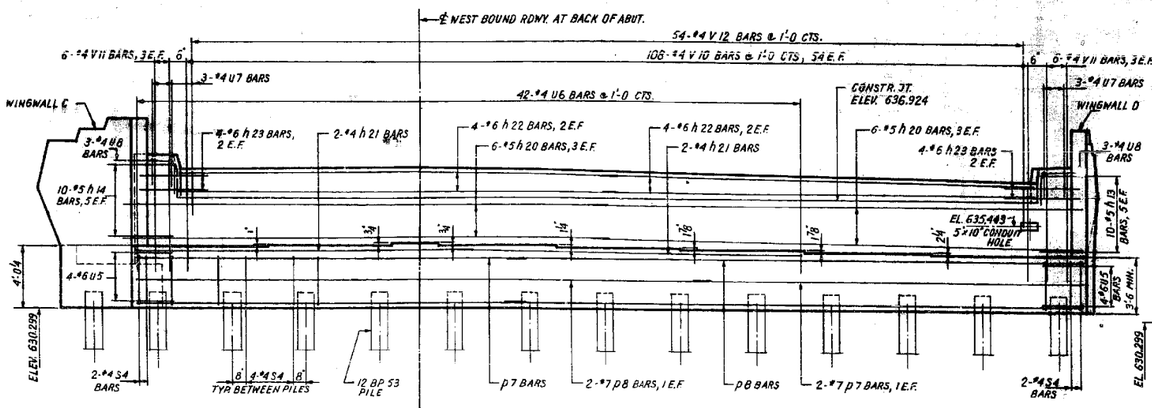
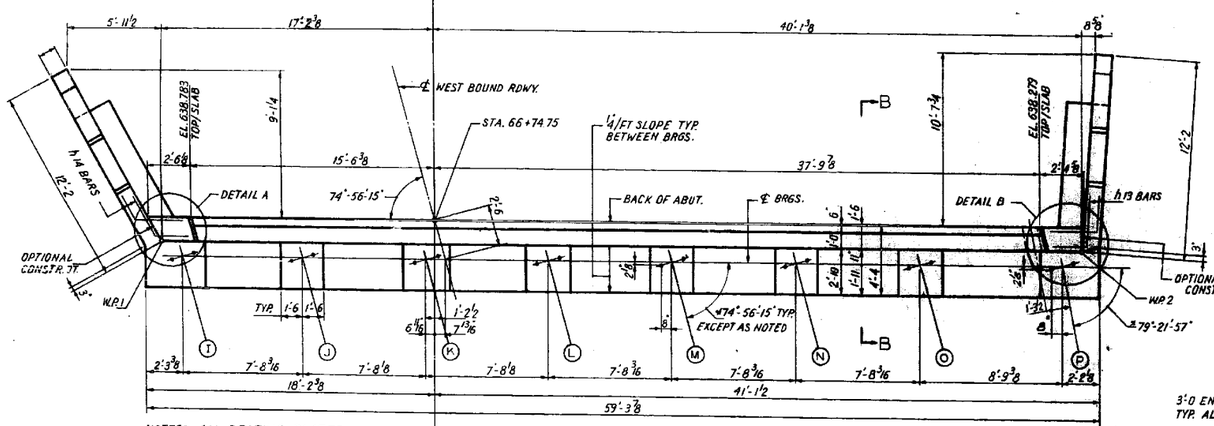
F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0606-627VB	[illegible]	42	29
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

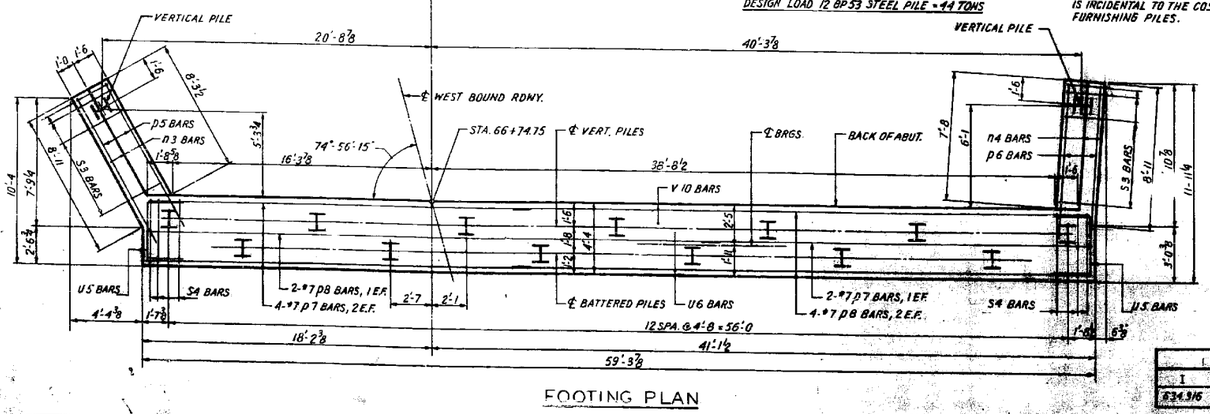


ELEVATION



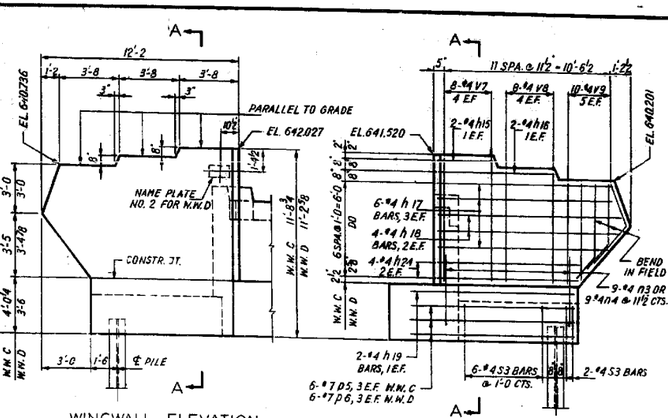
TOP VIEW

NOTES: ALL BEARING PLATES TO BE PLACED AT 74°-56'-15" ANGLE.
* SKEW ANGLES ℄ BEARS.



FOOTING PLAN

THE COST OF CLASS X CONCRETE ENCASEMENT AND REINFORCEMENT IS INCIDENTAL TO THE COST OF FURNISHING PILES.



WINGWALL ELEVATION
WINGWALL C SHOWN, WINGWALL D REVERSED

WINGWALL REINFORCEMENT
WINGWALL D SHOWN, WINGWALL C REVERSED

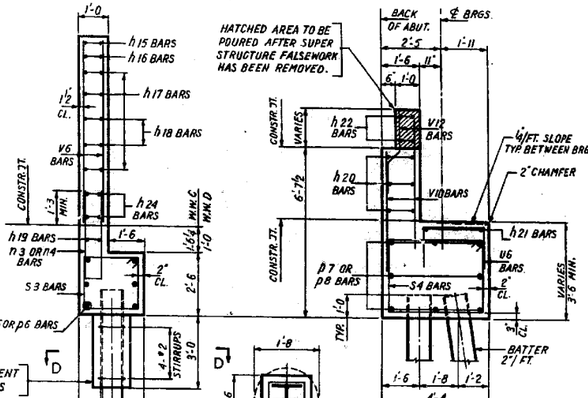
BILL OF REINFORCEMENT

BAR	NO.	SIZE	LENGTH	SHAPE
h 13	10	5	4'-3	
h 14	10	5	4'-6	
h 15	4	4	3'-2	
h 16	4	4	6'-10	
h 17	12	4	10'-6	
h 18	8	4	11'-7	
h 19	4	4	9'-3	
h 20	12	5	30'-6	
h 21	4	4	21'-4	
h 22	8	6	27'-3	
h 23	8	6	4'-0	
h 24	8	4	9'-0	
n 3	9	4	8'-9	
n 4	9	4	7'-9	
p 5	6	7	10'-0	
p 6	6	7	9'-3	
p 7	8	7	24'-6	
p 8	8	7	36'-0	
S 3	16	4	9'-5	
S 4	52	4	15'-1	
U 5	8	6	7'-11	
U 6	42	4	5'-10	
U 7	6	4	4'-3	
U 8	6	4	5'-0	
V 7	16	4	7'-7	
V 8	16	4	6'-11	
V 9	20	4	6'-3	
V 10	108	4	5'-3	
V 11	12	4	6'-0	
V 12	54	4	3'-2	

ABUTMENT-W.B. QUANTITIES

CLASS X CONCRETE	C.U. YDS.	600
REINFORCING BARS	LBS.	4,180
PILES 12 BP 53	LIN. FT.	480

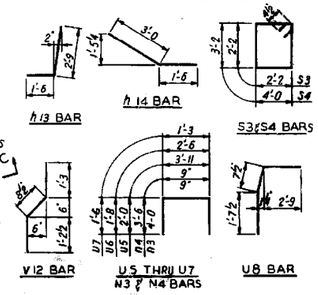
15 STEEL PILES 12 BP 53 AT 32' = 480 LIN. FT.

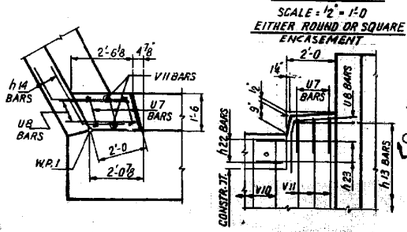


SECTION A-A
SCALE : 3/8" = 1'-0

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

SECTION D-D
SCALE = 1/2" = 1'-0
EITHER ROUND OR SQUARE ENCASEMENT





DETAIL A
SCALE = 3/8" = 1'-0

VIEW C-C
SCALE = 3/8" = 1'-0

DETAIL B
SCALE = 3/8" = 1'-0

BEARING SEAT ELEVATIONS AT BEAMS

I	J	K	L	M	N	O	P
634.316	634.399	634.483	634.402	634.321	634.141	633.982	633.739

REVISIONS	
NAME	DATE
[illegible] ST.	
[illegible] LEE	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A. RT. 133
LAWNDALE AVE. STRUCTURE OVER A.T. & S.F. RR, C.R.I.W.R.R. & B&O.C.T. R.R.
SECTION 0606-627 VB
ABUTMENT WEST BOUND
SCALE: HORIZ. 1/4"=1'-0 EXCEPT
VERT. AS NOTED
DATE 11-20-65
DESIGNED [illegible]
CHECKED BY LEE

(Sheet 3 of 14)

FOR INFORMATION ONLY

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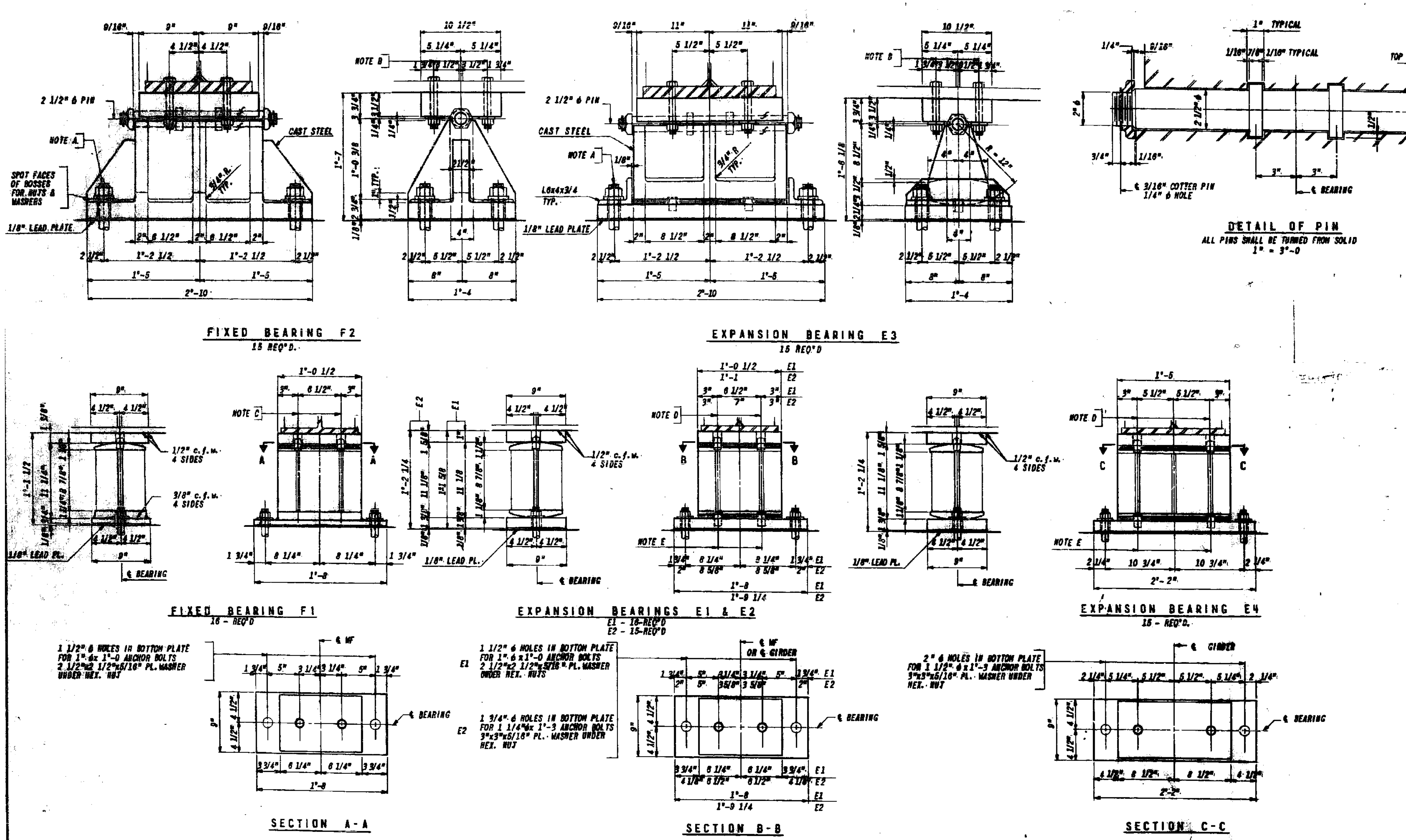
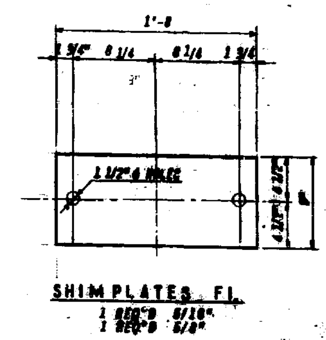
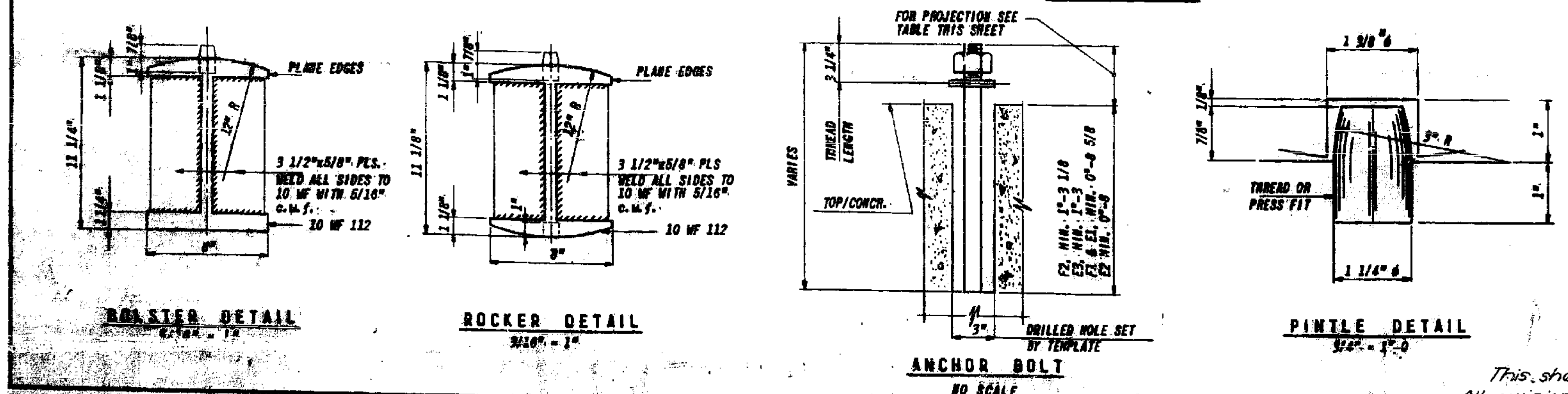
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX3 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	301
		CONTRACT NO. 60W75		
		ILLINOIS	FED. AID PROJECT	







WEIGHT OF BEARING DEVICES (E2. F2. E3 & E4) 47.170 LBS.
(CONTINUOUS SPANS NO. 1 THRU. NO. 3, E.B. & W.B.)

WEIGHT OF BEARING DEVICES (E1. & F1) 8.305 LBS.
(SPAN NO. 4 EAST BOUND & WEST BOUND)

NOTE 1:
ALL FLANGED GIRDER AND BEAM BEARING DEVICES TO BE PLACED NORMAL TO THE ℄ EASTBOUND OR ℄ WESTBOUND ROADWAY.

REVISION A TO REMOVE REVISION B SHIM ...

~AS BUILT~

This sheet (30-A) replaces sheet (30) of the contract drawings
All revisions made by Consultant 4-24-64

ANCHOR BOLT PROJECTION (INCH)										
		TYPE	A	B	C	D	E	F	G	H
EAST BOUND	PIER NO. 16	E2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	6	6	3 1/2
	PIER NO. 17	F2	5 3/8	5 3/8	5 3/8	5 3/8	5 3/8	5 7/8	[illegible]	5 3/8
	PIER NO. 18	E3	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	6	6	[illegible]
	PIER NO. 19 *	E4	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	6	[illegible]	[illegible]
	PIER NO. 19 **	F1	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	[illegible]	[illegible]	[illegible]
	ABUTMENT	E1	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	[illegible]	[illegible]	3 3/8
		TYPE	I	J	K	L	M	N	O	P
WEST BOUND	PIER NO. 35	E2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	[illegible]	3 1/2	-
	PIER NO. 36	F2	5 3/8	5 3/8	5 3/8	5 3/8	5 3/8	[illegible]	5 3/8	-
	PIER NO. 37	E3	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	-
	PIER NO. 38 *	E4	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	[illegible]	3 1/2	-
	PIER NO. 38 **	F1	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	[illegible]	[illegible]
	ABUTMENT	E1	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	[illegible]	[illegible]	3 3/8

* SPAN NO. 3
** SPAN NO. 4

NOTE A: 1 3/4" ⌀ HOLES FOR 1 5/8" ⌀ x 1'-9 ANCHOR BOLTS WITH HEXAGON NUTS AND 3"x3"x1/2" PLATE WASHERS.

NOTE B: 4-1" ⌀ TURNED BOLTS WITH HEXAGON NUTS AND STANDARD WASHERS.

NOTE C: 1 3/8" ⌀ HOLES IN TOP PLATE FOR 1 1/4" ⌀ PINTLES. 1 1/4" ⌀ PINTLES - 1 7/8" LONG IN BOLSTER, THREAD OR PRESS FIT.

NOTE D: 1 3/8" ⌀ HOLES IN TOP PLATE FOR 1 1/4" ⌀ PINTLES 1 1/4" ⌀ PINTLES - 1 7/8" LONG IN ROCKER, THREAD OR PRESS FIT.

NOTE E: 1 3/8" ⌀ HOLES - 1" DEEP IN ROCKER FOR 1 1/4" ⌀ PINTLES 1 1/4" ⌀ PINTLES - 1 7/8" LONG IN BOTTOM PLATE, THREAD OR PRESS FIT.

NOTE F: COAT ALL FINISHED PARTS OF BEARINGS WITH ANTI RUST COMPOUND OR LACQUER.

NOTE G: ALL CASTINGS SHALL BE ASTM A27-[illegible] GRADE [illegible] FULLY ANNEALED. ALL PINS SHALL BE FORGED AND SHALL BE ASTM [illegible] CLASS F.

NOTE H: EXCEPT OTHERWISE NOTED, ALL ROCKERS, BOLSTERS, BEARING PLATES, PINTLES AND [illegible] SHALL BE FABRICATED FROM STRUCTURAL STEEL CONFORMING TO ASTM [illegible].

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
LAWNDALE AVE. STRUCTURE OVER A.T. & S.F. RY. ...

REVISIONS: REVISION A 4/17/64; REVISION B 2-25-64

(Sheet 4 of 14)

FOR INFORMATION ONLY

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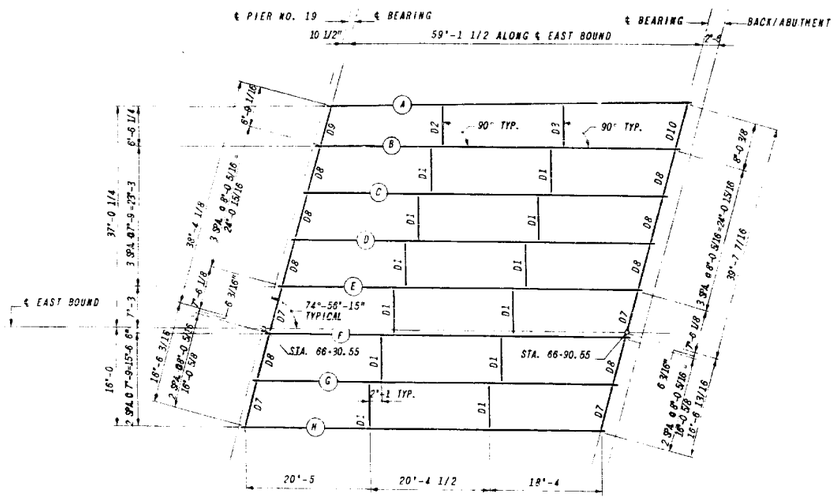
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX4 OF SBX14 SHEETS

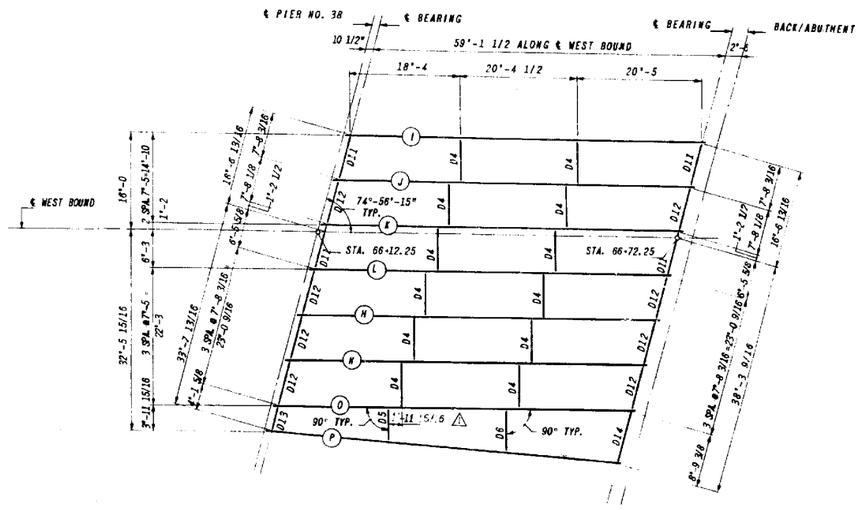
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	302

CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT

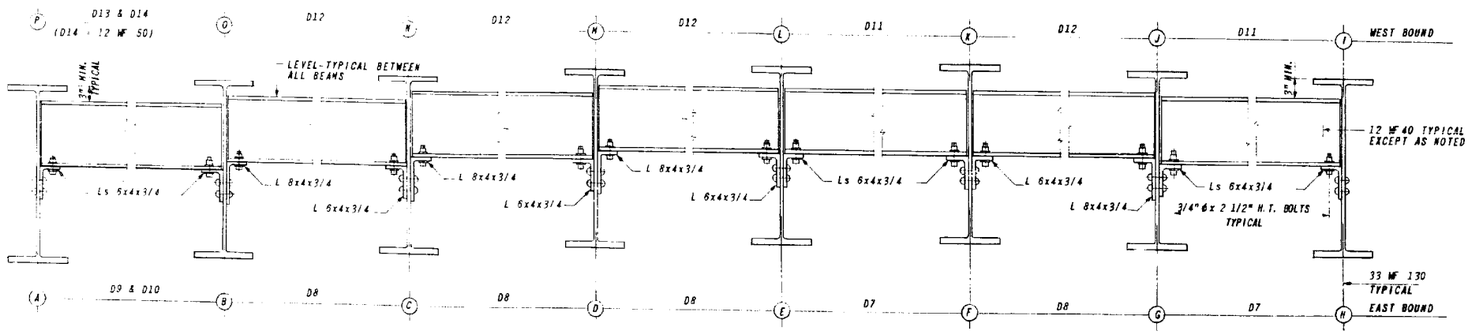
F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0606-627 VB	SOUTHWEST		3-A
STA.		TO STA.		
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		



FRAMING PLAN SPAN NO. 4 EAST BOUND

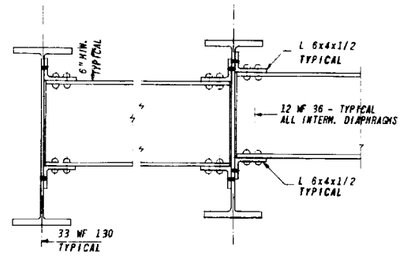


FRAMING PLAN SPAN NO. 4 WEST BOUND



END DIAPHRAGM - SPAN NO. 4 - EAST BOUND & WEST BOUND

D7 & D11 - 4 EACH REQ'D
D8 & D12 - 8 EACH REQ'D
D9, D10, D13 & D14 - 1 EACH REQ'D
NO SCALE



INTERMEDIATE DIAPHRAGM

D1 & D4 - 12 EACH REQ'D
D2, D3, D5 & D6 - 1 EACH REQ'D
NO SCALE

"AS BUILT"

This sheet (3-A) replaces sheet (3) of the contract drawings. All revisions are made by the consultant. (R.P.E. 5-29-64)

REVISIONS	
NAME	DATE
REVISED	5-6-64
DESIGNED S.T-P.J.	
REVIEWED E.P.W.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
FA.RT.133
LAWNDALE AVE. STRUCTURE OVER A.T. & S.F.RY. C&I.W. R.R. & B&O.C.T. R.R.
SECTION 0606-627 VB
FRAMING PLAN SPAN NO.4 EB&WB.
SCALE: HORIZ. 3/32"=1'-0 EXCEPT VERT. AS NOTED
DATE 11-20-63
DRAWN BY J.W.
CHECKED BY L.B.B.

FOR INFORMATION ONLY

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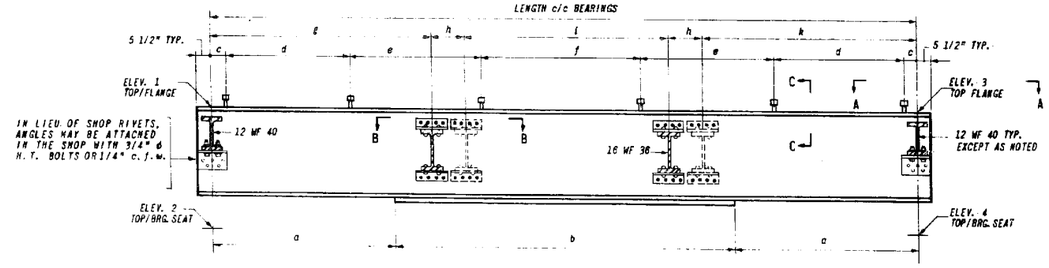
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX5 OF SBX14 SHEETS

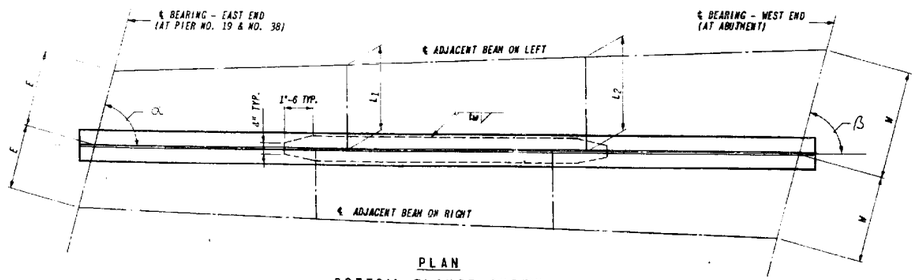
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	303
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

F.A. RTE	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO
133	0606-627 VB	SOUTHWEST		32A
STA		TO STA		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

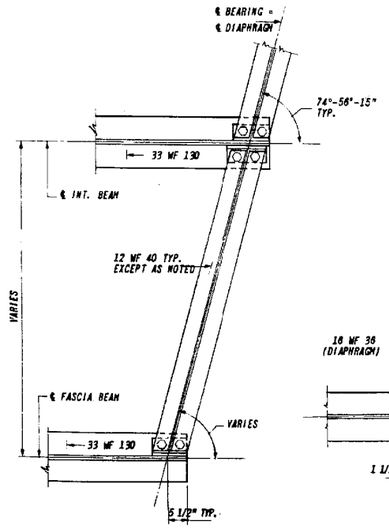
SPAN	BEAM	EAST END DATA E	EAST END DATA ELEVATION 1	EAST END DATA ELEVATION 2	EAST END DATA ANGLE α	WEST END DATA W	WEST END DATA ELEVATION 3	WEST END DATA ELEVATION 4	WEST END DATA ANGLE β	BEAM SIZE	LENGTH C/C BEARING	FLANGE PLATES SIZE	FLANGE PLATES WELD "t_w"	FLANGE PLATES a	FLANGE PLATES b	SHEAR CONNECTOR SPACING c	SHEAR CONNECTOR SPACING d	SHEAR CONNECTOR SPACING e	SHEAR CONNECTOR SPACING f	INTERMEDIATE DIAPHRAGM SPACING g	INTERMEDIATE DIAPHRAGM SPACING h	INTERMEDIATE DIAPHRAGM SPACING i	INTERMEDIATE DIAPHRAGM SPACING k	L1	L2	EAST END BRG. TYPE	EAST END SHIM PL.	WEST END BRG. TYPE	WEST END SHIM PL.	BEAM	REMARKS
SPAN NO. 4 EAST BOUND	A		637.567	633.585	73°-44'-51"	8'-0 3/8	637.858	633.964	73°-44'-51"	33 WF 130	59'-5 5/8	10"x3/4"	1/4"	16'-2 13/16	27'-0	8 13/16"	11 @ 1'-0	~	24 @ 1'-6	18'-8	–	20'-4 9/16	20-5 1/16					–		–	A	
	B	6'-9 1/16	637.686	633.802	74°-56'-15"		638.004	634.110		do	59'-1 1/2	do	do	11'-0 3/4	37'-0	6 3/4"	25 @ 6"	10 @ 9"	18 @ 1'-0	18'-4	2'-1	18'-3 1/2	18'-4	6'-10 15/16	7'-4	F1	–	E1	–	B	
	C	8'-0 5/16	637.827	633.944	do	8'-0 5/16	638.150	634.256	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	7'-9	7'-9	do	–	do	–	C	
	D	do	637.969	634.086	do	do	638.296	634.402	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	–	do	–	D	
	E	do	638.063	634.179	do	do	638.394	634.500	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	–	do	–	E	
	F	do	638.116	634.179	do	do	638.452	634.558	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	5/8"	do	–	F	
	G	do	638.024	634.114	do	do	638.365	634.471	do	do	do	do	do	11'-0 3/4	37'-0	do	25 @ 6"	10 @ 9"	18 @ 1'-0	18'-4	2'-1	18'-3 1/2	do	7'-9	7'-9	do	5/16"	do	–	G	
	N	8'-0 5/16	637.913	634.029	74°-56'-15"	8'-0 5/16	638.257	634.363	74°-56'-15"	33 WF 130	59'-1 1/2	10"x3/4"	1/4"	16'-0 3/4	27'-0	6 3/4"	11 @ 1'-0	–	24 @ 1'-6	20'-3	–	20'-4 1/2	18'-4			F1	–	E1	–	N	
SPAN NO. 4 WEST BOUND	I	7'-8 3/16	637.844	633.961	74°-56'-15"	7'-8 3/16	638.209	634.316	74°-56'-15"	33 WF 130	59'-1 1/2	10"x5/8"	1/4"	16'-0 3/4	27'-0	6 3/4"	11 @ 1'-0	–	24 @ 1'-6	18'-4	–	20'-4 1/2	20'-5									
	J	7'-8 1/8	637.924	634.041	do	7'-8 1/8	638.293	634.399	do	do	do	do	do	11'-0 3/4	37'-0	do	25 @ 6"	10 @ 9"	18 @ 1'-0	do	1'-11 15/16	18'-3 1/2	18'-4	7'-5	7'-5	F1	–	E1	–	I	
	K	7'-8 1/8	637.983	634.100	do	7'-8 1/8	638.357	634.463	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	–	do	–	J	
	L	7'-8 3/16	637.918	634.035	do	7'-8 3/16	638.296	634.402	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	–	do	–	K	
	M	do	637.812	633.929	do	do	638.194	634.300	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	–	do	–	L	
	N	7'-8 3/16	637.649	633.765	do	7'-8 3/16	638.035	634.141	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	–	do	–	M	
	O	4'-1 5/8	637.485	633.607	74°-56'-15"	8'-9 3/8	637.875	633.982	74°-56'-15"	do	59'-1 1/2	do	do	11'-0 3/4	37'-0	6 3/4"	25 @ 6"	11 @ 9"	18 @ 1'-0	18'-4	1'-11 15/16	18'-3 1/2	18'-4	do	do	do	do	do	–	do	–	N	
	P		637.397	633.514	79°-21'-57"		637.693	633.799	79°-21'-57"	33 WF 130	58'-1 1/8	10"x5/8	1/4"	15'-6 1/2	27'-0 1/8	9"	11 @ 1'-0	11 @ 1'-6	1 @ 1'-7 1/8	19'-5 3/8	–	20'-5 1/4	18'-2 5/16	5'-5 15/16	7'-0 7/8	do	do	do	do	O	
																										F1	–	E1	–	P	



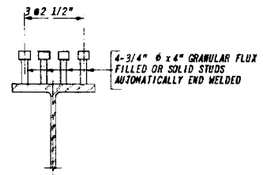
ELEVATION
TYPICAL INTERIOR GIRDER



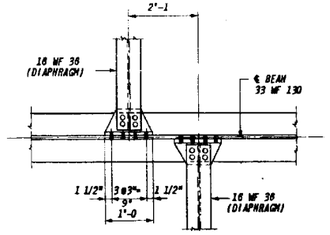
PLAN
BOTTOM FLANGE SHOWN



SECTION A-A



SECTION C-C
SHEAR CONNECTOR DETAIL



SECTION B-B

STRUCTURAL STEEL SPANS NO. 4 EAST BOUND & WEST BOUND

FRAMING STEEL SPAN NO. 4 E.B. & W.B. . . . . 157,505 LBS.
STUDS . . . . . 4,270 LBS.
BEARING DEVICES (*) . . . . . 8,305 LBS.

FURNISHING AND ERECTING STRUCTURAL STEEL. . . . 170,080 LBS.

NOTE: (*) SEE SHEET: " BEARING DEVICES ".

AS BUILT

This sheet (32A) replaces sheet (32) of the contract drawings. All revisions made by consultant. (R.P.E. 5-29-64)

REVISIONS NAME	DATE
REVISED ⚠	5-6-64
REVISED P.T.-ST.	
REVISED C.H.H.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
FA RT 133
LAWNDALE AVE. STRUCTURE OVER
A.T. & S.F.RY., C.&I.W. R.R. & B.&O.C.T. R.R.
SECTION 0606-627 VB
SUMMARY OF BEAMS SPAN NO. 4 E.B. & W.B.
SCALE: HORIZ. VERT.
DATE 11-20-63
DRAWN BY A.S.
CHECKED BY L.B.B.

(Sheet 6 of 14)

FOR INFORMATION ONLY

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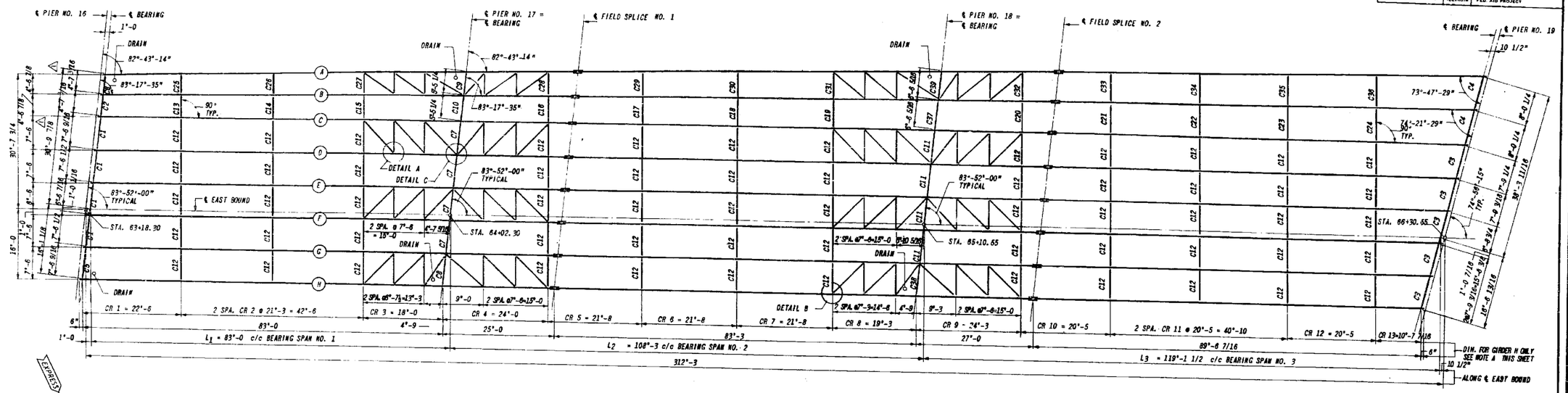
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

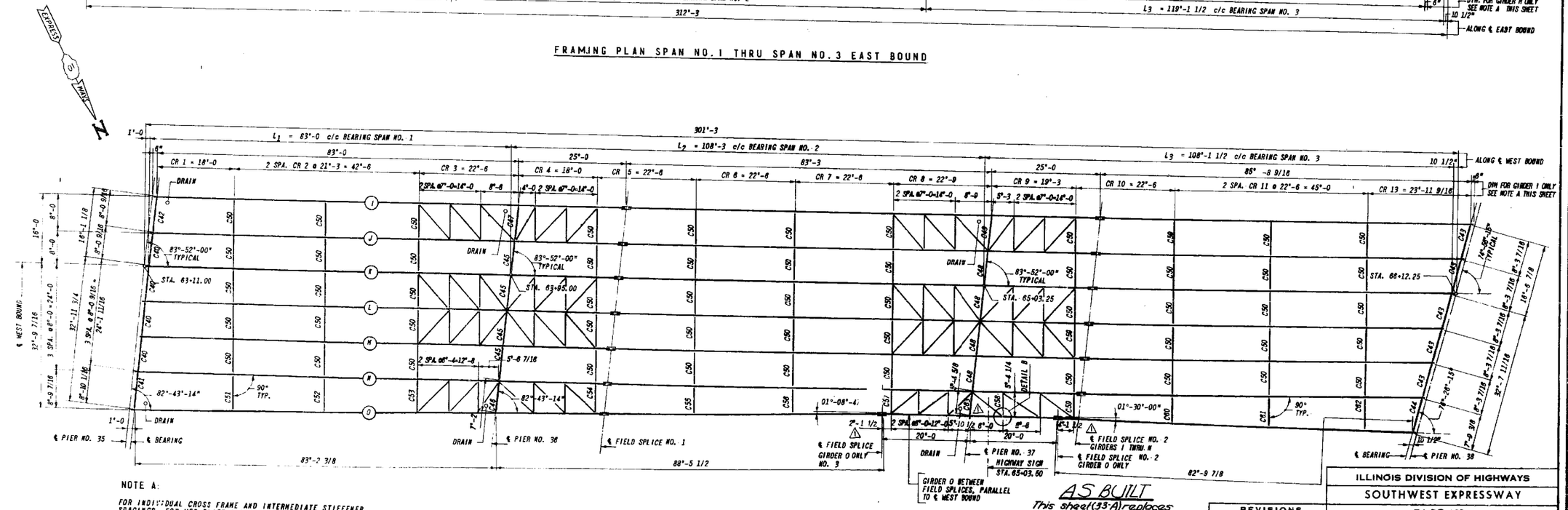
EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX6 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	304
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0606-627 VB	SOUTHWEST		33A
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	



FRAMING PLAN SPAN NO. 1 THRU SPAN NO. 3 EAST BOUND



NOTE A.

FOR INDIVIDUAL CROSS FRAME AND INTERMEDIATE STIFFENER SPACINGS, FOR WEB PLATE AND FLANGE PLATE DIMENSIONS, FOR WEB PLATE AND FLANGE PLATE CUT OFFS, FOR BLOCKING OF EACH GIRDER SEE SHEETS:

(1) CONTINUOUS GIRDER
(2) SUMMARY OF CONTINUOUS GIRDERS

FRAMING PLAN SPAN NO. 1 THRU NO. 3 WEST BOUND

AS BUILT
This sheet (33A) replaces sheet (33) of the contract drawings. All revisions are made by the consultant
R.R.E. 5-29-64

REVISIONS		
	NAME	DATE
REVISED	⚠	5-6-64
DESIGNED	P.K.-S.T.	
REVIEWED	E.W.W.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A.R.T. 133
LAWNDALE AVE. STRUCTURE OVER A.T.& S.F. RY, C&I.W. R.R.& B.&O.C.T. R.R.
SECTION 0606-627 VB
FRAMING PLAN SPAN NO.1 THRU NO.3 E.B.&W.B.
SCALE: HORIZ. 3/32"=1'-0 VERT. :
DATE 11-20-63
DRAWN BY J.W.
CHECKED BY L.B.B.

FOR INFORMATION ONLY

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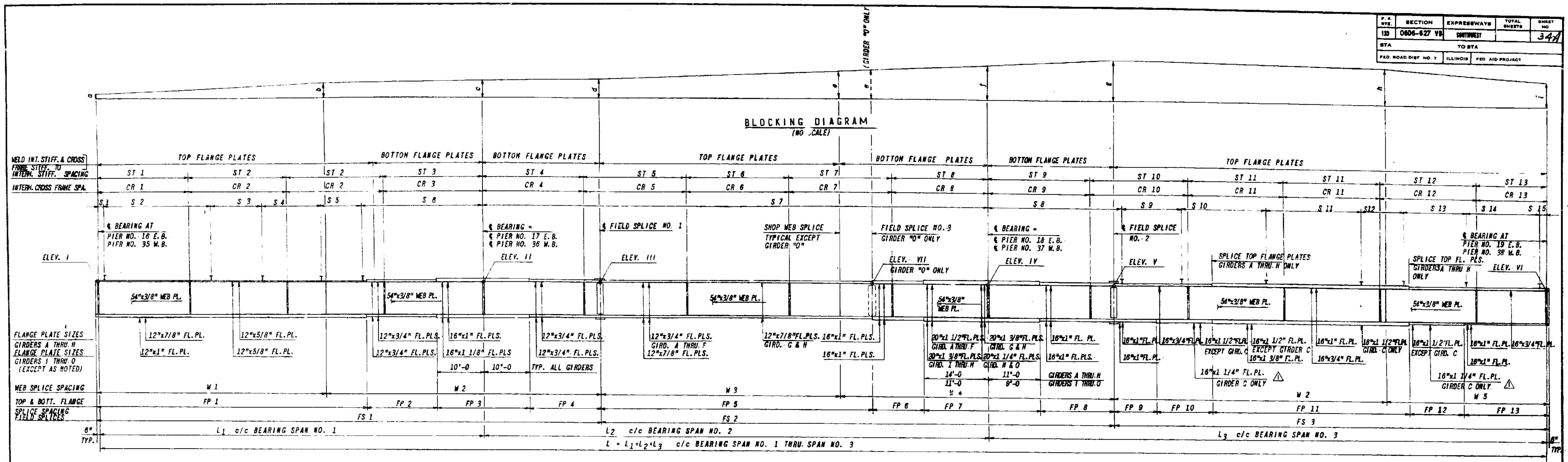
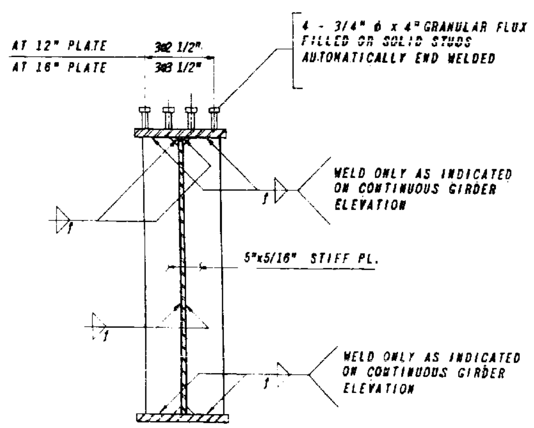
PLOT DATE = 6/8/2015 3:43:49 PM	CHECKED - JRS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

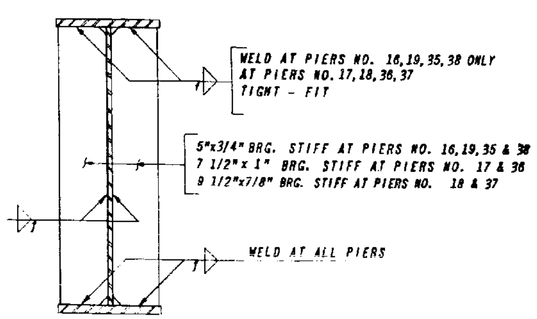
EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX7 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	305
		CONTRACT NO. 60W75		
		ILLINOIS	FED. AID PROJECT	

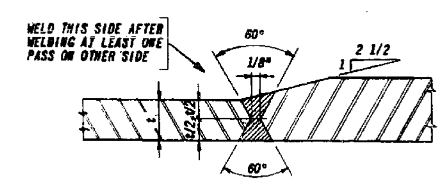




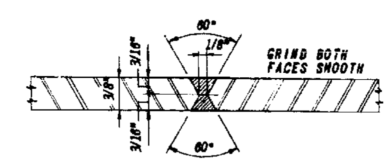
TYPICAL INTERMEDIATE STIFFENER AND SHEAR CONNECTOR DETAIL



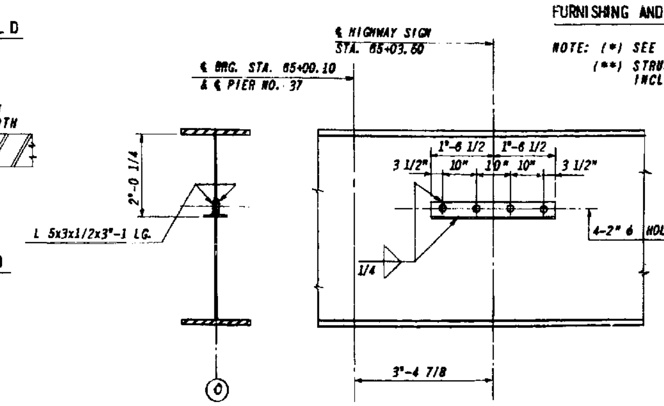
BEARING STIFFENER DETAIL



FLANGE SPLICE - SHOP WELD



WEB SPLICE - S" WELD



DETAIL AT HIGHWAY SIGN
GIRDER O - WEST BOUND

FILLET WELD SIZES	
MATERIAL THICKNESS OF THICKER PART JOINED, IN.	MINIMUM SIZE OF FILLET WELD IN.
TO 1/2" INCL.	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	5/16"

STRUCTURAL STEEL SPANS NO. 1 THRU 3 EAST BOUND & WEST BOUND

FRAMING STEEL SPAN NO. 1 THRU 3 E.B. & W.B. (**) . . . 921,350 LBS.
STUDS . . . . 7,020 LBS.
BEARING DEVICES(*) . . . . 47,170 LBS.

FURNISHING AND ERECTING STRUCTURAL STEEL . . . . 975,540 LBS.

NOTE: (*) SEE SHEET: "BEARING DEVICES".
(**) STRUCTURAL STEEL, SHOWN ON SHEET "ELECTRICAL DETAILS" INCLUDED.

-AS BUILT-
This sheet(34-A) replaces sheet(34) of the contract drawings. All revisions are made by the consultant. (R.P.E. 5-29-64)

REVISIONS	
NAME	DATE
REVISION ⚠	5-6-64
DESIGNED PX-ST	
REVIEWED C.W.W.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A.R.T. 133
LAWNDALE AVE. STRUCTURE OVER
A.T. & S.F. RY., C.& I.W. R.R. & B.& O.C.T. R.R.
SECTION 0606-627VB
CONTINUOUS GIRDER
SCALE: HORIZ. VERT.
DATE 11-20-63
DRAWN BY E.M.
CHECKED BY L.B.B.

