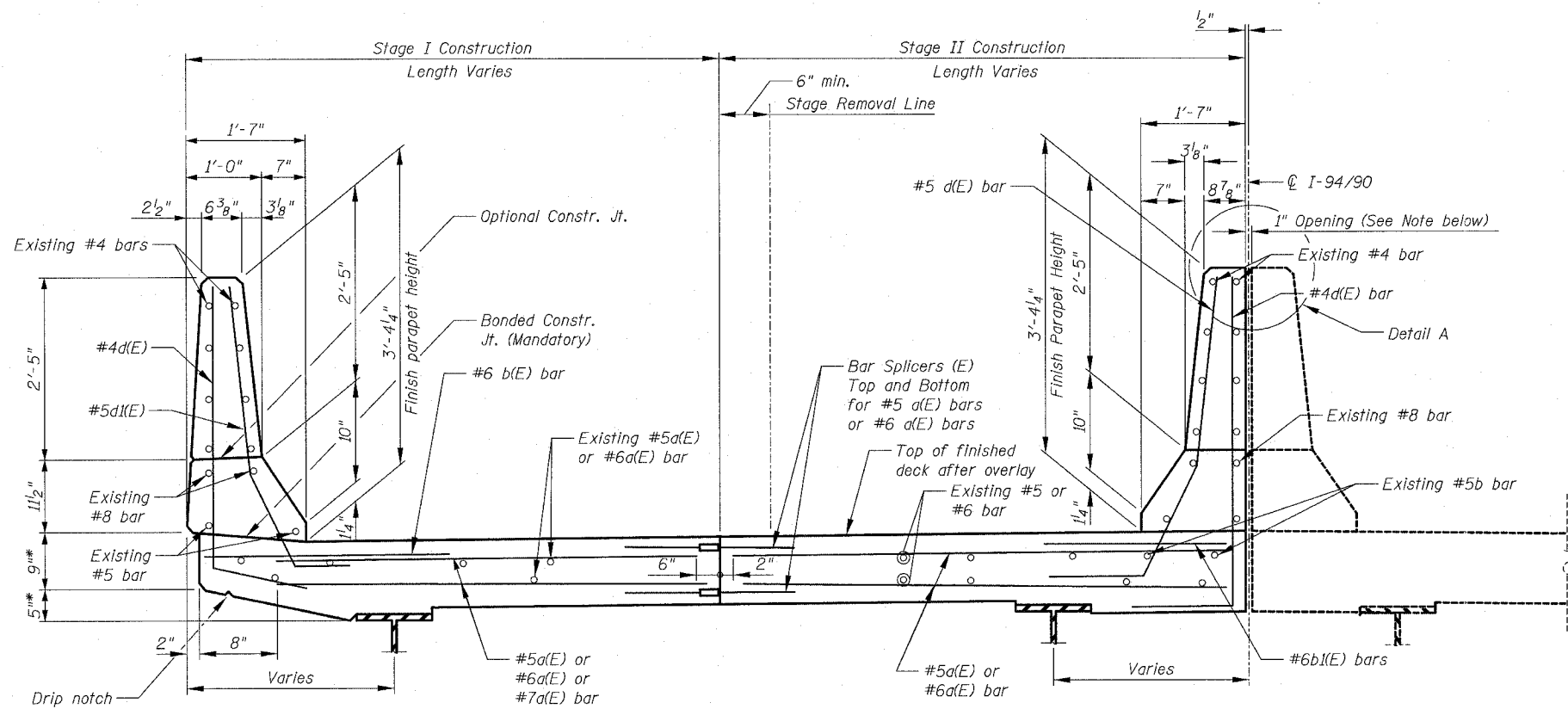


F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	201
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	62581	



TYPICAL CROSS SECTION ALONG JOINT RECONSTRUCTION

Notes:

Existing longitudinal reinforcement in slab and barriers shall be cleaned, straightened and incorporated into new construction.

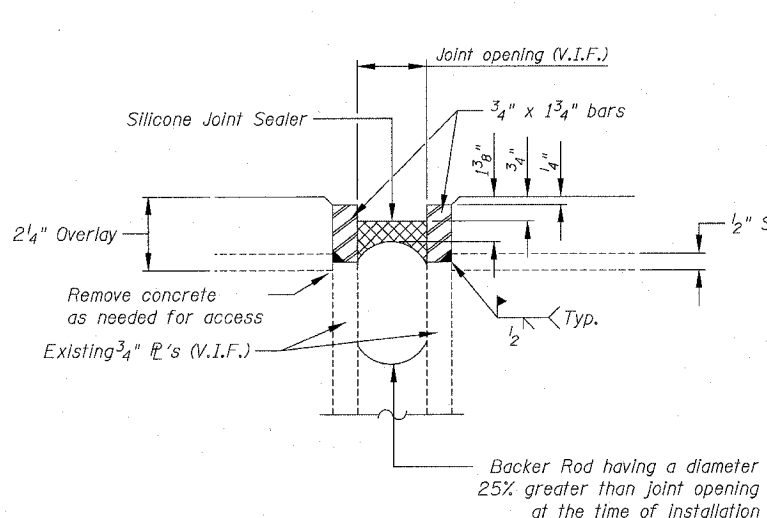
Bend #4 vertical parapet bars in field to clear the top flange of fascia girders as needed.

Remove existing rails, posts, anchors or other attachments as required for the partial removal of barriers for the joint reconstruction. Reinstall removed components as required to restore original condition. Cost included with "Concrete Removal" and "Concrete Superstructure".

Place bars in parapet to maintain 1/2" cl.

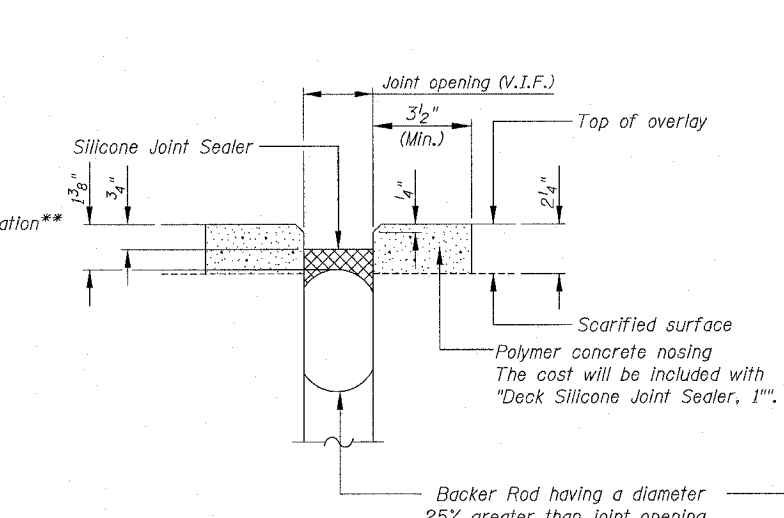
Care should be exercised during concrete removal not to damage existing shear studs.

* Match Existing

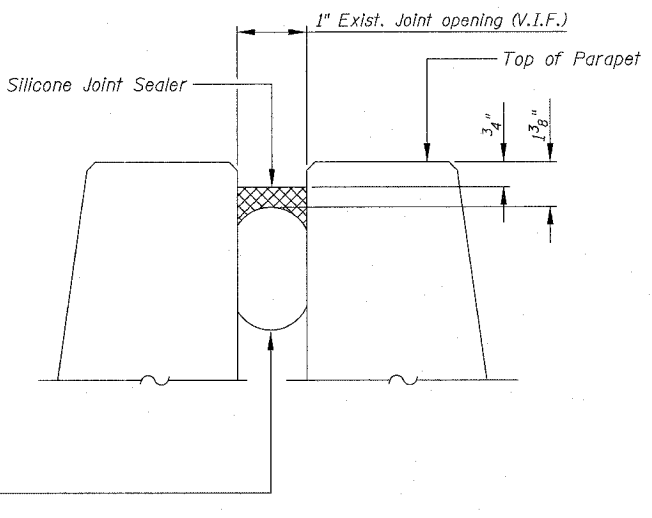


DECK SILICONE JOINT SEALER, 1" DETAIL

**Care shall be taken not to damage existing #s during Hydroscarification.
V.I.F. = Verify in field
If existing joint does not have steel plates see alternate Deck Silicone Joint Sealer, 1" Detail.
Cost of existing joint removal included with "Bridge Deck Hydro-Scarification, 1/2\"/>



ALTERNATE DECK SILICONE JOINT SEALER, 1" DETAIL



SILICONE JOINT SEALER, 1" - PARAPET DETAIL A

Existing longitudinal joint between concrete parapets shall be removed and replaced with Silicone Joint Sealer. The cost of the existing longitudinal joint removal will be included in the cost of "Silicone Joint Sealer, 1\"/>

BILL OF MATERIAL

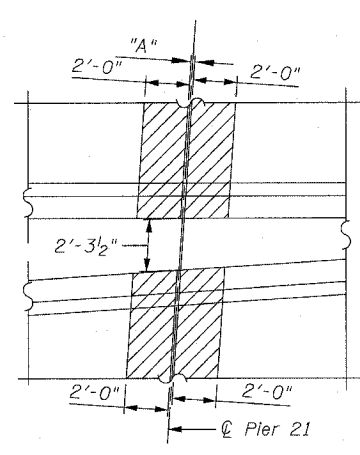
Item	Unit	Total
Deck Silicone Joint Sealer, 1"	Foot	107
Silicone Joint Sealer, 1"	Foot	10,486

REVISIONS	
NAME	DATE

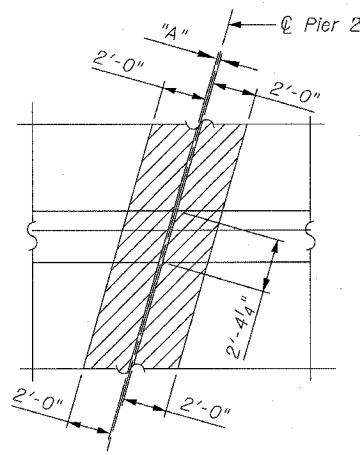
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TYPICAL DECK SLAB CROSS SECTIONS
AND SILICONE JOINT SEALER DETAILS
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: BLU

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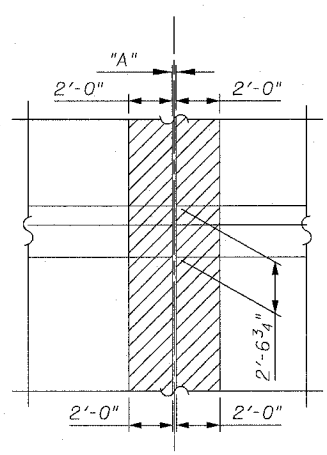
5/25/2006 3:50:02 PM I:\9400\BRIDGE\20\SHETS\62581_21.DWG



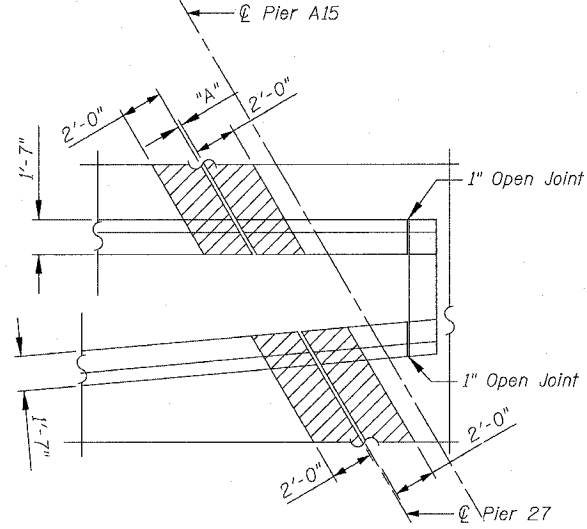
CLOSURE WALL DETAIL
SN 016-1115 PIER 21
 (NTS)



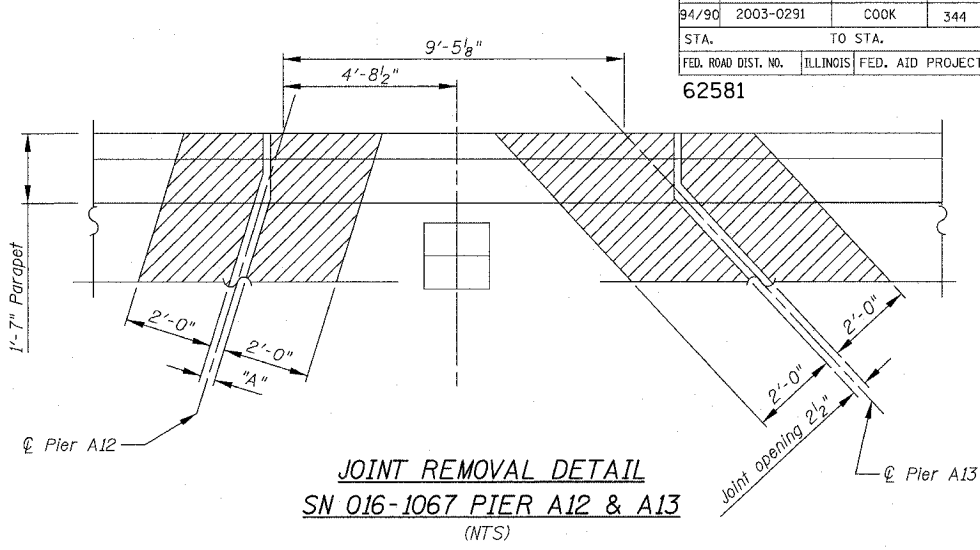
MEDIAN DETAIL
SN 016-1115 PIER 22
 (NTS)



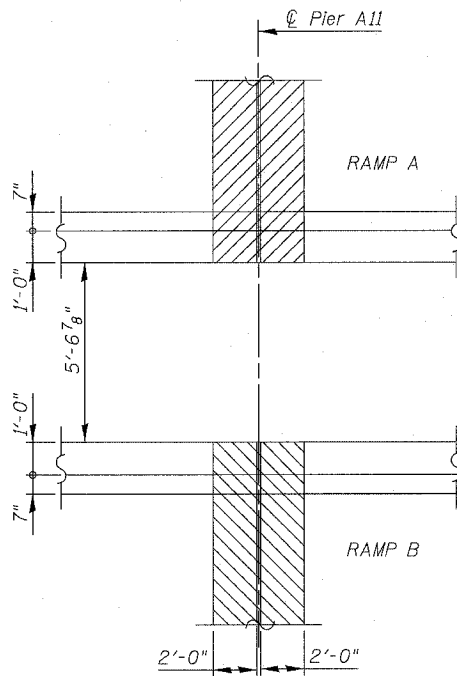
MEDIAN DETAIL
SN 016-1113 PIER 3
 (NTS)



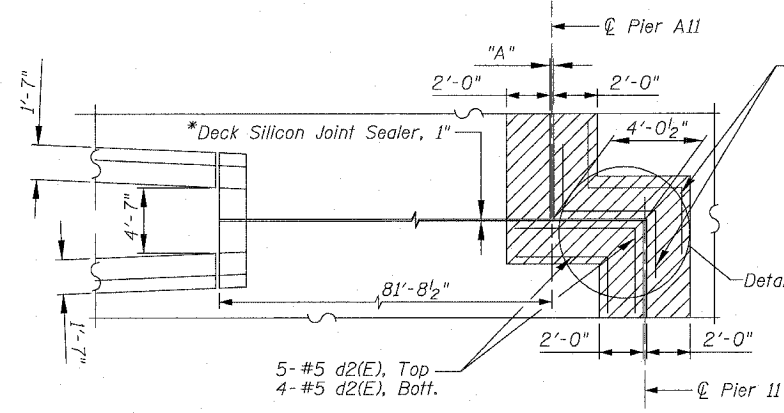
CLOSURE WALL DETAIL
SN 016-1112 PIER 27
 (NTS)



JOINT REMOVAL DETAIL
SN 016-1067 PIER A12 & A13
 (NTS)

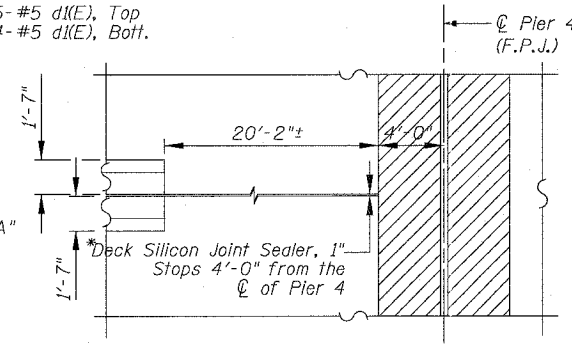


MEDIAN DETAIL
SN 016-1113 (RAMP A)
PIER A10
 (NTS)

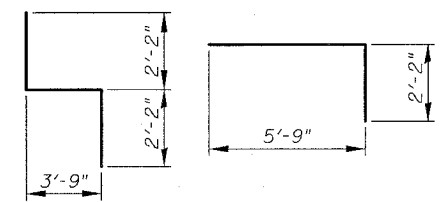


JOINT DETAIL
SN 016-1113 PIERS 11 & A11
 (NTS)

*Existing 1" Neoprene Compressive Seal to be removed and replaced with 1" Silicone Joint Sealer.



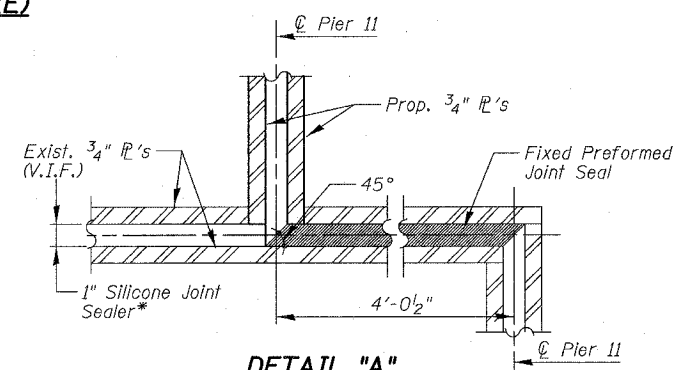
JOINT REMOVAL DETAIL
SN 016-1110 PIER 4
 (NTS)



BAR d1(E) **BAR d2(E)**

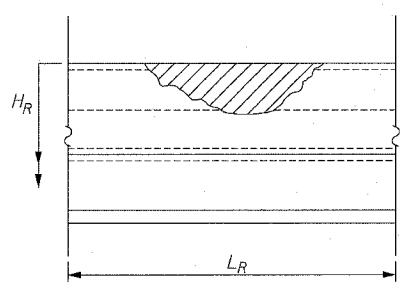
PIERS 11 & A11 (SN 016-1113)
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
d1(E)	9	#5	8'-1"	U
d2(E)	9	#5	7'-11"	Rect
Item			Unit	Qty.
Reinforcement Bars, Epoxy Coated			Pound	150



DETAIL "A"

- Notes:
1. At the 4'-0 1/2" section cut the Preformed Joint Seal at 45° and vulcanize in the field.
 2. The cost for the 4'-0 1/2" section shall be incidental with the total cost of the fixed joints.
 3. The joints manufacturer should be consulted to ensure that a proper bond will be provided between the Silicone Joint and Fixed Joint.



PARAPET REPAIRS - DETAIL "B"
 (Front face of Parapet)

PARAPET REPAIR DIMENSIONS AND BILL OF MATERIALS

	Unit	SN 016-1067	SN 016-1062	SN 016-0137
LR	Ft	5'-0"	8'-0"	6'-0"
HR	Ft	3'-6"	3'-6"	3'-6"
Concrete Removal	Cu. Yd.	0.70	1.1	0.82
Concrete Superstructure	Cu. Yd.	0.70	1.1	0.82

NOTE:

1. Cut Bars in the field to fit as required.

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 PARAPET REPAIR AND
 JOINT REMOVAL DETAILS
 SCALE: NTS
 DATE: 5/25/2006
 DRAWN BY: BDC
 CHECKED BY: BLU

6/4/06 5:25/2006

REINFORCEMENT BAR SCHEDULES
SN 016-1117

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
S. Abut	a1		#6	33'-6"				5	6
	a2		#5	33'-6"				-	-
	b1		#6	4'-0"				10	-
1	u1		#5	2'-8"				-	35
	a3		#6	33'-0"				5	5
	a4		#5	33'-0"				4	4
2	b1		#6	4'-0"				10	10
	a4		#5	33'-0"				14	9
	b1		#6	4'-0"				16	10
3	x2		#5	4'-2"				34	-
	a4		#5	33'-0"				14	9
	b1		#6	4'-0"				16	10
4	x2		#5	4'-2"				34	-
	a4		#5	33'-0"				14	9
	b1		#6	4'-0"				16	10
5	x2		#5	4'-2"				34	-
	a5		#6	33'-11"				8	-
	a6		#5	33'-11"				6	9
6	b1		#6	4'-0"				16	10
	x2		#5	4'-2"				34	-
	a7		#6	34'-5"				8	5
7	a8		#5	34'-5"				6	4
	b1		#6	4'-0"				16	10
	x2		#5	4'-2"				35	-
8	a9		#6	35'-3"				8	5
	a10		#5	35'-3"				6	4
	b1		#6	4'-0"				16	10
9	x2		#5	4'-2"				36	-
	a11		#6	36'-1"				5	5
	a12		#5	36'-1"				5	4
10	b1		#6	4'-0"				10	10
	a13		#6	22'-1"				2x5	2x5
	a14		#5	21'-9"				2x4	2x4
11	b1		#6	4'-0"				10	10
	x1		#5	2'-3"				23	23
	a15		#6	23'-3"				2x9	-
12	a16		#5	23'-0"				-	2x9
	b1		#6	4'-0"				10	10
	x1		#5	2'-3"				-	44
13	a17		#7	23'-6"				2x9	-
	a18		#5	22'-10"				-	2x9
	b1		#6	4'-0"				10	10
14	a19	a20	#5	24'-8"	31'-7"	2x9	2x9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	a21	a20	#5	20'-9"	31'-7"	2x9	2x14	9	14
15	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	-	-	40	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
16	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
17	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
18	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
19	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
20	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
21	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
22	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32
	a22	a20	#5	36'-7"	31'-7"	9	14	9	14
23	b1	b1	#6	4'-0"	4'-0"	5	8	5	8
	x2	x2	#5	4'-2"	4'-2"	-	37	-	32

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
S. Abut	d1		#5	4'-7"				6	4
	d3		#4	4'-10"				3	2
	d5		#4	6'-7"				3	2
1	d1		#5	4'-7"				6	6
	d3		#4	4'-10"				3	3
	d5		#4	6'-7"				-	3
2	d6		#4	6'-4"				3	-
	d1		#5	4'-7"				5	6
	d3		#4	4'-10"				5	3
3	d6		#4	6'-4"				5	3
	d2		#4	5'-10"				5	-
	d1		#5	4'-7"				5	6
4	d3		#4	4'-10"				5	3
	d6		#4	6'-4"				-	3
	d2		#4	5'-10"				5	3
5	d1		#5	4'-7"				5	6
	d3		#4	4'-10"				5	3
	d6		#4	6'-4"				-	3
6	d2		#4	5'-10"				5	3
	d1		#5	4'-7"				5	6
	d3		#4	4'-10"				5	3
7	d6		#4	6'-4"				-	3
	d2		#4	5'-10"				5	3
	d1		#5	4'-7"				5	6
8	d3		#4	4'-10"				5	3
	d2		#4	5'-10"				3	3
	d1		#5	4'-7"				6	6
9	d3		#4	4'-10"				3	3
	d2		#4	5'-10"				3	3
	d1		#5	4'-7"				6	6
10	d3		#4	4'-10"				5	3
	d2		#4	5'-10"				3	3
	d1		#5	4'-7"				5	6
11	d3		#4	4'-10"				3	3
	d2		#4	5'-10"				3	3
	d1		#5	4'-7"				6	6
12	d3		#4	4'-10"				3	3
	d2		#4	5'-10"				3	3
	d1		#5	4'-7"				6	6
13	d3		#4	4'-10"				3	3
	d2		#4	5'-10"				3	3
	d1		#5	4'-7"				6	6
14	d3		#4	4'-10"				3	3
	d2		#4	5'-10"				-	3
	d1		#5	4'-7"				6	6
15	d3		#4	4'-10"				3	3
	d4		#4	7'-10"				3	-
	d2		#4	5'-10"		3	-	-	-
16	d1	d1	#5	4'-7"	4'-7"	3	3	-	-
	d4		#4	7'-10"				3	3
	d3		#4	4'-10"				-	-
17	d12		#4	4'-6"				-	-
	d2		#4	5'-10"			4	-	-
	d1	d1	#5	4'-7"	4'-7"	3	4	3	4
18	d5		#4	4'-9"		3	-	-	-
	d10		#4	4'-6"				3	3
	d1	d1	#5	4'-7"	4'-7"	-	4	3	4
19	d10	d10	#4	4'-6"	4'-6"	-	4	-	4
	d5		#4	4'-9"				-	-
	d2		#4	5'-10"				-	-
20	d7		#5	6'-0"				-	-
	d1		#5	4'-7"		3	4	-	-
	d5	d3	#4	4'-9"	5'-10"	3	4	-	-
21	d7		#5	6'-0"				-	4
	d8		#5	2'-10"				3	4
	d9		#4	2'-6"				3	-
22	d1		#5	4'-7"		3	4	-	-
	d5		#4	4'-9"		3	4	-	-
	d9		#4	2'-6"				3	4
23	d8		#5	2'-10"				3	4
	d1		#5	4'-7"		3	4	-	-
	d5		#4	4'-9"		3	4	-	-
24	d9		#4	2'-6"				3	4
	d8		#5	2'-10"				3	4

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	203
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				

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ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1117
SCALE: N/A
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: BLU

1/20/07 PM 5/25/2006

REINFORCEMENT BAR SCHEDULES

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029	COOK	344	204
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62581				

SN 016-1067

Deck Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IA	
	Stage IA		Stage IA	Side A	Side B
S. Abut.	a1	#7	26'-9"	2 x 5	2 x 2
	a2	#5	26'-1"	2 x 4	2 x 2
	b1	#6	4'-0"	10	-
A2	u1	#5	2'-8"	-	46
	a3	#7	23'-2"	2 x 5	2 x 5
	a4	#5	22'-5"	2 x 4	2 x 4
A4	b1	#6	4'-0"	10	10
	a5	#7	22'-10"	2 x 8	2 x 5
	a6	#5	22'-2"	2 x 6	2 x 4
A5	b1	#5	4'-0"	16	10
	x2	#5	4'-2"	-	40
	a5	#7	22'-10"	-	2 x 5
A6	a6	#5	22'-2"	2 x 4	2 x 4
	b1	#6	4'-0"	16	10
	x2	#5	4'-2"	40	-
A9	a7	#6	22'-4"	2 x 5	2 x 5
	a8	#5	22'-1"	2 x 4	2 x 4
	b1	#6	4'-0"	10	10
A12	a3	#7	23'-2"	2 x 5	-
	a9	#6	22'-8"	-	2 x 5
	a4	#5	22'-5"	2 x 4	2 x 4
A13	b1	#6	4'-0"	10	10
	a10	#6	25'-8"	2 x 5	2 x 8
	a11	#5	25'-5"	2 x 4	2 x 6
A15	b1	#6	4'-0"	10	16
	x2	#5	4'-2"	-	43
	a12	#7	34'-0"	2 x 8	-
A15	a13	#6	33'-6"	-	2 x 5
	a14	#5	33'-4"	2 x 6	2 x 4
	b1	#6	4'-0"	16	10
A15	x2	#5	4'-2"	45	-
	a15	#7	34'-5"	2 x 5	2 x 5
	a16	#5	33'-9"	2 x 4	2 x 4
b1	#6	4'-0"	10	10	

Parapet Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IA	
	Stage IA		Stage IA	Side A	Side B
S. Abut.	d1	#5	4'-7"	6	4
	d11	#4	6'-10"	6	4
A2	d1	#5	4'-7"	6	6
	d11	#4	6'-10"	6	6
A4	d11	#4	6'-10"	-	6
	d1	#5	4'-7"	8	6
A5	d8	#4	6'-7"	8	-
	d3	#4	6'-4"	8	-
A6	d1	#5	4'-7"	8	6
	d8	#4	6'-7"	-	6
A9	d11	#4	6'-10"	3	-
	d1	#5	4'-7"	6	-
A12	d6	#4	6'-4"	-	3
	d2	#4	5'-10"	3	3
A13	d12	#4	5'-4"	-	3
	d1	#5	4'-7"	6	6
A15	d8	#4	6'-7"	3	-
	d2	#4	5'-10"	3	3
A15	d11	#4	6'-10"	-	3
	d1	#5	4'-7"	6	6
A15	d11	#4	6'-10"	-	3
	d8	#4	6'-7"	3	-
A15	d2	#4	5'-10"	3	-
	d13	#4	7'-10"	-	3
A15	d1	#5	4'-7"	10	6
	d11	#4	6'-10"	10	3
A15	d13	#4	7'-10"	-	3
	d1	#5	4'-7"	5	6
A15	d11	#4	6'-10"	-	6
	d13	#4	7'-10"	3	-
A15	d3	#4	4'-10"	2	-

SN 016-1116

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
3	a1	a2	#5	23'-5"	31'-4"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
3	d2	d2	#4	5'-10"	5'-10"	3	-	3	-
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
		d15	#4		5'-7"				3
	d9		#4	6'-1"		-	3		

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1067 & 016-1116
SCALE: N/A
DATE: 4/14/2006
DRAWN BY: BDC
CHECKED BY: BLU

R:\62581\BRIDGE\21\SHEETS\660_21_B02.dgn 1/12/2006 4:14:32 AM

REINFORCEMENT BAR SCHEDULES
SN 016-1115

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-02	COOK	344	205
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

62581

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
1	a1	a2	#5	22'-8"	29'-11"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
5	a3	a2	#5	26'-5"	29'-11"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
8	a5	a2	#5	26'-5"	29'-11"	14	9	14	9
	b1	b1	#6	4'-0"	4'-0"	8	5	8	5
	x1	x1	#5	2'-3"	2'-3"	-	27	-	30
	x2	x2	#5	4'-2"	4'-2"	27	-	30	-
9	a4	a5	#5	26'-7"	30'-0"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
10	a4	a6	#5	26'-7"	30'-2"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	27	-	31	-
	x2	x2	#5	4'-2"	4'-2"	-	27	-	31
12	a7	a6	#5	26'-11"	30'-2"	14	9	14	9
	b1	b1	#6	4'-0"	4'-0"	8	5	8	5
	x1	x1	#5	2'-3"	2'-3"	-	28	-	31
	x2	x2	#5	4'-2"	4'-2"	28	-	31	-
13	a8	a6	#5	27'-8"	30'-2"	14	9	14	9
	b1	b1	#6	4'-0"	4'-0"	8	5	8	5
	x2	x2	#5	4'-2"	4'-2"	28	-	31	-
14	a8	a9	#5	27'-8"	31'-2"	14	9	14	9
	b1	b1	#6	4'-0"	4'-0"	8	5	8	5
	x2	x2	#5	4'-2"	4'-2"	28	-	32	-
15	a10	a11	#5	28'-6"	31'-8"	14	9	14	9
	b1	b1	#6	4'-0"	4'-0"	8	5	8	5
	x2	x2	#5	4'-2"	4'-2"	28	-	32	-
16	a4	a5	#5	26'-7"	30'-0"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
18	a12	a13	#5	27'-1"	29'-6"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
20	a14	a15	#5	27'-3"	30'-5"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
21	a16	a17	#5	25'-8"	31'-7"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	28	28	32	32
22	a18	a2	#5	27'-5"	29'-11"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	28	-	30	-

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
1	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
5	d2	d2	#4	5'-10"	5'-10"	3	2	3	3
	d1	d1	#5	4'-7"	4'-7"	3	2	3	3
8	d2	d2	#4	5'-10"	5'-10"	4	3	-	4
	d1	d1	#5	4'-7"	4'-7"	4	3	4	4
		d16	#4		5'-1"			4	-
9	d2	d2	#4	5'-10"		3	3	-	-
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
		d16	#4		5'-1"			3	3
10	d2		#4	5'-10"		3	4		
	d1	d1	#5	4'-7"	4'-7"	3	4	3	4
		16	#4		5'-1"			3	4
12	d2	d2	#4	5'-10"	5'-10"	4	3	4	3
	d1	d1	#5	4'-7"	4'-7"	4	3	4	3
13	d2	d2	#4	5'-10"	5'-10"	4	3	4	3
	d1	d1	#5	4'-7"	4'-7"	4	3	4	3
14	d2	d2	#4	5'-10"	5'-10"	4	3	4	3
	d1	d1	#5	4'-7"	4'-7"	4	3	4	3
15	d2	d2	#4	5'-10"	5'-10"	4	3	4	3
	d1	d1	#5	4'-7"	4'-7"	4	3	4	3
16	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
18	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
20	d2	d2	#4	5'-10"	5'-10"	3	3	-	3
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
		d16	#4		5'-1"			3	-
21	d2	d2	#4	5'-10"	5'-10"	-	3	3	-
	d1	d1	#5	4'-7"	4'-7"	-	3	3	3
		d16	#4		5'-1"			-	3
22		d1	#5		4'-7"			3	3
		d4	#4		5'-4"			3	-
		d2	#4		5'-10"			-	3

Location	Bar		Size	Length		Number			
	Stage IB	Stage IC		Stage IB	Stage IC	Stage IB		Stage IC	
						Side A	Side B	Side A	Side B
21	a19	a20	#5	18'-7"	35'-1"	9	9	9	9
(016-1062)	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	56	56
22	a21	a22	#5	19'-0"	35'-4"	9	9	9	9
(016-1062)	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	-	20	-	36

Location	Bar		Size	Length		Number			
	Stage IB	Stage IC		Stage IB	Stage IC	Stage IB		Stage IC	
						Side A	Side B	Side A	Side B
21	d2		#4	5'-10"		3	3		
(016-1062)	d1		#5	4'-7"		3	3		
22	d1		#5	4'-7"		3	3		
(016-1062)	d2		#4	5'-10"		3	3		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1115

SCALE: N/A
DATE: 4/14/2006
DRAWN BY: BDC
CHECKED BY: BLU

4/14/2006 11:02:50 AM

REINFORCEMENT BAR SCHEDULES

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0295	COOK	344	206
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

62581

SN 016-1046

Deck Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IA	
	Stage IA		Stage IA	Side A	Side B
5	a1	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
	x1	#5	2'-3"	-	24
53	a1	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
57	a2	#5	25'-0"	9	9
	b1	#6	4'-0"	10	10

Parapet Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IA	
	Stage IA		Stage IA	Side A	Side B
5	d1	#5	4'-7"	6	5
	d14	#4	7'-4"	3	2
	d2	#4	5'-10"	3	-
53	d16	#4	5'-1"	-	3
	d1	#5	4'-7"	6	6
57	d2	#4	5'-10"	6	6
	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6

SN 016-1062

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
						Stage IB		Stage IC	
	Stage IB		Stage IB	Stage IC	Side A	Side B	Side A	Side B	
20	a19	a20	#5	18'-7"	35'-1"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	56	56
21	a21	a22	#5	19'-0"	35'-4"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	-	20	-	36
F1	a1		#5	39'-5"		9	9		
	b1		#6	4'-0"		5	10		
	x1		#5	2'-3"		38	-		
69	a2		#5	33'-2"		9	9		
65	b1		#6	4'-0"		10	10		
	a2		#5	33'-2"		9	9		
67	b1		#6	4'-0"		10	10		
	a2		#5	33'-2"		9	9		
71	b1		#6	4'-0"		10	10		
	a2		#5	33'-2"		14	-		
	a3		#7	33'-2"		-	8		
	a4		#6	33'-2"		-	6		
	b1		#6	4'-0"		16	16		
	x1		#6	4'-2"		32	32		

SN 016-1050

Deck Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IC	
	Stage IC		Stage IC	Side A	Side B
F1	a2	#5	20'-1"	2 x 14	2 x 9
	b1	#6	4'-0"	16	10
	x2	#5	4'-2"	35	-
74	a3	#5	35'-1"	9	9
	b1	#6	4'-0"	10	10
78	a4	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
80	a4	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
82	a4	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
84	a4	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
86	a4	#5	28'-2"	9	9
	b1	#6	4'-0"	10	10
Abut. 89	a1	#6	28'-2"	9	4
	b1	#6	4'-0"	10	-
	u3	#5	3'-4"	-	36
	x1	#5	2'-3"	36	-

Parapet Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IC	
	Stage IC		Stage IC	Side A	Side B
F1	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
74	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
78	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
80	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
82	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
84	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
86	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
Abut. 89	d1	#5	4'-7"	6	-
	d2	#4	5'-10"	6	-

Parapet Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IB	
	Stage IB		Stage IB	Side A	Side B
21	d2	#4	5'-10"	3	3
22	d1	#5	4'-7"	3	3
	d2	#4	5'-10"	3	3
F1	d1	#5	4'-7"	5	6
	d2	#4	5'-10"	5	6
69	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
65	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
67	d1	#5	4'-7"	6	6
	d2	#4	5'-10"	6	6
71	d2	#4	5'-10"	8	8
	d1	#5	4'-7"	8	8

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1046, 016-1050, 016-1062, 016-1114
SCALE: N/A
DATE: 4/14/2006
DRAWN BY: BDC
CHECKED BY: BLU

4/14/2006 10:30:07 AM

REINFORCEMENT BAR SCHEDULES

SN 016-1113

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029BR I	COOK	344	207
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IC	Stage II		Stage IC	Stage II	Stage IC		Stage II	
						Side A	Side B	Side A	Side B
3	a1	a2	#5	31'-6"	29'-10"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
5	a3	a4	#5	35'-0"	29'-7"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
7	a5	a6	#5	22'-7"	30'-0"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
10	a7	a8	#5	25'-3"	30'-0"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
11	a9	a10	#5	27'-5"	31'-1"	2 x 9	2 x 4	9	9
	a11		#6	27'-8"			2 x 5		
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	53		32	
B11	a12		#5	29'-0"		9	4		
(Ramp B)	a13		#6	29'-0"			5		
	b1		#6	4'-0"		10	10		
	x1		#5	2'-3"		30	30		

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IC	Stage II		Stage IC	Stage II	Stage IC		Stage II	
						Side A	Side B	Side A	Side B
3	d1	d1	#5	4'-7"	4'-7"	6	6	3	3
		d2	#4		5'-10"			3	3
5	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3		3	3
	d14		#4	7'-4"			3		
7	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
10	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
11		d1	#5		4'-7"			3	3
		d2	#4		5'-10"			3	3
B11	d1		#5	4'-7"		3	3		
(Ramp B)	d6		#4	6'-4"		3	3		

Location	Bar		Size	Length		Number			
	Stage IA	Stage IC		Stage IA	Stage IC	Stage IA		Stage IC	
						Side A	Side B	Side A	Side B
A3	a21	a22	#5	18'-8"	23'-11"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
A5	a21	a22	#5	18'-8"	28'-11"	9	4	9	4
	a23	a24	#6	28'-8"	28'-11"		5		5
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
A7	a16	a20	#5	18'-7"	36'-11"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
A9	a16	a19	#5	18'-7"	22'-8"	9	9	2 x 9	2 x 9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	44	44
A10	a16	a18	#5	18'-7"	21'-2"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
B10		a14	#5		30'-1"			4	9
(Ramp B)		a15	#6		30'-1"			5	
		b1	#6		4'-0"			10	10
A11	a16	a17	#5	18'-7"	21'-3"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	19	19

Location	Bar		Size	Length		Number			
	Stage IA	Stage IC		Stage IA	Stage IC	Stage IA		Stage IC	
						Side A	Side B	Side A	Side B
A3	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A5	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A7	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
	d3	d1	#4	6'-10"		3		3	
A9	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A10	d1	d1	#5	4'-7"	4'-7"	3	3	3	2
	d2	d2	#4	5'-10"	5'-7"	3	3	3	2
B10	d1		#5	4'-7"		6	5		
(Ramp B)	d2		#4	5'-10"		6	5		
A11	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3		3	
	d5	d5	#4	5'-7"	5'-7"		3		3

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1113

SCALE: N/A
DATE: 4/14/2006
DRAWN BY: BDC
CHECKED BY: BLU

4/14/2006 10:35:25 AM

REINFORCEMENT BAR SCHEDULES

SN 016-1112

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0299 I	COOK	344	208
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

62581

Deck Reinforcement Schedule

Location	Bar			Size	Length			Number											
	Stage IA	Stage IC	Stage II		Stage IA		Stage IC		Stage II		Stage IA		Stage IC		Stage II				
					Side A	Side B	Side A	Side B	Side A	Side B	Side A	Side B	Side A	Side B	Side A	Side B			
12	a13		a3	#5	26'-8"		29'-7"	9	9	-	-	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
14	a13		a3	#5	26'-8"		29'-7"	9	9	-	-	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
15	a12		a3	#5	26'-5"		29'-7"	9	9	-	-	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
19	a12		a3	#5	26'-5"		29'-7"	9	9	-	-	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
22	a10		a11	#5	36'-6"		21'-9"	9	9	-	-	2x9	2x9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
26	a8		a9	#5	36'-8"		23'-5"	9	9	-	-	2x9	2x9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
27	a6		a7	#5	37'-3"		24'-3"	9	9	-	-	2x9	2x9						
	b1		b1	#6	4'-0"		4'-0"	5	5	-	-	5	5						
28	a1		a3	#5	18'-9"		29'-7"	9	9	2x9	2x9	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	5	5	5	5						
	x1		x1	#5	2'-3"		2'-3"	19	19	55	55	34	34						
29	a1		a3	#5	18'-9"		29'-7"	9	9	2x9	2x9	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	5	5	5	5						
31	a1		a3	#5	18'-9"		29'-7"	9	9	9	9	9	9						
	b1		b1	#6	4'-0"		4'-0"	5	5	5	5	5	5						

Parapet Reinforcement Schedule

Location	Bar			Size	Length			Number											
	Stage IA	Stage IC	Stage II		Stage IA		Stage IC		Stage II		Stage IA		Stage IC		Stage II				
					Side A	Side B	Side A	Side B	Side A	Side B	Side A	Side B	Side A	Side B					
12	d1		d1	#5	4'-7"		4'-7"					3				3			
	d2		d2	#4	5'-10"		5'-10"					3				3			
14	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2		d2	#4	5'-10"		5'-10"	3	3							3			
15	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2		d2	#4	5'-10"		5'-10"	3	3							3			
19	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2		d2	#4	5'-10"		5'-10"	3	3							3			
22	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2		d2	#4	5'-10"		5'-10"	3	3							3			
26	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2		d2	#4	5'-10"		5'-10"	3	3							3			
27	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2		d2	#4	5'-10"		5'-10"	3	3							3			
28	d3		d2	#4	6'-4"		5'-10"	3								3			
	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d2			#4	5'-10"				3							3			
29	d14		d2	#4	7'-4"		5'-10"	3								3			
	d1		d1	#5	4'-7"		4'-7"	3	3							3			
	d3			#4	6'-4"				3										
31	d2		d17	#4	5'-10"		2'-5"	3								3			
	d1		d18	#5	4'-7"		2'-5"	3	3							3			
	d14			#4	7'-4"				3										

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1112

SCALE: N/A
DATE: 4/14/2006
DRAWN BY: BDC
CHECKED BY: BLU

4/14/2006 10:35:45 AM

REINFORCEMENT BAR SCHEDULES

SN 016-1112 (RAMP A)

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0299	COOK	344	209
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62581				

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage IC		Stage IA	Stage IC	Stage IA		Stage IC	
						Side A	Side B	Side A	Side B
A12	a14	a16	#5	18'-7"	15'-3"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	19	19
A13	a14	a15	#5	18'-7"	18'-1"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	19	19
A16	a14	a15	#5	18'-7"	18'-1"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	19	19
A19	a14	a17	#5	18'-7"	20'-0"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	x1	x1	#5	2'-3"	2'-3"	19	19	38	38
A21	a18	a19	#5	21'-8"	22'-9"	4	9	4	9
	a20	a21	#6	21'-8"	22'-9"	5	-	5	-
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
A22	a22	a23	#5	26'-6"	25'-4"	9	9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
	a24	a25	#5	26'-6"	35'-0"	9	9	9	9
A27	b1	b1	#6	4'-0"	4'-0"	5	5	5	5

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage IC		Stage IA	Stage IC	Stage IA		Stage IC	
						Side A	Side B	Side A	Side B
A12	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A13	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A16	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A19	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A21	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A22	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
A27	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d2	d2	#4	5'-10"	5'-10"	3	3	3	3

SN 016-1112 (RAMP B)

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage IC		Stage IA	Stage IC	Stage IA		Stage IC	
						Side A	Side B	Side A	Side B
B12	a32	a32	#5	26'-4"		2 x 9	2 x 9		
	b1	b1	#6	4'-0"		10	10		
B14	a25	a25	#5	21'-8"		2 x 9	2 x 9		
	b1	b1	#6	4'-0"		10	10		
B16	a33	a33	#5	31'-7"		14	9		
	b1	b1	#6	4'-0"		16	10		
	x2	x2	#5	4'-2"		30	-		
Abut. B17	x1	x1	#5	2'-3"		-	30		
	a34	a34	#6	27'-1"		4	9		
	b1	b1	#6	4'-0"		-	10		
	u1	u1	#5	2'-8"		26	-		
	x1	x1	#5	2'-3"		-	26		

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage IC		Stage IA	Stage IC	Stage IA		Stage IC	
						Side A	Side B	Side A	Side B
B12	d1	d1	#5	4'-7"				6	6
	d2	d2	#4	5'-10"				6	-
	d3	d3	#4	6'-4"				-	3
B14	d1	d1	#5	4'-7"				6	6
	d2	d2	#4	5'-10"				6	6
B16	d1	d1	#5	4'-7"				10	6
	d2	d2	#4	5'-10"				10	6
Abut. B17	d1	d1	#5	4'-7"				4	6
	d2	d2	#4	5'-10"				4	6

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1112 RAMPS A & B
SCALE: N/A
DATE: 4/14/2006
DRAWN BY: BDC
CHECKED BY: BLU

150448 AM
4/14/2006

REINFORCEMENT BAR SCHEDULES

SN 016-1111

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	210
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62581

Location	Bar			Size	Length			Number					
	Stage IA	Stage IC	Stage II		Stage IA	Stage IC	Stage II	Stage IA		Stage IC		Stage II	
								Side A	Side B	Side A	Side B	Side A	Side B
D7	a1	a1	a1	#6	27'-1"	27'-1"	27'-1"	9	4	9	4	9	4
	b1	b1	b1	#6	4'-0"	4'-0"	4'-0"	10	4	10	4	10	4
	u1	u1	u1	#5	2'-8"	2'-8"	2'-8"	-	28	-	28	-	28
D7	a1			#6	27'-1"			9	4				
	b1			#6	4'-0"			10	4				
	u1			#5	2'-8"			-	28				

Location	Bar		Size	Length		Number			
	Stage IA	Stage II		Stage IA	Stage II	Stage IA		Stage II	
						Side A	Side B	Side A	Side B
D7	d2	d2	#4	5'-10"	5'-10"	4	4	4	4
	d1	d1	#5	4'-7"	4'-7"	28	28	28	28
	d2	d2	#4	5'-10"	5'-10"	6	6		
	d1	d1	#5	4'-7"	4'-7"	6	6		

SN 016-1110

Deck Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IA	
				Side A	Side B
D1	a1	#6	24'-2"	5	5
	a2	#5	24'-2"	4	4
	b1	#6	4'-0"	10	10
Susp. Span A	a1	#6	24'-2"	5	5
	a2	#5	24'-2"	4	4
	b1	#6	4'-0"	10	10
	x1	#5	2'-3"	25	25
	a1	#6	24'-2"	-	5
	a2	#5	24'-2"	10	5
Susp. Span B	a2	#5	24'-2"	10	5
	b1	#6	4'-0"	10	10

Parapet Reinforcement Schedule

Location	Bar	Size	Length	Number	
				Stage IA	
				Side A	Side B
D1	d	#4	5'-10"	6	6
	d1	#5	4'-7"	6	6
Susp. Span A	d	#4	5'-10"	6	6
	d1	#5	4'-7"	6	6
Susp. Span B	d	#4	5'-10"	6	6
	d1	#5	4'-7"	6	6

SN 016-0137

Deck Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage IB		Stage IA	Stage IB	Stage IA		Stage IB	
						Side A	Side B	Side A	Side B
7	a1	a2	#5	24'-5"	29'-7"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
11	a1	a2	#5	24'-5"	29'-7"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
15	a1	a2	#5	24'-5"	29'-7"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
19	a3	a2	#5	25'-9"	29'-7"	2 x 9	2 x 9	9	9
	b1	b1	#6	4'-0"	4'-0"	5	5	5	5
23	a5	a2	#5	28'-8"	29'-7"	-	2 x 14	-	14
	a7	a4	#6	28'-10"	29'-7"	2 x 6	-	6	-
	a8	a6	#7	29'-5"	29'-7"	2 x 8	-	8	-
	b1	b1	#6	4'-0"	4'-0"	8	8	8	8
	x1	x1	#5	4'-2"	4'-2"	56	56	30	30
	N. Abut	a9	a4	#6	29'-9"	29'-7"	2 x 4	-	2 x 4
	a9	a4	#6	29'-9"	29'-7"	-	2 x 6	-	2 x 6
	a10	a6	#7	30'-5"	29'-7"	-	2 x 8	-	2 x 8
	b1	b1	#6	4'-0"	4'-0"	-	5	-	5
	u2	u2	#5	2'-7"	2'-7"	58	-	58	-

Parapet Reinforcement Schedule

Location	Bar		Size	Length		Number			
	Stage IA	Stage IB		Stage IA	Stage IB	Stage IA		Stage IB	
						Side A	Side B	Side A	Side B
7	d2	d1	#4	5'-10"	4'-7"	3	3		
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
11	d16	d16	#4	5'-1"	5'-1"			3	3
	d2	d1	#4	5'-10"	4'-7"	3	3		
15	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
	d16	d16	#4	5'-1"	5'-1"			3	3
19	d2	d1	#4	5'-10"	4'-7"	3	3		
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3
23	d16	d16	#4	5'-1"	5'-1"			3	3
	d2	d1	#4	5'-10"	4'-7"	3	3		
N. Abut.	d1	d1	#5	4'-7"	4'-7"	4	4	4	4
	d16	d16	#4	5'-1"	5'-1"			4	4
N. Abut.	d2	d2	#4	5'-10"	5'-10"	3	3	3	3
	d1	d1	#5	4'-7"	4'-7"	3	3	3	3

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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
REINFORCEMENT BAR SCHEDULE
SN 016-1111, 016-1110 & 016-0137

SCALE: N/A
DATE: 5/25/2006

DRAWN BY: BDC
CHECKED BY: BLU

1623307 PM 5/25/2006

SN 016-1117

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	11	#6	33'-6"	—
a2(E)	5	#7	33'-6"	—
a3(E)	5	#7	33'-0"	—
a4(E)	73	#5	33'-0"	—
a5(E)	8	#6	33'-11"	—
a6(E)	15	#5	33'-11"	—
a7(E)	13	#6	34'-5"	—
a8(E)	10	#5	34'-5"	—
a9(E)	13	#6	35'-3"	—
a10(E)	10	#5	35'-3"	—
a11(E)	20	#6	36'-1"	—
a12(E)	9	#5	36'-1"	—
a13(E)	20	#6	22'-1"	—
a14(E)	16	#5	21'-9"	—
a15(E)	18	#6	23'-3"	—
a16(E)	18	#5	23'-0"	—
a17(E)	18	#7	23'-6"	—
a18(E)	18	#5	22'-10"	—
a19(E)	36	#5	24'-8"	—
a20(E)	133	#5	31'-7"	—
a21(E)	46	#5	20'-9"	—
a22(E)	92	#5	36'-7"	—
b1(E)	266	#6	4'-0"	—
d1(E)	188	#5	4'-7"	—
d2(E)	63	#4	5'-10"	L
d3(E)	86	#4	4'-10"	L
d4(E)	12	#4	7'-10"	L
d5(E)	8	#4	6'-7"	L
d6(E)	19	#4	6'-4"	L
d7(E)	4	#5	6'-0"	L
d8(E)	21	#5	2'-10"	L
d9(E)	13	#4	2'-6"	L
d10(E)	11	#4	4'-6"	L
x1(E)	90	#5	2'-3"	L
x2(E)	559	#5	4'-2"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	175		
Concrete Superstructure	Cu. Yd.	196.7		
Reinforcement Bars, Epoxy Coated	Pound	27,410		

SN 016-1110

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	31	#6	24'-2"	—
a2(E)	35	#5	24'-2"	—
b1(E)	60	#6	4'-0"	—
d1(E)	36	#5	4'-7"	L
d2(E)	36	#4	5'-10"	L
x1(E)	50	#5	5'-10"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	15		
Concrete Superstructure	Cu. Yd.	16.7		
Reinforcement Bars, Epoxy Coated	Pound	2,990		

SN 016-1067

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	14	#7	26'-9"	—
a2(E)	12	#5	26'-1"	—
a3(E)	30	#7	23'-2"	—
a4(E)	32	#5	22'-5"	—
a5(E)	36	#7	22'-10"	—
a6(E)	56	#5	22'-2"	—
a7(E)	20	#6	22'-4"	—
a8(E)	16	#5	22'-1"	—
a9(E)	10	#6	22'-8"	—
a10(E)	26	#6	25'-8"	—
a11(E)	20	#5	25'-5"	—
a12(E)	16	#7	34'-8"	—
a13(E)	10	#6	34'-2"	—
a14(E)	20	#5	33'-8"	—
a15(E)	20	#7	34'-5"	—
a16(E)	16	#5	33'-9"	—
b1(E)	194	#6	4'-0"	—
d1(E)	109	#5	4'-7"	L
d2(E)	19	#4	5'-10"	L
d3(E)	2	#4	4'-10"	L
d5(E)	20	#4	6'-7"	L
d6(E)	16	#4	6'-4"	L
d11(E)	49	#4	6'-10"	L
d12(E)	3	#4	5'-4"	L
d13(E)	9	#4	7'-6"	L
u2(E)	46	#5	2'-8"	L
x2(E)	128	#5	4'-3"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	86		
Concrete Superstructure	Cu. Yd.	95.4		
Reinforcement Bars, Epoxy Coated	Pound	16,370		

SN 016-1111

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	18	#5	18'-9"	—
a2(E)	18	#5	15'-8"	—
a3(E)	18	#5	33'-6"	—
a4(E)	13	#6	27'-1"	—
d1(E)	24	#5	4'-7"	L
d2(E)	24	#4	5'-10"	L
b1(E)	30	#6	4'-0"	—
x1(E)	137	#5	2'-3"	L
u1(E)	28	#5	2'-8"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	16		
Concrete Superstructure	Cu. Yd.	17.1		
Reinforcement Bars, Epoxy Coated	Pound	2,690		

SN 016-1115

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	36	#5	22'-8"	—
a2(E)	77	#5	29'-11"	—
a3(E)	41	#5	26'-5"	—
a4(E)	54	#5	26'-7"	—
a5(E)	36	#5	30'-0"	—
a6(E)	64	#5	30'-2"	—
a7(E)	23	#5	26'-11"	—
a8(E)	46	#5	27'-8"	—
a9(E)	23	#5	31'-2"	—
a10(E)	23	#5	28'-6"	—
a11(E)	23	#5	31'-8"	—
a12(E)	18	#5	27'-1"	—
a13(E)	18	#5	29'-6"	—
a14(E)	18	#5	27'-3"	—
a15(E)	18	#5	30'-5"	—
a16(E)	18	#5	25'-8"	—
a17(E)	18	#5	31'-7"	—
a18(E)	18	#5	27'-5"	—
a19(E)	18	#5	18'-7"	—
a20(E)	18	#5	35'-1"	—
a21(E)	18	#5	19'-0"	—
a22(E)	18	#5	35'-0"	—
b1(E)	250	#6	4'-0"	—
d1(E)	256	#5	4'-7"	L
d2(E)	157	#4	5'-10"	L
d12(E)	3	#4	5'-4"	L
d16(E)	22	#4	5'-1"	L
x1(E)	558	#5	2'-3"	L
x2(E)	353	#5	4'-2"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	161		
Concrete Superstructure	Cu. Yd.	185.1		
Reinforcement Bars, Epoxy Coated	Pound	25,580		

SN 016-0137

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	108	#5	24'-5"	—
a2(E)	100	#5	29'-7"	—
a3(E)	36	#5	25'-9"	—
a4(E)	36	#6	29'-7"	—
a5(E)	28	#5	28'-8"	—
a6(E)	24	#7	29'-7"	—
a7(E)	12	#6	28'-10"	—
a8(E)	16	#7	29'-5"	—
a9(E)	20	#6	29'-9"	—
a10(E)	16	#7	30'-5"	—
b1(E)	82	#6	4'-0"	—
d1(E)	76	#5	4'-7"	L
d2(E)	44	#4	5'-10"	L
d16(E)	32	#4	5'-1"	L
u2(E)	116	#5	2'-7"	L
x3(E)	172	#6	8'-3"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	99		
Concrete Superstructure	Cu. Yd.	108.8		
Reinforcement Bars, Epoxy Coated	Pound	16,800		

SN 016-1062

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	18	#5	39'-5"	—
a2(E)	68	#5	33'-2"	—
a3(E)	8	#7	33'-2"	—
a4(E)	6	#6	33'-2"	—
b1(E)	107	#6	4'-0"	—
d1(E)	63	#5	4'-7"	L
d2(E)	63	#4	5'-10"	L
x1(E)	38	#5	2'-3"	L
x2(E)	64	#5	4'-2"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	36		
Concrete Superstructure	Cu. Yd.	38.3		
Reinforcement Bars, Epoxy Coated	Pound	5,530		

SN 016-1046

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	54	#5	28'-2"	—
b1(E)	60	#6	4'-0"	—
d1(E)	35	#5	4'-7"	L
d2(E)	27	#4	5'-10"	L
d4(E)	5	#4	7'-4"	L
d16(E)	3	#4	5'-1"	L
x1(E)	24	#5	2'-3"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	18		
Concrete Superstructure	Cu. Yd.	17.6		
Reinforcement Bars, Epoxy Coated	Pound	2,310		

SN 016-1050

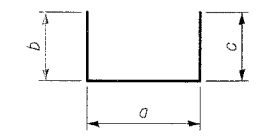
BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	13	#6	28'-2"	—
a2(E)	18	#5	21'-10"	—
a3(E)	18	#5	35'-1"	—
a4(E)	90	#5	28'-2"	—
b1(E)	166	#6	4'-0"	—
d1(E)	90	#5	4'-7"	L
d2(E)	90	#4	5'-10"	L
u3(E)	36	#5	3'-4"	L
x1(E)	36	#5	2'-3"	L
x2(E)	35	#5	4'-2"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	49		
Concrete Superstructure	Cu. Yd.	53.4		
Reinforcement Bars, Epoxy Coated	Pound	6,410		

SN 016-1116

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	36	#5	23'-5"	—
a2(E)	18	#5	31'-4"	—
b1(E)	20	#6	4'-0"	—
d1(E)	12	#5	4'-7"	L
d2(E)	6	#4	5'-10"	L
d19(E)	3	#4	6'-1"	L
d15(E)	3	#4	5'-7"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	13		
Concrete Superstructure	Cu. Yd.	14.0		
Reinforcement Bars, Epoxy Coated	Pound	1,680		

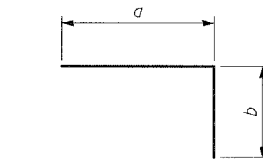
SN 016-1113

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	18	#5	31'-6"	—
a2(E)	18	#5	29'-10"	—
a3(E)	18	#5	35'-0"	—
a4(E)	18	#5	29'-7"	—
a5(E)	36	#5	22'-7"	—
a6(E)	18	#5	30'-0"	—
a7(E)	36	#5	25'-3"	—
a8(E)	18	#5	30'-0"	—
a9(E)	26	#5	27'-5"	—
a10(E)	18	#5	31'-1"	—
a11(E)	10	#6	27'-8"	—
a12(E)	13	#5	29'-0"	—
a13(E)	5	#6	29'-0"	—
a14(E)	13	#5	30'-1"	—
a15(E)	5	#6	30'-1"	—
a16(E)	72	#5	18'-7"	—
a17(E)	18	#5	21'-3"	—
a18(E)	18	#5	21'-2"	—
a19(E)	36	#5	22'-7"	—
a20(E)	18	#5	36'-11"	—
a21(E)	31	#5	18'-8"	—
a22(E)	31	#5	23'-11"	—
a23(E)	5	#6	28'-8"	—
a24(E)	5	#6	28'-11"	—
b1(E)	260	#6	4'-0"	—
d1(E)	137	#5	4'-7"	L
d2(E)	118	#4	5'-10"	L
d6(E)	6	#4	6'-4"	L
d11(E)	6	#4	6'-10"	L
d14(E)	3	#4	7'-4"	L
d15(E)	6	#4	5'-7"	L
x1(E)	347	#5	2'-3"	L
Item	Unit	Qty.		
Concrete Removal	Cu. Yd.	108		
Concrete Superstructure	Cu. Yd.	122.1		
Reinforcement Bars, Epoxy Coated	Pound	17,340		



BARS u1(E) thru u3(E)

BAR	a	b	c
u1(E)	12"	10"	10"
u2(E)	9"	10"	10"
u3(E)	12"	1'-2"	1'-2"



BARS x1(E) & x2(E)

BAR	a	b
x1(E)	1'-8"	7"
x2(E)	3'-2"	1'-0"

SN 016-1112

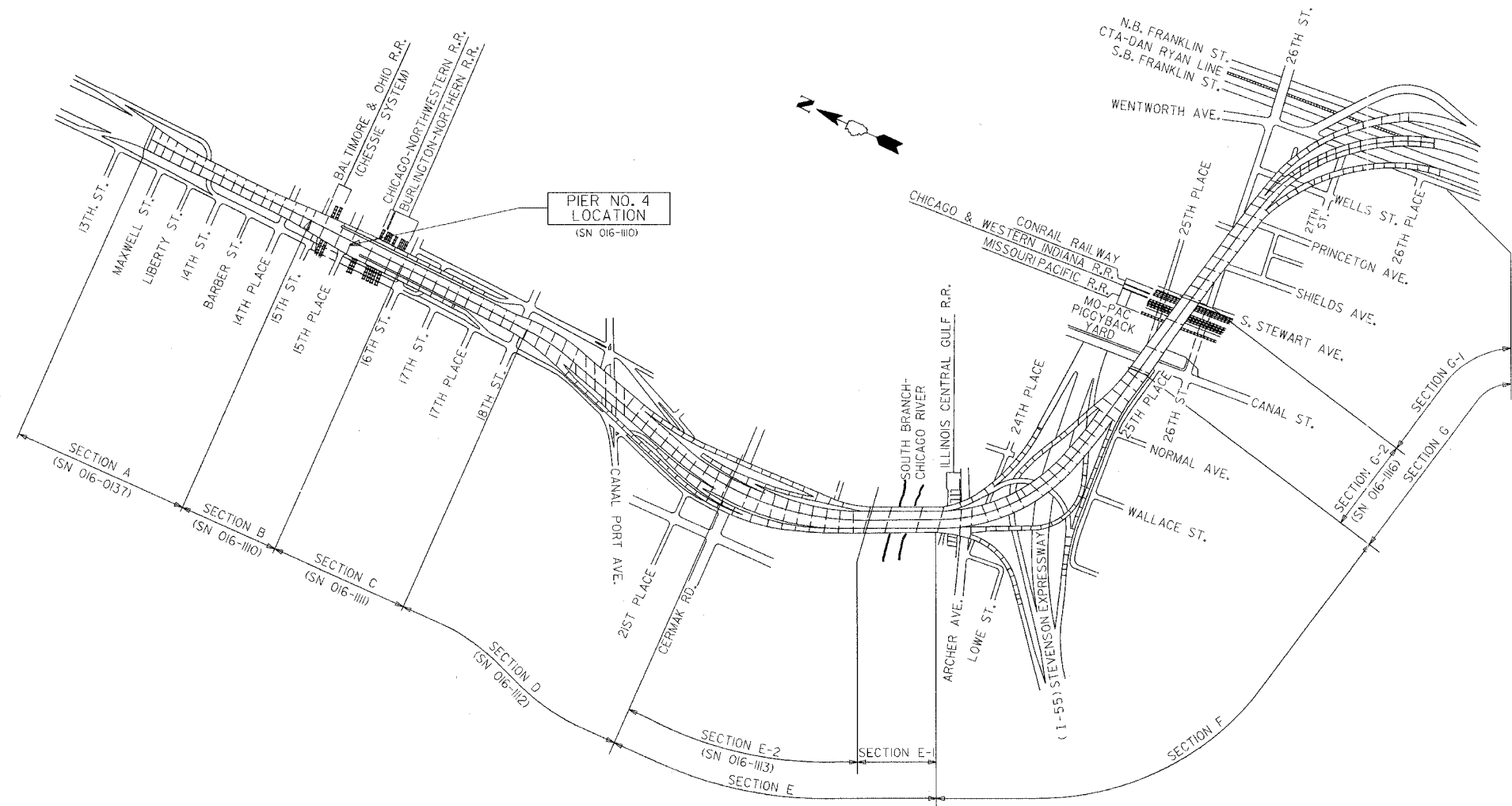
BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	36	#5	18'-9"	—
a2(E)	18	#5	29'-2"	—
a3(E)	108	#5	29'-7"	—
a4(E)	36	#5	24'-1"	—
a5(E)	36	#5	29'-8"	—
a6(E)	18	#5	37'-3"	—
a7(E)	36	#5	24'-3"	—
a8(E)	18	#6	36'-8"	—
a9(E)	36	#5	23'-5"	—
a10(E)	18	#5	36'-6"	—
a11(E)	36	#5	21'-9"	—
a12(E)	36	#5	26'-5"	—
a13(E)	36	#5	26'-8"	—
a14(E)	108	#5		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	344	212
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
2003-0291				

Sheet No 1
of 8 Sheets

CONTRACT #62581



PIER NO. 4
LOCATION
(SN 016-1110)

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

Thomas E. Szymanski
5-18-06
exp 11-30-06

GENERAL NOTES

- 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 for the work.
- The slab is to be removed in stages. Before starting the concrete removal, the Contractor is required to submit to the Engineer for approval his staging plans and method of removal.
- Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.
- Field welding of construction accessories will not be permitted to beams or girders.
- Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".
- The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
- Finger plate expansion joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
- 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.
- Fasteners shall be high strength bolts. Bolts 3/4" ϕ , open holes 13/16" ϕ unless otherwise noted.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1. Cost included with "Furnishing and Erecting Structural Steel".
- The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
- All Construction joints shall be bonded.
- Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.
- Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".
- Existing design and fabrication plans are available upon request.
- All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight of structural steel = 35,620 lbs.

DESIGN STRESSES

$f'_c = 3500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	24.0
Concrete Superstructure	Cu Yd	27.8
Furnishing and Erecting Structural Steel	LS	0.15
Reinforcement Bars, Epoxy Coated	Pound	3320
Fabric Reinforced Elastomeric Trough	Foot	89
Mechanical Splice	Each	178
Bar Splicer	Each	24
Field Measurements	L. Sum	0.15

PIER NO. 4

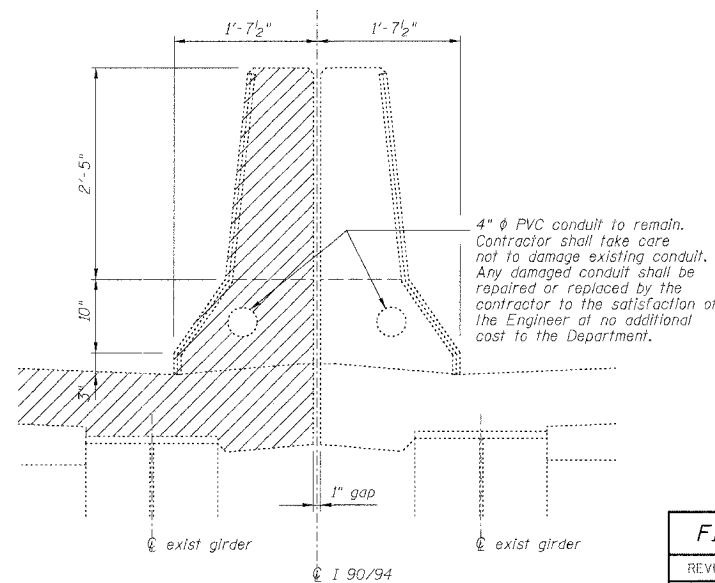
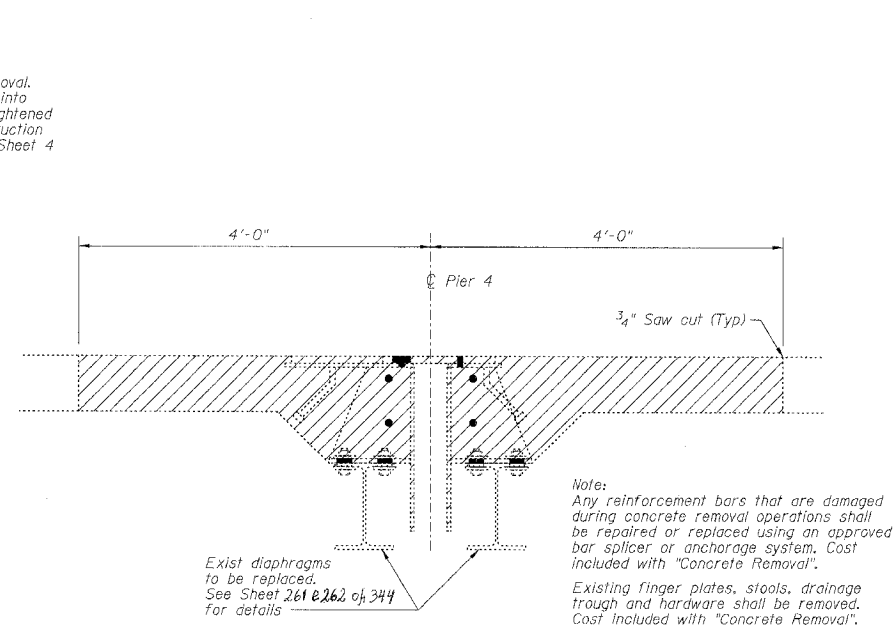
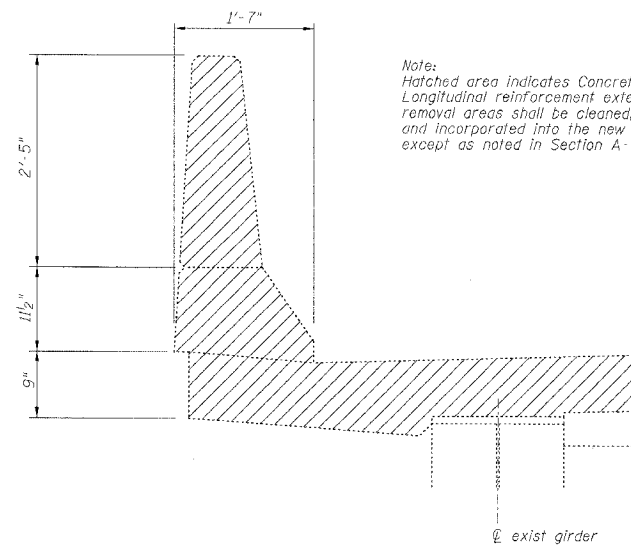
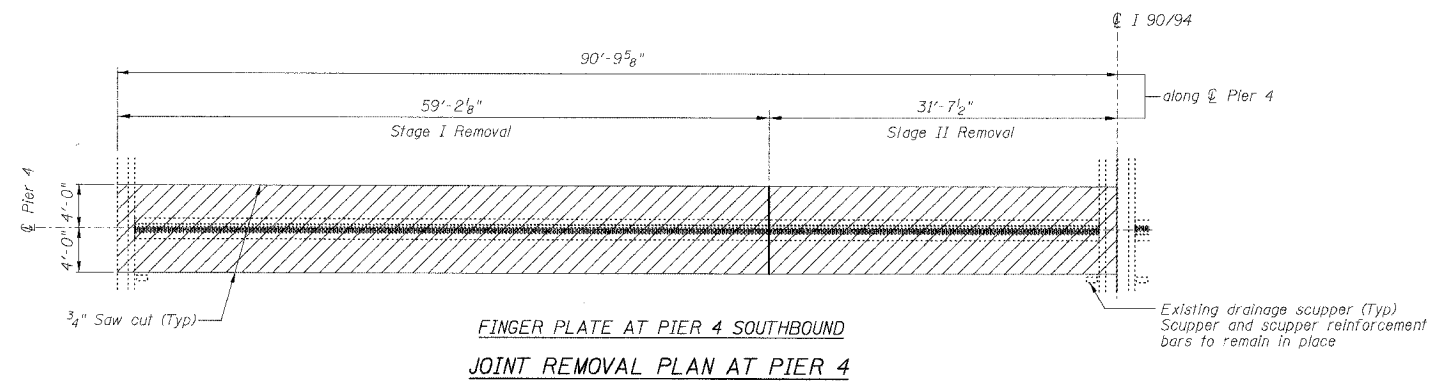
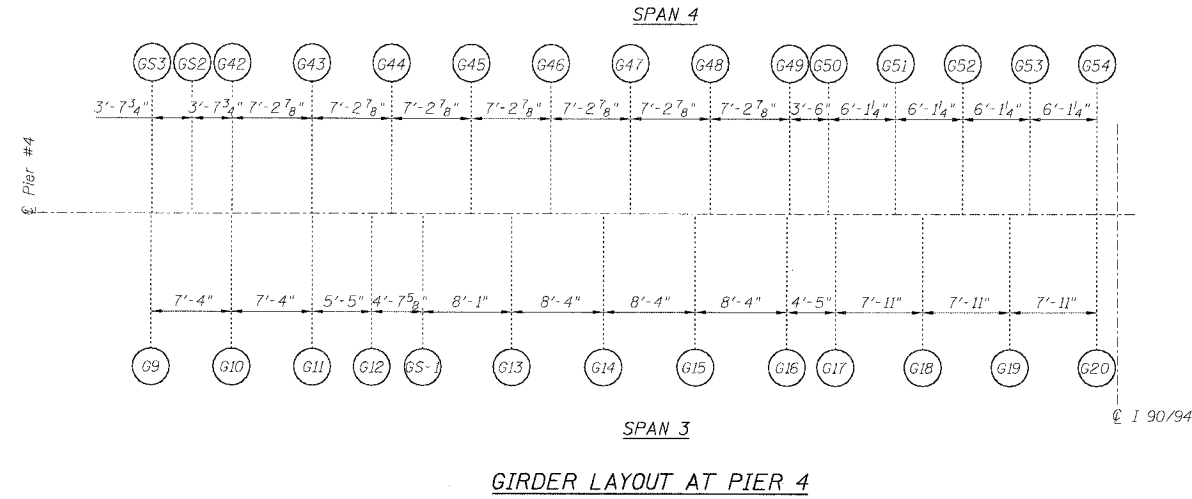
KEY PLAN

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY: <i>RLK</i> DATE: 5/03 CHECKED BY: <i>SDS</i> DATE: 5/03 BOOK NUMBER:
FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1110 (SOUTHBOUND) SEC 2003-0291/1 COOK COUNTY		PROJECT NO.: 4222-3 SHEET NO.:
CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 8000 W. BERTH MARVE AVENUE SUITE 804 CHICAGO, ILLINOIS 60681 TEL: 774-0000 FAX: 837-4400		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	213
FED. ROAD DIST. NO.		ILLINOIS PROJECT		
* 2003-0291 CONTRACT #62581				

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of 8 Sheets



PIER NO. 4

FINGER PLATE EXPANSION JOINT REMOVAL DETAILS

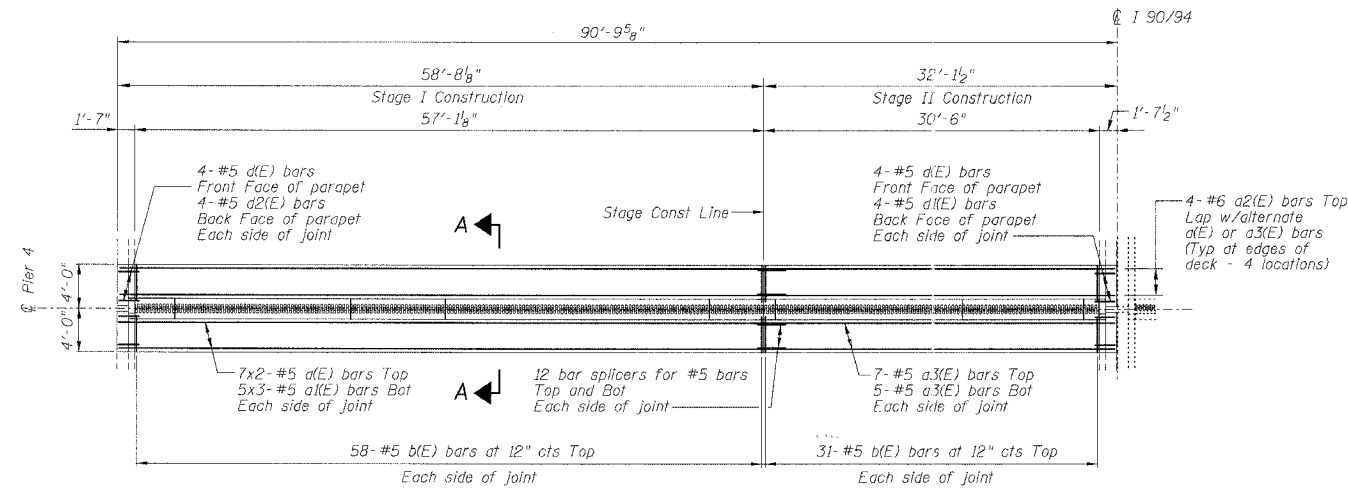
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1		FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	CHECKED BY: SDS DATE: 5/03
2		SN 016-1110 (SOUTHBOUND)		BOOK NUMBER
3		SEC 2003-0291	COOK COUNTY	PROJECT NO. 4222-3
4		HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS		SHEET NO.
5		8699 W. BRYN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60618 312-714-0990 FAX: 312-714-0995		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

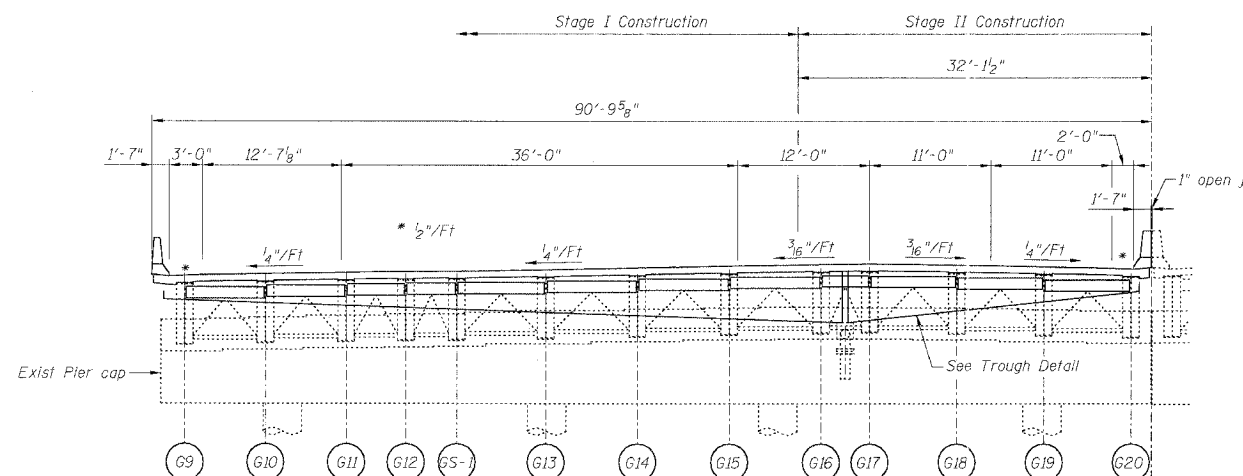
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FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
* 2003-0291				

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of 8 Sheets

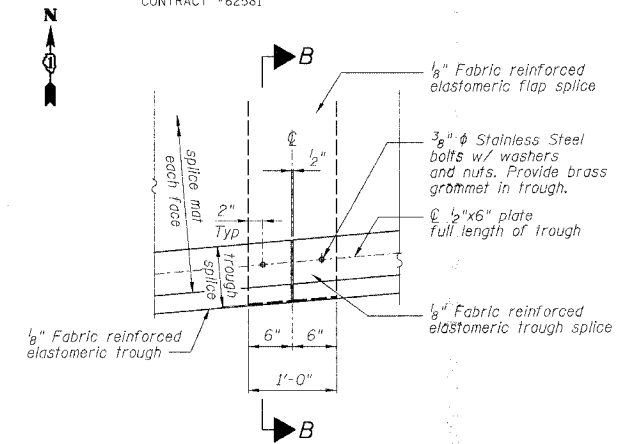
CONTRACT #62581



FINGER PLATE AT PIER 4 SOUTHBOUND
JOINT RECONSTRUCTION PLAN AT PIER 4
(Dimensions along \bar{C} Pier)

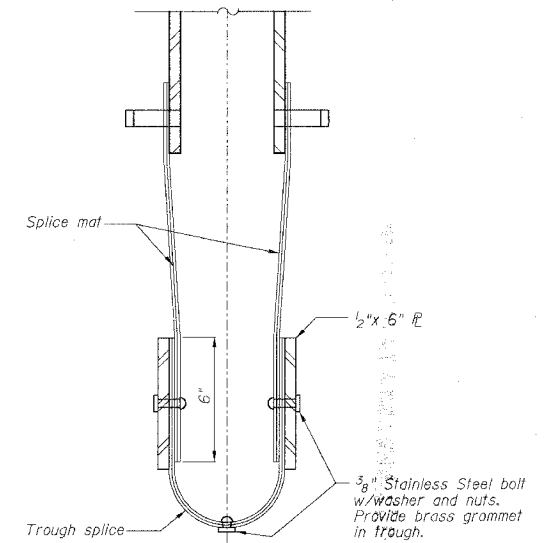


PIER 4 SOUTHBOUND
ELEVATION AT PIER 4 (LOOKING NORTH)
(Dimensions along \bar{C} Pier)

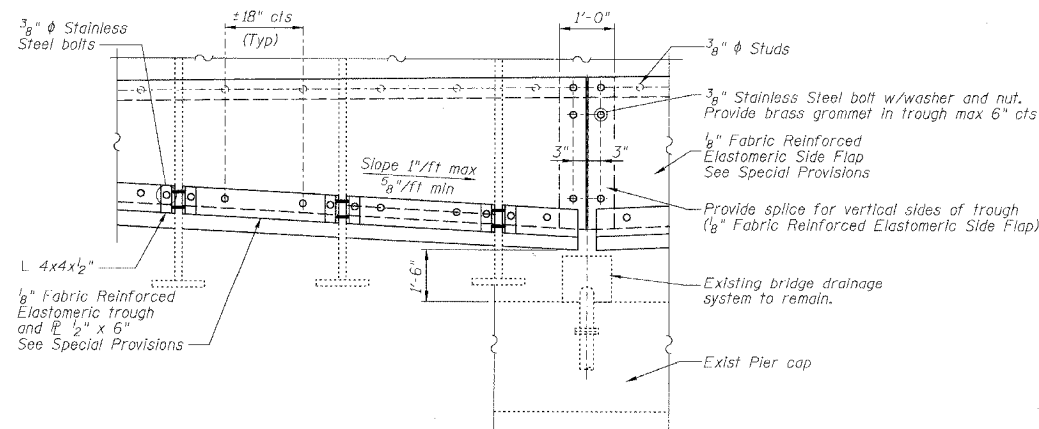


TROUGH SPLICE DETAIL

MIN BAR LAP
#5 bar = 1'-8"



SECTION B-B



TROUGH DETAIL

NOTES

For Section A-A see Sheet 4 of 8.

