION - 913+23.71

F.A.I. ROUTE - 70

SECTION - 60-10HB

MADISON COUNTY, ILLINOIS

SCALE - NONE

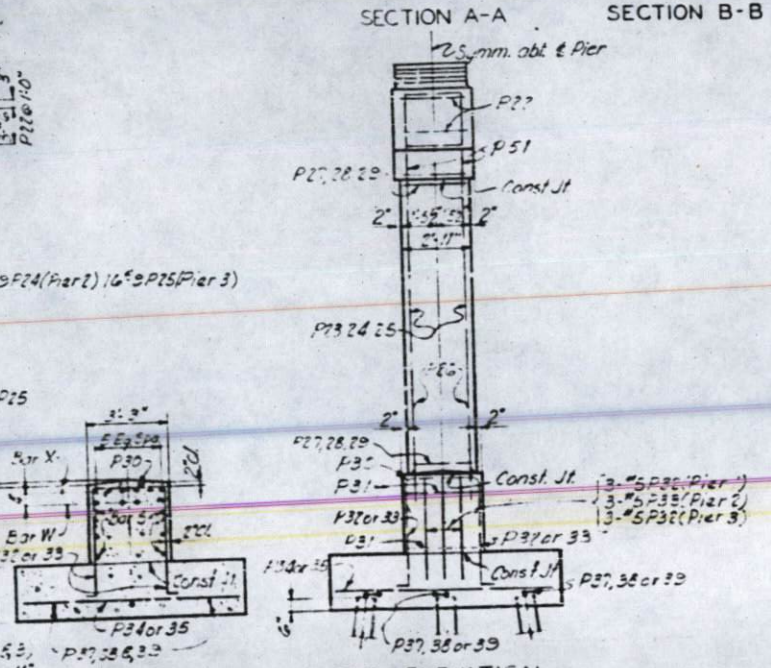
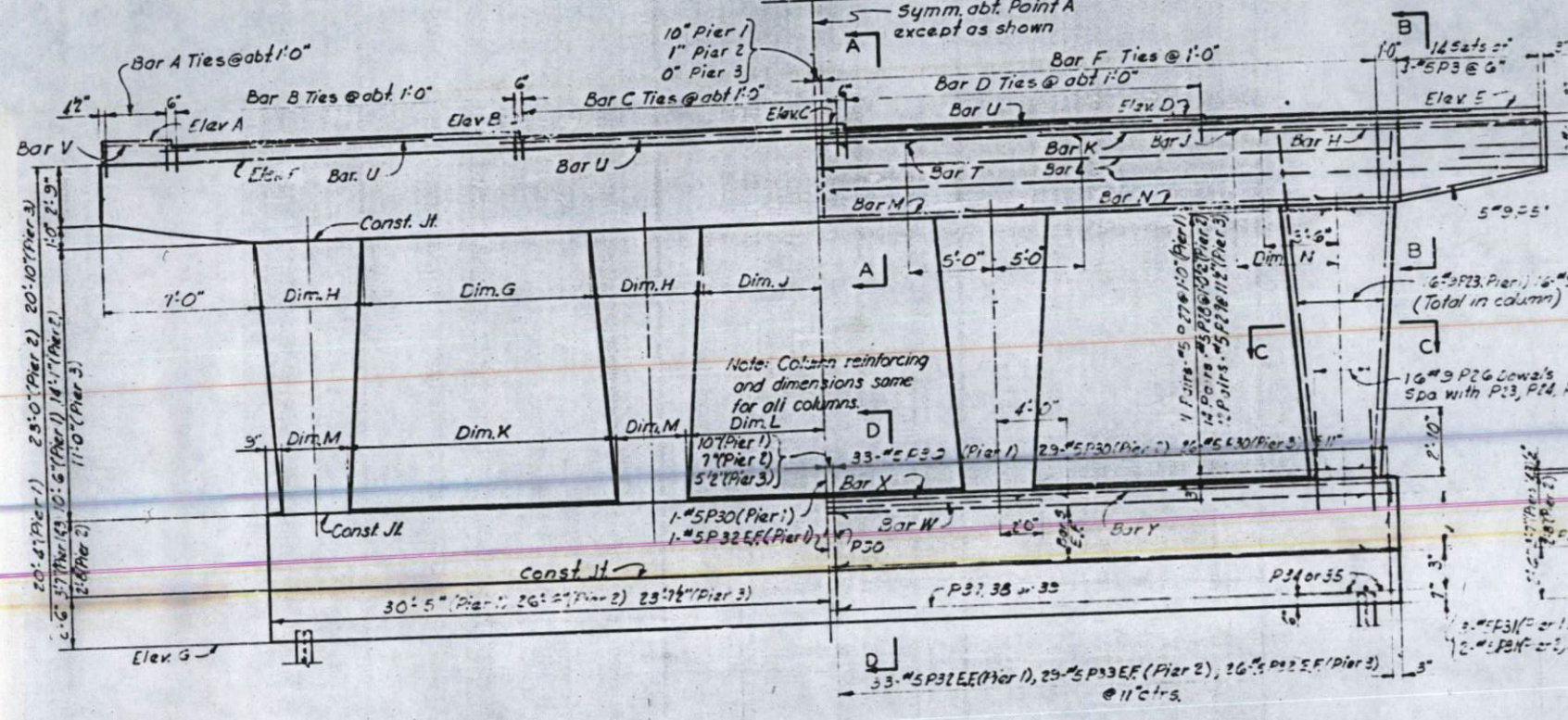
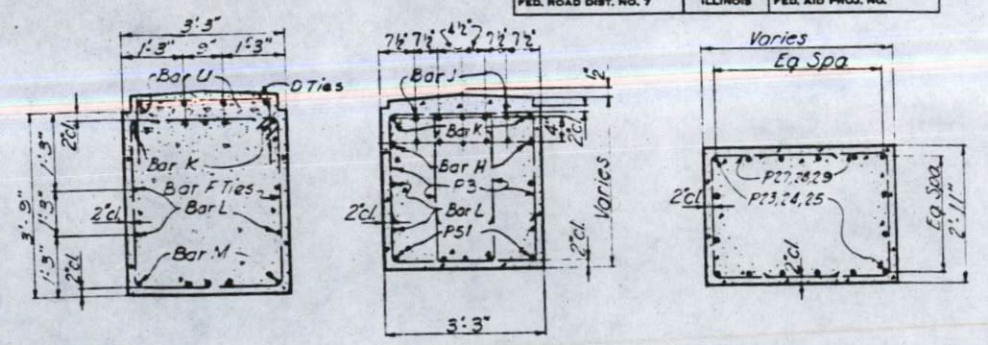