(Sheet 8 of 14)

FOR INFORMATION ONLY

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EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX8 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	306
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0606-627 VB	SOUTHWEST		35A
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

	GIRDER	SPAN LENGTH C/C BEARING L_1	L_2	L_3	$L=L_1+L_2+L_3$	FIELD SPLICES FS 1	FS 2	FS 3	TOP & BOTTOM FLANGE PLATES CUT-OFF FP 1	FP 2	FP 3	FP 4	FP 5	FP 6	FP 7	FP 8	FP 9 **	FP 10 **	FP 11 **	FP 12 **	FP 13 **	WEB PLATE SPLICES (SHOP & FIELD SPLICES) W 1	W 2	W 3	W 4	W 5	GIRDER
EAST BOUND	A	83'-2 3/8	108'-6 1/16	125'-4 13/16	317'-1 1/4	108'-9 1/16	110'-6 1/8	98'-10 1/16	58'-8 3/8	15'-0	20'-0	15'-0 11/16	58'-5 3/8	11'-0	25'-0	16'-0 3/4	9'-0	12'-0	47'-4 1/16	12'-0	18'-6	49'-9 1/16	59'-0	51-6 1/8	59'-0	39'-10 1/16	A
	B	83'-1 1/8	108'-4 7/16	123'-11 15/16	315'-5 1/2	108'-7 7/16	110'-4 1/2	97'-5 9/16	58'-7 1/8	do	do	15'-0 5/16	58'-4 1/8	do	do	16'-0 3/8	do	do	44'-7 3/16	do	do	49'-7 7/16	do	51'-4 1/2	do	38'-5 9/16	B
	C	83'-0	108'-3	122'-7 3/16	313'-10 3/16	108'-6	110'-3	96'-1 3/16	58'-6	do	do	15'-0	58'-3	do	do	16'-0	do	do	43'-4 11/16	do	do	49'-6	do	51'-3	do	37'-1 3/16	C
	D	do	do	121'-4 11/16	312'-7 11/16	do	do	94'-10 11/16	do	do	do	do	do	do	do	do	do	do	42'-2 1/8	do	do	do	do	do	do	35'-10 11/16	D
	E	do	do	120'-2 1/8	311'-5 1/8	do	do	93'-8 1/8	do	do	do	do	do	do	do	do	do	do	40'-11 9/16	do	do	do	do	do	do	34'-8 1/8	E
	F	do	do	118'-11 9/16	310'-2 9/16	do	do	92'-5 9/16	do	do	do	do	do	do	do	do	do	do	39'-9	do	do	do	do	do	do	33'-5 9/16	F
	G	do	do	117'-9	309'-0	do	do	91'-3	do	do	do	do	do	do	do	do	do	do	38'-6 7/16	do	do	do	do	do	do	32'-3	G
	H	83'-0	108'-3	116'-6 7/16	307'-9 7/16	108'-6	110'-3	90'-0 7/16	58'-6	15'-0	20'-0	15'-0	58'-3	11'-0	25'-0	16'-0	9'-0	12'-0	38'-6 7/16	12'-0	18'-6	49'-6	59'-0	51'-3	59'-0	31'-0 7/16	H
WEST BOUND	I	83'-0	108'-3	110'-8 9/16	301'-11 9/16	108'-6	108'-3	86'-2 9/16	58'-6	15'-0	20'-0	15'-0	62'-3	10'-0	20'-0	16'-0	19'-0	-	45'-2 9/16	-	22'-0	49'-6	59'-0	51'-3	57'-0	27'-2 9/16	I
	J	do	do	109'-5	300'-8	do	do	84'-11	do	do	do	do	do	do	do	do	do	-	43'-11	-	do	do	do	do	do	25'-11	J
	K	do	do	108'-1 1/2	299'-4 1/2	do	do	83'-7 1/2	do	do	do	do	do	do	do	do	do	-	42'-7 1/2	-	do	do	do	do	do	24'-7 1/2	K
	L	do	do	106'-10	298'-1	do	do	82'-4	do	do	do	do	do	do	do	do	do	-	41'-4	-	do	do	do	do	do	23'-4	L
	M	do	do	105'-8 7/16	296'-9 7/16	do	do	81'-0 7/16	do	do	do	do	do	do	do	do	do	-	40'-0 7/16	-	do	do	do	do	do	22'-0 7/16	M
	N	83'-0	108'-3	104'-2 15/16	295'-5 15/16	108'-6	108'-3	79'-8 15/16	58'-6	do	do	15'-0	62'-3	10'-0	do	16'-0	19'-0	-	38'-8 15/16	-	do	49'-6	do	51'-3	57'-0	20'-8 15/16	N
	O	83'-2 7/8	108'-5 1/2 *	102'-9 7/8 *	294'-5 3/4 *	108'-9 1/16	63'-4 13/16 +40'-0	83'-3 7/8	58'-8 3/8	15'-0	20'-0	15'-0 11/16	63'-4 13/16	9'-0	20'-0	11'-0	24'-0	-	37'-3 7/8	-	22'-0	49'-9 1/16	59'-0	63'-4 13/16	40'-0	24'-3 7/8	O

	GIRDER	INTERMEDIATE STIFFENER SPACINGS AND INTERMEDIATE CROSSFRAME SPACINGS (C/C STIFFENERS) ST 1	CR 1	ST 2	CR 2	ST 3	CR 3	ST 4	CR 4	ST 5	CR 5	ST 6	CR 6	ST 7	CR 7	ST 8	CR 8	ST 9	CR 9	ST 10	CR 10	ST 11	CR 11	ST 12	CR 12	ST 13	CR 13	GIRDER
EAST BOUND	A	3 @ 4'-5+1 @ 4'-3 3/8	17'-6 3/8	4 @ 4'-3+1 @ 4'-3 5/8	21'-3 5/8	5 @ 3'-5+1 @ 4'-3 3/4	23'-0 3/4	1 @ 4'-0 3/8 + 4 @ 3'-9	19'-0 3/8	2 @ 4'-1 5/16+3 @ 4'-6	21'-8 5/8	4 @ 4'-4+1 @ 4'-4 5/8	21'-8 5/8	SAME AS ST 6	SAME AS CR 6	6 @ 3'-9+1 @ 1'-9 13/16	24'-3 13/16	1 @ 4-3 3/8+4 @ 3'-9	19'-3 3/8	4 @ 4'-6+1 @ 2'-5 9/16	20'-5 9/16	4 @ 4'-1+1 @ 4'-1 9/16	20'-5 9/16			5 @ 4'-0+1 @ 4'-3 1/16	24'-3 3/16	A
	B	4 @ 4'-6	18'-0	4 @ 4'-3+1 @ 4'-3 5/16	21'-3 5/16	5 @ 3'-9 +1 @ 3'-9 1/2	22'-6 1/2	1 @ 4'-6+4 @ 3'-9	19'-6	2 @ 4'-1 1/8+3 @ 4'-6	21'-8 5/16	4 @ 4'-4+1 @ 4'-4 5/16	21'-8 5/16			5 @ 3'-9+ 2@2'-6 1/4	23'-3 1/2	2 @ 2'-4 1/2+4 @ 3'-9	19'-9	4 @ 4'-6+1 @ 2'-5 1/4	20'-5 1/4	4 @ 4'-1+1 @ 4'-1 1/4	20'-5 1/4			4 @ 4'-6+1 @ 4'-5 15/16	22'-5 15/16	B
	C	4 @ 3'-9+1 @ 3'-5 5/8	18'-5 5/8	5 @ 4'-3	21'-3	5 @ 3'-9 +1 @ 3'-9 3/8	22'-0 3/8	2 @ 2'-5 13/16+4 @ 3'-9	19'-11 5/8	1 @ 3'-8+4 @ 4'-6	21'-8	5 @ 4'-4	21'-8			5 @ 3'-9+ 1@6'-6 3/8	23'-3 3/8	1 @ 1'-5 5/8+5 @ 3'-9	20'-2 5/8	3 @ 4'-6+2 @ 3'-5 1/2	20'-5	5 @ 4'-1	20'-5			4 @ 4'-3+1@3'-8 9/16	20'-8 9/16	C
	D	4 @ 3'-9+1 @ 4'-3 5/16	19'-3 5/16	do	do	5 @ 3'-9 +1 @ 2'-5 11/16	21'-2 11/16	2 @ 2'-0 5/16+5 @ 3'-9	20'-9 5/16	1 @ 2'-11+5 @ 3'-9	do	do	do			5 @ 3'-9+1 @ 3'-8 11/16	22'-5 11/16	1@2'-3 5/16+5 @ 3'-9	21'-0 5/16	3 @ 4'-6+2 @ 3'-5 1/2	do	do	do			4 @ 3'-9+1@3'-8 3/8	18'-8 3/8	D
	E	4 @ 4'-0+1 @ 4'-1	20'-1	do	do	4 @ 3'-9 +2 @ 2'-8 1/2	20'-5	1@2'-10 +5 @ 3'-9	21'-7	4 @ 4'-6+1 @ 3'-8	do	do	do			5 @ 3'-9+1 @ 2'-11	21'-8	1@3'-1 +5 @ 3'-9	21'-10	2 @ 3'-5 1/2+3 @ 4'-6	do	do	do			4 @ 3'-9+1@3'-11 1/8	18'-8 1/8	E
	F	4 @ 4'-3+1@3'-10 11/16	20'-10 11/16	do	do	4 @ 3'-9+2 @2'-3 11/16	19'-7 5/16	1@ 3'-7 11/16+5 @ 3'-9	22'-4 11/16	do	do	do	do			5 @ 3'-9+ 1 @ 2'-1 5/16	20'-10 5/16	1@3'-10 11/16+5@3'-9	22'-7 11/16	1 @ 2'-9+4 @ 4'-5	do	do	do			3 @ 4'-3+1@3'-11 1/8	16'-8 1/8	F
	G	4 @ 4'-6+1 @ 3'-8 5/16	21'-8 5/16	do	do	5@3'-3 3/4+1@2'-2 15/16	18'-8 11/16	1@ 4'-5 5/16+5 @ 3'-9	23'-2 5/16	do	do	do	do			5@3'-7 1/2+1@1'-11 3/16	20'-0 11/16	2@2'-2 11/16+4@ 3'-9	23'-5 5/16	3 @ 4'-6+2 @ 3'-5 1/2	do	do	do			2@4'-3+1@4'-1 11/16	12'-7 11/16	G
	H	5 @ 4'-6	22'-6	5 @ 4'-3	21'-3	4@3'-3 3/4+2 @2'-4 1/2	18'-0	2@ 4'-6 + 4 @ 3'-9	24'-0	4 @ 4'-6+1 @ 3'-8	21'-8	5 @ 4'-4	21'-8			4 @3'-7 1/2 +2@2' 4 1/2	19'-3	3 @ 3'-1 + 4 @ 3'-9	24'-3	3@ 4'-6+2 @ 3'-5 1/2	20'-5	5 @ 4'-1	20'-5			2@3'-6+1@3'-7 7/16	20'-7 7/16	H
WEST BOUND	I	4 @ 4'-6	18'-0	5 @ 4'-3	21'-3	4 @ 3'-8 + 2 @ 4'-3	22'-6	1 @ 4'-0 + 4 @ 3'-8	18'-0	5 @ 4'-6	22'-6	5 @ 4'-6	22'-6			4 @3'-8 + 2 @ 4'-4 1/2	22'-9	2 @2'-7 1/2 + 4@3'-8	19'-3	5 @ 4'-6	22'-6	5 @ 4'-6	22'-6	–	–	5@4'-0+1@3'-11 9/16	23'-11 9/16	I
	J	4 @3'-9+1@3'-10 5/16	18'-10 5/16	do	do	5 @ 3'-8+1@4'-1 11/16	21'-7 11/16	2@ 2'-5 1/8+4 @ 3'-8	18'-10 5/16	5 @ 4'-6	do	do	do			5@3'-8 +1 @4'-4 11/16	21'-10 11/16	1@2'-7 5/16+5@3'-8	20'-1 5/16	2 @ 3'-3+4 @ 4'-0	do	do	do	–	–	4@4'-8+1@3'-9 11/16	21'-9 11/16	J
	K	4 @4'-0+1 @3'-8 3/8	19'-6 3/8	do	do	5 @ 3'-8+1 @2'-3 3/8	20'-9 3/8	1@ 2'-2 5/8 + 5 @ 3'-8	19'-8 5/8	2 @ 3'-3+ 4 @ 4'-0	do	do	do			5@3'-8 + 1@5'-8 5/8	21'-0 3/8	1@3'-5 3/16+6 @ 3'-6	20'-11 5/8	2 @ 2'-9+6 @ 4'-3	do	do	do	–	–	4@4'-0+1@3'-7 7/8	19'-7 7/8	K
	L	4 @4'-3+1@3'-8 15/16	20'-6 15/16	do	do	5 @ 3'-8+1 @2'-5 1/16	19'-11 1/16	1@3'-0 15/16+5 @ 3'-8	20'-6 15/16	2 @ 3'-3+4 @ 4'-0	do	do	do			5@3'-8 + 1@2'-8 1/16	20'-2 1/16	1@4'-3 15/16+5@3'-8	21'-9 15/16	5 @ 4'-8	do	do	do	–	–	3@4'-0+1@4'-0 1/16	17'-8 1/16	L
	M	4 @4'-6+1 @3'-5 1/4	21'-5 1/4	do	do	5 @ 3'-6+1 @ 1'-8 3/4	19'-0 3/4	1@3'-11 1/4+5 @ 3'-8	21'-5 1/4	5 @ 4'-6	do	do	do			5@3'-8 + 1@ 3'-9 3/4	19'-3 3/4	2@2'-7 1/8+5@3'-8	22'-8 1/4	do	do	do	do	–	–	3@4'-0+1@3'-4 3/16	15'-4 3/16	M
	N	4 @4'-6+1 @4'-3 9/16	22'-3 9/16	5 @ 4'-3	21'-3	5@3'-2+ 1@2' 4 7/16	18'-2 7/16	2@2'-4 13/16+5 @ 3'-8	22'-3 9/16	5 @ 4'-6	22'-6	5 @ 4'-6	22'-6			5 @ 3'-0 +1@ 3'-5 7/16	18'-5 7/16	2@2'-8 5/8+5@3'-8	23'-6 9/16	5 @ 4'-6	22'-6	5 @ 4'-6	22'-6	–	–	2@4'-0+1@3'-4 3/16	13'-2 3/8	N
	O	5 @4'-0+1 @3'-3 9/16	23'-3 9/16	4 @ 4'-3+1@4'-3 5/8	21'-3 5/8	5@3'-2+ 1@1'-5 9/16	17'-3 9/16	1@2'-3 9/16 + 6@3'-8	23'-3 9/16	4 @4'-6+1 @4'-6 5/8	22'-6 5/8	4 @4'-6+1 @4'-6 5/8	22'-6 5/8			5 @ 3'-0 +1@ 2'-6 5/8	17'-6 5/8	2'-0 11/16+20'-0 11/16+2'-5 3/8 **** 2 1/16+1@1'-6	20'-0+ 4'-1 1/8	4 @ 4'-6+1 @ 4'-4 3/8	22'-4 3/8	4 @ 4'-6+1@4'-4 3/8	22'-4 3/8	–	–	2@4'-0+1@3'-7 5/8	11'-7 5/8	O

	GIRDER	SHEAR CONNECTOR SPACING S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	S 9	S 10	S 11	S 12	S 13	S 14	S 15	TOP OF WEB PLATE ELEVATIONS AT *** I	II	III	IV	V	VI	VII	BLOCKING AT a	b	c	d	e	f	g	h	i	GIRDER
EAST BOUND	A	6"	18 @ 9"=13'-6	12 @ 1'-0=12'-0	11 @ 1'-6=16'-6	15@1'-0=15'-0	25"-8 3/8	108"-6 1/16	29'-10 13/16	13 @ 1'-0=13'-0	9@1'-3=10'-0	20@1'-6=30'-0	10 @ 1'-3=12'-6	15 @ 1'-0=15'-0	20 @ 9"=15'-0	3"	3.829	5.042	5.391	6.394	6.664	7.431	–	0	0"-9 3/8	1'-2 9/16	1'-7	2'-2 1/4	2'-6 3/4	2'-10 5/8	3'-6 15/16	3'-7 1/4		A
	B	6"	do	do	do	do	25'-7 1/8	108"-4 7/16	29'-11 15/16	do	do	19@1'-6=28'-6	do	do	do	6"	3.813	5.142	5.496	6.616	6.787	7.573	–	0	0"-9 3/16	1'-2 3/4	1'-7 1/16	2'-2 9/16	2'-7 1/4	2'-11 9/16	3'-6 3/4	3'-7 15/16		B
	C	6"	do	do	do	do	25'-6	108"-3	30'-1 3/16	13 @ 1'-0=13'-0	do	18@1'-6=27'-0	do	do	do	6"	3.807	5.241	5.600	6.658	6.820	7.714	–	0	0"-9 5/16	1'-2 15/16	1'-7 3/8	2'-2 15/16	2'-7 11/16	2'-11 11/16	3'-7 1/4	3'-8 5/8		C
	D	6"	do	do	do	do	do	do	30'-4 11/16	14 @ 1'-0=14'-0	do	17@1'-6=25'-6	do	do	do	3"	4.135	5.379	5.739	6.779	7.052	7.850	–	0	0"-9 3/8	do	1'-7 7/16	2'-3	2'-7 3/4	2'-11 11/16	3'-7 1/4	3'-8 9/16		D
	E	6"	do	do	do	do	do	do	29'-8 1/8	14 @ 1'-0=14'-0	do	16@1'-6=24'-0	do	do	do	6"	4.217	5.462	5.823	6.865	7.149	7.932	–	0	do	do	1'-7 7/16	2'-3 1/16	2'-7 3/4	2'-11 3/4	3'-7 3/16	do		E
	F	6"	do	do	do	do	do	do	29'-11 9/16	14 @ 1'-0=14'-0	do	15@1'-6=22'-6	do	do	do	6"	4.260	5.505	5.867	6.911	7.196	7.973	–	0	do	do	1'-7 7/16	2'-3 1/16	2'-7 15/16	2'-11/13/16	3'-7 3/16	do		F
	G	6"	do	do	do	do	do	do	29'-9	13 @ 1'-0=13'-0	do	15@1'-6=22'-6	do	do	do	6"	4.184	5.429	5.791	6.838	7.124	7.895	–	0	0"-9 3/8	do	1'-7 1/2	2'-3 1/16	2'-7 7/8	2'-11 7/8	3'-7 3/16	3'-8 9/16		G
	H	6"	18 @ 9"=13'-6	12 @ 1'-0=12'-0	11 @ 1'-6=16'-6	15@1'-0=15'-0	25"-6	108"-3	30'-0 7/16	13 @ 1'-0=13'-0	9@1'-3=10'-0	14@1'-6=21'-0	10 @ 1'-3=12'-6	15 @ 1'-0=15'-0	20 @ 9"=15'-0	6"	4.077	5.322	5.685	6.734	7.021	7.786	–	0	0"-9 9/16	do	1'-7 5/8	2'-3 1/16	2'-7 7/8	2'-11 7/8	3'-7 5/8	3'-8 1/2		H
WEST BOUND	I	6"	20 @ 9"=15'-0	12 @ 1'-0=12'-0	10 @ 1'-6=15'-0	15@1'-0=15'-0	25"-6	108"-3	27'-8 9/16	13 @ 1'-0=13'-0	9@1'-3=10'-0	14@1'-6=21'-0	10 @ 1'-3=12'-6	11 @ 1'-0=11'-0	20 @ 9"=15'-0	6"	4.019	5.264	5.630	6.691	6.961	7.717	–	0	0"-9 1/2	do	1'-7 11/16	2'-3 5/16	2'-8 1/16	2'-11 3/4	3'-7 1/2	3'-8 3/8		I
	J	6"	do	do	do	do	do	do	27'-11	13 @ 1'-0=13'-0	do	13@1'-6=19'-6	do	do	do	6"	4.106	5.351	5.718	6.781	7.052	7.801	–	0	0"-9 3/8	do	1'-7 5/8	2'-3 5/16	2'-8 1/8	2'-11 13/16	3'-7 1/8	3'-8 3/8		J
	K	6"	do	do	do	do	do	do	28'-1 1/2	14 @ 1'-0=14'-0	do	12@1'-6=18'-0	do	do	do	6"	4.173	5.418	5.786	6.851	7.123	7.865	–	0	do	do	1'-7 5/8	2'-3 5/16	2'-8 1/8	2'-11 7/8	3'-7 1/16	3'-8 5/16		K
	L	6"	do	do	do	do	do	do	28'-4	do	do	11@1'-6=16'-6	do	do	do	6"	4.080	5.325	5.694	6.761	7.034	7.769	–	0	do	do	1'-7 5/8	2'-3 3/8	2'-8 3/16	2'-11 15/16	3'-7	3'-8 1/4		L
	M	6"	do	do	do	do	do	do	28'-8 7/16	14 @ 1'-0=14'-0	do	10@1'-6=15'-0	do	do	do	6"	3.947	5.192	5.561	6.632	6.905	7.633	–	0	do	do	1'-7 11/16	2'-3 3/8	2'-8 3/16	3"-0	3'-7	3'-8 1/4		M
	N	5"	do	do	do	do	do	108"-3	28'-2 15/16	13 @ 1'-0=13'-0	do	10@1'-6=15'-0	do	do	do	6"	3.785	5.030	5.399	6.472	6.746	7.467	–	0	0"-9 3/8	1'-2 15/16	1'-7 5/8	2'-3 3/8	2'-8 1/4	3'-0 1/16	3'-8 15/16	3'-8 3/16		N
	O	6"	20 @ 9"=15'-0	12 @ 1'-0=12'-0	10 @ 1'-6=15'-0	15@1'-0=15'-0	25"-8 3/8	108"-5 1/2 *	28'-3 7/8 *	18 @ 1'-0=18'-0	9@1'-3=10'-0	9@1'-6=13'-6	10 @ 1'-3=12'-6	11 @ 1'-0=11'-0	20 @ 9"=15'-0	6"	3.595	4.876	5.256	6.367	6.680	7.301	6.123	0	0"-9 13/16	1'-3 3/8	1'-8 1/4	2'-2 1/16	2'-9 3/16	3'-0 1/4	3'-7 7/16	3'-8 5/8		O

NOTES:

* INDICATES THRU LENGTH OF GIRDER O.

** DOES NOT APPLY TO TOP FLANGE GIRDERS I THRU O.

*** ADD 830.00 TO ALL ELEVATIONS.

**** PROVIDE ONE EXTRA STIFFENER 5"x5/16" EACH GIRDER M. & O. FOR CROSSFRAME C57.

AS BUILT
This sheet (35A) replaces sheet (35) of the contract drawings. All revisions are made by the consultants.
R.P.E. 6-1-64

REVISIONS	
NAME	DATE
REVISED	5-6-64
DESIGNED R.K.-S.T.	
REVIEWED E.W.W.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A.R.T. 133
LAWNDALE AVE. STRUCTURE OVER A.T. & S.F. RY., C.&I.W.R.R.& B.& O.C.T. R.R.
SECTION 0606-627VB
SUMMARY OF CONTINUOUS GIRDERS
SCALE: HORIZ. VERT.
DATE 11-20-63
DRAWN BY A.S.
CHECKED BY L.B.E.

(Sheet 9 of 14)

FOR INFORMATION ONLY

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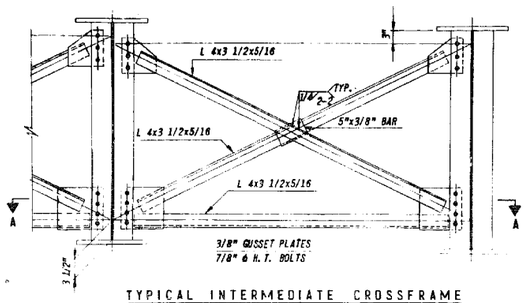
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

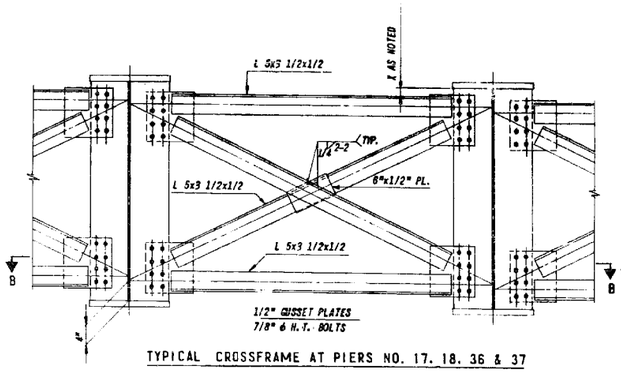
EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX9 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	307
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

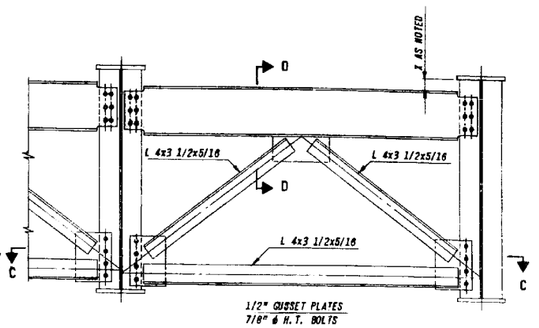
F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO
133	0606-627 VB	SOUTHWEST		36A
STA.		TO STA.		
FED. ROAD DIST. NO 7	ILLINOIS	FED. AID PROJECT		



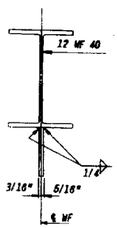
TYPICAL INTERMEDIATE CROSSFRAME



TYPICAL CROSSFRAME AT PIERS NO. 17. 18. 36 & 37



TYPICAL END CROSSFRAME

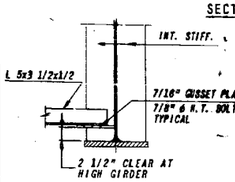


SECTION D-D

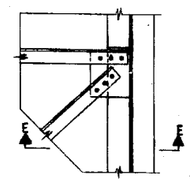
EAST BOUND		WEST BOUND	
TYPE	REQ'D	TYPE	REQ'D
C12	60	C50	55
C13 THRU C36	1 EACH	C51 THRU C62	1 EACH

EAST BOUND			WEST BOUND		
TYPE	REQ'D	X	TYPE	REQ'D	X
C7	4	4"	C45	4	4"
C8 & C9	1 EACH	8 1/2"	C46 & C47	1 EACH	8 1/2"
C10 & C37	1 EACH	4"	C48	4	4"
C11	4	4"	C49 & C63	1 EACH	8 1/2"
C38 & C39	1 EACH	8 1/2"	-	-	-

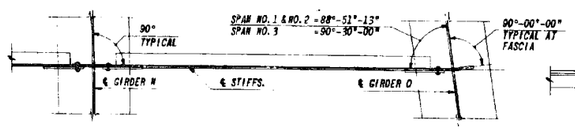
EAST BOUND			WEST BOUND		
TYPE	REQ'D	X	TYPE	REQ'D	X
C1	4	3"	C40	4	3"
C2	1	3"	C41 & C42	1 EACH	6"
C3	5	3"	C43	5	3"
C4	2	3"	C44	1	3"
C5 & C6	1 EACH	6"	-	-	-



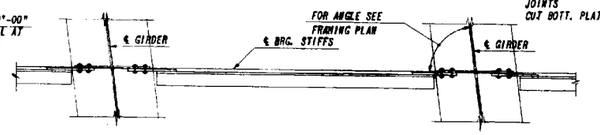
SECTION E-E



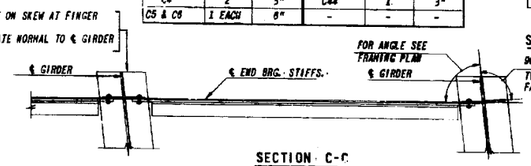
DETAIL A



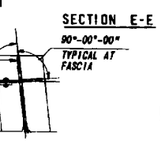
SECTION A-A AT GIRDERS N & O WEST BOUND
(BEARING STIFFENERS SIMILAR)



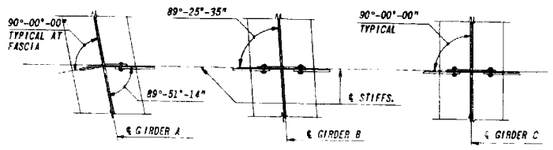
SECTION B-B



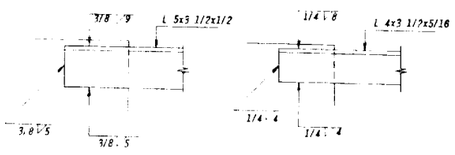
SECTION C-C



LATERAL BRACING

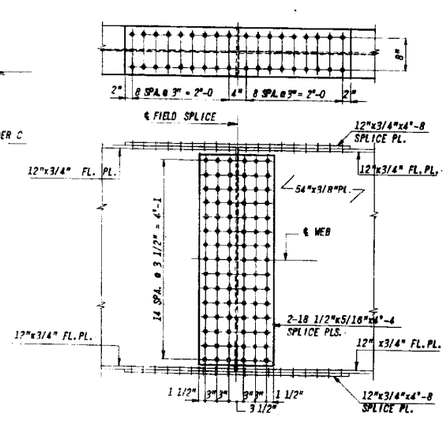


SECTION A-A AT GIRDERS A THRU C EAST BOUND
(BEARING STIFFENERS SIMILAR)

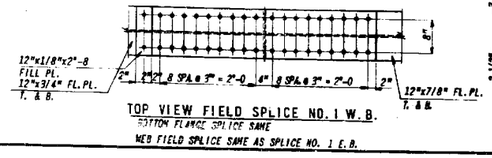


CROSSFRAMES - WELDING DETAILS

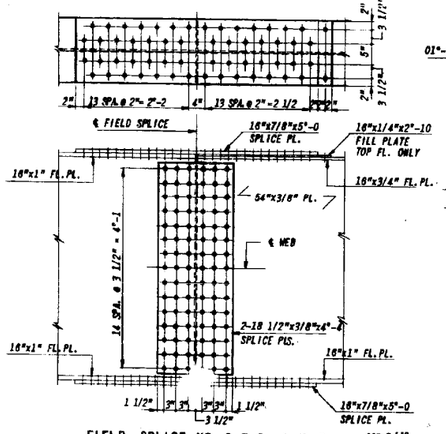
NOTE: 7/8" ø H.T. BOLTS IN FIELD SPLICE FLANGES AND 3/4" ø H.T. BOLTS IN FIELD SPLICE WEBS.



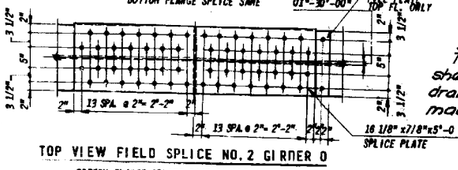
FIELD SPLICE NO. 1 E. B.
BOTTOM FLANGE SPLICE SAME



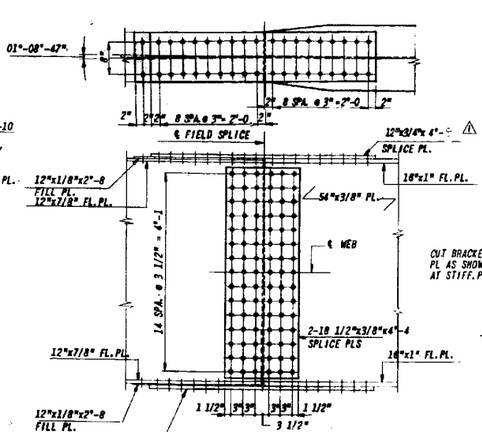
TOP VIEW FIELD SPLICE NO. 1 W. B.
BOTTOM FLANGE SPLICE SAME
WEB FIELD SPLICE SAME AS SPLICE NO. 1 E.B.



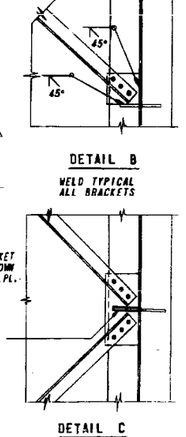
FIELD SPLICE NO. 2 E.B. & W.B.
BOTTOM FLANGE SPLICE SAME



TOP VIEW FIELD SPLICE NO. 2 GIRDER O
BOTTOM FLANGE SPLICE SAME EXCEPT AS NOTED



FIELD SPLICE NO. 3 - GIRDER O
BOTTOM FLANGE SPLICE SAME



DETAIL B

DETAIL C

AS-BUILT
This sheet (36A) replaces sheet (36) of the contract drawings. All revision were made by the consultant.
R.R.E. 6-1-64

REVISIONS	
NAME	DATE
REVISED ⚠	5-6-64
DESIGNED PX-S.T.	
REVIEWED E.W.W.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A.R.T. 133
LAWNDALE AVE STRUCTURE OVER
A.T. & S.F. RY., C.&I.W. R.R.&B & O.C.T. R.R.
SECTION 0606-627VB
SRUCTURAL STEEL DETAILS
SCALE: HORIZ. 1/4"=1'-0 VERT.
DATE 11-20-65
DRAWN BY D.U.
CHECKED BY L.B.B.

FOR INFORMATION ONLY

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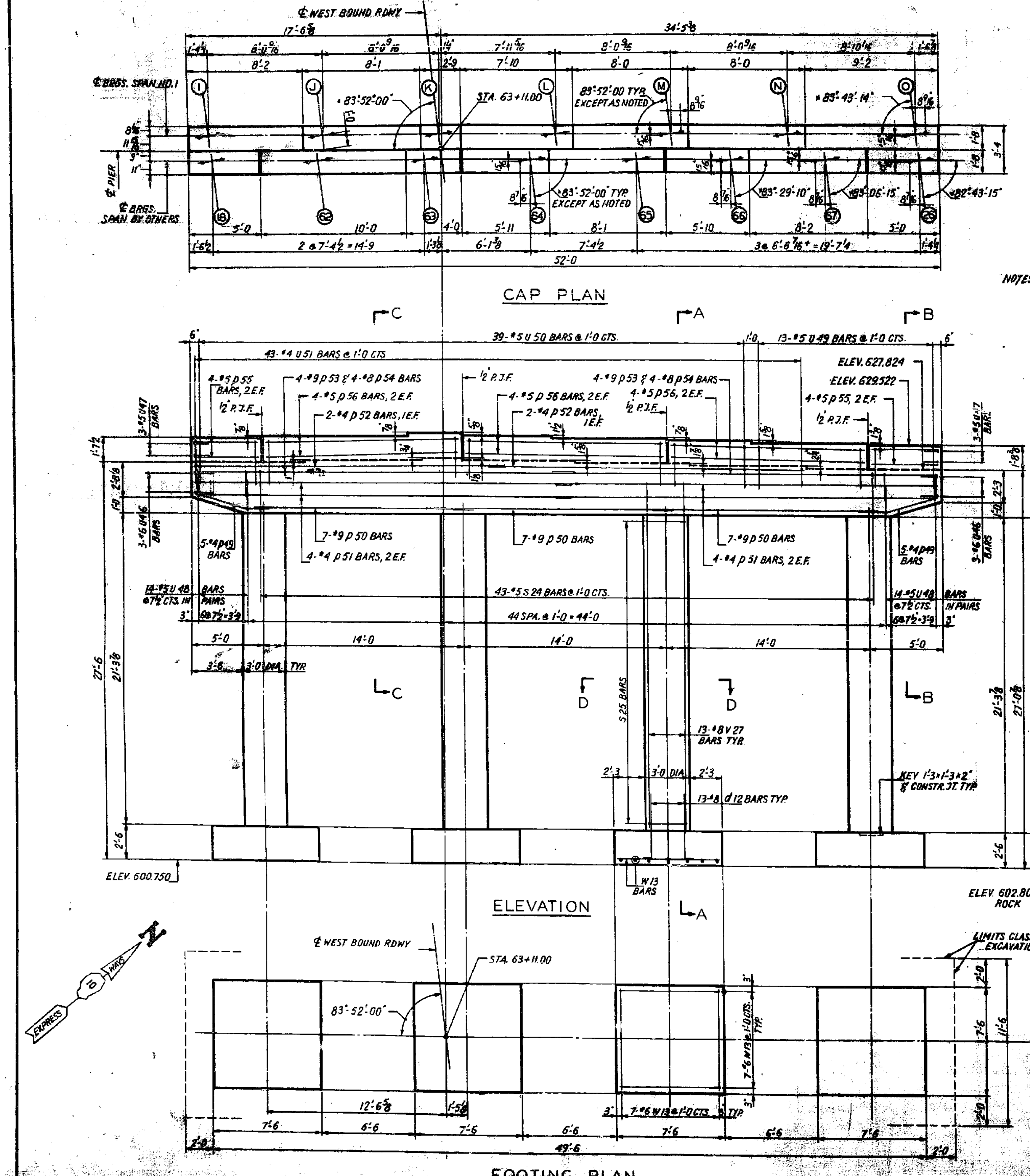
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX10 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	308
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



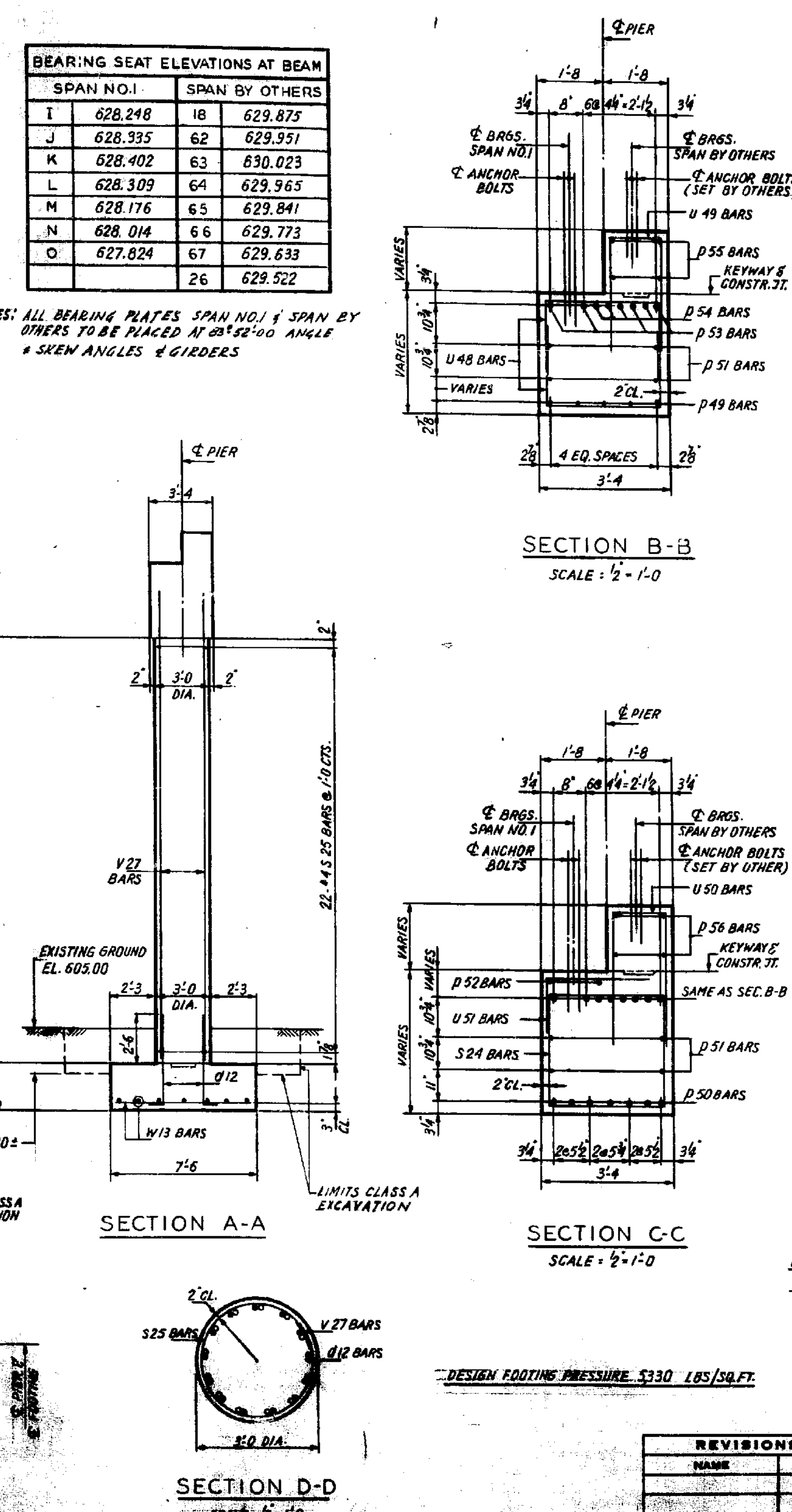
CAP PLAN

ELEVATION

FOOTING PLAN

BEARING SEAT ELEVATIONS AT BEAM			
SPAN NO.1		SPAN BY OTHERS	
I	628.248	18	629.875
J	628.335	62	629.951
K	628.402	63	630.023
L	628.309	64	629.965
M	628.176	65	629.841
N	628.014	66	629.773
O	627.824	67	629.633
		26	629.522

NOTES: ALL BEARING PLATES SPAN NO.1 & SPAN BY OTHERS TO BE PLACED AT 83°52'00 ANGLE = SKEW ANGLES ℄ GIRDERS



SECTION B-B
SCALE: ½" = 1'-0

SECTION A-A

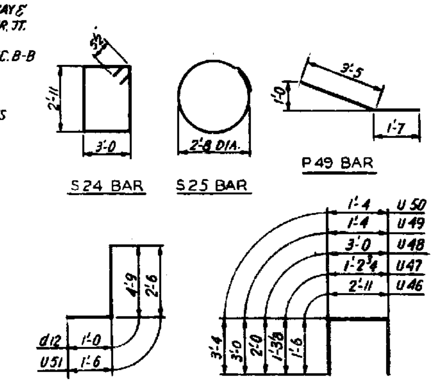
SECTION C-C
SCALE: ½" = 1'-0

SECTION D-D
SCALE: ½" = 1'-0

DESIGN FOOTING PRESSURE 5330 LBS/SQ.FT.

BILL OF REINFORCEMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
d12	52	8	5'-9	
p49	10	4	5'-0	
p50	21	9	15'-11	
p51	8	4	26'-4	
p52	4	4	21'-11	
p53	8	9	26'-10	
p54	8	8	26'-8	
p55	8	5	4'-8	
p56	12	5	13'-8	
S24	43	5	12'-9	
S25	88	4	9'-6	
U46	6	6	5'-11	
U47	6	5	3'-9	
U48	28	5	7'-0	
U49	13	5	7'-4	
U50	39	5	8'-0	
U51	43	4	4'-0	
V27	52	8	23'-10	
W13	56	6	7'-2	

PIER NO. 35 E.B. QUANTITIES		
CLASS X CONCRETE	CU. YDS.	71.1
REINFORCEMENT BARS	LBS.	9,540
CLASS A EXCAVATION	CU. YDS.	43
ROCK EXCAVATION	CU. YDS.	17



S24 BAR S25 BAR P49 BAR

D12 & U51 BARS U46 THRU U50 BARS

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A.RT. 133
LAWNDALE AVE. STRUCTURE OVER A.T.& S.F. RY. C.A.& W. RR.& B&O.C.T. R.R.
SECTION 0606-627 VB
PIER NO. 35 WEST BOUND
DRAWN BY J. W.
CHECKED BY

(Sheet 11 of 14)

FOR INFORMATION ONLY

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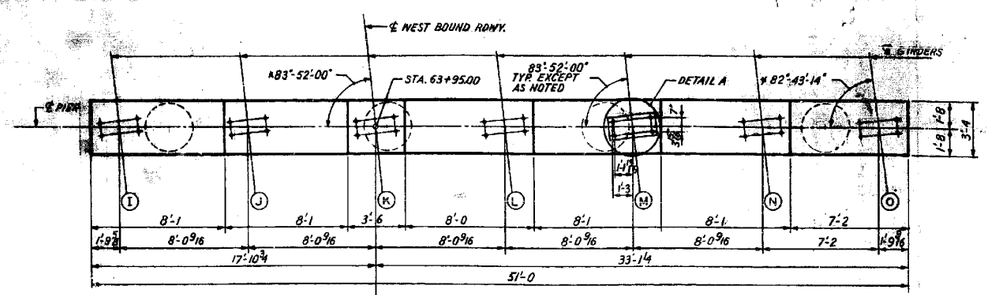
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX11 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	309

CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT

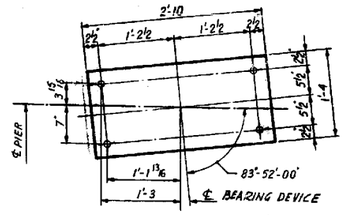
F.A.P. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0606-627 VB		62	26
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



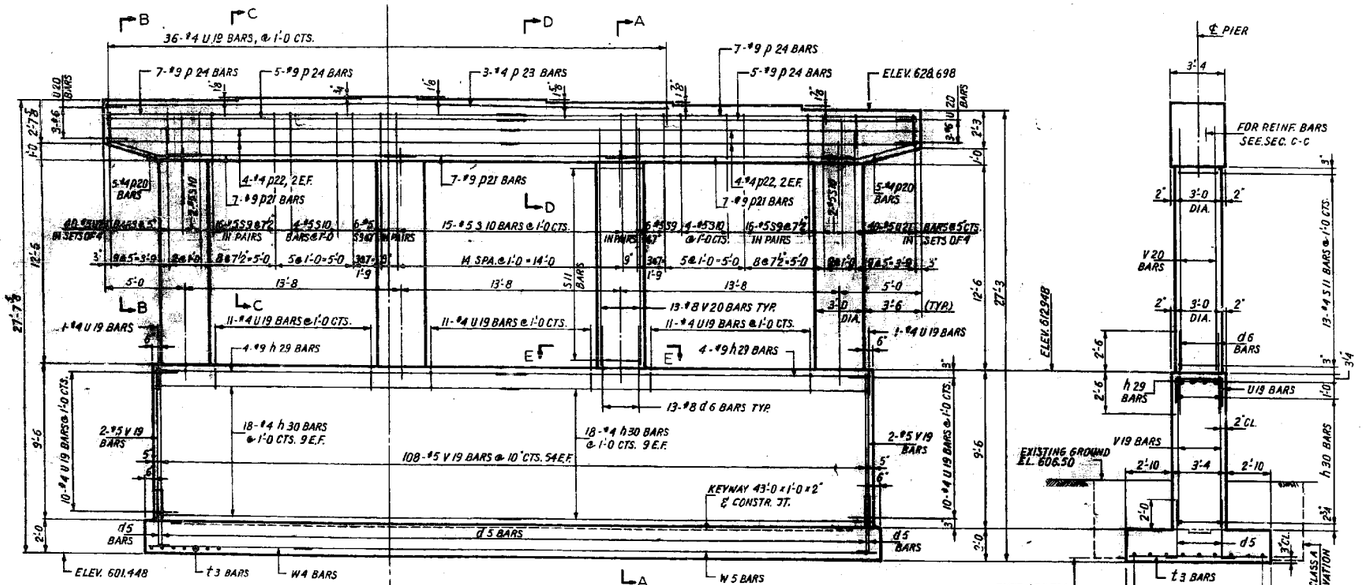
CAP PLAN

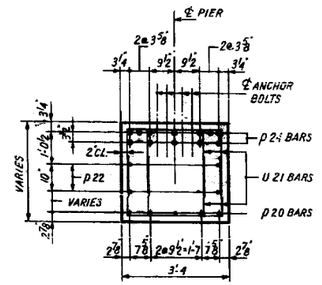
BEARING SEAT ELEVATIONS AT BEAM			
I	629.086	M	629.015
J	629.174	N	628.852
K	629.241	O	628.698
L	629.148		

NOTES: ALL BEARING PLATES TOBE PLACED AT 83°-52'-00 ANGLE
* SKEW ANGLES ℄ GIRDERS

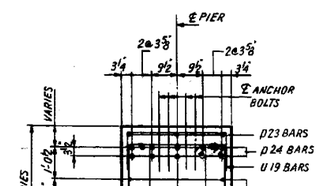


DETAIL A
SCALE : 1"=1'-0





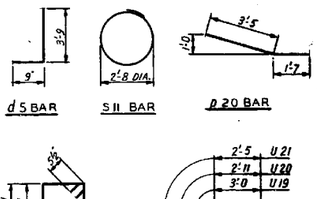
SECTION C-C
SCALE : 1/2"=1'-0

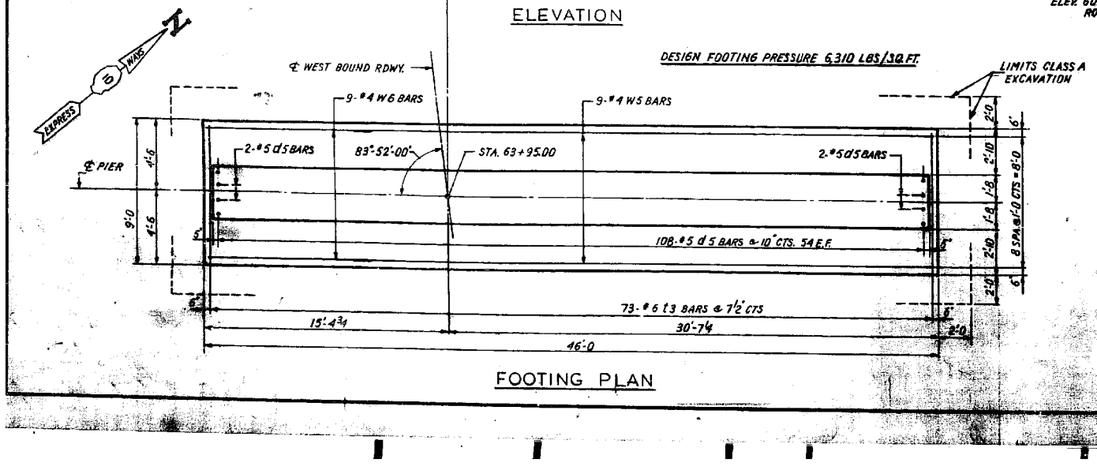


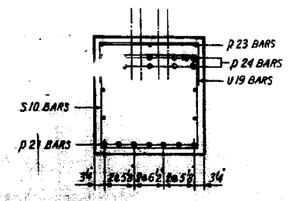
SECTION B-B
SCALE : 1/2"=1'-0

BILL OF REINFORCEMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
d5	112	5	4'-6	L
d6	52	8	5'-0	—
h29	8	9	23'-4	—
h30	36	4	22'-10	—
p20	10	4	5'-0	—
p21	21	9	15'-7	—
p22	8	4	25'-10	—
p23	3	4	35'-5	—
p24	24	9	26'-4	—
S9	44	5	11'-7	—
S10	27	5	12'-9	—
S11	52	4	9'-6	—
t3	73	6	8'-8	—
U19	91	4	6'-0	—
U20	6	6	5'-11	—
U21	80	5	6'-5	—
V19	112	5	9'-4	—
V20	52	8	15'-0	—
W5	9	4	36'-0	—
W6	9	4	10'-8	—

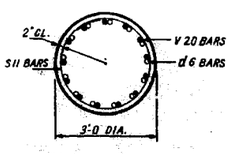
PIER NO. 36 W.B. QUANTITIES		
CLASS X CONCRETE	CU. YDS.	118.6
REINFORCEMENTBARS	LBS.	12,490
CLASS A EXCAVATION	CU. YDS.	122







SECTION D-D
SCALE : 1/2"=1'-0
FOR DETAIL SEE SEC. C-C.