Bars indicated thus 5 x 3 - #5 etc. indicates 5 lines of bars with 3 lengths per line.

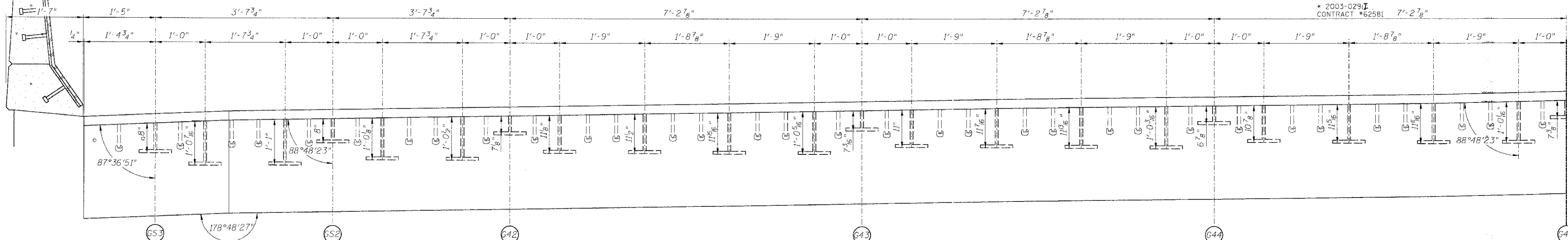
PIER NO. 4

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DATE
No.	DATE	INITIALS	DRAWN BY	RLK	5/03
1			CHECKED BY	SDS	5/03
2			BOOK NUMBER		
3			PROJECT NO.	4222-3	
4			SHEET NO.		
5			FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1110 (SOUTHBOUND) SEC 2003-0291 COOK COUNTY		
6			HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 6800 W. BEVIN MARSH AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 TEL: 774-0030 FAX: 774-0035		

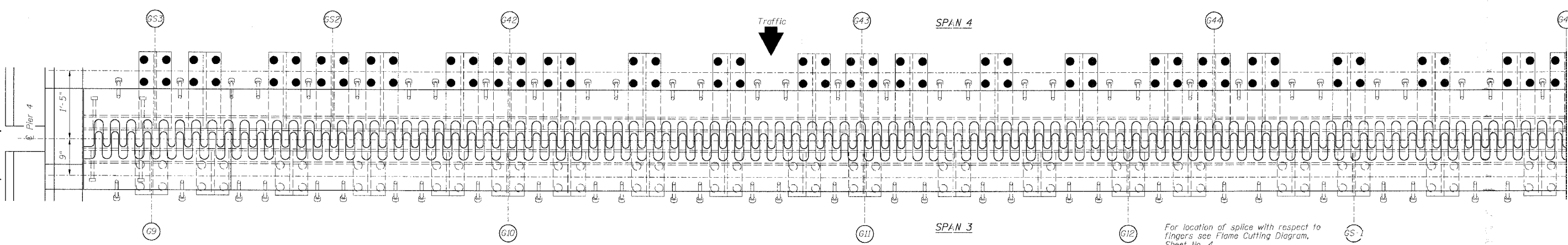
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	344	216
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
2003-0291	7'-2 7/8"	CONTRACT #62581		

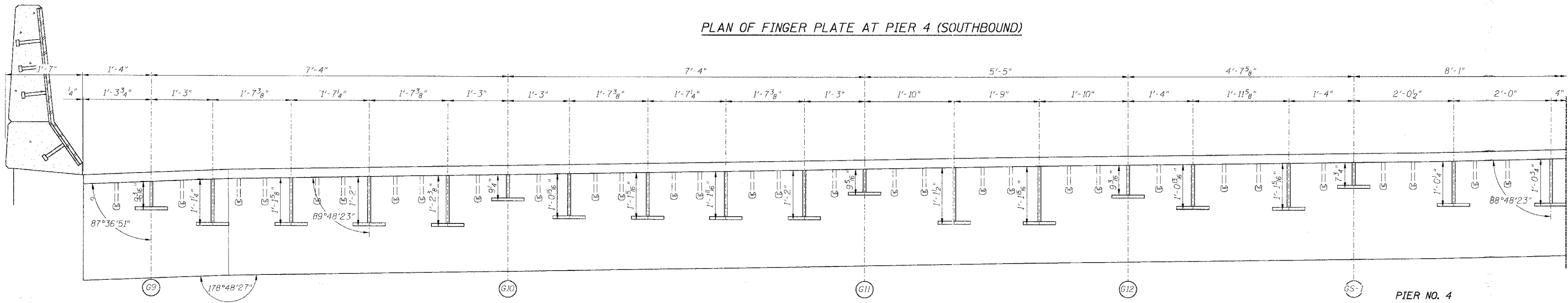
Sheet No 5
of 8 Sheets



SECTION A-A



PLAN OF FINGER PLATE AT PIER 4 (SOUTHBOUND)



SECTION B-B

Note:
For optional splice detail see
flame cutting diagram on Sheet No. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DATE
1		RLK		5/03
2		SDS		5/03
3				
4				
5				
6				
7				
8				
9				
0				

FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	PROJECT NO.	4222-3
SN 016-1110 (SOUTHBOUND)		SHEET NO.	
SEC 2003-0291	COOK COUNTY		

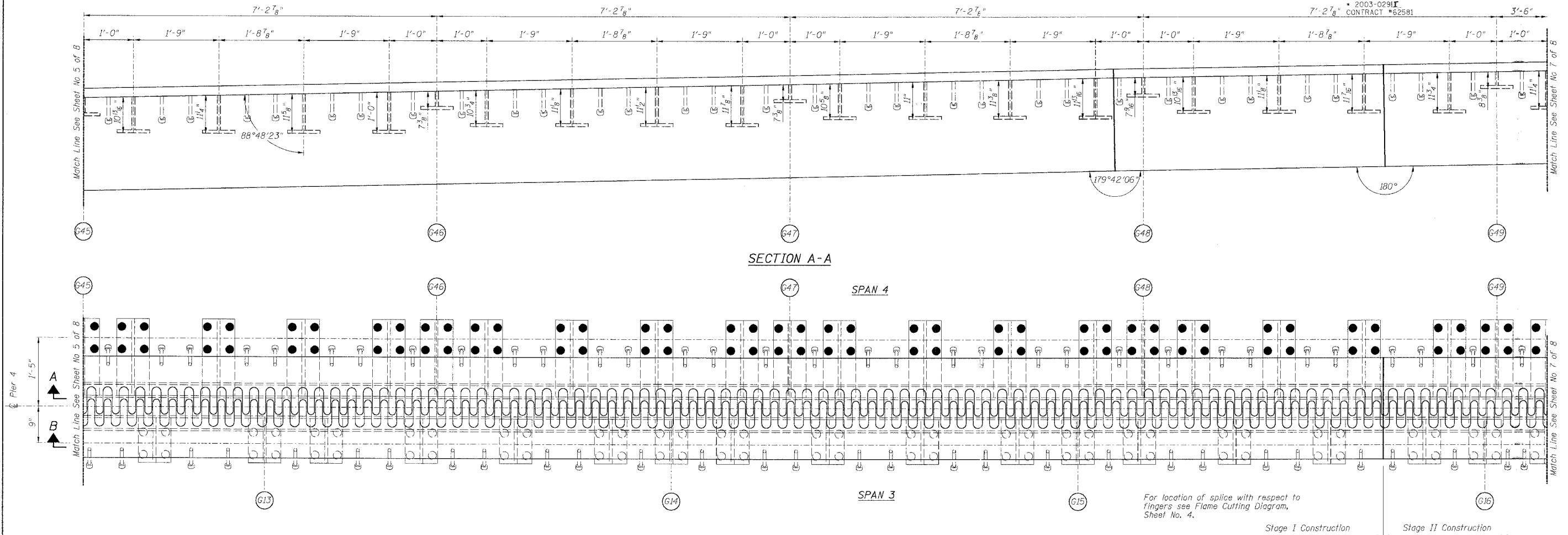
HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
8800 W. BRYN MAWR AVENUE
SUITE 204
CHICAGO, ILLINOIS 60618
312-774-9950
FAX 312-774-0055

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

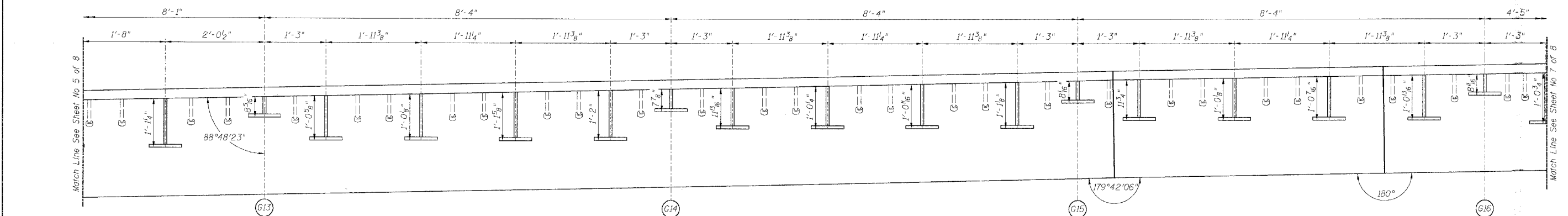
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	217
FED/ADAD DIST. NO.		ILLINOIS PROJECT		

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of 8 Sheets

2003-0291I
CONTRACT #62581



PLAN OF FINGER PLATE AT PIER 4 (SOUTHBOUND)



SECTION B-B

PIER NO. 4

FINGER PLATE PLAN AND ELEVATION DETAILS

REVISIONS No. DATE INITIALS 1 2 3 4 5 6 7 8 9 10		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1110 (SOUTHBOUND) SEC 2003-0291I COOK COUNTY	DRAWN BY: RLK 5/03 CHECKED BY: SDS 5/03 PROJECT NO. 4222-3 SHEET NO.
---	--	---	---

Note:
For optional splice detail see
Flame cutting diagram on Sheet No. 4

HOMER L.
CHASTAIN
& ASSOCIATES
CONSULTING ENGINEERS
5929 W. BRYAN MAWE AVENUE
SUITE 204
CHICAGO, ILLINOIS 60631
312-734-0000
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	344	219
FED. ROAD DIST. NO.		ILLINOIS PROJECT		
* 2003-0291 I CONTRACT #62581				

Sheet No 8
of 8 Sheets

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

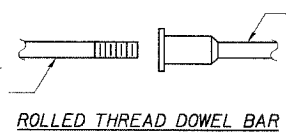
- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times f_{s,allow} \times A_t$

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

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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

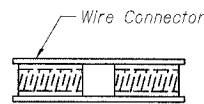
The diameter of this part is the same as the diameter of the bar spliced.



ROLLED THREAD DOWEL BAR



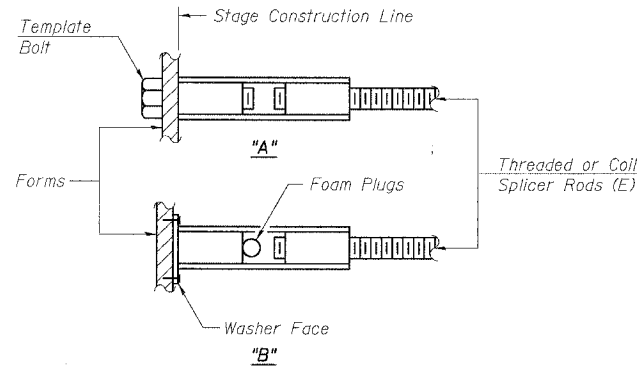
** ONE PIECE



WELDED SECTIONS

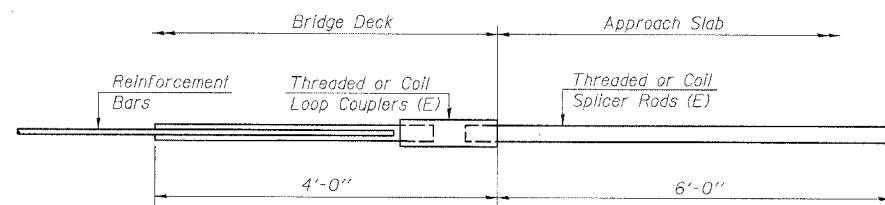
BAR SPLICER ASSEMBLY ALTERNATIVES

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



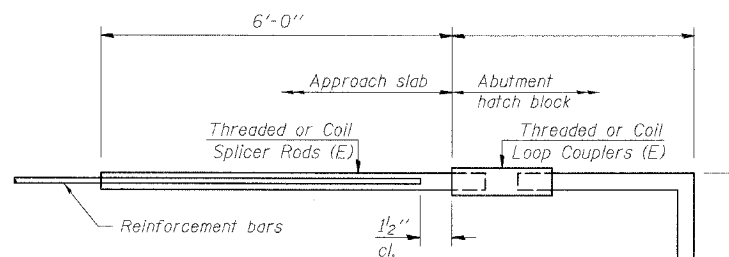
INSTALLATION AND SETTING METHODS

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



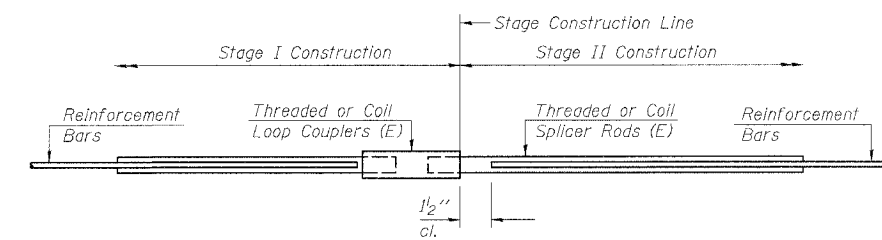
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	9.2 kips - tension
No. Required =	N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	9.2 kips - tension
No. Required =	N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	At Stage Construction Line in Deck

PIER NO. 4

BAR SPLICER ASSEMBLY DETAILS

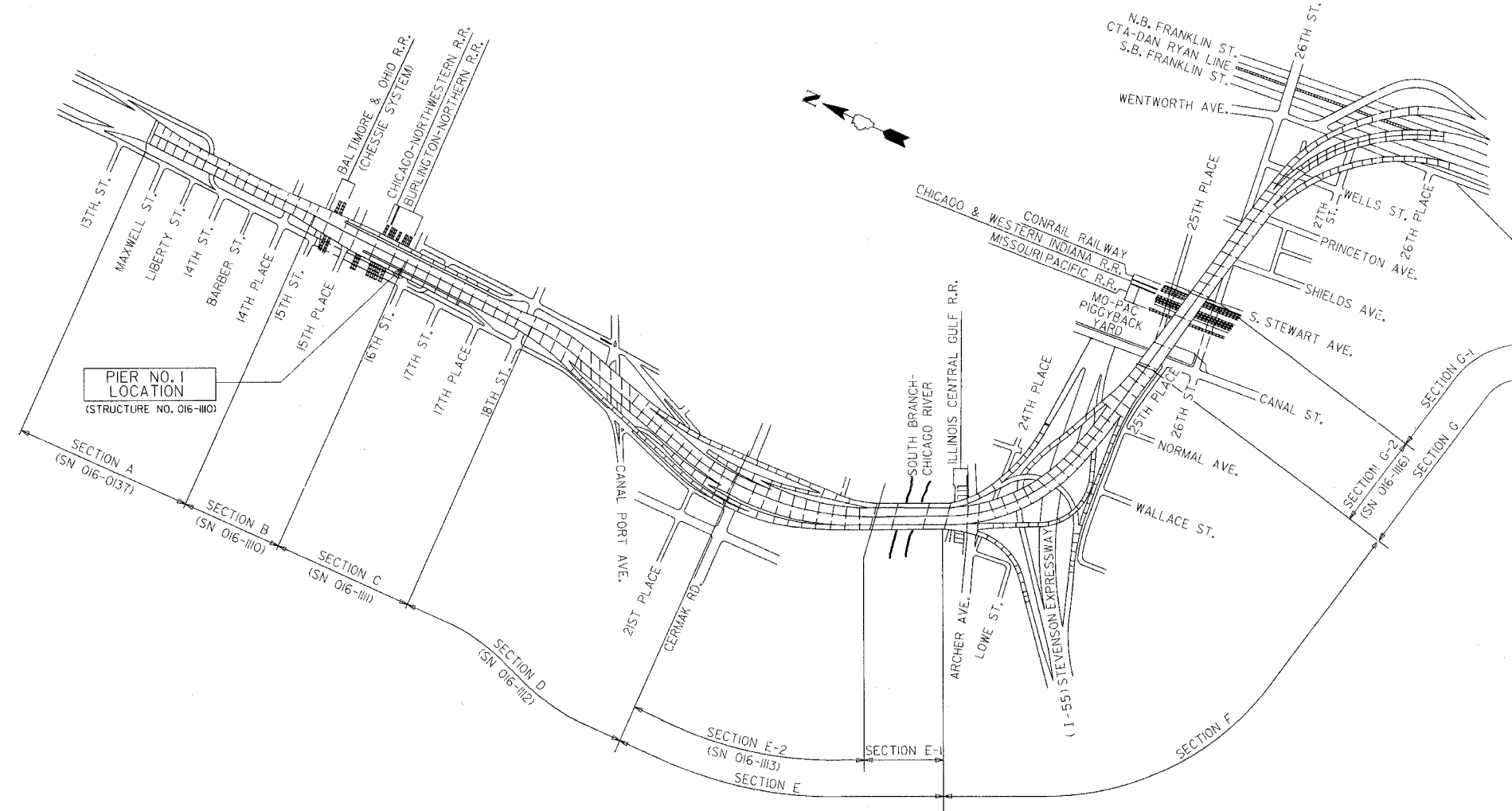
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1	FAI RTE 90/94 SB	CHECKED BY: SDS DATE: 5/03
2	SN 016-1110 (SOUTHBOUND)	BOOK NUMBER
3	SEC 2003-0291 I	PROJECT NO. 4222-3
4	COOK COUNTY	SHEET NO.
5	CHASTAIN & ASSOCIATES CONSULTING ENGINEERS	4222-3
6	4000 W. BETH MARSH AVENUE SUITE 204 CHICAGO, ILLINOIS 60681 312-714-9900 FAX 312-714-0000	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	220

Sheet No. 1
of 8 Sheets

FED. ROAD DIST. NO. ILLINOIS PROJECT
* 2003-0291
CONTRACT #62581



PIER NO. 1
LOCATION
(STRUCTURE NO. 016-110)

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

Thomas E. S. [Signature]
CHICAGO STRUCTURAL STEEL
5-18-06
expired 11-30-06

GENERAL NOTES

- 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 for the work.
- The slab is to be removed in stages. Before starting the concrete removal, the Contractor is required to submit to the Engineer for approval his staging plans and method of removal.
- Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.
- Field welding of construction accessories will not be permitted to beams or girders.
- Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".
- The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications
- Finger plate expansion joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
- 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
- Fasteners shall be high strength bolts. Bolts 3/4" φ, open holes 13/16" φ unless otherwise noted.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type I. Cost included with "Furnishing and Erecting Structural Steel".
- The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
- All Construction joints shall be bonded.
- Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.
- Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".
- Existing design and fabrication plans are available upon request.
- All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight of structural steel = 25,610 lbs.

DESIGN STRESSES
f'c = 3500 psi
fy = 60,000 psi (Reinf)
fy = 50,000 psi (M270 Grade 50)

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	17.3
Concrete Superstructure	Cu Yd	19.1
Furnishing and Erecting Structural Steel	LS	0.11
Reinforcement Bars, Epoxy Coated	Pound	2430
Fabric Reinforced Elastomeric Trough	Foot	64
Mechanical Splice	Each	130
Bar Splicer	Each	24
Field Measurements	L. Sum	0.11

PIER NO. 1
KEY PLAN

REVISIONS NO. DATE INITIALS 1 2 3 4 5 6 7 8 9 10		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1110 (SOUTHBOUND) SEC 2003-0291 COOK COUNTY	DRAWN BY DATE RLK 5/03 CHECKED BY DATE SDS 5/03 BOOK NUMBER PROJECT NO. 4222-3 SHEET NO.
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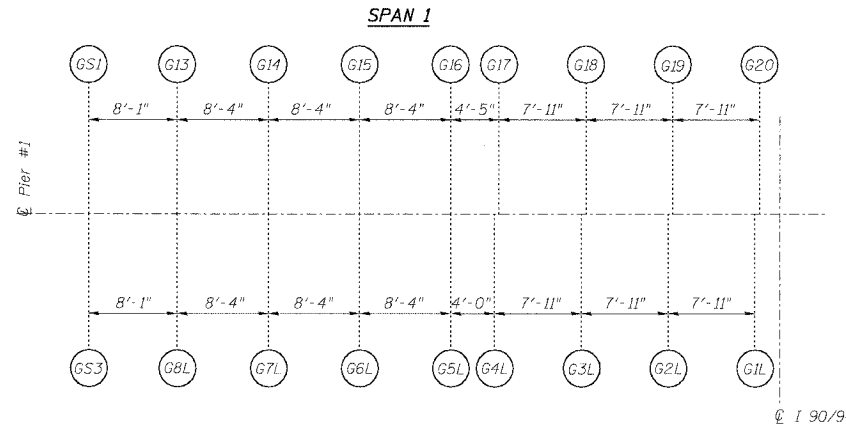
CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
8000 W. BRYN MAWR AVENUE SUITE 204
CHICAGO, ILLINOIS 60611
312-774-0000
FAX 312-774-0000

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	221
FEDERAL DIST. NO.	ILLINOIS	PROJECT		

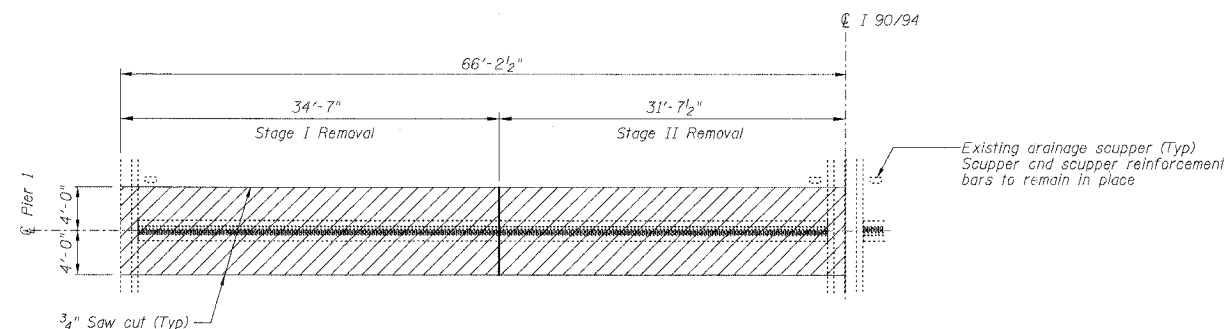
Sheet No 2
of 8 Sheets

2003-0291
CONTRACT #62581

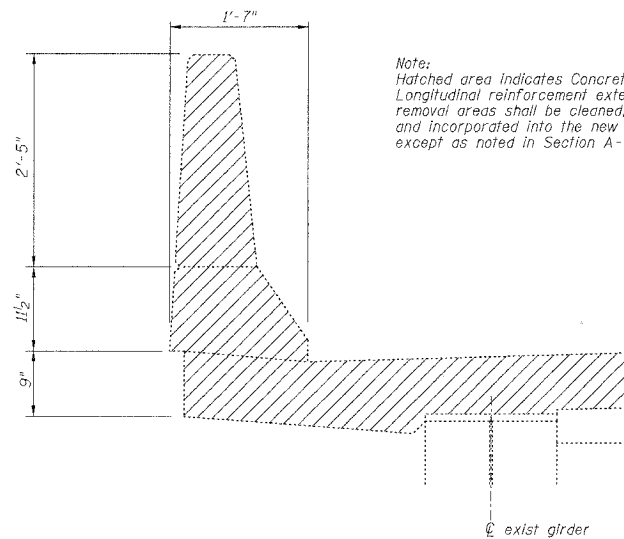


Note:
All dimensions on girder layout
are given along centerline of bearing.

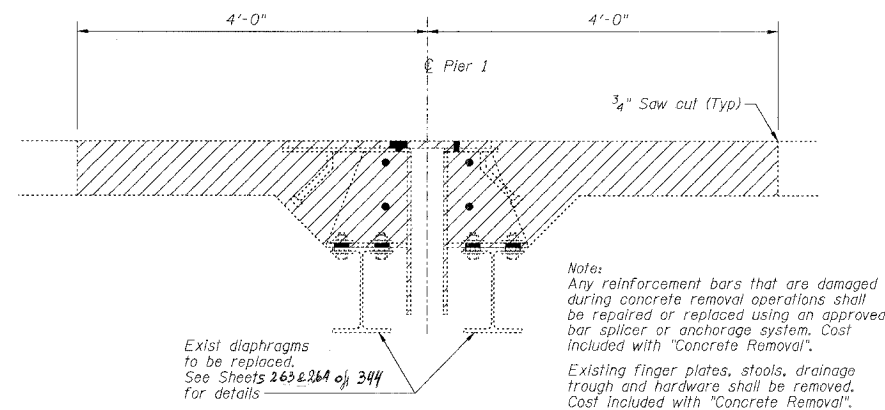
SPAN II
(SN 016-1110)
GIRDER LAYOUT AT PIER 1



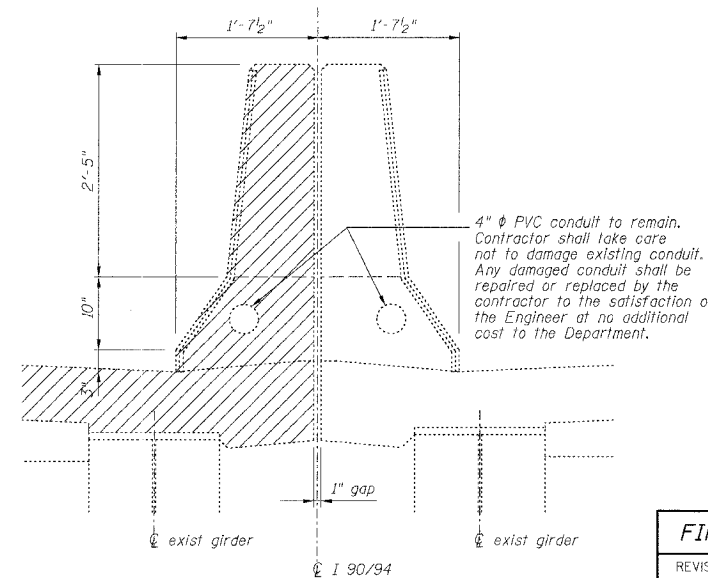
FINGER PLATE AT PIER 1 SOUTHBOUND
JOINT REMOVAL PLAN AT PIER 1



DETAIL AT EXISTING OUTSIDE PARAPET



SECTION AT EXISTING FINGER PLATE AT PIER 1



DETAIL AT EXISTING MEDIAN PARAPET

Note:
Hatched area indicates Concrete Removal.
Longitudinal reinforcement extending into
removal areas shall be cleaned, straightened
and incorporated into the new construction
except as noted in Section A-A on Sheet 4

Note:
Any reinforcement bars that are damaged
during concrete removal operations shall
be repaired or replaced using an approved
bar splicer or anchorage system. Cost
included with "Concrete Removal".
Existing finger plates, stools, drainage
trough and hardware shall be removed.
Cost included with "Concrete Removal".

4" ϕ PVC conduit to remain.
Contractor shall take care
not to damage existing conduit.
Any damaged conduit shall be
repaired or replaced by the
contractor to the satisfaction of
the Engineer at no additional
cost to the Department.

PIER NO. 1

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY DATE
1	DATE	INITIALS	FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	RLK 5/03
2			SN 016-1110 (SOUTHBOUND)		CHECKED BY DATE
3			SEC 2003-0291	COOK COUNTY	SDS 5/03
4					BOOK NUMBER
5					PROJECT No.
6					4222-3
7					SHEET No.
8					
9					
10					

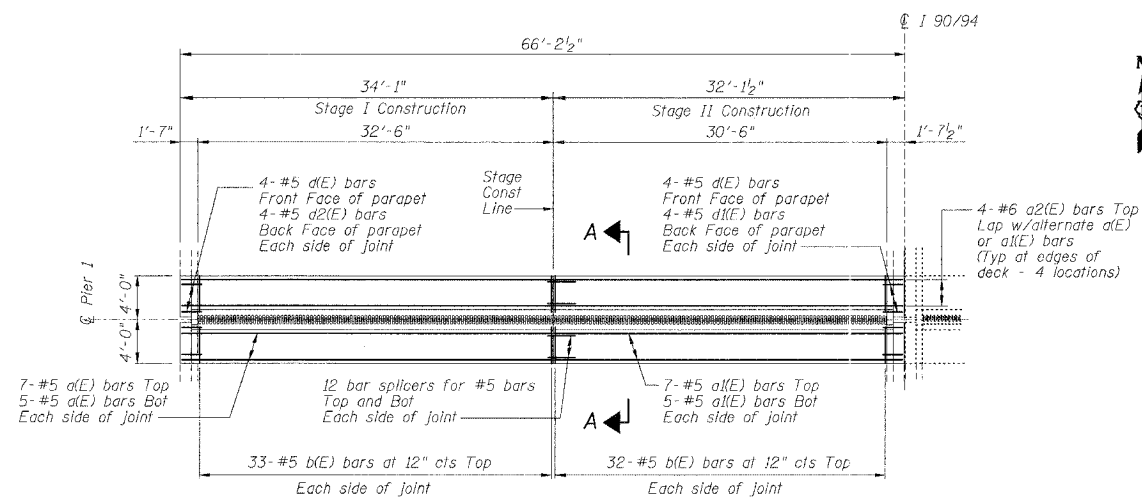
CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
1100 W. BRYN MAWR AVENUE
SUITE 204
CHICAGO, ILLINOIS 60614
312-714-0050
FAX 312-714-0058

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

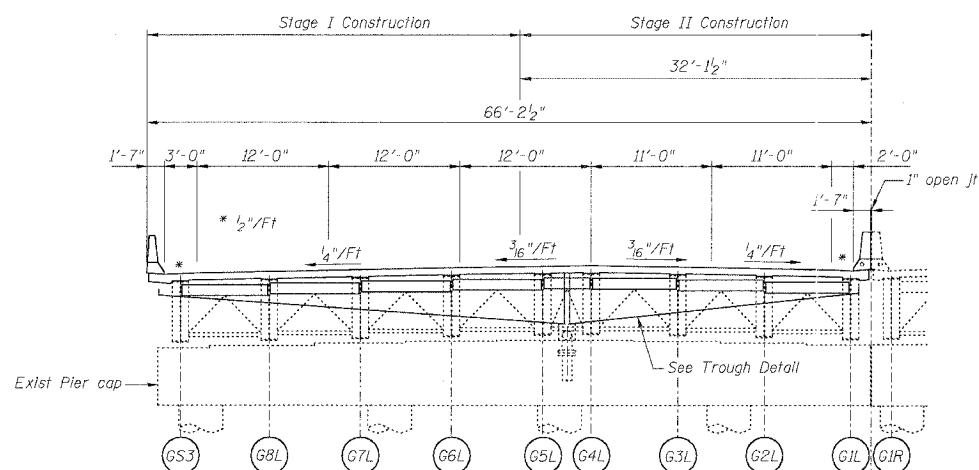
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FA1 90/94	*	COOK	344	222
FEDERAL DIST. NO.	ILLINOIS	PROJECT		

Sheet No 3
of 8 Sheets

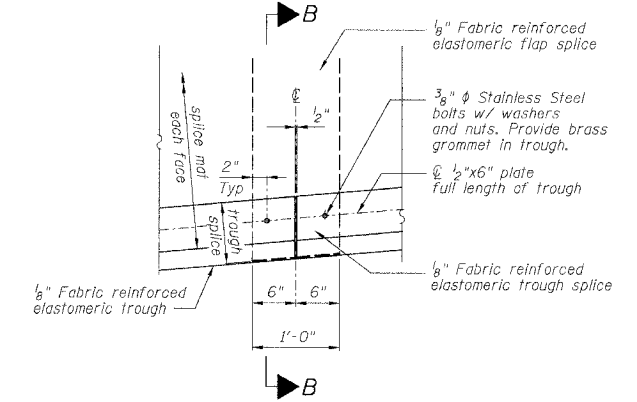
2003-029 I
CONTRACT #62581



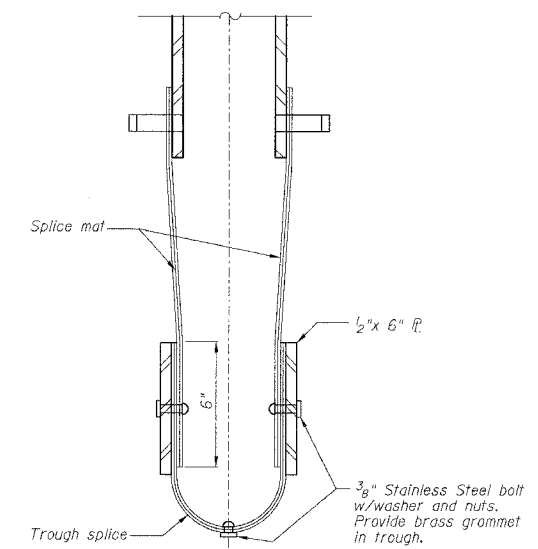
FINGER PLATE AT PIER 1 SOUTHBOUND
JOINT RECONSTRUCTION PLAN AT PIER 1



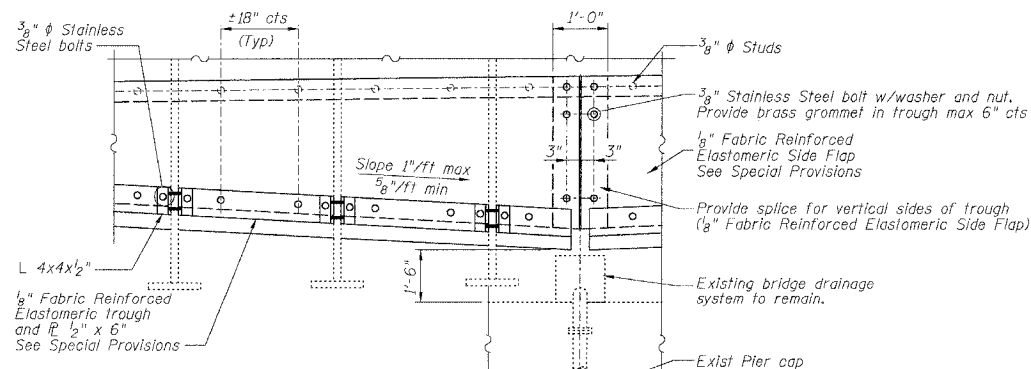
PIER 1 SOUTHBOUND
ELEVATION AT PIER 1 (LOOKING NORTH)



TROUGH SPLICE DETAIL



SECTION B-B



TROUGH DETAIL

NOTES

For Section A-A see Sheet 4 of 8.

PIER NO. 1

FINGER PLATE EXPANSION JOINT DETAILS

REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	DRAWN BY DATE RLK 5/03
1		CHECKED BY DATE SDS 5/03
2		BOOK NUMBER
3	FA1 RTE 90/94 SB DAN RYAN EXPRESSWAY	PROJECT No.
4	SN 016-1110 (SOUTHBOUND)	4222-3
5	SEC 2003-029 I COOK COUNTY	SHEET No.
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7		
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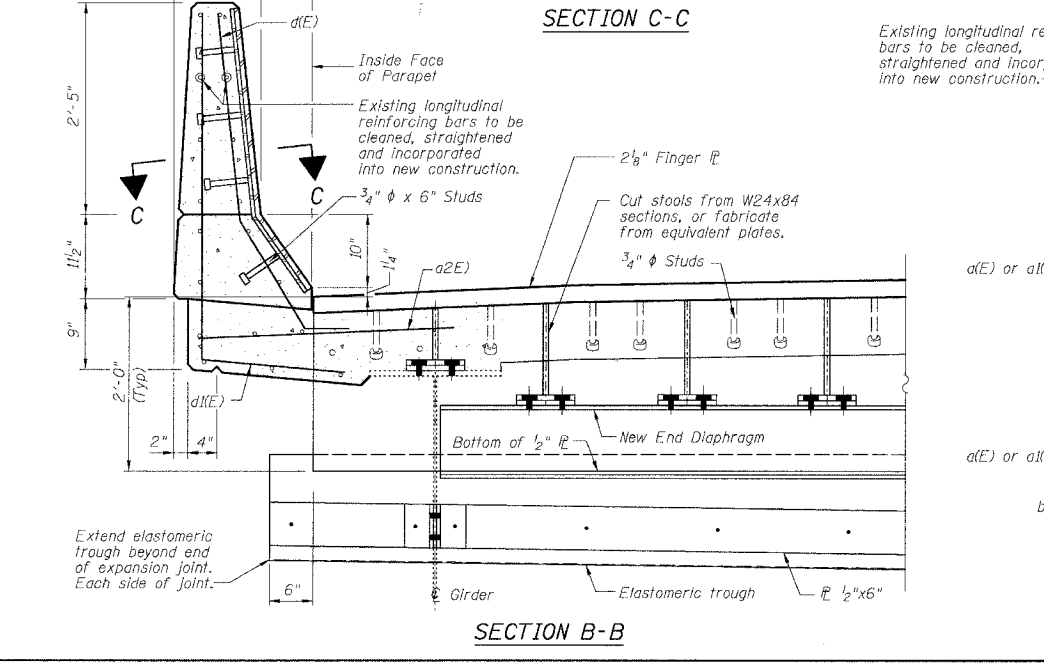
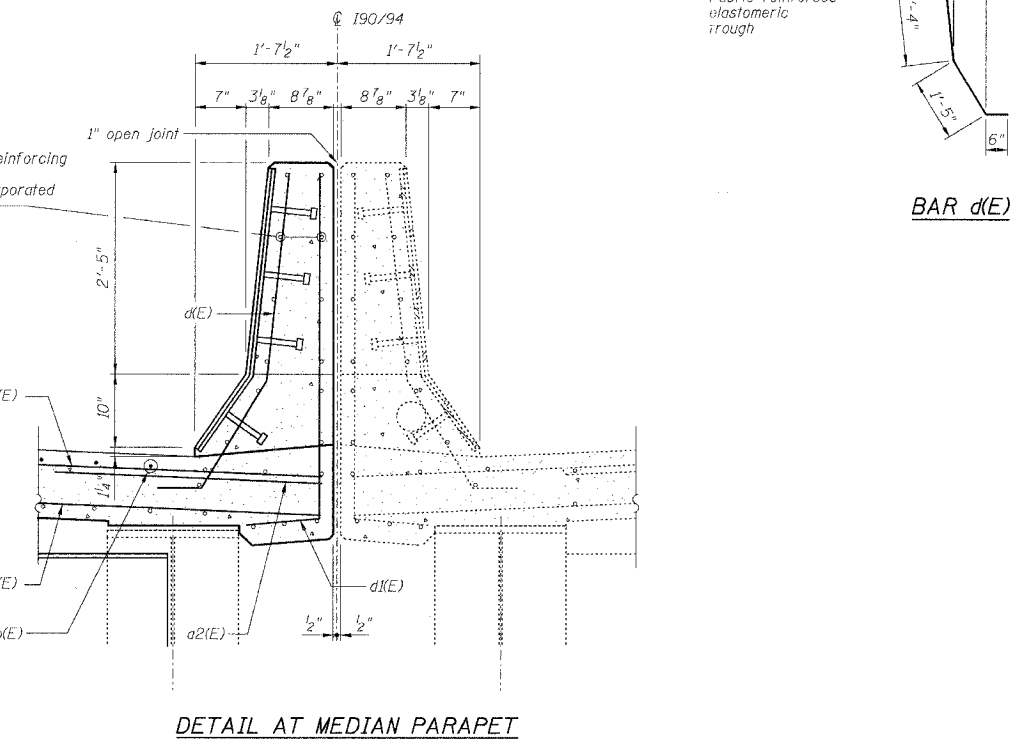
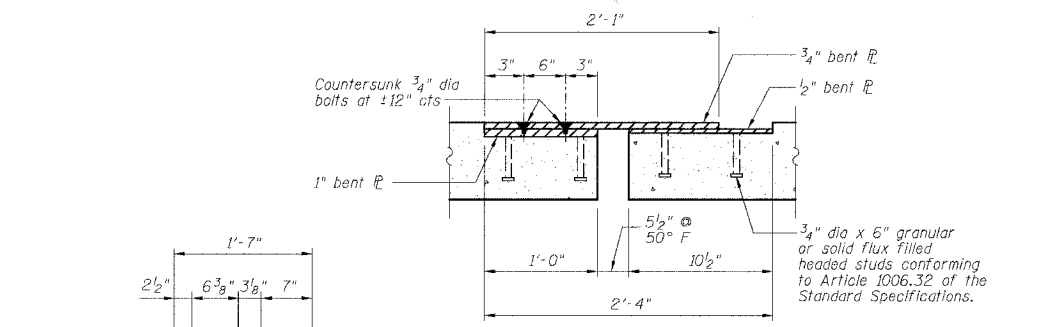
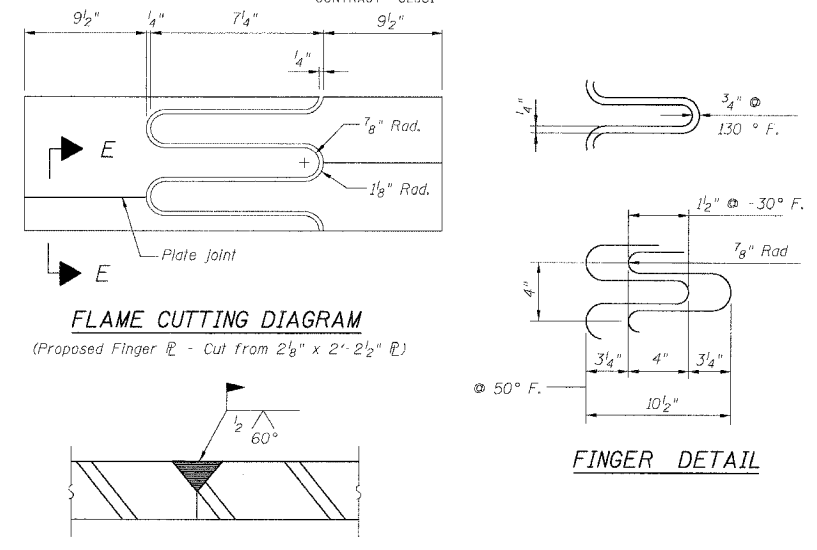
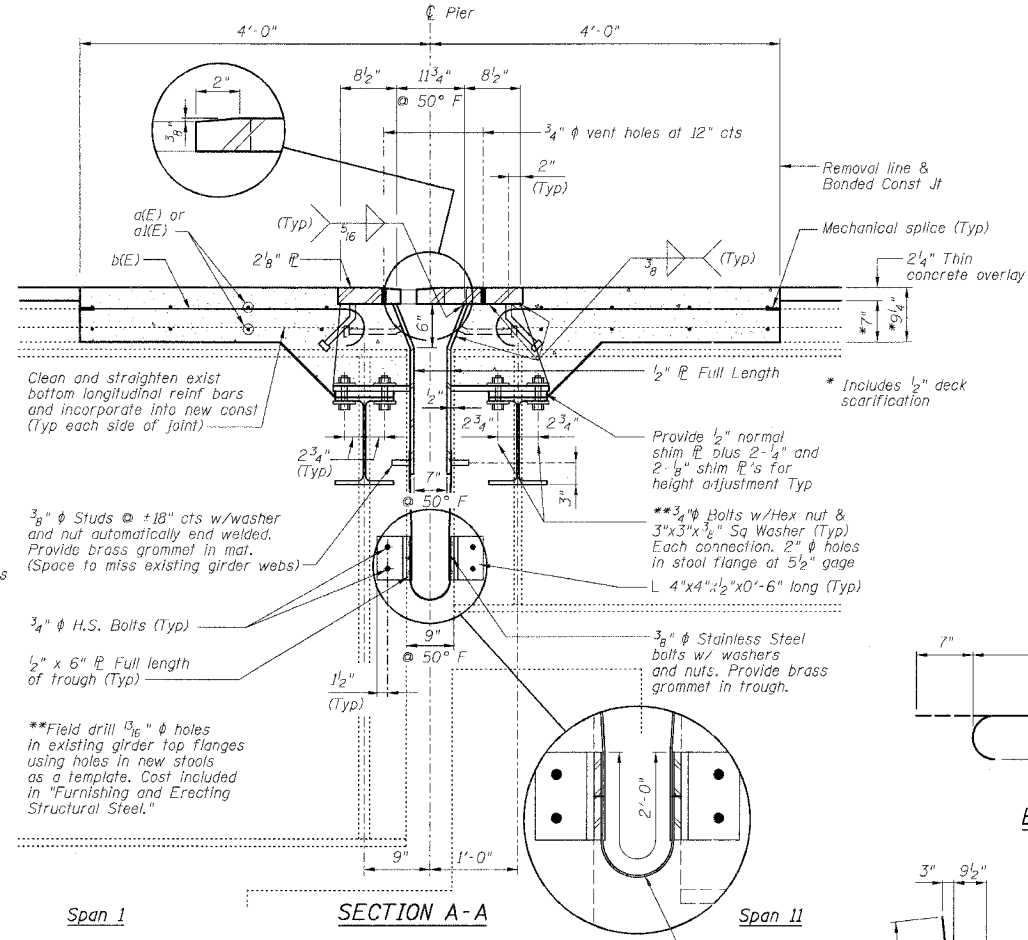
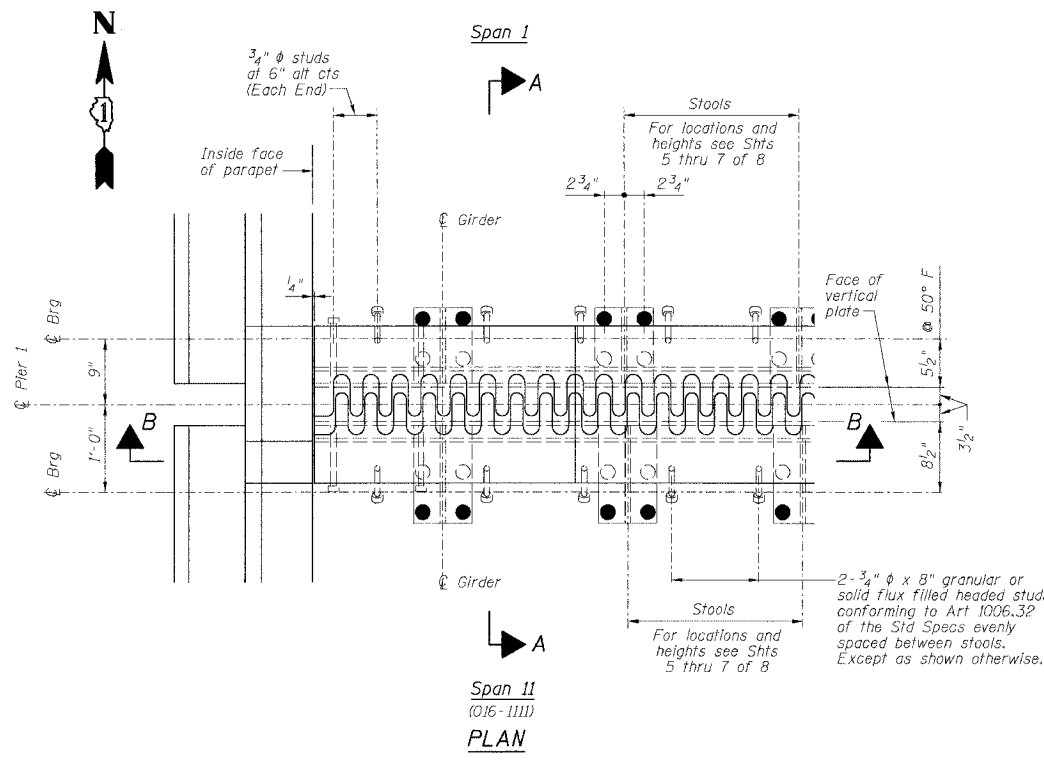
HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
4800 W. BEYER MAWR AVENUE
SUITE 304
CHICAGO, ILLINOIS 60631
312-714-4090
FAX 312-714-0088

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

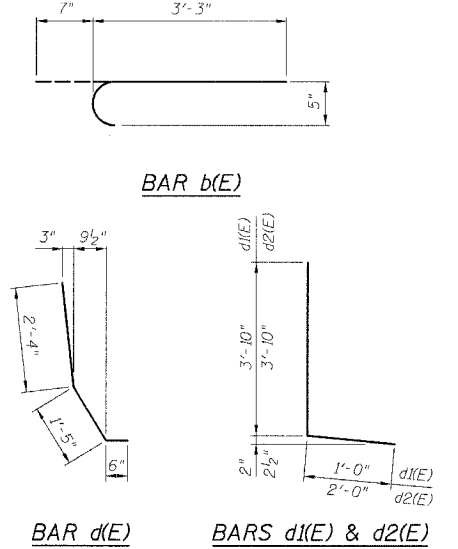
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FAI 90/94	*	COOK	344	223
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Sheet No 4
of 8 Sheets

2003-029
CONTRACT #62581



SECTION E-E



BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	24	#5	33'-7"	—	
a1(E)	24	#5	31'-10"	—	
a2(E)	16	#6	4'-6"	—	
b(E)	130	#5	3'-10"	—	
d(E)	16	#5	4'-3"	L	
d1(E)	8	#5	4'-10"	L	
d2(E)	8	#5	5'-10"	L	
Reinforcement Bars, Epoxy Coated				Pound	2430
Concrete Removal				Cu Yd	17.3
Concrete Superstructure				Cu Yd	19.1
Mechanical Splice				Each	130
Bar Splicers				Each	24

Reinforcing bars designated (E) shall be epoxy coated.

- NOTES**
- The Contractor shall bolt the Stools of the Fingerplate Joint Assembly to the top of New End diaphragms and to the top of the existing girders, as shown in Section A-A of this drawing.
 - Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
 - The furnishing and installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing and Erecting Structural Steel".
 - Expansion Length = 403.6'

PIER NO. 1

FINGER PLATE EXPANSION JOINT DETAILS

REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	DRAWN BY DATE RLK 5/03
NO. DATE INITIALS	FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1110 (SOUTHBOUND)	CHECKED BY DATE SDS 5/03
1	SEC 2003-029 I COOK COUNTY	BOOK NUMBER
2		PROJECT NO. 4222-3
3		SHEET NO.
4		
5		
6		
7		
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10		

CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS

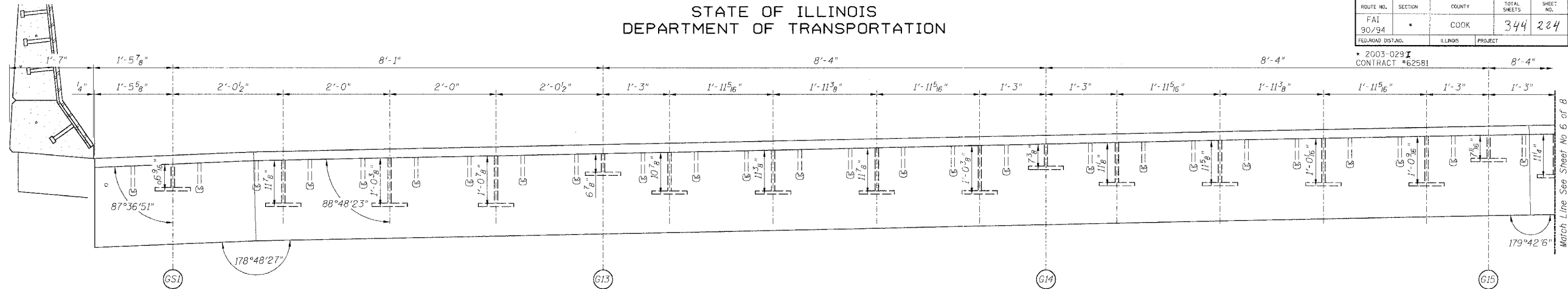
8609 W. BRYAN MAJOR AVENUE
SUITE 304
CHICAGO, ILLINOIS 60631
312-714-0000
FAX 312-714-0058

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

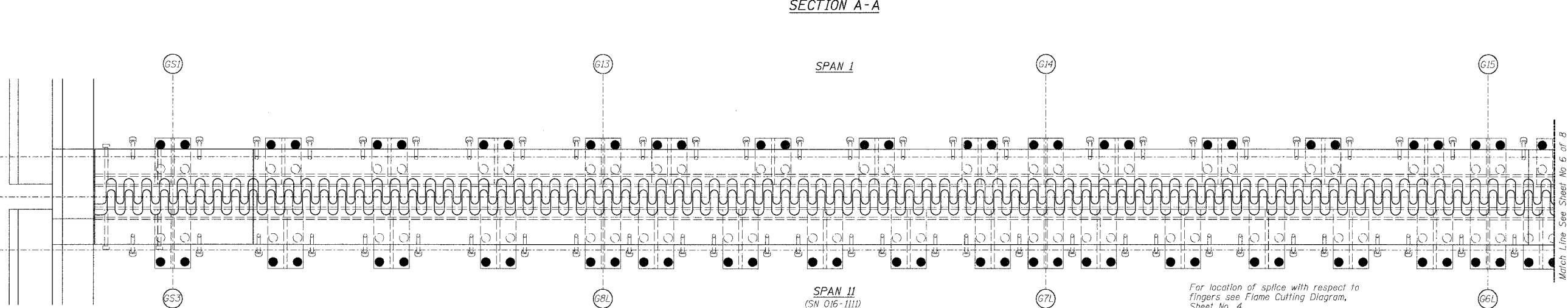
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90/94	*	COOK	344	224
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

Sheet No 5
of 8 Sheets

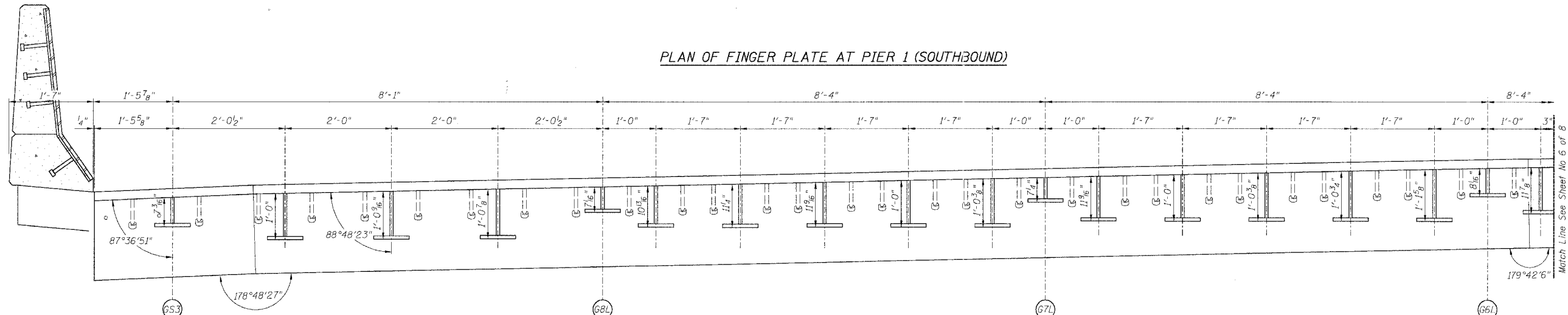
* 2003-029 I
CONTRACT #62581



SECTION A-A



PLAN OF FINGER PLATE AT PIER 1 (SOUTHBOUND)



SECTION B-B

Note:
For optional splice detail see
flame cutting diagram on Sheet No. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY DATE
1		FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	RLK 5/03
2		SN 016-1110 (SOUTHBOUND)		CHECKED BY DATE
3		SEC 2003-029 I	COOK COUNTY	SDS 5/03
4				BOOK NUMBER
5				PROJECT NO.
6				4222-3
7				SHEET NO.
8				
9				
10				

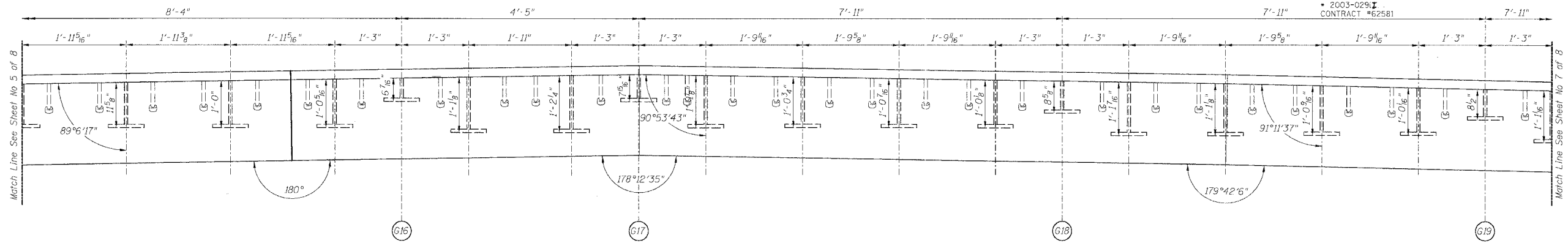
CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
4650 W. BRYAN AVE. SUITE 304
CHICAGO, ILLINOIS 60641
TEL: 773-466-0660 FAX: 773-466-0660

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

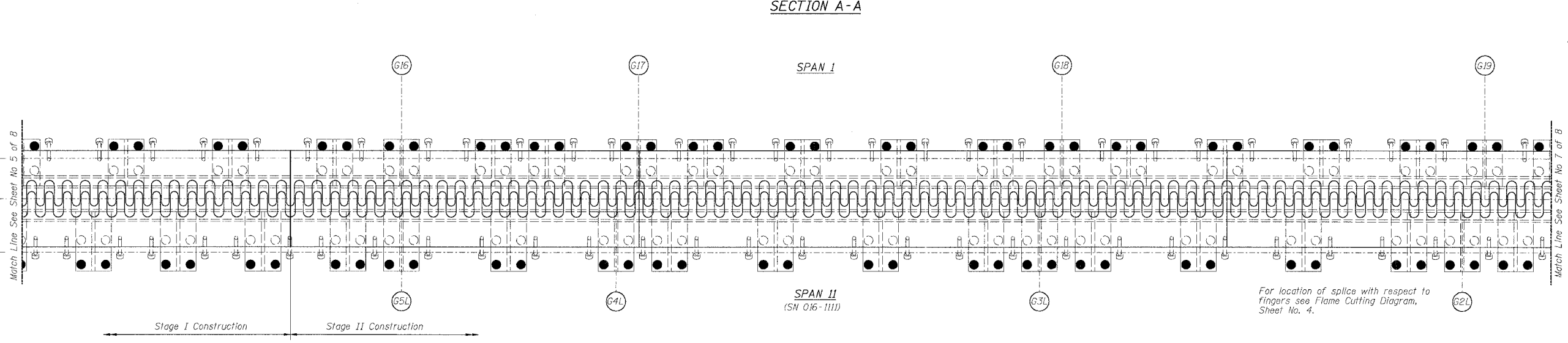
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90/94	*	COOK	344	225
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

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of 8 Sheets

2003-029 I
CONTRACT #62581

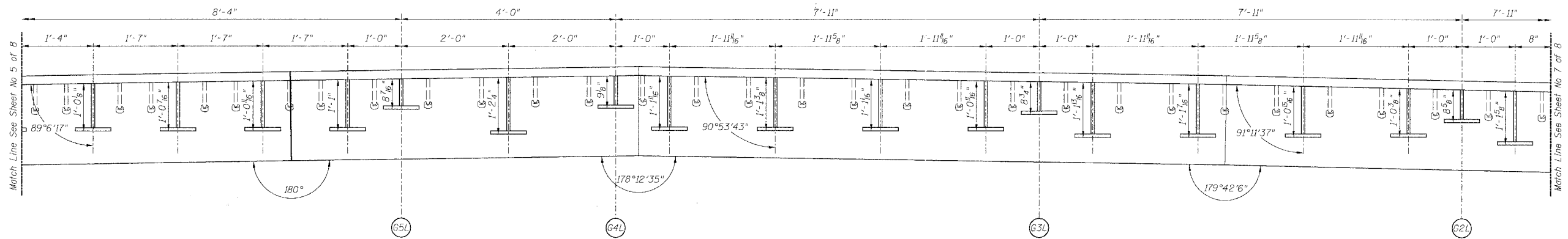


SECTION A-A



SPAN I
(SN 016-1111)

PLAN OF FINGER PLATE AT PIER 1 (SOUTHBOUND)



SECTION B-B

PIER NO. 1

FINGER PLATE PLAN AND ELEVATION DETAILS

Note:
For optional splice detail see
flame cutting diagram on Sheet No. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK	DATE 5/03
No.	DATE	INITIALS		CHECKED BY SDS	DATE 5/03
1					
2					
3					
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9					
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FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	PROJECT NO.	4222-3
SEC 2003-029 I	SN 016-1110 (SOUTHBOUND)	BOOK NUMBER	
	COOK COUNTY	SHEET NO.	

HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS	8600 W. BROWN MAJOR AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-714-0550 FAX 312-714-0068
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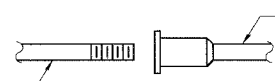
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	344	227
FEDERAL DISTRICT		ILLINOIS	PROJECT	

2003-029 I
CONTRACT #62581

Sheet No 8
of 8 Sheets

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

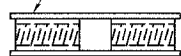


ROLLED THREAD DOWEL BAR



** ONE PIECE

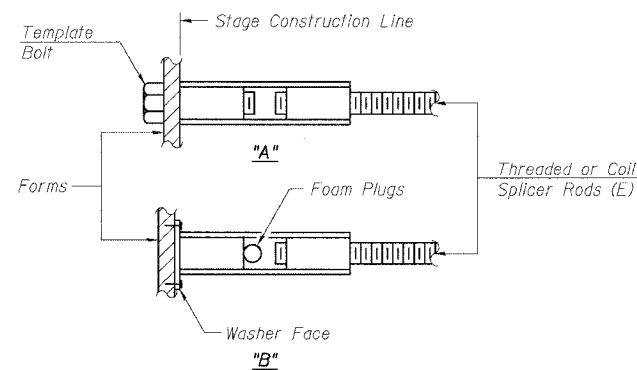
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

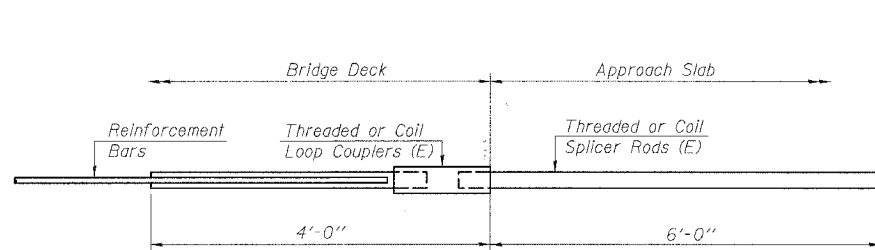
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

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

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

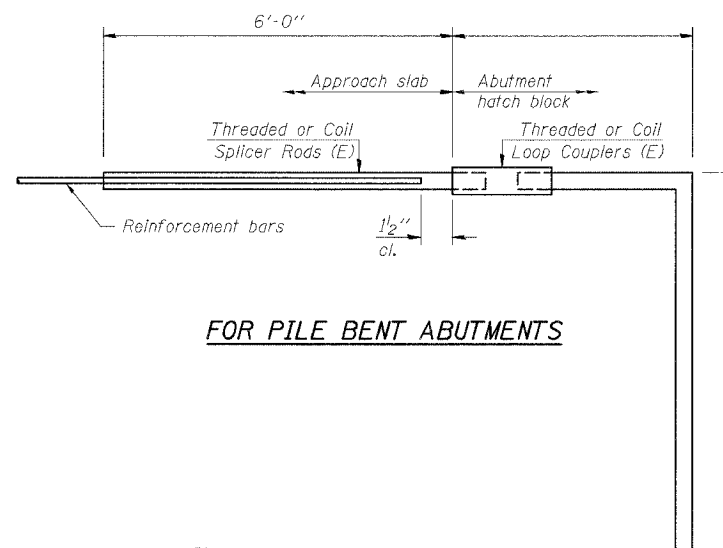
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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



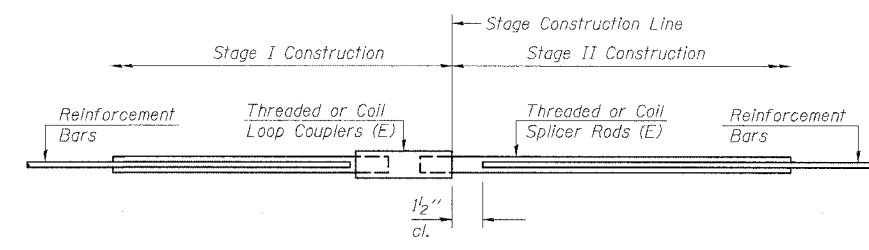
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	At Stage Construction Line in Deck

PIER NO. 1

BAR SPLICER ASSEMBLY DETAILS

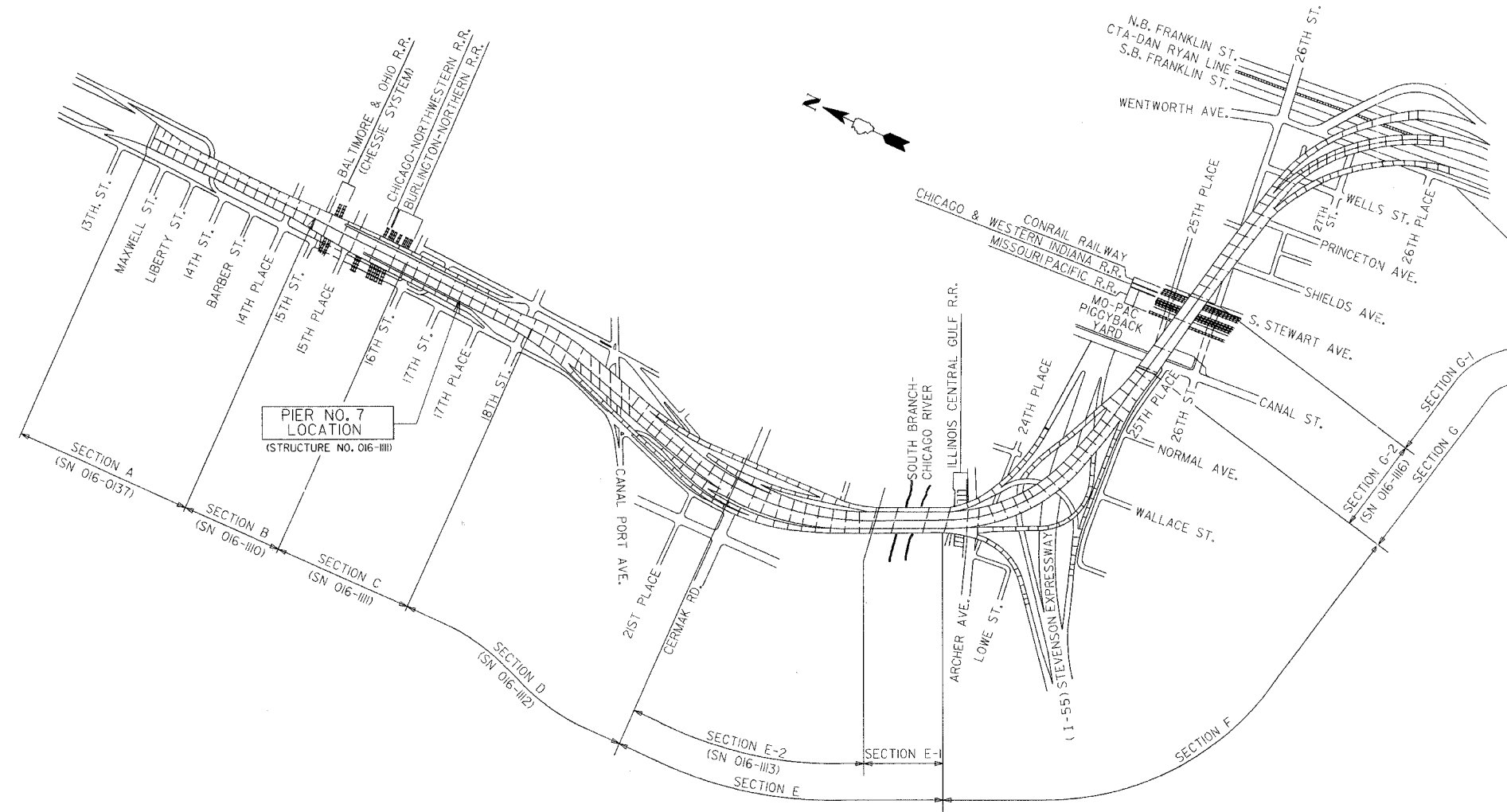
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1		CHECKED BY DATE SDS 5/03
2		BOOK NUMBER
3	FAI RTE 90/94 SB DAN RYAN EXPRESSWAY	PROJECT NO.
4	SN 016-1110 (SOUTHBOUND)	4222-3
5	SEC 2003-029 I COOK COUNTY	SHEET NO.
6		
7		
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	228
FEDROAD DIST. NO.		ILLINOIS PROJECT		

Sheet No 1
of 8 Sheets

• 2003-0291
CONTRACT #62581



PIER NO. 7
LOCATION
(STRUCTURE NO. 016-1111)

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

Thomas E. Etkin
5-18-06
11-30-06
CHIEF ENGINEER
STATE OF ILLINOIS
THOMAS E. ETKIN
4841
CHICAGO
STRUCTURAL

GENERAL NOTES

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 for the work.

The slab is to be removed in stages. Before starting the concrete removal, the Contractor is required to submit to the Engineer for approval his staging plans and method of removal.

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

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

Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".

The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications

Finger plate expansion joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

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

Fasteners shall be high strength bolts. Bolts 3/4" φ, open holes 13/16" φ unless otherwise noted.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

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

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

All Construction joints shall be bonded.

Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".

Existing design and fabrication plans are available upon request.

All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight of structural steel = 25,350 lbs.

DESIGN STRESSES

f'c = 3500 psi
fy = 60,000 psi (Reinf)
fy = 50,000 psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	17.1
Concrete Superstructure	Cu Yd	18.6
Furnishing and Erecting Structural Steel	LS	0.11
Reinforcement Bars, Epoxy Coated	Pound	2430
Fabric Reinforced Elastomeric Trough	Foot	64
Mechanical Splice	Each	130
Bar Splicer	Each	24
Field Measurements	L. Sum	0.11

PIER NO. 7

KEY PLAN

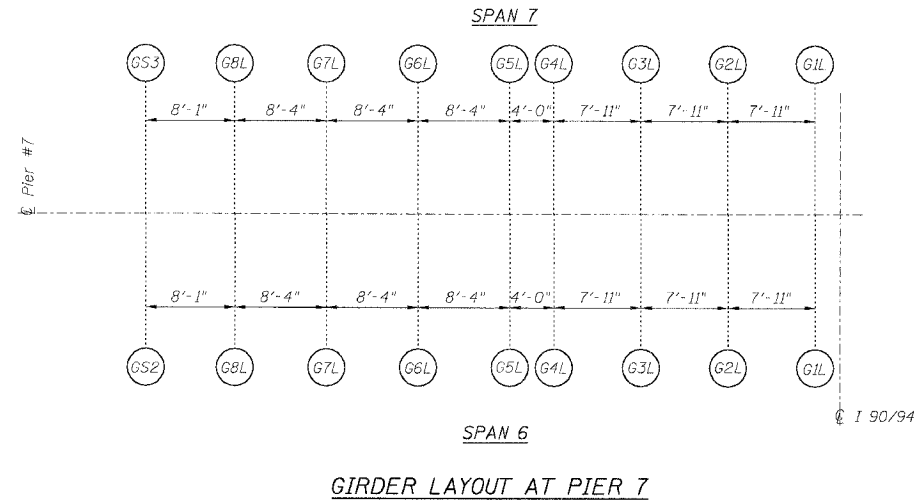
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NO.	DATE	INITIALS	FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1111 (SOUTHBOUND)	CHECKED BY DATE SDS 5/03
1			SEC 2003-0291	BOOK NUMBER
2			COOK COUNTY	PROJECT NO.
3				4222-3
4				SHEET NO.
5				
6				
7				
8				
9				
10				

CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
8000 W. BERTH MAWLE AVENUE
SUITE 204
CHICAGO, ILLINOIS 60631
812-774-0000
FAX 812-774-0005

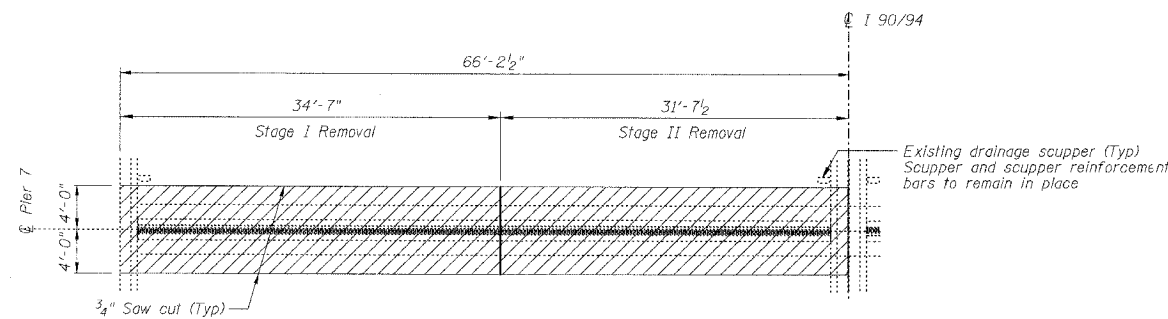
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	244	229
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
* 2003-0291 CONTRACT #62581				

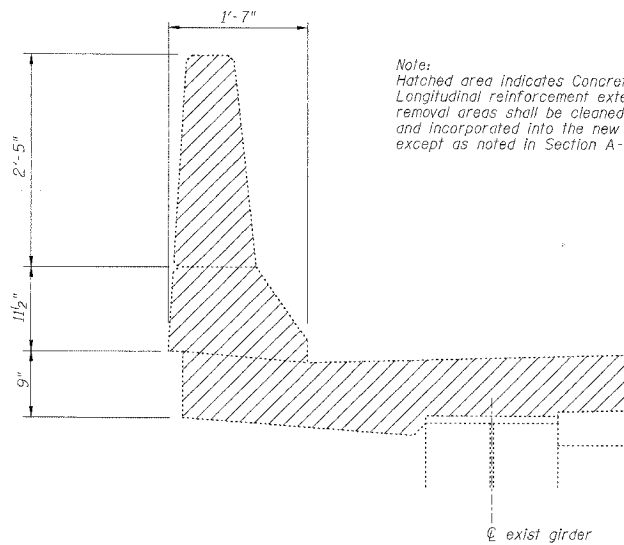
Sheet No 2
of 8 Sheets



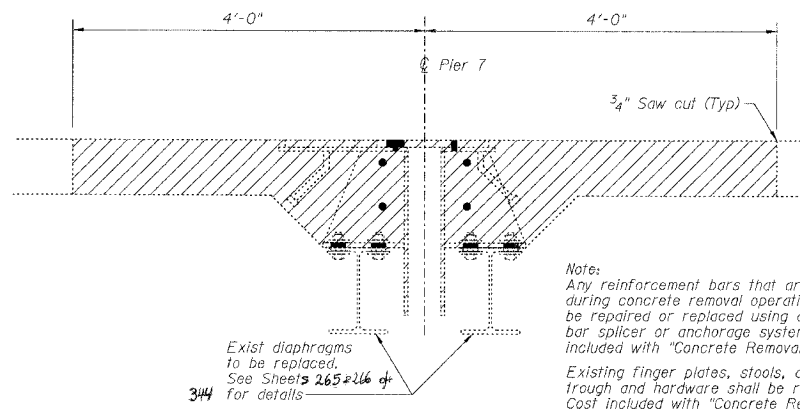
Note:
All dimensions on girder layout
are given along centerline of bearing.



Existing drainage scupper (Typ)
Scupper and scupper reinforcement
bars to remain in place

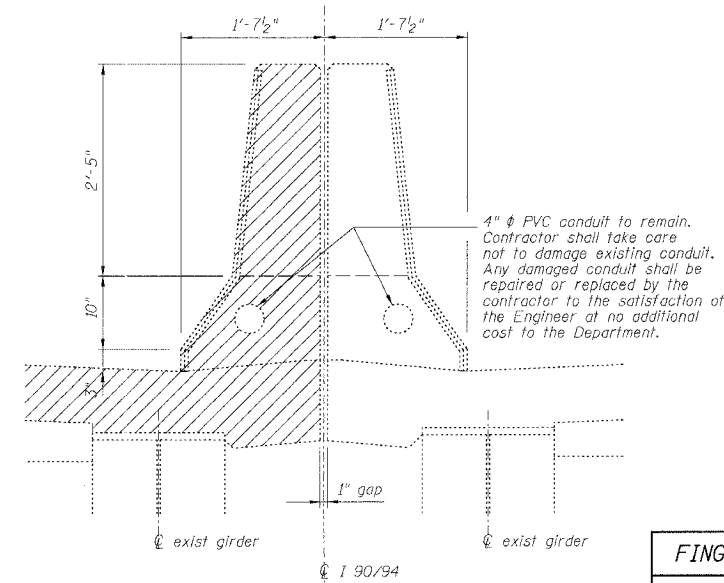


Note:
Hatched area indicates Concrete Removal.
Longitudinal reinforcement extending into
removal areas shall be cleaned, straightened
and incorporated into the new construction
except as noted in Section A-A on Sheet 4



Note:
Any reinforcement bars that are damaged
during concrete removal operations shall
be repaired or replaced using an approved
bar splicer or anchorage system. Cost
included with "Concrete Removal".
Existing finger plates, stools, drainage
trough and hardware shall be removed.
Cost included with "Concrete Removal".

Exist diaphragms
to be replaced.
See Sheets 265 & 216 of
344 for details



4" PVC conduit to remain.
Contractor shall take care
not to damage existing conduit.
Any damaged conduit shall be
repaired or replaced by the
contractor to the satisfaction of
the Engineer at no additional
cost to the Department.

PIER NO. 7

FINGER PLATE EXPANSION JOINT REMOVAL DETAILS

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DATE 5/03
NO.	DATE	INITIALS	DRWN BY RLK	CHECKED BY SDS
1				5/03
2				
3				
4				
5				
6				
7				
8				
9				
10				
FAI RTE 90/94 SB		DAN RYAN EXPRESSWAY		PROJECT NO. 4222-3
SEC 2003-0291		SN 016-1111 (SOUTHBOUND)		SHEET NO.
		COOK COUNTY		
		8600 W. BRYAN MAWRE AVENUE SUITE 204 CHICAGO, ILLINOIS 60611 312-731-0000 FAX 312-731-0058		

DETAIL AT EXISTING OUTSIDE PARAPET

SECTION AT EXISTING FINGER PLATE AT PIER 7

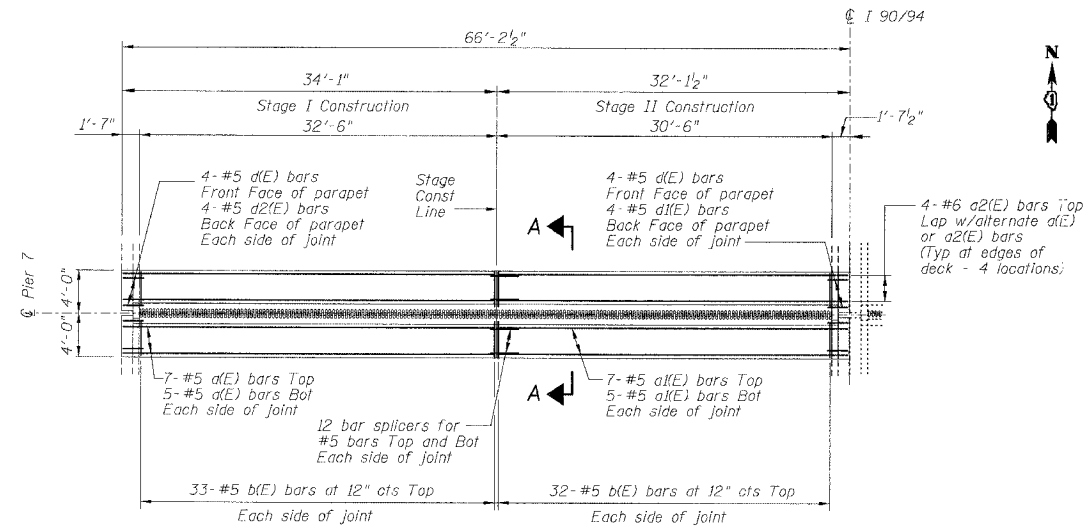
DETAIL AT EXISTING MEDIAN PARAPET

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAT 90/94		COOK	344	230
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

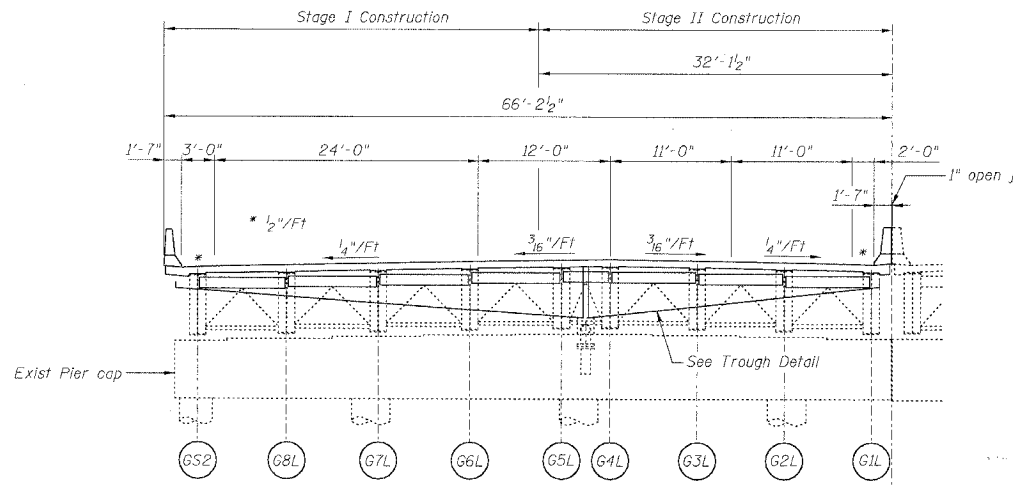
Sheet No 3
of 8 Sheets

2003-029 I
CONTRACT #62581

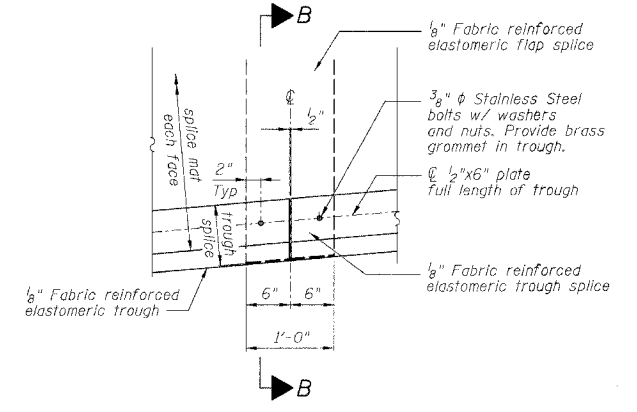


FINGER PLATE AT PIER 7 SOUTHBOUND
JOINT RECONSTRUCTION PLAN AT PIER 7

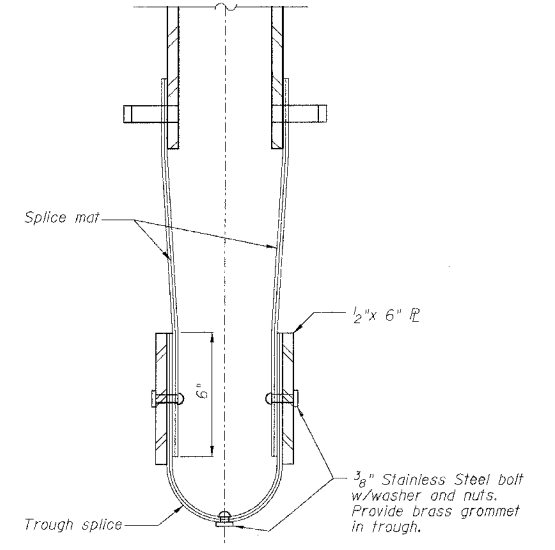
MIN BAR LAP
#5 bar = 1'-3"



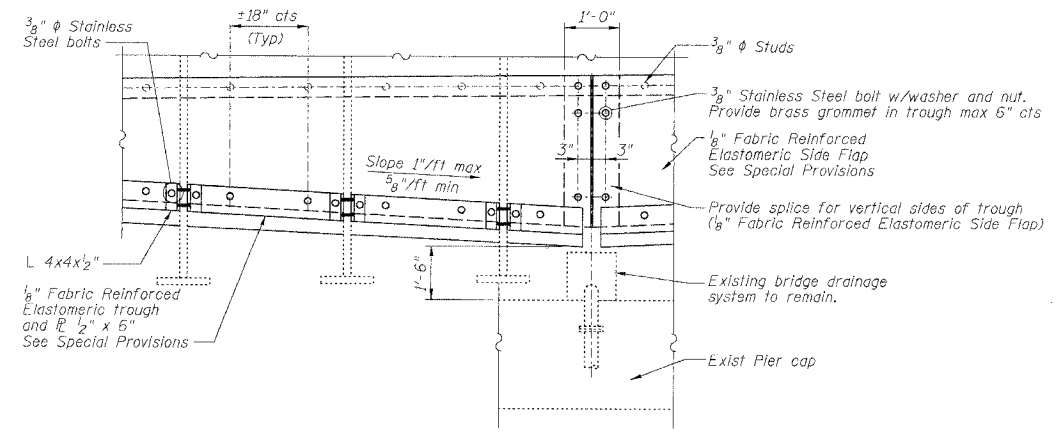
PIER 7 SOUTHBOUND
ELEVATION AT PIER 7 (LOOKING NORTH)



TROUGH SPLICE DETAIL



SECTION B-B



TROUGH DETAIL

NOTES
For Section A-A see Sheet 4 of 8.