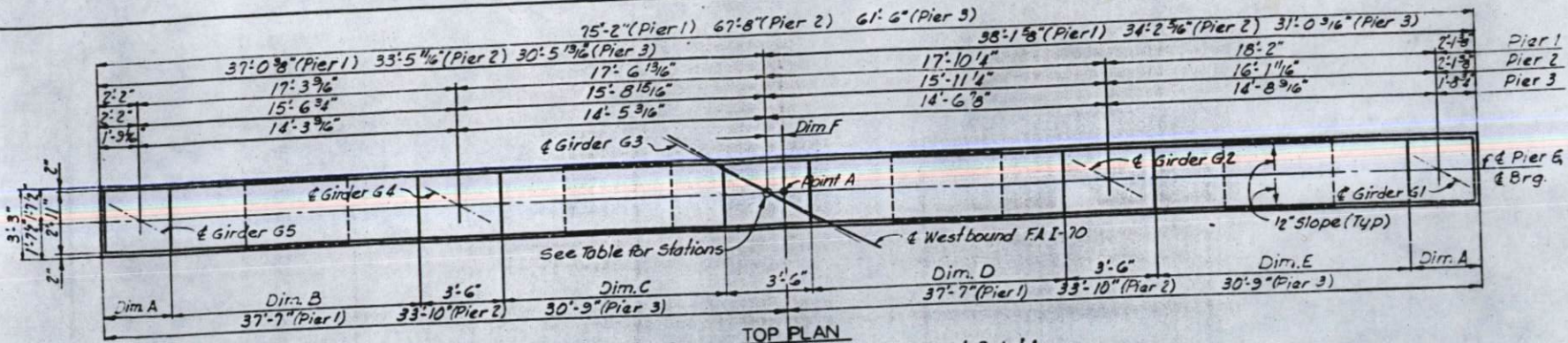
DRAWN - J.R. Bender E.P.L. June 1963

TRACED - R.V. Cronin June 1963

CHECKED - R.V. Cronin June 1963

ENGINEERING & ARCHITECTS  
ST. LOUIS, MO.