SECTION E E
SCALE : 1/2"=1'-0

REVISIONS	
NAME	DATE
C.P. ST.	
E.E.E.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A. RT. 133
LAWNDALE AVE. STRUCTURE OVER A.T.& S.F.RY, C.& I.W.R.R. & B.& O.C.T. R.R.
SECTION 0606-627 VB
PIER NO. 36 WEST BOUND
SCALE: HORIZ. 1/4"=1'-0 WHEN PLOTTED AS NOTED
DATE 11-20-63
DRAWN BY J. W.
CHECKED BY E.E.E.

(Sheet 12 of 14)

FOR INFORMATION ONLY

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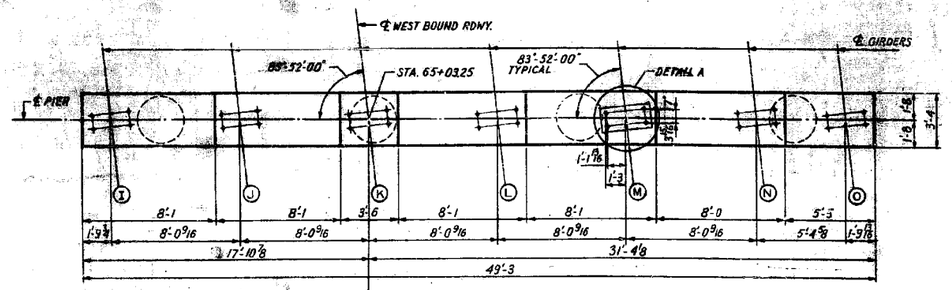
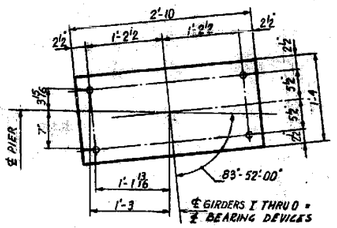
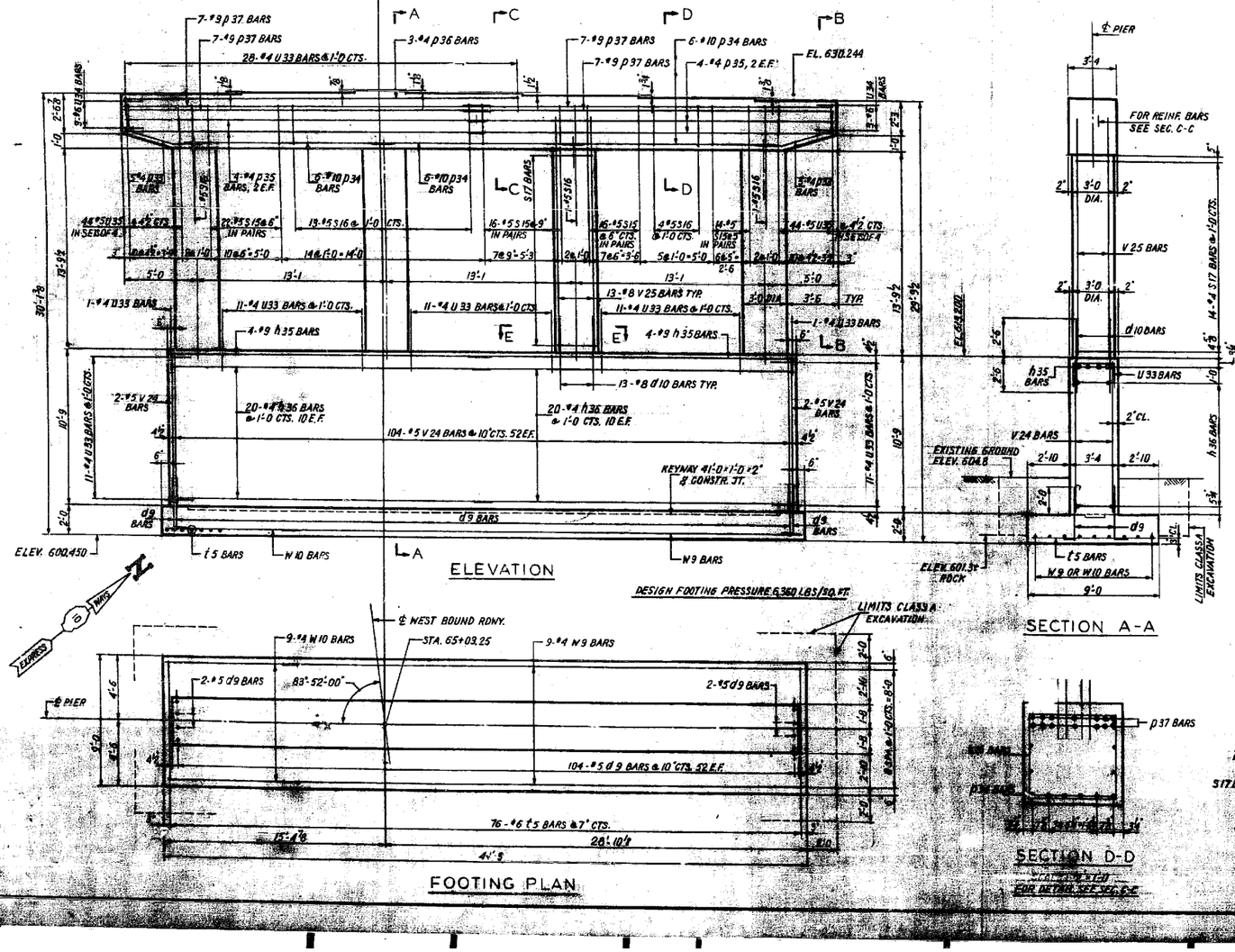
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454
SHEET NO. SBX12 OF SBX14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	310
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			







F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
[illegible]	0806-627VB	[illegible]	62	27
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CAP PLAN

BEARING SEAT ELEVATIONS AT BEAM			
I	630.566	M	630.507
J	630.656	N	630.358
K	630.726	O	630.244
L	630.636		

DETAIL A
SCALE: 1" = 1'-0

BILL OF REINFORCEMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
d9	108	5	4'-6	L
d10	52	8	5'-0	—
h35	8	9	22'-5	—
h36	40	4	22'-0	—
p33	10	4	5'-0	⟋
p34	18	10	15'-5	—
p35	8	4	25'-0	—
p36	3	4	27'-5	—
p37	28	9	25'-5	—
S15	68	5	11'-7	▭
S16	20	5	12'-9	▭
S17	56	4	9'-6	○
t5	76	6	8'-8	—
U33	85	4	6'-0	⊔
U34	6	6	5'-11	⊔
U35	88	5	6'-5	⊔
V24	108	5	10'-7	—
V25	52	8	16'-4	—
W9	9	4	36'-0	—
W10	9	4	8'-9	—

PIER NO. 37 W.B. QUANTITIES		
CLASS X CONCRETE	CU. YDS.	122.3
REINFORCEMENT BARS	LBS.	12,860
CLASS A EXCAVATION	CU. YDS.	82
ROCK EXCAVATION	CU. YDS.	13

ELEVATION

DESIGN FOOTING PRESSURE 6,360 LBS/SQ.FT.

SECTION A-A

SECTION B-B
SCALE: ½" = 1'-0

SECTION C-C
SCALE: ½" = 1'-0

FOOTING PLAN

SECTION D-D

FOR DETAIL SEE SEC. C-C

SECTION E-E

REVISIONS	
NAME	DATE
O.R.-ST.	
[illegible]	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A. RT. 133
LAWNDALE AVE. STRUCTURE OVER
A.T.& S.F. RY. C.&W. R.R. & B.&O.C.T. R.R.
SECTION 0806-627 VB
PIER NO. 37 WEST BOUND
SCALE: HORIZ. ¼" = 1'-0 EXCEPT AS NOTED
DATE: 11-20-63
DRAWN BY J.W.
CHECKED BY L.&E.

FOR INFORMATION ONLY

(Sheet 13 of 14)

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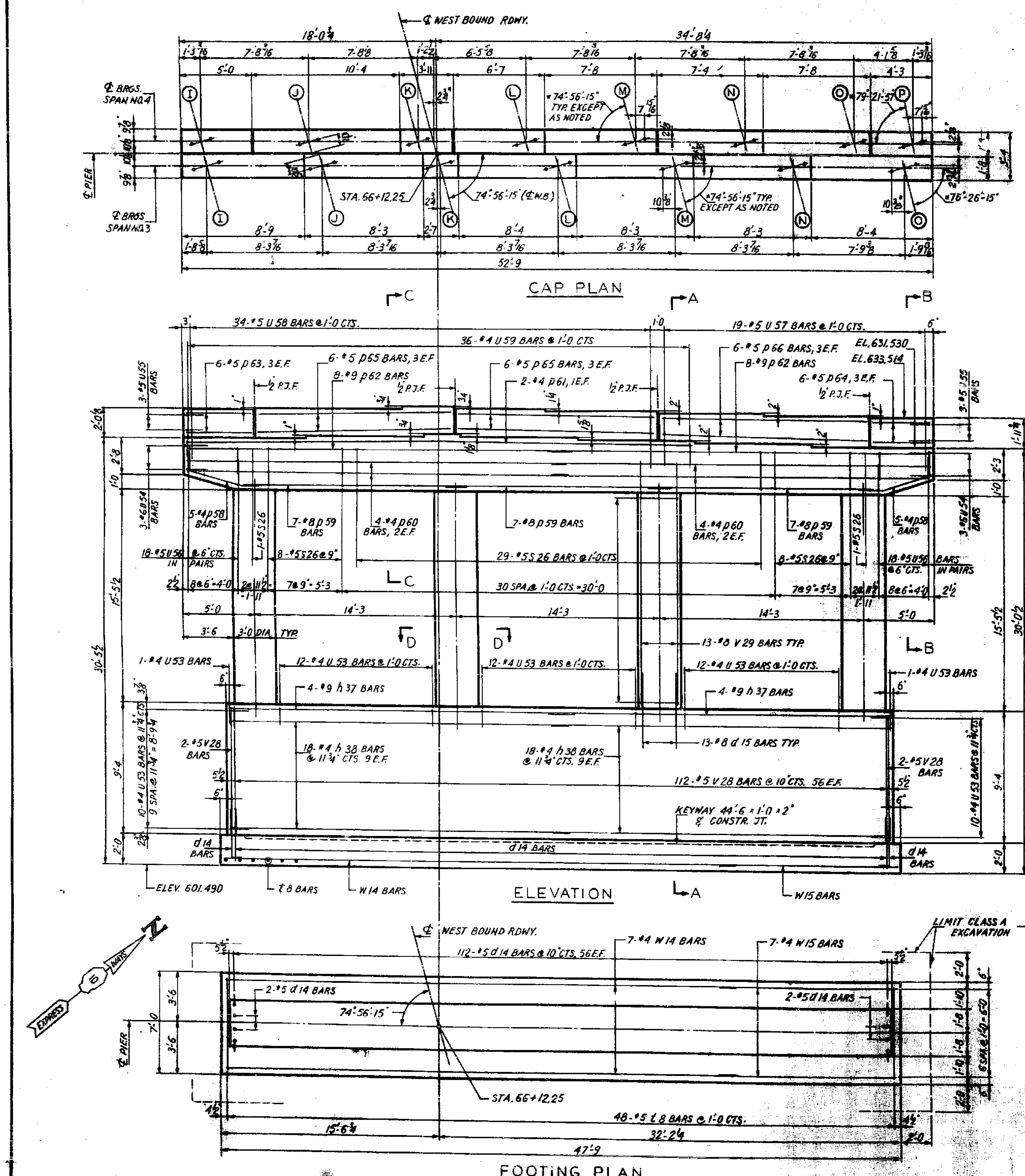
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2454

SHEET NO. SBX13 OF SBX14 SHEETS

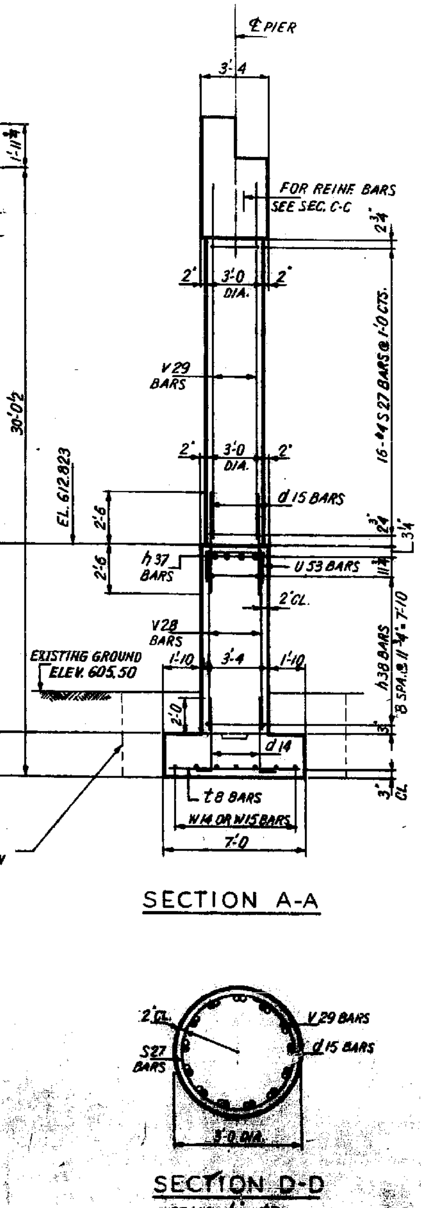
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	311
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

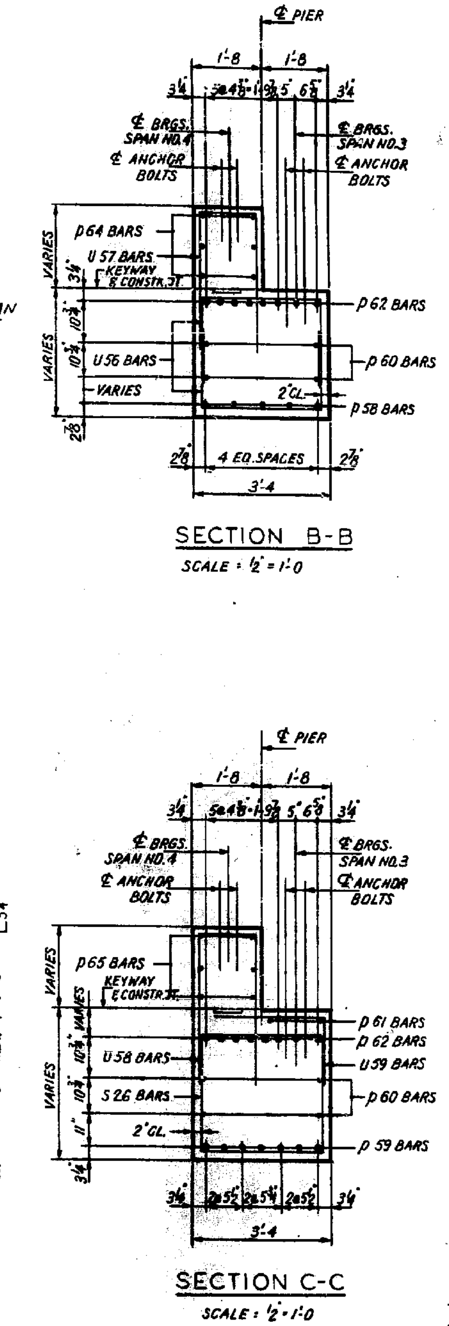
F.A. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
128	0606-627VB	SOUTHWEST	62	29
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



BEARING SEAT ELEVATIONS AT BEAM			
SPAN NO. 3		SPAN NO.4	
I	631.946	I	633.961
J	632.030	J	634.041
K	632.094	K	634.100
L	631.998	L	634.035
M	631.862	M	633.929
N	631.696	N	633.765
O	631.530	O	633.602
		P	633.514

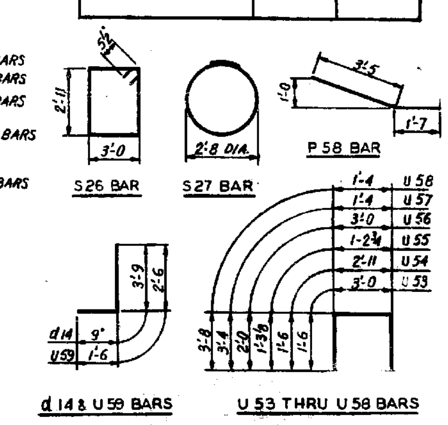
NOTES: ALL BEARING PLATES SPAN NO. 3 AND SPAN NO. 4 TO BE PLACED AT 74°-56'-15" ANGLE & SKEW ANGLES ℄ GIRDERS.





BILL OF REINFORCEMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
d 14	116	5	4'-6	
d 15	52	8	5'-0	
h 37	8	9	24'-2	
h 38	36	4	23'-9	
p 58	10	4	5'-0	
p 59	21	8	15'-1	
p 60	8	4	26'-9	
p 61	2	4	35'-8	
p 62	16	9	27'-2	
p 63	6	5	4'-8	
p 64	6	5	3'-11	
p 65	12	5	13'-11	
p 66	6	5	14'-8	
S 26	47	5	12'-9	
S 27	64	4	9'-6	
t 8	48	5	6'-8	
U 53	58	4	6'-0	
U 54	6	6	5'-11	
U 55	6	5	3'-9	
U 56	36	5	7'-0	
U 57	19	5	8'-0	
U 58	34	5	8'-8	
U 59	36	4	4'-0	
V 28	116	5	9'-2	
V 29	52	8	18'-0	
W 14	7	4	36'-0	
W 15	7	4	11'-6	

PIER NO 38 W.B. QUANTITIES		
CLASS X CONCRETE	CU. YDS.	124.2
REINFORCEMENT BARS	LBS	11,670
CLASS A EXCAVATION	CU. YDS.	85



DESIGN FOOTING PRESSURE 6,050 LBS/SQ.FT.

REVISIONS	
NAME	DA
O.P.-ST.	
L.E.E.	

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
F.A.R.T. 133
LAWNDALE AVE. STRUCTURE OVER
A.T.& S.F. RY. C.&I.W. R.R. & B.&O.C.T. R.R.
SECTION 0606-627 VB
PIER NO. 38 WEST BOUND
SCALE: HORIZ. VERT. ¼" = 1'-0 EXCEPT AS NOTED
DATE 11-29-63
DRAWN BY J. W.
CHECKED BY L.E.E.

FOR INFORMATION ONLY

(Sheet 14 of 14)

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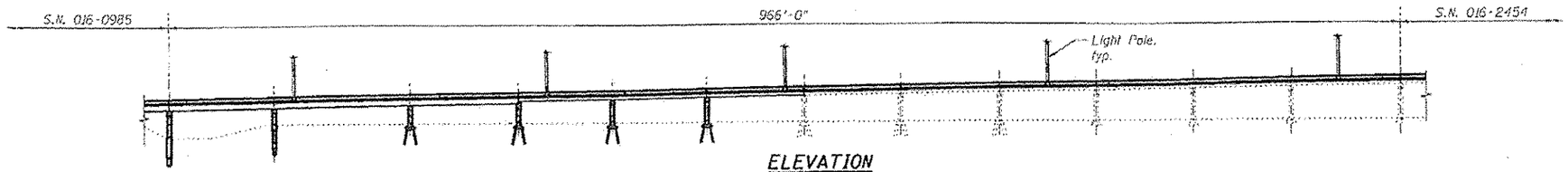
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	312
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

Bench Mark: Chiseled square of NE corner of NB IL-171 bridge wingwall over BNSF RR. El. 640.61.

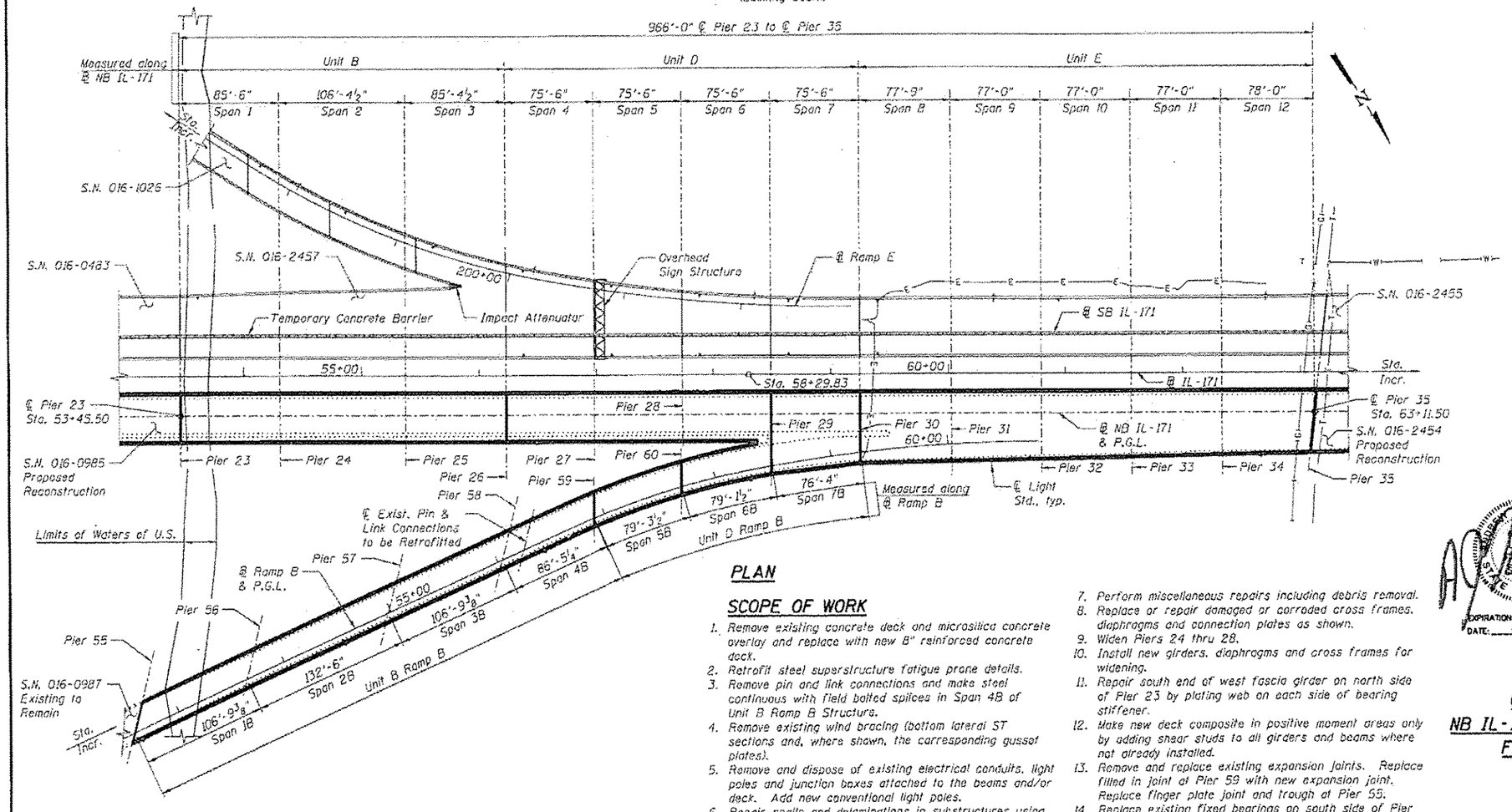
Existing Structure: S.N. 016-2456 (Northbound) was originally built in 1964 under Section 0707-675HB. The structure consists of a 5½" concrete deck with a 2" microsilica overlay. The structure consists of a twelve span mainline bridge and a six span ramp bridge (Ramp B), supported by 15 multi-column and three solid wall concrete piers (55, 56 & 57), predominantly founded on steel BP-piles with a select few on the north side of the structure supported on spread footings. The mainline structure is 966'-0" centerline of pier to centerline of pier, with an out to out deck width which varies from 36'-0" to 69'-2¼" with no skew angle (except at Pier 35). The Ramp B Structure has an out to out deck width of 28'-0", with a varying skew angle. Traffic to be maintained utilizing crossovers.

No salvage.

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.



ELEVATION
(Looking South)



PLAN

SCOPE OF WORK

1. Remove existing concrete deck and microsilica concrete overlay and replace with new 8" reinforced concrete deck.
2. Retrofit steel superstructure fatigue prone details.
3. Remove pin and link connections and make steel continuous with field bolted splices in Span 4B of Unit B Ramp B Structure.
4. Remove existing wind bracing (bottom lateral ST sections and, where shown, the corresponding gusset plates).
5. Remove and dispose of existing electrical conduits, light poles and junction boxes attached to the beams and/or deck. Add new conventional light poles.
6. Repair spalls and delaminations in substructures using structural repair of concrete.
7. Perform miscellaneous repairs including debris removal.
8. Replace or repair damaged or corroded cross frames, diaphragms and connection plates as shown.
9. Widen Piers 24 thru 28.
10. Install new girders, diaphragms and cross frames for widening.
11. Repair south end of west fascia girder on north side of Pier 23 by plating web on each side of bearing stiffener.
12. Make new deck composite in positive moment areas only by adding shear studs to all girders and beams where not already installed.
13. Remove and replace existing expansion joints. Replace filled in joint at Pier 59 with new expansion joint. Replace finger plate joint and trough at Pier 55.
14. Replace existing fixed bearings on south side of Pier 59 with new elastomeric bearings and steel extensions.

LOADING HS20-44

No future wearing surface allowed.

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

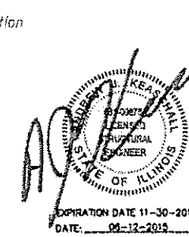
SEISMIC DATA

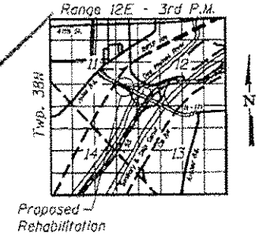
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

EXISTING UTILITY LEGEND

E — E Underground Electric Line
T — T Underground Telephone Line
G — G Underground Gas Line
W — W Underground Water Line





LOCATION SKETCH

GENERAL PLAN AND ELEVATION
NB IL-171 OVER DES PLAINES RIVER VALLEY
FAP 372 - SECTION 2013-037B-R
COOK COUNTY
STATION 58+29.83
STRUCTURE NO. 016-2456

benesch
engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

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		CHECKED - AJK	REVISED -
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	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. SC1 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	313
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

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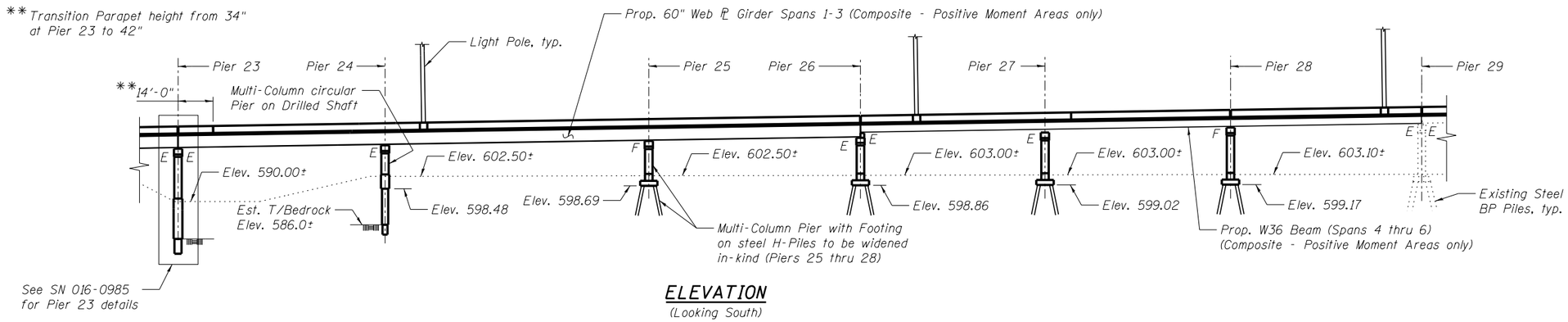
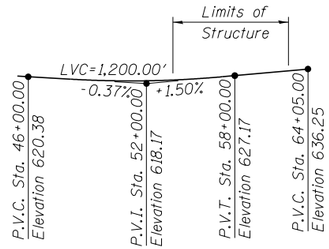
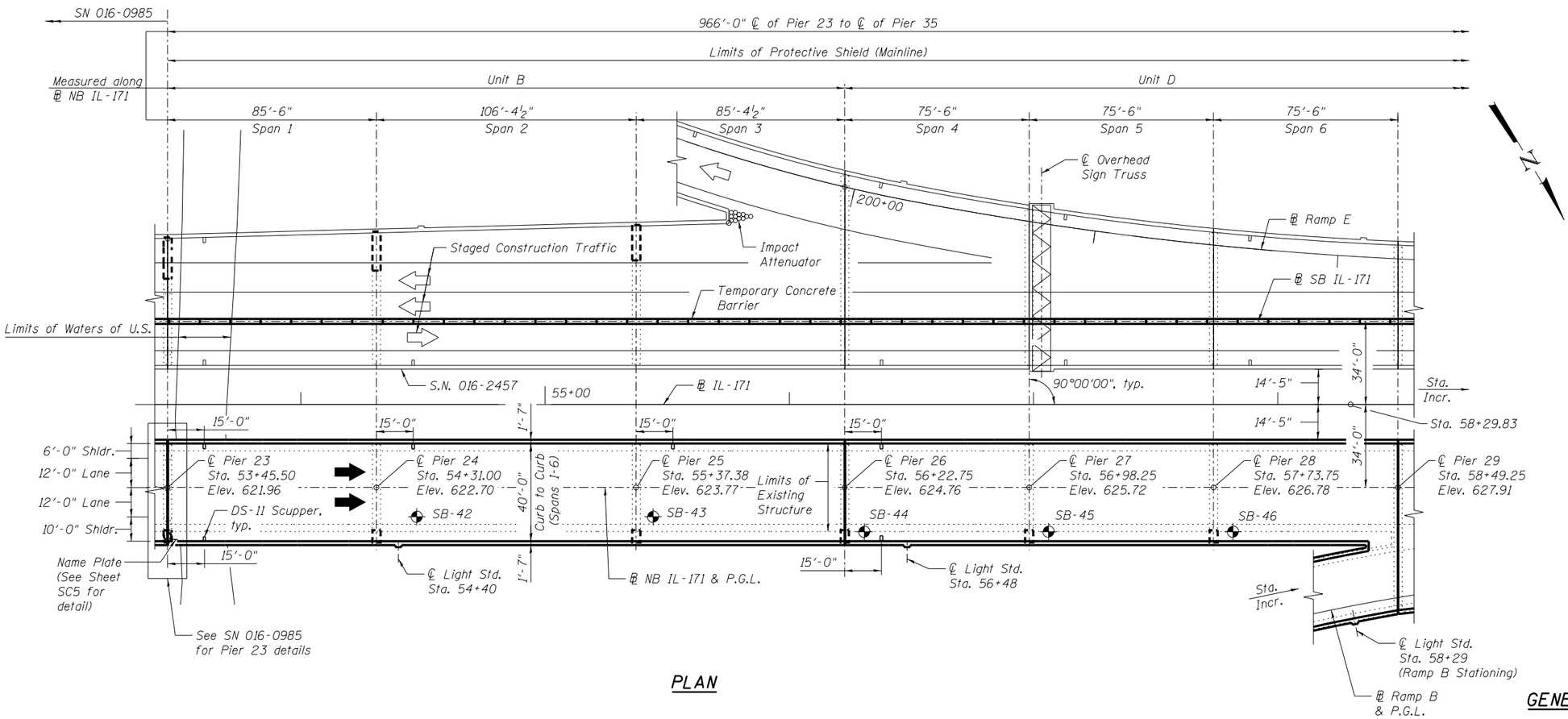


ELEVATION
(Looking South)



PROFILE GRADE NB IL-171
(Along ℄ NB IL-171)



PLAN

NOTE:
All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

GENERAL PLAN AND ELEVATION
UNITS B & D
NB IL-171 OVER DES PLAINES RIVER VALLEY
FAP 372 - SECTION 2013-037B-R
COOK COUNTY
STATION 58+29.83
STRUCTURE NO. 016-2456

benesch
engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

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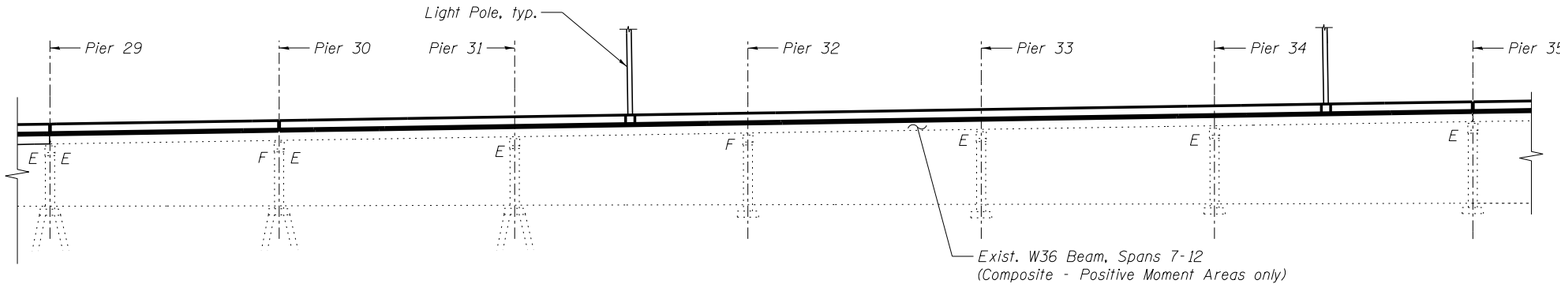
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. SC2 OF SC96 SHEETS

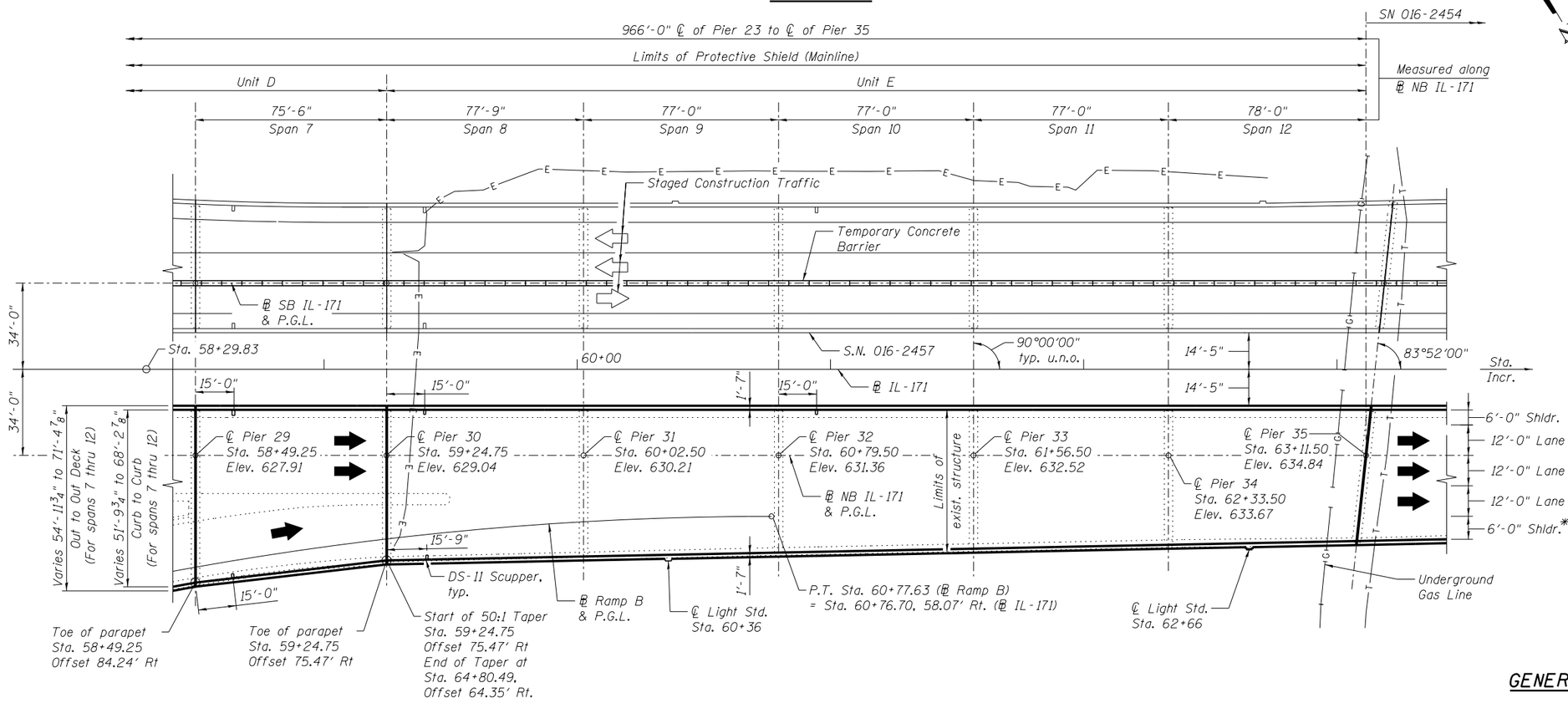
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	314
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



EXISTING UTILITY LEGEND

- E — E · Underground Electric Line
- T — T · Underground Telephone Line
- G — G Underground Gas Line
- W — W Underground Water Line

ELEVATION



PLAN

NOTE:

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

GENERAL PLAN AND ELEVATION
UNITS D & E
NB IL-171 OVER DES PLAINES RIVER VALLEY
FAP 372 - SECTION 2013-037B-R
COOK COUNTY
STATION 58+29.83
STRUCTURE NO. 016-2456

benesch
engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

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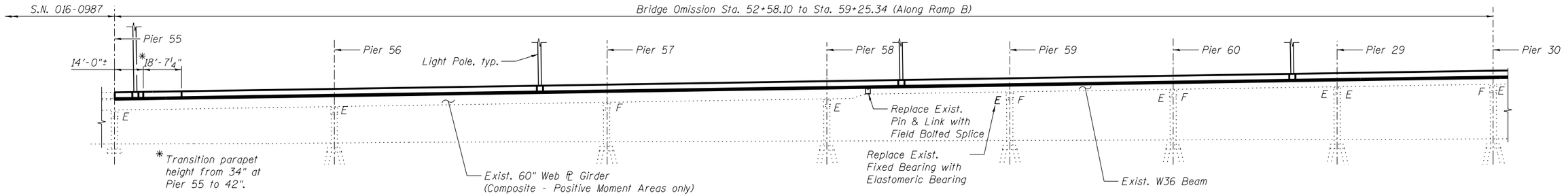
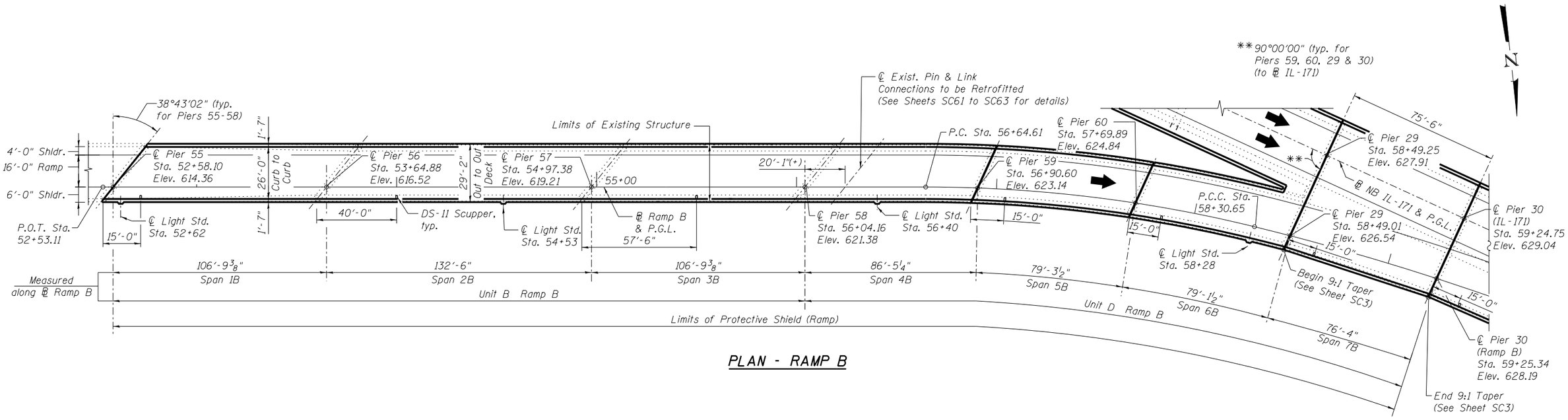
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. SC3 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	315
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



ELEVATION - RAMP B



PLAN - RAMP B

CURVE DATA - ℄ RAMP B

CURVE RAMP B REV-1

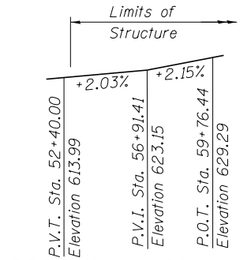
P.I. Sta. = 57+48.03
Δ = 13°46'16" (RT)
D = 8°17'38"
R = 690.82'
T = 83.42'
L = 166.04'
E = 5.02'
P.C. Sta. = 56+64.61
P.C.C. Sta. = 58+30.65

CURVE RAMP B REV-2

P.I. Sta. = 59+54.51
Δ = 10°53'15" (RT)
D = 4°24'30"
R = 1,299.74'
T = 123.86'
L = 246.98'
E = 5.89'
P.C.C. Sta. = 58+30.65
P.T. Sta. = 60+77.63

S.E. DATA - RAMP B

2.0% to 2.38% S.E. = Sta. 55+50.00 to Sta. 55+75.00
2.38% to 3.25% S.E. = Sta. 55+75.00 to Sta. 56+00.00
3.25% to 3.94% S.E. = Sta. 56+00.00 to Sta. 56+25.00
3.94% to 4.69% S.E. = Sta. 56+25.00 to Sta. 56+50.00
4.69% to 5.38% S.E. = Sta. 56+50.00 to Sta. 56+75.00
5.38% to 6.50% S.E. = Sta. 56+75.00 to Sta. 57+15.00
6.50% S.E. = Sta. 57+15.00 to Sta. 58+15.00
6.50% to 5.30% S.E. = Sta. 58+15.00 to Sta. 58+45.00
5.30% S.E. = Sta. 58+45.00 to Sta. 58+80.00
5.30% to 2.00% S.E. = Sta. 58+80.00 to Sta. 59+75.00
Normal Crown = Sta. 59+75.00



PROFILE GRADE RAMP B

(Along ℄ Ramp B)

GENERAL PLAN AND ELEVATION
RAMP B
NB IL-171 OVER DES PLAINES RIVER VALLEY
FAP 372 (NB) - SECTION 2013-037B-R
COOK COUNTY
STATION 58+29.83
STRUCTURE NO. 016-2456 (NB)

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_004_gpe.dgn	USER NAME = jsurber	DESIGNED - JLS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT/JDC	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. SC4 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	316
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$" dia., holes $\frac{15}{16}$" dia., unless otherwise noted.

2. Calculated weight of structural steel =
   M270 Grade 36: 20,280 lbs.
   M270 Grade 50: 87,210 lbs.

3. No field welding is permitted except as specified in the contract documents.

4. The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant(PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

5. Reinforcement bars designated (E) shall be epoxy coated.

6. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

   As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $\frac{1}{4}$ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

7. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

8. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

9. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$" (0.01). Adjustment shall be made either by grinding the surface or shimming the bearings.

10. Concrete sealer shall be applied to the designated areas of Pier 26 and the new bearing seat at Pier 29.

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

12. The Inorganic Zinc Rich Primer/Acrylic/Acrylic Paint System shall be used for shop and field painting of new structural steel and the steel portions of new elastomeric bearings. Only Inorganic Zinc Rich Primer shall be applied to the new structural steel and the steel portions of the new elastomeric bearings in the shop under this contract and is included in the respective steel or bearing pay items. The intermediate and top coats shall be applied under a separate painting contract.

13. Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

14. The top flange of the existing structural steel is anticipated to have been painted with lead paint. Lead paint removal shall be completed in areas of the top flange that are to receive proposed stud shear connectors. See Special Provision for "Containment and Disposal of Lead Paint Cleaning Residues".

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Removal of Existing Concrete Deck No. 2	Each	1		1
	Protective Shield	Sq Yd	6,855		6,855
	Structure Excavation	Cu Yd		69	69
	Concrete Structures	Cu Yd		58.6	58.6
	Concrete Superstructure	Cu Yd	2,226.8		2,226.8
	Bridge Deck Grooving	Sq Yd	6,520		6,520
	Protective Coat	Sq Yd	8,476		8,476
	Furnishing and Erecting Structural Steel	L Sum	0.30		0.30
	Stud Shear Connectors	Each	13,587		13,587
	Reinforcement Bars, Epoxy Coated	Pound	546,380	9,940	556,320
	Furnishing Steel Piles HP14x73	Foot		281	281
	Driving Piles	Foot		281	281
	Test Pile Steel HP14x73	Each		2	2
	Pile Shoes	Each		8	8
	Name Plates	Each	1		1
	Permanent Casing	Foot		13	13
	Drilled Shaft in Soil	Cu Yd		2.3	2.3
	Drilled Shaft in Rock	Cu Yd		0.5	0.5
	Preformed Joint Strip Seal	Foot	233.5		233.5
	Finger Plate Expansion Joint, 4"	Foot	40.0		40.0
	Fabric Reinforced Elastomeric Trough	Foot	40.0		40.0
	Elastomeric Bearing Assembly, Type I	Each	4		4
	Elastomeric Bearing Assembly, Type II	Each	6		6
	Anchor Bolts, $\frac{3}{4}$"	Each	18		18
	Anchor Bolts, 1"	Each	6		6
	Concrete Sealer	Sq Ft		257	257
	Jack and Remove Existing Bearings	Each	4		4
	Structural Steel Removal	Pound	16,570		16,570
	Structural Steel Repair	Pound	51,680		51,680
	Containment and Disposal of Lead Paint Cleaning Residues No. 2	L Sum	1		1
	Cleaning Bridge Seats	Sq Ft		1,972	1,972
*	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft		1,133	1,133
*	Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft		227	227
	Drainage Scuppers, DS-11	Each	16		16
	Temporary Shoring and Cribbing	Each		6	6
	Temporary Support System	Each	4		4
	Remove Conduit Attached to Structure	Foot	4,407		4,407

* Quantity includes a contingency (above the amounts shown in the bills of material) to account for uncertainties associated with the condition of the existing substructure and the age of the original inspection (2008-2009). Actual repair areas will be determined by the Engineer in the field.

INDEX OF SHEETS (CONT'D)

For existing bridge plans, see Sheets SCX1 thru SCX33, immediately following Sheet SC96.

STATION 58+29.83
RE-BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 372
SEC. 2013-037B-R
LOADING HS20
STR. NO. 016-2456

NB NAME PLATE

(See Std. 515001)

Existing Name Plate shall be cleaned and relocated next to the new Name Plate. Cost included with Name Plates.