PIER NO. 7
FINGER PLATE EXPANSION JOINT DETAILS

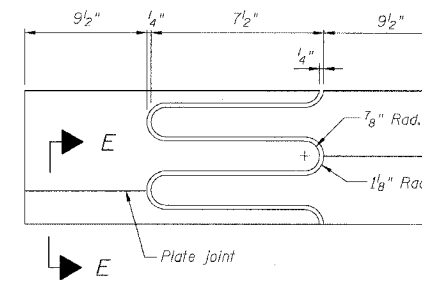
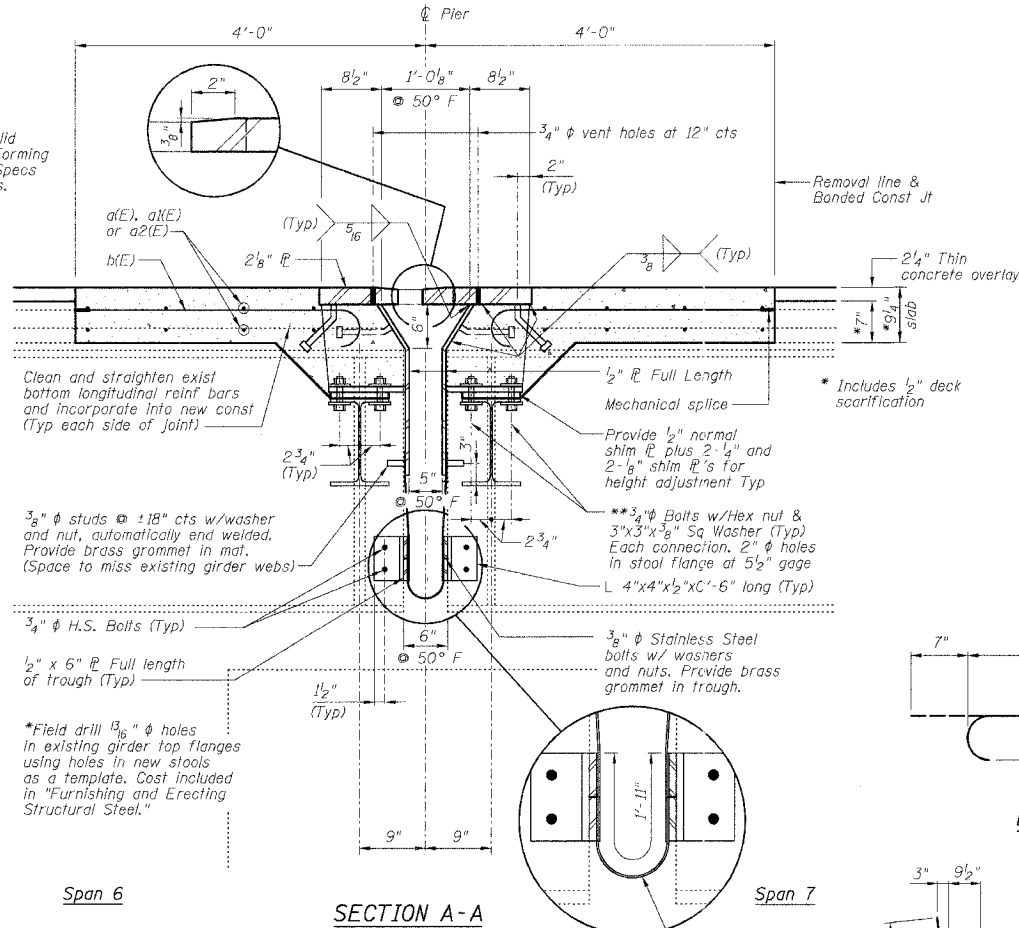
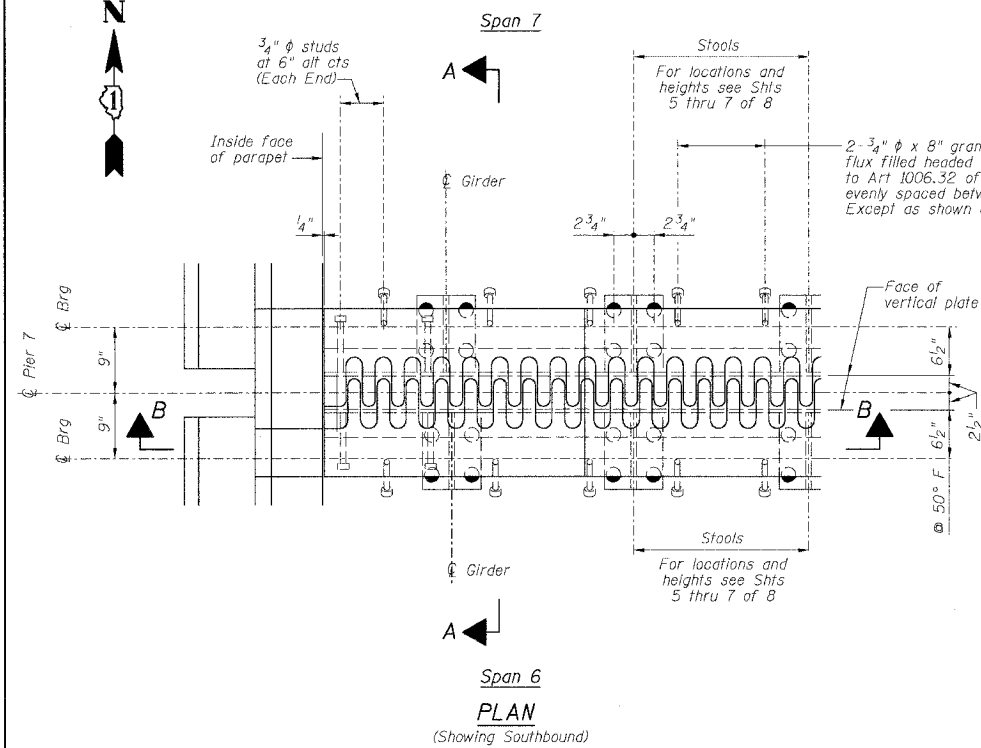
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FAT RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1111 (SOUTHBOUND)		CHECKED BY DATE SDS 5/03
SEC 2003-029 I COOK COUNTY		PROJECT NO. 4222-3
		SHEET NO.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

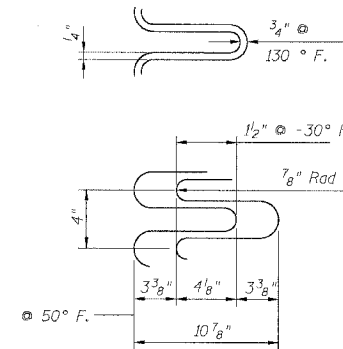
ROUTE NO. FAI 90/94	SECTION •	COUNTY COOK	TOTAL SHEETS 344	SHEET NO. 231
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Sheet No 4
of 8 Sheets

• 2003-029 L
CONTRACT #625B1

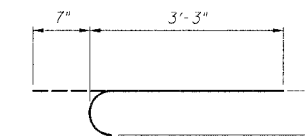


FLAME CUTTING DIAGRAM
(Proposed Finger Plate - Cut from 2 1/8" x 2 3/4" PL)

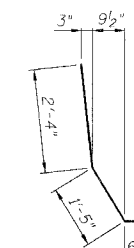


FINGER DETAIL

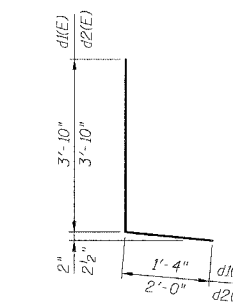
SECTION E-E



BAR b(E)



BAR d(E)



BARS d1(E) & d2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	24	#5	33'-7"	—
a1(E)	24	#5	31'-10"	—
a2(E)	16	#6	4'-6"	—
b(E)	130	#5	3'-10"	⌋
d(E)	16	#5	4'-3"	⌋
d1(E)	8	#5	5'-2"	⌋
d2(E)	8	#5	5'-10"	⌋
Reinforcement Bars, Epoxy Coated			Pound	2430
Concrete Removal			Cu Yd	17.1
Concrete Superstructure			Cu Yd	18.6
Bar Splicers			Each	24
Mechanical Splice			Each	130

Reinforcing bars designated (E) shall be epoxy coated.

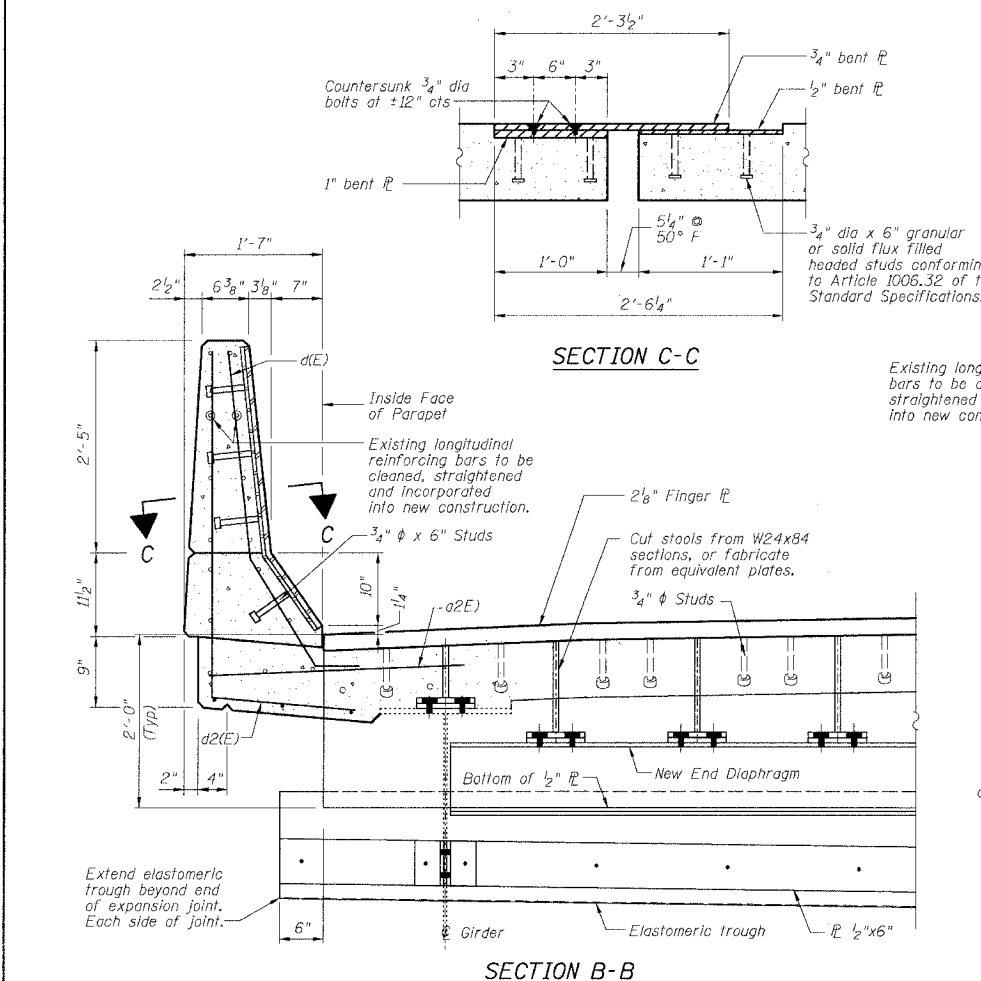
NOTES

- The Contractor shall bolt the Stools of the Fingerplate Joint Assembly to the top of New End Diaphragms and to the top of the existing girders, as shown in Section A-A of this drawing.
- Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
- The furnishing and installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing and Erecting Structural Steel".
- Expansion Length = 418.6'

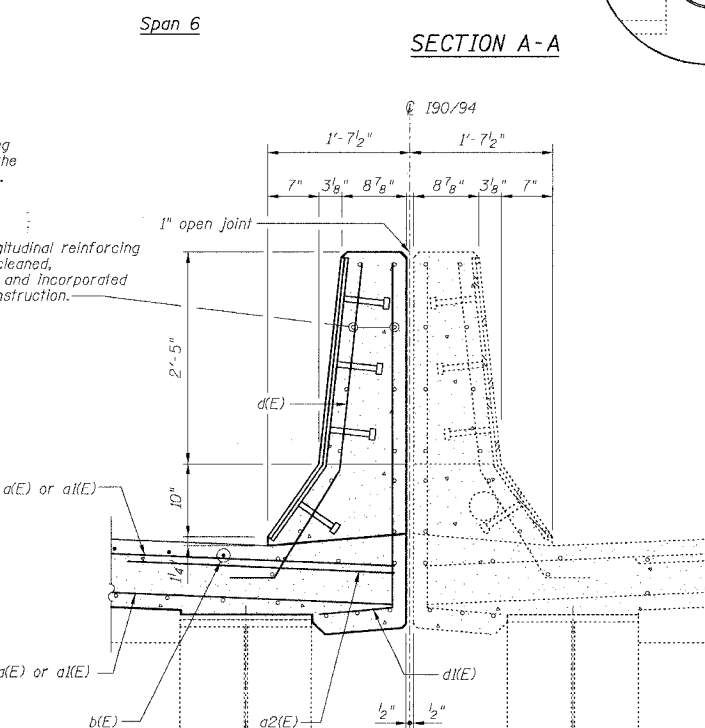
PIER NO. 7

FINGER PLATE EXPANSION JOINT DETAILS

<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INITIALS</th> </tr> </thead> <tbody> <tr><td>1</td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td></tr> </tbody> </table>	NO.	DATE	INITIALS	1			2			3			4			5			6			7			8			9			10			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SH 016-1111 (SOUTHBOUND) SEC 2003-029 L COOK COUNTY CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 8800 W. BRYEN MAJOR AVENUE SUITE 204 CHICAGO, ILLINOIS 60658 822-754-0500 FAX: 822-754-0565	DRAWN BY DATE RLK 5/03 CHECKED BY DATE SDS 5/03 BOOK NUMBER PROJECT NO. 4222-3 SHEET NO.
NO.	DATE	INITIALS																																	
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SECTION B-B



DETAIL AT MEDIAN PARAPET
(Looking North)

Existing longitudinal reinforcing bars to be cleaned, straightened and incorporated into new construction.

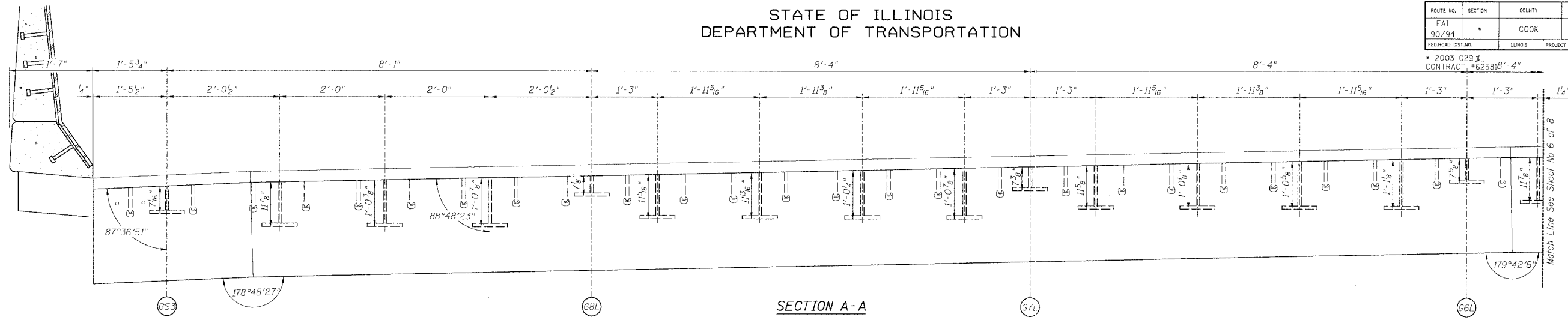
Extend elastomeric trough beyond end of expansion joint. Each side of joint.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

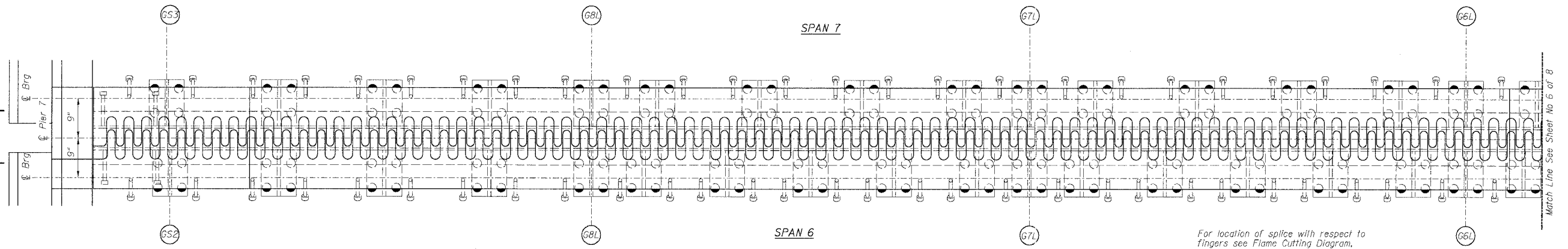
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FAI 90/94		COOK	344	232
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

Sheet No 5
of 8 Sheets

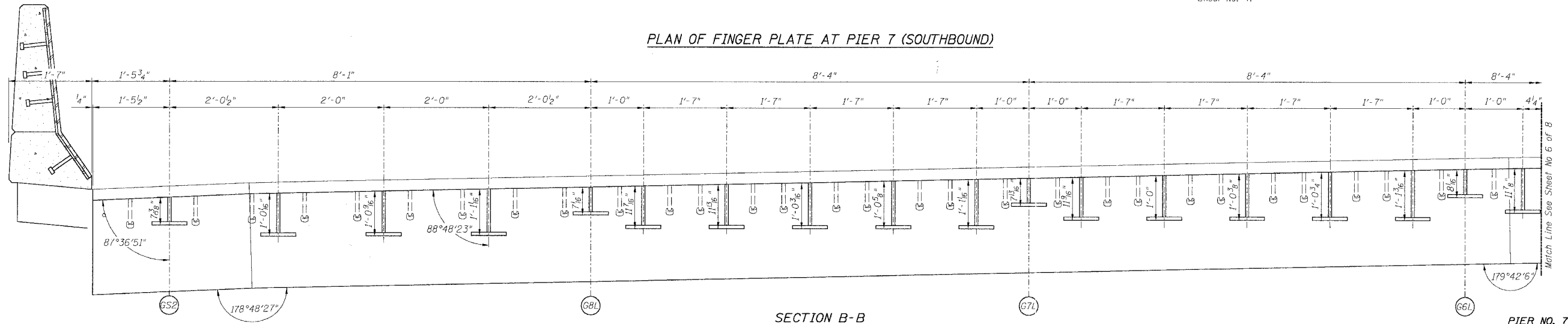
2003-029 I
CONTRACT # 625B1B'-4"



SECTION A-A



SPAN 7



SECTION B-B

PLAN OF FINGER PLATE AT PIER 7 (SOUTHBOUND)

For location of splice with respect to fingers see Flame Cutting Diagram, Sheet No. 4.

Note:
For optional splice detail see
Flame cutting diagram on Sheet No. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY DATE
1				RLK 5/03
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FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	PROJECT No.
SN 016-1111 (SOUTHBOUND)		4222-3
SEC 2003-029 I	COOK COUNTY	SHEET No.

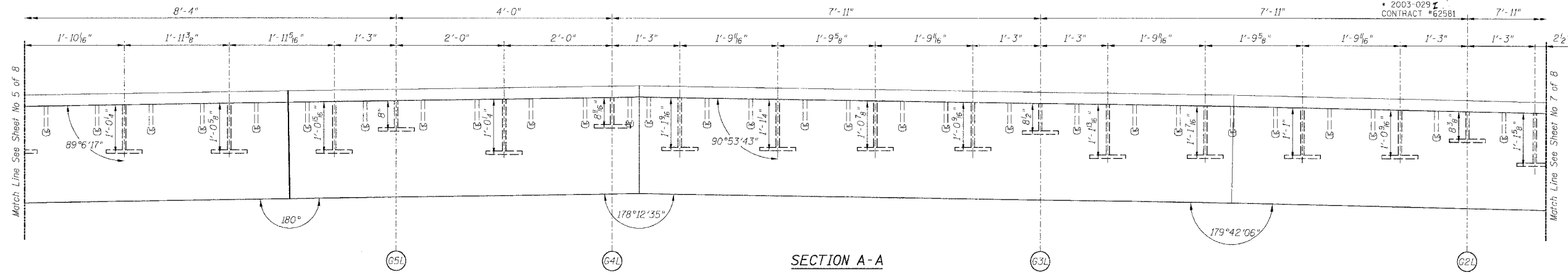
HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS	8800 W. BEVIS MAWR AVENUE SUITE 304 CHICAGO, ILLINOIS 60658 312-714-0050 FAX 312-714-0050
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

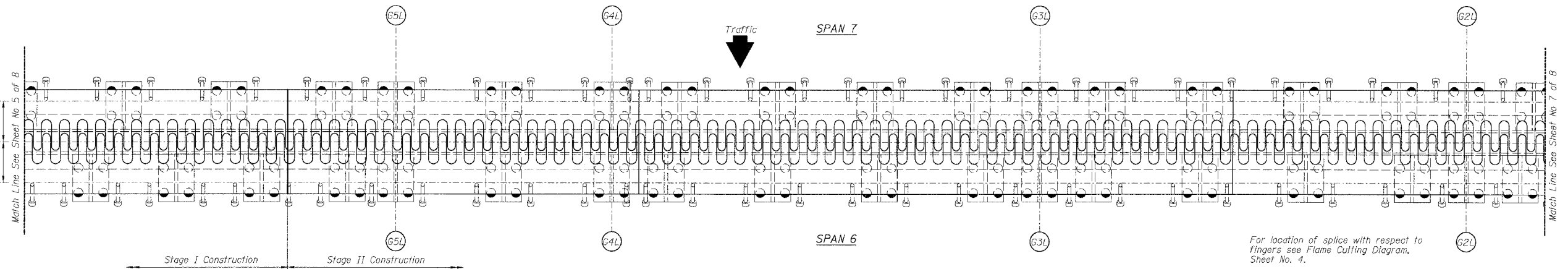
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90/94		COOK	344	233
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

Sheet No 6
of 8 Sheets

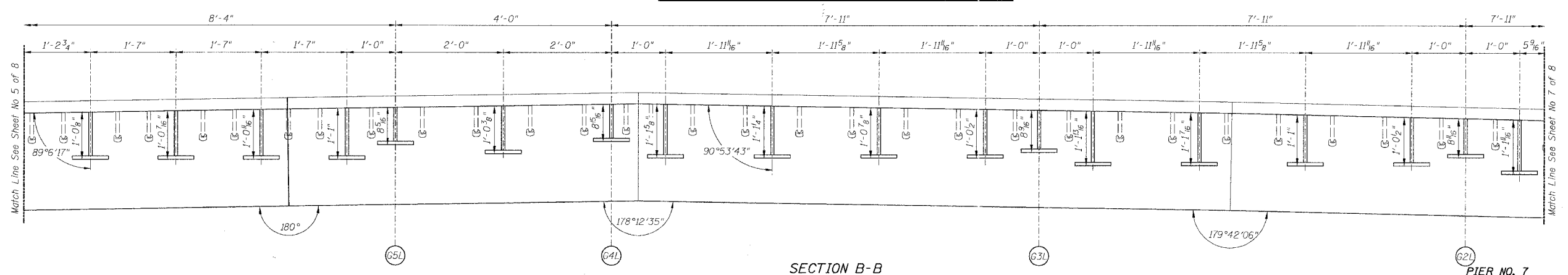
2003-029
CONTRACT #62581



SECTION A-A



PLAN OF FINGER PLATE AT PIER 7 (SOUTHBOUND)



SECTION B-B

For location of splice with respect to fingers see Flame Cutting Diagram, Sheet No. 4.

Note:
For optional splice detail see flame cutting diagram on Sheet No. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK	DATE 5/03
1		FAI RTE 90/94 SB	DAN RYAN EXPRESSWAY	CHECKED BY SDS	DATE 5/03
2		SN 016-1111 (SOUTHBOUND)		BOOK NUMBER	
3		SEC 2003-029.I	COOK COUNTY	PROJECT No.	4222-3
4				SHEET No.	

CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS

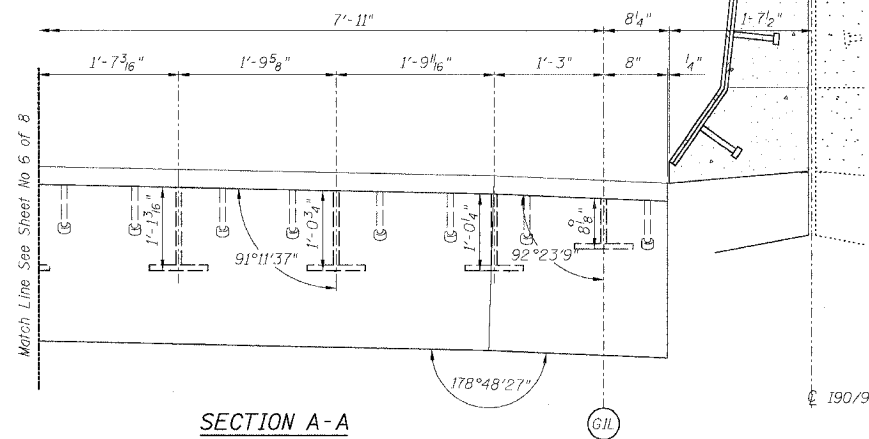
8800 W. BRYN MAWR AVENUE
SUITE 204
CHICAGO, ILLINOIS 60611
312-734-0090
FAX 312-734-0088

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

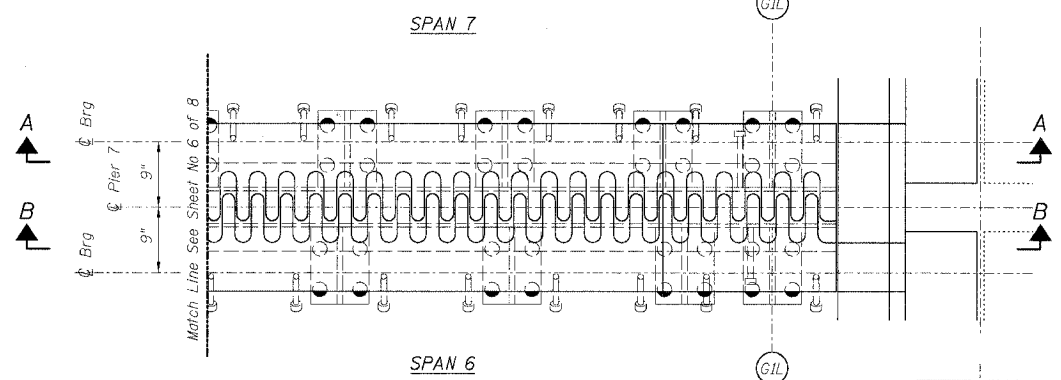
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FAI 90/94	*	COOK	344	234
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Sheet No 7
of 8 Sheets

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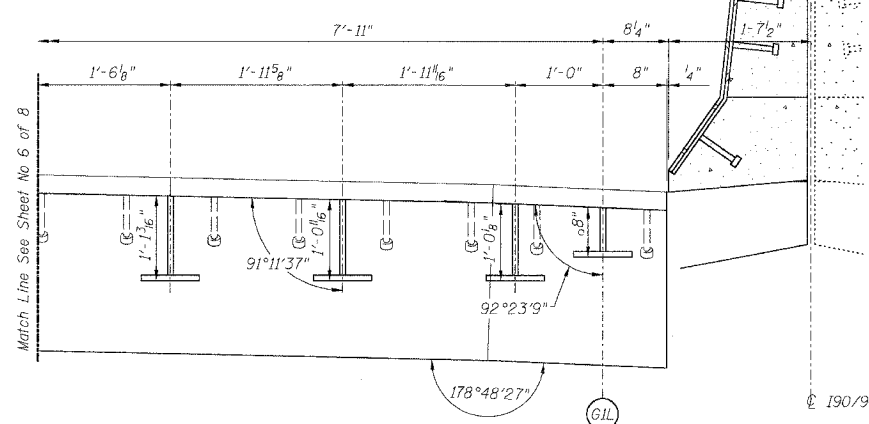
SECTION A-A



SPAN 7

SPAN 6

PLAN OF FINGER PLATE AT PIER 7 (SOUTHBOUND)



SECTION B-B

For location of splice with respect to fingers see Flame Cutting Diagram, Sheet No. 4.

Note:
For optional splice detail see flame cutting diagram on Sheet No. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK	DATE 5/03
1				CHECKED BY SDS	DATE 5/03
2				BOOK NUMBER	
3		FAI RTE 90/94 SB DAN RYAN EXPRESSWAY		PROJECT No.	
4		SN 016-1111 (SOUTHBOUND)		4222-3	
5		SEC 2003-029-I COOK COUNTY		SHEET No.	
6					
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	344	235
FEDERAL DISTRICT	ILLINOIS	PROJECT		

Sheet No 8
of 8 Sheets

2003-029
CONTRACT #625B1

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

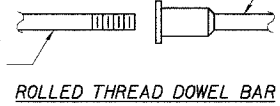
- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{sallow} \times A_t$
(Tension in kips)

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

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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

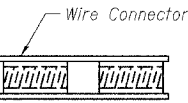
The diameter of this part is the same as the diameter of the bar spliced.



ROLLED THREAD DOWEL BAR



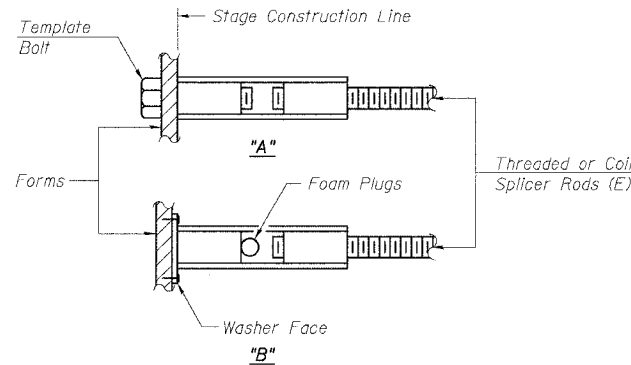
** ONE PIECE



WELDED SECTIONS

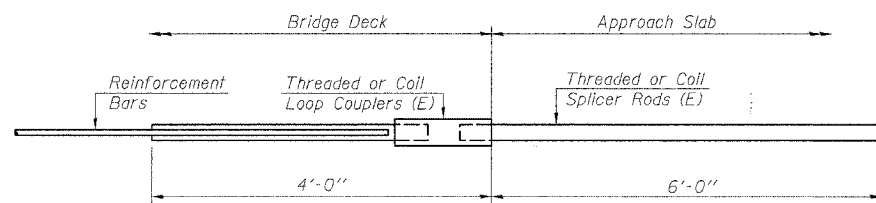
BAR SPLICER ASSEMBLY ALTERNATIVES

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



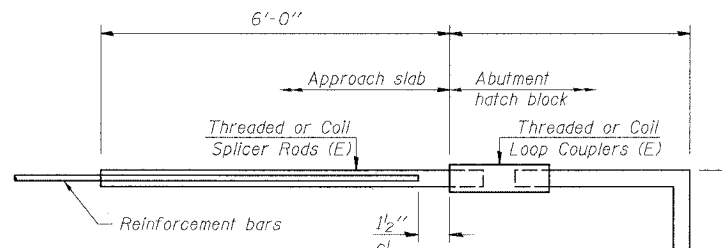
INSTALLATION AND SETTING METHODS

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



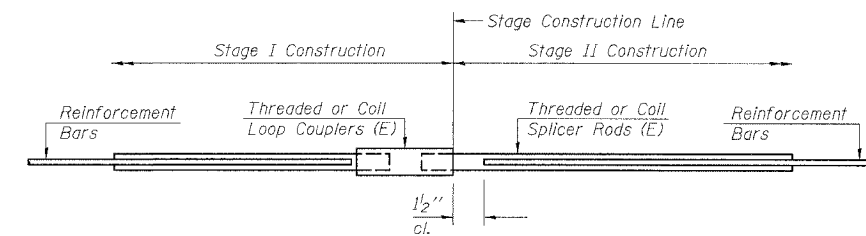
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	At Stage Construction Line in Deck

PIER NO. 7

BAR SPLICER ASSEMBLY DETAILS

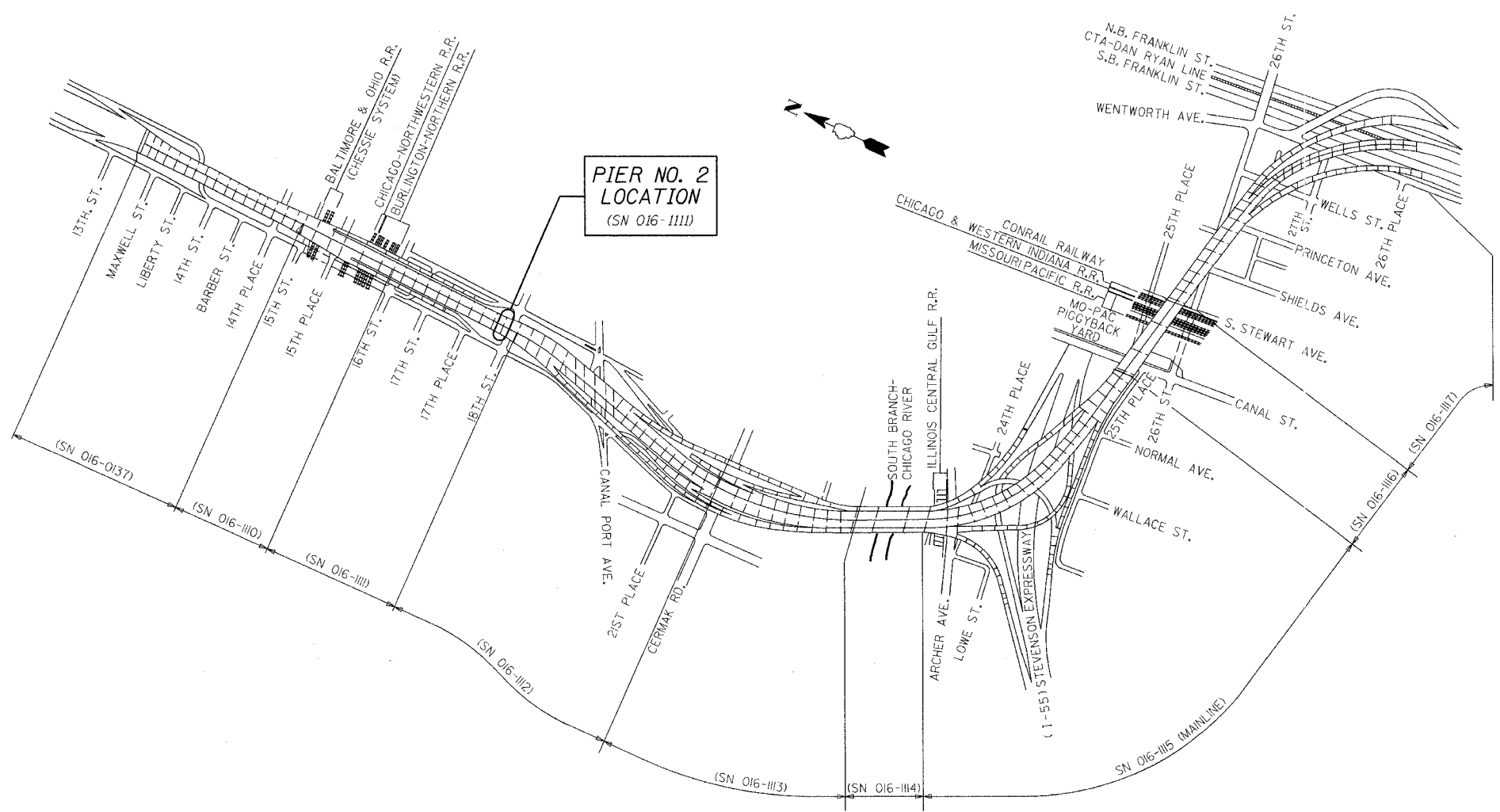
REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	DRAWN BY DATE RLK 5/03
1	FAI RTE 90/94 SB DAN RYAN EXPRESSWAY SN 016-1111 (SOUTHBOUND)	CHECKED BY DATE SDS 5/03
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	236
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO. 1
8 SHEETS

* 2003-0294
Contract #62581



PIER NO. 2
LOCATION
(SN 016-1111)

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

DESIGN STRESSES

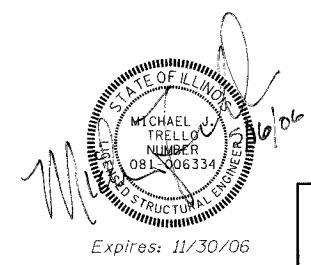
$f'c = 3500$ psi
 $f_y = 60,000$ psi (Reinf)
 $f_y = 50,000$ psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	14.1
Concrete Superstructure	Cu Yd	16.7
Furnishing and Erecting Structural Steel	L.S.	0.41
Reinforcement Bars, Epoxy Coated	Found	2410
Fabric Reinforced Elastomeric Trough	Foot	64
Mechanical Splice	Each	128
Bar Splicers	Each	24
Field Measurements	L. Sum	0.41

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.
Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
Field welding of construction accessories will not be permitted to beams or girders.
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 for the work.
Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
All Construction joints shall be bonded.
Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing and Erecting Structural Steel".
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.
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1. Cost included with "Furnishing and Erecting Structural Steel".
Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.
Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".
Existing design and fabrication plans are available upon request.
All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight of structural steel = 25,590 lbs.



ILLINOIS DEPARTMENT OF TRANSPORTATION
KEY PLAN
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

REVISIONS	
NAME	DATE

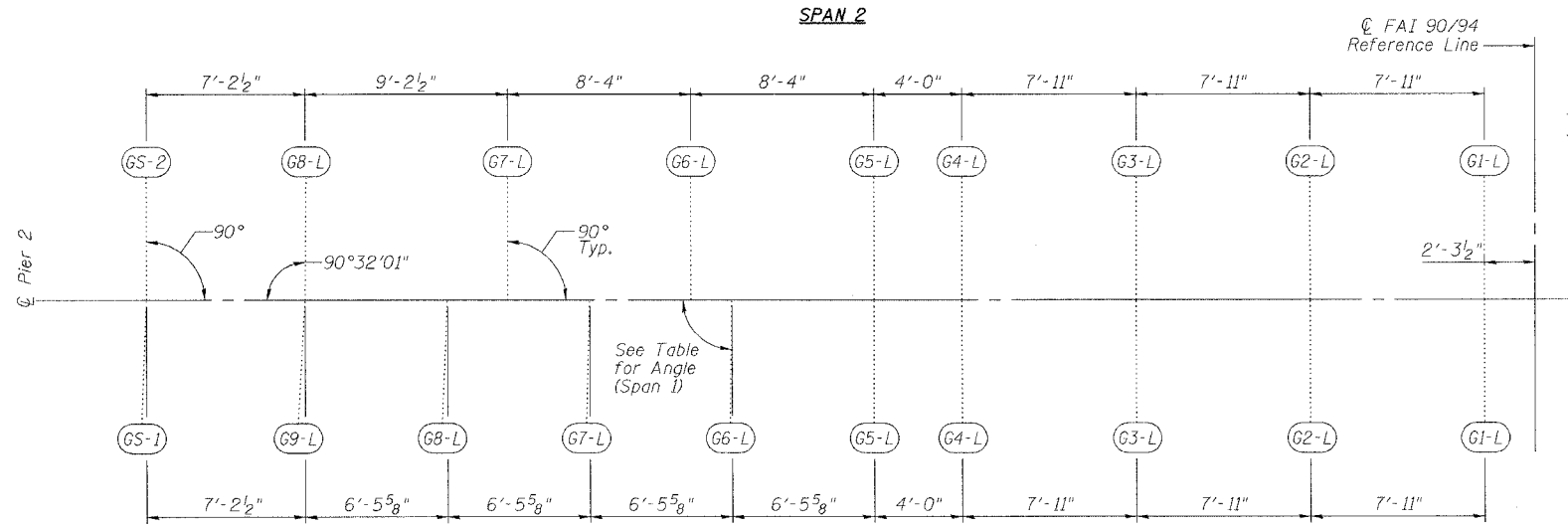
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HORIZ.
DATE: 7/19/05
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DESIGNED BY: SANFORD
CHECKED BY: MATHUR
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04286-W05-SB-KEY
PROJECT 04286-W05
5/16/06-MML

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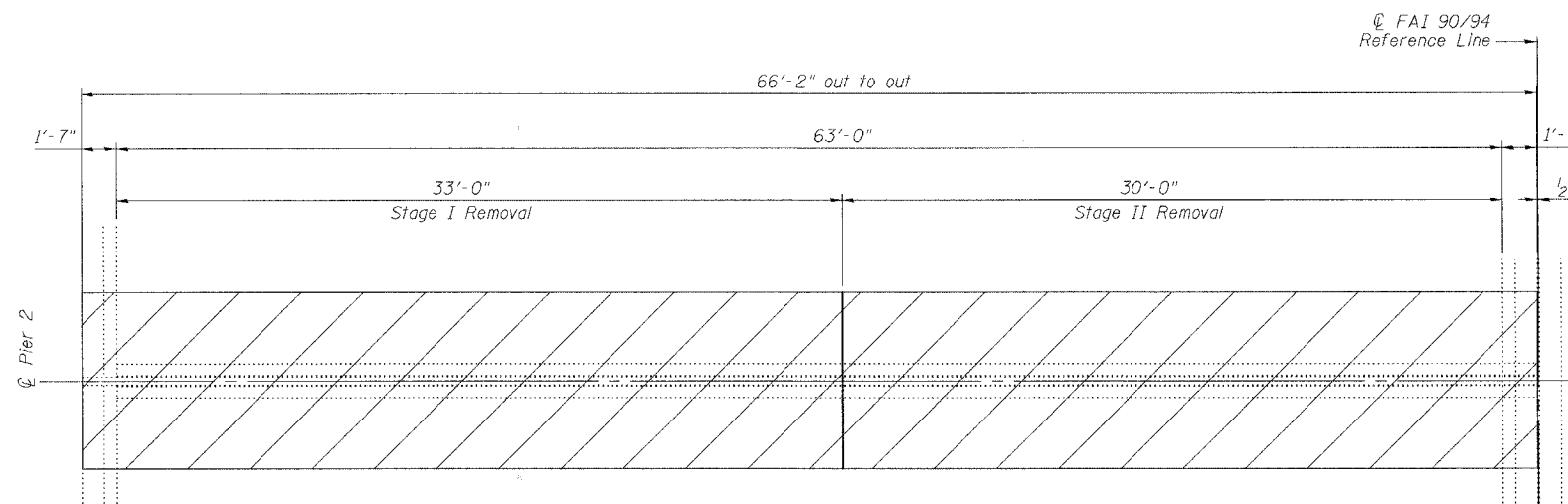
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 8 SHEETS
FAI 90/94	*	COOK	344	237	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			
* 2003-0291 Contract #62581					

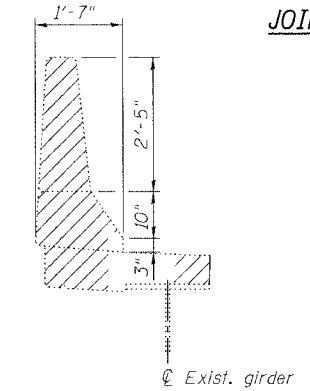
Girder	Angle
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G2-L	90°00'00"
G3-L	90°00'00"
G4-L	90°00'00"
G5-L	90°00'00"
G6-L	89°10'18"
G7-L	88°20'36"
G8-L	87°30'58"
G9-L	86°41'23"
GS-1	87°44'23"



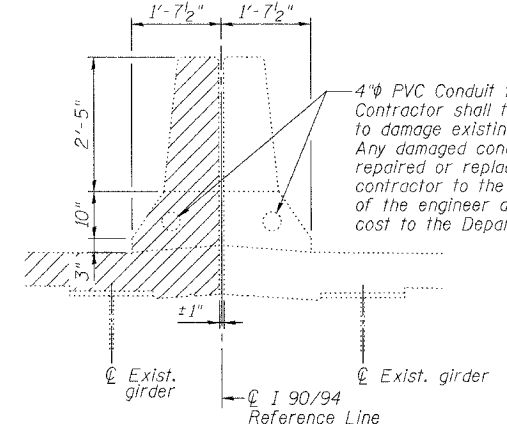
GIRDER LAYOUT AT PIER 2



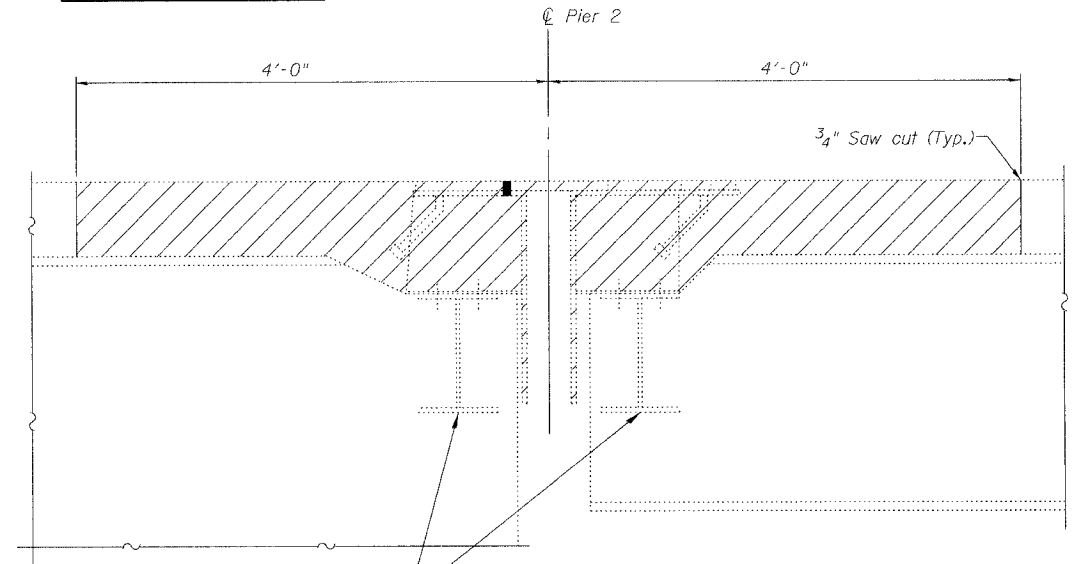
JOINT REMOVAL PLAN AT PIER 2



DETAIL AT EXISTING OUTSIDE PARAPET



DETAIL AT EXISTING FAI 90/94 MEDIAN PARAPET



SECTION AT EXISTING FINGER PLATE

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

Existing finger plates, stools, drainage trough and hardware shall be removed. Cost included with "Concrete Removal".

Notes:
Hatched Area indicates "Concrete Removal".
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 5.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE EXPANSION JOINT REMOVAL DETAILS

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 7/19/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

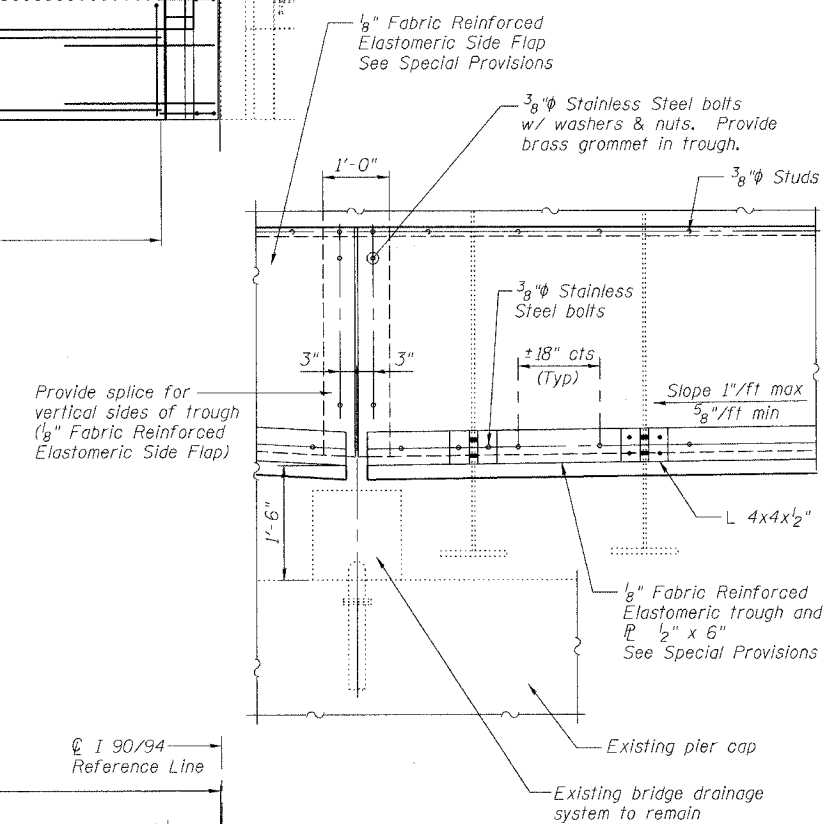
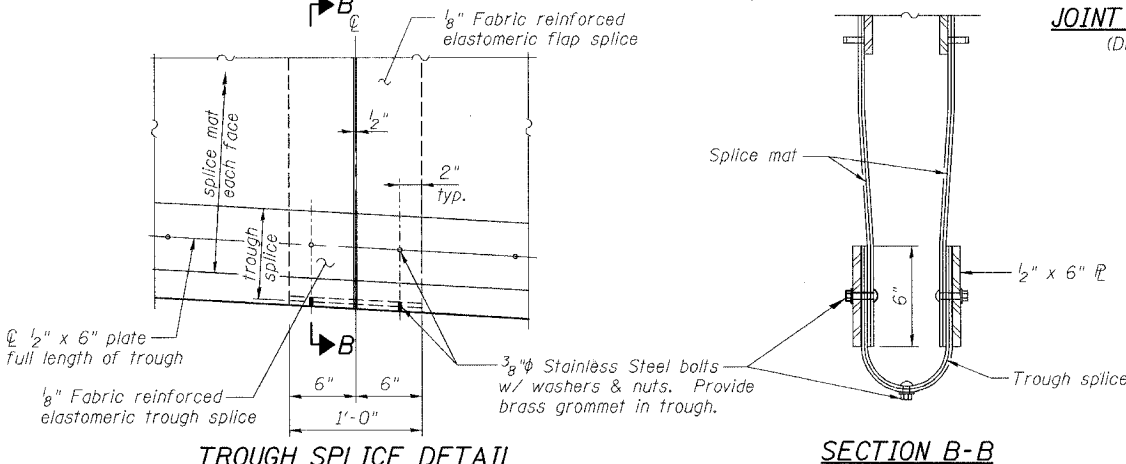
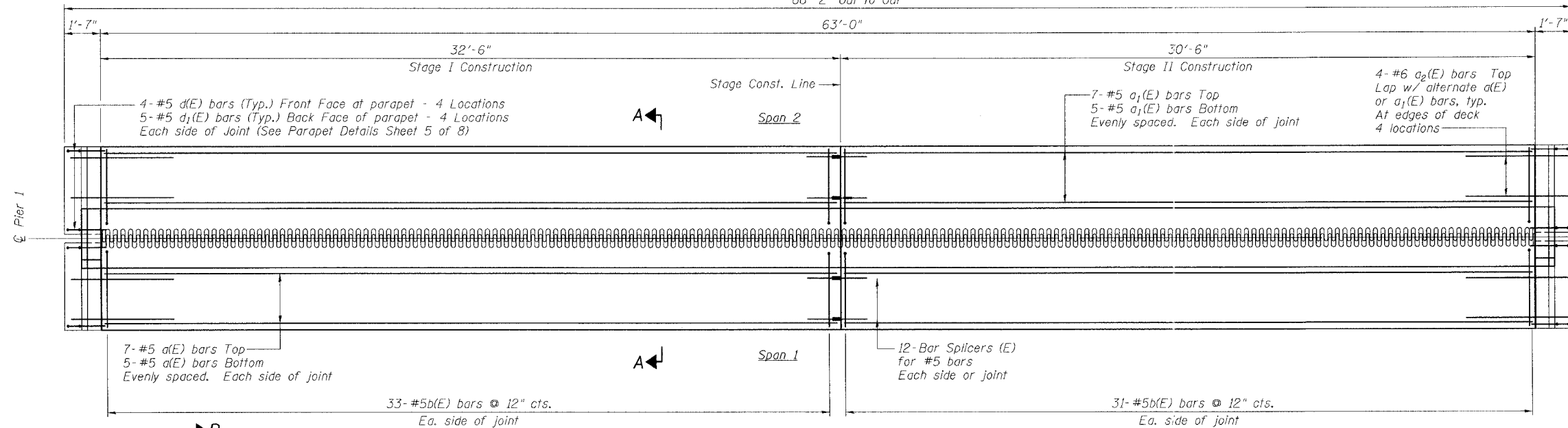
GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
1615 W. 11TH STREET, SUITE 200
CHICAGO, ILLINOIS 60607
TEL: 312.467.1111 FAX: 312.467.1112

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PROJECT 04286-W05
5/16/06-MML

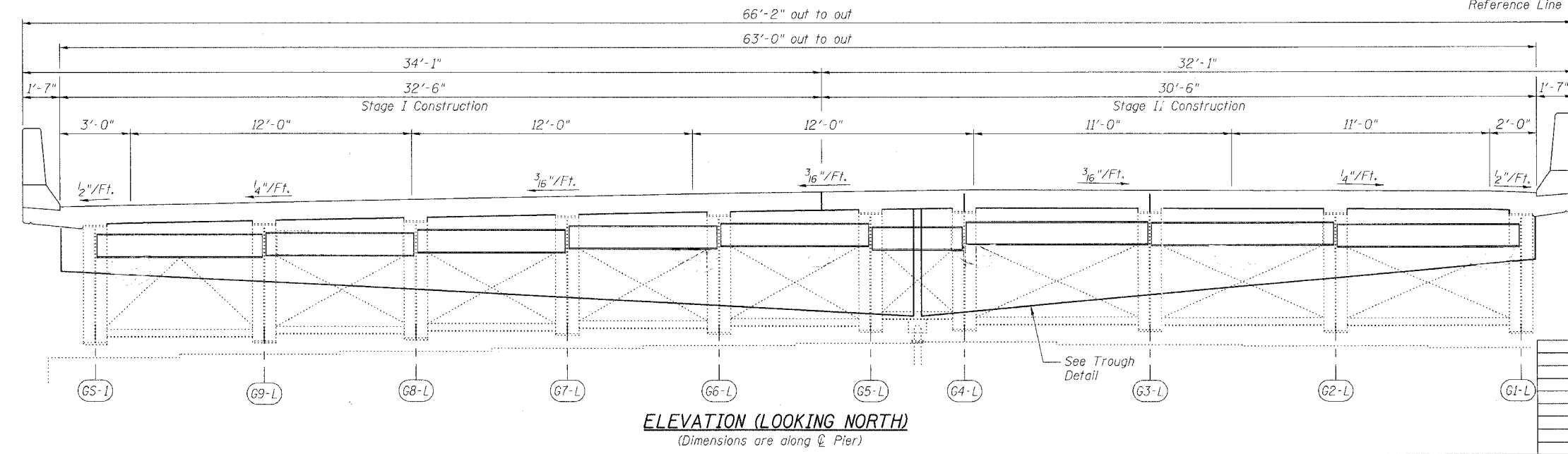
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
66'-2" Out to Out

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3 8 SHEETS
FAI 90/94	*	COOK	344	236	
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		
2003-0290					
Contract #62581					



- Notes:
1. For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 8.
 2. For Section A-A, see Sheet 4 of 8.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 2 JOINT DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. 1"=4'-0"
HORIZ. 1"=40'-0"
DATE: 7/19/05

DESIGNED BY: LANDREY
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS
PROFESSIONAL DESIGNERS
PROFESSIONAL SURVEYORS
PROFESSIONAL LAND SURVEYORS
PROFESSIONAL ARCHITECTS
PROFESSIONAL PLANNERS

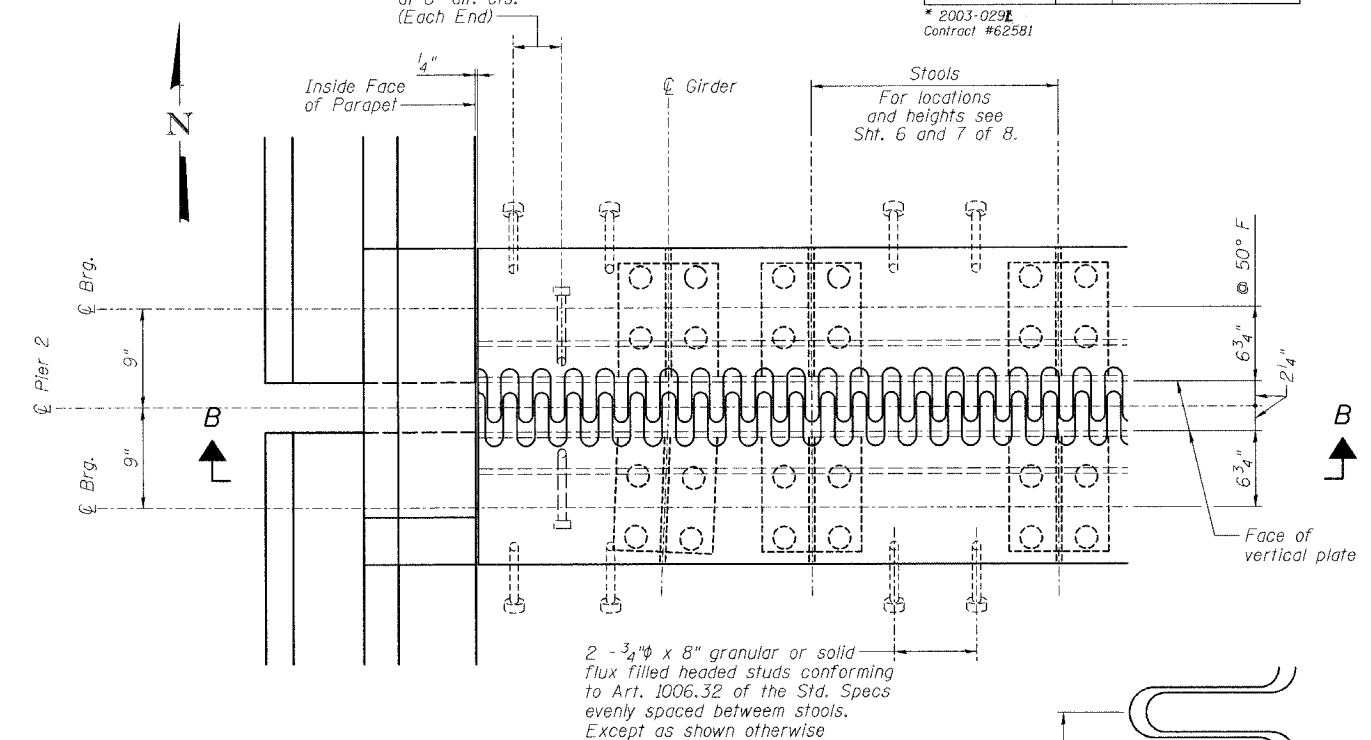
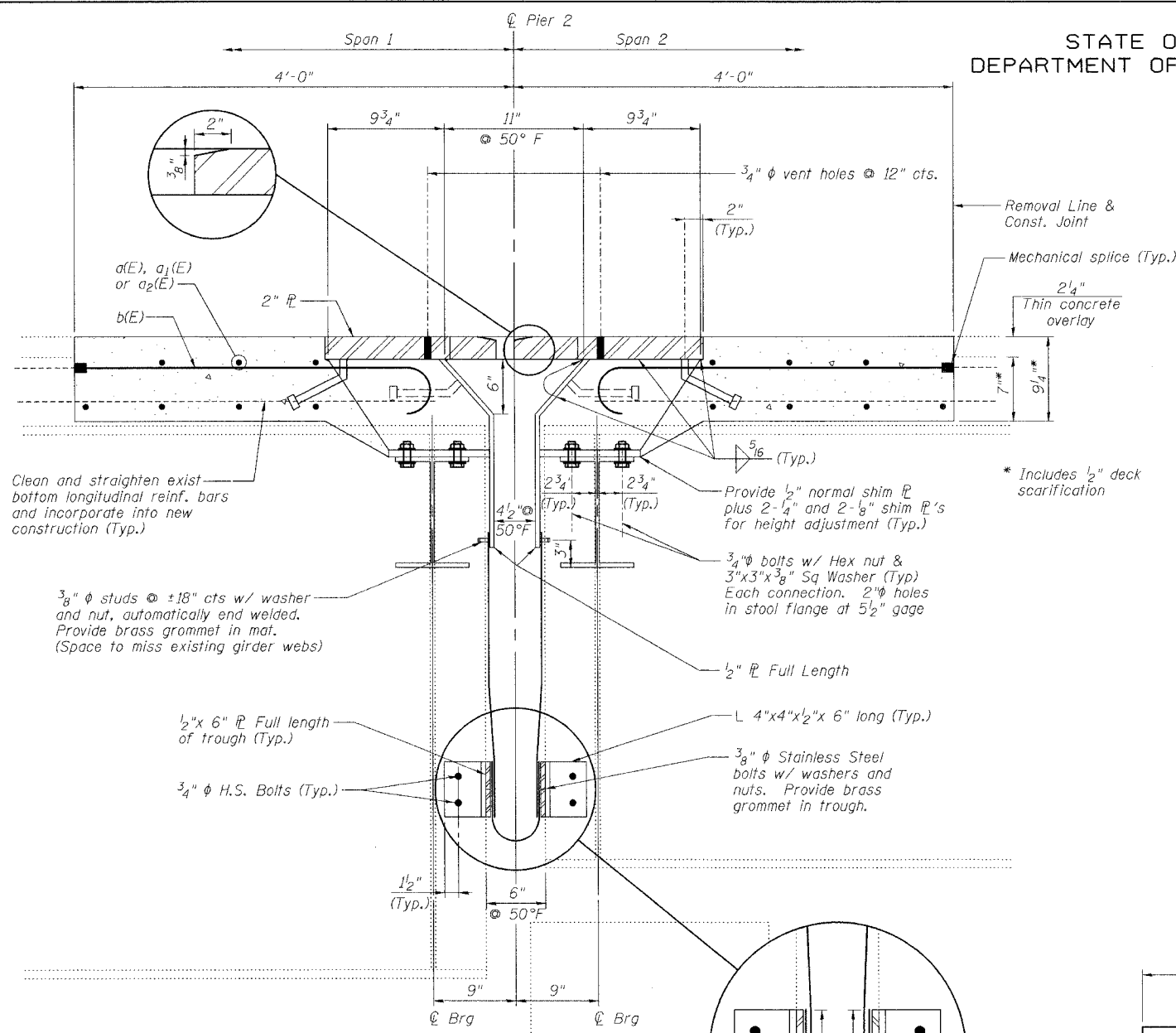
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PROJECT 04286-W05
5/16/06-MML

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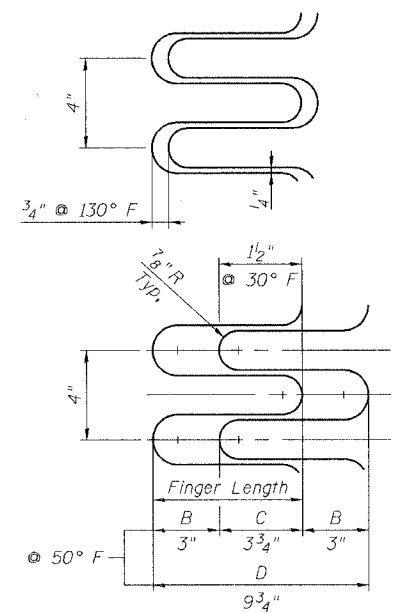
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 8 SHEETS
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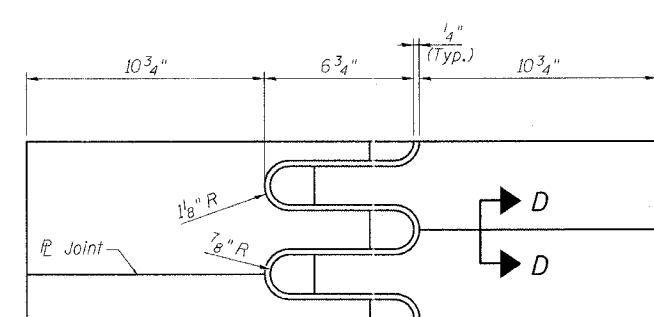
FED. ROAD DIST. NO. ILLINOIS
* 2003-0291
Contract #62581



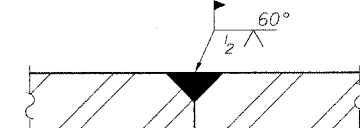
PLAN



FINGER DETAIL
Finger Length = 6 3/4"
Weld Length = 9 3/4"
Weld Size = 5/16"
Expansion Length = 359.4'



FLAME CUTTING DIAGRAM
(Proposed Finger Plate - Cut from 2" x 2'-4 1/2" PL)



SECTION D-D

SECTION A-A

NOTES

1. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
2. The furnishing and installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing and Erecting Structural Steel".
3. For Section B-B, see Sheet 5 of 8.
4. The contractor shall bolt the stools of the finger plate joint assembly to the top of the new end diaphragms and to the top of the existing girders as shown in Section A-A of this drawing.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 2 JOINT DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 7/19/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
STRUCTURAL DIVISION
PROFESSIONAL DESIGN FIRM NO. 04286
1807 W. STATE ST., SUITE 200, SPRINGFIELD, ILL. 62761
TEL: 217-223-1111 FAX: 217-223-1112

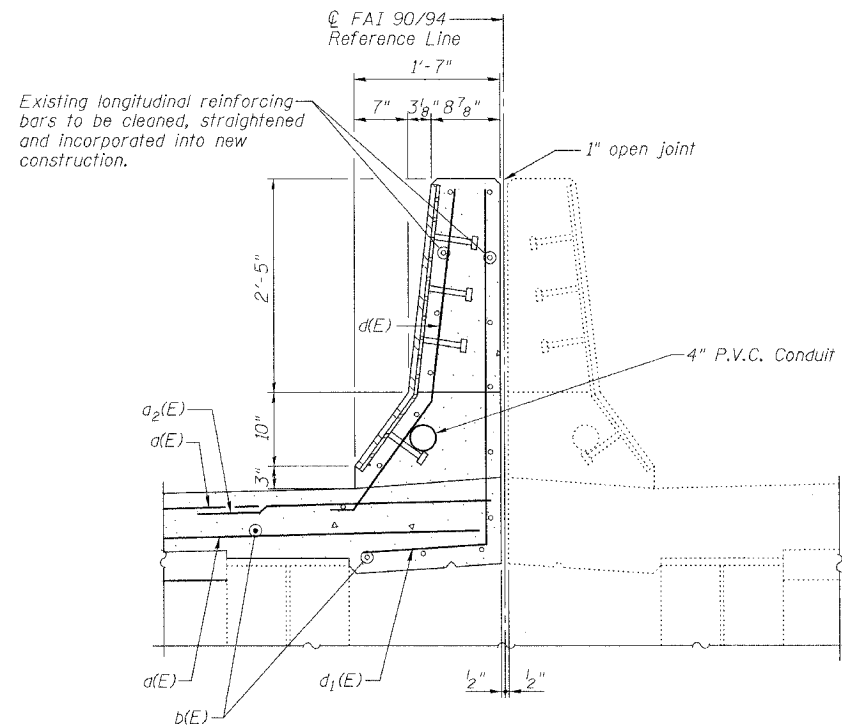
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PROJECT 04286-W05
5/16/06-MML

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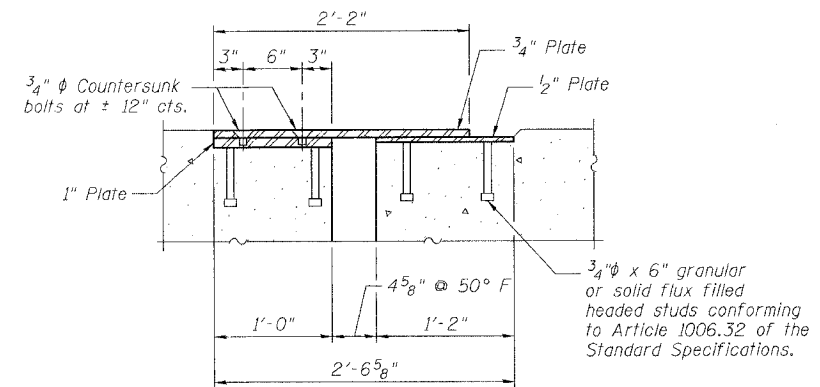
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	240
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
2003-0293			Contract #62581	

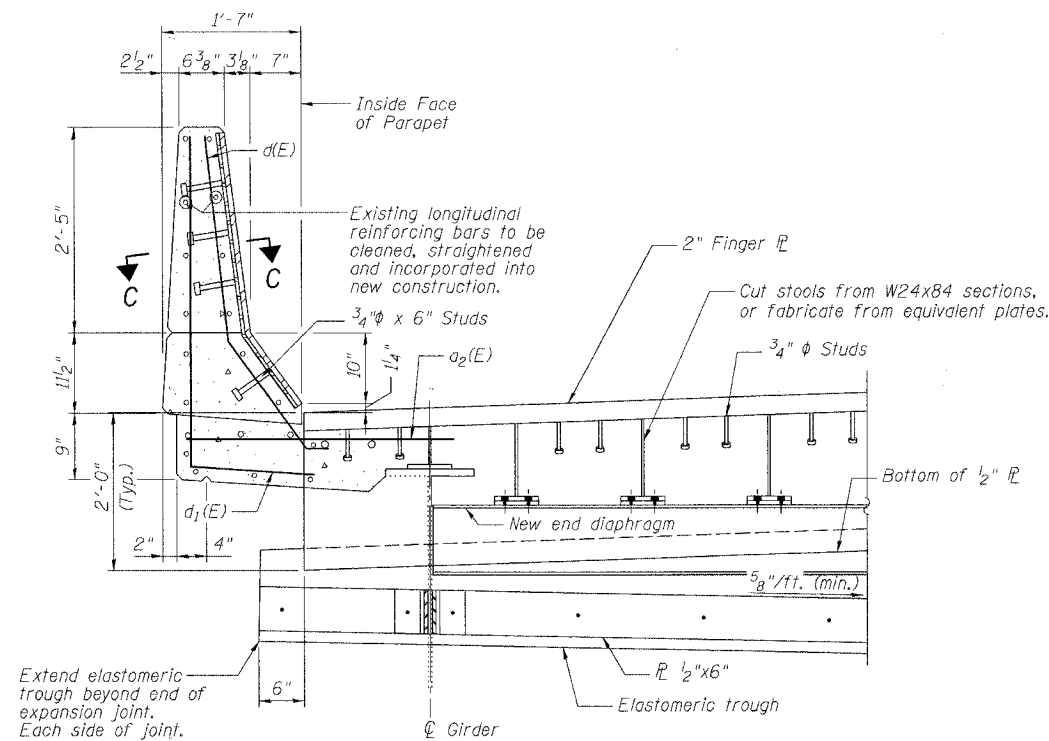
SHEET NO. 5
8 SHEETS



DETAIL AT MEDIAN PARAPET
(Looking North)

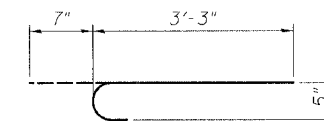


SECTION C-C

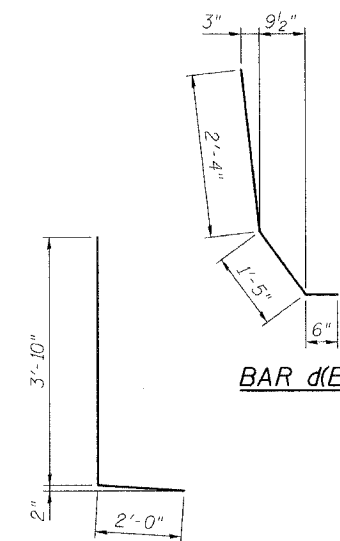


SECTION B-B

(For location of Section B-B, See Sheet 4 of 8)



BAR b(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	24	#5	33'-0"	—
a1(E)	24	#5	31'-0"	—
a2(E)	16	#6	4'-6"	—
b(E)	128	#5	3'-10"	⌋
d(E)	16	#5	4'-3"	⌋
d1(E)	20	#5	5'-10"	⌋
Reinforcement Bars, Epoxy Coated		Pound	2410	
Concrete Removal		Cu. Yd.	14.1	
Concrete Superstructure		Cu. Yd.	16.7	
Mechanical Splice		Each	128	
Bar Splicers		Each	24	

Reinforcing bars designated (E) shall be epoxy coated.

