

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-94/90	2005-008F	COOK	93	1

62919

**DESIGN NUMBER**  
D-91-417-01

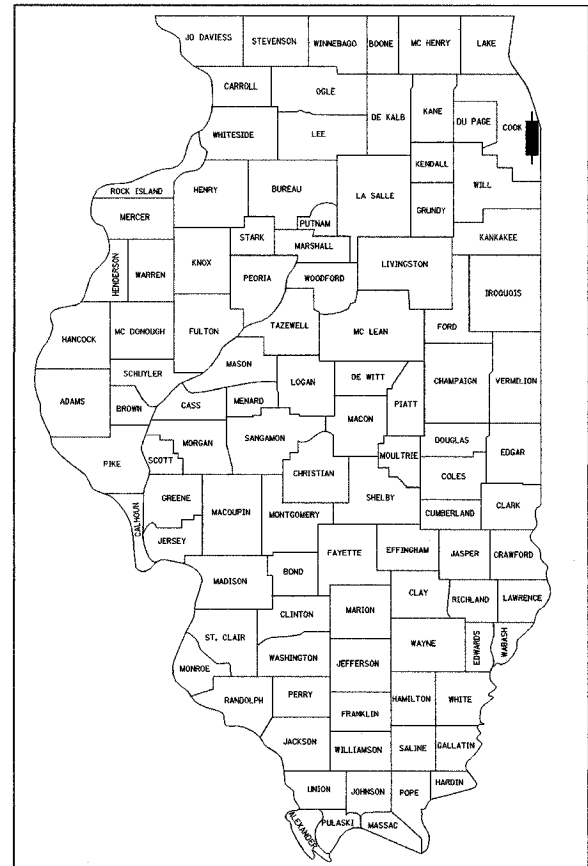
**INDEX OF SHEETS**

NO.	DESCRIPTION
1	COVER SHEET / INDEX OF SHEETS
2	GENERAL NOTES AND SUMMARY OF QUANTITIES
3	VIADUCT KEY PLAN
4-9	GENERAL PLAN AND ELEVATIONS
10-12	FRAMING PLANS
13-15	BEARING DETAILS
16-72	FINGER PLATE JOINT PLANS
73-93	EXISTING PLANS - FOR INFORMATION ONLY

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

**F.A.I. ROUTE 94/90 (DAN RYAN EXPRESSWAY)**  
**FABRICATION CONTRACT**  
**NB DAN RYAN ELEVATED BRIDGE**  
**REPAIR FROM 15TH TO 28TH STREETS**

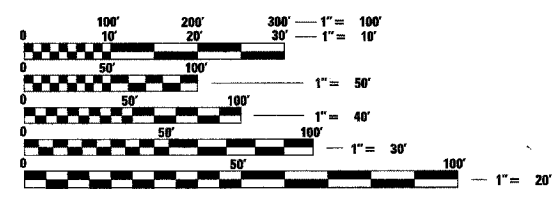
**SECTION 2005-008F**  
**PROJECT NO.**  
**COOK COUNTY**  
**C-91-145-05**



LOCATION OF SECTION INDICATED THUS: - ■ -

- EXISTING STRUCTURE NUMBERS
- 016-0137
  - 016-1110
  - 016-1111
  - 016-1113
  - 016-1116
  - 016-1117

**PROJECT LOCATED IN CITY OF CHICAGO**



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

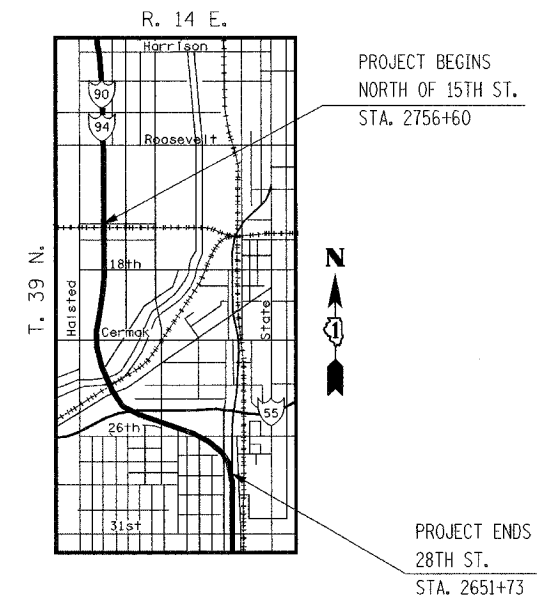
FOR UTILITY LOCATION INFORMATION FOR EXCAVATION  
CALL CHICAGO UTILITY ALERT NETWORK  
(C.U.A.N.) 312-744-7000

**CONTRACT NO. 62919**



SIGNED: *Brian Umbright*  
DATE: MAY, 23 2005  
EXPIRES: NOVEMBER 30, 2006  
SHEETS: 1-15 & 73-93

SEE FINGER PLATE JOINT PLANS  
FOR APPLICABLE SEALS & SIGNATURES.



**LOCATION MAP**

1/2 MILE 1 MILE 1" = 1/2 MILE  
GROSS LENGTH OF PROJECT = 10,487 FT = 1.986 Miles  
NET LENGTH OF PROJECT = 10,487 FT = 1.986 Miles

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED: June 6, 2005

*Dina O'Keefe*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

July 1, 2005  
*Nike Sine*  
ENGINEER OF DESIGN AND ENVIRONMENT

July 1, 2005  
*Peter Moders*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY**  
**OF THE STATE OF ILLINOIS**

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
130 EAST RANDOLPH STREET SUITE 2450 CHICAGO, ILLINOIS 60601  
JOB NO. 668

DISTRICT 1 DESIGN/PLAN PREPARATION ENGINEER: RAJENDRA SHAH (847) 705-4437

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62919				

**SUMMARY OF QUANTITIES**

CODE NUMBER	ITEM DESCRIPTION	UNIT	URBAN SFTY-2A		
			TOTAL QUANTITY	BEARINGS	FINGER PLATES
50300410	FURNISHING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	127	127	
50300420	FURNISHING ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	16	16	
50500205	FURNISHING STRUCTURAL STEEL	L. SUM	1	0.23	0.77
X0320622	FIELD MEASUREMENTS	L. SUM	1	0.3	0.7
X0322770	STORAGE OF STRUCTURAL STEEL AND BEARINGS	CAL. DAY	30	30	
X0324099	FURNISHING FLOATING BEARINGS, GUIDED EXPANSION, 400K	EACH	3	3	
X0324153	FURNISHING FLOATING BEARINGS, GUIDED EXPANSION, 550K	EACH	7	7	
X0325064	FURNISHING FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	487		487
X0325065	STORAGE OF FINGER PLATE JOINTS	CAL. DAY	30		30
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L. SUM	1	1	

**GENERAL NOTES**

- Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$  in open holes  $\frac{13}{16}$ "  $\phi$ , unless noted otherwise.
- All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise.  
Calculated weight = 61,730 lbs.

SN 016-0137 =	21,830 lbs.
SN 016-1110 =	9,970 lbs.
SN 016-1111 =	16,410 lbs.
SN 016-1116 =	13,520 lbs.

- The weights listed in Note 2 are for bearings and steel extensions only. See Finger Plate Joint Plans for weight of structural steel required for finger plate expansion joints.
- The structural steel bearing plates of the Elastomeric Bearing Assemblies shall conform to the requirements of AASHTO M270 Grade 50.
- The organic zinc rich primer/epoxy/urethane paint system shall be used for painting of all new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of final finish coat for steel under the fascia beams shall be Reddish Brown, Munsell No. 2.5 YR 3/4. See Special Provision for "Cleaning and Painting New Metal Structures".
- Floating bearings shall be fully shop painted.
- For Type I Elastomeric Bearings, two  $\frac{1}{8}$ " adjusting shims shall be provided for each bearing and placed as detailed in addition to all other plates or shims, if specified.
- 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.
- As built plan information is provided for information only. Key dimensions have been clarified. Inclusion of these sheets does not relieve the contractor of any responsibility for verifying such dimensions as indicated by Note 7. These plans are available from the Department
- For additional general notes see the Finger Plate Joint Plans.

**MAJOR WORK ITEMS:**

- Paid for Under the Item "Furnishing Structural Steel" —
- Fabricated Steel Extensions
  - Steel Side Retainers
  - Finger Plate Expansion Joints
- Paid for Under the Item "Furnishing Elastomeric Bearing Assemblies" and "Furnishing Floating Bearings" —
- Shim Plates
  - Steel Bearing Plates

**DESIGN SPECIFICATIONS**

2002 AASHTO

**LOADING HS-20 AND ALT. MILITARY**

Allow 25 psf for future wearing surface

**SEISMIC CRITERIA**

Seismic Performance Criteria (SPC)=A  
Bedrock Acceleration Coefficient (S)=0.04g  
Site Coefficient (S)=1.0

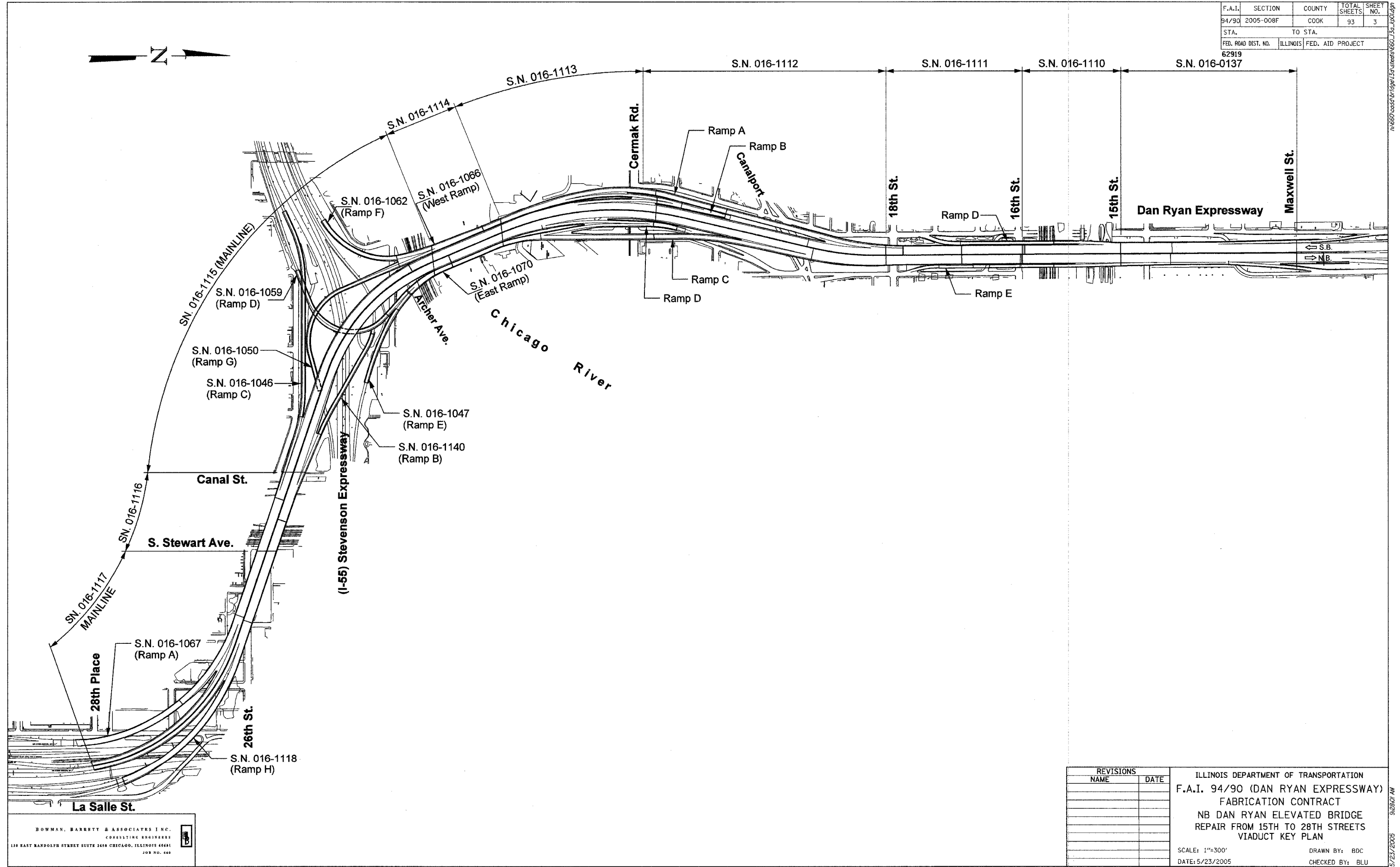
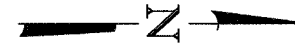
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
GENERAL NOTES AND SUMMARY OF QUANTITIES  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: LM  
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
138 EAST RANDOLPH STREET SUITE 2450 CHICAGO, ILLINOIS 60601  
JOB NO. 466

3:20:36 PM 5/23/2005

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**BOWMAN, BARRETT & ASSOCIATES INC.**  
CONSULTING ENGINEERS  
110 EAST MADISON STREET SUITE 2610 CHICAGO, ILLINOIS 60601  
JOB NO. 640

REVISIONS	
NAME	DATE

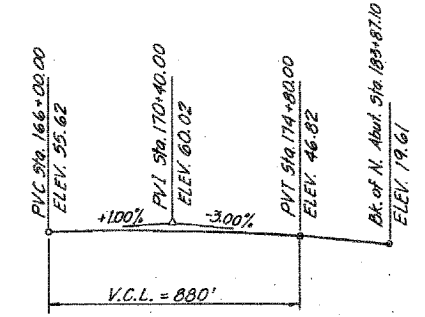
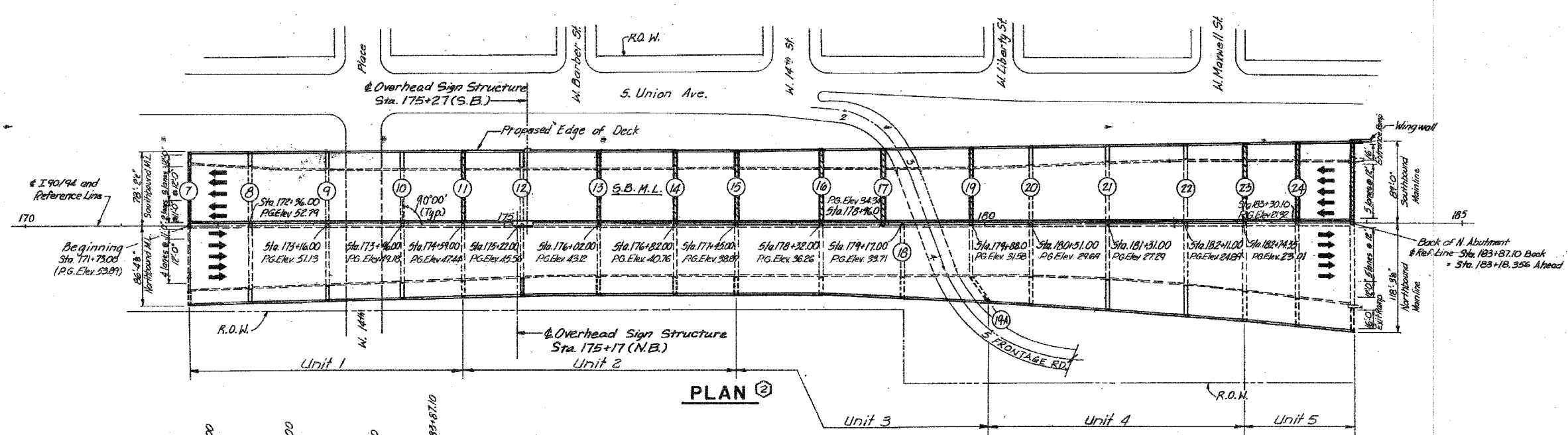
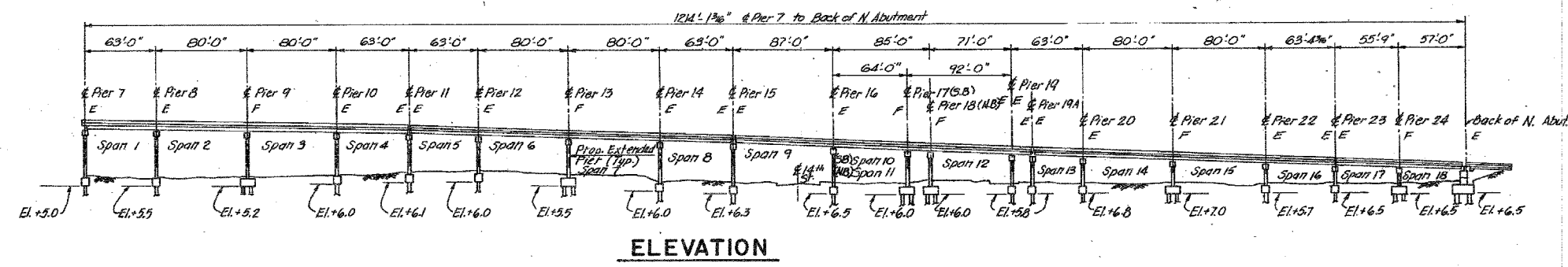
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
VIADUCT KEY PLAN

SCALE: 1"=300'  
DATE: 5/23/2005

DRAWN BY: BDC  
CHECKED BY: BLU

5/23/2005

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62919				



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 GENERAL PLAN AND ELEVATION SN 016-0137

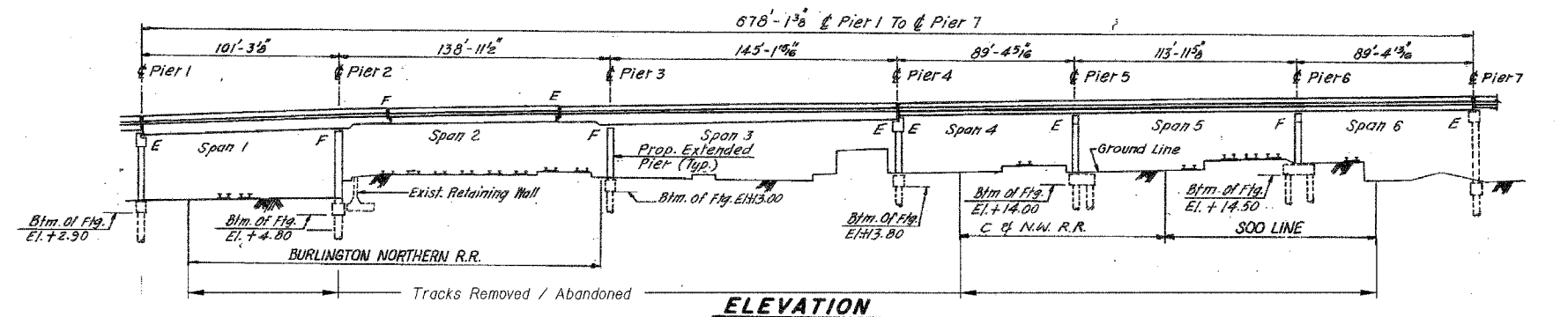
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 DATE: 5/23/2005

DRAWN BY: BDC  
 CHECKED BY: BLU

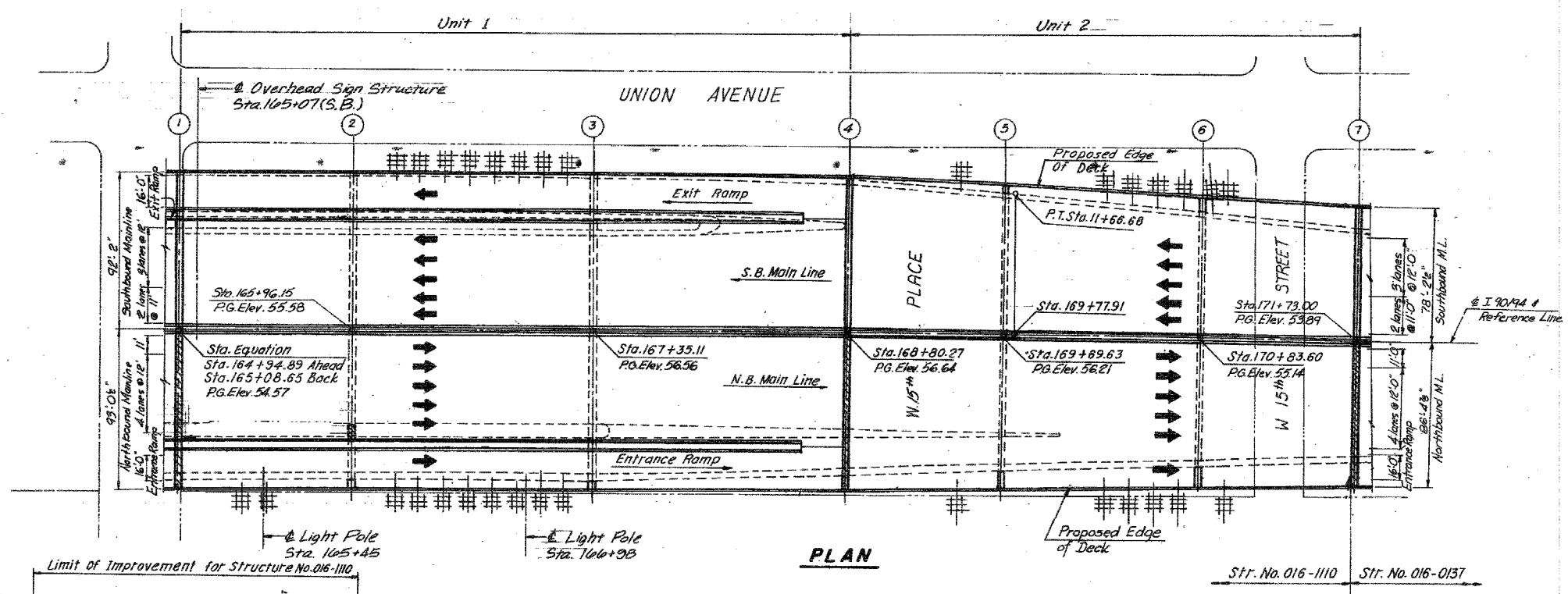
BOWMAN, BARRETT & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 138 EAST RANDOLPH STREET SUITE 2554 CHICAGO, ILLINOIS 60601  
 312.467.1100

Note:  
 This sheet created from original 1988-89 reconstruction as-builts. These are provided for general reference to structure number, span lengths, etc. Work Items for this contract are identified on the partial framing plans and detail sheets that follow.

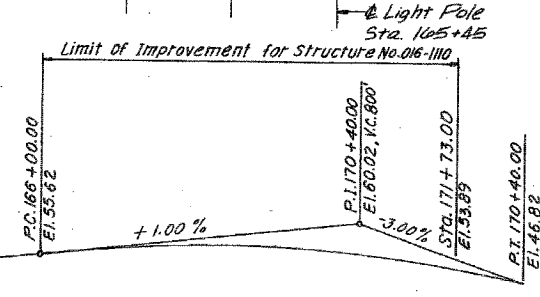
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94/90	2005-008F	COOK	93	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**ELEVATION**



**PLAN**



**PROFILE GRADE**  
DAN RYAN EXPRESSWAY (I-90/94)

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
110 EAST RANDOLPH STREET SUITE 2000 CHICAGO, ILLINOIS 60601  
JOB NO. 640

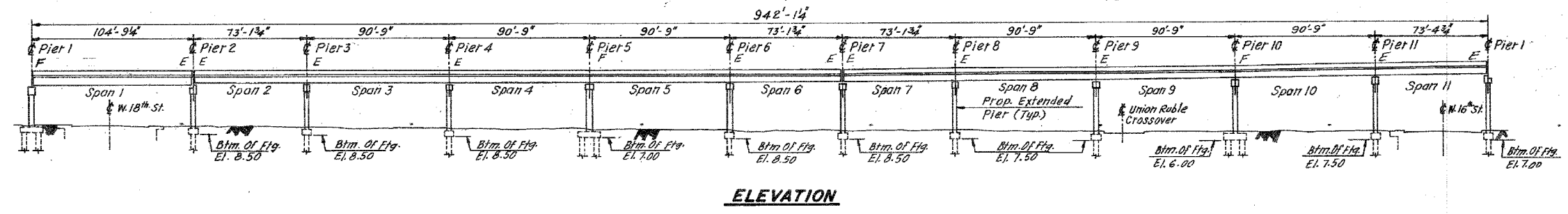
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REVISIONS	
NAME	DATE

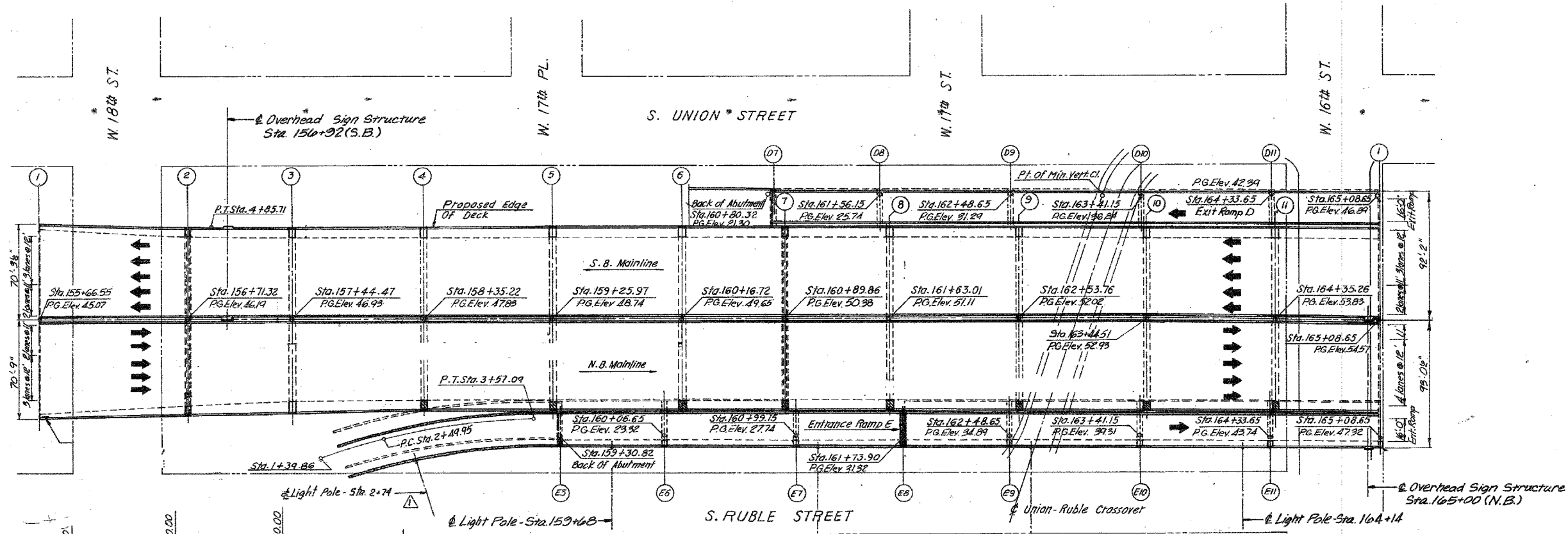
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F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
GENERAL PLAN AND ELEVATION SN 016-1110  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				

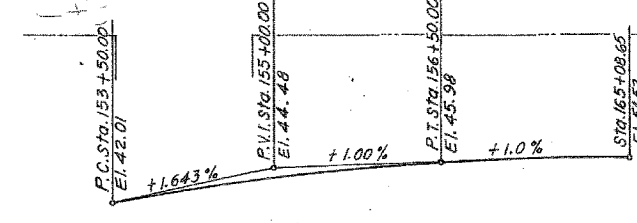


**ELEVATION**



**PLAN**

**PROFILE GRADE**



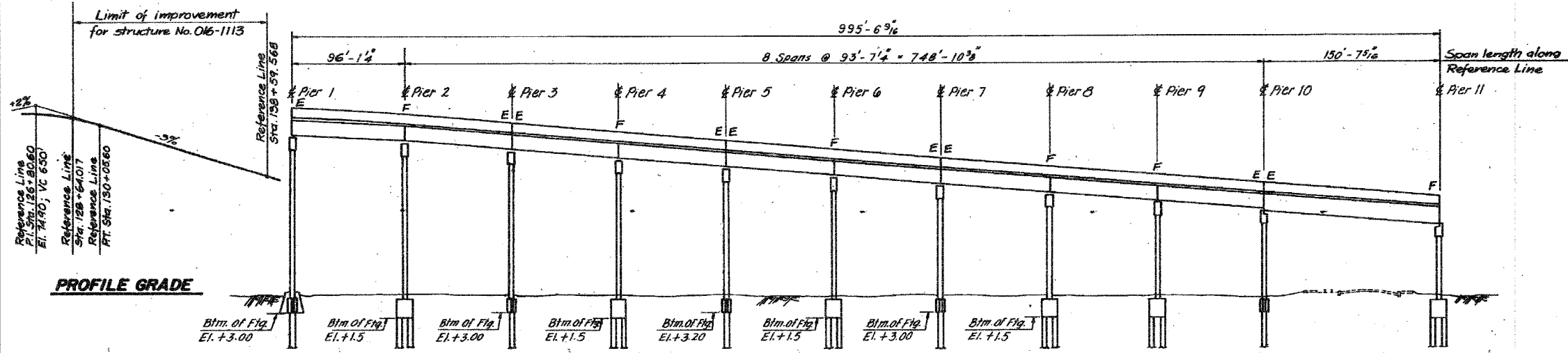
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CONSULTING ENGINEERS  
100 EAST RANDOLPH STREET SUITE 2400 CHICAGO, ILLINOIS 60601  
JOB NO. 648

Note: This sheet created from original 1988-89 reconstruction as-builts. These are provided for general reference to structure number, span lengths, etc. Work Items for this contract are identified on the partial framing plans and detail sheets that follow.

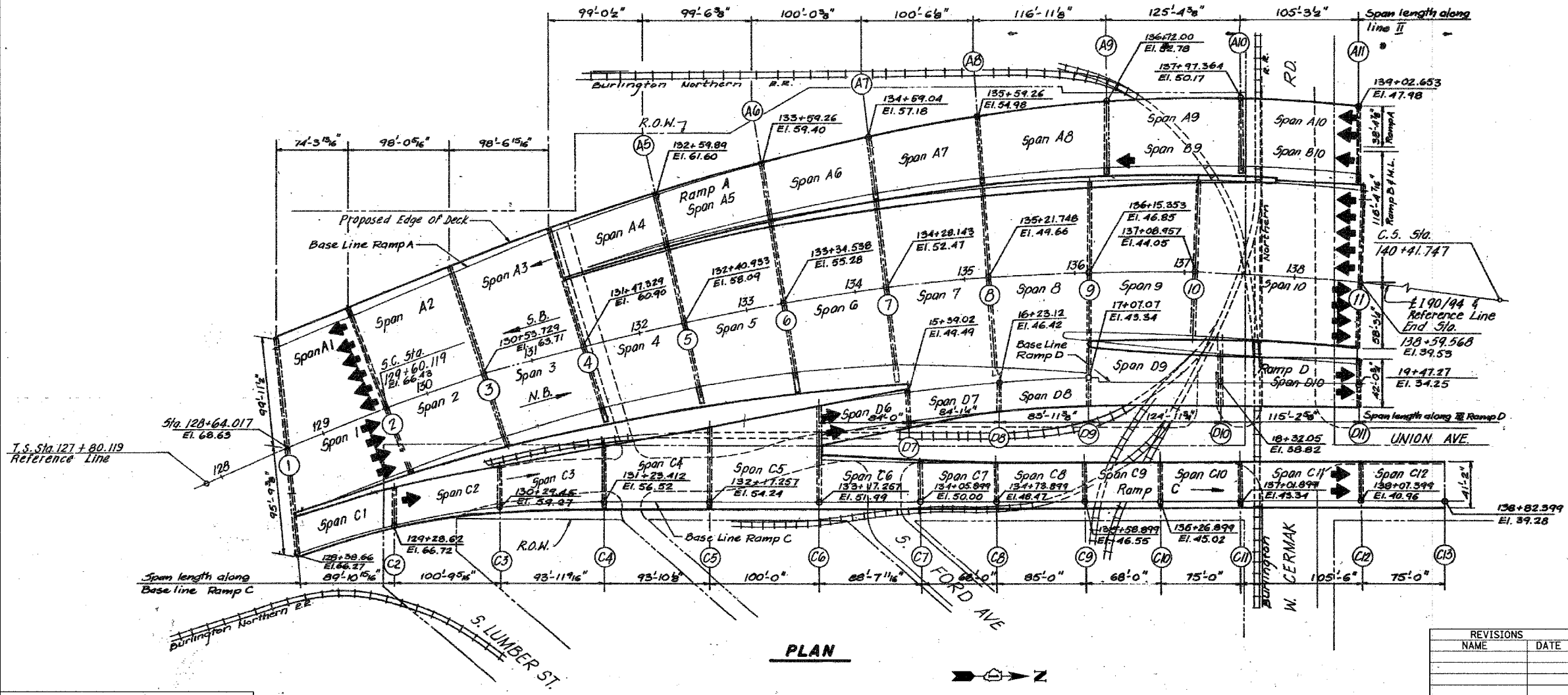
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
GENERAL PLAN AND ELEVATION SN 016-1111  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62919				



**ELEVATION**



**PLAN**

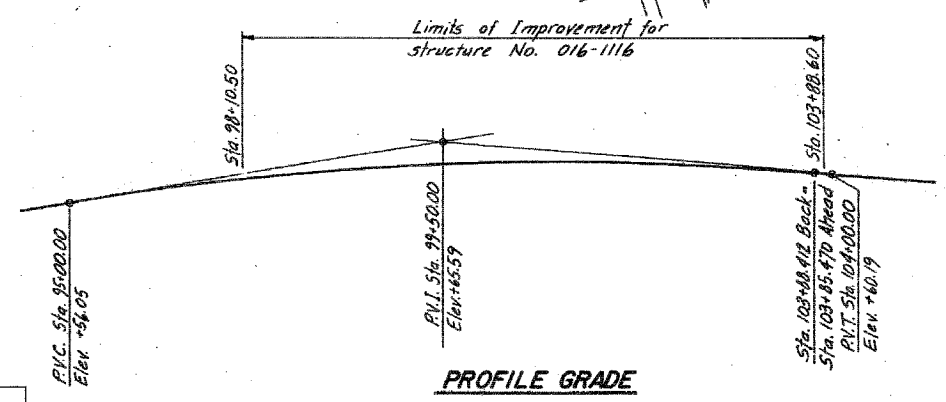
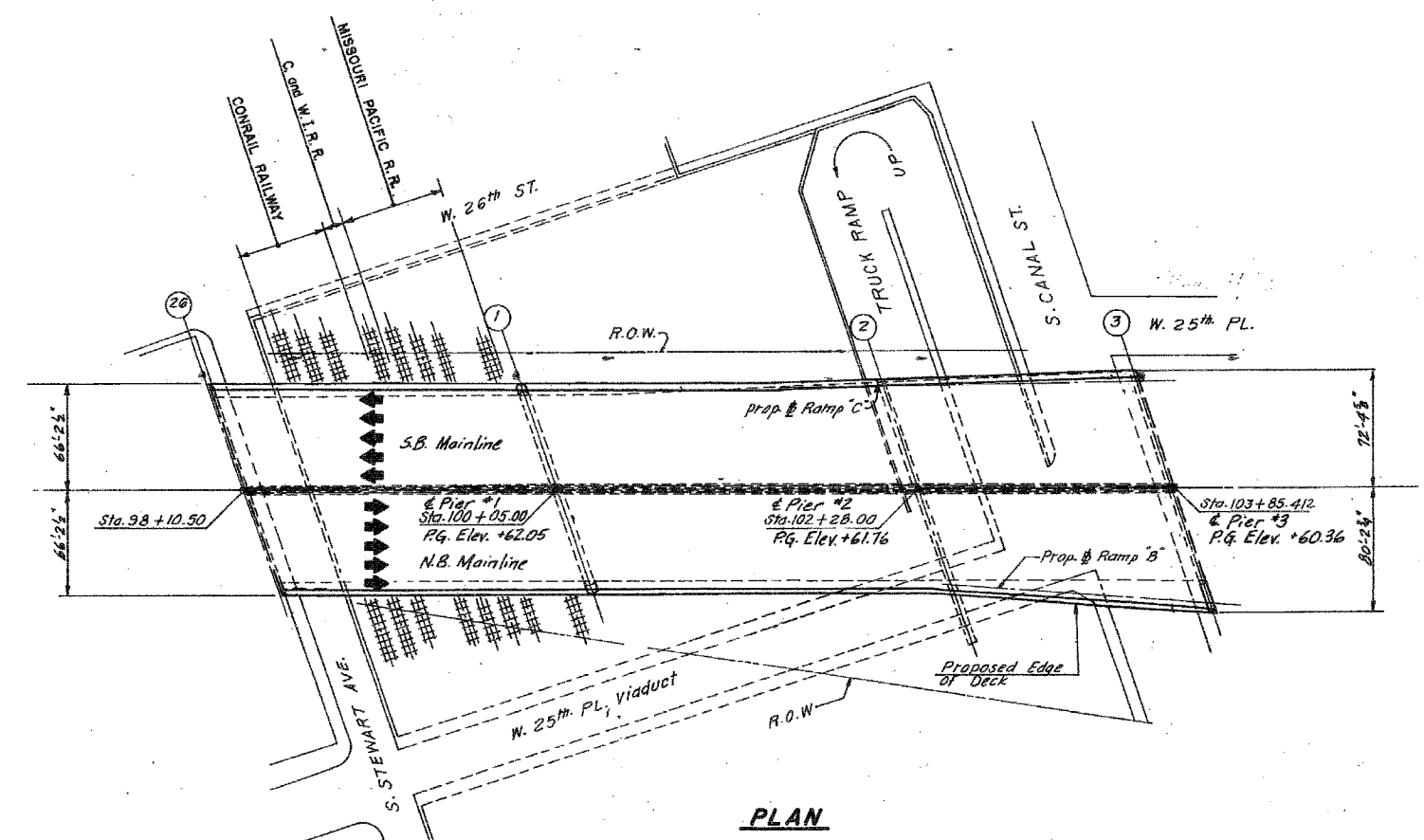
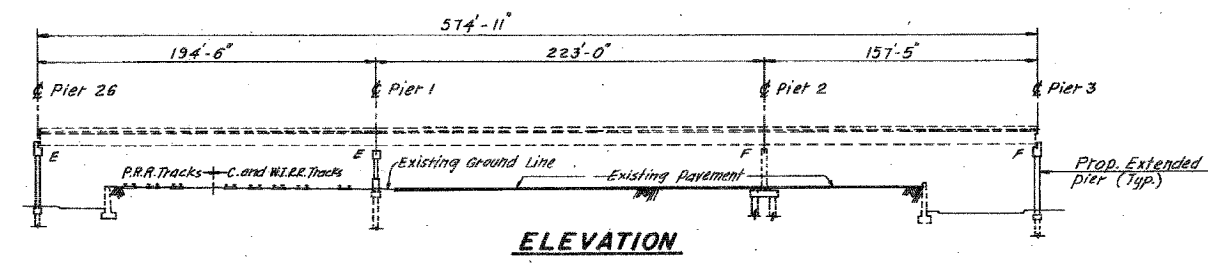
BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
110 EAST MADISON STREET SUITE 2450 CHICAGO, ILLINOIS 60601  
TEL: 312.467.1000

Note:  
This sheet created from original 1988-89 reconstruction as-builts. These are provided for general reference to structure number, span lengths, etc. Work Items for this contract are identified on the partial framing plans and detail sheets that follow.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
GENERAL PLAN AND ELEVATION SN 016-1113  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62919				



BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
104 EAST RANDOLPH STREET SUITE 2650 CHICAGO, ILLINOIS 60601  
JOB NO. 440

Note: This sheet created from original 1988-89 reconstruction as-builts. These are provided for general reference to structure number, span lengths, etc. Work Items for this contract are identified on the partial framing plans and detail sheets that follow.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
GENERAL PLAN AND ELEVATION SN 016-1116

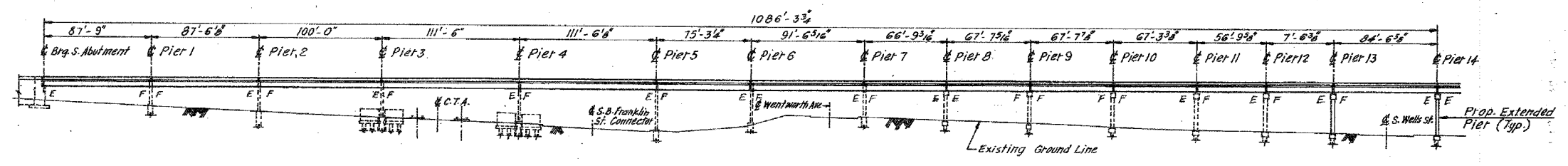
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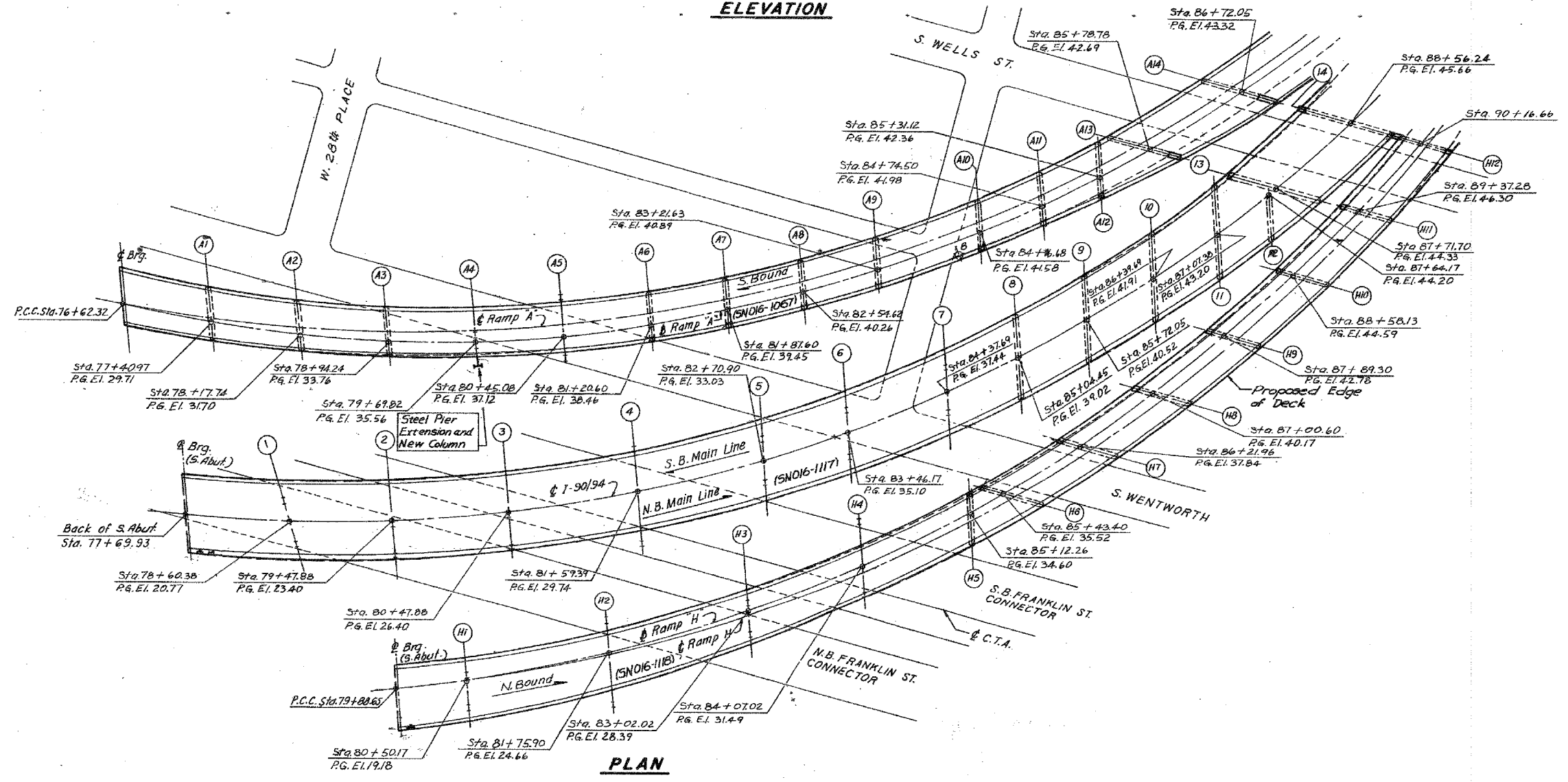
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**ELEVATION**



**PLAN**

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
110 EAST RANDOLPH STREET SUITE 2650 CHICAGO, ILLINOIS 60601  
312.467.1100

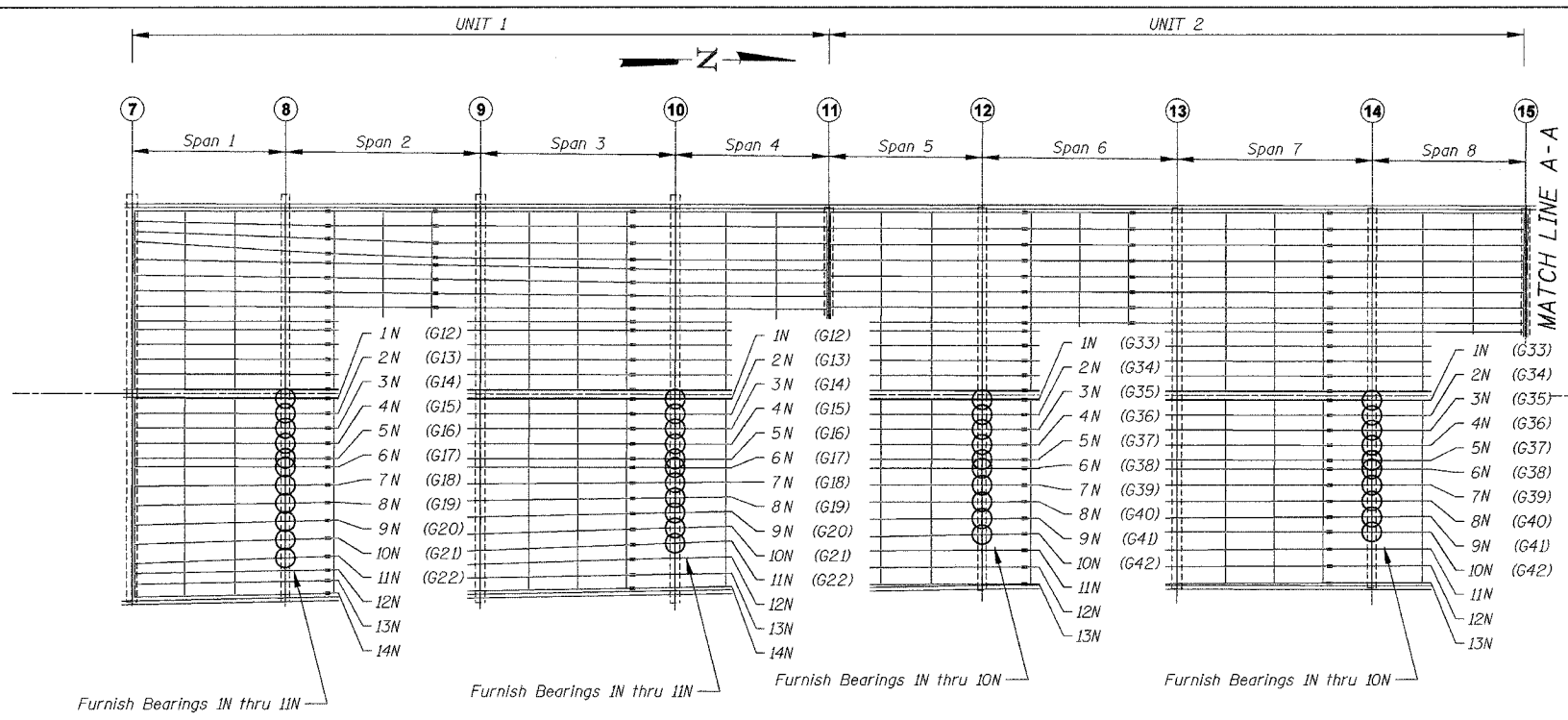
Note:  
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REVISIONS	
NAME	DATE

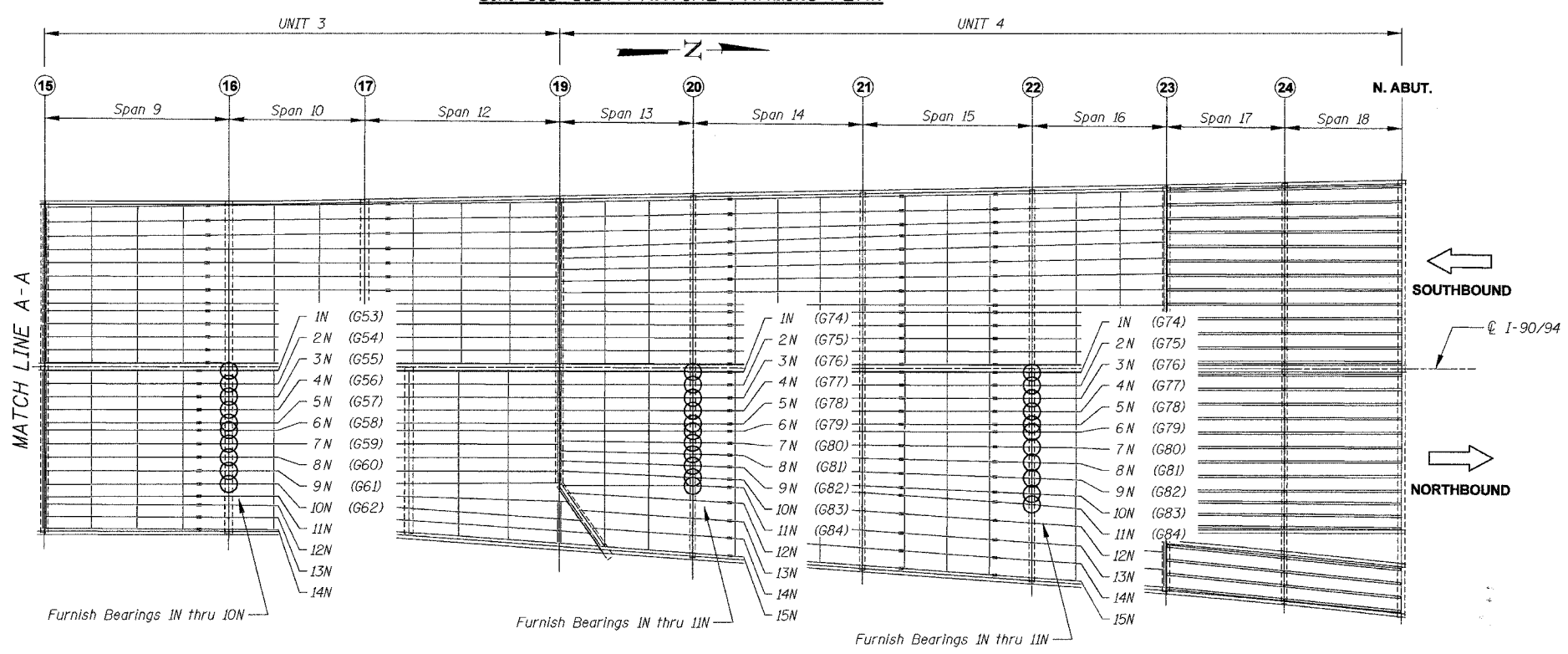
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
GENERAL PLAN AND ELEVATION SN 016-1117  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	10
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62919				



**S.N. 016-0137 PARTIAL FRAMING PLAN**



**S.N. 016-0137 PARTIAL FRAMING PLAN**

**ELEMENT IDENTIFICATION**

Elements on the Northbound Structure are identified 1N, 2N, 3N etc. starting from the centerline of I-90/94. Numbers within ( ) refer to as-built beam designations.

- ① = Pier No.
- = Location of Brg. Replacement

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 FRAMING PLAN SN 016-0137

SCALE: NTS      DRAWN BY: BDC  
 DATE: 5/23/2005      CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 150 EAST RANDOLPH STREET SUITE 2450 CHICAGO, ILLINOIS 60601  
 JOB NO. 448

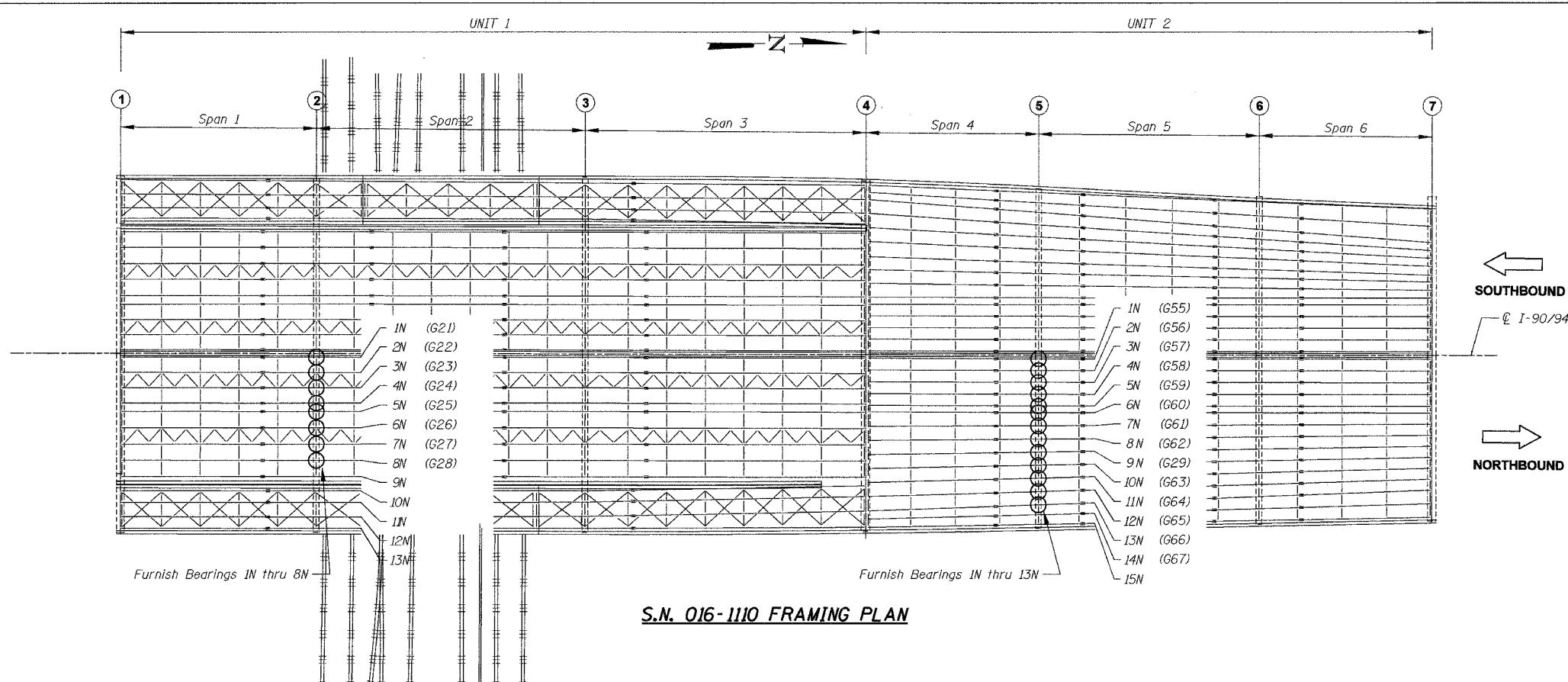
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	11
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				

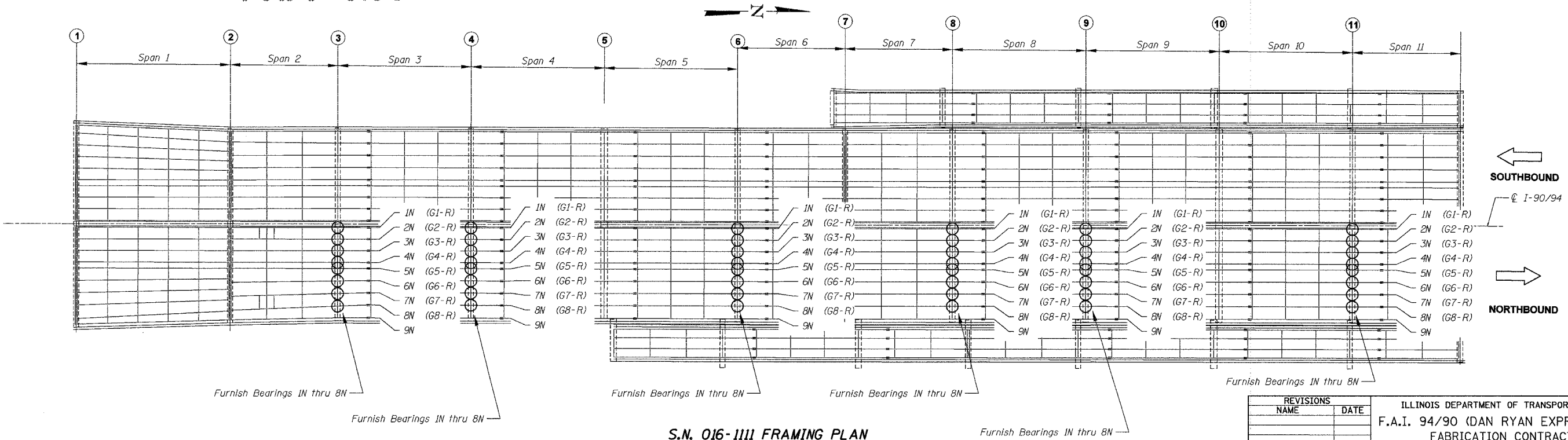
**ELEMENT IDENTIFICATION**

Elements on the Northbound Structure are identified 1N, 2N, 3N etc. starting from the centerline of I-90/94. Numbers within ( ) refer to as-built beam designations.

- ① = Pier No.
- = Location of bearing replacement



**S.N. 016-1110 FRAMING PLAN**



**S.N. 016-1111 FRAMING PLAN**

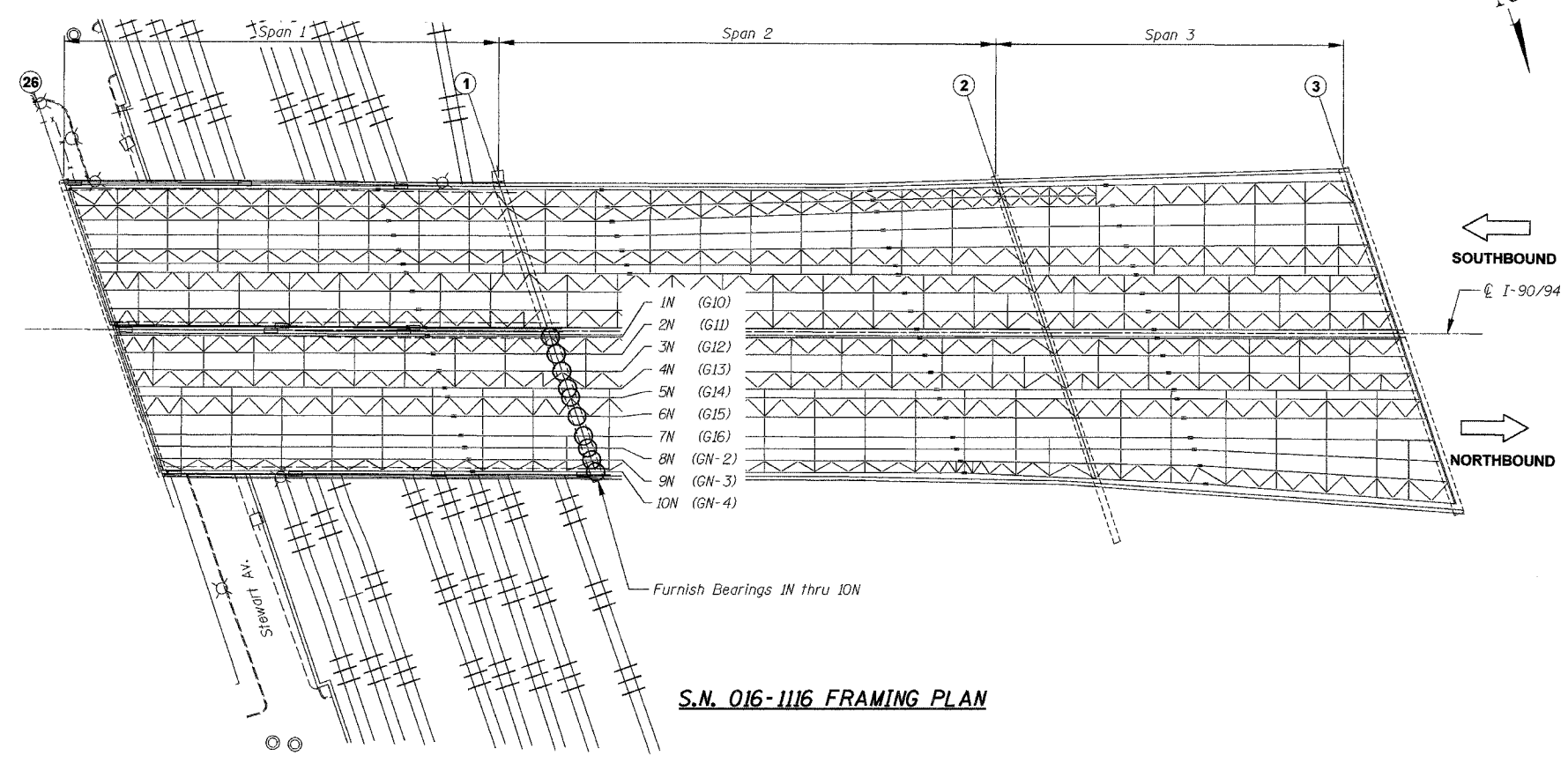
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 FRAMING PLAN SN 016-1110 & SN 016-1111  
 SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 130 EAST WASHINGTON STREET SUITE 2600 CHICAGO, ILLINOIS 60601  
 JOB NO. 444

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	12
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**S.N. 016-1116 FRAMING PLAN**

**ELEMENT IDENTIFICATION**

Elements on the Northbound Structure are identified 1N, 2N, 3N etc. starting from the centerline of I-90/94. Numbers within ( ) refer to as-built beam designations.

- ① = Pier No.
- = Location of bearing replacement

**BOWMAN, BARRETT & ASSOCIATES INC.**  
 CONSULTING ENGINEERS  
 137 EAST RANDOLPH STREET SUITE 2650 CHICAGO, ILLINOIS 60601  
 JOB NO. 449

REVISIONS	
NAME	DATE

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

SCALE: NTS  
 DATE: 5/23/2005

DRAWN BY: BDC  
 CHECKED BY: BLU

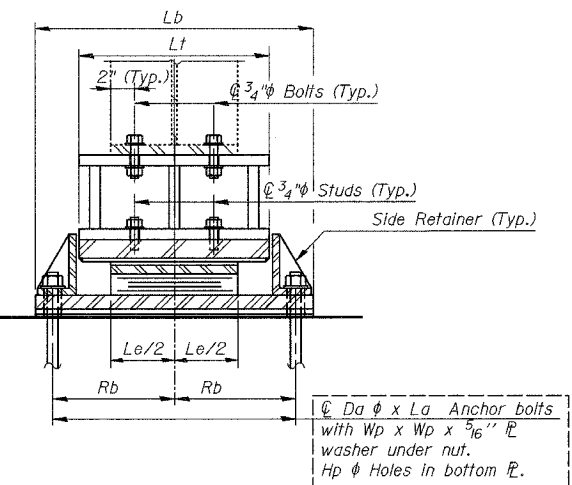
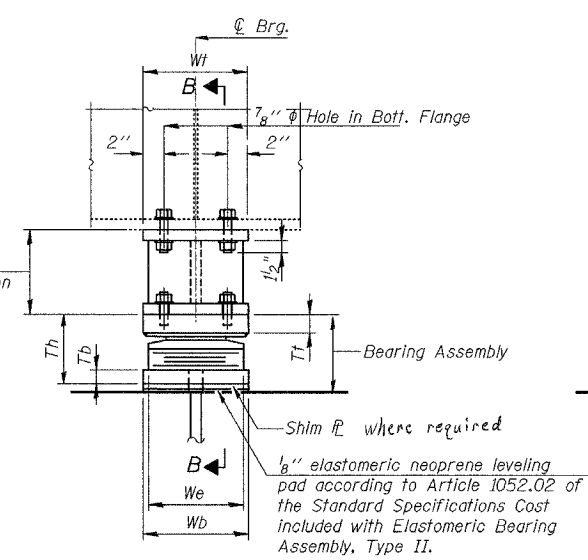
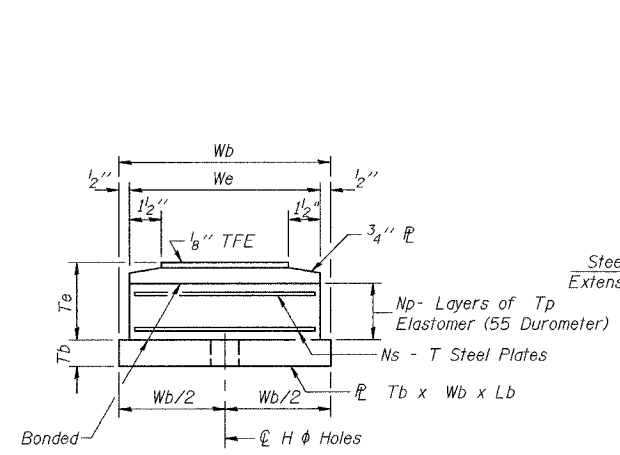
**ELASTOMERIC BEARING SCHEDULE (TYPE I AND II)**

Bearing Location	Pier	Type	Bearing Designation	No. Req'd	Th	Elastomeric Bearing						Top Plate				Bottom Plate			Anchor Bolts					Side Retainer						
						We	Le	Te	Tp	Np	Ts	Ns	Wt	Lt	Ttn	Tts	Rt	Wb	Lb	Tb	Da	La	Rb	H	Wp	y	z	t	Hp	v
016-0137	8	I	12-b	11	5 1/16	12	18	2 13/16	9/16	4	3/16	3	13	20	3	3	9	-	-	-	1 1/2	18	12 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	5 3/4
	10	I	11-a	11	5	11	16	2 3/8	7/8	4	3/8	3	12	18	2 7/16	2 13/16	8	-	-	-	1 1/2	15	11 1/2	-	2 3/4	2 3/8	4 3/4	1/2	1 1/2	5 1/4
	12	I	12-b	10	5 7/16	12	18	2 13/16	9/16	4	3/16	3	13	20	2 7/16	2 13/16	9	-	-	-	1 1/2	18	12 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	5 3/4
	14	I	12-b	10	5 7/16	12	18	2 13/16	9/16	4	3/16	3	13	20	2 7/16	2 13/16	9	-	-	-	1 1/2	18	12 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	5 3/4
	16	I	12-b	10	5 7/16	12	18	2 13/16	9/16	4	3/16	3	13	20	2 7/16	2 13/16	9	-	-	-	1 1/2	18	12 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	5 3/4
	20	I	11-a	11	5	11	16	2 3/8	7/8	4	3/8	3	12	18	2 7/16	2 13/16	8	-	-	-	1 1/2	15	11 1/2	-	2 3/4	2 3/8	4 3/4	1/2	1 1/2	5 1/4
22	I	12-b	11	5 7/16	12	18	2 13/16	9/16	4	3/16	3	13	20	2 7/16	2 13/16	9	-	-	-	1 1/2	18	12 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	5 3/4	
016-1110	2	I	15-c	8	7 1/2	15	24	4 1/2	3/4	5	3/16	4	16	26	3	3	12	-	-	-	1 1/2	18	15 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	7 3/8
	5	I	14-c	13	7 5/16	14	22	4 3/16	11/16	5	3/16	4	15	24	3	3	11	-	-	-	1 1/2	18	14 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	7 1/4
016-1111	3	II	13-b	8	8 1/2	13	20	3 15/16	5/8	4	3/16	3	14	22	3	3	10	14	33 1/4	1 1/2	1 1/2	18	13 7/8	2	3	2 3/4	5 1/2	5/8	1 3/4	6 7/8
	4	I	13-b	8	6 1/2	13	20	3 1/16	5/8	4	3/16	3	14	22	3	3	10	-	-	-	1 1/2	18	13 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6
	6	I	13-b	8	6 1/2	13	20	3 1/16	5/8	4	3/16	3	14	22	3	3	10	-	-	-	1 1/2	18	13 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6
	8	II	13-b	8	8 1/2	13	20	3 15/16	5/8	4	3/16	3	14	22	3	3	10	14	33 1/4	1 1/2	1 1/2	18	13 7/8	2	3	2 3/4	5 1/2	5/8	1 3/4	6 7/8
	9	I	13-b	8	6 1/2	13	20	3 1/16	5/8	4	3/16	3	14	22	3	3	10	-	-	-	1 1/2	18	13 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6
	11	I	13-b	8	6 1/2	13	20	3 1/16	5/8	4	3/16	3	14	22	3	3	10	-	-	-	1 1/2	18	13 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				

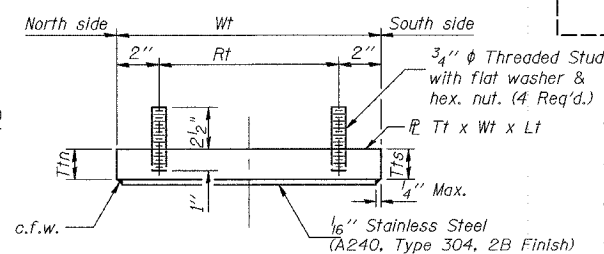
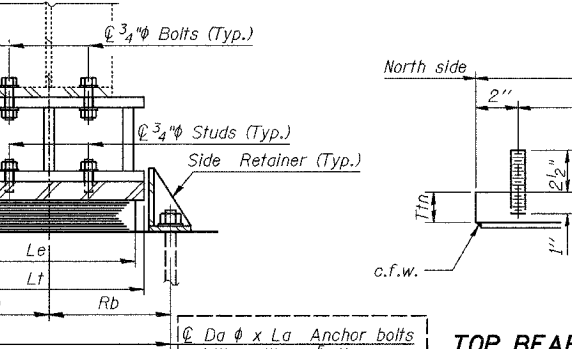
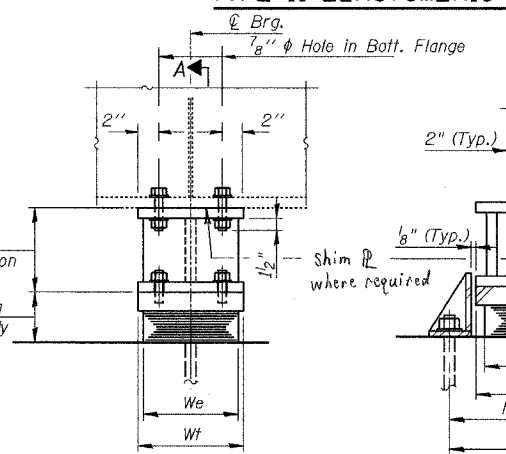
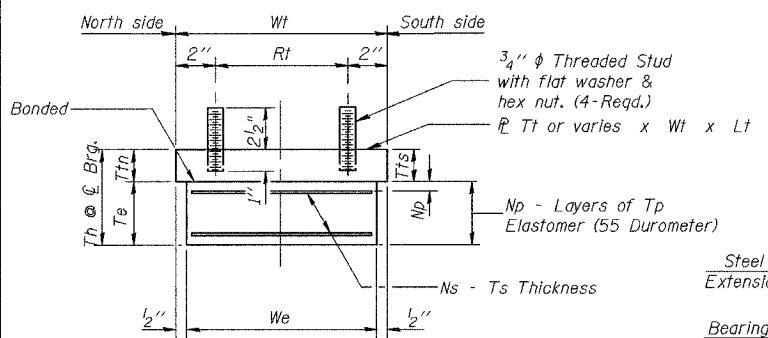
**SUPPORTING REACTIONS AND MINIMUM JACKING CAPACITY**

S/N	Pier	DL + 1/2(LL+I)	Min. Jack. Capacity (k)
016-0137	8	130	195
	10	113	170
	12	126	190
	14	126	190
	16	113	170
	20	130	195
016-1110	2	231	350
	5	173	260
016-1111	3	161	245
	4	161	245
	6	161	245
	8	161	245
	9	161	245
	11	161	245
016-1116	1	480	720
	(GN2-4)	365	550



**PROCEDURE TO JACK AND REMOVE EXISTING BEARINGS**

- See Special Provision "Jack and Remove Existing Bearings"
- Jacking and removing existing bearings, including top and bottom plates and lead plates, shall be done after deck scarification is completed and before the new overlay is poured.
- See table for support reactions and min. jacking capacities.
- For jacking capacity see table above.
- Burn existing anchor bolts flush with the top of existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy. Cost is included with "Jack and Remove Existing Bearings".
- Top plates welded to the bottom flange of beams shall be removed using air arc-method. Grind smooth all weld material remaining the bottom flange.
- The new bearings shall be in place and jacks shall be lowered before the overlay is poured.



**NOTES:**

- For side retainer detail see Sht.14.
- All values in Elastomeric Bearing Table are inches.
- For Steel Extension details and dimensions see Sht.14.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 ELASTOMERIC BEARING DETAILS

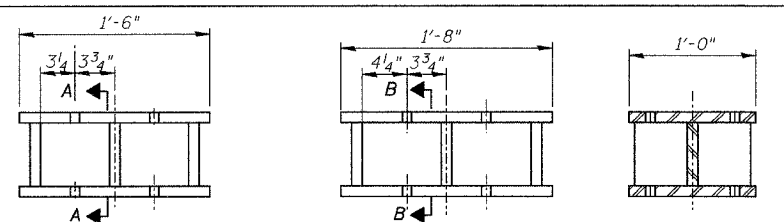
SCALE: NTS  
 DATE: 5/23/2005

DRAWN BY: LM  
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 110 EAST WASHINGTON STREET SUITE 2050 CHICAGO, ILLINOIS 60601  
 JOB NO. 668

11/6512 AM 5/23/2005

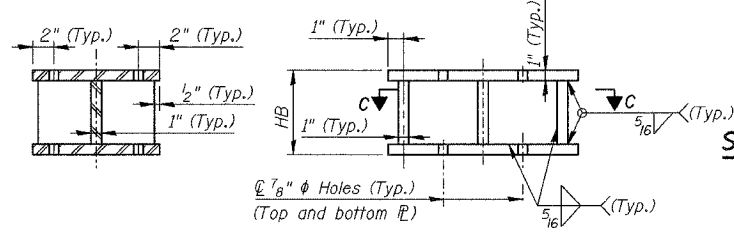
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	14
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62919				



**TYPE A**  
20 REQ'D

**TYPE B**  
38 REQ'D

**SECTION A-A**  
TYPE A, D, E



**TYPICAL SIDE VIEW**

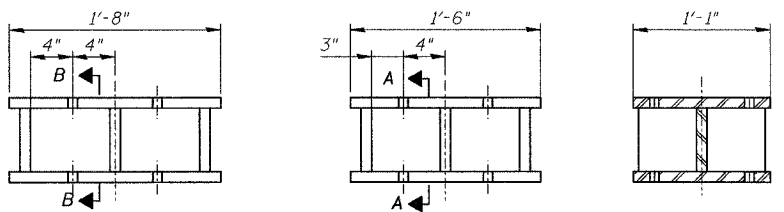
**TYPICAL ELEVATION**

**STEEL EXTENSION TYPE SCHEDULE S/N 016-0137**

PIER NO.	BEAM NO.											
	22	21	20	19	18	17	16	15	14	13	12	
8	C	B	B	B	B	B	B	B	B	B	B	
10	D	A	A	A	A	A	A	A	A	A	A	
42	41	40	39	38	37	36	35	34	33			
12	C	B	B	B	B	B	B	B	B	B	B	
14	C	B	B	B	B	B	B	B	B	B	B	
62	61	60	59	58	57	56	55	54	53			
16	E	C	C	C	C	C	C	C	C	C	C	
84	83	82	81	80	79	78	77	76	75	74		
20	D	A	A	A	A	A	A	A	A	A	A	
22	C	B	B	B	B	B	B	B	B	B	B	

**HB SCHEDULE S/N 016-0137**

PIER NO.	BEAM NO.											
	22	21	20	19	18	17	16	15	14	13	12	
8	9 1/16	9 1/16	9 1/16	9 1/16	9 1/16	9 7/8	9 13/16	9 1/16	9 1/16	9 1/16	9 1/16	
10	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	11 1/2	10 1/16	10 1/2	10 1/2	
42	41	40	39	38	37	36	35	34	33			
12	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	
14	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	
62	61	60	59	58	57	56	55	54	53			
16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	
84	83	82	81	80	79	78	77	76	75	74		
20	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	11	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	
22	10 1/16	10 1/16	10 1/16	10 1/16	10 1/16	10 3/16	10 5/16	10 1/16	10 1/16	10 1/16	10 1/16	

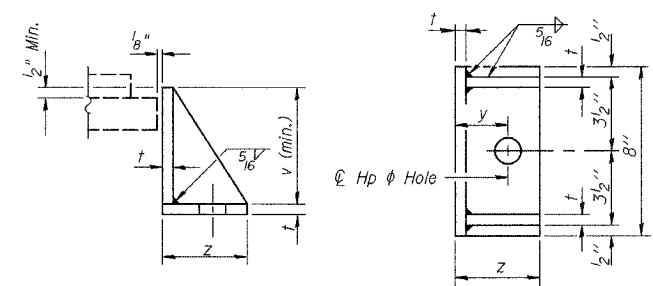


**TYPE C**  
13 REQ'D

**TYPE D**  
2 REQ'D

**SECTION B-B**  
TYPE B, C

**FABRICATED STEEL EXTENSION DETAILS**



**SIDE RETAINER**

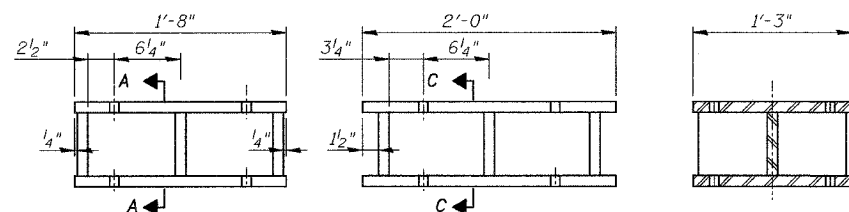
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight Included with Structural Steel.