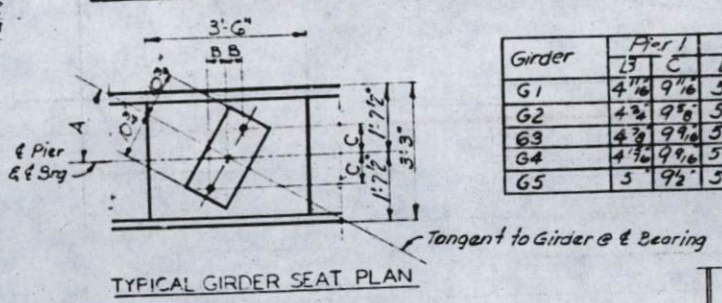
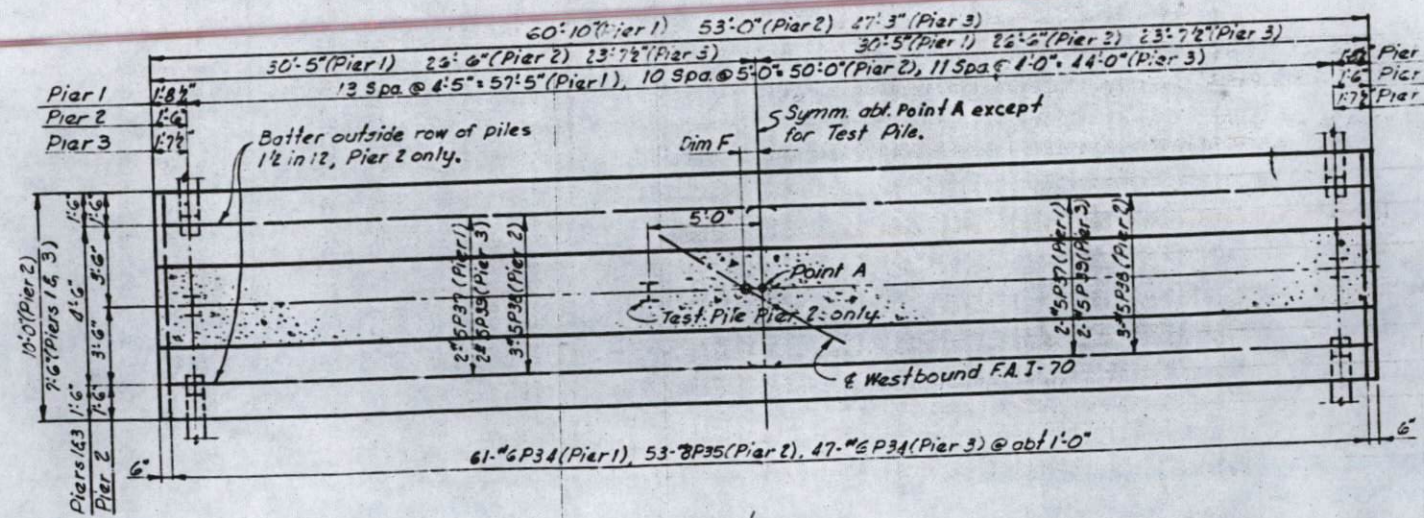