ILLINOIS DEPARTMENT OF TRANSPORTATION

PARAPET DETAILS

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 7/19/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
ARCHITECTS AND PLANNERS
PROFESSIONAL ENGINEERS
REGISTERED IN THE STATE OF ILLINOIS
CORPORATION
1001 N. 5TH ST., SUITE 200, SPRINGFIELD, ILL. 62761-1001
TEL: 217-223-7100 FAX: 217-223-7101 WWW: WWW.GRENE-AND-BRADFORD.COM

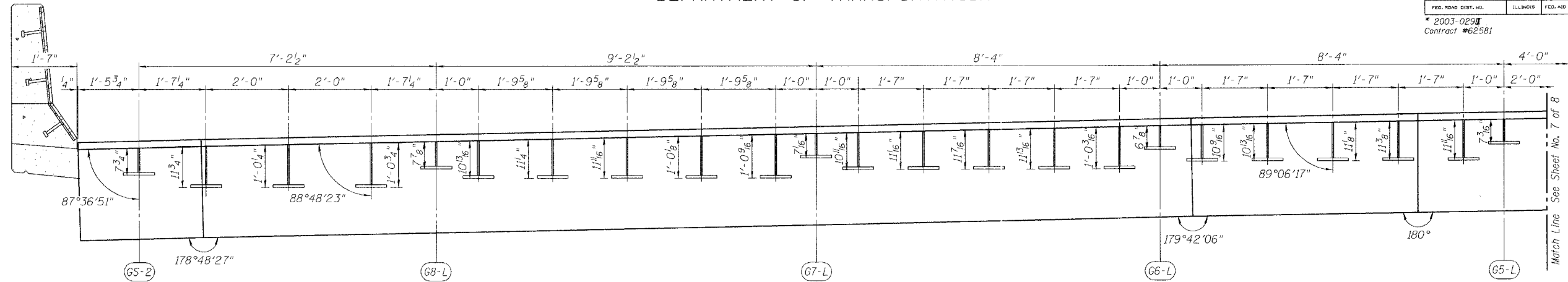
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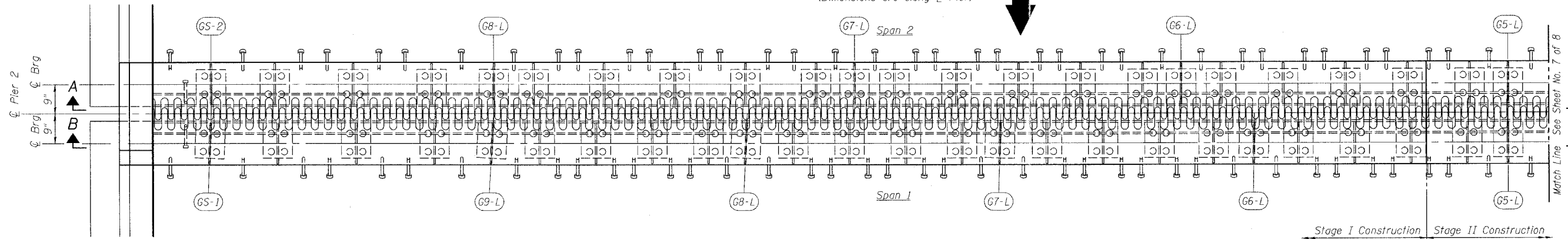
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION #	COUNTY COOK	TOTAL SHEETS 344	SHEET NO. 241	SHEET NO. 6 8 SHEETS
FED. ROAD DIST. NO. # 2003-0291		ILLINOIS FED. AID PROJECT Contract #62581			

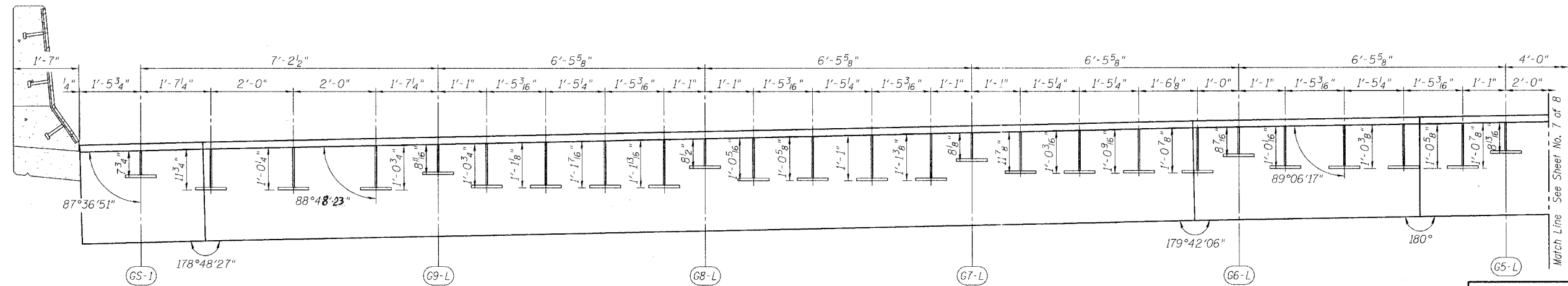


SECTION A-A
(Dimensions are along \bar{C} Pier)

Traffic



PLAN OF FINGER PLATE AT PIER 2



SECTION B-B
(Dimensions are along \bar{C} Pier)

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

REVISIONS	
NAME	DATE

SCALE: VERT.
HORIZ.
DATE: 7/19/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

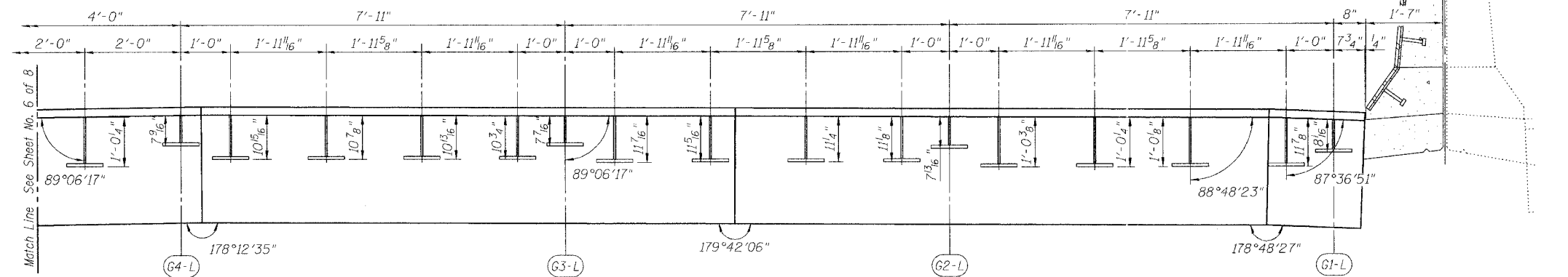
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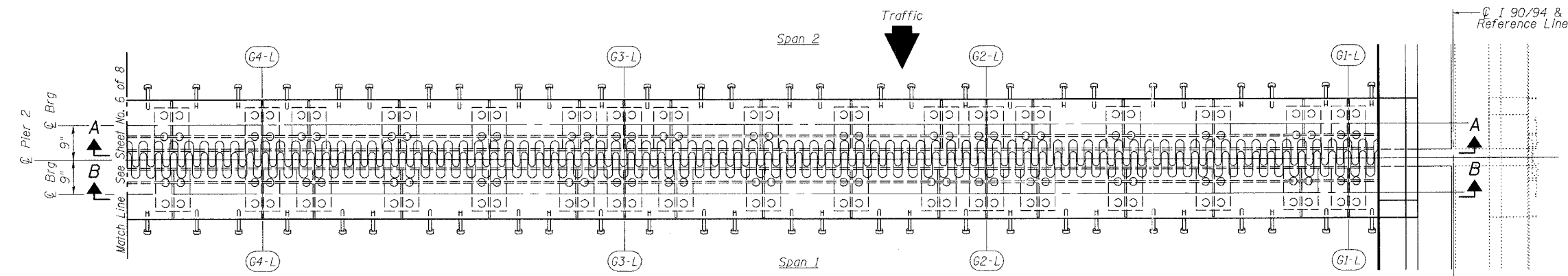
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OPERATOR = michelle

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

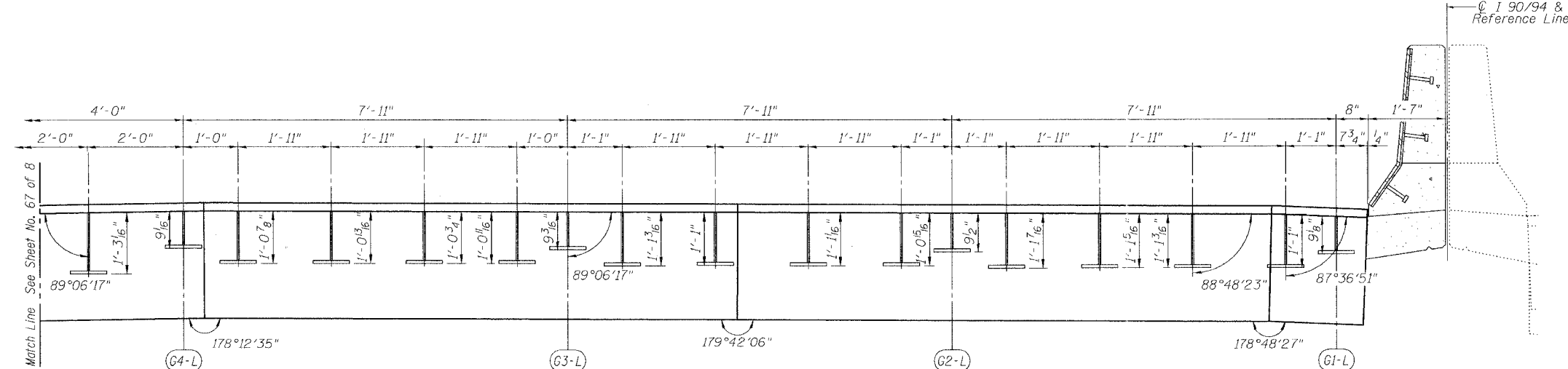
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FED. ROAD DIST. NO. * 2003-029, I Contract #62581		ILLINOIS	FED. AID PROJECT		



SECTION A-A
(Dimensions are along \bar{C} Pier)



PLAN OF FINGER PLATE AT PIER 2



SECTION B-B
(Dimensions are along \bar{C} Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 7/19/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS
PROFESSIONAL DESIGN FIRM NO. 042-0022
1001 W. 18TH ST., SUITE 100, SPRINGFIELD, ILL. 62761
TEL: 217-223-1111 FAX: 217-223-1111

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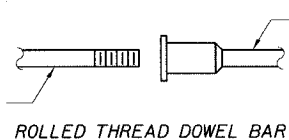
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	243
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
2003-029		Contract #62581		

SHEET NO. 8
8 SHEETS

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



ROLLED THREAD DOWEL BAR



** ONE PIECE

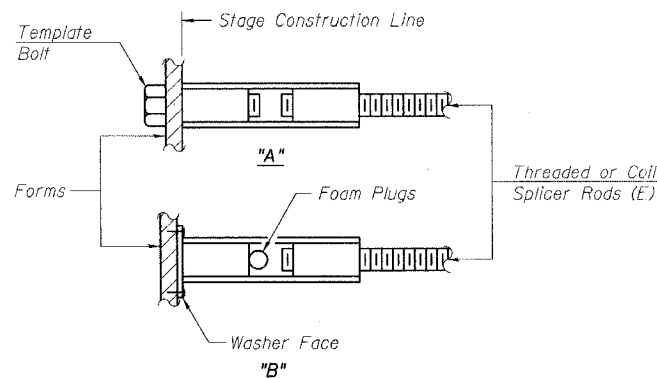
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

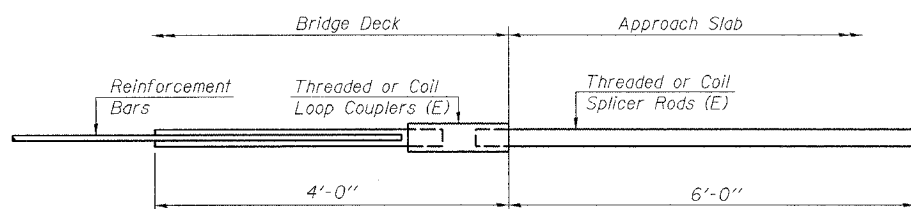
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

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

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

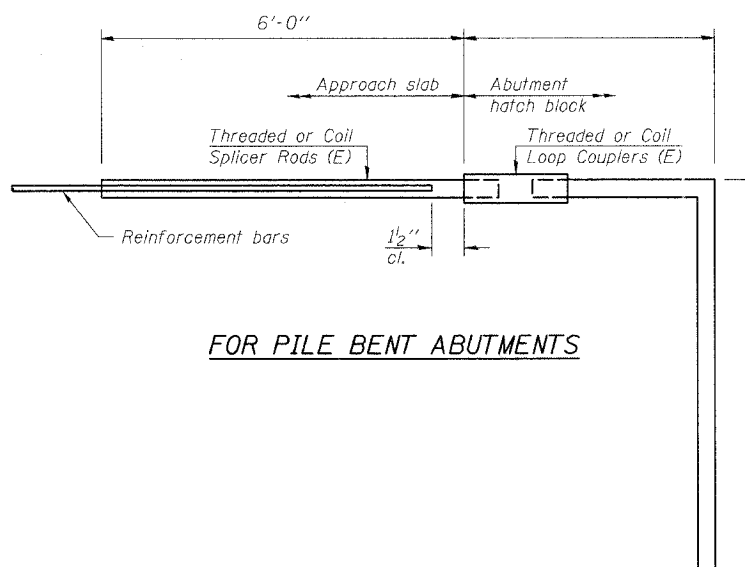
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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



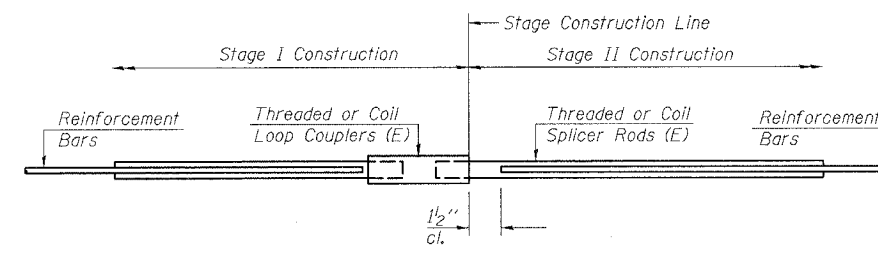
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	Deck

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 7/19/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

COMPUTER FILE NO.
04286-W05-SB-BSD
PROJECT 04286-W05
5/16/06-MML

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OPERATOR = michelle

BSD-1

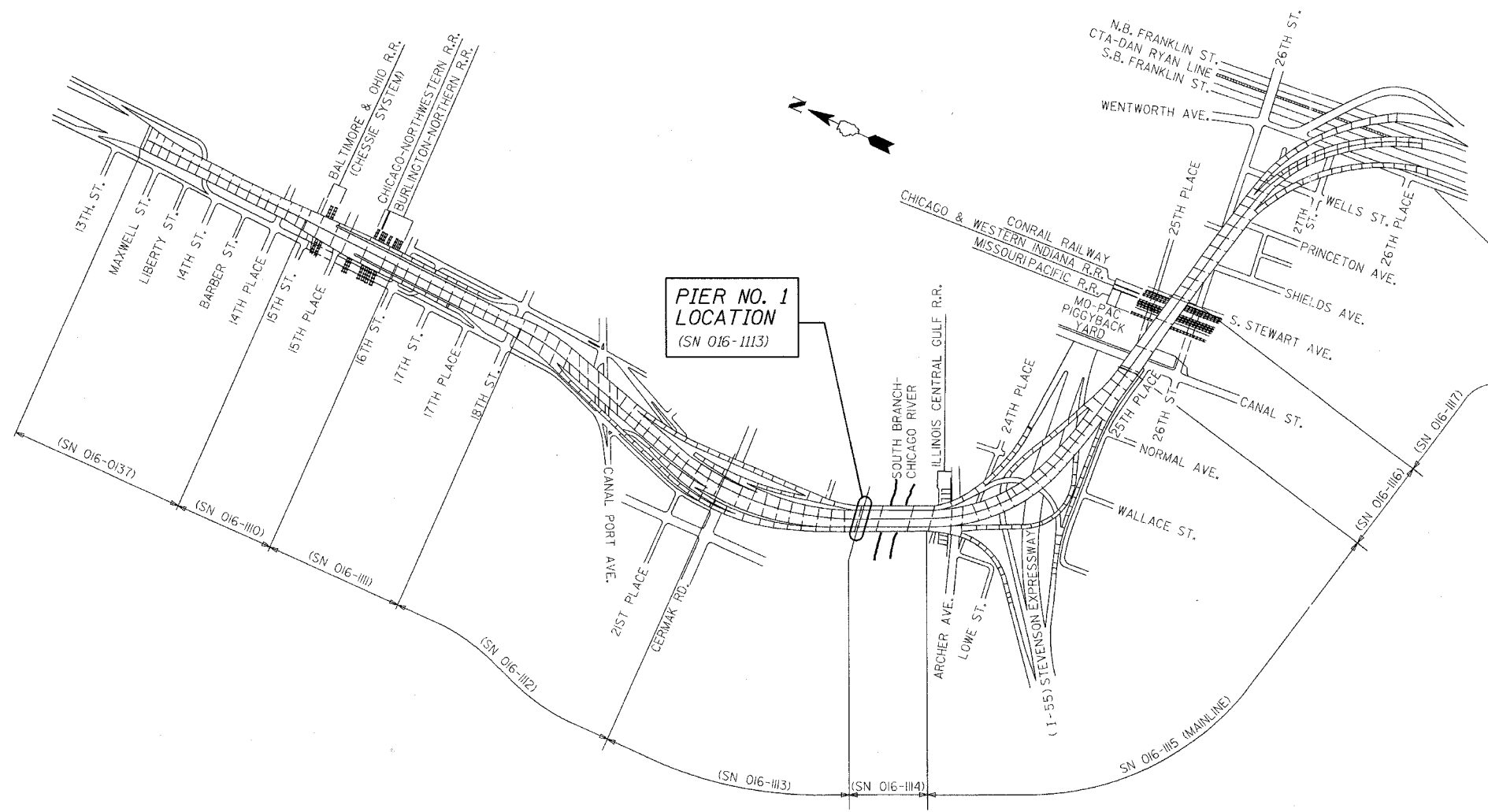
10-22-04

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
90/94	*	COOK	344	214
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
9 SHEETS

* 2003-029, I
Contract #62581



PIER NO. 1
LOCATION
(SN 016-1113)

KEY PLAN

DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

DESIGN STRESSES

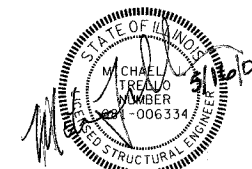
$f'_c = 3500$ psi
 $f_y = 60,000$ psi (Reinf)
 $f_y = 50,000$ psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	21.5
Concrete Superstructure	Cu Yd	25.8
Furnishing and Erecting Structural Steel	L.S.	0.22
Reinforcement Bars, Epoxy Coated	Pound	3540
Fabric Reinforced Elastomeric Trough	Foot	98
Mechanical Splice	Each	184
Bar Splicers	Each	48
Field Measurements	L. Sum	0.22

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.
Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
Field welding of construction accessories will not be permitted to beams or girders.
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 for the work.
Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
All Construction joints shall be bonded.
Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing and Erecting Structural Steel".
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.
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1. Cost included with "Furnishing and Erecting Structural Steel".
Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.
Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".
Existing design and fabrication plans are available upon request.
All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight of structural steel = 50,810 lbs.



Expires: 11/30/06

ILLINOIS DEPARTMENT OF TRANSPORTATION

KEY PLAN

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

REVISIONS	
NAME	DATE

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

COMPUTER FILE NO.
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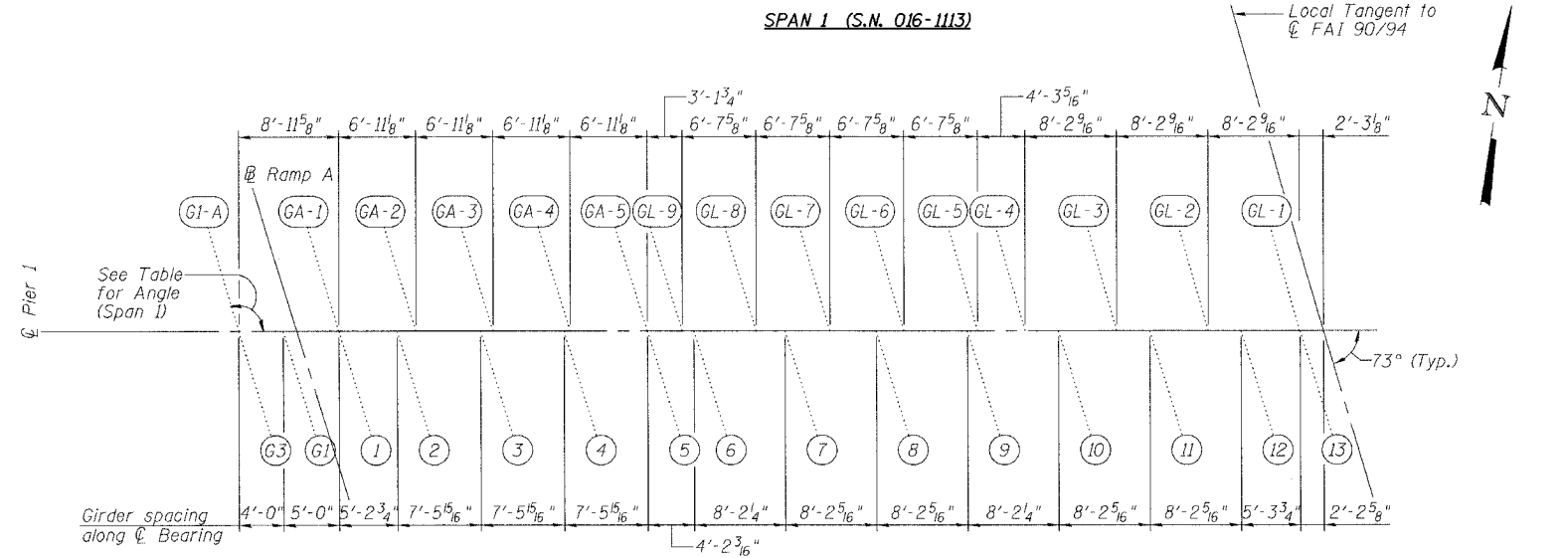
PROJECT 04286-W01
5/11/06-MML

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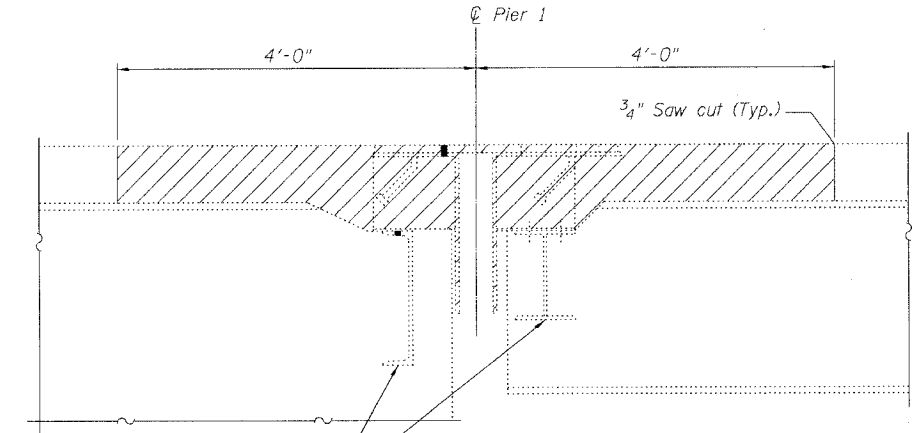
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAI 90/94	*	COOK	344	245
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
# 2003-029 I		Contract #62581		

9 SHEETS



Girder	Angle
G1-A	106°26'36"
GA-1	106°36'42"
GA-2	106°42'57"
GA-3	106°48'55"
GA-4	106°54'37"
GA-5	107°00'04"
GL-9	106°59'29"
GL-8	106°35'22"
GL-7	106°12'11"
GL-6	105°49'53"
GL-5	105°28'24"
GL-4	105°33'08"
GL-3	105°33'08"
GL-2	105°33'08"
GL-1	105°33'08"

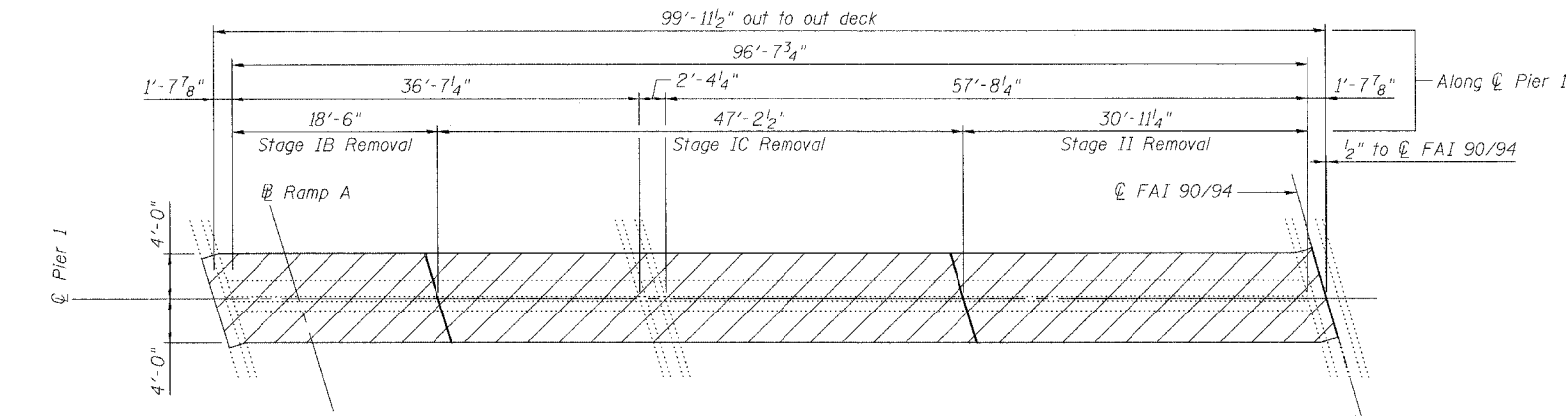


Existing diaphragms to be replaced. See sheets 269 & 270 of 344 for details.

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

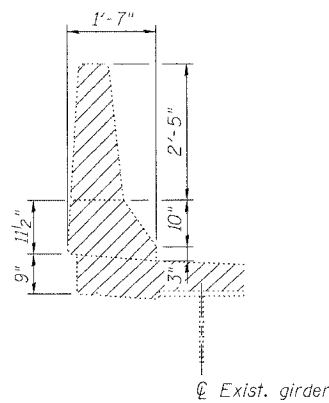
Existing finger plates, stools, drainage trough and hardware shall be removed. Cost included with "Concrete Removal".

SECTION AT EXISTING FINGER PLATE
(Dimensions at Rt. L's)

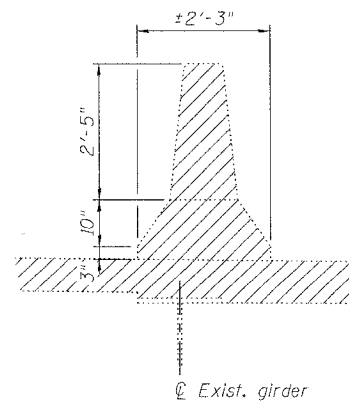


JOINT REMOVAL PLAN AT PIER 1

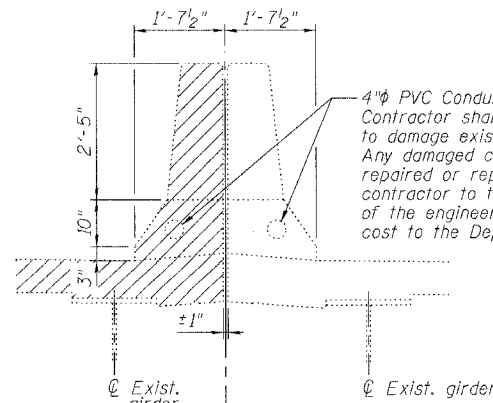
Notes:
Hatched Area indicates "Concrete Removal".
Existing transverse bars in the deck are placed at right angles to Q Roadway. Existing transverse bars extending into removal areas shall be cut to miss the new finger joint, cleaned and incorporated into the new construction.
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 5.



DETAIL AT EXISTING OUTSIDE PARAPET
(Dimensions at Rt. L's)



DETAIL AT EXISTING FAI 90/94 & RAMP A PARAPET
(Dimensions at Rt. L's)



DETAIL AT EXISTING Q FAI 90/94 MEDIAN PARAPET
(Dimensions at Rt. L's)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 1 JOINT REMOVAL DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

COMPUTER FILE NO. 04286-W01-SB-REM
PROJECT 04286-W01
5/11/06-MML

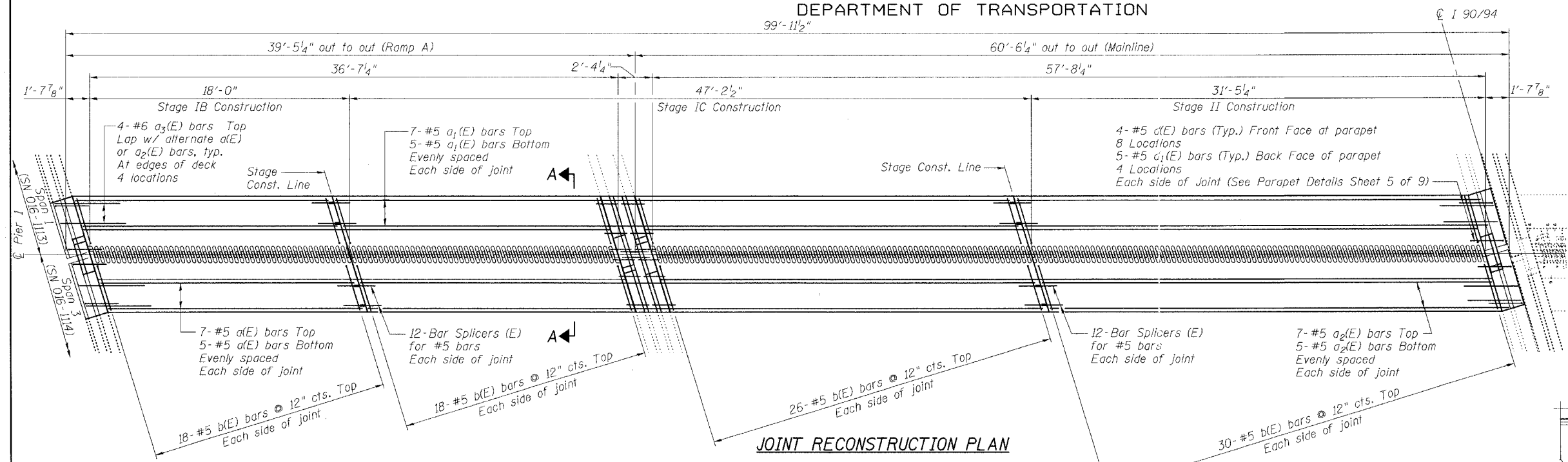
GREENE & BRADFORD, INC.
OF SPRINGFIELD
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 021-00000000
PROFESSIONAL ENGINEERING COMPANY
1001 N. 11TH ST., SUITE 200, SPRINGFIELD, IL 62761
TEL: 217-244-1111 FAX: 217-244-1112

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OPERATOR = michellel

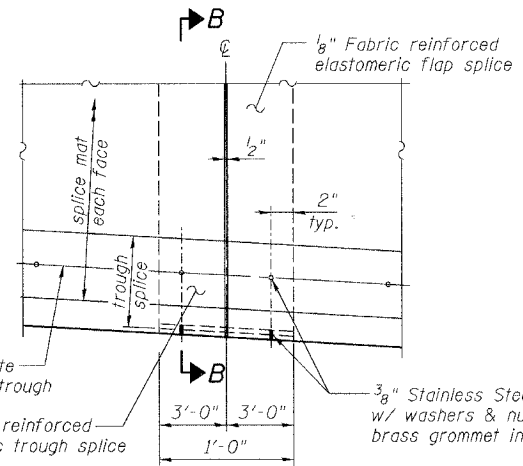
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	344	246
FED. ROAD DIST. NO.	ILL. INDS.	FED. AID PROJECT		

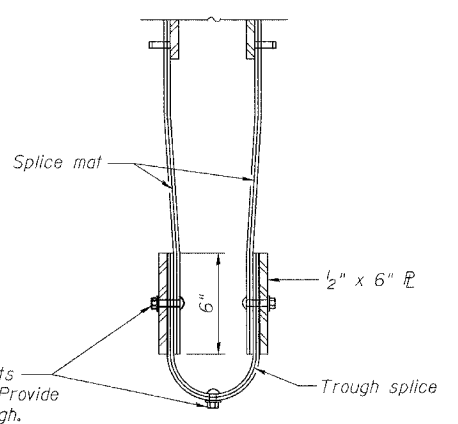
2003-0290E
Contract #62581



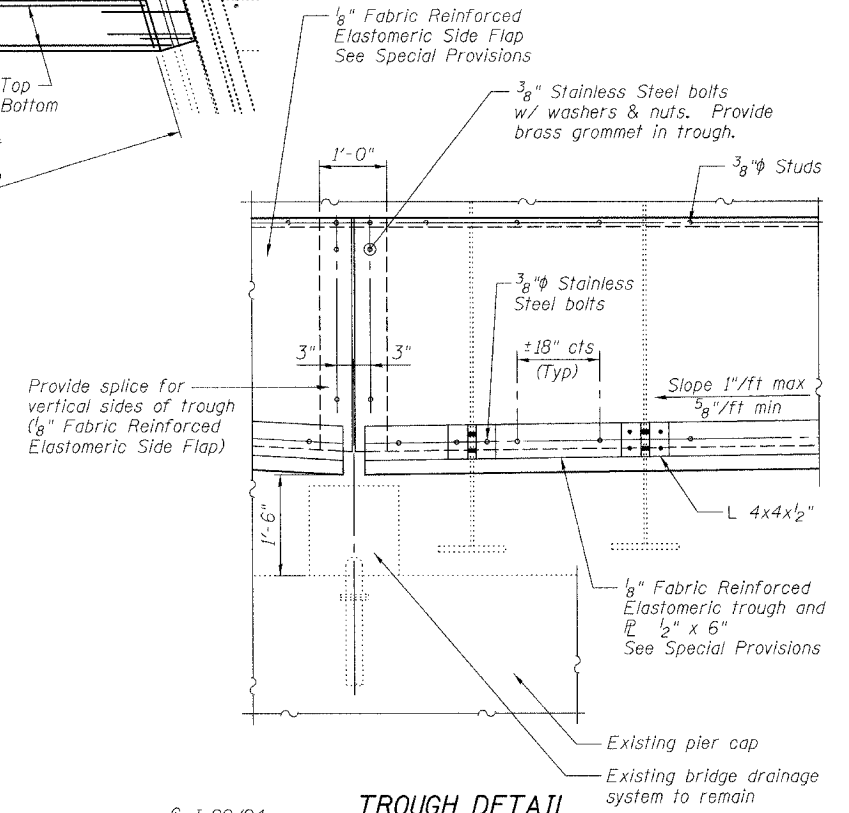
JOINT RECONSTRUCTION PLAN



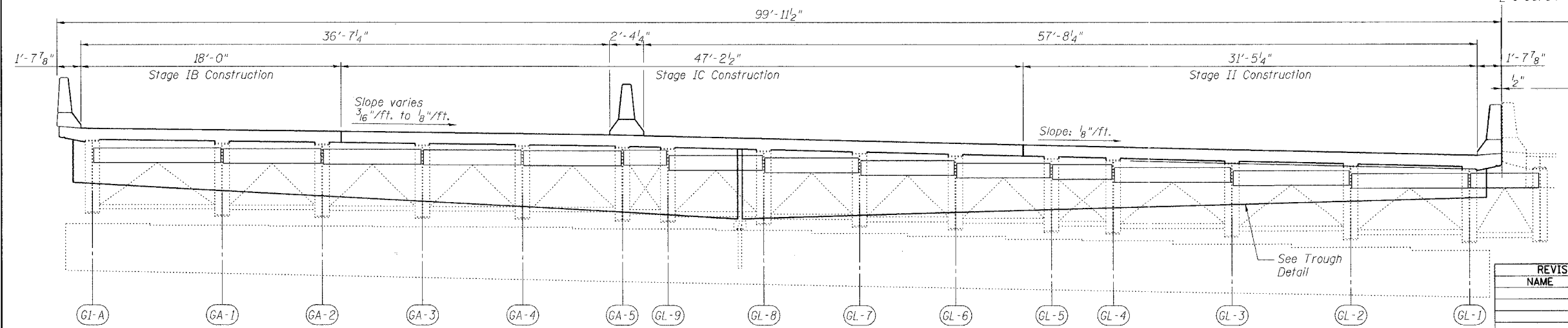
TROUGH SPLICE DETAIL



SECTION B-B



TROUGH DETAIL



ELEVATION (LOOKING NORTH)

- Notes:
- For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 9.
 - For Section A-A, see Sheet 4 of 9.
 - Deck cross slopes shown are at right angles to \bar{C} Roadway.

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 1 JOINT DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

REVISIONS	
NAME	DATE

SCALE: VERT. 1"=4'-0"
HORIZ. 1"=40'-0"
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

COMPUTER FILE NO.
04286-W01-SB-PJ1
PROJECT 04286-W01
5/11/06-MML

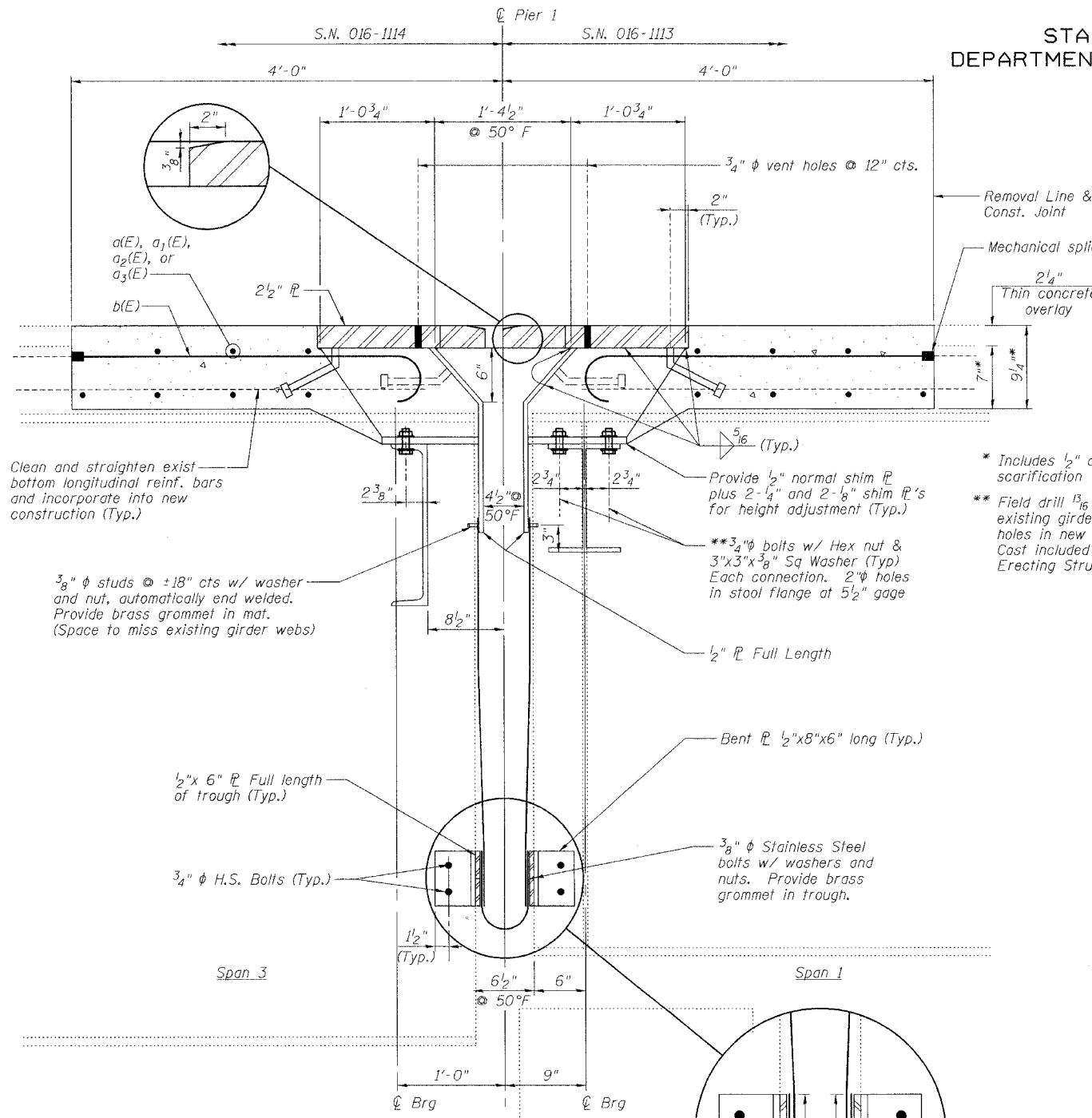
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DATE: 5/16/2006
PLOT DATE: 5/16/2006
PLOT TIME: 2:28:50 PM
OPERATOR: michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.	SHEET NO. 4 9 SHEETS
FAI 90/94	*	COOK	344	247	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

* 2003-029
Contract #62581

For locations and heights see Shts. 6 thru 8 of 9.

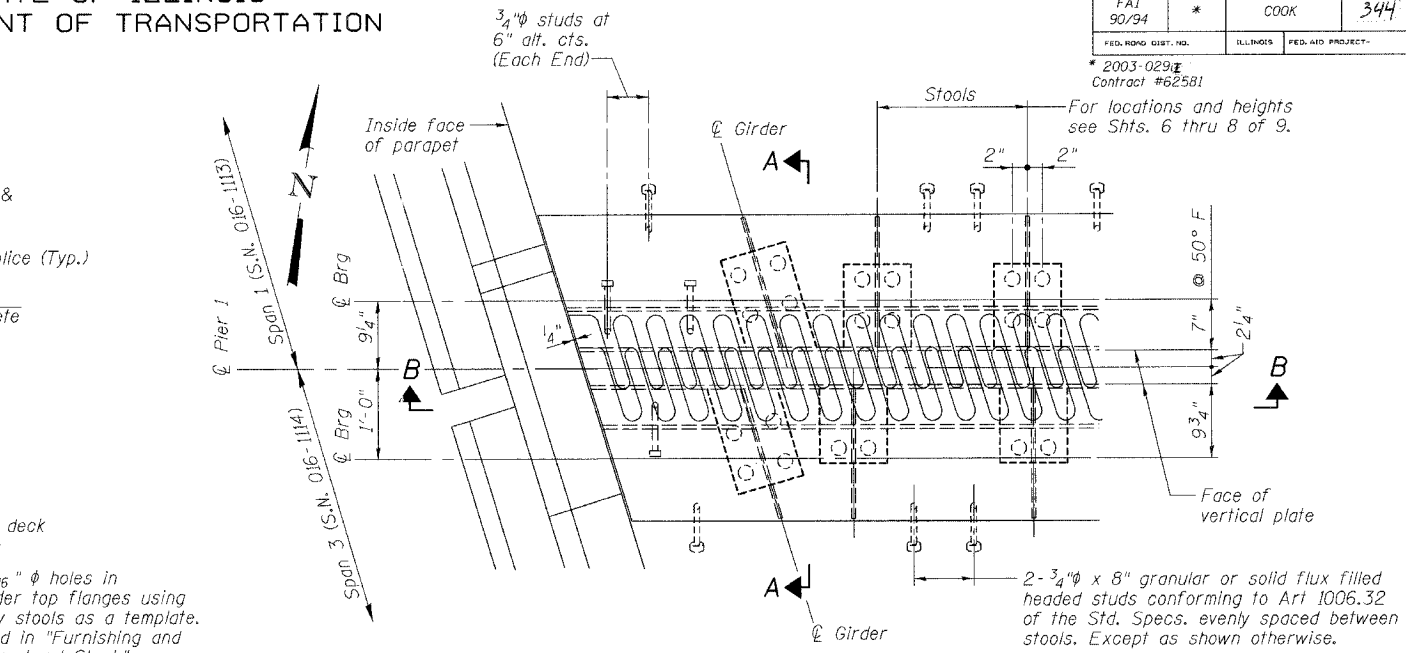


Clean and straighten exist bottom longitudinal reinf. bars and incorporate into new construction (Typ.)

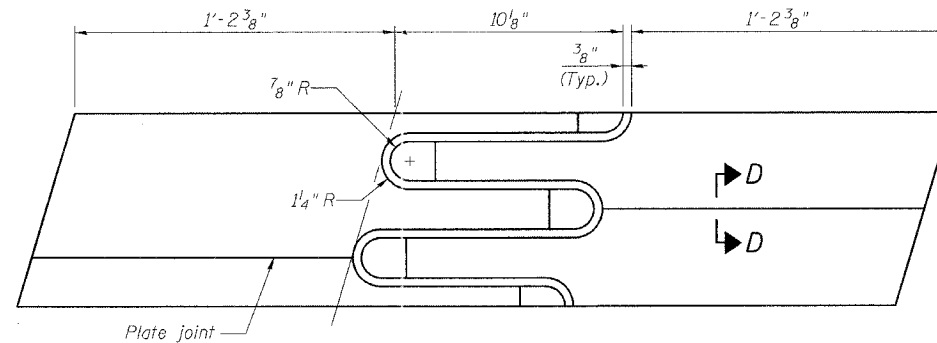
3/8" ϕ studs @ 18" cts w/ washer and nut, automatically end welded. Provide brass grommet in mat. (Space to miss existing girder webs)

Fabric reinforced elastomeric trough

SECTION A-A

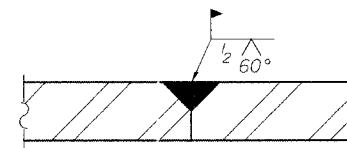


PLAN

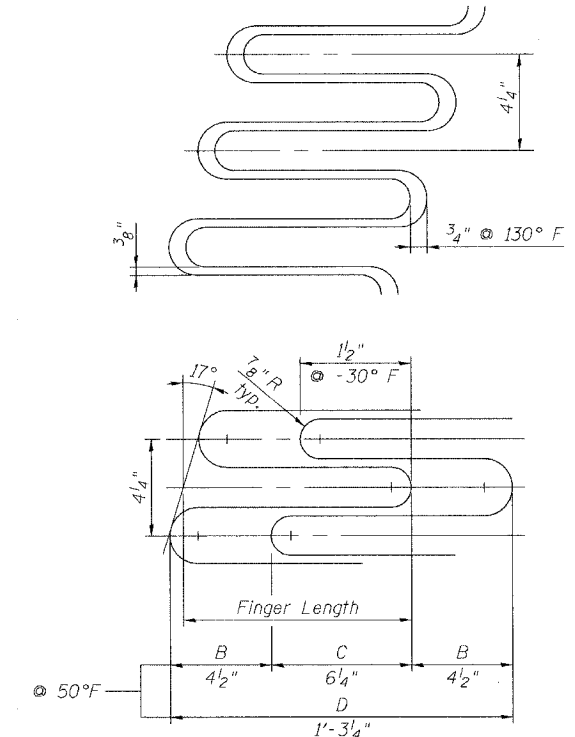


FLAME CUTTING DIAGRAM

(Proposed Finger \bar{P} - Cut from $2\frac{1}{2} \times 3'-1\frac{1}{16} \bar{P}$)



SECTION D-D



FINGER DETAIL

Finger Length = 10/8"
Weld Length = 12 1/4"
Expansion Length = 477.4"

NOTES

- The Contractor shall bolt the Stools of the Fingerplate Joint Assembly to the top of existing girders and to the top of new diaphragms, as shown in Section A-A of this drawing.
- Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
- The furnishing and installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing and Erecting Structural Steel".
- For Section B-B, see Sheet 5 of 9.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 1 JOINT DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT.
HORIZ.
DATE: 4/7/05

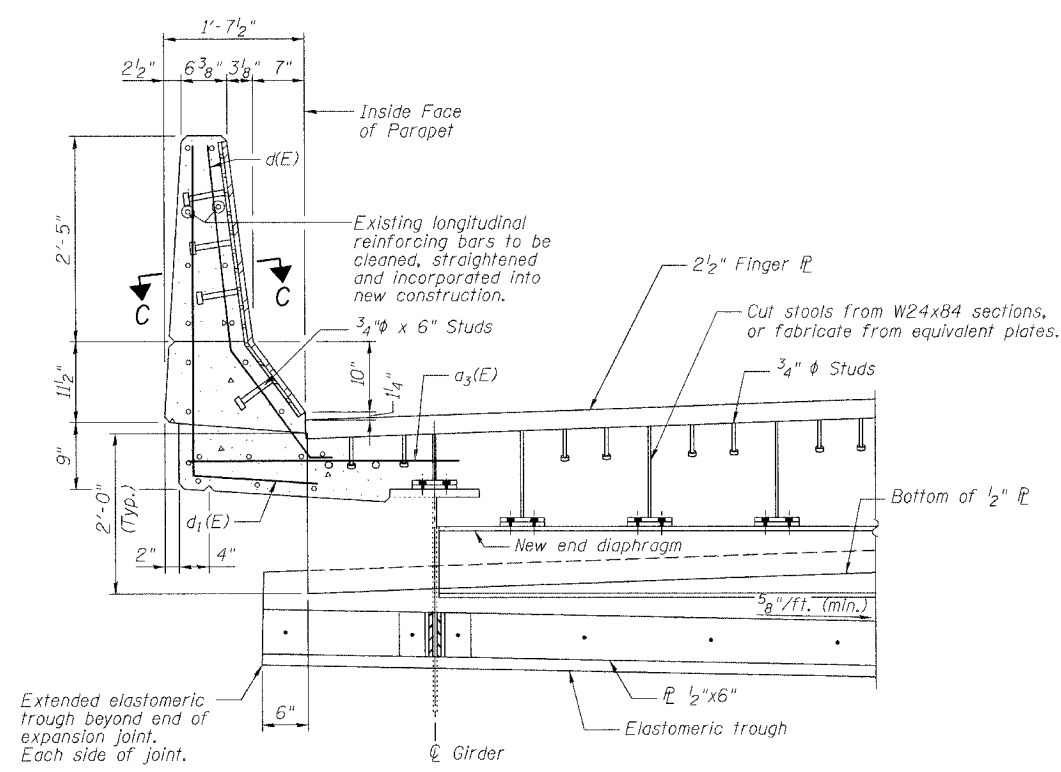
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DESIGNED BY: SANFORD
CHECKED BY: MATHUR

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PROJECT 04286-W01
5/11/06-MML

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

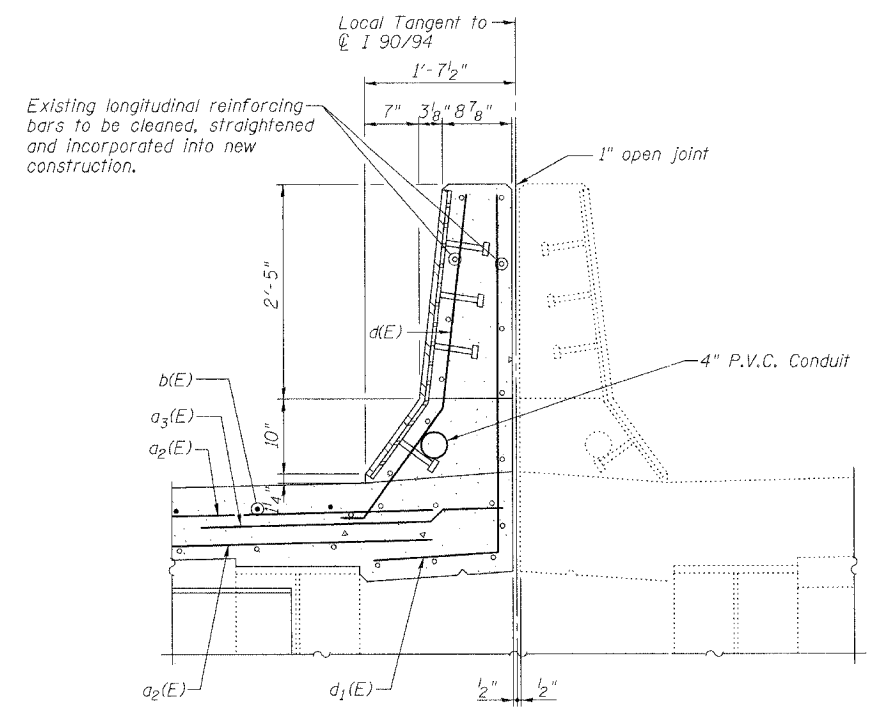
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET
FAI 90/94	*	COOK	344	248
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2003-0291 Contract #62581				

SHEET NO. 5
9 SHEETS



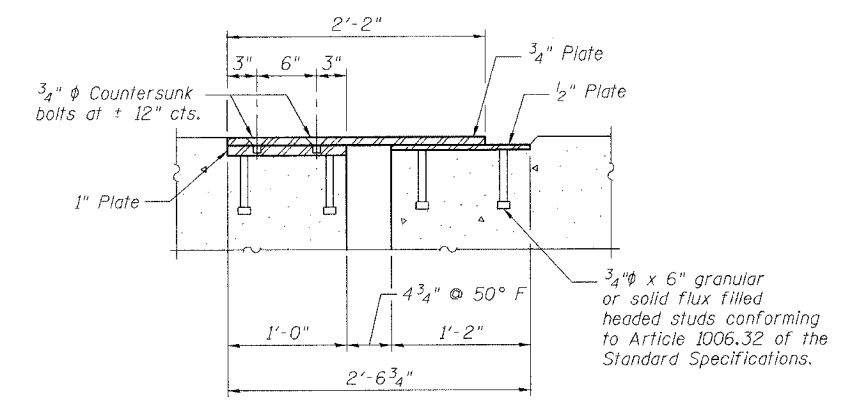
SECTION B-B

(For location of Section B-B, See Sheet 3 of 9)

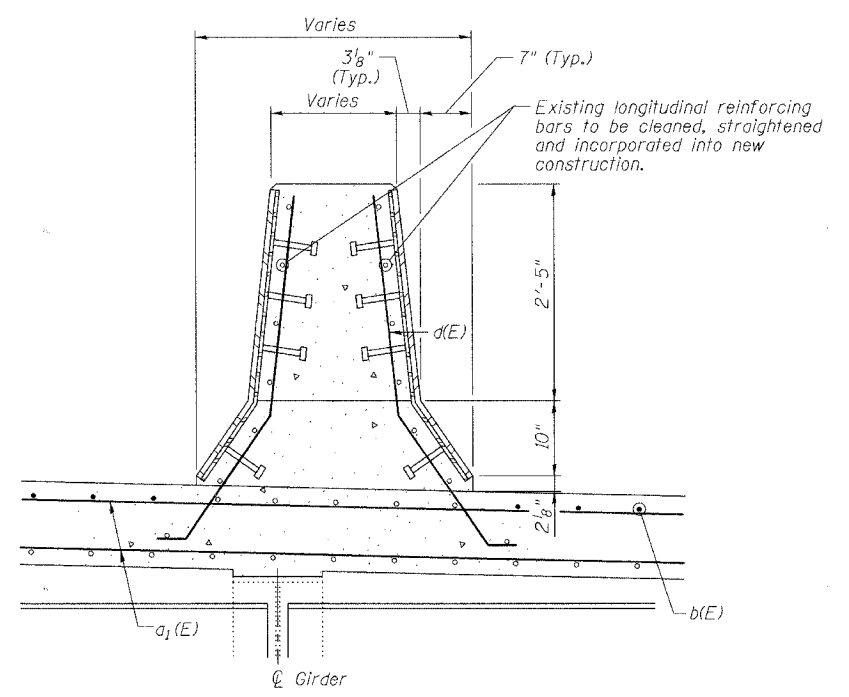


DETAIL AT MEDIAN PARAPET

(Looking North)

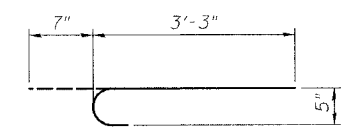


SECTION C-C

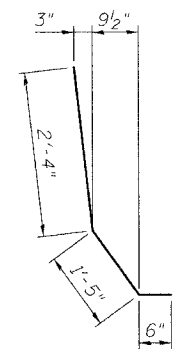


DETAIL AT EXISTING S.B. FAI 90/94 & RAMP A PARAPET

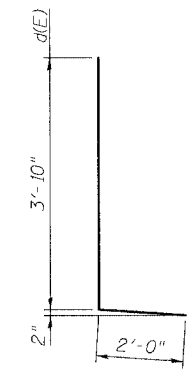
(Dimensions at Rt. L's)
(Looking North)



BAR b(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	24	#5	18'-6"	—
a1(E)	24	#5	46'-10"	—
a2(E)	24	#5	32'-0"	—
a3(E)	16	#6	4'-6"	—
b(E)	184	#5	3'-10"	C
d(E)	32	#5	4'-3"	—
d1(E)	20	#5	5'-10"	—
Reinforcement Bars, Epoxy Coated			Pound	3540
Concrete Superstructure			Cu. Yd.	26.3
Concrete Removal			Cu. Yd.	22.1
Bar Splicers			Each	48
Mechanical Splice			Each	184

Reinforcing bars designated (E) shall be epoxy coated.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PARAPET DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

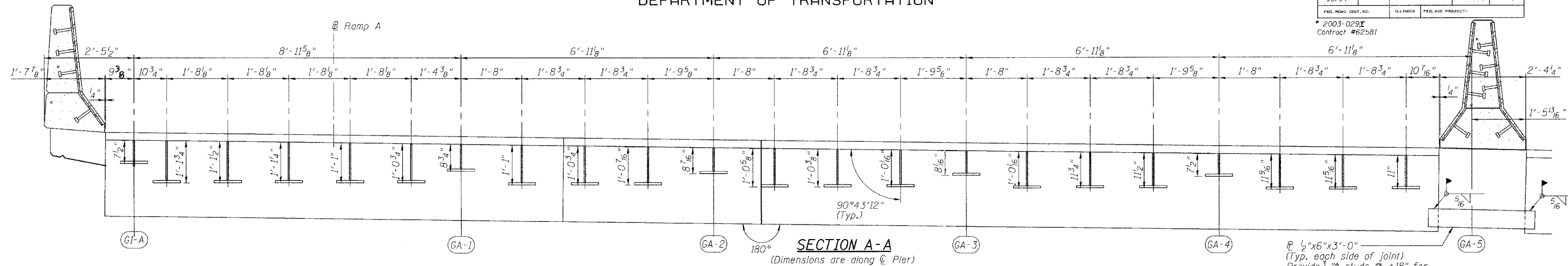
GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS 60601
PROJECT: 04286-W01-SB-PD
5/11/06-MML

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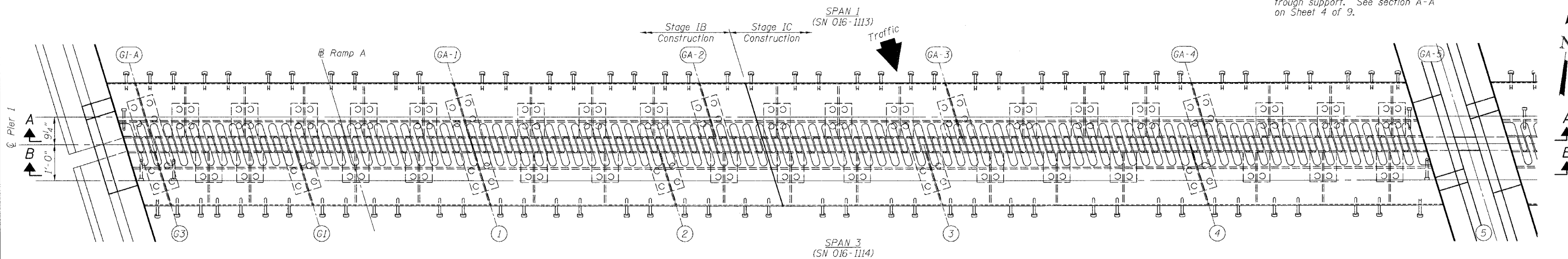
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 6
FAI 90/94	*	COOK	344	249
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

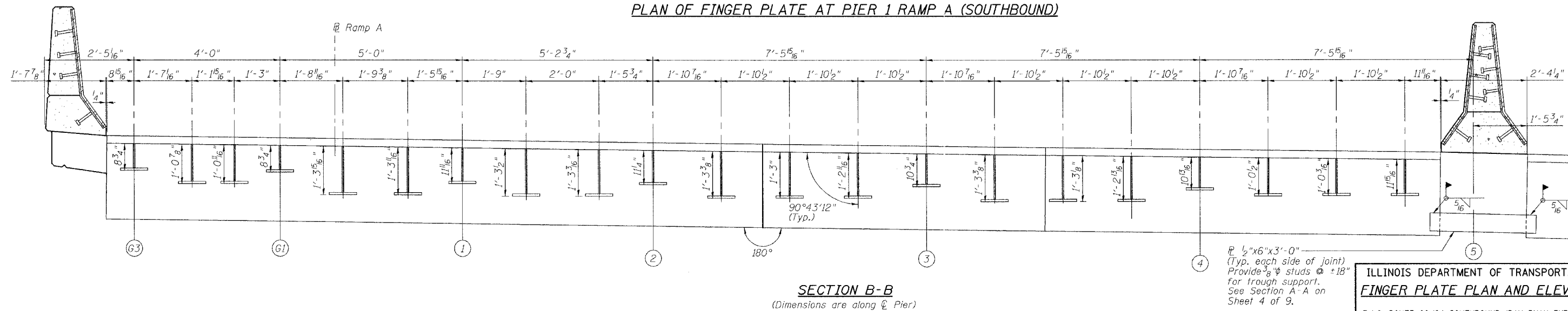
2003-0291
Contract #62581



R 1/2"x6"x3'-0"
(Typ. each side of joint)
Provide 3/8" studs @ ±18" for
trough support. See section A-A
on Sheet 4 of 9.



PLAN OF FINGER PLATE AT PIER 1 RAMP A (SOUTHBOUND)



R 1/2"x6"x3'-0"
(Typ. each side of joint)
Provide 3/8" studs @ ±18"
for trough support. See Section A-A
on Sheet 4 of 9.

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

REVISIONS	
NAME	DATE

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

COMPUTER FILE NO.
04286-W01-SB-PE1
PROJECT 04286-W01
5/11/06-MML

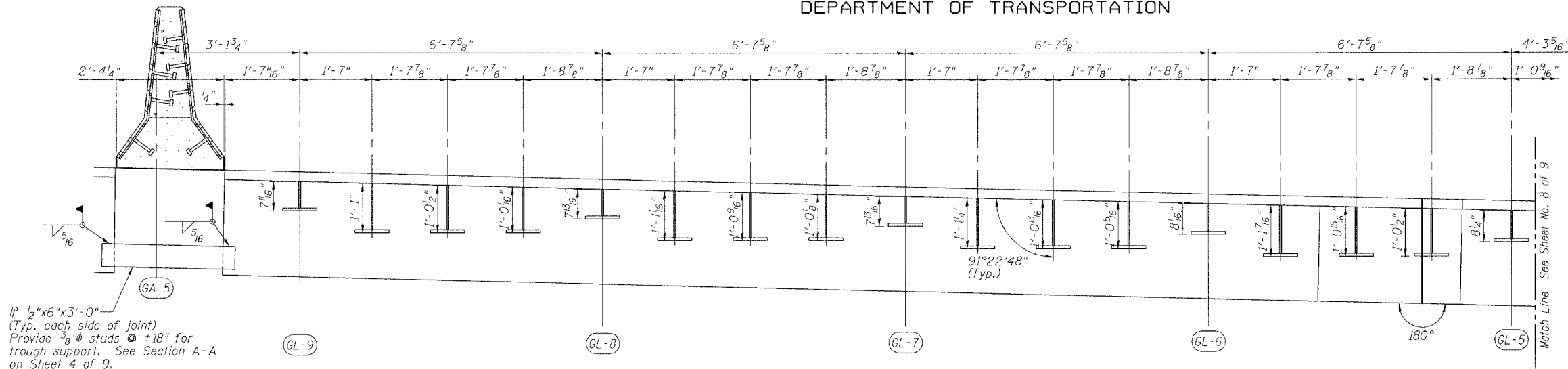
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PLOT TIME = 2:28:56 PM
OPERATOR = michelb

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

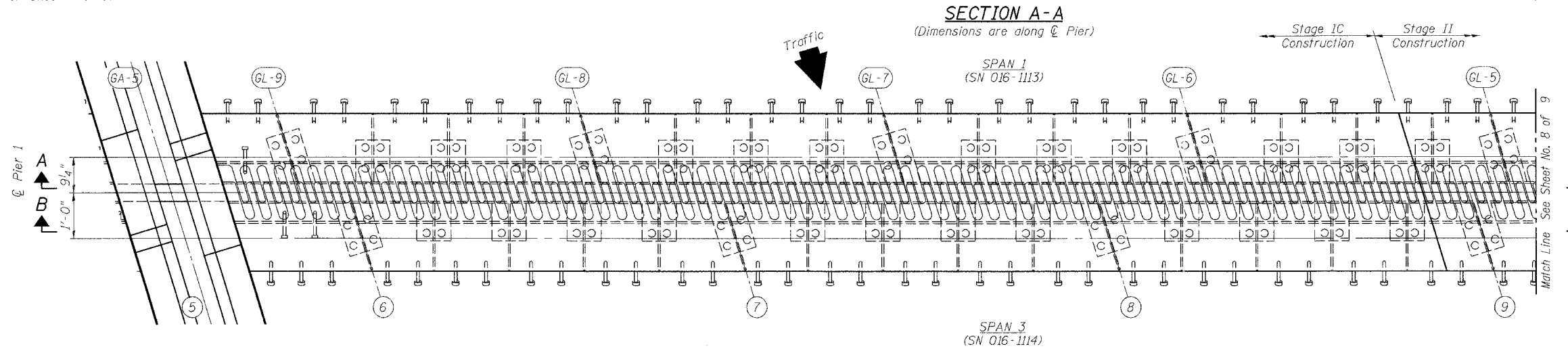
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
90/94	*	COOK	344	250
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
9 SHEETS

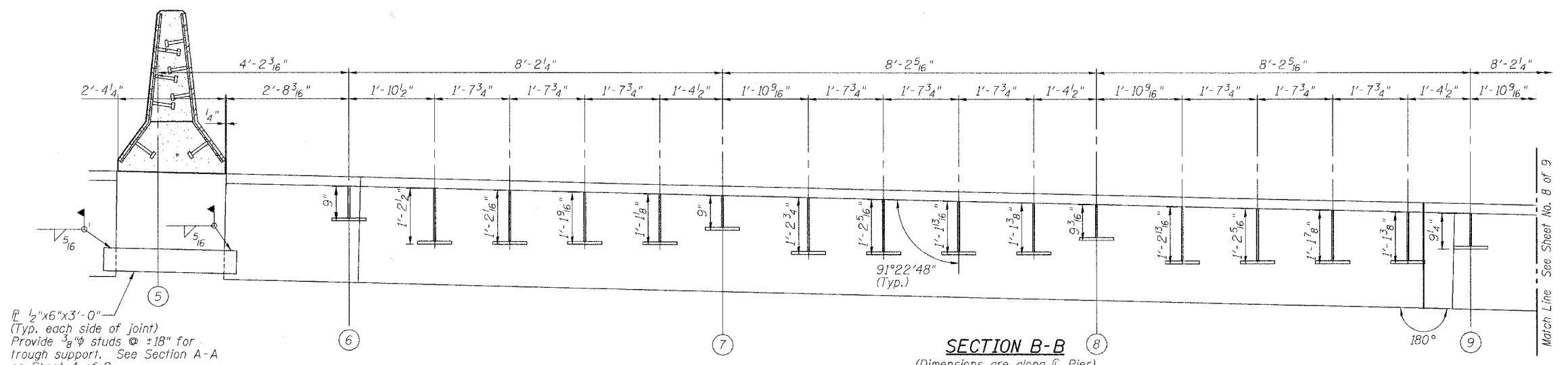
* 2003-0291
Contract #62581



SECTION A-A
(Dimensions are along \bar{C} Pier)



PLAN OF FINGER PLATE AT PIER 1 (SOUTHBOUND)



SECTION B-B
(Dimensions are along \bar{C} Pier)

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

REVISIONS	
NAME	DATE

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD
REGISTERED PROFESSIONAL ENGINEERS
PROFESSIONAL SEAL AND LICENSE
ILLINOIS PROFESSIONAL ENGINEERING CORPORATION
001 755-8914, 021 755-8917, P.O. Box 10000, Springfield, Illinois 62710

COMPUTER FILE NO.
04286-W01-SB-PE2
PROJECT 04286-W01
5/11/06-MML

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PLOT DATE = 5/16/2006
PLOT TIME = 12:28:11 PM
OPERATOR = MATHUR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAI 90/94	*	COOK	344	252
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
2003-0291 Contract #62581				

SHEET NO. 9
9 SHEETS

NOTES

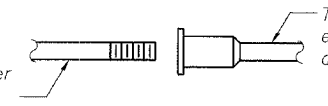
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_f$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $1.25 \times f_{sallow} \times A_f$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 f_{sallow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_f = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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

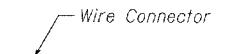
The diameter of this part is equal or larger than the diameter of bar spliced.



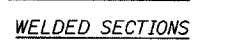
ROLLED THREAD DOWEL BAR



** ONE PIECE



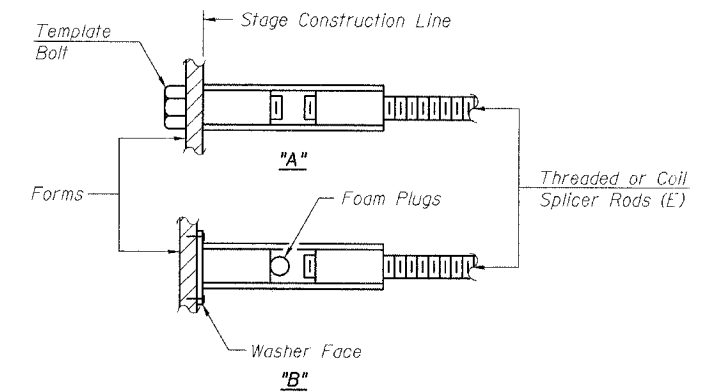
WIRE CONNECTOR



WELDED SECTIONS

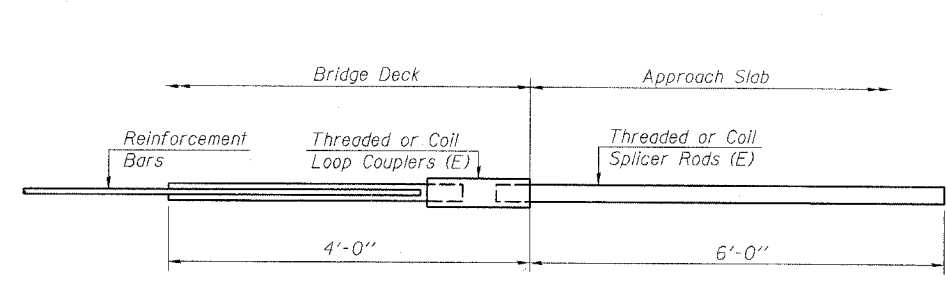
BAR SPLICER ASSEMBLY ALTERNATIVES

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



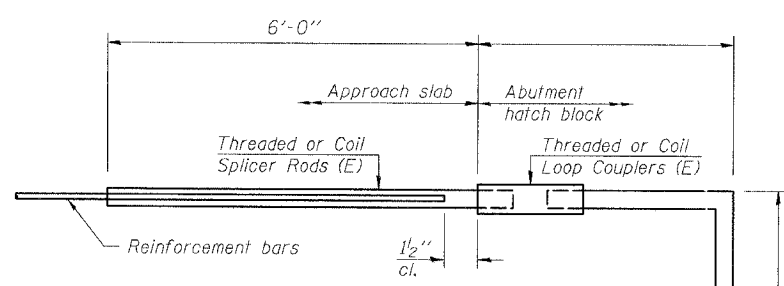
INSTALLATION AND SETTING METHODS

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



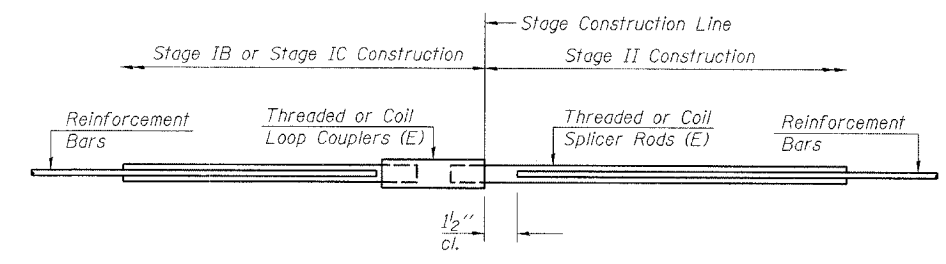
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	48	Deck

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
SCALE: HORIZ. _____
DATE: 4/7/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

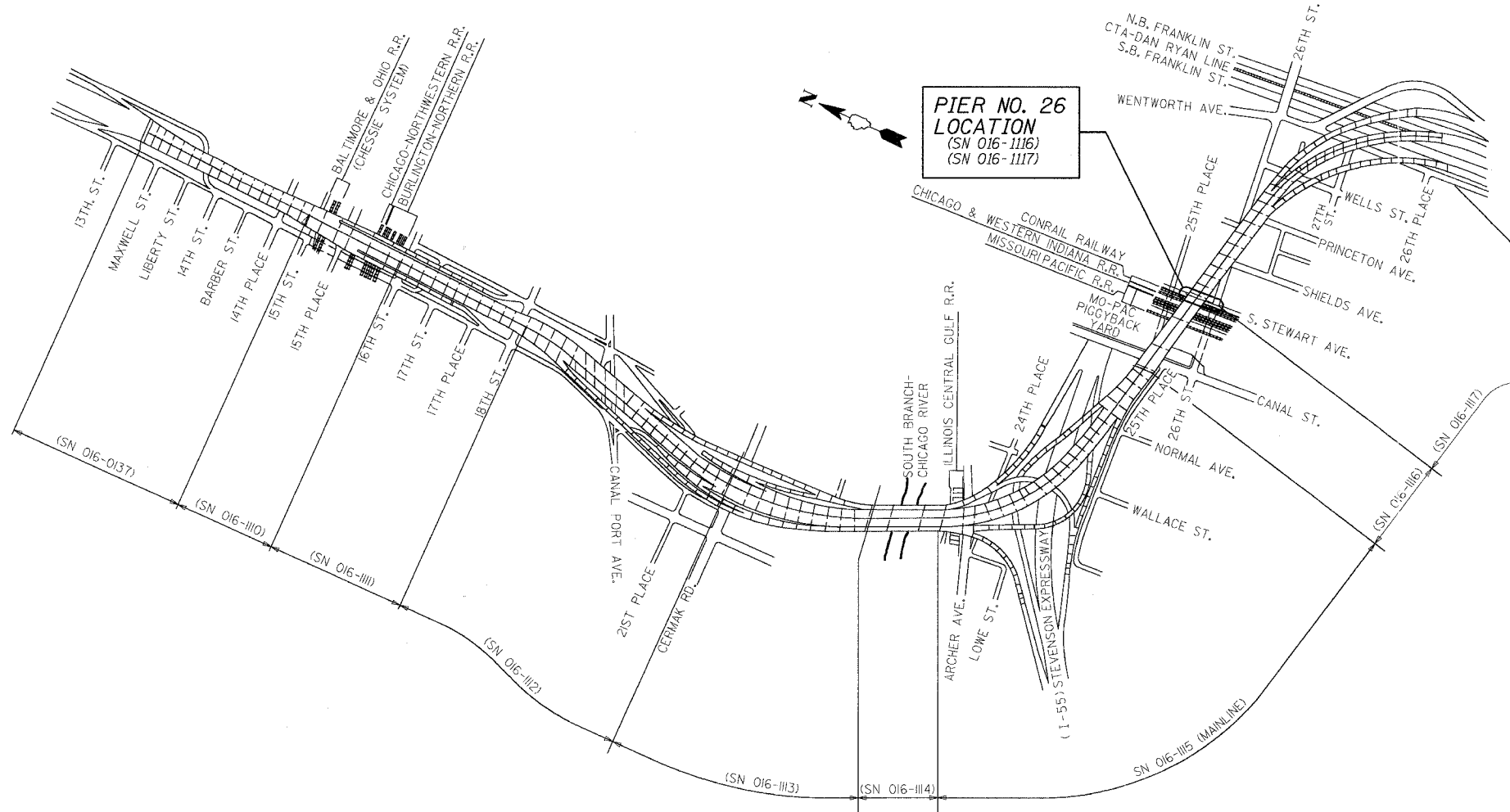
GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS
REGISTERED IN THE STATE OF ILLINOIS
1015 W. 11TH ST. SPRINGFIELD, ILL. 62767
TEL: 217-223-1111 FAX: 217-223-1112

COMPUTER FILE NO.
04286-W01-SB-BSD
PROJECT 04286-W01
5/11/06-MML

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PLOT TIME = 2:28:20 PM
OPERATOR = michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	253
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2003-029 I Contract #62581				



KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

GENERAL NOTES

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

Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.

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

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 for the work.

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

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

All Construction joints shall be bonded.

Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing and Erecting Structural Steel".

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.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

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

Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".

Existing design and fabrication plans are available upon request.

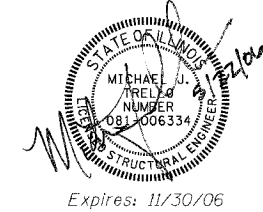
All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight of structural steel = 34,050 lbs.

DESIGN STRESSES

$f'_c = 3500$ psi
 $f_y = 60,000$ psi (Reinf)
 $f_y = 50,000$ psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	14.6
Concrete Superstructure	Cu Yd	17.5
Furnishing and Erecting Structural Steel	L.S.	0.14
Reinforcement Bars, Epoxy Coated	Pound	2,490
Fabric Reinforced Elastomeric Trough	Foot	68
Mechanical Splice	Each	126
Bar Splicers	Each	24
Field Measurements	L. Sum	0.14



Expires: 11/30/06

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

KEY PLAN

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY) OVER 28th ST. TO S. STEWART ST. COOK COUNTY S.N. 016-1117 - PIER 26

VERT. SCALE: HORIZ. DATE: 4/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC. OF SPRINGFIELD

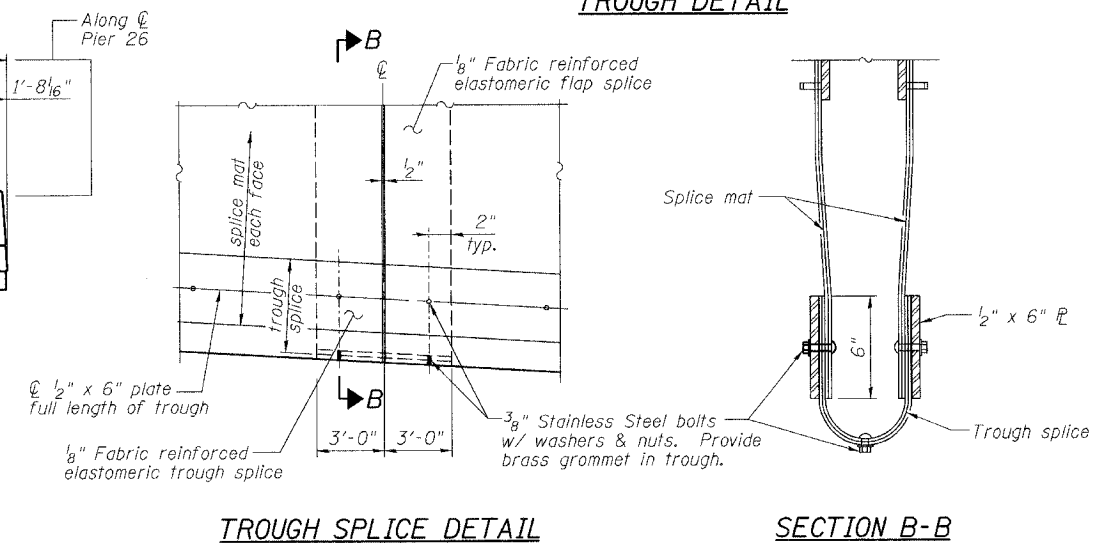
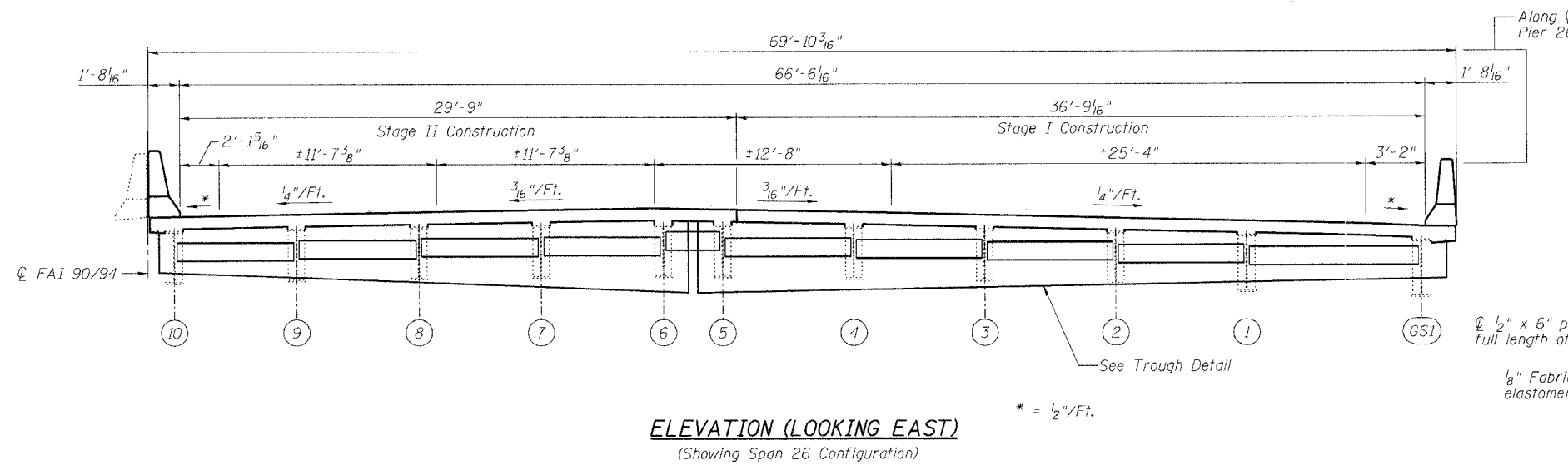
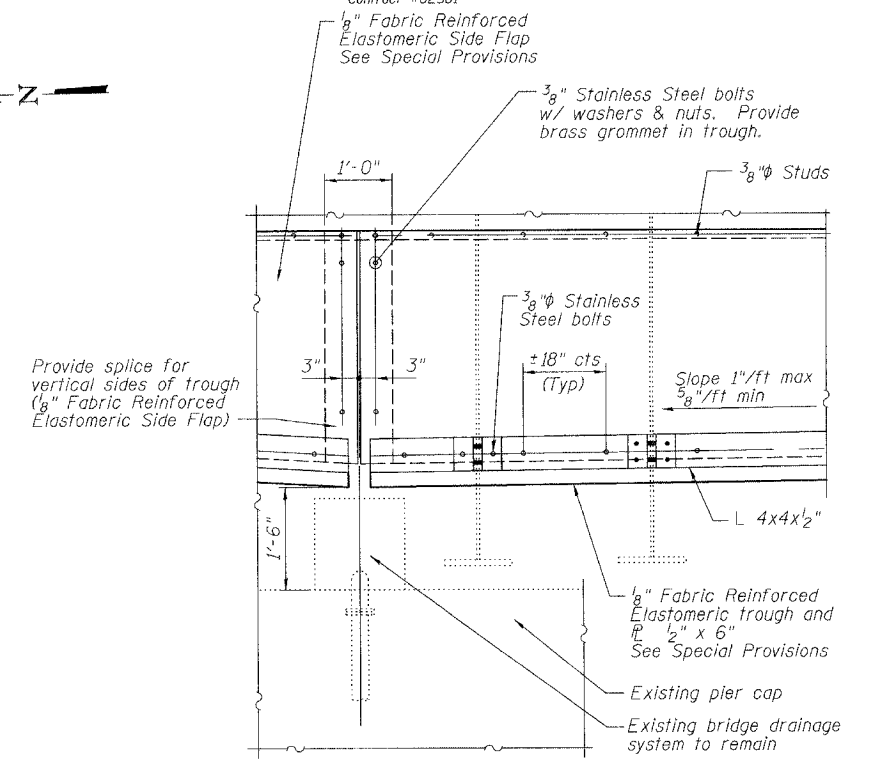
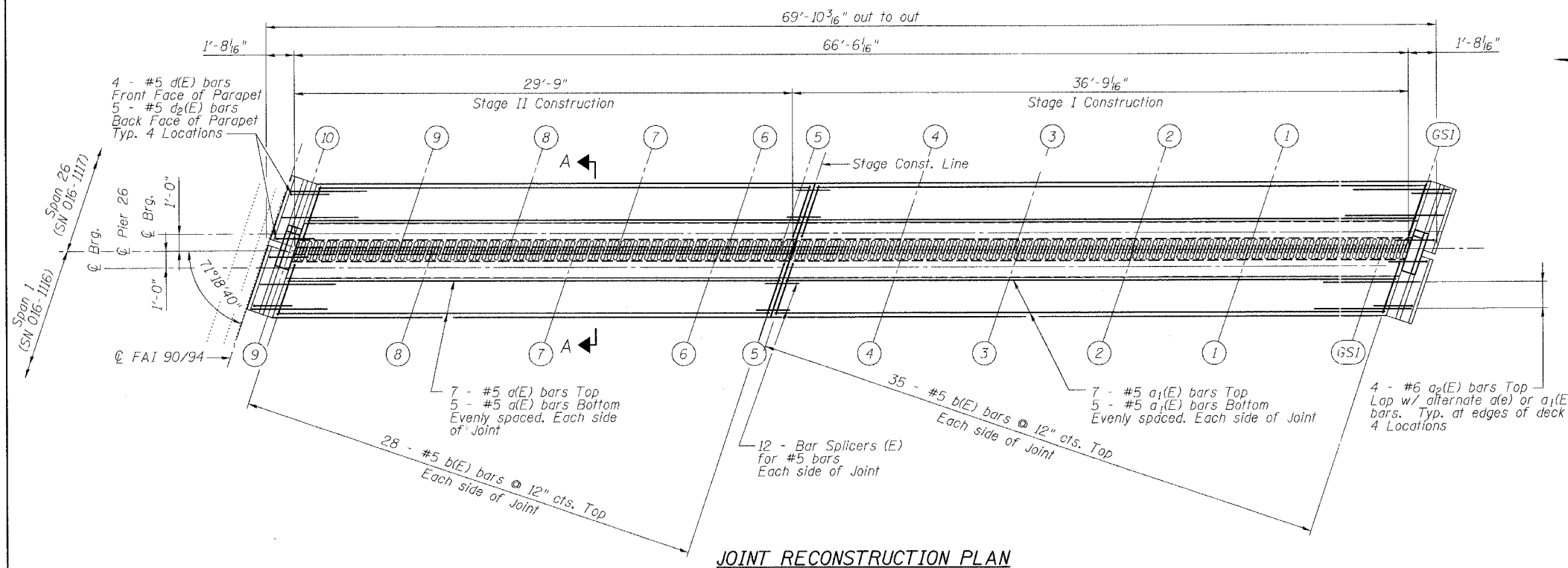
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PROJECT 04286-W03
5/22/06-MML

PLOT DATE = 5/22/2006
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OPERATOR = michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILES	SHEET NO.	SHEET NO. 3
FAI 90/94	*	COOK	344	255	8 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

* 2003-029T
Contract #62581



Notes:

1. For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 9.
2. For Section A-A, see Sheet 4 of 9.
3. Deck cross slopes shown are at right angles to @ Rdwy.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 26 JOINT DETAILS

F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT.
HORIZ.
DATE: 4/1/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

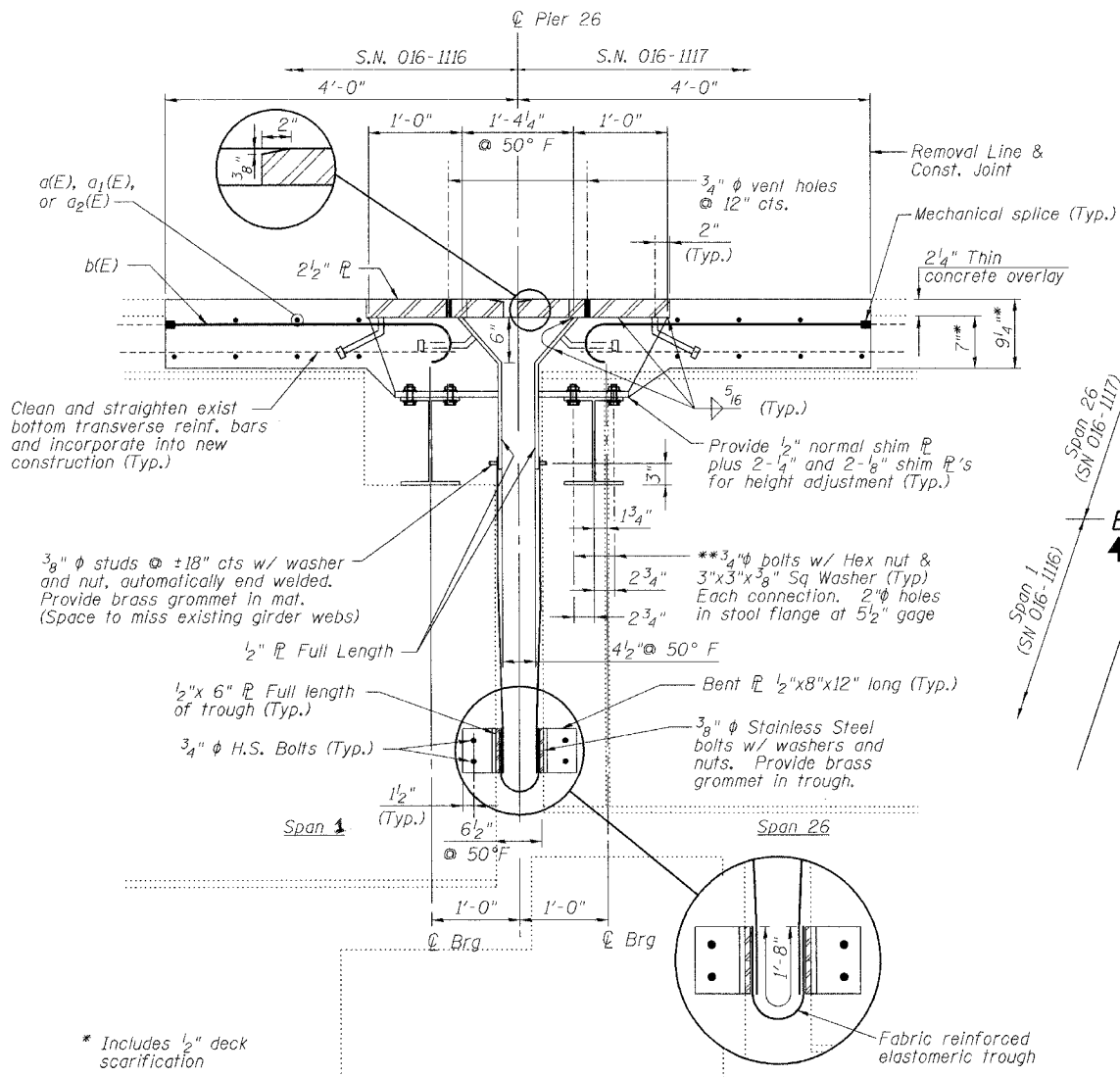
<p>GREENE & BRADFORD, INC. OF SPRINGFIELD CIVIL ENGINEERS REGISTERED PROFESSIONAL ENGINEERS PROFESSIONAL SURVEYORS COMPUTER AIDED DESIGN CORP. 100-2000, 100-2000 21st St., Springfield, IL 62761 TEL: 217-223-1111 FAX: 217-223-1112</p>	<p>COMPUTER FILE NO. 04286-W03-SB-PJ1</p> <p>PROJECT 04286-W03 5/15/06-MML</p>
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

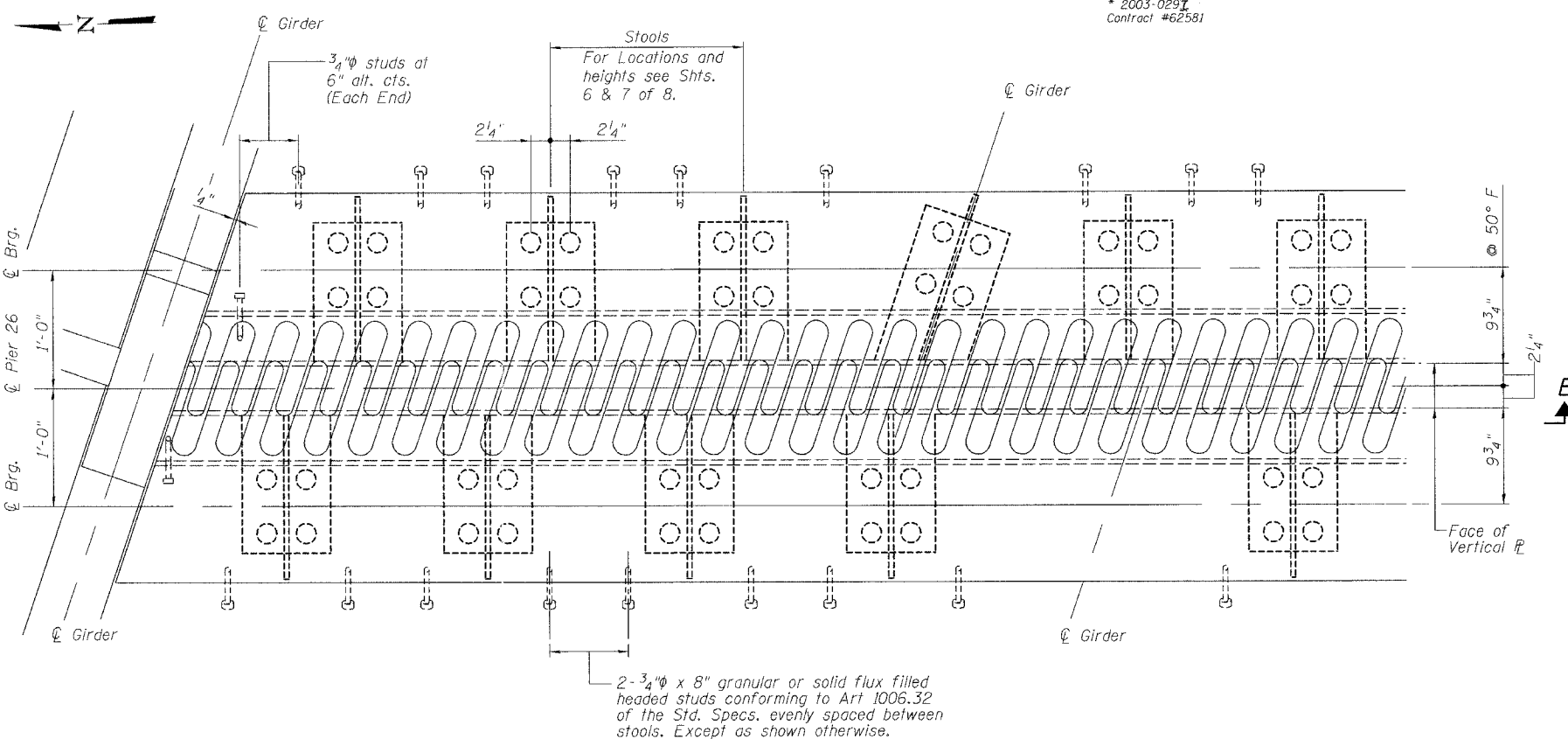
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	344	256
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4
8 SHEETS

* 2003-0297
Contract #62581



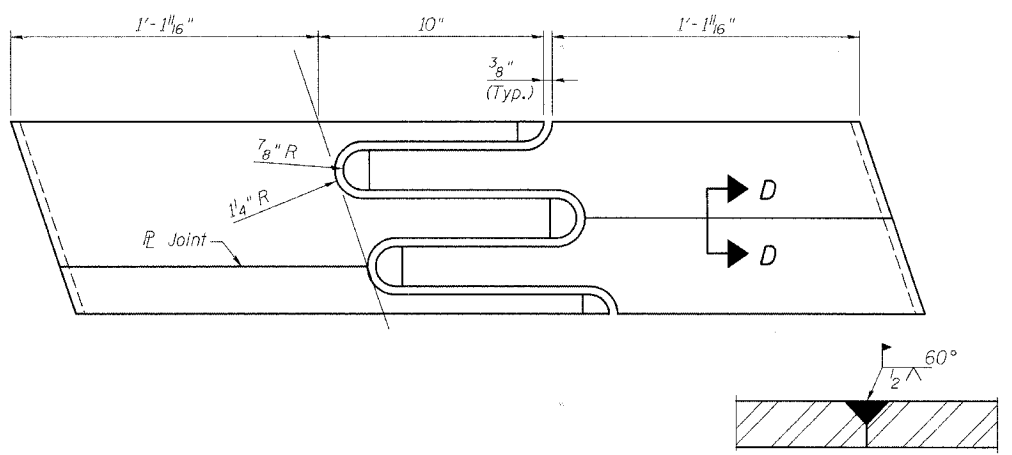
SECTION A-A



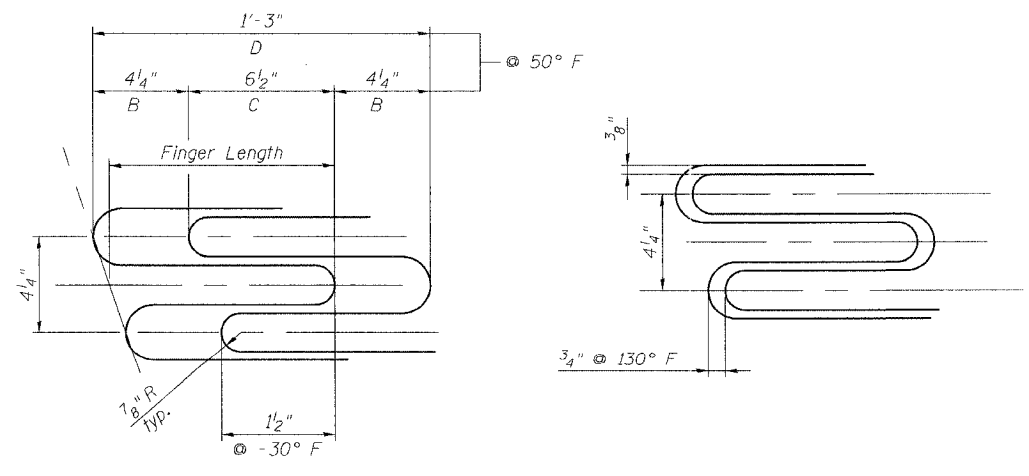
PLAN

NOTES

1. The Contractor shall bolt the Stools of the Fingerplate Joint Assembly to the top of existing girders on the Span 26 side, to Girders 1 and GS1 on the Span 1 side, and to the top of the new diaphragms, as shown.
2. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
3. The furnishing and installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing and Erecting of Structural Steel".
4. For Section B-B, see Sheet 5 of 8.