**STEEL EXTENSION TYPE SCHEDULE S/N 016-1110**

PIER NO.	BEAM NO.							
	28	27	26	25	24	23	22	21
2	I	I	I	I	I	I	I	I
67	66	65	64	63	62	61	60	59
5	F	F	F	F	F	F	F	F

**HB SCHEDULE S/N 016-1110**

PIER NO.	BEAM NO.							
	28	27	26	25	24	23	22	21
2	11 7/8	11 7/8	11 7/8	11 7/8	11 7/8	11 7/8	11 7/8	11 7/8
67	66	65	64	63	62	61	60	59
5	9 1/16	9 1/16	9 1/16	9 1/16	9 1/16	9 1/16	9 1/16	9 1/16



**TYPE E**  
1 REQ'D

**TYPE F**  
13 REQ'D

**SECTION C-C**  
TYPE F

**STEEL EXTENSION TYPE SCHEDULE S/N 016-1111**

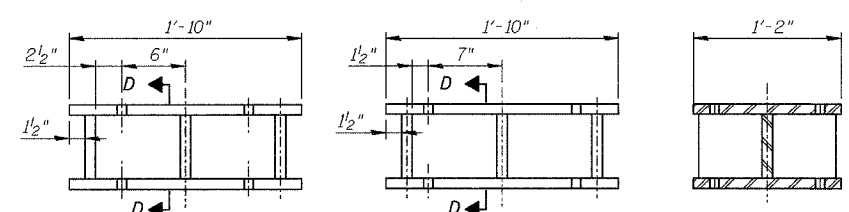
PIER NO.	BEAM NO.							
	GR1	GR2	GR3	GR4	GR5	GR6	GR7	GR8
3	G	G	G	G	G	H	H	H
4	G	G	G	G	G	G	G	G
6	G	G	G	G	G	G	G	G
8	G	G	G	G	G	G	G	G
9	G	G	G	G	G	G	G	G
11	G	G	G	G	G	G	G	G

**HB SCHEDULE S/N 016-1111**

PIER NO.	BEAM NO.							
	GR1	GR2	GR3	GR4	GR5	GR6	GR7	GR8
3	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	9 9/16	9 9/16	9 9/16
4	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16
6	11 1/16	11 1/16	11 1/16	11 1/16	11 1/16	11 1/16	11 1/16	11 1/16
8	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	9 9/16	9 9/16	9 9/16
9	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16
11	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16

Notes:

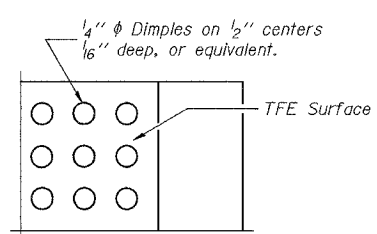
- Prior to ordering any material, the contractor shall verify in the field all bearing height and shim thickness dimensions.
- Use holes in new bearings as template to field drill holes in existing girders.
- The orientation of the bearing in the field shall be coordinated with the slope of the steel beam.
- The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- For procedure to jack and remove existing bearing see Sht. 13.
- Beam numbers reference as-built drawings, see Framing plans for cross reference.
- For Side Retainers dimensions see Sht. 13.



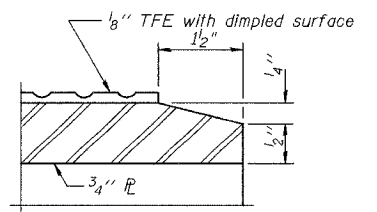
**TYPE G**  
45 REQ'D

**TYPE H**  
3 REQ'D

**SECTION D-D**  
TYPE G, H



**PLAN-TFE SURFACE**



**SECTION THRU TFE**

**BILL OF MATERIAL**

Item	Unit	Quantity
Furnishing Elastomeric Bearing Assembly, Type I	Each	127
Furnishing Elastomeric Bearing Assembly, Type II	Each	16

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
STEEL EXTENSION DETAILS

SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: LM  
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
134 EAST RANDOLPH STREET SUITE 2656 CHICAGO, ILLINOIS 60601  
JOB NO. 666

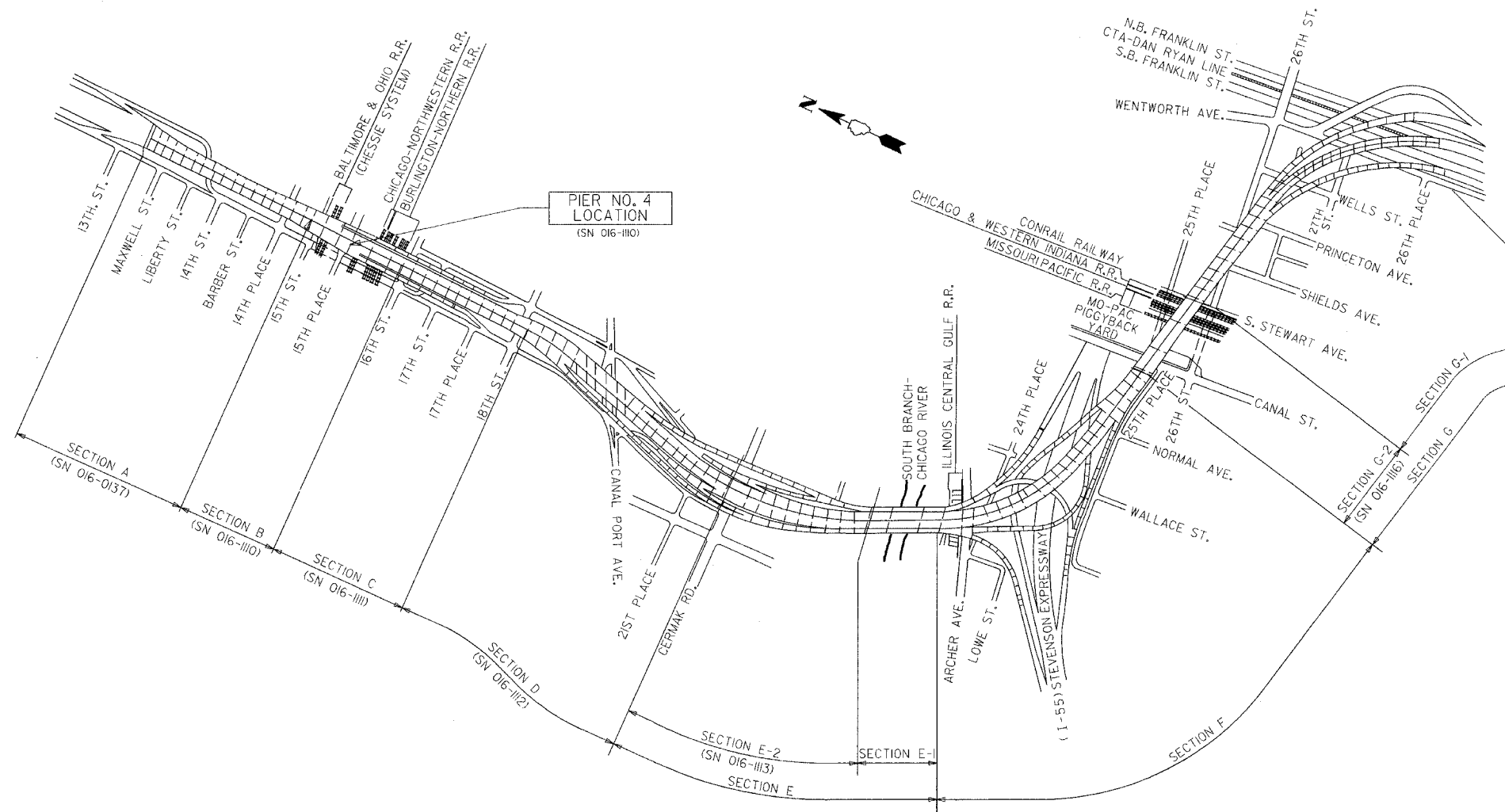
**FABRICATED STEEL EXTENSION DETAILS**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	16
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	
* 2005-008F CONTRACT #62919				

Sheet No 1  
of 8 Sheets



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

**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.
- Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".
- 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 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  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{13}{16}$ "  $\phi$  unless otherwise noted.
- Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60.
- 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 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.
- Existing design and fabrication plans are available upon request.
- All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 38,150 lbs.

**DESIGN STRESSES**

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

Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

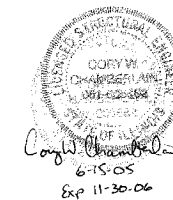
**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Furnishing Structural Steel	L.S.	0.14
Furnishing Fabric Reinforced Elastomeric Trough	Foot	90
Field Measurements	L.S.	0.1
Storage of Finger Plate Joints	Cal. Days	30

PIER NO. 4

**KEY PLAN**

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK	DATE 5/03
1		FAI RTE 90/94	DAN RYAN EXPRESSWAY	CHECKED BY SDS	DATE 5/03
2		SN 016-1110 (NORTHBOUND)	COOK COUNTY	BOOK NUMBER	
3		SEC		PROJECT NO.	4222-3
4				SHEET NO.	
5					
6					
7					
8					
9					
0					



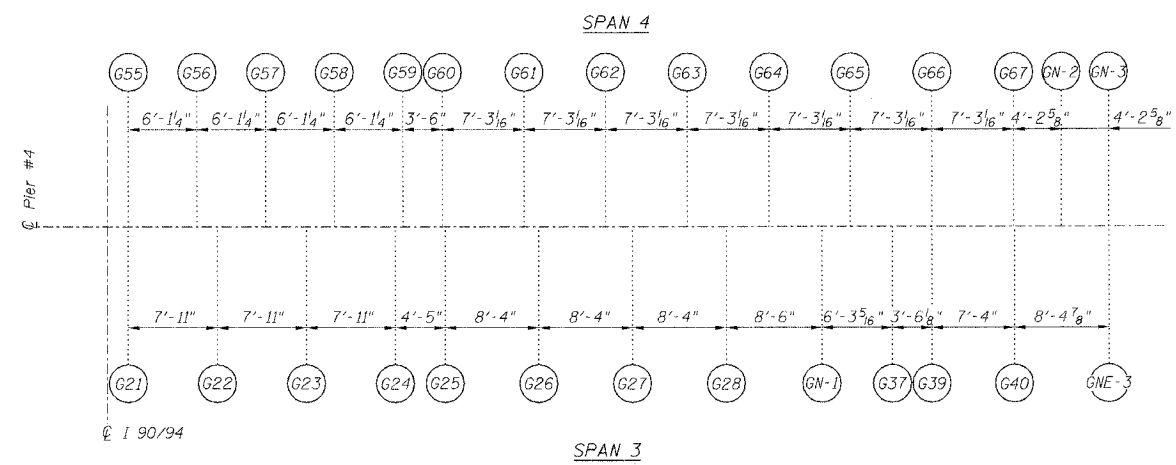
**HOMER L. CHASTAIN & ASSOCIATES**  
CONSULTING ENGINEERS  
8809 W. BRYN MAWR AVENUE  
SUITE 204  
CHICAGO, ILLINOIS 60618  
312-734-0020  
FAX: 312-734-0025



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

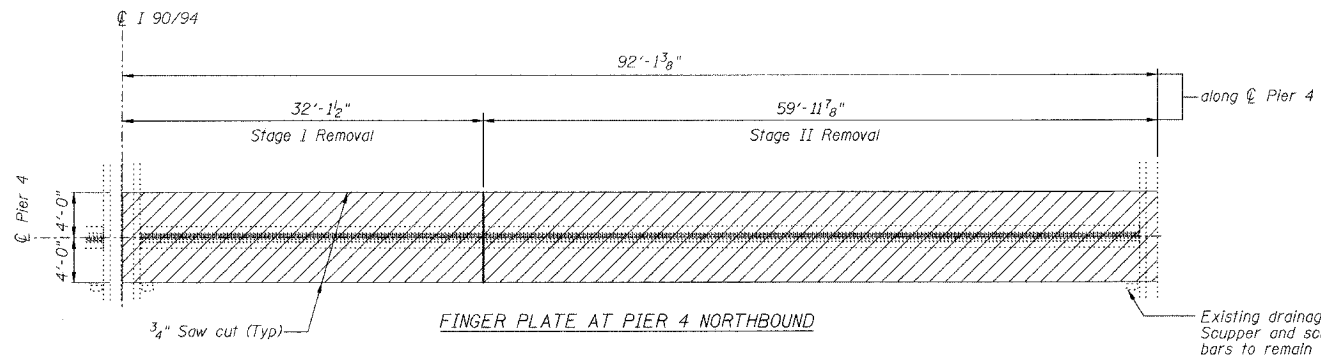
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	93	17
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
* 2005-008F CONTRACT #62919				

Sheet No 2  
of 8 Sheets



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

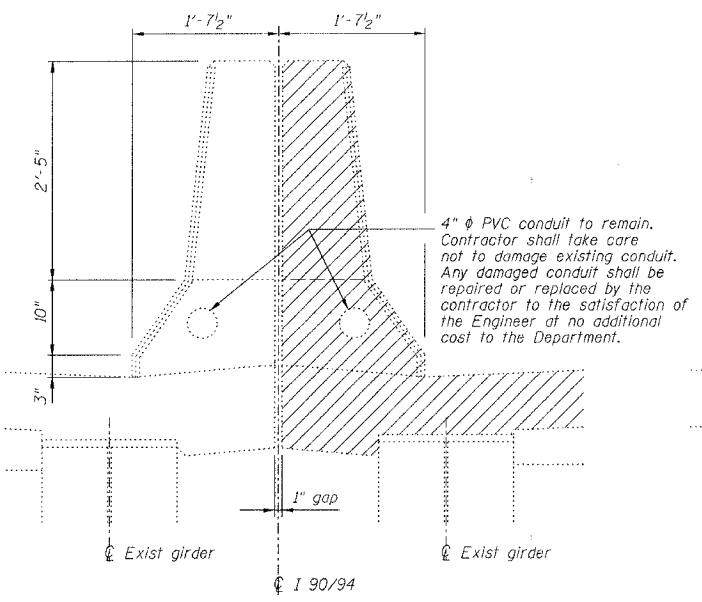
GIRDER LAYOUT AT PIER 4



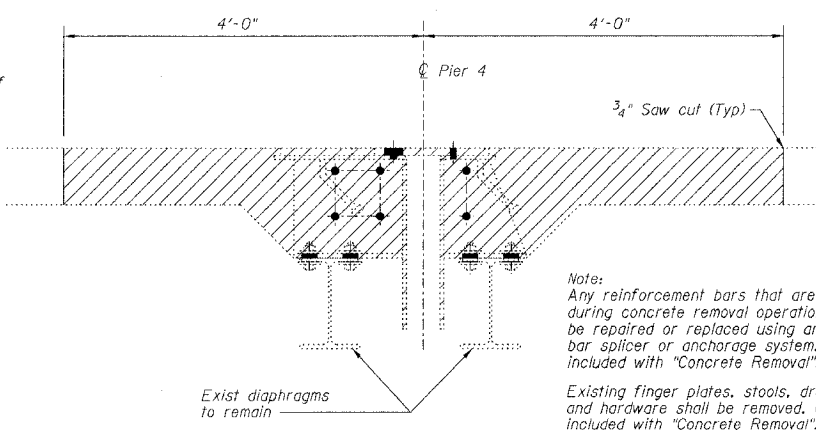
FINGER PLATE AT PIER 4 NORTHBOUND

JOINT REMOVAL PLAN AT PIER 4

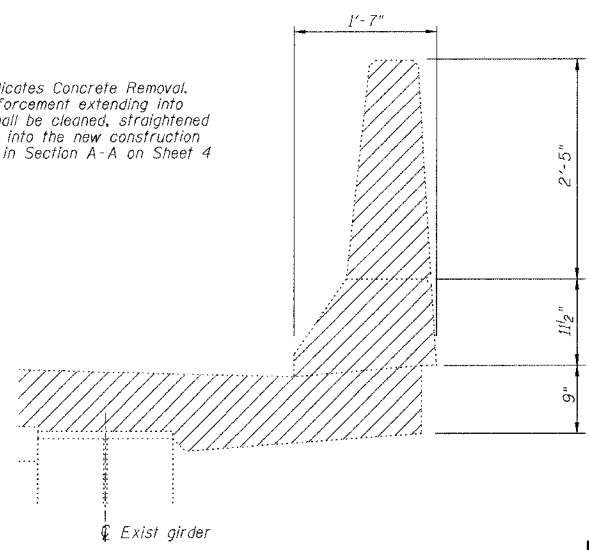
Note:  
Hatched area indicates Concrete Removal.  
Longitudinal reinforcement extending into  
removal areas shall be cleaned, straightened  
and incorporated into the new construction  
except as noted in Section A-A on Sheet 4



DETAIL AT EXISTING MEDIAN PARAPET



SECTION AT EXISTING FINGER PLATE AT PIER 4



DETAIL AT EXISTING OUTSIDE PARAPET

PIER NO. 4

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

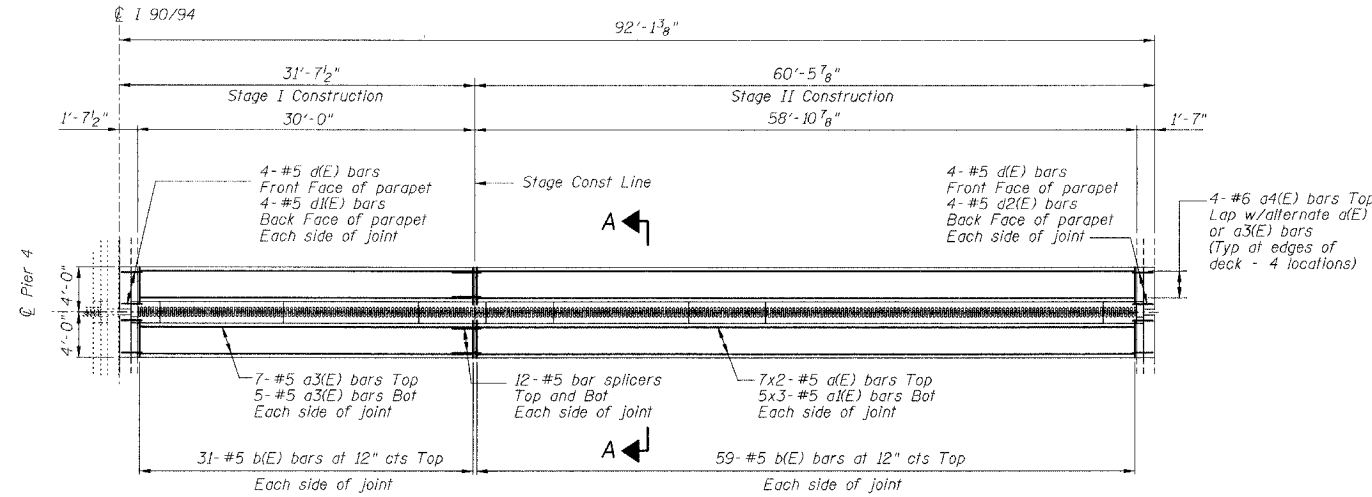
**HOMER L. CHASTAIN & ASSOCIATES**  
CONSULTING ENGINEERS

8809 W. BRYAN MAJOR AVENUE  
SUITE 104  
CHICAGO, ILLINOIS 60631  
812-714-0000  
FAX 812-714-0005

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

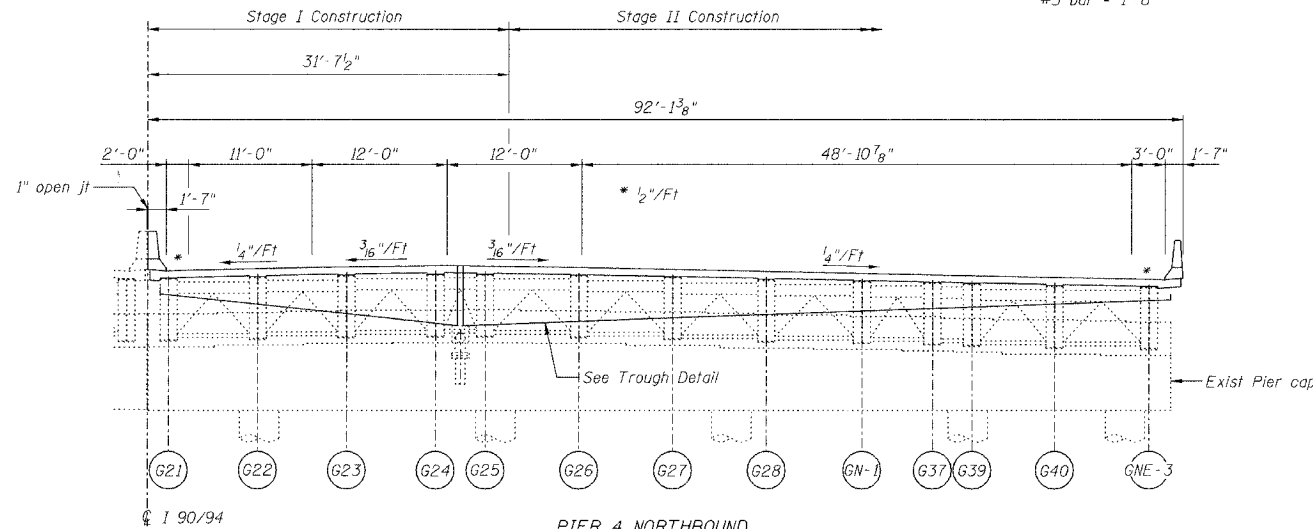
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FAI 90/94		COOK	93	18
FED. ROAD DIST. NO.		ILLINOIS PROJECT		
2005-008F		CONTRACT #62919		

Sheet No 3  
of 8 Sheets

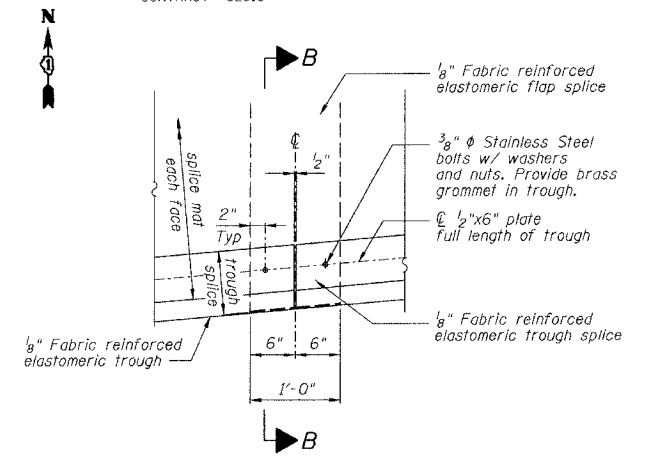


FINGER PLATE AT PIER 4 NORTHBOUND  
JOINT RECONSTRUCTION PLAN AT PIER 4  
(Dimensions along  $\bar{C}$  Pier)

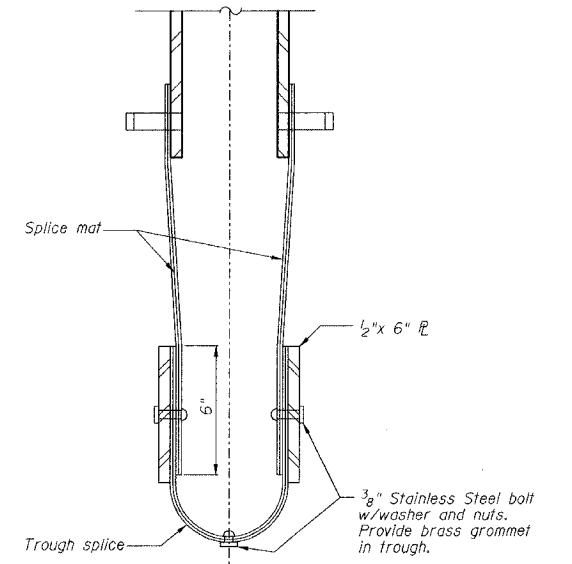
MIN BAR LAP  
#5 bar = 1'-8"



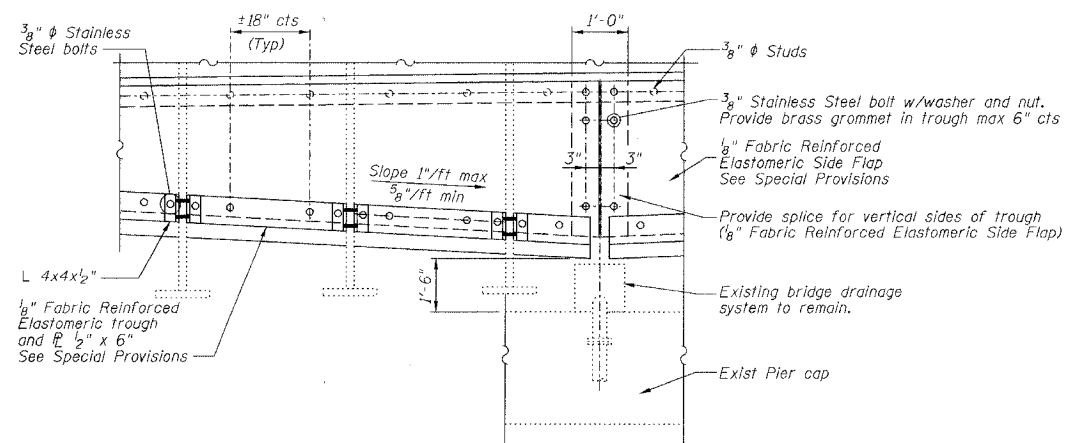
PIER 4 NORTHBOUND  
ELEVATION AT PIER 4 (LOOKING NORTH)  
(Dimensions along  $\bar{C}$  Pier)



TROUGH SPLICE DETAIL



SECTION B-B



TROUGH DETAIL

NOTES

Bars indicated thus 4x2-#5 etc indicates 4 lines of bars with 2 lengths per line.  
For Section A-A see Sheet 4 of 8.

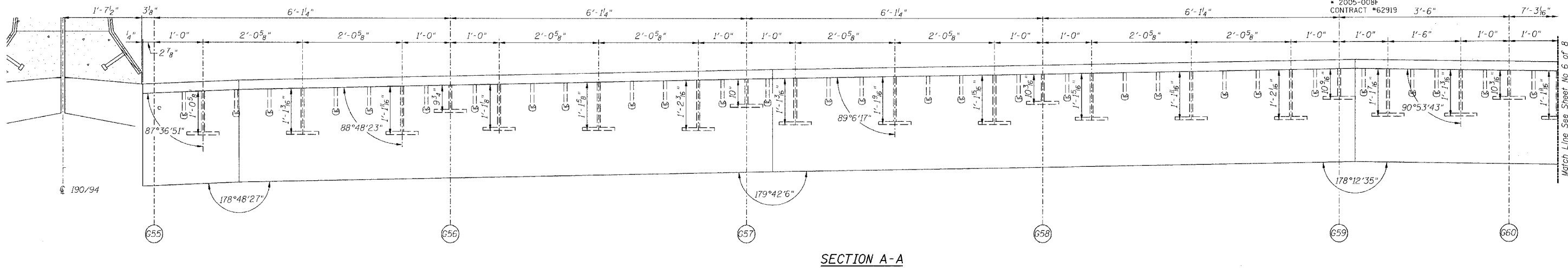
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REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
DRAWN BY DATE RLK 5/03		FAI RTE 90/94 DAN RYAN EXPRESSWAY	
CHECKED BY DATE SDS 5/03		SN 016-1110 (NORTHBOUND)	
PROJECT No.		COOK COUNTY	
BOOK NUMBER		4222-3	
SHEET No.		HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS	
6800 W. BRYAN MAJOR AVENUE CHICAGO, ILLINOIS 60631 312-714-0050 FAX 312-714-0055		SUITE 204 CHICAGO, ILLINOIS 60631 312-714-0050 FAX 312-714-0055	



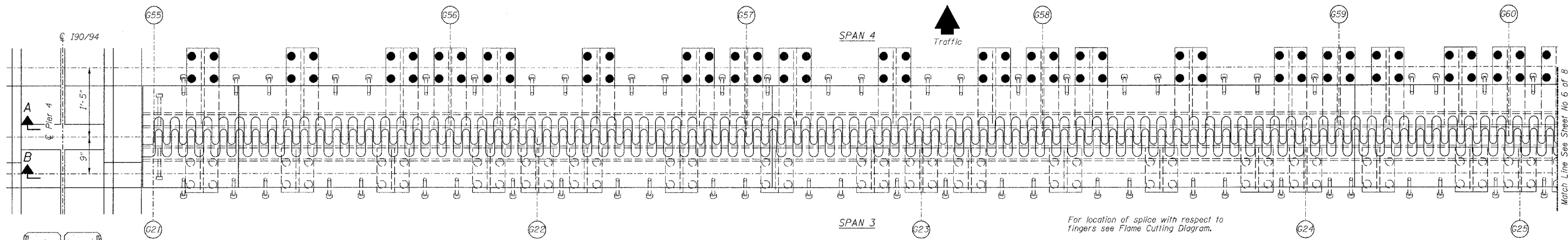
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	93	20
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
2005-008F	CONTRACT #62919			

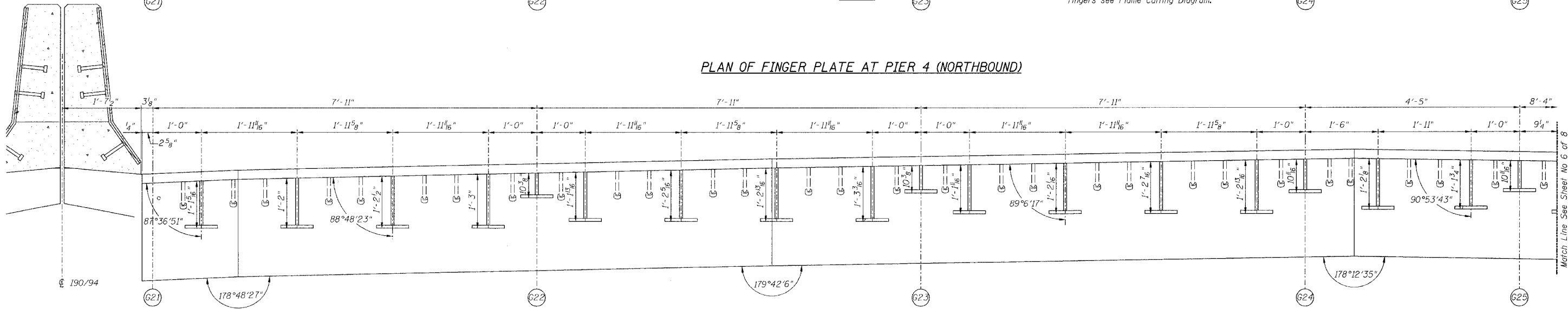
Sheet No 5  
of 8 Sheets



SECTION A-A



PLAN OF FINGER PLATE AT PIER 4 (NORTHBOUND)



SECTION B-B

PIER NO. 4

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DATE
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2				5/03
3				
4				
5				
6				
7				
8				
9				
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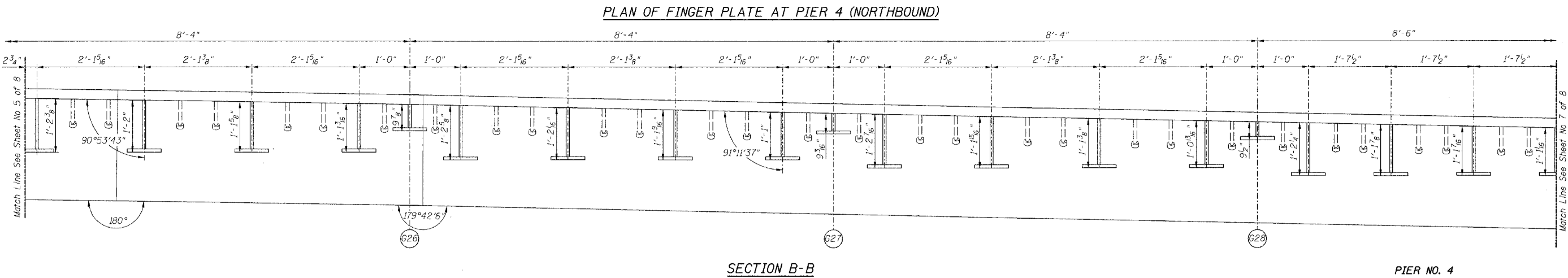
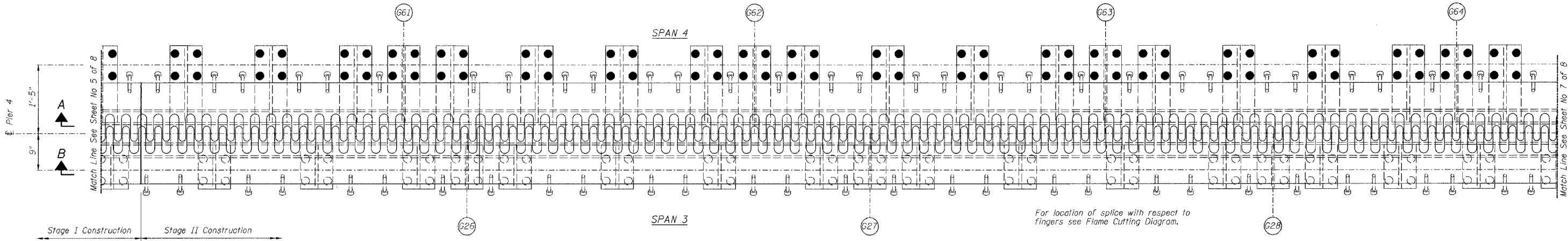
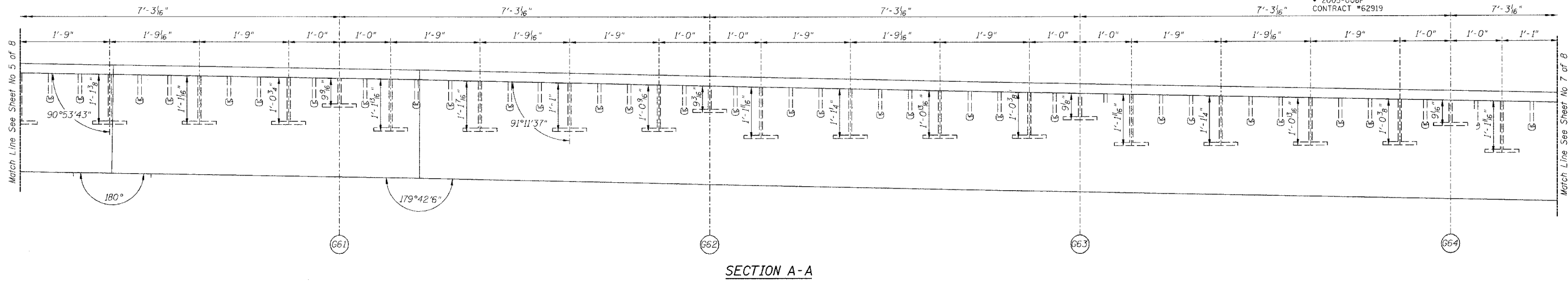
FAI RTE 90/94	DAN RYAN EXPRESSWAY	PROJECT NO.
SEC	SN 016-1110 (NORTHBOUND)	4222-3
HOMBUR L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 8608 W. BRYN MAWR AVENUE SUITE 304 CHICAGO, ILLINOIS 60631 312-714-0800 FAX 312-714-0805		SHEET NO.

Note:  
For optional splice detail see  
flame cutting diagram on Sheet No. 4  
All dimensions, except stool heights  
are given along centerline of bearing.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	93	21
FED. ROAD DIST. NO.		ILLINOIS PROJECT		
2005-008F				
CONTRACT #62919				

Sheet No 6  
of 8 Sheets



Note:  
For optional splice detail see  
flame cutting diagram on Sheet No. 4  
All dimensions, except stool heights  
are given along centerline of bearing.

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY	DATE
1		FAI RTE 90/94	DAN RYAN EXPRESSWAY	RLK	5/03
2		SN 016-1110 (NORTHBOUND)		SDS	5/03
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4					
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6					
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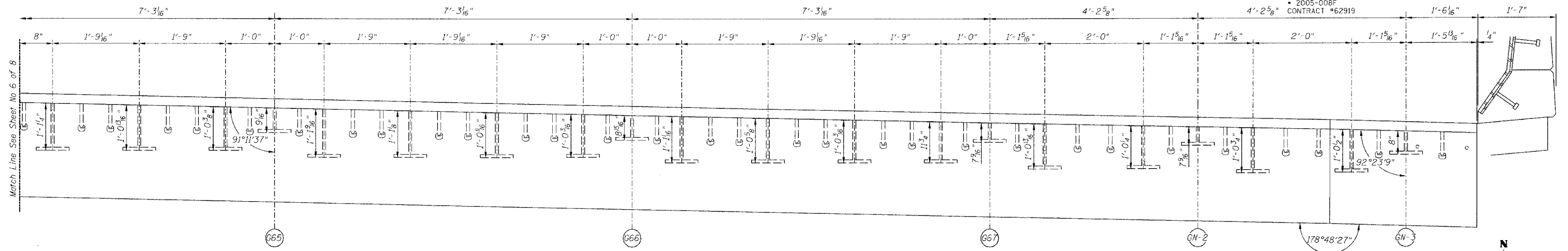
PROJECT NO.	4222-3
SHEET NO.	

<b>HOMER L. CHASTAIN &amp; ASSOCIATES</b> CONSULTING ENGINEERS	8800 W. BRYAN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 812-714-0050 FAX: 812-714-0055
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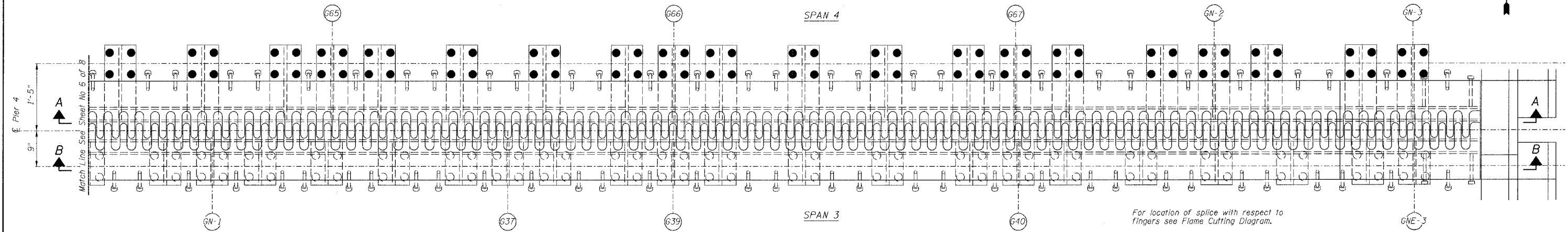
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	93	22
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
2005-006F	CONTRACT #62919			

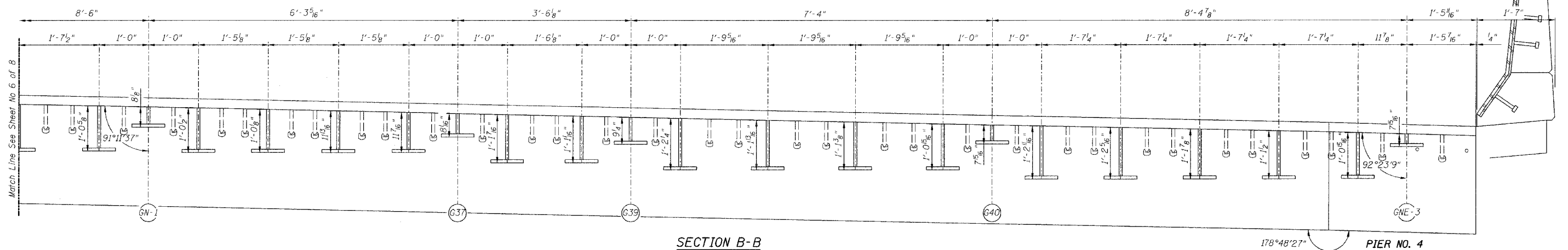
Sheet No 7  
of 8 Sheets



SECTION A-A



PLAN OF FINGER PLATE AT PIER 4 (NORTHBOUND)



SECTION B-B

Note:  
For optional splice detail see  
flame cutting diagram on Sheet No. 4  
All dimensions, except stool heights  
are given along centerline of bearing.

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY DATE RLK 5/03
1			FAI RTE 90/94	DAN RYAN EXPRESSWAY	CHECKED BY DATE SDS 5/03
2			SEC	SN 015-1110 (NORTHBOUND)	BOOK NUMBER
3				COOK COUNTY	PROJECT NO. 4222-3
4					SHEET NO.
5					
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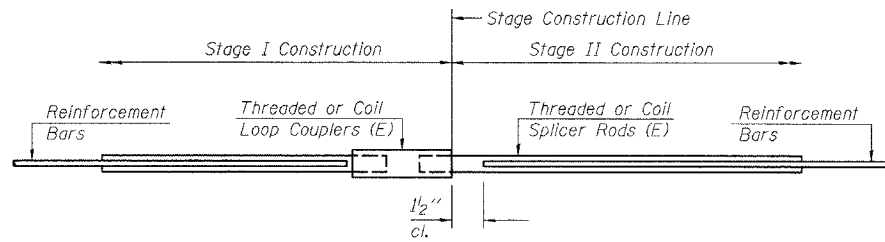
HOMER L.  
**CHASTAIN**  
& ASSOCIATES  
CONSULTING ENGINEERS

8609 W. BRYAN MAWR AVENUE  
SUITE 204  
CHICAGO, ILLINOIS 60631  
815-714-0050  
FAX: 815-714-0055

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 93	SHEET NO. 23
FEDERAL DISTRICT * 2005-008F CONTRACT #62919		ILLINOIS	PROJECT	

Sheet No 8  
of 8 Sheets



**SPLICER DETAIL**

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

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

**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

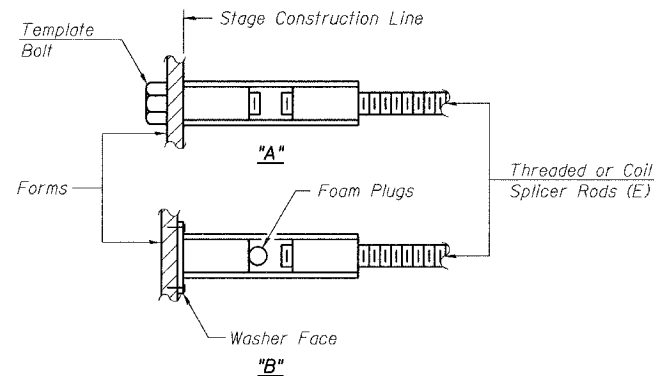
Wire Connector



**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**

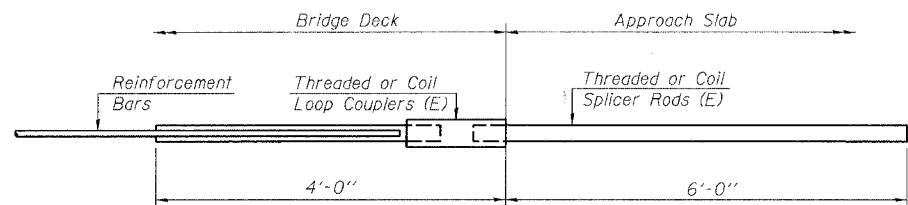
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to 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 =  $1.25 \times f_{sallow} \times A_t$   
(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
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

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



**INTEGRAL ABUTMENT  
BAR SPLICER ASSEMBLY DETAIL  
FOR #5 BAR**

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

BSD-1 4-30-99

PIER NO. 4

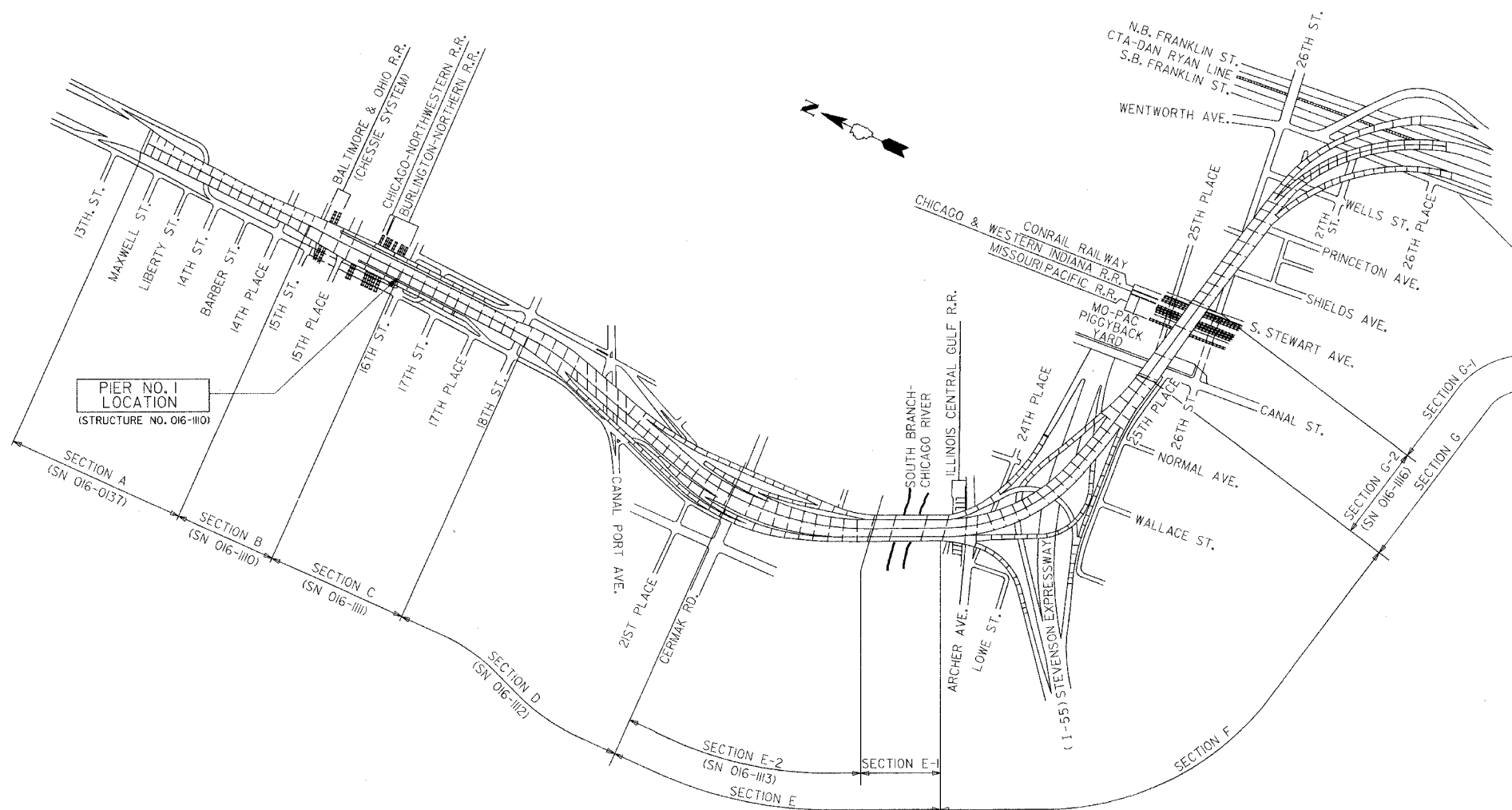
REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK 5/03
NO.	DATE	INITIALS	FAI RTE 90/94	DAN RYAN EXPRESSWAY	CHECKED BY SDS 5/03
1			SN 016-1110 (NORTHBOUND)		BOOK NUMBER
2			SEC	COOK COUNTY	PROJECT NO. 4222-3
3			HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS		SHEET NO.
4			8600 W. BRYN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-734-0000 FAX 312-734-0005		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	24
FEDERAL DIST. NO.	ILLINOIS	PROJECT		

Sheet No 1  
of 8 Sheets

\* 2005-008F  
CONTRACT #62919



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

**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.
- Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provision "Field Measurements".
- 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 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  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{1}{16}$ "  $\phi$  unless otherwise noted.
- Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60.
- 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 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 banded.
- Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.
- Existing design and fabrication plans are available upon request.
- All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 26,210 lbs.

**DESIGN STRESSES**

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

Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Furnishing Structural Steel	L.S.	0.10
Furnishing Fabric Reinforced Elastomeric Trough	Foot	65
Field Measurements	L.S.	0.1
Storage of Finger Plate Joints	Cal. Days	30



**PIER NO. 1**

**KEY PLAN**

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRWN BY DATE RLK 5/03
FAI RTE 90/94 DAN RYAN EXPRESSWAY SN 016-1110 (NORTHBOUND)		CHECKED BY DATE SDS 5/03
SEC COOK COUNTY		BOOK NUMBER
PROJECT NO. 4222-3		SHEET NO.
HOMER L. CHASTAIN & ASSOCIATES 8809 W. BRYAN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-714-0000 FAX 312-714-0005		

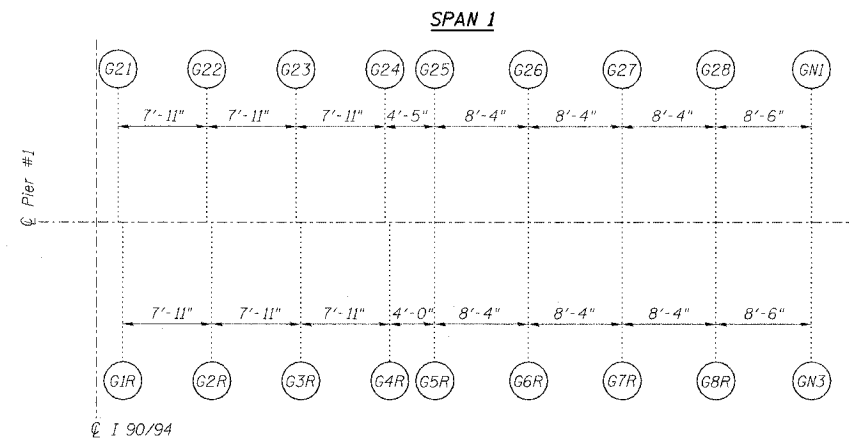


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	25
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Sheet No 2  
of 8 Sheets

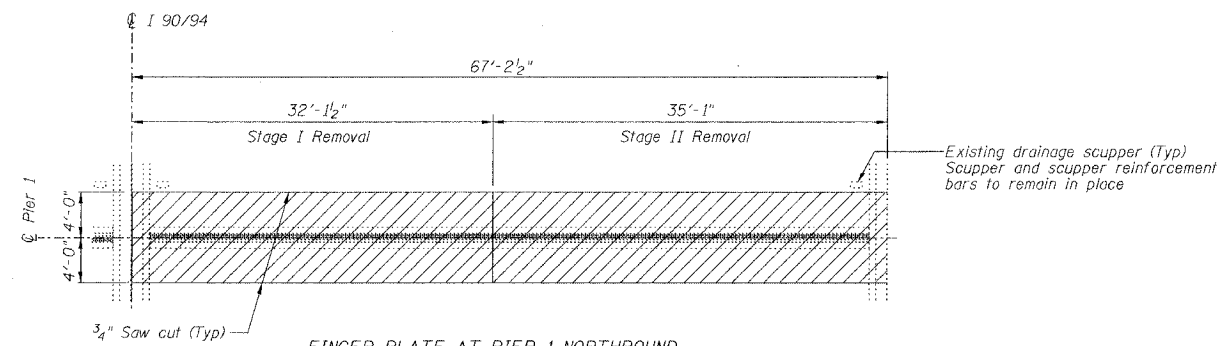
2005-008F  
CONTRACT #62919



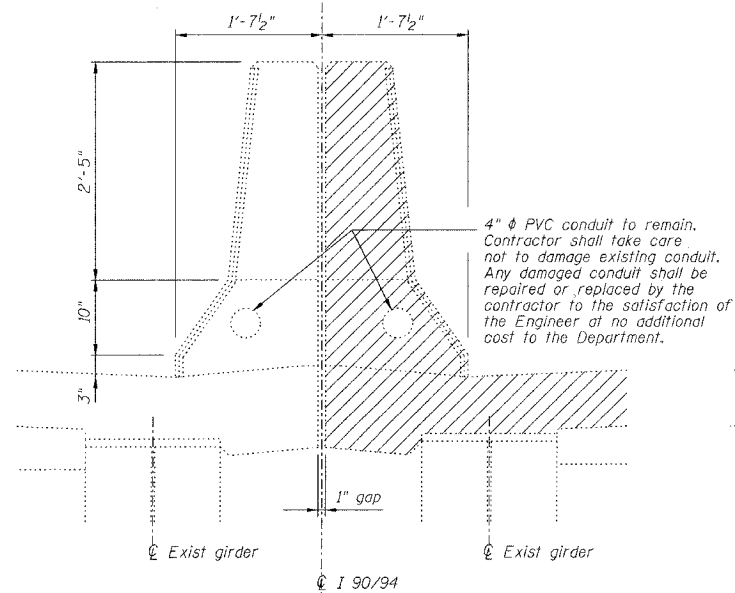
Note:  
All dimensions on girder layout  
are given along centerline of bearing.

**SPAN II**  
(SN 016-1111)

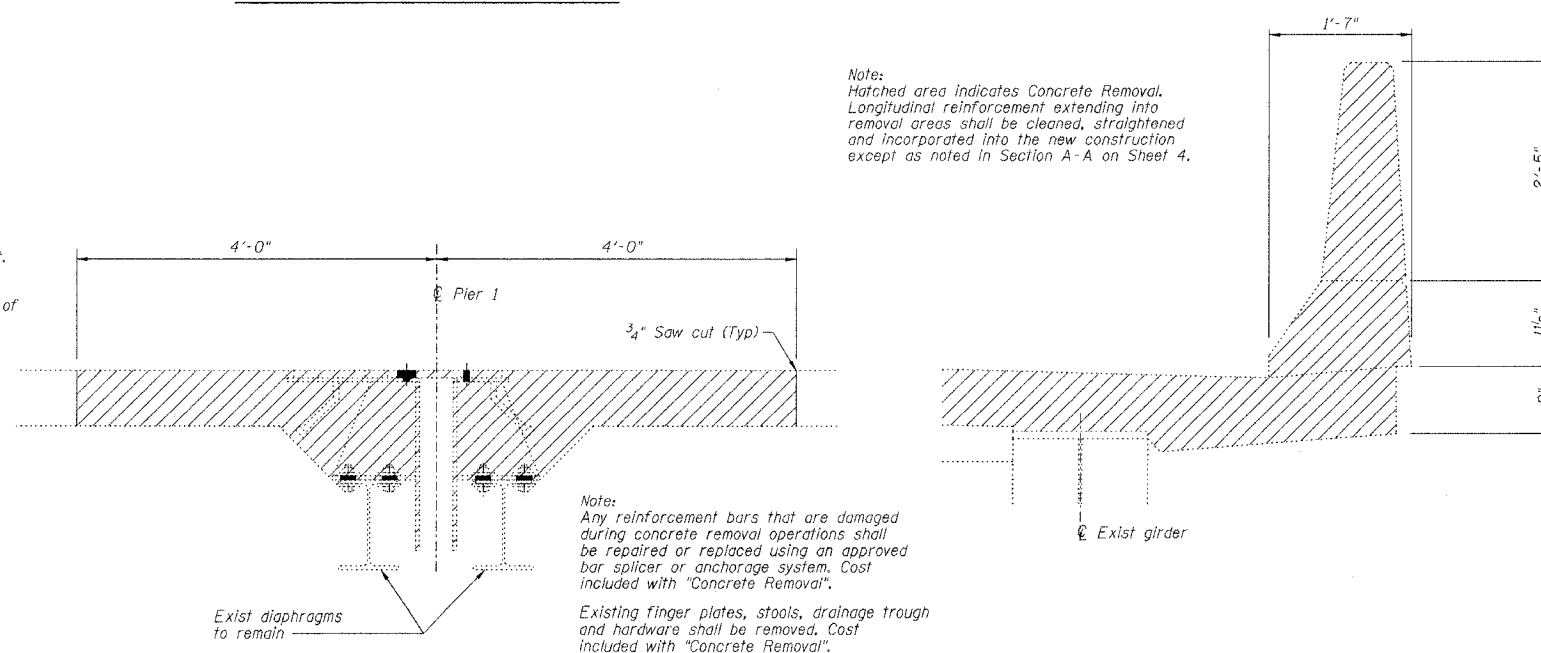
**GIRDER LAYOUT AT PIER 1**



**FINGER PLATE AT PIER 1 NORTHBOUND  
JOINT REMOVAL PLAN AT PIER 1**



**DETAIL AT EXISTING MEDIAN PARAPET**



**SECTION AT EXISTING FINGER PLATE AT PIER 1**

**DETAIL AT EXISTING OUTSIDE 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.

**PIER NO. 1**

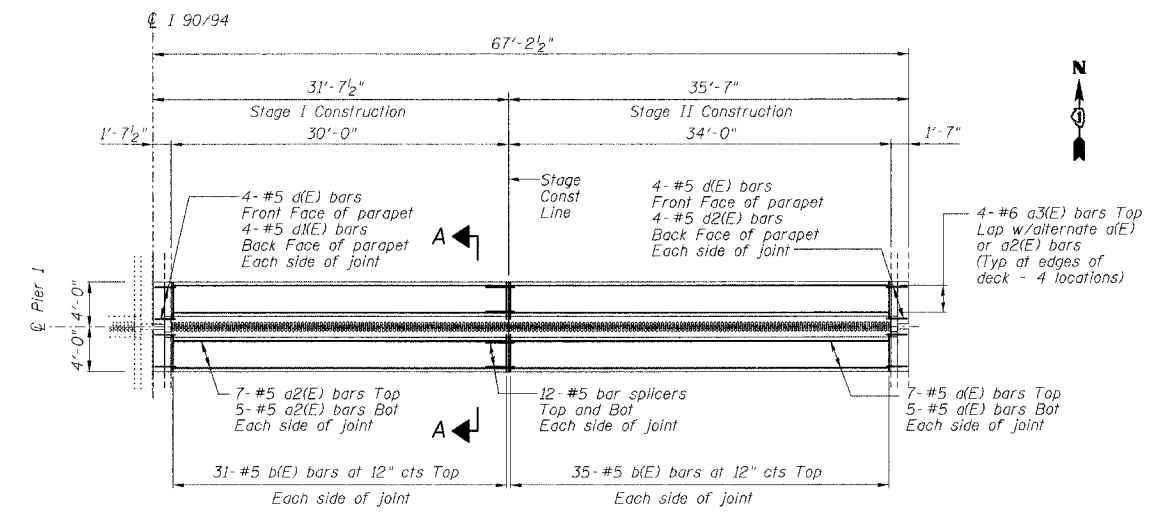
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1	DATE	INITIALS	FAI RTE 90/94 DAN RYAN EXPRESSWAY		CHECKED BY SDS	DATE 5/03
2			SN 016-1110 (NORTHBOUND)		BOOK NUMBER	
3			SEC COOK COUNTY		PROJECT NO.	4222-3
4			HOMER L. CHASTAIN & ASSOCIATES		SHEET NO.	
5			8600 W. BRYAN MAWEE AVENUE		SLUFR 204	
6			CHICAGO, ILLINOIS 60631		813-714-0000	
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8					FAX 312-714-0005	
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

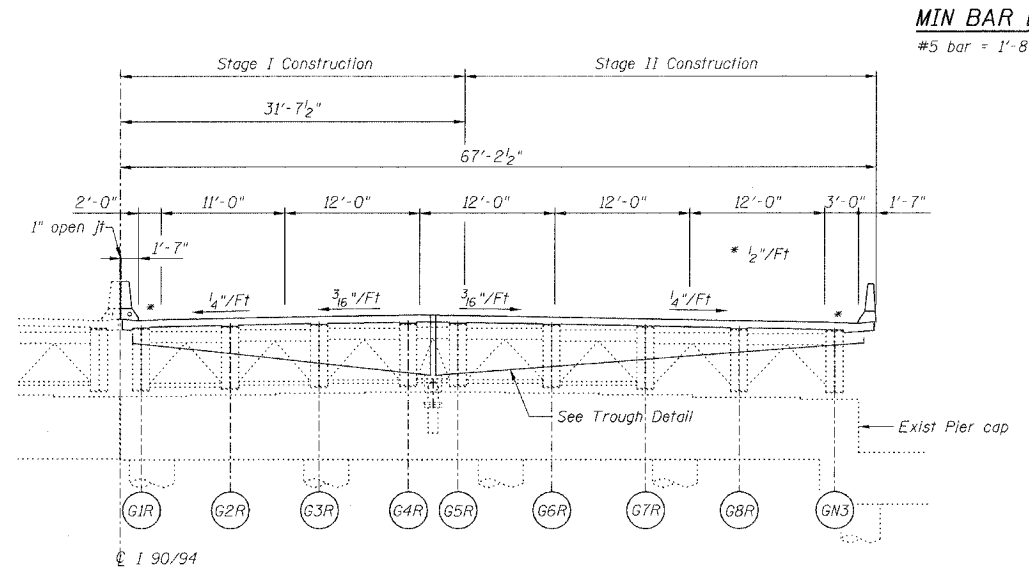
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	93	26
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
2005-008F				

Sheet No. 3  
of 8 Sheets

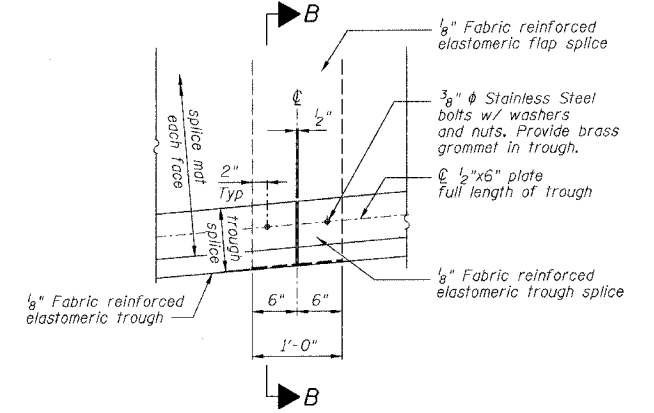
CONTRACT #62919



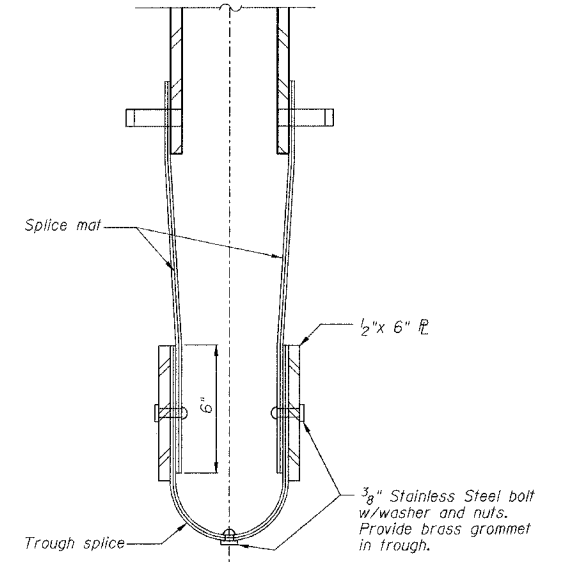
FINGER PLATE AT PIER 1 NORTHBOUND  
JOINT RECONSTRUCTION PLAN AT PIER 1



PIER 1 NORTHBOUND  
ELEVATION AT PIER 1 (LOOKING NORTH)

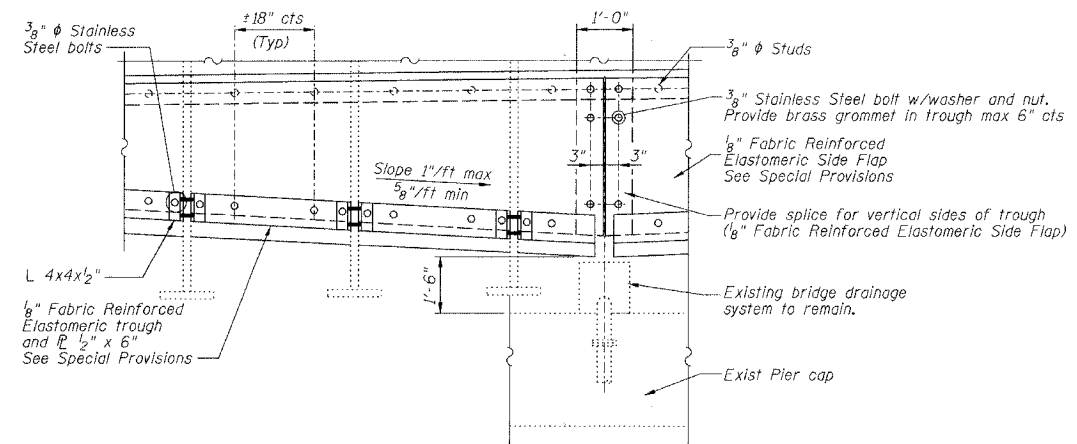


TROUGH SPLICE DETAIL



SECTION B-B

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



TROUGH DETAIL

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

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY DATE RLK 5/03
No.	DATE	INITIALS		CHECKED BY DATE SDS 5/03
1				BOOK NUMBER
2				PROJECT No.
3				4222-3
4				SHEET No.
5				
6				
7				
8				
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10				

PIER NO. 1

FINGER PLATE EXPANSION JOINT DETAILS

FAI RTE 90/94 DAN RYAN EXPRESSWAY  
SN 016-1110 (NORTHBOUND)  
SEC COOK COUNTY

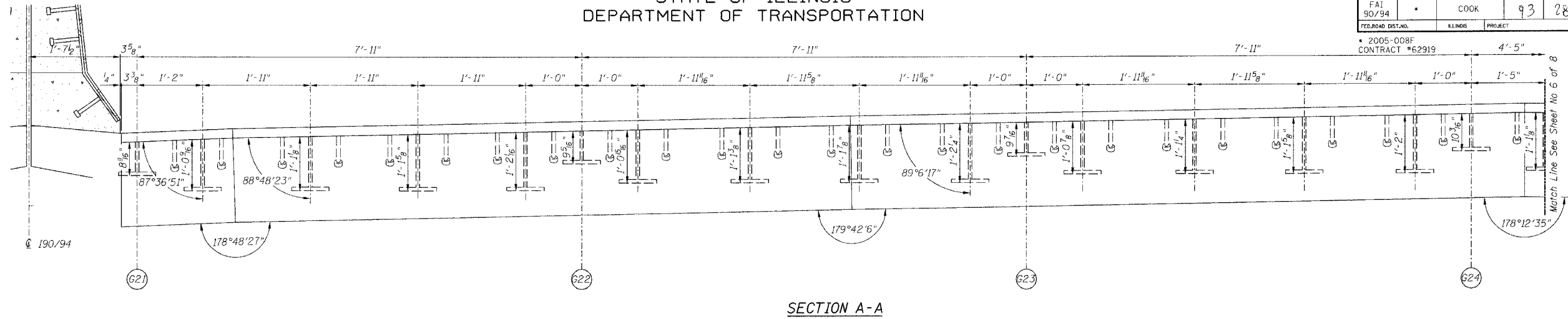
HOMER L.  
CHASTAIN  
& ASSOCIATES  
CONSULTING ENGINEERS  
8800 W. BIRNY MAWBS AVENUE  
SUITE 304  
CHICAGO, ILLINOIS 60631  
312-714-4000  
FAX 312-714-4005



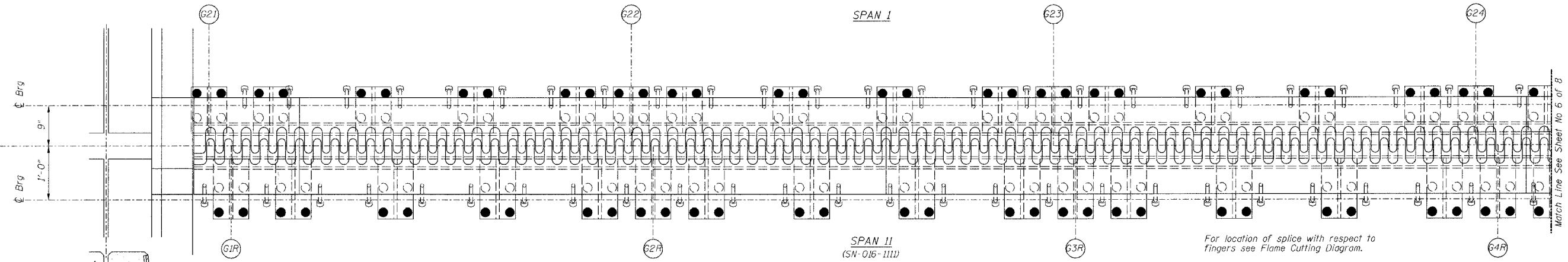
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	28
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
2005-008F	CONTRACT *62919			

Sheet No 5  
of 8 Sheets



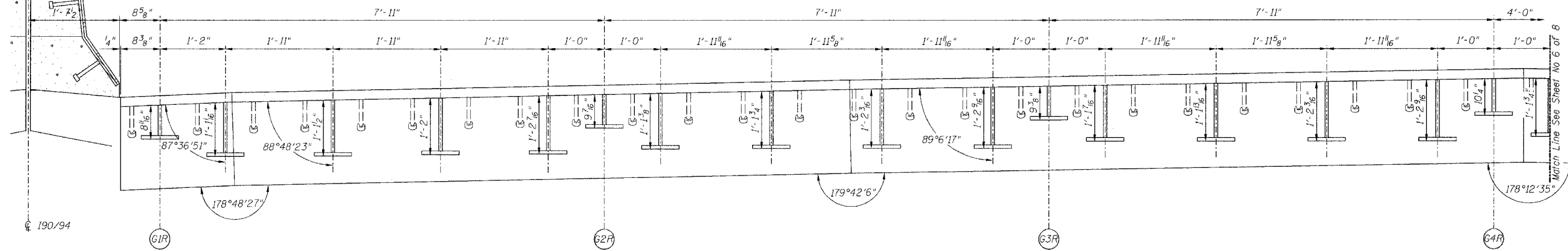
SECTION A-A



SPAN I  
SPAN II  
(SN-016-1111)

For location of splice with respect to fingers see Flame Cutting Diagram.

PLAN OF FINGER PLATE AT PIER 1 (NORTHBOUND)



SECTION B-B

PIER NO. 1

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

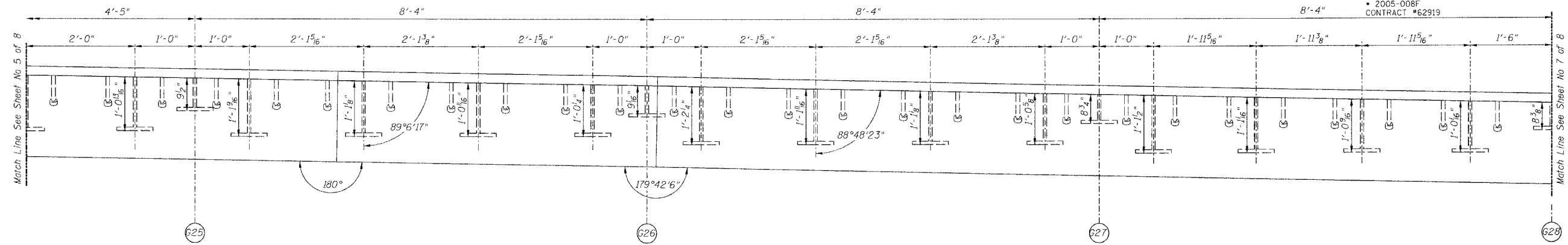
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2					BOOK NUMBER
3					
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10					

FAI RTE 90/94	DAN RYAN EXPRESSWAY	PROJECT NO. 4222-3
SEC	SN 016-1110 (NORTHBOUND)	SHEET NO.
<b>HOMER L. CHASTAIN &amp; ASSOCIATES</b> CONSULTING ENGINEERS		6600 W. BIRDS MOUND AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-714-0100 FAX 312-714-0065

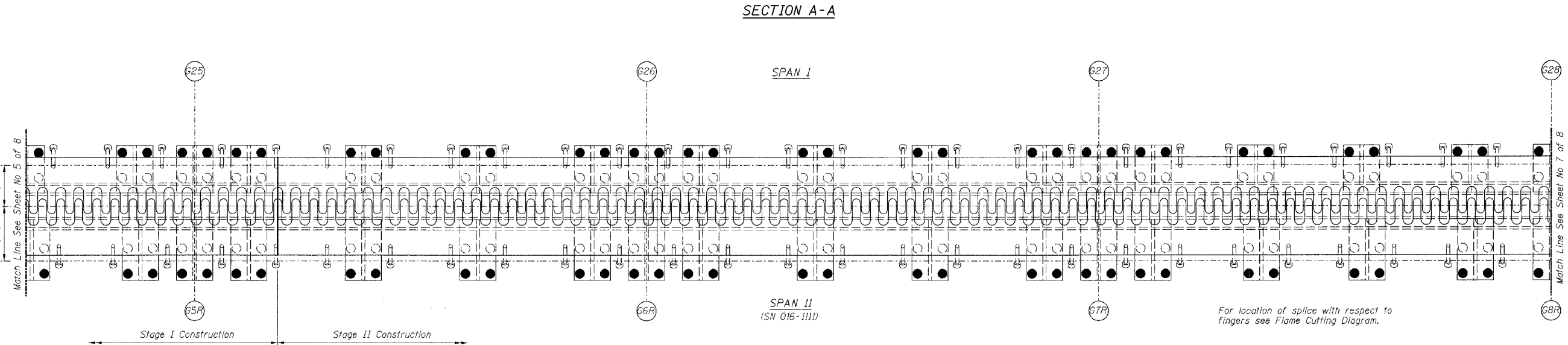
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	.	COOK	93	29
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
2005-008F CONTRACT #62919				

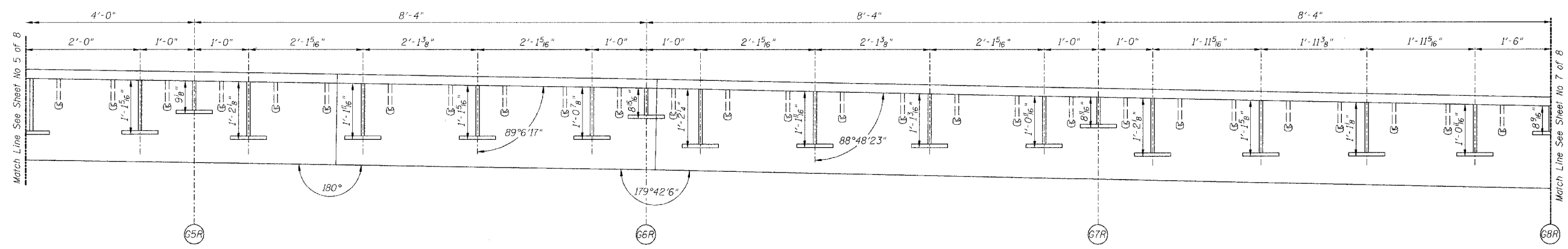
Sheet No 6  
of 8 Sheets



SECTION A-A



PLAN OF FINGER PLATE AT PIER 1 (NORTHBOUND)



SECTION B-B

For location of splice with respect to fingers see Flame Cutting Diagram.

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

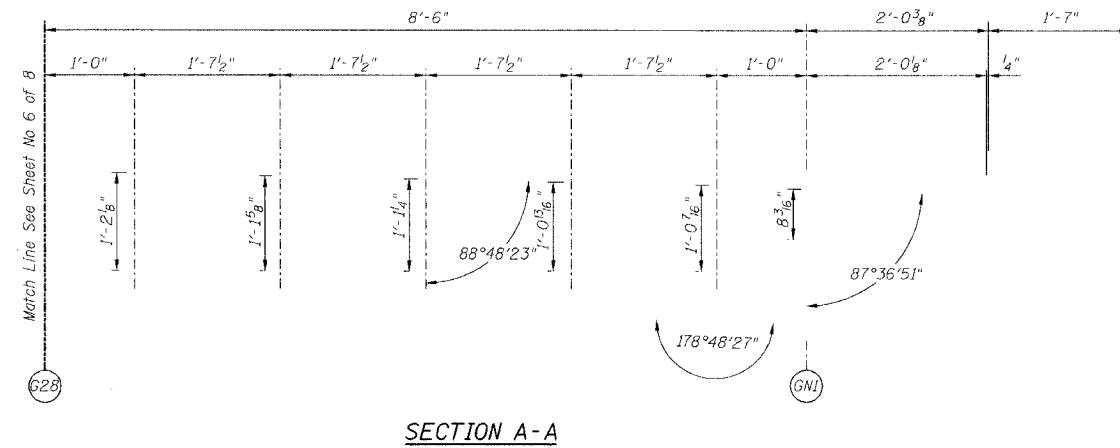
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2	DAN RYAN EXPRESSWAY	BOOK NUMBER	
3	SN 016-1110 (NORTHBOUND)	PROJECT NO.	4222-3
4	SEC	COOK COUNTY	SHEET NO.
5			
6	4600 W. BRYAN MAJOR AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-734-6000 PAX 312-734-0066		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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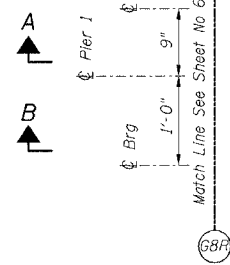
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2005-00BF  
CONTRACT #62919



SECTION A-A

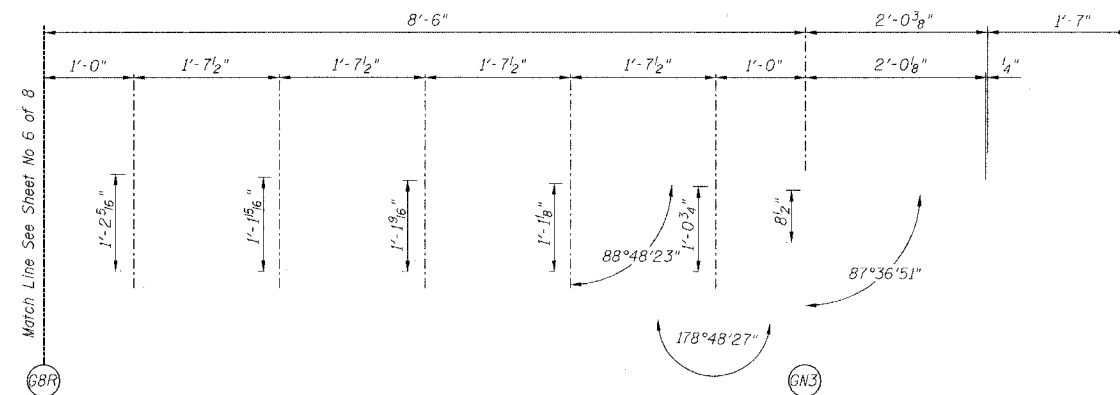
SPAN I



SPAN II  
(SN 016-1111)

For location of splice with respect to fingers see Flame Cutting Diagram.