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312-565-0450 Job No. 10093

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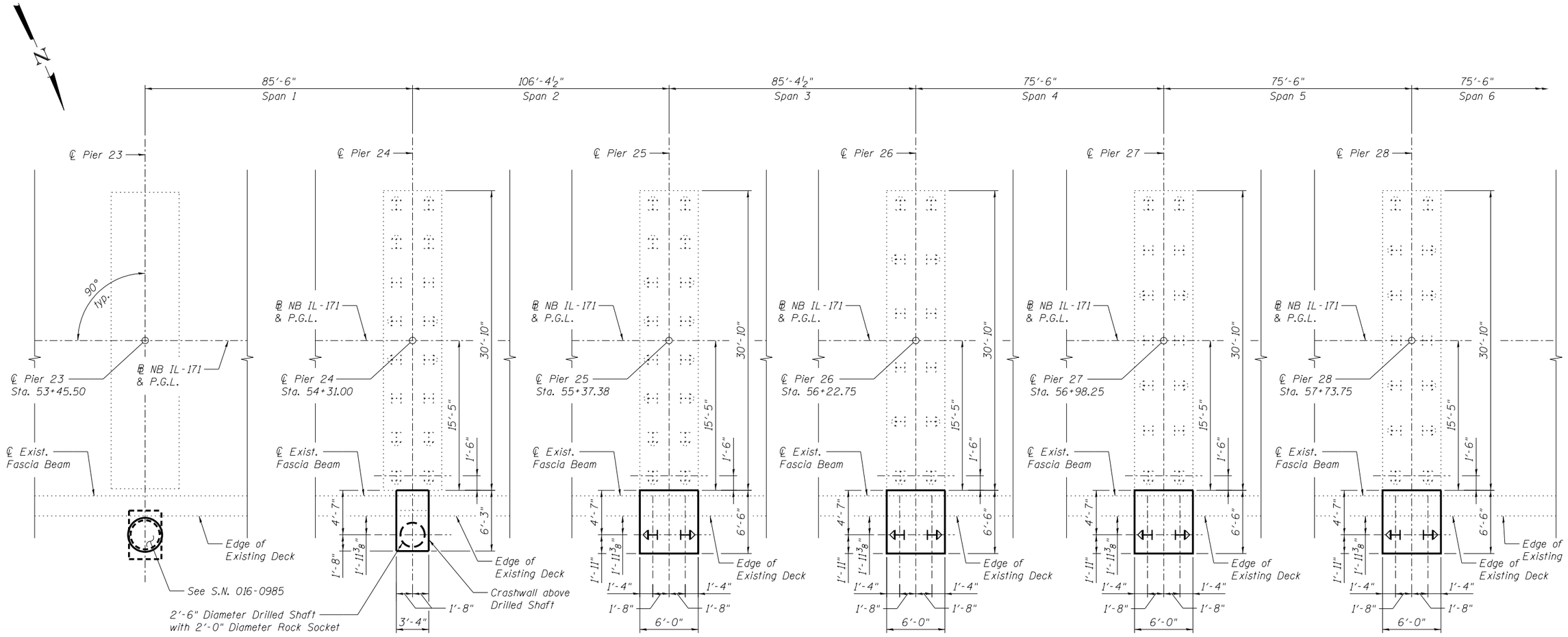
		CHECKED - AJK	REVISED -			372	2013-037B-R	COOK	787	317
	PLOT SCALE =	DRAWN - PRT/JDC	REVISED -							CONTRACT NO. 60W75
	PLOT DATE = 6/17/2015	CHECKED - AJK	REVISED -		SHEET NO. SC5 OF SC96 SHEETS			ILLINOIS	FED. AID PROJECT	



FOUNDATION LAYOUT

LEGEND

- Proposed Battered Pile
- Existing Vertical Pile
- Existing Battered Pile

NOTE:

All test piles shall be driven prior to ordering any piles for any of the piers for this structure.

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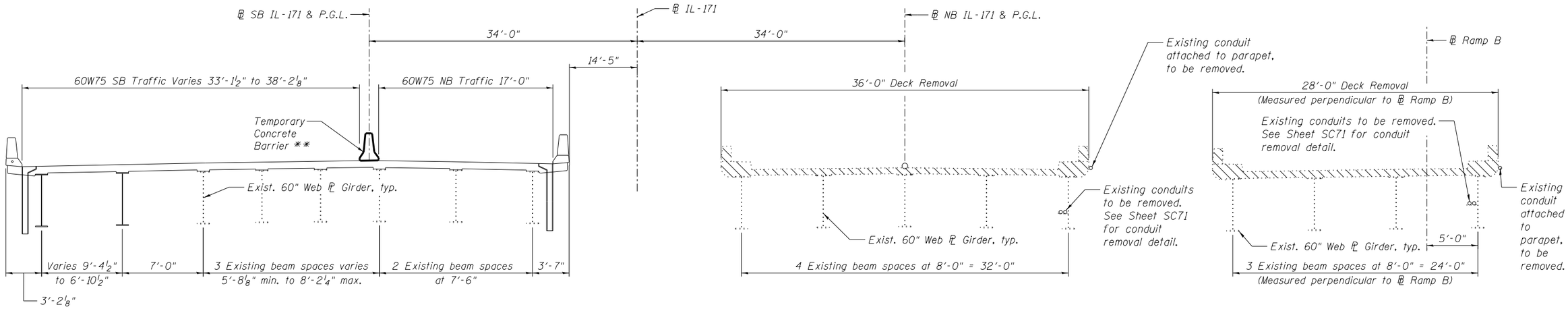
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

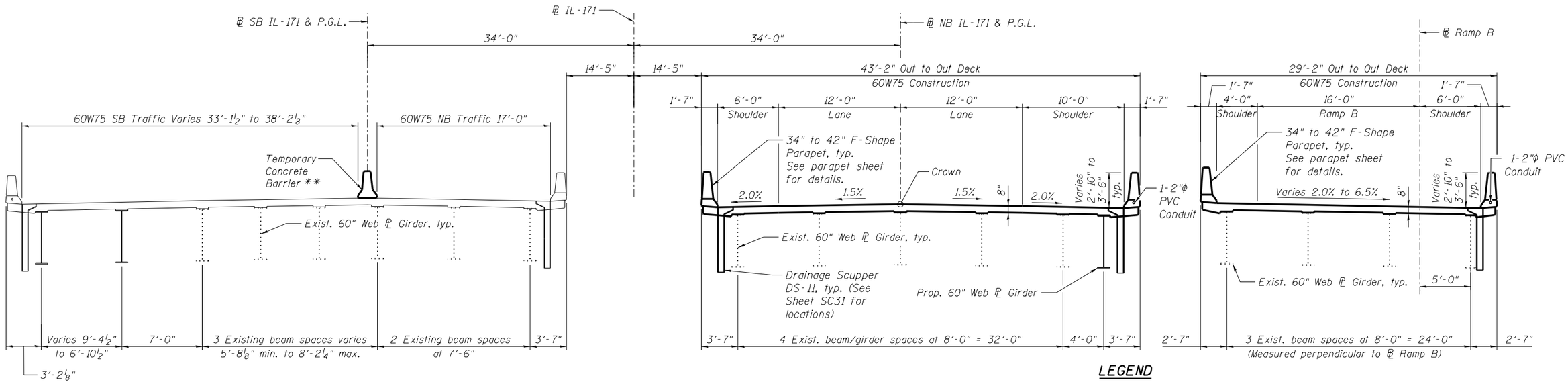
FOUNDATION LAYOUT
STRUCTURE NO. 016-2456
SHEET NO. SC6 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	318
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



CONTRACT 60W75 REMOVAL

(From Pier 23 to Pier 25, Mainline;
From Pier 55 to Pier 57, Ramp B)
(Looking North, Upstation ℄ IL-171)



CONTRACT 60W75 CONSTRUCTION

(From Pier 23 to Pier 25, Mainline;
From Pier 55 to Pier 57, Ramp B)
(Looking North, Upstation ℄ IL-171)

LEGEND

▨ Indicates Removal of Existing Concrete Deck No. 2.

NOTES:

1. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the IL-171 baseline shown unless noted otherwise.
2. Do not anchor Temp. Concrete Barrier to existing deck.

** See Sheet SC12 and maintenance of traffic sheets for more information.

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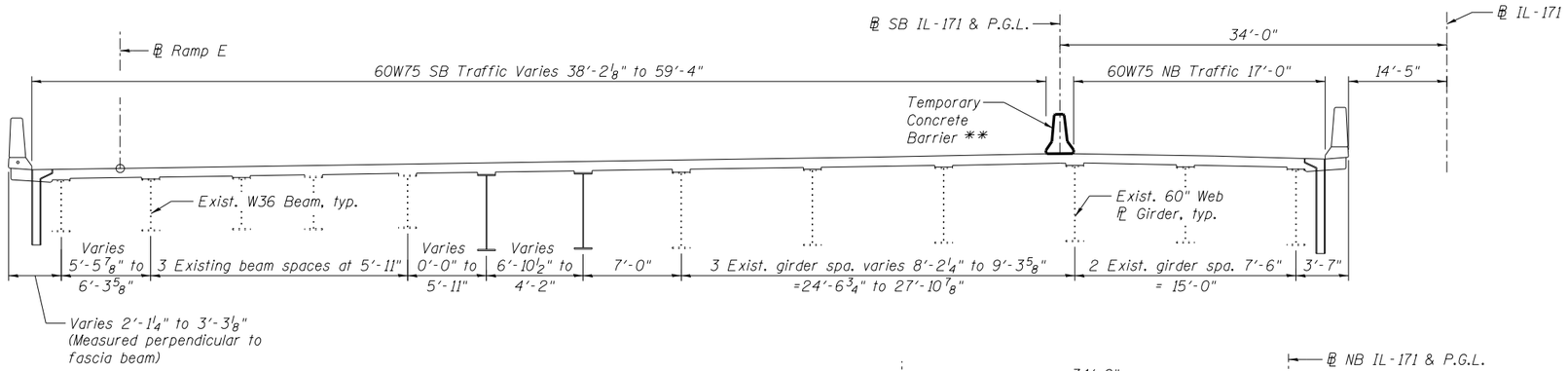
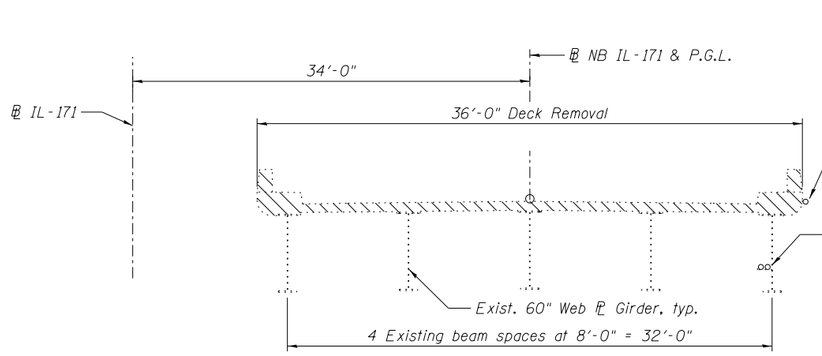
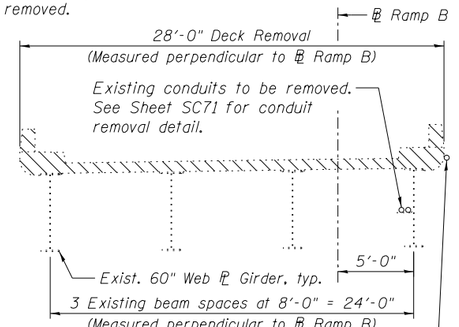
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS SPANS 1 AND 2
STRUCTURE NO. 016-2456
SHEET NO. SC7 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	319
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

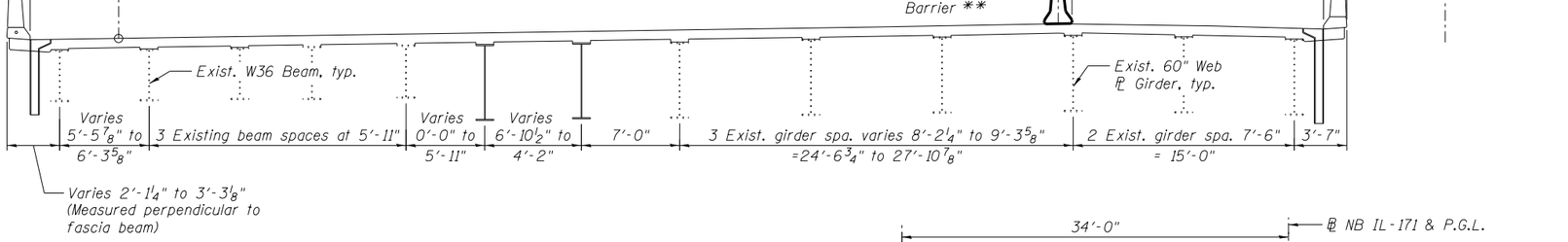






CONTRACT 60W75 REMOVAL

(From Pier 25 to Pier 26, Mainline;
From Pier 57 to Pier 58, Ramp B)
(Looking North, Upstation ℄ IL-171)



LEGEND

Indicates Removal of Existing Concrete Deck No. 2.

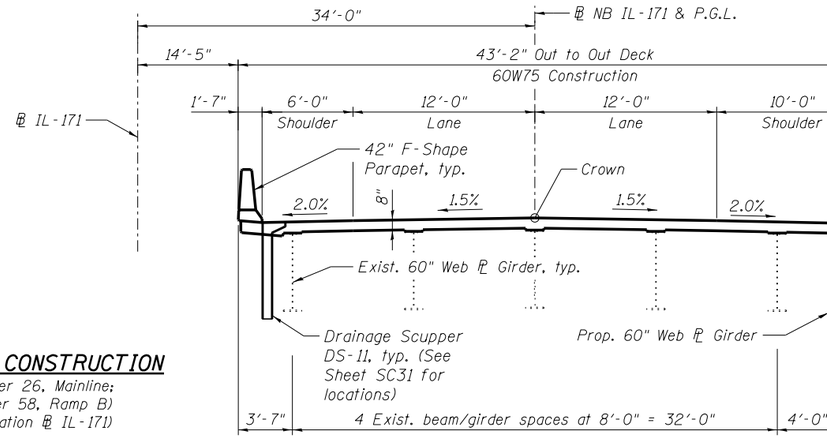
NOTES:

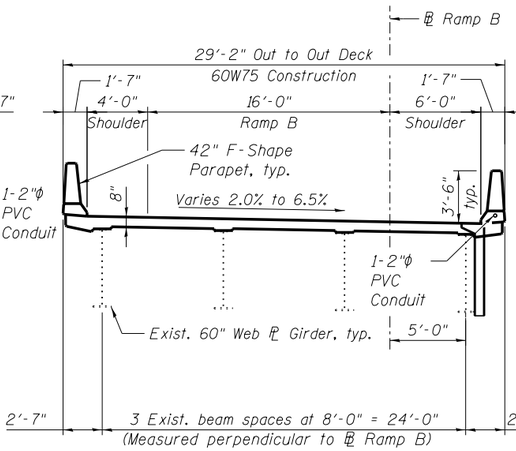
1. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the IL-171 baseline shown unless noted otherwise.
2. Do not anchor Temp. Concrete Barrier to existing deck.

** See Sheet SC12 and maintenance of traffic sheets for more information.

CONTRACT 60W75 CONSTRUCTION

(From Pier 25 to Pier 26, Mainline;
From Pier 57 to Pier 58, Ramp B)
(Looking North, Upstation ℄ IL-171)





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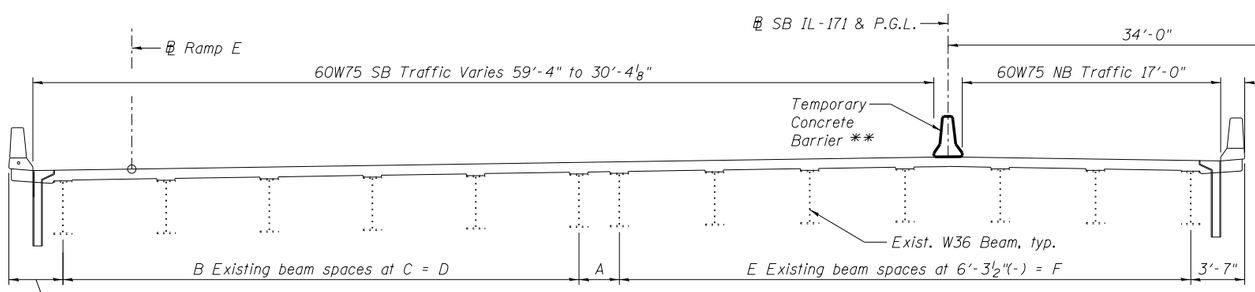
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS SPAN 3
STRUCTURE NO. 016-2456
SHEET NO. SC8 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	320
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

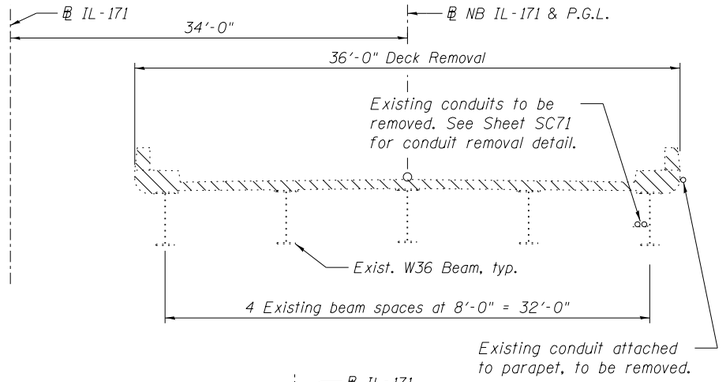


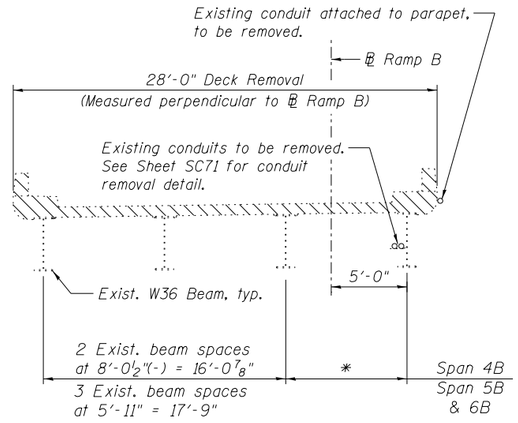
SOUTHBOUND CROSS SECTION

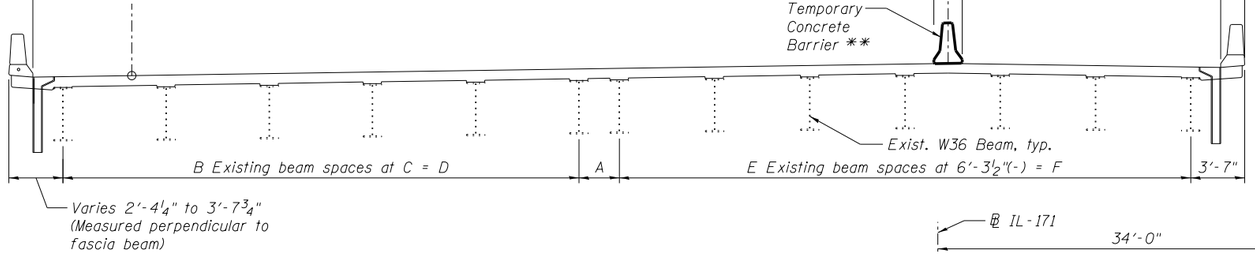
	A	B	C	D	E	F
Pier 7W	2'-8"	5	6'-9 3/4"	34'-0 3/4"	6	37'-8 5/8"
Pier 8E	2'-8"	5	4'-0 3/4"(-)	20'-3 1/2"(-)	6	37'-8 5/8"
Pier 8W	0'-0"	3	7'-6 7/8"	22'-8 5/8"	6	37'-8 5/8"
Pier 9E	0'-0"	3	4'-4 3/4"	13'-2 1/4"	6	37'-8 5/8"
Pier 9W	0'-0"	3	6'-5 1/4"	19'-3 3/4"	5	31'-5 1/4"(-)
Pier 10E	0'-0"	3	4'-7"(+)	13'-9 1/4"(-)	5	31'-5 1/4"(-)

CONTRACT 60W75 REMOVAL

(From Pier 26 to near Pier 29, Mainline; From Pier 58 to near Pier 29, Ramp B) (Looking North, Upstation ℄ IL-171)

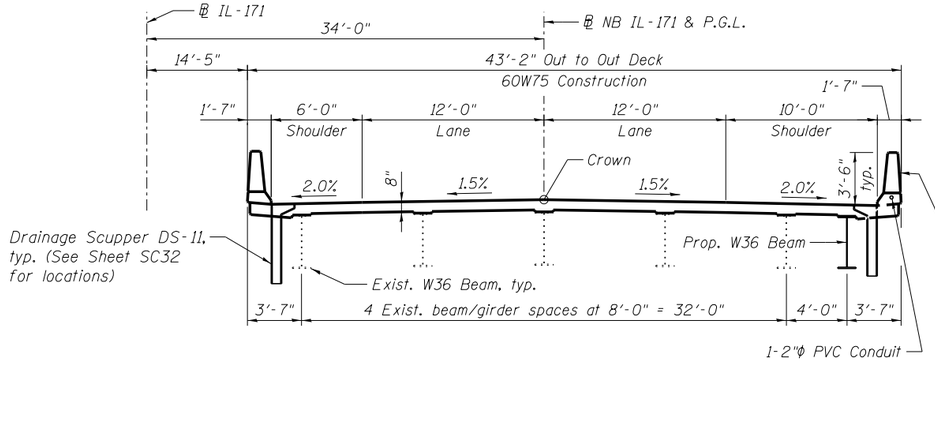


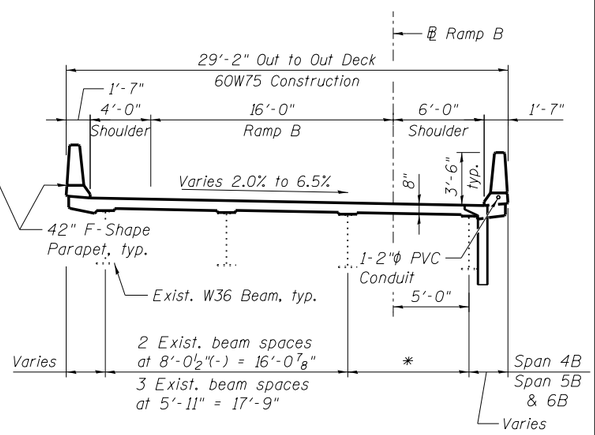




CONTRACT 60W75 CONSTRUCTION

(From Pier 26 to near Pier 29, Mainline; From Pier 58 to near Pier 29, Ramp B) (Looking North, Upstation ℄ IL-171)





LEGEND

Indicates Removal of Existing Concrete Deck No. 2.

NOTES:

1. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the IL-171 baseline shown unless noted otherwise.
2. Do not anchor Temp. Concrete Barrier to existing deck.

** See Sheet SC12 and maintenance of traffic sheets for more information.

* Span 4B Varies 8'-0 1/2"(-) to 7'-2"(-)
Span 5B Varies 6'-4 5/16" to 5'-5 3/16"
Span 6B Varies 6'-2 1/8" to 5'-6 7/8"

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	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS SPANS 4 THRU 6
STRUCTURE NO. 016-2456
SHEET NO. SC9 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	321
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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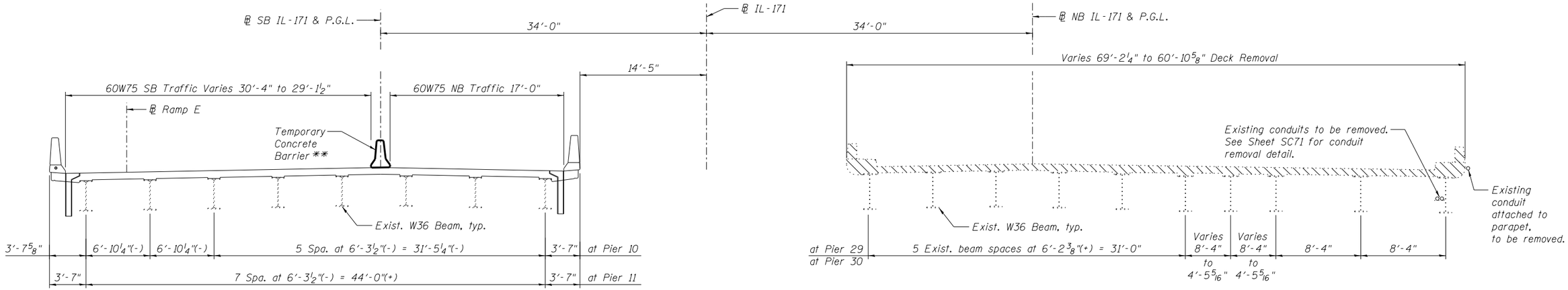
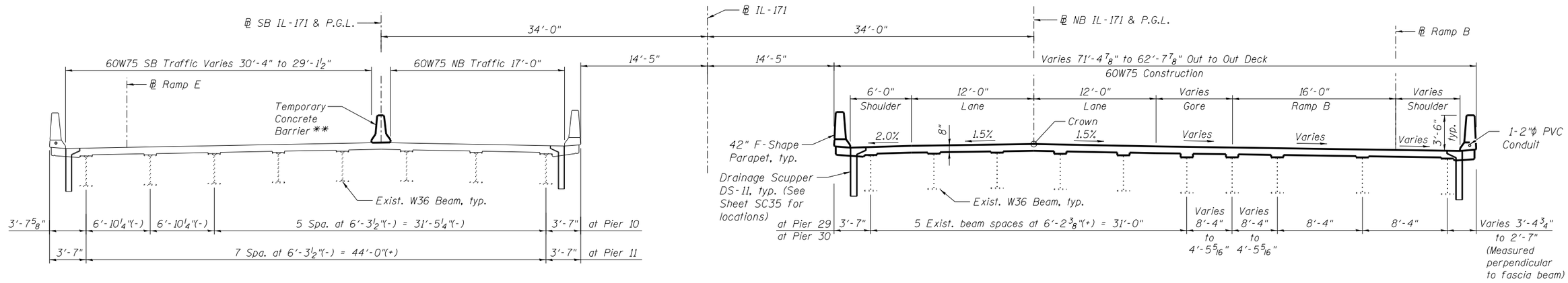


CONTRACT 60W75 REMOVAL

(From Pier 29 to Pier 30, Mainline)
(Looking North, Upstation ℄ IL-171)



CONTRACT 60W75 CONSTRUCTION

(From Pier 29 to Pier 30, Mainline)
(Looking North, Upstation ℄ IL-171)

LEGEND

Indicates Removal of Existing Concrete Deck No. 2.

NOTES:

1. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the IL-171 baseline shown unless noted otherwise.
2. Do not anchor Temp. Concrete Barrier to existing deck.

** See Sheet SC12 and maintenance of traffic sheets for more information.

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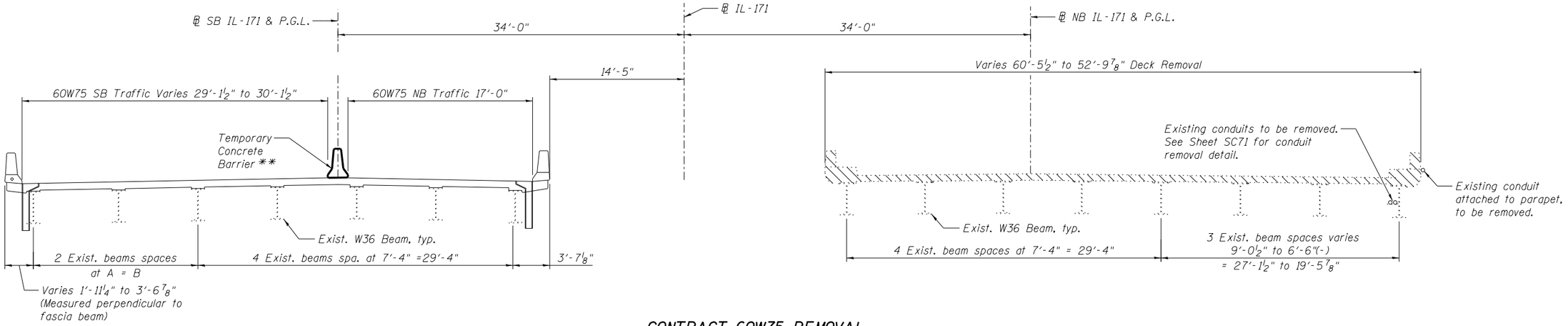
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT/JDC	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

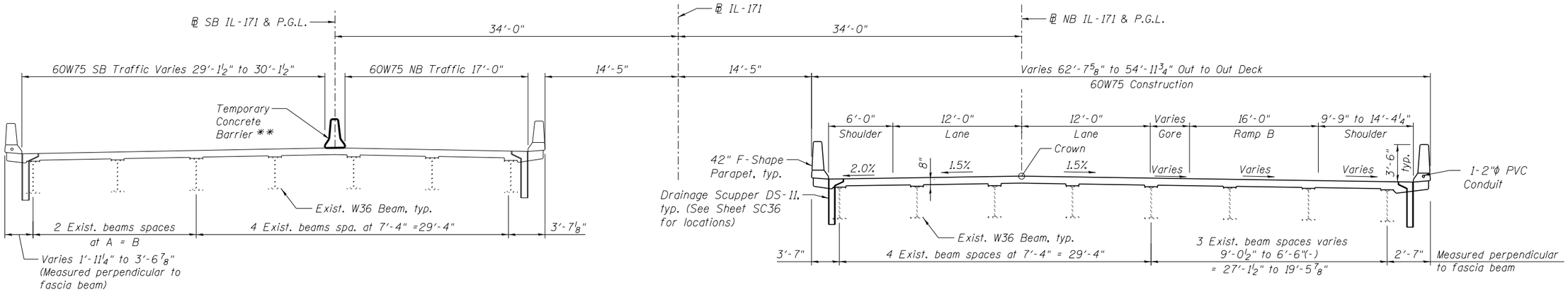
STAGE CONSTRUCTION DETAILS SPAN 7
STRUCTURE NO. 016-2456
SHEET NO. SC10 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	322
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



CONTRACT 60W75 REMOVAL

(From Pier 30 to Pier 35)
(Looking North, Upstation ℄ IL-171)



SOUTHBOUND CROSS-SECTION

	A	B
Pier 11	7'-4"	14'-8"
Existing Field Splice #4	7'-4"	14'-8"
Pier 16	8'-7⅝"(+)	17'-3¼"(+)

CONTRACT 60W75 CONSTRUCTION

(From Pier 30 to Pier 35)
(Looking North, Upstation ℄ IL-171)

LEGEND

Indicates Removal of Existing Concrete Deck No. 2.

NOTES:

1. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the IL-171 baseline shown unless noted otherwise.
2. Do not anchor Temp. Concrete Barrier to existing deck.

** See Sheet SC12 and maintenance of traffic sheets for more information.

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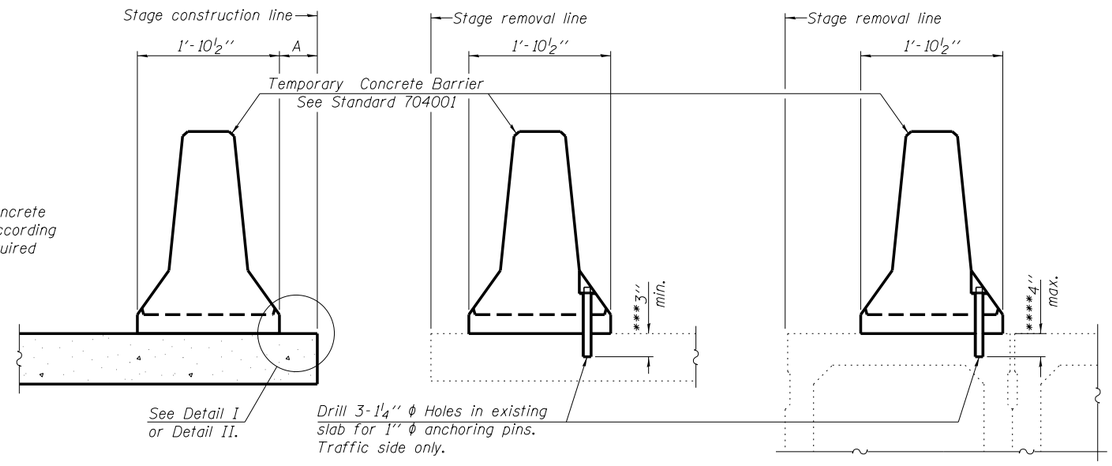
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS SPANS 8 THRU 12
STRUCTURE NO. 016-2456
SHEET NO. SC11 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	323
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

When "A" is 3'-1'' or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-1''.



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'' x 7' 'x ''W'' steel PL to the top layer of couplers with 2-⅝'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

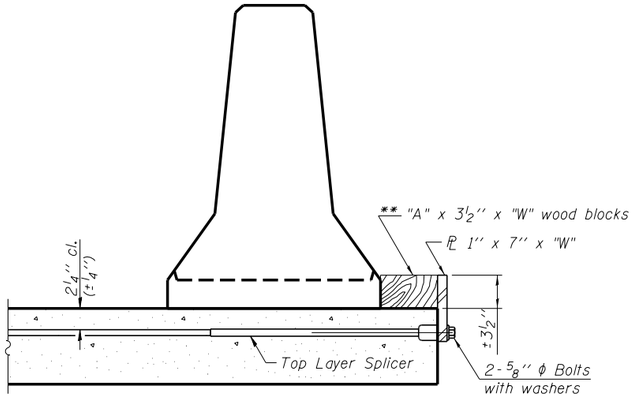
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'' x 7'' x ''W'' steel PL to the concrete slab or concrete wearing surface with 2-⅝'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of retainer assembly is included with Temporary Concrete Barrier.

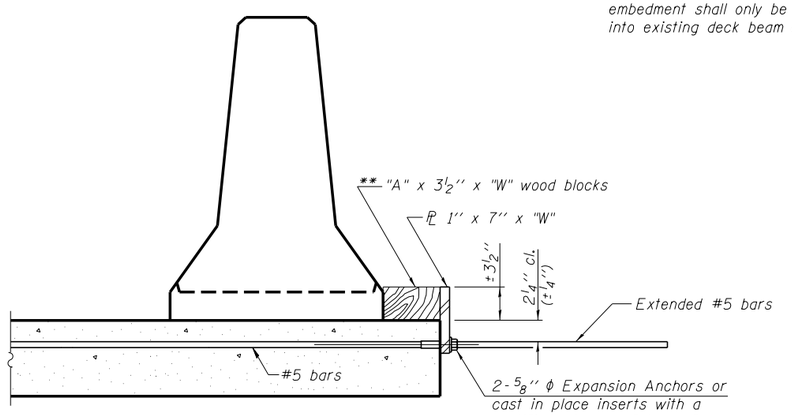
The 1'' x 7'' x ''W'' plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

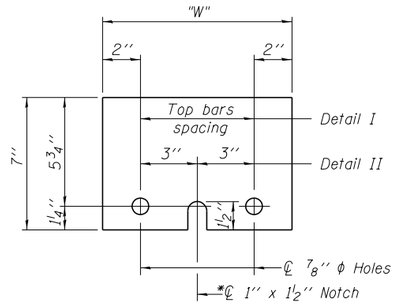
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1'' x 7'' x ''W''

* Required only with Detail II

RETAINER ASSEMBLY

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

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R-27

1-12-15

FILE NAME = 0162456_60W75_012_Temp_Conc_Barrier.dgn	USER NAME = jsurber	DESIGNED - JDC	REVISED -
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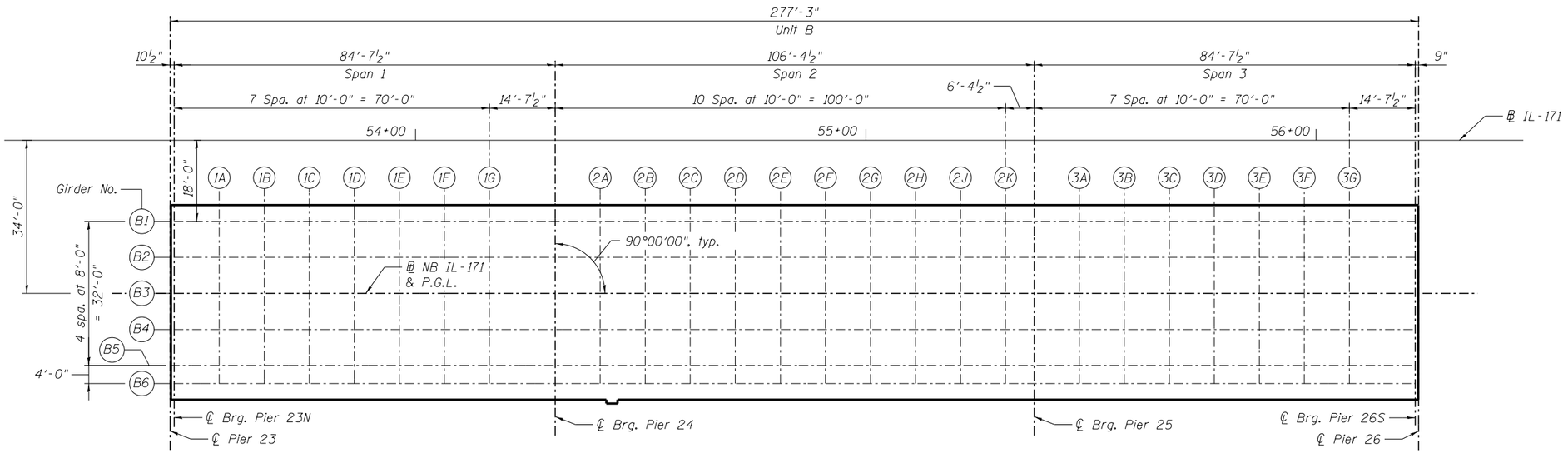
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-2456
SHEET NO. SC12 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	324
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PLAN - UNIT B

NOTES:

1. All screed spacing is measured along girder/beam ℄.
2. All girder/beam spacing is measured perpendicular to ℄ IL-171.
3. Contractor shall supply top of steel elevation survey data at all screed points to the Engineer for approval before beginning deck formwork operations.

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FILE NAME = 0162456_60W75_013_TOS_Elev_Plan_Unit_B.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
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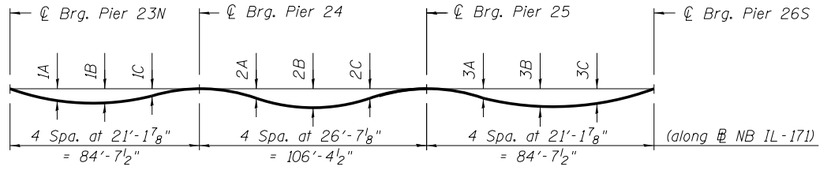
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 8/18/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN UNIT B MAINLINE
STRUCTURE NO. 016-2456
SHEET NO. SC13 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	325
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

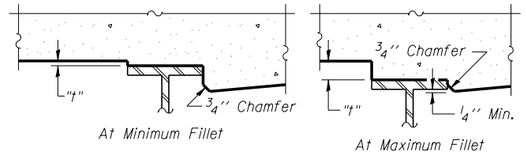


DEAD LOAD DEFLECTION DIAGRAM - MAINLINE SPANS 1-3

Girder	1A	1B	1C	2A	2B	2C	3A	3B	3C
B1	1/2"	1/2"	1/4"	3/8"	3/4"	3/8"	1/4"	1/2"	1/2"
B2-B5	1/2"	1/2"	1/4"	3/8"	5/8"	3/8"	1/4"	1/2"	1/2"
B6	1/2"	1/2"	1/4"	3/8"	3/4"	3/8"	1/4"	1/2"	1/2"

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SC14 thru SC16.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets SC14 thru SC16. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

GIRDER B1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 23	53+45.50	-16.00	621.70	621.70
CL. BRG. PIER 23N	53+46.38	-16.00	621.71	621.71
1A	53+56.38	-16.00	621.79	621.81
1B	53+66.38	-16.00	621.87	621.91
1C	53+76.38	-16.00	621.95	622.00
1D	53+86.38	-16.00	622.04	622.08
1E	53+96.38	-16.00	622.12	622.16
1F	54+06.38	-16.00	622.21	622.24
1G	54+16.38	-16.00	622.30	622.31
CL. BRG. PIER 24	54+31.00	-16.00	622.44	622.44
2A	54+41.00	-16.00	622.53	622.54
2B	54+51.00	-16.00	622.62	622.65
2C	54+61.00	-16.00	622.72	622.76
2D	54+71.00	-16.00	622.82	622.87
2E	54+81.00	-16.00	622.92	622.98
2F	54+91.00	-16.00	623.02	623.08
2G	55+01.00	-16.00	623.12	623.17
2H	55+11.00	-16.00	623.23	623.26
2J	55+21.00	-16.00	623.33	623.35
2K	55+31.00	-16.00	623.44	623.44
CL. BRG. PIER 25	55+37.38	-16.00	623.51	623.51
3A	55+47.38	-16.00	623.62	623.62
3B	55+57.38	-16.00	623.73	623.75
3C	55+67.38	-16.00	623.84	623.87
3D	55+77.38	-16.00	623.96	624.00
3E	55+87.38	-16.00	624.07	624.12
3F	55+97.38	-16.00	624.19	624.23
3G	56+07.38	-16.00	624.31	624.34
CL. BRG. PIER 26S	56+22.00	-16.00	624.49	624.49
CL. PIER 26	56+22.75	-16.00	624.50	624.50

GIRDER B2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 23	53+45.50	-8.00	621.84	621.84
CL. BRG. PIER 23N	53+46.38	-8.00	621.85	621.85
1A	53+56.38	-8.00	621.93	621.95
1B	53+66.38	-8.00	622.01	622.05
1C	53+76.38	-8.00	622.09	622.14
1D	53+86.38	-8.00	622.18	622.22
1E	53+96.38	-8.00	622.26	622.30
1F	54+06.38	-8.00	622.35	622.38
1G	54+16.38	-8.00	622.44	622.45
CL. BRG. PIER 24	54+31.00	-8.00	622.58	622.58
2A	54+41.00	-8.00	622.67	622.68
2B	54+51.00	-8.00	622.76	622.78
2C	54+61.00	-8.00	622.86	622.90
2D	54+71.00	-8.00	622.96	623.01
2E	54+81.00	-8.00	623.06	623.11
2F	54+91.00	-8.00	623.16	623.21
2G	55+01.00	-8.00	623.26	623.31
2H	55+11.00	-8.00	623.37	623.40
2J	55+21.00	-8.00	623.47	623.49
2K	55+31.00	-8.00	623.58	623.58
CL. BRG. PIER 25	55+37.38	-8.00	623.65	623.65
3A	55+47.38	-8.00	623.76	623.76
3B	55+57.38	-8.00	623.87	623.89
3C	55+67.38	-8.00	623.98	624.01
3D	55+77.38	-8.00	624.10	624.14
3E	55+87.38	-8.00	624.21	624.26
3F	55+97.38	-8.00	624.33	624.37
3G	56+07.38	-8.00	624.45	624.48
CL. BRG. PIER 26S	56+22.00	-8.00	624.63	624.63
CL. PIER 26	56+22.75	-8.00	624.64	624.64

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171
2. Stations measured along ℄ IL-171

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT B (1 OF 3)
STRUCTURE NO. 016-2456
SHEET NO. SC14 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	326
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

GIRDER B3, ℄ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 23	53+45.50	0.00	621.96	621.96
CL. BRG. PIER 23N	53+46.38	0.00	621.97	621.97
1A	53+56.38	0.00	622.05	622.07
1B	53+66.38	0.00	622.13	622.17
1C	53+76.38	0.00	622.21	622.26
1D	53+86.38	0.00	622.30	622.34
1E	53+96.38	0.00	622.38	622.42
1F	54+06.38	0.00	622.47	622.50
1G	54+16.38	0.00	622.56	622.57
CL. BRG. PIER 24	54+31.00	0.00	622.70	622.70
2A	54+41.00	0.00	622.79	622.80
2B	54+51.00	0.00	622.88	622.90
2C	54+61.00	0.00	622.98	623.02
2D	54+71.00	0.00	623.08	623.13
2E	54+81.00	0.00	623.18	623.23
2F	54+91.00	0.00	623.28	623.33
2G	55+01.00	0.00	623.38	623.43
2H	55+11.00	0.00	623.49	623.52
2J	55+21.00	0.00	623.59	623.61
2K	55+31.00	0.00	623.70	623.70
CL. BRG. PIER 25	55+37.38	0.00	623.77	623.77
3A	55+47.38	0.00	623.88	623.88
3B	55+57.38	0.00	623.99	624.01
3C	55+67.38	0.00	624.10	624.13
3D	55+77.38	0.00	624.22	624.26
3E	55+87.38	0.00	624.33	624.38
3F	55+97.38	0.00	624.45	624.49
3G	56+07.38	0.00	624.57	624.60
CL. BRG. PIER 26S	56+22.00	0.00	624.75	624.75
CL. PIER 26	56+22.75	0.00	624.76	624.76

GIRDER B4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 23	53+45.50	8.00	621.84	621.84
CL. BRG. PIER 23N	53+46.38	8.00	621.85	621.85
1A	53+56.38	8.00	621.93	621.95
1B	53+66.38	8.00	622.01	622.05
1C	53+76.38	8.00	622.09	622.14
1D	53+86.38	8.00	622.18	622.22
1E	53+96.38	8.00	622.26	622.30
1F	54+06.38	8.00	622.35	622.38
1G	54+16.38	8.00	622.44	622.45
CL. BRG. PIER 24	54+31.00	8.00	622.58	622.58
2A	54+41.00	8.00	622.67	622.68
2B	54+51.00	8.00	622.76	622.78
2C	54+61.00	8.00	622.86	622.90
2D	54+71.00	8.00	622.96	623.01
2E	54+81.00	8.00	623.06	623.11
2F	54+91.00	8.00	623.16	623.21
2G	55+01.00	8.00	623.26	623.31
2H	55+11.00	8.00	623.37	623.40
2J	55+21.00	8.00	623.47	623.49
2K	55+31.00	8.00	623.58	623.58
CL. BRG. PIER 25	55+37.38	8.00	623.65	623.65
3A	55+47.38	8.00	623.76	623.76
3B	55+57.38	8.00	623.87	623.89
3C	55+67.38	8.00	623.98	624.01
3D	55+77.38	8.00	624.10	624.14
3E	55+87.38	8.00	624.21	624.26
3F	55+97.38	8.00	624.33	624.37
3G	56+07.38	8.00	624.45	624.48
CL. BRG. PIER 26S	56+22.00	8.00	624.63	624.63
CL. PIER 26	56+22.75	8.00	624.64	624.64

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171
2. Stations measured along ℄ IL-171

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT B (2 OF 3)
STRUCTURE NO. 016-2456
SHEET NO. SC15 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	327
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

GIRDER B5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 23	53+45.50	16.00	621.70	621.70
CL. BRG. PIER 23N	53+46.38	16.00	621.71	621.71
1A	53+56.38	16.00	621.79	621.81
1B	53+66.38	16.00	621.87	621.91
1C	53+76.38	16.00	621.95	622.00
1D	53+86.38	16.00	622.04	622.08
1E	53+96.38	16.00	622.12	622.16
1F	54+06.38	16.00	622.21	622.24
1G	54+16.38	16.00	622.30	622.31
CL. BRG. PIER 24	54+31.00	16.00	622.44	622.44
2A	54+41.00	16.00	622.53	622.54
2B	54+51.00	16.00	622.62	622.64
2C	54+61.00	16.00	622.72	622.76
2D	54+71.00	16.00	622.82	622.87
2E	54+81.00	16.00	622.92	622.97
2F	54+91.00	16.00	623.02	623.07
2G	55+01.00	16.00	623.12	623.17
2H	55+11.00	16.00	623.23	623.26
2J	55+21.00	16.00	623.33	623.35
2K	55+31.00	16.00	623.44	623.44
CL. BRG. PIER 25	55+37.38	16.00	623.51	623.51
3A	55+47.38	16.00	623.62	623.62
3B	55+57.38	16.00	623.73	623.75
3C	55+67.38	16.00	623.84	623.87
3D	55+77.38	16.00	623.96	624.00
3E	55+87.38	16.00	624.07	624.12
3F	55+97.38	16.00	624.19	624.23
3G	56+07.38	16.00	624.31	624.34
CL. BRG. PIER 26S	56+22.00	16.00	624.49	624.49
CL. PIER 26	56+22.75	16.00	624.50	624.50

GIRDER B6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 23	53+45.50	20.00	621.62	621.62
CL. BRG. PIER 23N	53+46.38	20.00	621.63	621.63
1A	53+56.38	20.00	621.71	621.73
1B	53+66.38	20.00	621.79	621.83
1C	53+76.38	20.00	621.87	621.92
1D	53+86.38	20.00	621.96	622.00
1E	53+96.38	20.00	622.04	622.08
1F	54+06.38	20.00	622.13	622.16
1G	54+16.38	20.00	622.22	622.23
CL. BRG. PIER 24	54+31.00	20.00	622.36	622.36
2A	54+41.00	20.00	622.45	622.46
2B	54+51.00	20.00	622.54	622.57
2C	54+61.00	20.00	622.64	622.68
2D	54+71.00	20.00	622.74	622.79
2E	54+81.00	20.00	622.84	622.90
2F	54+91.00	20.00	622.94	623.00
2G	55+01.00	20.00	623.04	623.09
2H	55+11.00	20.00	623.15	623.18
2J	55+21.00	20.00	623.25	623.27
2K	55+31.00	20.00	623.36	623.36
CL. BRG. PIER 25	55+37.38	20.00	623.43	623.43
3A	55+47.38	20.00	623.54	623.54
3B	55+57.38	20.00	623.65	623.67
3C	55+67.38	20.00	623.76	623.79
3D	55+77.38	20.00	623.88	623.92
3E	55+87.38	20.00	623.99	624.04
3F	55+97.38	20.00	624.11	624.15
3G	56+07.38	20.00	624.23	624.26
CL. BRG. PIER 26S	56+22.00	20.00	624.41	624.41
CL. PIER 26	56+22.75	20.00	624.42	624.42

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171
2. Stations measured along ℄ IL-171

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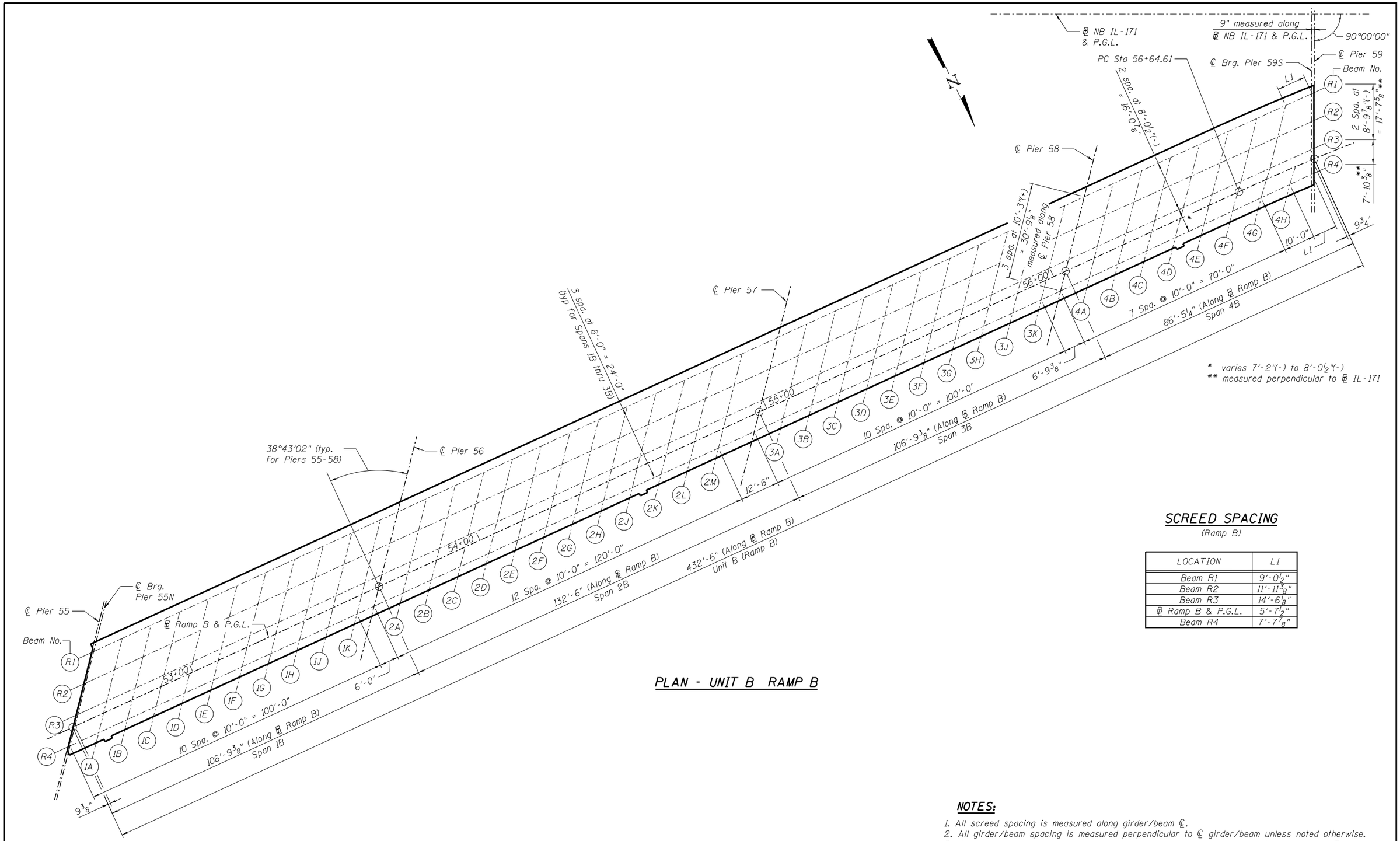
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_016_TOS_Elev_Unit_B_3_of_3.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT B (3 OF 3)
STRUCTURE NO. 016-2456
SHEET NO. SC16 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	328
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



* varies 7'-2"(-) to 8'-0½"(-)
** measured perpendicular to ℄ IL-171

PLAN - UNIT B RAMP B

SCREED SPACING

(Ramp B)

LOCATION	L1
Beam R1	9'-0½"
Beam R2	11'-11⅜"
Beam R3	14'-6⅛"
℄ Ramp B & P.G.L.	5'-7½"
Beam R4	7'-7⅞"

NOTES:

1. All screed spacing is measured along girder/beam ℄.
2. All girder/beam spacing is measured perpendicular to ℄ girder/beam unless noted otherwise.
3. Contractor shall supply top of steel elevation survey data at all screed points to the Engineer for approval before beginning deck formwork operations.