FLAME CUTTING DIAGRAM
(Proposed Finger PL - Cut from 2 1/2" x 2'-11 3/4" PL)



FINGER DETAIL
Finger Length = 10"
Weld Length = 12"
Weld Size = 5/16"
Expansion Length = 567.1'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 26 JOINT DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28TH ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 04286-03
PROFESSIONAL SEAL FILE NO. 0008
1001 N. BROADWAY, SUITE 200, SPRINGFIELD, ILL. 62761-1001
TEL: 217.244.1111 FAX: 217.244.1112

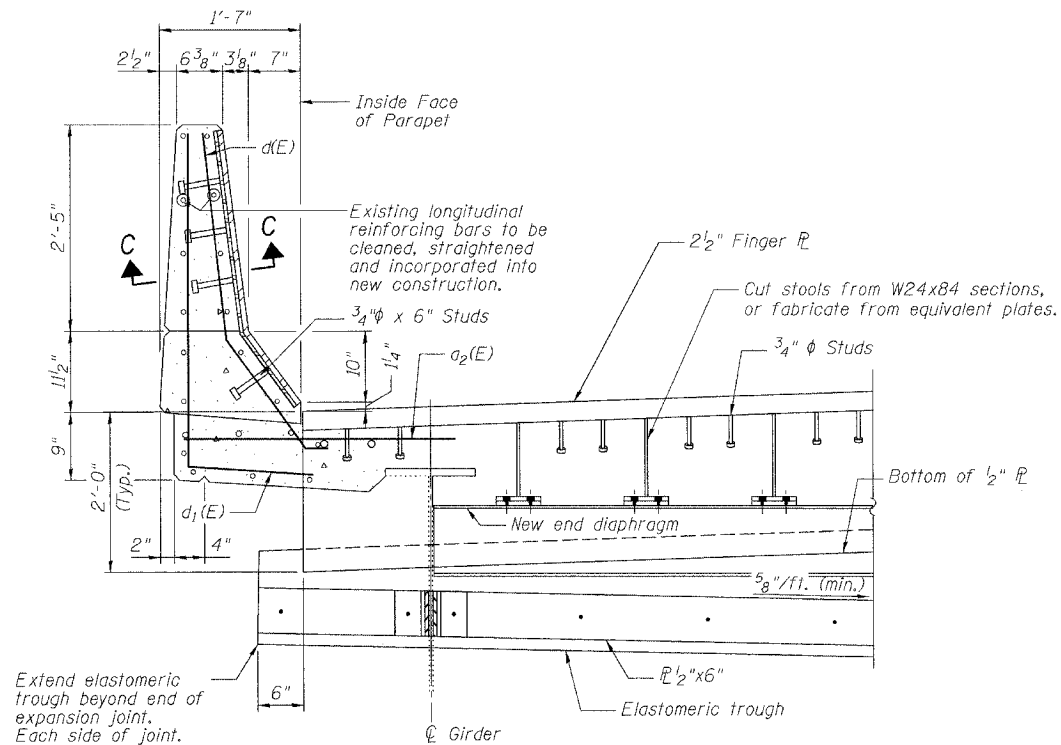
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PROJECT 04286-W03
5/15/06-MML

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

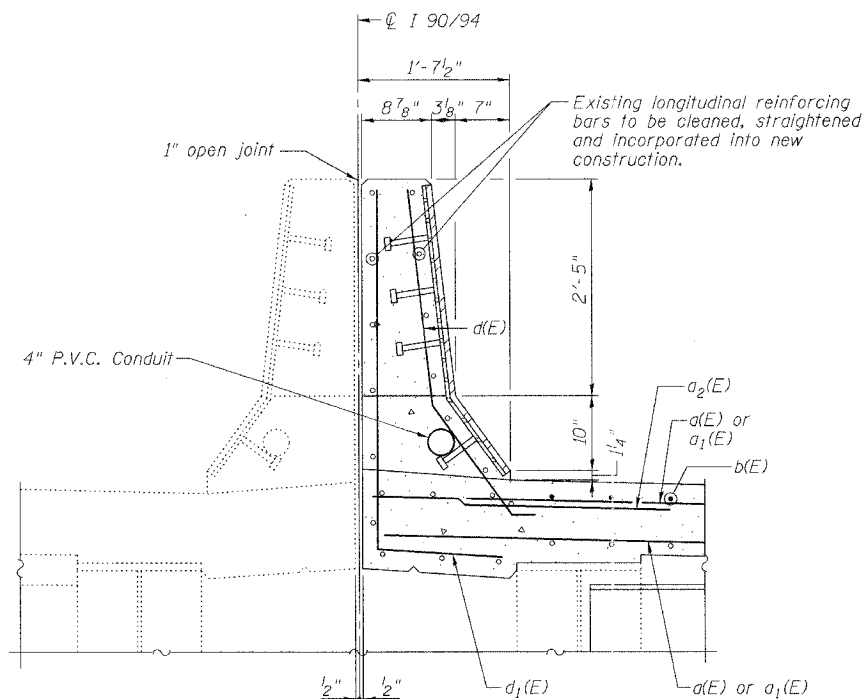
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 5
FA/ 90/94	*	COOK	344	257	8 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

* 2003-0297
Contract #62581



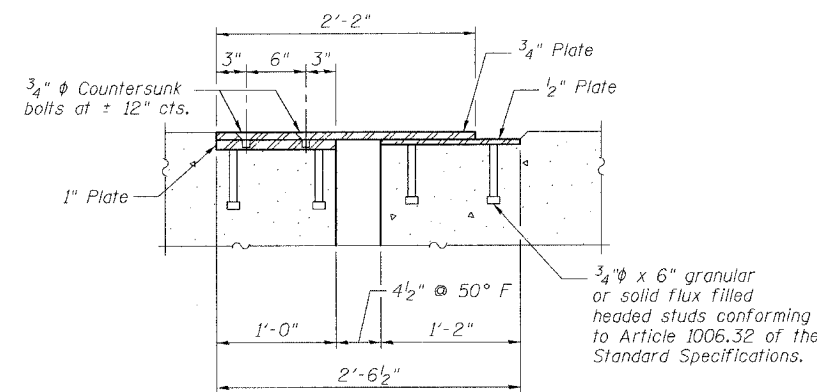
SECTION B-B

(For location of Section B-B, See Sheet 4 of 8)

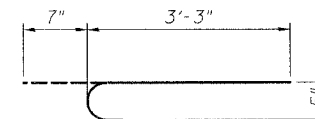


DETAIL AT MEDIAN PARAPET

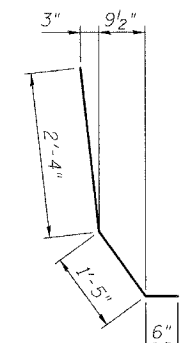
(Looking East)



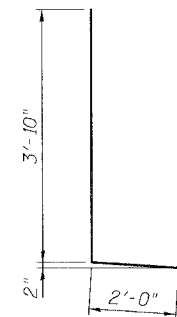
SECTION C-C



BAR b(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	24	#5	30'-3"	—
a1(E)	24	#5	37'-3"	—
a2(E)	16	#6	4'-6"	—
b(E)	126	#5	3'-10"	┌
d(E)	16	#5	4'-3"	└
d1(E)	20	#5	5'-10"	└
Reinforcement Bars, Epoxy Coated			Pound	2490
Concrete Removal			Cu. Yd.	14.6
Concrete Superstructure			Cu. Yd.	17.5
Mechanical Splice			Each	126
Bar Splicers			Each	24

Reinforcing bars designated (E) shall be epoxy coated.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PARAPET DETAILS
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 4/7/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 04286-W03-SB-PD

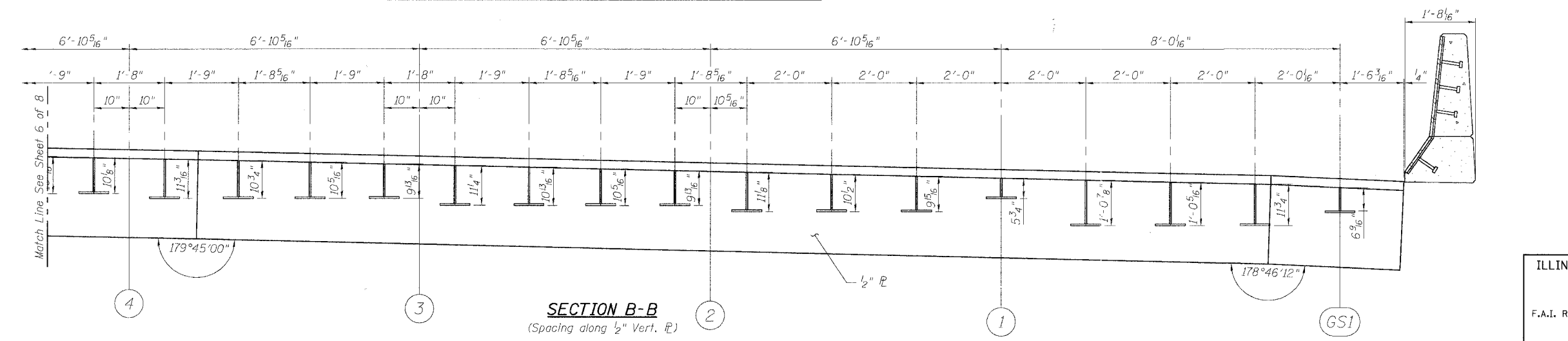
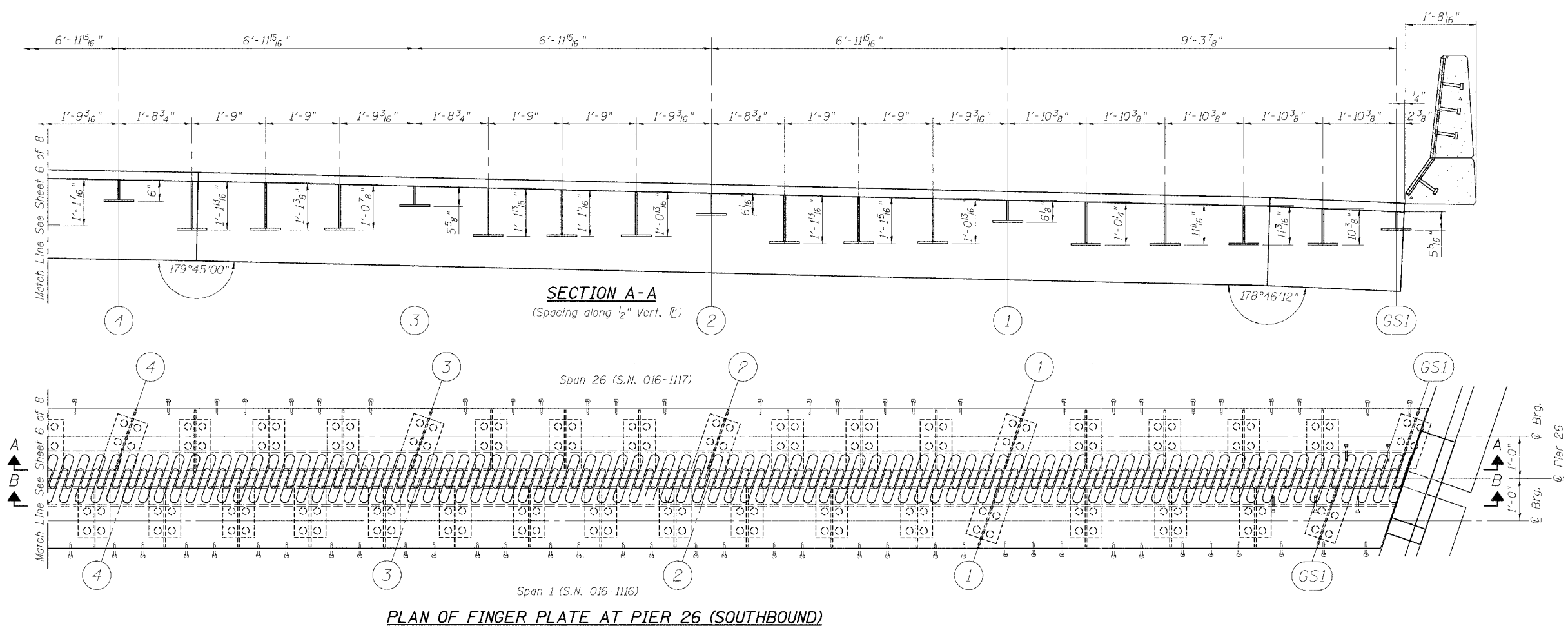
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PROJECT 04286-W03
5/15/06-MML

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OPERATOR = michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 344	SHEET NO. 259	SHEET NO. 7 8 SHEETS
FED. ROAD DIST. NO. * 2003-0291		ILLINOIS FED. AID PROJECT Contract #62581			



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY) OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 4/1/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
OF SPRINGFIELD

REGISTERED PROFESSIONAL ENGINEER
NO. 016-1117-01
PROFESSIONAL SEAL NO. 016-1117-01
REGISTERED PROFESSIONAL ENGINEER
NO. 016-1117-01

COMPUTER FILE NO.
04286-W03-PE2
PROJECT 04286-W03
5/22/06-MML

PLOT DATE = 5/22/2006
PLOT TIME = 12:27:42 PM
OPERATOR = michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	SHEET NO. 344	SHEET TOTAL 260
FED. ROAD DIST. NO. * 2003-02S I		ILLINOIS FED. AID PROJECT Contract #62581		

SHEET NO. 8
8 SHEETS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

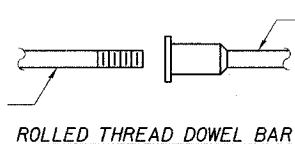
- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{sallow} \times A_t$
(Tension in kips)

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

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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

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

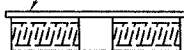


ROLLED THREAD DOWEL BAR



** ONE PIECE

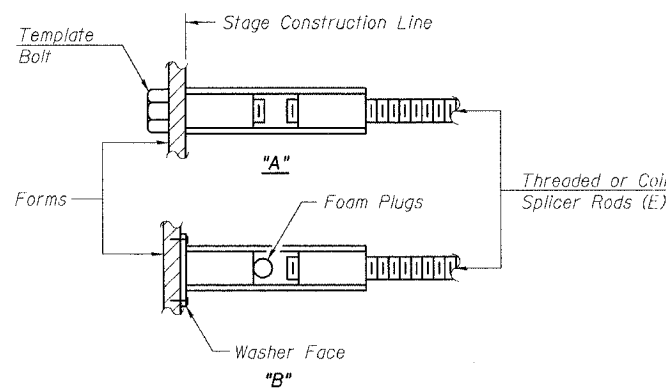
Wire Connector



WELDED SECTIONS

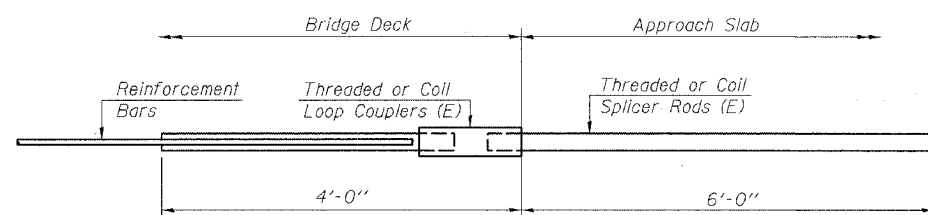
BAR SPLICER ASSEMBLY ALTERNATIVES

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



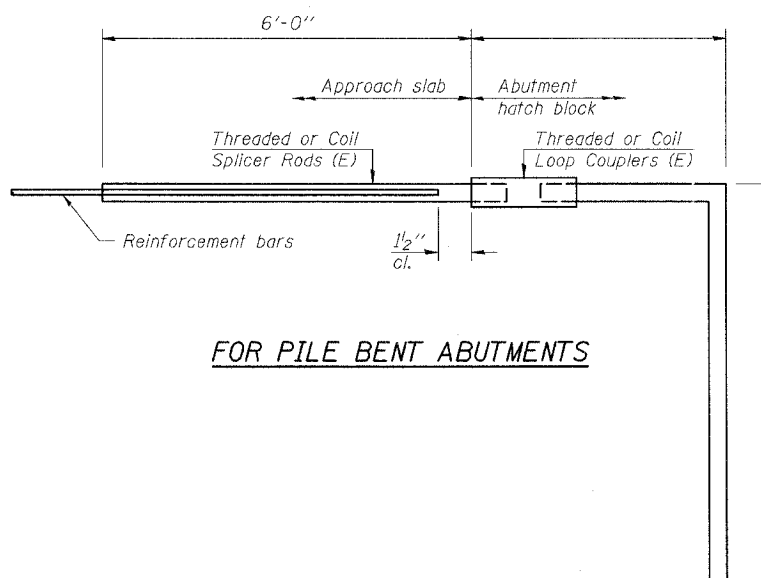
INSTALLATION AND SETTING METHODS

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



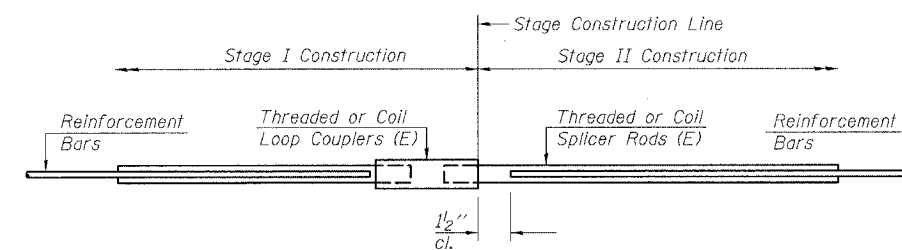
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	Deck

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS

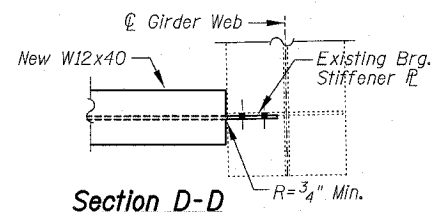
F.A.I. ROUTE 90/94 SOUTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. HORIZ.
DATE: 4/1/05
DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: MATHUR

GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS
SINCE 1911
COMPUTER FILE NO.
04286-W03-SB-BSO
PROJECT 04286-W03
5/15/06-MML

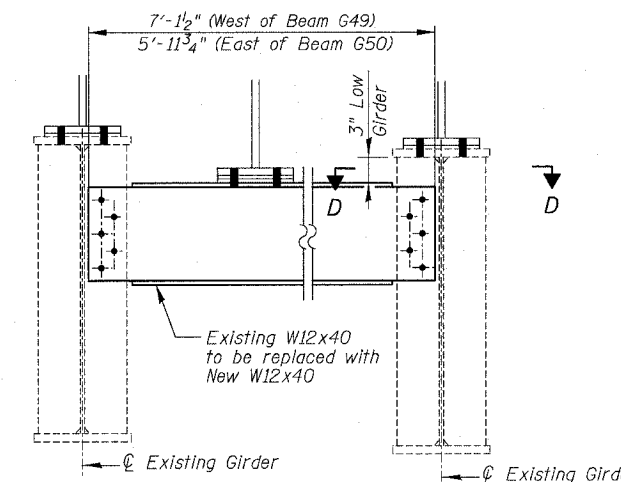
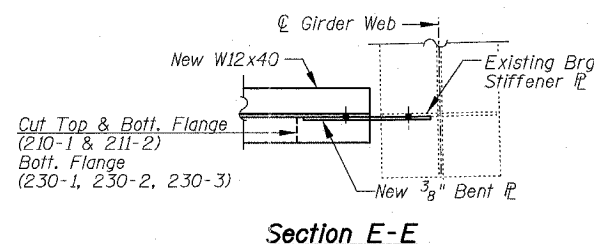
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029I	COOK	344	262
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62581



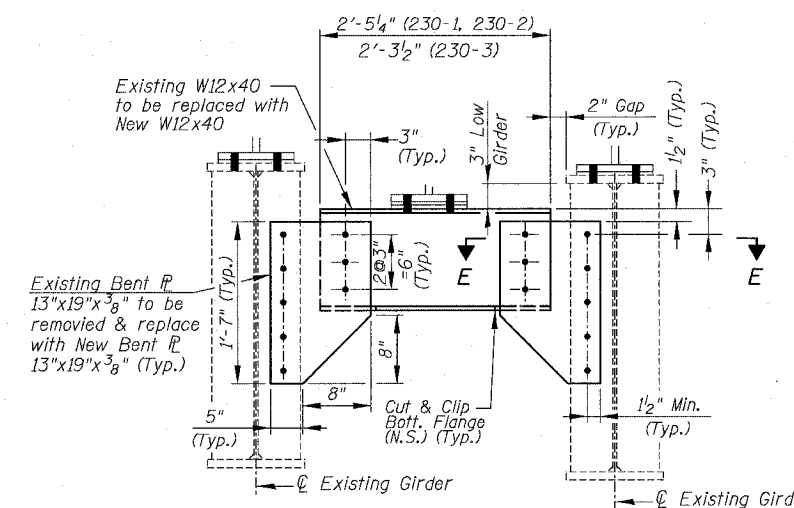
NOTES:

1. Use 7/8" φ H.S. bolts for all cross frame/diaphragm connections at this pier location (excluding stool connections).
2. Field drill 15/16" φ holes for 7/8" φ bolts. Use 2" min. edge distance for all 7/8" φ bolts unless otherwise noted.
3. Calculated weight of Structural Steel used for the item "Furnishing & Erecting Structural Steel" = 7,980 Lbs.
4. E.S. denotes East Side. W.S. indicates West Side.



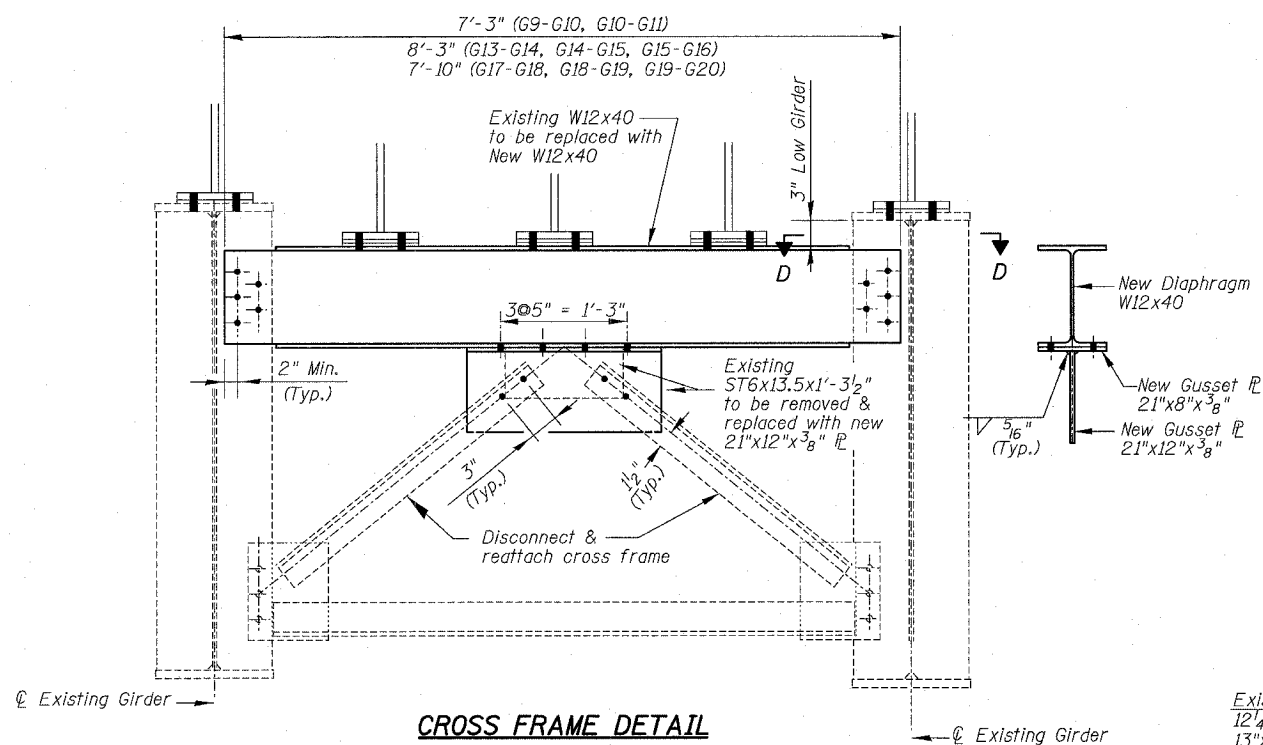
DIAPHRAGM DETAIL

S.N. 016-1110 (DEJ)	
DEJ	11 REQ'D



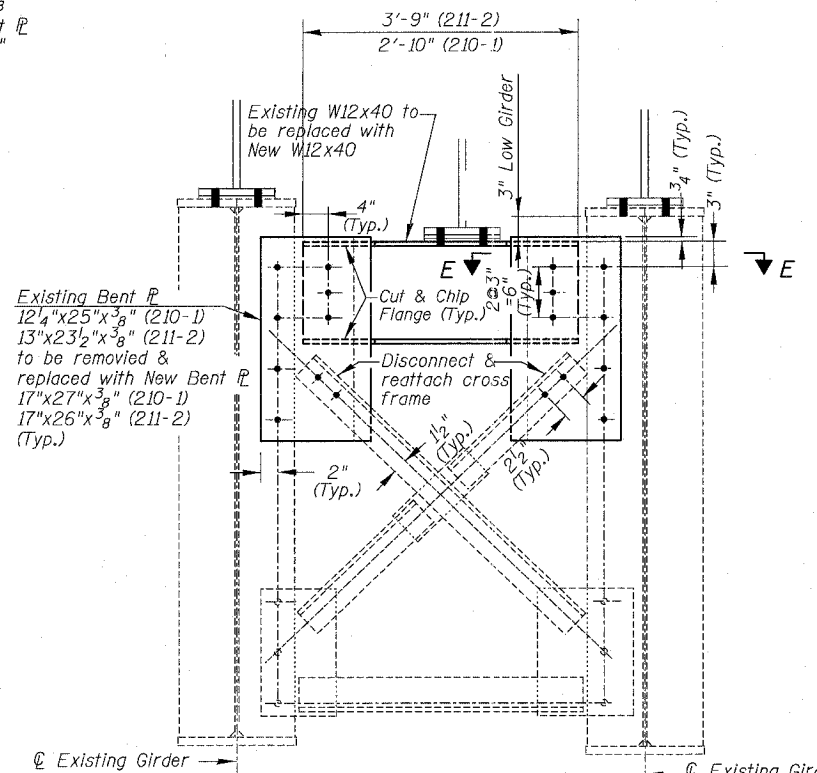
DIAPHRAGM DETAIL

S.N. 016-1110	
230-1	1 REQ'D
230-2	1 REQ'D
230-3	1 REQ'D



CROSS FRAME DETAIL

S.N. 016-1110	
ECF	8 REQ'D



CROSS FRAME DETAIL

S.N. 016-1110	
210-1	1 REQ'D
211-2	1 REQ'D

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Lum Sum	0.03
Structural Steel Removal	Pound	7,660

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 DIAPHRAGM REPLACEMENT
 PIER 4, SN 016-1110

SCALE: NTS
 DATE: 5/25/2006

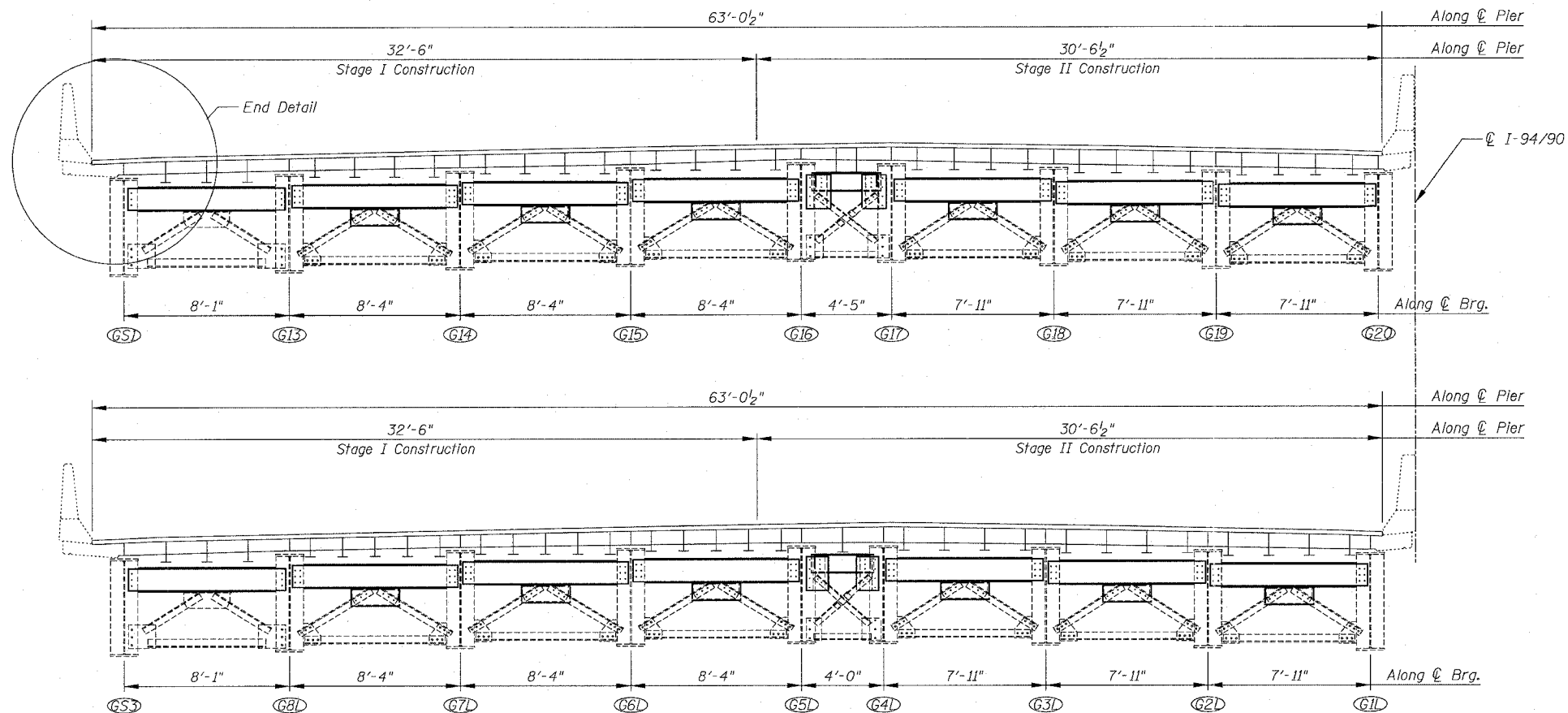
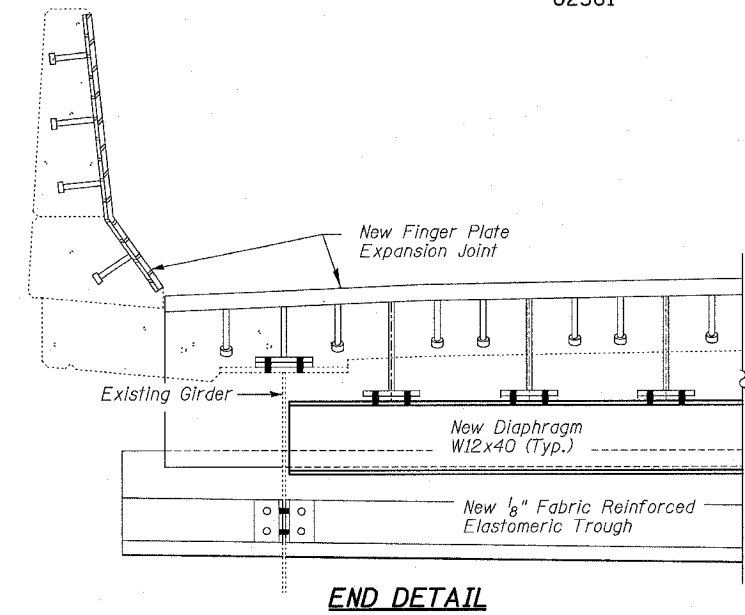
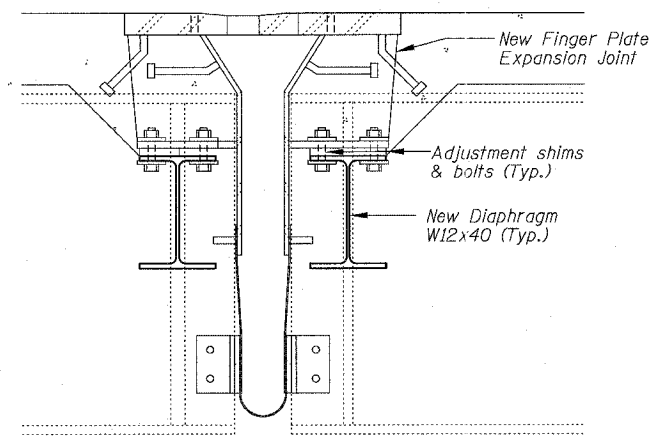
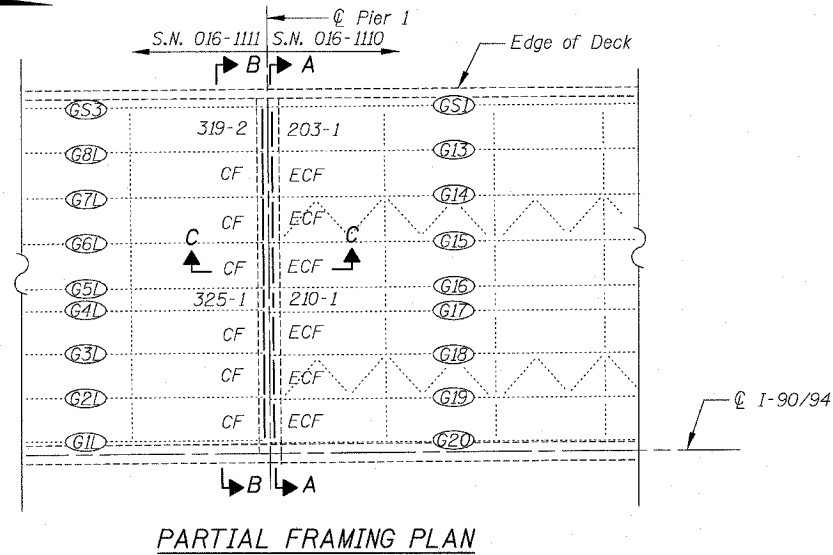
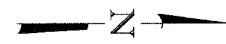
DRAWN BY: MTR
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
 www.bbainc.com

I:\660\BRIDGE\2\ASSETS\SHEETS\660_2\106\FR\106

4-3834-FM
5/25/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	263
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62581				

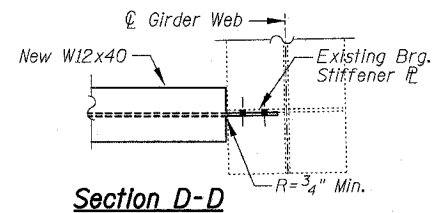


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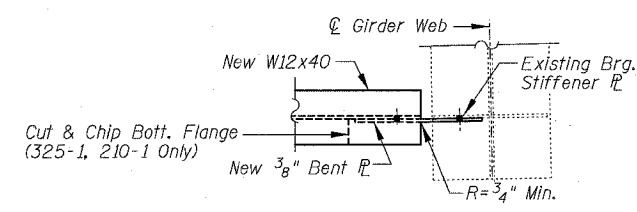
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	F.A.I. 94/90 (DAN RYAN EXPRESSWAY)	
		SB DAN RYAN ELEVATED BRIDGE	
		REPAIR FROM 15TH TO 28TH STREETS	
		DIAPHRAGM REPLACEMENT	
		PIER 1, SN 016-1110	
		SCALE: NTS	DRAWN BY: BDC
		DATE: 5/25/2006	CHECKED BY: IYL

I:\660\COOK\BRIDGE\2\ASHEETS\660_21_016-110_FF_12.dwg 4/30/05 PM 5/25/2006

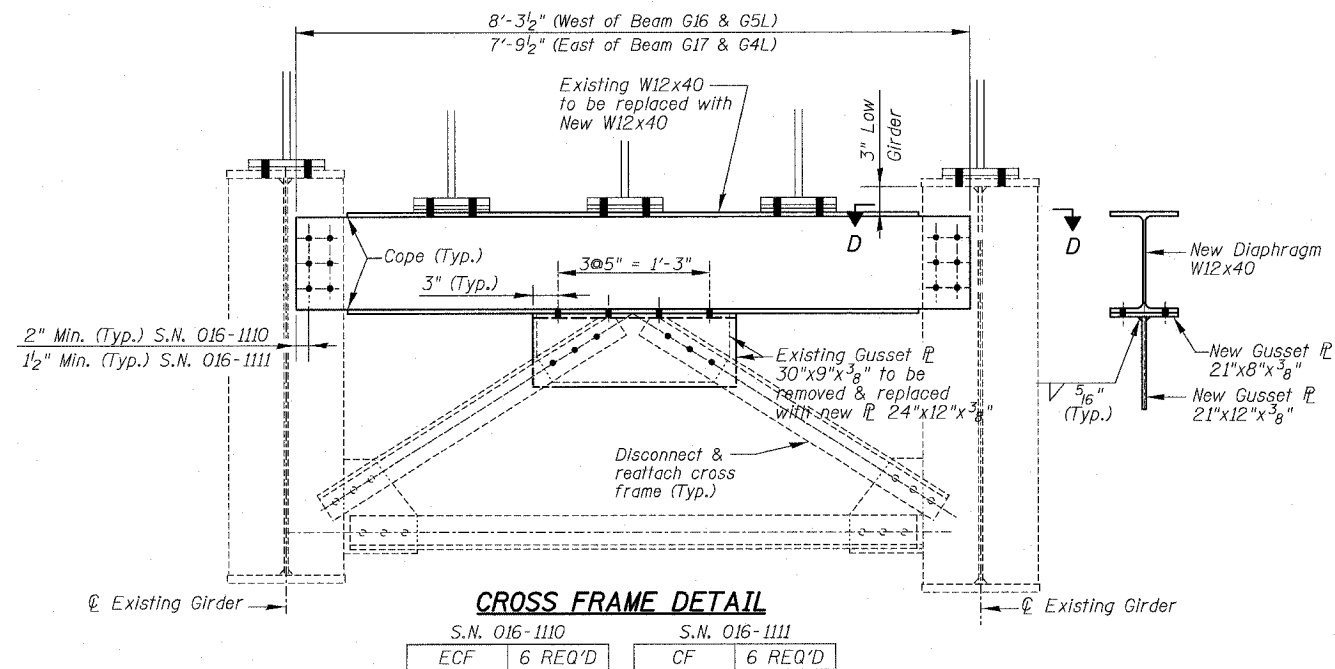
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Section D-D

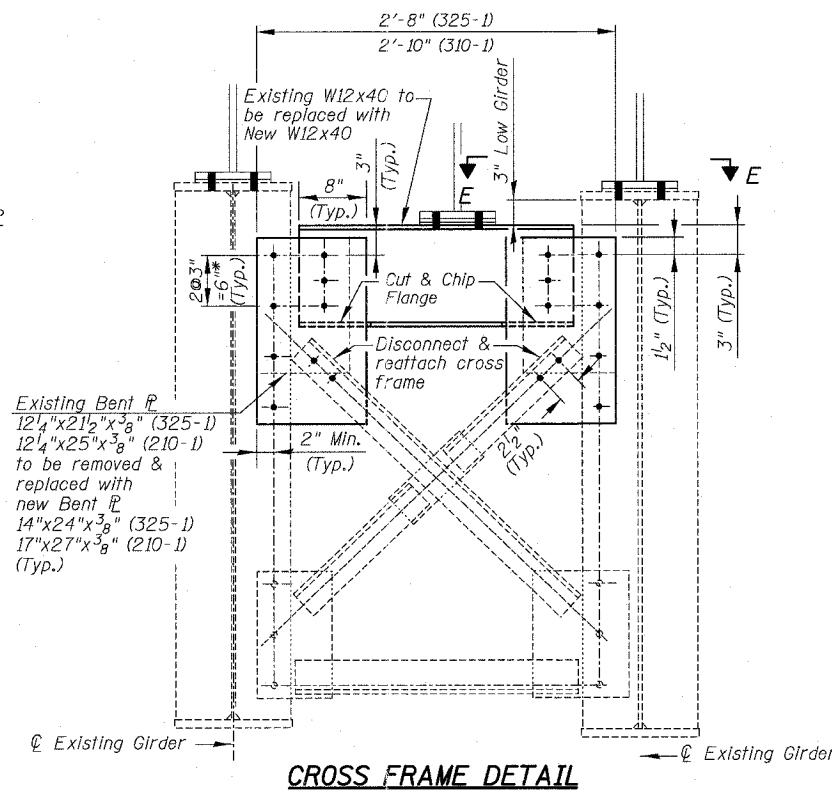


Section E-E



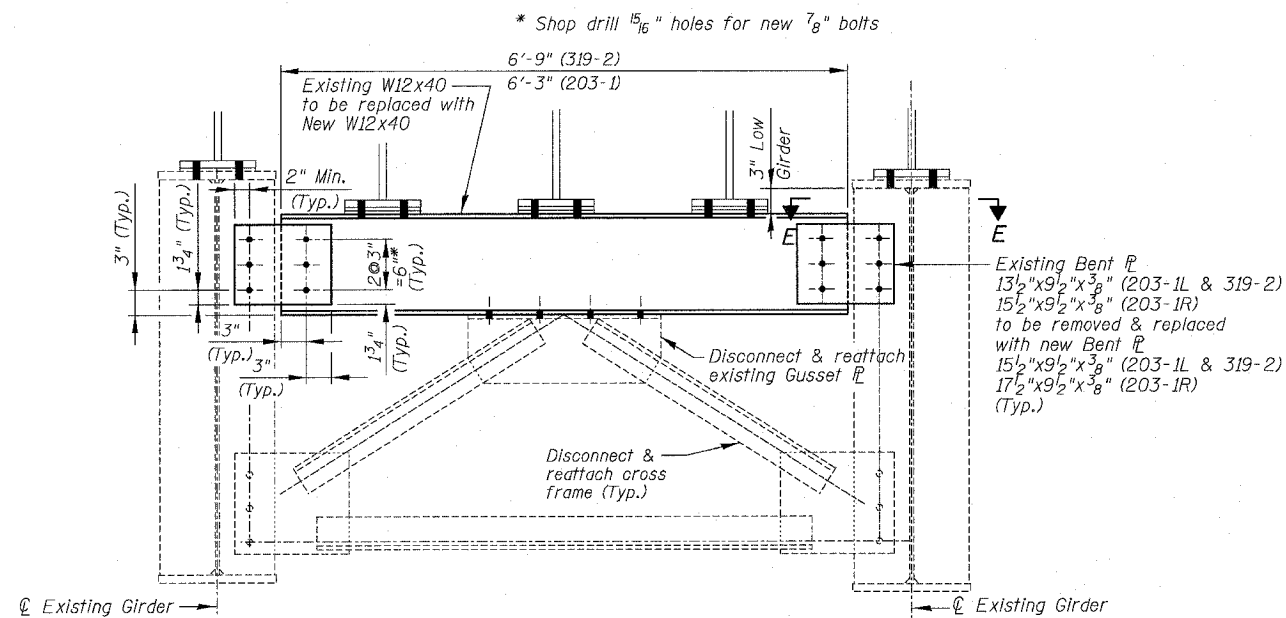
CROSS FRAME DETAIL

S.N. 016-1110	S.N. 016-1111
ECF 6 REQ'D	CF 6 REQ'D



CROSS FRAME DETAIL

S.N. 016-1110	S.N. 016-1111
210-1 1 REQ'D	325-1 1 REQ'D



CROSS FRAME DETAIL

S.N. 016-1110	S.N. 016-1111
203-1 1 REQ'D	319-2 1 REQ'D

NOTES:

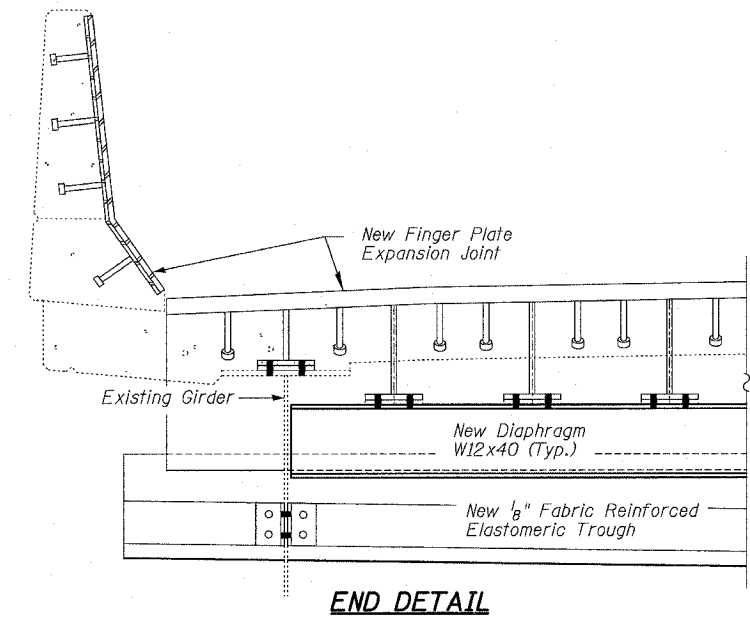
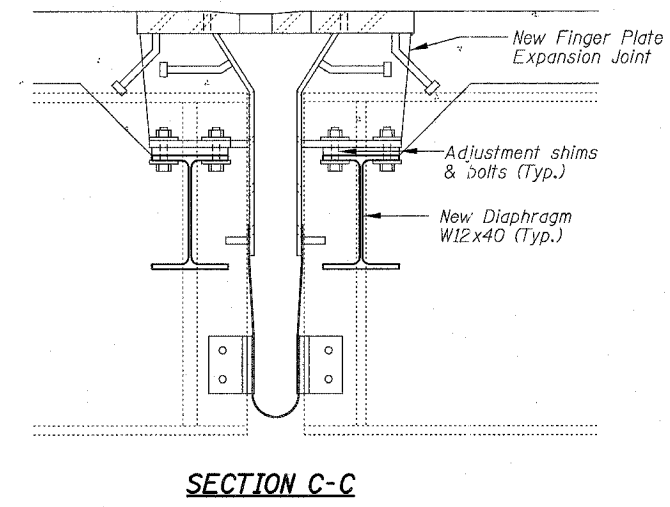
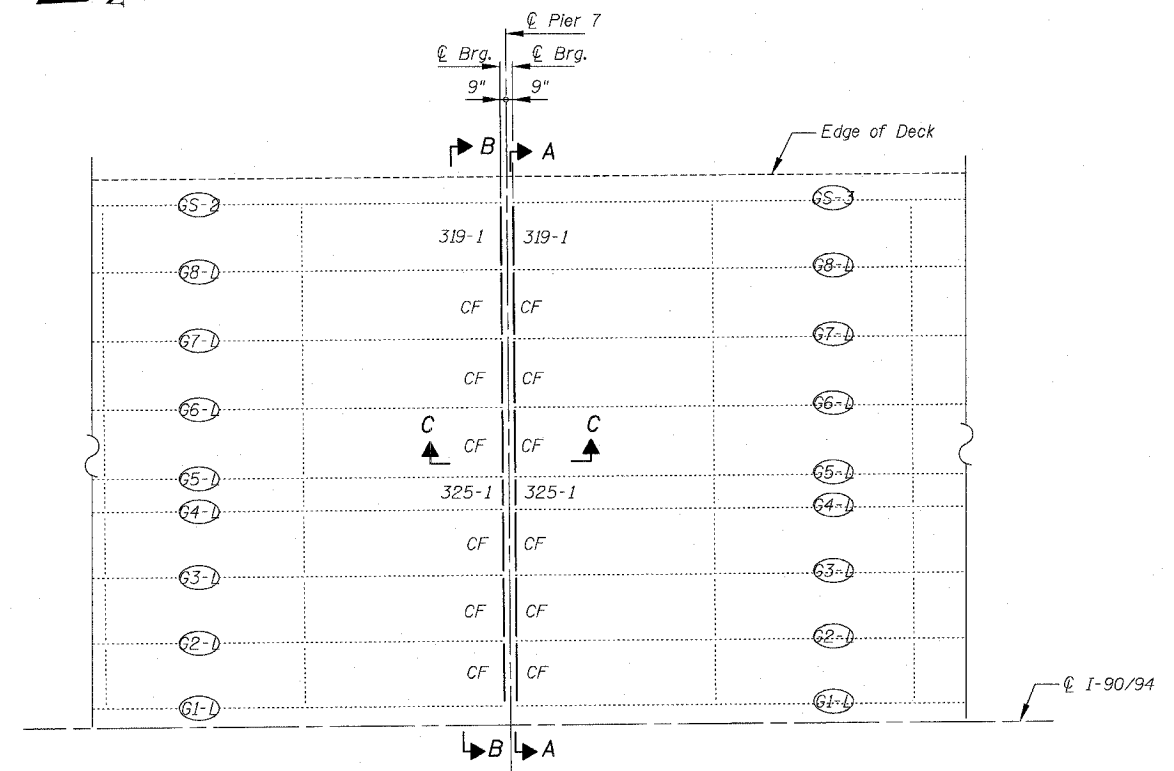
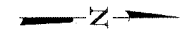
- Use 7/8" H.S. bolts for all cross frame/diaphragm connections at this pier location (excluding stool connections).
- Field drill 15/16" holes for 7/8" bolts. Use 2" min. edge distance for all 7/8" bolts unless otherwise noted.
- Calculated weight of Structural Steel used for the item "Furnishing & Erecting Structural Steel" = 6,300 Lbs. and itemized as follows:
S.N. 016-1110 = 3,080 Lbs
S.N. 016-1111 = 3,220 Lbs
- Calculated weight of Structural Steel used for the item "Structural Steel Removal" = 5,710 Lbs. and itemized as follows:
S.N. 016-1110 = 2,770 Lbs
S.N. 016-1111 = 2,940 Lbs

BILL OF MATERIAL

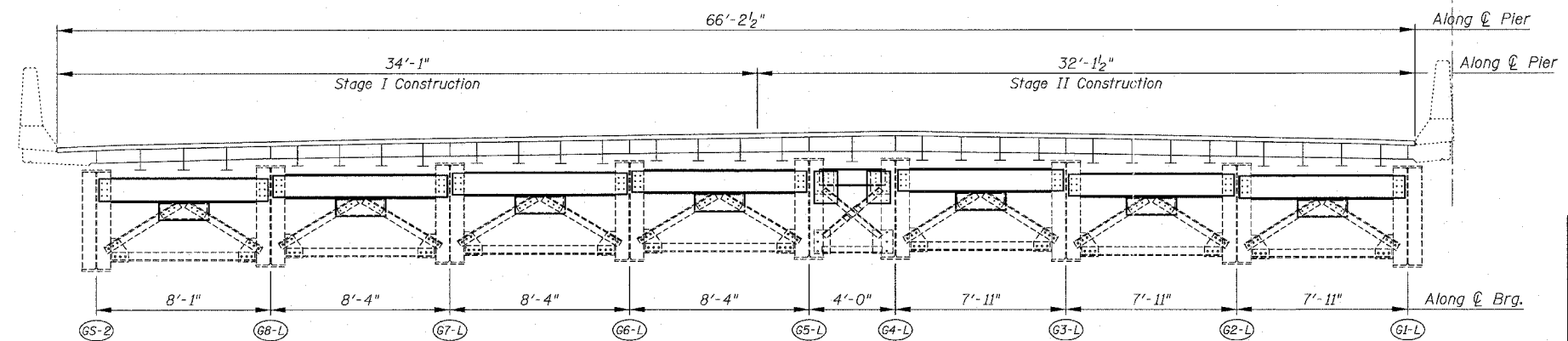
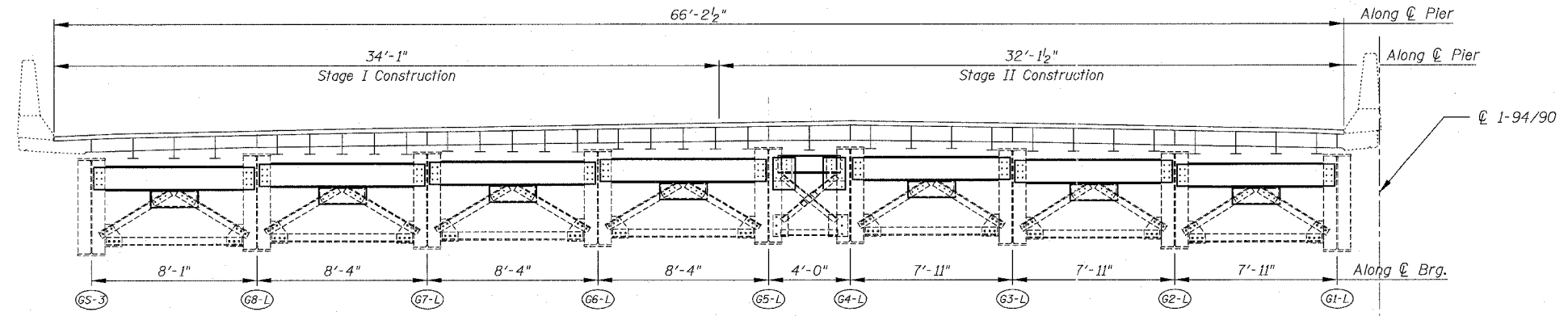
Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Lum Sum	0.03
Structural Steel Removal	Pound	5,710

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) SB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS DIAPHRAGM REPLACEMENT PIER 1, SN 016-1110
NAME	DATE	
		SCALE: NTS DATE: 5/25/2006
		DRAWN BY: BDC CHECKED BY: IYL

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	265
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62581				



PARTIAL FRAMING PLAN



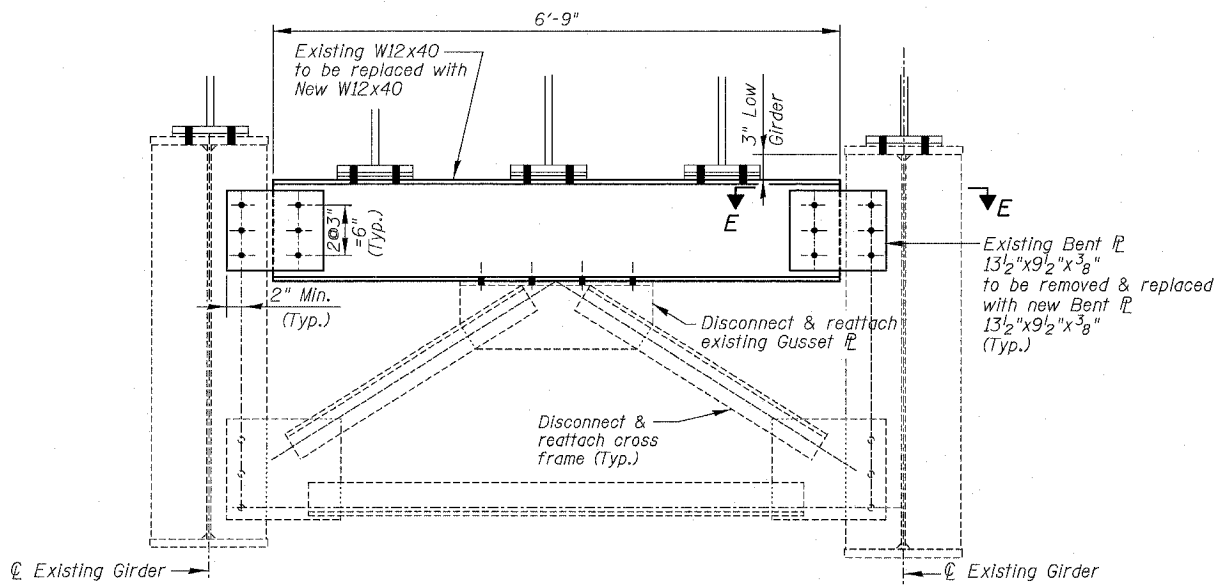
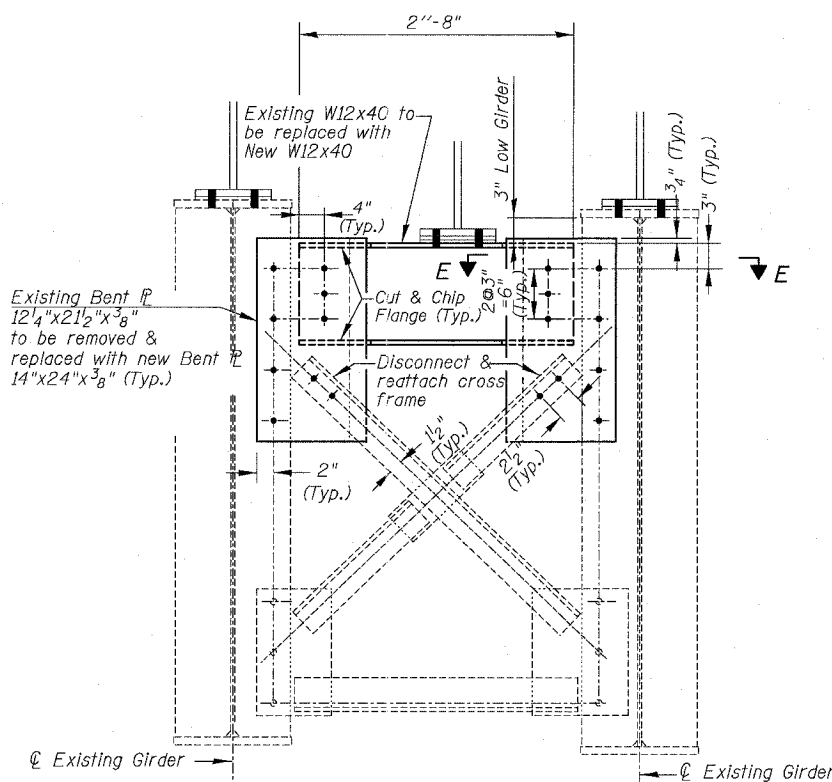
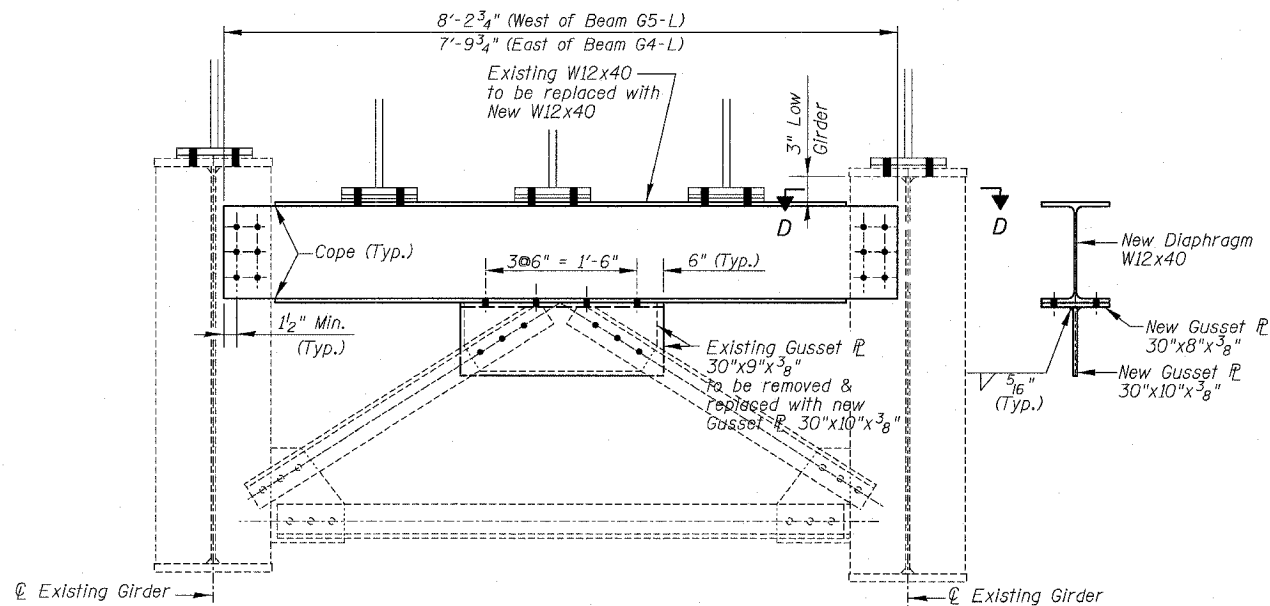
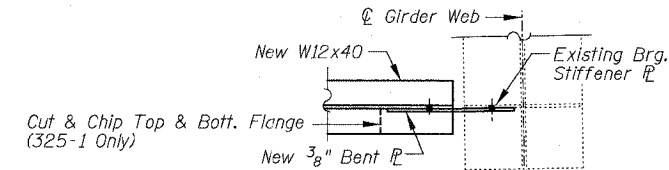
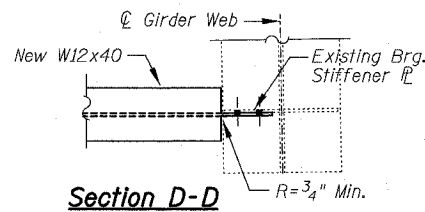
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
DIAPHRAGM REPLACEMENT
PIER 7, SN 016-1111
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: IYL

M:\940291\BRIDGE\02\SHEETS\660-21.DWG (11/11/06) 4:42:05 PM 5/25/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	266
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62581				



- NOTES:**
1. Use 7/8" H.S. bolts for all cross frame/diaphragm connections at this pier location (excluding stool connections).
 2. Field drill 15/16" holes for 7/8" bolts. Use 2" min. edge distance for all 7/8" bolts unless otherwise noted.
 3. Calculated weight of Structural Steel used for the item "Furnishing & Erecting Structural Steel" = 6,360 Lbs.

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Lum Sum	0.03
Structural Steel Removal	Pound	5,880

REVISIONS	
NAME	DATE

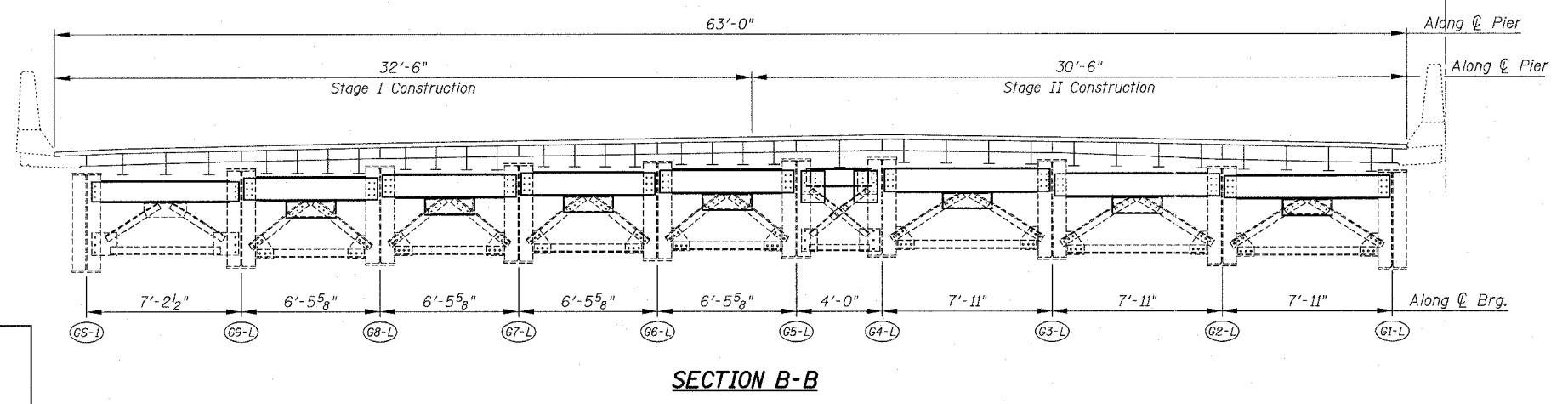
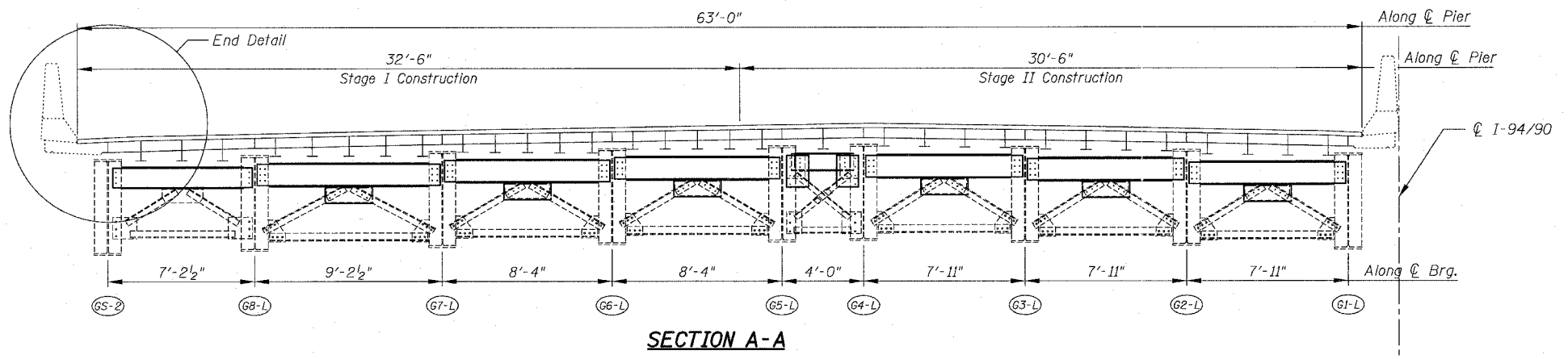
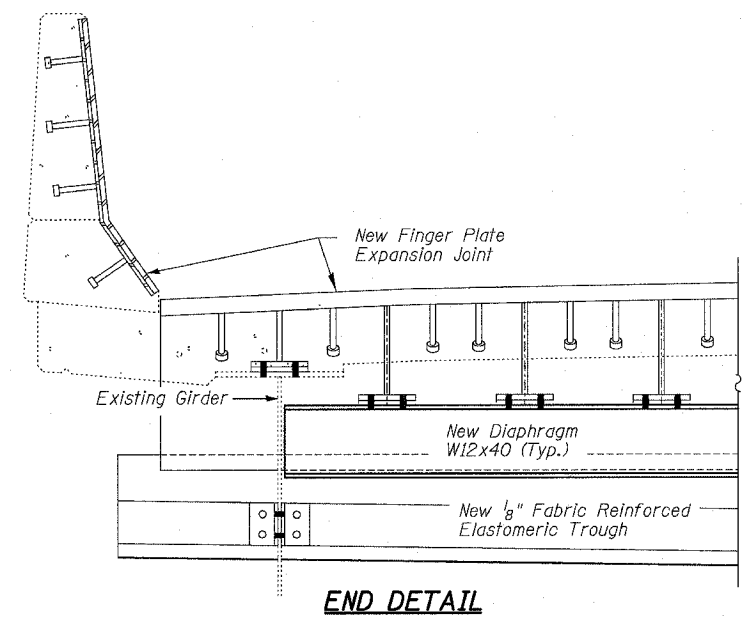
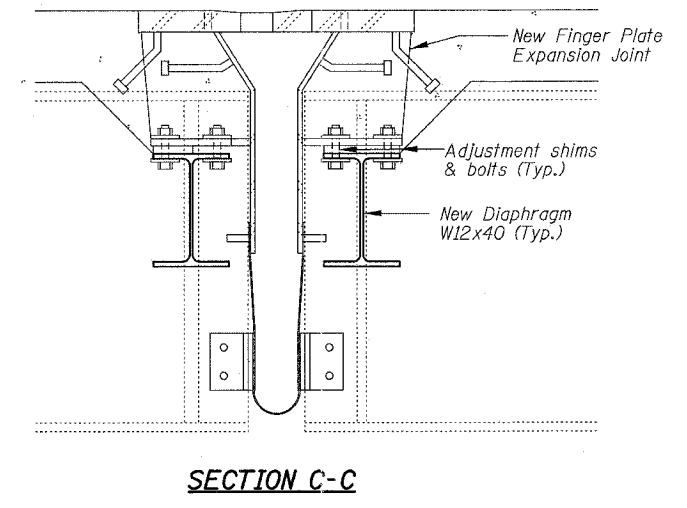
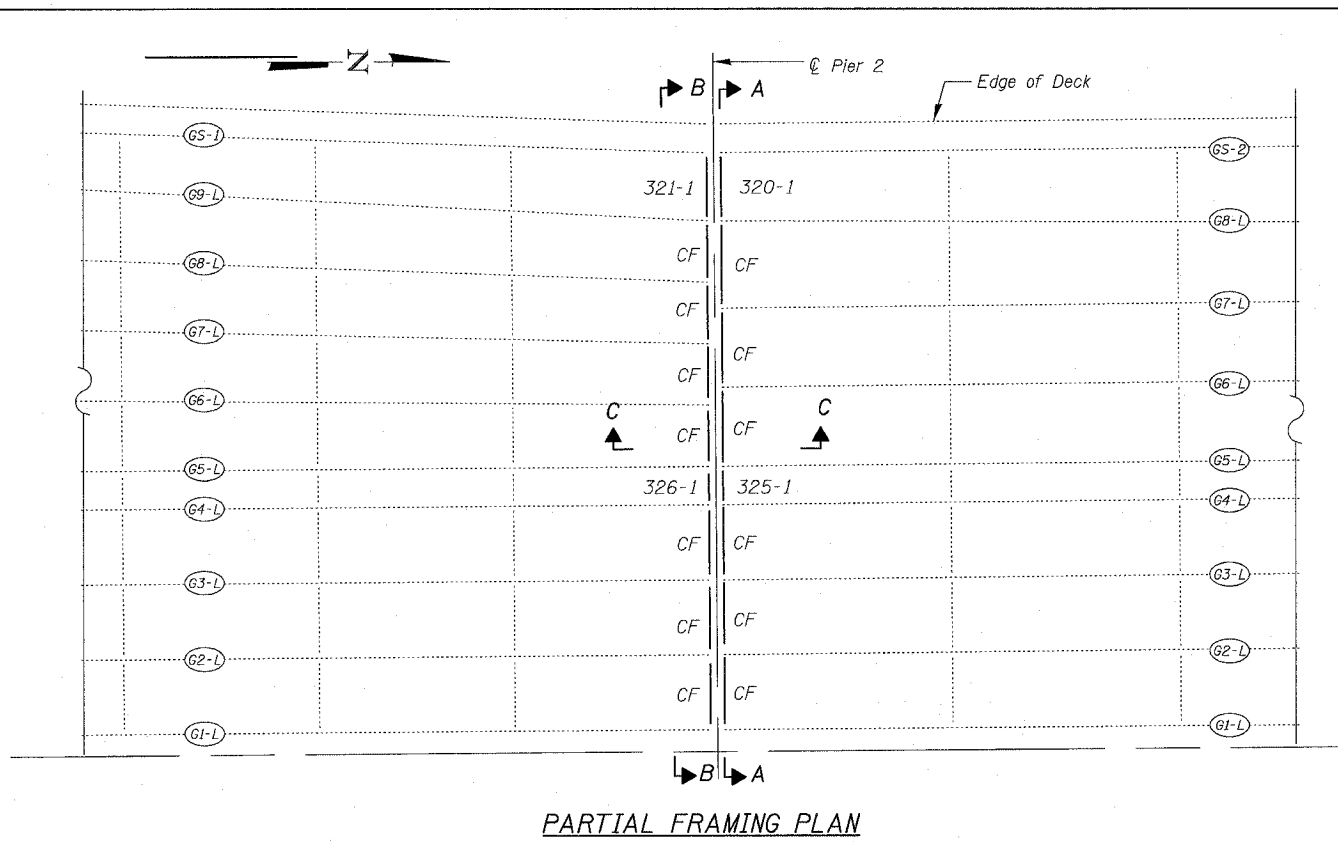
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 DIAPHRAGM REPLACEMENT
 PIER 7, SN 016-1111
 SCALE: NTS
 DATE: 5/25/2006
 DRAWN BY: BDC
 CHECKED BY: IYL

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	267
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62581



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REVISIONS	
NAME	DATE

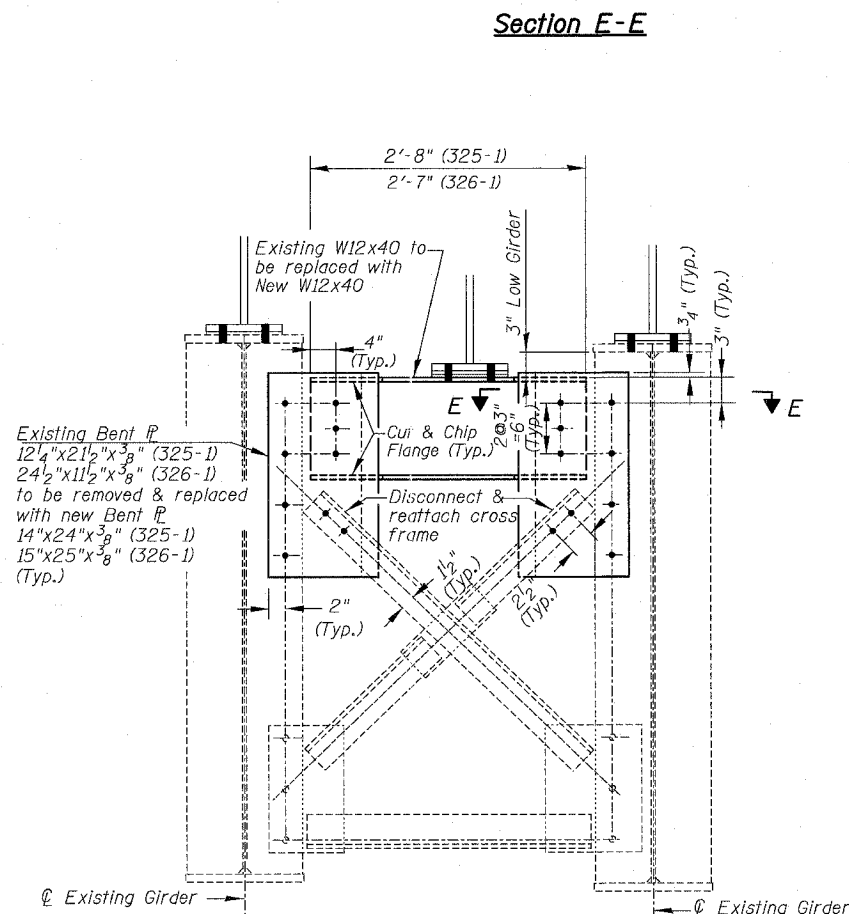
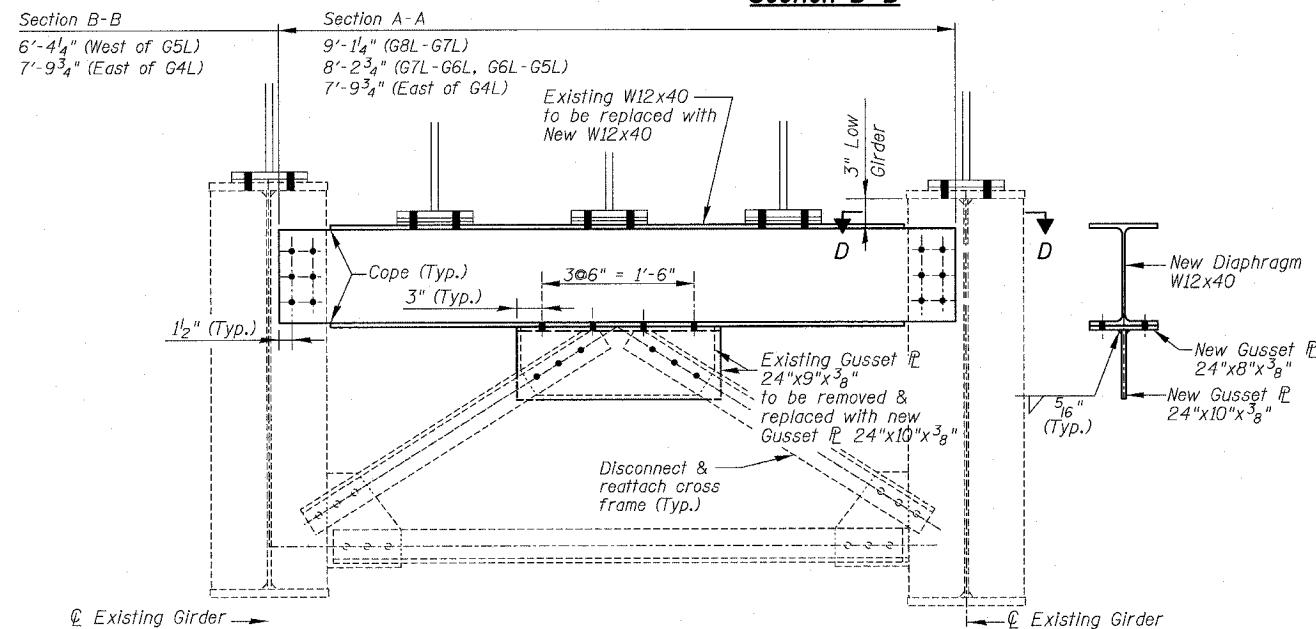
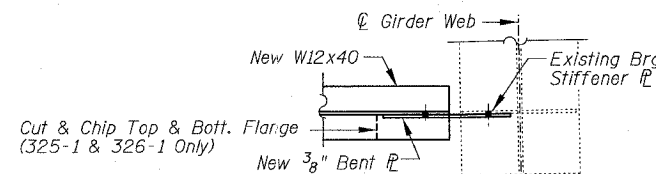
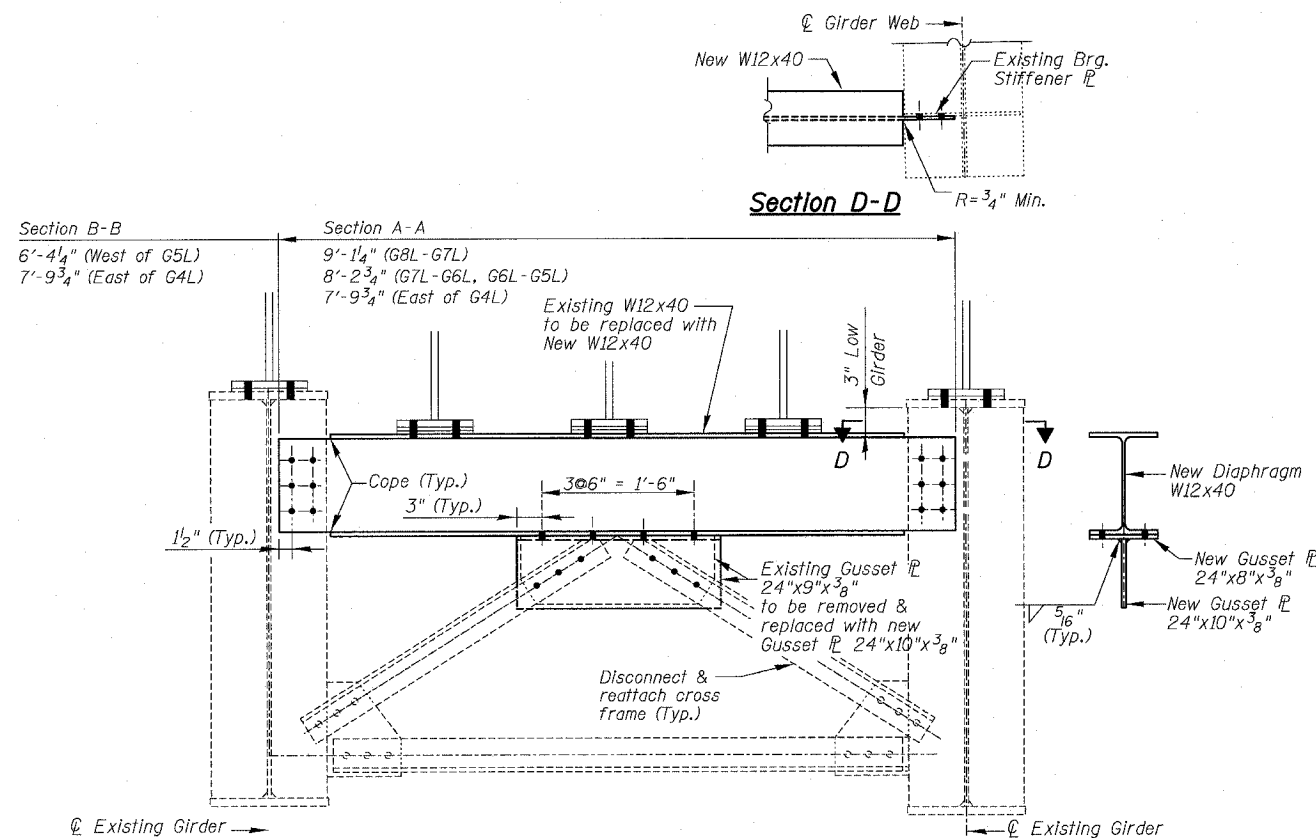
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
DIAPHRAGM REPLACEMENT
PIER 2, SN 016-1111

SCALE: NTS
DATE: 5/25/2006

DRAWN BY: BDC
CHECKED BY: IYL

14-4458 PM 5/25/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	268
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62581				

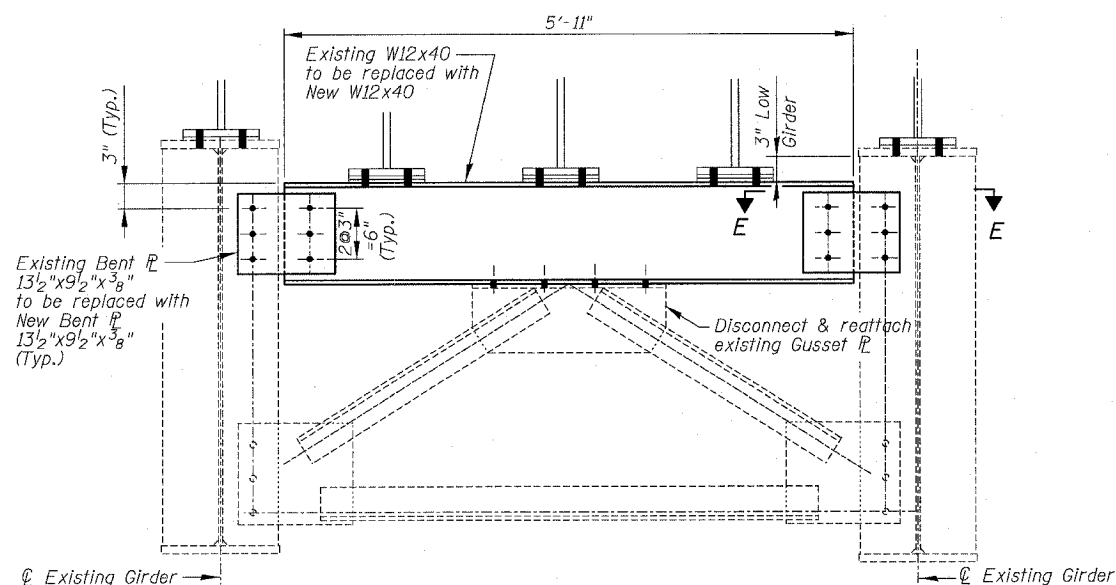


CROSS FRAME DETAIL

S.N. 016-1111	
CF	13 REQ'D

NOTES:

1. Use 7/8" H.S. bolts for all cross frame/diaphragm connections at this pier location (excluding stool connections).
2. Field drill 1 5/16" holes for 7/8" bolts. Use 2" min. edge distance for all 7/8" bolts unless otherwise noted.
3. Calculated weight of Structural Steel used for the item "Furnishing & Erecting Structural Steel" = 5,780 Lbs.