PLAN OF FINGER PLATE AT PIER 1 (NORTHBOUND)



SECTION B-B

PIER NO. 1

FINGER PLATE PLAN AND ELEVATION DETAILS

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK 5/03
1			FAI RTE 90/94 DAN RYAN EXPRESSWAY		CHECKED BY SDS 5/03
2			SN 016-1110 (NORTHBOUND)		BOOK NUMBER
3			SEC COOK COUNTY		PROJECT NO. 4222-3
4			HOMER L. CHASTAIN & ASSOCIATES		SHEET NO.
5			6009 W. BEYNS MAWEE AVENUE SUITE 204 CHICAGO, ILLINOIS 60681 312-714-0900 FAX 312-714-9905		
6					
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Note:  
For optional splice detail see  
flame cutting diagram on Sheet No. 4

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	31
FEDERAL DIST. NO.	ILLINOIS	PROJECT		

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of 8 Sheets

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**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:

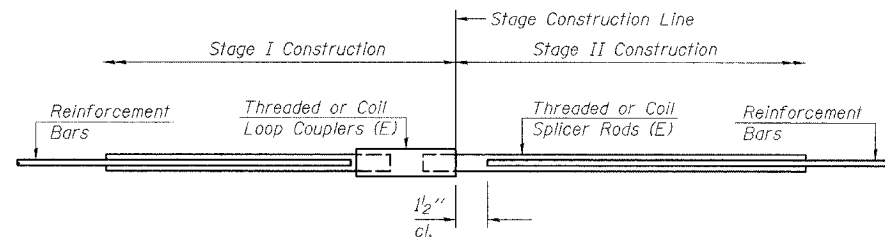
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{s_{allow}} \times A_t$   
(Tension in kips)

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 SPLICER ASSEMBLIES**

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

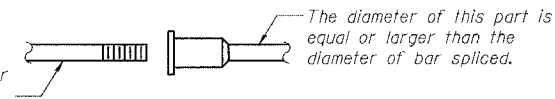
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



**SPLICER DETAIL**

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

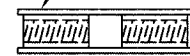
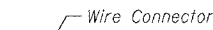
The diameter of this part is the same as the diameter of the bar spliced.



**ROLLED THREAD DOWEL BAR**



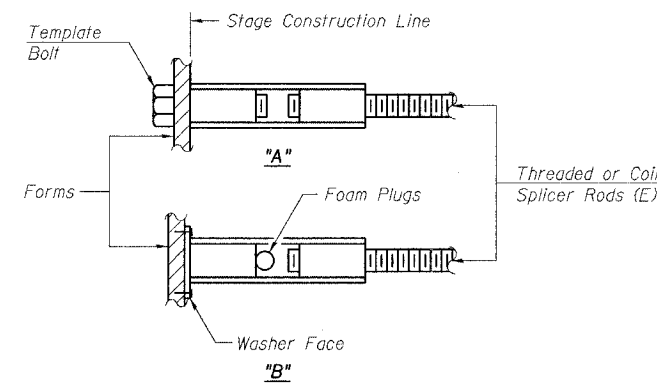
**\*\* ONE PIECE**



**WELDED SECTIONS**

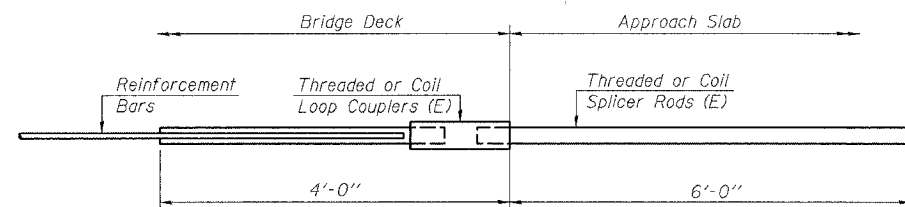
**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* 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.



**INTEGRAL ABUTMENT  
BAR SPLICER ASSEMBLY DETAIL  
FOR #5 BAR**

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

BSD-1 4-30-99

PIER NO. 1

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK	DATE 5/03
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FAI RTE 90/94	DAN RYAN EXPRESSWAY	PROJECT No. 4222-3
SEC	SN 016-1110 (NORTHBOUND)	SHEET No.
	COOK COUNTY	

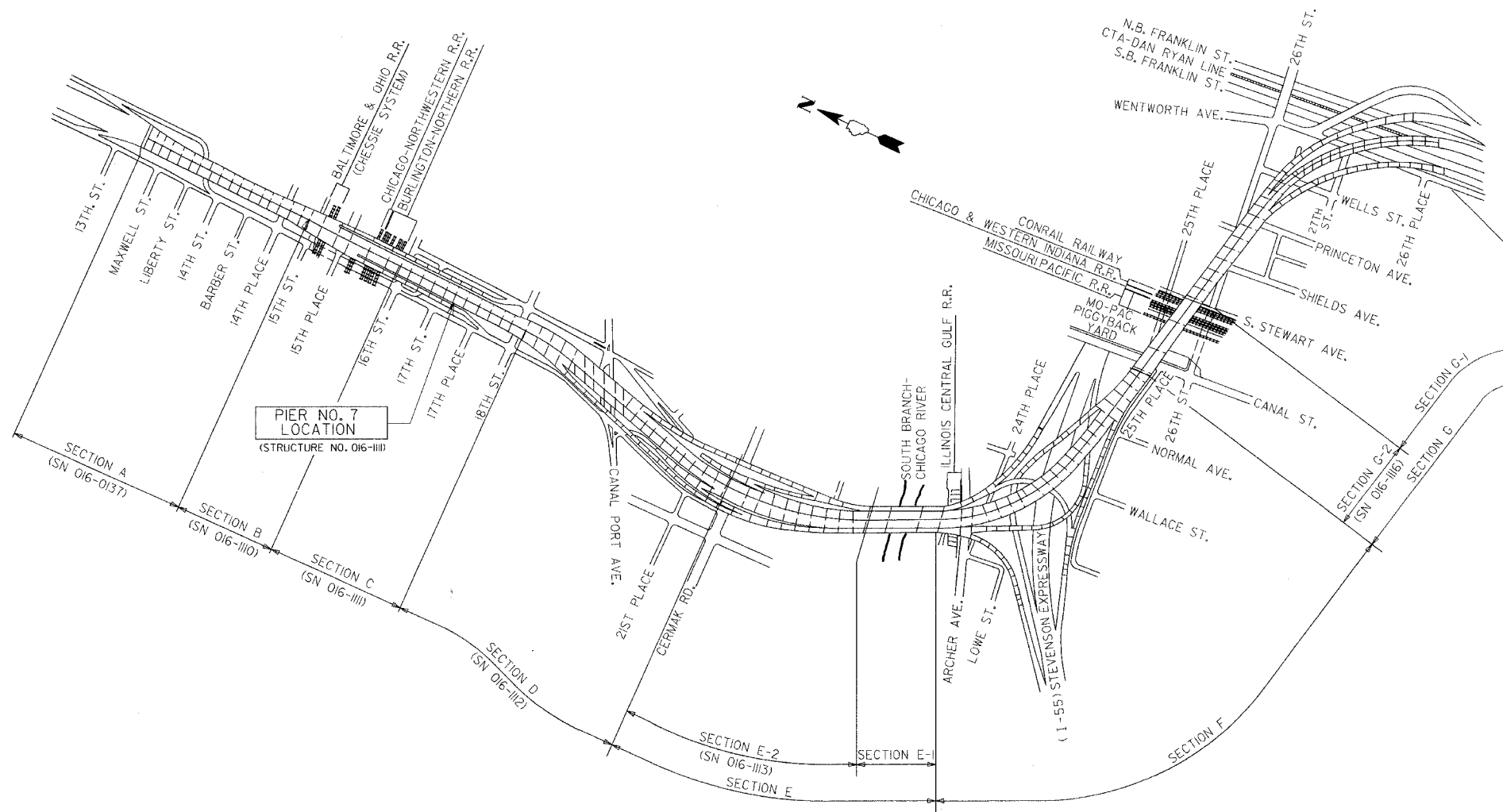
<b>HOMER L. CHASTAIN &amp; ASSOCIATES</b>	8800 W. BRYAN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-714-0000 FAX 312-714-0065
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94		COOK	93	31
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
* 2005-008F				

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of 8 Sheets

\* 2005-008F  
CONTRACT #62919



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

**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.

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

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 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"  $\phi$ , open holes 13/16"  $\phi$  unless otherwise noted.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60.

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 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.

Existing design and fabrication plans are available upon request.

All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 25,910 lbs.

**DESIGN STRESSES**

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

Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Furnishing Structural Steel	L.S.	0.10
Furnishing Fabric Reinforced Elastomeric Trough	Foot	65
Field Measurements	L.S.	0.1
Storage of Finger Plate Joints	Cal. Day	30

6-15-05  
Exp. 11-30-06

**PIER NO. 7**  
**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 DAN RYAN EXPRESSWAY SN 016-1111 (NORTHBOUND) SEC COOK COUNTY	DRAWN BY DATE RLK 5/03 CHECKED BY DATE SDS 5/03 BOOK NUMBER PROJECT No. 4222-3 SHEET No.
HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 8608 W. BRYN MAWR AVENUE SUITE 104 CHICAGO, ILLINOIS 60618 312-714-0050 FAX 312-714-0655			

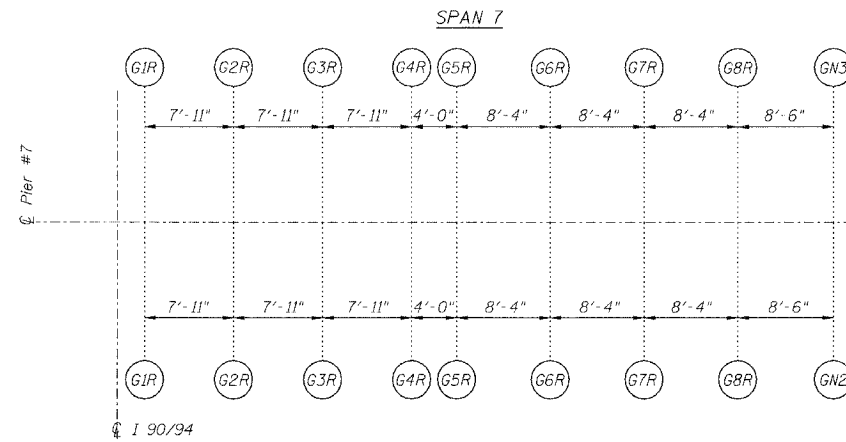


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

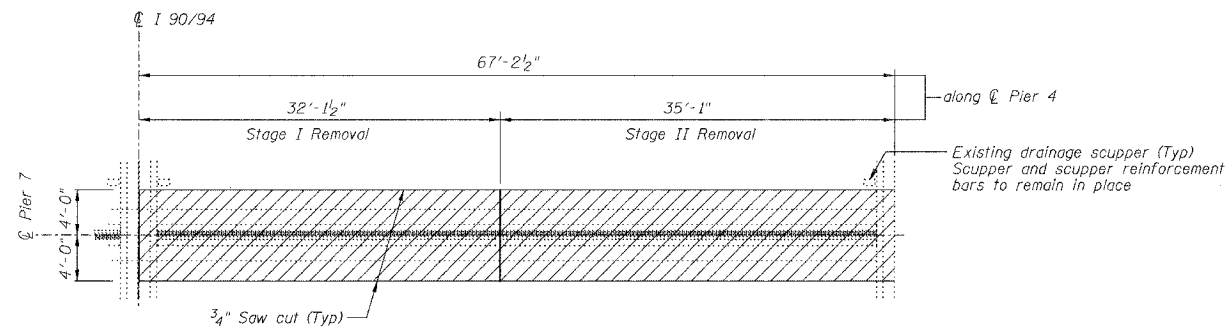
Sheet No 2  
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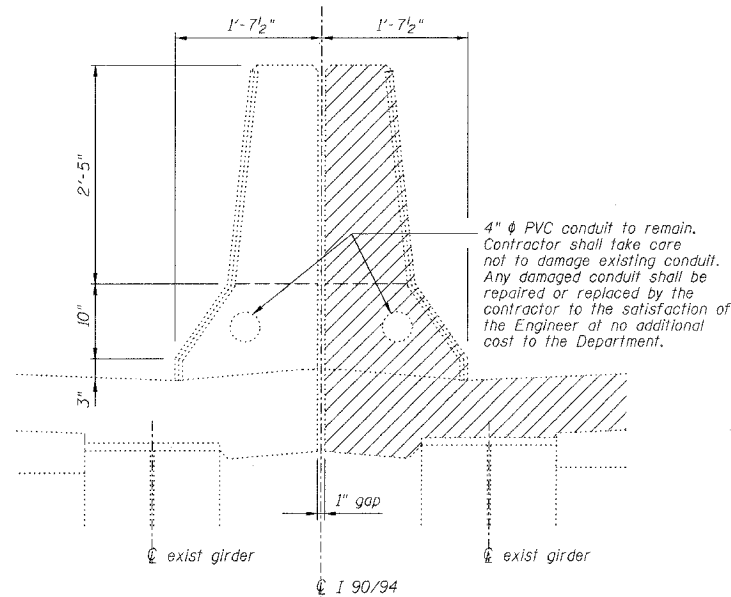


Note:  
All dimensions on girder layout  
are given along centerline of bearing.

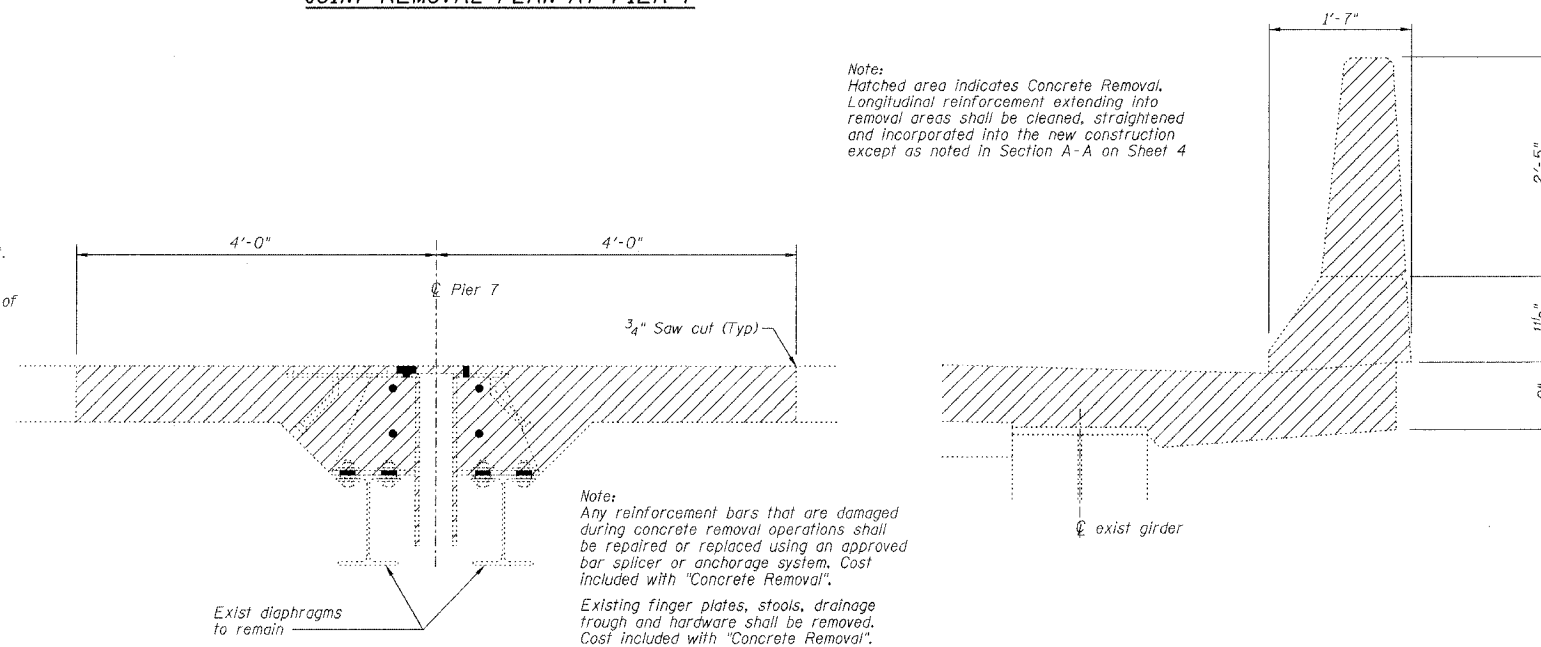
SPAN 6  
GIRDER LAYOUT AT PIER 7



FINGER PLATE AT PIER 7 NORTHBOUND  
JOINT REMOVAL PLAN AT PIER 7

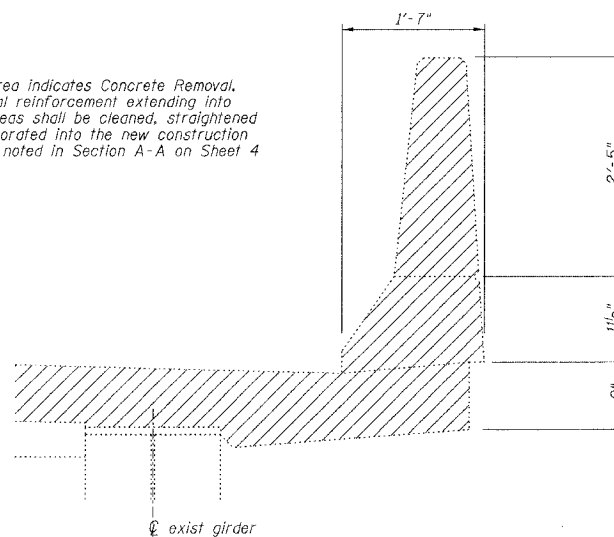


DETAIL AT EXISTING MEDIAN PARAPET



SECTION AT EXISTING FINGER PLATE AT PIER 7

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



DETAIL AT EXISTING OUTSIDE PARAPET

PIER NO. 7

FINGER PLATE EXPANSION JOINT REMOVAL DETAILS

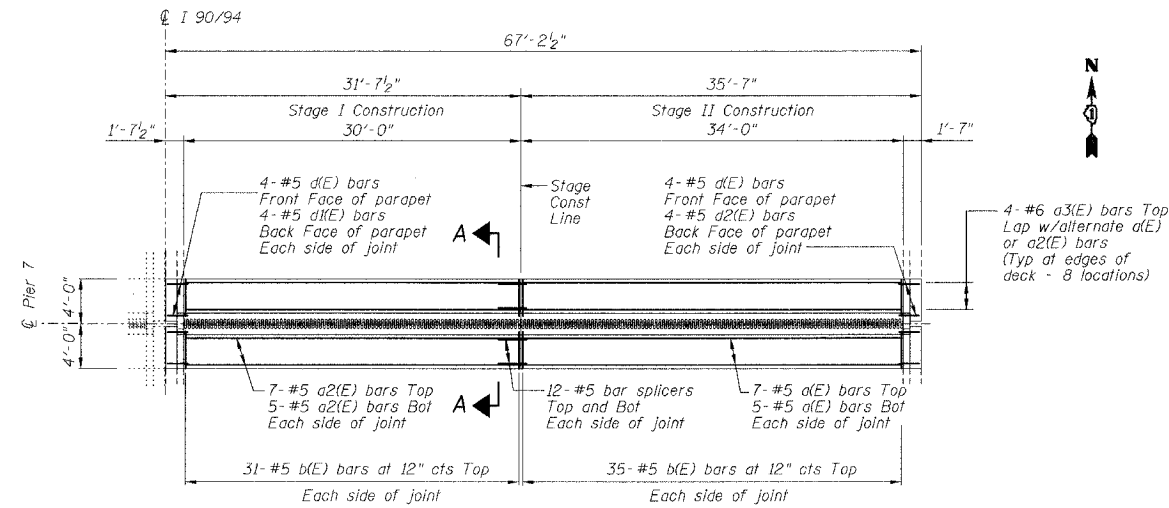
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		SEC COOK COUNTY		BOOK NUMBER	
		HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 8000 W. BETH MARSH AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-734-0000 FAX 312-734-0055		PROJECT NO. 4222-3	
				SHEET NO.	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA1 90/94		COOK	93	34
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
2005-008F				

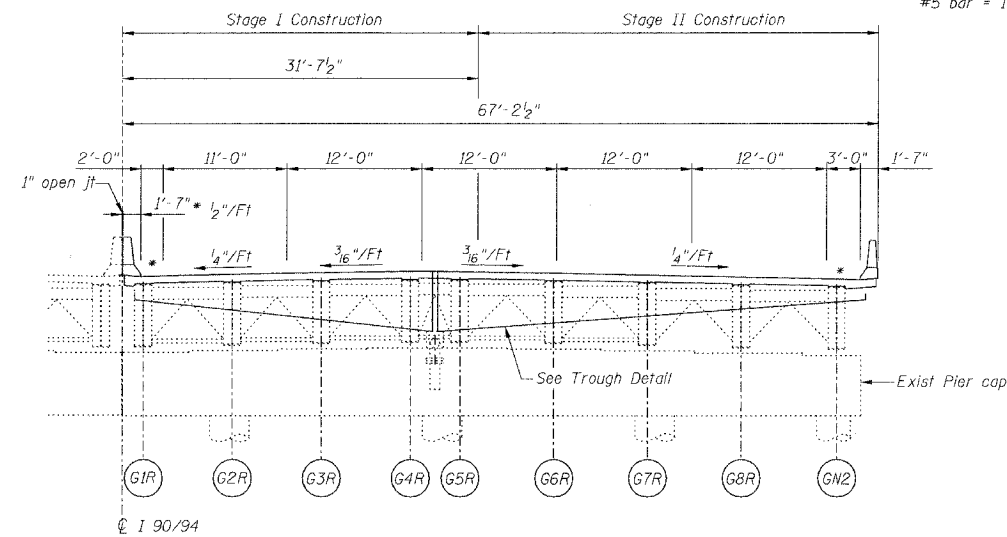
Sheet No 3  
of 8 Sheets

CONTRACT #62919

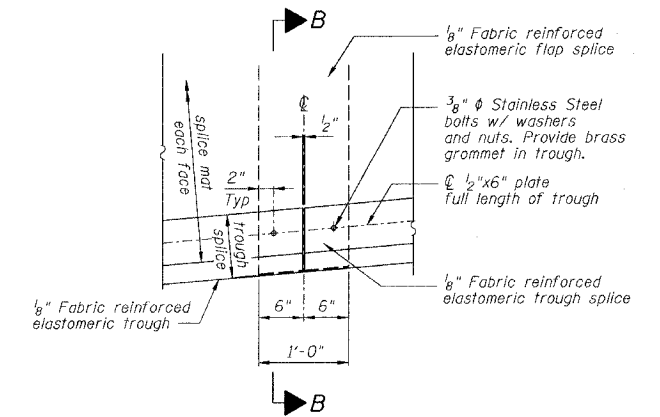


FINGER PLATE AT PIER 7 NORTHBOUND  
JOINT RECONSTRUCTION PLAN AT PIER 7

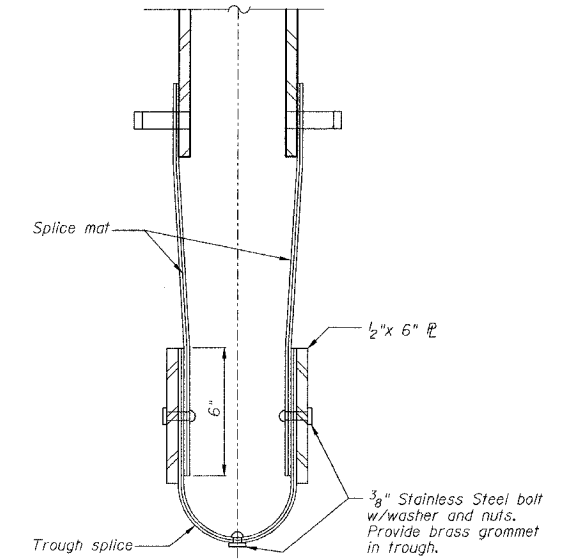
MIN BAR LAP  
#5 bar = 1'-8"



PIER 7 NORTHBOUND  
ELEVATION AT PIER 7 (LOOKING NORTH)

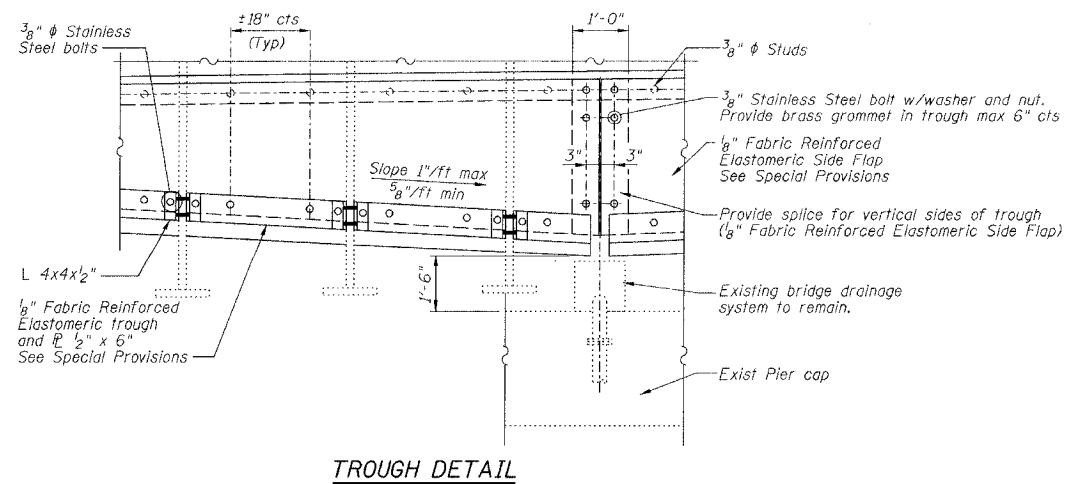


TROUGH SPLICE DETAIL



SECTION B-B

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



TROUGH DETAIL

PIER NO. 7

FINGER PLATE EXPANSION JOINT DETAILS

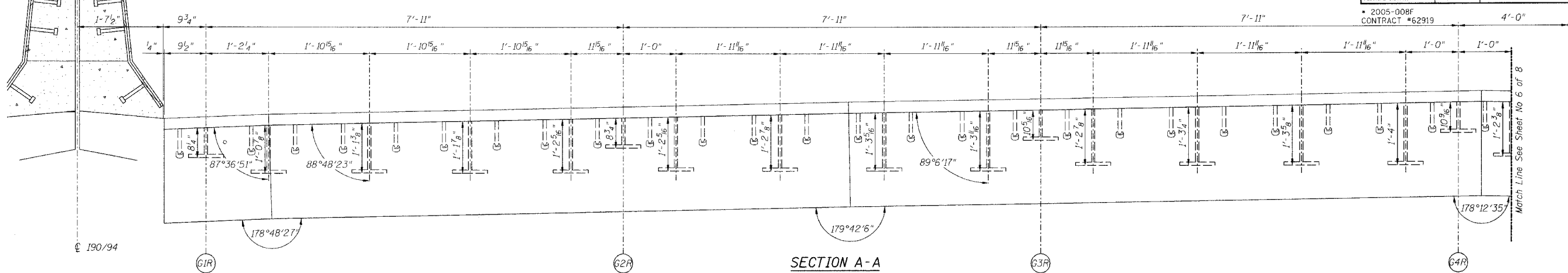
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1			FAI RTE 90/94 DAN RYAN EXPRESSWAY SN 016-1111 (NORTHBOUND)		CHECKED BY SDS	DATE 5/03
2			SEC COOK COUNTY		BOOK NUMBER	
3			PROJECT No.		4222-3	
4			SHEET No.			
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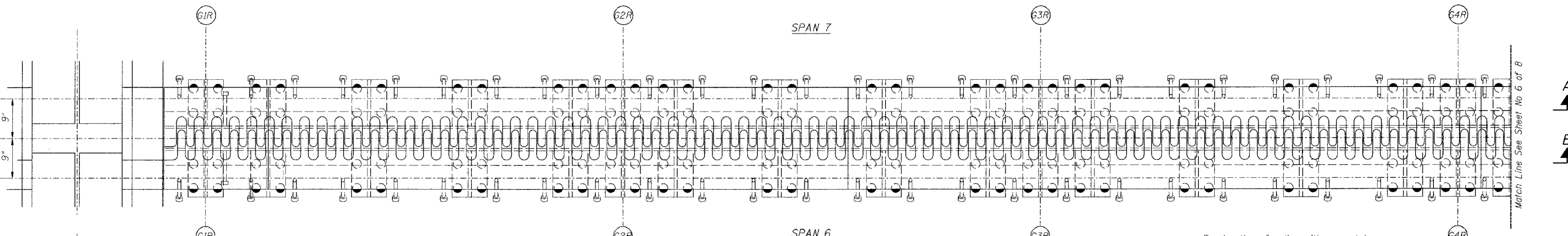
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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2005-008F		CONTRACT #62919		

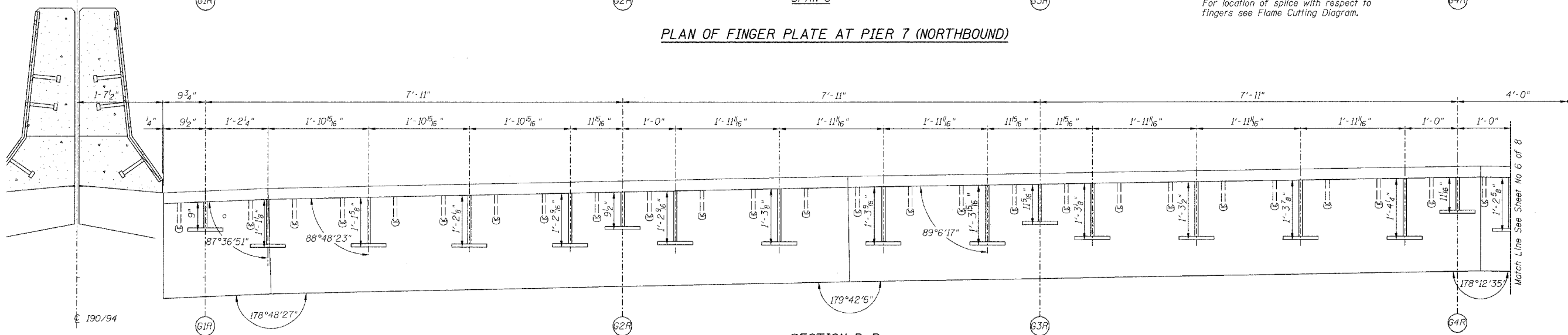
Sheet No. 5  
of 8 Sheets



SECTION A-A



PLAN OF FINGER PLATE AT PIER 7 (NORTHBOUND)



SECTION B-B

PIER NO. 7

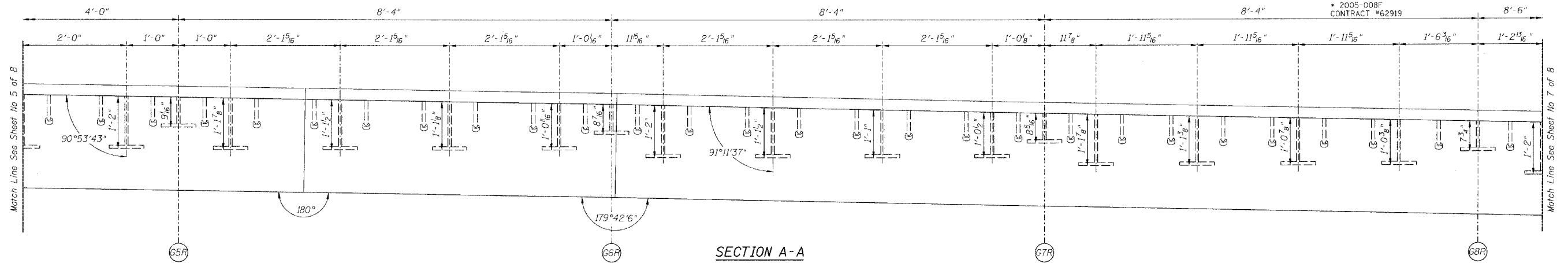
Note:  
For optional splice detail see  
flame cutting diagram on Sheet No. 4

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			DRAWN BY	DATE
1			FAI RTE 90/94 DAN RYAN EXPRESSWAY SN 016-1111 (NORTHBOUND) SEC COOK COUNTY			RLK	5/03
2						BOOK NUMBER	
3						PROJECT No.	4222-3
4						SHEET No.	
5							
			<b>HOMER L. CHASTAIN &amp; ASSOCIATES</b> CONSULTING ENGINEERS 900 W. BRYAN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60681 800-714-0050 FAX 312-714-0055				

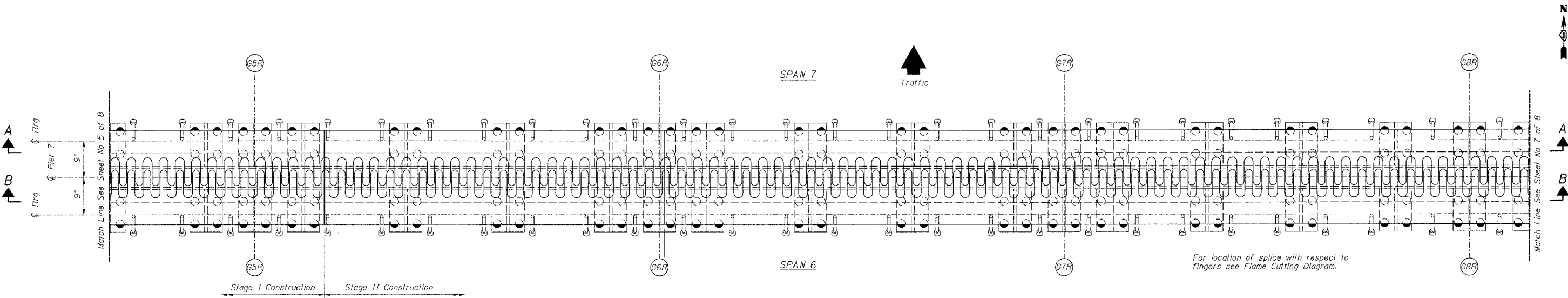
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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2005-008F		CONTRACT #62919		

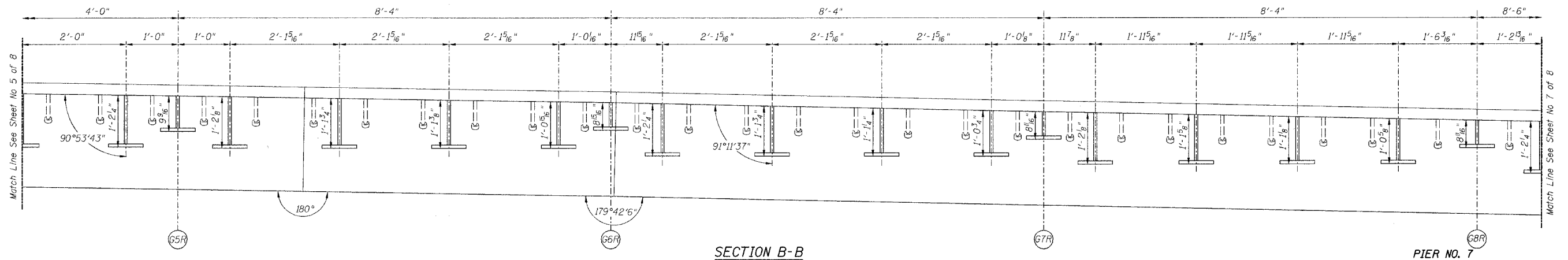
Sheet No 6  
of 8 Sheets



SECTION A-A



PLAN OF FINGER PLATE AT PIER 7 (NORTHBOUND)



SECTION B-B

PIER NO. 7

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

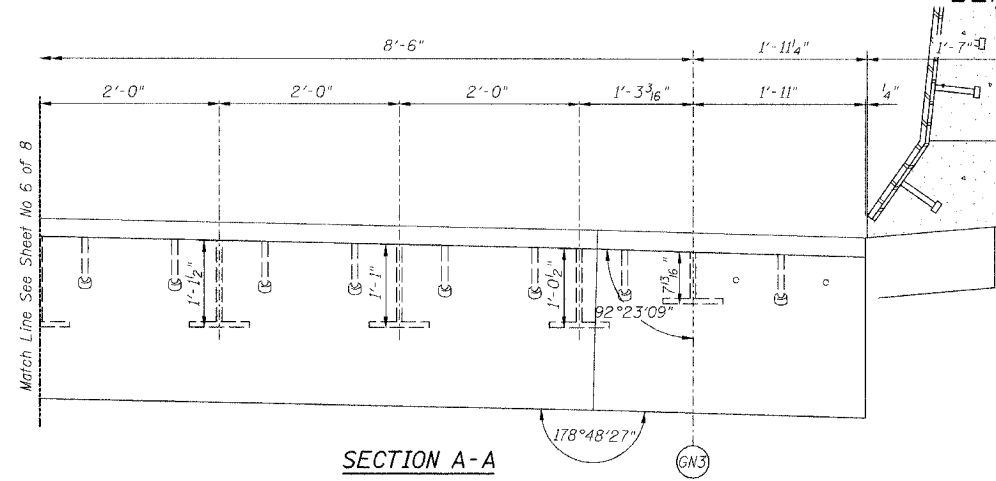
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2			SN 016-1111 (NORTHBOUND)		BOOK NUMBER	
3			SEC COOK COUNTY		PROJECT NO.	4222-3
4			HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS		SHEET NO.	
5			8800 W. BERTH MARSH AVENUE			
6			CHICAGO, ILLINOIS 60631			
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

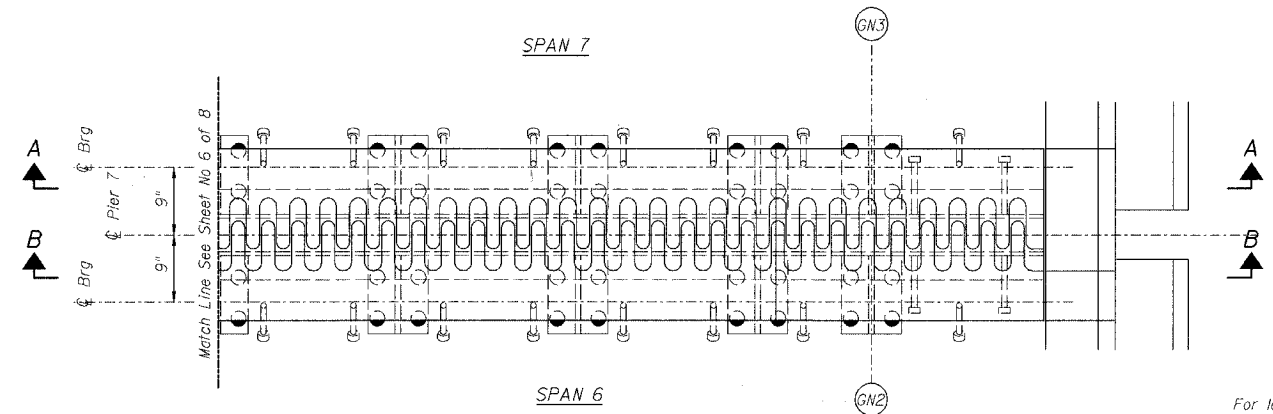
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FAI 90/94	*	COOK	93	30
FED. ROAD DIST. NO.		ILLINOIS PROJECT		

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of 8 Sheets

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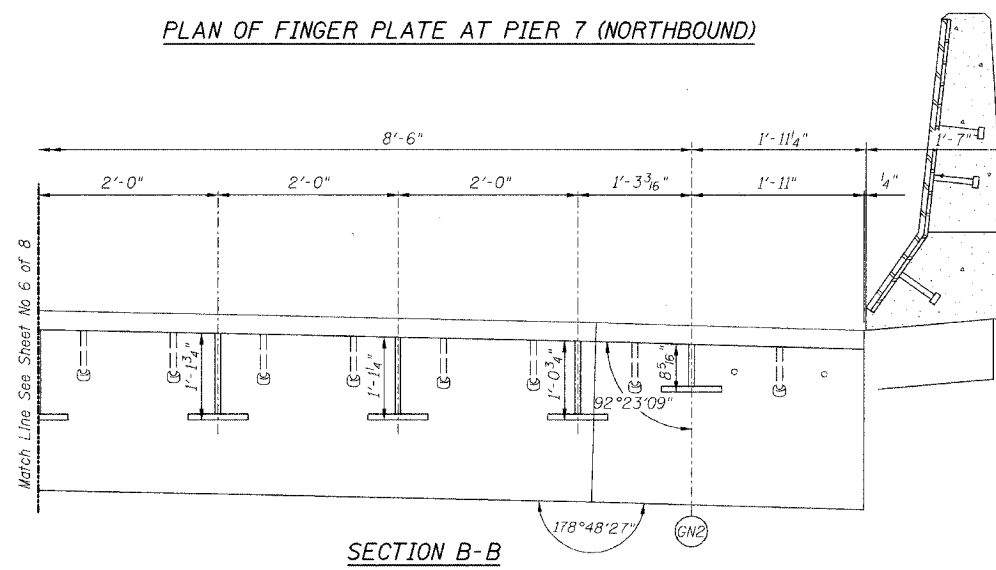
SECTION A-A



SPAN 6

PLAN OF FINGER PLATE AT PIER 7 (NORTHBOUND)

For location of splice with respect to fingers see Flame Cutting Diagram.



SECTION B-B

PIER NO. 7

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

<b>HOMER L. CHASTAIN &amp; ASSOCIATES</b> CONSULTING ENGINEERS	8609 W. BRYAN MAVER AVENUE SUITE 204 CHICAGO, ILLINOIS 60631 312-714-6266 FAX 312-714-6265
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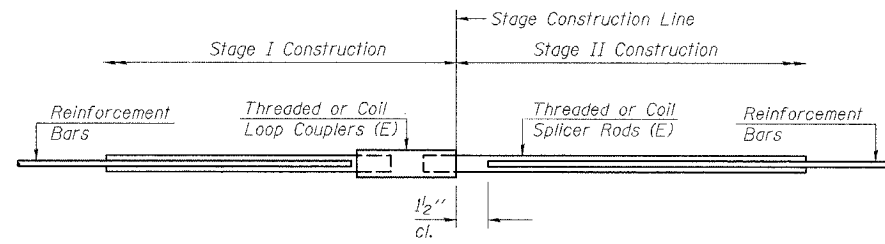
Note:  
For optional splice detail see  
flame cutting diagram on Sheet No. 4

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	39
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

\* 2005-008F  
CONTRACT #62919

Sheet No 8  
of 8 Sheets

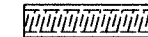


SPLICER DETAIL

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

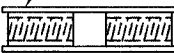
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

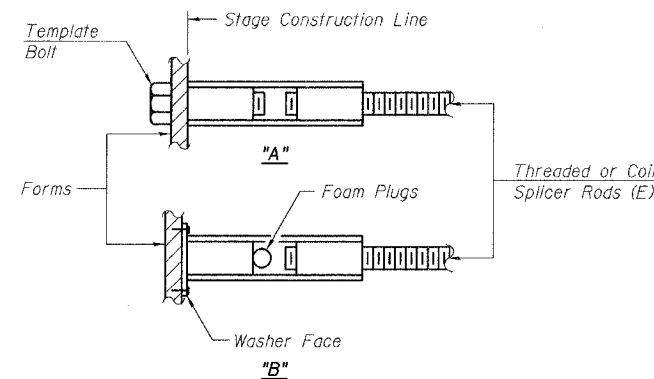
Wire Connector



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

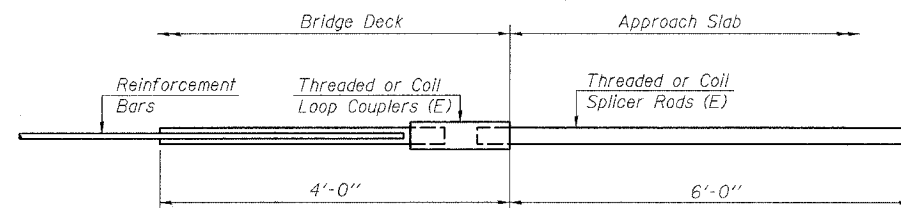
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to 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 (Tension in kips) =  $1.25 \times f_y \times A_t$
- 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
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

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



INTEGRAL ABUTMENT  
BAR SPLICER ASSEMBLY DETAIL  
FOR #5 BAR

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

BSD-1 4-30-99

PIER NO. 7

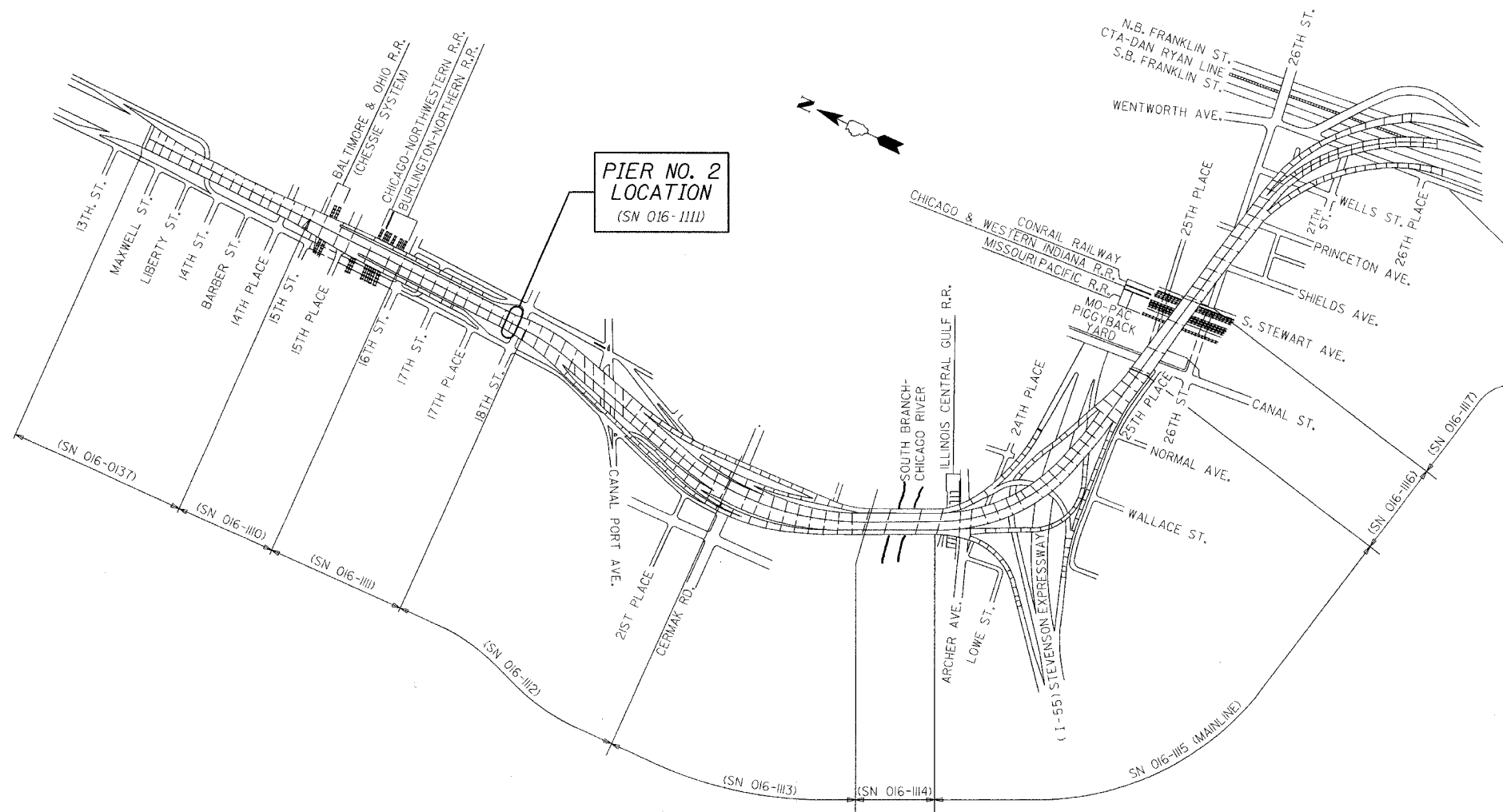
REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK 5/03
NO.	DATE	INITIALS		CHECKED BY SDS 5/03
1				BOOK NUMBER
2				PROJECT No.
3				4222-3
4				SHEET No.
5				
6				
7				
8				
9				
10				

FAI RTE 90/94 DAN RYAN EXPRESSWAY  
SN 016-1111 (NORTHBOUND) COOK COUNTY

HOMER L. CHASTAIN & ASSOCIATES  
8609 W. BERTH MARSH AVENUE  
SUITE 204  
CHICAGO, ILLINOIS 60681  
312-714-0000  
FAX 312-714-0005

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 8 SHEETS
FAI 90/94	#	COOK	93	40	
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62919					



PIER NO. 2  
LOCATION  
(SN 016-1111)

KEY PLAN

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

GENERAL NOTES

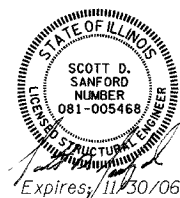
Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{13}{16}$ "  $\phi$ , unless otherwise noted.  
 Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.  
 The finger plates 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.  
 Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
 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.  
 Existing design and fabrication plans are available upon request.  
 All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 25,537 lbs.  
 Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provisions "Field Measurements".  
 Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing 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 Structural Steel".  
 Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

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
Furnishing Structural Steel	L.S.	0.09
Furnishing Fabric Reinforced Elastomeric Trough	Foot	66
Field Measurements	L.S.	0.1
Storage Of Finger Plate Joints	Cal. Day	30



Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

ILLINOIS DEPARTMENT OF TRANSPORTATION

KEY PLAN

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

REVISIONS	
NAME	DATE

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE: 3/28/05

DRAWN BY: LANDREY  
 DESIGNED BY: SANFORD  
 CHECKED BY: \_\_\_\_\_

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 200 SOUTH 10TH STREET  
 SPRINGFIELD, ILLINOIS 62761  
 PHONE: (217) 223-1111 FAX: (217) 223-1112  
 WWW: WWW.GREENE-AND-BRADFORD.COM

COMPUTER FILE NO.  
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 PROJECT 04286-W05  
 6/15/05-MML

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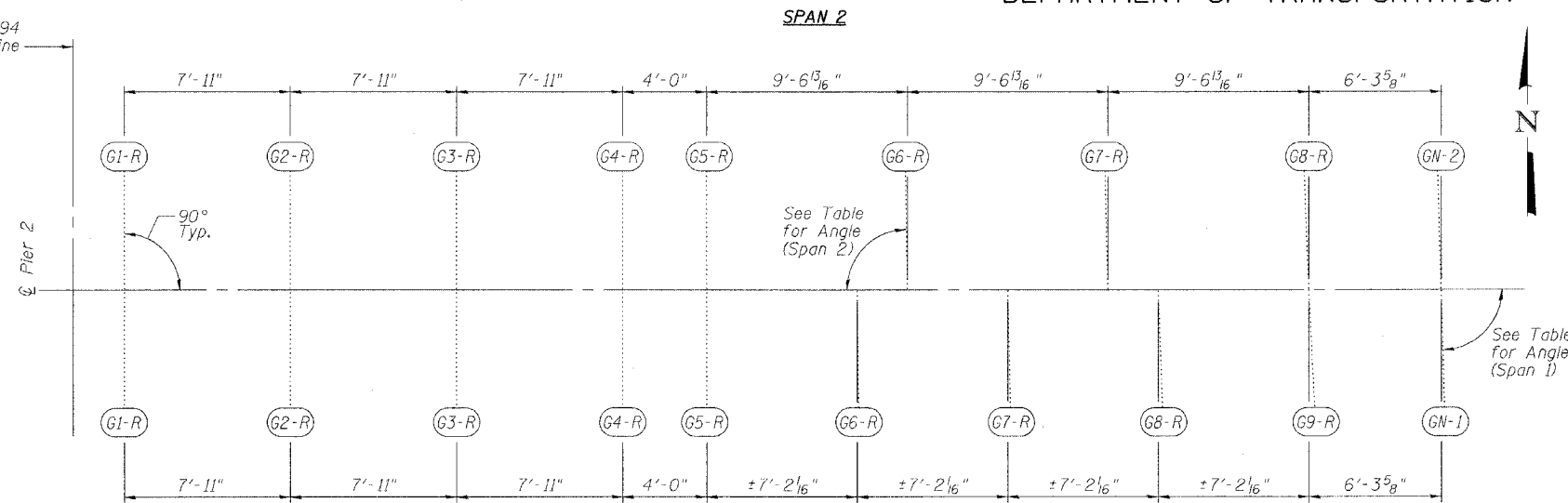


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
FAI 90/94	*	COOK	93	41
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62919				

SHEET NO. 2  
8 SHEETS

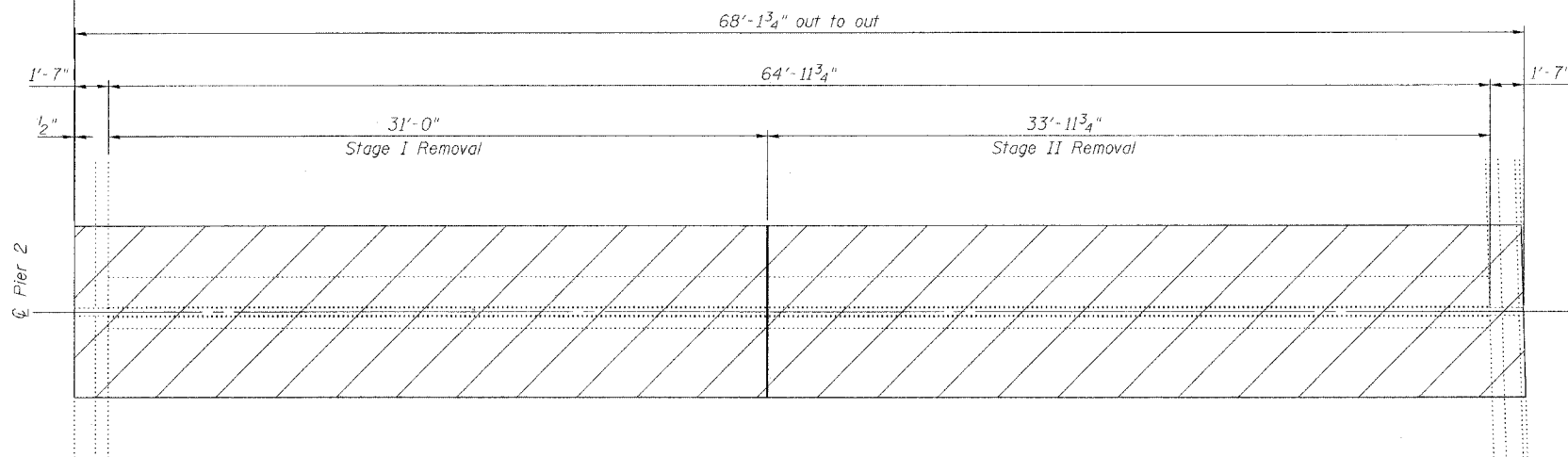
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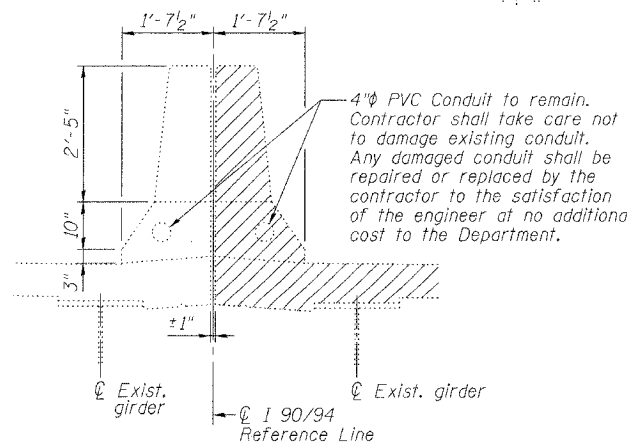
Girder	Angle	
	Span 1	Span 2
G6-R	89°17'55"	89°15'01"
G7-R	88°35'50"	88°30'03"
G8-R	87°53'47"	87°45'07"
G9-R	87°11'47"	-
GN-1	88°20'15"	-
GN-2	-	88°19'38"

SPAN 1  
SPAN 2  
GIRDER LAYOUT AT PIER 2

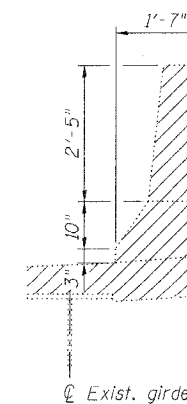
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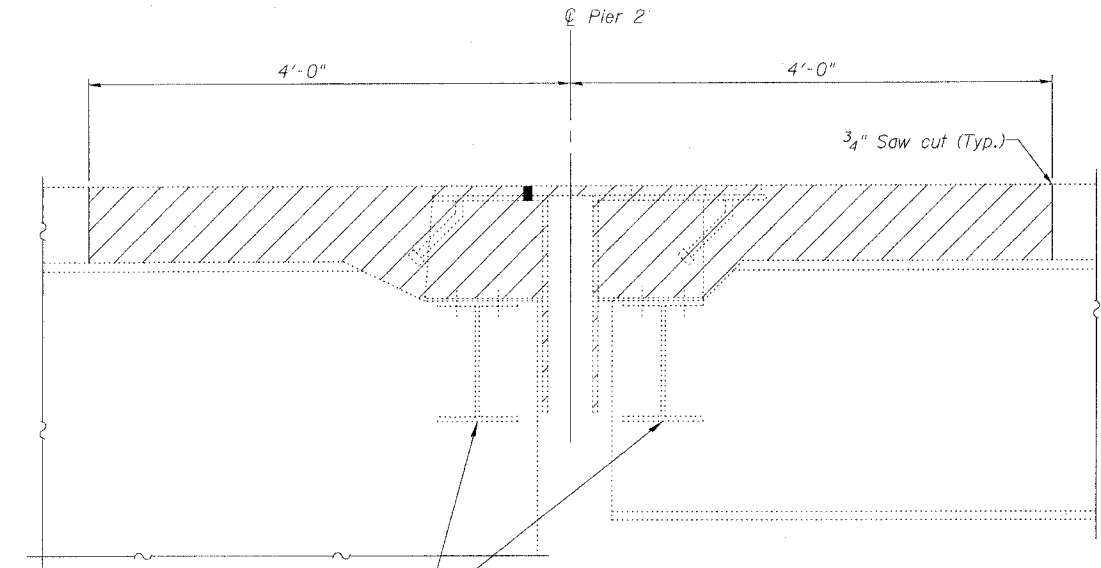
JOINT REMOVAL PLAN AT PIER 2



DETAIL AT EXISTING FAI 90/94  
MEDIAN PARAPET



DETAIL AT EXISTING  
OUTSIDE 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.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
FINGER PLATE EXPANSION JOINT  
REMOVAL DETAILS

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

REVISIONS	
NAME	DATE

SCALE: VERT.  
HORIZ.  
DATE: 3/28/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: -

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
300 SOUTH LINDSAY DRIVE  
SPRINGFIELD, ILLINOIS 62761  
PROFESSIONAL ENGINEERING CORPORATION  
001-788-9944, 219-788-5227, F.I. C. No. - 005996000000000000

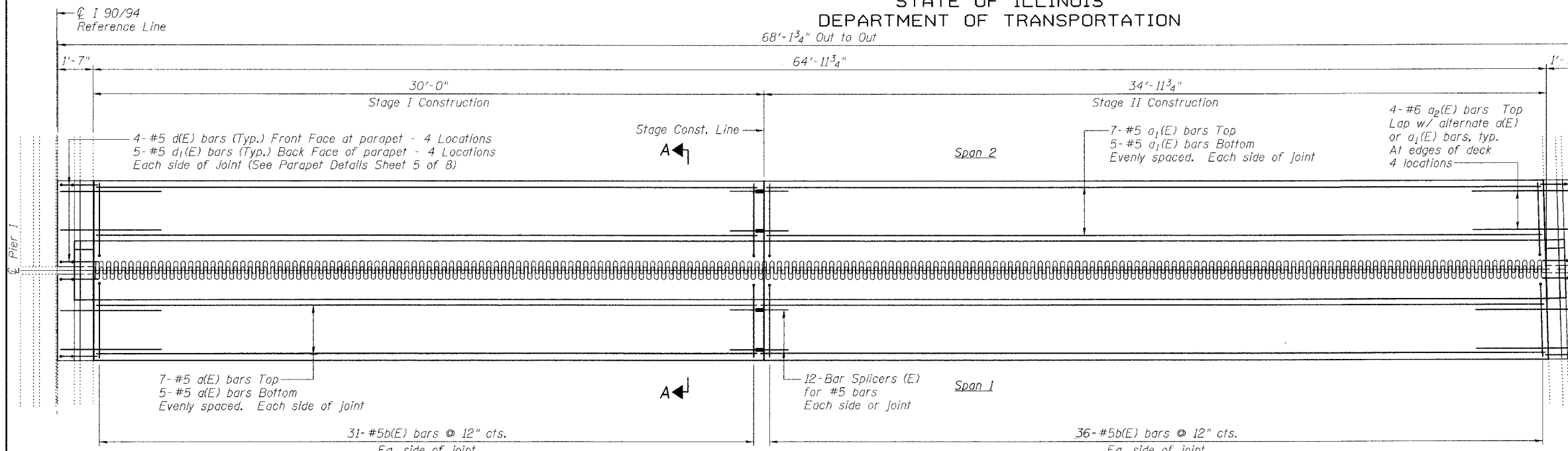
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6/15/05-MML

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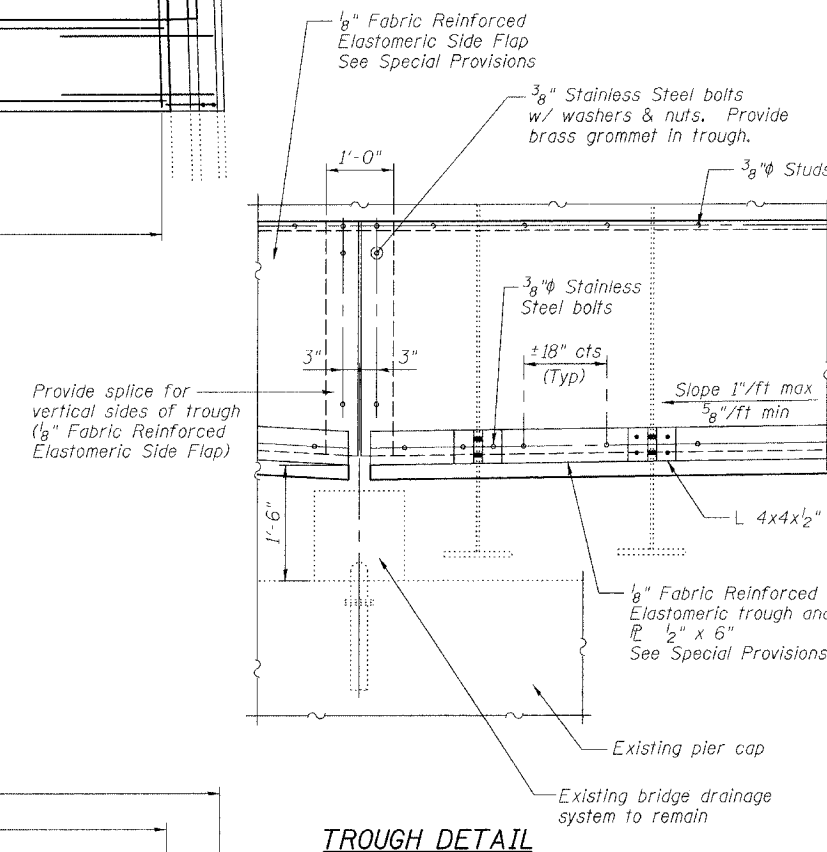
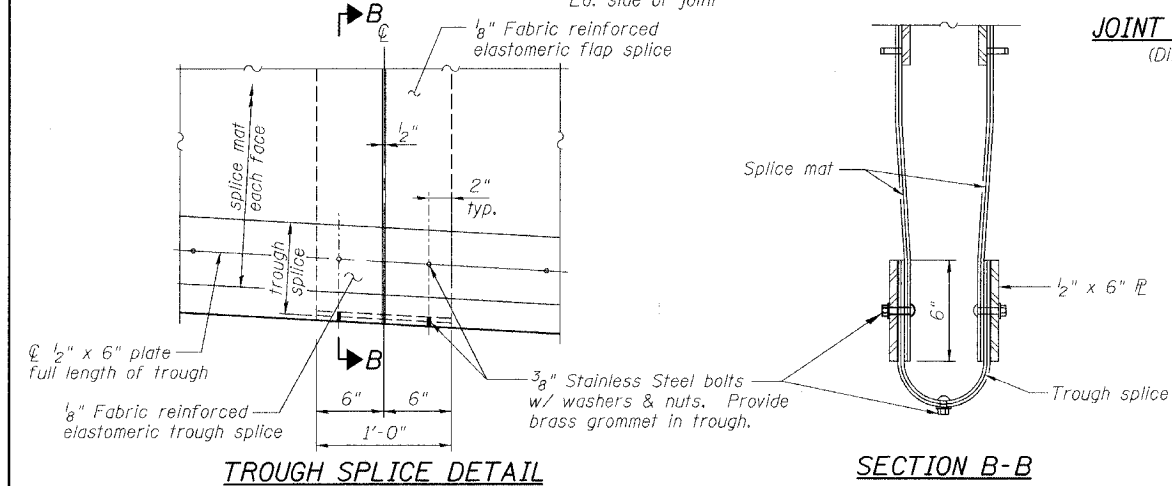
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT:		
* 2005-008F		Contract #62919		

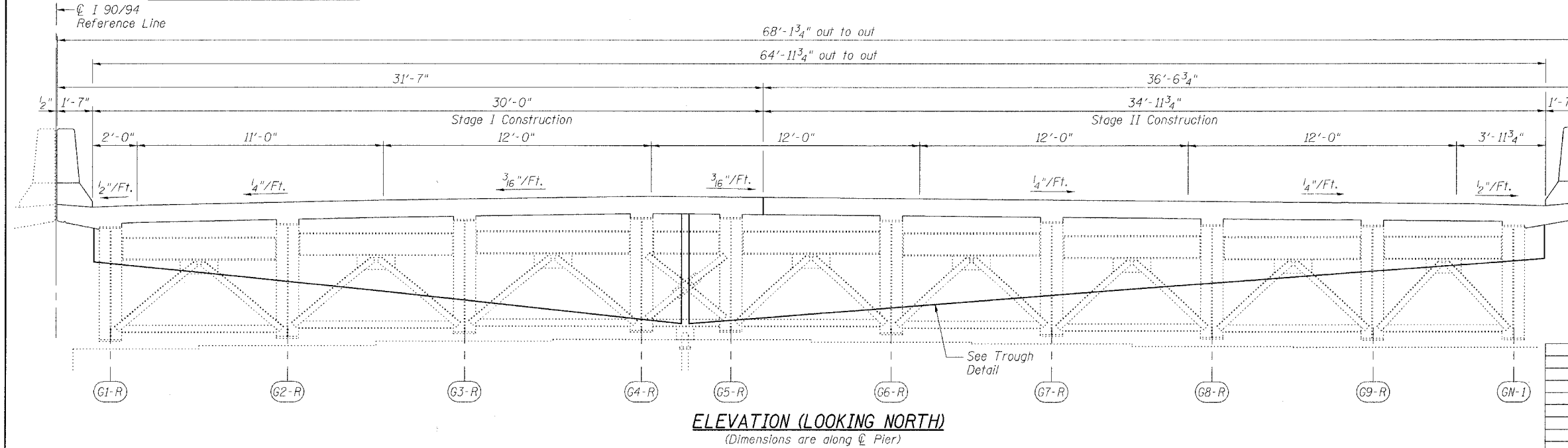
SHEET NO. 3  
8 SHEETS



**JOINT RECONSTRUCTION PLAN**  
(Dimensions are along C Pier)



- Notes:
- For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 8.
  - 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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
16TH STREET TO 18TH STREET  
COOK COUNTY  
S.N. 016-1111 - PIER 2

SCALE: VERT. DATE: 3/28/05

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DESIGNED BY: SANFORD  
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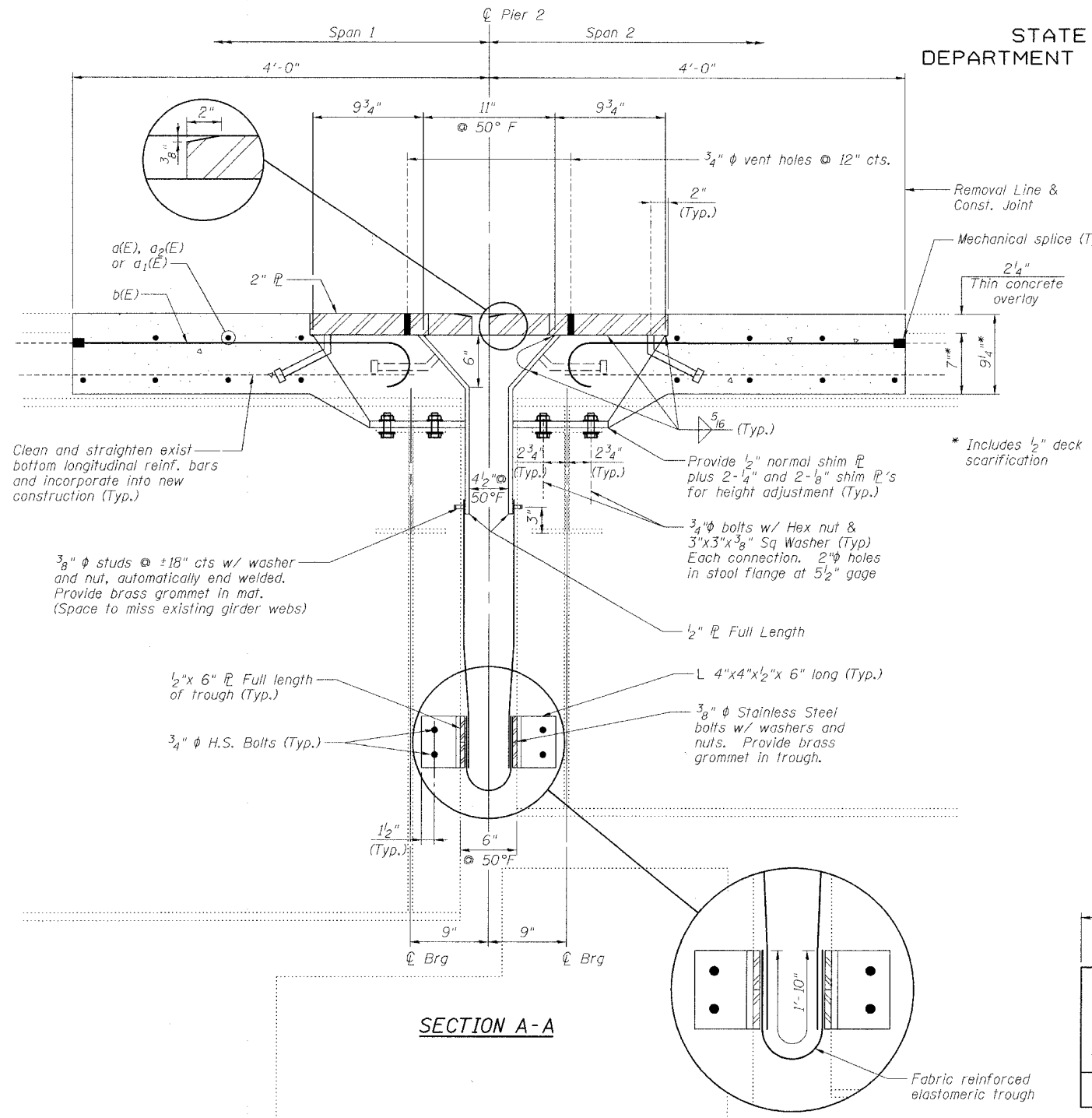
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PROJECT 04286-W05  
6/15/05-MML

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
REGISTERED PROFESSIONAL ENGINEERS  
ILLINOIS LICENSE NO. 04286-W05  
PROFESSIONAL DESIGN FIRM NO. 04286  
207-7th Street, Suite 201, Springfield, Illinois 62761-1000

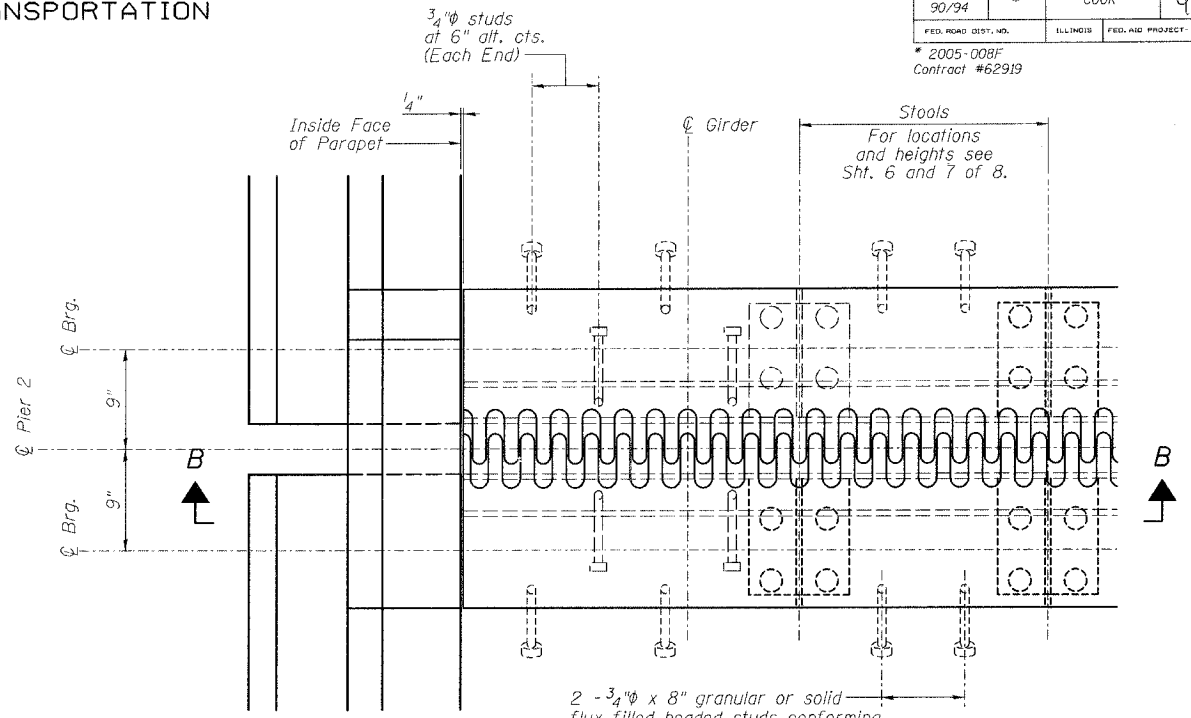
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

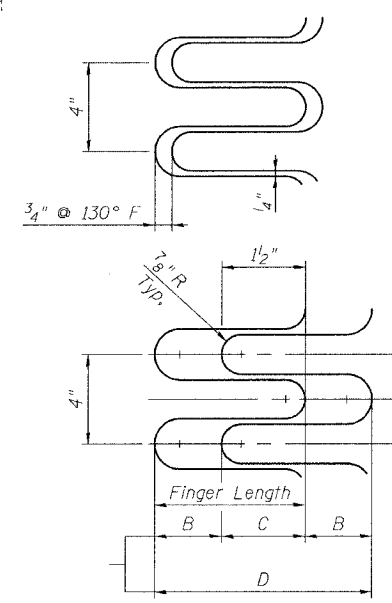
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FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
* 2005-008F		Contract #62919		



SECTION A-A

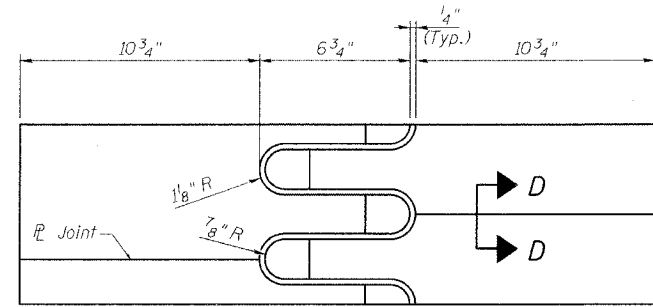


PLAN



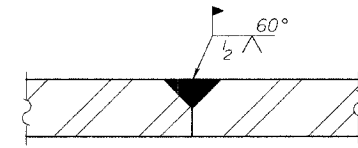
FINGER DETAIL

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



FLAME CUTTING DIAGRAM

(Proposed Finger PL - Cut from 2" x 2'-4 1/2" PL)



SECTION D-D

NOTES

1. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
2. The furnishing of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing Structural Steel".
3. For Section B-B, see Sheet 5 of 8.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER 2 JOINT DETAILS**

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

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 3/28/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

GREENE & BRADFORD, INC.  
OF SPRINGFIELD

COMPUTER FILE NO.  
04286-W05-NB-FPJ  
PROJECT 04286-W05  
6/15/05-MML

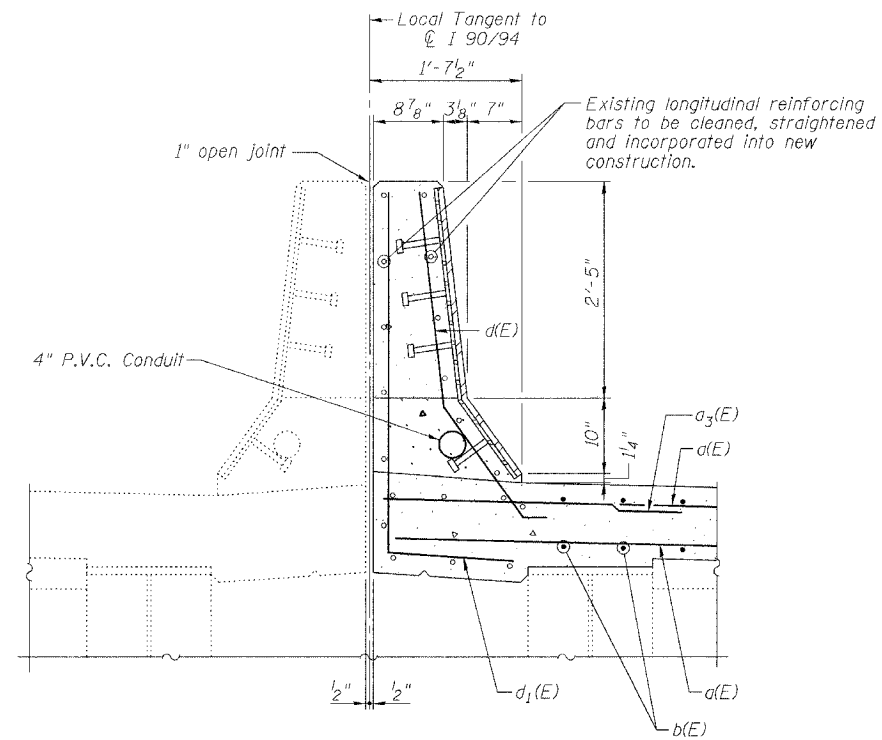
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

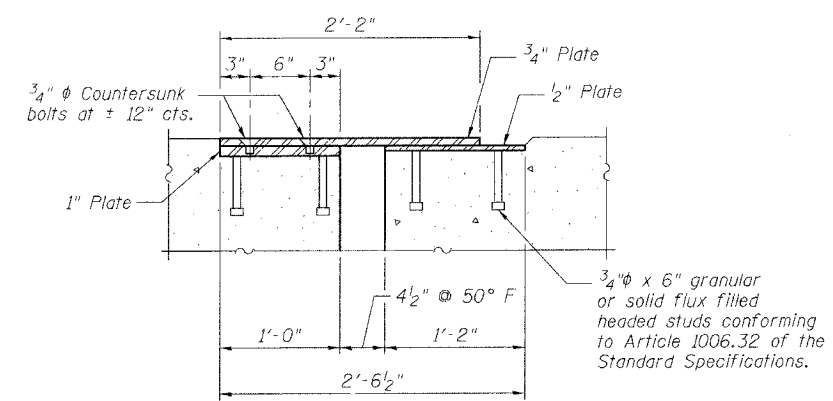
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FAI 90/94	*	COOK	93	44
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

\* 2005-008F  
Contract #62919

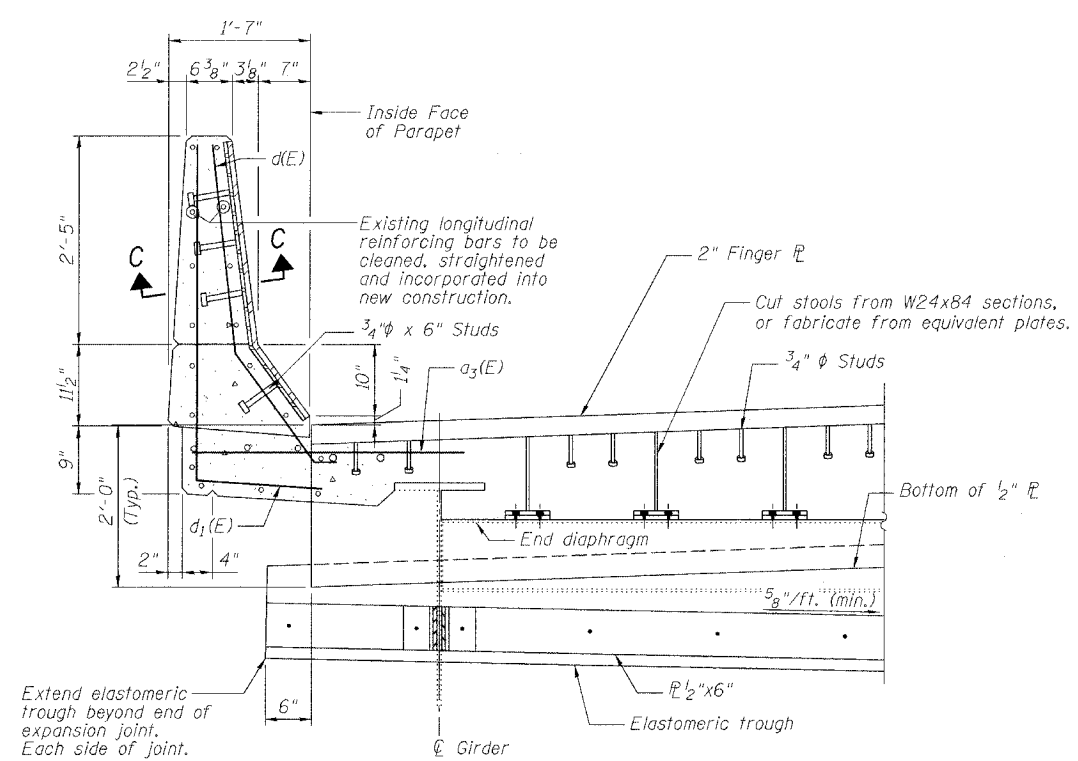
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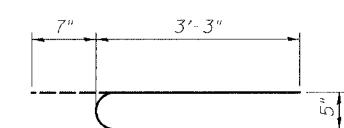
**DETAIL AT MEDIAN PARAPET**  
(Looking North)



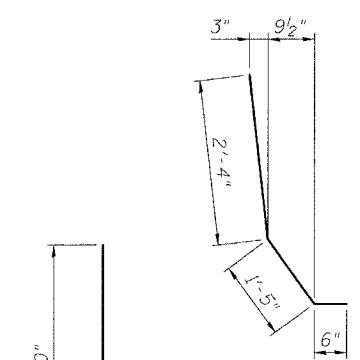
**SECTION C-C**



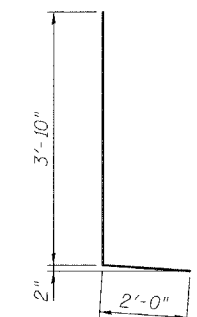
**SECTION B-B**  
(For location of Section B-B, See Sheet 4 of 8)



**BAR b(E)**



**BAR d(E)**



**BAR d1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	24	#5	30'-6"	—
a1(E)	24	#5	35'-6"	—
a2(E)	16	#6	4'-6"	—
b(E)	134	#5	3'-10"	⌋
d1(E)	16	#5	4'-3"	—
d1(E)	20	#5	5'-10"	⌋
Reinforcement Bars, Epoxy Coated			Pound	2490
Concrete Superstructure			Cu. Yd.	17.6
Bar Splicers			Each	24
Mechanical Splice			Each	134

Reinforcing bars designated (E) shall be epoxy coated.