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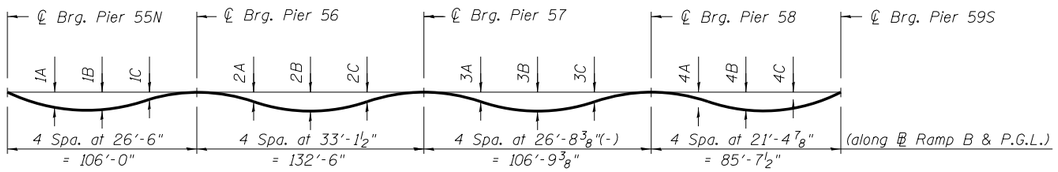
312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_017_TOS_Elev_Plan_Ramp_B.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 8/18/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN UNIT B RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC17 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	329
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

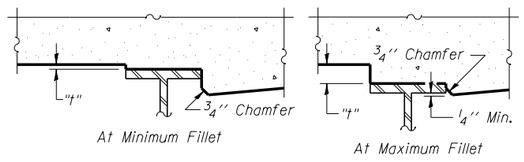


DEAD LOAD DEFLECTION DIAGRAM - UNIT B RAMP B

Girder	1A	1B	1C	2A	2B	2C	3A	3B	3C	4A	4B	4C
R1	5/8"	3/4"	1/4"	5/8"	1 1/4"	3/4"	0"	1/4"	1/8"	3/8"	3/4"	5/8"
R2	3/4"	7/8"	3/8"	3/4"	1 3/8"	7/8"	0"	1/4"	1/8"	1/2"	1"	7/8"
R3	3/4"	7/8"	1/4"	3/4"	1 3/8"	7/8"	0"	1/4"	1/8"	1/2"	1 1/8"	1"
R4	5/8"	3/4"	1/4"	3/4"	1 1/4"	7/8"	0"	1/8"	0"	5/8"	1 1/4"	1 1/8"

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SC18 and SC19.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets SC18 and SC19. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM R1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 55	52+73.33	-19.00	615.04	615.04
CL. BRG. PIER 55N	52+74.11	-19.00	615.06	615.06
1A	52+84.11	-19.00	615.26	615.29
1B	52+94.11	-19.00	615.46	615.51
1C	53+04.11	-19.00	615.67	615.73
1D	53+14.11	-19.00	615.87	615.94
1E	53+24.11	-19.00	616.07	616.14
1F	53+34.11	-19.00	616.28	616.33
1G	53+44.11	-19.00	616.48	616.52
1H	53+54.11	-19.00	616.68	616.71
1J	53+64.11	-19.00	616.89	616.89
1K	53+74.11	-19.00	617.09	617.09
CL. BRG. PIER 56	53+80.11	-19.00	617.21	617.21
2A	53+90.11	-19.00	617.41	617.42
2B	54+00.11	-19.00	617.62	617.64
2C	54+10.11	-19.00	617.82	617.87
2D	54+20.11	-19.00	618.02	618.09
2E	54+30.11	-19.00	618.23	618.31
2F	54+40.11	-19.00	618.43	618.53
2G	54+50.11	-19.00	618.63	618.74
2H	54+60.11	-19.00	618.83	618.93
2J	54+70.11	-19.00	619.04	619.12
2K	54+80.11	-19.00	619.24	619.31
2L	54+90.11	-19.00	619.44	619.49
2M	55+00.11	-19.00	619.65	619.67
CL. BRG. PIER 57	55+12.61	-19.00	619.90	619.90
3A	55+22.61	-19.00	620.10	620.10
3B	55+32.61	-19.00	620.31	620.30
3C	55+42.61	-19.00	620.51	620.52
3D	55+52.61	-19.00	620.72	620.73
3E	55+62.61	-19.00	620.95	620.97
3F	55+72.61	-19.00	621.18	621.20
3G	55+82.61	-19.00	621.44	621.46
3H	55+92.61	-19.00	621.71	621.72
3J	56+02.61	-19.00	621.98	621.98
3K	56+12.61	-19.00	622.23	622.23
CL. BRG. PIER 58	56+19.39	-19.00	622.41	622.41
4A	56+29.39	-18.94	622.66	622.67
4B	56+39.39	-18.89	622.92	622.95
4C	56+49.39	-18.83	623.18	623.23
4D	56+59.39	-18.78	623.43	623.50
4E	56+69.26	-18.74	623.68	623.75
4F	56+79.00	-18.82	623.93	623.99
4G	56+88.73	-19.04	624.19	624.22
CL. BRG PIER 59S	56+97.60	-19.36	624.45	624.45
CL. PIER 59	56+98.40	-19.41	624.47	624.47

BEAM R2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 55	52+66.92	-11.00	614.75	614.75
CL. BRG. PIER 55N	52+67.70	-11.00	614.77	614.77
1A	52+77.70	-11.00	614.97	615.00
1B	52+87.70	-11.00	615.17	615.23
1C	52+97.70	-11.00	615.38	615.44
1D	53+07.70	-11.00	615.58	615.65
1E	53+17.70	-11.00	615.78	615.85
1F	53+27.70	-11.00	615.99	616.05
1G	53+37.70	-11.00	616.19	616.23
1H	53+47.70	-11.00	616.39	616.42
1J	53+57.70	-11.00	616.60	616.60
1K	53+67.70	-11.00	616.80	616.80
CL. BRG. PIER 56	53+73.70	-11.00	616.92	616.92
2A	53+83.70	-11.00	617.12	617.13
2B	53+93.70	-11.00	617.33	617.35
2C	54+03.70	-11.00	617.53	617.58
2D	54+13.70	-11.00	617.73	617.81
2E	54+23.70	-11.00	617.94	618.03
2F	54+33.70	-11.00	618.14	618.25
2G	54+43.70	-11.00	618.34	618.46
2H	54+53.70	-11.00	618.54	618.65
2J	54+63.70	-11.00	618.75	618.84
2K	54+73.70	-11.00	618.95	619.02
2L	54+83.70	-11.00	619.15	619.20
2M	54+93.70	-11.00	619.36	619.38
CL. BRG. PIER 57	55+06.20	-11.00	619.61	619.61
3A	55+16.20	-11.00	619.81	619.81
3B	55+26.20	-11.00	620.02	620.01
3C	55+36.20	-11.00	620.22	620.22
3D	55+46.20	-11.00	620.42	620.43
3E	55+56.20	-11.00	620.64	620.65
3F	55+66.20	-11.00	620.86	620.87
3G	55+76.20	-11.00	621.08	621.09
3H	55+86.20	-11.00	621.32	621.33
3J	55+96.20	-11.00	621.56	621.56
3K	56+06.20	-11.00	621.80	621.79
CL. BRG. PIER 58	56+12.98	-11.00	621.95	621.95
4A	56+22.98	-10.94	622.19	622.20
4B	56+32.98	-10.89	622.42	622.46
4C	56+42.98	-10.83	622.65	622.71
4D	56+52.98	-10.78	622.88	622.97
4E	56+62.98	-10.72	623.11	623.20
4F	56+72.85	-10.72	623.34	623.42
4G	56+82.70	-10.85	623.58	623.63
CL. BRG PIER 59S	56+94.36	-11.20	623.88	623.88
CL. PIER 59	56+95.17	-11.23	623.90	623.90

NOTES:

1. Offsets measured perpendicular or radial to ℄ Ramp B and P.G.L.
2. Stations measured along ℄ Ramp B and P.G.L.

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FILE NAME = 0162456_60W75_018_TOS_Elev_Ramp_B_1_of_2.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT B RAMP B (1 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC18 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	330
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

6/15/2015 10:04:40 AM Y:\chicago\10000S\10093\Eng_Docs_Phase_II\SN_016_2456_2457_1st_Ave_over_Des_Plaines_River_Valley\Final\0162456_60W75_018_TOS_Elev_Ramp_B_1_of_2.dgn

BEAM R3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 55	52+60.50	-3.00	614.46	614.46
CL. BRG. PIER 55N	52+61.28	-3.00	614.48	614.48
1A	52+71.28	-3.00	614.68	614.71
1B	52+81.28	-3.00	614.88	614.94
1C	52+91.28	-3.00	615.09	615.15
1D	53+01.28	-3.00	615.29	615.36
1E	53+11.28	-3.00	615.49	615.56
1F	53+21.28	-3.00	615.70	615.76
1G	53+31.28	-3.00	615.90	615.94
1H	53+41.28	-3.00	616.10	616.13
1J	53+51.28	-3.00	616.31	616.31
1K	53+61.28	-3.00	616.51	616.51
CL. BRG. PIER 56	53+67.28	-3.00	616.63	616.63
2A	53+77.28	-3.00	616.83	616.84
2B	53+87.28	-3.00	617.04	617.06
2C	53+97.28	-3.00	617.24	617.29
2D	54+07.28	-3.00	617.44	617.52
2E	54+17.28	-3.00	617.65	617.74
2F	54+27.28	-3.00	617.85	617.96
2G	54+37.28	-3.00	618.05	618.17
2H	54+47.28	-3.00	618.25	618.36
2J	54+57.28	-3.00	618.46	618.55
2K	54+67.28	-3.00	618.66	618.73
2L	54+77.28	-3.00	618.86	618.91
2M	54+87.28	-3.00	619.07	619.09
CL. BRG. PIER 57	54+99.78	-3.00	619.32	619.32
3A	55+09.78	-3.00	619.52	619.52
3B	55+19.78	-3.00	619.73	619.72
3C	55+29.78	-3.00	619.93	619.93
3D	55+39.78	-3.00	620.13	620.14
3E	55+49.78	-3.00	620.34	620.35
3F	55+59.78	-3.00	620.54	620.56
3G	55+69.78	-3.00	620.75	620.76
3H	55+79.78	-3.00	620.96	620.97
3J	55+89.78	-3.00	621.17	621.17
3K	55+99.78	-3.00	621.39	621.38
CL. BRG. PIER 58	56+06.56	-3.00	621.53	621.53
4A	56+16.56	-2.94	621.74	621.75
4B	56+26.56	-2.89	621.95	621.99
4C	56+36.56	-2.83	622.16	622.23
4D	56+46.56	-2.78	622.37	622.46
4E	56+56.56	-2.72	622.58	622.67
4F	56+66.56	-2.67	622.78	622.87
4G	56+76.52	-2.71	622.99	623.06
CL. BRG PIER 59S	56+91.04	-3.04	623.32	623.32
CL. PIER 59	56+91.86	-3.07	623.34	623.34

℄ RAMP B & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 55	52+58.10	0.00	614.35	614.35
CL. BRG. PIER 55N	52+58.88	0.00	614.37	614.37
1A	52+68.88	0.00	614.57	614.60
1B	52+78.88	0.00	614.78	614.83
1C	52+88.88	0.00	614.98	615.04
1D	52+98.88	0.00	615.18	615.25
1E	53+08.88	0.00	615.38	615.46
1F	53+18.88	0.00	615.59	615.65
1G	53+28.88	0.00	615.79	615.84
1H	53+38.88	0.00	615.99	616.02
1J	53+48.88	0.00	616.20	616.21
1K	53+58.88	0.00	616.40	616.40
CL. BRG. PIER 56	53+64.88	0.00	616.52	616.52
2A	53+74.88	0.00	616.72	616.73
2B	53+84.88	0.00	616.93	616.96
2C	53+94.88	0.00	617.13	617.18
2D	54+04.88	0.00	617.33	617.41
2E	54+14.88	0.00	617.54	617.63
2F	54+24.88	0.00	617.74	617.85
2G	54+34.88	0.00	617.94	618.06
2H	54+44.88	0.00	618.15	618.25
2J	54+54.88	0.00	618.35	618.44
2K	54+64.88	0.00	618.55	618.62
2L	54+74.88	0.00	618.75	618.80
2M	54+84.88	0.00	618.96	618.98
CL. BRG. PIER 57	54+97.38	0.00	619.21	619.21
3A	55+07.38	0.00	619.41	619.41
3B	55+17.38	0.00	619.62	619.61
3C	55+27.38	0.00	619.82	619.82
3D	55+37.38	0.00	620.02	620.03
3E	55+47.38	0.00	620.23	620.24
3F	55+57.38	0.00	620.43	620.45
3G	55+67.38	0.00	620.63	620.65
3H	55+77.38	0.00	620.84	620.84
3J	55+87.38	0.00	621.04	621.04
3K	55+97.38	0.00	621.24	621.24
CL. BRG. PIER 58	56+04.16	0.00	621.38	621.38
4A	56+14.16	0.00	621.58	621.60
4B	56+24.16	0.00	621.78	621.82
4C	56+34.16	0.00	621.99	622.05
4D	56+44.16	0.00	622.19	622.28
4E	56+54.16	0.00	622.39	622.49
4F	56+64.16	0.00	622.60	622.69
4G	56+74.16	0.00	622.80	622.86
4H	56+84.16	0.00	623.00	623.03
CL. BRG PIER 59S	56+89.79	0.00	623.12	623.12
CL. PIER 59	56+90.60	0.00	623.13	623.13

BEAM R4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 55	52+54.09	5.00	614.17	614.17
CL. BRG. PIER 55N	52+54.87	5.00	614.19	614.19
1A	52+64.87	5.00	614.39	614.42
1B	52+74.87	5.00	614.59	614.64
1C	52+84.87	5.00	614.80	614.86
1D	52+94.87	5.00	615.00	615.07
1E	53+04.87	5.00	615.20	615.27
1F	53+14.87	5.00	615.41	615.46
1G	53+24.87	5.00	615.61	615.65
1H	53+34.87	5.00	615.81	615.83
1J	53+44.87	5.00	616.02	616.02
1K	53+54.87	5.00	616.22	616.22
CL. BRG. PIER 56	53+60.87	5.00	616.34	616.34
2A	53+70.87	5.00	616.54	616.55
2B	53+80.87	5.00	616.75	616.77
2C	53+90.87	5.00	616.95	617.00
2D	54+00.87	5.00	617.15	617.23
2E	54+10.87	5.00	617.36	617.45
2F	54+20.87	5.00	617.56	617.66
2G	54+30.87	5.00	617.76	617.87
2H	54+40.87	5.00	617.96	618.07
2J	54+50.87	5.00	618.17	618.26
2K	54+60.87	5.00	618.37	618.44
2L	54+70.87	5.00	618.57	618.62
2M	54+80.87	5.00	618.78	618.80
CL. BRG. PIER 57	54+93.37	5.00	619.03	619.03
3A	55+03.37	5.00	619.23	619.23
3B	55+13.37	5.00	619.44	619.43
3C	55+23.37	5.00	619.64	619.64
3D	55+33.37	5.00	619.84	619.85
3E	55+43.37	5.00	620.04	620.05
3F	55+53.37	5.00	620.25	620.25
3G	55+63.37	5.00	620.44	620.45
3H	55+73.37	5.00	620.64	620.64
3J	55+83.37	5.00	620.82	620.82
3K	55+93.37	5.00	621.01	621.00
CL. BRG. PIER 58	56+00.15	5.00	621.13	621.13
4A	56+10.15	4.96	621.33	621.34
4B	56+20.15	4.91	621.52	621.56
4C	56+30.15	4.87	621.71	621.78
4D	56+40.15	4.82	621.90	622.00
4E	56+50.15	4.78	622.09	622.20
4F	56+60.15	4.74	622.28	622.38
4G	56+70.19	4.67	622.47	622.55
4H	56+80.25	4.47	622.68	622.71
CL. BRG PIER 59S	56+88.02	4.22	622.84	622.86
CL. PIER 59	56+88.85	4.20	622.86	622.86

NOTES:

1. Offsets measured perpendicular or radial to ℄ Ramp B and P.G.L.
2. Stations measured along ℄ Ramp B and P.G.L.

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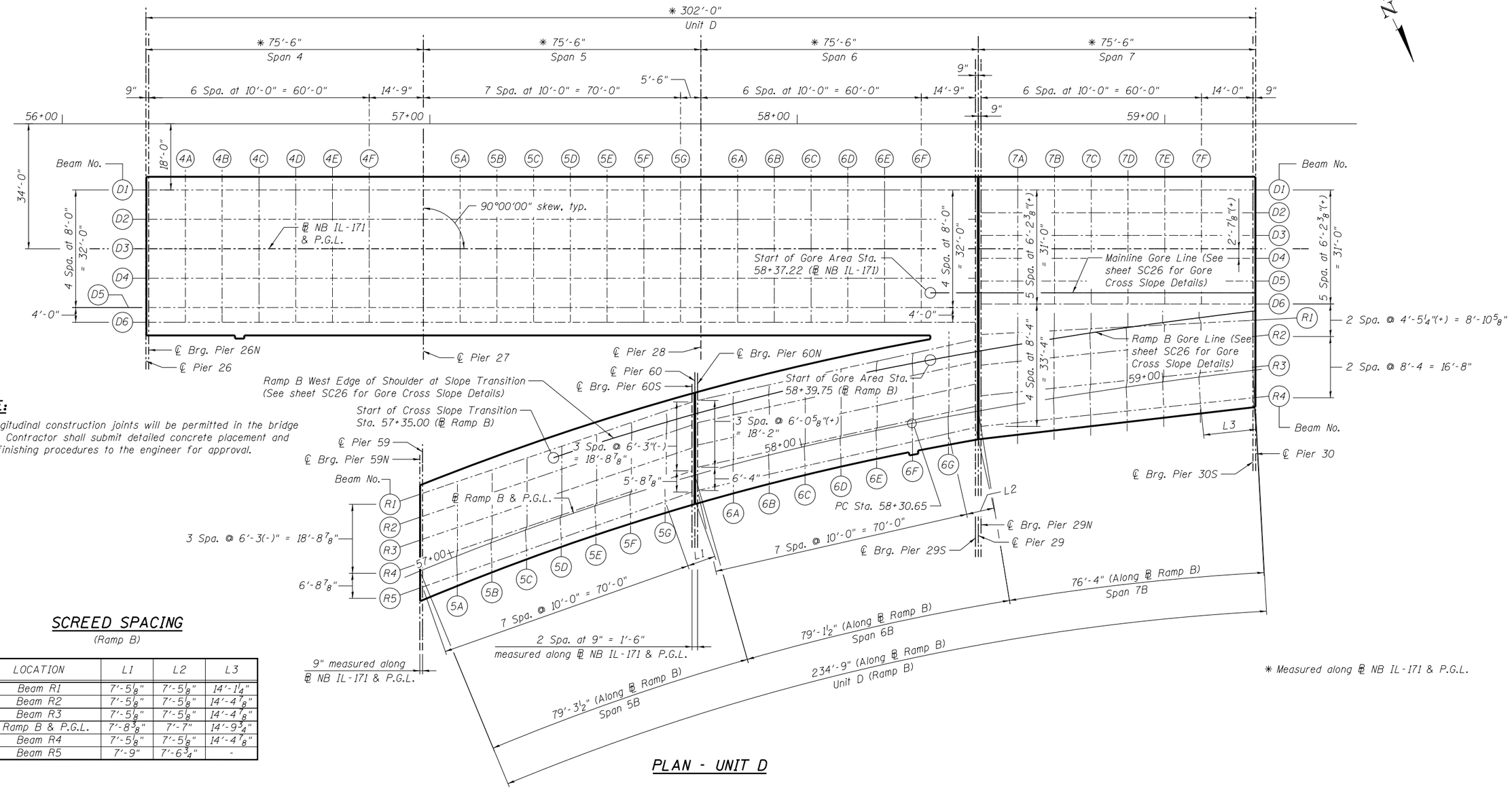
312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_019_TOS_Elev_Ramp_B_2_of_2.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT B RAMP B (2 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC19 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	331
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		



PLAN - UNIT D

* Measured along ℄ NB IL-171 & P.G.L.

NOTE:

No longitudinal construction joints will be permitted in the bridge deck. Contractor shall submit detailed concrete placement and deck finishing procedures to the engineer for approval.

SCREED SPACING

(Ramp B)

LOCATION	L1	L2	L3
Beam R1	7'-5 1/8"	7'-5 1/8"	14'-1 1/4"
Beam R2	7'-5 1/8"	7'-5 1/8"	14'-4 7/8"
Beam R3	7'-5 1/8"	7'-5 1/8"	14'-4 7/8"
℄ Ramp B & P.G.L.	7'-8 3/8"	7'-7"	14'-9 3/4"
Beam R4	7'-5 1/8"	7'-5 1/8"	14'-4 7/8"
Beam R5	7'-9"	7'-6 3/4"	-

NOTES:

1. All screed spacing is measured along beam ℄.
2. All beam spacing is measured perpendicular to ℄ IL-171.
3. Contractor shall supply top of steel elevation survey data at all screed points to the Engineer for approval before beginning deck formwork operations.

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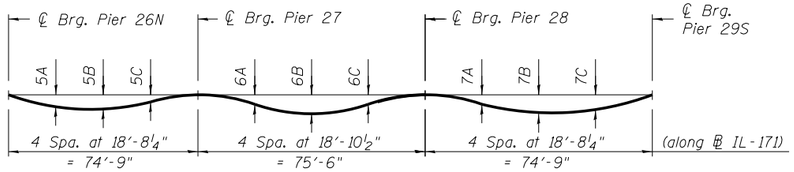
FILE NAME = 0162456_60W75_020_TOS_Elev_Plan_Unit_D.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 8/18/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN UNIT D MAINLINE & UNIT D RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC20 OF SC96 SHEETS

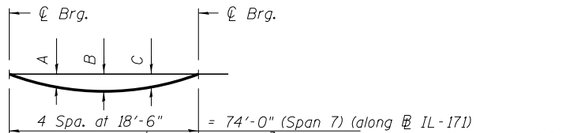
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	332
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



DEAD LOAD DEFLECTION DIAGRAM - MAINLINE SPANS 4-6

Beam	5A	5B	5C	6A	6B	6C	7A	7B	7C
D1-D6	7/8"	1 1/8"	5/8"	0"	1/4"	0"	5/8"	1 1/8"	7/8"

(Includes weight of concrete only.)

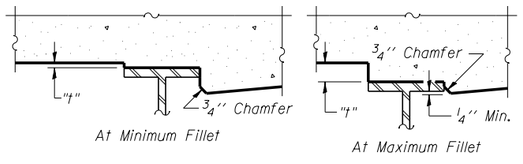


DEAD LOAD DEFLECTION DIAGRAM
MAINLINE SPAN 7
RAMP B SPANS 5B-7B

Beam	Span	A	B	C
D1	7	1 1/4"	1 5/8"	1 1/4"
D2-D6	7	1"	1 1/2"	1"
R1	5B	1 3/8"	2"	1 3/8"
R1	6B	1 3/8"	2"	1 1/2"
R1	7B	1"	1 3/8"	1"
R2-R4	5B-6B	1 1/4"	1 3/4"	1 1/4"
R2-R4	7B	1"	1 3/8"	1"
R5	5B	1 3/8"	2"	1 3/8"
R5	6B	1 3/8"	2"	1 1/2"
R5	7B	1"	1 3/8"	1"

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SC21 thru SC25.



To determine "t": Elevations of the top flanges of the beams shall be taken at intervals shown on sheets SC21 thru SC25. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM D1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 26	56+22.75	-16.00	624.50	624.50
CL. BRG. PIER 26N	56+23.50	-16.00	624.51	624.51
4A	56+33.50	-16.00	624.63	624.67
4B	56+43.50	-16.00	624.75	624.83
4C	56+53.50	-16.00	624.88	624.98
4D	56+63.50	-16.00	625.01	625.10
4E	56+73.50	-16.00	625.14	625.21
4F	56+83.50	-16.00	625.27	625.31
CL. BRG. PIER 27	56+98.25	-16.00	625.46	625.46
5A	57+08.25	-16.00	625.60	625.60
5B	57+18.25	-16.00	625.74	625.74
5C	57+28.25	-16.00	625.87	625.89
5D	57+38.25	-16.00	626.01	626.03
5E	57+48.25	-16.00	626.15	626.17
5F	57+58.25	-16.00	626.30	626.30
5G	57+68.25	-16.00	626.44	626.44
CL. BRG. PIER 28	57+73.75	-16.00	626.52	626.52
6A	57+83.75	-16.00	626.67	626.69
6B	57+93.75	-16.00	626.82	626.87
6C	58+03.75	-16.00	626.97	627.05
6D	58+13.75	-16.00	627.12	627.21
6E	58+23.75	-16.00	627.27	627.36
6F	58+33.75	-16.00	627.42	627.48
CL. BRG. PIER 29S	58+48.50	-16.00	627.64	627.64
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.00	-16.00	627.66	627.66
7A	58+60.00	-16.00	627.81	627.87
7B	58+70.00	-16.00	627.96	628.07
7C	58+80.00	-16.00	628.11	628.24
7D	58+90.00	-16.00	628.26	628.40
7E	59+00.00	-16.00	628.41	628.53
7F	59+10.00	-16.00	628.56	628.64
CL. BRG. PIER 30S	59+24.00	-16.00	628.77	628.77
CL. PIER 30	59+24.75	-16.00	628.78	628.78

BEAM D2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 26	56+22.75	-8.00	624.64	624.64
CL. BRG. PIER 26N	56+23.50	-8.00	624.65	624.65
4A	56+33.50	-8.00	624.77	624.81
4B	56+43.50	-8.00	624.89	624.97
4C	56+53.50	-8.00	625.02	625.11
4D	56+63.50	-8.00	625.15	625.24
4E	56+73.50	-8.00	625.28	625.35
4F	56+83.50	-8.00	625.41	625.45
CL. BRG. PIER 27	56+98.25	-8.00	625.60	625.60
5A	57+08.25	-8.00	625.74	625.74
5B	57+18.25	-8.00	625.88	625.88
5C	57+28.25	-8.00	626.01	626.03
5D	57+38.25	-8.00	626.15	626.17
5E	57+48.25	-8.00	626.29	626.31
5F	57+58.25	-8.00	626.44	626.44
5G	57+68.25	-8.00	626.58	626.58
CL. BRG. PIER 28	57+73.75	-8.00	626.66	626.66
6A	57+83.75	-8.00	626.81	626.83
6B	57+93.75	-8.00	626.96	627.01
6C	58+03.75	-8.00	627.11	627.19
6D	58+13.75	-8.00	627.26	627.35
6E	58+23.75	-8.00	627.41	627.49
6F	58+33.75	-8.00	627.56	627.62
CL. BRG. PIER 29S	58+48.50	-8.00	627.78	627.78
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.00	-9.80	627.77	627.77
7A	58+60.00	-9.80	627.92	627.97
7B	58+70.00	-9.80	628.07	628.16
7C	58+80.00	-9.80	628.22	628.34
7D	58+90.00	-9.80	628.37	628.49
7E	59+00.00	-9.80	628.52	628.63
7F	59+10.00	-9.80	628.67	628.74
CL. BRG. PIER 30S	59+24.00	-9.80	628.88	628.88
CL. PIER 30	59+24.75	-9.80	628.89	628.89

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171.
2. Stations measured along ℄ IL-171.

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312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_021_TOS_Elev_Unit_D_1_of_5.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS UNIT D (1 OF 5) STRUCTURE NO. 016-2456	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - DTS	REVISED -			372	2013-037B-R	COOK	787	333
	PLOT SCALE =	DRAWN - PRT	REVISED -						CONTRACT NO. 60W75	
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -		SHEET NO. SC21 OF SC96 SHEETS		ILLINOIS	FED. AID PROJECT		

BEAM D3, ℄ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 26	56+22.75	0.00	624.76	624.76
CL. BRG. PIER 26N	56+23.50	0.00	624.77	624.77
4A	56+33.50	0.00	624.89	624.93
4B	56+43.50	0.00	625.01	625.09
4C	56+53.50	0.00	625.14	625.23
4D	56+63.50	0.00	625.27	625.36
4E	56+73.50	0.00	625.40	625.47
4F	56+83.50	0.00	625.53	625.57
CL. BRG. PIER 27	56+98.25	0.00	625.72	625.72
5A	57+08.25	0.00	625.86	625.86
5B	57+18.25	0.00	626.00	626.00
5C	57+28.25	0.00	626.13	626.15
5D	57+38.25	0.00	626.27	626.29
5E	57+48.25	0.00	626.41	626.43
5F	57+58.25	0.00	626.56	626.56
5G	57+68.25	0.00	626.70	626.70
CL. BRG. PIER 28	57+73.75	0.00	626.78	626.78
6A	57+83.75	0.00	626.93	626.95
6B	57+93.75	0.00	627.08	627.13
6C	58+03.75	0.00	627.23	627.31
6D	58+13.75	0.00	627.38	627.47
6E	58+23.75	0.00	627.53	627.61
6F	58+33.75	0.00	627.68	627.74
CL. BRG. PIER 29S	58+48.50	0.00	627.90	627.90
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.00	-3.60	627.87	627.87
7A	58+60.00	-3.60	628.02	628.07
7B	58+70.00	-3.60	628.17	628.26
7C	58+80.00	-3.60	628.32	628.43
7D	58+90.00	-3.60	628.47	628.58
7E	59+00.00	-3.60	628.62	628.72
7F	59+10.00	-3.60	628.77	628.83
CL. BRG. PIER 30S	59+24.00	-3.60	628.98	628.98
CL. PIER 30	59+24.75	-3.60	628.99	628.99

BEAM D4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 26	56+22.75	8.00	624.64	624.64
CL. BRG. PIER 26N	56+23.50	8.00	624.65	624.65
4A	56+33.50	8.00	624.77	624.81
4B	56+43.50	8.00	624.89	624.97
4C	56+53.50	8.00	625.02	625.11
4D	56+63.50	8.00	625.15	625.24
4E	56+73.50	8.00	625.28	625.35
4F	56+83.50	8.00	625.41	625.45
CL. BRG. PIER 27	56+98.25	8.00	625.60	625.60
5A	57+08.25	8.00	625.74	625.74
5B	57+18.25	8.00	625.88	625.88
5C	57+28.25	8.00	626.01	626.03
5D	57+38.25	8.00	626.15	626.17
5E	57+48.25	8.00	626.29	626.31
5F	57+58.25	8.00	626.44	626.44
5G	57+68.25	8.00	626.58	626.58
CL. BRG. PIER 28	57+73.75	8.00	626.66	626.66
6A	57+83.75	8.00	626.81	626.83
6B	57+93.75	8.00	626.96	627.01
6C	58+03.75	8.00	627.11	627.19
6D	58+13.75	8.00	627.26	627.35
6E	58+23.75	8.00	627.41	627.49
6F	58+33.75	8.00	627.56	627.62
CL. BRG. PIER 29S	58+48.50	8.00	627.78	627.78
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.00	2.59	627.88	627.88
7A	58+60.00	2.59	628.03	628.08
7B	58+70.00	2.59	628.18	628.27
7C	58+80.00	2.59	628.33	628.45
7D	58+90.00	2.59	628.48	628.60
7E	59+00.00	2.59	628.63	628.73
7F	59+10.00	2.59	628.78	628.85
CL. BRG. PIER 30S	59+24.00	2.59	628.99	628.99
CL. PIER 30	59+24.75	2.59	629.00	629.00

MAINLINE GORE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
START	58+37.22	12.00	627.55	627.60
CL. BRG. PIER 29S	58+48.50	12.00	627.72	627.72
CL. PIER 29	58+49.25	12.00	627.73	627.73
CL. BRG. PIER 29N	58+50.00	12.00	627.74	627.74
7A	58+60.00	12.00	627.89	627.94
7B	58+70.00	12.00	628.04	628.13
7C	58+80.00	12.00	628.19	628.30
7D	58+90.00	12.00	628.34	628.46
7E	59+00.00	12.00	628.49	628.59
7F	59+10.00	12.00	628.64	628.71
CL. BRG. PIER 30S	59+24.00	12.00	628.85	628.85
CL. PIER 30	59+24.75	12.00	628.86	628.86

℄ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 29	58+49.25	0.00	627.91	627.91
CL. BRG. PIER 29N	58+50.00	0.00	627.92	627.92
7A	58+60.00	0.00	628.07	628.12
7B	58+70.00	0.00	628.22	628.31
7C	58+80.00	0.00	628.37	628.48
7D	58+90.00	0.00	628.52	628.64
7E	59+00.00	0.00	628.67	628.77
7F	59+10.00	0.00	628.82	628.89
CL. BRG. PIER 30S	59+24.00	0.00	629.03	629.03
CL. PIER 30	59+24.75	0.00	629.04	629.04

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171.
2. Stations measured along ℄ IL-171.

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FILE NAME = 0162456_60W75_022_TOS_Elev_Unit_D_2_of_5.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED - DTS	REVISED -	
	PLOT SCALE =	DRAWN - PRT	REVISED -	
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -	

TOP OF SLAB ELEVATIONS UNIT D (2 OF 5)
STRUCTURE NO. 016-2456
SHEET NO. SC22 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	334
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

BEAM D5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 26	56+22.75	16.00	624.50	624.50
CL. BRG. PIER 26N	56+23.50	16.00	624.51	624.51
4A	56+33.50	16.00	624.63	624.67
4B	56+43.50	16.00	624.75	624.83
4C	56+53.50	16.00	624.88	624.97
4D	56+63.50	16.00	625.01	625.10
4E	56+73.50	16.00	625.14	625.21
4F	56+83.50	16.00	625.27	625.31
CL. BRG. PIER 27	56+98.25	16.00	625.46	625.46
5A	57+08.25	16.00	625.60	625.60
5B	57+18.25	16.00	625.74	625.74
5C	57+28.25	16.00	625.87	625.89
5D	57+38.25	16.00	626.01	626.03
5E	57+48.25	16.00	626.15	626.17
5F	57+58.25	16.00	626.30	626.30
5G	57+68.25	16.00	626.44	626.44
CL. BRG. PIER 28	57+73.75	16.00	626.52	626.52
6A	57+83.75	16.00	626.67	626.69
6B	57+93.75	16.00	626.82	626.87
6C	58+03.75	16.00	626.97	627.05
6D	58+13.75	16.00	627.12	627.21
6E	58+23.75	16.00	627.27	627.35
6F	58+33.75	16.00	627.42	627.48
CL. BRG. PIER 29S	58+48.50	16.00	627.65	627.65
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.00	8.79	627.79	627.79
7A	58+60.00	8.79	627.94	627.99
7B	58+70.00	8.79	628.09	628.18
7C	58+80.00	8.79	628.24	628.35
7D	58+90.00	8.79	628.39	628.51
7E	59+00.00	8.79	628.54	628.64
7F	59+10.00	8.79	628.69	628.76
CL. BRG. PIER 30S	59+24.00	8.79	628.90	628.90
CL. PIER 30	59+24.75	8.79	628.91	628.91

BEAM D6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 26	56+22.75	20.00	624.42	624.42
CL. BRG. PIER 26N	56+23.50	20.00	624.43	624.43
4A	56+33.50	20.00	624.55	624.59
4B	56+43.50	20.00	624.67	624.75
4C	56+53.50	20.00	624.80	624.90
4D	56+63.50	20.00	624.93	625.02
4E	56+73.50	20.00	625.06	625.13
4F	56+83.50	20.00	625.19	625.23
CL. BRG. PIER 27	56+98.25	20.00	625.38	625.38
5A	57+08.25	20.00	625.52	625.52
5B	57+18.25	20.00	625.66	625.66
5C	57+28.25	20.00	625.79	625.81
5D	57+38.25	20.00	625.93	625.95
5E	57+48.25	20.00	626.07	626.09
5F	57+58.25	20.00	626.22	626.22
5G	57+68.25	20.00	626.36	626.36
CL. BRG. PIER 28	57+73.75	20.00	626.44	626.44
6A	57+83.75	20.00	626.59	626.61
6B	57+93.75	20.00	626.74	626.79
6C	58+03.75	20.00	626.89	626.97
6D	58+13.75	20.00	627.04	627.13
6E	58+23.75	20.00	627.19	627.28
6F	58+33.75	20.00	627.34	627.40
CL. BRG. PIER 29S	58+48.50	20.00	627.58	627.58
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.00	15.00	627.69	627.69
7A	58+60.00	15.00	627.85	627.90
7B	58+70.00	15.00	628.00	628.10
7C	58+80.00	15.00	628.16	628.28
7D	58+90.00	15.00	628.31	628.43
7E	59+00.00	15.00	628.46	628.56
7F	59+10.00	15.00	628.61	628.68
CL. BRG. PIER 30S	59+24.00	15.00	628.82	628.82
CL. PIER 30	59+24.75	15.00	628.83	628.83

RAMP B GORE LINE

(Station measured along ℄ IL-171 and offset measured perpendicular to ℄ NB IL-171)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
START	58+37.22	30.07	627.22	627.29
CL. BRG. PIER 29S	58+48.50	28.03	627.43	627.43
CL. PIER 29	58+49.25	27.90	627.45	627.45
CL. BRG. PIER 29N	58+50.00	27.77	627.46	627.46
7A	58+60.00	26.06	627.68	627.73
7B	58+70.00	24.42	627.89	627.98
7C	58+80.00	22.87	628.09	628.21
7D	58+90.00	21.40	628.25	628.37
7E	59+00.00	20.00	628.41	628.51
7F	59+10.00	18.69	628.57	628.64
CL. BRG. PIER 30S	59+24.00	16.97	628.79	628.79
CL. PIER 30	59+24.75	16.89	628.81	628.81

NOTES:

1. Offsets for beams D5, D6 and Ramp B Gore Line measured perpendicular to ℄ NB IL-171.
2. Stations for beams D5, D6 and Ramp B Gore Line measured along ℄ NB IL-171.

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FILE NAME = 0162456.60W75.023.TOS.Elev_Unit_D_3_of_5.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT D (3 OF 5)
STRUCTURE NO. 016-2456
SHEET NO. SC23 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	335
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

BEAM R1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 59	-	-	-	-
CL. BRG. PIER 59N	56+99.14	-19.29	624.48	624.48
5A	57+08.87	-18.83	624.72	624.78
5B	57+18.60	-18.50	624.94	625.06
5C	57+28.34	-18.32	625.13	625.29
5D	57+38.08	-18.27	625.34	625.50
5E	57+47.82	-18.37	625.54	625.69
5F	57+57.56	-18.61	625.76	625.86
5G	57+67.28	-18.98	625.97	626.02
CL. BRG. PIER 60S	57+74.50	-19.36	626.14	626.14
CL. PIER 60	-	-	-	-
CL. BRG. PIER 60N	57+76.01	-19.36	626.17	626.17
6A	57+85.73	-18.89	626.34	626.41
6B	57+95.47	-18.57	626.52	626.65
6C	58+05.20	-18.38	626.72	626.87
6D	58+14.94	-18.34	626.91	627.08
6E	58+24.68	-18.43	627.05	627.21
6F	58+34.47	-18.67	627.20	627.31
6G	58+44.32	-18.99	627.34	627.40
CL. BRG. PIER 29S	58+51.64	-19.28	627.50	627.50
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+53.32	-20.37	627.55	627.55
7A	58+63.11	-19.21	627.74	627.78
7B	58+72.91	-18.12	627.92	628.01
7C	58+82.72	-17.11	628.11	628.21
7D	58+92.55	-16.17	628.25	628.37
7E	59+02.40	-15.31	628.38	628.47
7F	59+12.25	-14.53	628.51	628.57
CL. BRG. PIER 30S	59+26.17	-13.55	628.70	628.70
CL. PIER 30	-	-	-	-

BEAM R2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 59	-	-	-	-
CL. BRG. PIER 59N	56+96.87	-13.50	624.08	624.08
5A	57+06.67	-13.00	624.29	624.35
5B	57+16.48	-12.64	624.51	624.62
5C	57+26.30	-12.43	624.71	624.85
5D	57+36.12	-12.35	624.91	625.06
5E	57+45.95	-12.42	625.13	625.26
5F	57+55.77	-12.63	625.35	625.45
5G	57+65.58	-12.99	625.59	625.63
CL. BRG. PIER 60S	57+72.86	-13.34	625.77	625.77
CL. PIER 60	-	-	-	-
CL. BRG. PIER 60N	57+74.43	-13.52	625.81	625.81
6A	57+84.23	-13.03	625.99	626.05
6B	57+94.05	-12.69	626.18	626.29
6C	58+03.86	-12.48	626.38	626.52
6D	58+13.69	-12.42	626.59	626.73
6E	58+23.51	-12.50	626.76	626.89
6F	58+33.35	-12.72	626.94	627.03
6G	58+43.25	-13.03	627.11	627.16
CL. BRG. PIER 29S	58+50.60	-13.31	627.28	627.28
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+51.91	-12.16	627.25	627.25
7A	58+61.80	-11.51	627.42	627.47
7B	58+71.69	-10.93	627.61	627.69
7C	58+81.60	-10.43	627.79	627.90
7D	58+91.51	-10.01	627.94	628.06
7E	59+01.43	-9.66	628.11	628.21
7F	59+11.35	-9.39	628.27	628.34
CL. BRG. PIER 30S	59+25.66	-9.14	628.53	628.53
CL. PIER 30	-	-	-	-

BEAM R3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 59	-	-	-	-
CL. BRG. PIER 59N	56+94.56	-7.71	623.67	623.67
5A	57+04.44	-7.18	623.88	623.94
5B	57+14.33	-6.79	624.08	624.19
5C	57+24.23	-6.54	624.28	624.42
5D	57+34.14	-6.44	624.49	624.63
5E	57+44.04	-6.48	624.70	624.84
5F	57+53.95	-6.66	624.93	625.02
5G	57+63.84	-6.99	625.16	625.21
CL. BRG. PIER 60S	57+71.19	-7.33	625.34	625.34
CL. PIER 60	-	-	-	-
CL. BRG. PIER 60N	57+72.83	-7.69	625.40	625.40
6A	57+82.71	-7.18	625.58	625.64
6B	57+92.60	-6.81	625.77	625.88
6C	58+02.50	-6.58	625.97	626.10
6D	58+12.41	-6.50	626.17	626.32
6E	58+22.32	-6.56	626.37	626.50
6F	58+32.23	-6.77	626.57	626.67
6G	58+42.17	-7.07	626.77	626.82
CL. BRG. PIER 29S	58+49.55	-7.35	626.94	626.94
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+50.47	-3.95	626.78	626.78
7A	58+60.42	-3.29	626.96	627.01
7B	58+70.38	-2.70	627.14	627.23
7C	58+80.35	-2.19	627.33	627.44
7D	58+90.32	-1.76	627.51	627.63
7E	59+00.30	-1.41	627.71	627.81
7F	59+10.29	-1.13	627.90	627.97
CL. BRG. PIER 30S	59+24.68	-0.86	628.20	628.20
CL. PIER 30	-	-	-	-

NOTES:

1. Offsets measured radial to ℄ Ramp B.
2. Stations measured along ℄ Ramp B.

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		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT D (4 OF 5)
STRUCTURE NO. 016-2456
SHEET NO. SC24 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	336
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

BEAM R4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 59	-	-	-	-
CL. BRG. PIER 59N	56+92.20	-1.93	623.28	623.28
5A	57+02.17	-1.36	623.46	623.52
5B	57+12.14	-0.94	623.66	623.76
5C	57+22.12	-0.66	623.85	623.99
5D	57+32.11	-0.53	624.06	624.21
5E	57+42.11	-0.54	624.28	624.41
5F	57+52.10	-0.70	624.50	624.60
5G	57+62.08	-1.00	624.73	624.78
CL. BRG. PIER 60S	57+69.49	-1.32	624.91	624.91
CL. PIER 60	-	-	-	-
CL. BRG. PIER 60N	57+71.20	-1.86	624.99	624.99
6A	57+81.16	-1.33	625.17	625.23
6B	57+91.13	-0.94	625.36	625.46
6C	58+01.12	-0.69	625.55	625.69
6D	58+11.11	-0.59	625.76	625.91
6E	58+21.10	-0.63	625.98	626.11
6F	58+31.09	-0.82	626.20	626.30
6G	58+41.08	-1.11	626.43	626.47
CL. BRG. PIER 29S	58+48.50	-1.38	626.60	626.60
CL. PIER 29	-	-	-	-
CL. BRG. PIER 29N	58+49.02	4.26	626.31	626.31
7A	58+59.02	4.93	626.49	626.54
7B	58+69.05	5.52	626.68	626.77
7C	58+79.08	6.04	626.86	626.98
7D	58+89.12	6.48	627.08	627.20
7E	58+99.17	6.85	627.30	627.40
7F	59+09.21	7.14	627.53	627.60
CL. BRG. PIER 30S	59+23.70	7.42	627.86	627.86
CL. PIER 30	-	-	-	-