CROSS FRAME DETAIL

S.N. 016-1111	
320-1	1 REQ'D
321-1	1 REQ'D

CROSS FRAME DETAIL

S.N. 016-1111	
325-1	1 REQ'D
326-1	1 REQ'D

BILL OF MATERIAL

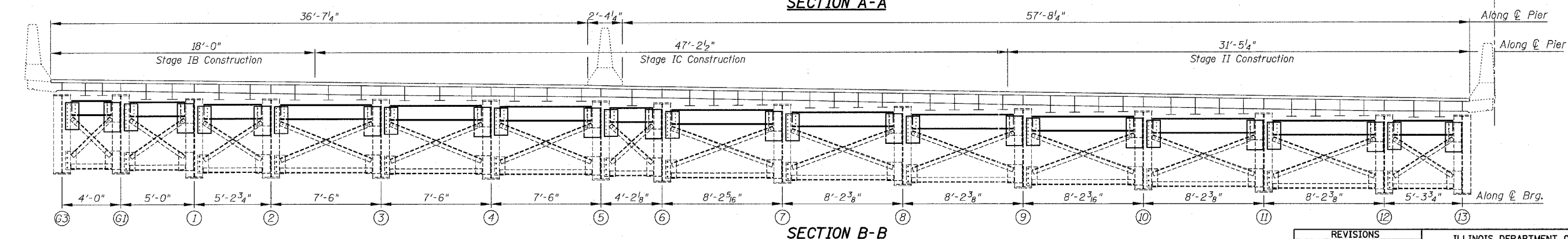
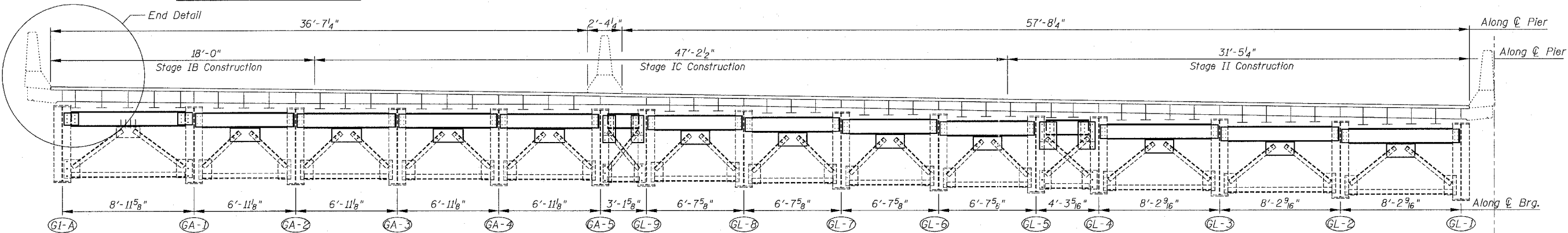
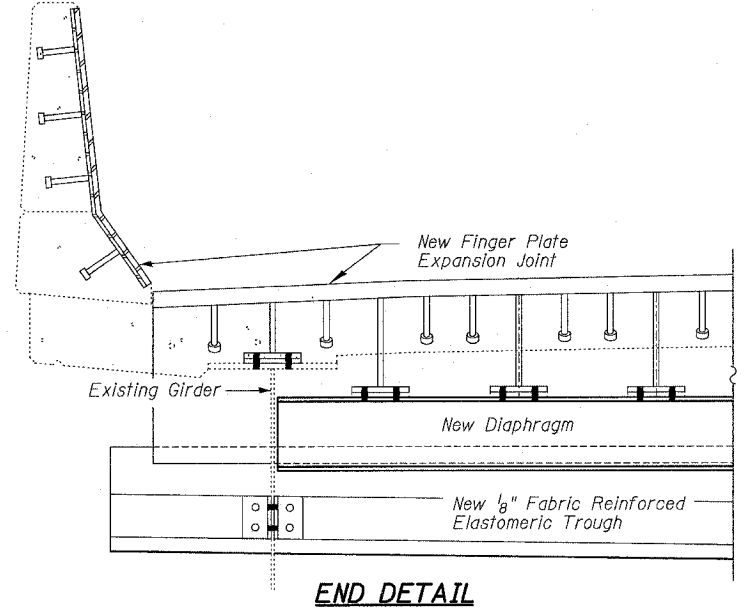
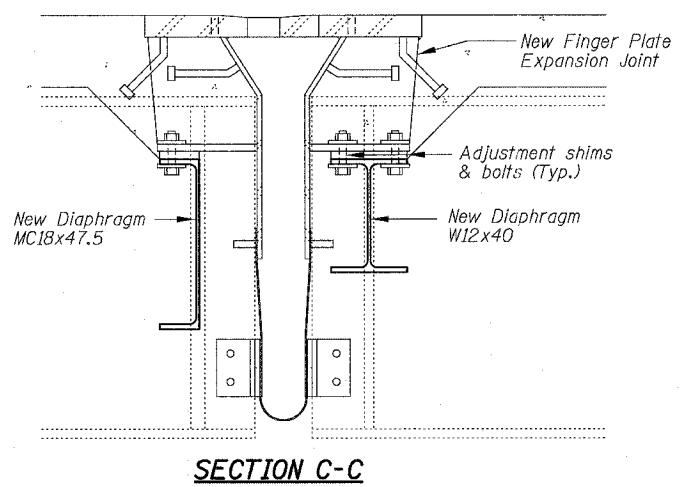
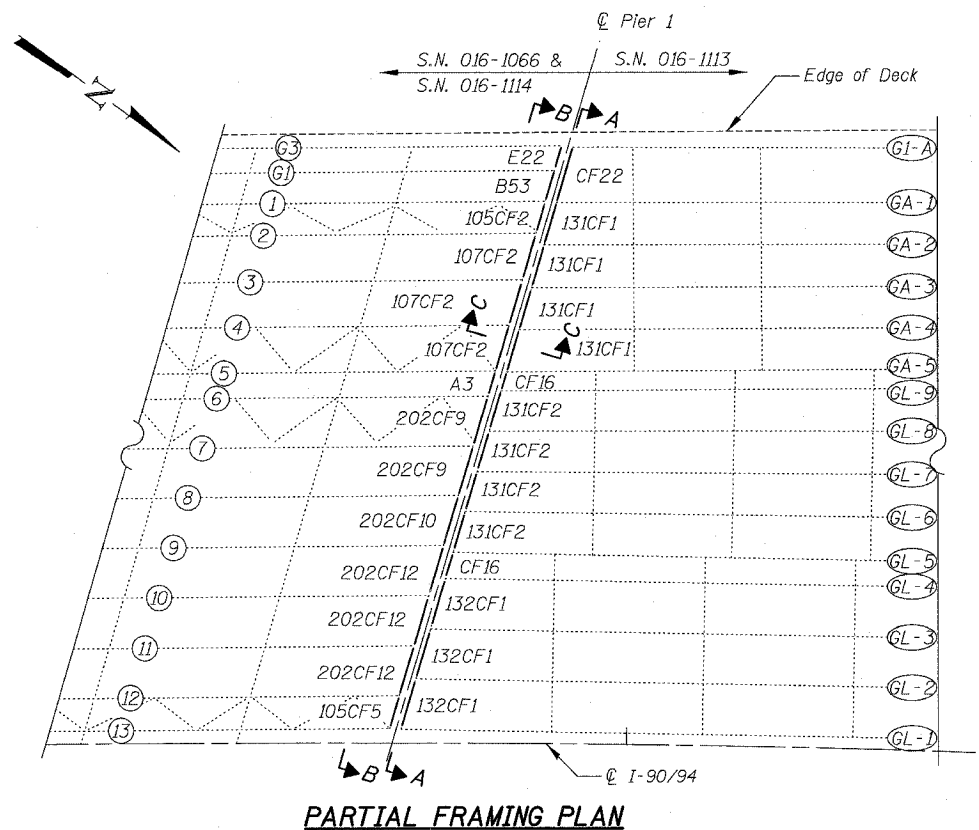
Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Lum Sum	0.02
Structural Steel Removal	Pound	5,440

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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) SB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS DIAPHRAGM REPLACEMENT PIER 2, SN 016-1111
NAME	DATE	
		SCALE: NTS
		DATE: 5/25/2006
		DRAWN BY: BOC
		CHECKED BY: IYL

4-4533.P11

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	269
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62581				



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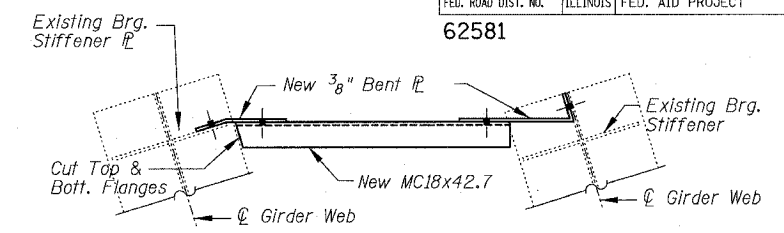
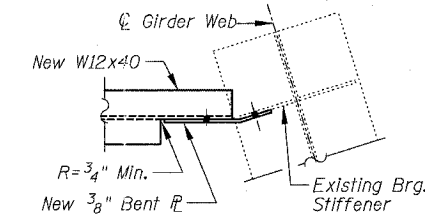
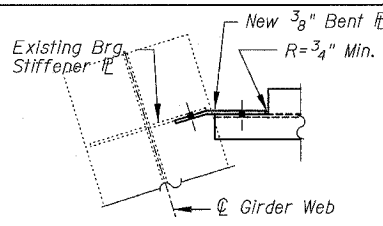
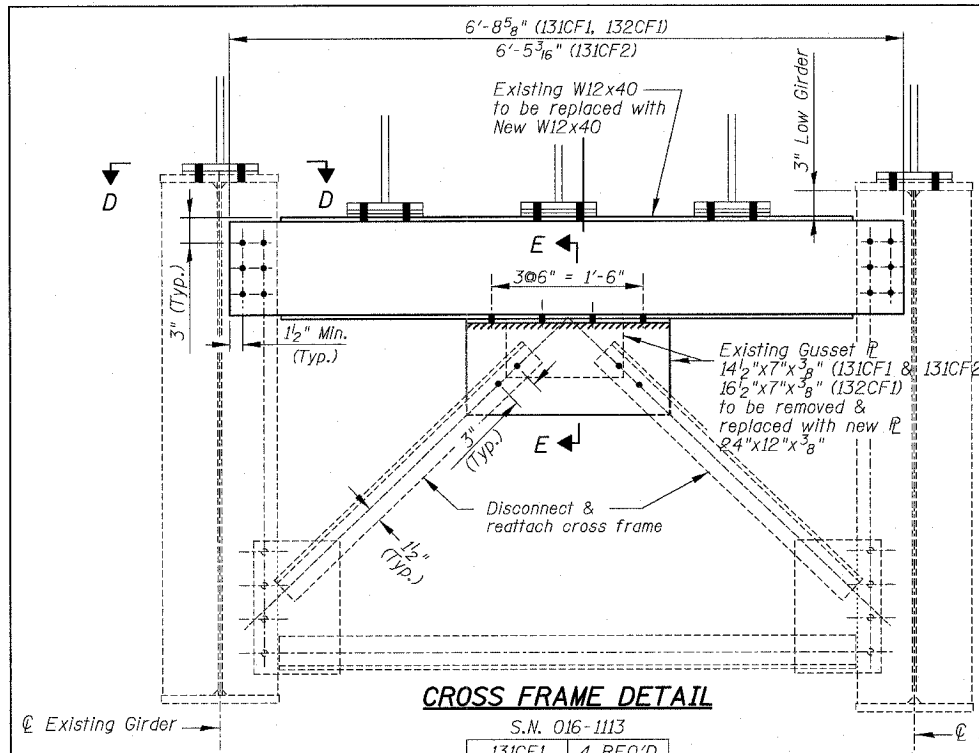
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
DIAPHRAGM REPLACEMENT
PIER 1, SN 016-1113
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: IYL

4/25/07 PM 5/25/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029I	COOK	344	270
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

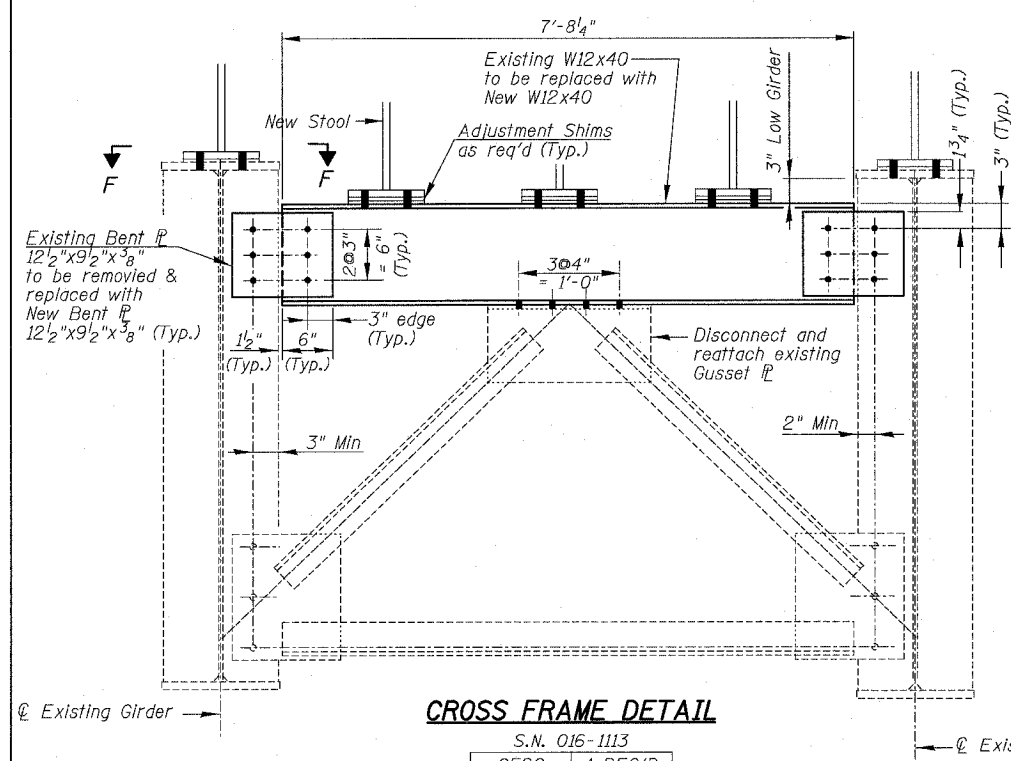
62581



CROSS FRAME DETAIL

S.N. 016-1113

131CF1	4 REQ'D
131CF2	4 REQ'D
132CF1	3 REQ'D



CROSS FRAME DETAIL

S.N. 016-1113

CF16	2 REQ'D
------	---------

CROSS FRAME DETAIL

S.N. 016-1114

202CF9	2 REQ'D
202CF10	1 REQ'D
202CF12	3 REQ'D
105CF5	1 REQ'D

S.N. 016-1066

105CF2	1 REQ'D
107CF2	3 REQ'D
A3	1 REQ'D
E22	1 REQ'D
B53	1 REQ'D

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Lum Sum	0.03
Structural Steel Removal	Pound	6,520

Diaphragm Designation	Existing Bent Plate Removal	New Bent Plate
E22	11 1/4"x24 1/2"x3/8" (W.S.) 14 1/4"x24 1/2"x3/8" (E.S.)	18"x35"x3/8" (Both Sides)
B53	15 3/4"x23 1/2"x3/8" (W.S.) 15 3/4"x25"x3/8" (E.S.)	17"x35"x3/8" (Both Sides)
105CF2	14 1/2"x26"x3/8" (W.S.)	18"x27"x3/8" (W.S.)
105CF5	17 1/4"x26"x3/8" (E.S.)	21"x27"x3/8" (E.S.)
107CF2	18"x24"x3/8" (W.S.) 15"x24"x3/8" (E.S.)	18"x27"x3/8" (W.S.) 21"x27"x3/8" (E.S.)
A3	15 3/4"x25 1/2"x3/8" (W.S.) 16"x39"x3/8" (E.S.)	18"x27"x3/8" (W.S.) 18"x30"x3/8" (E.S.)
202CF9, 202CF10, 202CF12	14"x24"x3/8" (W.S.) 17"x24"x3/8" (E.S.)	18"x27"x3/8" (W.S.) 21"x27"x3/8" (E.S.)

NOTES:

1. Calculated weight of Structural Steel used for the item "Furnishing & Erecting Structural Steel" = 7,200 Lbs, and itemized as follows:
 S.N. 016-1113 = 1,850 Lbs
 S.N. 016-1066 = 2,390 Lbs
 S.N. 016-1114 = 2,960 Lbs
2. Calculated weight of Structural Steel used for the item "Structural Steel Removal" = 6,520 Lbs, and itemized as follows:
 S.N. 016-1113 = 2,140 Lbs
 S.N. 016-1066 = 2,710 Lbs
 S.N. 016-1114 = 1,670 Lbs
3. E.S. denotes East Side. W.S. indicates West Side.

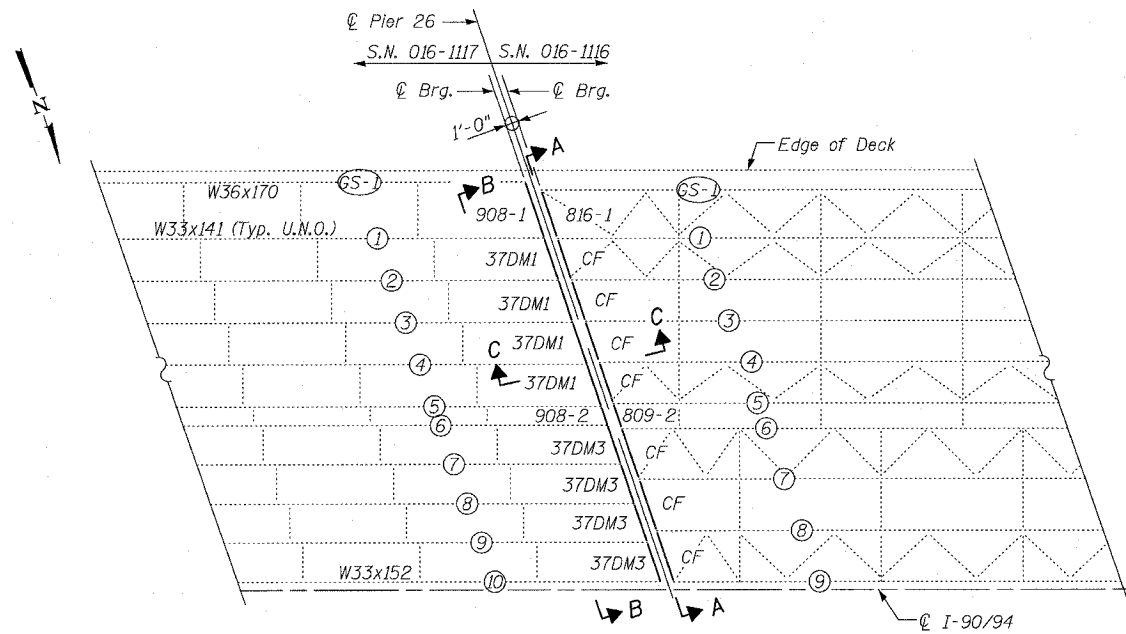
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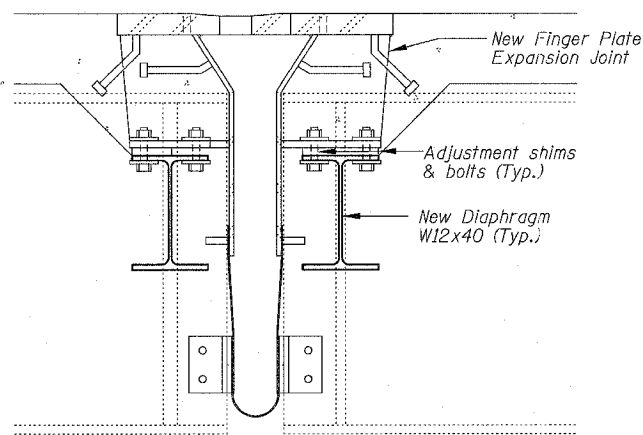
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 DIAPHRAGM REPLACEMENT DETAILS
 PIER 1, SN 016-1113
 SCALE: NTS
 DATE: 5/25/2006
 DRAWN BY: BDC
 CHECKED BY: IYL

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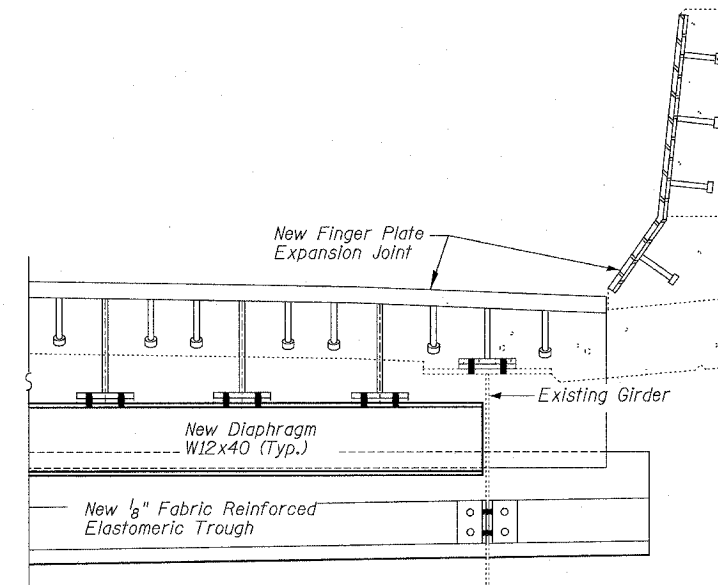
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62581				



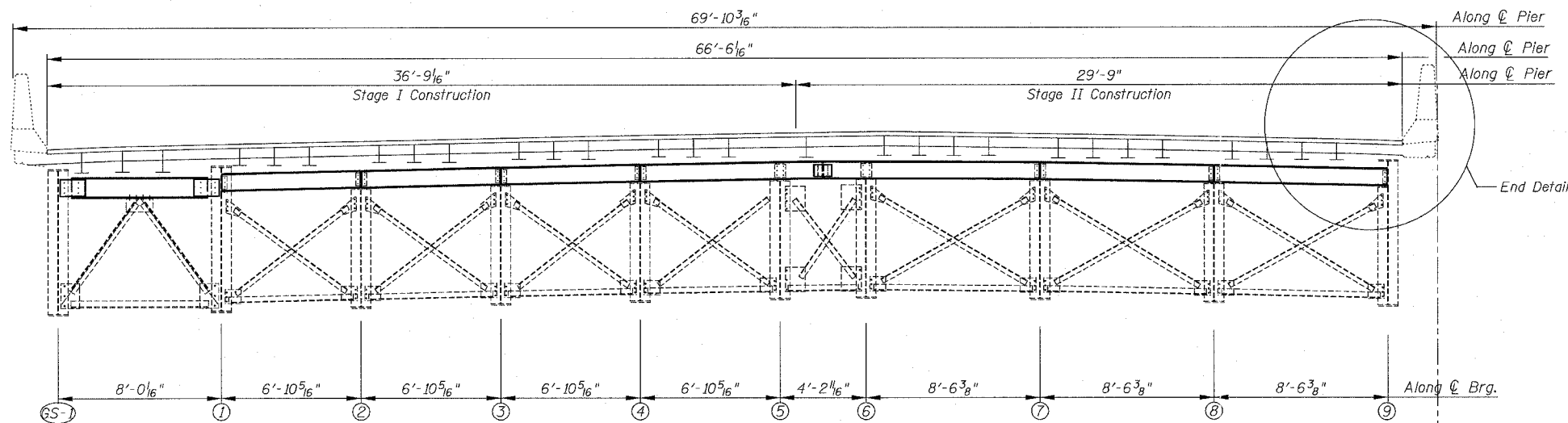
PARTIAL FRAMING PLAN



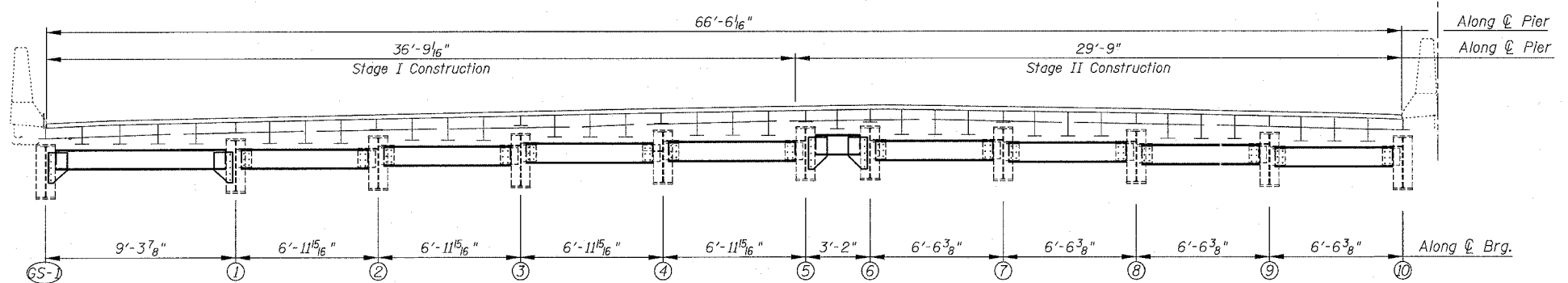
SECTION C-C



End Detail



SECTION A-A



SECTION B-B

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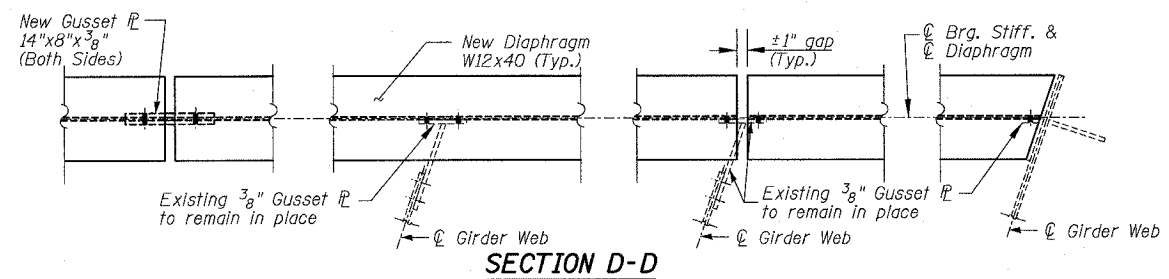
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
DIAPHRAGM REPLACEMENT
PIER 26, SN 016-1117
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: TYL

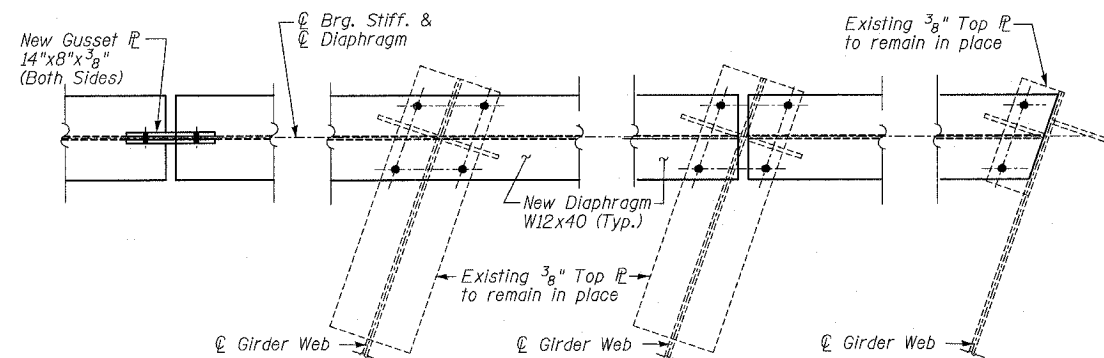
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STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

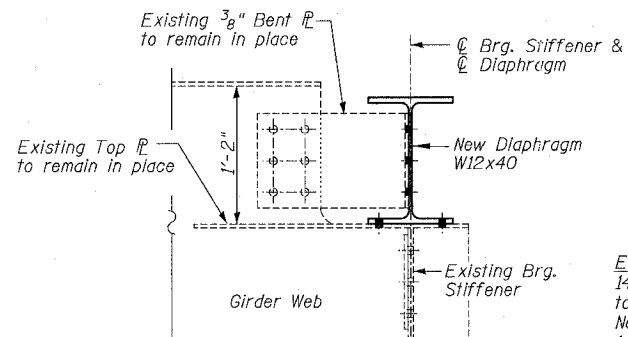
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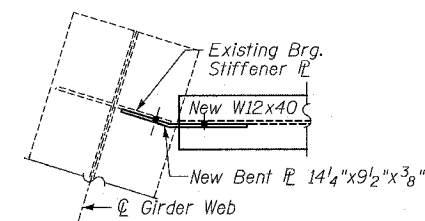
SECTION D-D



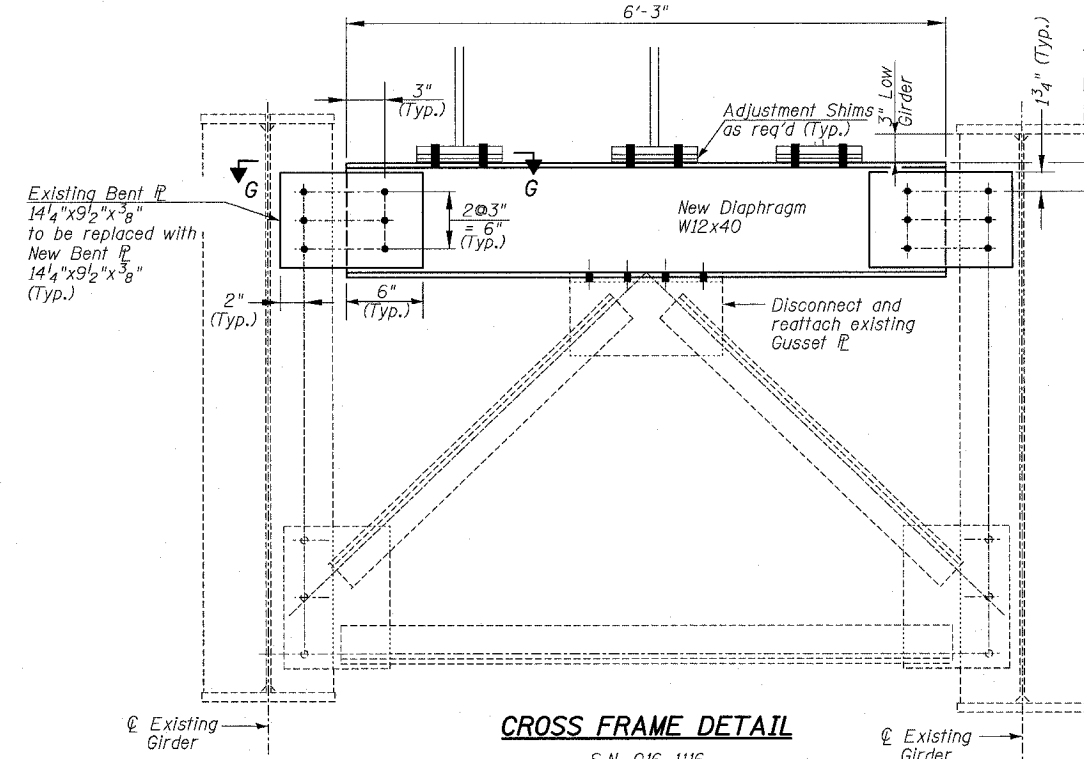
SECTION E-E



SECTION F-F



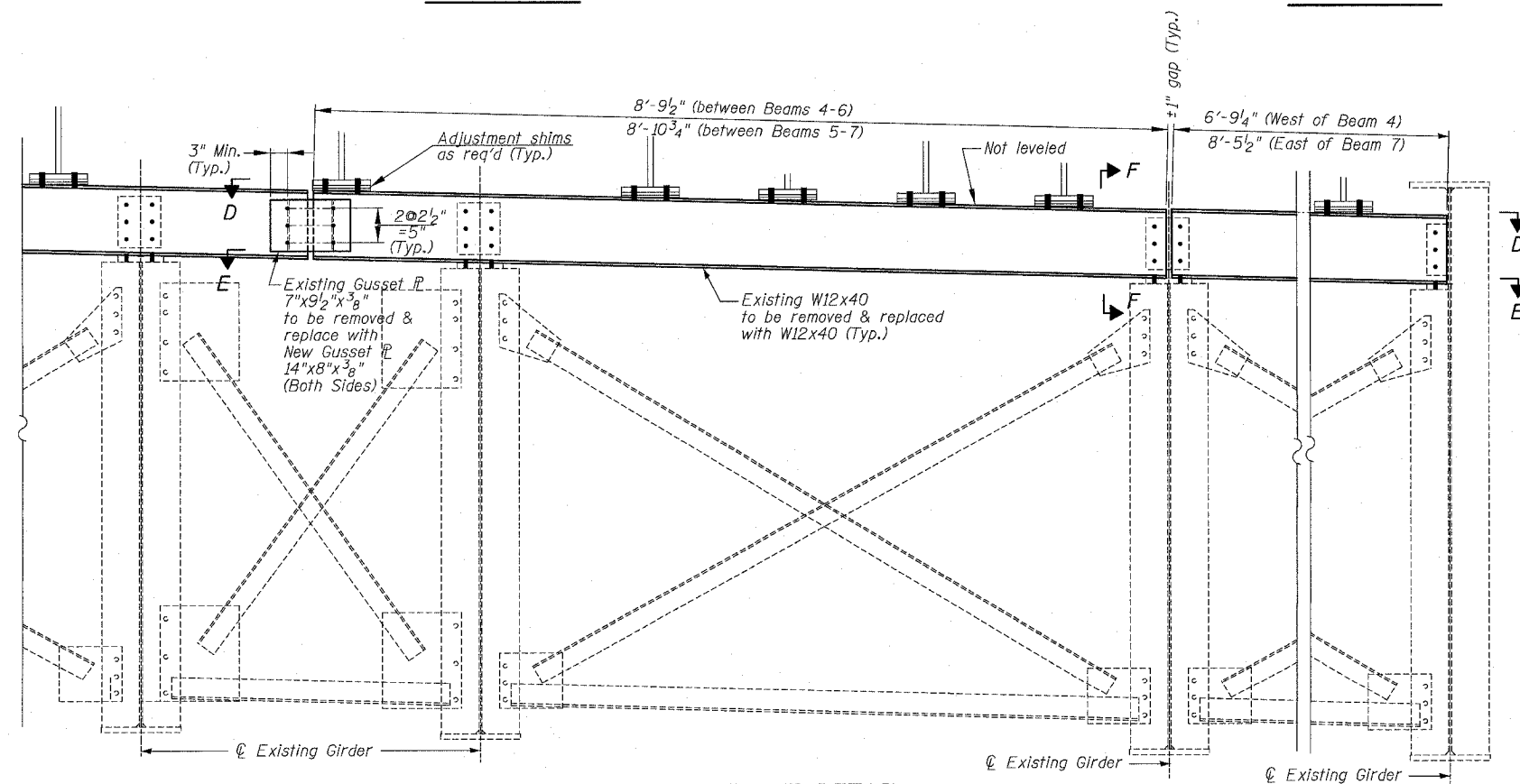
Section G-G



CROSS FRAME DETAIL

S.N. 016-1116

816-1 1 REQ'D



CROSS FRAME DETAIL

S.N. 016-1116

CF 7 REQ'D
809-2 1 REQ'D

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
DIAPHRAGM REPLACEMENT DETAILS
PIER 26, SN 016-1117

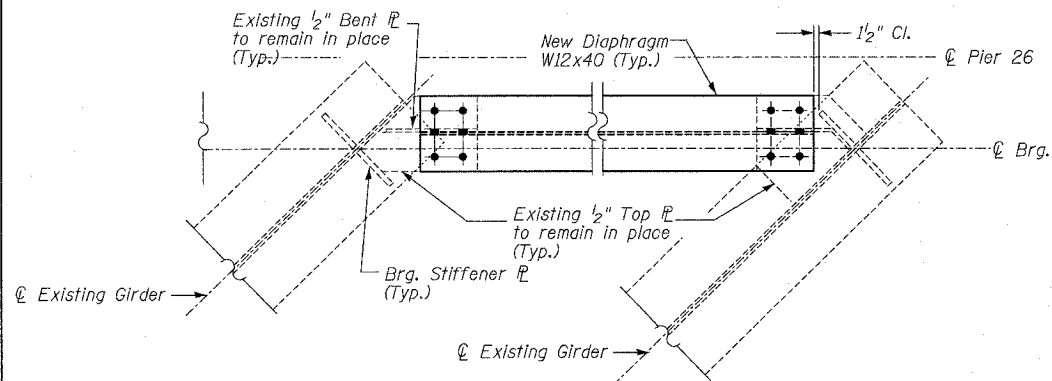
SCALE: NTS
DATE: 5/25/2006

DRAWN BY: BDC
CHECKED BY: IYL

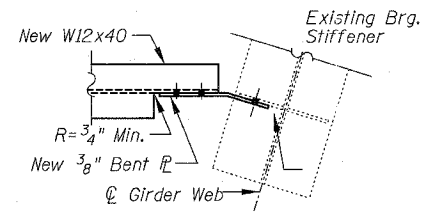
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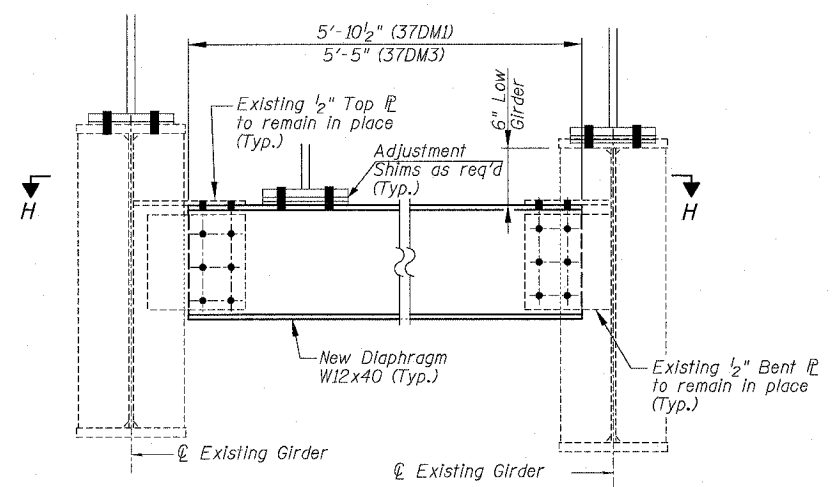
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	272A
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				



SECTION H-H



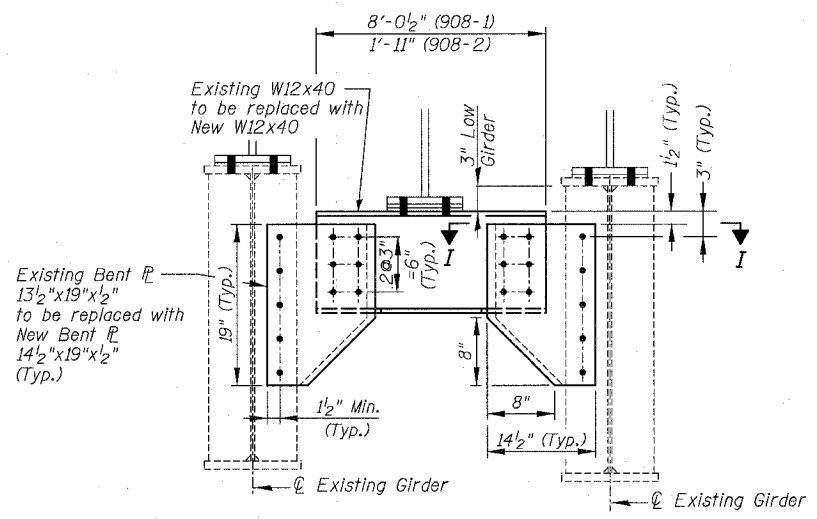
Section I-I



CROSS FRAME DETAIL

S.N. 016-1117

37DM1	4 REQ'D
37DM3	4 REQ'D



DIAPHRAGM DETAIL

S.N. 016-1117

908-1	1 REQ'D
908-2	1 REQ'D

NOTES:

1. Calculated weight of Structural Steel used for the item "Furnishing & Erecting Structural Steel" = 5,610 Lbs. and itemized as follows:
S.N. 016-1116 = 2,760 Lbs
S.N. 016-1117 = 2,850 Lbs
2. Calculated weight of Structural Steel used for the item "Structural Steel Removal" = 5,580 Lbs. and itemized as follows:
S.N. 016-1116 = 2,740 Lbs
S.N. 016-1117 = 2,840 Lbs

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Lum Sum	0.02
Structural Steel Removal	Pound	5,580

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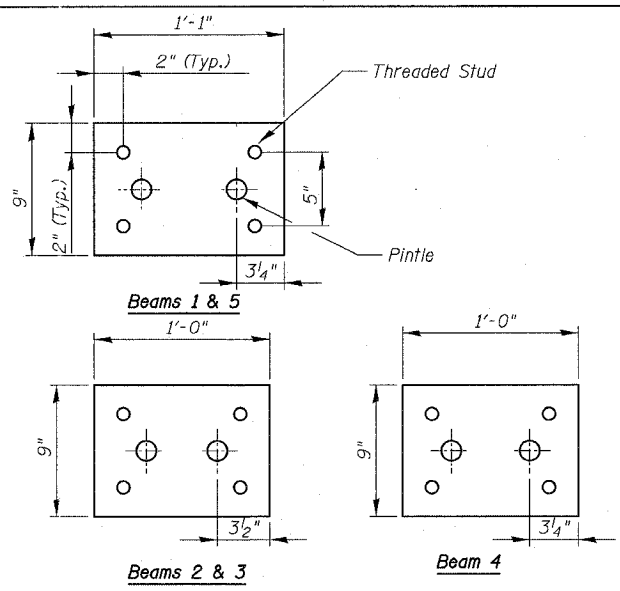
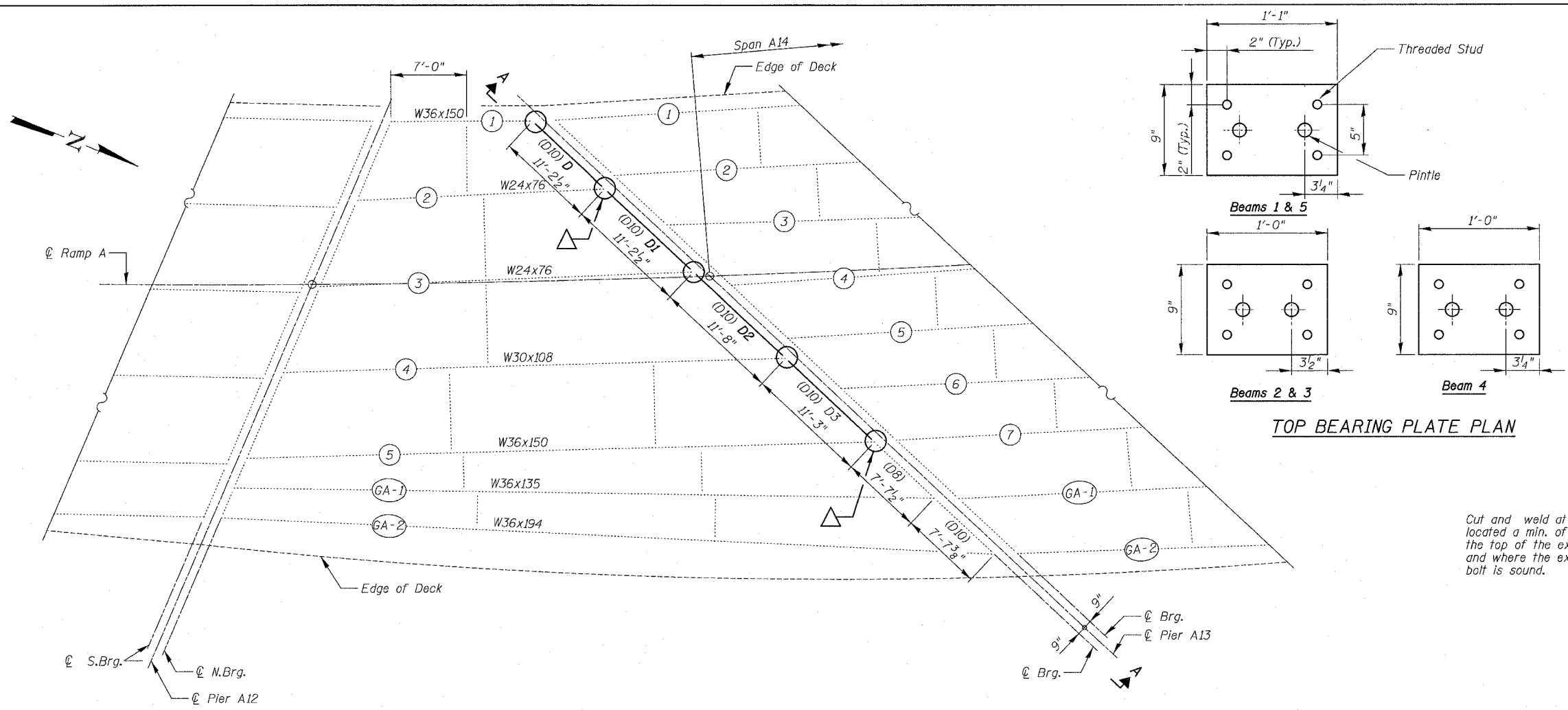
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) SB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS DIAPHRAGM REPLACEMENT DETAILS PIER 26, SN 016-1117
NAME	DATE	
		SCALE: NTS
		DATE: 5/25/2006
		DRAWN BY: BDC
		CHECKED BY: IYL

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5/25/2006

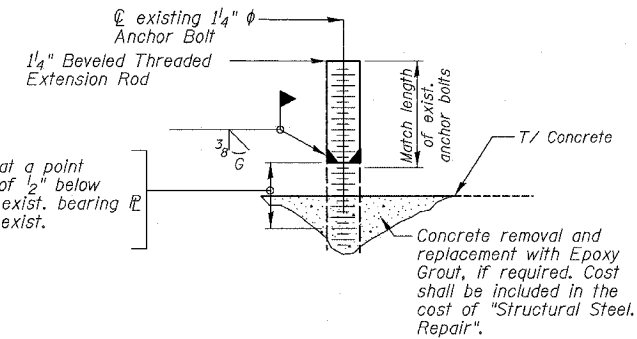
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	273
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				

NOTES:

- See Partial Deck Plans for Joint Replacement Details.
- The Contractor shall provide support and/or shoring systems for the slab and beam in the area of existing beam removal and at other locations as required in order to maintain the existing deck profile. The support and/or shoring systems shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure.
- See Sht. 275 for view A-A.



TOP BEARING PLATE PLAN

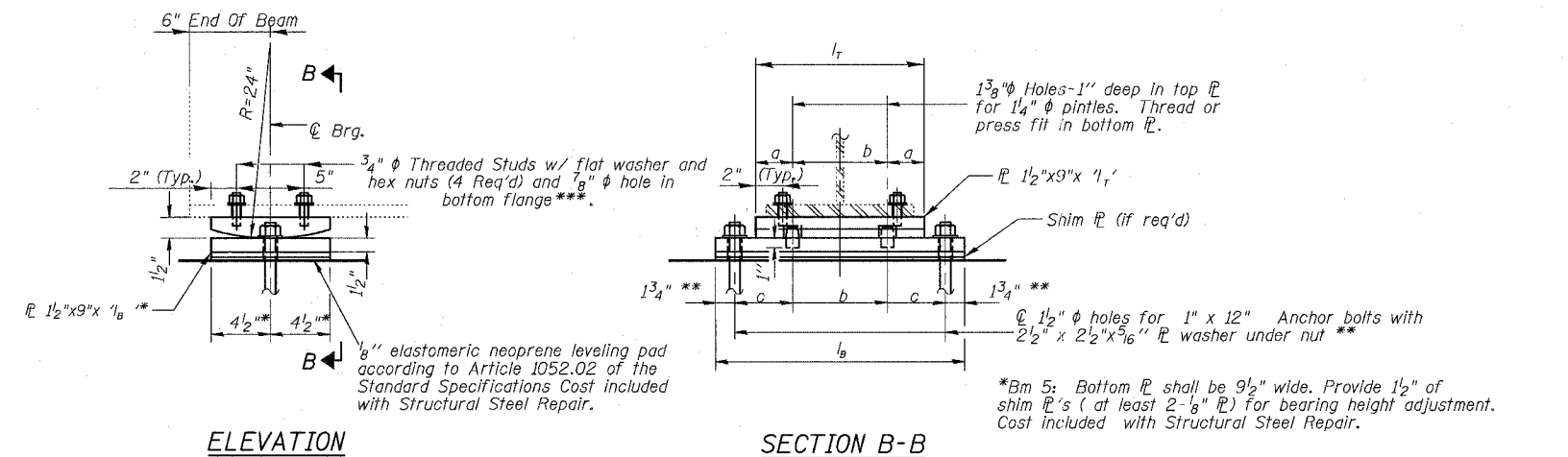


ANCHOR BOLT EXTENSION DETAIL

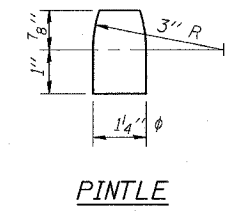
The furnishing and installation of required Anchor Bolt Extensions shall be included in the cost of "Structural Steel Repair".

PROPOSED FIXED BEARING TABLE

Beam No.	l_b	l_r	a	b	c	Req'd.
1	26"	13"	3 1/4"	6 1/2"	8"	1
2	22"	12"	3 1/2"	5"	6 3/4"	1
3	17 1/2"	12"	3 1/2"	5"	4 1/4"	1
4	22"	12"	3 1/4"	5 1/2"	6 1/2"	1
5	20 1/2"	13"	3 1/4"	6 1/2"	5 1/4"	1



PROPOSED FIXED BEARING



PINTLE

LEGEND:

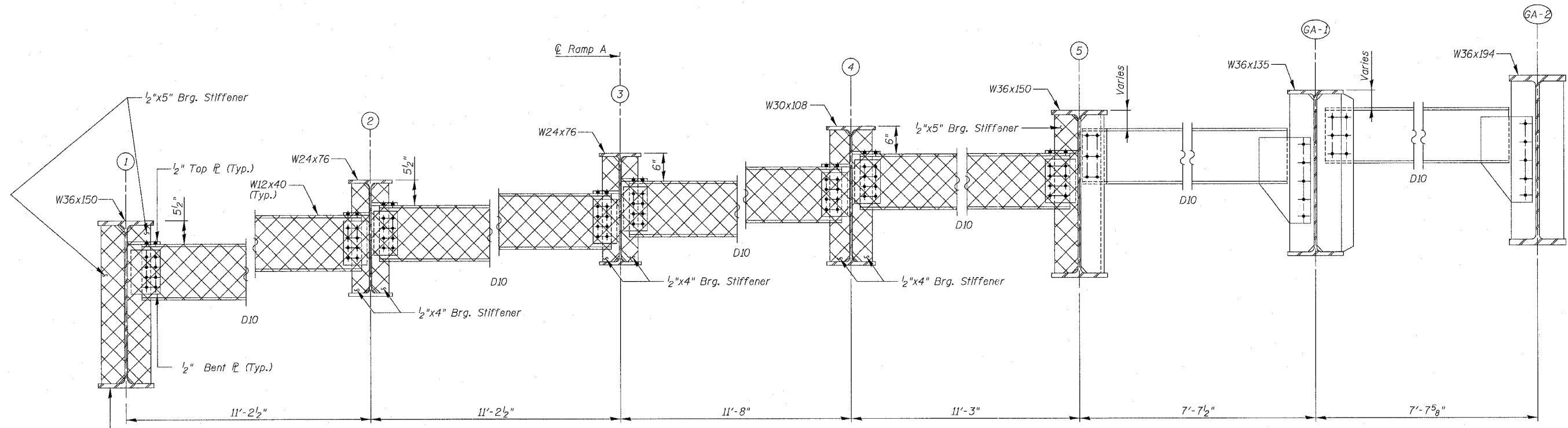
- Steel Diaphragms to be replaced
- Remove & Replace Exist. Steel Bearing
- △ Concrete Pedestal Work
- (D10) Exist. Diaphragm Designation
- D Prop. Diaphragm Designation

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 PIER A 13 SN 016-1067
 STEEL REPAIR PLAN
 SCALE: NTS
 DATE: 5/25/2006
 DRAWN BY: BDC
 CHECKED BY: IYL

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EXISTING ELEVATION- VIEW A-A
(Show South Bearing Lane)

LEGEND:

- Structural Steel Removal
- Jack and Remove Existing Bearings

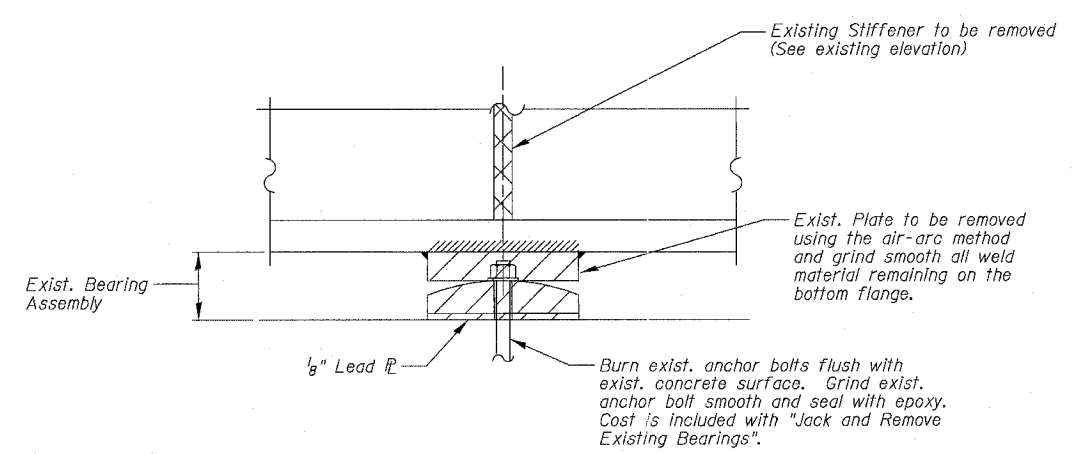
EXISTING BEARING ASSEMBLY

SUPPORT REACTIONS & MINIMUM JACKING CAPACITY

S/N	Girder	DL + 1/2(LL+I)	Min. Jack. Capacity (k)
016-1067 (Pier A13)	1	26	30
	2	67	70
	3	78	80
	4	95	95
	5	78	80

BEAM	HEIGHT*
1	3 1/4"
2	3"
3	3"
4	3"
5	1 1/2"

* Includes 1/8" lead PL



EXISTING BEARING REMOVAL DETAIL

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pound	2,230
Jack and Remove Existing Bearings	Each	5
Temporary Shoring and Cribbing	Each	5

NOTES:

- The quantity of "Jack and Remove Existing Bearings" includes the jacking and removal of the existing fixed bearings at beams 1 to 5.
- See Sheet 275 for bearing seat work at beams 2 and 5.

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ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE

PIER A13 SN 016-1067
STEEL REMOVAL DETAILS

SCALE: NTS
DATE: 5/25/2006

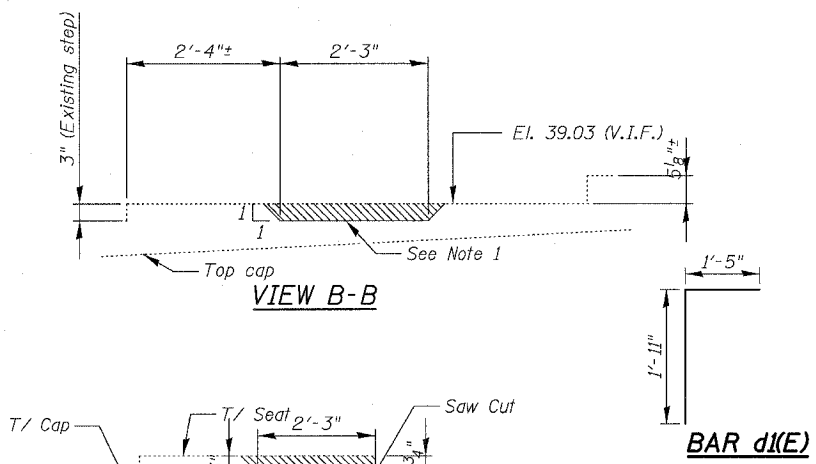
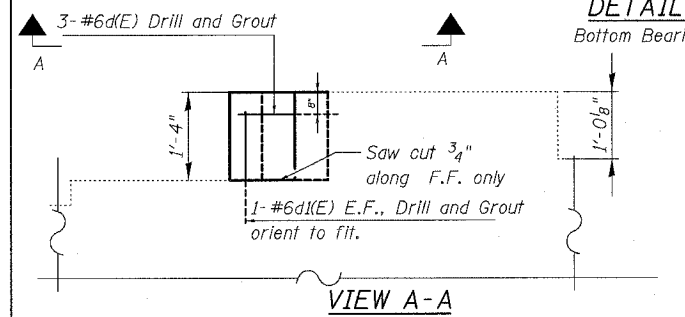
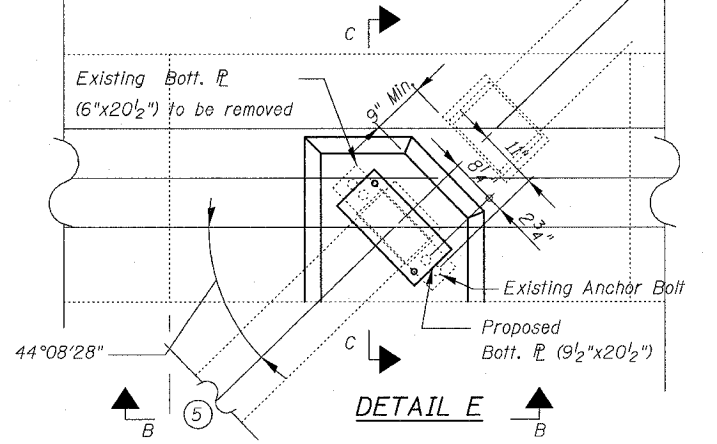
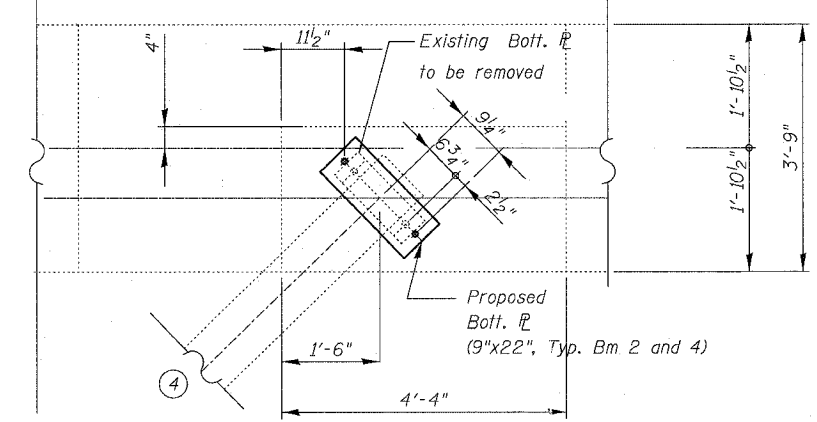
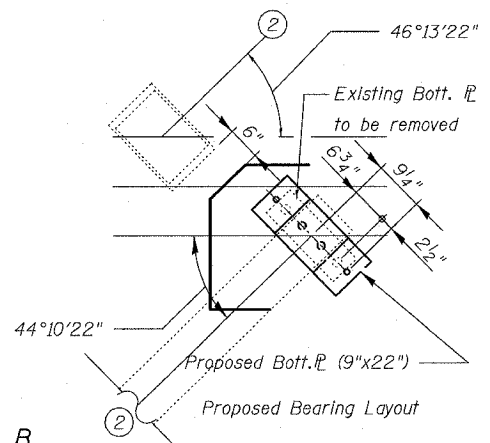
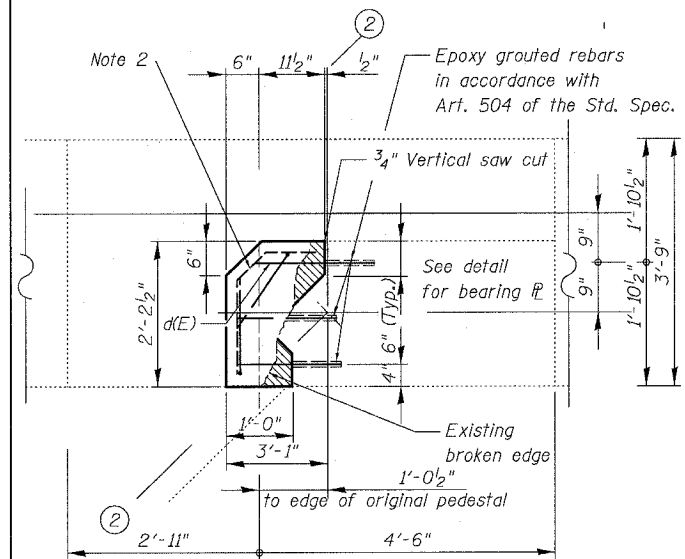
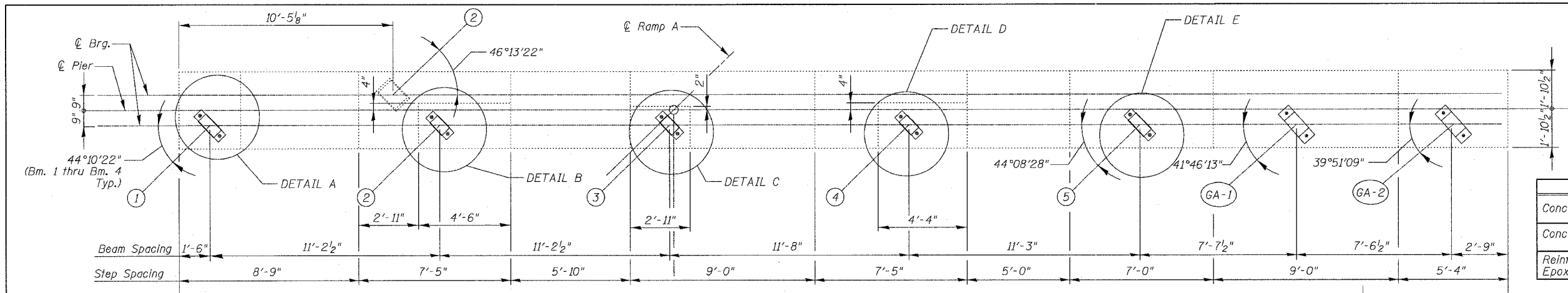
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CHECKED BY: IYL

I-680 BRIDGE SHEETS 660-21-DIG-ITF-F01499 4/5/07 PM 5/25/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62581				

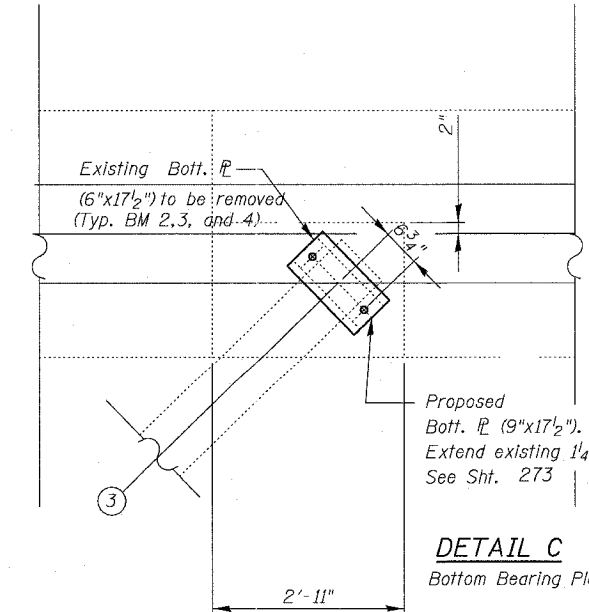
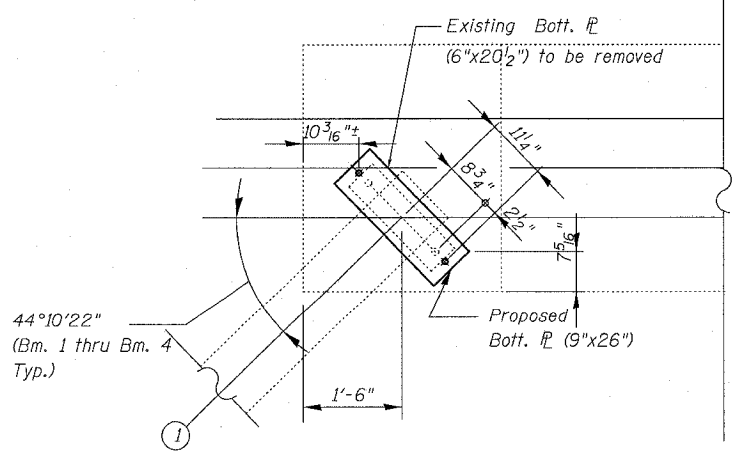
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	0.1
Concrete Superstructure	Cu. Yd.	0.2
Reinforcement Bars, Epoxy Coated.	Pound	20



NOTE 1:
Remove 3" of existing seat concrete as shown. Saw cut front face. Remove concrete to within 1/2"± of that indicated and finish remaining removal by grinding to obtain a level bearing surface.

NOTE 2:
Provide 6x6-W4.0xW4.0 W.W.F. along side and top faces with 2" cover bend and form to concrete shape as required.



BILL OF BARS

BAR	NO.	SIZE	LENGTH	SHAPE
d(E)	3	#6	1'-10"	—
d(E)	2	#6	3'-4"	┌

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
PIER A13, SN 016-1067
BEARING AND PEDESTAL DETAILS

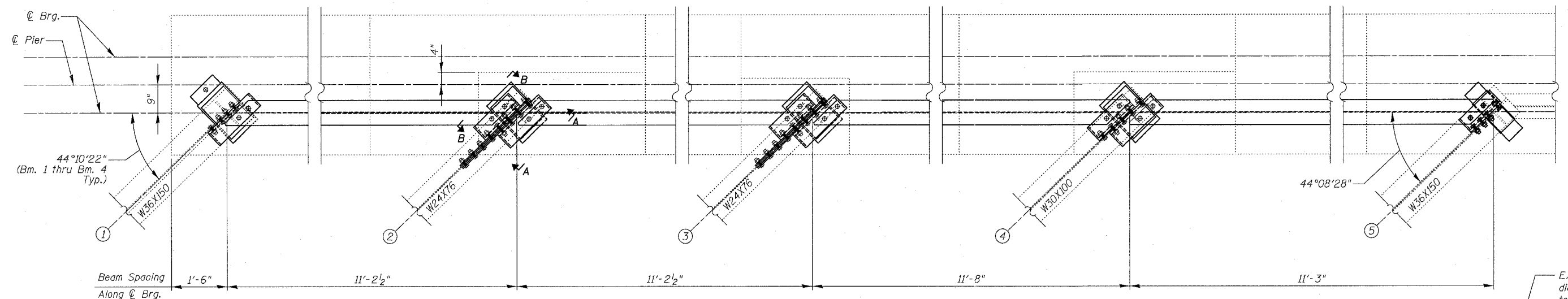
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DATE: 5/25/2006

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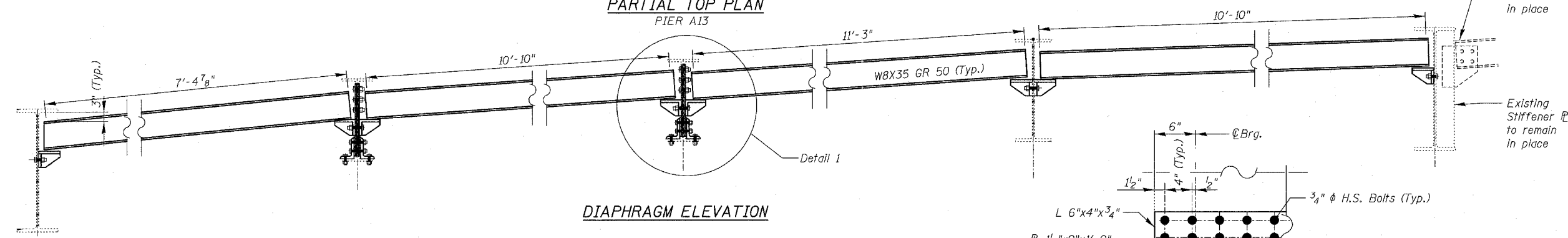
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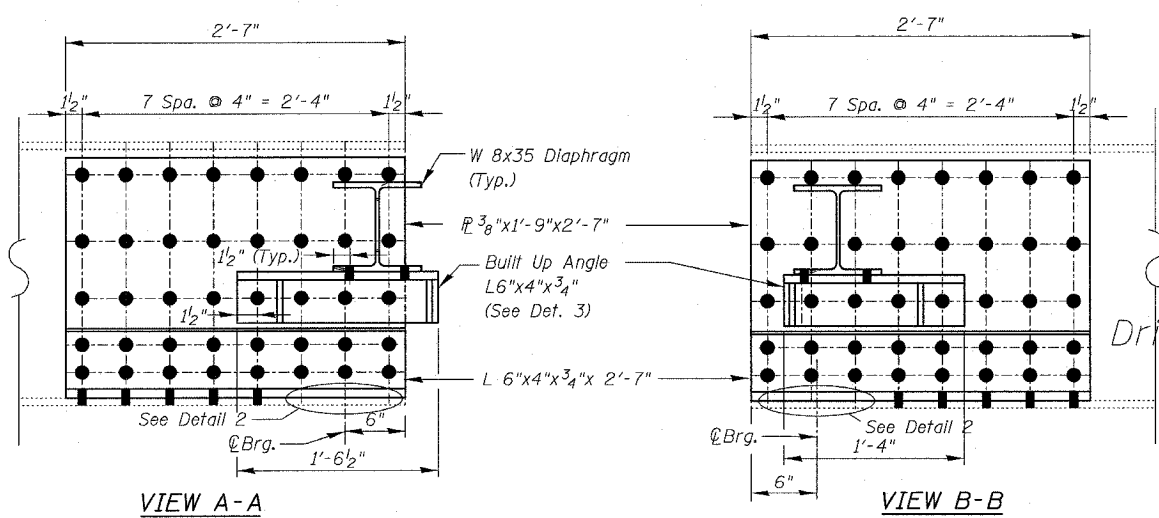
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				



PARTIAL TOP PLAN
PIER A13

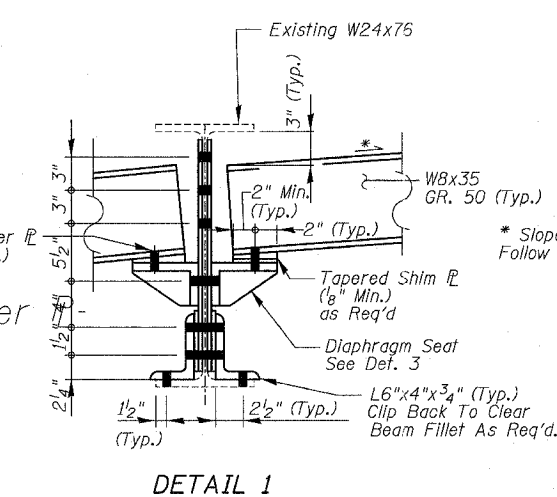


DIAPHRAGM ELEVATION

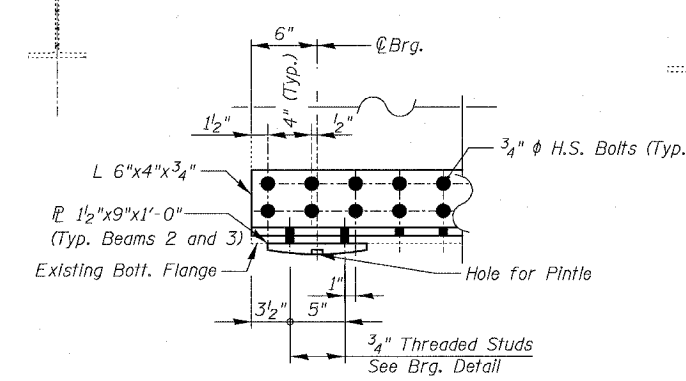


VIEW A-A

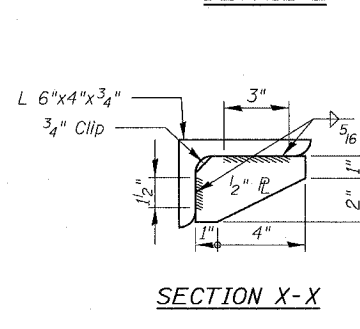
VIEW B-B



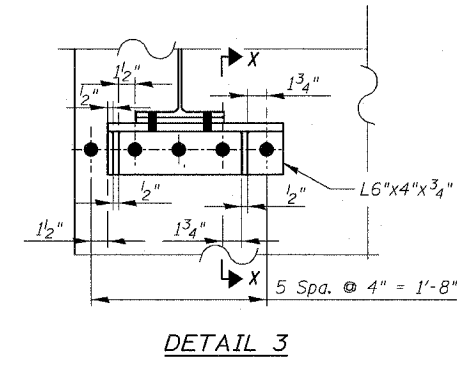
DETAIL 1



DETAIL 2



SECTION X-X



DETAIL 3

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	3,310

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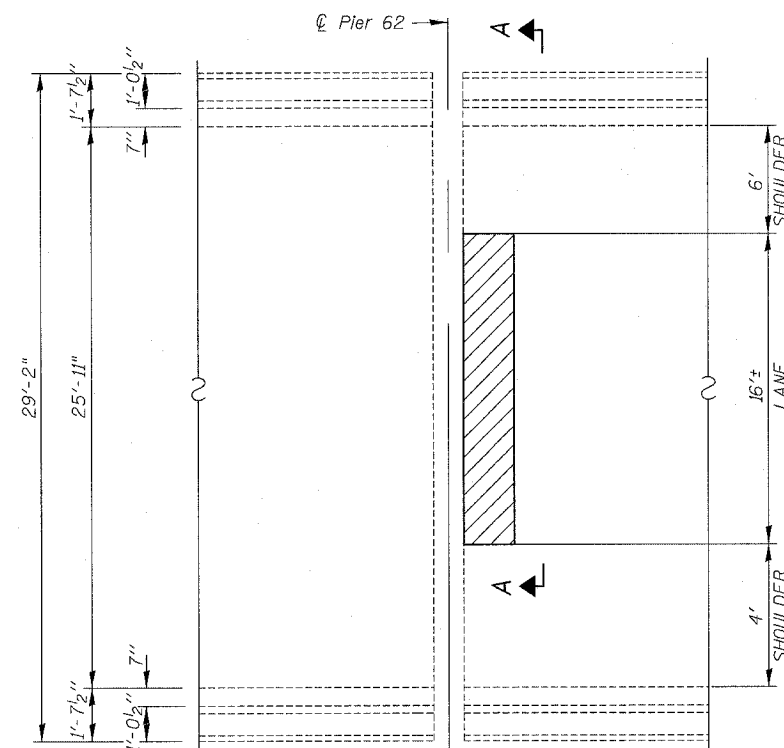
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
PIER A13, SN 016-1067
DIAPHRAGM/BEAM REPAIR DETAILS

SCALE: NTS
DATE: 5/25/2006

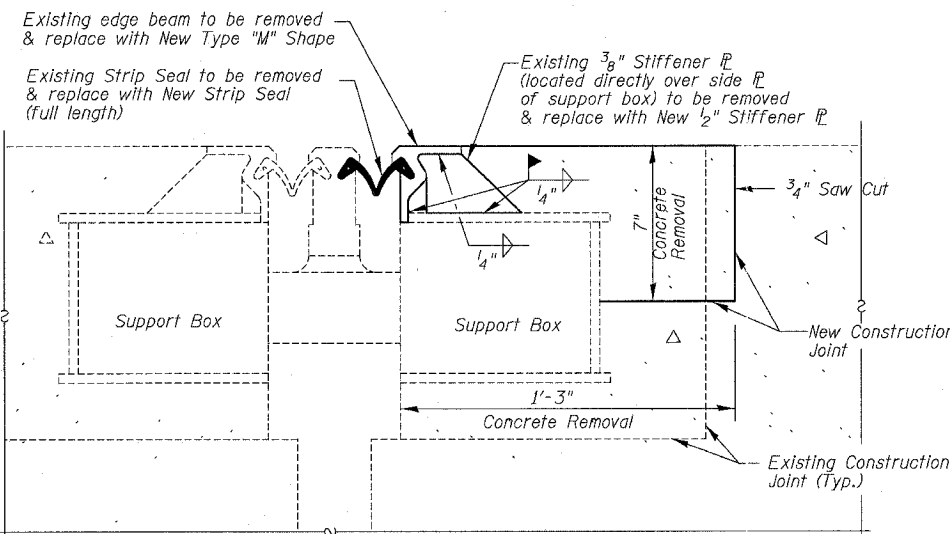
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458-88 PM 5/25/2006

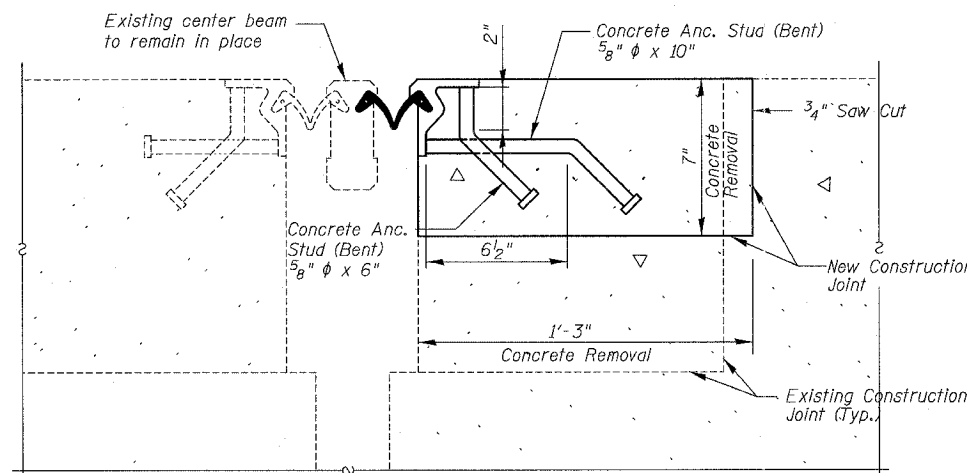
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	277
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				



PARTIAL DECK PLAN - PIER 62



SECTION B-B



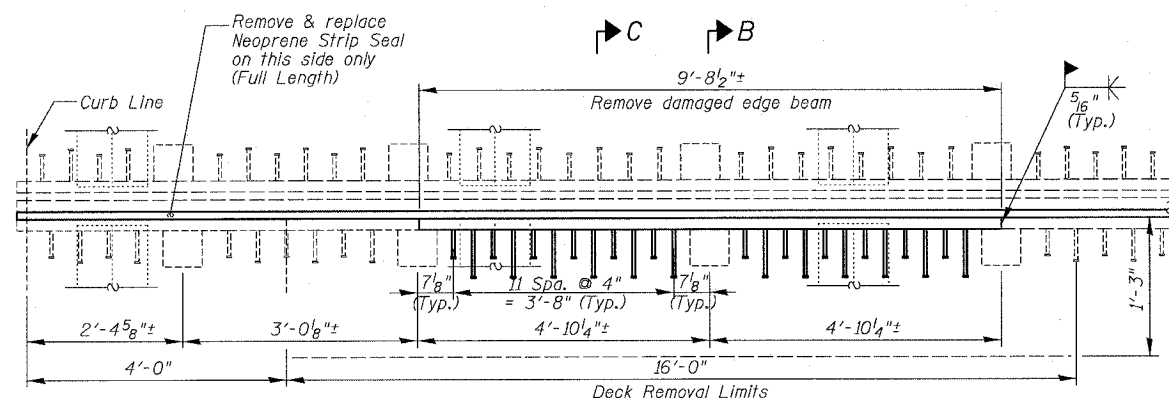
SECTION C-C

MODULAR EXPANSION JOINT REPAIR NOTES

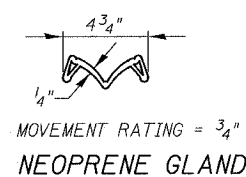
- Existing edge beam and stiffener plates shall be removed by removing welds and grinding smooth. Field cut shall use air arc method. Flame cutting will not be permitted within 2" of top and side plates of support boxes. Grind surface after cutting to a surface roughness of (Ra) 250µ inch or less. Grinding shall be done parallel to the longitudinal direction of support box beams. Cost of field cutting, grinding and drilling shall be included with "Modular Expansion Joint Repair".
- Cost of removal and disposal of existing steel and strip seal shall be included in the cost of "Modular Expansion Joint Repair".
- Existing junction plates at parapet shall be disconnected and reattached to install new strip seal. Cost included in "Modular Expansion Joint Repair".
- Spalled or hollow concrete beyond the specified removal dimensions, if any, shall be removed prior to the edge beam replacement. Concrete patching after joint repair shall be in accordance with the Special Provision for Deck Slab Repair. Cost included in "Concrete Removal". The cost of saw cut for concrete removal shall be included in "Concrete Removal".
- Existing deck rebars within the removal area and depth, if any, shall remain.. Bend conflicting rebars as directed by Field Engineer. Rebars damaged during concrete removal shall be replaced at no cost to the Department.
- Contractor shall place formwork so that no concrete flows into boxes and joint gap opening.
- Contractor shall field verify all relevant dimensions prior to ordering or fabricating materials. See Special Provision for Field Measurements.