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

REVISIONS	
NAME	DATE

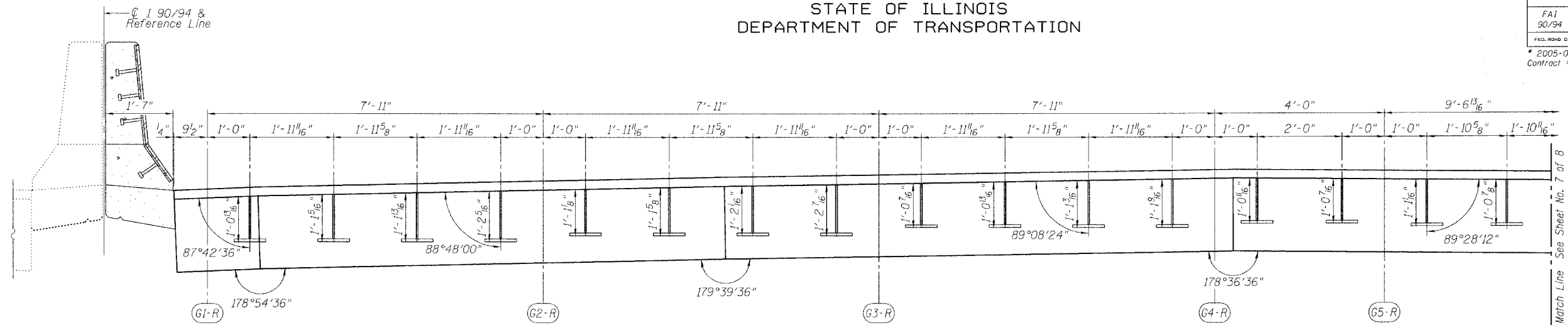
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DRAWN BY: LANDREY  
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CHECKED BY:   
GREENE & BRADFORD, INC.  
CONSULTING ENGINEERS  
PROFESSIONAL ENGINEERS  
REGISTERED IN THE STATE OF ILLINOIS  
PROJECT 04286-W05  
6/15/05-MML

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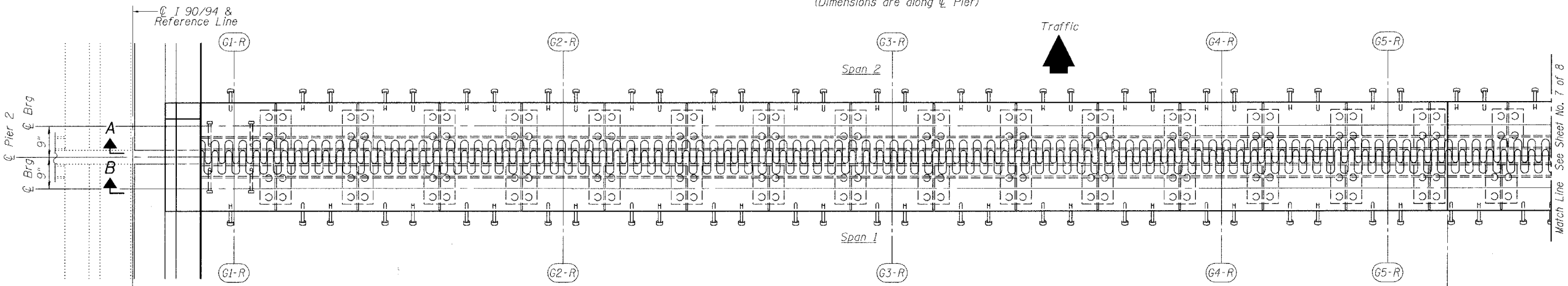
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	SHEET NO. 93	SHEET 45
FED. ROAD DIST. NO. * 2005-008F Contract #62919		ILLINOIS FED. ROAD PROJECT		

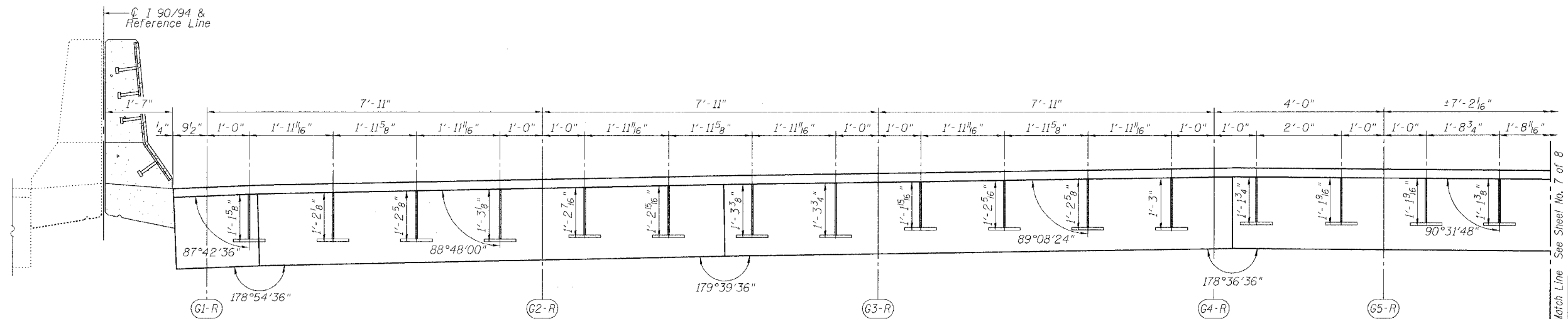
SHEET NO. 6  
8 SHEETS



**SECTION A-A**  
(Dimensions are along  $\varnothing$  Pier)



**PLAN OF FINGER PLATE AT PIER 2**



**SECTION B-B**  
(Dimensions are along  $\varnothing$  Pier)

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

REVISIONS	
NAME	DATE

SCALE: VERT.  
DATE: 3/28/05  
DRAWN BY: LANDREY  
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6/15/05-MML

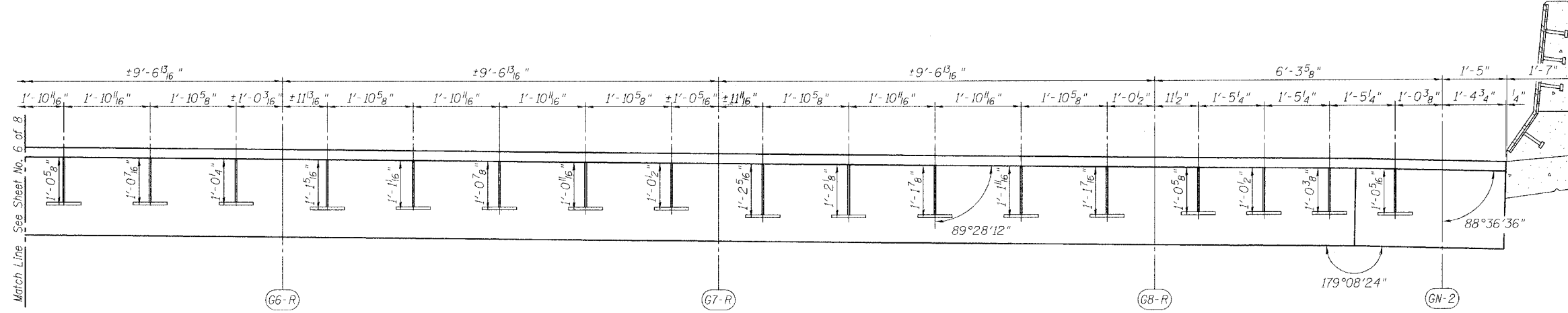


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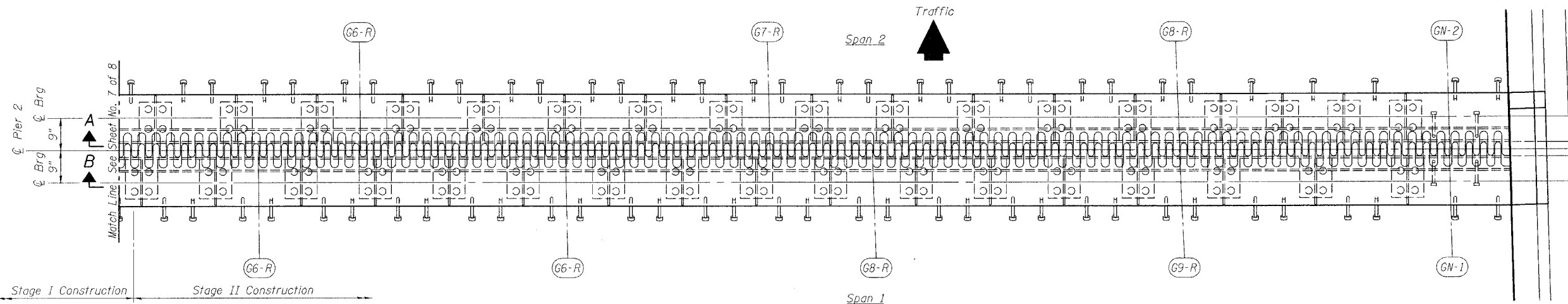
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 93	SHEET NO. 46	SHEET NO. 7 8 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

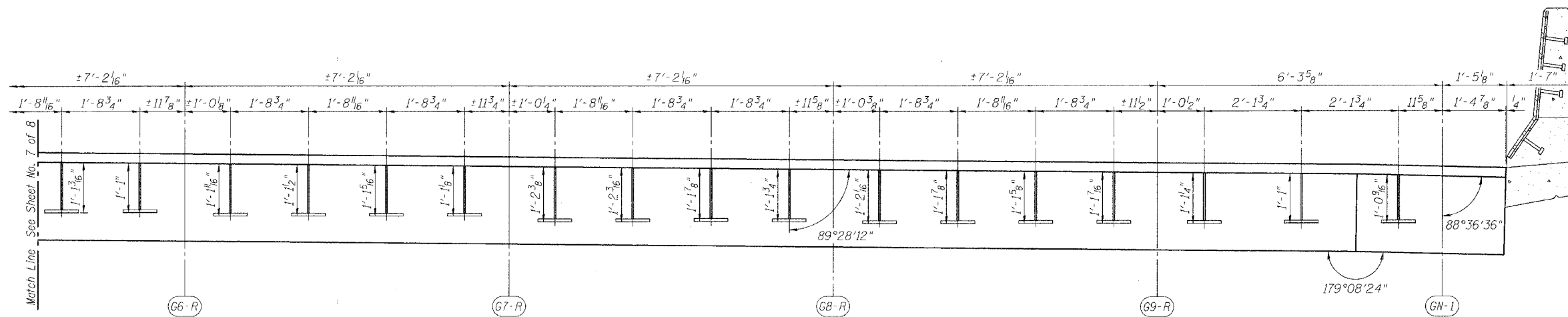
\* 2005-008F  
Contract #62919



**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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
16TH STREET TO 18TH STREET  
COOK COUNTY  
S.N. 016-1111 - PIER 2

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 3/28/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

COMPUTER FILE NO.  
04286-W05-NB-PE2  
PROJECT 04286-W05  
6/15/05-MML

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
ENGINEERS ARCHITECTS SURVEYORS  
1001 S. WASHINGTON ST., SUITE 200  
SPRINGFIELD, ILLINOIS 62761  
TEL: 217-223-4422 FAX: 217-223-4422  
WWW.GREENE-AND-BRADFORD.COM

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PLOTTER OPERATOR = \$PLOTTER\_OPERATOR\$

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STA.	SHEET	SHEET NO. 8 8 SHEETS
FAI 90/94	*	COOK	93	47	
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62919					

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:

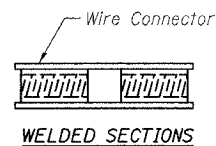
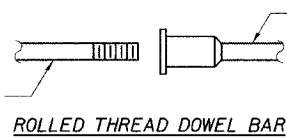
- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_s$
- ② Minimum \*Pull-out Strength (Tension in kips) =  $1.25 \times f_{s_{allow}} \times A_s$

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)  
 $A_s$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#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

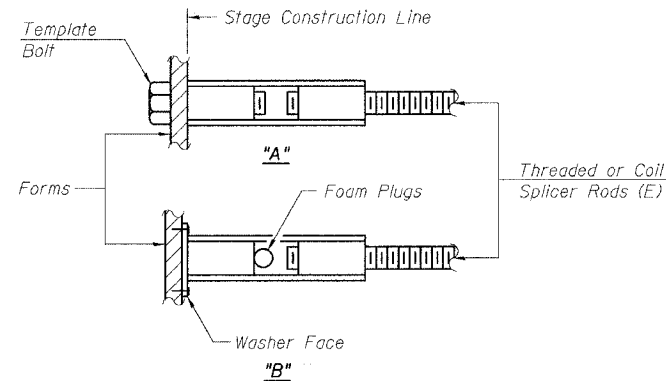
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

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



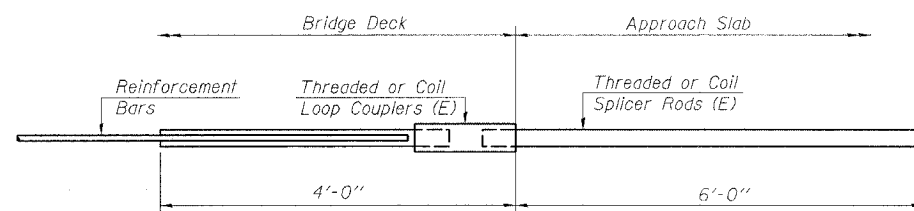
BAR SPLICER ASSEMBLY ALTERNATIVES

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



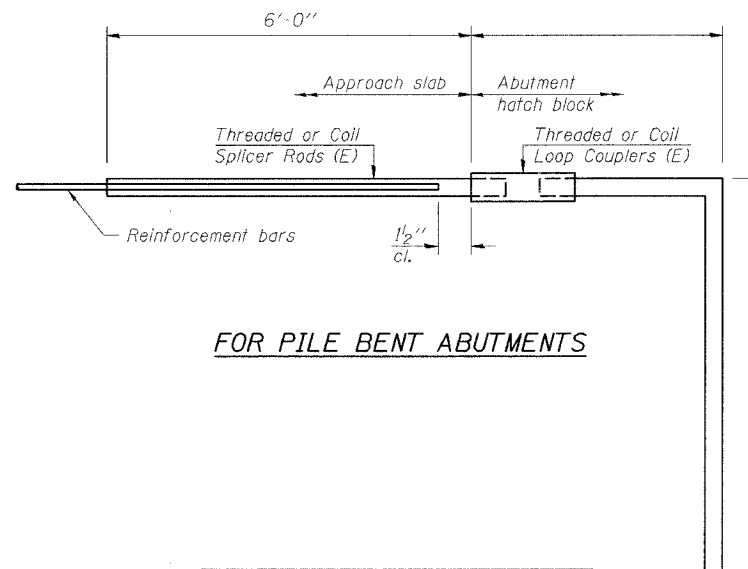
INSTALLATION AND SETTING METHODS

"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.



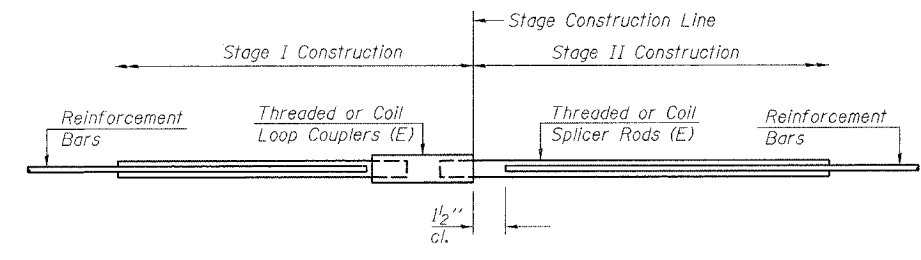
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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

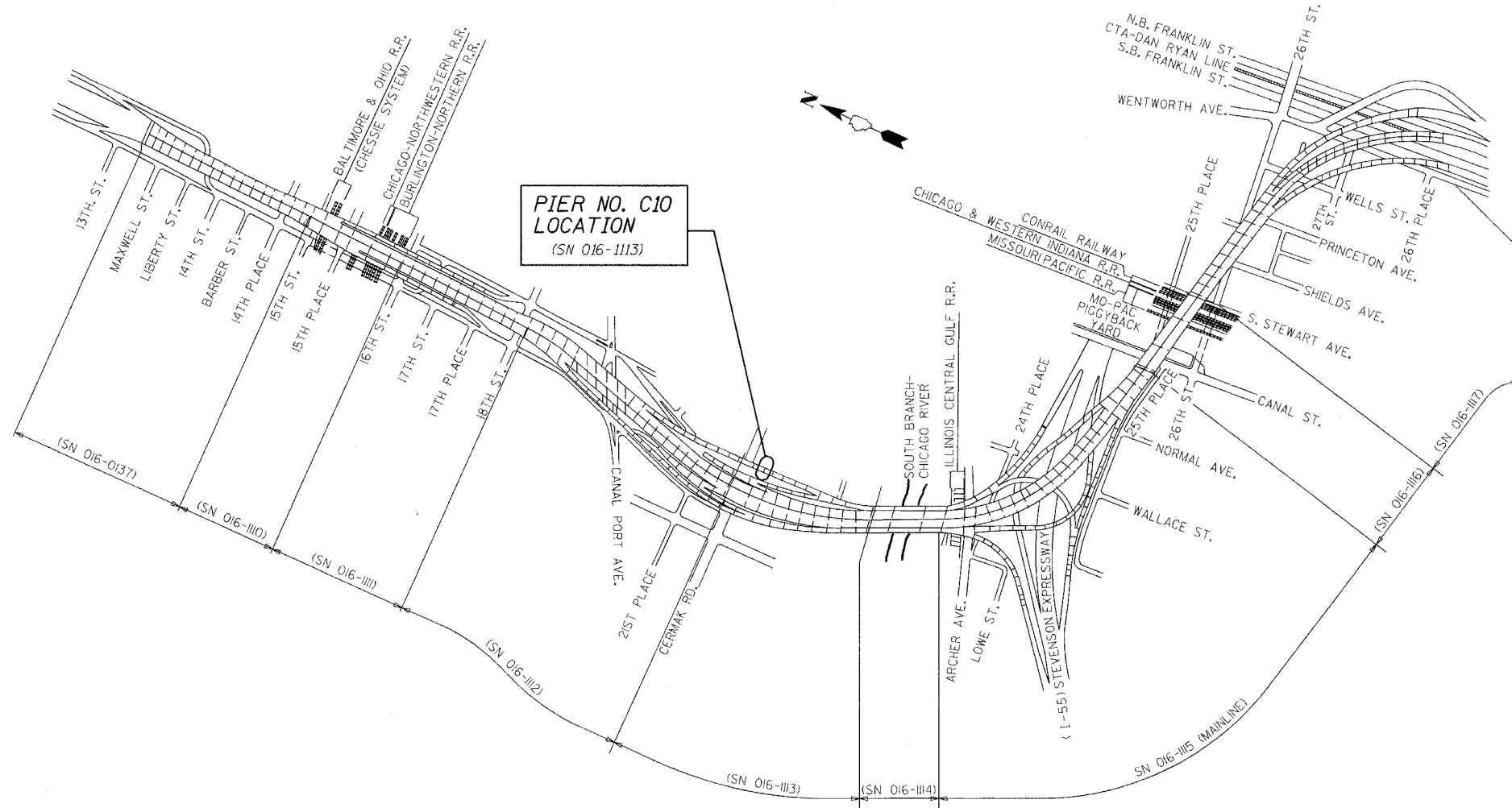
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**BAR SPLICER ASSEMBLY DETAILS**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
16TH STREET TO 18TH STREET  
COOK COUNTY  
S.N. 016-1111 - PIER 2

SCALE: VERT. HORIZ. DATE: 3/28/05	DRAWN BY: LANDREY DESIGNED BY: SANFORD CHECKED BY: -	COMPUTER FILE NO. 04286-W05-NB-BS0
GRENE & BRADFORD, INC. OF SPRINGFIELD REGISTERED PROFESSIONAL ENGINEERS PROFESSIONAL ENGINEERING CORPORATION 200 121-1844, 618-751-5221, 1-800-447-8888	PROJECT 04286-W05	6/15/05-MML

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FA1 90/94	#	COOK	93	48
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

\* 2005 - 008F  
Contract #62919



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

**GENERAL NOTES**

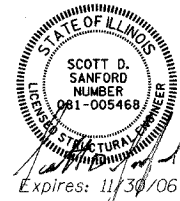
Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{13}{16}$ "  $\phi$ , unless otherwise noted.  
 Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.  
 The finger plates 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.  
 Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
 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.  
 Existing design and fabrication plans are available upon request.  
 All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 14,440 lbs.  
 Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provisions "Field Measurements".  
 Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing 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 Structural Steel".  
 Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

**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
Furnishing Structural Steel	L.S.	0.05
Furnishing Fabric Reinforced Elastomeric Trough	Foot	39
Field Measurements	L.S.	0.1
Storage Of Finger Plate Joints	Cal. Day	30



Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**KEY PLAN**  
 F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
 OVER SOUTH BRANCH - CHICAGO RIVER  
 COOK COUNTY  
 S.N. 016-1113 - PIER C10

REVISIONS	
NAME	DATE

SCALE: VERT. 1"=10'  
 HORIZ. 1"=40'  
 DATE: 2/17/05  
 DRAWN BY: HEBERLING  
 DESIGNED BY: SANFORD  
 CHECKED BY:  
 GREENE & BRADFORD, INC.  
 (OF SPRINGFIELD)  
 CONSULTING ENGINEERS  
 PROFESSIONAL ENGINEER REG. NO. 04286  
 PROJECT 04286-W04  
 6/15/05-MML

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 PLOT TIME = \$PLOTTIME\$  
 OPERATOR = \$OPERATOR\$

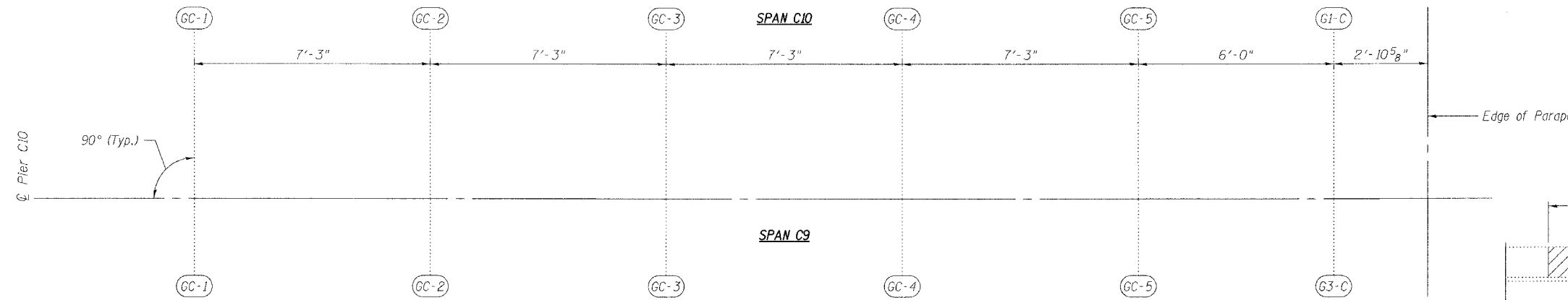


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

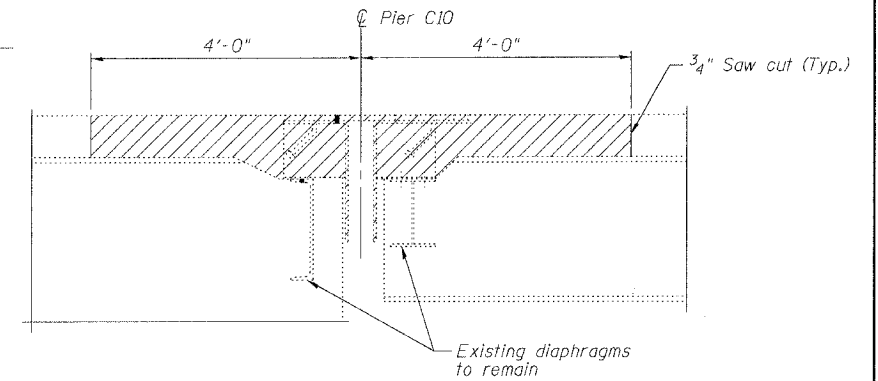
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	49
FED. ROAD DIST. NO.	ILL. PROJ. NO.	FED. AID PROJECT		

SHEET NO. 2  
8 SHEETS

\* 2005 - 008F  
Contract #62919



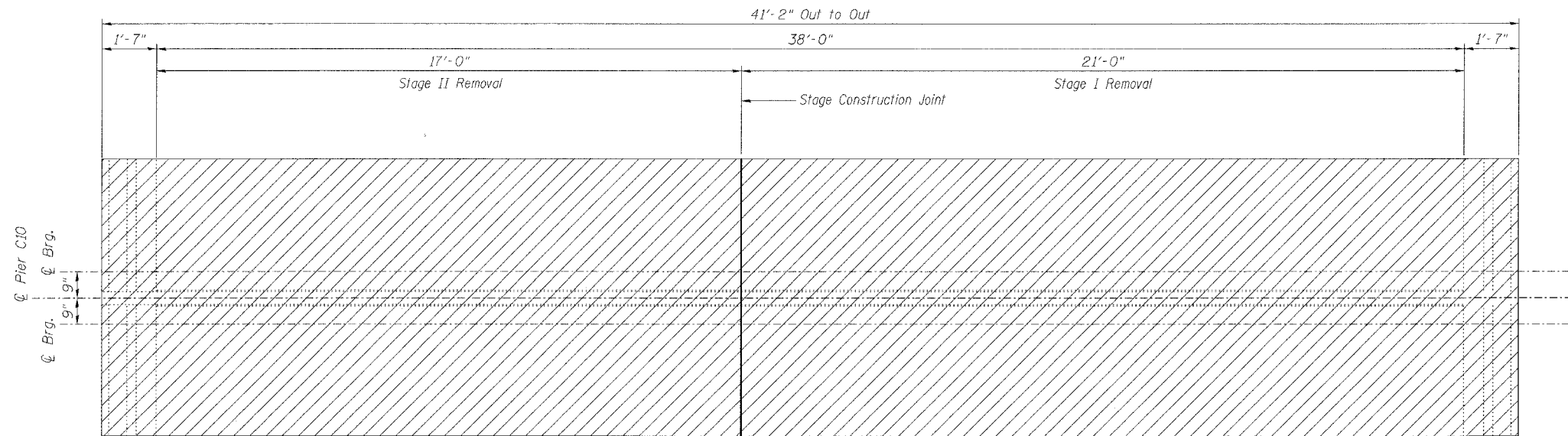
GIRDER LAYOUT AT PIER C10



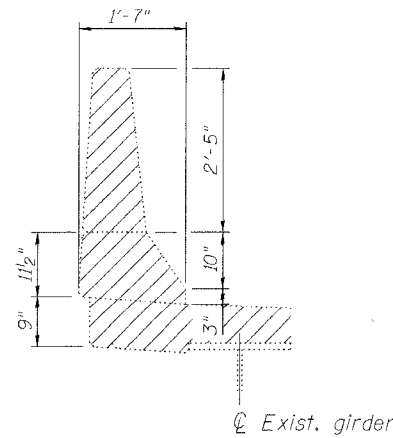
Note:  
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".

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

SECTION AT  
EXISTING FINGER PLATE



JOINT REMOVAL PLAN AT PIER C10



DETAIL AT EXISTING  
OUTSIDE PARAPET

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 4.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**FINGER PLATE EXPANSION JOINT  
REMOVAL DETAILS**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

SCALE: VERT.  
HORIZ.  
DATE: 2/17/05  
DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: -  
COMPUTER FILE NO.  
04286-W04-REM  
PROJECT 04286-W04  
6/15/05-MML

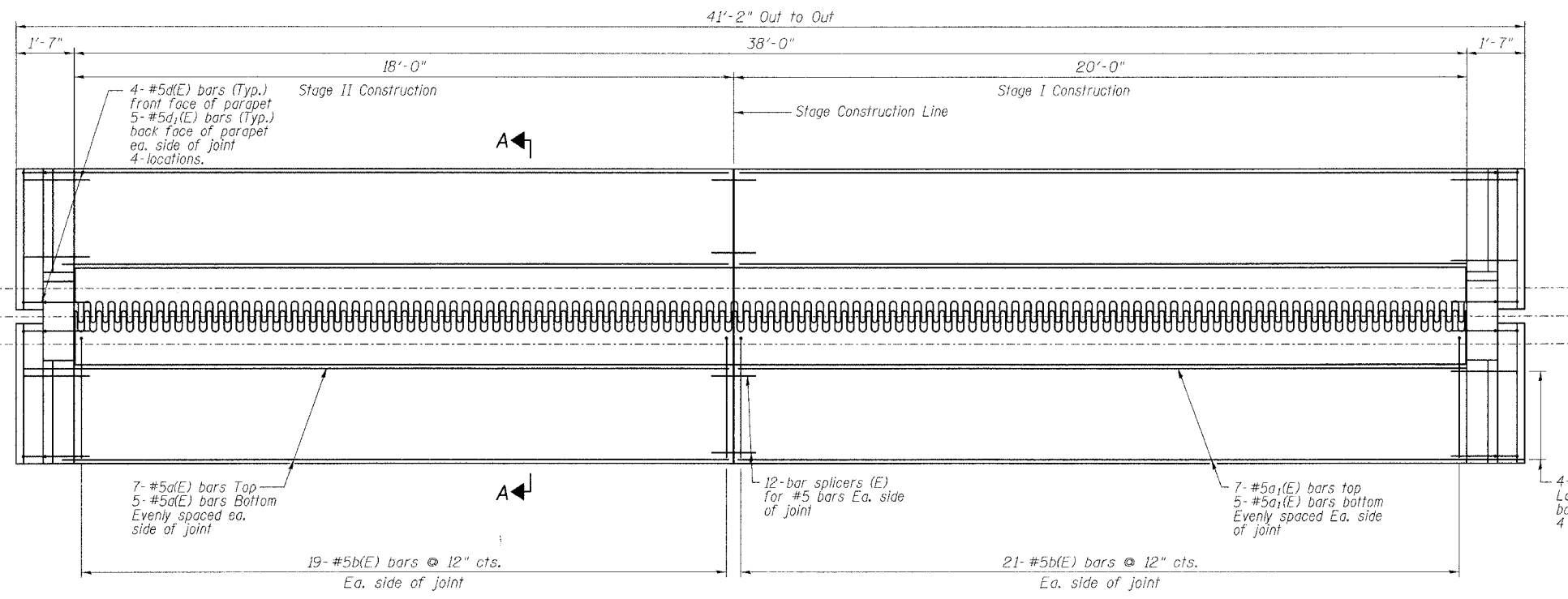
GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
REGISTERED PROFESSIONAL ENGINEERS  
NO. 0206171100 ILL. STATE  
SINCE 1914  
1001 N. WASHINGTON ST., SUITE 200, SPRINGFIELD, ILL. 62762  
TEL: 217-223-1111 FAX: 217-223-1112  
WWW.GREENE-AND-BRADFORD.COM

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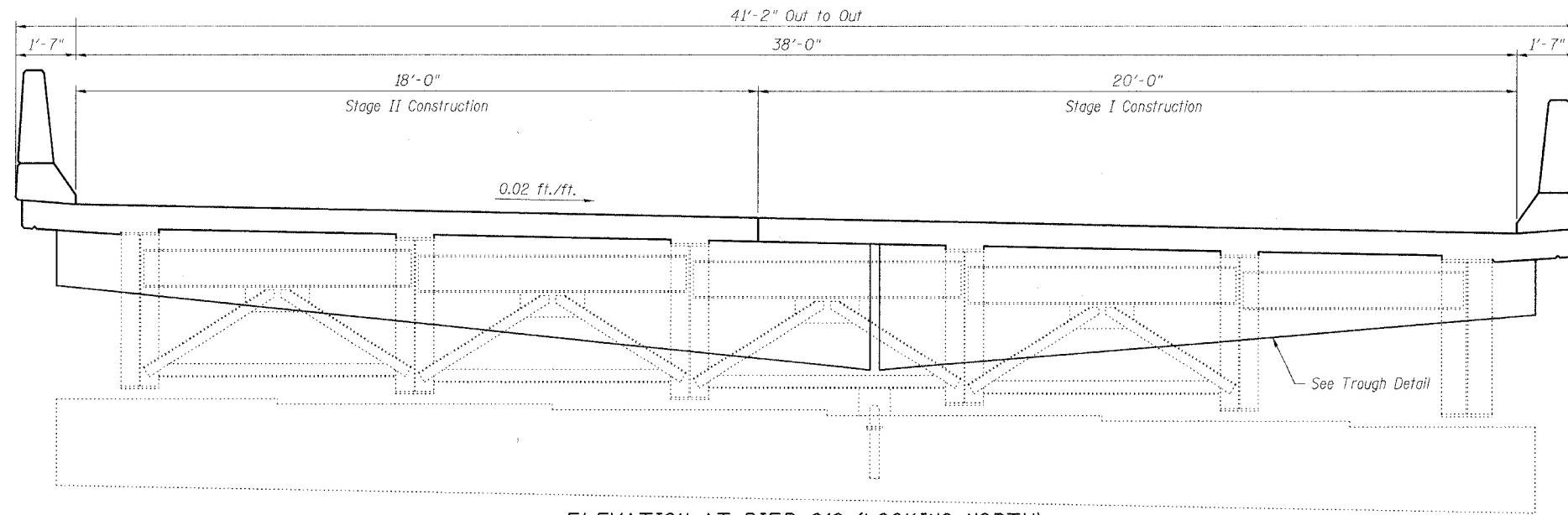
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
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FED. AID PROJ. NO.	ILLINOIS	FED. AID PROJECT			

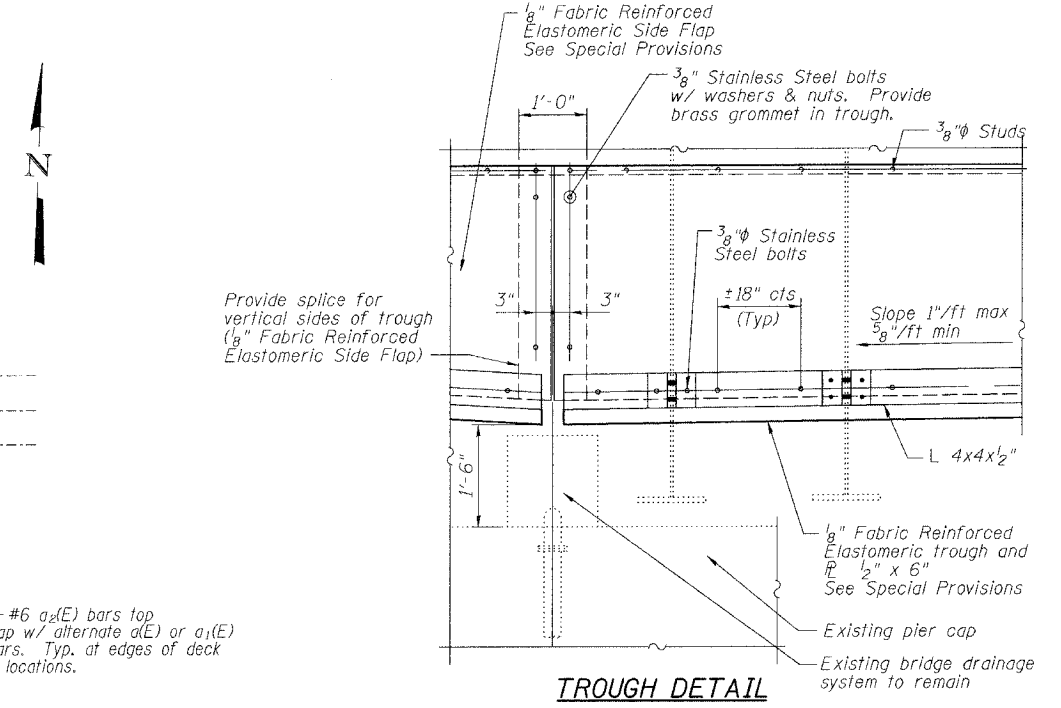
\* 2005 - 008F  
Contract #62919



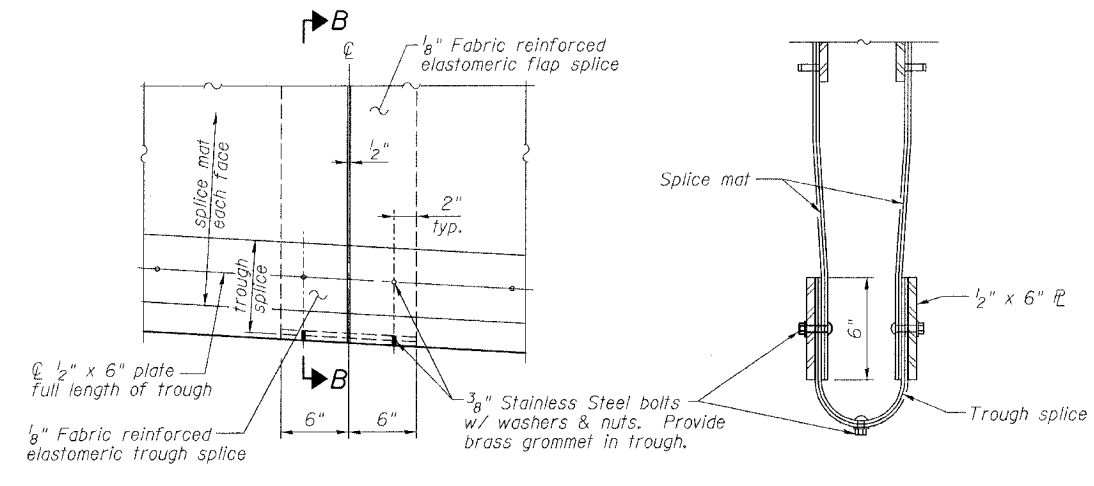
GIRDER LAYOUT AT PIER C10



ELEVATION AT PIER C10 (LOOKING NORTH)



TROUGH DETAIL



TROUGH SPLICE DETAIL

SECTION B-B

- 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.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER C10 JOINT DETAILS**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

REVISIONS	
NAME	DATE

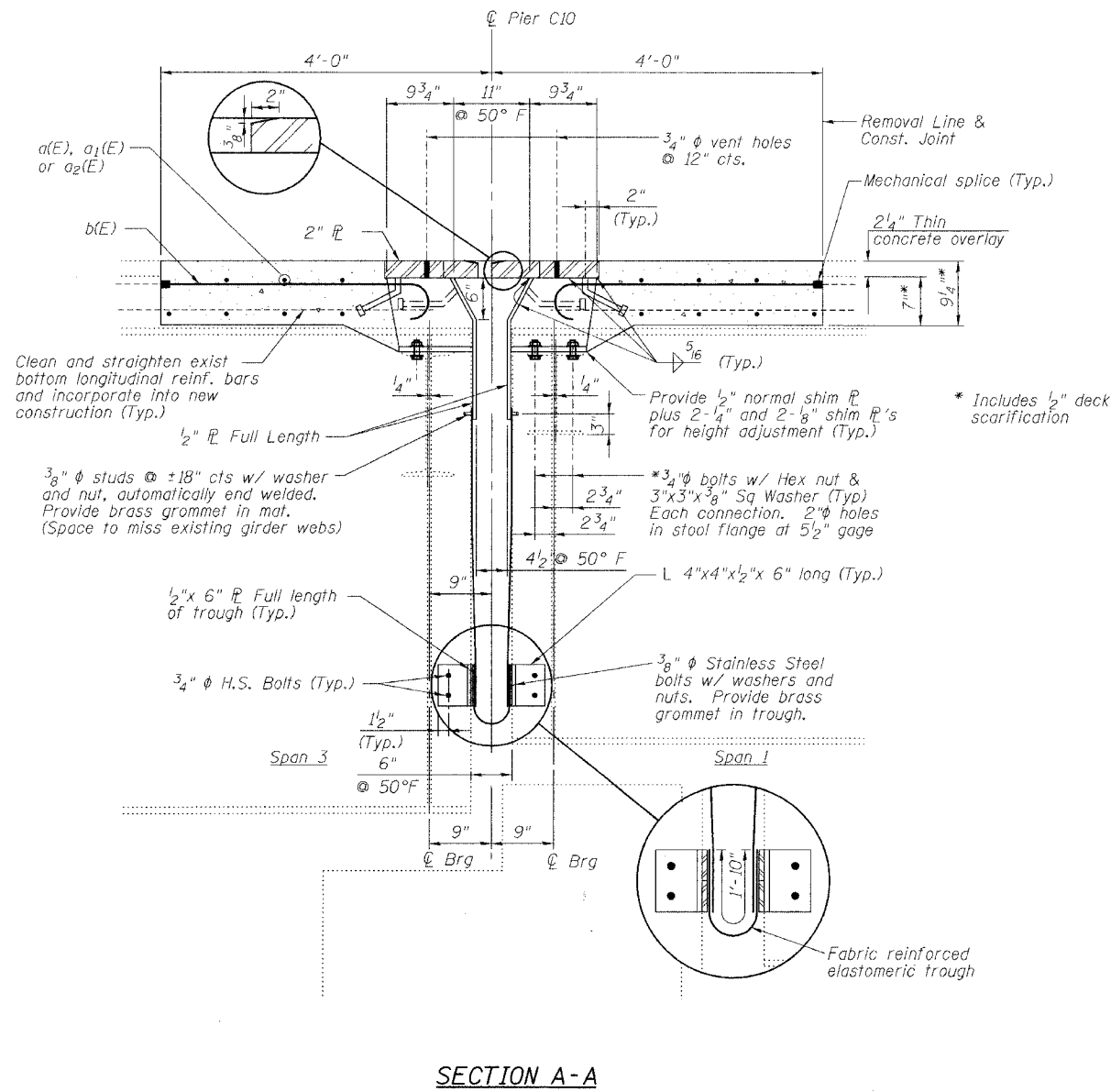
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DATE: 2/17/05  
DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY:  
GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
PROFESSIONAL ENGINEER  
NO. 04286-W04  
PROJECT 04286-W04  
6/15/05-MML

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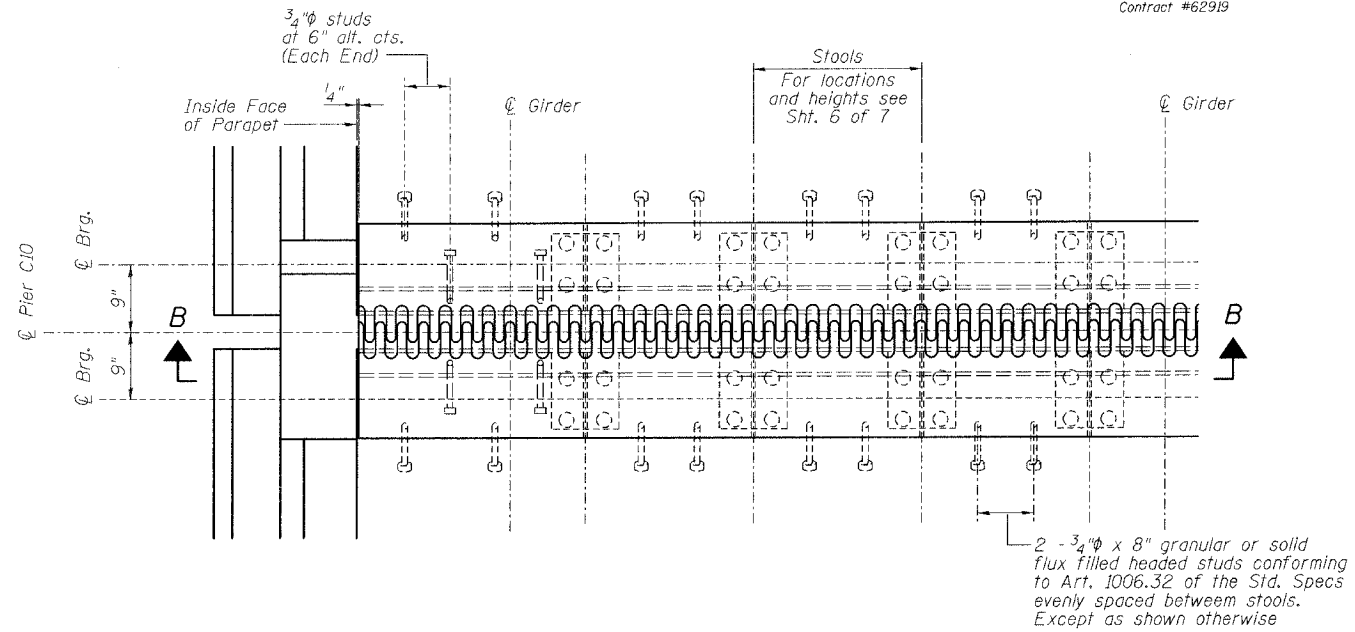
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	JOB SHEETS	SHEET NO.	SHEET NO. 4 8 SHEETS
FAI 90/94	*	COOK	93	51	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

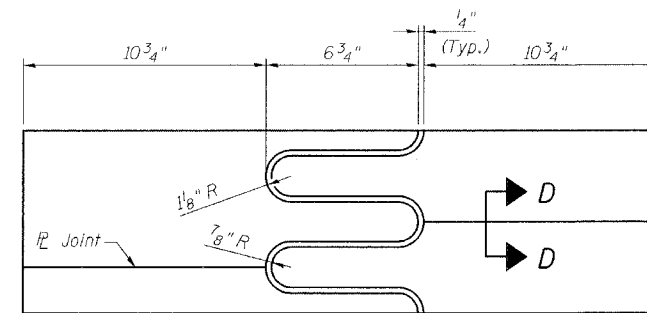
\* 2005 - 008F  
Contract #62919



SECTION A-A

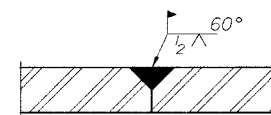


PLAN



FLAME CUTTING DIAGRAM

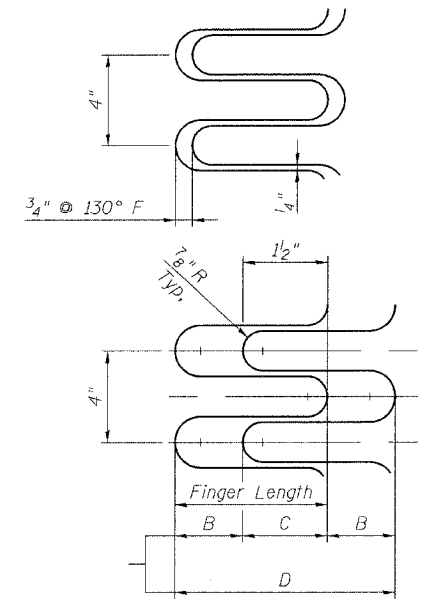
(Proposed Finger Bar - Cut from 2" x 2'-4 1/2" Bar)



SECTION D-D

NOTES

1. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
2. The furnishing of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing Structural Steel".
3. For Section B-B, see Sheet 5 of 9.



FINGER DETAIL

Finger Length = 6 3/4"  
Weld Length = 9 3/4"  
Weld Size = 3/16"  
Expansion length = 333.5'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER C10 JOINT DETAILS**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05  
DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_  
GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
REGISTERED ENGINEER  
NO. 04286-W04-PPJ  
PROFESSIONAL ENGINEER  
ILLINOIS LICENSE NO. 04286-W04-PPJ  
PROJECT 04286-W04  
6/15/05-NML

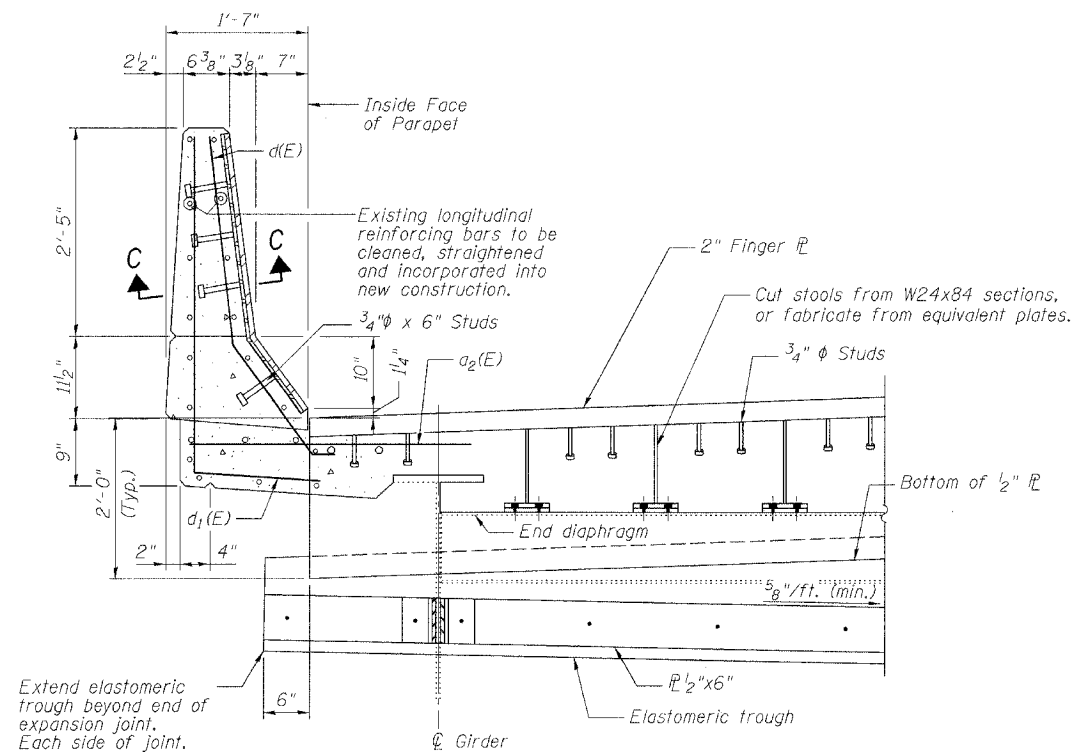
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	52
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

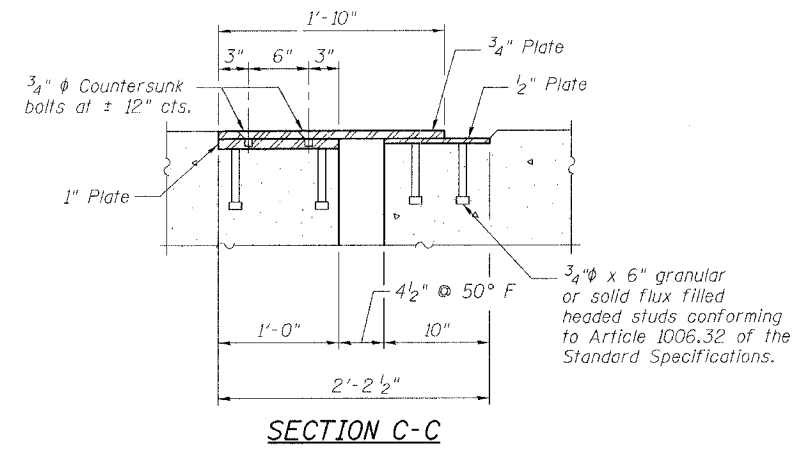
SHEET NO. 5  
8 SHEETS

\* 2005 - 008F  
Contract #62919

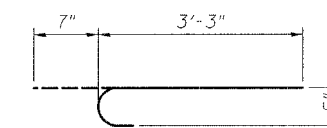


**SECTION B-B**

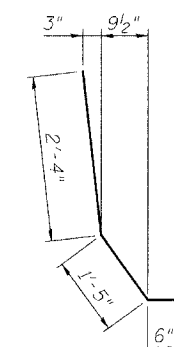
(For location of Section B-B, See Sheet 4 of 8)



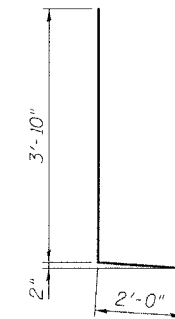
**SECTION C-C**



**BAR b(E)**



**BAR d(E)**



**BAR d1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	24	#5	18'-6"	—
d1(E)	24	#5	20'-6"	—
a2(E)	16	#6	4'-6"	—
b(E)	80	#5	3'-10"	⌋
d(E)	16	#5	4'-3"	⌋
d1(E)	20	#5	5'-10"	⌋
Reinforcement Bars, Epoxy Coated			Pound	1600
Concrete Superstructure			Cu. Yd.	11.2
Concrete Removal			Cu. Yd.	9.4
Bar Splicers			Each	24
Mechanical Splice			Each	80

Reinforcing bars designated (E) shall be epoxy coated.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PARAPET DETAILS**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONCRETE REINFORCEMENT  
CONSTRUCTION, INC.  
PROFESSIONAL ENGINEERS  
REGISTERED IN THE STATE OF ILLINOIS  
OFFICE: 1000 N. WASHINGTON ST., SPRINGFIELD, IL 62761  
TEL: 217-223-1111 FAX: 217-223-1112

COMPUTER FILE NO.  
04286-W04-PD  
PROJECT 04286-W04  
6/15/05-MML

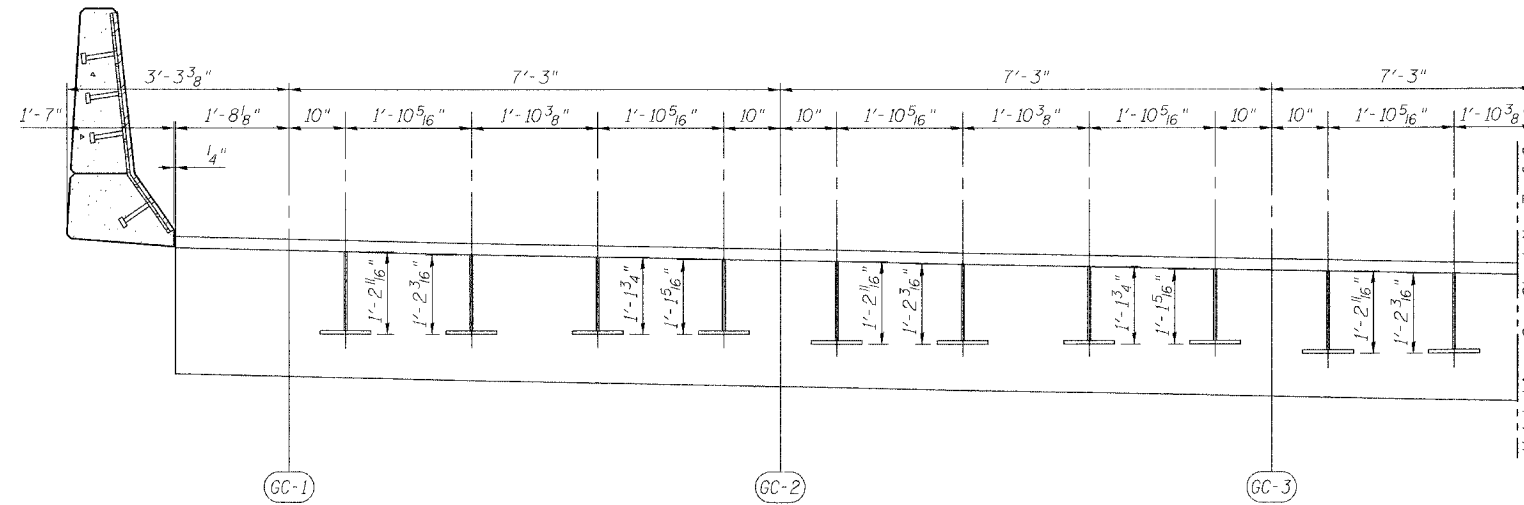
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

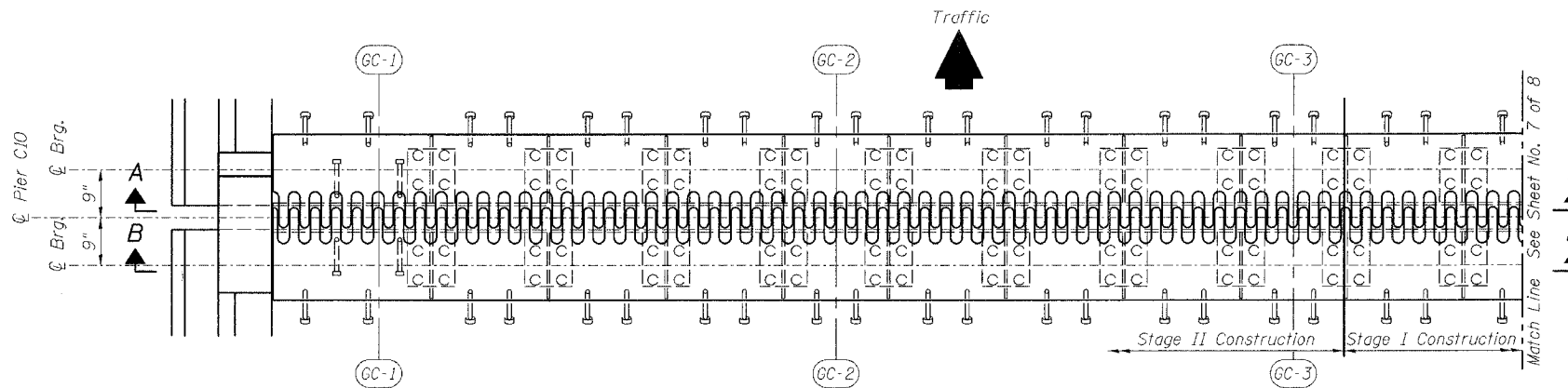
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FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO. 6  
8 SHEETS

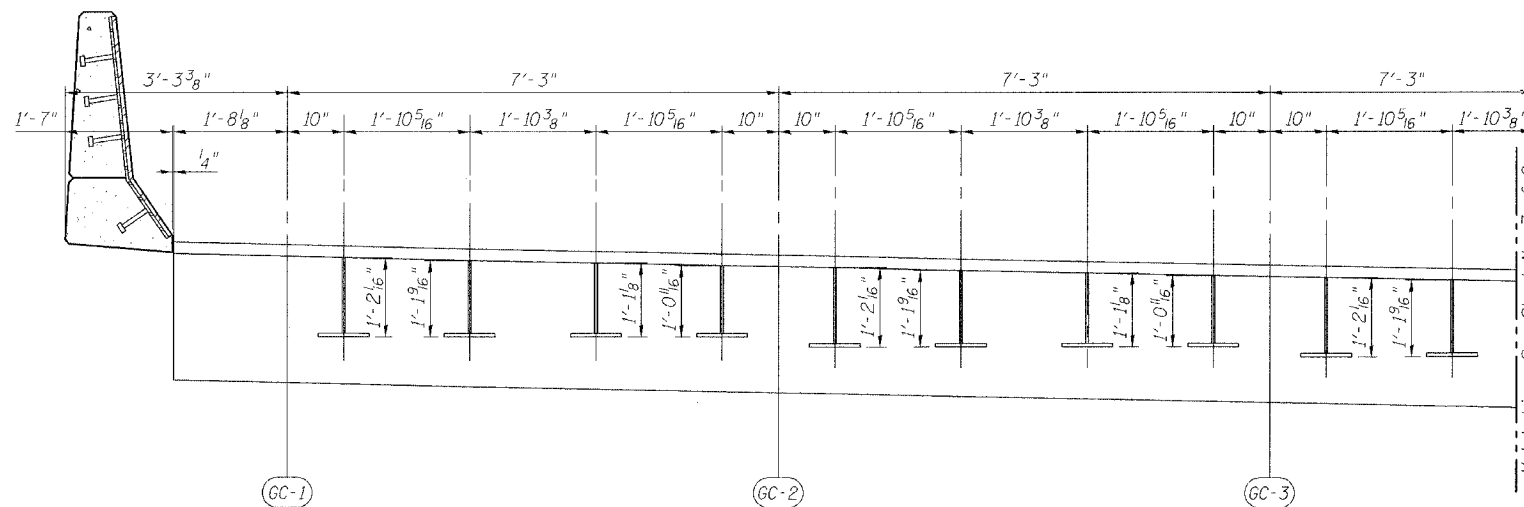
\* 2005 - 008F  
Contract #62919



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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

SCALE: VERT.  
HORIZ.  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY:

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
PROFESSIONAL ENGINEERS  
REGISTERED PROFESSIONAL ENGINEERS  
ILLINOIS LICENSE NO. 04286-W04-PE1  
6/15/05-MML

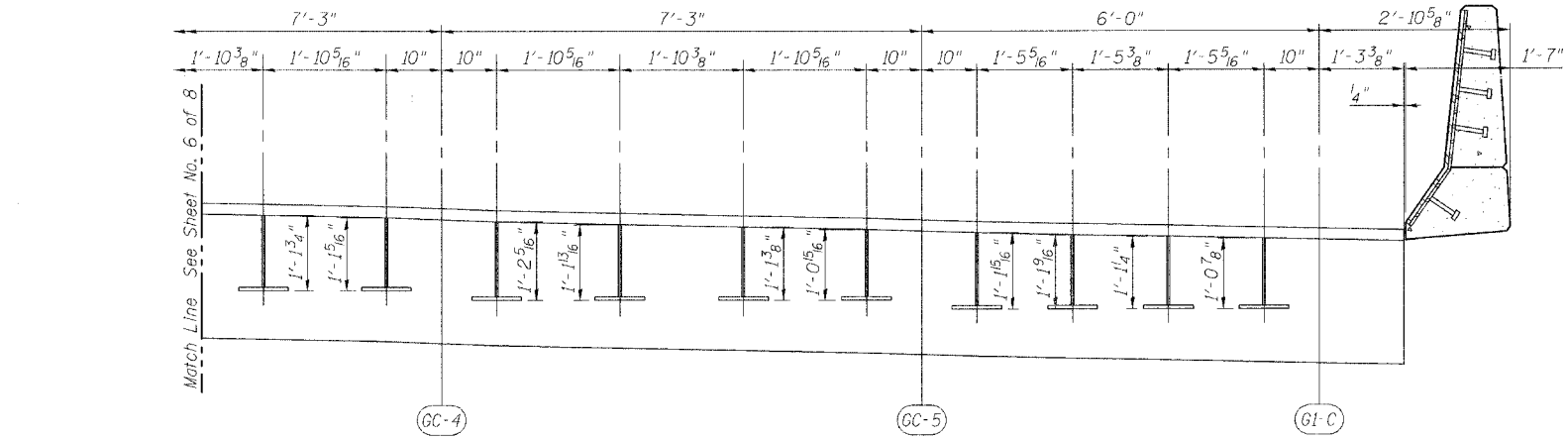
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PROJECT 04286-W04  
6/15/05-MML

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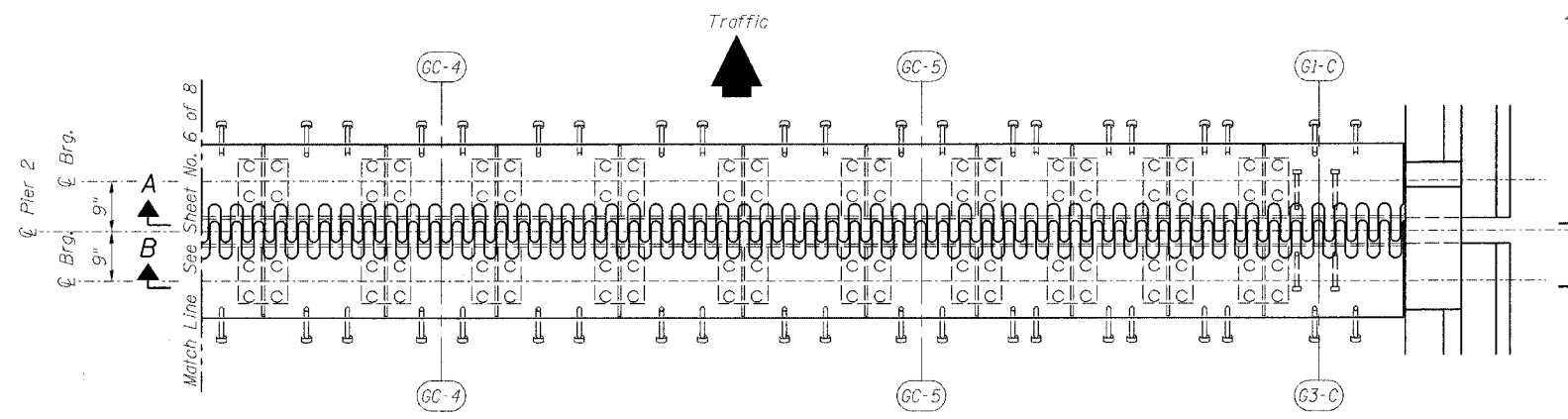
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7 8 SHEETS
FAI 90/94	*	COOK	93	5A	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

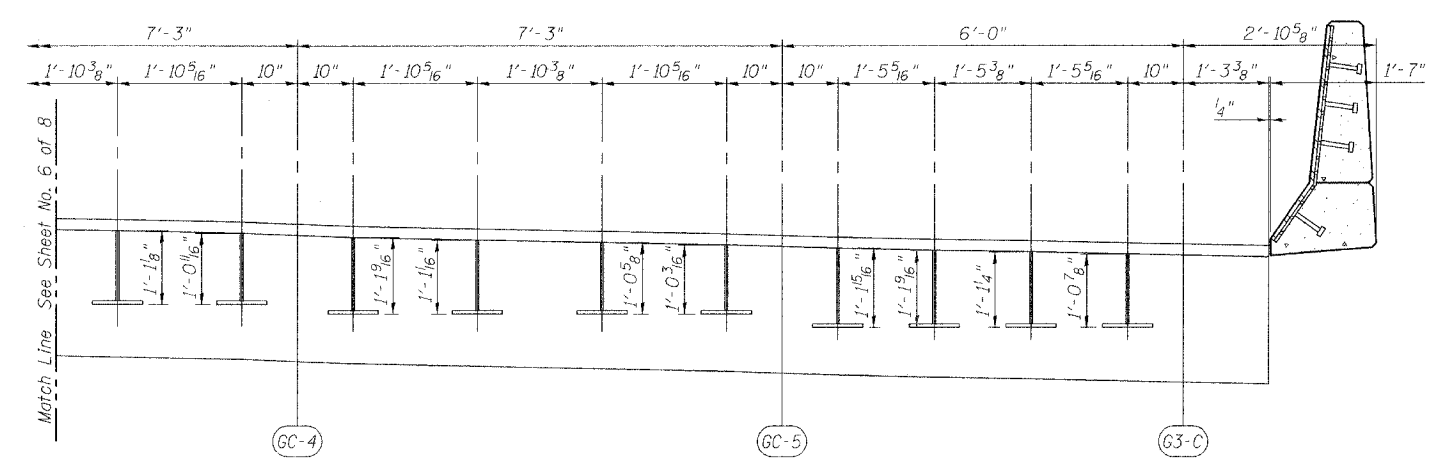
\* 2005 - 008F  
Contract #62919



**SECTION A-A**  
(Dimensions are along  $\phi$  Pier)



**PLAN OF FINGER PLATE AT PIER 2**



**SECTION B-B**  
(Dimensions are along  $\phi$  Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**FINGER PLATE PLAN AND ELEVATION**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05  
DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
PROFESSIONAL ENGINEERS  
REGISTERED IN THE STATE OF ILLINOIS  
OFFICE: 1001 S. WASHINGTON ST., SPRINGFIELD, ILL. 62761  
TEL: 217-223-8800 FAX: 217-223-8801  
COMPUTER FILE NO. 04286-W04-PE2  
PROJECT 04286-W04  
6/15/05-MML

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PLOT DATE = 6/17/2005  
PLOT TIME = 10:56:40 AM  
OPERATOR = michellel

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA1 90/94	#	COOK	93	85
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 8  
8 SHEETS

\* 2005 - 008F  
Contract #62919

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

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)  
 $A_s$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#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."

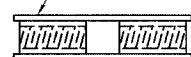
The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



\*\* ONE PIECE

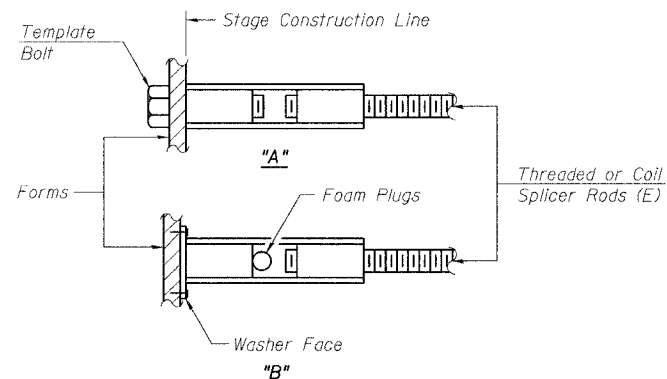
Wire Connector



WELDED SECTIONS

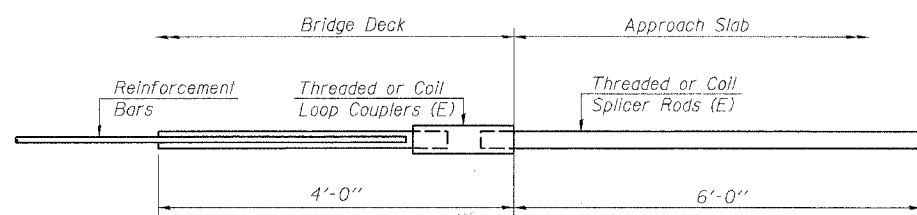
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



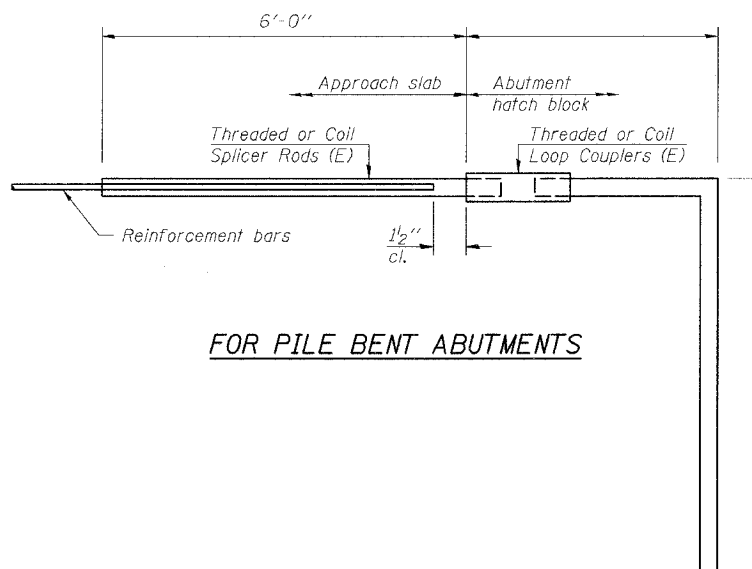
**INSTALLATION AND SETTING METHODS**

"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.



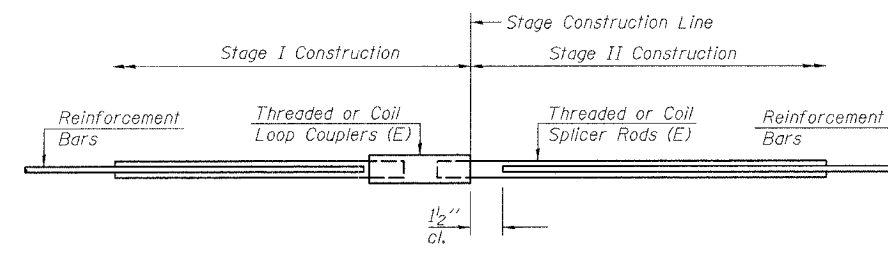
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER C10

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05

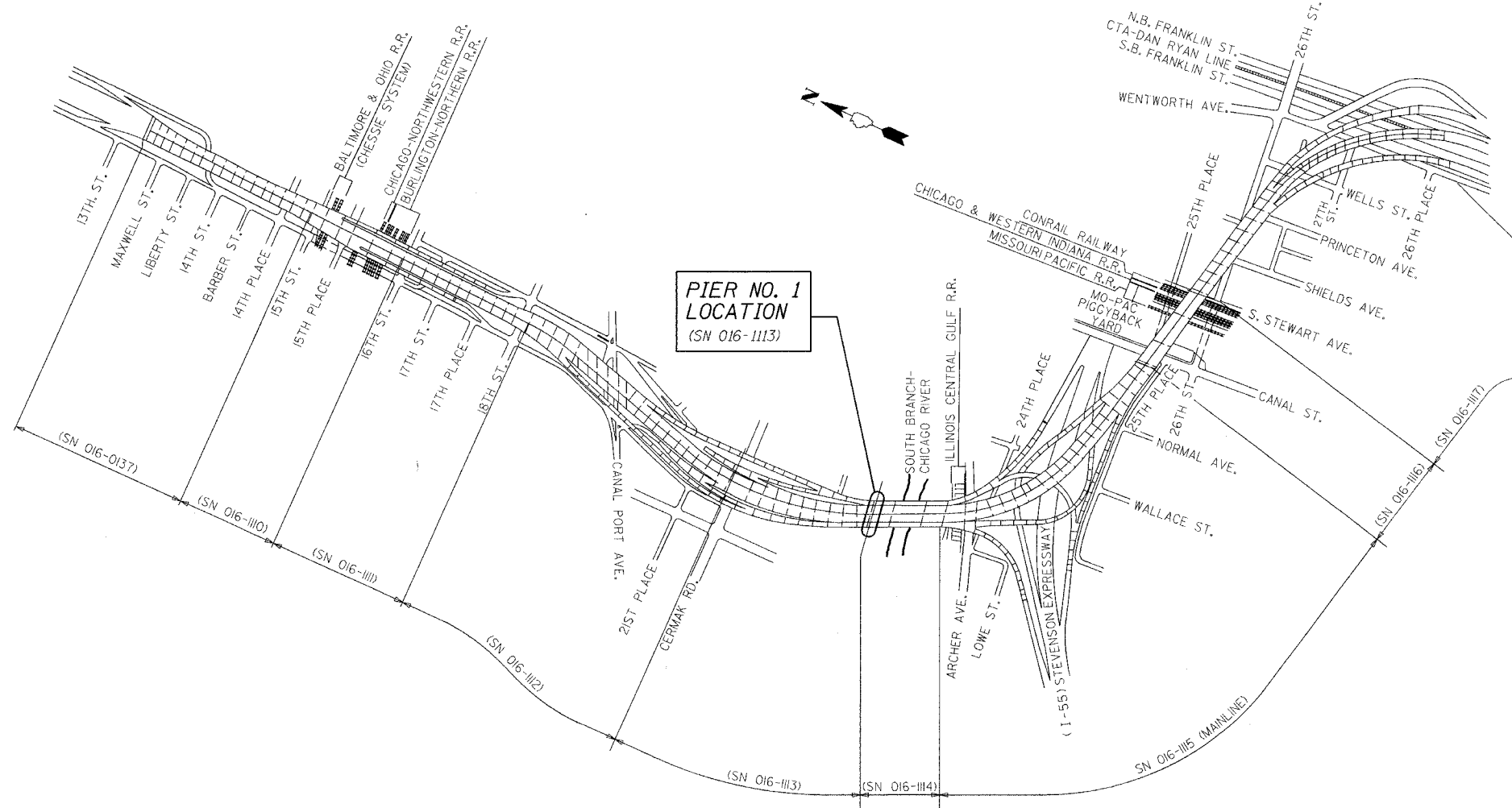
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DESIGNED BY: SANFORD  
CHECKED BY:



COMPUTER FILE NO.  
04286-W04-BSD  
PROJECT 04286-W04  
6/15/05-MML

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 1
FA1 90/94	#	COOK	93	56	9 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62919					

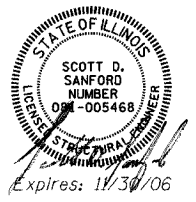


PIER NO. 1  
LOCATION  
(SN 016-1113)

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

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{13}{16}$ "  $\phi$ , 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.  
 Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
 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.  
 Existing design and fabrication plans are available upon request.  
 All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 48,120 lbs.  
 Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provisions "Field Measurements".  
 Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing 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 Structural Steel".  
 Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.