℄ RAMP B & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 59	56+90.60	0.00	623.13	623.13
CL. BRG. PIER 59N	56+91.41	0.00	623.15	623.15
5A	57+01.41	0.00	623.37	623.42
5B	57+11.41	0.00	623.58	623.69
5C	57+21.41	0.00	623.80	623.93
5D	57+31.41	0.00	624.01	624.16
5E	57+41.41	0.00	624.23	624.36
5F	57+51.41	0.00	624.44	624.54
5G	57+61.41	0.00	624.66	624.70
CL. BRG. PIER 60S	57+69.11	0.00	624.82	624.82
CL. PIER 60	57+69.89	0.00	624.84	624.84
CL. BRG. PIER 60N	57+70.67	0.00	624.85	624.85
6A	57+80.67	0.00	625.07	625.13
6B	57+90.67	0.00	625.28	625.39
6C	58+00.67	0.00	625.50	625.64
6D	58+10.67	0.00	625.71	625.86
6E	58+20.67	0.00	625.93	626.06
6F	58+30.67	0.00	626.14	626.24
6G	58+40.67	0.00	626.36	626.40
CL. BRG. PIER 29S	58+48.25	0.00	626.52	626.52
CL. PIER 29	58+49.01	0.00	626.54	626.54
CL. BRG. PIER 29N	58+49.77	0.00	626.55	626.55
7A	58+59.77	0.00	626.77	626.82
7B	58+69.77	0.00	626.98	627.07
7C	58+79.77	0.00	627.20	627.31
7D	58+89.77	0.00	627.41	627.53
7E	58+99.77	0.00	627.63	627.73
7F	59+09.77	0.00	627.84	627.92
CL. BRG. PIER 30S	59+24.58	0.00	628.16	628.16
CL. PIER 30	59+25.34	0.00	628.18	628.18

BEAM R5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 59	-	-	-	-
CL. BRG. PIER 59N	56+89.62	4.30	622.86	622.86
5A	56+99.68	4.78	623.04	623.10
5B	57+09.74	5.11	623.22	623.34
5C	57+19.82	5.30	623.42	623.57
5D	57+29.90	5.34	623.63	623.80
5E	57+39.97	5.24	623.85	624.00
5F	57+50.04	4.99	624.09	624.20
5G	57+60.11	4.60	624.33	624.38
CL. BRG. PIER 60S	57+67.90	4.19	624.52	624.52
CL. PIER 60	-	-	-	-
CL. BRG. PIER 60N	57+69.46	4.23	624.55	624.55
6A	57+79.51	4.71	624.74	624.81
6B	57+89.58	5.05	624.93	625.05
6C	57+99.65	5.24	625.14	625.29
6D	58+09.73	5.28	625.35	625.52
6E	58+19.80	5.18	625.58	625.74
6F	58+29.87	4.93	625.84	625.95
6G	58+39.91	4.56	626.09	626.14
CL. BRG. PIER 29S	58+47.49	4.24	626.28	626.28
CL. PIER 29	-	-	-	-

RAMP B WEST EDGE OF SHOULDER AT SLOPE TRANSITION

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
START	57+35.00	-16.00	625.13	625.29
5D	57+37.33	-16.00	625.18	625.34
5E	57+47.11	-16.00	625.39	625.54
5F	57+56.88	-16.00	625.60	625.71
5G	57+66.65	-16.00	625.81	625.86
CL. BRG. PIER 60S	57+73.59	-16.00	625.96	625.96
CL. PIER 60	57+74.35	-16.00	625.97	625.97
CL. BRG. PIER 60N	57+75.11	-16.00	625.99	625.99
6A	57+84.88	-16.00	626.20	626.27
6B	57+94.66	-16.00	626.41	626.53
6C	58+04.43	-16.00	626.62	626.78
6D	58+14.20	-16.00	626.83	627.00
6E	58+23.98	-16.00	626.98	627.14
6F	58+33.78	-16.00	627.13	627.25

NOTES:

1. Offsets measured radial to ℄ Ramp B.
2. Stations measured along ℄ Ramp B.

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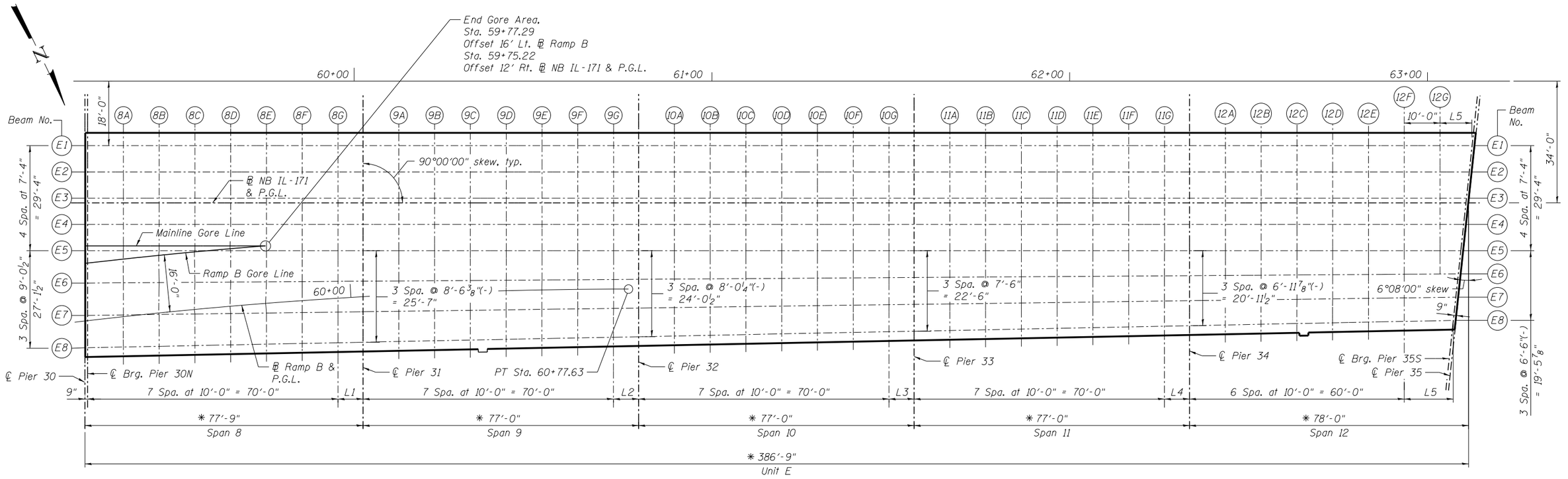
FILE NAME = 0162456_60W75_025_TOS_Elev_Unit_D_5_of_5.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

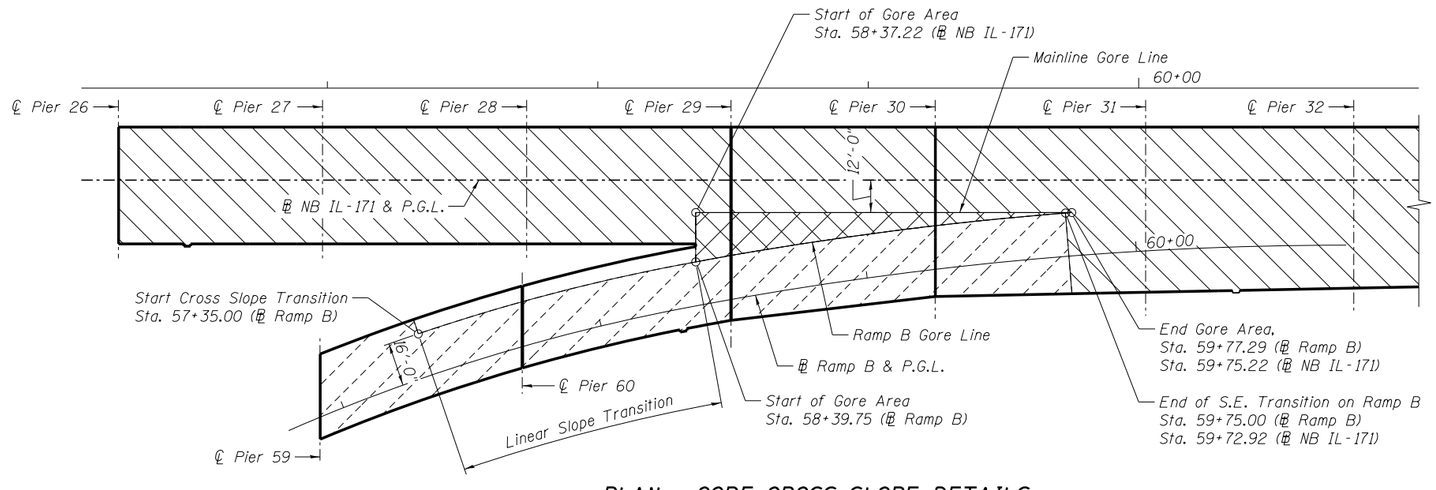
TOP OF SLAB ELEVATIONS UNIT D (5 OF 5)
STRUCTURE NO. 016-2456
SHEET NO. SC25 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	337
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		



PLAN - UNIT E

* Measured along ℄ NB IL-171 & P.G.L.



PLAN - GORE CROSS SLOPE DETAILS

SCREED SPACING

(Along ℄ Beam)

LOCATION	L1	L2	L3	L4	L5
Girder E1	7'-0"	7'-0"	7'-0"	7'-0"	8'-11 1/2"
Girder E2	7'-0"	7'-0"	7'-0"	7'-0"	8'-2 1/8"
Girder E3	7'-0"	7'-0"	7'-0"	7'-0"	7'-4 5/8"
℄ NB IL-171 & P.G.L.	7'-0"	7'-0"	7'-0"	7'-0"	7'-3"
Girder E4	7'-0"	7'-0"	7'-0"	7'-0"	6'-7 1/8"
Girder E5	7'-0"	7'-0"	7'-0"	7'-0"	5'-9 3/4"
Girder E6	7'-0"	7'-0"	7'-0"	7'-0"	5'-1 3/8"
Girder E7	7'-0 1/8"	7'-0 1/8"	7'-0 1/8"	7'-0 1/8"	14'-5"
Girder E8	7'-0 1/8"	7'-0 1/8"	7'-0 1/8"	7'-0 1/8"	13'-8 3/4"

LEGEND:

- Linear Slope Transition (see Sheet SC34)
- Ramp B Cross Slopes (see Sheet SC34, SC38, and SC39)
- Unit B , Unit D, and Unit E Cross Slopes (See Sheets SC31, SC34 and SC37)
- Gore Area (slope varies - See sheets SC34 & SC37)

NOTE:

Contractor shall supply top of steel elevation survey data at all screed points to the Engineer for approval before beginning deck formwork operations.

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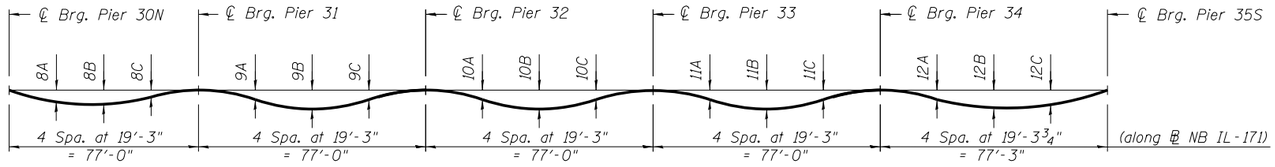
FILE NAME = 0162456_60W75_026_TOS_Elev_Plan_Unit_E.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 8/18/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN UNIT E
STRUCTURE NO. 016-2456
SHEET NO. SC26 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	338
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

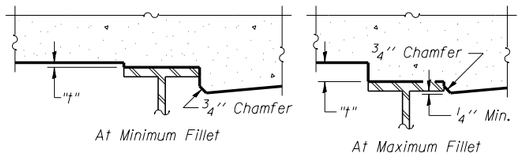


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Beam	8A	8B	8C	9A	9B	9C	10A	10B	10C	11A	11B	11C	12A	12B	12C
E1	7/8"	1 1/8"	5/8"	1/8"	3/8"	1/8"	3/8"	5/8"	3/8"	1/8"	1/4"	0"	5/8"	1 1/8"	7/8"
E2-E7	7/8"	1"	1/2"	1/8"	1/4"	1/8"	3/8"	5/8"	3/8"	1/8"	1/4"	0"	1/2"	1"	7/8"
E8	3/4"	1"	1/2"	0"	1/4"	1/8"	3/8"	5/8"	3/8"	1/8"	1/4"	1/8"	3/8"	3/4"	5/8"

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SC27 thru SC30.



To determine "t": Elevations of the top flanges of the beams shall be taken at intervals shown on sheets SC27 thru SC30. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM E1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	-16.00	628.78	628.78
CL. BRG. PIER 30N	59+25.50	-16.00	628.79	628.79
8A	59+35.50	-16.00	628.94	628.99
8B	59+45.50	-16.00	629.09	629.17
8C	59+55.50	-16.00	629.24	629.33
8D	59+65.50	-16.00	629.39	629.48
8E	59+75.50	-16.00	629.54	629.61
8F	59+85.50	-16.00	629.69	629.73
8G	59+95.50	-16.00	629.84	629.86
CL. BRG. PIER 31	60+02.50	-16.00	629.95	629.95
9A	60+12.50	-16.00	630.10	630.10
9B	60+22.50	-16.00	630.25	630.26
9C	60+32.50	-16.00	630.40	630.42
9D	60+42.50	-16.00	630.55	630.57
9E	60+52.50	-16.00	630.70	630.72
9F	60+62.50	-16.00	630.85	630.86
9G	60+72.50	-16.00	631.00	631.00
CL. BRG. PIER 32	60+79.50	-16.00	631.10	631.10
10A	60+89.50	-16.00	631.25	631.27
10B	60+99.50	-16.00	631.40	631.44
10C	61+09.50	-16.00	631.55	631.60
10D	61+19.50	-16.00	631.70	631.76
10E	61+29.50	-16.00	631.85	631.90
10F	61+39.50	-16.00	632.00	632.03
10G	61+49.50	-16.00	632.15	632.16
CL. BRG. PIER 33	61+56.50	-16.00	632.26	632.26
11A	61+66.50	-16.00	632.41	632.41
11B	61+76.50	-16.00	632.56	632.57
11C	61+86.50	-16.00	632.71	632.73
11D	61+96.50	-16.00	632.86	632.88
11E	62+06.50	-16.00	633.01	633.02
11F	62+16.50	-16.00	633.16	633.16
11G	62+26.50	-16.00	633.31	633.30
CL. BRG. PIER 34	62+33.50	-16.00	633.41	633.41
12A	62+43.50	-16.00	633.56	633.58
12B	62+53.50	-16.00	633.71	633.76
12C	62+63.50	-16.00	633.86	633.94
12D	62+73.50	-16.00	634.01	634.11
12E	62+83.50	-16.00	634.16	634.26
12F	62+93.50	-16.00	634.31	634.39
12G	63+03.50	-16.00	634.46	634.50
CL. BRG. PIER 35S	63+12.46	-16.00	634.60	634.60
CL. PIER 35	63+13.21	-16.00	634.61	634.61

BEAM E2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	-8.67	628.91	628.91
CL. BRG. PIER 30N	59+25.50	-8.67	628.92	628.92
8A	59+35.50	-8.67	629.07	629.11
8B	59+45.50	-8.67	629.22	629.29
8C	59+55.50	-8.67	629.37	629.46
8D	59+65.50	-8.67	629.52	629.60
8E	59+75.50	-8.67	629.67	629.74
8F	59+85.50	-8.67	629.82	629.86
8G	59+95.50	-8.67	629.97	629.98
CL. BRG. PIER 31	60+02.50	-8.67	630.08	630.08
9A	60+12.50	-8.67	630.23	630.23
9B	60+22.50	-8.67	630.38	630.39
9C	60+32.50	-8.67	630.53	630.55
9D	60+42.50	-8.67	630.68	630.70
9E	60+52.50	-8.67	630.83	630.85
9F	60+62.50	-8.67	630.98	630.99
9G	60+72.50	-8.67	631.13	631.13
CL. BRG. PIER 32	60+79.50	-8.67	631.23	631.23
10A	60+89.50	-8.67	631.38	631.39
10B	60+99.50	-8.67	631.53	631.56
10C	61+09.50	-8.67	631.68	631.73
10D	61+19.50	-8.67	631.83	631.88
10E	61+29.50	-8.67	631.98	632.02
10F	61+39.50	-8.67	632.13	632.16
10G	61+49.50	-8.67	632.28	632.29
CL. BRG. PIER 33	61+56.50	-8.67	632.39	632.39
11A	61+66.50	-8.67	632.54	632.54
11B	61+76.50	-8.67	632.69	632.70
11C	61+86.50	-8.67	632.84	632.86
11D	61+96.50	-8.67	632.99	633.01
11E	62+06.50	-8.67	633.14	633.15
11F	62+16.50	-8.67	633.29	633.29
11G	62+26.50	-8.67	633.44	633.44
CL. BRG. PIER 34	62+33.50	-8.67	633.54	633.54
12A	62+43.50	-8.67	633.69	633.71
12B	62+53.50	-8.67	633.84	633.89
12C	62+63.50	-8.67	633.99	634.06
12D	62+73.50	-8.67	634.14	634.23
12E	62+83.50	-8.67	634.29	634.38
12F	62+93.50	-8.67	634.44	634.51
12G	63+03.50	-8.67	634.59	634.63
CL. BRG. PIER 35S	63+11.68	-8.67	634.72	634.72
CL. PIER 35	63+12.43	-8.67	634.73	634.73

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171.
2. Stations measured along ℄ IL-171

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312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_027_TOS_Elev_Unit_E_1_of_4.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT E (1 OF 4)
STRUCTURE NO. 016-2456
SHEET NO. SC27 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	339
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

6/15/2015 10:04:51 AM Y:\chicago\10000s\10093\Eng_Docs_Phase_II\SN_016_2456_2457_1st_Ave_over_Des_Plaines_River_Valley\Final\2456 Final\0162456_60W75_027_TOS_Elev_Unit_E_1_of_4.dgn

BEAM E3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	-1.33	629.02	629.02
CL. BRG. PIER 30N	59+25.50	-1.33	629.03	629.03
8A	59+35.50	-1.33	629.18	629.22
8B	59+45.50	-1.33	629.33	629.40
8C	59+55.50	-1.33	629.48	629.57
8D	59+65.50	-1.33	629.63	629.71
8E	59+75.50	-1.33	629.78	629.85
8F	59+85.50	-1.33	629.93	629.97
8G	59+95.50	-1.33	630.08	630.09
CL. BRG. PIER 31	60+02.50	-1.33	630.19	630.19
9A	60+12.50	-1.33	630.34	630.34
9B	60+22.50	-1.33	630.49	630.50
9C	60+32.50	-1.33	630.64	630.66
9D	60+42.50	-1.33	630.79	630.81
9E	60+52.50	-1.33	630.94	630.96
9F	60+62.50	-1.33	631.09	631.10
9G	60+72.50	-1.33	631.24	631.24
CL. BRG. PIER 32	60+79.50	-1.33	631.34	631.34
10A	60+89.50	-1.33	631.49	631.50
10B	60+99.50	-1.33	631.64	631.67
10C	61+09.50	-1.33	631.79	631.84
10D	61+19.50	-1.33	631.94	631.99
10E	61+29.50	-1.33	632.09	632.13
10F	61+39.50	-1.33	632.24	632.27
10G	61+49.50	-1.33	632.39	632.40
CL. BRG. PIER 33	61+56.50	-1.33	632.50	632.50
11A	61+66.50	-1.33	632.65	632.65
11B	61+76.50	-1.33	632.80	632.81
11C	61+86.50	-1.33	632.95	632.97
11D	61+96.50	-1.33	633.10	633.12
11E	62+06.50	-1.33	633.25	633.26
11F	62+16.50	-1.33	633.40	633.40
11G	62+26.50	-1.33	633.55	633.55
CL. BRG. PIER 34	62+33.50	-1.33	633.65	633.65
12A	62+43.50	-1.33	633.80	633.82
12B	62+53.50	-1.33	633.95	634.00
12C	62+63.50	-1.33	634.10	634.17
12D	62+73.50	-1.33	634.25	634.34
12E	62+83.50	-1.33	634.40	634.49
12F	62+93.50	-1.33	634.55	634.62
12G	63+03.50	-1.33	634.70	634.73
CL. BRG. PIER 35S	63+10.89	-1.33	634.81	634.81
CL. PIER 35	63+11.64	-1.33	634.82	634.82

℄ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	0.00	629.04	629.04
CL. BRG. PIER 30N	59+25.50	0.00	629.05	629.05
8A	59+35.50	0.00	629.20	629.24
8B	59+45.50	0.00	629.35	629.42
8C	59+55.50	0.00	629.50	629.59
8D	59+65.50	0.00	629.65	629.73
8E	59+75.50	0.00	629.80	629.87
8F	59+85.50	0.00	629.95	629.99
8G	59+95.50	0.00	630.10	630.11
CL. BRG. PIER 31	60+02.50	0.00	630.21	630.21
9A	60+12.50	0.00	630.36	630.36
9B	60+22.50	0.00	630.51	630.52
9C	60+32.50	0.00	630.66	630.68
9D	60+42.50	0.00	630.81	630.83
9E	60+52.50	0.00	630.96	630.98
9F	60+62.50	0.00	631.11	631.12
9G	60+72.50	0.00	631.26	631.26
CL. BRG. PIER 32	60+79.50	0.00	631.36	631.36
10A	60+89.50	0.00	631.51	631.52
10B	60+99.50	0.00	631.66	631.69
10C	61+09.50	0.00	631.81	631.86
10D	61+19.50	0.00	631.96	632.01
10E	61+29.50	0.00	632.11	632.15
10F	61+39.50	0.00	632.26	632.29
10G	61+49.50	0.00	632.41	632.42
CL. BRG. PIER 33	61+56.50	0.00	632.52	632.52
11A	61+66.50	0.00	632.67	632.67
11B	61+76.50	0.00	632.82	632.83
11C	61+86.50	0.00	632.97	632.99
11D	61+96.50	0.00	633.12	633.14
11E	62+06.50	0.00	633.27	633.28
11F	62+16.50	0.00	633.42	633.42
11G	62+26.50	0.00	633.57	633.57
CL. BRG. PIER 34	62+33.50	0.00	633.67	633.67
12A	62+43.50	0.00	633.82	633.84
12B	62+53.50	0.00	633.97	634.02
12C	62+63.50	0.00	634.12	634.19
12D	62+73.50	0.00	634.27	634.36
12E	62+83.50	0.00	634.42	634.51
12F	62+93.50	0.00	634.57	634.64
12G	63+03.50	0.00	634.72	634.75
CL. BRG. PIER 35S	63+10.75	0.00	634.83	634.83
CL. PIER 35	63+11.50	0.00	634.84	634.84

BEAM E4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	6.00	628.95	628.95
CL. BRG. PIER 30N	59+25.50	6.00	628.96	628.96
8A	59+35.50	6.00	629.11	629.15
8B	59+45.50	6.00	629.26	629.33
8C	59+55.50	6.00	629.41	629.50
8D	59+65.50	6.00	629.56	629.64
8E	59+75.50	6.00	629.71	629.78
8F	59+85.50	6.00	629.86	629.90
8G	59+95.50	6.00	630.01	630.02
CL. BRG. PIER 31	60+02.50	6.00	630.12	630.12
9A	60+12.50	6.00	630.27	630.27
9B	60+22.50	6.00	630.42	630.43
9C	60+32.50	6.00	630.57	630.59
9D	60+42.50	6.00	630.72	630.74
9E	60+52.50	6.00	630.87	630.89
9F	60+62.50	6.00	631.02	631.03
9G	60+72.50	6.00	631.17	631.17
CL. BRG. PIER 32	60+79.50	6.00	631.27	631.27
10A	60+89.50	6.00	631.42	631.43
10B	60+99.50	6.00	631.57	631.60
10C	61+09.50	6.00	631.72	631.77
10D	61+19.50	6.00	631.87	631.92
10E	61+29.50	6.00	632.02	632.06
10F	61+39.50	6.00	632.17	632.20
10G	61+49.50	6.00	632.32	632.33
CL. BRG. PIER 33	61+56.50	6.00	632.43	632.43
11A	61+66.50	6.00	632.58	632.58
11B	61+76.50	6.00	632.73	632.74
11C	61+86.50	6.00	632.88	632.90
11D	61+96.50	6.00	633.03	633.05
11E	62+06.50	6.00	633.18	633.19
11F	62+16.50	6.00	633.33	633.33
11G	62+26.50	6.00	633.48	633.48
CL. BRG. PIER 34	62+33.50	6.00	633.58	633.58
12A	62+43.50	6.00	633.73	633.75
12B	62+53.50	6.00	633.88	633.93
12C	62+63.50	6.00	634.03	634.11
12D	62+73.50	6.00	634.18	634.27
12E	62+83.50	6.00	634.33	634.41
12F	62+93.50	6.00	634.48	634.54
12G	63+03.50	6.00	634.63	634.66
CL. BRG. PIER 35S	63+10.09	6.00	634.73	634.73
CL. PIER 35	63+10.84	6.00	634.74	634.74

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171.
2. Stations measured along ℄ IL-171.

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312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_028_TOS_Elev_Unit_E_2_of_4.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT E (2 OF 4)
STRUCTURE NO. 016-2456
SHEET NO. SC28 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	340
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

MAINLINE GORE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	12.00	628.86	628.86
CL. BRG. PIER 30N	59+25.50	12.00	628.87	628.87
8A	59+35.50	12.00	629.02	629.06
8B	59+45.50	12.00	629.17	629.24
8C	59+55.50	12.00	629.32	629.41
8D	59+65.50	12.00	629.47	629.55
END	59+75.22	12.00	629.62	629.68

RAMP B GORE LINE

(Stations measured along ℄ IL-171 and offset measured perpendicular to ℄ NB IL-171)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	16.89	628.81	628.81
CL. BRG. PIER 30N	59+25.50	16.80	628.82	628.82
8A	59+35.50	15.68	628.98	629.02
8B	59+45.50	14.64	629.13	629.20
8C	59+55.50	13.68	629.29	629.38
8D	59+65.50	12.79	629.45	629.53
END	59+75.22	12.00	629.62	629.68

BEAM E5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	13.33	628.85	628.85
CL. BRG. PIER 30N	59+25.50	13.33	628.86	628.86
8A	59+35.50	13.33	629.01	629.05
8B	59+45.50	13.33	629.15	629.22
8C	59+55.50	13.33	629.30	629.38
8D	59+65.50	13.33	629.44	629.52
8E	59+75.50	13.33	629.60	629.66
8F	59+85.50	13.33	629.75	629.79
8G	59+95.50	13.33	629.90	629.91
CL. BRG. PIER 31	60+02.50	13.33	630.00	630.00
9A	60+12.50	13.33	630.15	630.15
9B	60+22.50	13.33	630.30	630.31
9C	60+32.50	13.33	630.45	630.47
9D	60+42.50	13.33	630.60	630.63
9E	60+52.50	13.33	630.75	630.77
9F	60+62.50	13.33	630.90	630.91
9G	60+72.50	13.33	631.05	631.05
CL. BRG. PIER 32	60+79.50	13.33	631.16	631.16
10A	60+89.50	13.33	631.31	631.32
10B	60+99.50	13.33	631.46	631.49
10C	61+09.50	13.33	631.61	631.65
10D	61+19.50	13.33	631.76	631.81
10E	61+29.50	13.33	631.91	631.95
10F	61+39.50	13.33	632.06	632.08
10G	61+49.50	13.33	632.21	632.21
CL. BRG. PIER 33	61+56.50	13.33	632.31	632.31
11A	61+66.50	13.33	632.46	632.46
11B	61+76.50	13.33	632.61	632.62
11C	61+86.50	13.33	632.76	632.78
11D	61+96.50	13.33	632.91	632.93
11E	62+06.50	13.33	633.06	633.07
11F	62+16.50	13.33	633.21	633.21
11G	62+26.50	13.33	633.36	633.36
CL. BRG. PIER 34	62+33.50	13.33	633.47	633.47
12A	62+43.50	13.33	633.62	633.64
12B	62+53.50	13.33	633.77	633.81
12C	62+63.50	13.33	633.92	633.99
12D	62+73.50	13.33	634.07	634.15
12E	62+83.50	13.33	634.22	634.30
12F	62+93.50	13.33	634.37	634.43
12G	63+03.50	13.33	634.52	634.54
CL. BRG. PIER 35S	63+09.31	13.33	634.60	634.60
CL. PIER 35	63+10.06	13.33	634.61	634.61

BEAM E6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	22.38	628.59	628.59
CL. BRG. PIER 30N	59+25.50	22.38	628.60	628.60
8A	59+35.50	22.31	628.75	628.79
8B	59+45.50	22.24	628.90	628.97
8C	59+55.50	22.18	629.06	629.14
8D	59+65.50	22.11	629.23	629.31
8E	59+75.50	22.04	629.42	629.49
8F	59+85.50	21.98	629.57	629.61
8G	59+95.50	21.91	629.72	629.74
CL. BRG. PIER 31	60+02.50	21.86	629.83	629.83
9A	60+12.50	21.80	629.98	629.98
9B	60+22.50	21.73	630.13	630.14
9C	60+32.50	21.66	630.28	630.30
9D	60+42.50	21.60	630.44	630.46
9E	60+52.50	21.53	630.59	630.61
9F	60+62.50	21.46	630.74	630.75
9G	60+72.50	21.40	630.89	630.89
CL. BRG. PIER 32	60+79.50	21.35	631.00	631.00
10A	60+89.50	21.29	631.15	631.16
10B	60+99.50	21.22	631.30	631.33
10C	61+09.50	21.15	631.45	631.49
10D	61+19.50	21.09	631.60	631.65
10E	61+29.50	21.02	631.75	631.79
10F	61+39.50	20.95	631.90	631.93
10G	61+49.50	20.89	632.05	632.06
CL. BRG. PIER 33	61+56.50	20.84	632.16	632.16
11A	61+66.50	20.77	632.31	632.31
11B	61+76.50	20.71	632.46	632.47
11C	61+86.50	20.64	632.61	632.63
11D	61+96.50	20.57	632.77	632.79
11E	62+06.50	20.51	632.92	632.93
11F	62+16.50	20.44	633.07	633.07
11G	62+26.50	20.38	633.22	633.22
CL. BRG. PIER 34	62+33.50	20.33	633.33	633.33
12A	62+43.50	20.26	633.48	633.50
12B	62+53.50	20.20	633.63	633.68
12C	62+63.50	20.13	633.78	633.85
12D	62+73.50	20.06	633.93	634.02
12E	62+83.50	20.00	634.08	634.16
12F	62+93.50	19.93	634.23	634.29
12G	63+03.50	19.86	634.39	634.41
CL. BRG. PIER 35S	63+08.61	19.83	634.46	634.46
CL. PIER 35	63+09.36	19.82	634.47	634.47

NOTES:

1. Offset measured perpendicular to ℄ NB IL-171.
2. Stations measured along ℄ IL-171.

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	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT E (3 OF 4)
STRUCTURE NO. 016-2456
SHEET NO. SC29 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	341
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

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℄ RAMP B & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+25.34	0.00	628.18	628.18
CL. BRG. PIER 30N	59+26.09	0.00	628.20	628.20
8A	59+36.09	0.00	628.41	628.45
8B	59+46.09	0.00	628.63	628.70
8C	59+56.09	0.00	628.84	628.93
8D	59+66.09	0.00	629.06	629.13
8E	59+76.09	0.00	629.27	629.33
END	59+77.29	0.00	629.30	629.35

BEAM E7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	31.43	628.24	628.24
CL. BRG. PIER 30N	59+25.50	31.42	628.25	628.25
8A	59+35.50	31.28	628.43	628.47
8B	59+45.50	31.15	628.61	628.68
8C	59+55.50	31.02	628.81	628.89
8D	59+65.50	30.88	629.01	629.09
8E	59+75.50	30.75	629.25	629.31
8F	59+85.50	30.62	629.40	629.44
8G	59+95.50	30.48	629.55	629.56
CL. BRG. PIER 31	60+02.50	30.39	629.66	629.66
9A	60+12.50	30.26	629.81	629.81
9B	60+22.50	30.13	629.96	629.97
9C	60+32.50	29.99	630.12	630.14
9D	60+42.50	29.86	630.27	630.30
9E	60+52.50	29.73	630.42	630.44
9F	60+62.49	29.59	630.58	630.59
9G	60+72.49	29.46	630.73	630.73
CL. BRG. PIER 32	60+79.50	29.37	630.84	630.84
10A	60+89.50	29.23	630.99	631.00
10B	60+99.50	29.10	631.14	631.17
10C	61+09.50	28.97	631.29	631.34
10D	61+19.50	28.83	631.45	631.50
10E	61+29.50	28.70	631.60	631.64
10F	61+39.49	28.57	631.75	631.78
10G	61+49.49	28.44	631.90	631.91
CL. BRG. PIER 33	61+56.50	28.34	632.01	632.01
11A	61+66.50	28.21	632.16	632.17
11B	61+76.50	28.08	632.32	632.33
11C	61+86.50	27.94	632.47	632.49
11D	61+96.50	27.81	632.62	632.64
11E	62+06.50	27.68	632.77	632.79
11F	62+16.49	27.54	632.93	632.93
11G	62+26.49	27.41	633.08	633.08
CL. BRG. PIER 34	62+33.50	27.32	633.19	633.19
12A	62+43.50	27.18	633.34	633.36
12B	62+53.50	27.05	633.49	633.54
12C	62+63.50	26.92	633.64	633.72
12D	62+73.50	26.78	633.80	633.88
12E	62+83.50	26.65	633.95	634.03
12F	62+93.49	26.52	634.10	634.16
CL. BRG. PIER 35S	63+07.92	26.33	634.32	634.32
CL. PIER 35	63+08.67	26.32	634.33	634.33

BEAM E8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. PIER 30	59+24.75	40.47	627.88	627.88
CL. BRG. PIER 30N	59+25.50	40.46	627.90	627.90
8A	59+35.50	40.26	628.11	628.14
8B	59+45.50	40.06	628.33	628.39
8C	59+55.49	39.86	628.55	628.63
8D	59+65.49	39.66	628.79	628.87
8E	59+75.49	39.46	629.07	629.14
8F	59+85.49	39.26	629.23	629.27
8G	59+95.49	39.06	629.38	629.39
CL. BRG. PIER 31	60+02.50	38.92	629.49	629.49
9A	60+12.50	38.72	629.64	629.64
9B	60+22.50	38.52	629.80	629.80
9C	60+32.49	38.32	629.95	629.97
9D	60+42.49	38.12	630.11	630.12
9E	60+52.49	37.92	630.26	630.28
9F	60+62.49	37.72	630.41	630.42
9G	60+72.49	37.52	630.57	630.57
CL. BRG. PIER 32	60+79.50	37.38	630.67	630.67
10A	60+89.50	37.18	630.83	630.84
10B	60+99.50	36.98	630.98	631.01
10C	61+09.49	36.78	631.14	631.18
10D	61+19.49	36.58	631.29	631.34
10E	61+29.49	36.38	631.44	631.48
10F	61+39.49	36.18	631.60	631.62
10G	61+49.49	35.98	631.75	631.76
CL. BRG. PIER 33	61+56.50	35.84	631.86	631.86
11A	61+66.50	35.64	632.01	632.02
11B	61+76.50	35.44	632.17	632.18
11C	61+86.49	35.24	632.32	632.35
11D	61+96.49	35.04	632.48	632.50
11E	62+06.49	34.84	632.63	632.65
11F	62+16.49	34.64	632.78	632.79
11G	62+26.49	34.44	632.94	632.94
CL. BRG. PIER 34	62+33.50	34.30	633.05	633.05
12A	62+43.50	34.10	633.20	633.22
12B	62+53.50	33.90	633.35	633.39
12C	62+63.49	33.70	633.51	633.57
12D	62+73.49	33.50	633.66	633.73
12E	62+83.49	33.30	633.82	633.88
12F	62+93.49	33.10	633.97	634.01
CL. BRG. PIER 35S	63+07.22	32.82	634.18	634.18
CL. PIER 35	63+07.97	32.81	634.19	634.19

NOTES:

1. Offsets measured perpendicular to ℄ NB IL-171, except for ℄ Ramp B & P.G.L.
2. Stations measured along ℄ IL-171, except for ℄ Ramp B & P.G.L.

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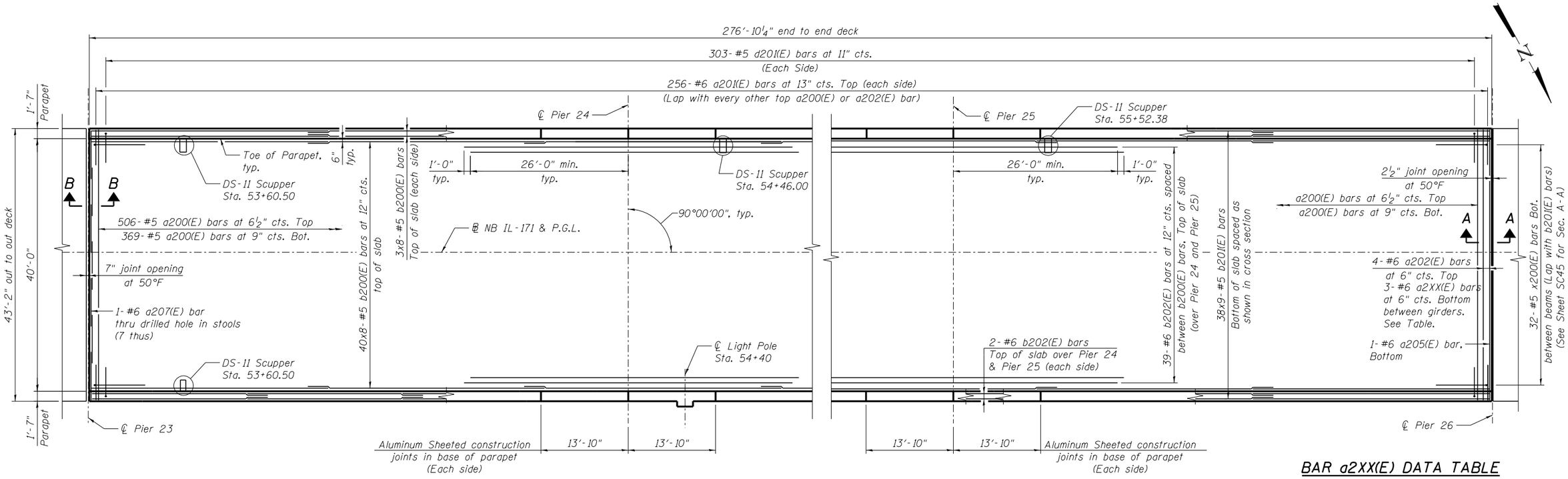
	PLOT DATE = 6/15/2015	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS UNIT E (4 OF 4)
STRUCTURE NO. 016-2456
SHEET NO. SC30 OF SC96 SHEETS

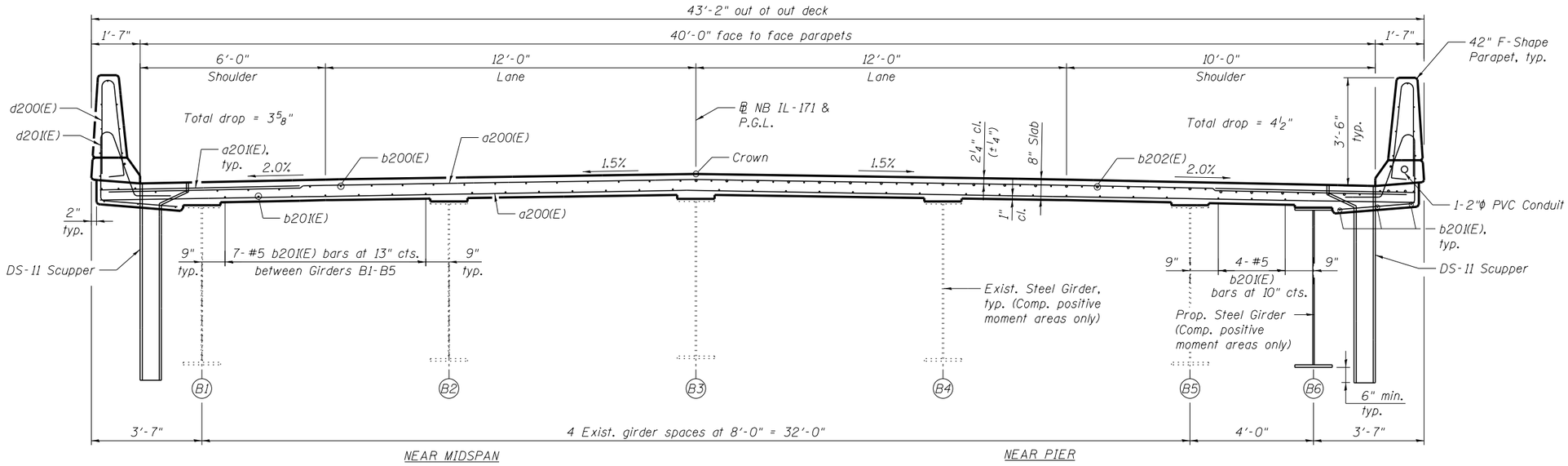
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	342
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PLAN - SPANS 1 THRU 3

BAR a2XX(E) DATA TABLE

Span	Pier	Bay	Bar	Size
3	26	B1-B5	a203(E)	#6
3	26	B5-B6	a204(E)	#6



DECK CROSS SECTION - SPANS 1 THRU 3

(Looking Upstation, North)

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. For Superstructure Details, Section A-A, and Bar Bends, see Sheet SC45.
2. For Section B-B, see Sheet SC50.
3. For Bill of Material, see Sheet SC46.
4. Bars indicated thus 40x7-#5 etc. indicates 40 lines of bars with 7 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint at Pier 26. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.

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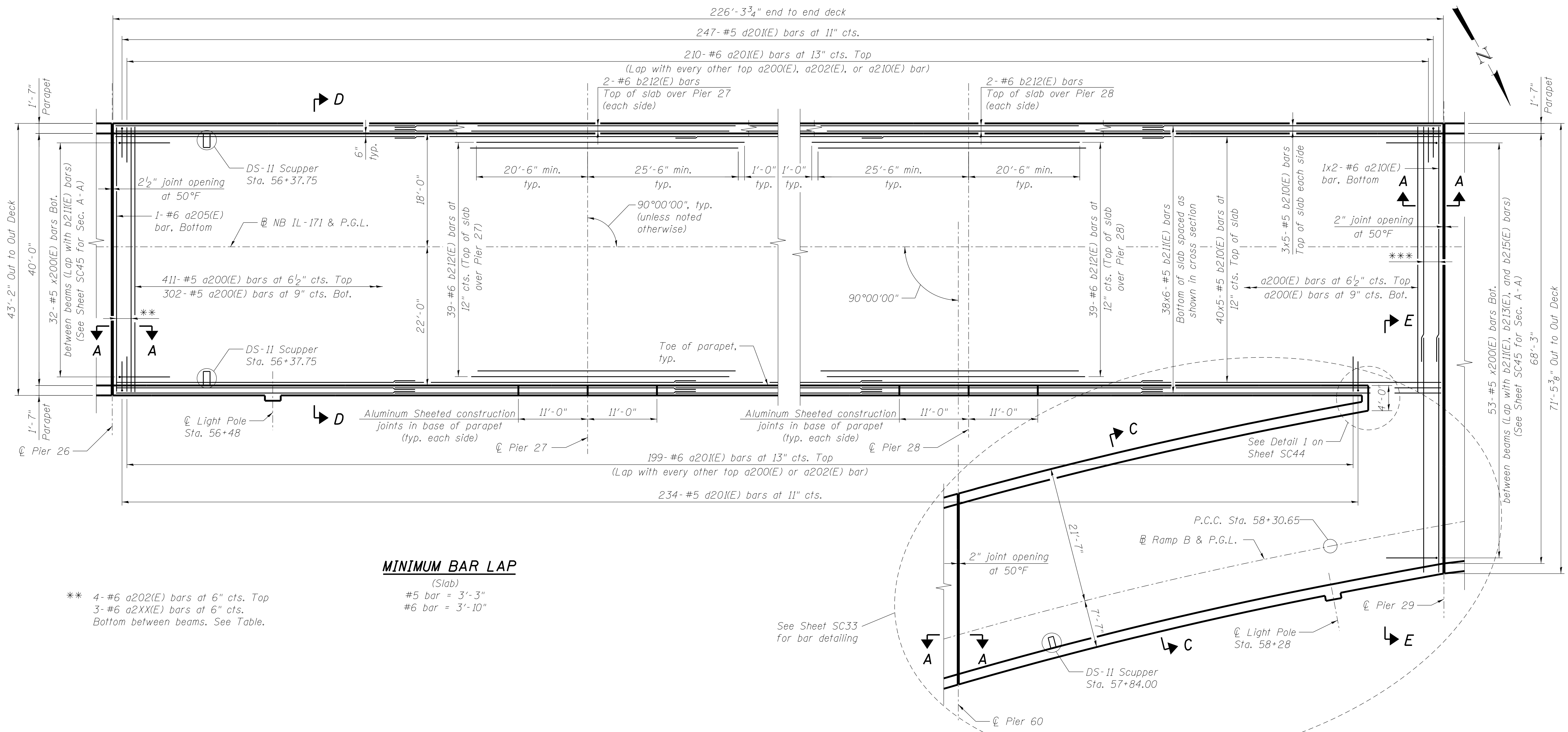
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN & CROSS SECTION UNIT B
STRUCTURE NO. 016-2456
SHEET NO. SC31 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	343
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

** 4-#6 a202(E) bars at 6" cts. Top
3-#6 a2XX(E) bars at 6" cts.
Bottom between beams. See Table.

*** 4x2-#6 a210(E) bars at 6" cts. Top
3-a2XX(E) bars at 6" cts.
Bottom between beams. See Table.

PLAN - SPANS 4 THRU 6

BAR a2XX(E) DATA TABLE

Span	Pier	Bay	Bar	Size
4	26	D1-D5	a203(E)	#6
4	26	D5-D6	a204(E)	#6
6	29	D1-D5	a203(E)	#6
6	29	D5-D6	a204(E)	#6
6	29	D6-R1	a211(E)	#5
6	29	R1-R4	a212(E)	#5
6	29	R4-R5	a213(E)	#5

NOTES:

1. For Superstructure Details, Section A-A, and Bar Bends, see Sheet SC45.
2. For Sections C-C, D-D, and E-E, see Sheet SC34.
2. For Bill of Material, see Sheet SC46.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.