BILL OF MATERIAL

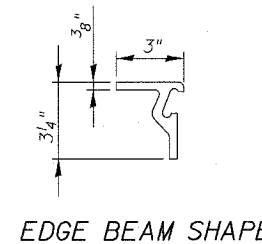
ITEM	UNIT	QTY.
CONCRETE REMOVAL	CU. YD.	1
CONCRETE SUPERSTRUCTURES	CU. YD.	0.4
MODULAR EXPANSION JOINT REPAIR	L. SUM	1



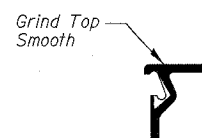
SECTION A-A



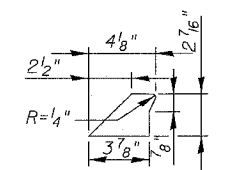
MOVEMENT RATING = 3/4"
NEOPRENE GLAND



EDGE BEAM SHAPE



FIELD WELD
NOTE: Shaded area to be groove welded



STIFFENER PLATE

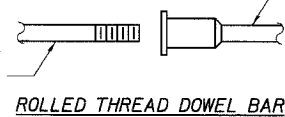
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	F.A.I. 94/90 (DAN RYAN EXPRESSWAY) SB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS MODULAR EXPANSION JOINT REPAIR SN 016-1046	
		SCALE: NTS	DRAWN BY: BDC
		DATE: 5/25/2006	CHECKED BY: IYL

W:\660\940\BRIDGE\21\ASHEETS\660_21_SF046P

4:33:55 PM 5/25/2006

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



ROLLED THREAD DOWEL BAR



** ONE PIECE

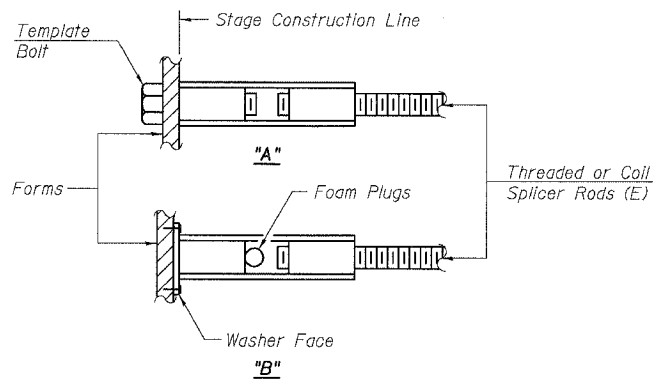
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

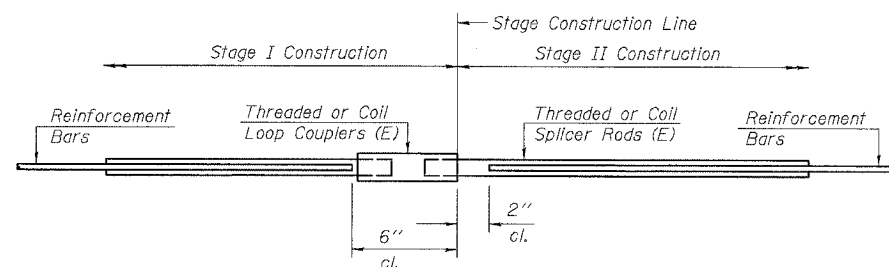
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

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

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

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	-	-
#6	-	-
Total	-	-

* See Table "TOTAL BILL OF MATERIAL"

BAR SPLICER ASSEMBLIES

BAR SIZE	TOTAL NO. ASSEMBL. REQ'D	LOCATION					
		016-1117	016-1115	016-1062	016-1113	016-1112	016-0137
#5	1120	133	295	36	193	377	86
#6	26				5	5	16
#7	16						16
TOTAL	1,162	133	295	36	198	382	118

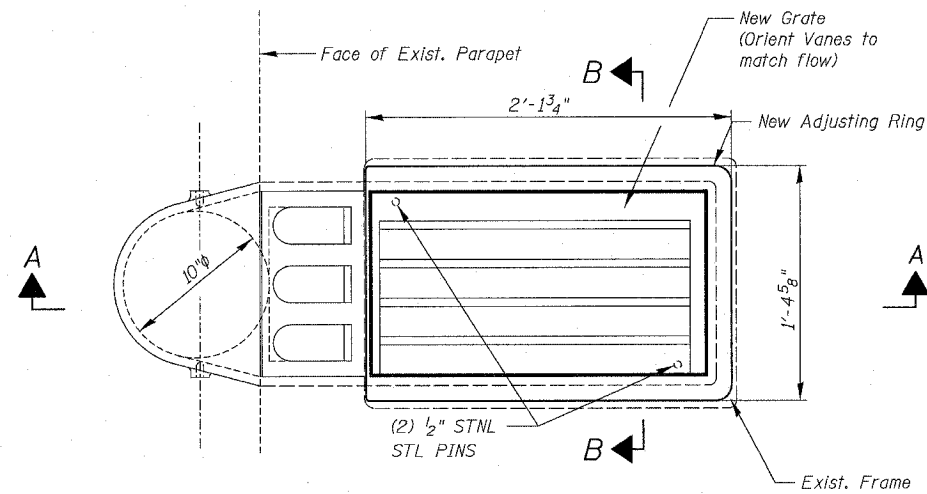
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 BAR SPLICER ASSEMBLY DETAILS

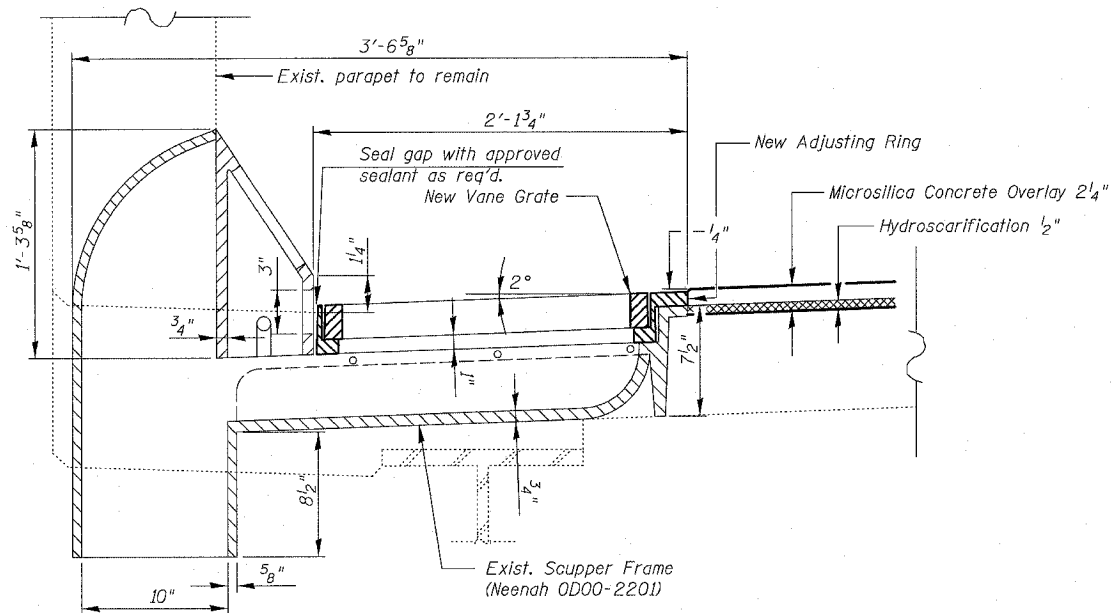
SCALE: NTS
 DATE: 5/25/2006
 DRAWN BY: LM
 CHECKED BY: BLU



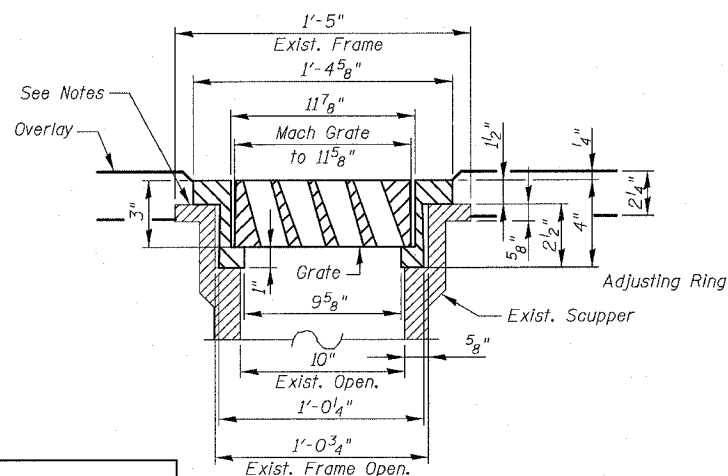
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029I	COOK	344	279
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62581				



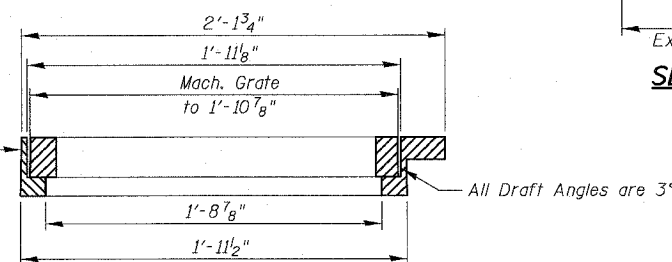
PLAN TYPE A SCUPPER



SECTION THRU TYPE A SCUPPER



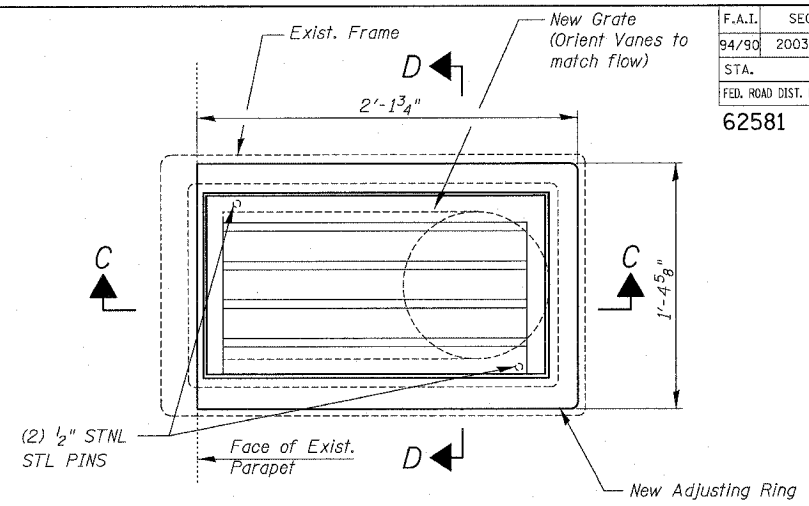
SECTION B-B



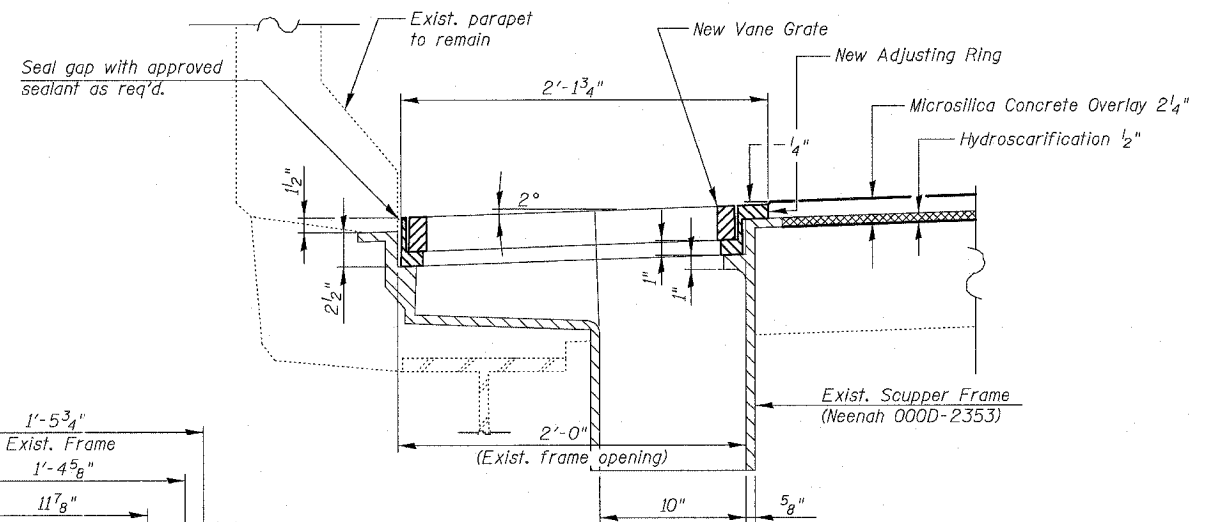
SECTION A-A

Notes:

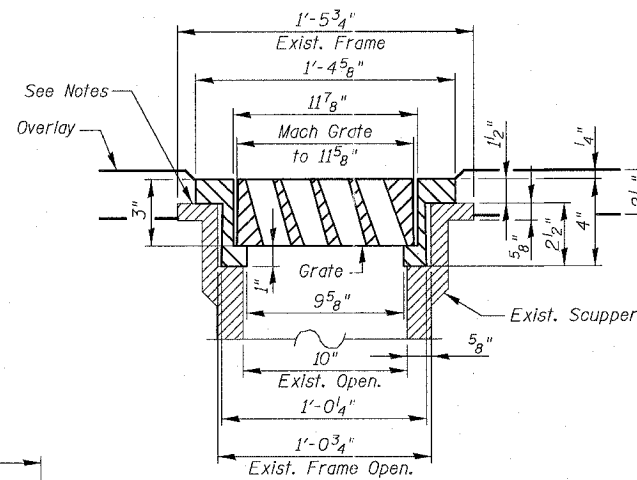
For additional notes and Bill of Material, see Sheet 280.
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
 Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
 Cast iron parts shall be unfinished.
 The Contractor Shall take appropriate measures to assure that Protective Coat is not applied to the scuppers.
 For scupper locations, see Partial Deck Plans.
 Adjusting ring and grates shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
 Provide a₈ fillet weld around perimeter of new adjusting ring to secure to existing scupper. Electrode shall be compatible with cast iron.



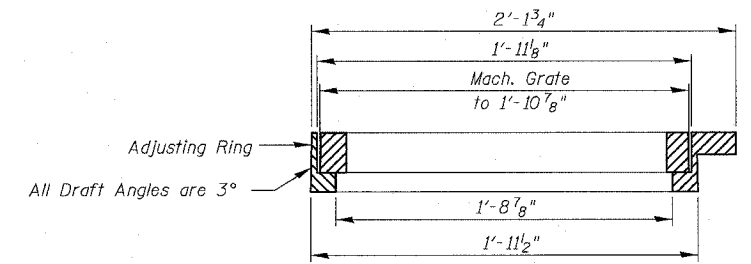
PLAN TYPE B SCUPPER



SECTION THRU TYPE B SCUPPER



SECTION D-D



SECTION C-C

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DRAINAGE SCUPPER DETAILS - TYPE A

Vane Grate 3922-0006 machined to fit

REVISIONS	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 ADJUSTING DRAINAGE SCUPPER
 DETAILS

SCALE: NTS
 DATE: 5/25/2006

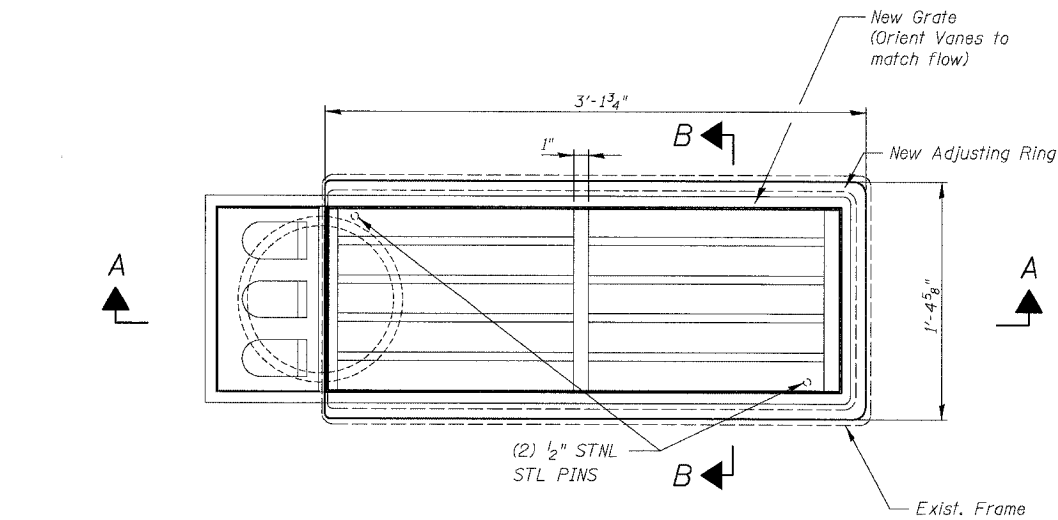
DRAWN BY: BDC
 CHECKED BY: BLU

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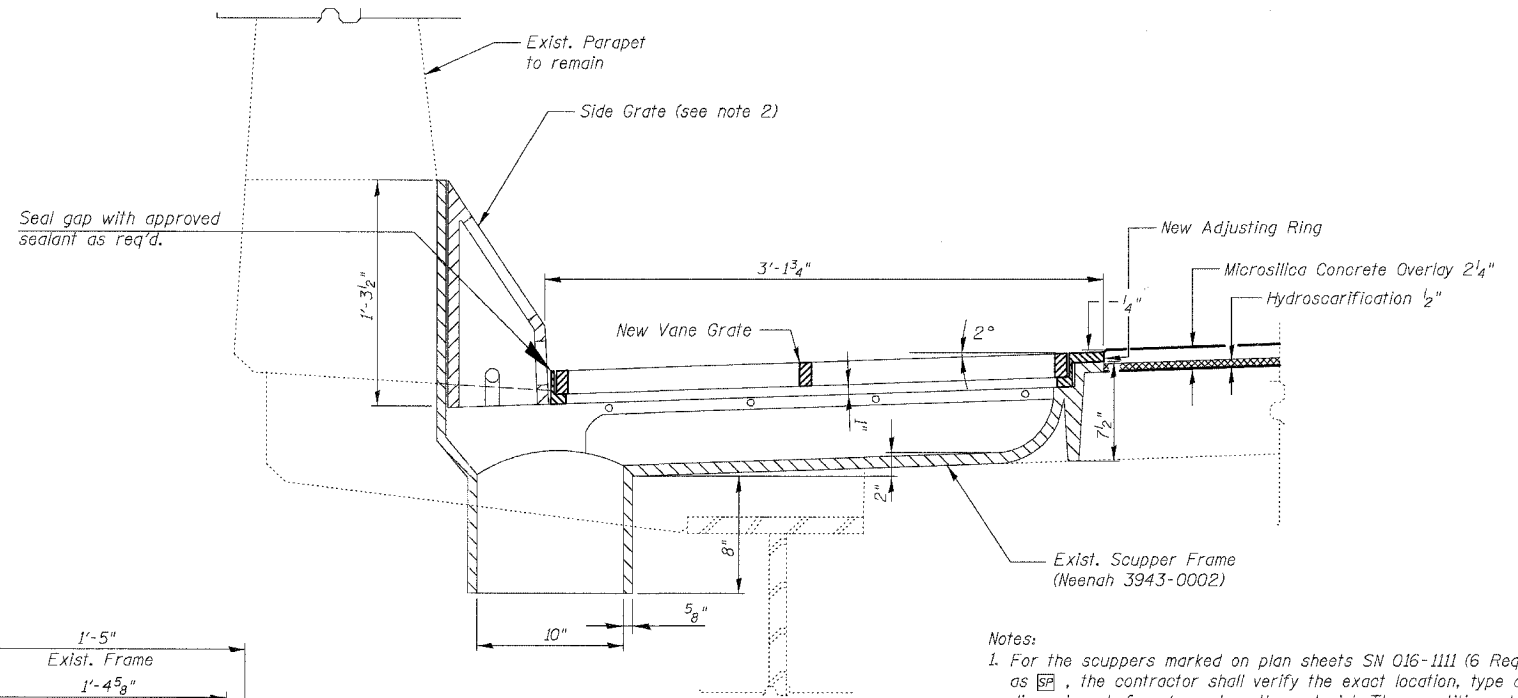
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BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	TOTAL	SN 016-1117	SN 016-1067	SN 016-1116	SN 016-1115	SN 016-1046	SN 016-1050	SN 016-1062	SN 016-1114	SN 016-1113	SN 016-1112	SN 016-1111	SN 016-1110	SN 016-0137
ADJUSTING DRAINAGE SCUPPERS, TYPE A	EACH	128	-	9	-	28	4	1	-	11	12	20	11	11	21
ADJUSTING DRAINAGE SCUPPERS, TYPE B	EACH	60	17	-	8	12	-	-	-	10	10	-	3	-	-
ADJUSTING DRAINAGE SCUPPERS, TYPE C	EACH	81	14	13	8	5	-	-	-	-	6	19	8	8	-

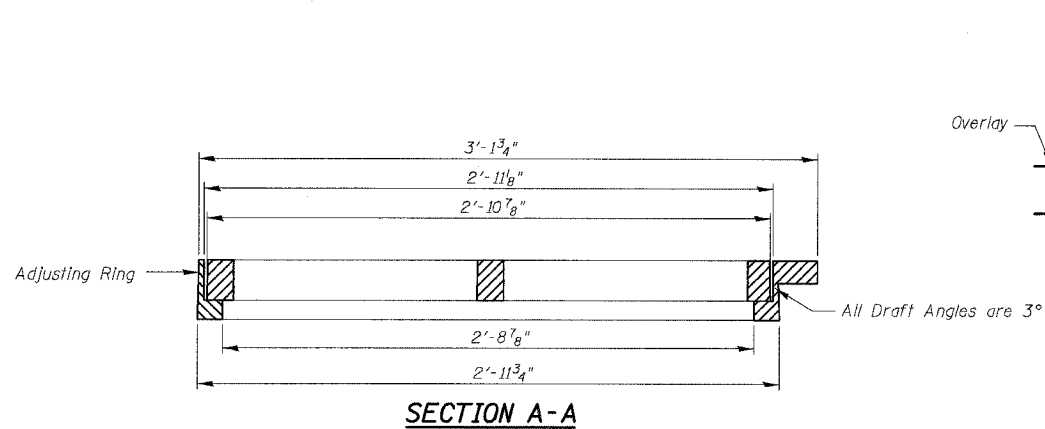


PLAN TYPE C SCUPPER

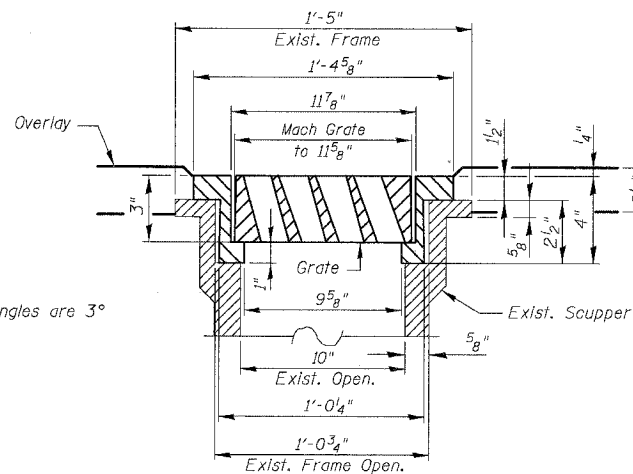


SECTION THRU TYPE C SCUPPER

- Notes:
- For the scuppers marked on plan sheets SN 016-1111 (6 Req'd) as **B**, the contractor shall verify the exact location, type and dimensions before he orders the material. The quantity and pay item is included in "Adjust Drainage Scuppers, Type A".
 - For scupper locations, see Partial Deck Plan Sheets.
 - A paint stripe shall be applied over the existing stripe to the face of the Concrete Barrier Wall at all drainage scupper locations. The stripe shall be 4" wide x 12" long and extend vertically at 90 degrees from the top edge of the barrier. The paint color shall be specified by the Engineer. Cost of the stripe is to be included in "Adjusting Drainage Scuppers" of the type specified.



SECTION A-A



SECTION B-B

DRAINAGE SCUPPER DETAILS - TYPE C

Vane Grate 3943-0002 machined to fit

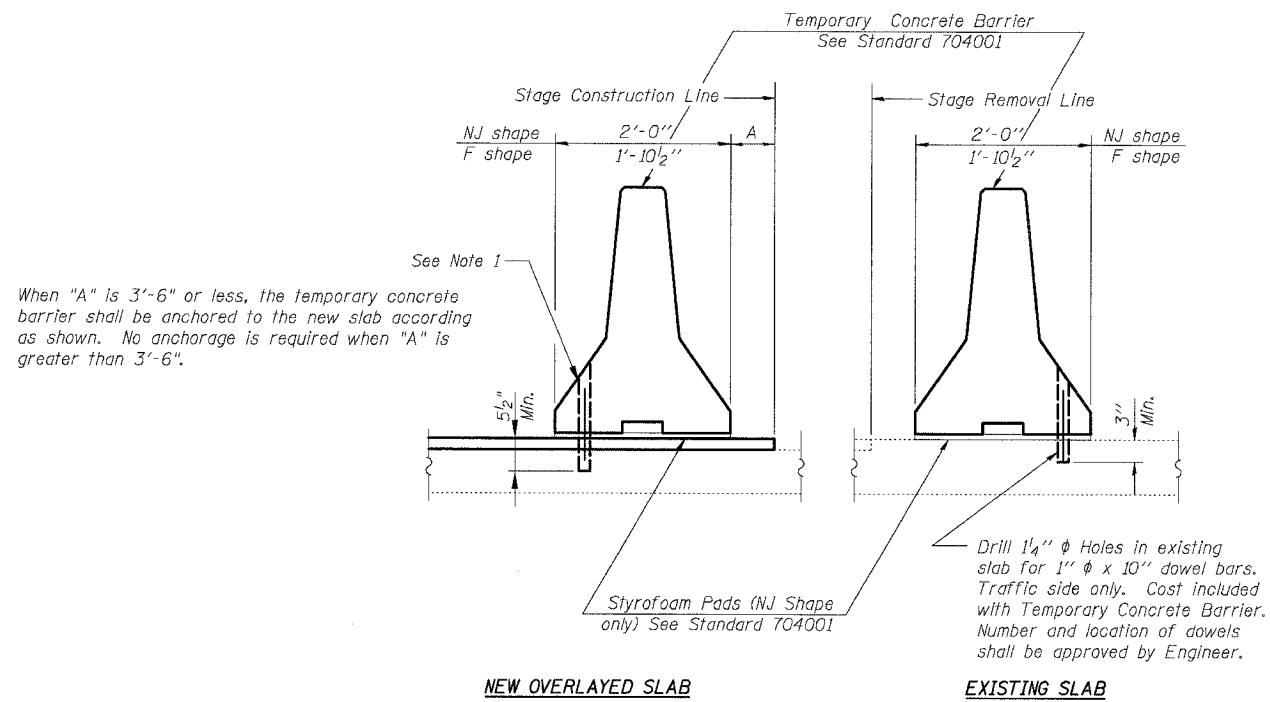
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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) SB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS ADJUSTING DRAINAGE SCUPPER DETAILS
NAME	DATE	
		SCALE: N/A
		DATE: 5/25/2006
		DRAWN BY: BDC
		CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029I	COOK	344	281
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				

14-660-0000 BRIDGE DASH SHEETS 660.21.6000.400



SECTIONS THRU SLAB

NOTE:

1. Drill 1/4" ϕ Holes through new overlay into slab for 1" ϕ x 12" dowel bars. Traffic side only as directed by Engineer. Repair hole with non-shrink epoxy grout as directed by the Engineer. Cost of anchorage and repair included with Temporary Concrete Barrier. Number and location of dowels shall be approved by the Engineer.
2. Contractor may provide alternate method of anchoring barrier to deck if reviewed and approved by the Engineer.

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION

SCALE: NTS
DATE: 5/25/2006

DRAWN BY: LM
CHECKED BY: BLU

5/25/2006 10:17:31 AM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	282
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

62581

GENERAL NOTES

Furnish PJS steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.

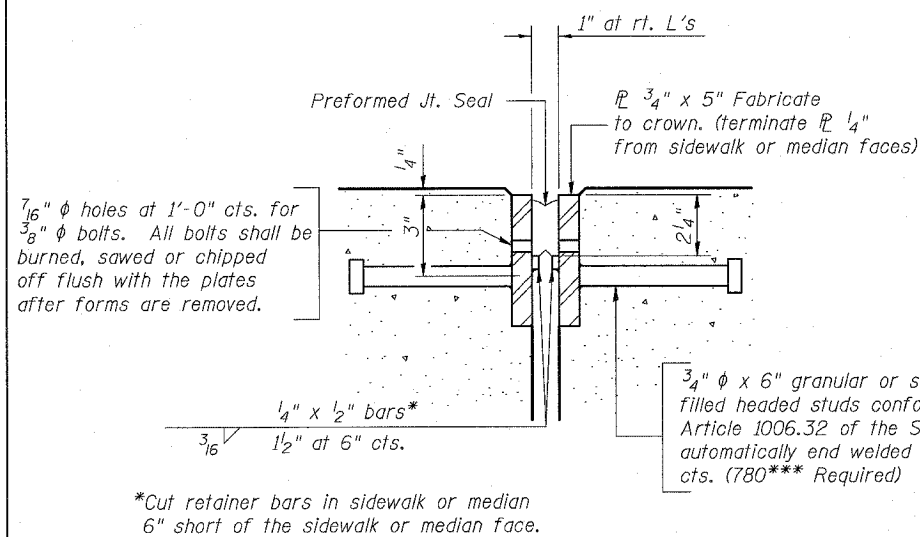
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

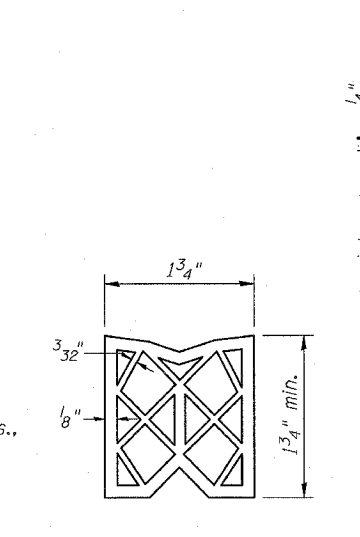
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

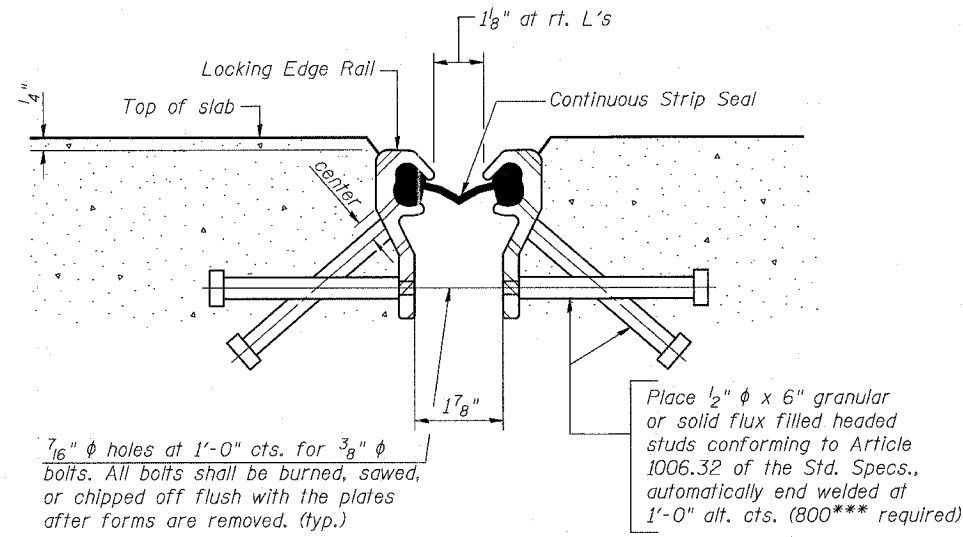
The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the Department.



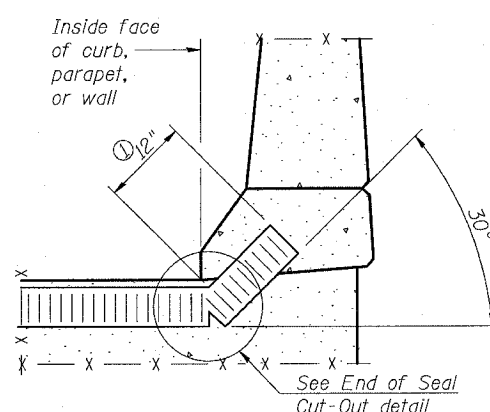
SECTION THRU FIXED PREFORMED JOINT SEAL



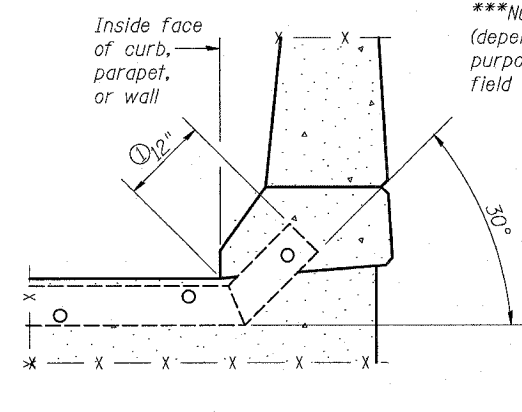
PREFORMED JOINT SEAL



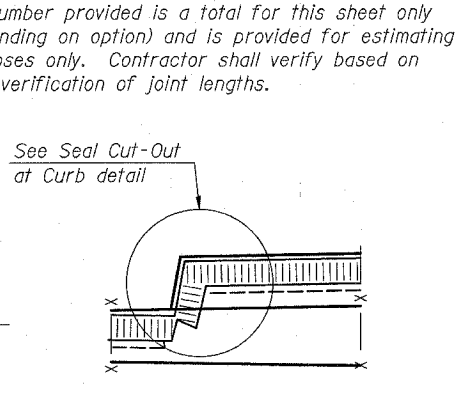
SECTION THRU FIXED STRIP SEAL JOINT



AT CURB, PARAPET, OR WALL (Showing seal)

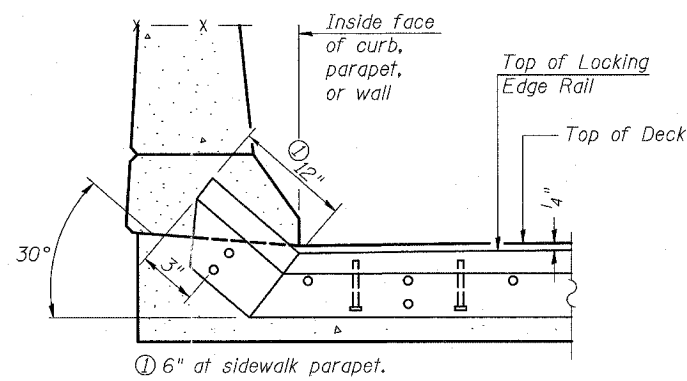


AT CURB, PARAPET, OR WALL (Showing plate)

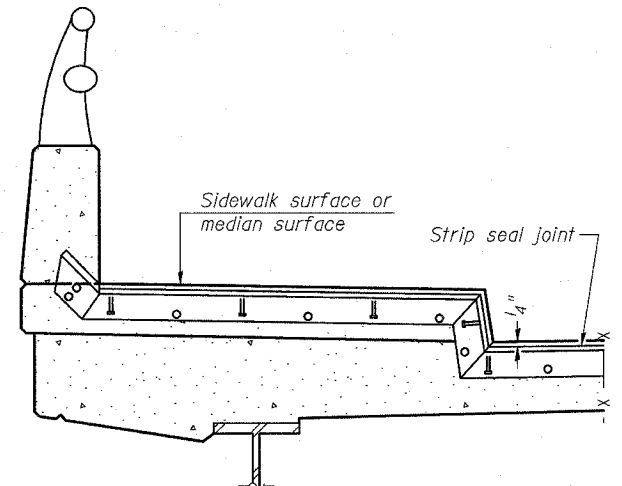


AT SIDEWALK OR MEDIAN

TYPICAL END TREATMENTS FOR PREFORMED JOINT SEAL

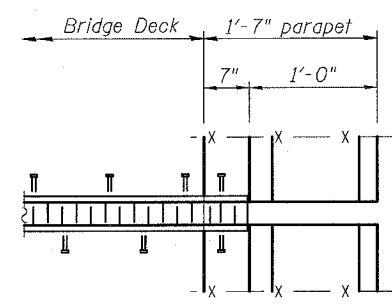


AT CURB, PARAPET, OR WALL

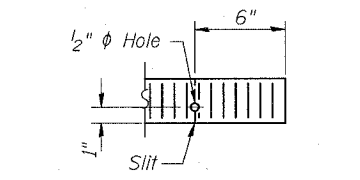


AT SIDEWALK OR MEDIAN

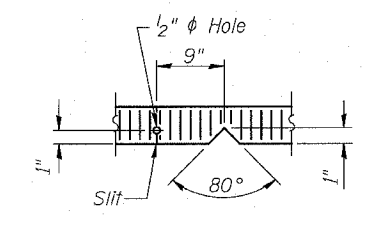
TYPICAL END TREATMENTS FOR STRIP SEAL



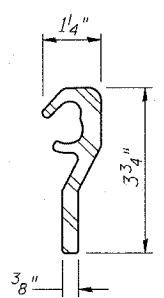
PLAN AT PARAPET



END OF SEAL CUT-OUT

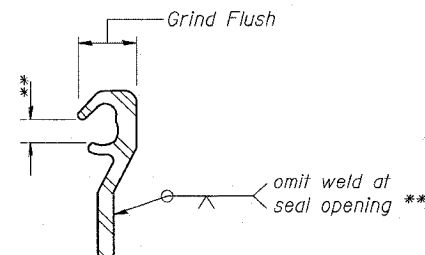


SEAL CUT-OUT AT CURB



LOCKING EDGE RAIL

The inside of the Locking Edge Rail groove shall be free of weld residue.



LOCKING EDGE RAIL SPLICE

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FJ-BJS 9-01-03

REVISIONS	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
BRIDGE JOINT SYSTEM - FIXED

SCALE: NTS
DATE: 5/25/2006

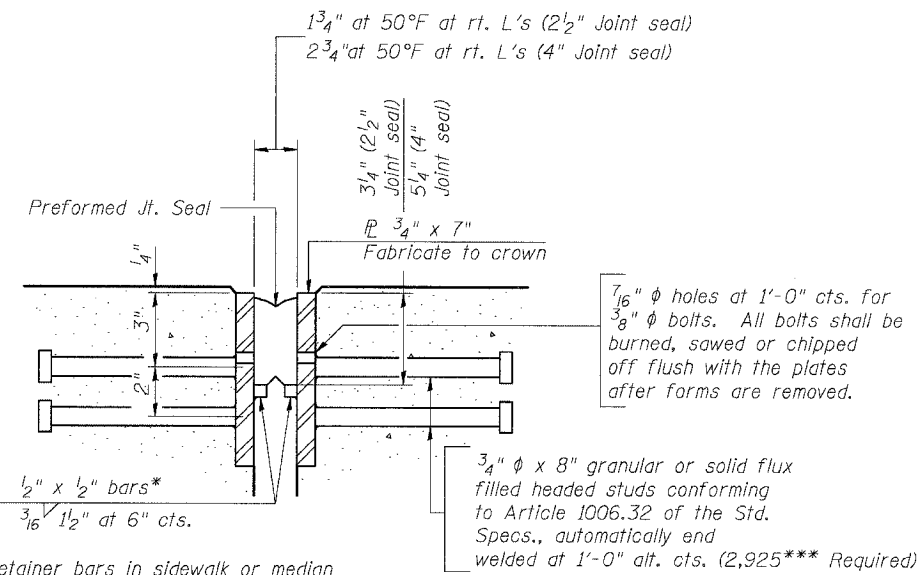
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CHECKED BY: BLU

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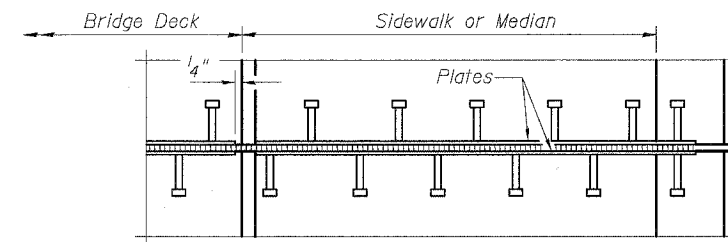
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	283
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				

GENERAL NOTES

Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be $\frac{3}{16}$ ". Seal space with silicone sealant suitable for structural steel.



Bridge Joint System (Expansion)		
Design Movement	Required Preformed Joint Seal Size	Required Strip Seal Rated movement
1"	2 1/2"	1"
1 5/8"	4"	2"



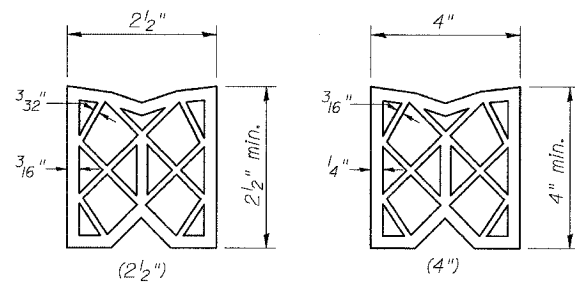
PLAN AT SIDEWALK OR MEDIAN

SECTION THRU EXPANSION JOINT

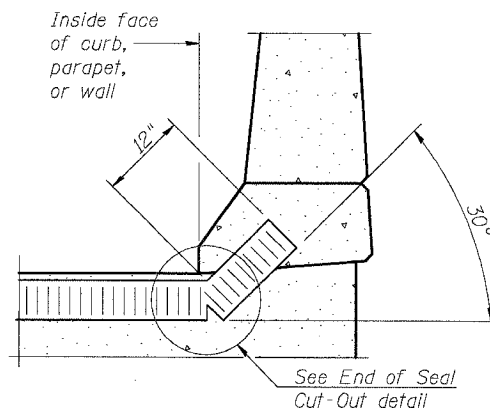
(2 1/2" and 4" joint seals)

*Cut retainer bars in sidewalk or median 6" short of the sidewalk or median face.

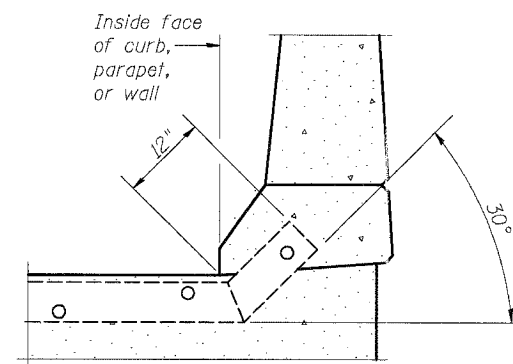
***Number provided is a total for this sheet only and is provided for estimating purposes only. Contractor shall verify based on field verification of joint lengths.



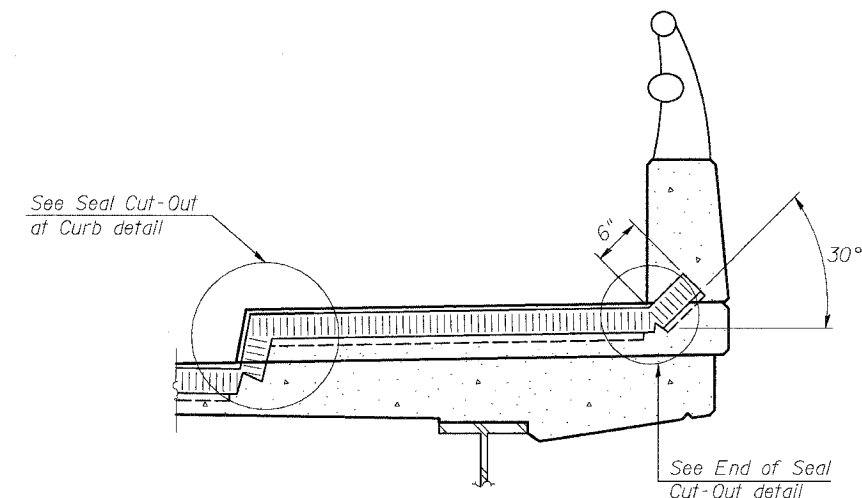
PREFORMED JOINT SEAL



AT CURB, PARAPET, OR WALL
(Showing seal)



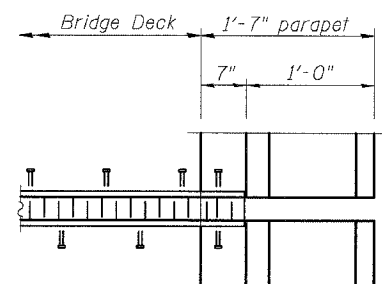
AT CURB, PARAPET, OR WALL
(Showing plate)



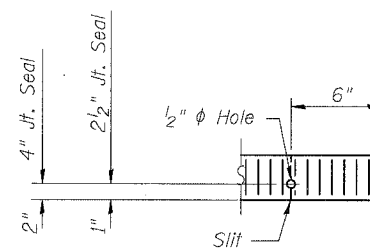
AT SIDEWALK OR MEDIAN**
(Showing plate and seal)

** Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

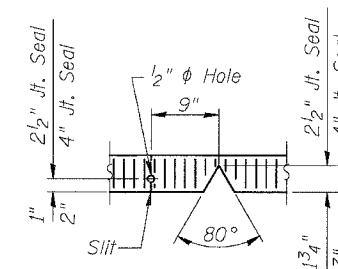
TYPICAL END TREATMENTS



PLAN AT PARAPET



END OF SEAL CUT-OUT



SEAL CUT-OUT AT CURB

(Sheet 1 of 2)

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) SB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS BRIDGE JOINT SYSTEM - EXPANSION (PREFORMED JOINT SEAL)
NAME	DATE	
		SCALE: NTS
		DATE: 5/25/2006
		DRAWN BY: BDC
		CHECKED BY: BLU

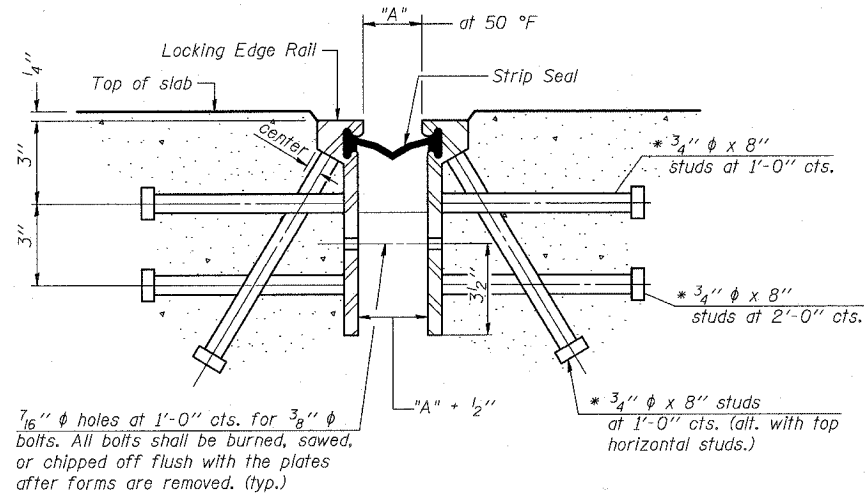
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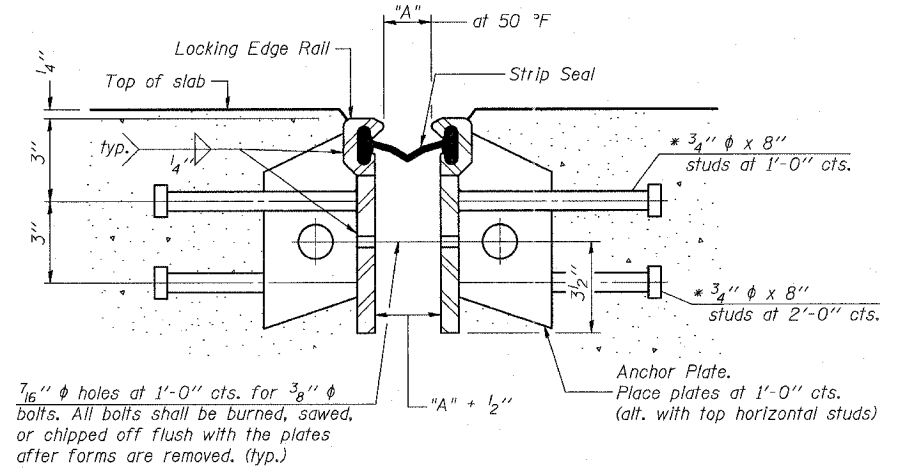
10/08/24 AM 5/25/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-029I	COOK	344	284
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62581



Required Strip Seal rated movement	"A"
1"	1 1/8"
2"	1 3/4"

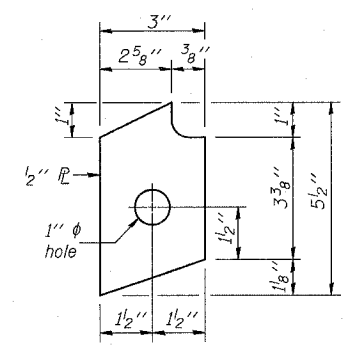
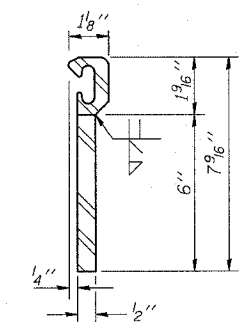
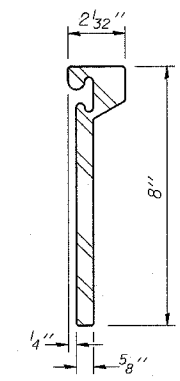


SECTION THRU ROLLED RAIL EXP. JOINT
(7,240*** Studs Required)

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

SECTION THRU WELDED RAIL EXP. JOINT
(4,450*** Studs Required)
(2,800*** Anchor Plates Required)

***Number provided is a total for this sheet only (depending on option) and is provided for estimating purposes only. Contractor shall verify based on field verification of joint lengths.

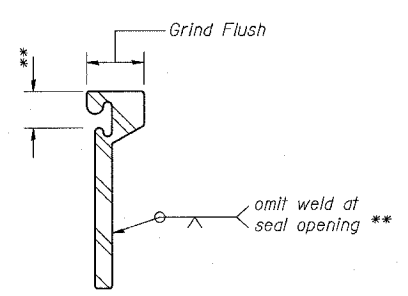


ROLLED (EXTRUDED) RAIL

WELDED RAIL

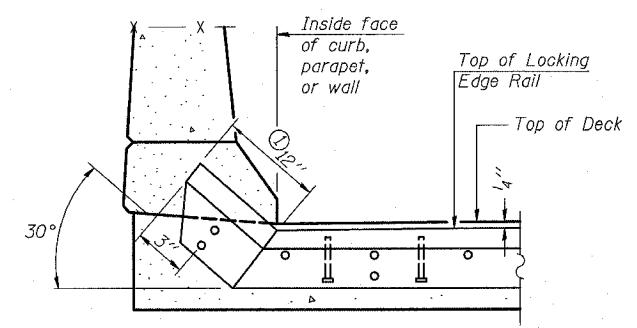
ANCHOR PLATE
(for welded rail)

LOCKING EDGE RAILS

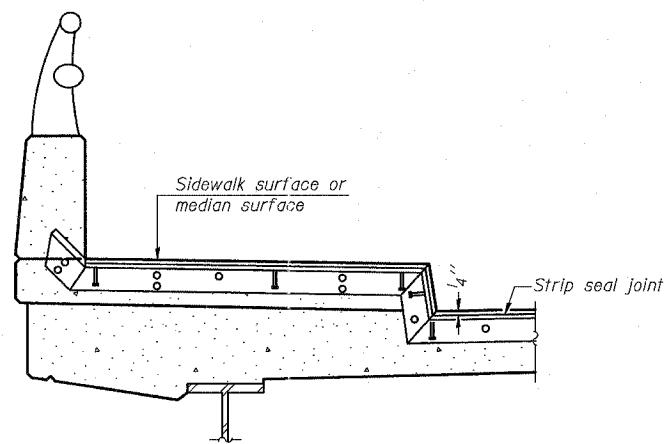


LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.



AT CURB, PARAPET, OR WALL
① 6" at sidewalk parapet.



AT SIDEWALK OR MEDIAN***

*** Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

GENERAL NOTES

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
The manufacturer's recommended installation methods shall be followed.
The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the Department.

(Sheet 2 of 2)

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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

EJ-BJS 9-01-03

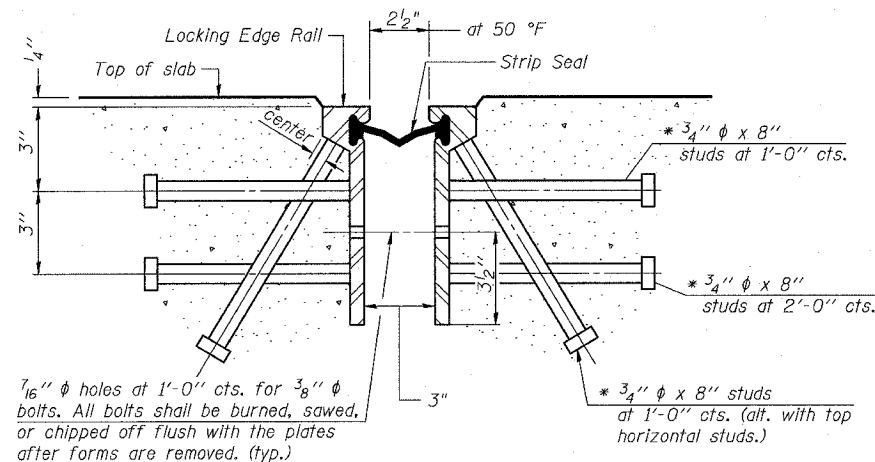
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
BRIDGE JOINT SYSTEM - EXPANSION
(ALTERNATE - STRIP SEAL)
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: BLU

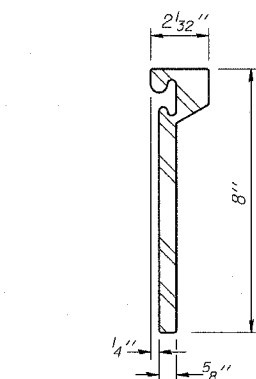
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	285
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

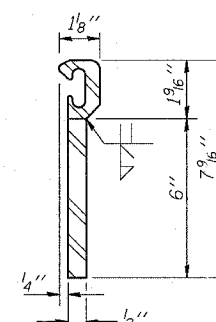
62581



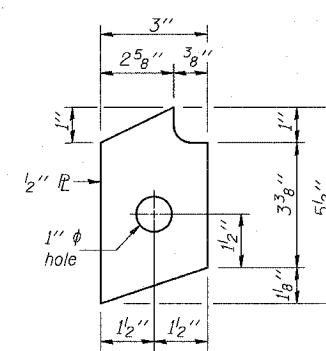
SECTION THRU ROLLED RAIL EXP. JOINT
(17,810*** Studs Required)



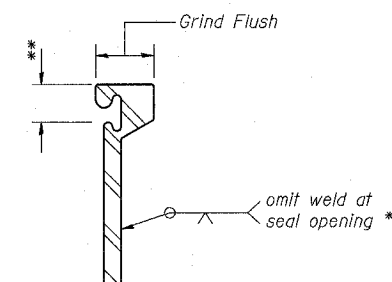
ROLLED (EXTRUDED) RAIL



WELDED RAIL



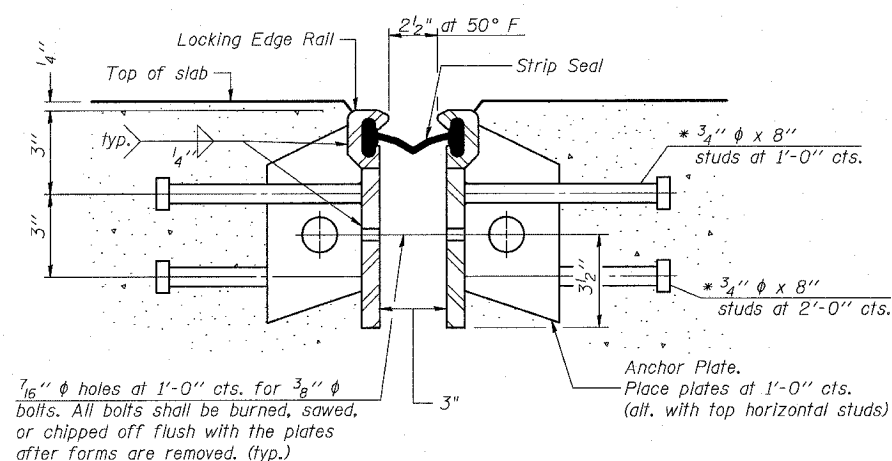
ANCHOR PLATE
(for welded rail)



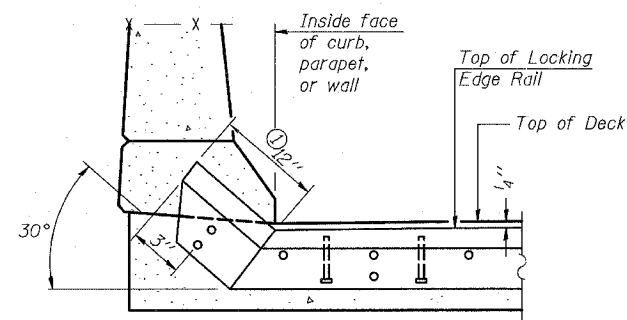
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

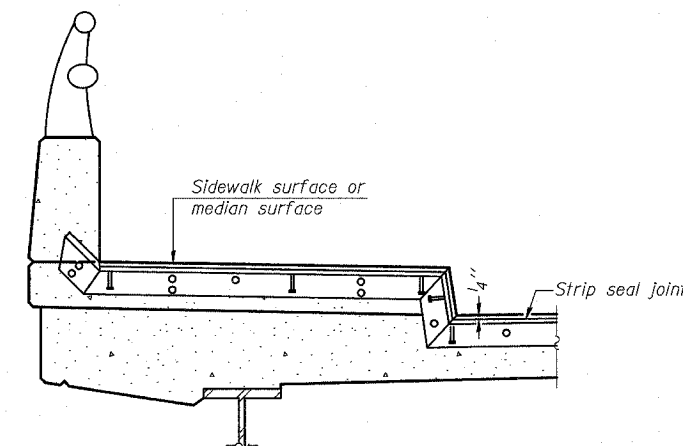
EXPANSION JOINT LOCKING EDGE RAIL DETAILS



SECTION THRU WELDED RAIL EXP. JOINT
(10,900*** Studs Required)
(7,120*** Anchor Plates Required)



AT CURB, PARAPET, OR WALL
① 6" at sidewalk parapet.



AT SIDEWALK OR MEDIAN*
* Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

GENERAL NOTES

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The manufacturer's recommended installation methods shall be followed.

***Number provided is a total for this sheet only (depending on option) and is provided for estimating purposes only. Contractor shall verify based on field verification of joint lengths.

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* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

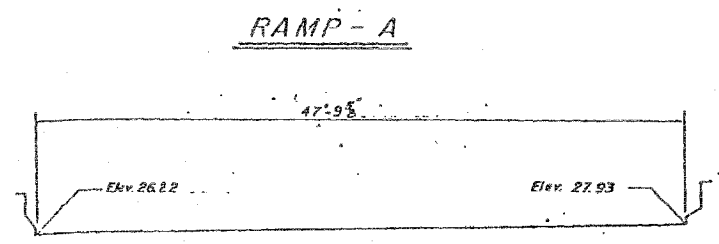
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
STRIP SEAL EXPANSION JOINT
ASSEMBLY DETAILS
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: BDC
CHECKED BY: BLU

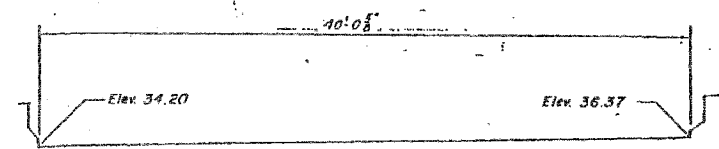
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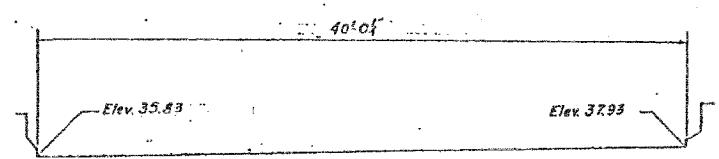
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



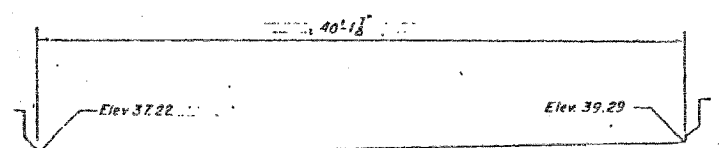
② AT SOUTH ABUTMENT
P.J.S. 2 1/2"



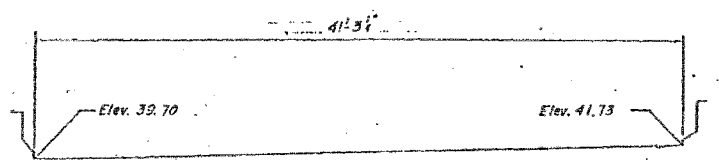
② AT PIER A 4
P.J.S. 2 1/2"



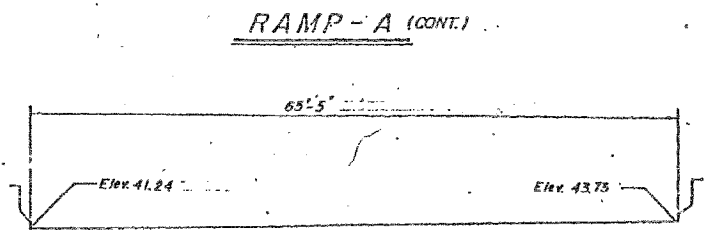
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P.J.S. 2 1/2"



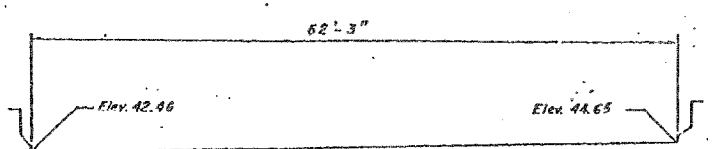
② AT PIER A 6
P.J.S. 2 1/2"



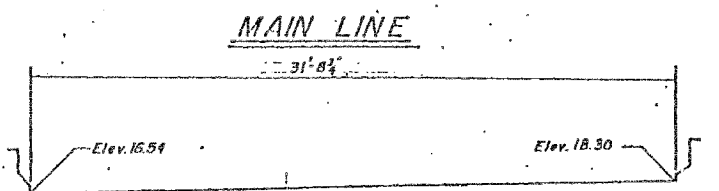
② AT PIER A 9
P.J.S. 2 1/2"



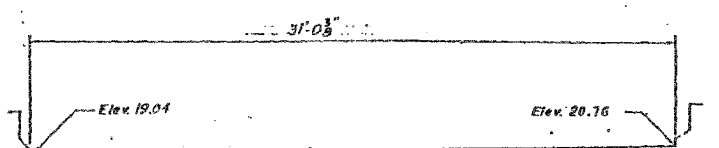
② AT PIER A 13
P.J.S. 2 1/2"



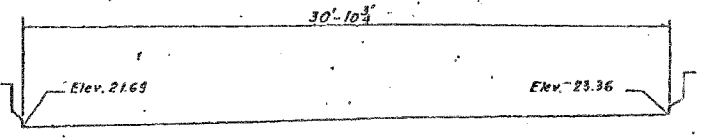
② AT PIER A 15
P.J.S. 2 1/2"



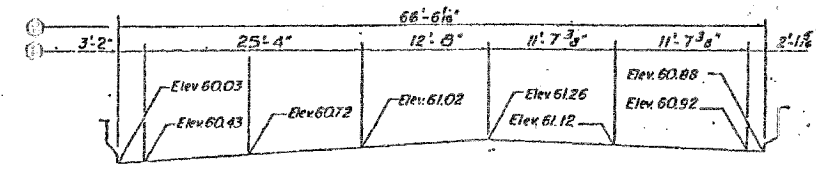
② AT SOUTH ABUTMENT
P.J.S. 4"



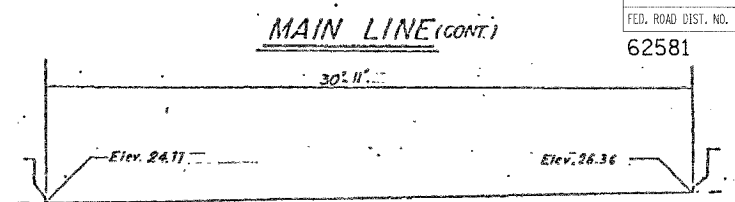
① AT PIER 1
P.J.S. 2 1/2"



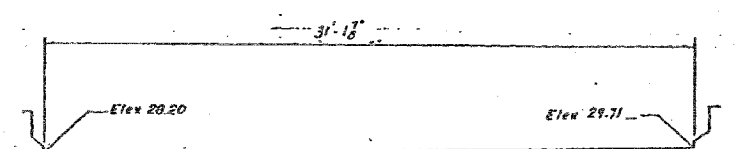
① AT PIER 2
P.J.S. 4"



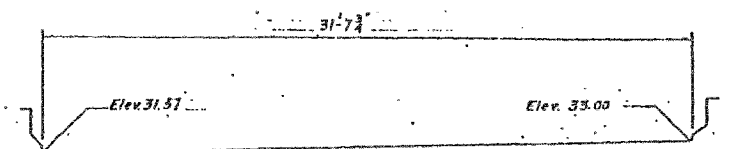
AT PIER 26 (FINGER PLATE JOINT)



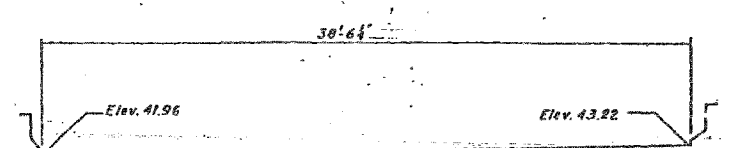
② AT PIER 3
P.J.S. 4"



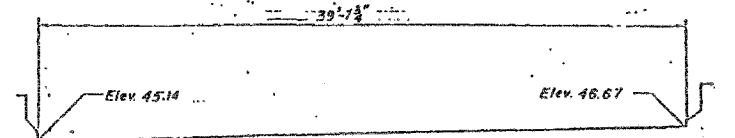
② AT PIER 4
P.J.S. 4"



② AT PIER 5
P.J.S. 4"



② AT PIER 11
P.J.S. 2 1/2"



② AT PIER 15
P.J.S. 2 1/2"

Dimensions measured along
slope of Joint

NOTES
For Steel Finger Plate dt. See Sheet T11, Vol. 13
For PJS Detail See Sheet T13, Vol. 13

SHEET J 38 OF 109

REVISIONS	
Name	Date
(2) Rev.	2/5/07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
EAL ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-082R-COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1057 & 1117 (RAMP A'S MAINLINE)
TRANSVERSE DECK JOINT ELEVATIONS
Scale: NONE
Date: AUGUST 14, 1987
DRAWN BY: J.R.
CHECKED BY: J.S.K.
EMERSON ENGINEERS INC.
Chicago, Illinois

REVISIONS NAME	DATE

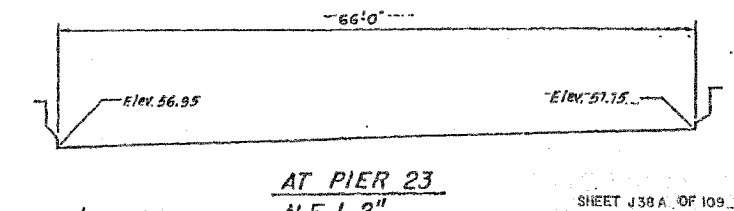
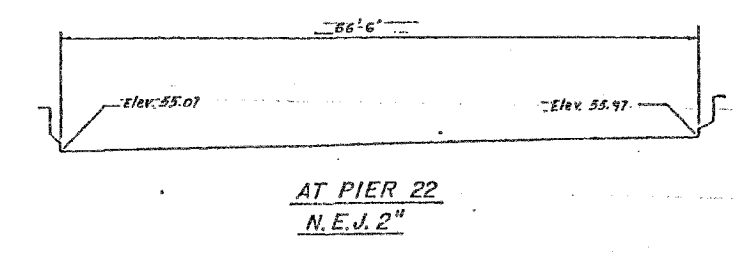
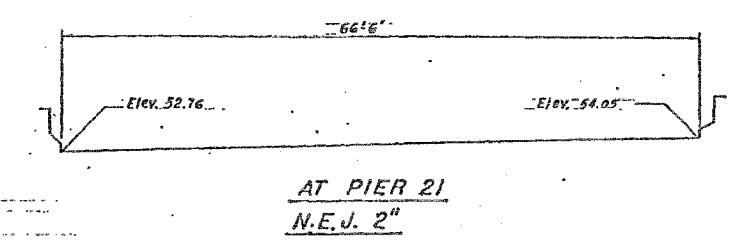
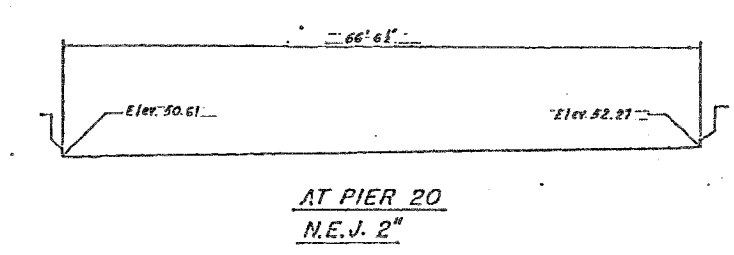
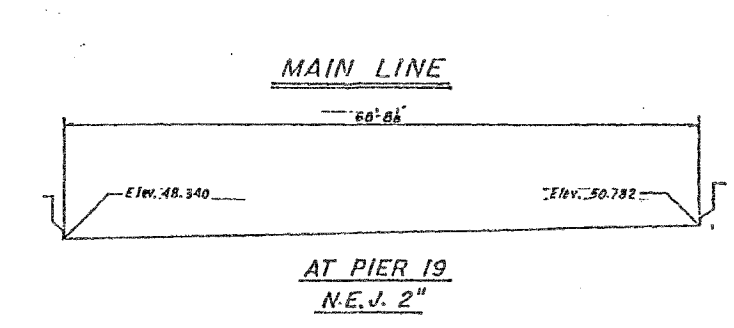
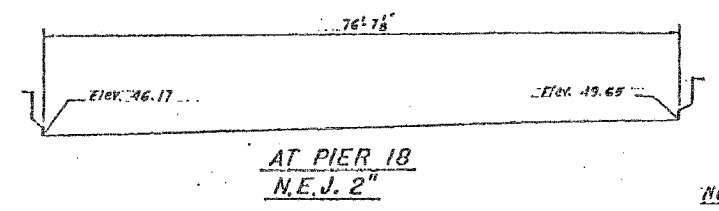
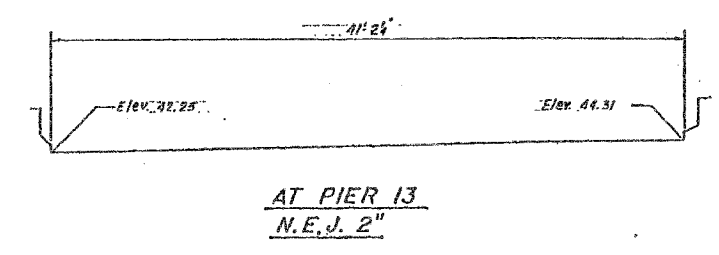
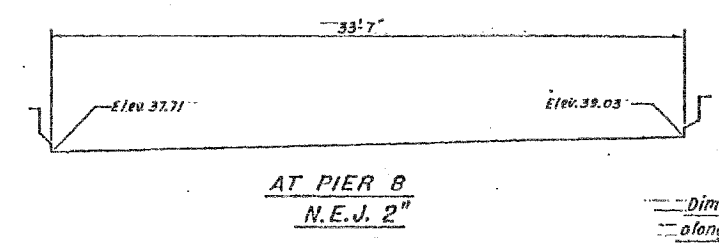
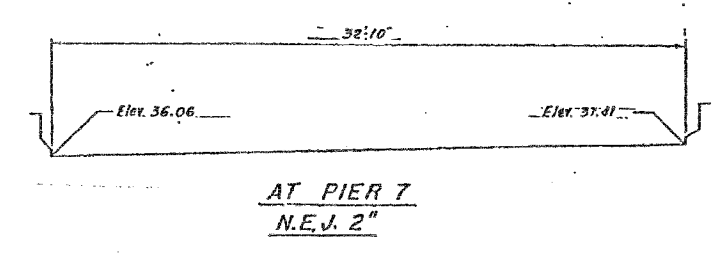
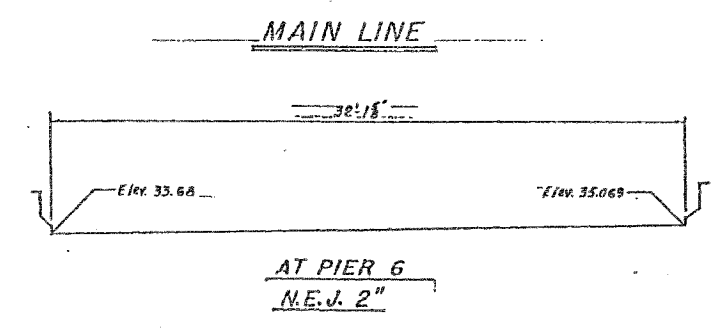
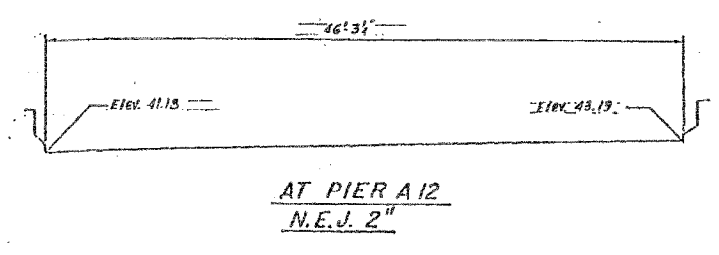
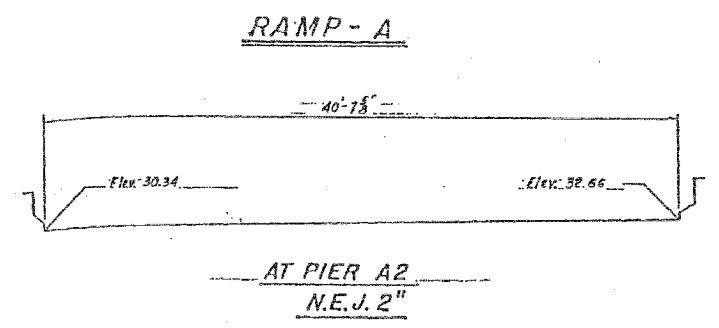
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	287
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62581



--- Dimensions measured ---
--- along slope of Joint ---

- NOTES:**
- For Steel Finger Plate Jt. see Sheet J11-Vol.13
 - For P/S Detail See Sheet T12 Vol.13
 - Work this steel with J38

SHEET J38 A OF 109

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 016-1067 & 016-1067 (RAMP 'A'S MAINLINE)
STRUCTURE 016-1067 & 016-1067 (RAMP 'A'S MAINLINE)
TRANSVERSE DECK JOINT ELEVATIONS

REVISIONS	NAME	DATE
(2) New Sheet		2/5/00

Scale: NONE
Date: _____
Drawn By: J.C.
Checked By: S.K.
ENVIRONMENTAL ENGINEERS INC.
CHICAGO, ILL.