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
Furnishing Structural Steel	L.S.	0.18
Furnishing Fabric Reinforced Elastomeric Trough	Foot	94
Field Measurements	L.S.	0.1
Storage Of Finger Plate Joints	Cal. Day	30

Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

REVISIONS	
NAME	DATE

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

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE: 3/22/05

DRAWN BY: LANDREY  
 DESIGNED BY: SANFORD  
 CHECKED BY: \_\_\_\_\_

GREENE & BRADFORD, INC.  
 OF SPRINGFIELD  
 REGISTERED PROFESSIONAL ENGINEERS  
 LICENSE NO. 04286-W01-KEY  
 PROJECT 04286-W01  
 6/15/05-MML

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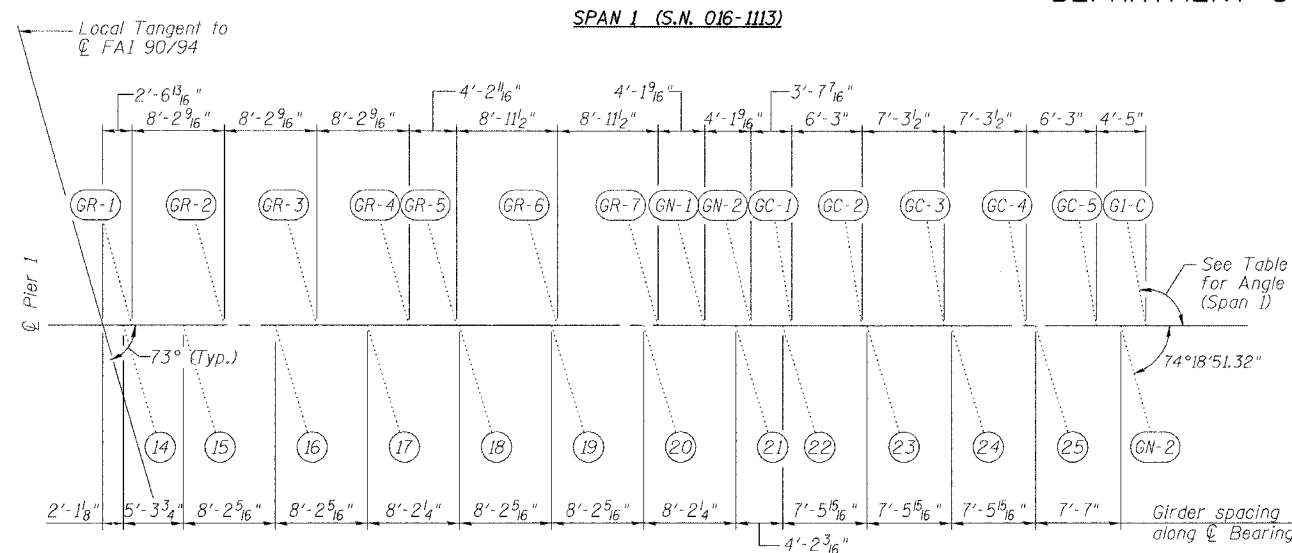


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

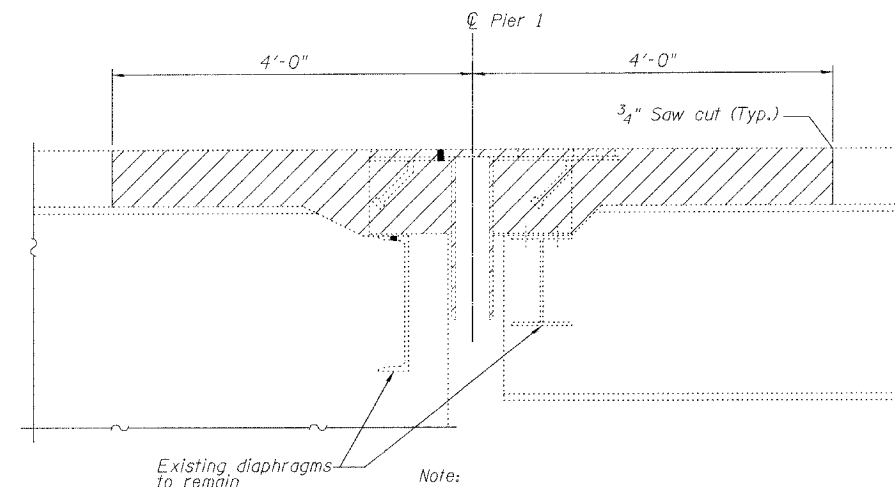
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FED. ROAD DIST. NO.				
S.U. LINE				
FED. AID PROJECT				

\* 2005-008F  
Contract #62919

SHEET NO. 2  
9 SHEETS



Girder	Angle
GR-1	105°33'08"
GR-2	105°33'09"
GR-3	105°33'09"
GR-4	105°33'09"
GR-5	105°35'13"
GR-6	105°39'27"
GR-7	105°43'31"
GN-1	104°31'37"
GN-2	103°26'38"
GC-1	98°54'18"
GC-2	98°58'51"
GC-3	99°04'13"
GC-4	99°09'41"
GC-5	99°14'25"
GI-C	100°11'18"

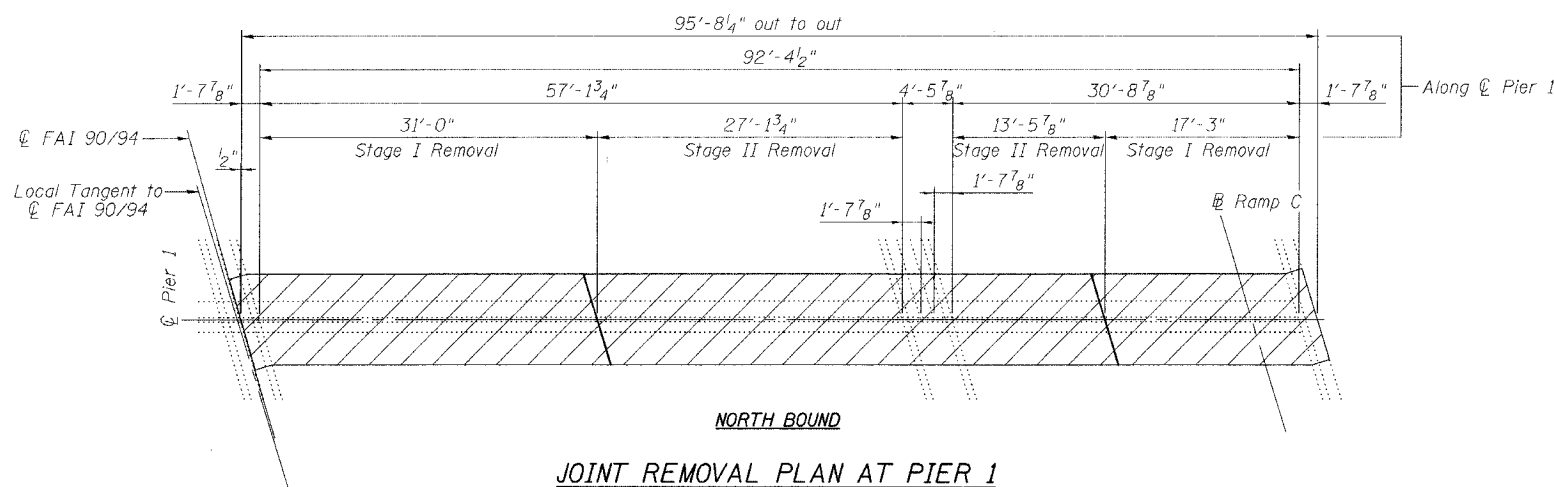


Note:  
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".

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

SECTION AT  
EXISTING FINGER PLATE

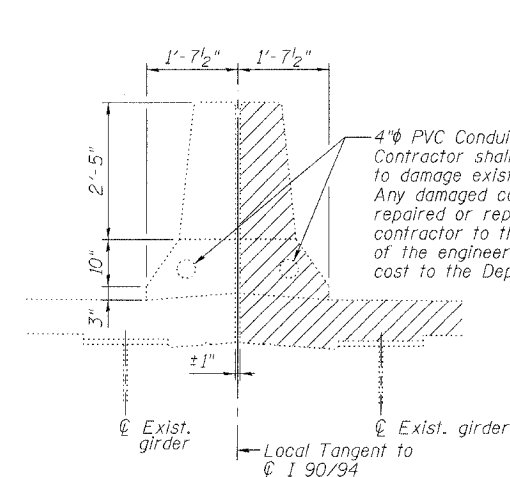
(Dimensions at Rt. L's)



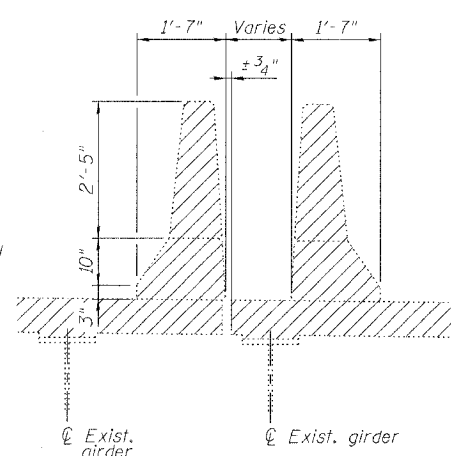
Notes:

Hatched Area indicates "Concrete Removal".  
Existing transverse bars in the deck are placed at right angles to  $\text{C} \text{ Roadway}$ . Existing transverse bars extending into removal areas shall be cut to miss the new finger joint, cleaned and incorporated into the new construction.

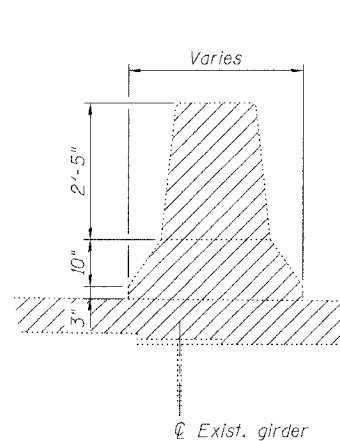
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 4.



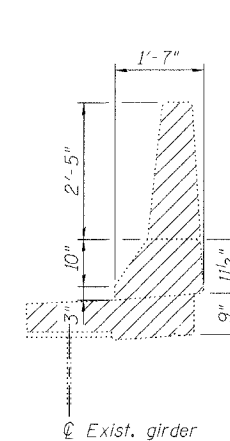
DETAIL AT EXISTING  $\text{C} \text{ FAI } 90/94$   
MEDIAN PARAPET  
(Dimensions at Rt. L's)



DETAIL AT EXISTING N.B. FAI 90/94  
& RAMP C PARAPET - SPAN 1  
(Dimensions at Rt. L's)



DETAIL AT EXISTING N.B. FAI 90/94  
& RAMP C PARAPET - SPAN 3  
(Dimensions at Rt. L's)



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

REVISIONS	
NAME	DATE

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

SCALE: VERT. HORIZ.  
DATE: 3/22/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: -

GREENE & BRADFORD, INC.  
OF SPRINGFIELD

COMPUTER FILE NO.  
04286-W01-NB-REM

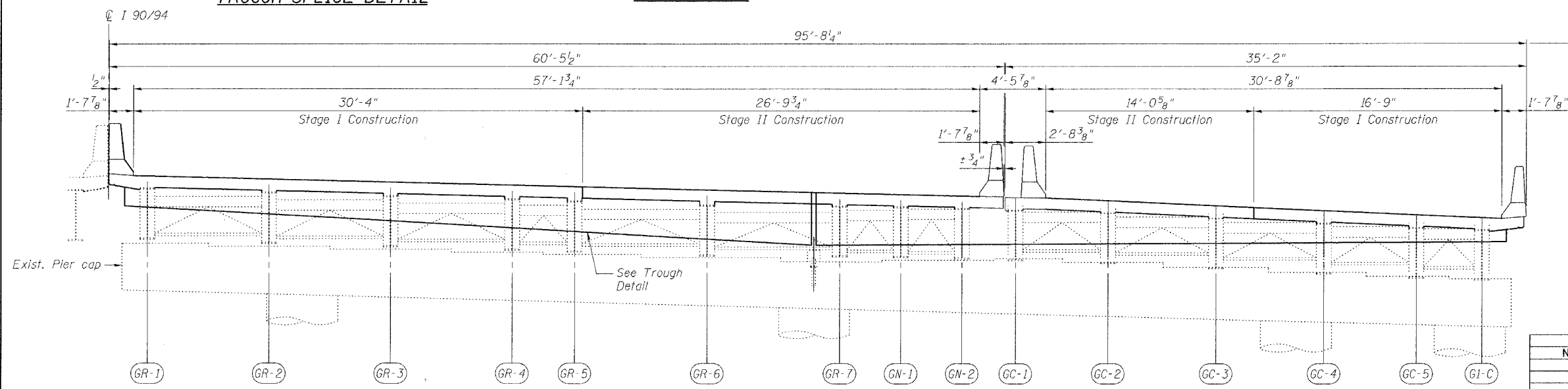
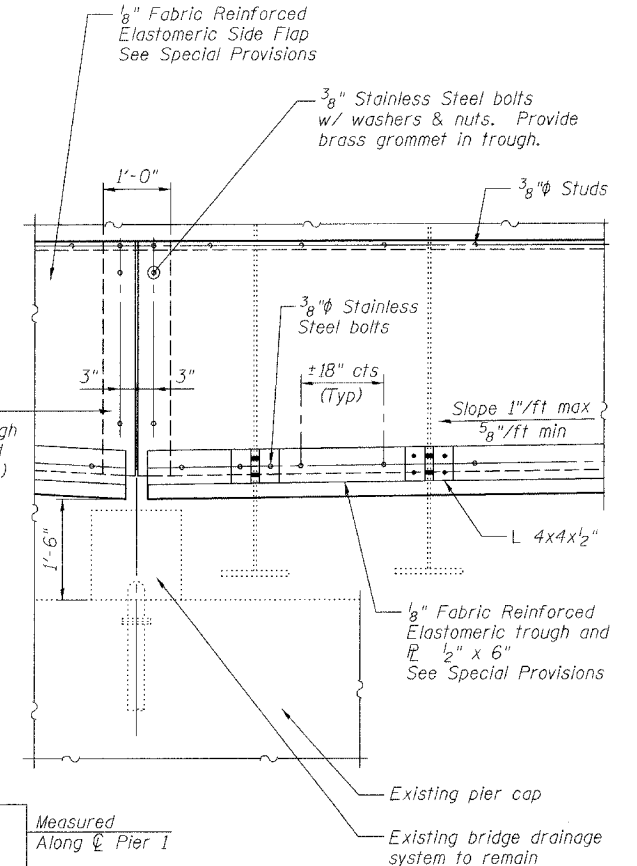
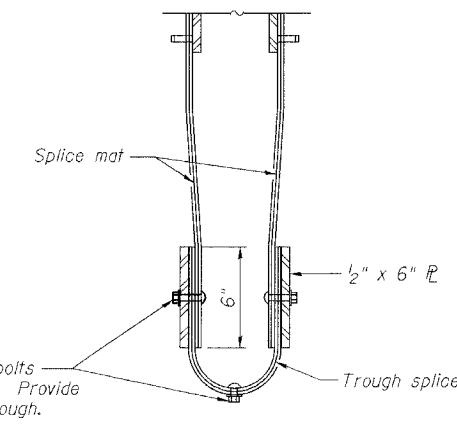
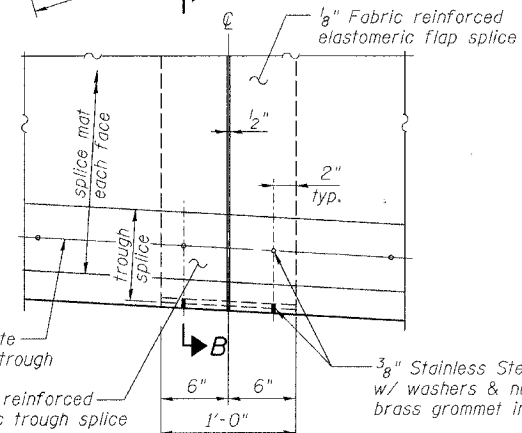
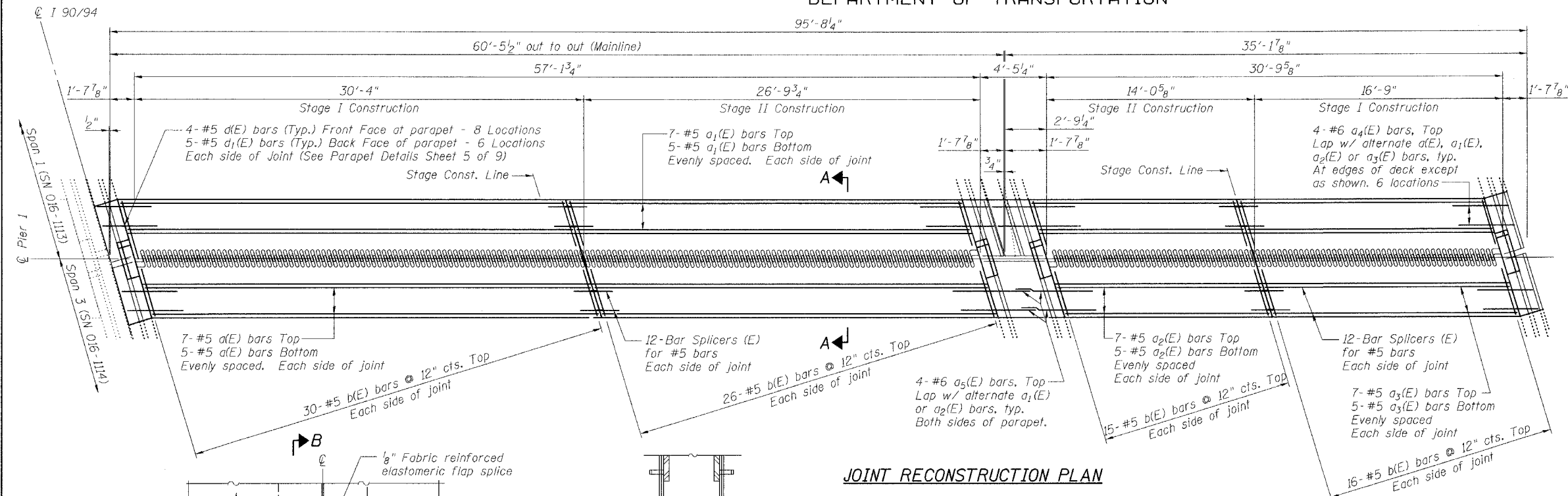
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OPERATOR = micheliei

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 93	SHEET NO. 58	SHEET NO. 3 9 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

\* 2005-008F  
Contract #62919



ELEVATION (LOOKING NORTH)  
(Showing Span 1 Deck Configuration)

- Notes:
- For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 9.
  - For Section A-A, see Sheet 4 of 9.

REVISIONS	
NAME	DATE

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

SCALE: VERT. 1"=4'-0"  
HORIZ. 1"=40'-0"  
DATE: 3/22/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: -

GREENE & BRADFORD, INC.  
CONSULTING ENGINEERS  
10211 S. WILSON AVE., CHICAGO, IL 60643  
TEL: 773-349-1000 FAX: 773-349-1001

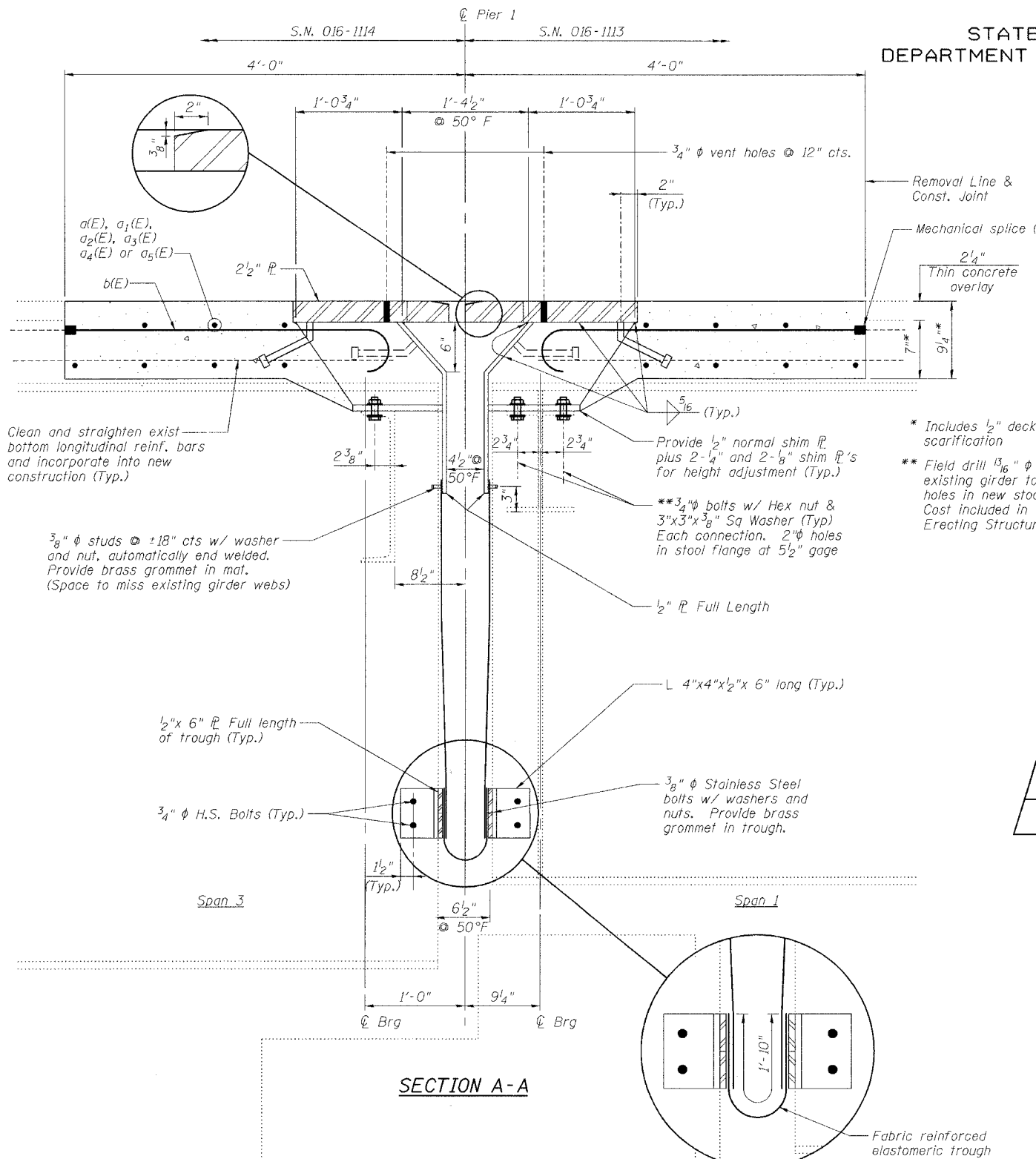
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6/21/05-MML

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	SHEET NO. 93	SHEET 59	SHEET NO. 4 9 SHEETS
------------------------	--------------	----------------	-----------------	-------------	-------------------------

\* 2005-008F  
Contract #62919



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

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

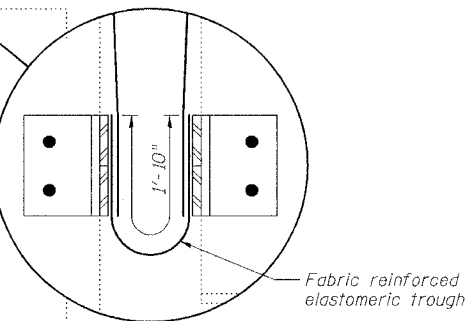
1/2" x 6"  $\bar{r}$  Full length of trough (Typ.)

3/4"  $\phi$  H.S. Bolts (Typ.)

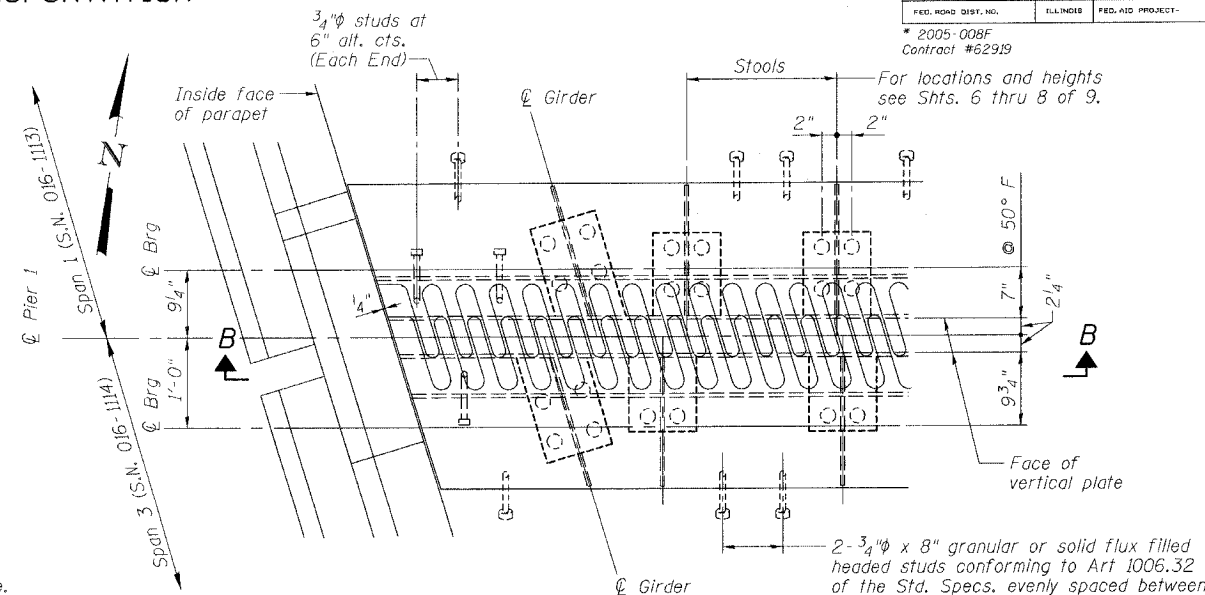
SECTION A-A

\* Includes 1/2" deck scarification

\*\* Field drill 1 3/16"  $\phi$  holes in existing girder top flanges using holes in new stools as a template. Cost included in "Furnishing and Erecting Structural Steel."

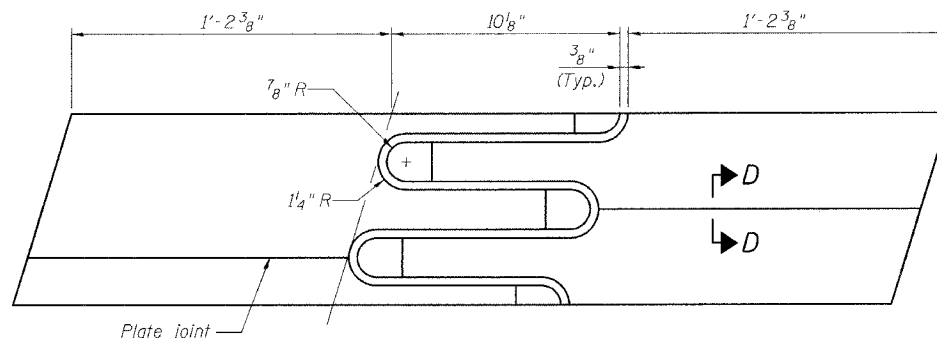


Fabric reinforced elastomeric trough



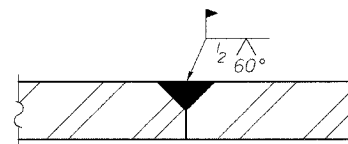
PLAN

2-3/4" x 8" granular or solid flux filled headed studs conforming to Art 1006.32 of the Std. Specs. evenly spaced between stools. Except as shown otherwise.

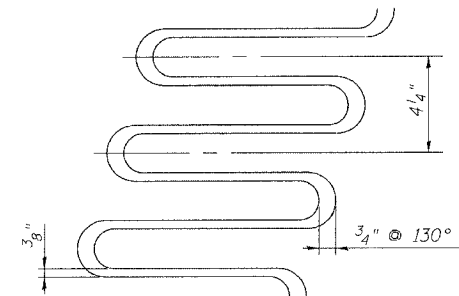


FLAME CUTTING DIAGRAM

(Proposed Finger  $\bar{r}$  - Cut from 2 1/2" x 3'-1 3/16"  $\bar{r}$ )



SECTION D-D



FINGER DETAIL

Finger Length = 10 1/8"  
Weld Length = 12 1/4"  
Weld Size = 5/16"  
Expansion length = 477.4"

NOTES

- The Contractor shall bolt the Stools of the Fingerplate Joint Assembly to the top of 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 of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Furnishing 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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER 1

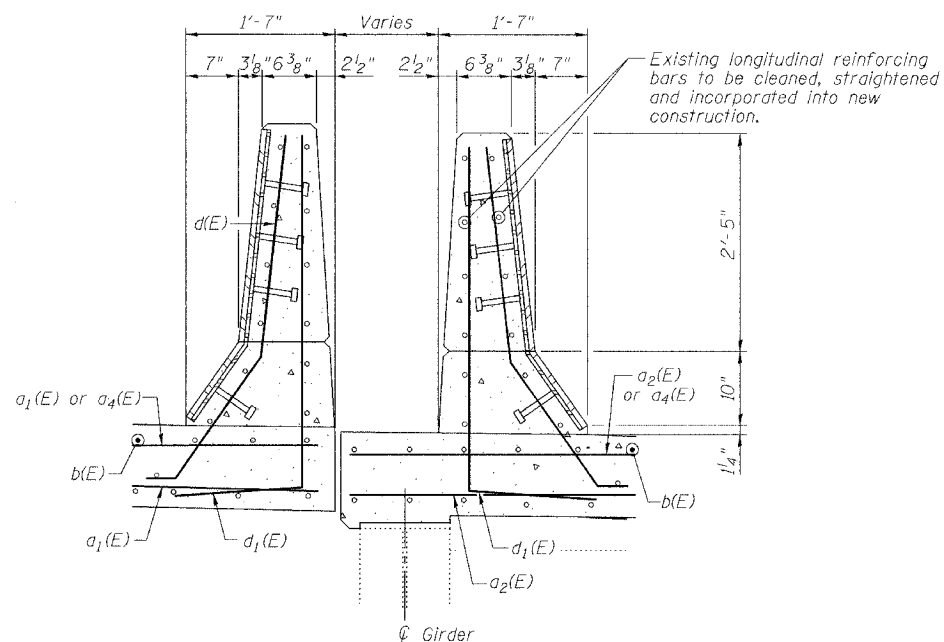
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DESIGNED BY: SANFORD  
CHECKED BY: -  
COMPUTER FILE NO.  
04286-W01-NB-FPJ  
PROJECT 04286-W01  
6/21/05-MML

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
STRUCTURAL DESIGN  
PROFESSIONAL ENGINEERING CORPORATION  
1011 W. MONROE ST. CHICAGO, ILL. 60606  
TEL: 312.467.1000 FAX: 312.467.1001

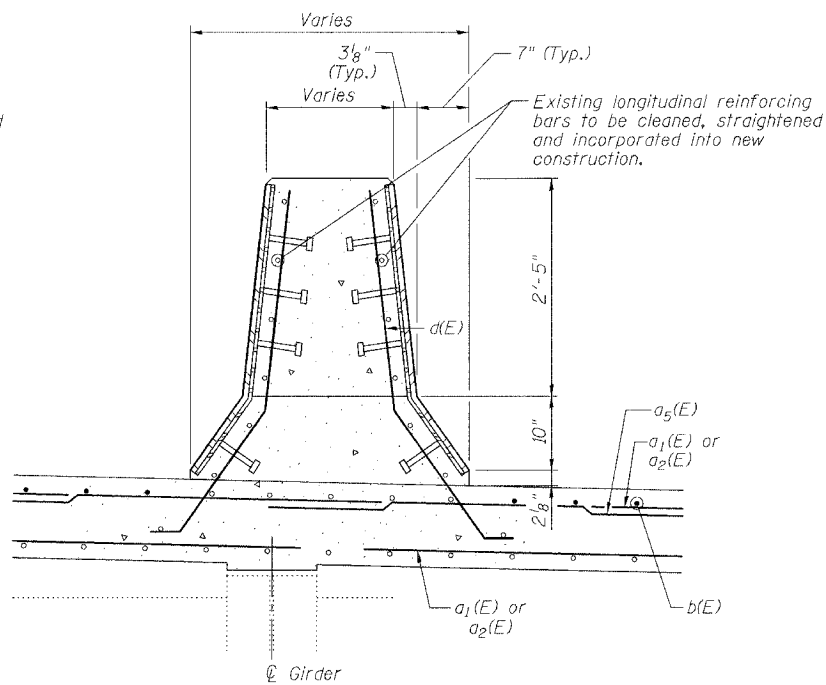
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 93	SHEET NO. 60	SHEET NO. 5 9 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

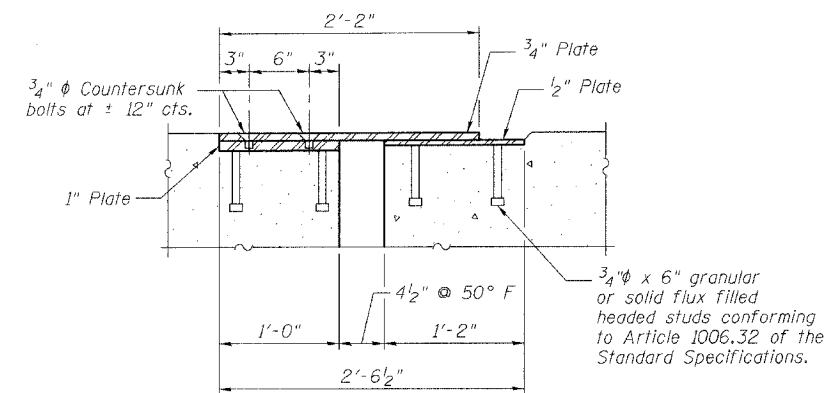
\* 2005-008F  
Contract #62919



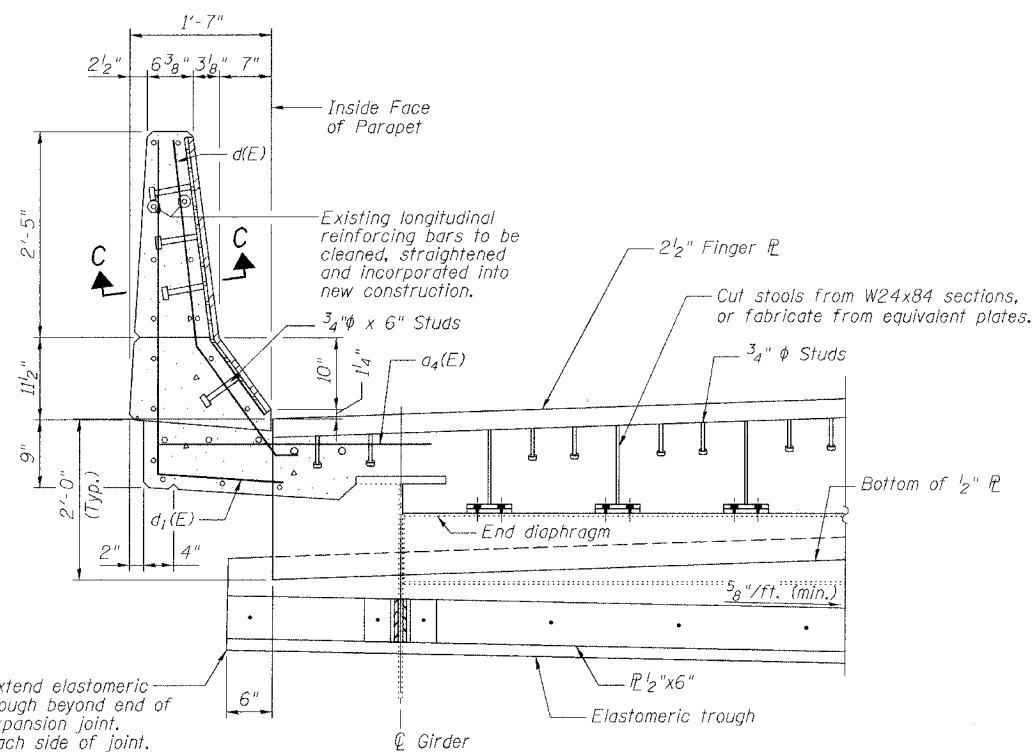
**DETAIL AT N.B. FAI 90/94 &  
RAMP C PARAPET - SPAN 1**  
(Dimensions at Rt. L's)



**DETAIL AT N.B. FAI 90/94 &  
RAMP E PARAPET - SPAN 3**  
(Dimensions at Rt. L's)

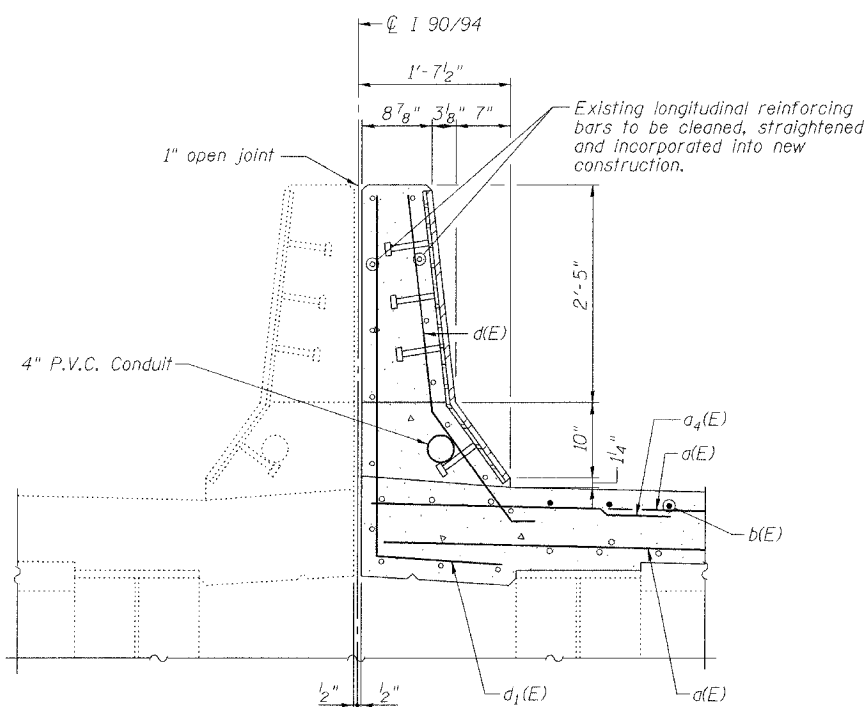


**SECTION C-C**



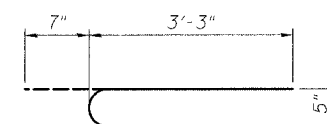
**SECTION B-B**

(For location of Section B-B, See Sheet 4 of 9)

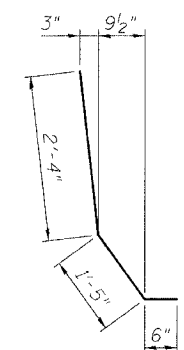


**DETAIL AT MEDIAN PARAPET**

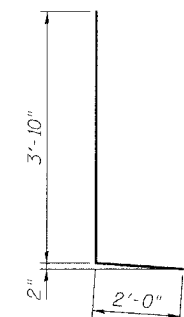
(Looking North)



**BAR b(E)**



**BAR d(E)**



**BAR d1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	24	#5	30'-9"	—
a1(E)	24	#5	27'-3"	—
a2(E)	24	#5	14'-6"	—
a3(E)	24	#5	17'-3"	—
a4(E)	24	#6	4'-6"	—
a5(E)	8	#6	5'-6"	—
b(E)	174	#5	3'-10"	—
d(E)	32	#5	4'-3"	—
d1(E)	30	#5	5'-10"	—
Reinforcement Bars, Epoxy Coated			Pound	3490
Concrete Superstructure			Cu. Yd.	25.1
Concrete Removal			Cu. Yd.	22.1
Bar Splicers			Each	48
Mechanical Splice			Each	174

Reinforcing bars designated (E) shall be epoxy coated.

**ILLINOIS DEPARTMENT OF TRANSPORTATION**

**PARAPET DETAILS**

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

SCALE: VERT. HORIZ. DATE: 3/22/05  
DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY:

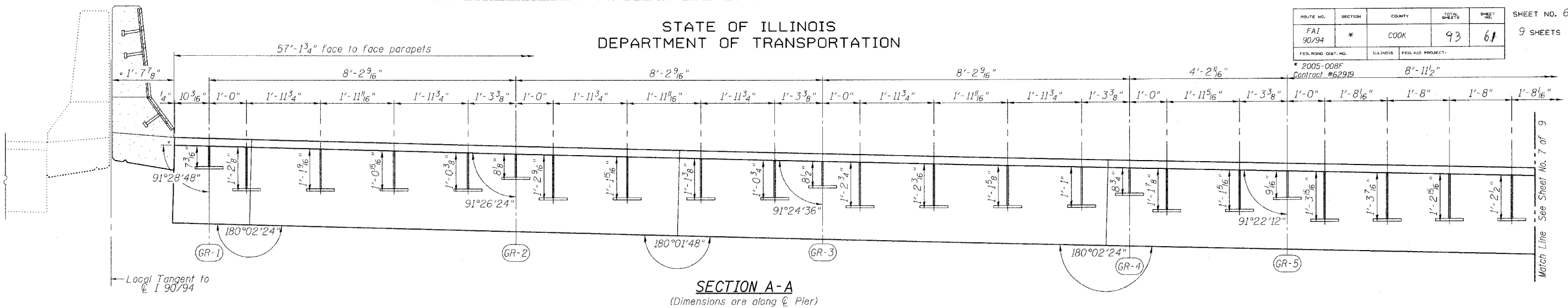
GREENE & BRADFORD, INC. (OF SPRINGFIELD)  
COMPUTER FILE NO. 04286-W01-NB-P0  
PROJECT 04286-W01  
6/21/05-MML

REVISIONS	
NAME	DATE

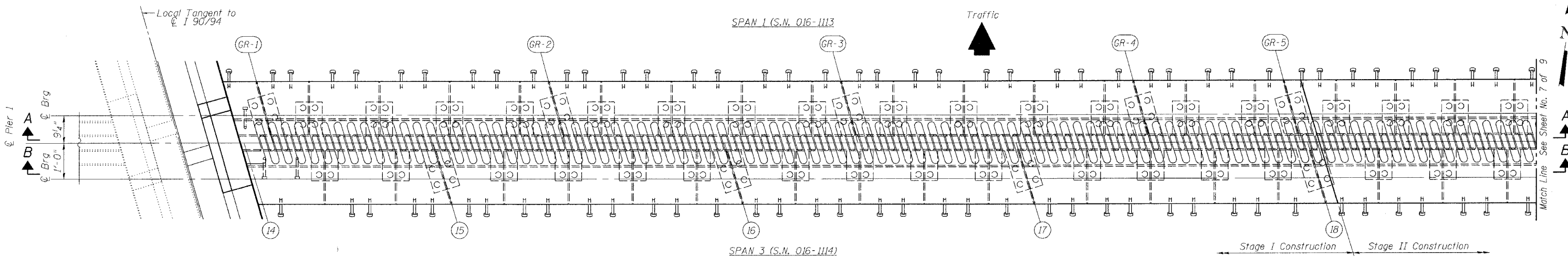
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OPERATOR = michellel

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

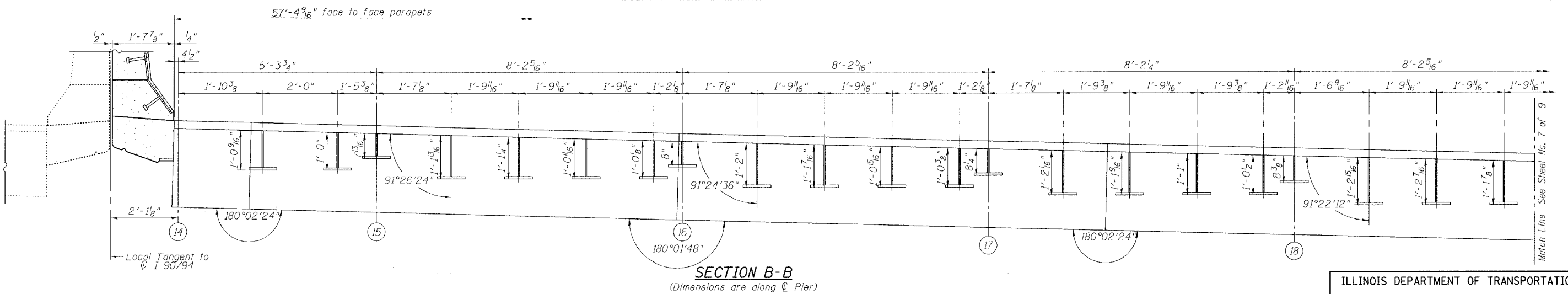
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FAI 90/94	*	COOK	93	61
FED. ROAD DIST. NO.	SUBSECTION	FED. AID PROJECT		
		2005-008F		
		Contract #62919		



SECTION A-A  
(Dimensions are along  $\phi$  Pier)



PLAN OF FINGER PLATE AT PIER 1



SECTION B-B  
(Dimensions are along  $\phi$  Pier)

REVISIONS	
NAME	DATE

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

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 3/22/05  
DRAWN BY: LANDREY  
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PROJECT 04286-W01  
6/21/05-MML

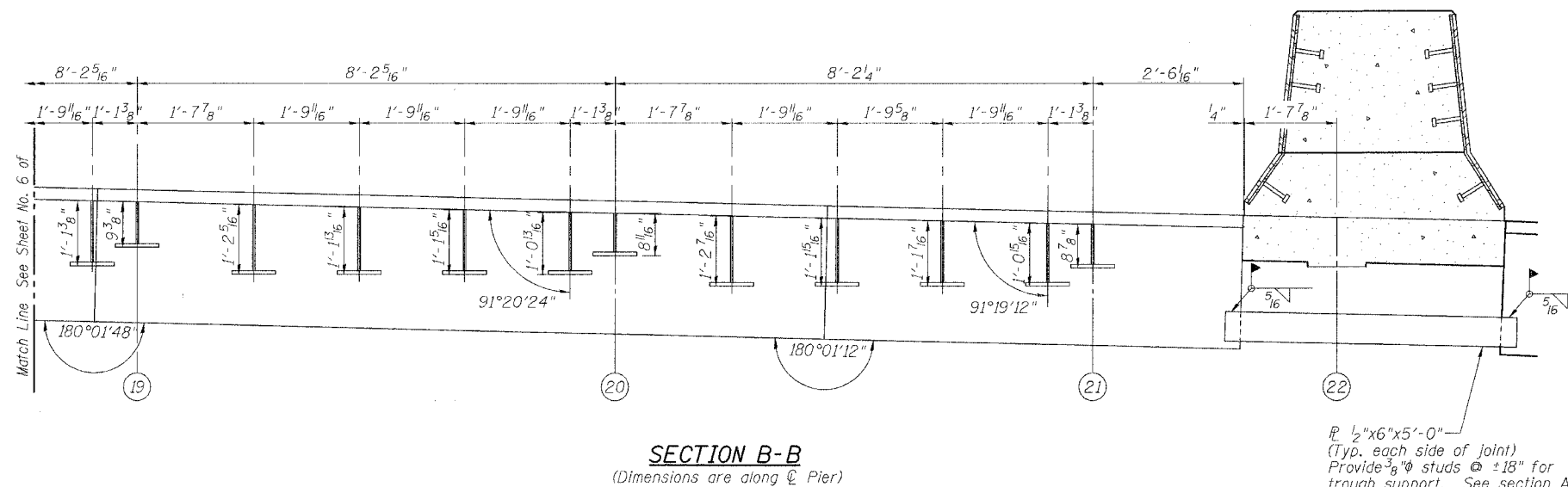
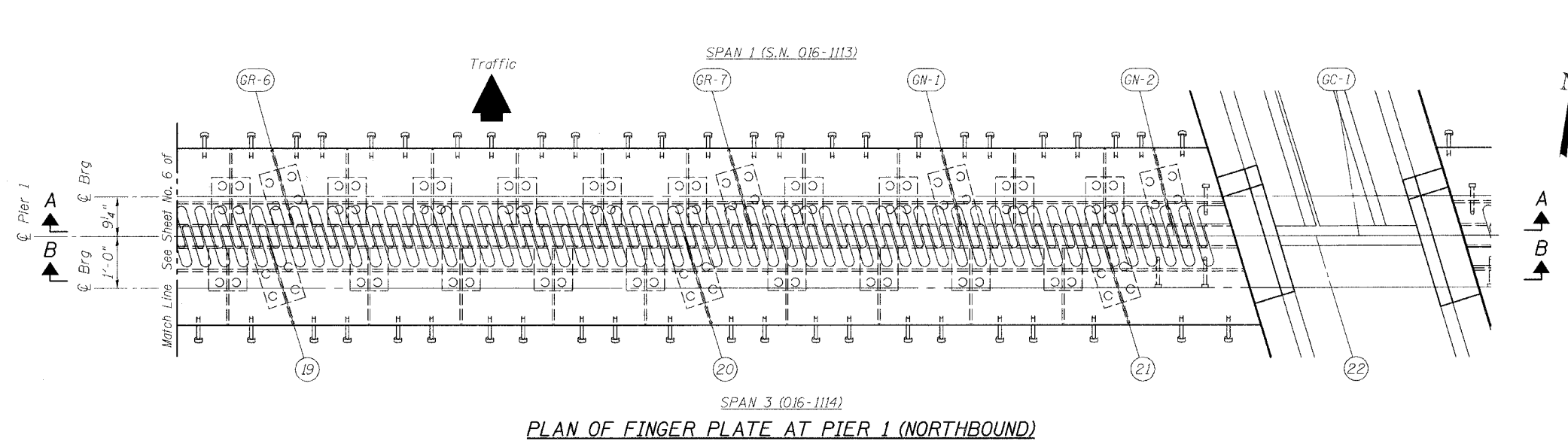
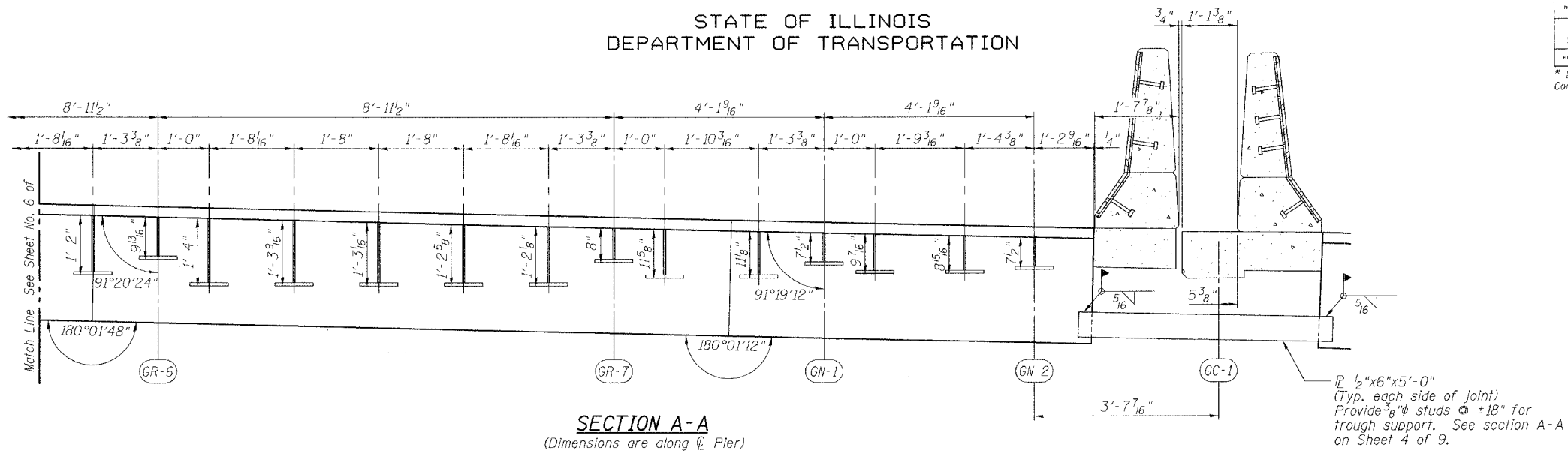


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OPERATOR = MICHAEL  
OPERATOR = MICHAEL

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	93	62
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62919				

SHEET NO. 7  
9 SHEETS



Note: Any structural steel prime coat removed for, or damaged by field welding shall be replaced in accordance with Section 506.05 of the Standard Specifications. Cost included with "Erecting Structural Steel".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**FINGER PLATE PLAN AND ELEVATION**

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

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 3/22/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

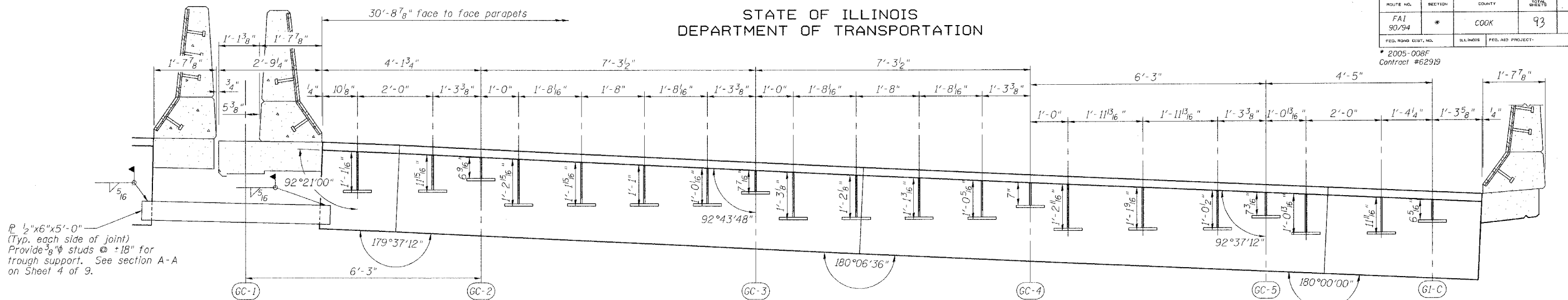
GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
PROFESSIONAL ENGINEERS  
PROFESSIONAL SURVEYORS  
PROFESSIONAL GEOTECHNICAL ENGINEERS  
PROFESSIONAL CIVIL ENGINEERS

COMPUTER FILE NO.  
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PROJECT 04286-W01  
6/21/05-MML

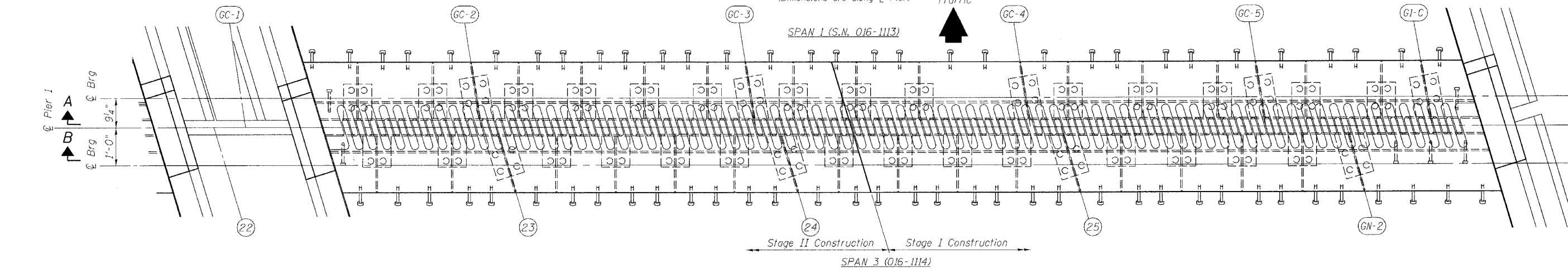
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

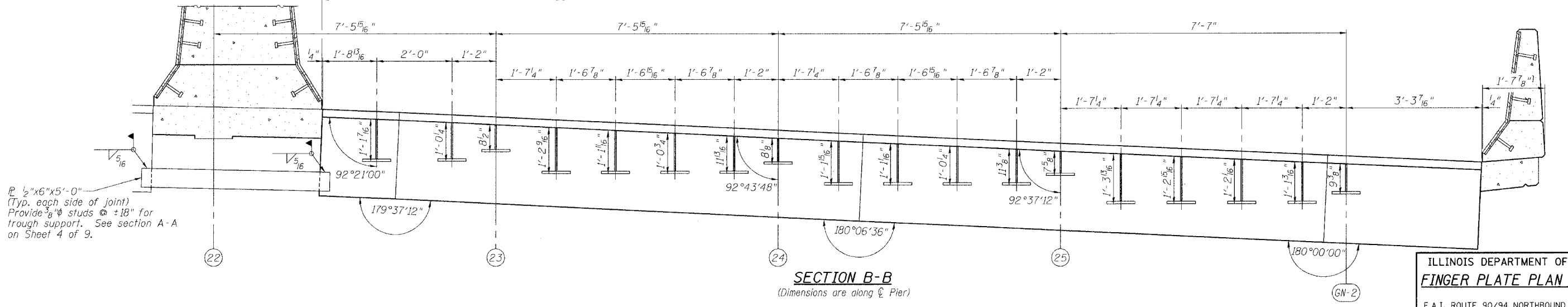
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FAI 90/94	*	COOK	93	63	9 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	* 2005-008F Contract #62919		



SECTION A-A  
(Dimensions are along C Pier)



PLAN OF FINGER PLATE AT PIER 1 (NORTHBOUND RAMP C)



SECTION B-B  
(Dimensions are along C Pier)

Note: Any structural steel prime coat removed for, or damaged by field welding shall be replaced in accordance with Section 506.05 of the Standard Specifications. Cost included with "Erecting Structural Steel".

ILLINOIS DEPARTMENT OF TRANSPORTATION  
FINGER PLATE PLAN AND ELEVATION

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

REVISIONS	
NAME	DATE

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 3/22/05

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DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

GREENE & BRADFORD, INC.  
(OF SPRINGFIELD)

COMPUTER FILE NO.  
04286-W01-NB-PE3  
PROJECT 04286-W01  
6/21/05-MML

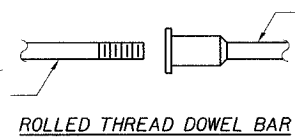
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FA1 90/94	*	COOK	43 64	9
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62919				

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

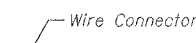
The diameter of this part is equal or larger than the diameter of bar spliced.



ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

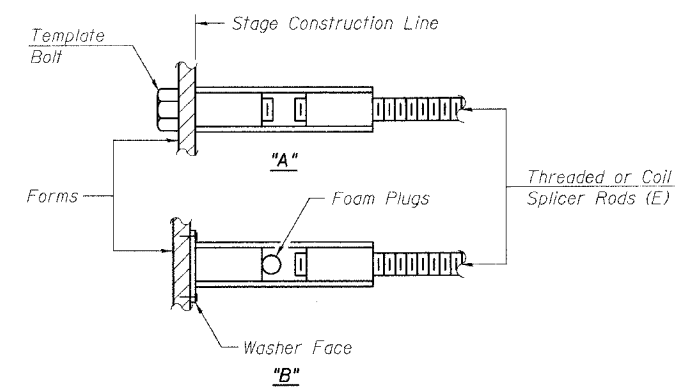


WIRE CONNECTOR

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

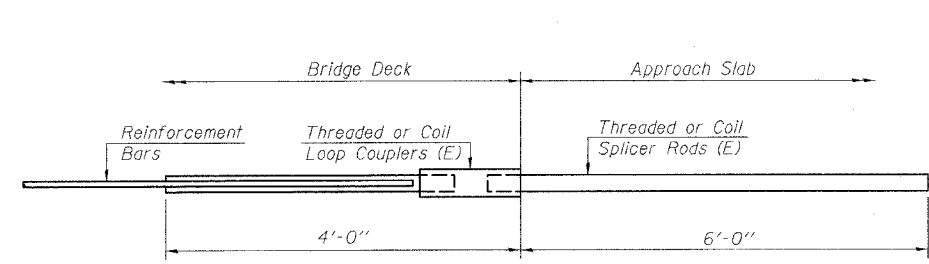
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to 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 (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

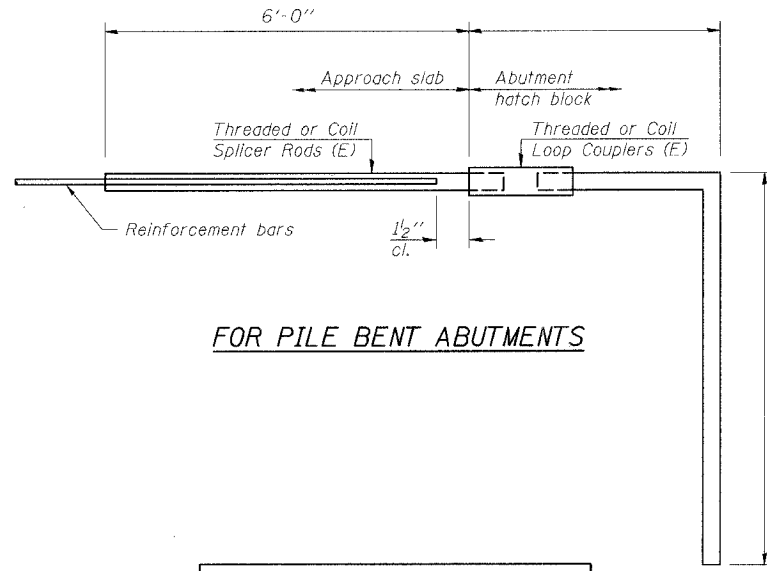
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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."



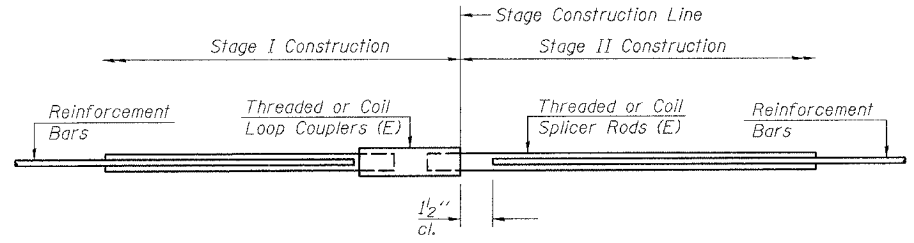
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER SOUTH BRANCH - CHICAGO RIVER  
COOK COUNTY  
S.N. 016-1113 - PIER 1

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 3/22/05

DRAWN BY: LANDREY  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

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		PROJECT 04286-W01 6/15/05-MML

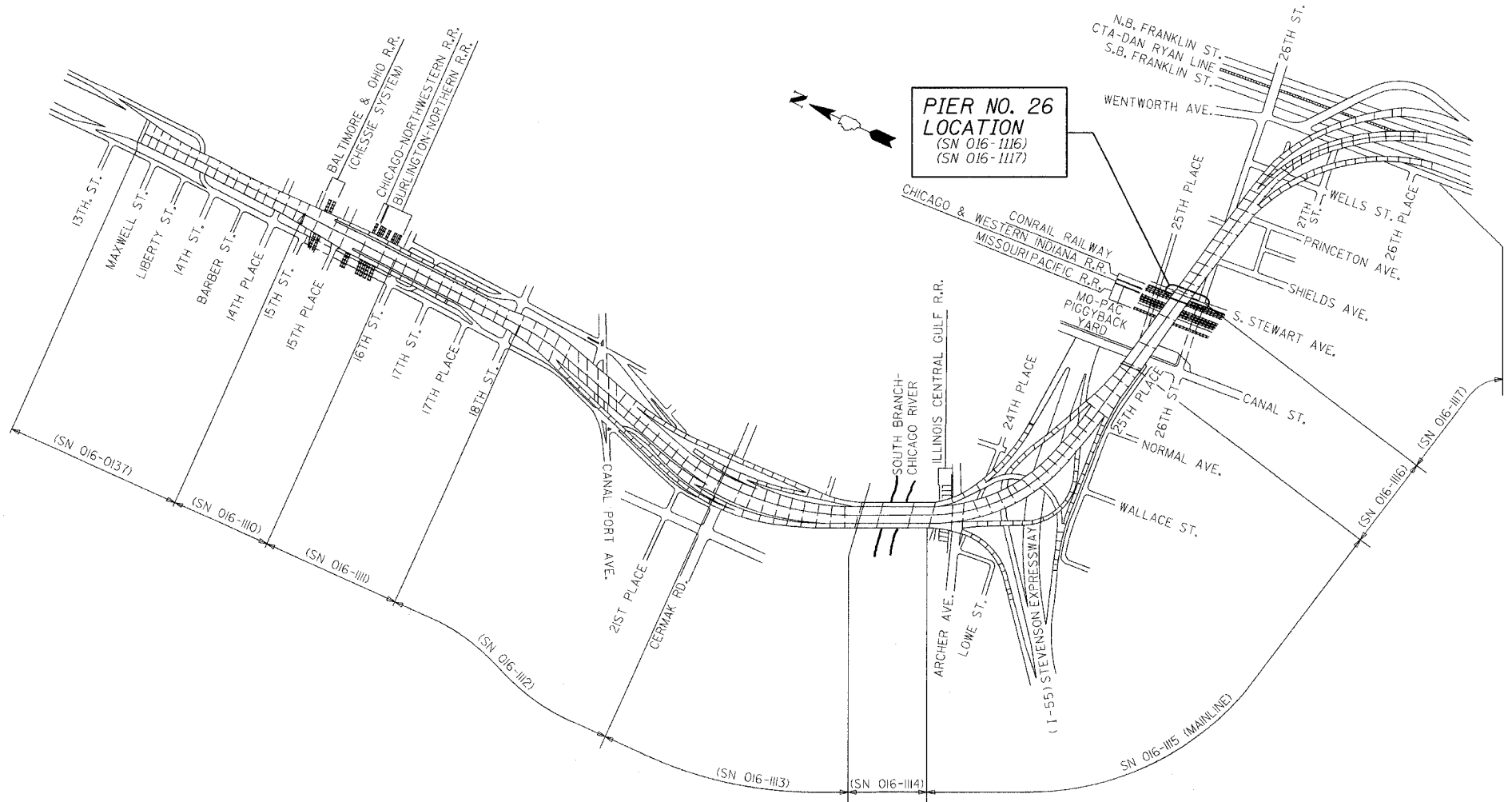
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAI 90/94	*	COOK	93	65
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

\* 2005 - 008F  
Contract #62919



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

**GENERAL NOTES**

Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{13}{16}$ "  $\phi$ , 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.  
Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
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.  
Existing design and fabrication plans are available upon request.  
All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 32,260 lbs.  
Field measurements are required to verify the proper dimensions of the finger plates and stools. See special provisions "Field Measurements".  
Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost included in "Furnishing 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 Structural Steel".  
Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

**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
Furnishing Structural Steel	L.S.	0.12
Furnishing Fabric Reinforced Elastomeric Trough	Foot	68
Field Measurements	L.S.	0.1
Storage Of Finger Plate Joints	Cal. Day	30



Details shown in these plans are to be used for the fabrication of the finger plates and troughs. Only the indicated payitems are part of this contract. Any details, notes and references to other work or payitems are provided for INFORMATION ONLY.