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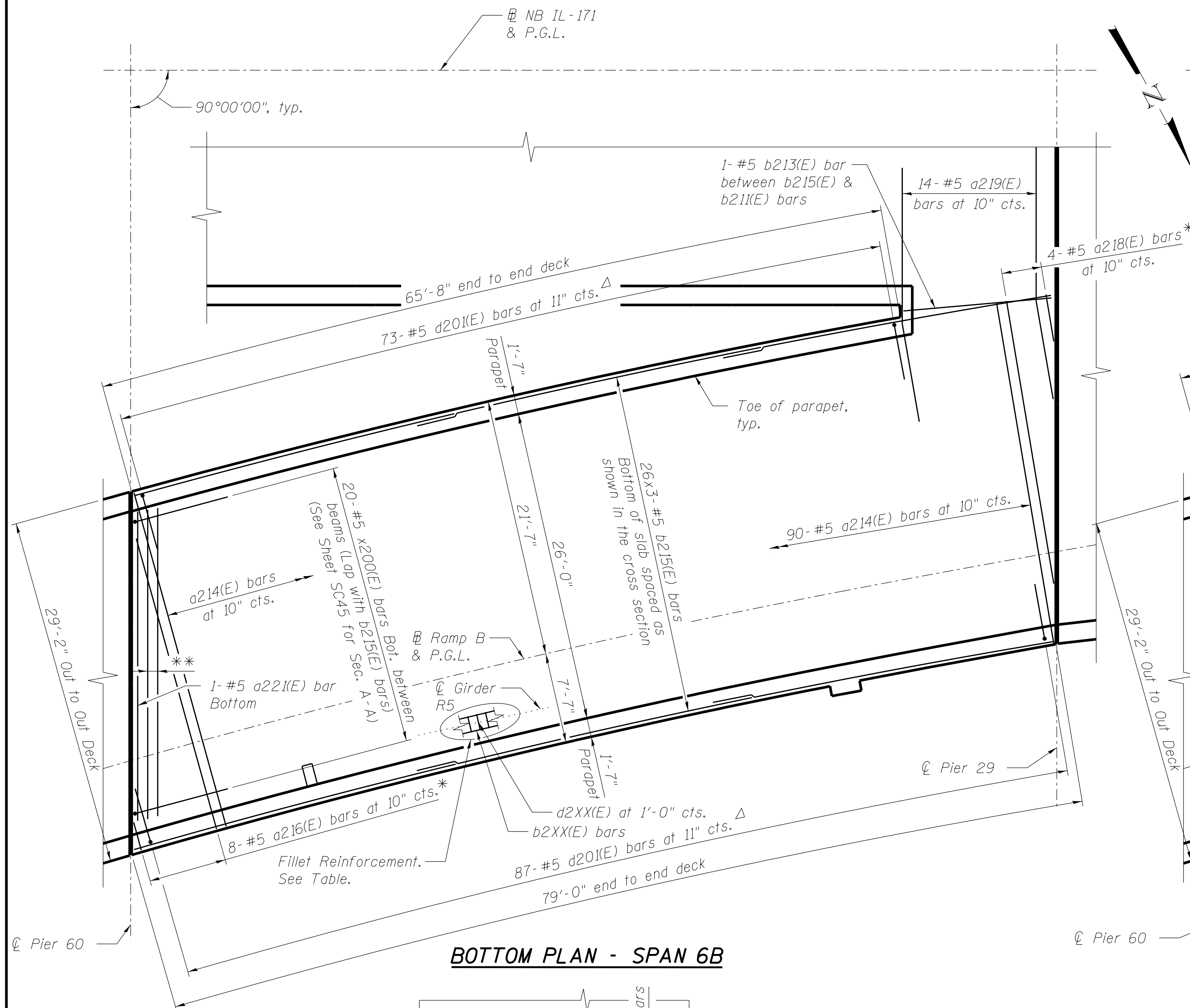
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN UNIT D SPANS 4 THRU 6 (1 OF 2)
STRUCTURE NO. 016-2456

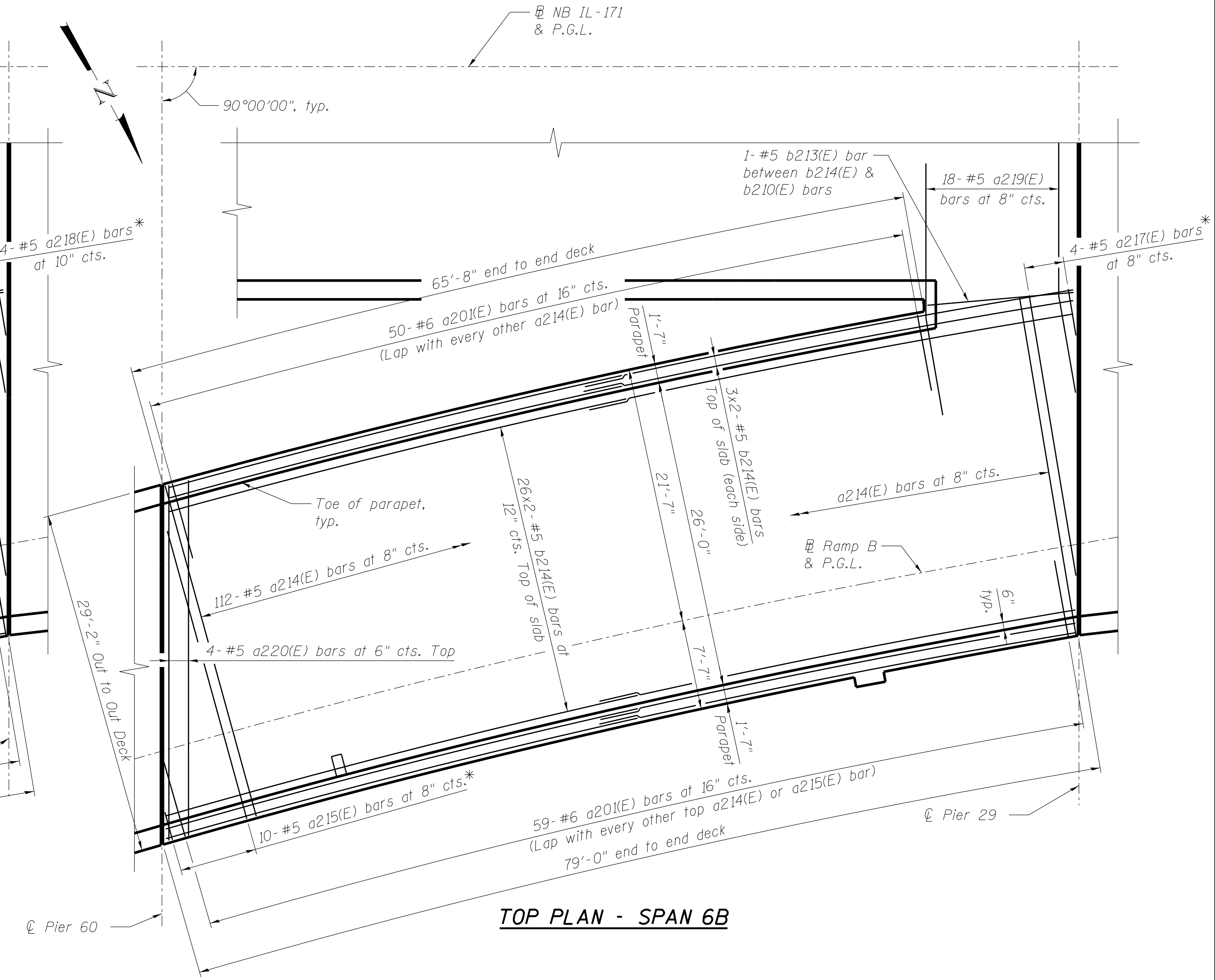
SHEET NO. SC32 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	344

CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT



BOTTOM PLAN - SPAN 6B

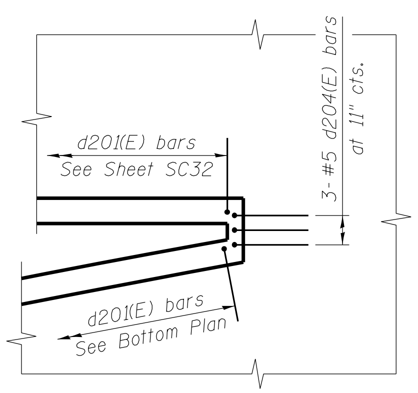


TOP PLAN - SPAN 6B

△ Cut to fit in field.

* Order bars full length, Cut to fit skew and use remainder of bars in opposite side. See cut diagram on Sheet SC45.

** 3-#5 a2XX(E) bars at 6" cts. Bottom between beams. See Table.



GORE PLAN

FILLET REINFORCEMENT DATA TABLE

Girder	Start Sta.	End Sta.	b2XX(E) bars	d2XX(E) bars
R5	58+02	58+38	2-#4 b245(E)	36-#4 d208(E)

For Fillet Reinforcement detail, see Sheet SC45.
(Stations measured along ℄ Ramp B)

BAR a2XX(E) DATA TABLE

Span	Pier	Bay	Bar	Size
6B	60	R1-R4	a222(E)	#5
6B	60	R4-R5	a223(E)	#5

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. For Superstructure Details and Bar Bends, see Sheet SC45.
2. For Bill of Material, see Sheet SC46.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.
5. Ramp B Span 6B reinforcement included in Unit D Spans 4-6 Bill of Material.

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		CHECKED - JLS	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	345

CONTRACT NO. 60W75

ILLINOIS FED. AID PROJECT

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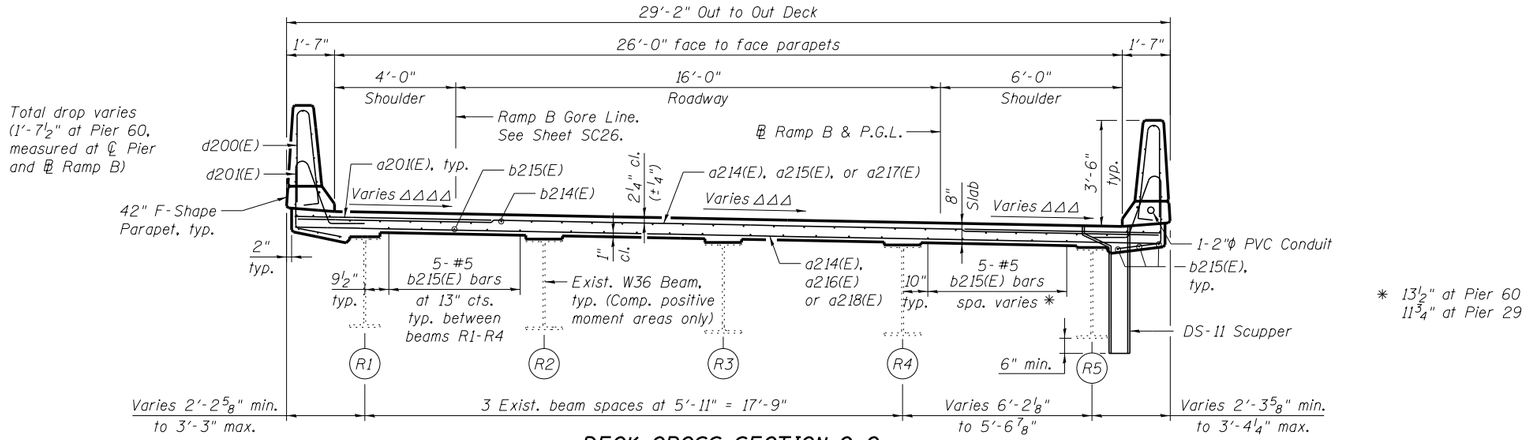


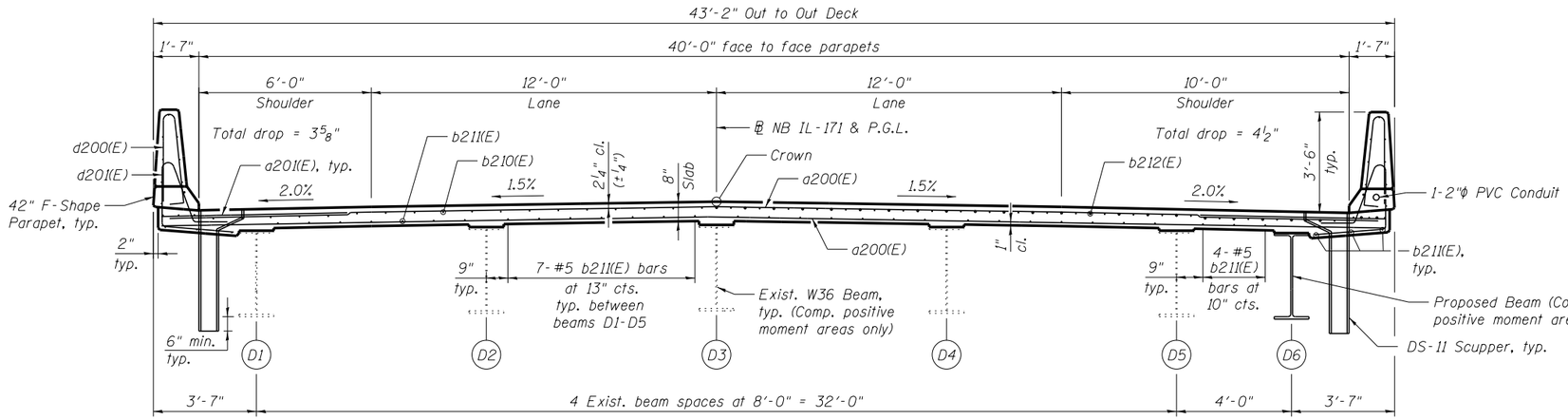
DECK CROSS SECTION C-C

(Looking Upstation, North)

MINIMUM LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

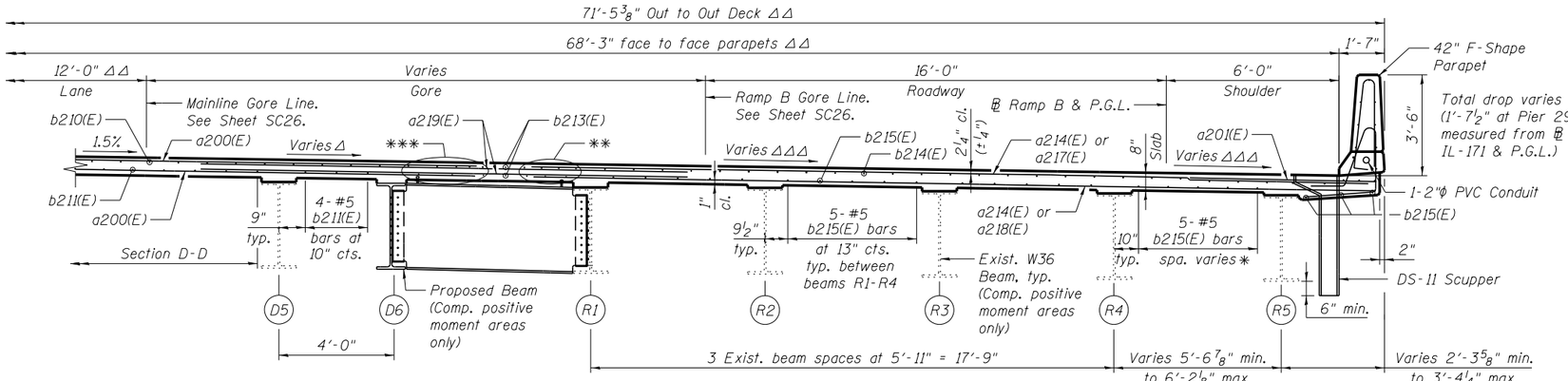
* 13½" at Pier 60
11¾" at Pier 29



NEAR MIDSPAN NEAR PIER

DECK CROSS SECTION D-D

(Looking Upstation, North)



DECK CROSS SECTION E-E

(Looking Upstation, North)

NOTES:

1. For Superstructure Details and Bar Bends, see Sheet SC45.
2. For Bill of Material, see Sheet SC46.
3. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.

Δ Cross slope varies in gore from Mainline Sta. 58+37.22 to Sta. 59+75.22. See Sheet SC26.

ΔΔ Measured perpendicular to ℄ NB IL-171.

ΔΔΔ See S.E. Data on Sheet SC38.

ΔΔΔΔ Linear slope transition from 6.5% at Ramp B Sta. 57+35.00 to 1.81% at Sta. 58+39.75. See Sheet SC26.

** Extend b214(E) and b215(E) bars in overhang of Ramp B beyond parapet to end of deck.

*** Extend b210(E) and b211(E) bars in overhang of Mainline beyond parapet to end of deck.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION UNIT D SPANS 4 THRU 6
STRUCTURE NO. 016-2456
SHEET NO. SC34 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	346
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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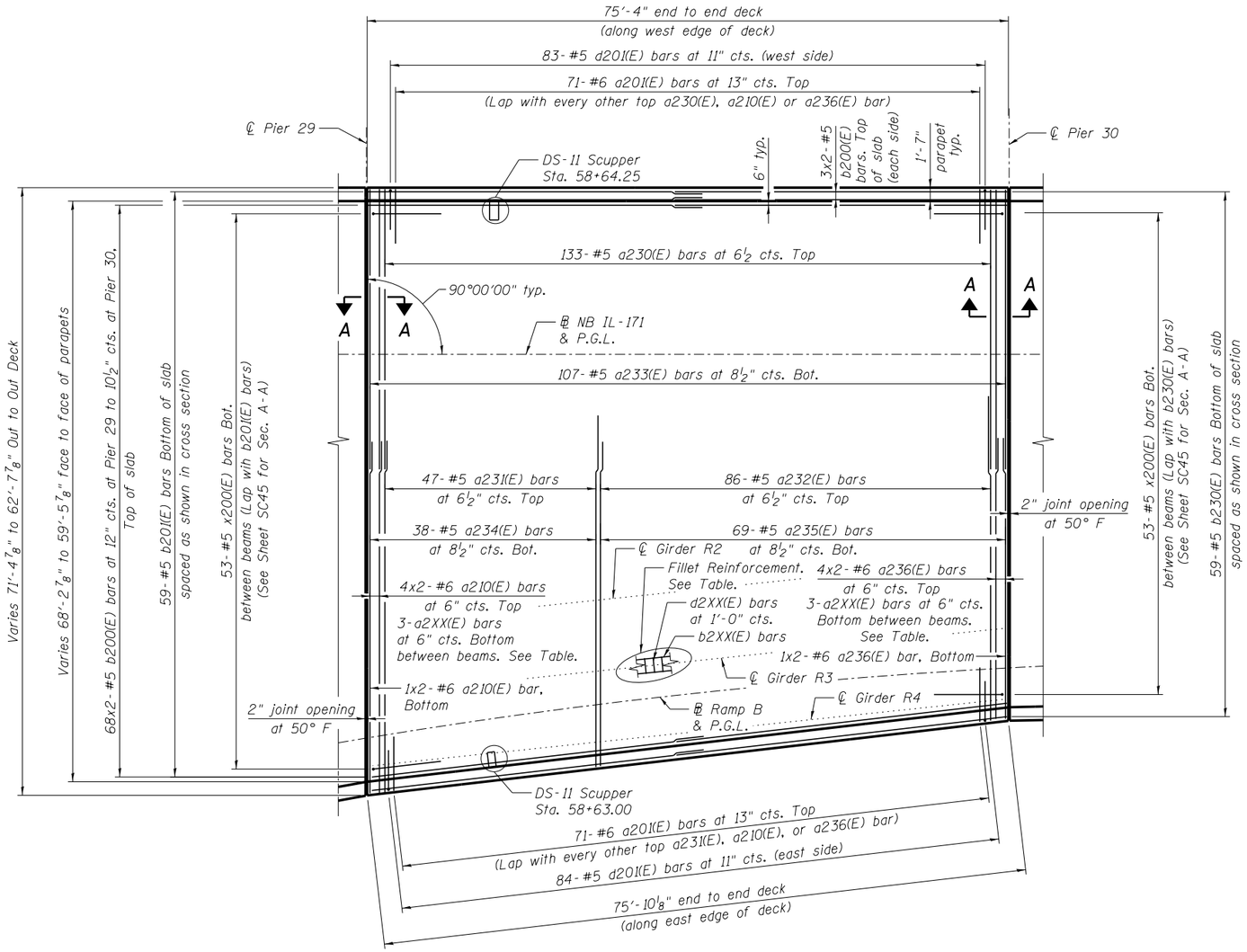

PLAN - SPAN 7

BAR a2XX(E) DATA TABLE

Span	Pier	Bay	Bar	Size
7	29	D1-D6	a237(E)	#5
7	29	D6-R1	a238(E)	#6
7	29	R1-R4	a238(E)	#6
7	30	D1-D6	a237(E)	#5
7	30	D6-R1	a239(E)	#5
7	30	R1-R2	a239(E)	#5
7	30	R2-R4	a238(E)	#6

FILLET REINFORCEMENT DATA TABLE

Girder	Start Sta.	End Sta.	b2XX(E) bars	d2XX(E) bars
R2	58+70	59+06	2-#4 b245(E)	36-#4 d208(E)
R3	58+53	59+23	2x2-#4 b245(E)	70-#4 d208(E)
R4	58+01	58+37	2-#4 b245(E)	36-#4 d208(E)

For Fillet Reinforcement detail, see Sheet SC45.
(Stations measured along ℄ Ramp B)

MINIMUM BAR LAP

(Slab)
#4 bar = 2'-7"
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. For Superstructure Details, Section A-A, and Bar Bends, see Sheet SC45.
2. For Bill of Material, see Sheet SC46.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.

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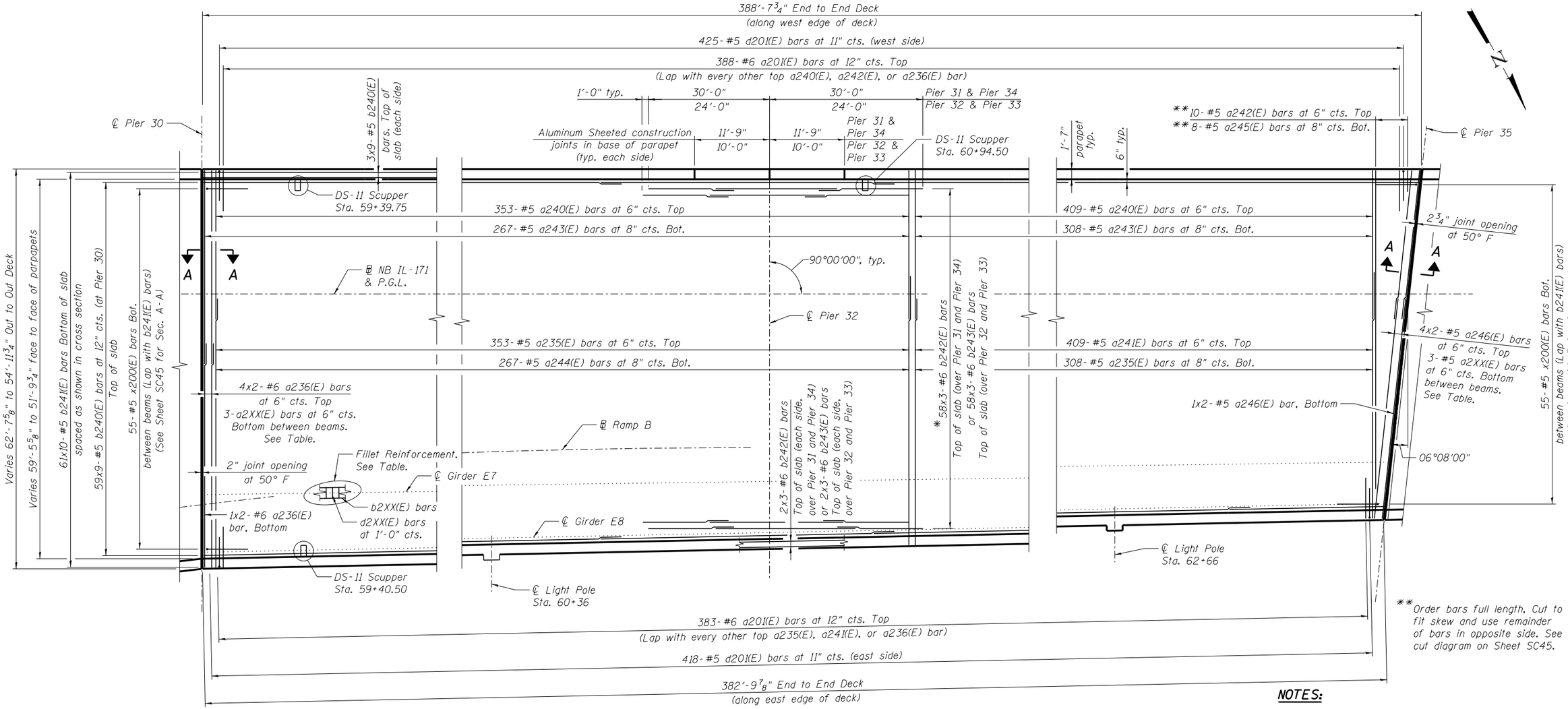
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN UNIT D SPAN 7
STRUCTURE NO. 016-2456
SHEET NO. SC35 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	347
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PLAN - SPANS 8 THRU 12

* Pier 31 at $11\frac{3}{4}$" cts.
Pier 32 at $11\frac{1}{2}$" cts.
Pier 33 at 11" cts.
Pier 34 at $10\frac{3}{4}$" cts.

** Order bars full length. Cut to fit skew and use remainder of bars in opposite side. See cut diagram on Sheet SC45.

BAR a2XX(E) DATA TABLE

Span	Pier	Bay	Bar	Size
8	30	E1-E5	a247(E)	#5
8	30	E5-E8	a248(E)	#6
12	35	E1-E5	a247(E)	#5
12	35	E5-E8	a249(E)	#5

FILLET REINFORCEMENT DATA TABLE

Girder	Start Sta.	End Sta.	b2XX(E) bars	d2XX(E) bars
E7	59+36	59+95	2x2-#4 b244(E)	59-#4 d208(E)
E8	59+25	59+95	2x2-#4 b245(E)	70-#4 d208(E)

For Fillet Reinforcement detail, see Sheet SC45.
(Stations measured along ℄ Ramp B)

MINIMUM BAR LAP

(Slab)
#4 bar = 2'-7"
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. For Superstructure Details, Section A-A, and Bar Bends, see Sheet SC45.
2. For Bill of Material, see Sheet SC46.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.
6. See Sheet SC45 for Optional Deck Pour Sequence.

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	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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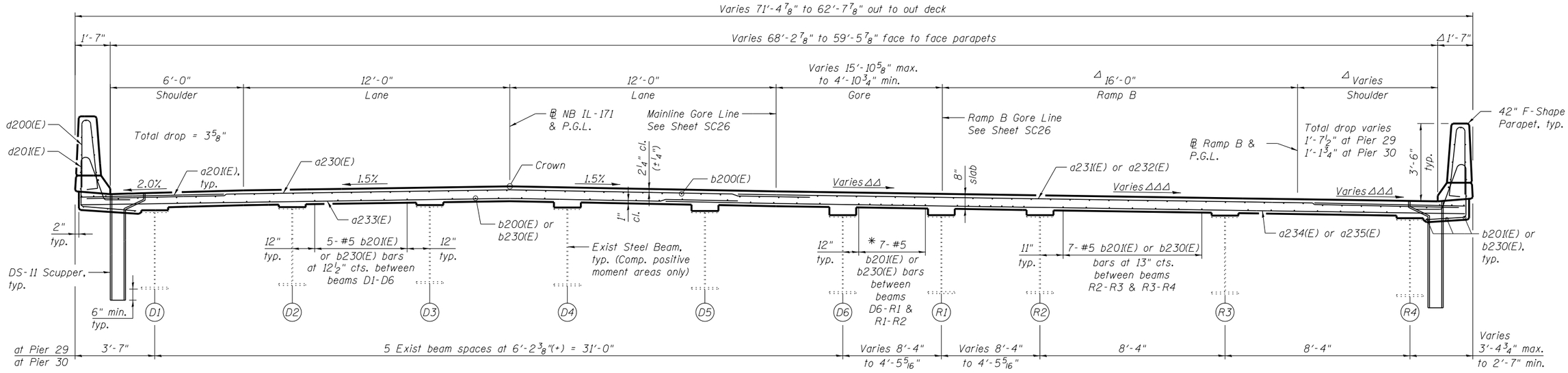
DECK PLAN UNIT E
STRUCTURE NO. 016-2456
SHEET NO. SC36 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	348
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



DECK CROSS SECTION - SPAN 7

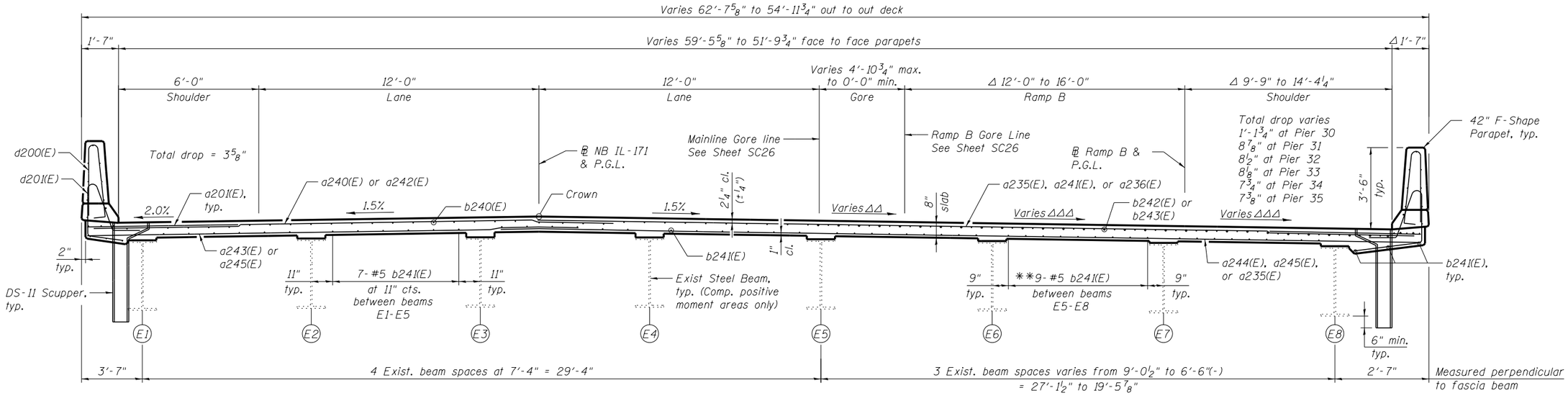
(Looking Upstation, North)

* Spacing 12 1/2" at Pier 29 and 5" at Pier 30

Δ Measured perpendicular to ℄ Ramp B.

ΔΔ Cross slope varies in gore from Sta. 58+37.22 to Sta. 59+75.22.

ΔΔΔ See S.E. Data on Sheet SC38.



NEAR MIDSPAN

NEAR PIER

DECK CROSS SECTION - SPANS 8 THRU 12

(Looking Upstation, North)

** Spacing
11 1/2" at Pier 30
10 3/4" at Pier 31
10" at Pier 32
9 3/16" at Pier 33
8 1/2" at Pier 34
7 5/8" at Pier 35

NOTES:

1. For Superstructure Details and Bar Bends, see Sheet SC45.
2. For Bill of Material, see Sheet SC46.
3. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.

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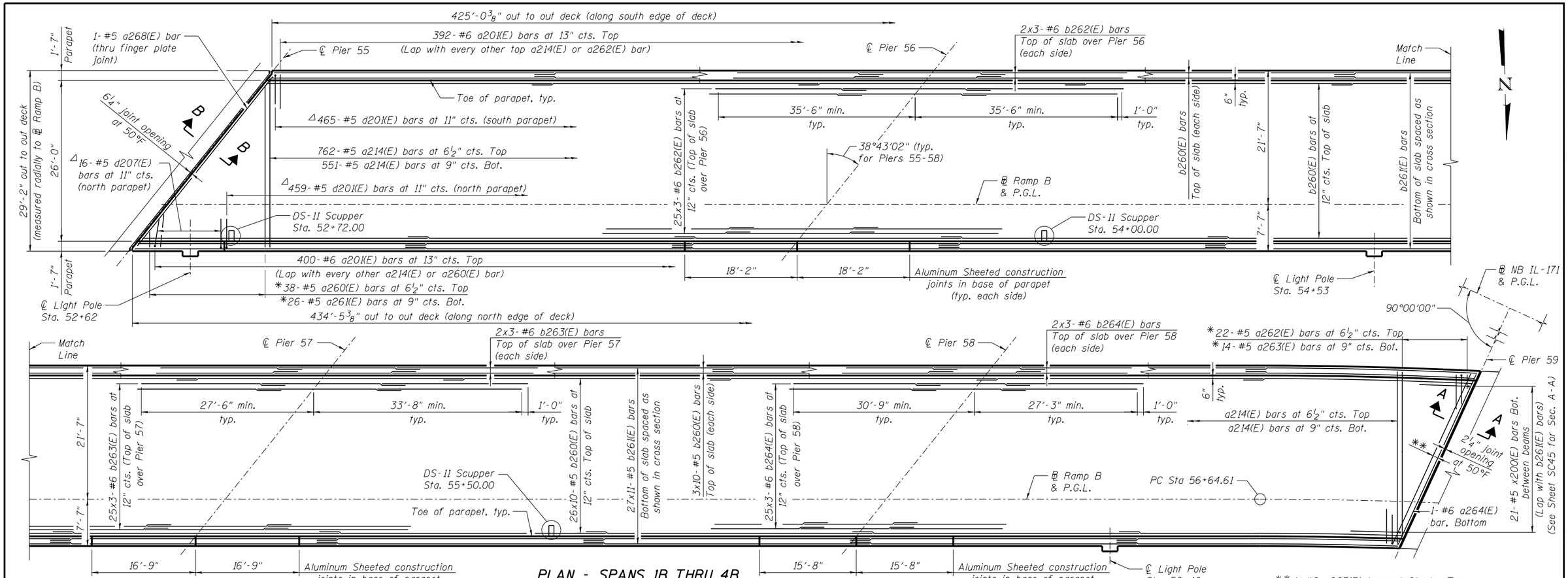
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION UNIT D SPAN 7 AND UNIT E
STRUCTURE NO. 016-2456
SHEET NO. SC37 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	349
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



PLAN - SPANS 1B THRU 4B

*Order bars full length. Cut to fit skew and use remainder of bars in opposite side. See cut diagram on Sheet SC45.

Δ Cut to fit in field

ΔΔ 13" between Pier 55 & 58, 11 3/8" at Pier 59

ΔΔΔ See S.E. Data (this sheet)

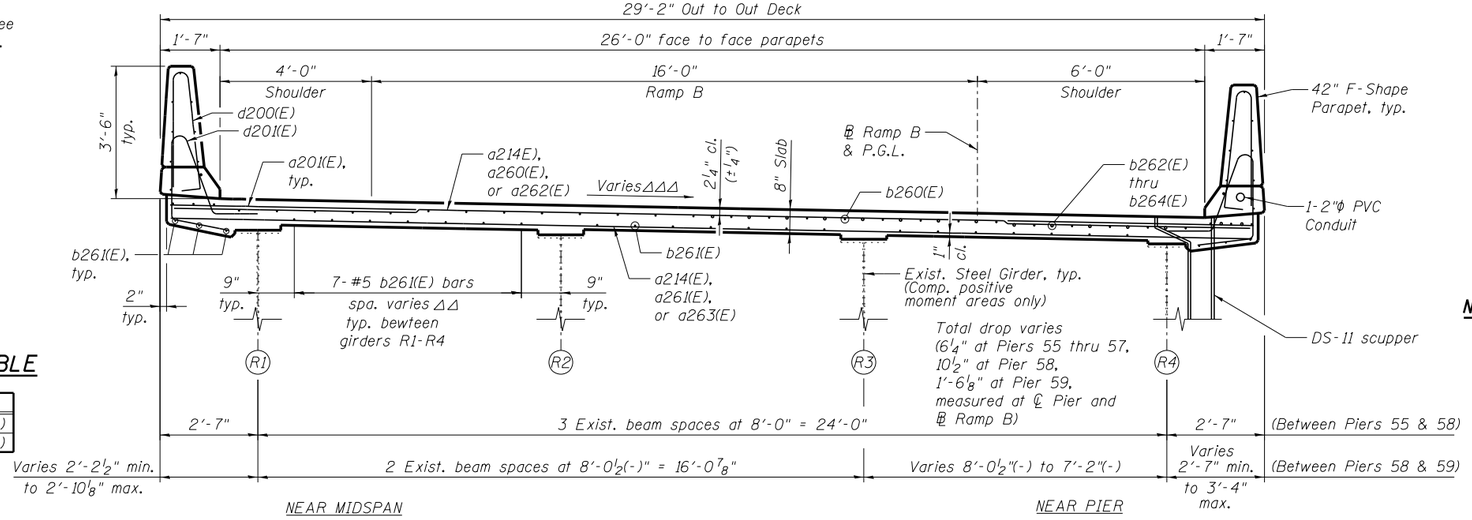
**4-#6 a265(E) bars at 6" cts. Top
3-#6 a2XX(E) bars at 6" cts.
Bottom between beams. See Table.

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

BAR a2XX(E) DATA TABLE

Span	Pier	Bay	Bar
4B	59	R1-R3	a266(E)
4B	59	R3-R4	a267(E)



DECK CROSS SECTION - SPANS 1B THRU 4B

(Looking Upstation, North)

S.E. DATA - RAMP B

Normal Crown = Sta. 55+50.00
2.0% to 2.38% S.E. = Sta. 55+50.00 to Sta. 55+75.00
2.38% to 3.25% S.E. = Sta. 55+75.00 to Sta. 56+00.00
3.25% to 3.94% S.E. = Sta. 56+00.00 to Sta. 56+25.00
3.94% to 4.69% S.E. = Sta. 56+25.00 to Sta. 56+50.00
4.69% to 5.38% S.E. = Sta. 56+50.00 to Sta. 56+75.00
5.38% to 6.5% S.E. = Sta. 56+75.00 to Sta. 57+15.00
6.5% S.E. = Sta. 57+15.00 to Sta. 58+15.00
6.5% to 5.3% S.E. = Sta. 58+15.00 to Sta. 58+45.00
5.3% S.E. = Sta. 58+45.00 to Sta. 58+80.00
5.3% to 2.0% S.E. = Sta. 58+80.00 to Sta. 59+75.00
Normal Crown = Sta. 59+75.00

NOTES:

1. For Superstructure Details, Section A-A, and Bar Bends, see Sheet SC45.
2. For Section B-B, see Sheet SC50.
3. For Bill of Material, see Sheet SC46.
4. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.
6. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.

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	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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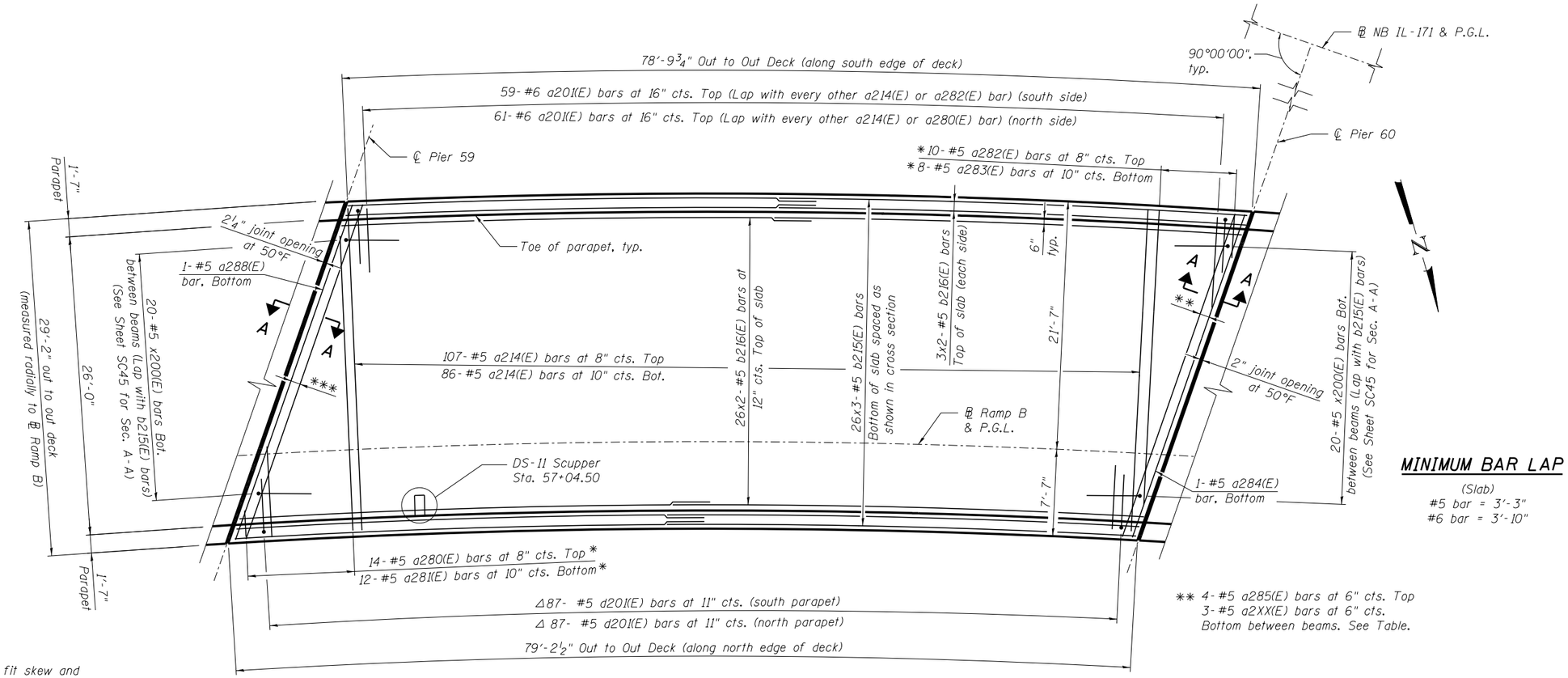
DEPARTMENT OF TRANSPORTATION

DECK PLAN & CROSS SECTION UNIT B RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC38 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	350
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PLAN - SPAN 5B

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

Δ Cut to fit in field

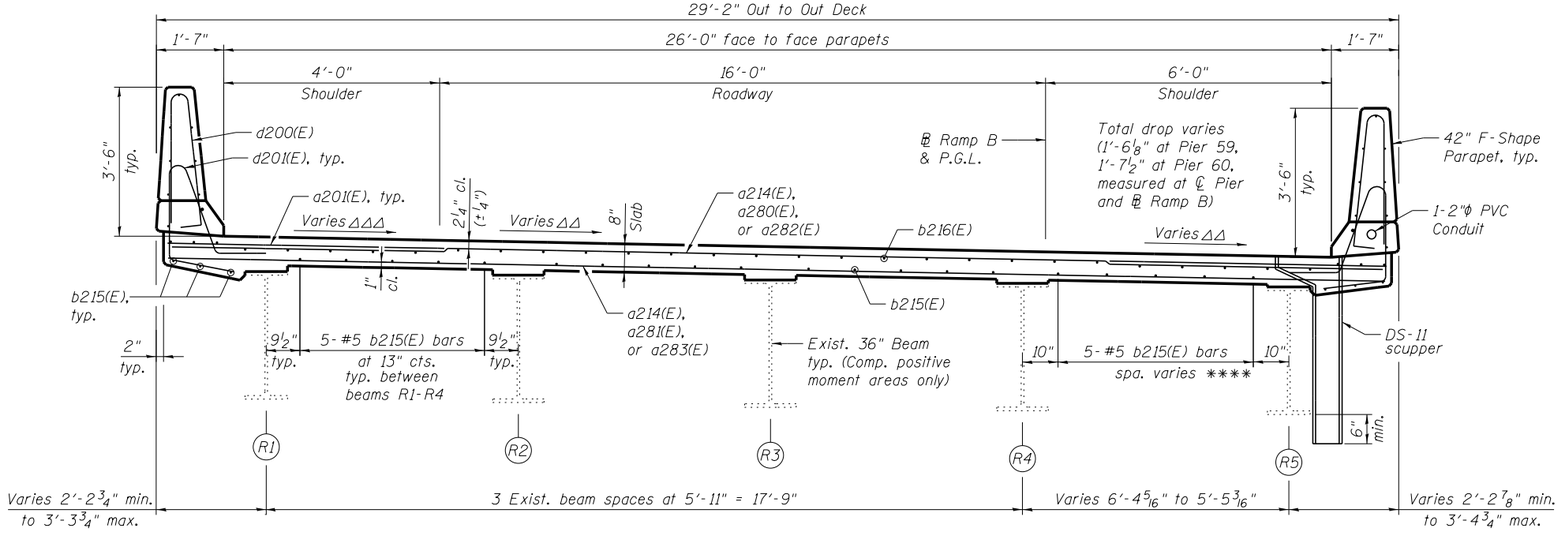
* Order bars full length. Cut to fit skew and use remainder of bars in opposite side. See Cut Diagram on Sheet SC45.

** 4-#5 a285(E) bars at 6" cts. Top
3-#5 a2XX(E) bars at 6" cts.
Bottom between beams. See Table.

*** 4-#5 a289(E) bars at 6" cts. Top
3-#5 a2XX(E) bars at 6" cts.
Bottom between beams. See table.

BAR a2XX(E) DATA TABLE

Pier	Bay	Bar
59	R1-R4	a286(E)
59	R4-R5	a290(E)
60	R1-R4	a286(E)
60	R4-R5	a287(E)



DECK CROSS SECTION - SPAN 5B

(Looking Upstation, North)

**** 14" at Pier 59
11 1/4" at Pier 60

NOTES:

1. For Superstructure Details, Section A-A, and Bar Bends, see Sheet SC45.
2. For Bill of Material, see Sheet SC46.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. Barrier widths are measured perpendicular from the edge of deck. Overhang widths are measured perpendicular from the fascia girders. Girder spacings are measured perpendicular from the east girder to the west girder at the centerline of bearing. All remaining deck dimensions are measured perpendicular to the baseline shown unless noted otherwise.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC49.

ΔΔ See S.E. Data on Sheet SC38.

ΔΔΔ Linear slope transition from 6.5% at Ramp B Sta. 57+35.00 to 1.81% at Sta. 58+39.75. See Sheet SC26.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN & CROSS SECTION UNIT D RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC39 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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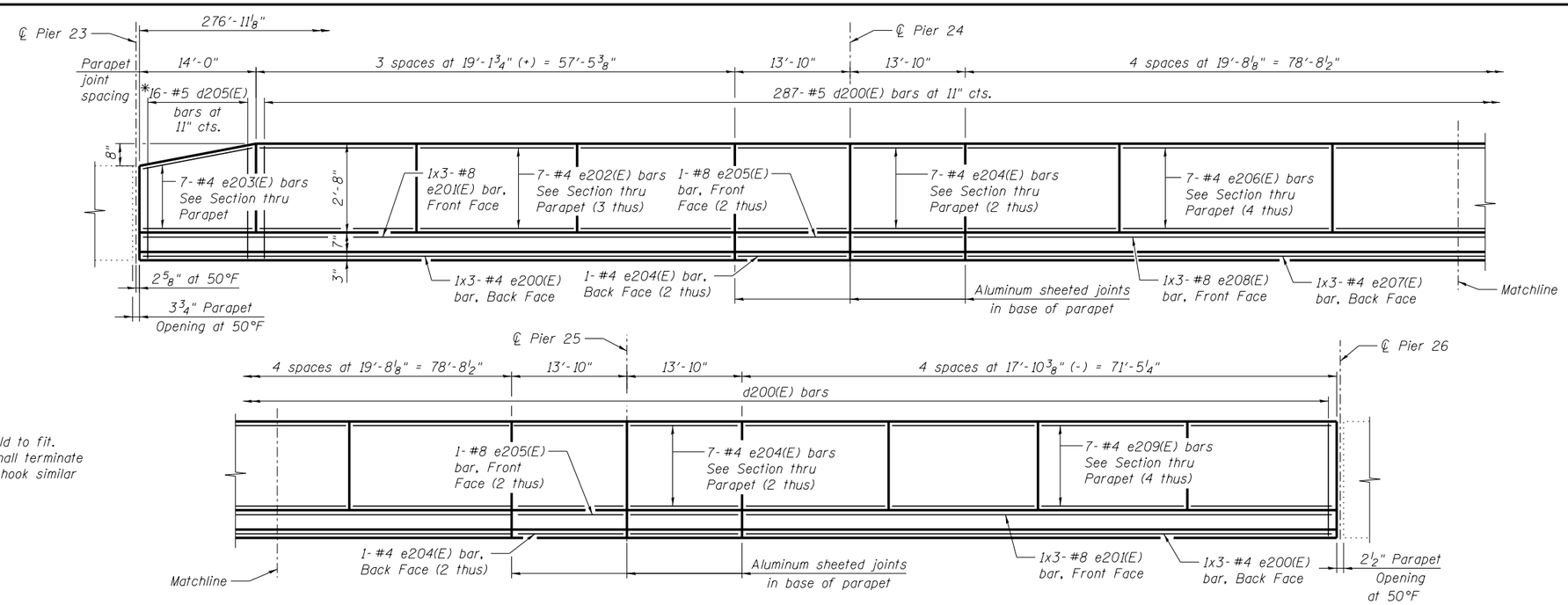
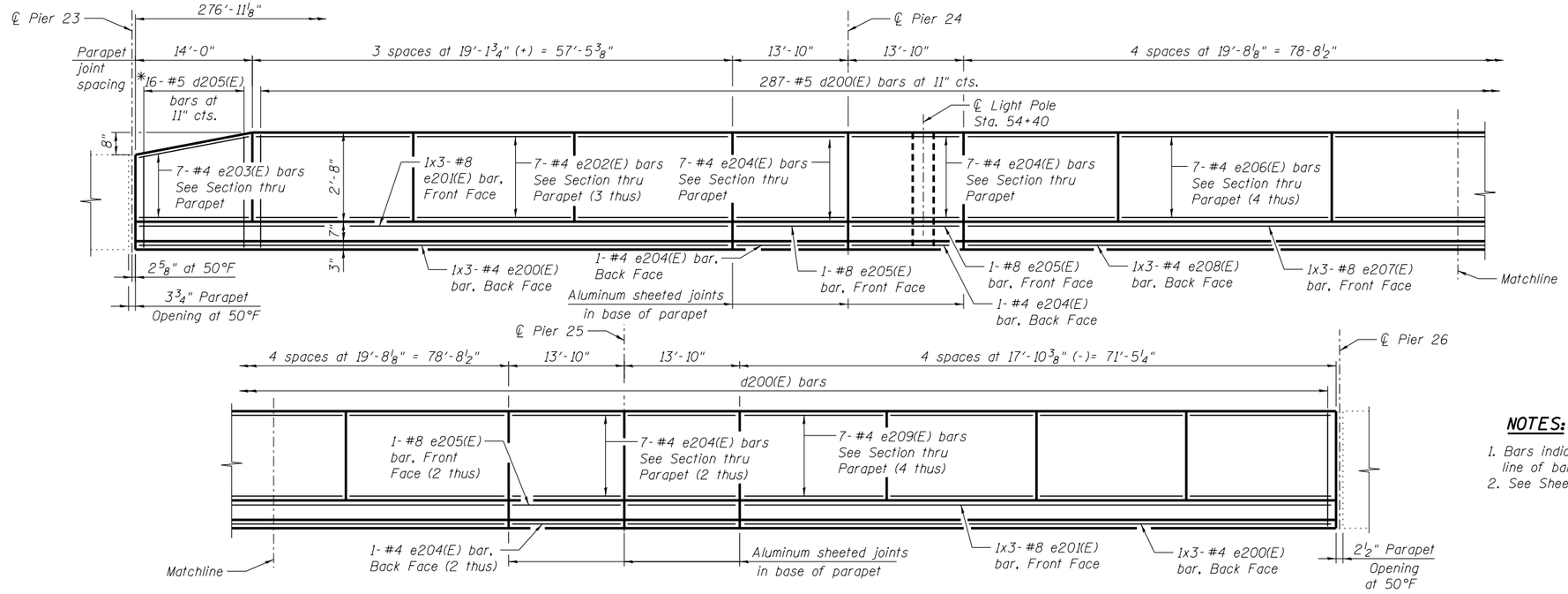


* Cut and bend in field to fit. Front (inside) leg shall terminate with 5⅞" long 90° hook similar to d200(E) bars.

INSIDE ELEVATION OF NB IL-171 WEST PARAPET



MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

NOTES:

1. Bars indicated thus 1x3-#8 etc., indicates 1 line of bars with 3 lengths per line.
2. See Sheet SC44 for Section Thru Parapet.