BOWMAN, BARRETT & ASSOCIATES INC
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

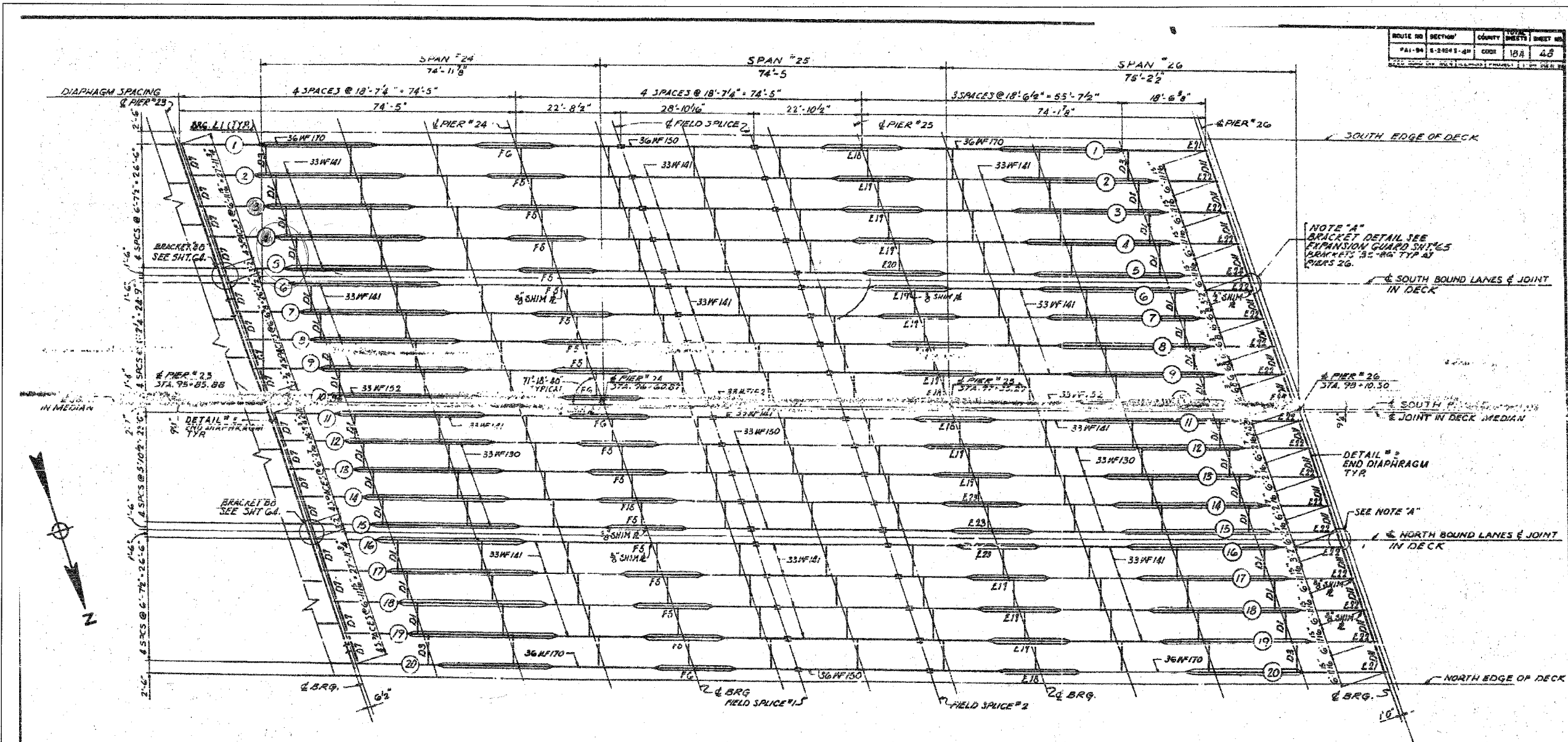
FOR INFORMATION ONLY

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067

SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

5/23/2006 3:53:55 PM



NOTE "A"
BRACKET DETAIL SEE
EXPANSION GUARD SHIMS
PARAGRAPHS 32-46 TYP AT
PIERS 26.

PIER # 26
STA. 99+10.50

DETAIL # 2
END DIAPHRAGM
TYP

SEE NOTE "A"

FRAMING PLAN SPANS 24 TO 26
3 SPAN CONTINUOUS

TOP OF BEAM ELEVATIONS AT & BEARING		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
LOCATION	SPAN																					
PIER 23	SPAN 23	56.611	56.855	57.070	57.234	57.253	57.211	57.119	56.995	57.043	57.258	57.435	57.571	57.589	57.533	57.425	57.289					
	SPAN 24	56.611	56.831	57.003	57.140	57.248	57.267	57.243	57.201	57.115	57.019	57.078	57.231	57.384	57.490	57.584	57.602	57.576	57.521	57.428	57.289	
PIER 24		57.937	58.113	58.285	58.417	58.510	58.534	58.495	58.441	58.350	58.279	58.313	58.451	58.597	58.703	58.793	58.819	58.786	58.780	58.620	58.531	
FIELD SPLICE #1		58.303	58.457	58.623	58.737	58.856	58.871	58.840	58.780	58.670	58.583	58.640	58.786	58.933	59.039	59.125	59.140	59.100	59.036	58.924	58.846	
FIELD SPLICE #2		58.780	58.881	59.045	59.176	59.273	59.287	59.254	59.195	59.100	58.990	59.047	59.190	59.336	59.438	59.523	59.537	59.499	59.428	59.394	59.228	
PIER 25		59.023	59.194	59.356	59.484	59.579	59.608	59.547	59.488	59.391	59.314	59.345	59.477	59.620	59.730	59.803	59.826	59.781	59.715	59.609	59.514	
PIER 26	SPAN 26	59.913	60.077	60.233	60.349	60.439	60.449	60.408	60.348	60.245	60.142	60.120	60.317	60.454	60.544	60.621	60.633	60.586	60.513	60.401	60.281	

NOTES:
TOP OF BEAM ELEVATIONS AT PIER 23
ARE AT A STEEL PIER SEE DETAIL
347-055
TOP OF BEAM ELEVATIONS GIVEN ARE
ACTUAL TOP OF FLANGE ELEVATIONS,
NOT TOP OF COVER PLATES EXTENDED
DOWN FROM THE TOP OF BEAM.
ELEVATIONS AT PIER 24 & 25 AND
AT FIELD SPLICES ARE AT THE TOP
OF COVER AND SPLICE PLATES.



ALFRED BENECH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

BILL OF MATERIAL

DESCRIPTION	UNIT	QUANTITY
STRUCTURAL STEEL	LBS.	760,500

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
**SOUTH ROUTE SUPERHIGHWAY
ELEVATED HIGHWAY
28TH PLACE TO STEWART AVE.**
SECTION S-2424 3-4H
**FRAMING PLAN
SPANS 24 TO 26**
SHEET NO. 48 OF 184 SHEETS DATE: MARCH, 1961

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

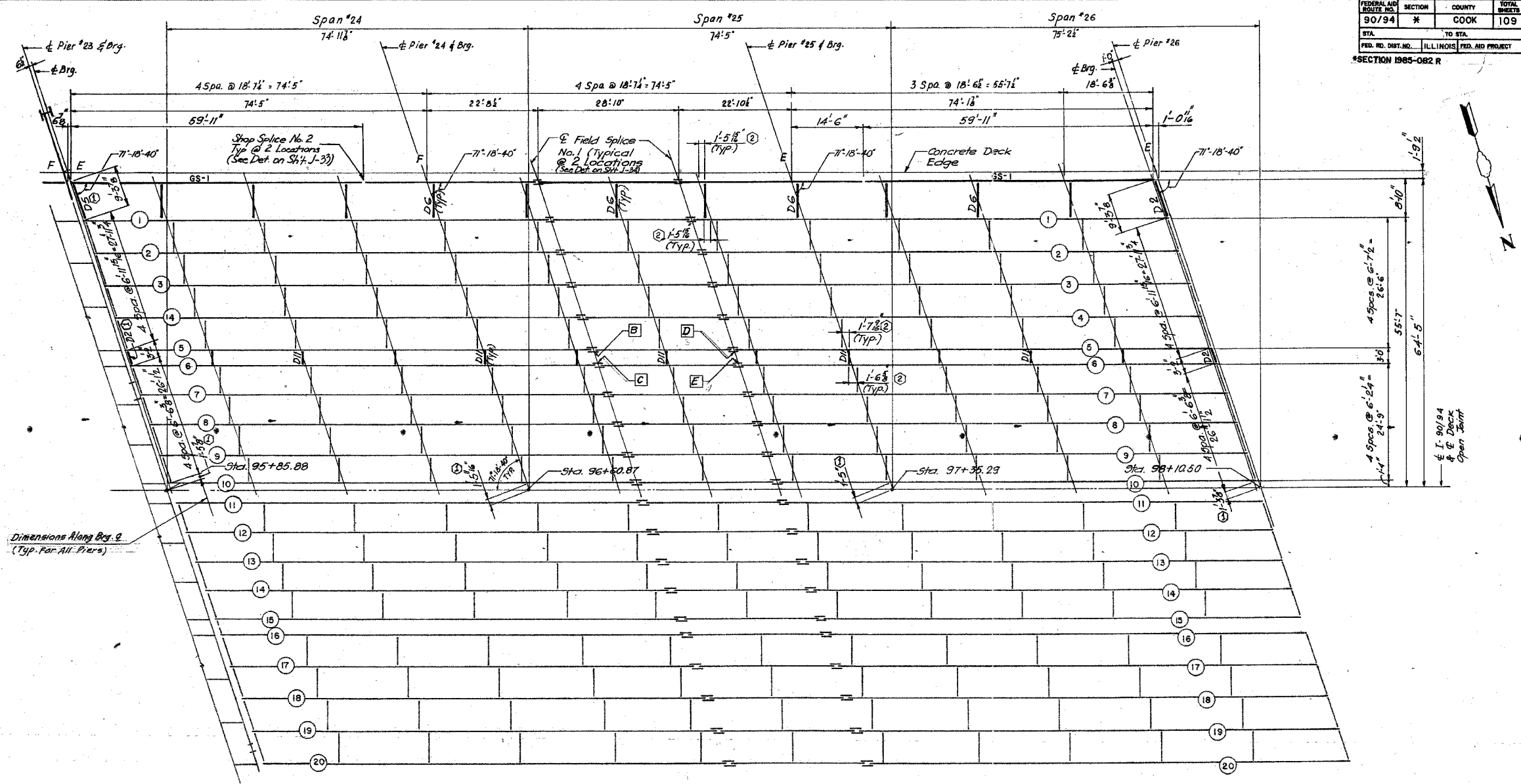
FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067
SCALE: NTS DATE: 5/25/2006 DRAWN BY: MTR CHECKED BY: BLU

F.A.I. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90 2003-0291	COOK	344	289
STA. TO STA.	ILLINOIS FED. AID PROJECT		
62581			

FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	109	29
STA.	TO STA.			
FED. NO. DIST. NO.	ILLINOIS	FED. AID PROJECT		
SECTION 1985-082 R				



Dimensions Along Brg. 9
(Typ. For All Piers)

- ① B Field Splice No. 20, Type 4, See Sht. SR-2, Vol. 13 for detail.
- ① C Field Splice No. 21, Type 4, See Sht. SR-2, Vol. 13 for detail.
- ① D Field Splice No. 22, Type 4, See Sht. SR-2 Vol. 13 for detail.
- ① E Field Splice No. 23, Type 4, See Sht. SR-2 Vol. 13 for detail.

Notes:
E = Exp. Brg.
F = Fixed Brg.

For diaphragm detail D1 see sheet no. J33
For diaphragm detail D6 see sheet no. J34
For diaphragm detail D7 see sheet no. J35

PLAN - SPANS 24, 25 & 26

ALL NEW MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE STEEL FABRICATION CONTRACT (SECTION 1985-081F), UNLESS NOTED OTHERWISE.

SHEET J 29 OF 109

REVISIONS	
Name	Date
① Rev.	1-8-88
② Rev.	2-5-88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-082 R - COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1117 (MAINLINE)
FRAMING PLAN SPANS 24 TO 26

Scale: NONE
Date: AUGUST 14, 1987
Drawn By: E.D.
Checked By: Bysk
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

AS REVISED

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

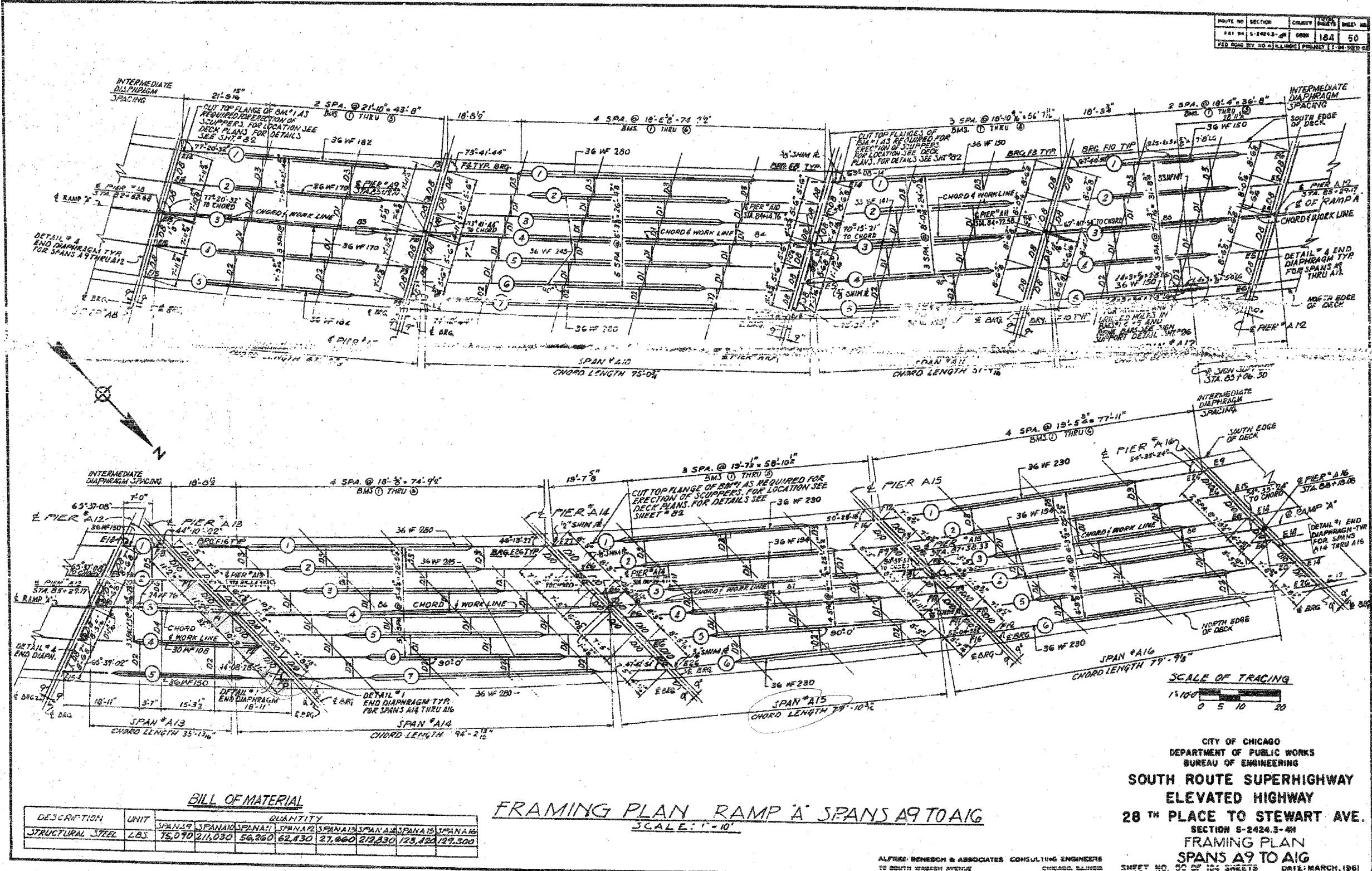
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067

SCALE: NTS
DATE: 5/25/2006

DRAWN BY: MTR
CHECKED BY: BLU

35/5/3 PM 5/23/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FBI NO. S-2424.3-4H	COOK	184	50	
FED. ROAD DIST. NO. 01 ILLINOIS PROJECT 11-94-38812				



BILL OF MATERIAL

DESCRIPTION	UNIT	QUANTITY							
STRUCTURAL STEEL	LBS.	SPAN A9	SPAN A10	SPAN A11	SPAN A12	SPAN A13	SPAN A14	SPAN A15	SPAN A16
		75,070	216,030	56,260	62,430	27,660	212,830	123,120	129,300

FRAMING PLAN RAMP A SPANS A9 TO A16
SCALE: 1" = 10'

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
**SOUTH ROUTE SUPERHIGHWAY
ELEVATED HIGHWAY**
28TH PLACE TO STEWART AVE.
SECTION S-2424.3-4H
**FRAMING PLAN
SPANS A9 TO A16**
ALFRED BENEDEK & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS SHEET NO. 00 OF 104 SHEETS DATE: MARCH, 1961

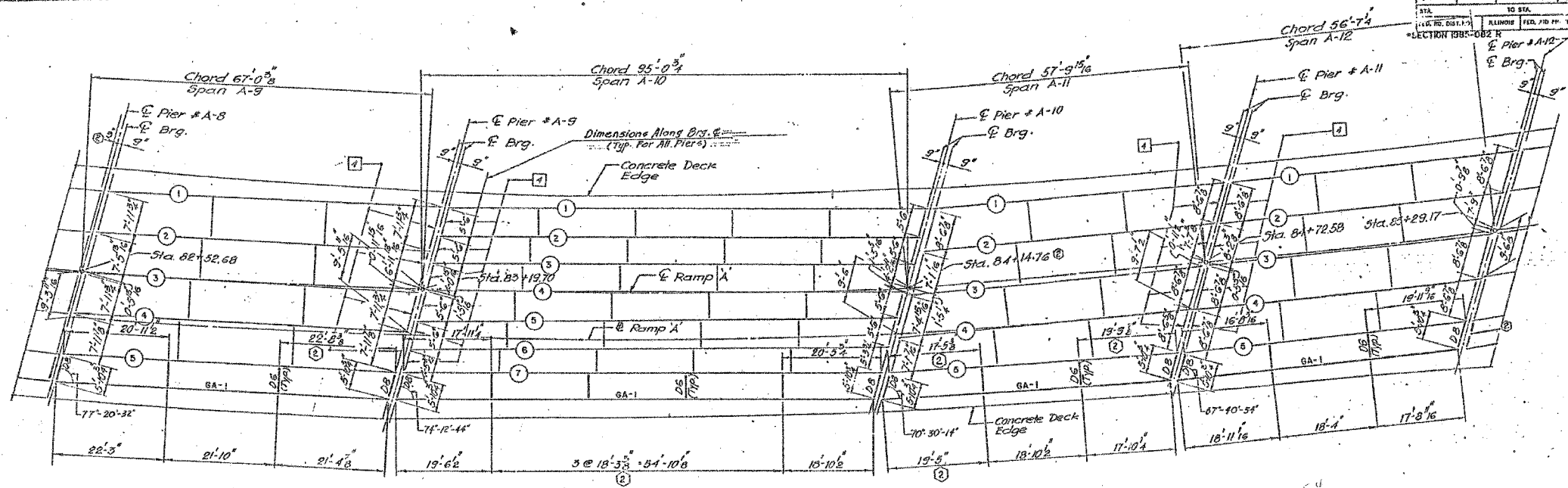
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

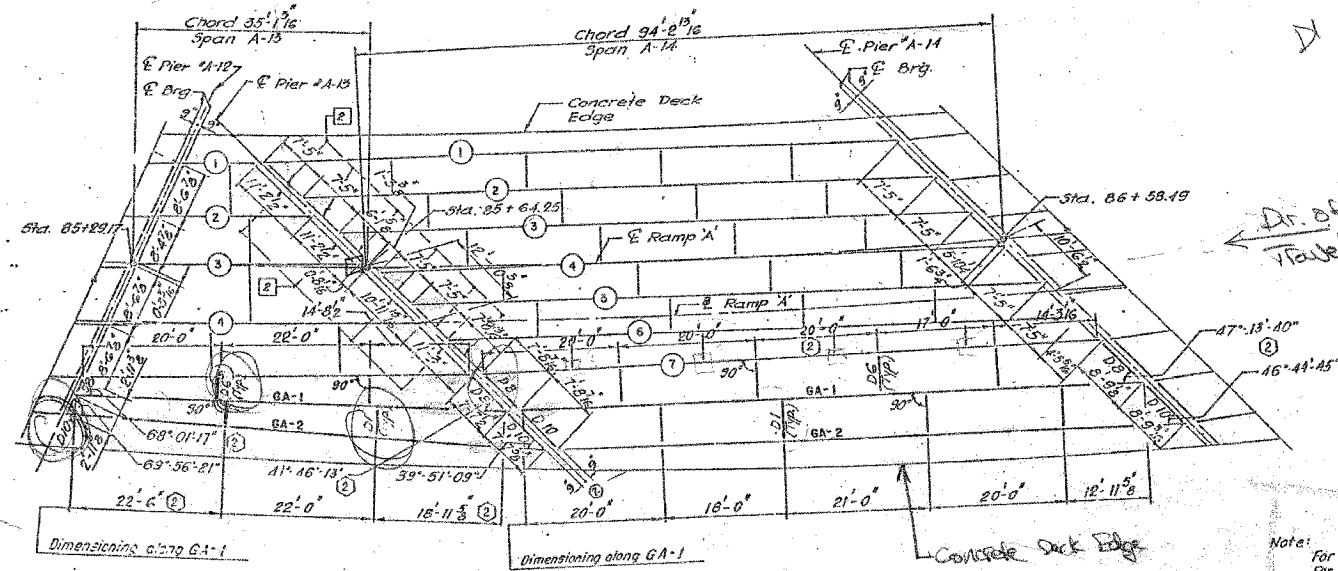
FOR INFORMATION ONLY

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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	291
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62581				



PLAN - SPANS A-9, A-10, A-11 & A-12



PLAN - SPANS A-13 & A-14

- ① ④ End Cross Frame, Type D8, See Sheet SR-3 Vol 13 For Details
- ① ② End Cross Frame, Type D10, See Sheet SR-3 Vol 13 For Details

D6 D10
DK

Dr. of
Vtable

ALL NEW MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE STEEL FABRICATION CONTRACT (SECTION 1905-001F), UNLESS NOTED OTHERWISE.

AS REVISED

SHEET J 21 OF 109

REVISIONS	
Name	Date
(1) Rev.	1-8-83
(2) Rev.	2-5-88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1905-002 R - COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1067 (RAMP A)
FRAMING PLAN SPANS A9 TO A14
Scale: NONE
Date: AUGUST 14, 1987
Ch: [] By: []
ENVIRONMENTAL ENGINEERS INC.
Chicago, Illinois

Note:
For diaphragm detail D1 see sheet no. J33
For diaphragm detail D6 see sheet no. J34
For diaphragm details D8 and D10 see sheet no. J35

FOR INFORMATION ONLY

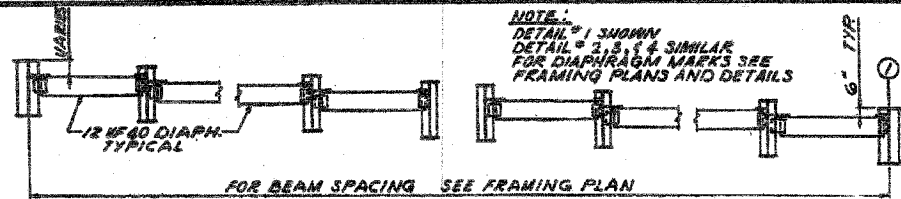
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067

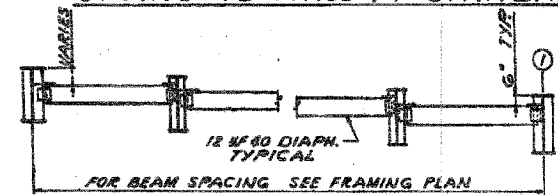
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

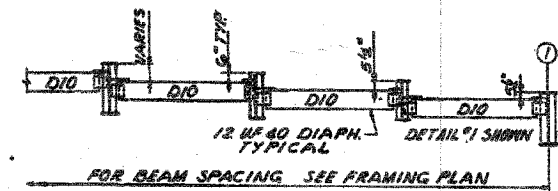
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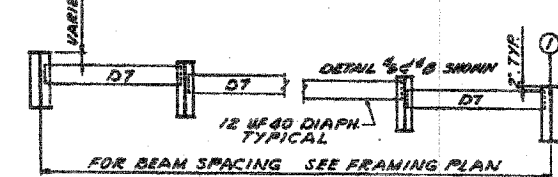
TYPICAL PARTIAL ELEVATION
SPAN #14 SHOWN SPANS #8 THRU #11.
SPANS #15 THRU #19 SIMILAR



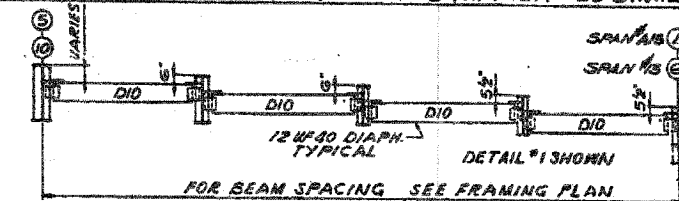
TYPICAL PARTIAL ELEVATION
SPAN #A14 SHOWN. SPANS #A1 THRU #A3, A7 THRU #A12
SPANS #A15 THRU #A17 & SPANS #H1 THRU #H14 SIMILAR.



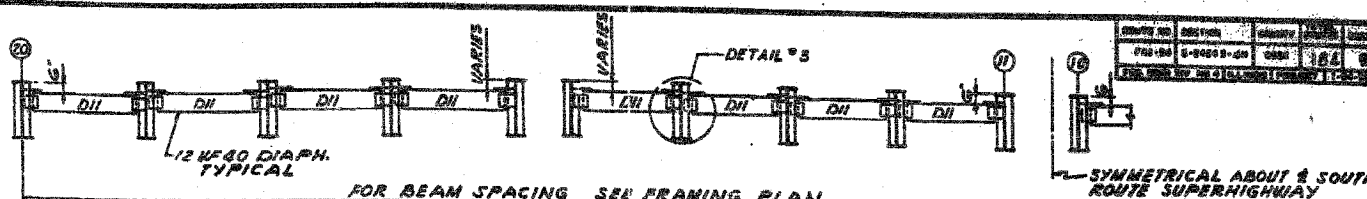
TYPICAL PARTIAL ELEVATION
SPAN #12 AT PIER #13 SHOWN
SPAN #H6 AT PIER #H6 SIMILAR
SCALE: 1/2" = 1'-0"



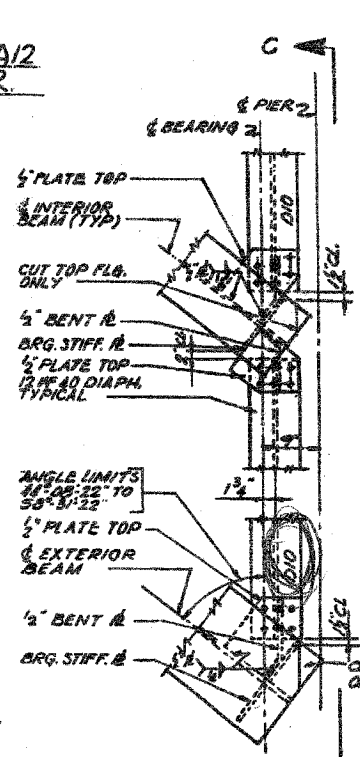
TYPICAL PARTIAL ELEVATION
SPAN #6 AT PIER #6 SHOWN. SPAN #7 AT PIER #7
SPAN #A4 THRU #A6 AT PIER #A3 THRU #A6
SPAN #H1 AT SOUTH ABUT. & SPAN #24 AT PIER #23 SIMILAR



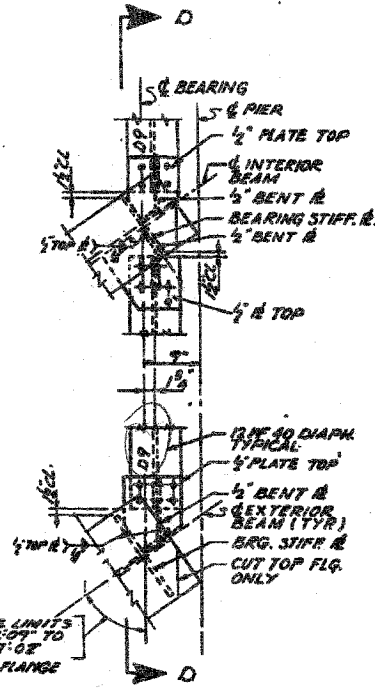
TYPICAL ELEVATION
SPAN #13 AT PIER #13 SHOWN
SPAN #A3 AT PIER #A3 SIMILAR



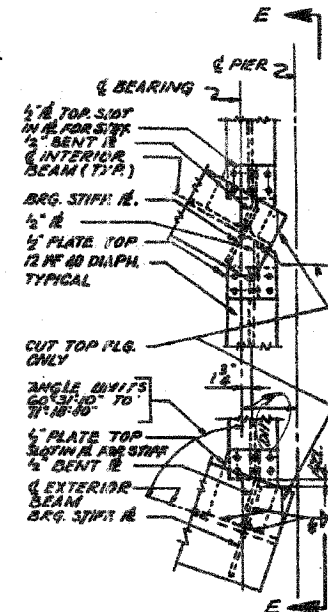
HALF ELEVATION
SPAN #26 AT PIER #26



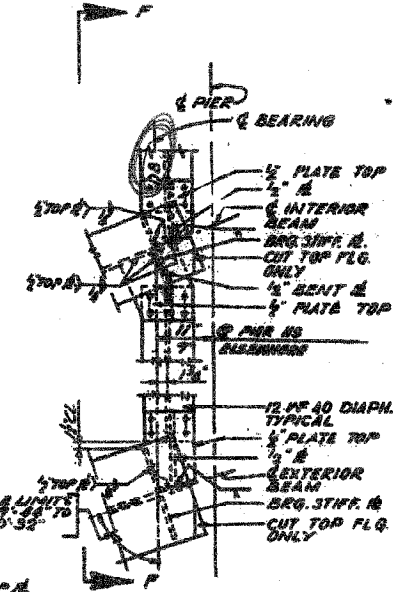
DETAIL #1
SCALE: 1" = 1'-0"



DETAIL #2
SCALE: 1" = 1'-0"

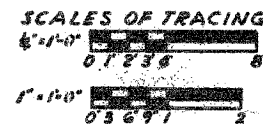


DETAIL #3
SCALE: 1" = 1'-0"



DETAIL #4
SCALE: 1" = 1'-0"

NOTES:
WORK THIS SHEET WITH SHEET 58
WORK THIS SHEET WITH FRAMING PLAN SHEET #1 TO 52



ALFRED BENECH & ASSOCIATES CONSULTING ENGINEERS
20 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
SOUTH ROUTE SUPERHIGHWAY
ELEVATED HIGHWAY
28TH PLACE TO STEWART AVE.
SECTION 2-2454-7-01
END DIAPHRAGM DETAILS

SHEET NO. 57 OF 124 SHEETS DATE: MARCH, 1961

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067

SCALE: NTS DRAWN BY: MTR
DATE: 5/25/2006 CHECKED BY: BLU

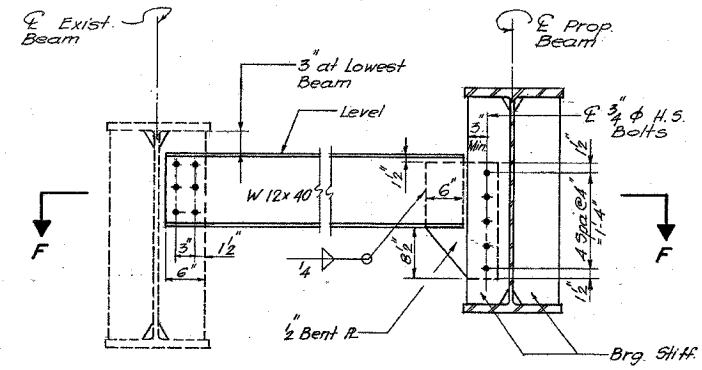
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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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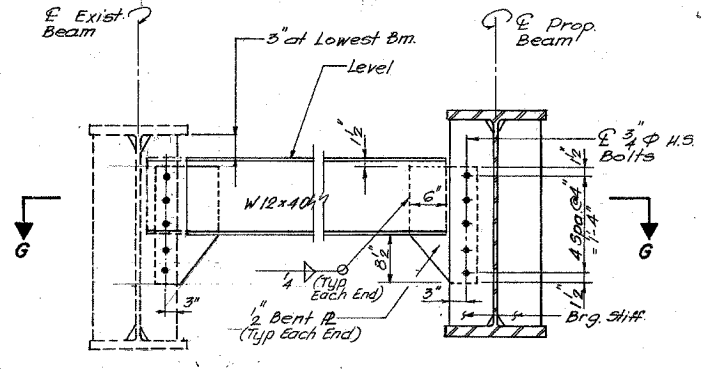
4/23/2006

FEDERAL AID DISTRICT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	109	35
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
SECTION 1985-082 R				

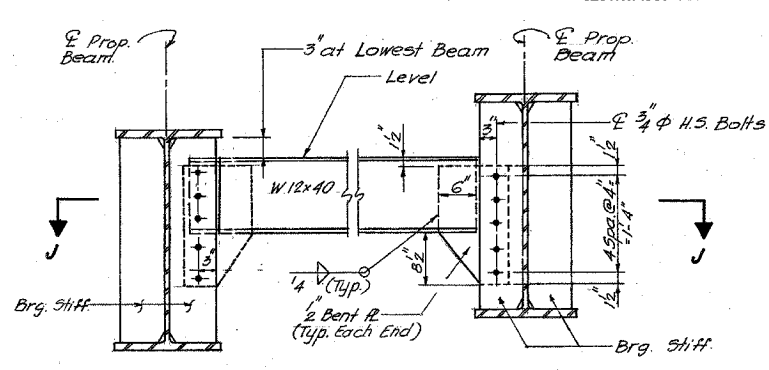
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	293
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62581				



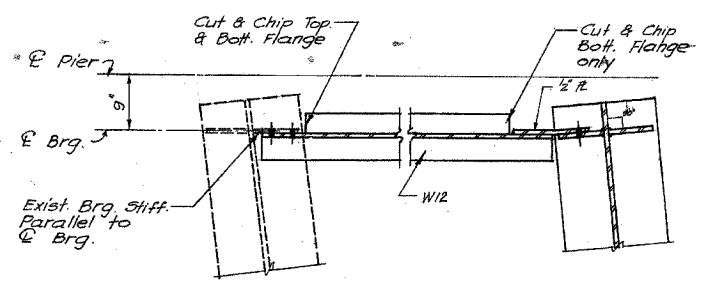
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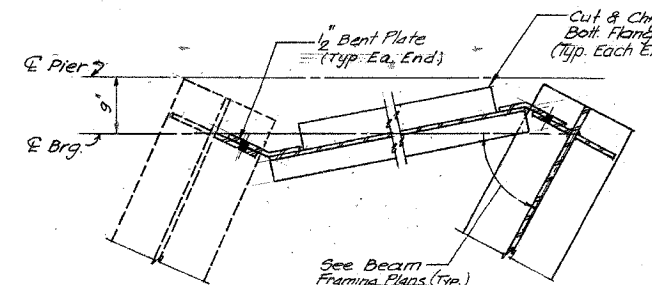
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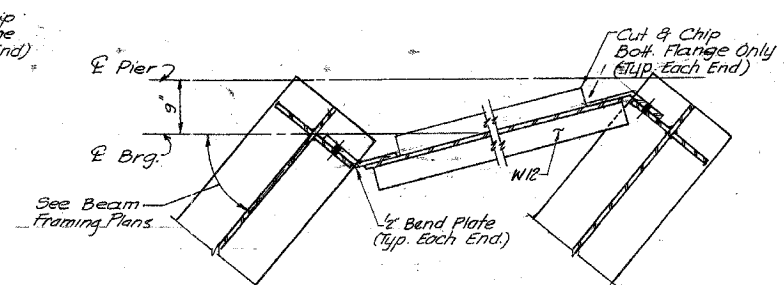
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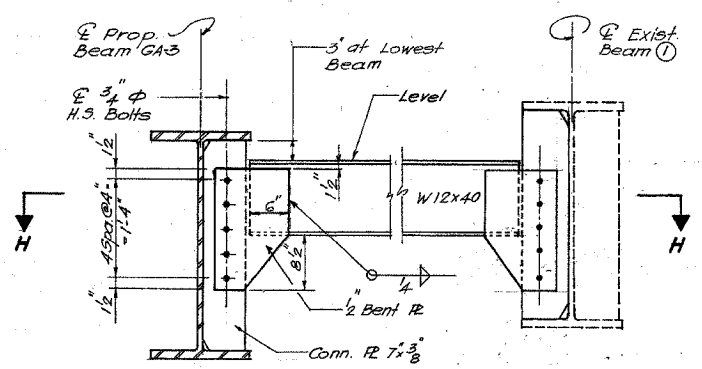
SECTION F-F



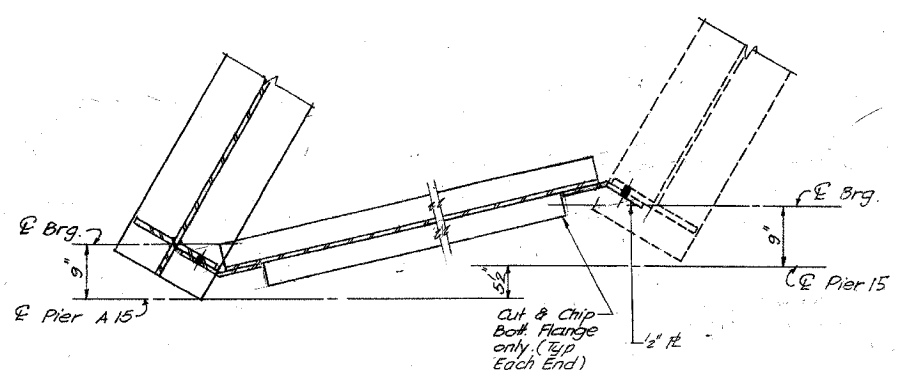
SECTION G-G



SECTION J-J



D 9
END DIAPHRAGM



SECTION H-H

ALL NEW MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE STEEL FABRICATION CONTRACT (SECTION 1985-081F), UNLESS NOTED OTHERWISE.

SHEET J 35 OF 109

REVISIONS	
Name	Date
3	3/11/88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-082 R - COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1067 & 1117 (RAMP 'A' & MAINLINE)
STRUCTURAL STEEL DETAILS
Scale: NONE Drawn By: E.D.
Date: AUGUST 14, 1987 Checked By: SK
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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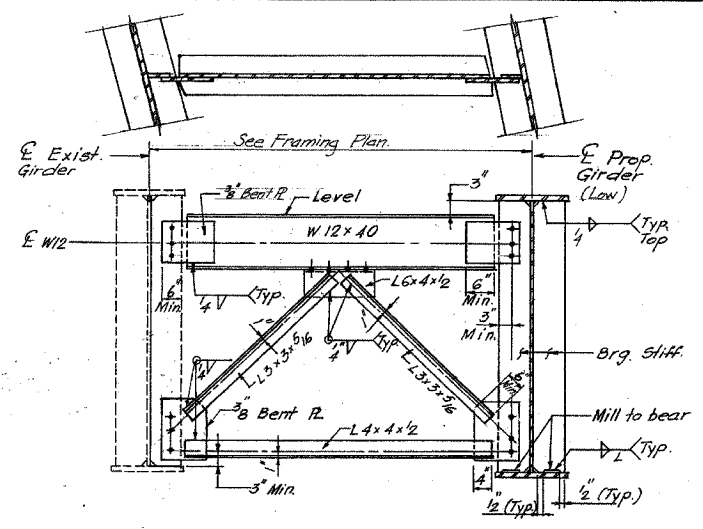
FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

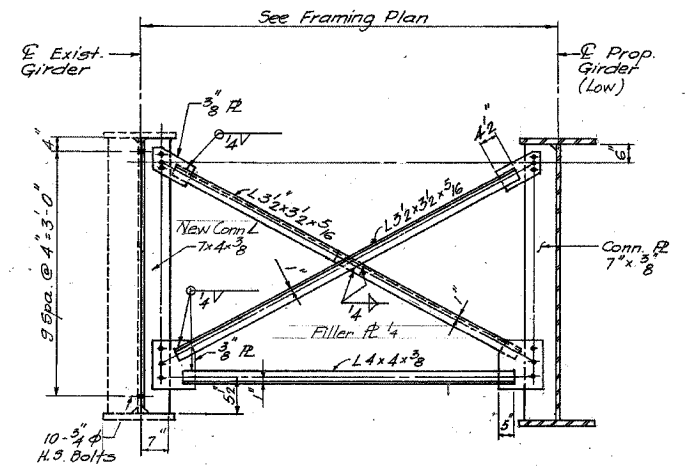
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 1067
SCALE: NTS DRAWN BY: MTR
DATE: 5/25/2006 CHECKED BY: BLU

44-494 PM 5/23/2006

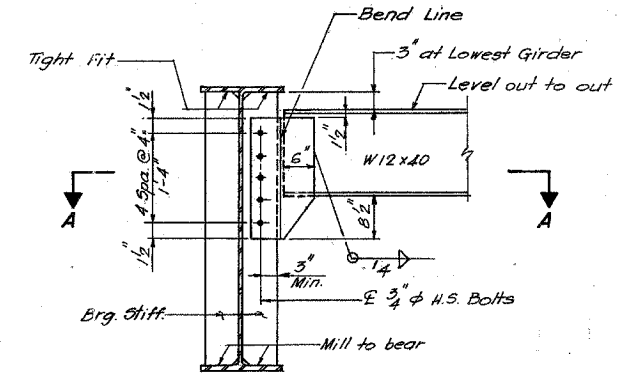
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90/94	*	COOK	109	33
STA.		TO STA.		
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		
		*SECTION 1985-082 R		



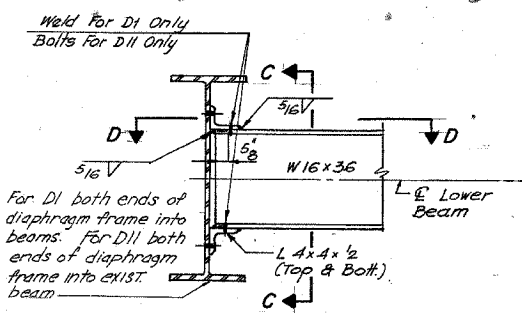
CF 1
TYPICAL END CROSS FRAME



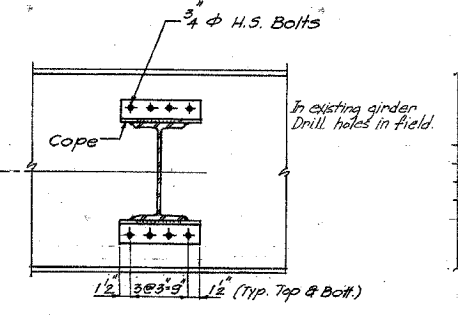
CF 2
TYPICAL INTERIOR CROSS FRAME



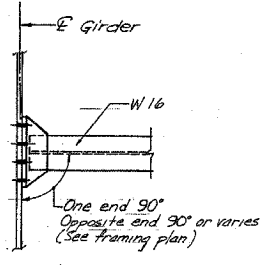
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END DIAPHRAGM



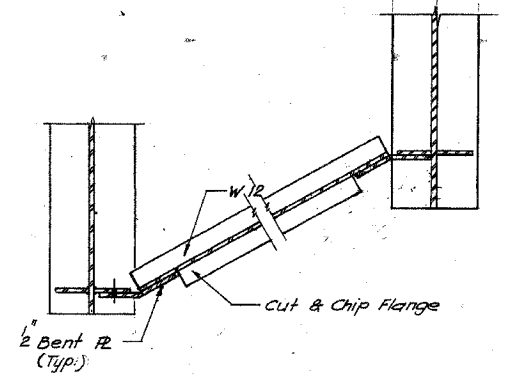
D1, D11
INTERIOR DIAPHRAGM



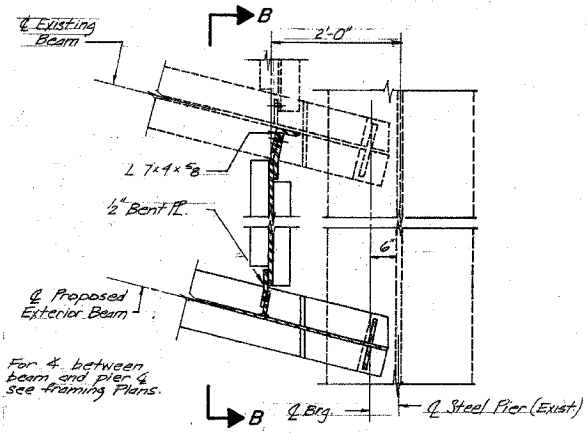
SECTION C-C



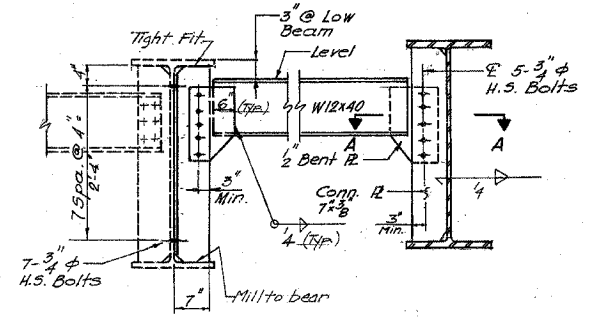
PLAN VIEW D-D



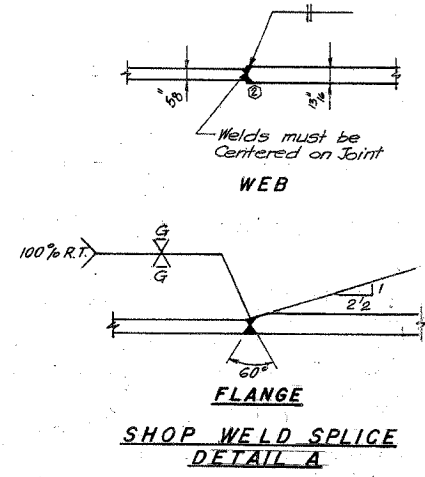
SECTION A-A



D 5
END DIAPHRAGM



SECTION B-B



SHOP WELD SPlice DETAIL A

ALL NEW MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE STEEL FABRICATION CONTRACT (SECTION 1985-081F), UNLESS NOTED OTHERWISE.

SHEET J 33 OF 109

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-082 R BY-COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1067 & 1117 (RAMP 'A' & MAINLINE)
STRUCTURAL STEEL DETAILS
Scale: NONE
Date: AUGUST 14, 1987
Drawn By: E.D.
Checked By: SK
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	
Name	Date
2 Rev.	2/5/88

REVISIONS	
NAME	DATE

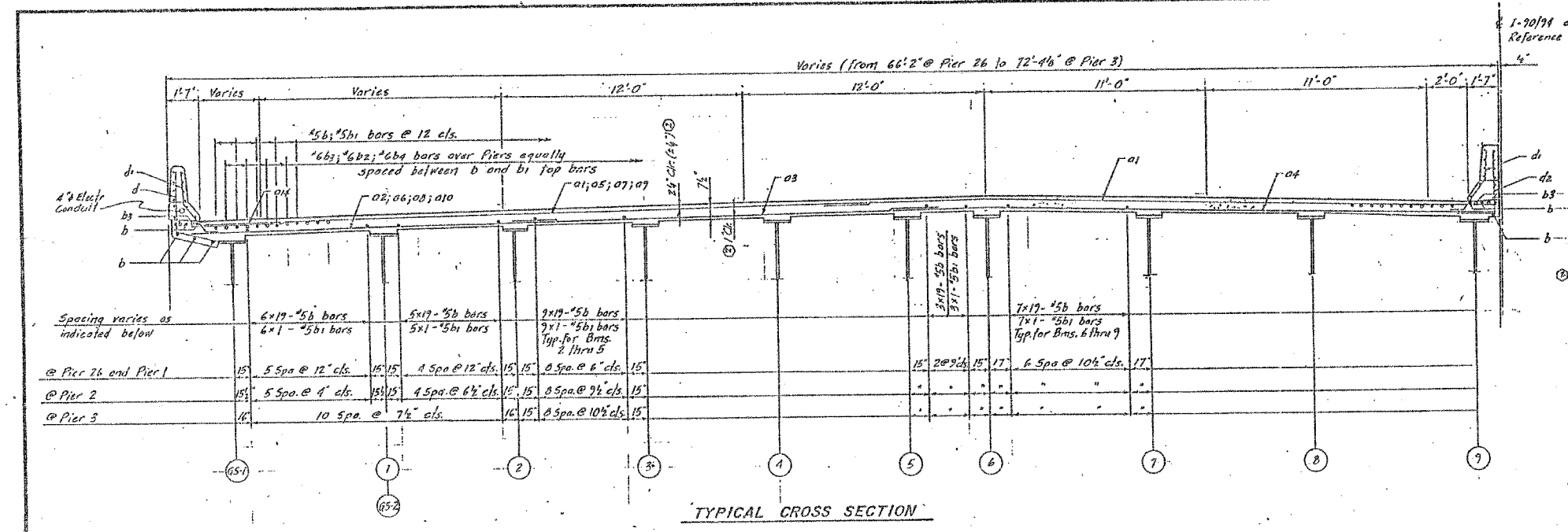
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1067
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

FOR INFORMATION ONLY

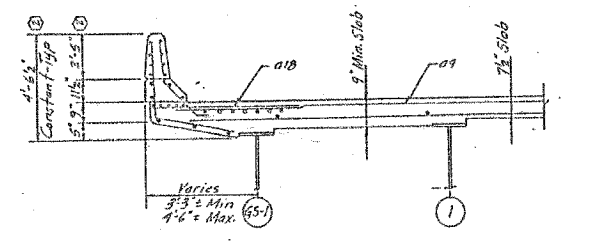
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

4/25/04 PM

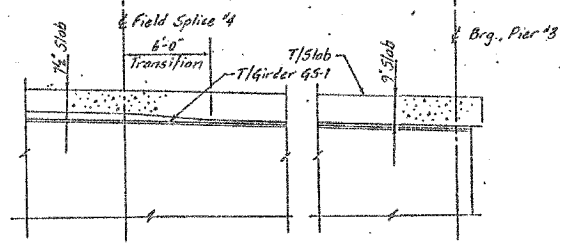
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	295
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62581				



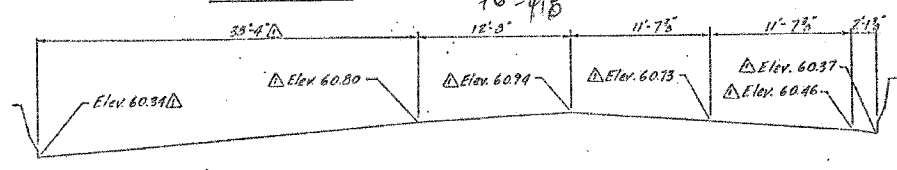
FEDERAL AID ROUTE NO.		COUNTY		SHEET NO.	
90/94		COOK		20 17	
STA.		TO STA.			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			
# 1965 - 082 R					



SECTION A-A



SECTION B-B



AT PIER 3
Neoprene Expansion Joint, 4"

For Notes see Sheet 114

SHEET 117 OF 120

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 085-082R - COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016 1116
DECK CROSS SECTION
Scale: NONE
Date: AUG. 18, 1987
Drawn By: A.W.P.
Checked By: A.W.
ENVIRONMENTAL ENGINEERS INC.
Chicago, Illinois

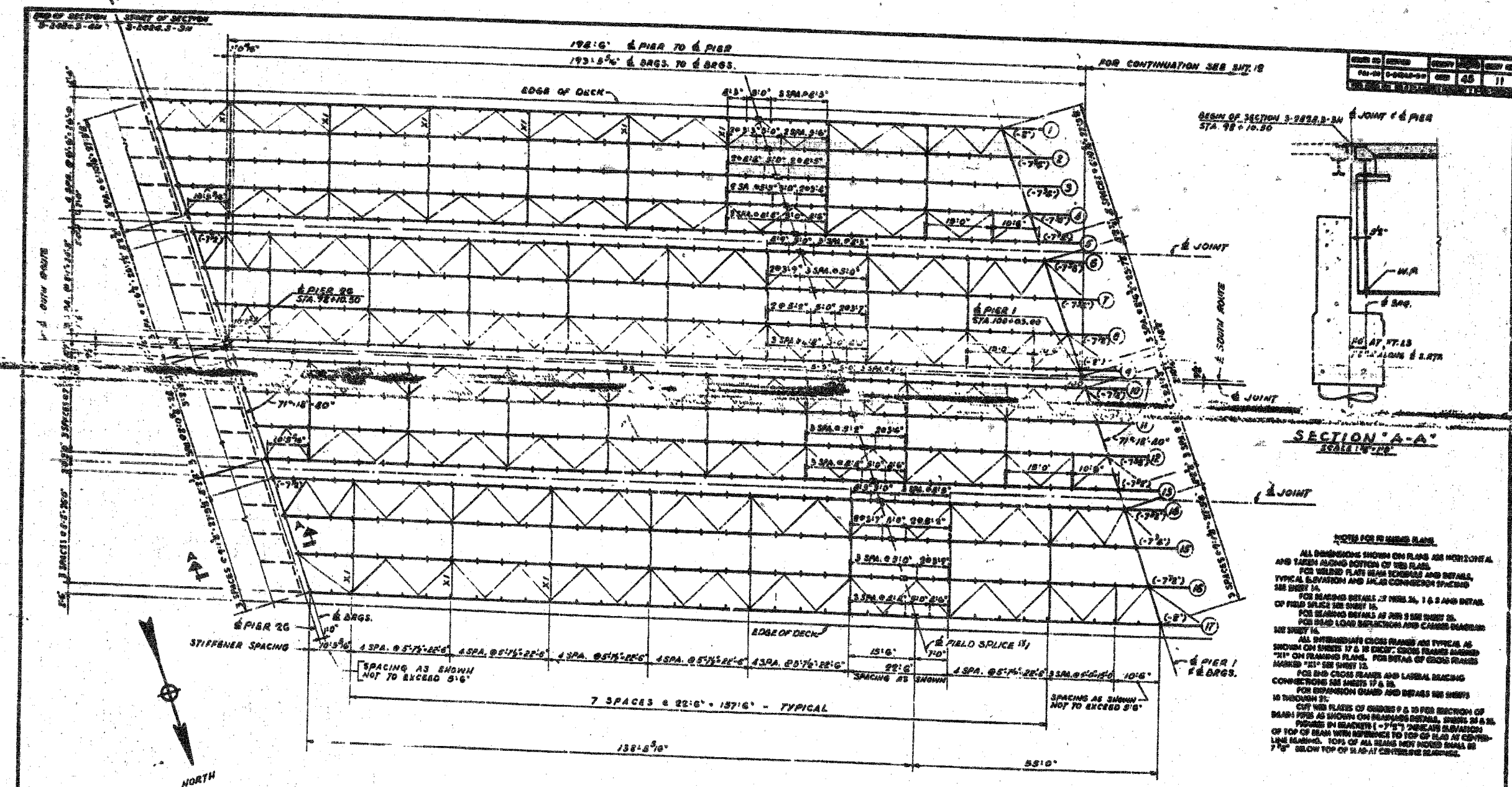
FOR INFORMATION ONLY

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1116
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
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312.228.0100
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11-660-0000 BRIDGE 24 SHEET 5 OF 6 5/23/2006 4:05:31 PM



NOTES FOR THIS PLAN:

- ALL DIMENSIONS SHOWN ON PLANS ARE HORIZONTAL AND TAKEN ALONG BOTTOM OF THE SLAB.
- FOR WELDED PLATE BEAM CONNECTIONS AND DETAILS, TYPICAL ELEVATION AND ANGLE CONNECTIONS REFER TO SHEET 14.
- FOR BEARING DETAILS AT PIERS 26, 1 & 2 AND DETAILS OF FIELD SPICES SEE SHEET 15.
- FOR BEARING DETAILS AT PIER 1 SEE SHEET 15.
- FOR BEAM LOAD DISTRIBUTION AND CAMBER CHARTS SEE SHEET 16.
- ALL INTERMEDIATE CROSS FRAMES ARE TYPICAL AS SHOWN ON SHEETS 17 & 18 EXCEPT CROSS FRAMES MARKED "X1" ON FRAMING PLANS. FOR DETAILS OF CROSS FRAMES MARKED "X1" SEE SHEET 12.
- FOR END CROSS FRAMES AND LATERAL BRACING CONNECTIONS SEE SHEETS 17 & 18.
- FOR EXPANSION GUARDS AND DETAILS SEE SHEETS 16 THROUGH 18.
- CUT THE PLATES OF CHAINS P & T FOR SECTION OF BEAM PILES AS SHOWN ON BEARING DETAILS, SHEETS 20 & 21. FORMED IN BEARINGS (-7'5") MEANS ELEVATION OF TOP OF BEAM WITH REFERENCE TO TOP OF SLAB AT CENTERLINE BRACING. TOP OF ALL BEAMS MUST BE 7'5" BELOW TOP OF SLAB AT CENTERLINE BRACING.

FRAMING PLAN - SPAN 1
SCALE: 1" = 10' FT.

BEAM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
TO BEAM PIER 26	59.910	60.000	60.305	60.527	60.645	60.646	60.578	60.288	60.119	60.182	60.336	60.496	60.676	60.899	60.949	60.841	60.564
TO BEAM PIER 1	61.178	61.526	61.650	61.573	61.648	61.681	61.571	61.430	61.261	61.308	61.470	61.613	61.870	61.870	61.611	61.447	61.261
TO BEAM PIER 2	62.893	61.891	61.188	61.581	61.893	61.893	61.291	61.126	60.781	60.781	61.112	61.282	61.870	61.870	61.178	60.787	60.778
TO BEAM PIER 3	59.691	59.739	59.712	59.668	60.114	60.114	60.00	59.828	59.629	59.629	59.764	59.869	59.879	59.879	59.777	59.877	59.844

BILL OF MATERIAL

DESCRIPTION	UNIT	QUANTITY
FURNISHING SELECTING STRUCTURAL STEEL	LBS	4,282,000

* INCLUDES WEIGHT OF BEARINGS & EXPANSION GUARDS

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
**SOUTH ROUTE SUPERHIGHWAY
ELEVATED HIGHWAY**
STEWART AVE. TO CANAL ST.
SECTION 8-2024.3-BH
**FRAMING PLAN
SPAN 1**
SHEET NO. 11 OF 45 SHEETS DATE: JUN 1, 1964

FOR INFORMATION ONLY

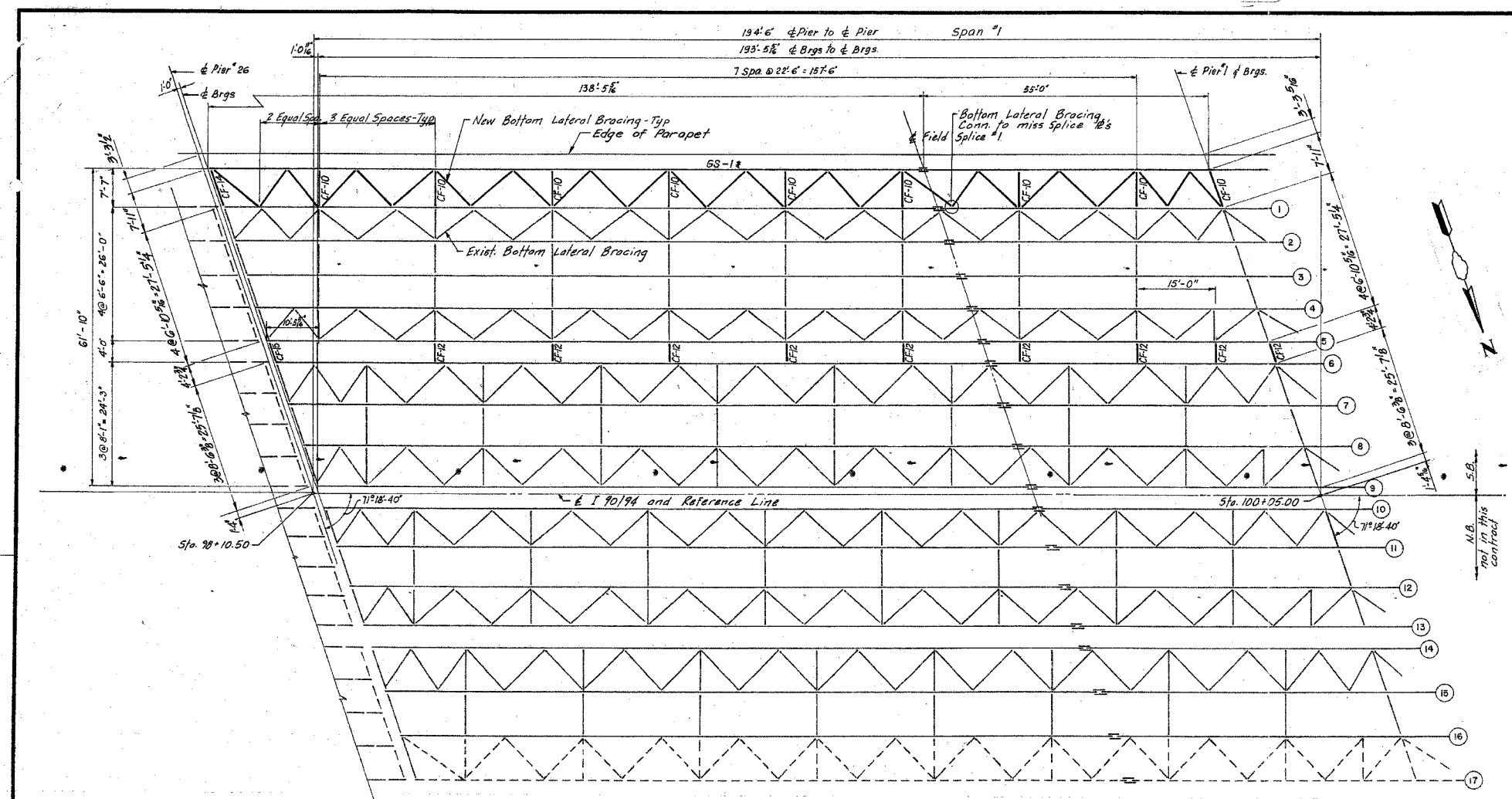
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1116

SCALE: NTS
DATE: 5/25/2006

DRAWN BY: MTR
CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0291	COOK	344	297
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62581				



FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	#	COOK	20	5
STA.		TO STA.		
FED. DIST. NO.		ILLINOIS FED. AID PROJECT		
# 1985 - 082 R				

- Notes:
- 1) For Bearing Details see Sheets BRG 34 thru BRG 40, Vol. #13
 - 2) For Cross Frame and Bottom Lateral Bracing Details see Sheet 110

LEGEND

* new plate girder (For size and length see Sheet I-8)

PLAN - SPAN 1 (S.B.)

ALL NEW MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE STEEL FABRICATION CONTRACT (SECTION 1985-081F), UNLESS NOTED OTHERWISE.

SHEET 15 OF 120

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-082R - COOK COUNTY
S.B. MAINLINE RECONSTRUCTION

STRUCTURE 016-1118
FRAMING PLAN SPAN 1

Scale: NONE
Date: AUG. 14, 1987

Drawn By: A.V.P.
Checked By: A.W.

ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	
Name	Date

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

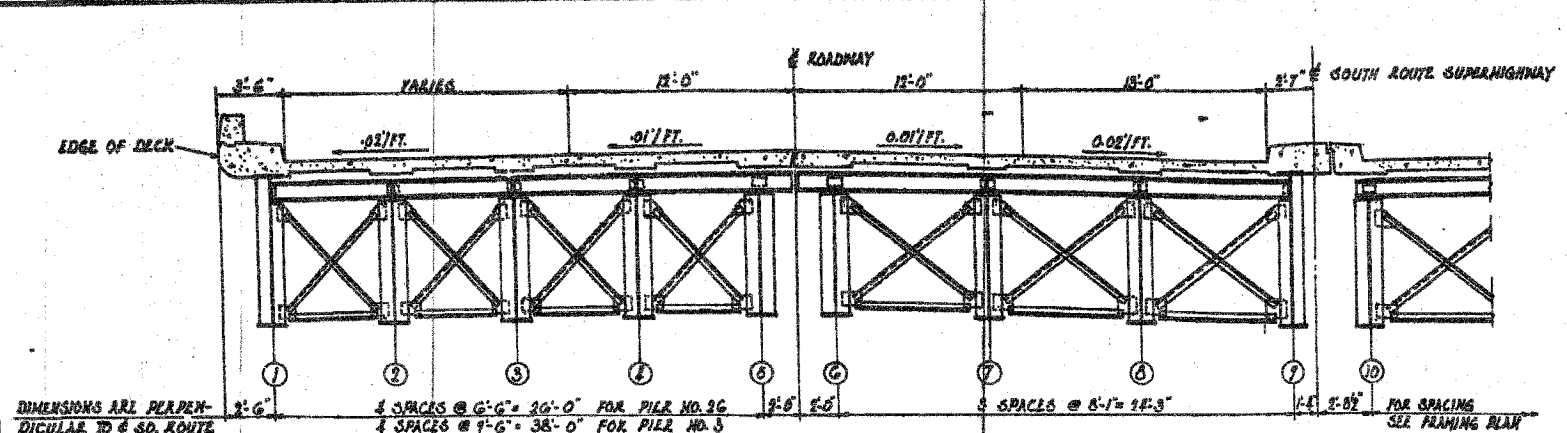
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1116

SCALE: NTS
DATE: 5/25/2006

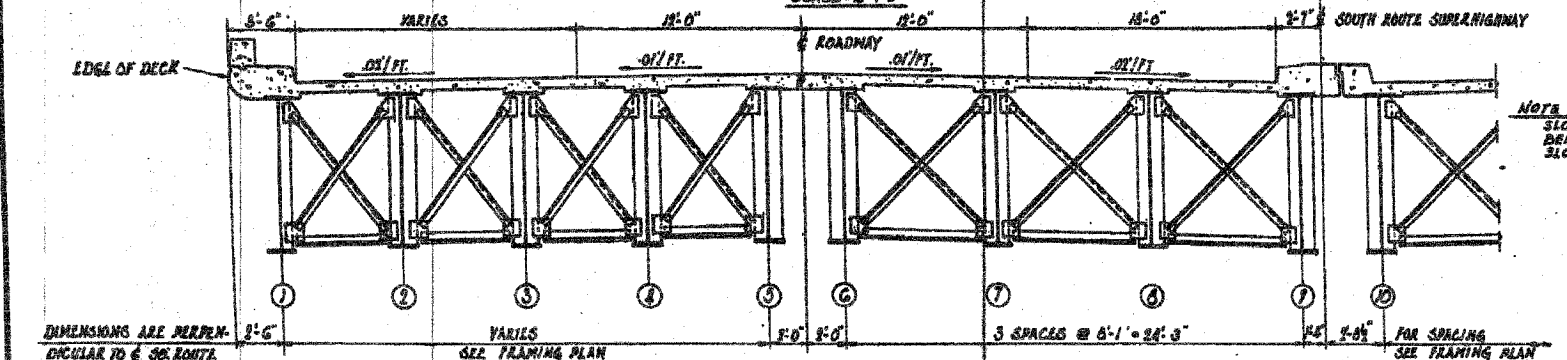
DRAWN BY: MTR
CHECKED BY: BLU

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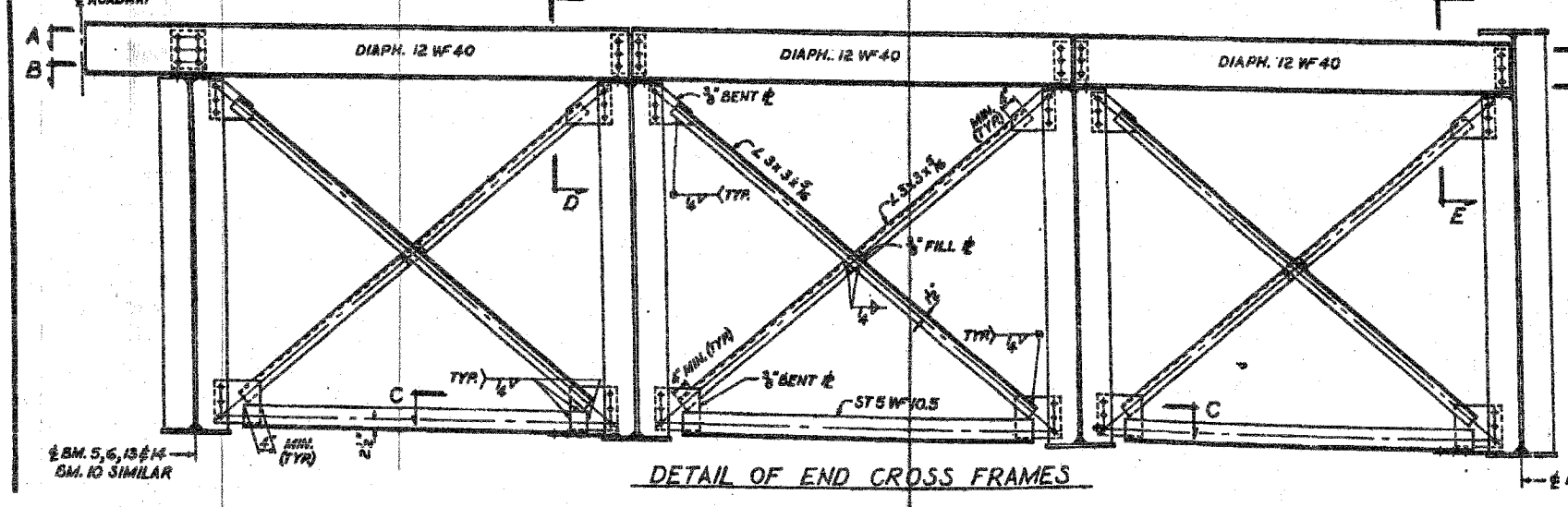
44-403 74 5/23/2006



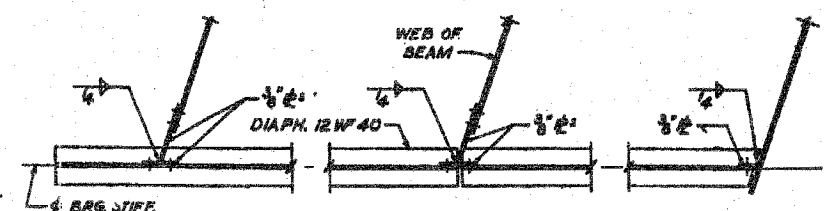
**END CROSS FRAMES
PIER 2G AND PIER 3**
SCALE: 3/8" = 1'-0"



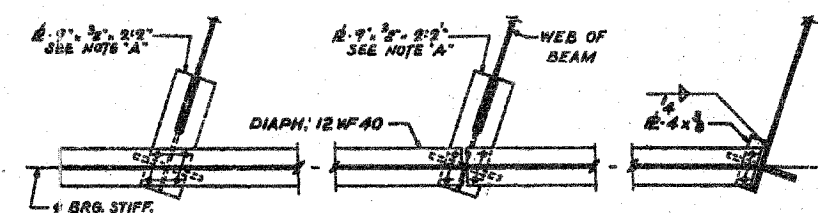
**INTERMEDIATE CROSS FRAMES
PIER CROSS FRAMES AT PIER 1 AND PIER 2 SIMILAR**
SCALE: 3/8" = 1'-0"



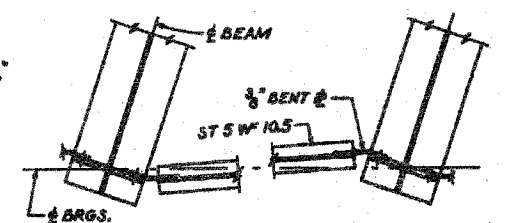
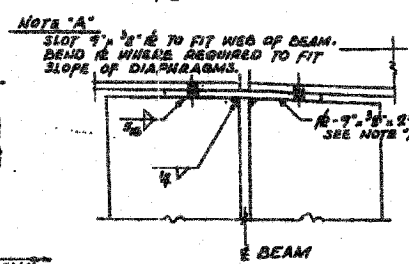
DETAIL OF END CROSS FRAMES



SECTION A-A
SCALE: 3/8" = 1'-0"

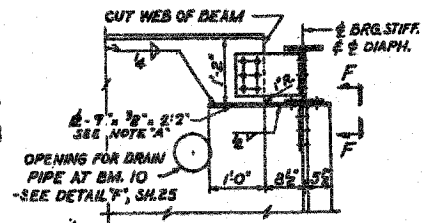


SECTION B-B
SCALE: 3/8" = 1'-0"

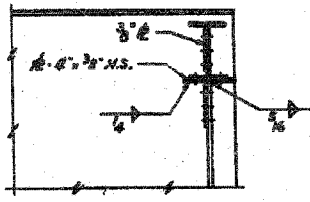


SECTION C-C
SCALE: 3/8" = 1'-0"

SECTION F-F
SCALE: 3/8" = 1'-0"



**SECTION D-D
TYPICAL BEAM**
SCALE: 3/8" = 1'-0"



**SECTION E-E
BEAMS 1, 9, & 17**
SCALE: 3/8" = 1'-0"

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
**SOUTH ROUTE SUPERHIGHWAY
ELEVATED HIGHWAY
STEWART AVE. TO CANAL ST.**
SECTION 8-8424.3-3H
CROSS FRAME DETAILS

FOR INFORMATION ONLY

REVISIONS	NAME	DATE

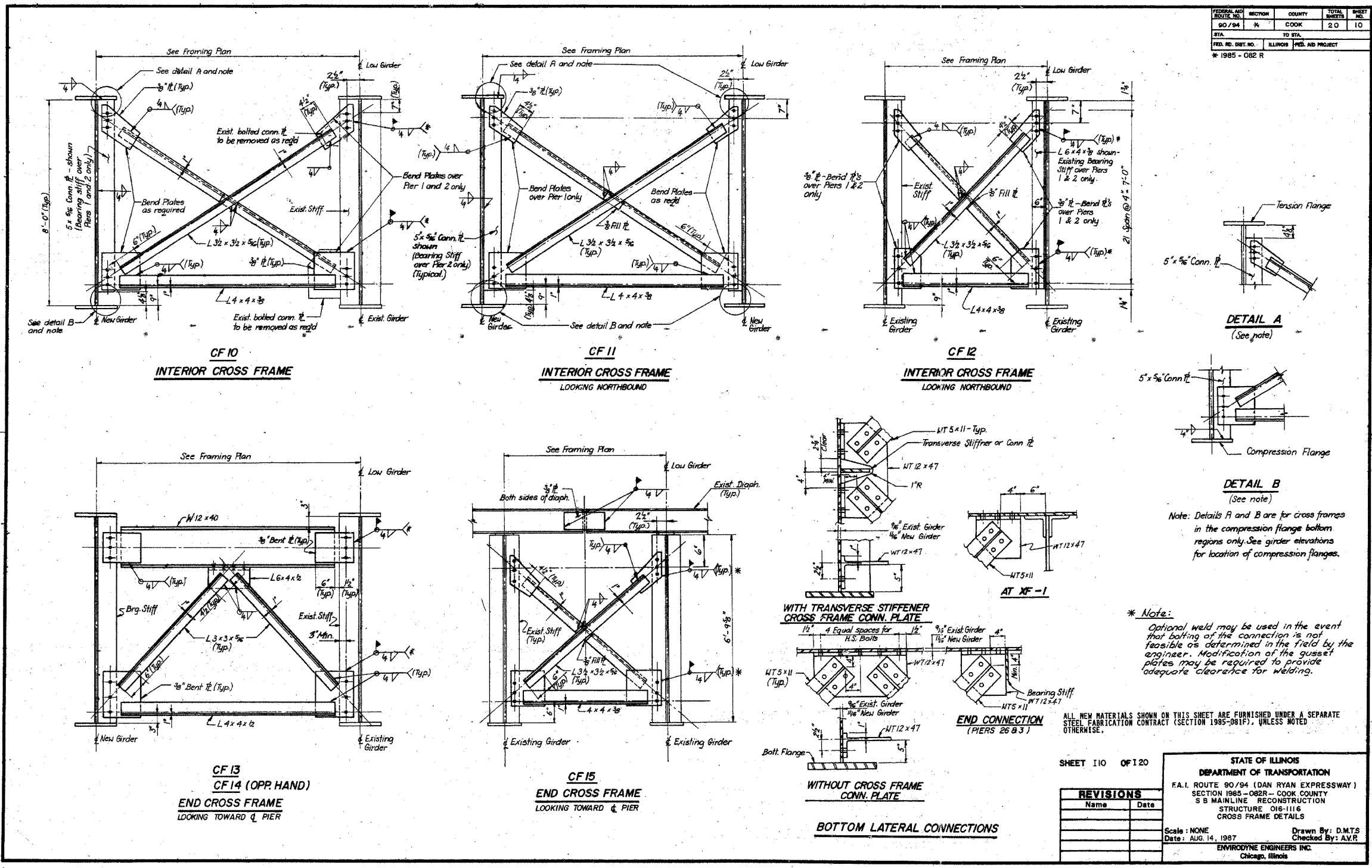
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1116
SCALE: NTS
DATE: 5/25/2006
DRAWN BY: MTR
CHECKED BY: BLU

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4/26/03 FH
5/23/2006

FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0291	COOK	344	299
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

* 1985 - 082 R



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FOR INFORMATION ONLY

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 SB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 EXISTING PLAN INFORMATION
 SN 016-1116

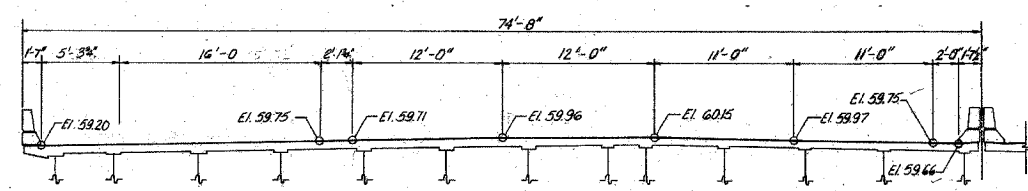
SCALE: NTS
 DATE: 5/25/2006
 DRAWN BY: MTR
 CHECKED BY: BLU

4/16/06 PM 5/23/2006

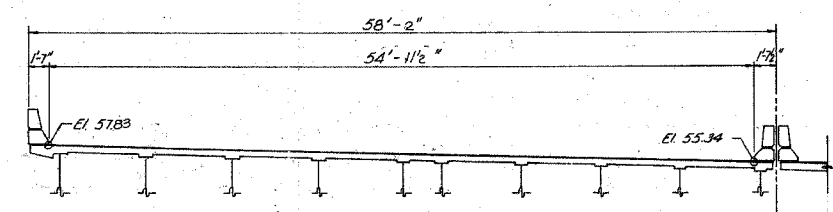
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94/90	2003-029BR	COOK	344	300
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62581

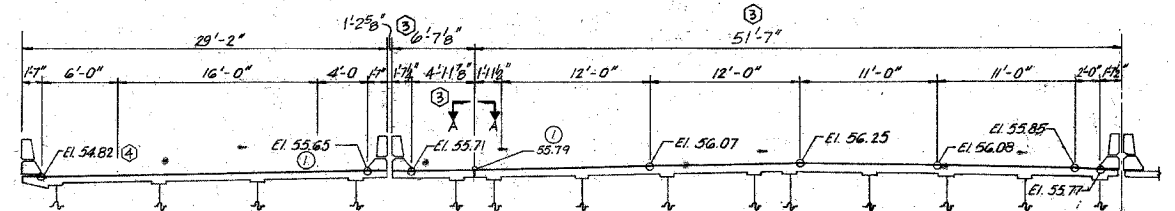
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90/54	*	COOK	89	41
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 1985-082 R				



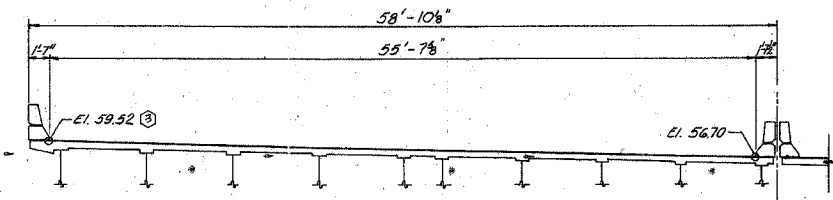
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4in. NEOPRENE



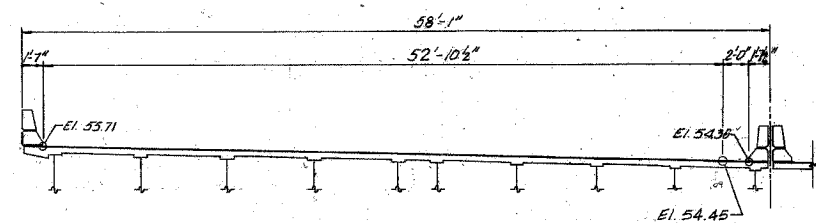
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4in. PREFORMED JOINT SEAL



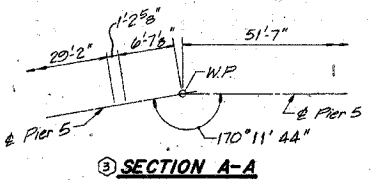
② EXPANSION JOINT AT PIER No. 5
4in. NEOPRENE



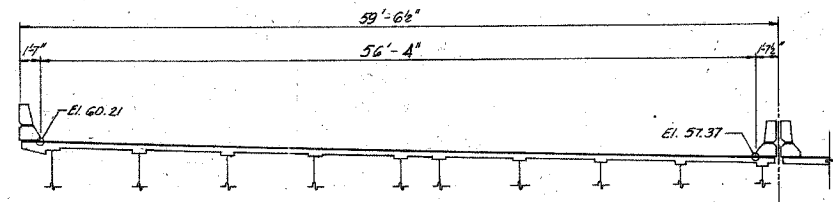
② EXPANSION JOINT AT PIER No. 12
4in. PREFORMED JOINT SEAL



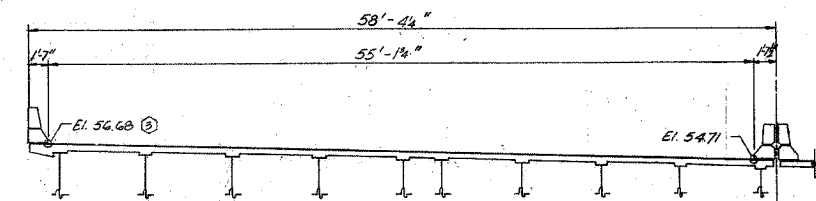
② EXPANSION JOINT AT PIER No. 8
2 1/2 in. PREFORMED JOINT SEAL



③ SECTION A-A



② EXPANSION JOINT AT PIER No. 13
2in. NEOPRENE



② EXPANSION JOINT AT PIER No. 9
2in. NEOPRENE

SHEET 41 OF 89

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-082 R- COOK COUNTY
S.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1118
TRANSVERSE DECK JOINT ELEVATION

Scale: NONE
Date: AUGUST 14, 1987
LDrawn By: A.V.
Checked By: M.E.M.
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	NAME	DATE
②	Revision	2-5-88
③	Revision	5-11-88
①		

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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
SB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1115

SCALE: NTS
DATE: 5/25/2006

DRAWN BY: MTR
CHECKED BY: BLU

4/19/05 PM 5/23/2006