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

REVISIONS	
NAME	DATE

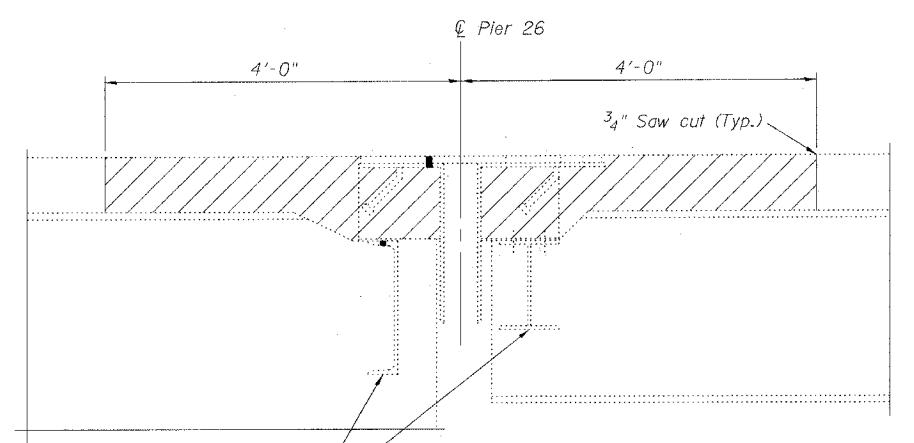
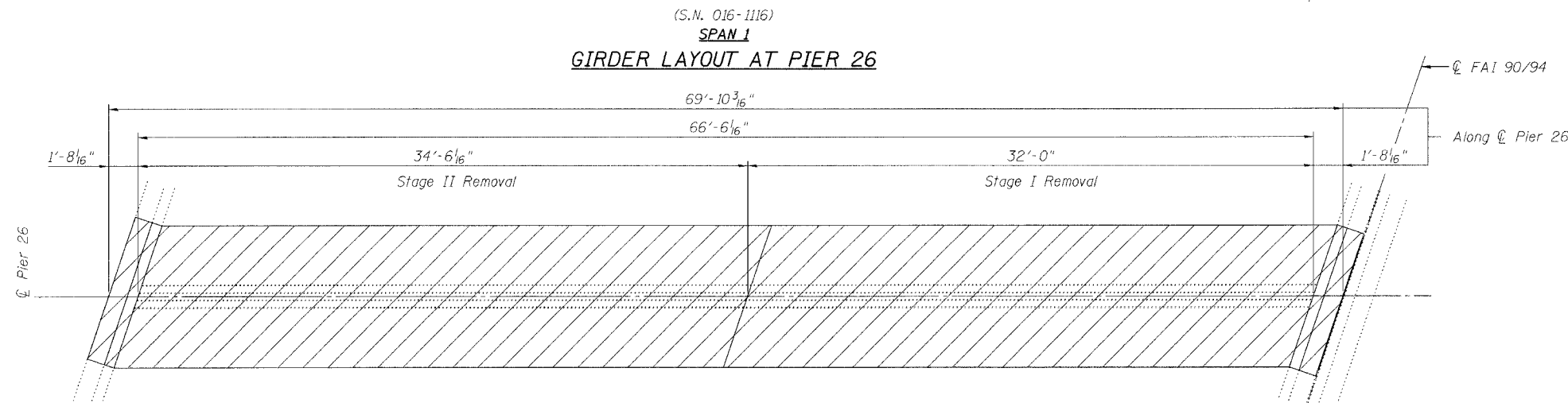
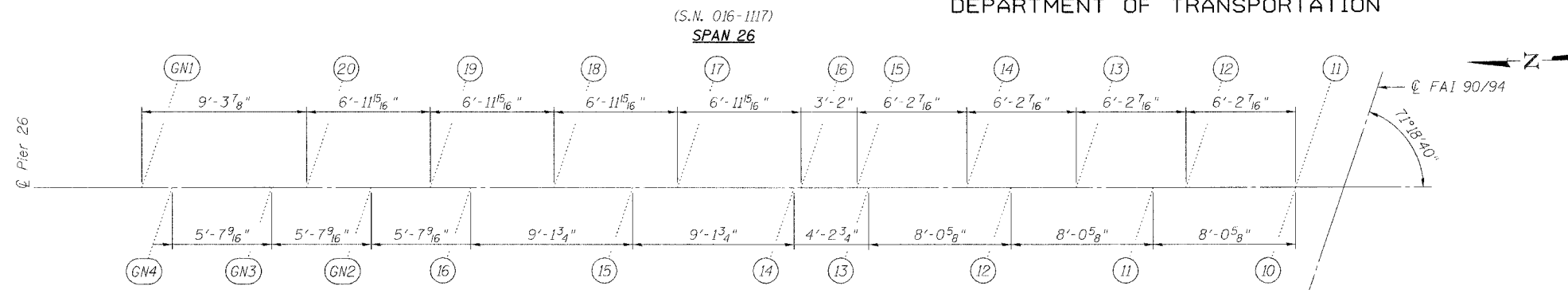
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OF SPRINGFIELD  
REGISTERED PROFESSIONAL ENGINEERS  
ILLINOIS LICENSE NO. 04286-W03-KEY  
PROJECT 04286-W03  
6/17/05-MML

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OPERATOR = MICHAEL

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

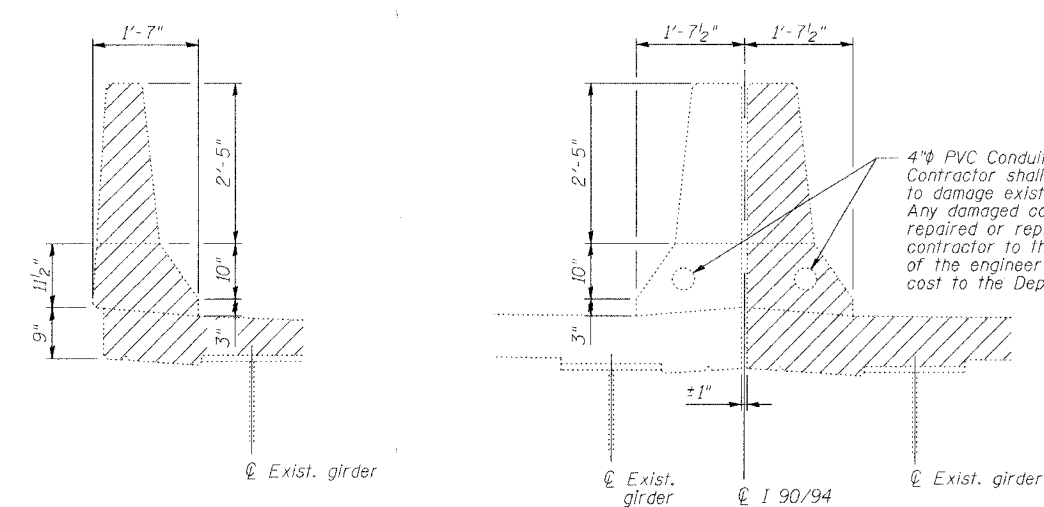
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FAI 90/94	*	COOK	93	66	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

\* 2005 - 008F  
Contract #62919



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". Existing transverse bars in the deck are placed at right angles to  $\perp$  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.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**FINGER PLATE EXPANSION JOINT REMOVAL DETAILS**  
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY) OVER 28th ST. TO S. STEWART ST.  
COOK COUNTY  
S.N. 016-1117 - PIER 26

SCALE: VERT. HORIZ.  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY:

GREENE & BRADFORD, INC.  
OF SPRINGFIELD

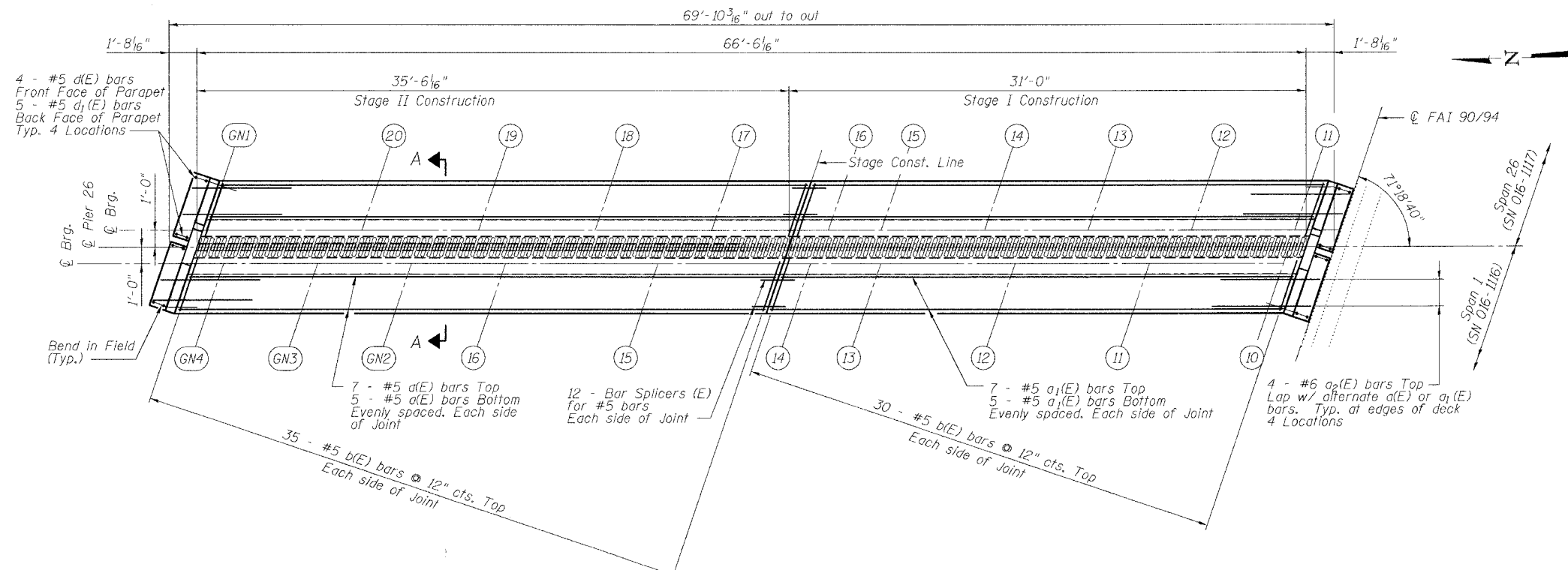
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PROJECT 04286-W03  
6/17/05-MML

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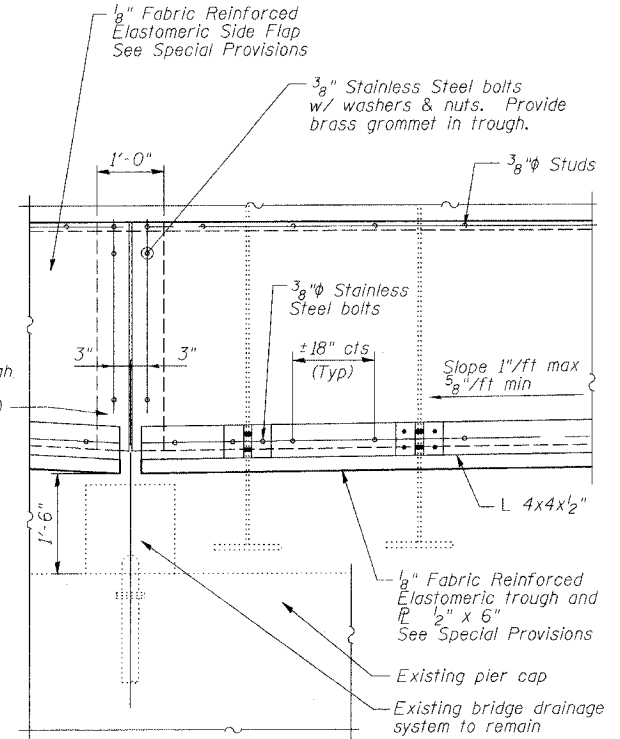
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
2005 - 008F		Contract #62919		

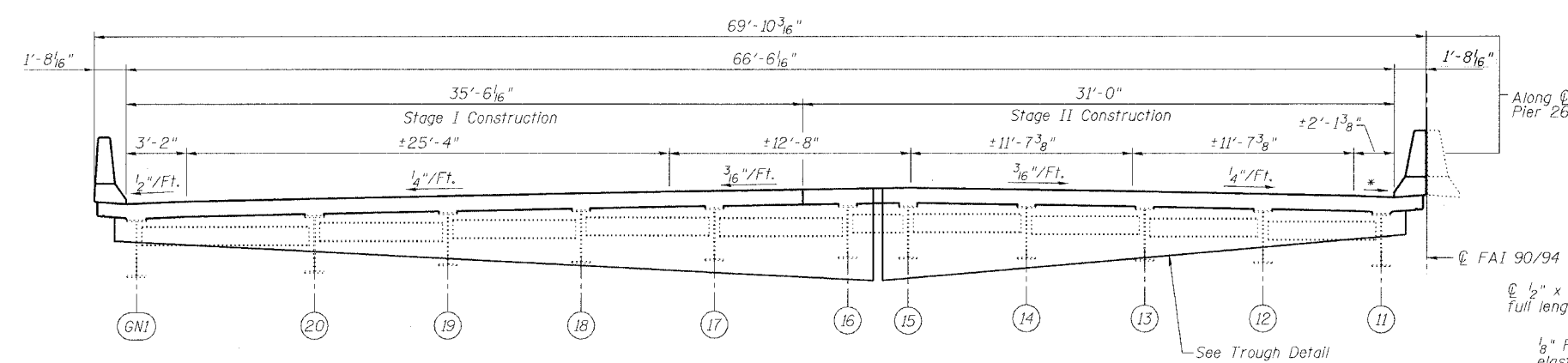
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8 SHEETS



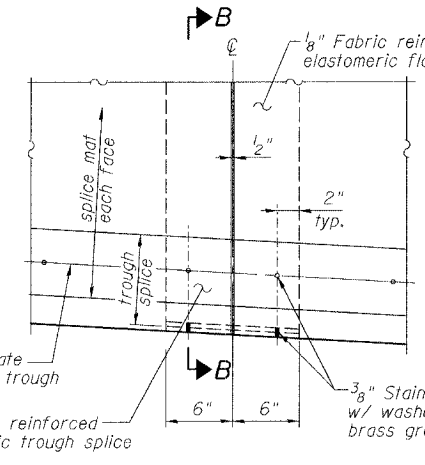
JOINT RECONSTRUCTION PLAN



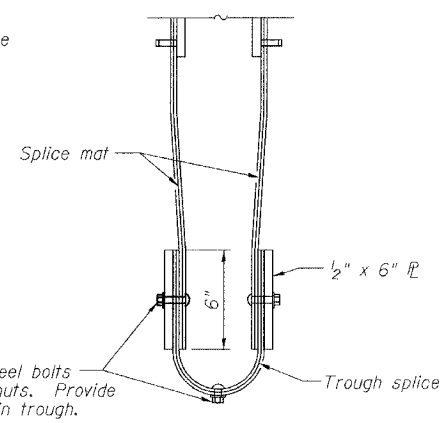
TROUGH DETAIL



ELEVATION (LOOKING EAST)  
(Showing Span 26 Configuration)



TROUGH SPlice DETAIL



SECTION B-B

- Notes:
- For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 8.
  - For Section A-A, see Sheet 4 of 8.
  - Deck cross slopes shown are at right angles to  $\bar{C}$  Rowy.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER 26 JOINT DETAILS**

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

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

COMPUTER FILE NO.  
04286-W03-PJ1  
PROJECT 04286-W03  
6/17/05-MML

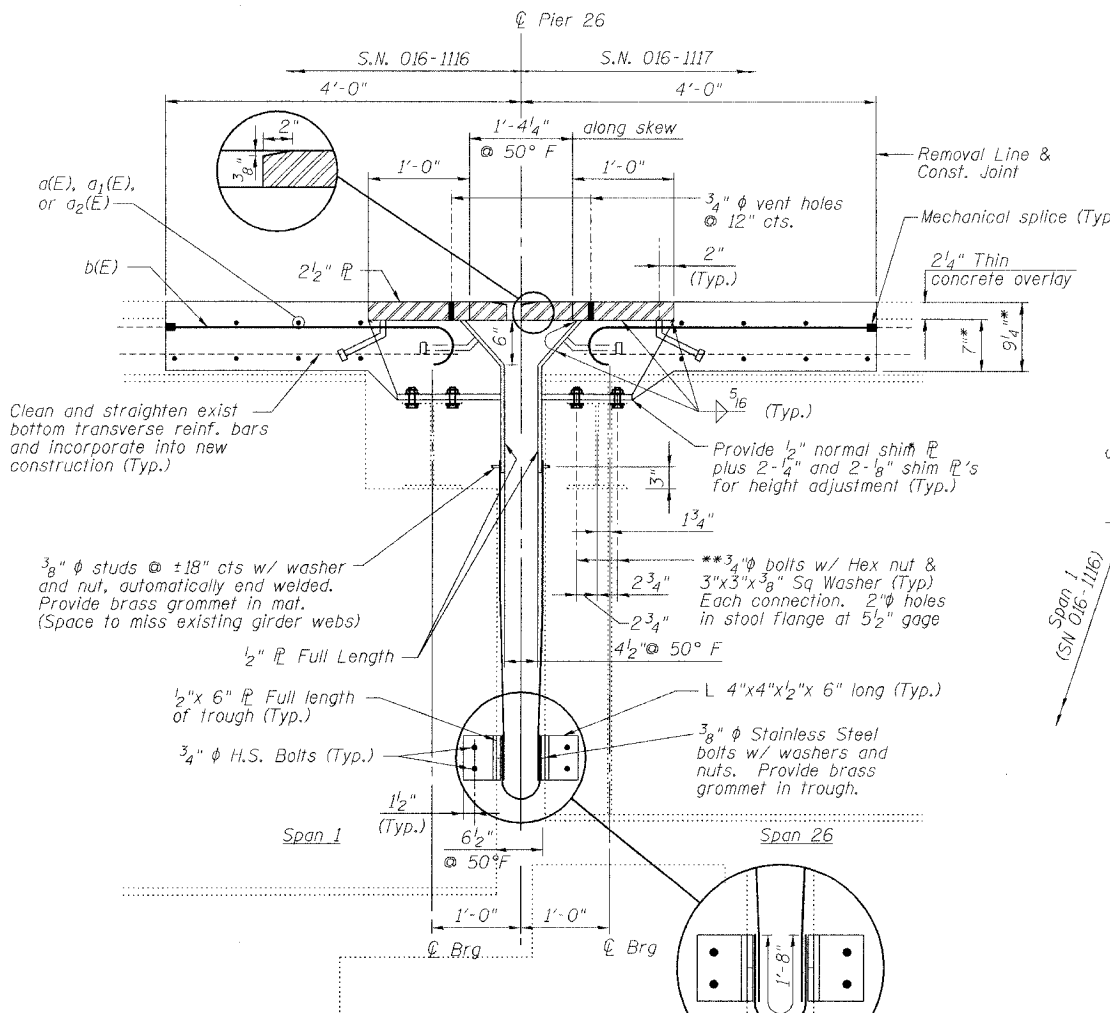
GREENE & BRADFORD, INC.  
OF SPRINGFIELD

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PLOT TIME = 3:02:43 PM  
OPERATOR = michelle

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

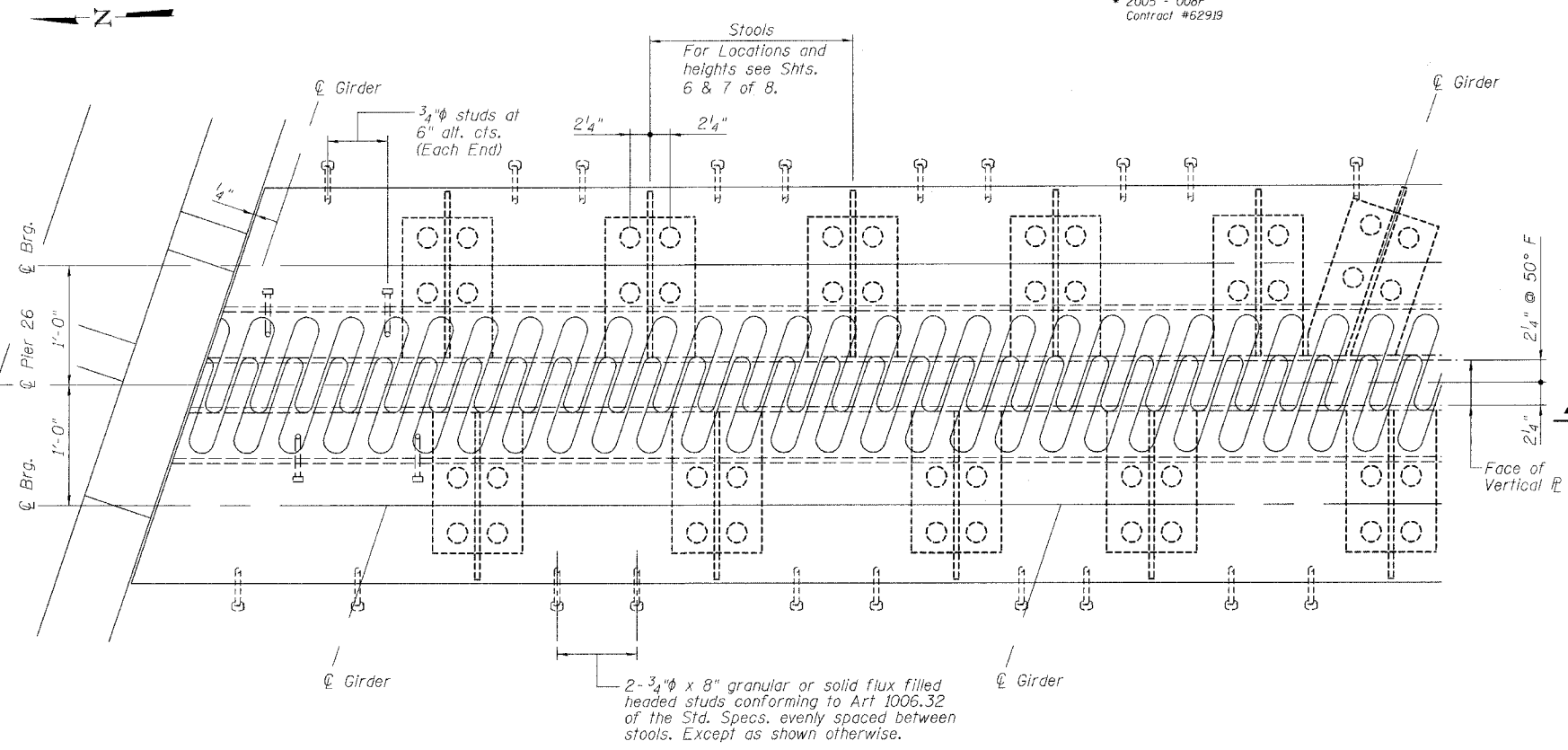
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4
FAI 90/94	*	COOK	93	68	8 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

\* 2005 - 008F  
Contract #62919



\* Includes 1/2" deck scarification  
\*\* Field drill 13/16" φ holes in existing girder top flanges using holes in new stools as a template. (Span 26 - S.N. 016-1117 Only) Cost included in "Furnishing and Erecting Structural Steel."

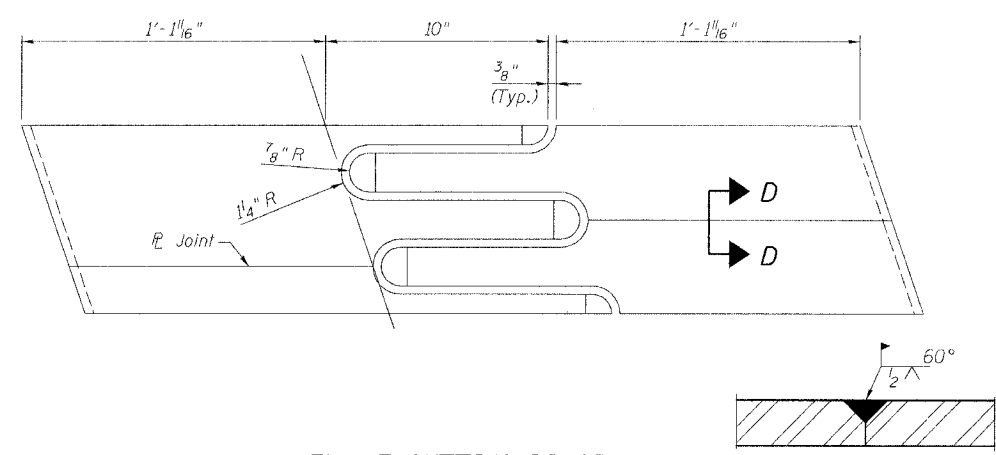
SECTION A-A



PLAN

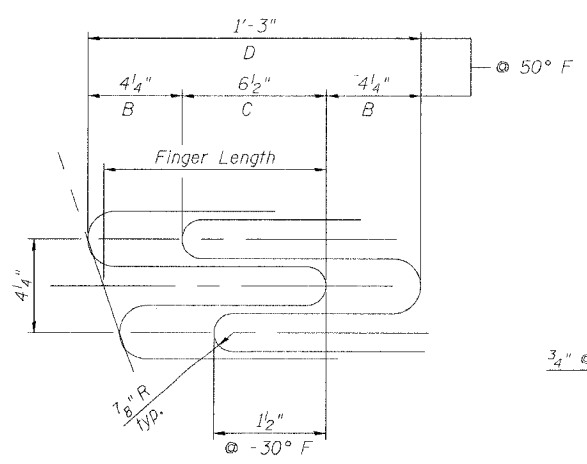
NOTES

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

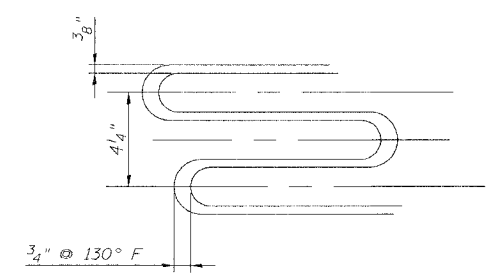


FLAME CUTTING DIAGRAM  
(Proposed Finger PL - Cut from 2 1/2" x 2'-11 3/4" PL)

SECTION D-D



FINGER DETAIL  
Finger Length = 10"  
Weld Length = 12"  
Weld Size = 3/16"  
Expansion Length = 567.1'



REVISIONS	
NAME	DATE

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

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_

COMPUTER FILE NO.  
04286-W03-FPJ  
PROJECT 04286-W03  
6/17/05-MML

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
REGISTERED PROFESSIONAL ENGINEERS  
PROFESSIONAL SERVICE NO. 04286-0019  
PROFESSIONAL & STRUCTURAL ENGINEERING CORPORATION  
ONE 783 884 137 783 882 75 1 E. ILL. - 61820

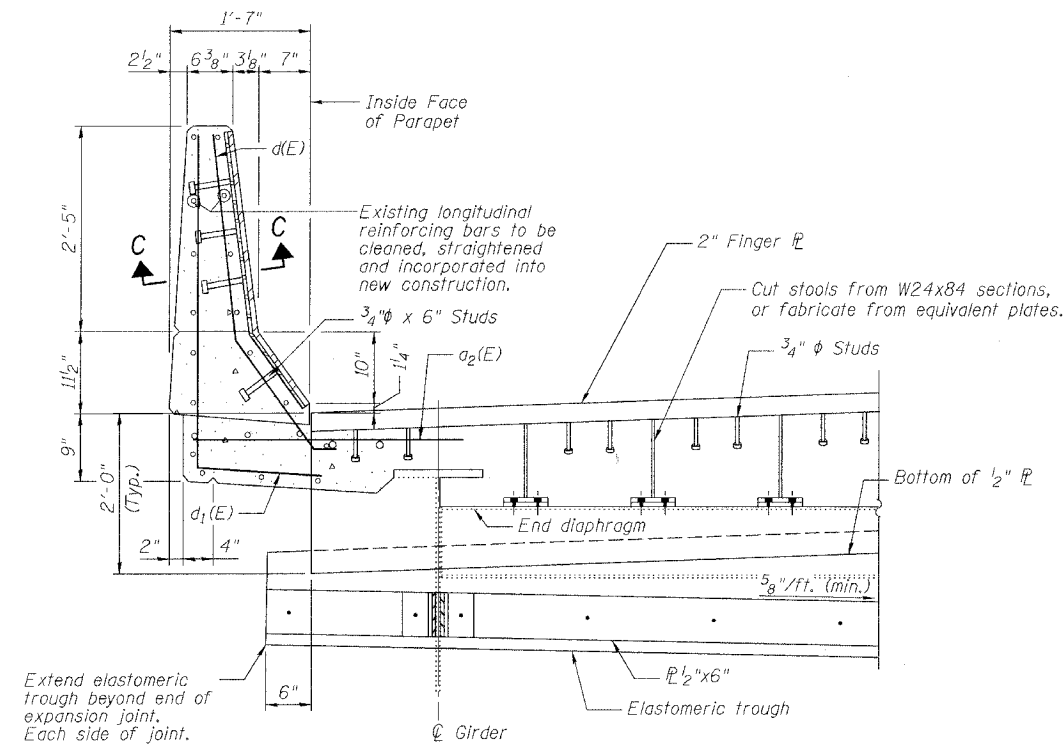
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PLOT TIME = \$PLOTTIME\$  
PLOT OPERATOR = \$PLOTOPERATOR\$

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNT	SHEETS	SHEET
FAI 90/94	*	COOK	93	69
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

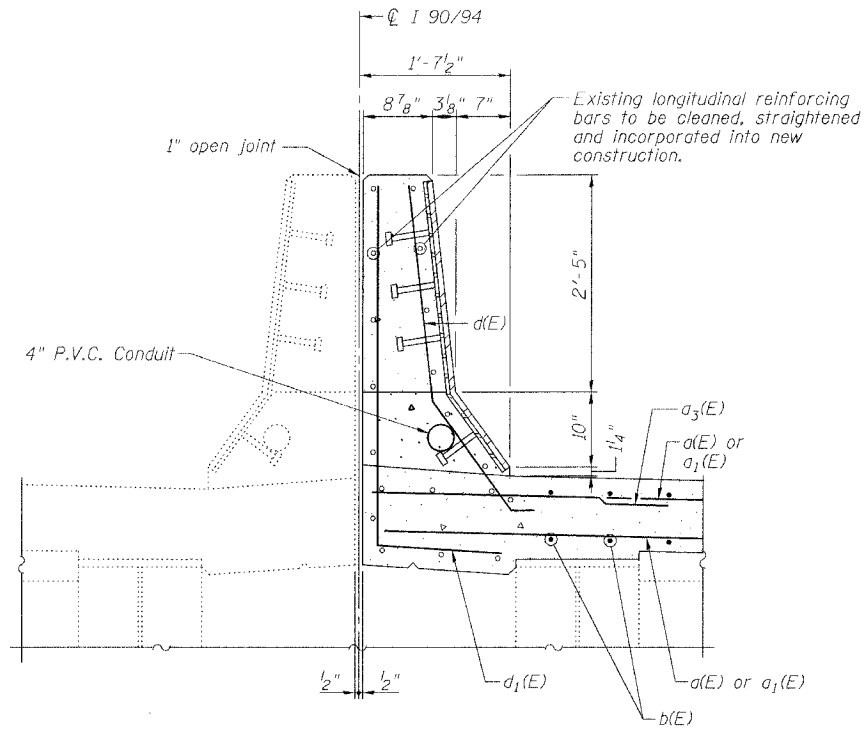
SHEET NO. 5  
8 SHEETS

\* 2005 - 008F  
Contract #62919



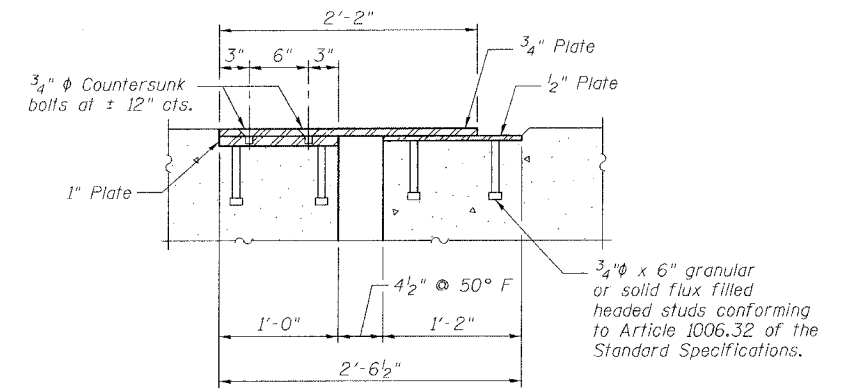
**SECTION B-B**

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

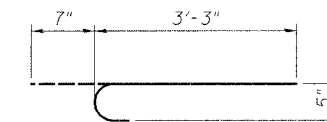


**DETAIL AT MEDIAN PARAPET**

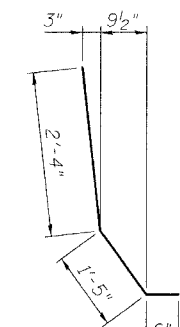
(Looking East)



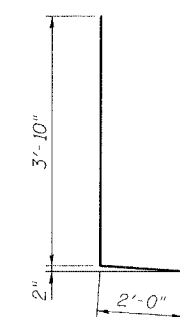
**SECTION C-C**



**BAR b(E)**



**BAR d(E)**



**BAR d1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	24	#5	34'-10"	—
a1(E)	24	#5	32'-4"	—
a2(E)	16	#6	4'-6"	—
b(E)	130	#5	3'-10"	—
d(E)	16	#5	4'-3"	—
d1(E)	20	#5	5'-10"	—
Reinforcement Bars, Epoxy Coated			Pound	2500
Concrete Superstructure			Cu. Yd.	18.3
Bar Splicers			Each	24
Mechanical Splice			Each	130

Reinforcing bars designated (E) shall be epoxy coated.

Bars indicated thus 1x2- #5 etc. indicates 1 line of bars with 2 lengths per line.

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PARAPET DETAILS**

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

SCALE: VERT.  
HORIZ.  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: -

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
INCORPORATED  
PROFESSIONAL ENGINEERS  
REGISTERED IN THE STATE OF ILLINOIS  
309 N. BARK ST. STE. 201, S.P. Bldg. - CHICAGO, ILL. 60610

COMPUTER FILE NO.  
04286-W03-PD  
PROJECT 04286-W03  
6/17/05-MML

REVISIONS	
NAME	DATE

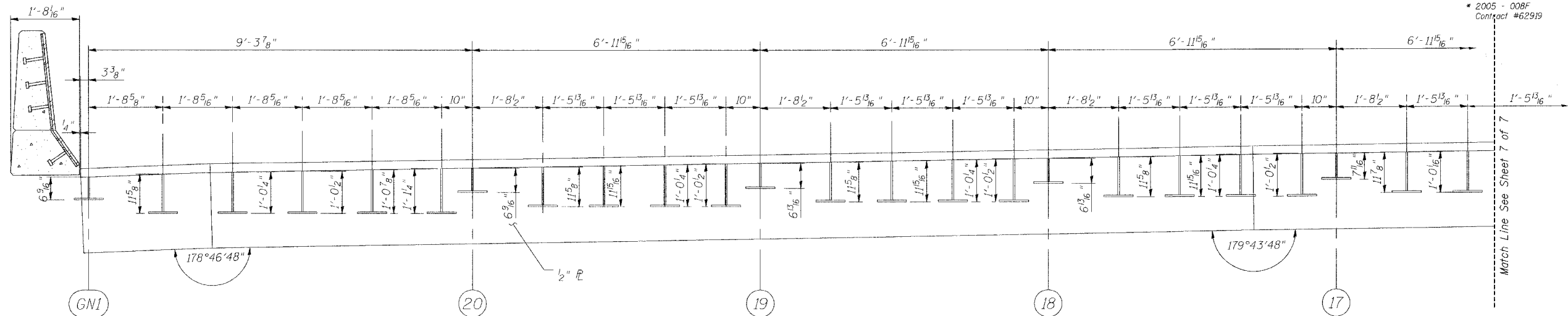
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	#	COOK	93	70
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

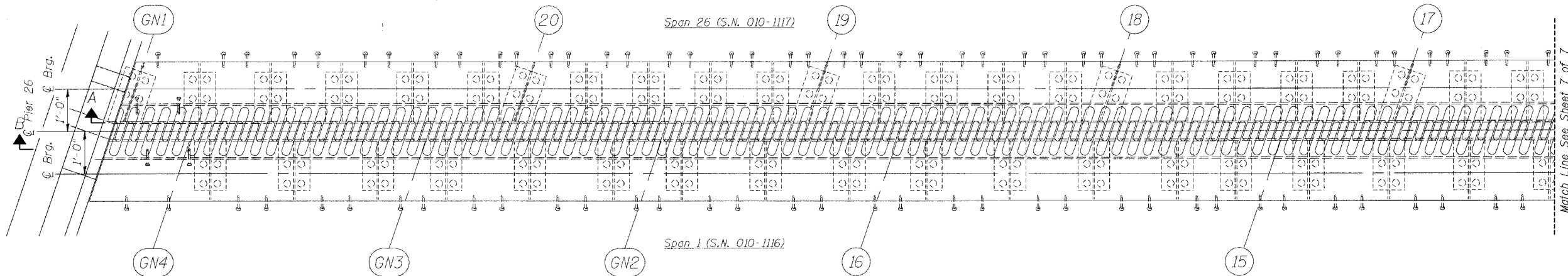
SHEET NO. 6  
8 SHEETS

2005 - 008F  
Contract #62919

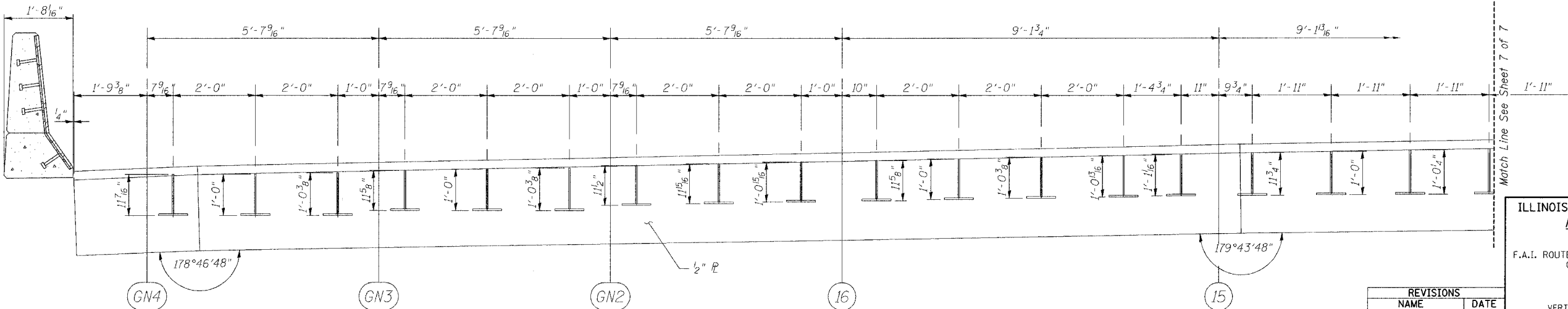


**SECTION A-A**

(Spacing along Face of 1/2" Vert. R.)



**PLAN OF FINGER P AT PIER 26 (NORTHBOUND)**



**SECTION B-B**

(Spacing along Face of 1/2" Vert. R.)

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

REVISIONS	
NAME	DATE

SCALE: VERT. 1"=1'-0"  
HORIZ. 1"=10'-0"  
DATE: 2/17/05

DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: -

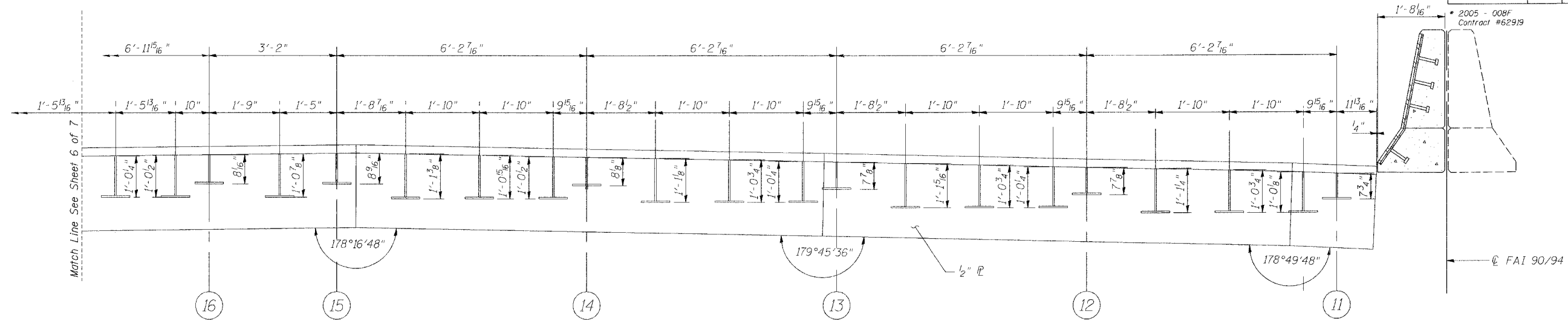
GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
REGISTERED PROFESSIONAL ENGINEERS  
ILLINOIS LICENSE NO. 04286-W03  
PROJECT 04286-W03  
6/17/05-MML

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PLOT OPERATOR = \$PLOTOPERATOR\$

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

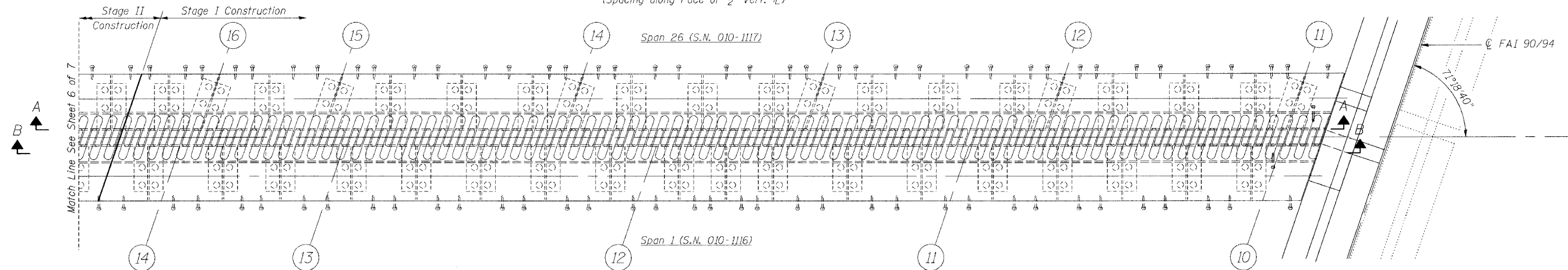
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FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO. 7  
8 SHEETS

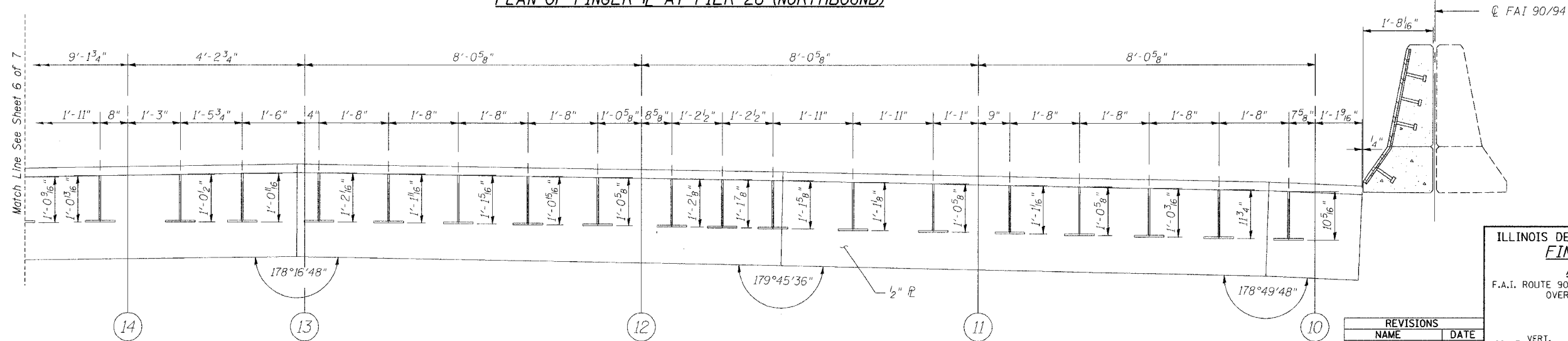


**SECTION A-A**

(Spacing along Face of 1/2" Vert. P.)



**PLAN OF FINGER P AT PIER 26 (NORTHBOUND)**



**SECTION B-B**

(Spacing along Face of 1/2" Vert. P.)

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

REVISIONS	
NAME	DATE

SCALE: VERT. HORIZ.  
DATE: 2/17/05  
DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY:  
GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
300 WASHINGTON ST.  
SPRINGFIELD, ILL. 62782  
PROFESSIONAL ENGINEER REG. NO. 04286-0001  
ILL. EXPIRES 12/31/05  
COMPUTER FILE NO. 04286-W02-PE1  
PROJECT 04286-W03  
6/17/05-MML

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PLOT TIME = \$PLOTTIME\$  
OPERATOR = \$OPERATOR\$

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DIST.	SHEET NO.	SHEET NO. 8
FAI 90/94	*	COOK	93	72	8 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

\* 2005 - 008F  
Contract #62919

**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 SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#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

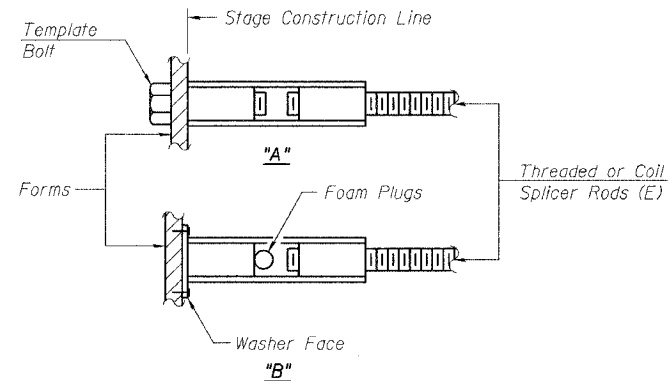
Wire Connector



WELDED SECTIONS

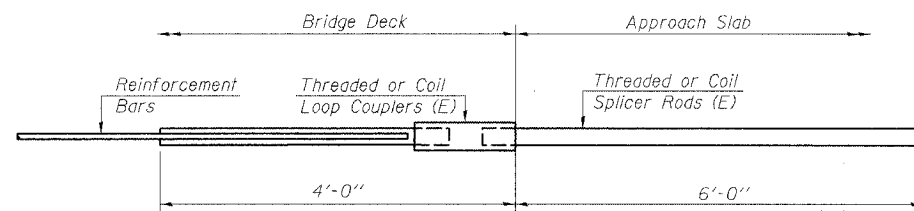
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



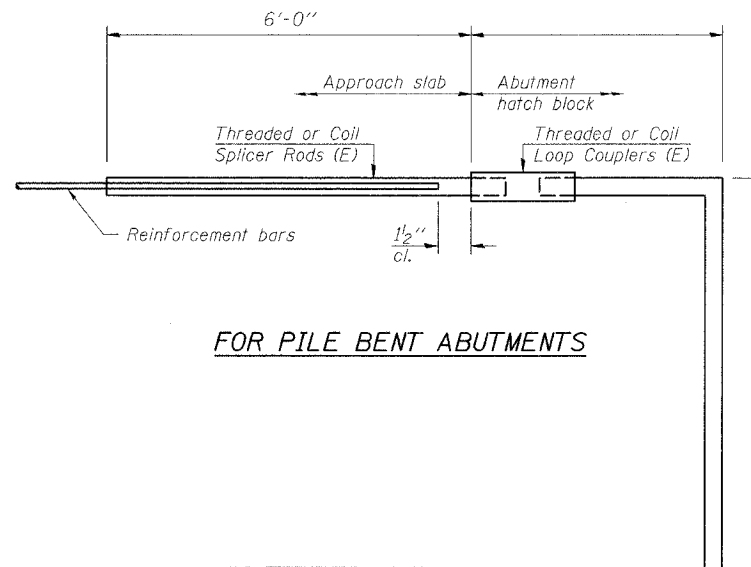
**INSTALLATION AND SETTING METHODS**

"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.



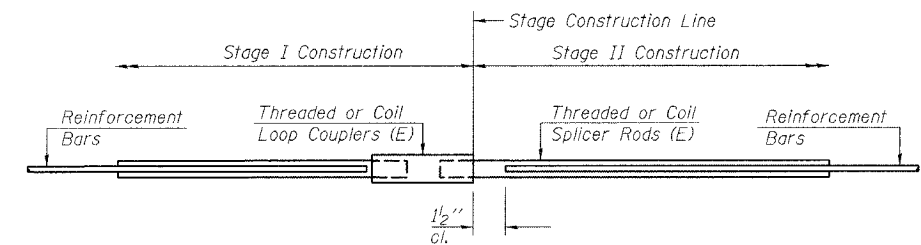
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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 NORTHBOUND (DAN RYAN EXPRESSWAY)  
OVER 28th ST. TO S. STEWART ST.  
COOK COUNTY  
S.N. 016-1117 - PIER 26

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE: 2/17/05  
DRAWN BY: HEBERLING  
DESIGNED BY: SANFORD  
CHECKED BY: \_\_\_\_\_  
COMPUTER FILE NO. 04286-W03-BSD  
PROJECT 04286-W03  
6/17/05-MML



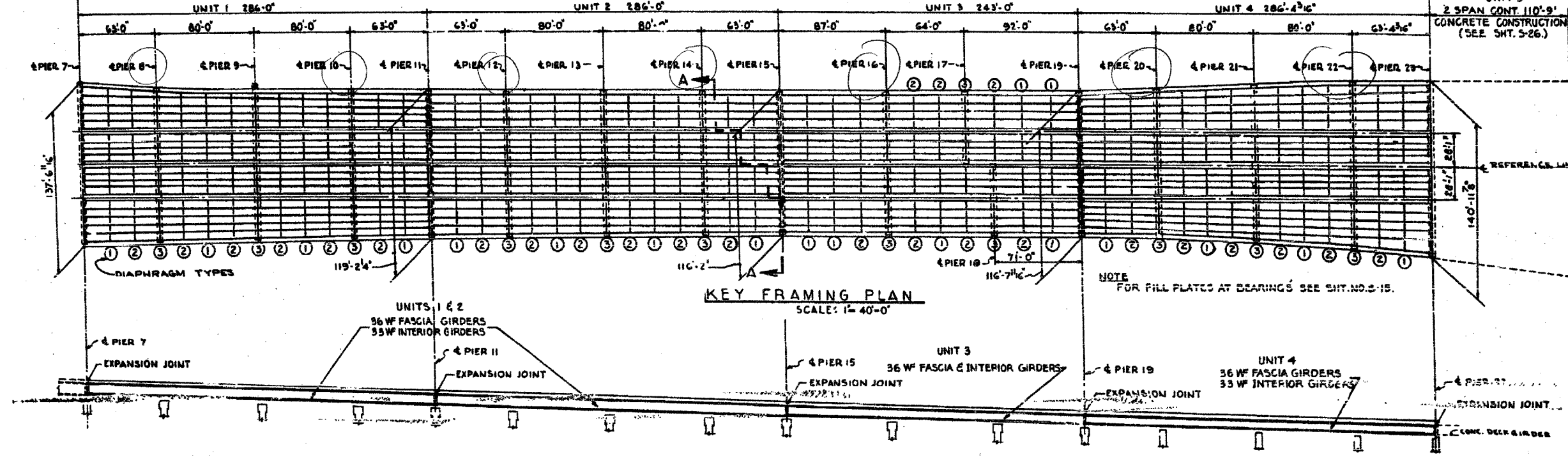
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BSD-1

10-22-04

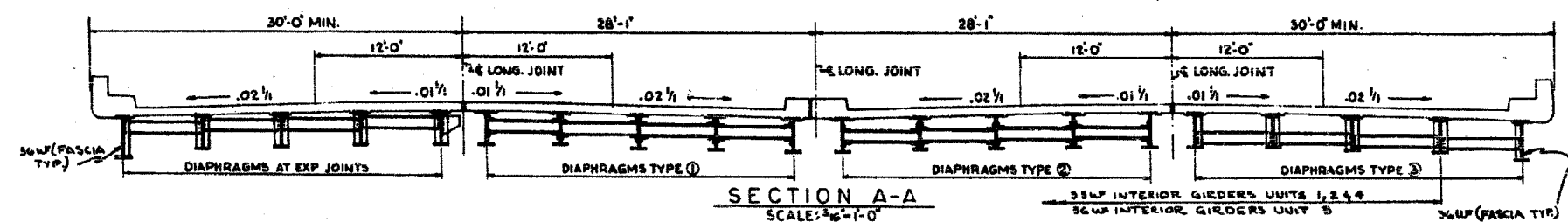


CONTRACT CONTRACT  
 S2525.3-2H S2525.3-1H  
 STA. 711+35.0



F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	73
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				

GIRDER ELEVATION  
 HORIZ. SCALE: 1" = 40'-0"  
 VERT. SCALE: 1" = 15'-0"



**STRUCTURAL STEEL NOTES**

ALL FURNISHING, FABRICATING, TRANSPORTING, ERECTING AND PAINTING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 94 AND 95 OF THE STANDARD SPECIFICATIONS.

EXCEPT WHERE OTHERWISE NOTED, ALL STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATIONS FOR STEEL FOR BRIDGES AND BUILDINGS ASTM DESIGNATION A-7 AND ASTM DESIGNATION A-373 AND WHERE APPLICABLE, TO THE REQUIREMENTS OF ARTICLE 129.2, AND 129.3 (a) OF THE STANDARD SPECIFICATIONS.

**BEARING AND SPLICE NOTES:-**

ALL GIRDER FIELD SPLICES SHALL BE END-FINISHED, REAMED AND MATCH-MARKED FOR SHIPMENT WHILE THE MEMBERS ARE SHOP ASSEMBLED IN PROPER ALIGNMENT, WITH OR WITHOUT DIAPHRAGMS. ALL GIRDER FIELD SPLICES SHALL BE END-FINISHED 11/16" Ø, REAMED TO 13/16" Ø FOR 3/4" Ø BOLTS AND REAMED TO 15/16" Ø FOR 7/8" Ø BOLTS.

ALL GIRDERS SHALL BE ERECTED FULL LENGTH IN THE SHOP BEFORE REAMING AND INSPECTION.

STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RED LEAD PAINT. PARTS INACCESSIBLE AFTER ERECTION SHALL HAVE TWO SHOP COATS OF RED LEAD PAINT. FOR ADDITIONAL SHOP AND FIELD PAINT COATS, SEE THE SPECIAL PROVISIONS.

ALL ROLLERS, ROCKERS, BOLSTERS, BEARING PLATES, LEAD PLATES, PANTLES, ANCHOR BOLTS AND SPLICES SHALL BE FABRICATED AND SET IN ACCORDANCE WITH ARTICLES 94.5 OF THE STANDARD SPECIFICATIONS AND SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 94.3 (a). THESE ITEMS ARE INCLUDED IN THE WEIGHT OF STRUCTURAL STEEL.

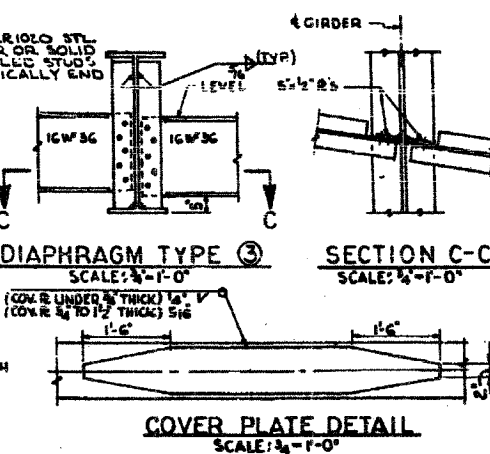
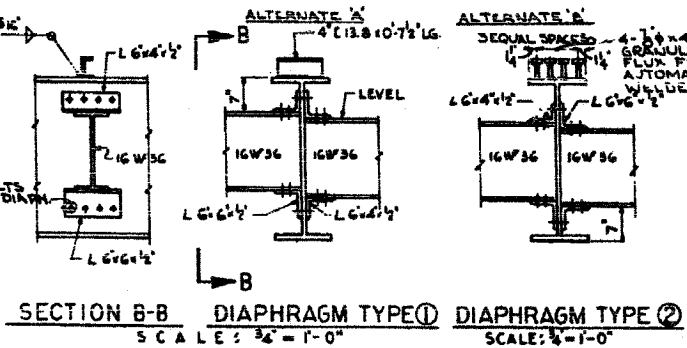
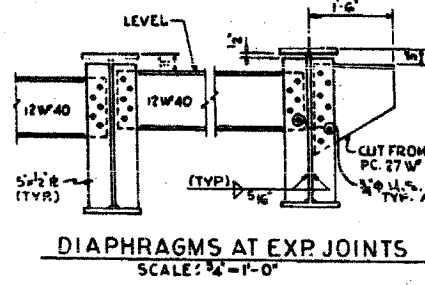
SPLICE PLATES TO BE MATCH-MARKED FOR SHIPMENT.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER PIERS AND ABUTMENTS.

FINISHED SURFACES OF BEARING AND ROLLERS SHALL BE TREATED WITH ANTI-RUST COMPOUND BEFORE SHIPMENT AS STATED IN ARTICLE 94.4 OF THE STANDARD SPECIFICATIONS.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" Ø OR 7/8" Ø HIGH STRENGTH BOLTS AS INDICATED.

ALL RIVETS, UNLESS OTHERWISE SHOWN OR NOTED, SHALL BE 3/4" Ø, OPEN HOLES 15/16" Ø.



**SUMMARY OF STRUCTURAL STEEL UNITS 1, 2, 3, 4 & 5**

ITEM	UNIT	QUANTITY	ASTM A7	ASTM A373
GIRDERS	POUND	3,724,445	83160	
FILL PLATES & SPLICE PLATES	POUND	126,595		
DIAPHRAGMS	POUND	2,842,215		
GIRDER BEARINGS	POUND	190,515		
EXPANSION GUARD	POUND	155,750		
TOTAL	POUND	4,469,640	83160	

INCLUDED IN SUMMARY ON SHEET 52

CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 SOUTH ROUTE SUPERHIGHWAY  
 ELEVATED HIGHWAY  
 W. 15 TH ST. TO W. MAXWELL ST.  
 SECTION 4-2825.3-1H

STEEL FRAMING PLAN  
 DE LEHN, GATHER & COMPANY  
 CONSULTING ENGINEERS  
 CHICAGO  
 DATE: JUNE 1999  
 SCALE AS NOTED SHEET 512 OF 64 SHEETS

Sheet 512 of 64

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-0137  
 SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

FOR INFORMATION ONLY

DESIGNED BY: J.B.  
 DRAWN BY: H.M.  
 CHECKED BY: R.M.S.  
 IN CHARGE: H.S.WULF  
 APPROVED BY: L.N.RIAN

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 100 EAST RANDOLPH STREET SUITE 2000 CHICAGO, ILLINOIS 60601  
 JOB NO. 440

5/23/2005 9:26:24 AM

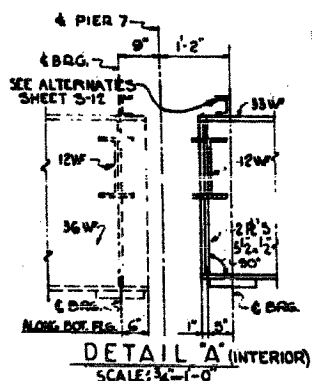
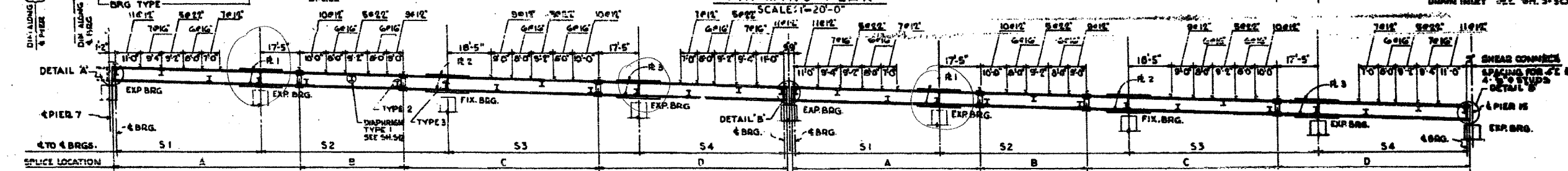
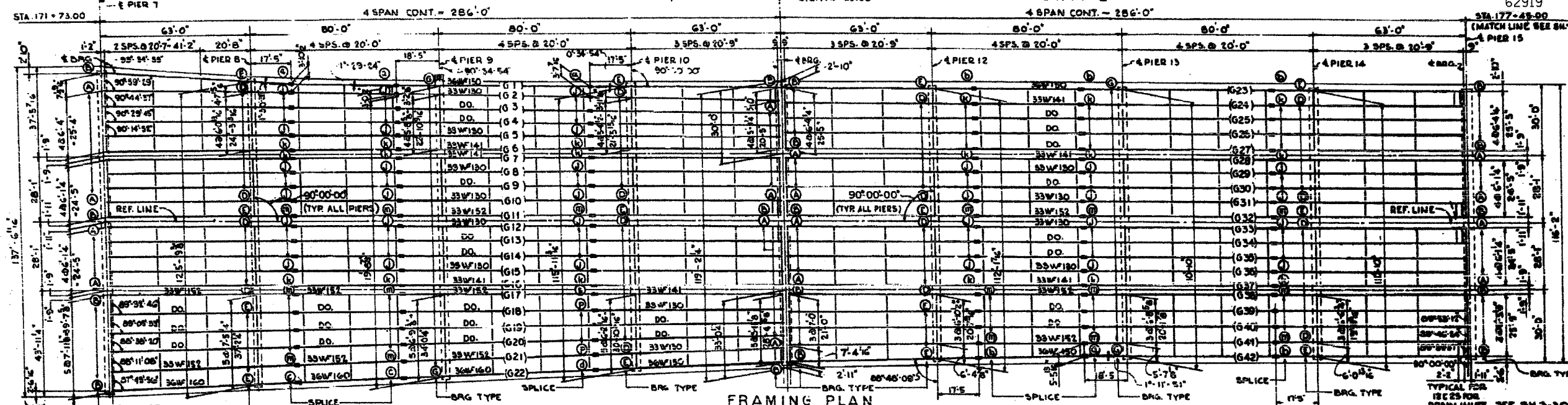
CONTRACT 2525.3-2M CONTRACT 2525.3-1M  
BY OTHERS

UNIT 1

PIER 11  
STA. 174+59.00

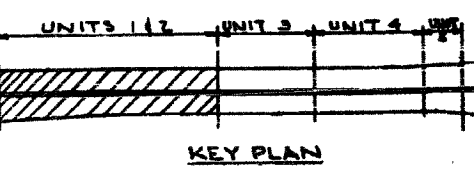
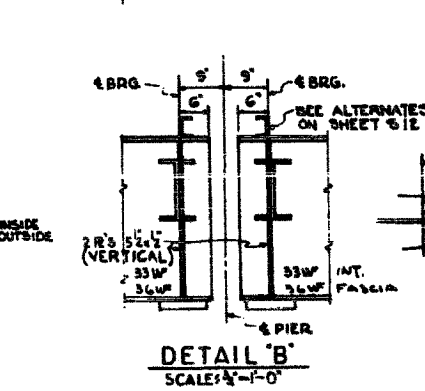
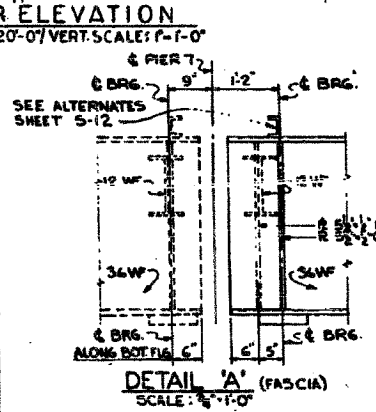
UNIT 2

62919



NOTES: ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE AND ALONG THE G OF THE GIRDER WEB.

GIRDER	A	B	C	D	S-1	S-2	S-3	S-4	R-1	R-2	R-3
1	80'-3 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-11 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	11'-10 1/2	11'-11 1/2	11'-12 1/2
2	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
3	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
4	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
5	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
6											
7, 16											
8, 9, 10, 14, 15											
11											
12											
17											
18	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
19	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
20	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
21	79'-9 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
22	80'-2 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	11'-10 1/2	11'-10 1/2	11'-11 1/2
23	80'-2 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	11'-10 1/2	11'-10 1/2	11'-11 1/2
24, 25, 26											
27											
28, 37											
29, 30, 34, 36											
32											
33											
35											
38											
39											
40											
41	80'-2 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	10'-11 1/2	10'-11 1/2	10'-12 1/2
42	80'-2 1/2	44'-2 1/2	81'-0 1/2	80'-2 1/2	61'-10 1/2	80'-0 1/2	80'-0 1/2	62'-3 1/2	11'-10 1/2	11'-10 1/2	11'-11 1/2



SPlice PLATES & FILL PLATES BILLED ON SHEET S-15 BEARINGS ON SHEET S-18

ITEM	UNIT	QUANTITY
GIRDERS	POUND	1,245,375
DIAPHRAGMS	POUND	148,825

ASTM A7  
INCLUDED IN WEIGHT ON SHEET S-15

REVISIONS	NAME	DATE

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY  
W. 15 TH ST. TO W. MAXWELL ST.  
SECTION 2-2525.3-1H

STEEL FRAMING PLAN  
UNITS 1 & 2

DE LUIGI, GATHER & COMPANY  
CONSULTING ENGINEERS  
CHICAGO  
DATE: JUNE 1961  
SCALE: AS NOTED SHEET S15 OF 64 SHEETS

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1110

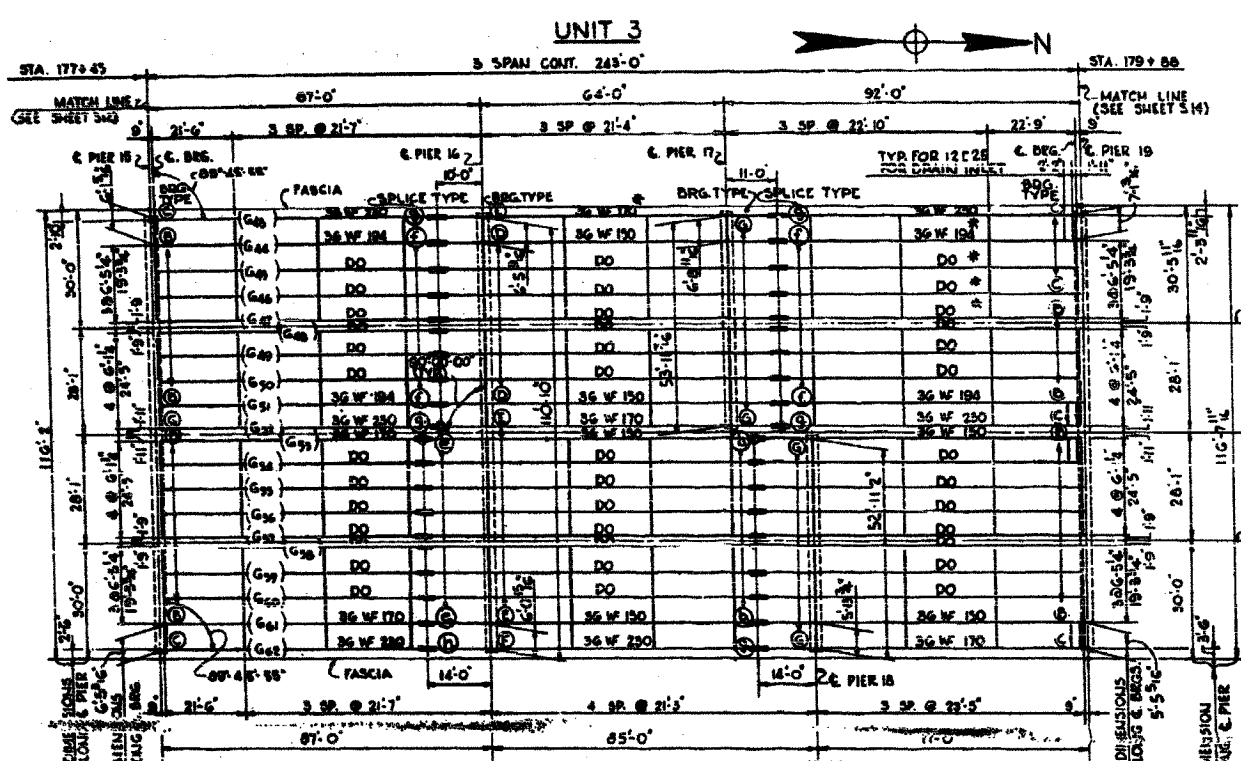
SCALE: NTS  
DATE: 5/23/2005

DRAWN BY: BDC  
CHECKED BY: BLU

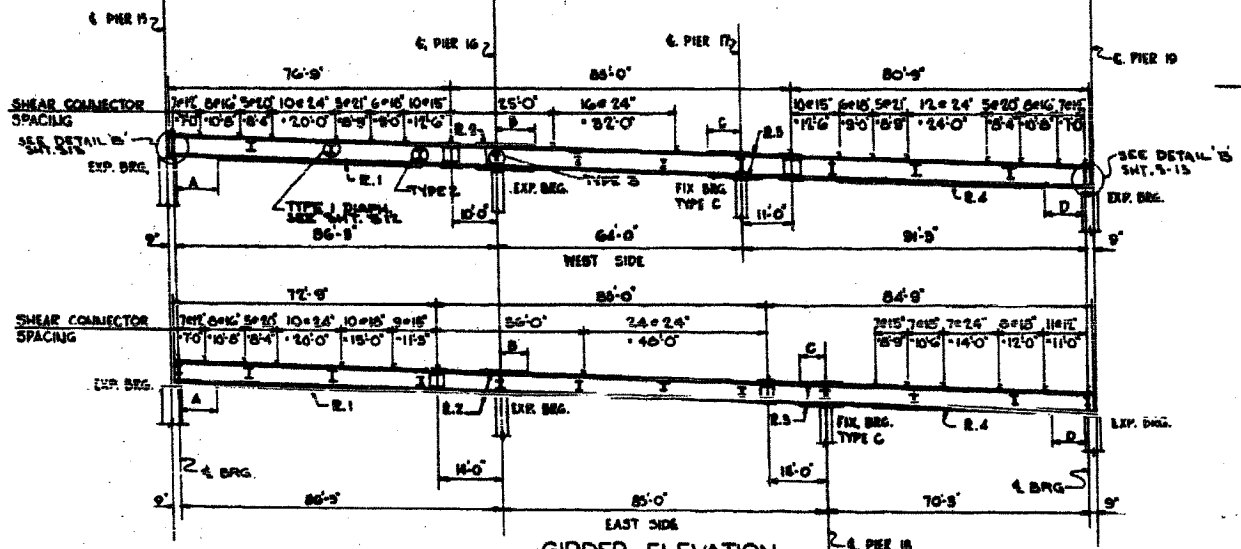
FOR INFORMATION ONLY

5/23/2005 9:26:30 AM

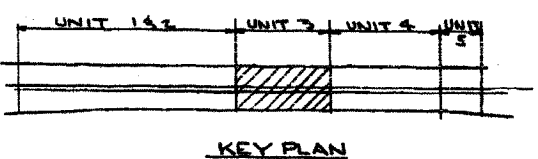
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	75
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**FRAMING PLAN**  
SCALE: 1"=20'-0"



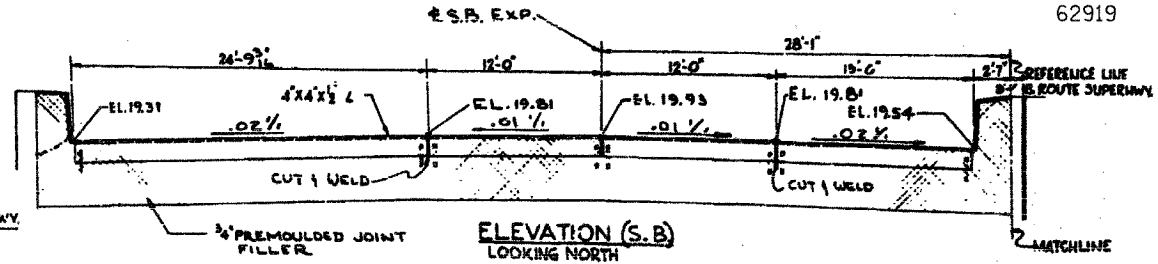
**GIRDER ELEVATION**  
HOR. SCALE: 1"=20'-0"  
VER. SCALE: 1"=10'-0"



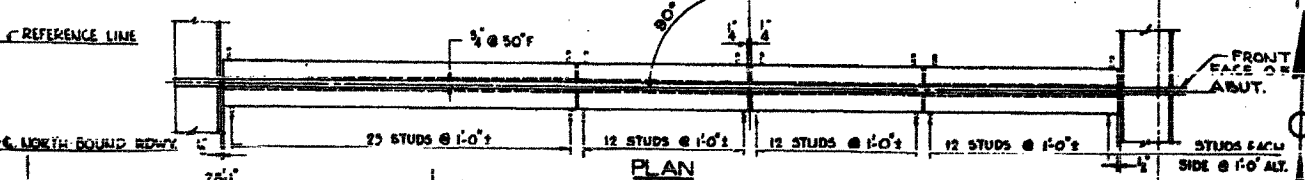
**KEY PLAN**

Designed By: J.S.  
 Drawn By: P.B.T.  
 Checked By: R.M.S.  
 In Charge: H.S.WULF  
 Approved By: L.M.RIAN

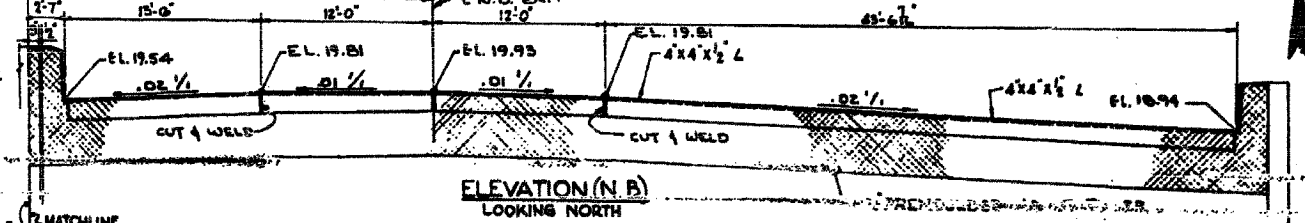
BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 230 EAST RANDOLPH STREET SUITE 2400 CHICAGO, ILLINOIS 60601  
 312.467.4444



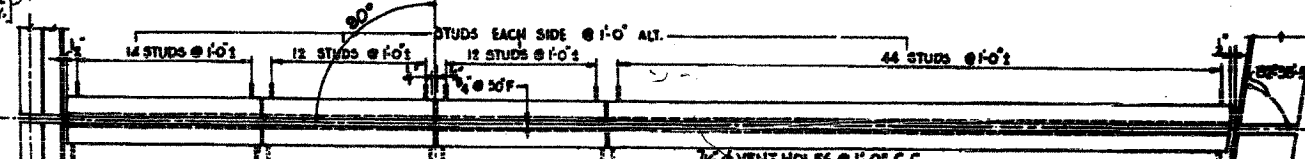
**ELEVATION (S.B.)**  
LOOKING NORTH



**PLAN**



**ELEVATION (N.B.)**  
LOOKING NORTH



**PLAN**  
ABUTMENT EXPANSION GUARD

VENT HOLES @ 1'-0" C.C. (STAGGER WITH 1/2" HOLES)

1" SEALING COMPOUND  
 3/4" x 3/4" OR 1020 STL. GRANULAR OR SOLID FLUX FILLED HEADED STUDS AUTOMATICALLY END WELDED (ALTERNATE AT 1'-0" CTES.)

1/2" x 1/2" BOLTS @ 12" CTS. FOR 3/4" BOLTS. ALL BOLTS SHALL BE BURNED, SAWED OR CLIPPED OFF FLUSH WITH BACK OF ANGLES AFTER FORMS ARE REMOVED.

BILL OF MATERIAL			
ITEM	UNIT	A7	A313
GIRDERS	POUND	850,825	88,120
DIAPHRAGMS	POUND	56,945	
ABUT. EXP. GUARD	POUND	3,955	

SPICE PLATES & BEARINGS BILLED ON SHEET 5-18, FILL PLATES & BEARINGS ON SHEET 5-19, INCLUDED IN WEIGHT ON SHEET 5-12

**JOINT DETAIL**  
SCALE: 1/2"=1'-0"

GIRDER	COVER PLATE OFFSETS				COVER R.1	2-PLATES COVER R.2	2-PLATES COVER R.3	COVER R.4
	A	B	C	D				
43	8'-6"	9'-0"	11'-0"	8'-0"	10x1 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	15x116G
44 TO 46	8'-6"	7'-6"	9'-0"	8'-0"	10x1 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	15x116G
47	8'-6"	7'-6"	9'-0"	8'-0"	10x1 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	15x116G
48 TO 51	8'-6"	7'-6"	9'-0"	8'-0"	10x1 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	15x116G
52	8'-6"	9'-0"	11'-0"	8'-0"	15x3 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	15x116G
53 TO 57	7'-6"	11'-0"	7'-0"	7'-0"	10x1 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	10x3 1/2x116G
58 TO 61	7'-6"	11'-0"	7'-0"	7'-0"	10x1 1/2x57G	10x3 1/2x116G	10x3 1/2x116G	10x3 1/2x116G
62	7'-6"	8'-6"	8'-0"	7'-6"	15x2 1/2x57G	15x2 1/2x116G	10x1 1/2x57G	10x3 1/2x116G

\*NOTE: ALL COVER PLATES OVER 1" THICK & ALL W/ BEAMS WITH COVER PLATES OVER 1" THICK ARE TO BE TYPE-A313 STRUCTURAL STEEL, ALL OTHERS TO BE TYPE-A7 STRUCTURAL STEEL.

CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
 ELEVATED HIGHWAY  
 W. 15 TH ST. TO W. MAXWELL ST.  
 SECTION 5-888.3 - 1H  
**STEEL FRAMING PLAN UNIT 3**  
**& ABUTMENT EXPANSION GUARD**

DE LEW, GUTHER & COMPANY  
 CONSULTING ENGINEERS CHICAGO  
 SCALE AS NOTED  
 SHEET 514 OF 64 SHEETS

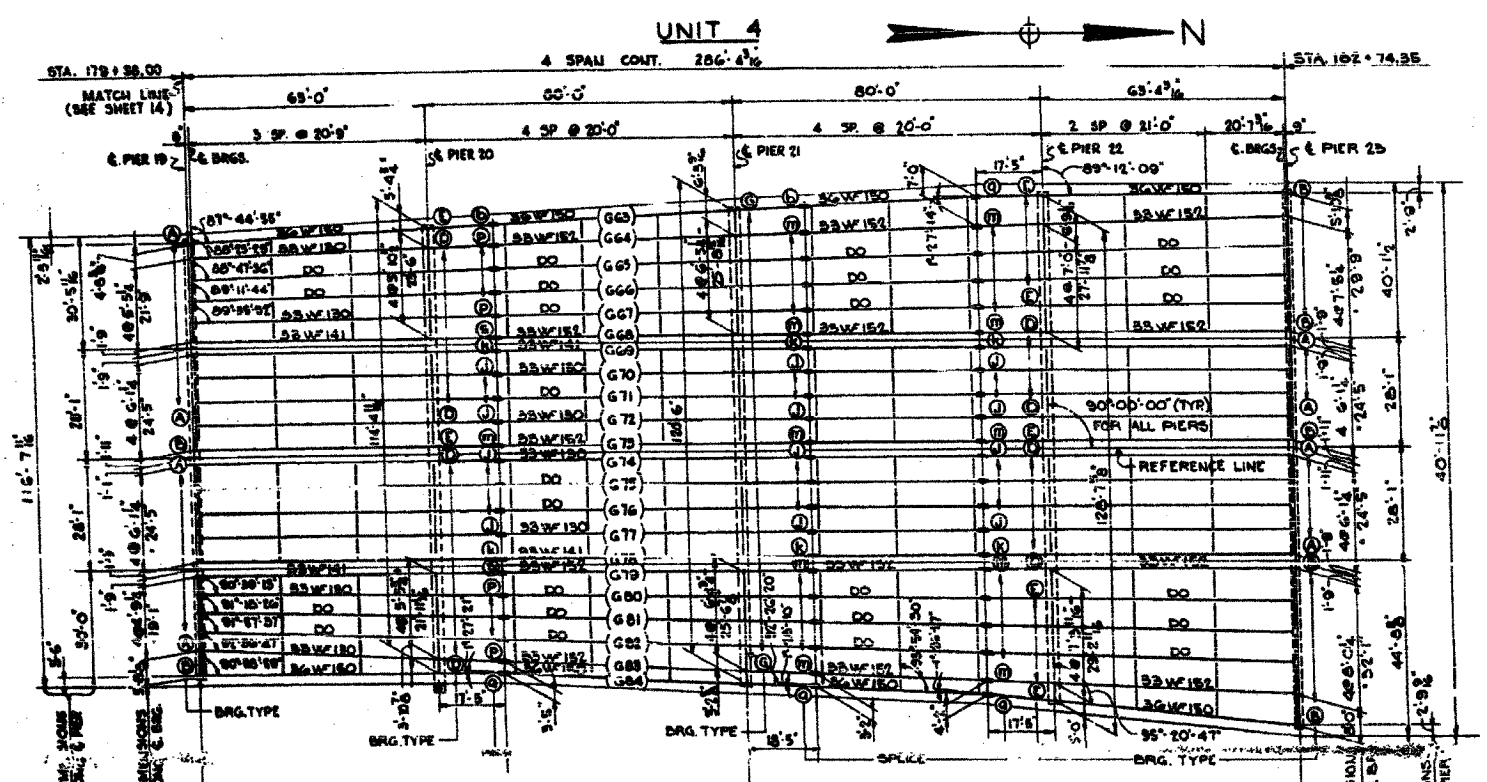
Sheet S14 of 64

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-0137  
 SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

FOR INFORMATION ONLY

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	76
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	62919	



**TABLE OF FILL PLATES AT BEARINGS**

UNIT 1

LOCATION	G 4	G 5	G 6	G 7	G 15	G 16	G 17	
PIER 7	-	-	14'-3"x11'	14'-3"x11'	-	14'-3"x11'	14'-3"x11'	-
PIER 8	-	-	9'-4"x9'	9'-4"x9'	-	9'-4"x9'	9'-4"x9'	-
PIER 9	-	-	11'-2"x15'	11'-2"x15'	11'-2"x15'	11'-2"x15'	11'-2"x15'	-
PIER 10	9'-1"x9'	9'-1"x9'	9'-1"x9'	9'-1"x9'	9'-1"x9'	9'-1"x9'	9'-1"x9'	-
PIER 11	G1	G2	G3	G4	G5	G6	G7	G8
	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'
	G9	G10	G11	G12	G13	G14	G15	G16
	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'
G17	G18	G19	G20	G21	G22	-	-	-
14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	-	-	-

UNIT 2

LOCATION	G 23	G 25	G 29	G 30	G 37	G 42	
PIER 11	-	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	-	-
PIER 12	-	9'-4"x9'	9'-4"x9'	9'-4"x9'	9'-4"x9'	-	-
PIER 13	-	11'-2"x15'	11'-2"x15'	11'-2"x15'	11'-2"x15'	-	-
PIER 14	-	9'-4"x9'	9'-4"x9'	9'-4"x9'	9'-4"x9'	-	-
PIER 15	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	-	-

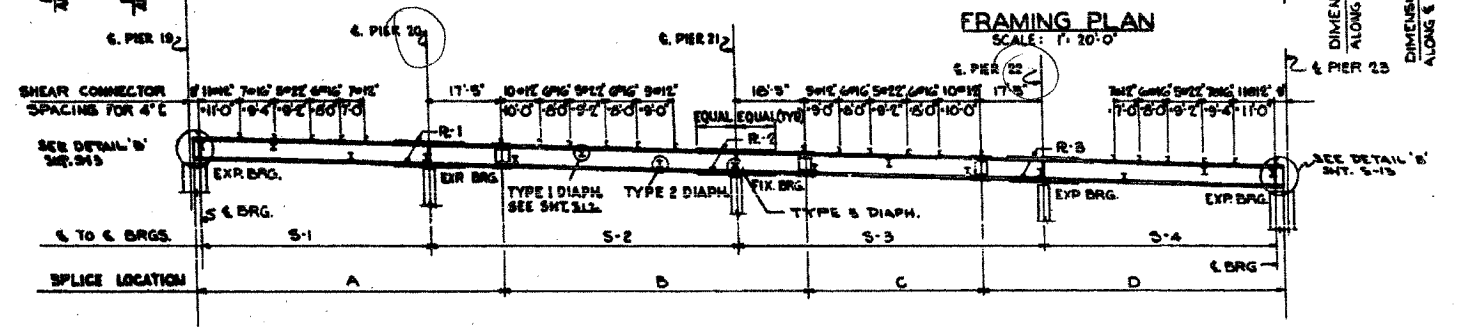
UNIT 3

LOCATION	G 40	G 43	G 45	G 47	G 50	G 51	G 58	G 59
PIER 15	-	-	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	-
PIER 16	-	-	-	11'-2"x15'	11'-2"x15'	-	-	-
PIER 17	11'-2"x15'	11'-2"x15'	-	-	-	-	-	-
PIER 18	-	-	-	11'-2"x15'	11'-2"x15'	-	-	-
PIER 19	-	-	14'-3"x15'	14'-3"x15'	14'-3"x15'	-	14'-3"x15'	-

UNIT 4

LOCATION	G 67	G 68	G 70	G 75	G 77	G 79	G 80	
PIER 19	14'-3"x15'	-	14'-3"x15'	14'-3"x15'	14'-3"x15'	-	14'-3"x15'	-
PIER 20	-	-	9'-4"x9'	-	-	-	9'-4"x9'	-
PIER 21	-	-	11'-2"x15'	-	-	-	11'-2"x15'	-
PIER 22	11'-2"x15'	9'-4"x9'	9'-4"x9'	-	-	-	9'-4"x9'	11'-2"x15'
PIER 23	G69	G70	G71	G75	G76	G77	G78	-
14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	14'-3"x15'	-

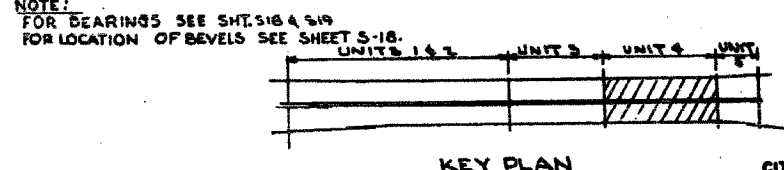
TOTAL WEIGHT OF FILL PLATES = 2,685 POUNDS.