	PIER 1	PIER 2	PIER 3
STATIONS	912+07.7	913+23.71	914+28.71
ELEV A	579.83	579.96	579.72
ELEV B	579.33	579.29	579.20
ELEV C	578.81	579.02	578.64
ELEV D	578.29	578.58	578.40
ELEV E	577.76	578.07	577.96
ELEV F	577.62	577.96	577.83
ELEV G	554.29	554.26	554.20
DIM A	3'-10 1/2"	3'-11"	3'-5 1/2"
DIM B	13'-10"	12'-0"	12'-10"
DIM C	4'-11"	2'-3"	7'-11"
DIM D	4'-4"	2'-5"	11'-1"
DIM E	4'-8"	12'-8"	11'-3"
DIM F	1'-1 1/2"	6'-8"	9'-6 1/2"
DIM G	15'-2"	11'-0"	9'-1 1/2"
DIM H	3'-5"	3'-6"	4'-3"
DIM J	6'-7"	5'-6"	4'-3"
DIM K	15'-0"	13'-2"	11'-3"
DIM L	6'-7"	6'-4"	5'-7 1/2"
DIM M	3'-7"	3'-0"	3'-0"
DIM N	3'-2"	3'-1"	3'-2"
BAR A	4-#4P1	4-#4P1	4-#4P1
BAR B	16-#4P4	16-#4P4	16-#4P4
BAR C	16-#4P36	16-#4P36	16-#4P36
BAR D	16-#4P60	16-#4P60	16-#4P60
BAR E	30-#5P2	27-#5P2	27-#5P2
BAR F	7-#11P5	7-#10P5	7-#10P5
BAR G	3-#11P7	2-#11P5	2-#11P5
BAR H	4-#11P10	5-#11P7	5-#11P7
BAR I	7-#11P16	5-#11P16	5-#11P16
BAR J	7-#11P19	5-#10P21	5-#10P21
BAR K	3-#5P57	2-#5P55	3-#5P55
BAR L	4-#5P59	4-#5P41	4-#5P41
BAR M	4-#5P43	4-#5P43	4-#5P43
BAR N	4-#5P46	4-#5P46	4-#5P47
BAR O	6-#5P46	6-#5P49	6-#5P50
BAR P	6-#5P54	6-#5P55	6-#5P56

PIER	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5
1	25°52'58"	26°22'30"	26°51'18"	27°19'24"	27°46'49"
2	29°09'50"	29°55'18"	30°20'06"	30°44'28"	31°08'20"
3	32°44'46"	33°07'08"	33°29'06"	33°50'41"	34°11'52"

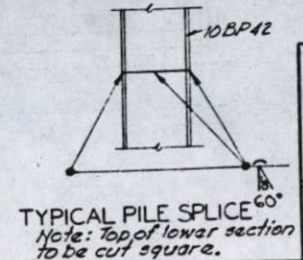
Girder	Pier 1		Pier 2		Pier 3	
	B	C	B	C	B	C
G1	4 1/8"	9 1/8"	5 1/8"	9 1/8"	5 1/8"	9 1/8"
G2	4 3/8"	9 3/8"	5 3/8"	9 3/8"	5 3/8"	9 3/8"
G3	4 3/8"	9 3/8"	5 3/8"	9 3/8"	5 3/8"	9 3/8"
G4	4 3/8"	9 3/8"	5 3/8"	9 3/8"	5 3/8"	9 3/8"
G5	5 1/8"	9 3/8"	5 1/8"	9 3/8"	5 1/8"	9 3/8"

**NOTES**  
 E.F. indicates Each Face.  
 For Key Plan, see Sheet 8.  
 Spacing of reinforcing in pier cap to be adjusted as necessary to clear anchor bolts.



PIER	NO PILES	LENGTH
PIER 1	28	40'
PIER 2	33	35'
PIER 3	26	35'

Note: All piling are 10BP42 with a capacity of 37 tons per pile. Lengths are estimated. No. Piles for Pier 2 includes one test pile.



**PIERS 1 2 & 3**

BRIDGE OVER - F.A.I. 55

STATION - 913+23.71  
 F.A.I. ROUTE - 70  
 SECTION - 60-10HB  
 MADISON COUNTY, ILLINOIS

SCALE NONE

DRAWN: F.I. House Jr. May 1963  
 TRACED: W. Littlefield June 1963  
 CHECKED: W. Littlefield June 1963

OVERDRUP & PARCEL, INC.  
 ENGINEERS-ARCHITECTS  
 ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions.

593288 (PIER 1 & 2) 20:10 (PIER 3)  
 1845  
 63J27