GIRDER	A	B	C	D	S-1	S-2	S-3	S-4	COVER R1	COVER R2	COVER R3
G3	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	11'-3"x18'-0"	11'-3"x20'-0"	11'-3"x19'-0"
G4	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G5	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G6	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G7	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G8	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G9, 78									10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G10, 71, 72, 75, 76, 77									10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G11									10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G12									10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G13									10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G14									10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G15	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G16	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G17	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G18	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G19	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G20	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G21	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G22	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"
G23	80'-2"	81'-0"	44'-2"	80'-6"	62'-3"	80'-0"	80'-0"	62'-7"	10'-4"x17'-0"	10'-4"x17'-0"	10'-4"x16'-0"

**TABLE OF BEVELS OF SOLE PLATES**

	UNIT #1	UNIT #2	UNIT #3	UNIT #4
G1 TO G22	3/8"	3/8"	-	-
G23 TO G42	-	-	3/8"	3/8"
G43 TO G62	-	-	3/8"	3/8"
G63 TO G84	-	-	-	3/8"



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
GIRDERS	POUND	3,88,205
DIAPHRAGMS	POUND	78,465
FILL PLATES	POUND	2,685

ASTM TYPE A7  
INCLUDED IN WEIGHT ON SMT. 312

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY  
W. 15 TH ST. TO W. MAXWELL ST  
SECTION 8-2882.3-1H

STEEL FRAMING PLAN  
UNIT 4  
BE LEW, GARDNER & COMPANY  
CONSULTING ENGINEERS CHICAGO  
SCALE: AS NOTED DATE: JUNE 1991

Sheet S15 of 64

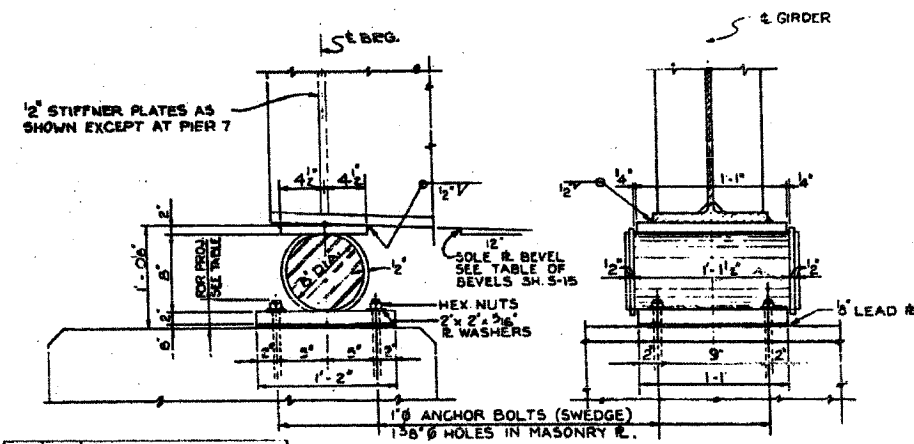
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-0137  
SCALE: NTS DRAWN BY: BDC  
DATE: 5/23/2005 CHECKED BY: BLU

FOR INFORMATION ONLY

Designed By: J.B.  
Drawn By: P.M.T.  
Checked By: R.M.S.  
In Charge: H.S. HALL  
Approved By: L.R. WILSON

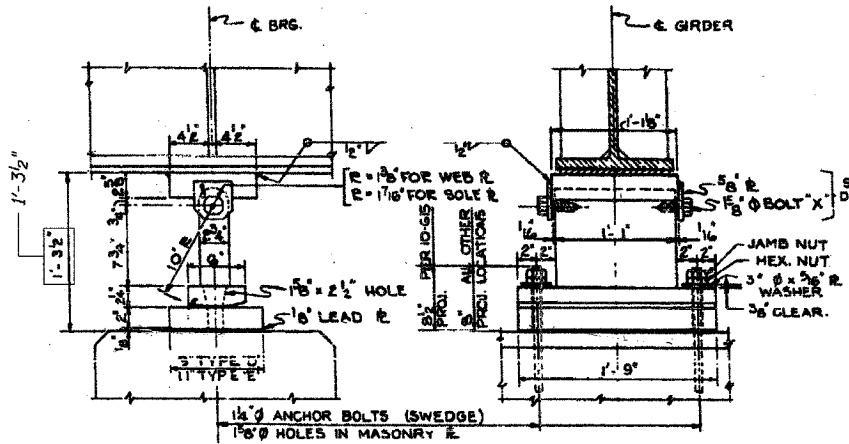
BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
100 EAST RANDOLPH STREET SUITE 200 CHICAGO, ILLINOIS 60601  
312.467.1000



**EXPANSION BEARING TYPE 'A'**  
SCALE: 1/2" = 1'-0"

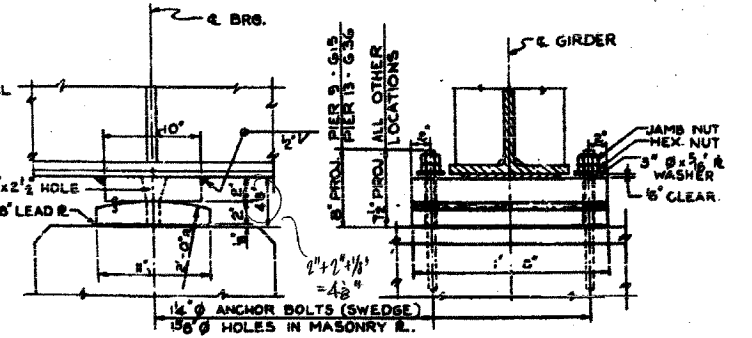
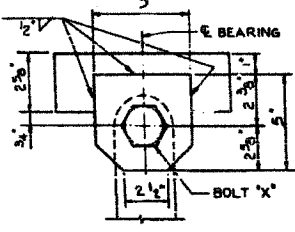
MATERIAL	TYPE 'A' (80 REQ'D)
SOLE PL.	9" x 2" x 1'-1"
MASONRY R.	14" x 2" x 1'-1"
ROLLER	8" x 1'-3 1/2"
2 - BARS	2" x 2" x 2'-5"
1/2" LEAD R.	14" x 10" x 1'-1"
4 - ANCHOR BOLTS	1" x 1'-6"
4 - R. WASHERS	2" x 2" x 3/16"

PROJ. PIER	GIRDER
5 1/2	11 G 4 & 15
5	11 G 5, 18 & 19
4 1/2	11 G 2, 6, 8-10, 12-14, 16, 17 & 36
15	G 29 & 36
4	ALL OTHER LOCATIONS



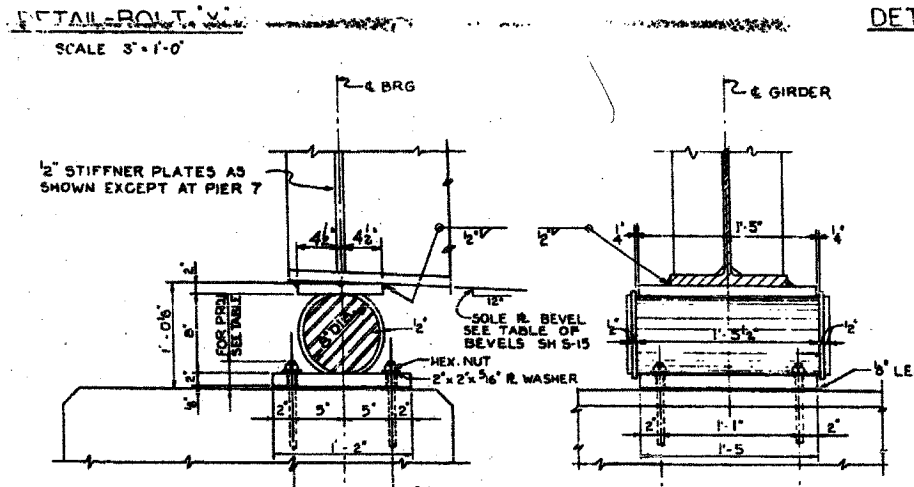
**EXPANSION BEARING TYPES 'D' & 'E'**  
SCALE: 1/2" = 1'-0"

MATERIAL	TYPE 'D' (104 REQ'D)	TYPE 'E' (43 REQ'D)
SOLE PL.	9" x 2 3/8" x 1'-1 1/2"	9" x 2 3/8" x 1'-1 1/2"
MASONRY R.	9" x 2" x 1'-9"	11" x 2" x 1'-9"
WEB R.	9 1/2" x 2 3/4" x 1'-1"	9 1/2" x 2 3/4" x 1'-1"
ROCKER R.	6" x 2 1/4" x 1'-9"	6" x 2 1/4" x 1'-9"
1/2" LEAD R.	9" x 10" x 1'-9"	11" x 10" x 1'-9"
2 - ANCHOR BOLTS	1 1/2" x 1'-9"	1 1/2" x 1'-9"
2 - R. WASHERS	3" x 3" x 3/16"	3" x 3" x 3/16"
2 - BOLTS "X"	1 1/2" x 3 1/2"	1 1/2" x 3 1/2"
2 - 3/8" R.	5" x 3/8" x 0'-5"	5" x 3/8" x 0'-5"



**FIXED BEARING TYPE 'G'**  
SCALE: 1/2" = 1'-0"

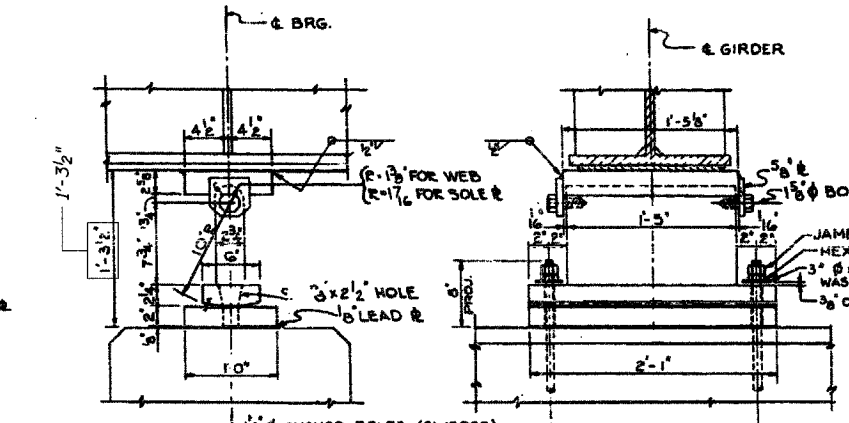
MATERIAL	TYPE 'G' (84 REQ'D)
SOLE PL.	10" x 2" x 1'-8"
MASONRY R.	11" x 2" x 1'-8"
1/2" LEAD R.	11" x 10" x 1'-8"
2 - ANCHOR BOLTS	1 1/2" x 1'-8"
2 - R. WASHERS	3" x 3" x 3/16"



**EXPANSION BEARING TYPE 'B'**  
SCALE: 1/2" = 1'-0"

MATERIAL	TYPE 'B' (79 REQ'D)
SOLE PL.	9" x 2" x 1'-5"
MASONRY R.	14" x 2" x 1'-5"
ROLLER	8" x 1'-7 1/2"
2 - BARS	2" x 2" x 2'-5"
1/2" LEAD R.	14" x 10" x 1'-5"
4 - ANCHOR BOLTS	1" x 1'-6"
4 - R. WASHERS	2" x 2" x 3/16"

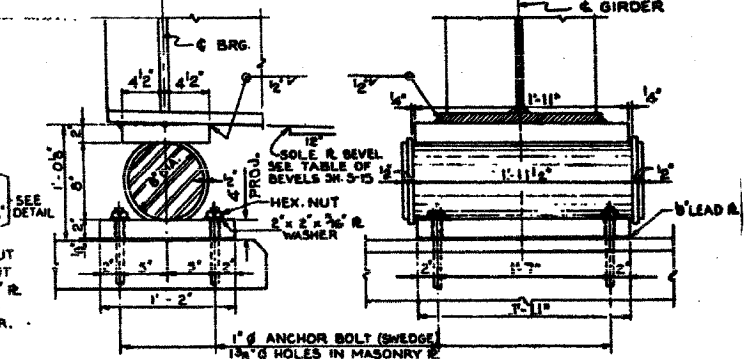
PROJ. PIER	GIRDER
11	G 1 & 11
4 1/2	19 G 23, 37 & 58
19	G 67
4	ALL OTHER LOCATIONS



**EXPANSION BEARING TYPE 'F'**  
SCALE: 1/2" = 1'-0"

MATERIAL	TYPE 'F' (1 REQ'D)
SOLE PL.	9" x 2 3/8" x 1'-5 1/2"
MASONRY R.	12" x 2" x 2'-1"
WEB R.	9 1/2" x 2 3/4" x 1'-5"
ROCKER R.	6" x 2 1/4" x 2'-1"
1/2" LEAD R.	12" x 10" x 2'-1"
2 - ANCHOR BOLTS	1 1/2" x 1'-9"
2 - R. WASHERS	3" x 3" x 3/16"
2 - BOLTS "X"	1 1/2" x 3 1/2"
2 - 3/8" R.	5" x 3/8" x 0'-5"

FOR LOCATION OF BEARINGS SEE FRAMING PLANS SHT. 5-13, 5-14 & 5-15.



**EXPANSION BEARING TYPE 'C'**  
SCALE: 1/2" = 1'-0"

MATERIAL	TYPE 'C' (9 REQ'D)
SOLE PL.	5" x 2" x 1'-11"
MASONRY R.	14" x 2" x 1'-11"
ROLLER	8" x 2'-1 1/2"
2 - BARS	2" x 2" x 2'-5"
1/2" LEAD R.	14" x 10" x 1'-11"
4 - ANCHOR BOLTS	1" x 1'-6"
4 - R. WASHERS	2" x 2" x 3/16"

Designed By N.S.W.  
 Drawn By M.M.M.  
 Checked By W.J.C.  
 In Charge N.S.WULF  
 Approved By L.N.RIAN



NOTE: ROCKER R AND WEB R FOR EXPANSION BRG. TYPES 'D' & 'F' CAN BE GRADE 65-35 CARBON STEEL CASTING.  
 QUANTITIES INCLUDED IN BILL OF MATERIAL SHEET 5-19 FOR FILL PLATES AT BEARINGS, SEE SHEET 5-15 FOR ADDITIONAL DETAILS SEE SHEET 5-19

Sheet S18 of 64

REVISIONS	NAME	DATE

CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY  
 ELEVATED HIGHWAY**

W. 15 TH ST. TO W. MAXWELL ST.  
 SECTION 2-2525.3-11

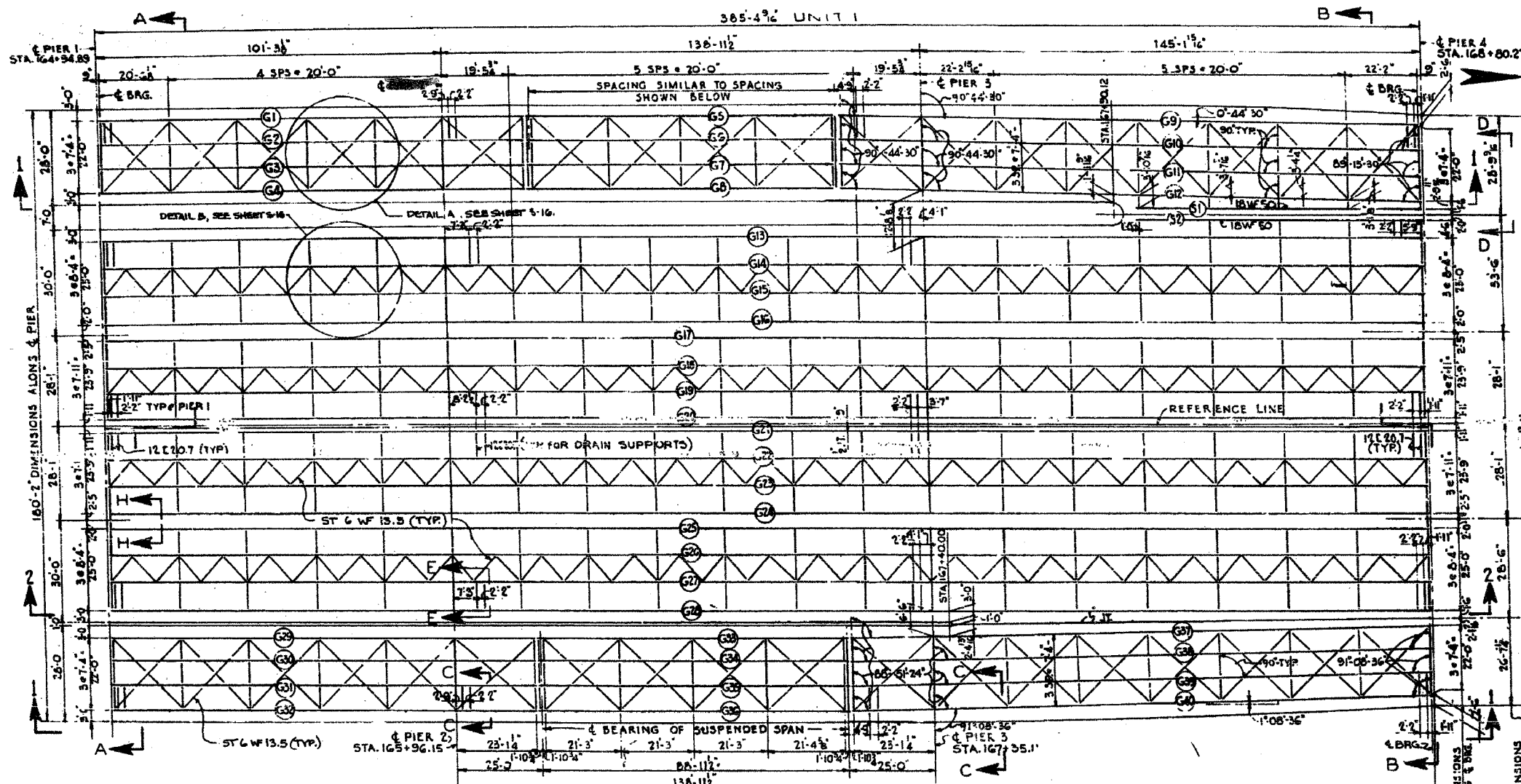
BEARINGS  
 UNITS 1, 2, 3 & 4  
 DE LEUW, CATHEN & COMPANY  
 CONSULTING ENGINEERS CHICAGO  
 DATE: JUNE 1961  
 SCALE: AS NOTED  
 SHEET 518 OF 64 SHEETS

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

SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

FOR INFORMATION ONLY

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	78
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**STRUCTURAL STEEL NOTES**

ALL FURNISHING, FABRICATING, TRANSPORTING, ERECTING AND PAINTING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 54 AND 56 OF THE STANDARD SPECIFICATIONS.

EXCEPT WHERE OTHERWISE NOTED, ALL STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATIONS FOR STEEL FOR BRIDGES AND BUILDINGS ASTM DESIGNATION A-7 AND ASTM DESIGNATION A-372 AND WHERE APPLICABLE, TO THE REQUIREMENTS OF ARTICLE 124.2, AND 124.3 (a) OF THE STANDARD SPECIFICATIONS.

**BEARING AND SPlice NOTES:-**

ALL GIRDER FIELD SPICES SHALL BE SUB-PUNCHED, REAMED AND MATCH-MARKED FOR SHIPMENT WHILE THE MEMBERS ARE SHOP ASSEMBLED IN PROPER ALIGNMENT, WITH OR WITHOUT DIAPHRAGMS. ALL GIRDER FIELD SPICES SHALL BE SUB-PUNCHED 1 1/16" Ø, REAMED TO 1 3/16" Ø FOR 3/4" Ø BOLTS AND REAMED TO 1 5/16" Ø FOR 7/8" Ø BOLTS.

ALL GIRDERS SHALL BE ERECTED FULL LENGTH IN THE SHOP BEFORE REAMING AND INSPECTION.

STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RED LEAD PAINT PARTS ACCESSIBLE AFTER ERECTION SHALL HAVE TWO COATS OF RED LEAD PAINT FOR ADDITIONAL SHOP AND FIELD PAINT LOADS, SEE THE SPECIAL PROVISIONS.

ALL ROLLERS, ROCKERS, BOLSTERS, BEARING PLATES, LEAD PLATES, PINTLES, ANCHOR BOLTS AND SPICES SHALL BE FABRICATED AND SET IN ACCORDANCE WITH ARTICLES 54.5 OF THE STANDARD SPECIFICATIONS AND SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 54.5(b). THESE ITEMS ARE INCLUDED IN THE WEIGHT OF STRUCTURAL STEEL.

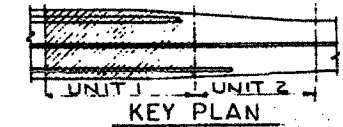
SPICE PLATES TO BE MATCH-MARKED FOR SHIPMENT.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER PIERS AND ABUTMENTS.

FINISHED SURFACES OF BEARINGS AND ROLLERS SHALL BE TREATED WITH ANTI-RUST COMPOUND BEFORE SHIPMENT AS STATED IN ARTICLE 54.4 OF THE STANDARD SPECIFICATIONS.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" Ø OR 7/8" Ø HIGH STRENGTH BOLTS AS INDICATED.

ALL RIVETS, UNLESS OTHERWISE SHOWN OR NOTED, SHALL BE 3/4" Ø, OPEN HOLES 1 3/16" Ø.



**SUMMARY OF STRUCTURAL STEEL UNIT 1**

ITEM	UNIT	QUANTITY	QUANTITY
		ASTM A7	ASTM A991
GIRDERS	POUND	126,864	2,634,361
CROSS FRAMES	POUND	103,325	
LATERAL BRACING	POUND	81,800	
GIRDER BEARINGS	POUND	81,032	
EXPANSION GUARDS	POUND	599,011	2,634,361
<b>TOTAL</b>	<b>POUND</b>	<b>599,011</b>	<b>2,634,361</b>

INCLUDED IN SUMMARY ON SHEET 51

Designed By N. S. W.  
 Drawn By W. C. K.  
 Checked By R. S.  
 In Charge N. S. WULF  
 Approved By L. N. RIAN

**FRAMING PLAN**  
SCALE: 1/8" = 1'-0"

**SECTION 1-1**  
SCALES: VERT. 3/32" = 1'-0". HORIZ. 1/16" = 1'-0"

**SECTION 2-2**  
SCALES: VERT. 3/32" = 1'-0". HORIZ. 1/16" = 1'-0"

**NOTES:**  
 FOR GIRDER DETAILS, SEE SHEETS 5-12 THRU 5-16  
 FOR SECTIONS A-A, B-B, & E-E, SEE SHEET 5-15  
 FOR SECTIONS C-C, D-D, & H-H, SEE SHEET 5-16

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 114 EAST RANDOLPH STREET SUITE 2454 CHICAGO, ILLINOIS 60601  
 312.581.4400

FOR INFORMATION ONLY

Sheet S11 of 56

REVISIONS	NAME	DATE

CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
 ELEVATED HIGHWAY  
 W. 16 TH. ST. TO W. 15 TH. ST.  
 7' - 0" TO 6' - 2524.3' - 24

**STEEL FRAMING PLAN**  
 UNIT 1

DE LEUN, CATHEN & COMPANY  
 CONSULTING ENGINEERS CHICAGO  
 SCALE: AS NOTED  
 DATE: AUGUST 1961  
 OF 56 SHEETS

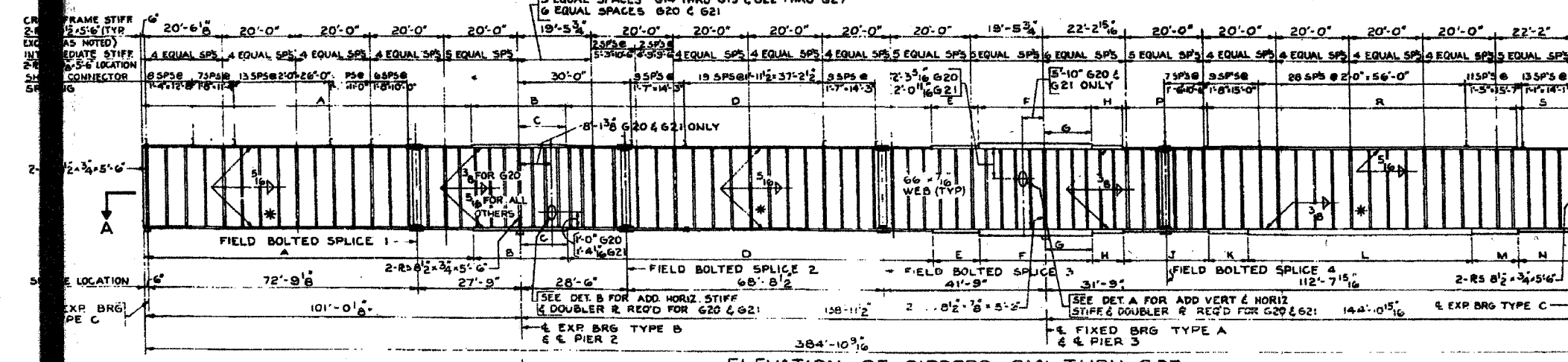
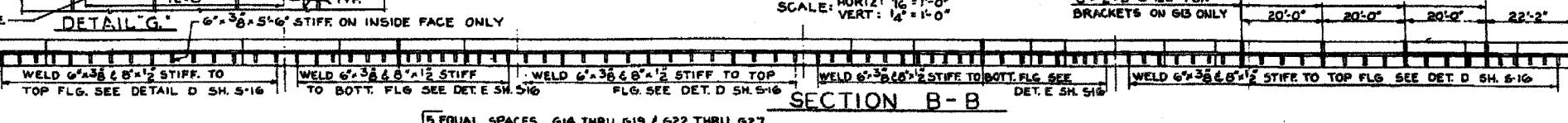
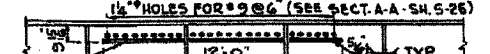
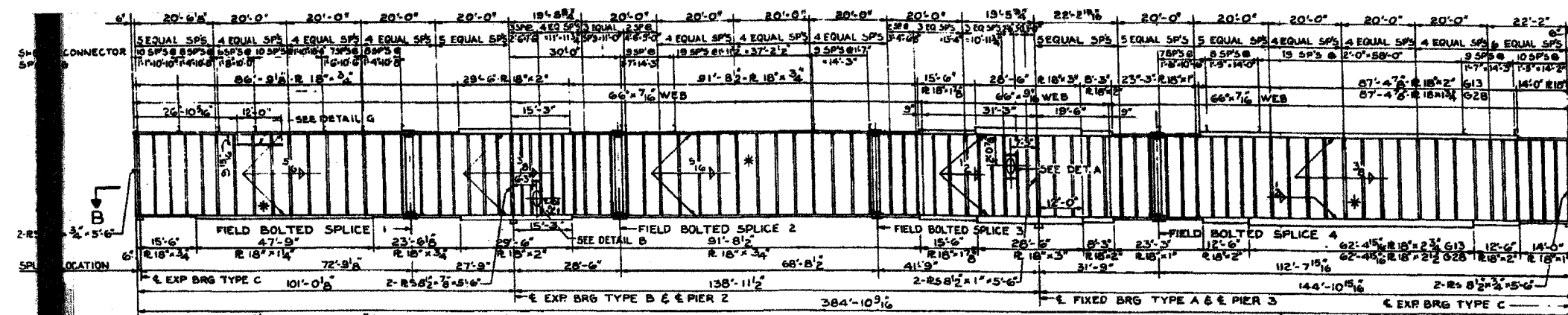
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-1110

SCALE: NTS  
 DATE: 5/23/2005

DRAWN BY: BDC  
 CHECKED BY: BLU

5/23/2005 9:26:46 AM

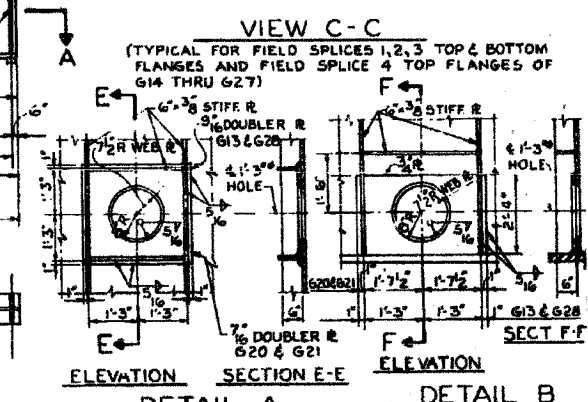
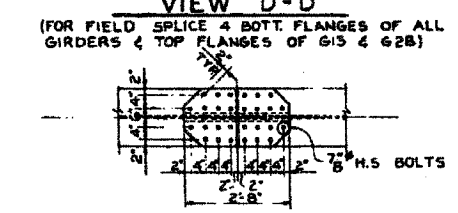
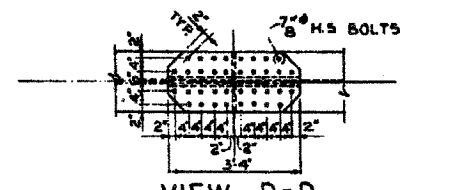
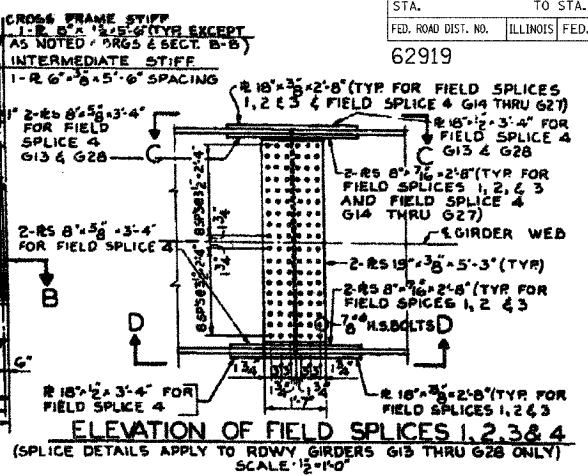
62919



**NOTE:**  
FOR GIRDERS G16, G17, G20, G21, G24 & G25  
USE 1-8" x 1/2" x 5'-6" STIFFENER R AT CROSSFRAME  
CONNECTIONS AND 1-6" x 3/8" x 5'-6" STIFFENER R  
WHERE NO CROSSFRAME CONNECTIONS ARE MADE.

**WELDED PLATE GIRDER SCHEDULE**

GIRDER	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
G15, G26 & G27	18" x 3/4" x 23'-3"	18" x 3/4" x 23'-3"	11'-6"	18" x 3/4" x 10'-5 1/2"	18" x 3/4" x 12'-6"	18" x 2 1/4" x 24'-6"	11'-0"	18" x 1 1/2" x 10'-0"	18" x 1 1/2" x 21'-0"	18" x 1 1/2" x 9'-0"	18" x 2 1/4" x 10'-0"	18" x 1 1/2" x 9'-6"	18" x 1 1/2" x 17'-0"	18" x 3/4" x 21'-0"	18" x 3/4" x 8'-4"	18" x 3/4" x 17'-6"
G17, G18 & G19	18" x 3/4" x 23'-3"	18" x 3/4" x 21'-0"	10'-6"	18" x 3/4" x 10'-5 1/2"	18" x 3/4" x 11'-6"	18" x 2 1/4" x 23'-9"	10'-9"	18" x 1 1/2" x 9'-3"	18" x 1 1/2" x 23'-0"	18" x 1 1/2" x 10'-0"	18" x 1 1/2" x 10'-0"	18" x 1 1/2" x 10'-0"	18" x 1 1/2" x 19'-6"	18" x 3/4" x 23'-0"	18" x 3/4" x 8'-4"	18" x 3/4" x 15'-6"
G20, G23, G24 & G25	18" x 3/4" x 23'-3"	18" x 3/4" x 27'-0"	13'-6"	18" x 3/4" x 9'-0"	18" x 3/4" x 11'-6"	18" x 2 1/4" x 28'-9"	12'-9"	18" x 1 1/2" x 9'-3"	18" x 1 1/2" x 21'-0"	18" x 1 1/2" x 9'-6"	18" x 2 1/4" x 7'-6"	18" x 1 1/2" x 8'-9"	18" x 1 1/2" x 16'-9"	18" x 3/4" x 21'-0"	18" x 3/4" x 8'-4"	18" x 3/4" x 16'-9"



**DETAIL A**  
(G13 & G21 AS SHOWN)  
G20 & G28 SIMILAR)  
SCALE: 1/2" = 1'-0"

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY  
W 16TH ST TO W 15TH ST

Sheet S12 of 56

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1110  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

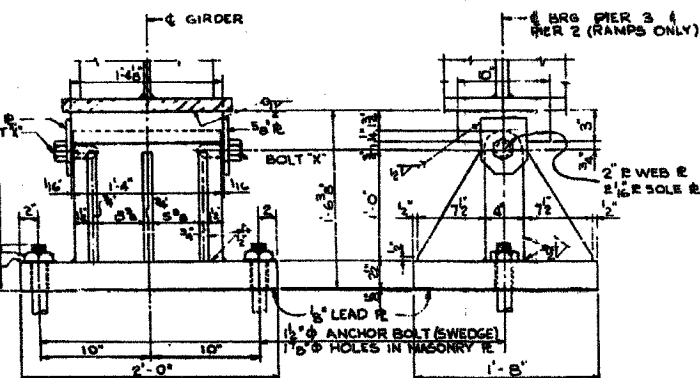
FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
110 EAST RANDOLPH STREET SUITE 1650 CHICAGO, ILLINOIS 60601  
312.581.1100

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
84/90	2005-008F	COOK	93	80
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62919				

**MATERIAL - TYPE 'A'**

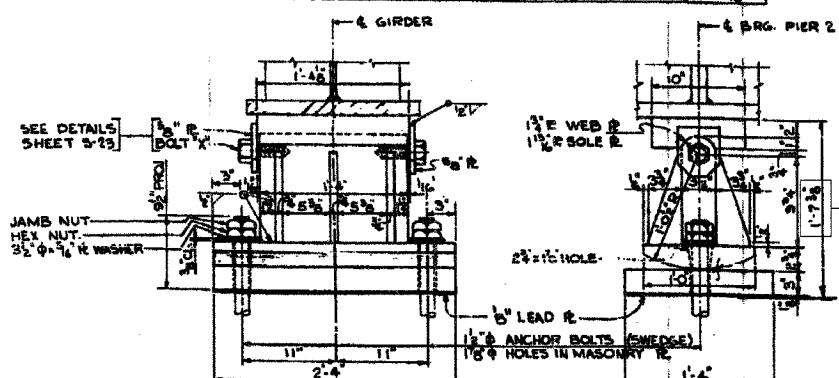
SOLE R	10' - 3' - 1/4"	2 - 5/8" R	5' - 5/8" - 10' - 5/8"
MASONRY R	20' - 2' - 2' - 0"	2 - BOLT 1"	15' - 5/8" - 15'
WEB R	18' - 4' - 1' - 4"	2 - ANCHOR BOLTS	15' - 5/8" - 15'
6" STIFFENER R	7' - 3' - 1' - 0"	2 - R WASHERS	2' - 2' - 5/8"
6" LEAD R	20' - 0' - 2' - 0"		



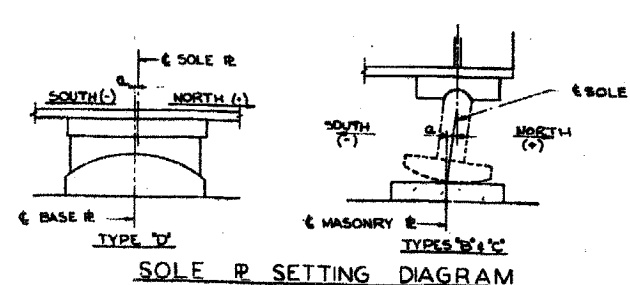
**FIXED BRG. TYPE 'A' (32 REQ.)**  
SCALE: 1/2" = 1'-0"

**MATERIAL - TYPE 'B'**

SOLE R	10' - 3' - 1' - 4"	6" LEAD R	1' - 4' - 6" - 2' - 4"
MASONRY R	16' - 3' - 2' - 4"	2 - 5/8" R	5' - 5/8" - 10' - 5/8"
WEB R	18' - 3' - 1' - 4"	2 - BOLT 1"	15' - 5/8" - 15'
ROCKER R	18' - 3' - 2' - 4"	2 - ANCHOR BOLTS	15' - 5/8" - 15'
6" STIFFENER R	33' - 3' - 0' - 3"	2 - R WASHERS	2' - 2' - 5/8"



**EXPANSION BEARING TYPE 'B' (16 REQ.)**  
SCALE: 1/2" = 1'-0"



**TABLE OF SETTINGS (a)**

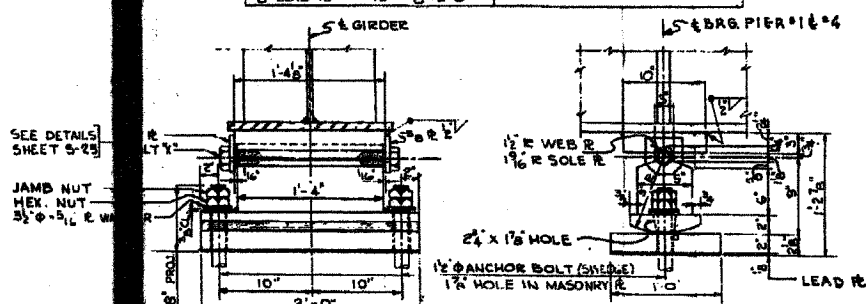
TEMPERATURE	110°	90°	70°	50°	30°	10°
LOCATION OF BEARINGS	ROADWAY					
PIER #1 (NORTH)	C	-1/8"	-5/8"	-5/8"	0	-3/4"
PIER #2	B	-3/8"	-7/8"	-3/8"	0	-3/4"
PIER #3 (FIXED)	A	0	0	0	0	0
PIER #4 (SOUTH)	C	+1/8"	+7/8"	+1/4"	0	-1/4"
LOCATION OF BEARINGS	RAMPS					
PIER #1 (NORTH)	C	-1/8"	-3/8"	-3/8"	0	-3/4"
PIER #2 (FIXED)	A	0	0	0	0	0
SUSPENDED SPAN						
SOUTH END (FIXED)	E	0	0	0	0	0
NORTH END	D	+1/8"	+3/8"	+3/8"	0	-3/4"
PIER #3 (FIXED)	A	0	0	0	0	0
PIER #4 (SOUTH)	C	+1/8"	+7/8"	+1/4"	0	-1/4"

**SCHEDULE OF BEARINGS**

BEARING TYPE	NUMBER REQUIRED	WEIGHT OF STEEL PER BRG. (LBS)	TOTAL STEEL (LBS)
'A'	32	871	27,872
'B'	16	1,070	17,120
'C'	48	646	31,008
'D'	8	703	5,624
'E'	8	772	6,176
<b>TOTAL</b>			<b>87,800</b>

**MATERIAL - TYPE 'C'**

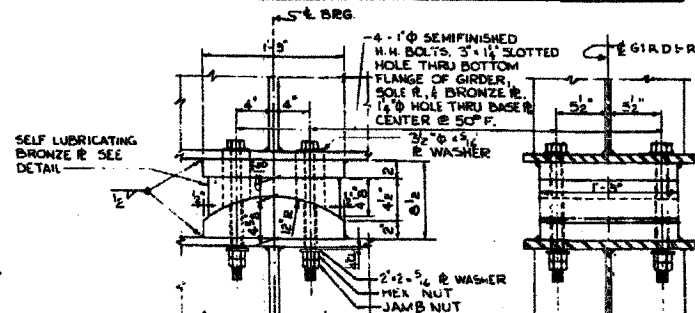
SOLE R	10' - 3' - 1' - 4"	2 - 5/8" R	5' - 5/8" - 10' - 5/8"
MASONRY R	10' - 2' - 2' - 0"	2 - BOLT 1"	15' - 5/8" - 15'
WEB R	6' - 2' - 1' - 4"	2 - ANCHOR BOLTS	15' - 5/8" - 15'
ROCKER R	6' - 2' - 2' - 0"	2 - R WASHERS	2' - 2' - 5/8"
6" LEAD R	12' - 0' - 2' - 0"		



**EXPANSION BRG. TYPE 'C' (48 REQ.)**  
SCALE: 1/2" = 1'-0"

**MATERIAL - TYPE 'D'**

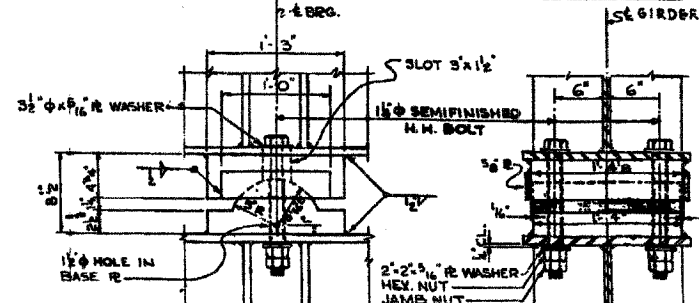
SOLE R	15' - 2' - 1' - 3"	4 - BOLTS	1" - 0' - 1' - 3"
BRONZE R	14' - 4' - 1' - 3"	4 - R WASHERS	3' - 2' - 5/8"
BASE R	15' - 4' - 1' - 3"	4 - R WASHERS	2' - 2' - 5/8"



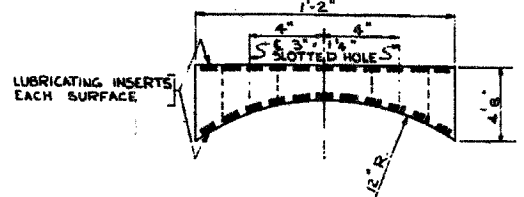
**EXPANSION BRG. TYPE 'D' (8 REQ.)**  
SCALE: 1/2" = 1'-0"

**MATERIAL - TYPE 'E'**

SOLE R	15' - 4' - 1' - 4"	2 - BOLTS	1" - 0' - 1' - 3"
BASE R	15' - 2' - 1' - 4"	2 - R WASHERS	3' - 2' - 5/8"
2 - 5/8" R	3' - 2' - 5/8"	2 - R WASHERS	2' - 2' - 5/8"



**FIXED BRG. TYPE 'E' (8 REQ.)**  
SCALE: 1/2" = 1'-0"

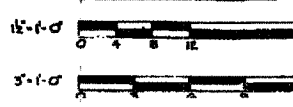


**DETAIL OF SELF LUBRICATING BRONZE R**  
SCALE: 3" = 1'-0"

**NOTE:** SEE ANCHOR BOLT SETTING DETAIL SHT. 523  
\* ALL WELDED PLATES TO BE A-7 STEEL  
ROCKER R & WEB R FOR EXPANSION BRG. TYPES 'B' & 'C' CAN BE GRADE 65-35 CARBON STEEL CASTING

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
STRUCTURAL STEEL	LBS.	87,800
INCLUDED IN 'A', 'B', 'C', 'D', 'E'		



Designed: H.S.W.  
Drawn: H.S.W.  
Checked: H.S.W.  
In Charge: H.S. WULF  
Approve: L.H. RIAN

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
110 EAST MADISON STREET SUITE 2600 CHICAGO, ILLINOIS 60601  
JOB NO. 680

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY**  
W. 16 TH. ST. TO W. 15 TH. ST.  
SECTION 2-2828.3-2H  
**BEARINGS UNIT I**  
DE LEUW, CATHAR & COMPANY  
CONSULTING ENGINEERS CHICAGO  
SCALE: AS NOTED DATE: AUGUST, 1961

Sheet S17 of 56

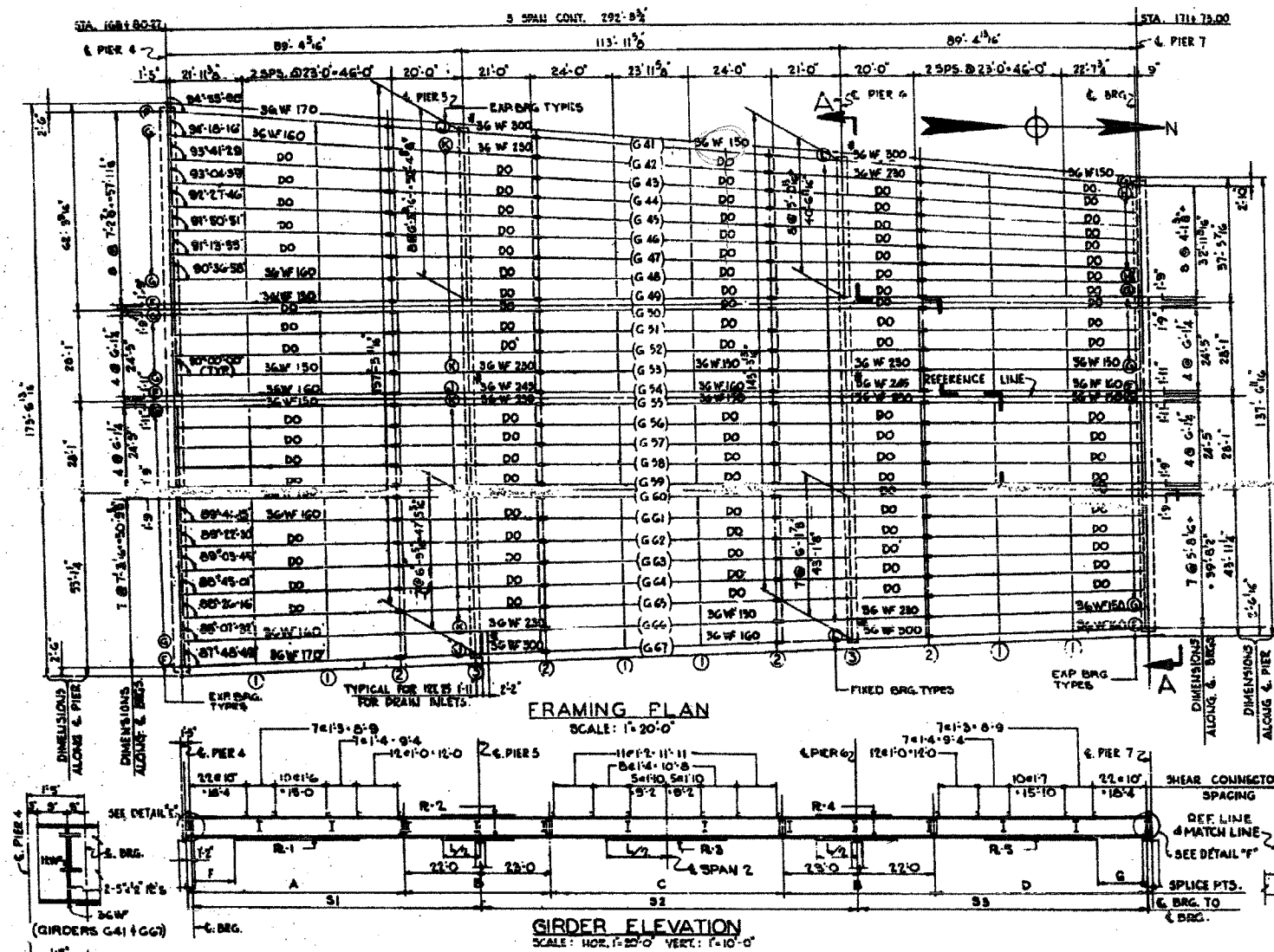
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1110  
SCALE: NTS  
DATE: 5/23/2005

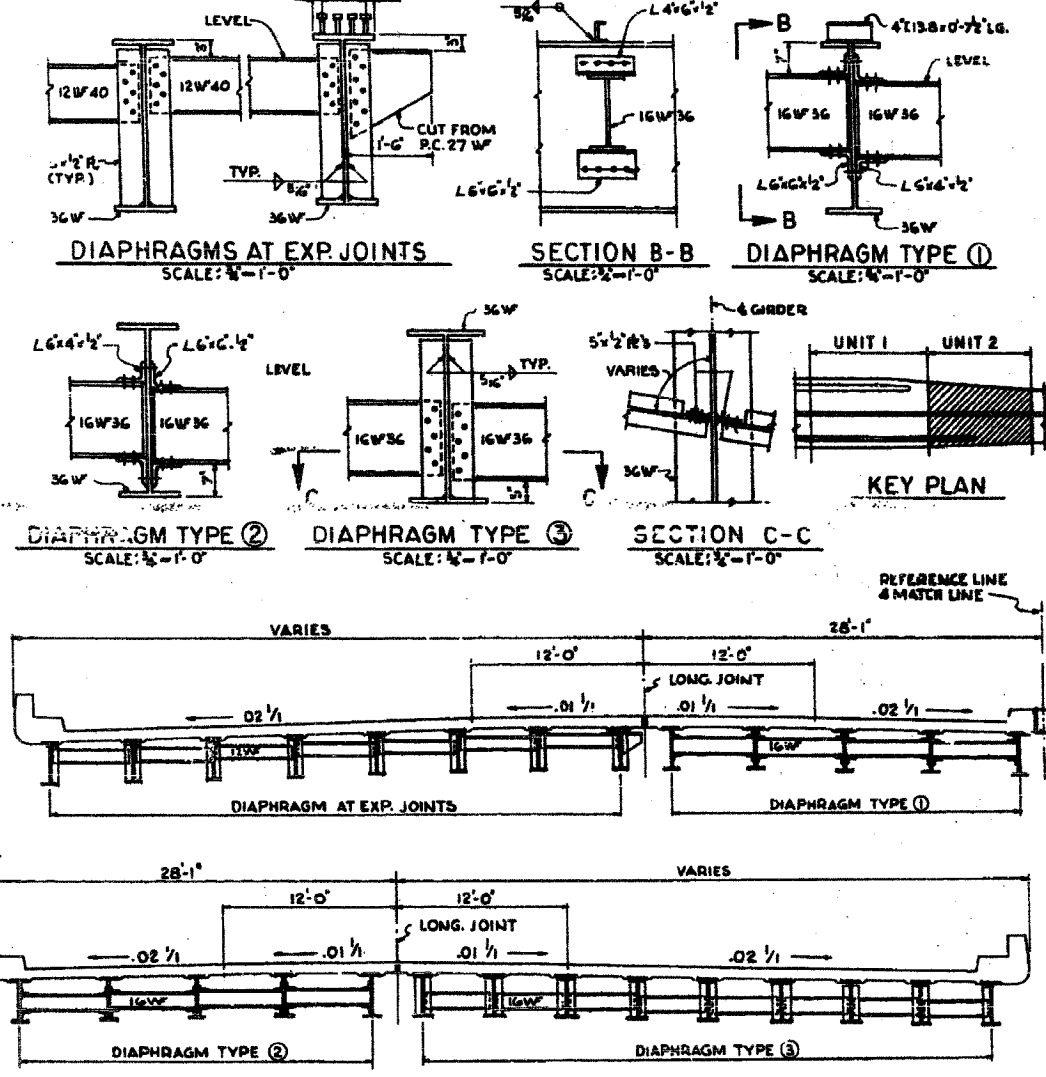
DRAWN BY: BDC  
CHECKED BY: BLU

FOR INFORMATION ONLY



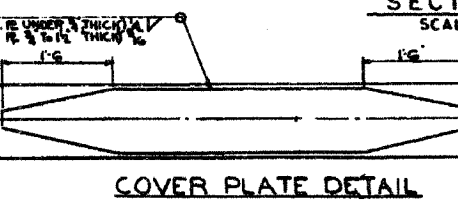


NOTE: ALTERNATE SHEAR CONN. TO BE 3"x4" CR. 1020 STL. GRANULAR OR SOLID FLUX FILLED STUDS AUTOMATICALLY END WELDED.



NOTE: ALL DIMENSIONS ARE HORIZONTAL AND ALONG THE CENTERLINE OF BEAM.

GIRDER	A	B	C	D	S1	S2	S3	F	G	R-1	R-2	R-3	R-4	R-5
41	67'-4"	45'-2"	68'-2"	67'-4"	88'-2"	114'-4"	88'-11"	11'-0"	12'-0"	11'-11-4/8"	15'-11-2/8"	10'-7-3/8"	15'-11-2/8"	10'-7-3/8"
42	66'-7"	45'-12"	68'-12"	67'-4"	88'-2"	114'-3"	88'-10"	12'-6"	14'-6"	10'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"
43	66'-6"	45'-15"	68'-11"	67'-5"	88'-11"	114'-2"	88'-10"	DO	DO	DO	DO	DO	DO	DO
44	66'-6"	45'-0"	68'-0"	67'-5"	88'-0"	114'-1"	88'-9"	DO	DO	DO	DO	DO	DO	DO
45	66'-6"	45'-0"	68'-0"	67'-2"	88'-0"	114'-0"	88'-8"	DO	DO	DO	DO	DO	DO	DO
46	66'-5"	45'-0"	68'-0"	67'-2"	87'-11"	114'-0"	88'-8"	DO	DO	DO	DO	DO	DO	DO
47	66'-5"	45'-0"	68'-0"	67'-2"	87'-11"	113'-11"	88'-7"	DO	DO	DO	DO	DO	DO	DO
48	66'-5"	45'-0"	67'-11"	67'-1"	87'-11"	113'-11"	88'-7"	12'-6"	14'-6"	10'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"
49	66'-5"	45'-0"	67'-11"	67'-1"	87'-11"	113'-11"	88'-7"	13'-0"	15'-4"	10'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"
50	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO
54	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO
55	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO
59	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO
60	66'-5"	45'-0"	67'-11"	67'-1"	87'-11"	113'-11"	88'-7"	13'-0"	15'-4"	10'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"
61	66'-5"	45'-0"	67'-11"	67'-1"	87'-11"	113'-11"	88'-7"	12'-6"	14'-6"	10'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"
62	66'-5"	45'-0"	67'-11"	67'-1"	87'-11"	113'-11"	88'-7"	DO	DO	DO	DO	DO	DO	DO
63	66'-5"	45'-0"	67'-11"	67'-1"	87'-11"	113'-11"	88'-7"	DO	DO	DO	DO	DO	DO	DO
64	66'-5"	45'-0"	67'-11"	67'-2"	87'-11"	114'-0"	88'-8"	DO	DO	DO	DO	DO	DO	DO
65	66'-5"	45'-0"	68'-0"	67'-2"	87'-11"	114'-0"	88'-8"	DO	DO	DO	DO	DO	DO	DO
66	66'-5"	45'-0"	68'-0"	67'-2"	87'-11"	114'-0"	88'-8"	12'-6"	14'-6"	10'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"
67	67'-1"	45'-0"	68'-0"	67'-2"	88'-0"	114'-0"	88'-8"	11'-0"	12'-0"	11'-1-4/8"	15'-1-2/8"	10'-7-3/8"	15'-1-2/8"	10'-7-3/8"



ITEM	UNIT	QUANTITY	QUANTITY
BEAMS	LB	ASTM A7	ASTM A992
BEAMS	LB	1,599,884	94,513
FILL PLATES & SPLICE PLATES	LB	1,067,795	
DIAPHRAGMS	LB	44,241	
BEARING STIFFENERS	LB	20,782	
TOTAL		1,615,280	94,513

\*NOTE: ALL COVER PLATES OVER 1" THICK & ALL W BEAMS WITH COVER PLATES OVER 1" THICK ARE TO BE TYPE-A375 STRUCTURAL STEEL, ALL OTHERS A-7.

FOR INFORMATION ONLY

**GENERAL NOTES**

SEE SHEET S-25 FOR BEARING DETAILS (SPLICE DETAILS, DEAD LOAD DEFLECTIONS AND CAMBER DIAGRAM). SEE SHEET S-24, USE 3/8" HIGH STRENGTH BOLTS FOR ALL DIAPHRAGM CONNECTIONS.

**COVER PLATE DETAIL**

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY  
W. 15 TH ST. TO W. 15 TH ST.  
SECTION 4-888.3-SH  
STEEL FRAMING PLAN  
UNIT 2

DE LUCA CATHY & COMPANY  
CONSULTING ENGINEERS CHICAGO  
SCALE AS NOTED DATE: AUGUST, 1981  
SHEET S22 OF 56

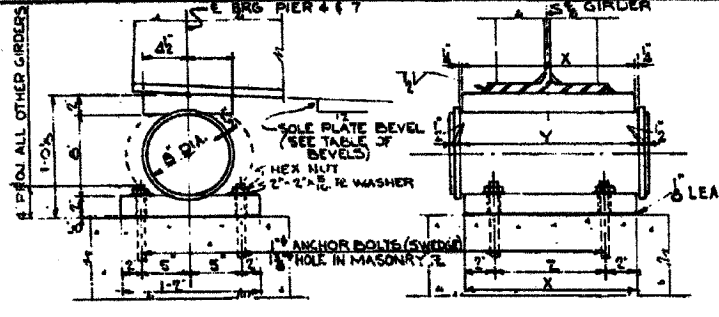
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1110

SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BOC  
CHECKED BY: BLU

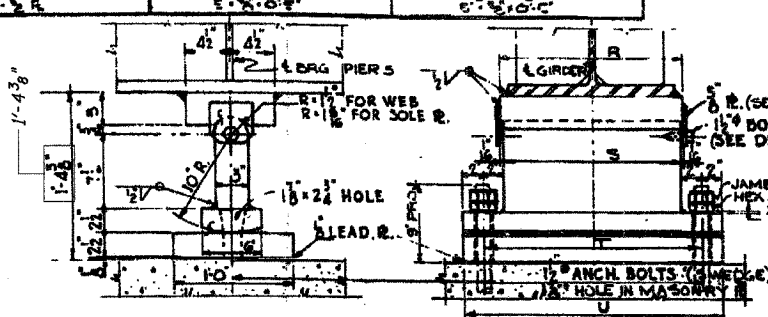
REVISIONS  
NAME DATE

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
130 EAST RANDOLPH STREET SUITE 2650 CHICAGO, ILLINOIS 60601  
708 NO. 688

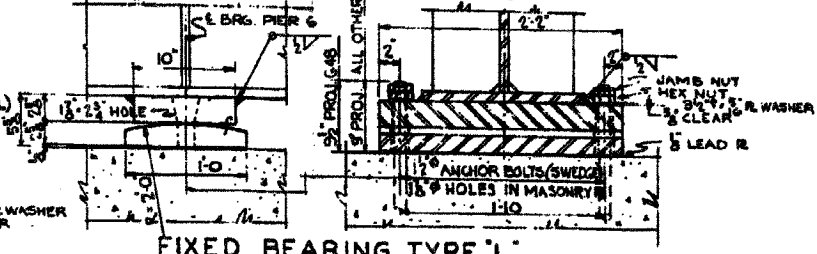
MATERIAL	TYPE F (6 REQ'D)	TYPE G (4 REQ'D)	TYPE H (7 REQ'D)	MATERIAL	TYPE J (3 REQ'D)	TYPE K (24 REQ'D)	MATERIAL	TYPE L (27 REQ'D)
SOLE PLATE MASONRY R ROCKER R LEAD R ANCHOR BOLTS WASHERS	3" x 24" x 1/2" 14" x 2" x 1/2" 14" x 1" x 1/2" 2" x 2" x 1/2" 2" x 2" x 1/2"	3" x 24" x 1/2" 14" x 2" x 1/2" 14" x 1" x 1/2" 2" x 2" x 1/2" 2" x 2" x 1/2"	3" x 24" x 1/2" 14" x 2" x 1/2" 14" x 1" x 1/2" 2" x 2" x 1/2" 2" x 2" x 1/2"	SOLE PLATE MASONRY R WEB R ROCKER R LEAD R ANCHOR BOLTS WASHERS BOLTS	12" x 24" x 1/2" 9" x 24" x 1/2" 9" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2"	12" x 24" x 1/2" 9" x 24" x 1/2" 9" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2"	SOLE PLATE MASONRY R LEAD R ANCHOR BOLTS WASHERS	10" x 24" x 1/2" 12" x 24" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2" 12" x 12" x 1/2"



EXPANSION BEARING-TYPE F, G & H  
SCALE: 1/2" = 1'-0"



EXPANSION BEARING TYPE J & K  
SCALE: 1/2" = 1'-0"



	R	S	T	U
TYPE J	1'10"	1'10"	2'2"	2'6"
TYPE K	1'6"	1'6"	1'10"	2'2"

LOCATION	GIRDER NUMBER					
	41	48	50	55	59	67
PIER NO. 4			14" x 24" x 1/2"	14" x 24" x 1/2"	14" x 24" x 1/2"	
PIER NO. 6		12" x 24" x 1/2"				
PIER NO. 7	14" x 24" x 1/2"					14" x 24" x 1/2"
TOTAL WEIGHT OF FILL PLATES = 234 LBS.						

LOCATION	GIRDER NUMBER				
	41	48, 50, 55	54	55, 59, 66	67
PIER NO. 4	5	3	5	5	5
PIER NO. 7	0	5	3	5	5

BEARING TYPE	NUMBER REQUIRED	WT. OF STEEL PER BEARING, LBS.	TOTAL STEEL LBS.
F	6	648	3,888
G	41	560	22,960
H	7	475	3,325
J	3	780	2,370
K	24	676	16,224
L	27	465	12,555
LESS ANCHOR BOLTS AT PIER 7			- 540 LBS.
TOTAL WEIGHT OF BEARINGS = 60,782 LBS.			

NOTE:  
MATERIAL INCLUDED IN WEIGHT ON SHT. 52Z  
ROCKER R AND WEB R FOR EXPANSION BRG TYPES J & K CAN BE  
GRADE 65-35 CARBON STEEL CASTING.  
FLANGE SPLICES — 3/8" HIGH STRENGTH BOLTS.  
WEB SPLICES — 3/8" HIGH STRENGTH BOLTS.  
ANCHOR BOLTS AT PIER 7 PROVIDED IN CONTRACT S2525-1 H.

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY  
W. 16TH ST. TO W. 15TH ST.  
SECTION 8-2525.3-2H  
BEARINGS & SPLICE DETAILS  
UNIT 2

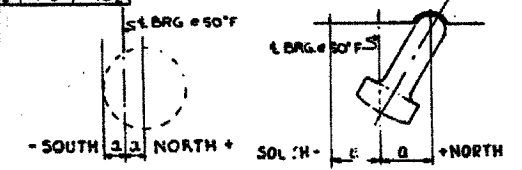
DE LEUW, GATHER & COMPANY  
CONSULTING ENGINEERS

SHEET S23 OF 56

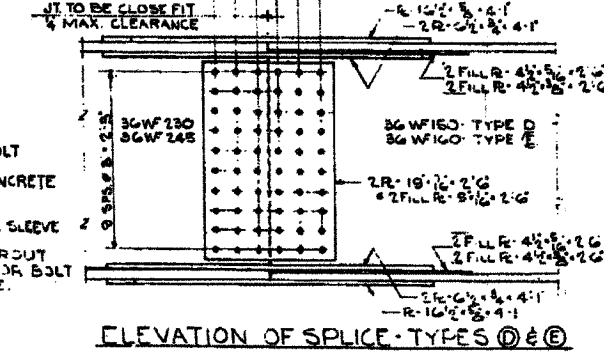
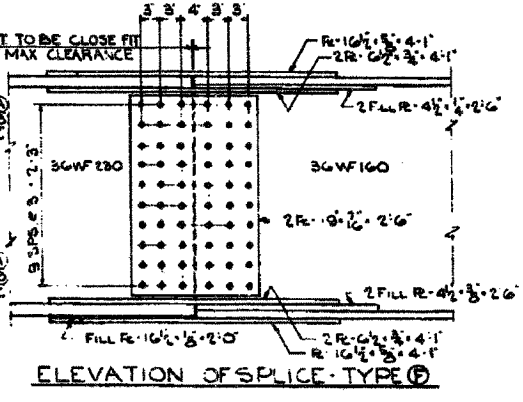
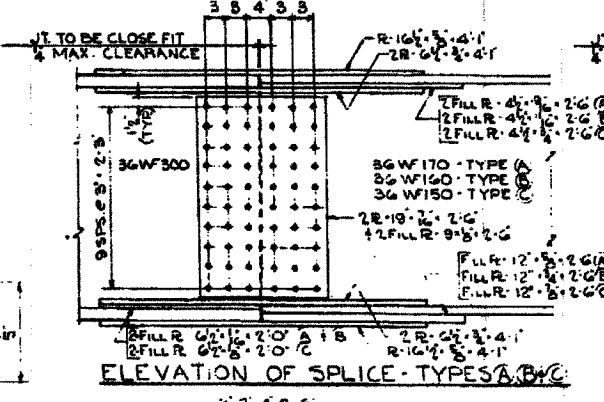
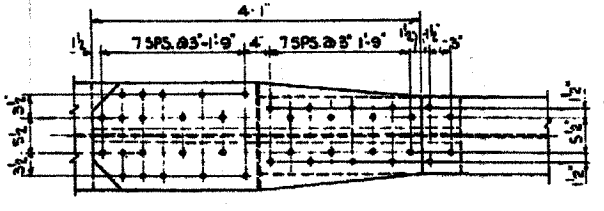
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1110  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

TYPE F	Y	Z
TYPE G	1'9"	1'4"
TYPE H	1'6"	1'1"
TYPE J	1'9"	1'0"



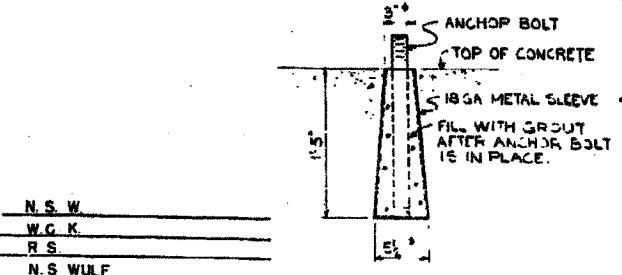
EXP. BRG. TYPE	PIER #	110'	90'	70'	50'	30'	10'
TYPE F, G & H	PIER 4	-1/8"	-1/8"	-1/8"	0	0	0
	PIER 7	0	0	0	0	0	0
TYPE J & K	PIER 5	-1/8"	-1/8"	-1/8"	0	0	0



SPLICE TYPE	NUMBER REQUIRED	WT. OF STEEL PER SPLICE, LBS.	TOTAL STEEL LBS.
A	2	997	1,994
B	3	1,020	3,060
C	3	1,043	3,129
D	83	922	76,526
E	4	931	3,724
F	13	926	12,038
TOTAL WEIGHT OF SPLICES			100,471 LBS.

DETAIL - BOLT 'X'  
SCALE: 3" = 1'-0"

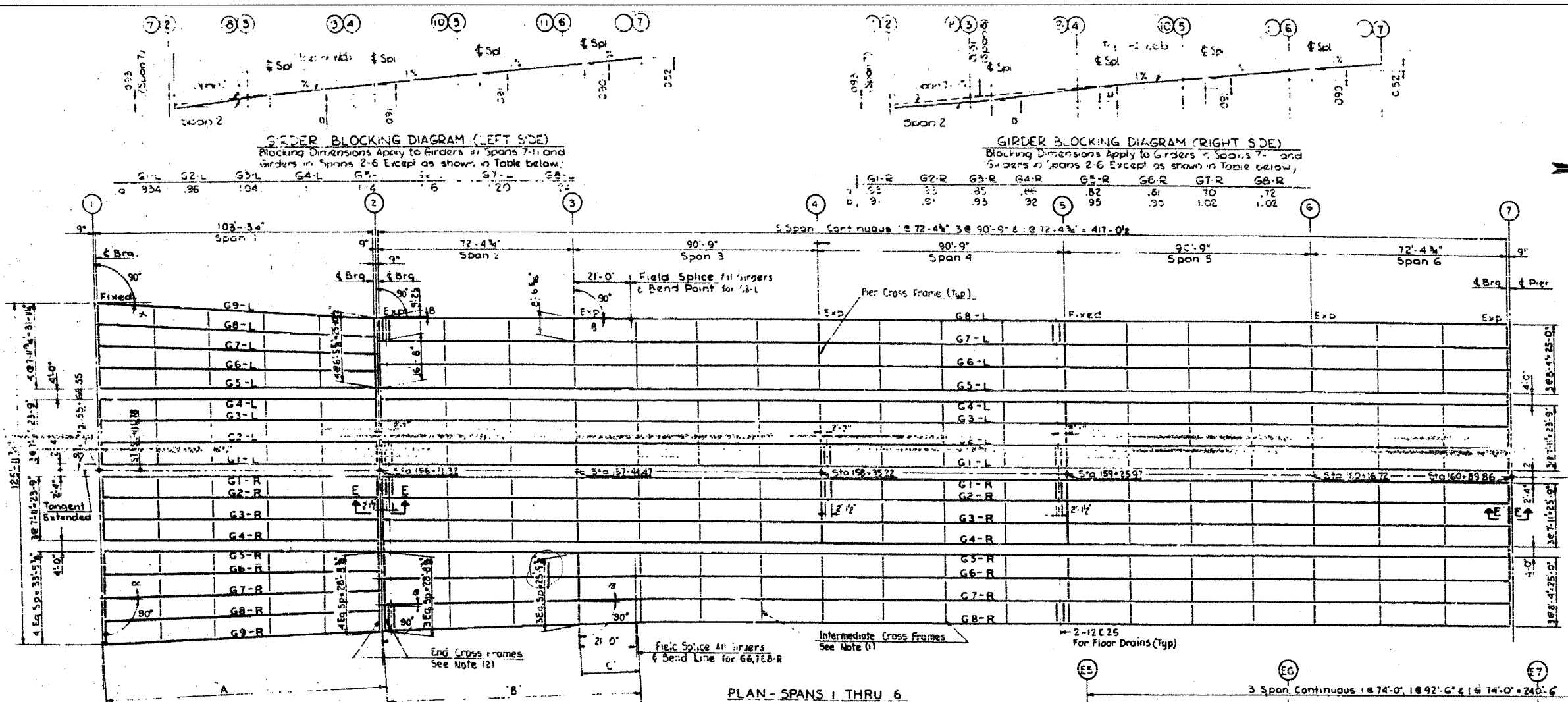
DETAIL - F PLATE  
SCALE: 3" = 1'-0"



SCALES OF TRACING

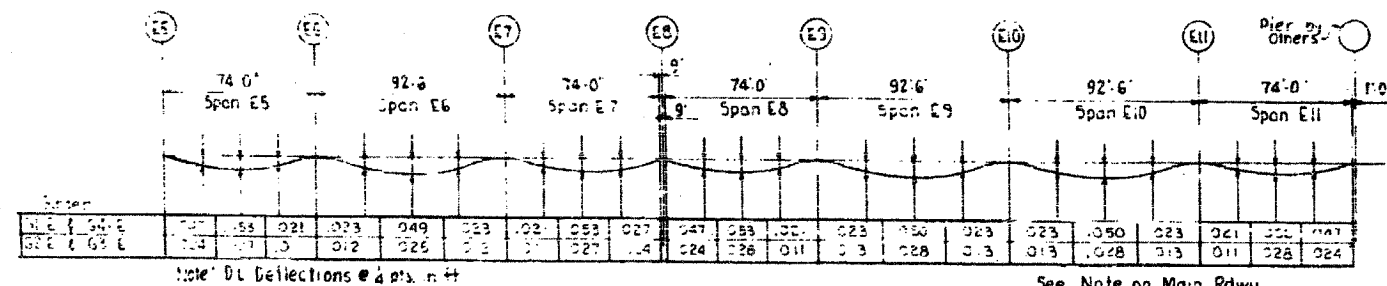
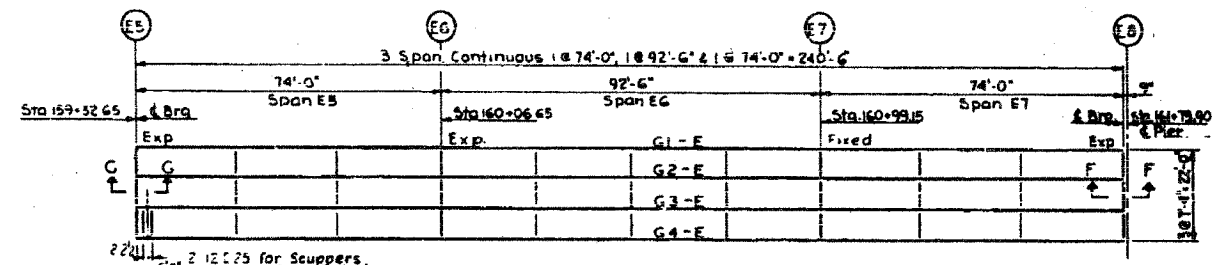
FOR INFORMATION ONLY

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-00BF	COOK	93	83
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



- NOTES**
- Intermediate cross frames to be located above Piers for continuous spans & between piers of all spans at approximate 3, 4 or 5 points as indicated in plan. Maximum spacing to be 25'. See Stiffener spacing dimensions.
  - End cross frames to be located at free ends of all girders, simple & continuous spans.
- See Expansion Guard Details Sheets for Sections E, F & G

DIMENSIONS OF FANED GIRDERS					
SPAN 1			SPAN 2 & 3		
Girder	Distance A	Angle	Girder	Distance B	Angle
G5-L	104-94	0° 00' 00"	G7-L	94-12	21° 0'
G6-L	104-96	0° 49' 42"	G8-L	94-11	21° 5'
G7-L	104-93	1° 39' 24"	G5-R	94-12	21° 0'
G8-L	104-100	2° 29' 02"	G6-R	94-11	21° 5'
G9-L	104-111	3° 18' 31"	G7-R	94-21	21° 5'
G3-R	102-94	0° 00' 00"	G8-R	94-22	21° 5'
G6-R	104-94	0° 42' 05"			
G7-R	104-96	1° 24' 10"			
G8-R	104-100	2° 06' 13"			
G9-R	104-108	2° 48' 13"			



SPANS E5 THRU E11  
RAMP E DEAD LOAD DEFLECTIONS  
FOR INFORMATION ONLY

REVISIONS	NAME	DATE

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
SECTION NO. 12-1828-S-3H  
12-1828-S-3H  
W 15th STREET TO W 28th STREET

**FRAMING PLAN**

CONSOER. TOWNSEND & ASSOCIATES  
CONSULTING ENGINEERS  
CHICAGO, ILLINOIS

DESIGNED BY RLF  
DRAWN BY M.L.  
SCALE: \_\_\_\_\_

CHECKED BY  
IN CHARGE OF HSM  
DATE: AUG. 1991  
SHEET NO. 3-20 OF 82

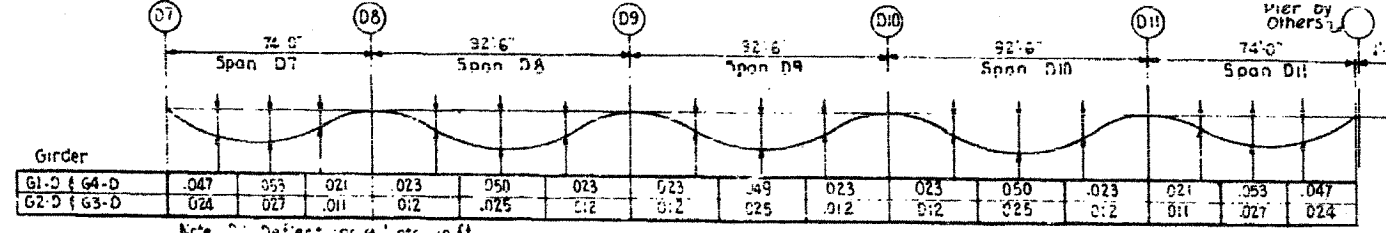
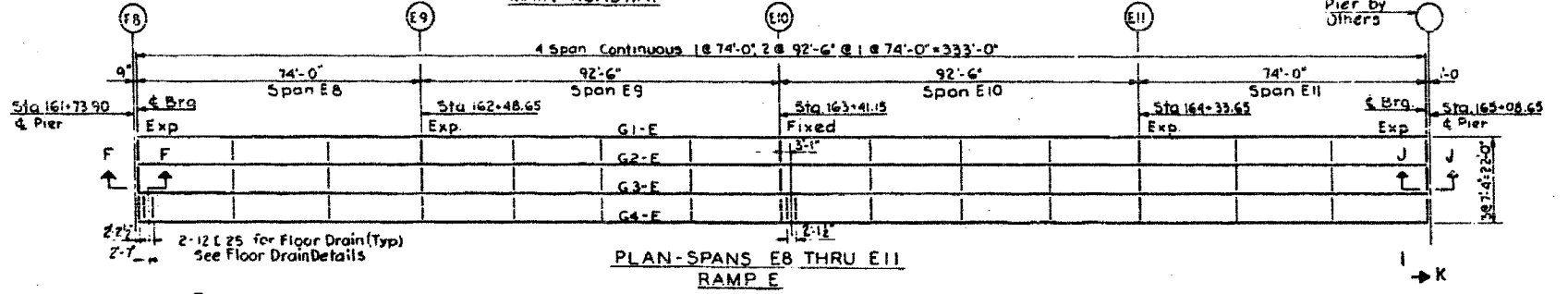
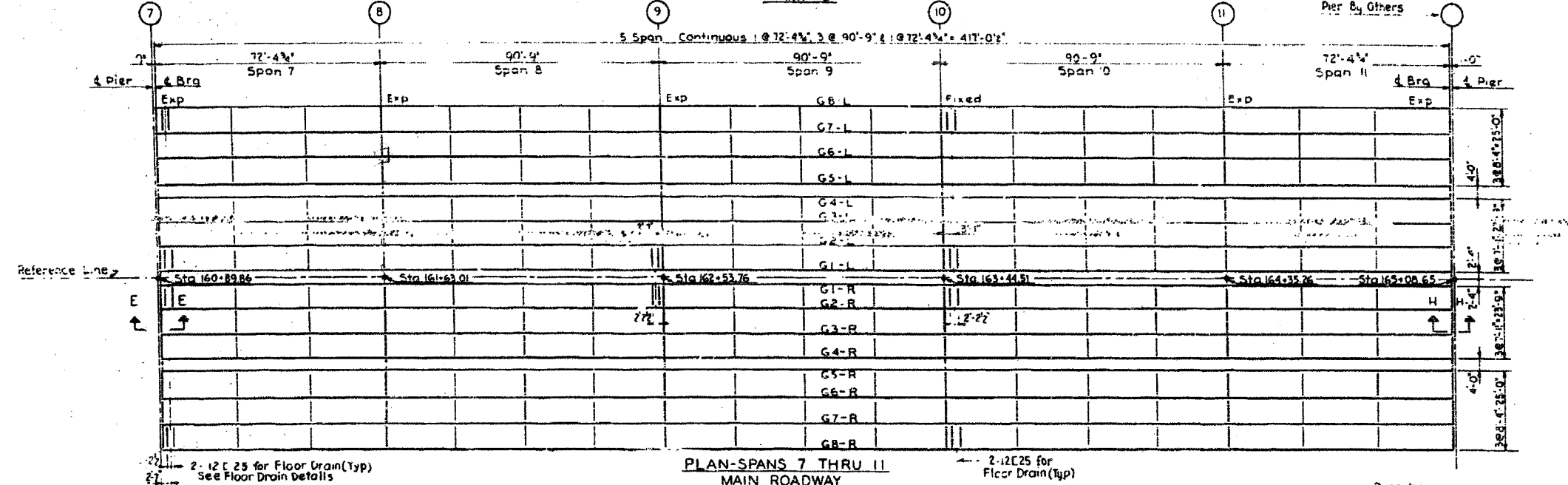
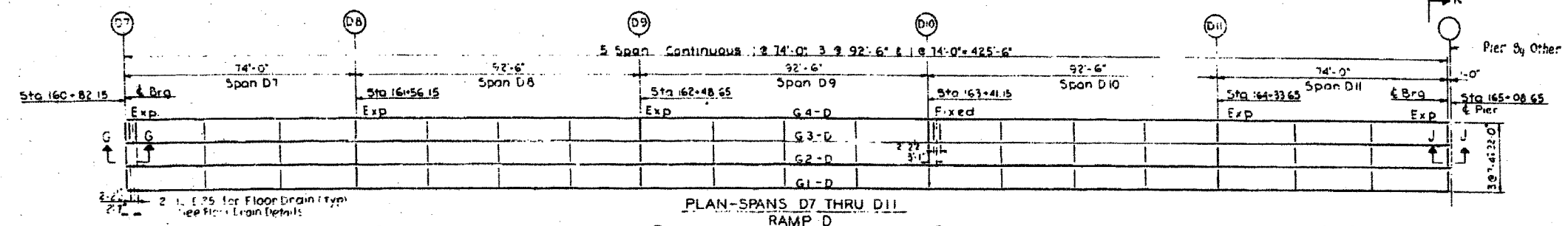
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1111

SCALE: NTS  
DATE: 5/23/2005

DRAWN BY: BDC  
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
100 EAST BARRINGTON STREET SUITE 2024 CHICAGO, ILLINOIS 60611  
312.321.1111

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	84
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



SPANS D7 THRU D11  
**RAMP D DEAD LOAD DEFLECTIONS**  
 Includes Weight of Concrete only

FOR INFORMATION ONLY



**STRUCTURAL STEEL NOTES**

- STEEL**  
 Structural Steel ASTM Designation A-373 shall be used throughout except as noted below.
- ASTM Designation A-7 steel to be used for cross frames, masonry piers, anchor bolts, field splice plates, expansion guards, channel shear connectors, and scupper channels.
- FIELD CONNECTIONS**  
 Cross Frames - 2 @ High-Strength Bolts ASTM A-325  
 Girder Splices 2 @ High-Strength Bolts ASTM A-325  
 Expansion Guard Brackets - 2 @ Rivet Bolts  
 Scupper Channels - 2 H S P Nuts See Sheet S-30
- FIELD PLATE WELDS**  
 Flanges to web with carbon steel plates shall be welded to web. Use 1/2" fillet welds for flange plates up to and including 1/2" thickness. Use 3/4" fillet welds for flange plates up to and including 1 1/2" thickness. Use 1" fillet welds for flange plates up to and including 2" thickness.
- SPICES**  
 Field splices may be vertical or normal to the girders at the option of the fabricator. Holes for field splices shall be reamed with the girders assembled in position in accordance with the Blocking Diagrams.  
 Shop web splices shall be made vertical.
- PAINTING**  
 The Contractor for Section S-25253-3HF shall furnish and apply 1 shop coat of red lead paint and 2 field coats of paint to all structural steel except as noted below. The tops of girder top flanges will not be painted except for a distance of 5 feet each way from interior piers & abutments.

See Expansion Guard Detail Sheets S-25, S-26, S-27 for Sections E, F, G, H, J & K

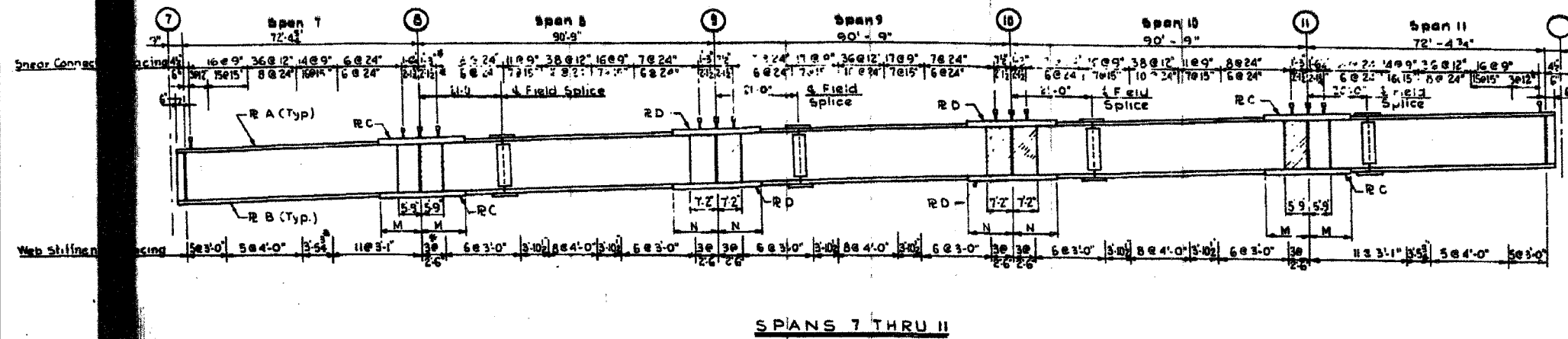
CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
 SECTION NO. 5-25253-3HF  
 W. 156th STREET TO W. 158th STREET  
**FRAMING PLAN**  
 CONSER, TOWNSEND & ASSOCIATES  
 CONSULTING ENGINEERS  
 CHICAGO, ILLINOIS  
 DESIGNED BY RLF  
 CHECKED BY H.L.  
 IN CHARGE OF HSM  
 DATE: AUG. 1981  
 SCALE: SHEET NO. S-21 OF 82

REVISIONS	NAME	DATE

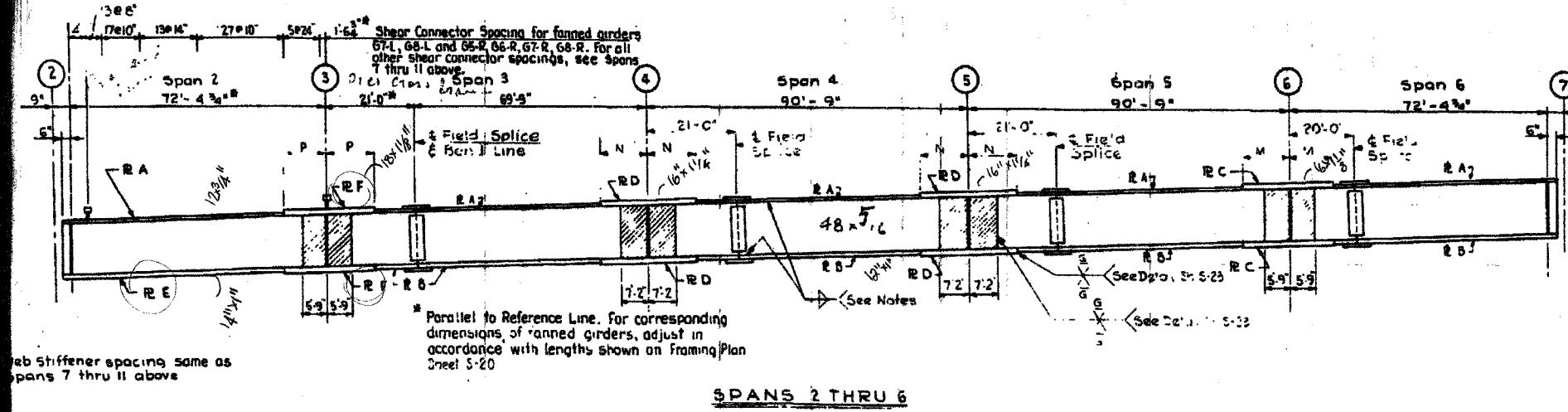
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-1111  
 SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 110 EAST MADISON STREET SUITE 2604 CHICAGO, ILLINOIS 60601  
 312.467.6666

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	85
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62919				

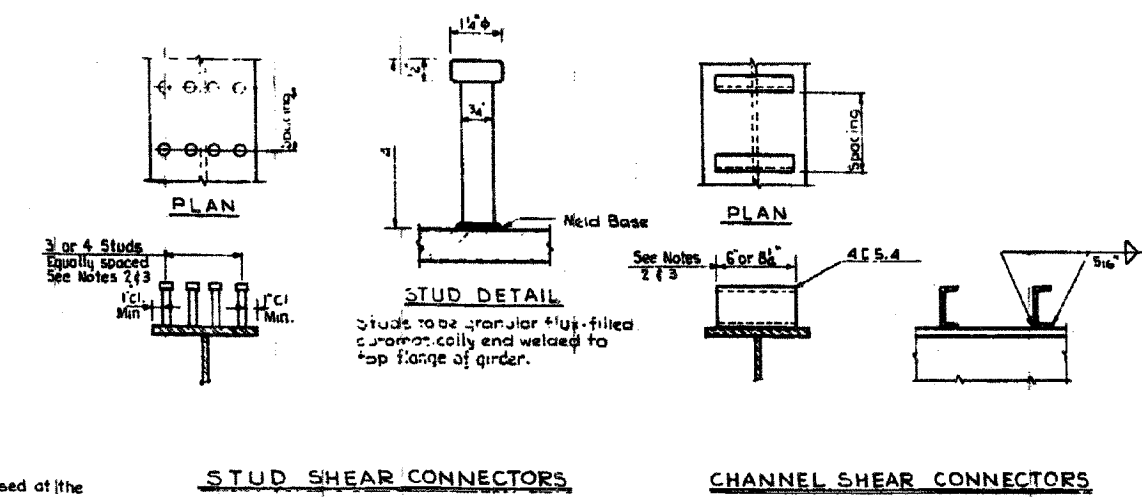
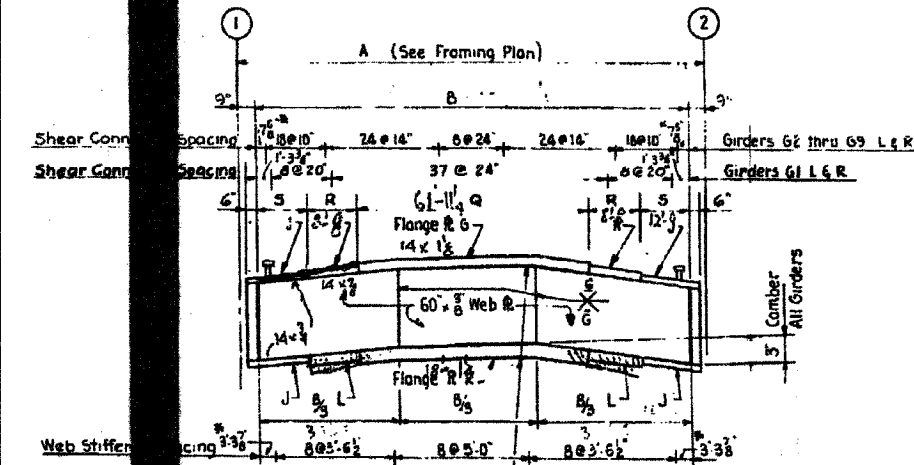


GIRDER	B	DIMENSION				PLATE SIZE						
		Q	R	S	G	H	J	K	L			
G1-L	103-3/4	61-1/2	8-8	12-0	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G2,3-(L&R)	103-3/4	63-1/2	10-5	9-9	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G4,5-(L&R)	103-3/4	61-1/2	10-5	10-3	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G6-L	103-3/4	63-1/2	10-4	9-4	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G7-L	103-3/4	63-1/2	10-4	9-4	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G8-L	103-4	64-0	10-4	9-4	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G9-L	103-5	64-1	9-8	10-0	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G6-R	103-3/4	63-1/2	11-0	8-8	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G7-R	103-3/4	63-1/2	11-0	8-8	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G8-R	103-4	64-0	11-0	8-8	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G9-R	103-4	64-0	9-8	10-0	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8
G1-R	103-3/4	61-1/2	7-8	13-0	14-1/2	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8	14-7/8



UNIT	GIRDER	PLATE A	PLATE B	PLATE C		PLATE D		PLATE E	PLATE F
				SIZE	M	SIZE	N		
SPANS 7 THRU 11	G1-L	10-2	12-1	16-2	10-2	16-1	11-2		
	G2,3-(R&L)	12-2	12-1	16-1	10-8	16-1/2	12-0		
	G4,5-(R&L)	12-2	12-1	16-1	9-9	16-1	11-2		
	G6,7,8-(R&L)	12-2	12-1	16-1	11-4	16-1/2	12-6		
SPANS 2 THRU 6	G1-R	10-2	12-1	16-2	8-9	16-1	10-0	12-3	16-2
	G1-L	10-2	12-1	16-2	10-2	16-1	11-2	12-3	16-2
	G2,3-(R&L)	12-2	12-1	16-1	10-8	16-1/2	12-0	12-1	16-1
	G4-(R&L)	12-2	12-1	16-1	9-9	16-1	11-2	12-1	16-1
	G5-L	12-2	12-1	16-1	9-9	16-1	11-2	12-1	16-1
	G6-L	12-2	12-1	16-1	11-4	16-1/2	12-6	12-1	16-1
	G7,8-L	12-2	12-1	16-1	11-4	16-1/2	12-6	12-1	16-1
	G6-R	12-2	12-1	16-1	9-9	16-1	11-2	12-1	16-1
G6,7,8-R	12-2	12-1	16-1	11-4	16-1/2	12-6	14-1	18-1/2	

Continuous Span Web Plates - Spans (2 thru 11)  
 Positive Moment Areas all Girders - 48 x 5/8  
 Negative Moment Areas (Shown Cross-Hatched)  
 Girders G2 thru G8 (L&R) - 48 x 1/2  
 Girders G1 (L&R) - 48 x 3/8



- NOTES**
- Studs or channels may be used at the option of the contractor.
  - Shear Connector locations of flange splice plates

Sheet S22 of 82

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-1111  
 SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

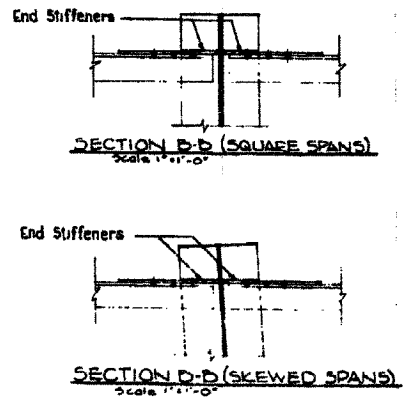
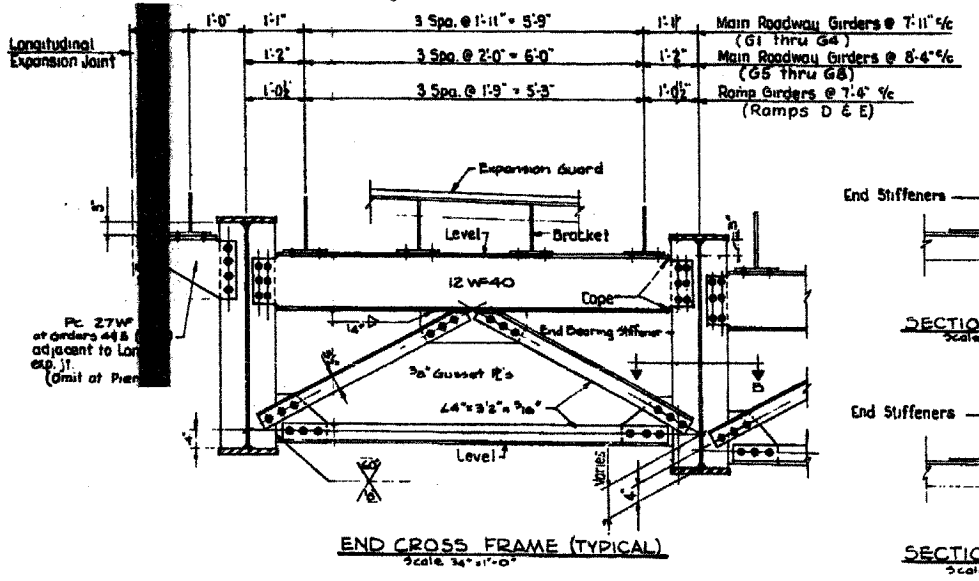
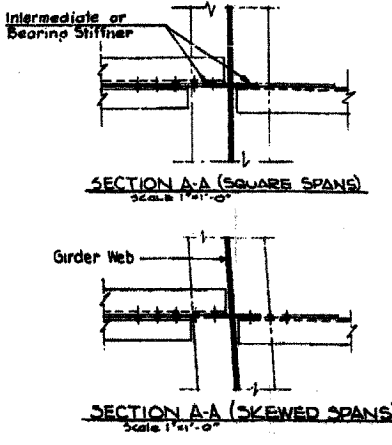
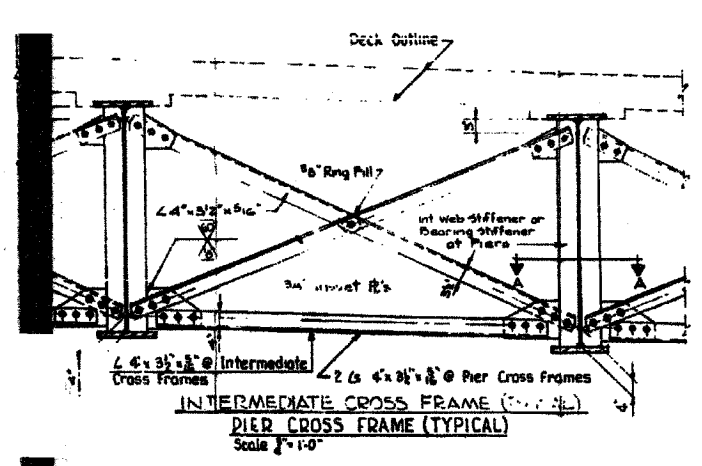
FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 133 EAST RANDOLPH STREET SUITE 2648 CHICAGO, ILLINOIS 60601  
 312.581.4444

5/23/2005 5:23:16 AM

n:\650\cadd\p14\p14.dgn

5/23/2005 9:27:22 AM



**CROSS FRAME DETAILS**

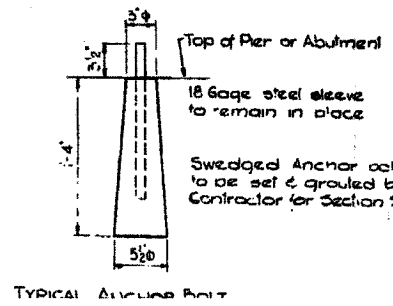
**NOTES**

Expansion Guard bracket spacings shown are typical at locations where girders are parallel.

Dimensions to be adjusted by detailer where girders are formed. Hold bracket spacings to 23" max. See Framing Plans for 5/8" dimensions of tapered girders.

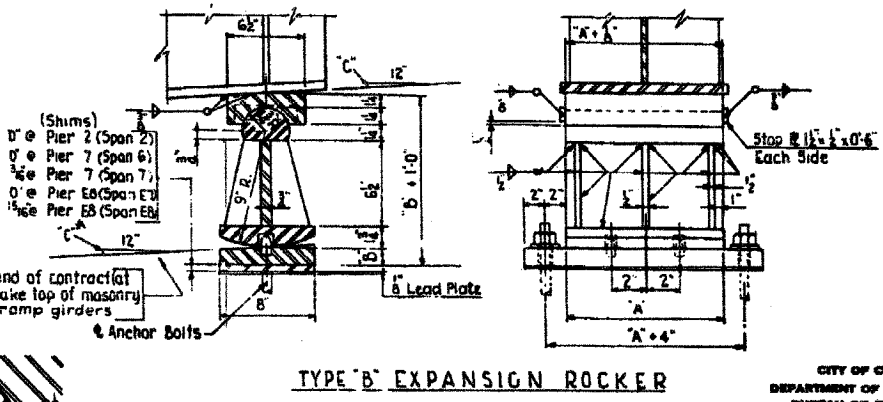
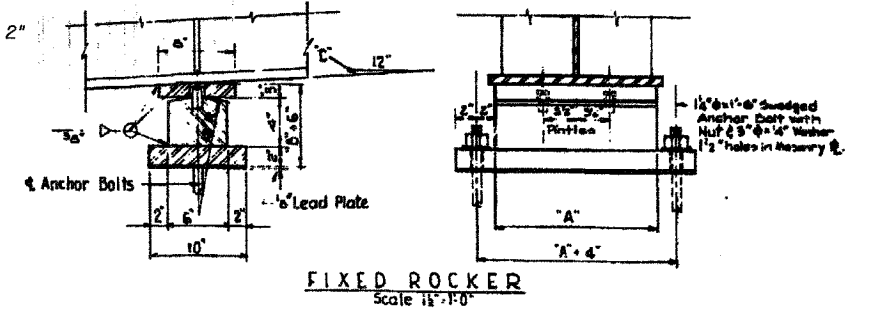
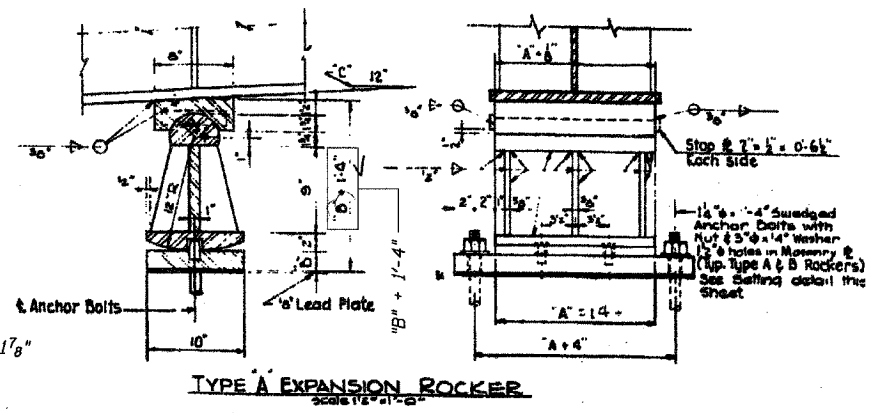
Special bracket spacing dimensions to be used at north end of contract to meet expansion guard supplied by others. See Expansion Guard Details Sheet S-27.

Intermediate Cross Frames and End Cross Frames shown are typical for simple spans & continuous spans. Pier cross frames typical are at interior piers of continuous spans. See Framing Plans & Girder Details for girder dimensions & spacings.

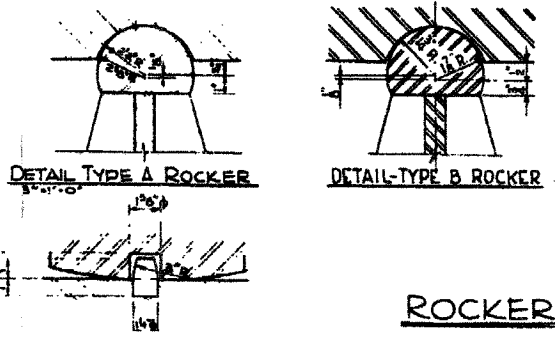


**ROCKER SCHEDULE**

Girder	Type	"A"	"B"	"C"
<b>PIER 1- SPAN 1</b>				
G1- L&R	Fixed	10'	11 1/2'	1 1/2'
G2,3- L&R	Fixed	10'	11 1/2'	1 1/2'
G4,5- L&R	Fixed	10'	11 1/2'	1 1/2'
G6-9- L&R	Fixed	10'	11 1/2'	1 1/2'
<b>PIER 2- SPAN 2</b>				
G1- L&R	B	11'	12 1/2'	1 1/2'
G2,3- L&R	B	11'	11 1/2'	1 1/2'
G4,5- L&R	B	11'	11 1/2'	1 1/2'
G6-9- L&R	B	11'	11 1/2'	1 1/2'
<b>PIER 2- SPAN 2</b>				
G1- L&R	B	10'	11 1/2'	1 1/2'
G2,3- L&R	B	10'	11 1/2'	1 1/2'
G4,5- L&R	B	10'	11 1/2'	1 1/2'
G6-9- L&R	B	10'	11 1/2'	1 1/2'
<b>PIERS 3,4,5,8,9 &amp; 11</b>				
G1- L&R	A	11'	12 1/2'	1 1/2'
G2,3- L&R	A	15'	1 1/2'	1 1/2'
G4,5- L&R	A	12'	1 1/2'	1 1/2'
G6-9- L&R	A	14'	2'	1 1/2'
<b>PIER 7 &amp; PIER BY OTHERS</b>				
G1- L&R	B	10'	11 1/2'	1 1/2'
G2,3- L&R	B	10'	11 1/2'	1 1/2'
G4,5- L&R	B	10'	11 1/2'	1 1/2'
G6-9- L&R	B	10'	11 1/2'	1 1/2'
<b>RAMP E</b>				
<b>ABUTMENT E5 &amp; PIER BY OTHERS</b>				
All Girders	B	10'	11 1/2'	1 1/2'
<b>PIERS E6, E9, E11</b>				
All Girders	A	14'	2'	1 1/2'
<b>PIERS E7, E8, E10</b>				
All Girders	Fixed	14'	13 1/2'	1 1/2'
<b>PIER E8</b>				
All Girders	B	10'	11 1/2'	1 1/2'
<b>RAMP D</b>				
<b>ABUTMENT D7 &amp; PIER BY OTHERS</b>				
All Girders	B	10'	11 1/2'	1 1/2'
<b>PIER D8, D9, &amp; D11</b>				
All Girders	A	14'	2'	1 1/2'
<b>PIER D10</b>				
All Girders	Fixed	14'	13 1/2'	1 1/2'



\* Note: At North end of contract (at Pier by Others) make top of masonry plate level, all ramp girders



**ROCKER DETAILS**

FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
135 EAST RANDOLPH STREET SUITE 2450 CHICAGO, ILLINOIS 60601  
312.467.1400

Sheet S24 of 82

REVISIONS	
NAME	DATE

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
SECTION NO. S-2525.3-34F  
W. 15th STREET TO W. 18th STREET  
**CROSS FRAMES & ROCKERS**

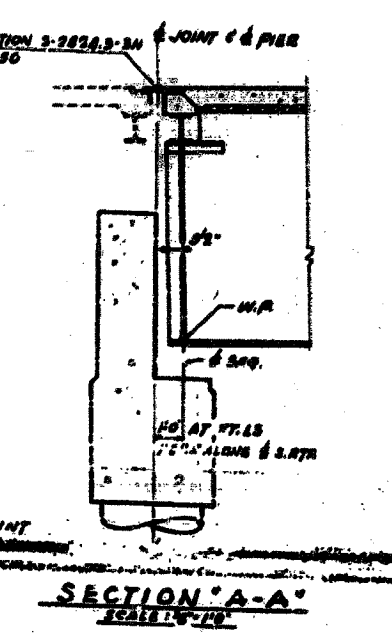
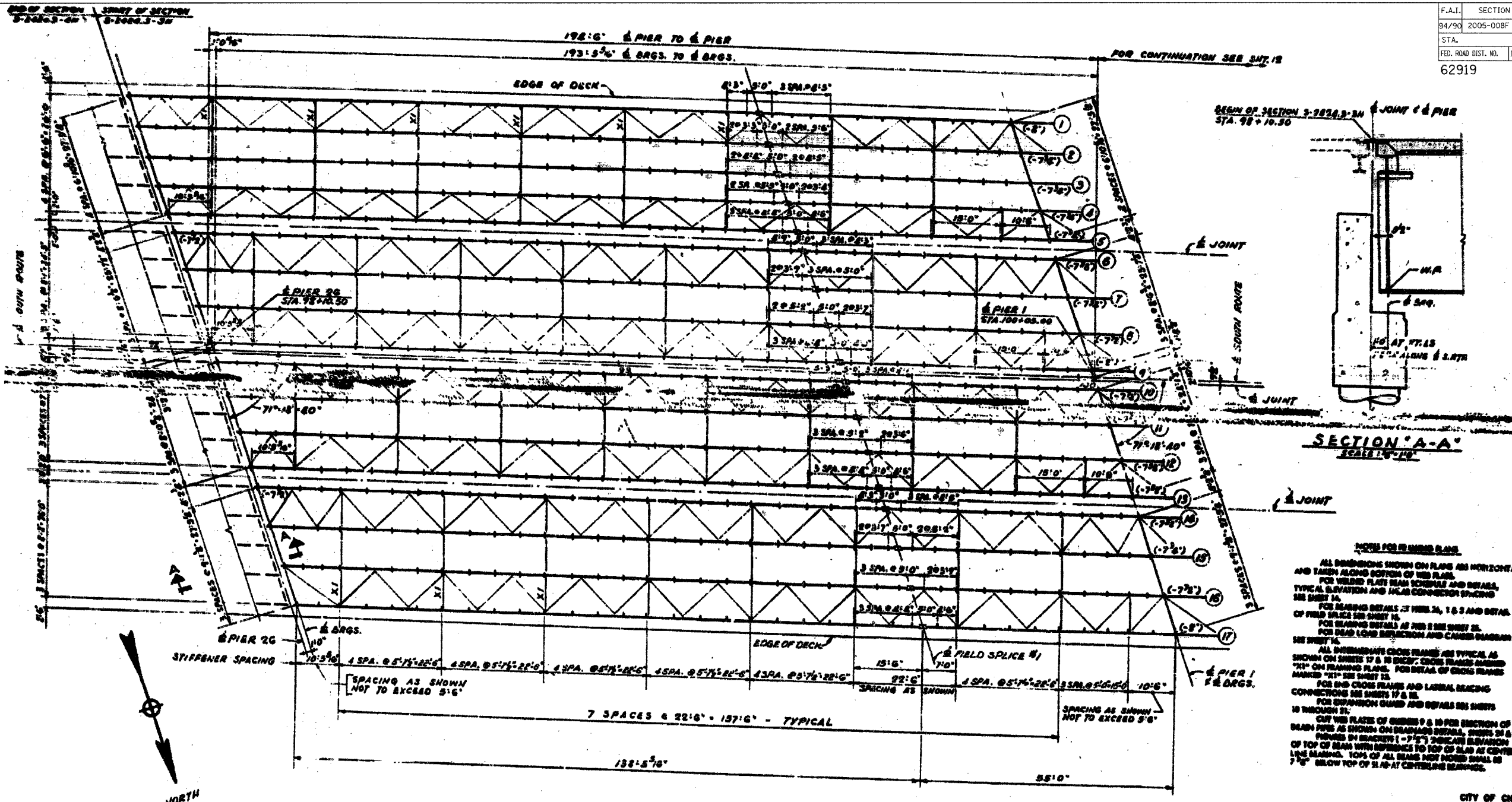
CONSECO, TOWNSEND & ASSOCIATES  
CONSULTING ENGINEERS  
CHICAGO, ILLINOIS  
DESIGNED BY RLF CHECKED BY IN CHARGE OF HSM  
DRAWN BY

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1111

SCALE: NTS  
DATE: 5/23/2005

DRAWN BY: BDC  
CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	87
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



**NOTES FOR FRAMING PLAN**

ALL DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL AND TAKEN ALONG BOTTOM OF WEB FLANGE.

FOR WELDED FLAT HEAD SCHEMAS AND DETAILS, TYPICAL ELEVATION AND HAZEL CONNECTION SPACING SEE SHEET 1A.

FOR BEARING DETAILS AT PIER 2A, 1 & 2 AND DETAIL OF FIELD BEAMS SEE SHEET 1B.

FOR BEARING DETAILS AT PIER 1 SEE SHEET 2A.

FOR DEAD LOAD DISTRIBUTION AND CAMBER DIAGRAM SEE SHEET 1A.

ALL INTERMEDIATE CROSS FRAMES ARE TYPICAL AS SHOWN ON SHEETS 17 & 18 EXCEPT CROSS FRAMES MARKED 'X' ON FRAMING PLAN. FOR DETAIL OF CROSS FRAMES MARKED 'X' SEE SHEET 1B.

FOR END CROSS FRAMES AND LATERAL BRACING CONNECTIONS SEE SHEETS 17 & 18.

FOR EXPANSION GUARD AND DETAILS SEE SHEETS 18 THROUGH 21.

CUT WEB PLATES OF BEAMS 9 & 10 FOR SECTION OF BRASS PIPES AS SHOWN ON BEARING DETAILS, SHEETS 2 & 3A. PIPES IN BRACKETS (-7'-5") TO BE AT ELEVATION OF TOP OF BRASS WITH REFERENCE TO TOP OF SLAB AT CENTERLINE BRASS. TOPS OF ALL BEAMS NOT MORE SMALL OR 7'-0" BELOW TOP OF SLAB AT CENTERLINE BRASS.

**TOP OF FLANGE ELEVATIONS AT BEAM**

BEAM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
DECK PIER 2G	59.900	60.000	60.205	60.327	60.443	60.446	60.378	60.280	60.179	60.162	60.036	60.076	60.076	60.077	60.077	60.077	60.077
DECK PIER 1	61.172	61.326	61.468	61.570	61.648	61.691	61.571	61.430	61.261	61.162	61.070	61.610	61.670	61.670	61.671	61.671	61.671
DECK PIER 2	60.000	61.001	61.162	61.321	61.500	61.670	61.821	61.180	60.781	60.780	61.112	61.234	61.270	61.287	61.178	60.707	60.772
DECK PIER 3	59.601	59.799	59.715	60.060	60.114	60.114	60.00	59.822	59.637	59.627	59.764	59.867	59.877	59.877	59.877	59.877	59.864

**BILL OF MATERIAL**

DESCRIPTION	UNIT	QUANTITY
FURNISHING & ERECTING STRUCTURAL STEEL	LBS	4,242,000

\* INCLUDES WEIGHT OF BEARINGS & EXPANSION GUARDS

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

Sheet 11 of 45 SHEET NO. 11 OF 45 SHEETS DATE: JULY 1994

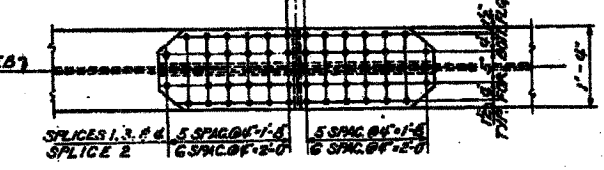
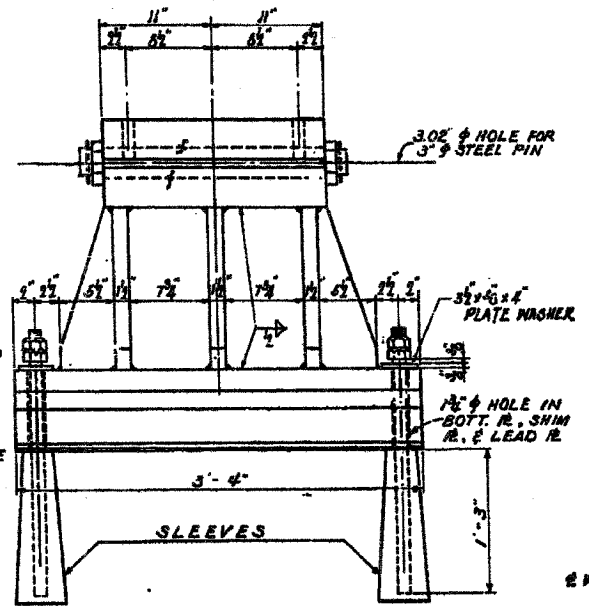
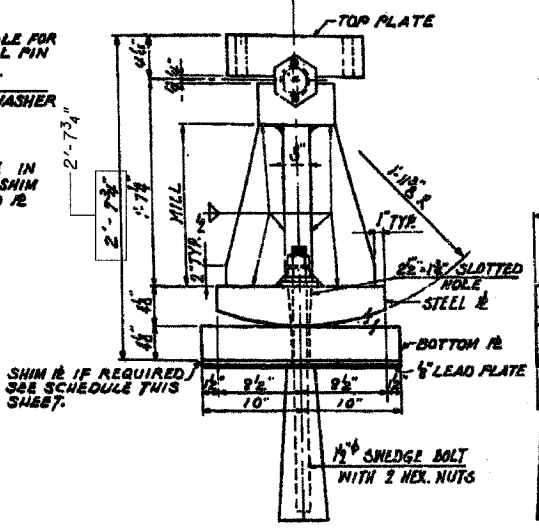
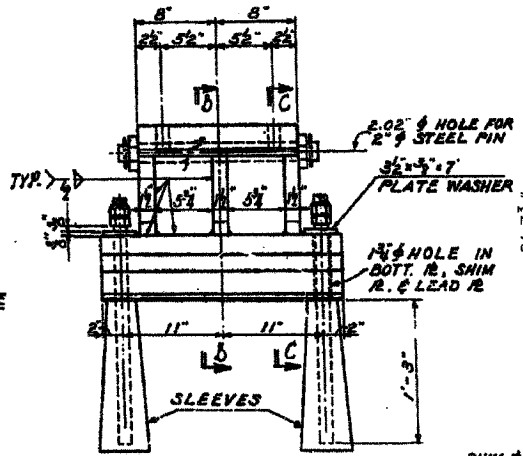
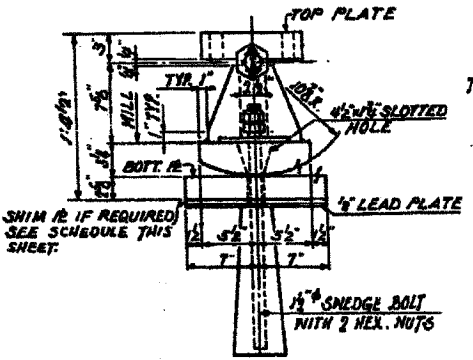
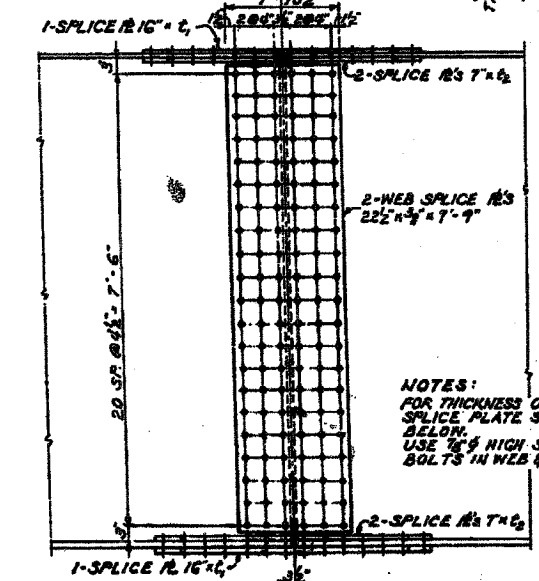
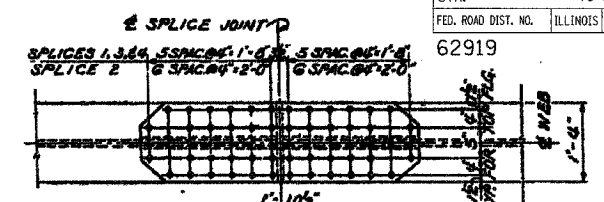
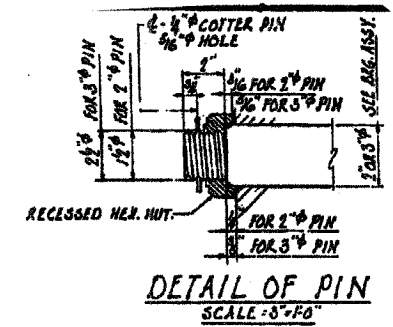
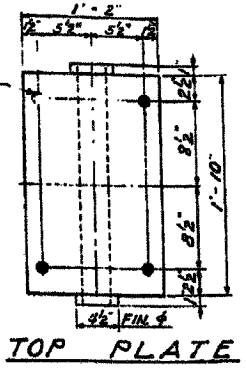
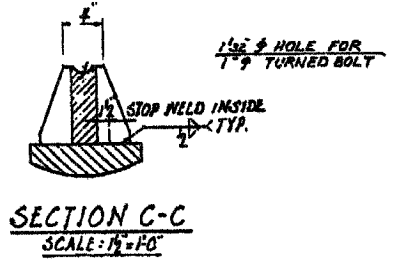
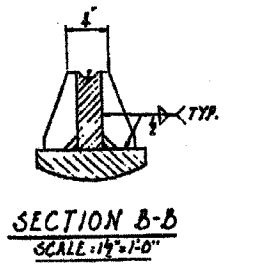
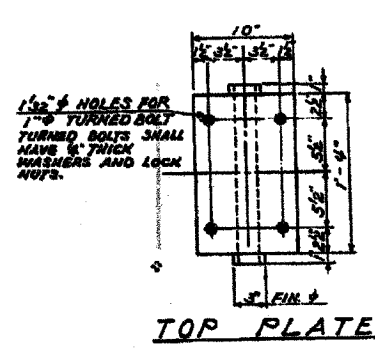
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1116

SCALE: NTS DRAWN BY: BOC  
DATE: 5/23/2005 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
120 EAST MADISON STREET SUITE 2450 CHICAGO, ILLINOIS 60601  
312.467.4400

FOR INFORMATION ONLY

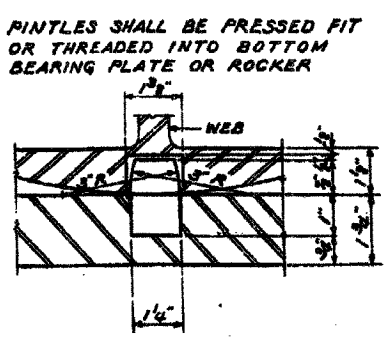
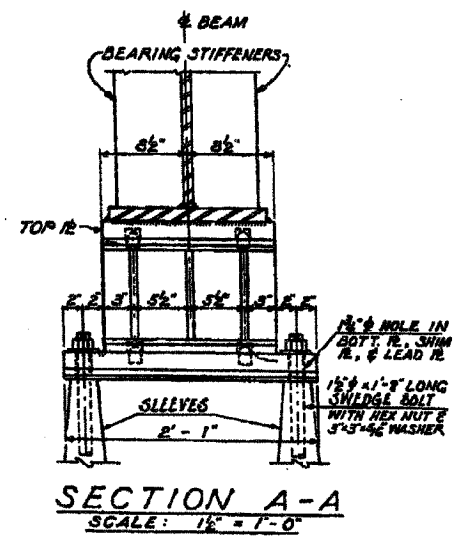
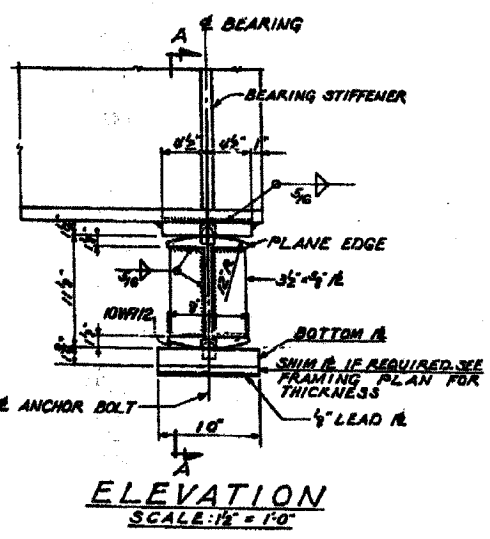
62919



DETAILS OF EXPANSION BEARING AT PIER 26  
SCALE: 1/2" = 1'-0"

DETAILS OF EXPANSION BEARING AT PIER 1  
SCALE: 1/2" = 1'-0"

DETAIL OF FIELD SPLICE  
SCALE: 3/4" = 1'-0"



SHIM # SCHEDULE

BEAM PIER	4	6	7	9	12	15
#26	-	-	3/8"	3/8"	-	3/8"
#1	-	3/8"	-	-	-	-
#3	3/8"	-	-	-	3/8"	-

TABLE OF FLANGE SPLICE PLATES

NO. OF GIRDER	LOCATION ON TOP & BOTTOM FLANGES	THICKNESS OF SPLICE PLATE	
		SPLICES 1, 3, 4 & 5	SPLICE 2
1, 9, & 17	t <sub>1</sub>	3/8"	1/2"
	t <sub>2</sub>	3/8"	7/8"
2, 3, 4, & 5	t <sub>1</sub>	3/8"	7/8"
	t <sub>2</sub>	1/2"	1 1/8"
6, 11, 12, 13, & 14	t <sub>1</sub>	3/8"	7/8"
	t <sub>2</sub>	7/8"	1 1/8"
7, 8, 10, 15, & 16	t <sub>1</sub>	3/8"	7/8"
	t <sub>2</sub>	1/2"	3/4"

\* FOR LOCATION OF SPLICES SEE FRAMING SHEETS 11, 12 & 13

DETAILS OF EXPANSION BEARING AT PIER 3

BOTTOM PINTLE DETAIL (TOP PINTLE DETAIL SIMILAR)  
SCALE: 1/2" = 1"

NOTE!  
FOR DETAIL OF FIXED BEARING AT PIER 2  
SEE SH. 38.

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY  
STEWART AVE. TO CANAL ST.  
SECTION 9-2484.3-3H  
BRACING & SPLICE DETAILS

Sheet 15 of 45

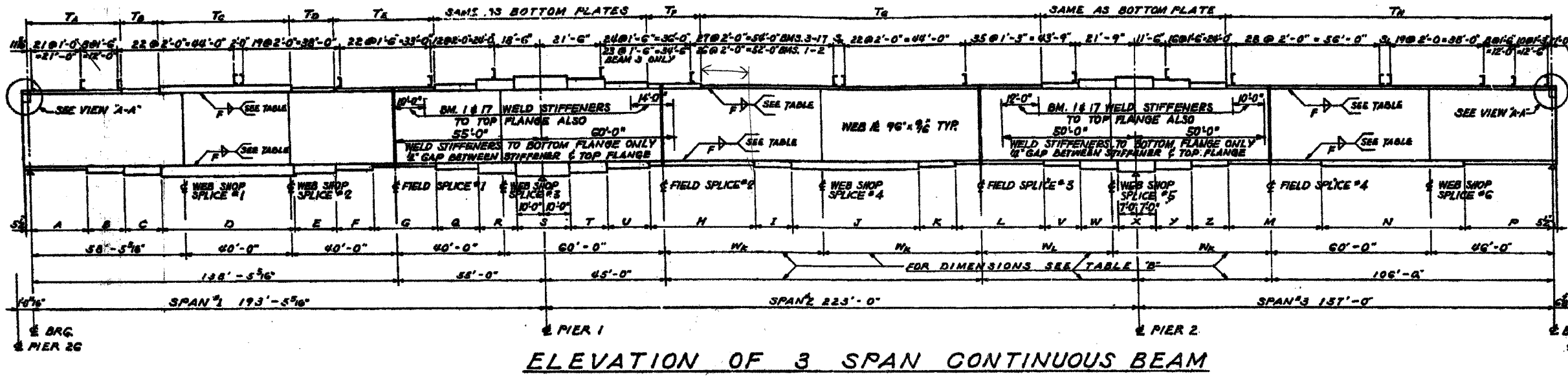
FOR INFORMATION ONLY

REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1116  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU





F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	89
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	62919	

**SHEAR CONNECTOR SPACING**

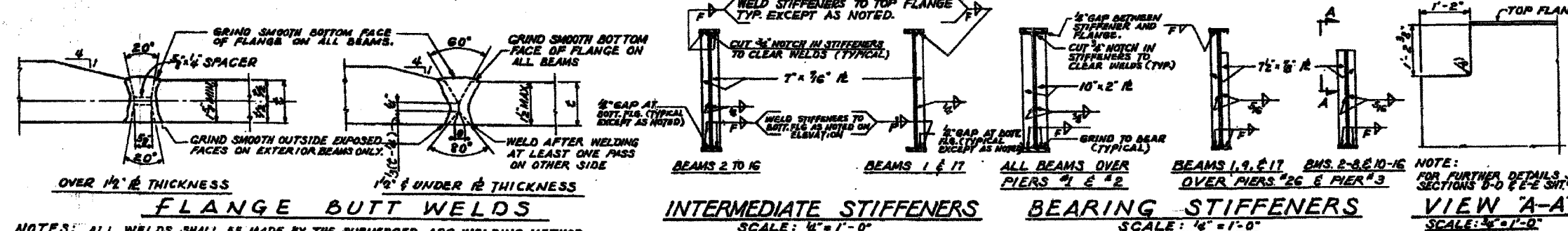
ITEM	BEAMS				
	1	2	3	4	5-7
S <sub>1</sub>	1'-1 1/2"	1'-7 1/2"	1'-11 1/2"	1'-2 1/2"	2'-0"
S <sub>2</sub>	1'-2"	1'-6 1/2"	1'-6 1/2"	1'-4 1/2"	2'-0"

**NOTES:**  
 SHEAR CONNECTORS AT FIELD SPLICES CAN BE ADJUSTED TO AVOID INTERFERENCE WITH WASHERS ON HIGH STRENGTH BOLTS.

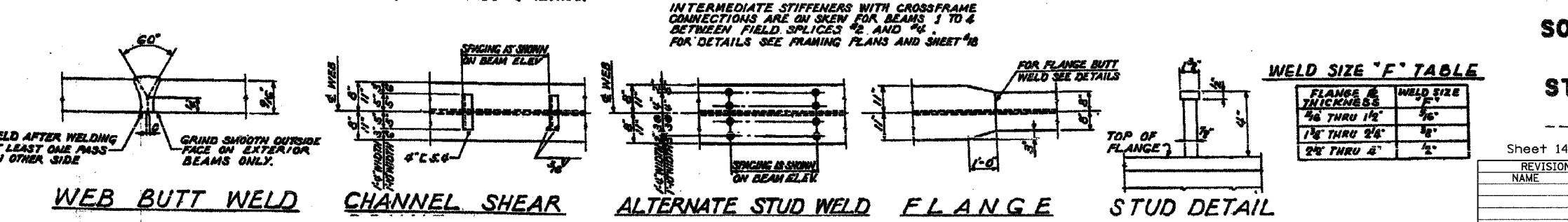
ELEVATION OF 3 SPAN CONTINUOUS BEAM

TABLE FOR 3 SPAN CONTINUOUS BEAMS

BEAM NUMBER	BOTTOM FLANGE PLATES															TOP AND BOTTOM FLANGE PLATES													TOP FLANGE PLATES								TABLE "B"	BEAM NUMBER																					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	T <sub>A</sub>	T <sub>B</sub>	T <sub>C</sub>	T <sub>D</sub>	T <sub>E</sub>	T <sub>F</sub>	T <sub>G</sub>	T <sub>H</sub>																										
1, 9, 17	SIZE 16"x1 1/2"	16"x1 1/2"	16"x2 1/4"	16"x2 1/4"	16"x2 1/4"	16"x2 1/4"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	22"x1 1/2"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	7'-5 1/2"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	SIZE 1, 9, 17
1	LENGTH 17'-5 1/2"	17'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 1									
9, 17	LENGTH 17'-5 1/2"	17'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 9, 17									
7, 8, 10, 15, 16	SIZE 16"x1 1/2"	16"x1 1/2"	16"x2 1/4"	16"x2 1/4"	16"x2 1/4"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	22"x1 1/2"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	7'-5 1/2"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	SIZE 7, 8, 10, 15, 16
7, 8, 10, 15, 16	LENGTH 17'-5 1/2"	17'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 7, 8, 10, 15, 16									
6, 11, 12, 13, 14	SIZE 16"x1 1/2"	16"x1 1/2"	16"x2 1/4"	16"x2 1/4"	16"x2 1/4"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	22"x1 1/2"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	7'-5 1/2"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	SIZE 6, 11, 12, 13, 14
6, 11, 12, 13, 14	LENGTH 17'-5 1/2"	17'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	28'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 6, 11, 12, 13, 14									
2, 3, 4, 5	SIZE 16"x1 1/2"	16"x1 1/2"	16"x2 1/4"	16"x2 1/4"	16"x2 1/4"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	22"x1 1/2"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 3/4"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	22"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	16"x1 1/2"	25'-5 1/2"	25'-0"	25'-0"	25'-0"	25'-0"	25'-0"	25'-0"	25'-0"	25'-0"	25'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	SIZE 2, 3, 4, 5
2	LENGTH 25'-5 1/2"	25'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 2										
3	LENGTH 25'-5 1/2"	25'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 3										
4	LENGTH 25'-5 1/2"	25'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 4										
5	LENGTH 25'-5 1/2"	25'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	26'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	30'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	18'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	100'-0"	LENGTH 5										



**NOTES:**  
 ALL LONGITUDINAL DIMENSIONS ARE HORIZONTAL AND TAKEN ALONG THE BOTTOM OF WEB PLATE. FOR STIFFENER SPACING SEE FRAMING PLANS. FOR CAMBER DIAGRAM SEE SHEET #16 FOR SPLICE DETAILS SEE SHEET #15 FOR CROSSFRAME DETAILS AND ADDITIONAL DETAILS SEE SHS. # 17 & 18 ALL STIFFENERS TO CONFORM TO A.S.T.M. A375 STEEL.



**CITY OF CHICAGO**  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
**ELEVATED HIGHWAY**  
**STEWART AVE. TO CANAL ST.**  
 SECTION 9-2424.3-SH

Sheet 14 of 45

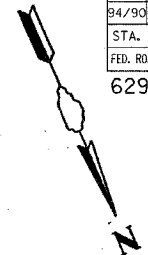
REVISIONS	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-1116  
 SCALE: NTS  
 DATE: 5/23/2005

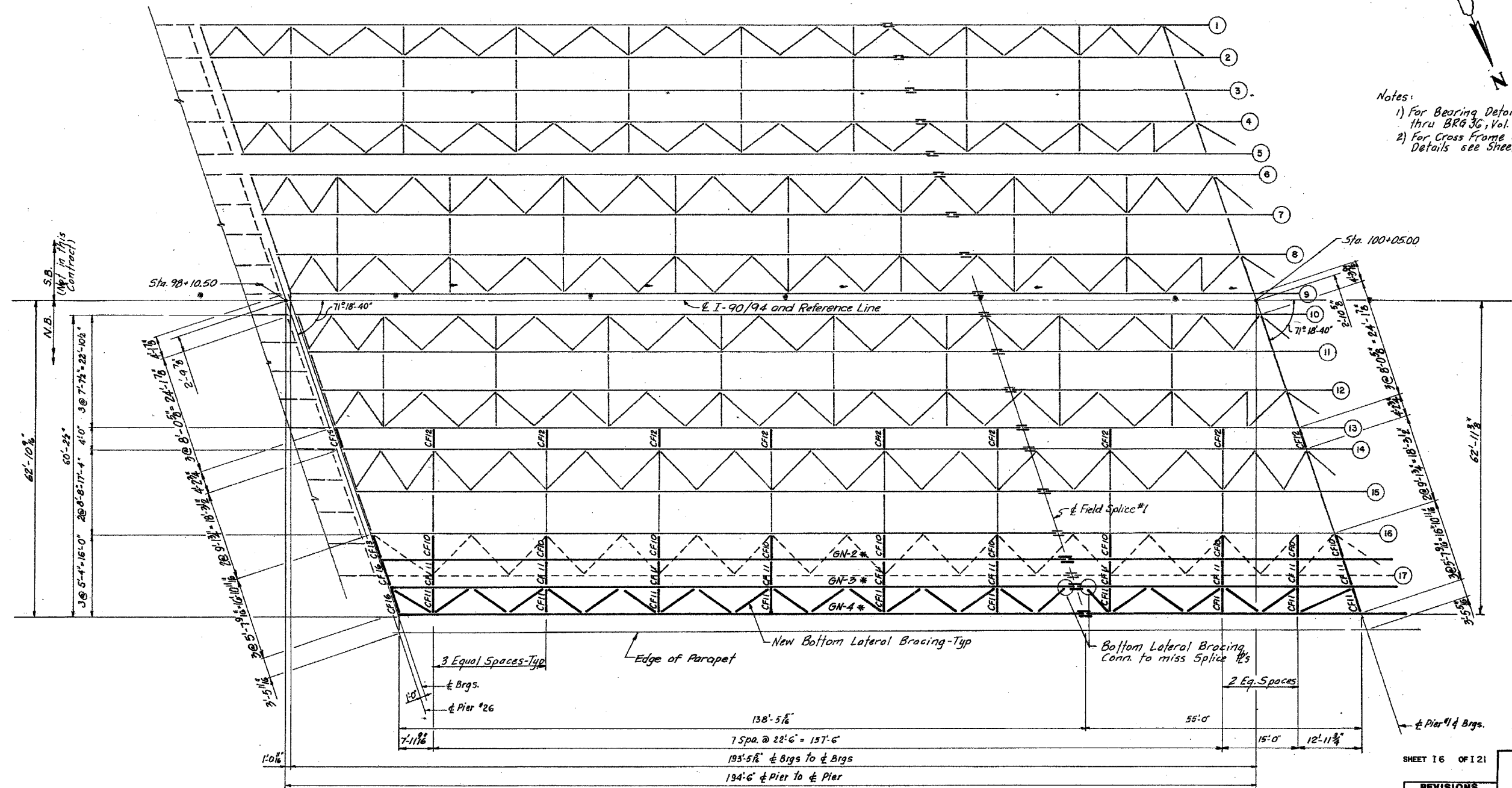
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 CHECKED BY: BLU

FOR INFORMATION ONLY

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	90
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



Notes:  
 1) For Bearing Details see Sheets BRG 32 thru BRG 36, Vol. #3  
 2) For Cross Frame and Bottom Lateral Bracing Details see Sheet I 11.



ALL NEW MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE STEEL FABRICATION CONTRACT (SECTION 1988-003F), UNLESS NOTED OTHERWISE.

**PLAN - SPAN - 1 (N.B.)**

**LEGEND**  
 --- To be removed (N.B. only)  
 \* New Plate girder (for size & length See sheet I 9)

REVISIONS	
Name	Date

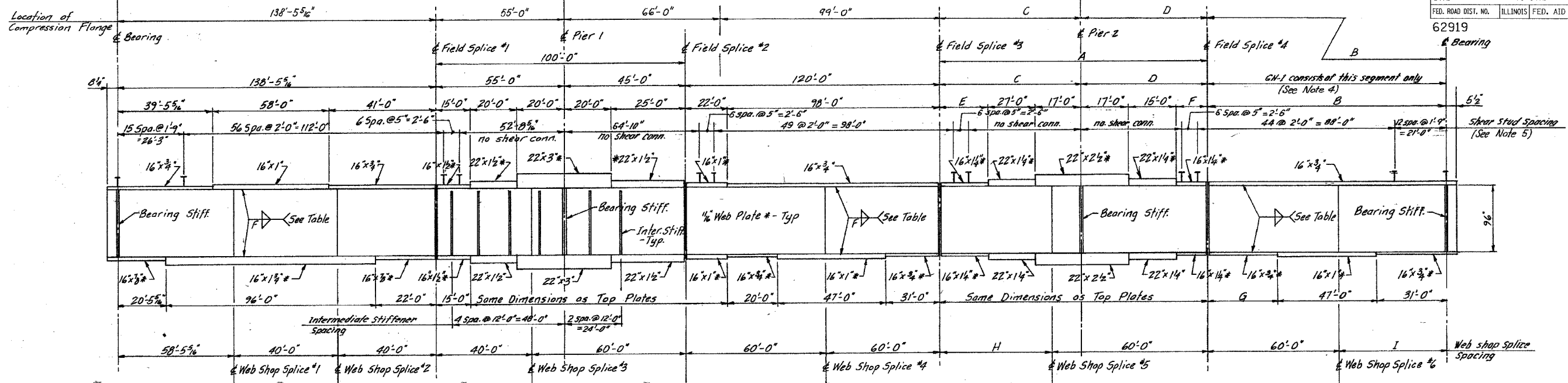
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)  
 SECTION 085-0778-R-COOK COUNTY  
 N.B. MAINLINE RECONSTRUCTION  
 STRUCTURE 016-1116  
 FRAMING PLAN SPAN 1  
 Scale: NONE  
 Date: AUG. 1988  
 Drawn By: AVP  
 Checked By: AW  
 ENVIRODYNE ENGINEERS INC.  
 Chicago, Illinois

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-1116  
 SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

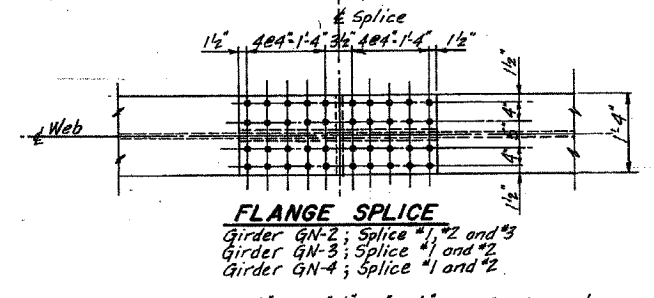
FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 130 EAST MADISON STREET SUITE 1400 CHICAGO, ILLINOIS 60601  
 JOB NO. 644



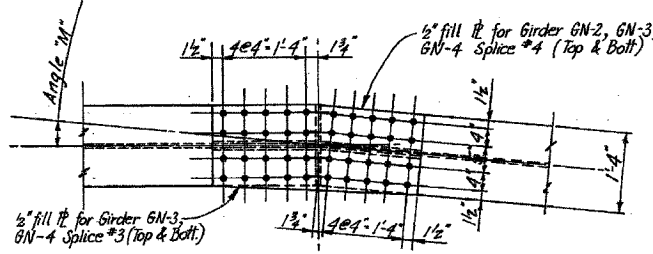
**GIRDER ELEVATION - GN-1, GN-2, GN-3 & GN-4**

GIRDER	A	B	C	D	E	F	G	H	I
GN-1	—	106'-0 1/8"	—	—	—	—	28'-0 1/8"	—	46'-0 1/8"
GN-2	109'-0"	107'-7 3/8"	57'-11 1/2"	51'-0 1/4"	13'-11 1/2"	19'-0 1/4"	29'-7 3/8"	49'-0"	47'-7 1/2"
GN-3	109'-10 1/2"	108'-3 3/8"	58'-4 1/4"	51'-5 1/2"	14'-4 1/4"	19'-5 1/2"	30'-3 3/8"	49'-10 1/2"	48'-3 3/8"
GN-4	110'-9 3/8"	108'-11 1/2"	58'-10 1/4"	51'-11 1/2"	14'-10 1/4"	19'-11 1/2"	30'-11 1/2"	50'-9 3/4"	48'-11 1/2"



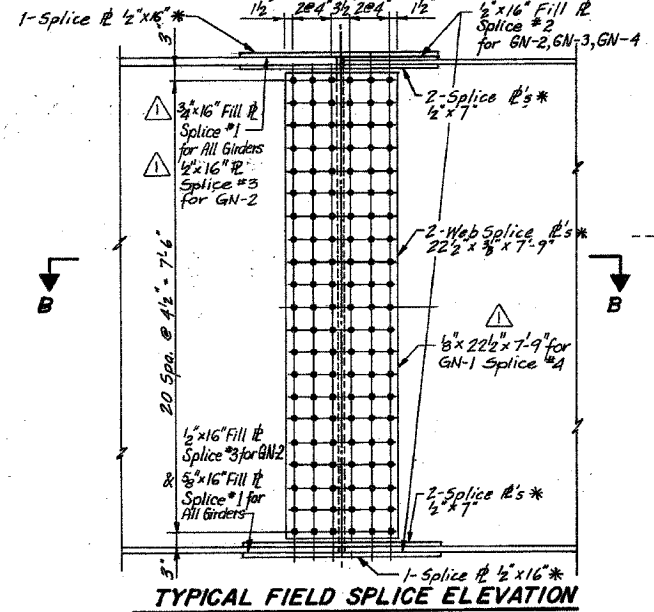
**FLANGE SPLICE**

Girder GN-2; Splice #1 and #2  
Girder GN-3; Splice #1 and #2  
Girder GN-4; Splice #1 and #2

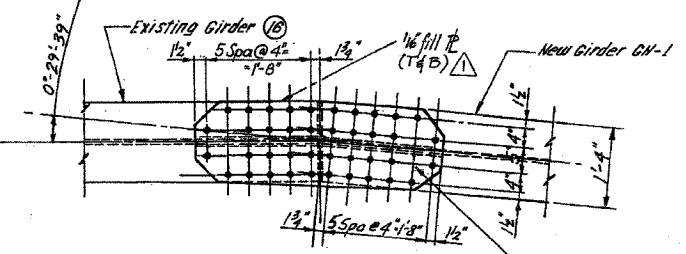


**FLANGE SPLICE**

Girder GN-2; Splice #4  
Girder GN-3; Splice #3 and #4  
Girder GN-4; Splice #3 and #4



**TYPICAL FIELD SPLICE ELEVATION**



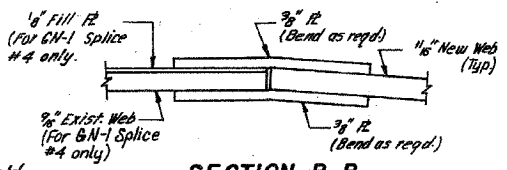
**FLANGE SPLICE**

Girder GN-1, Splice #4

GIRDER	SPLICE	ANGLE "M"
GN-2	#1	2°-43'-59"
GN-3	#3	1°-20'-15"
	#2	2°-20'-40"
GN-4	#3	2°-31'-38"
	#4	1°-56'-09"

FLANGER THICKNESS	WELD SIZE "F"
1/2" Thru 3/4"	1/4"
3/4" Thru 1 1/2"	3/8"
1 1/2" Thru 2 1/2"	5/8"
2 1/2" Thru 3"	1"

NOTE: Extend larger Fillet Weld 1'-0" Beyond Flange Splice.



**SECTION B-B**

Splice #3, GN-3, GN-4 only  
Splice #4, All Girders

- NOTES:**
- \* N.T.R.
  - N.T.R. denotes Notch Toughness Requirements.
  - See Sheet I-11 for structural steel details.
  - Holes in Web and Flange splice plates for Girders GN-1, Splice #4 to be shop drilled for connection to new material (Girder GN-1) and field drilled for connection to existing material (Girder GN-1).
  - Shear connectors have to be furnished in this contract.

REVISIONS	
Name	Date

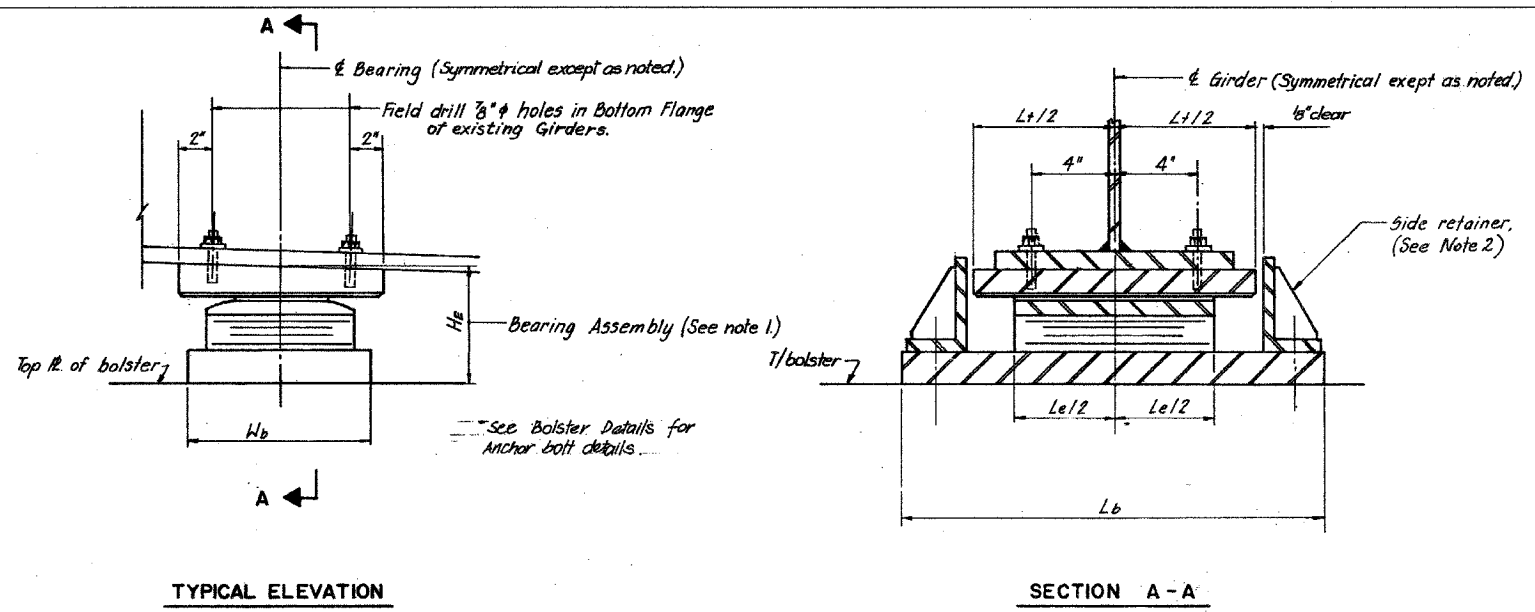
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)  
SECTION 1985-077 B-R COOK COUNTY  
N.B. MAINLINE RECONSTRUCTION  
STRUCTURE 016-1116  
NEW GIRDERS GN-1, GN-2, GN-3 & GN-4  
Scale: NONE  
Date: AUG. 2005  
Checked By: AW  
ENVIRONMENTAL ENGINEERS INC.  
Chicago, Illinois

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
FABRICATION CONTRACT  
NB DAN RYAN ELEVATED BRIDGE  
REPAIR FROM 15TH TO 28TH STREETS  
EXISTING PLAN INFORMATION SN 016-1116  
SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

FOR INFORMATION ONLY

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	92
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62919				

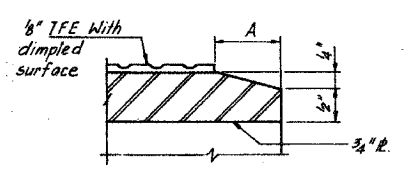
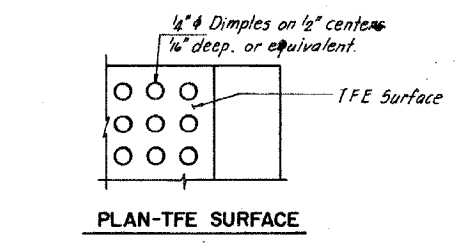
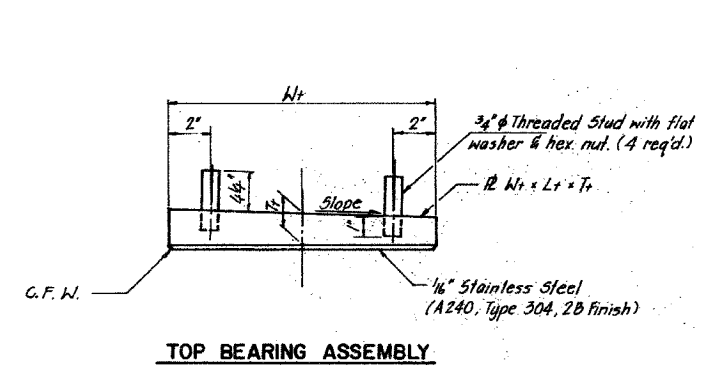


**TYPE II ELASTOMERIC EXPANSION BEARING SCHEDULE**

STRUCTURE NO.	PIER LOCATION	GIRDER NO.	We	Le	SERIES	TOP PLATE			BOTTOM PLATE			NO. REQ'D.	He	REMARKS	
						Tt	Wt	Lt	SLOPE	Tb	Wb				Lb
016-1116	1	GN-2 thru GN-4	20	30	a	4/2	22	32	0.0	1	21	40/2	3	-	N, B, ●

**TYPE II TFE ELASTOMERIC EXPANSION BEARING**

**Remarks:**  
 B - Bolster required - See bolster details.  
 N - New bearings for roadway widening.  
 ● - See bolster schedule for He dimension.



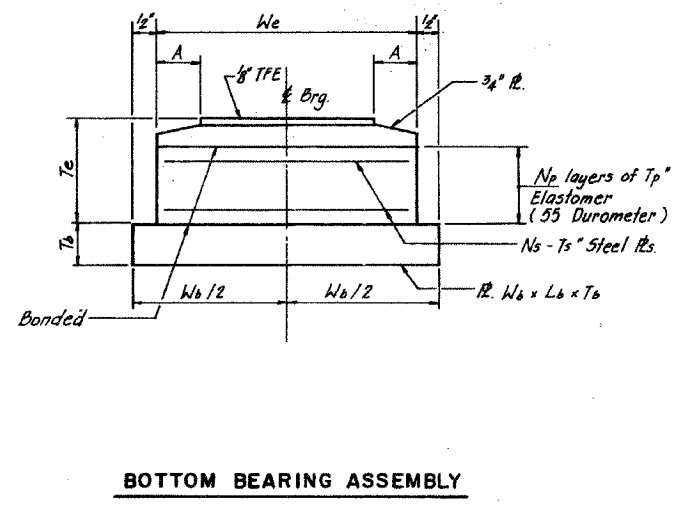
**Note:** The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surface.

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

**TABLE OF DIMENSIONS - TYPE II ELASTOMERIC EXPANSION BEARINGS**

We	Le	Series	Tp	Np	Ts	Ns	Te
20"	30"	A	3/4"	4"	1/4"	5"	4 5/8"

Tp - denotes thickness of each elastomeric layer  
 Np - denotes number of elastomeric layers  
 Ts - denotes thickness of each steel plate  
 Ns - denotes number of steel plates



We	6"	7"	9"	10"	11"	12"
A	1"	1"	1/2"	1/2"	1/2"	1/2"

- NOTES:**
- Height of bearing assembly, He, includes top plate, elastomeric assy. and bottom plate. He does not include shim plate.
  - Side retainer details for bearings located on top of pier are shown on this sheet. For bearings requiring a bolster, see bolster details for side retainer details.
  - See Shim thickness schedule for required shims.

FOR INFORMATION ONLY

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1988-004 I), UNLESS NOTED OTHERWISE.

SHEET BRG 32 OF 51

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 EAST ROUTE 90/94 (DAN RYAN EXPRESSWAY)  
 SECTION 1988-077 8-1 - COOK COUNTY  
 NB MAINLINE RECONSTRUCTION  
 BEARINGS - STRUCTURE NO. 016-1116  
 TYPE II ELASTOMERIC EXPANSION BEARING

Scale: NONE  
 Date: AUGUST, 1998  
 Drawn By: D.C.  
 Checked By: A.C.S.  
 EDWARDS ENGINEERS INC.  
 Chicago, Illinois

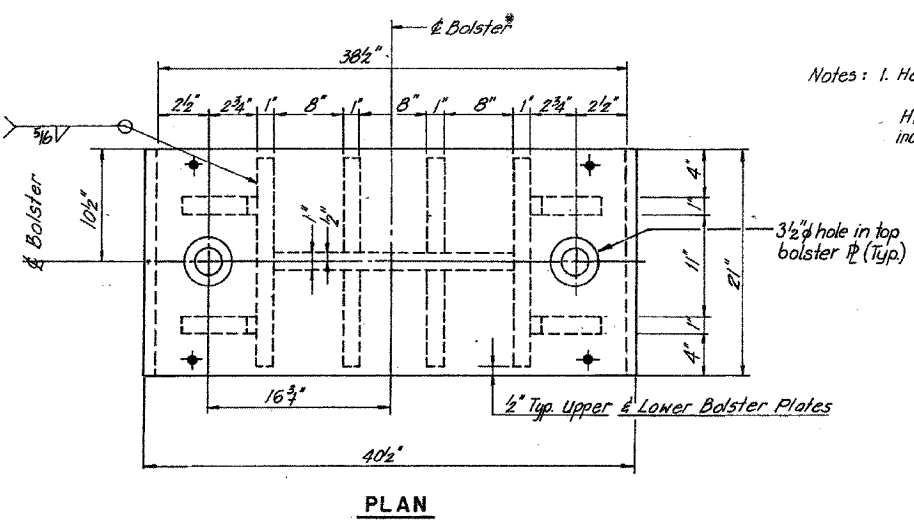
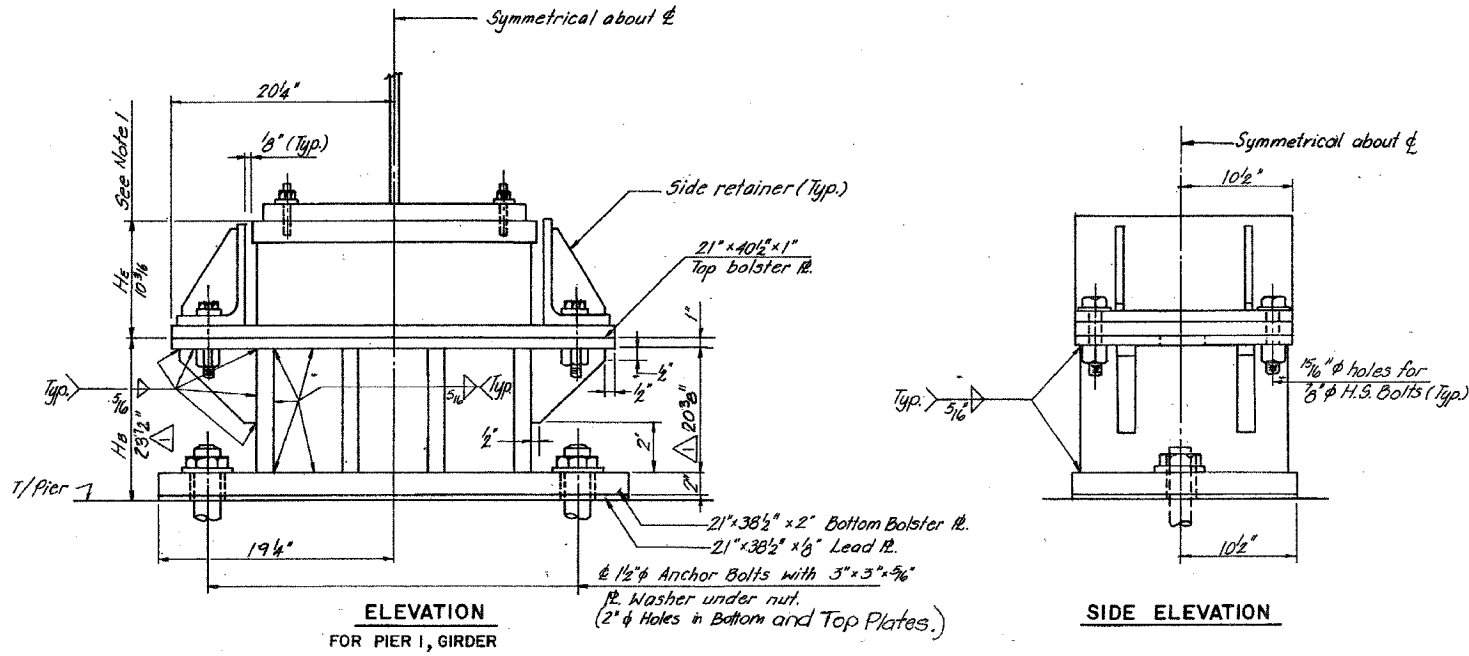
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 FABRICATION CONTRACT  
 NB DAN RYAN ELEVATED BRIDGE  
 REPAIR FROM 15TH TO 28TH STREETS  
 EXISTING PLAN INFORMATION SN 016-1116

SCALE: NTS  
 DATE: 5/23/2005  
 DRAWN BY: BDC  
 CHECKED BY: BLU

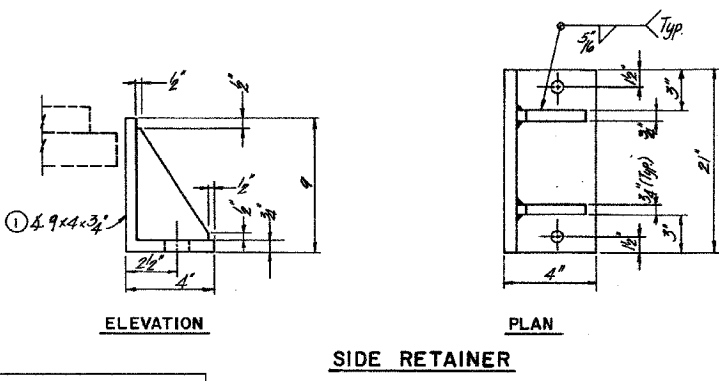
BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 138 EAST BARRINGTON STREET SUITE 2656 CHICAGO, ILLINOIS 60641  
 312.467.6600

15660\sheet1560\_13a\_ep120.dgn 5/23/2005 9:27:45 AM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2005-008F	COOK	93	93
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62919				



Notes: 1. H<sub>a</sub> - Height of Bearing Assembly  
H<sub>b</sub> - Height of Bolster Assembly including 8" Lead Plate.



**BOLSTER SCHEDULE**

STRUCTURE NO.	PIER LOCATION	GIRDER NO.	NO. REQ'D	BRG. TYPE	REMARKS
016-1116	1	4N-2AN-2AN-1	3	II	

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1988-004 I), UNLESS NOTED OTHERWISE.

SHEET BRG 35 OF 51

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
E.A.J. ROUTE 90/94 (DAN RYAN EXPRESSWAY)  
SECTION 1985-0775-R - COOK COUNTY  
N.S. MAINLINE RECONSTRUCTION  
BEARINGS - STRUCTURE NO. 016-1116  
BOLSTER DETAILS

Scale: None  
Date: AUGUST, 1988  
Drawn By: D.C.  
Checked By: J.S.  
ENVIRODYNE ENGINEERS INC.  
Chicago, Illinois

**REVISIONS**

Name	Date

**REVISIONS**

NAME	DATE

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

SCALE: NTS  
DATE: 5/23/2005  
DRAWN BY: BDC  
CHECKED BY: BLU

① Equivalent welded Plates will be allowed in lieu of rolled Angles with Stiffeners. ⚠

FOR INFORMATION ONLY

⚠ 12-1-88

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
130 EAST RANDOLPH STREET SUITE 2656 CHICAGO, ILLINOIS 60601  
JOB NO. 640