INSIDE ELEVATION OF NB IL-171 EAST PARAPET

(Reflected View Shown)

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PARAPET ELEVATION UNIT B
STRUCTURE NO. 016-2456
SHEET NO. SC40 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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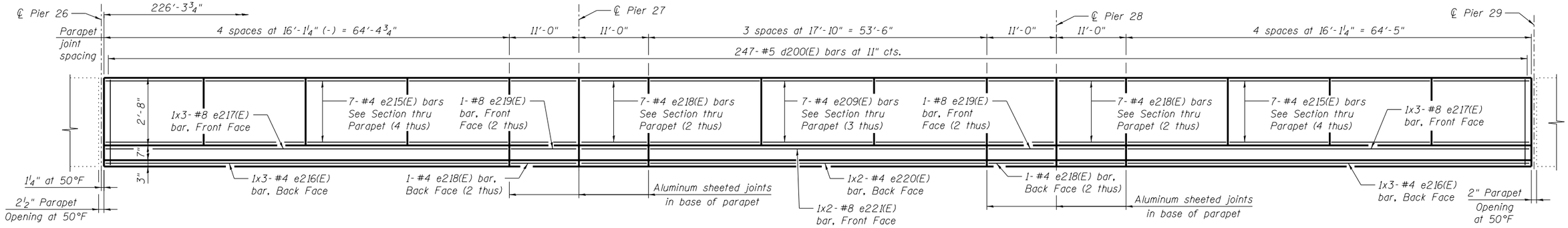
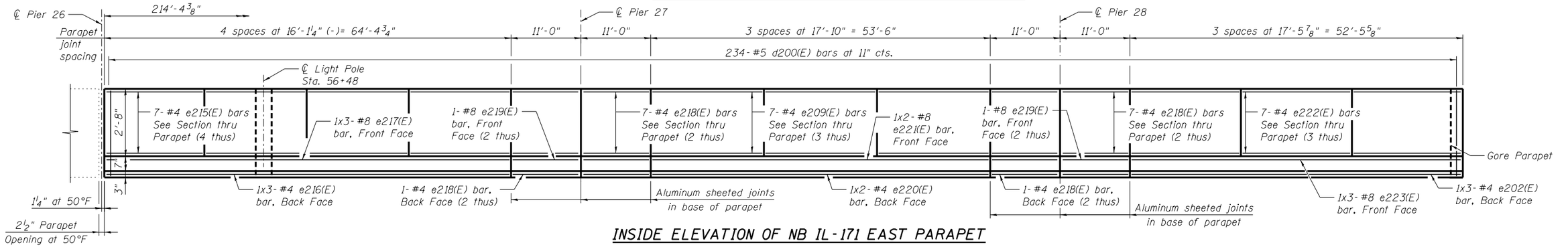
		CONTRACT NO. 60W75		
		ILLINOIS	FED. AID PROJECT	

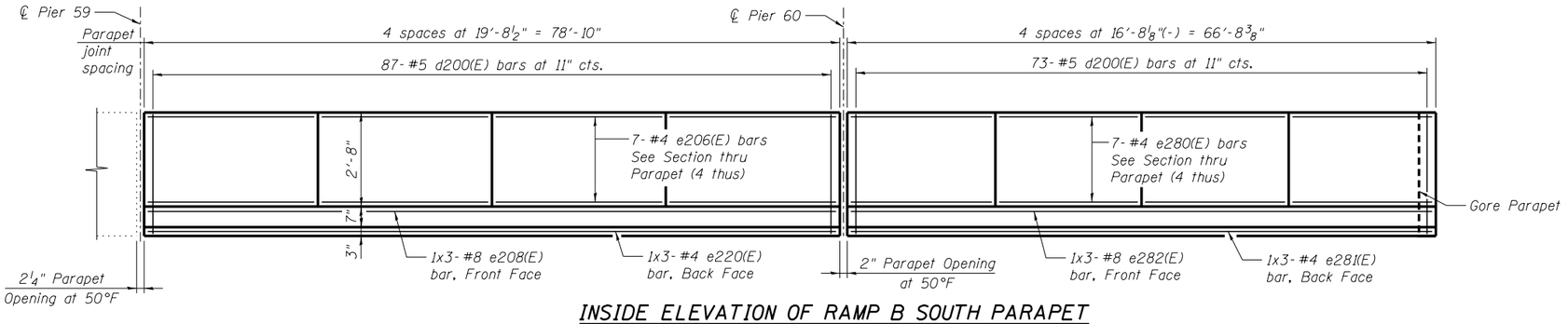


INSIDE ELEVATION OF NB IL-171 WEST PARAPET

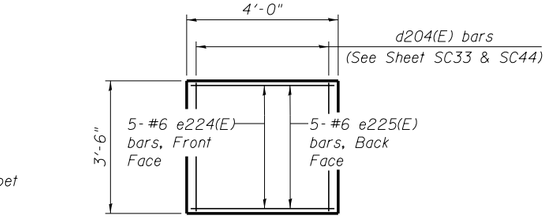


INSIDE ELEVATION OF NB IL-171 EAST PARAPET

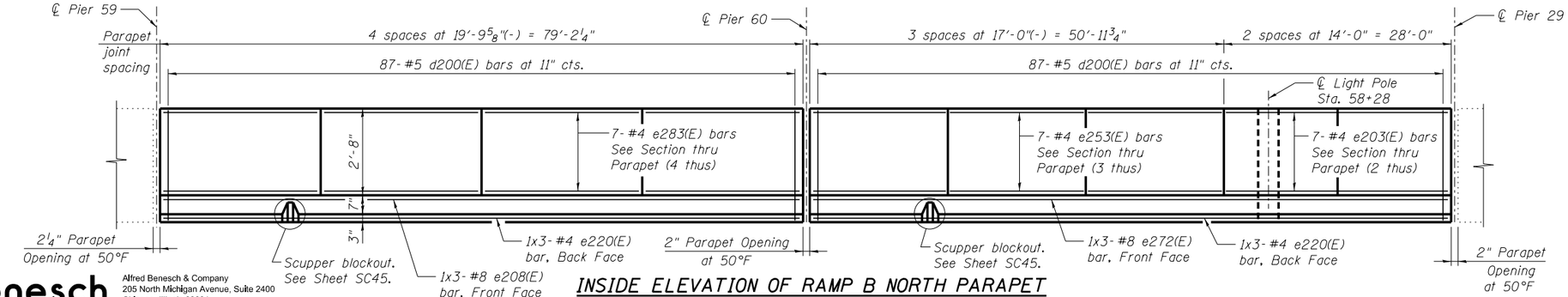
(Reflected View Shown)



INSIDE ELEVATION OF RAMP B SOUTH PARAPET



INSIDE ELEVATION OF GORE PARAPET



INSIDE ELEVATION OF RAMP B NORTH PARAPET

(Reflected View Shown)

MINIMUM BAR LAP

(Parapet)
#4 bar = 2′-0"
#8 bar = 5′-2"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline)
2. Bars indicated thus 1x3- #8 etc. indicates 1 line of bars with 3 lengths per line.
3. See Sheet SC44 for Section Thru Parapet.

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DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATION UNIT D SPANS 4 THRU 6 & UNIT D RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC41 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	353
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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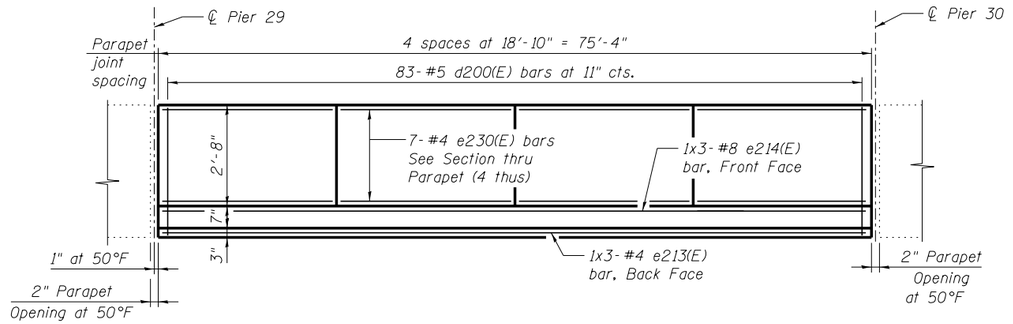
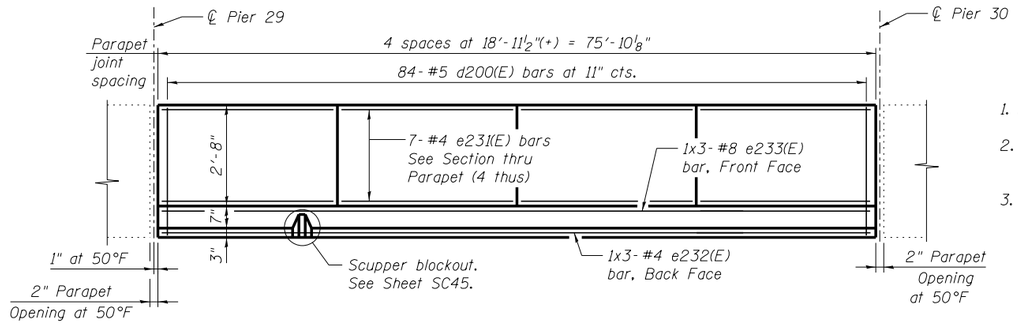


INSIDE ELEVATION OF SPAN 7 WEST PARAPET



INSIDE ELEVATION OF SPAN 7 EAST PARAPET

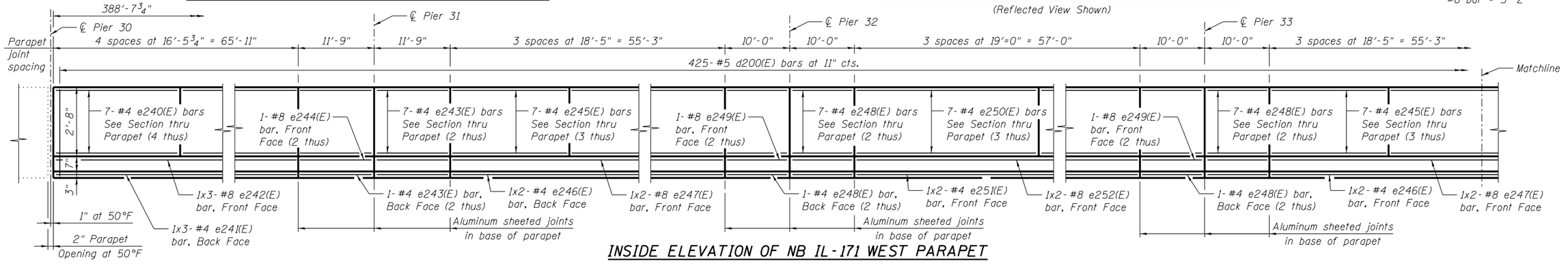
(Reflected View Shown)

NOTES:

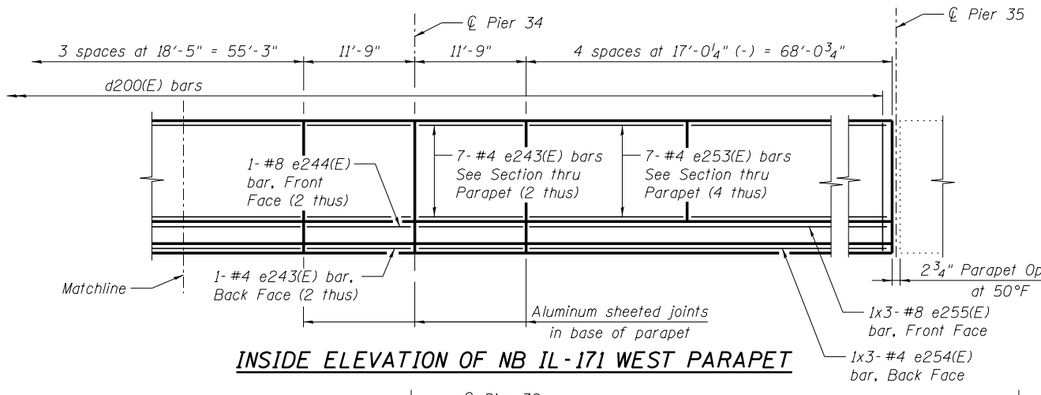
1. All dimensions shown are along the toe of the parapet (gutterline)
2. Bars indicated thus 1x3-#8 etc. indicates 1 line of bars with 3 lengths per line.
3. See Sheet SC44 for Section Thru Parapet.

MINIMUM LAP

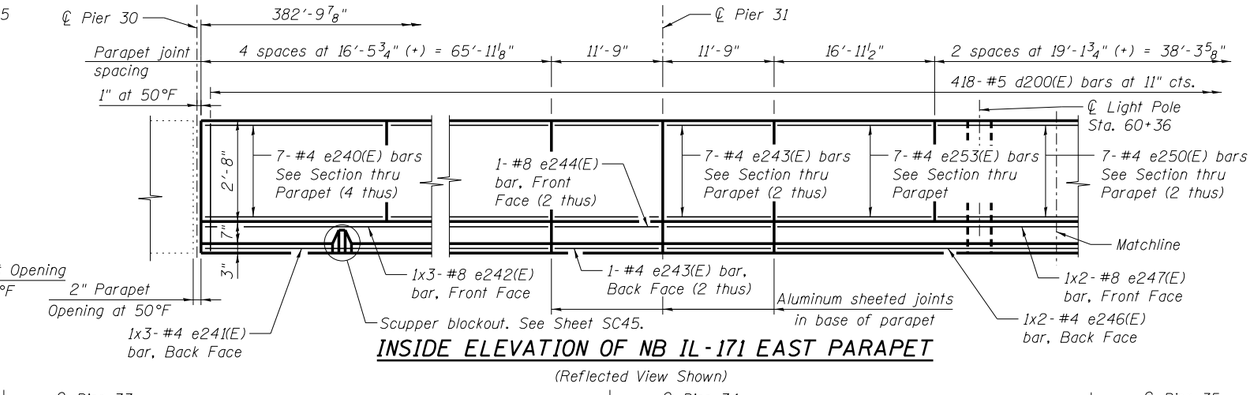
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



INSIDE ELEVATION OF NB IL-171 WEST PARAPET

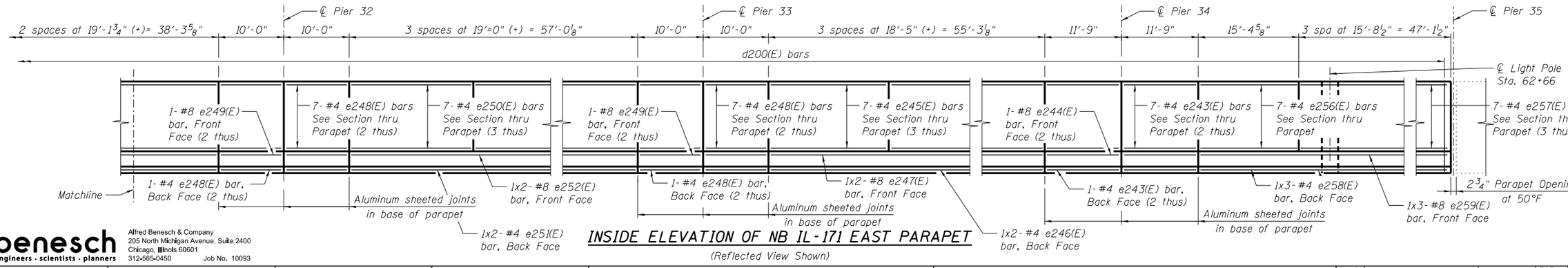


INSIDE ELEVATION OF NB IL-171 WEST PARAPET



INSIDE ELEVATION OF NB IL-171 EAST PARAPET

(Reflected View Shown)



INSIDE ELEVATION OF NB IL-171 EAST PARAPET

(Reflected View Shown)

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PARAPET ELEVATION UNIT D SPAN 7 AND UNIT E
STRUCTURE NO. 016-2456
SHEET NO. SC42 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	354
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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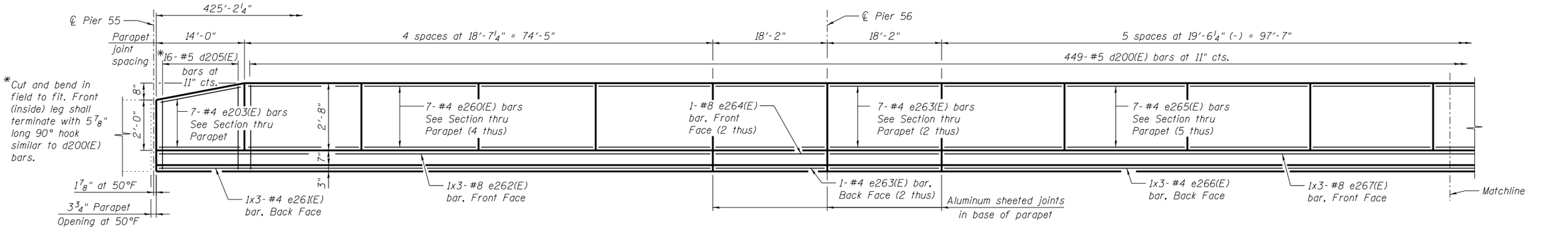
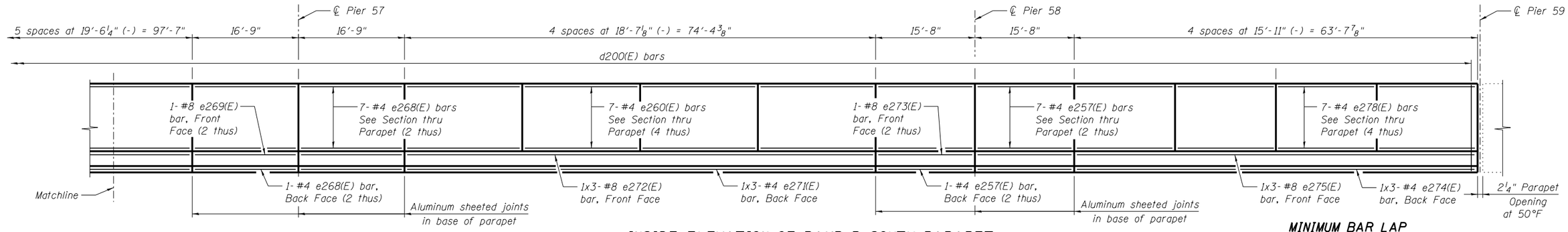
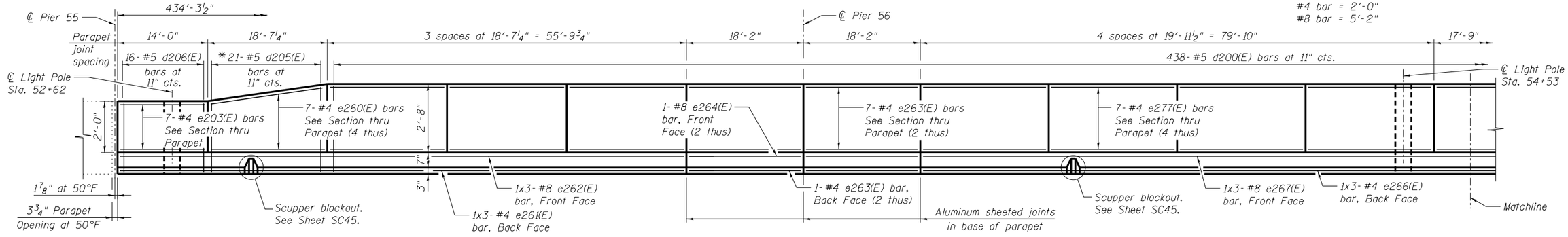


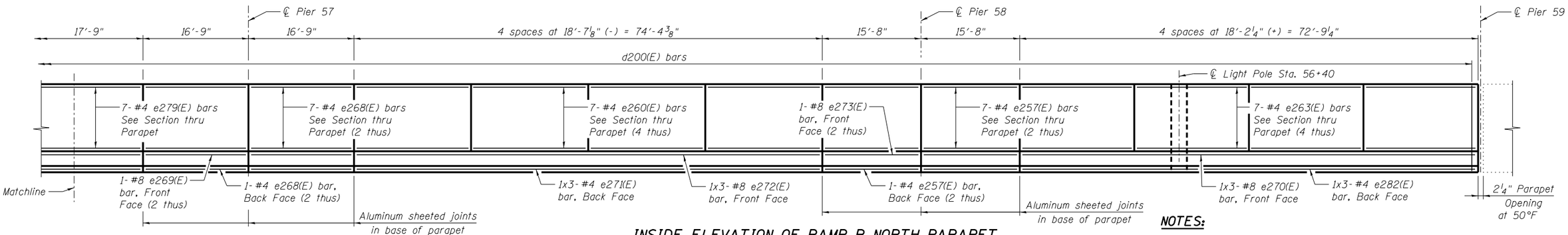


INSIDE ELEVATION OF RAMP B SOUTH PARAPET

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"





INSIDE ELEVATION OF RAMP B NORTH PARAPET

(Reflected View Shown)

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline)
2. Bars indicated thus 1x3-#8 etc. indicates 1 line of bars with 3 lengths per line.
3. See Sheet SC44 for Section Thru Parapet.

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312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MPL/JDC	REVISED -
		CHECKED - JLS	REVISED -
0162456_60W75_043_Parapet_Details_Unit_B_Ramp_B.dgn	PLOT SCALE =	DRAWN - PRT/JDC	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATION UNIT B RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC43 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	355
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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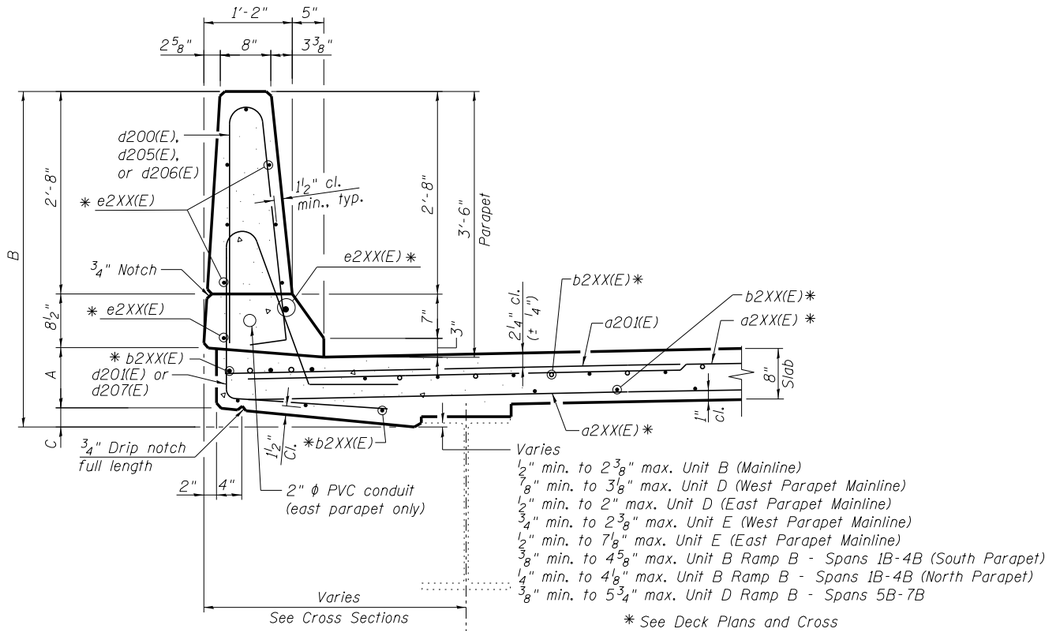
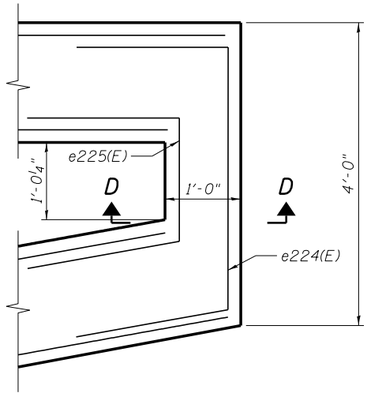


* See Deck Plans and Cross Sections for bar labeling

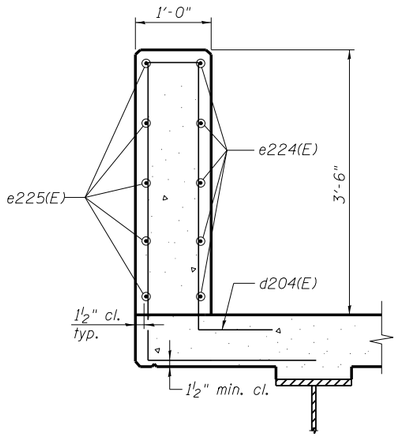
SECTION THRU PARAPET

Location	A	B	C
Unit B (Mainline)	9 1/2"	4'-6"	4"
Unit D (West Parapet Mainline)	9 1/2"	4'-7"	5"
Unit D (East Parapet Mainline)	9 1/2"	4'-6"	4"
Unit E (West Parapet Mainline)	9 1/2"	4'-7"	5"
Unit E (East Parapet Mainline)	14"	4'-11 1/2"	5"
Unit B Ramp B - Spans 1B-4B (South Parapet)	11"	4'-8 1/2"	5"
Unit B Ramp B - Spans 1B-4B (North Parapet)	9 1/2"	4'-7"	5"
Unit D Ramp B - Spans 5B-7B	11 1/2"	4'-9"	5"

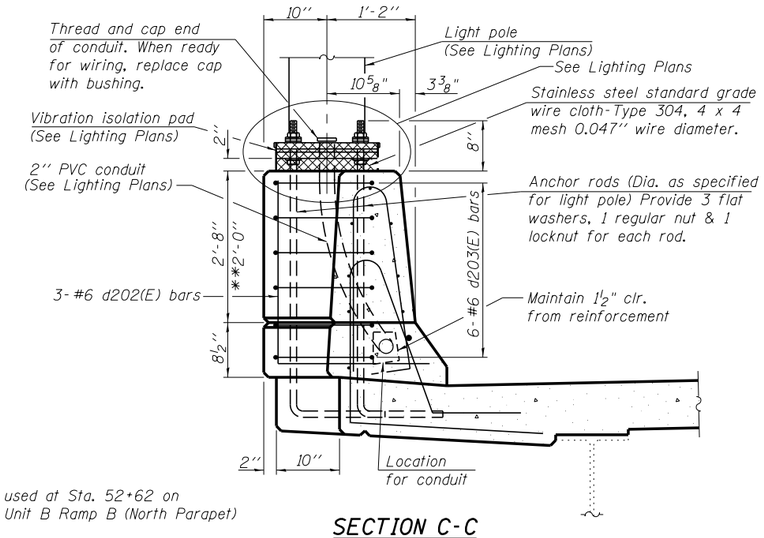


DETAIL 1

(See Sheet SC32)

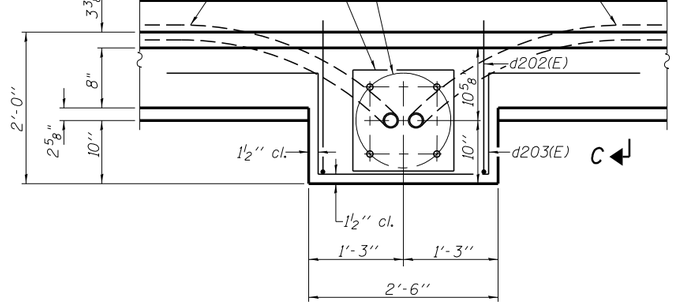


SECTION D-D

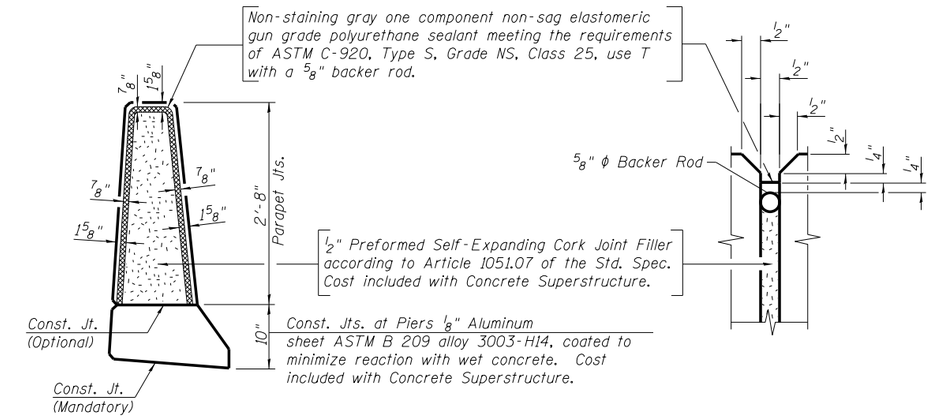


** used at Sta. 52+62 on Unit B Ramp B (North Parapet)

SECTION C-C



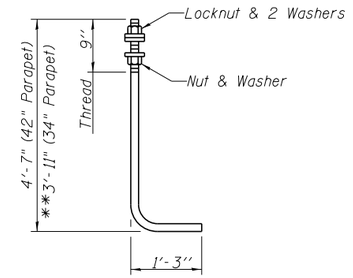
PLAN



PARAPET JOINT DETAILS

NOTE:

Cost of anchor rods is included with "Concrete Superstructure".



ANCHOR ROD

Diameter as specified for light poles.
(ASTM F 1554 Grade 105)
Full length hot dipped galvanized.

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FILE NAME = 0162456_60W75_044_Parapet_Details.dgn	USER NAME = jsurber	DESIGNED - MPL/JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT/JDC	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC44 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	356
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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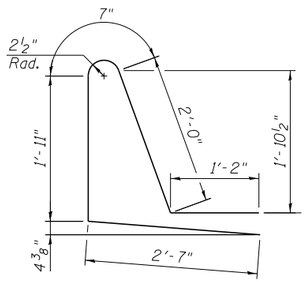
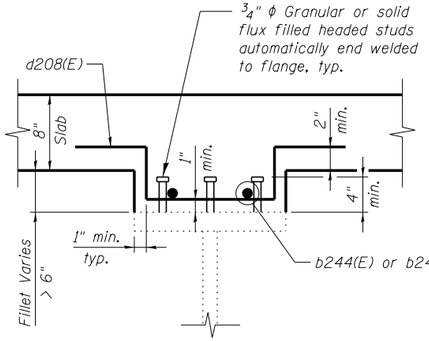
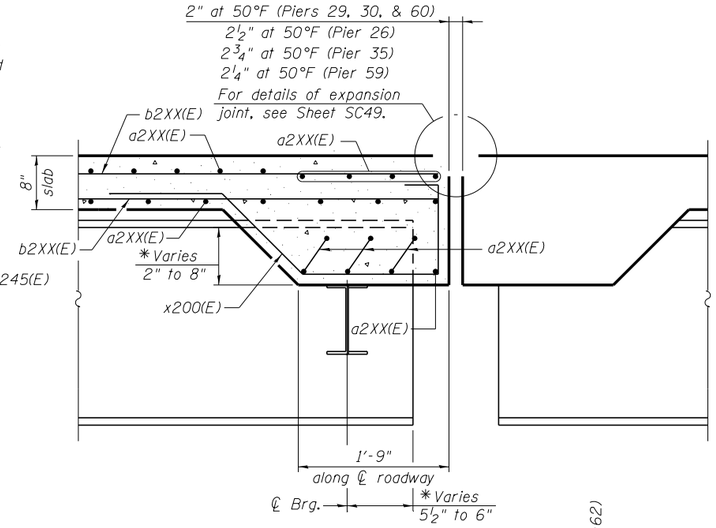


BAR d201(E)



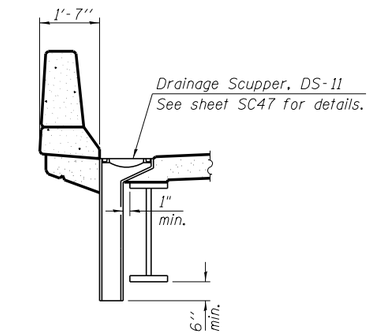
REINFORCED FILLET DETAIL

(Required when fillet height exceeds 6")
(See Sheets SC33, SC35 & SC36)

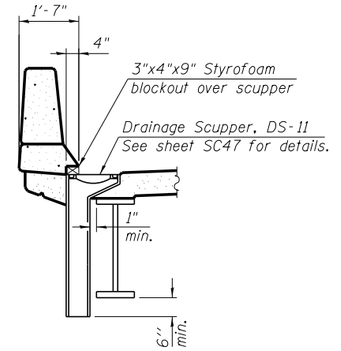


SECTION A-A

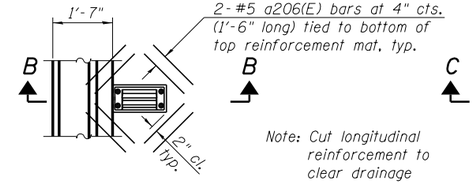
*These dimensions shall be determined in field



SECTION B-B



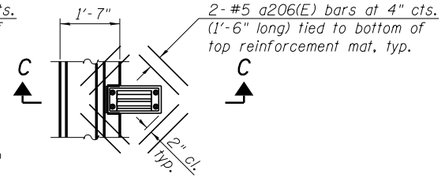
SECTION C-C



Note: Cut longitudinal reinforcement to clear drainage scuppers.

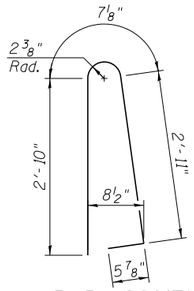
PLAN

All scuppers - Mainline Span 1-7
West scuppers - Spans 8-12

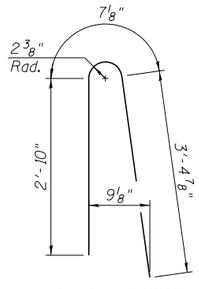


PLAN

East scuppers - Ramp B, Spans 8-12



BAR d200(E)



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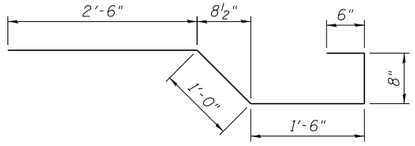
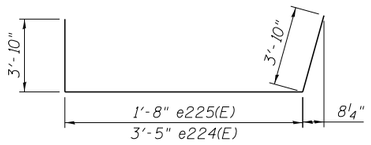
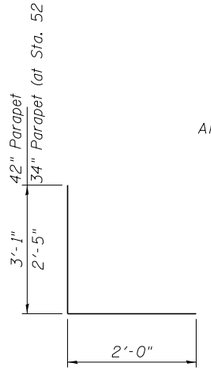


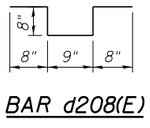
BAR x200(E)



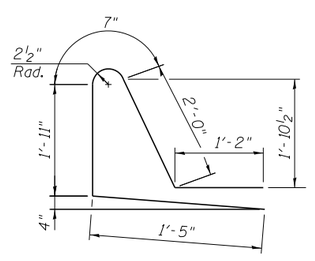
BARS e224(E) & e225(E)



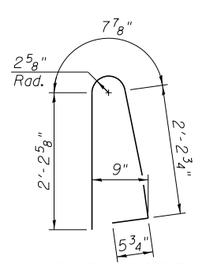
BAR d202(E)



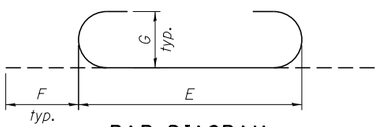
BAR d208(E)



BAR d207(E)



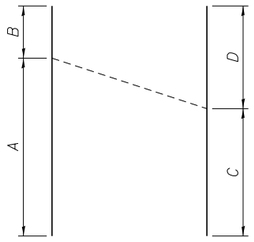
BAR d206(E)



BAR DIAGRAM

(See table for designations)

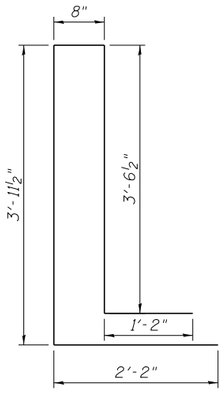
Bar	E	F	G
a203(E)	6'-9"	8"	6"
a204(E)	2'-9"	8"	6"
a211(E)	3'-5"	7"	5"
a212(E)	4'-9"	7"	5"
a213(E)	4'-5"	7"	5"
a222(E)	4'-9"	7"	5"
a223(E)	5'-1"	7"	5"
a237(E)	4'-11"	7"	5"
a238(E)	7'-1"	8"	6"
a239(E)	3'-2"	7"	5"
a247(E)	6'-1"	7"	5"
a248(E)	7'-9"	8"	6"
a249(E)	5'-3"	7"	5"
a266(E)	7'-3"	8"	6"
a267(E)	6'-3"	8"	6"
a286(E)	5'-0"	7"	5"
a287(E)	4'-5"	7"	5"
a290(E)	5'-6"	7"	5"



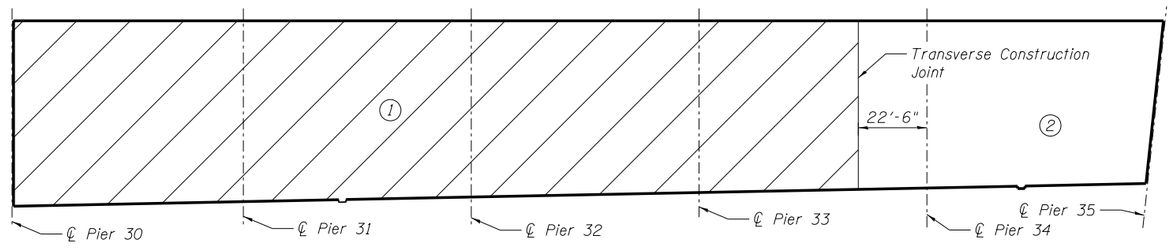
CUTTING DIAGRAM

(See table for designations)

Bar	A	B	C	D
a215(E)	26'-6"	4'-9"	16'-10"	14'-5"
a216(E)	25'-11"	4'-9"	16'-10"	13'-10"
a217(E)	24'-10"	10'-8"	19'-6"	16'-0"
a218(E)	23'-11"	8'-11"	18'-11"	13'-11"
a242(E)	48'-3"	6'-5"	29'-8"	25'-0"
a245(E)	46'-9"	3'-0"	28'-0"	21'-9"
a260(E)	27'-2"	2'-2"	15'-0"	14'-4"
a261(E)	26'-9"	3'-9"	15'-8"	14'-10"
a262(E)	26'-9"	1'-6"	14'-9"	13'-6"
a263(E)	26'-3"	5'-1"	16'-6"	14'-10"
a280(E)	27'-0"	5'-4"	17'-0"	15'-4"
a281(E)	26'-7"	3'-8"	16'-2"	14'-1"
a282(E)	26'-4"	5'-7"	17'-2"	14'-9"
a283(E)	25'-9"	5'-6"	17'-1"	14'-2"



BAR d204(E)



OPTIONAL DECK POUR SEQUENCE - UNIT E

NOTES:

1. When the deck pour is stopped for the day at the transverse construction joint in the deck pouring sequence shown, the next pour shall not be made until both of the following are met:
   A) At least 72 hours shall have elapsed from the end of the previous pour.
   B) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
2. All dimensions are out to out.

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FILE NAME = 0162456_60W75_045_Deck_Details.dgn	USER NAME = jsurber	DESIGNED - MPL/JDC	REVISED -
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	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS AND BAR BENDS
STRUCTURE NO. 016-2456
SHEET NO. SC45 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	357
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

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UNIT B BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a200(E)	875	#5	42'-6"	
a201(E)	512	#6	6'-6"	
a202(E)	4	#6	42'-6"	
a203(E)	12	#6	8'-1"	
a204(E)	3	#6	4'-1"	
a205(E)	1	#6	35'-9"	
a206(E)	32	#5	1'-6"	
a207(E)	7	#6	7'-6"	
b200(E)	368	#5	37'-6"	
b201(E)	342	#5	33'-8"	
b202(E)	86	#6	53'-0"	
d200(E)	574	#5	6'-10"	
d201(E)	606	#5	8'-3"	
d202(E)	3	#6	5'-1"	
d203(E)	6	#6	8'-11"	
d205(E)	30	#5	6'-10"	
e200(E)	12	#4	25'-1"	
e201(E)	12	#8	27'-3"	
e202(E)	42	#4	18'-10"	
e203(E)	14	#4	13'-8"	
e204(E)	64	#4	13'-6"	
e205(E)	8	#8	13'-6"	
e206(E)	56	#4	19'-4"	
e207(E)	6	#4	27'-7"	
e208(E)	6	#8	29'-7"	
e209(E)	56	#4	17'-6"	
x200(E)	32	#5	6'-2"	
Concrete Superstructure		Cu. Yd.	392.2	
Reinforcement Bars, Epoxy Coated		Pound	92,030	

UNIT B RAMP B BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a201(E)	792	#6	6'-6"	
a206(E)	16	#5	1'-6"	
a214(E)	1313	#5	28'-6"	
a260(E)	19	#5	29'-4"	
a261(E)	13	#5	30'-6"	
a262(E)	11	#5	28'-3"	
a263(E)	7	#5	31'-4"	
a264(E)	1	#6	25'-2"	
a265(E)	4	#6	30'-8"	
a266(E)	6	#6	8'-7"	
a267(E)	3	#6	7'-7"	
a268(E)	1	#5	36'-3"	
b260(E)	320	#5	46'-5"	
b261(E)	297	#5	42'-6"	
b262(E)	87	#6	26'-8"	
b263(E)	87	#6	23'-4"	
b264(E)	87	#6	22'-3"	
d200(E)	887	#5	6'-10"	
d201(E)	924	#5	8'-3"	
d202(E)	9	#6	5'-1"	
d203(E)	18	#6	8'-11"	
d205(E)	37	#5	6'-10"	
d206(E)	16	#5	5'-7"	
d207(E)	16	#5	7'-1"	
e203(E)	14	#4	13'-8"	
e257(E)	32	#4	15'-4"	
e260(E)	112	#4	18'-3"	
e261(E)	6	#4	30'-10"	
e262(E)	6	#8	32'-11"	
e263(E)	60	#4	17'-10"	
e264(E)	4	#8	17'-10"	
e265(E)	35	#4	19'-2"	
e266(E)	6	#4	33'-11"	
e267(E)	6	#8	36'-0"	
e268(E)	32	#4	16'-5"	
e269(E)	4	#8	16'-5"	
e270(E)	3	#8	27'-9"	
e271(E)	6	#4	26'-2"	
e272(E)	6	#8	28'-3"	
e273(E)	4	#8	15'-4"	
e274(E)	3	#4	22'-7"	
e275(E)	3	#8	24'-8"	
e277(E)	28	#4	19'-7"	
e278(E)	28	#4	15'-7"	
e279(E)	7	#4	17'-5"	
e282(E)	3	#4	25'-8"	
x200(E)	21	#5	6'-2"	
Concrete Superstructure		Cu. Yd.	454.7	
Reinforcement Bars, Epoxy Coated		Pound	109,040	

UNIT D SPANS 4-6 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a200(E)	713	#5	42'-6"	
a201(E)	518	#6	6'-6"	
a202(E)	4	#6	42'-6"	
a203(E)	24	#6	8'-1"	
a204(E)	6	#6	4'-1"	
a205(E)	1	#6	35'-9"	
a206(E)	24	#5	1'-6"	
a210(E)	10	#6	37'-6"	
a211(E)	3	#5	4'-7"	
a212(E)	9	#5	5'-11"	
a213(E)	3	#5	5'-7"	
a214(E)	202	#5	28'-6"	
a215(E)	5	#5	31'-3"	
a216(E)	4	#5	30'-8"	
a217(E)	2	#5	35'-6"	
a218(E)	2	#5	32'-10"	
a219(E)	32	#5	21'-4"	
a220(E)	4	#5	29'-11"	
a221(E)	1	#5	24'-6"	
a222(E)	9	#5	5'-11"	
a223(E)	3	#5	6'-3"	
b210(E)	230	#5	47'-10"	
b211(E)	228	#5	40'-5"	
b212(E)	86	#6	47'-0"	
b213(E)	2	#5	12'-8"	
b214(E)	64	#5	41'-3"	
b215(E)	78	#5	28'-6"	
b245(E)	2	#4	36'-4"	
d200(E)	641	#5	6'-10"	
d201(E)	641	#5	8'-3"	
d202(E)	6	#6	5'-1"	
d203(E)	12	#6	8'-11"	
d204(E)	3	#5	11'-6"	
d208(E)	36	#4	3'-5"	
e202(E)	3	#4	18'-10"	
e203(E)	14	#4	13'-8"	
e209(E)	42	#4	17'-6"	
e215(E)	84	#4	15'-9"	
e216(E)	9	#4	22'-10"	
e217(E)	9	#8	25'-0"	
e218(E)	64	#4	10'-8"	
e219(E)	8	#8	10'-8"	
e220(E)	7	#4	27'-9"	
e221(E)	4	#8	29'-4"	
e222(E)	21	#4	17'-1"	
e223(E)	3	#8	20'-11"	
e224(E)	5	#6	11'-1"	
e225(E)	5	#6	9'-4"	
e253(E)	21	#4	16'-8"	
e272(E)	3	#8	29'-10"	
e280(E)	28	#4	16'-4"	
e281(E)	3	#4	23'-7"	
e282(E)	3	#8	25'-8"	
x200(E)	105	#5	6'-2"	
Concrete Superstructure		Cu. Yd.	410.1	
Reinforcement Bars, Epoxy Coated		Pound	93,630	

UNIT D SPAN 7 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a201(E)	142	#6	6'-6"	
a206(E)	16	#5	1'-6"	
a210(E)	10	#6	37'-6"	
a230(E)	133	#5	32'-11"	
a231(E)	47	#5	41'-3"	
a232(E)	86	#5	38'-2"	
a233(E)	107	#5	29'-8"	
a234(E)	38	#5	45'-2"	
a235(E)	69	#5	42'-2"	
a236(E)	10	#6	33'-3"	
a237(E)	30	#5	6'-1"	
a238(E)	18	#6	8'-5"	
a239(E)	6	#5	4'-4"	
b200(E)	148	#5	39'-7"	
b201(E)	59	#5	45'-7"	
b230(E)	59	#5	33'-7"	
b245(E)	8	#4	36'-4"	
d200(E)	167	#5	6'-10"	
d201(E)	167	#5	8'-3"	
d208(E)	142	#4	3'-5"	
e213(E)	3	#4	26'-6"	
e214(E)	3	#8	28'-7"	
e230(E)	28	#4	18'-6"	
e231(E)	28	#4	18'-7"	
e232(E)	3	#4	26'-8"	
e233(E)	3	#8	28'-9"	
x200(E)	106	#5	6'-2"	
Concrete Superstructure		Cu. Yd.	164.2	
Reinforcement Bars, Epoxy Coated		Pound	37,140	

UNIT D RAMP B SPAN 5B BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a201(E)	120	#6	6'-6"	
a206(E)	8	#5	1'-6"	
a214(E)	193	#5	28'-6"	
a280(E)	7	#5	32'-4"	
a281(E)	6	#5	30'-3"	
a282(E)	5	#5	31'-11"	
a283(E)	4	#5	31'-3"	
a284(E)	1	#5	24'-2"	
a285(E)	4	#5	29'-7"	
a286(E)	18	#5	6'-2"	
a287(E)	3	#5	5'-7"	
a288(E)	1	#5	25'-2"	
a289(E)	4	#5	30'-9"	
a290(E)	3	#5	6'-8"	
b215(E)	78	#5	28'-6"	
b216(E)	64	#5	41'-1"	
d200(E)	174	#5	6'-10"	
d201(E)	174	#5	8'-3"	
e206(E)	28	#4	19'-4"	
e208(E)	6	#8	29'-10"	
e220(E)	6	#4	27'-9"	
e283(E)	28	#4	19'-5"	
x200(E)	40	#5	6'-2"	
Concrete Superstructure		Cu. Yd.	87.8	
Reinforcement Bars, Epoxy Coated		Pound	17,480	

UNIT E BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a201(E)	771	#6	6'-6"	
a206(E)	24	#5	1'-6"	
a235(E)	661	#5	42'-2"	
a236(E)	10	#6	33'-3"	
a240(E)	762	#5	23'-4"	
a241(E)	409	#5	38'-8"	
a242(E)	5	#5	54'-8"	
a243(E)	575	#5	19'-10"	
a244(E)	267	#5	45'-8"	
a245(E)	4	#5	49'-9"	
a246(E)	10	#5	29'-2"	
a247(E)	24	#5	7'-3"	
a248(E)	9	#6	9'-1"	
a249(E)	9	#5	6'-5"	
b240(E)	585	#5	46'-1"	
b241(E)	610	#5	41'-11"	
b242(E)	372	#6	22'-11"	
b243(E)	372	#6	18'-11"	
b244(E)	4	#4	30'-10	
b245(E)	4	#4	36'-4"	
d200(E)	843	#5	6'-10"	
d201(E)	843	#5	8'-3"	
d202(E)	6	#6	5'-1"	
d203(E)	12	#6	8'-11"	
d208(E)	129	#4	3'-5"	
e240(E)	56	#4	16'-1"	
e241(E)	6	#4	23'-4"	
e242(E)	6	#8	25'-5"	
e243(E)	64	#4	11'-5"	
e244(E)	8	#8	11'-5"	
e245(E)	63	#4	18'-1"	
e246(E)	8	#4	28'-8"	
e247(E)	8	#8	30'-3"	
e248(E)	64	#4	9'-8"	
e249(E)	8	#8	9'-8"	
e250(E)	56	#4	18'-8"	
e251(E)	4	#4	29'-6"	
e252(E)	4	#8	31'-2"	
e253(E)	35	#4	16'-7"	
e254(E)	3	#4	24'-0"	
e255(E)	3	#8	26'-2"	
e256(E)	7	#4	15'-0"	
e257(E)	21	#4	15'-4"	
e258(E)	3	#4	22'-3"	
e259(E)	3	#8	24'-4"	
x200(E)	110	#5	6'-2"	
Concrete Superstructure		Cu. Yd.	717.8	
Reinforcement Bars, Epoxy Coated		Pound	197,060	

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312-565-0450 Job No. 10093

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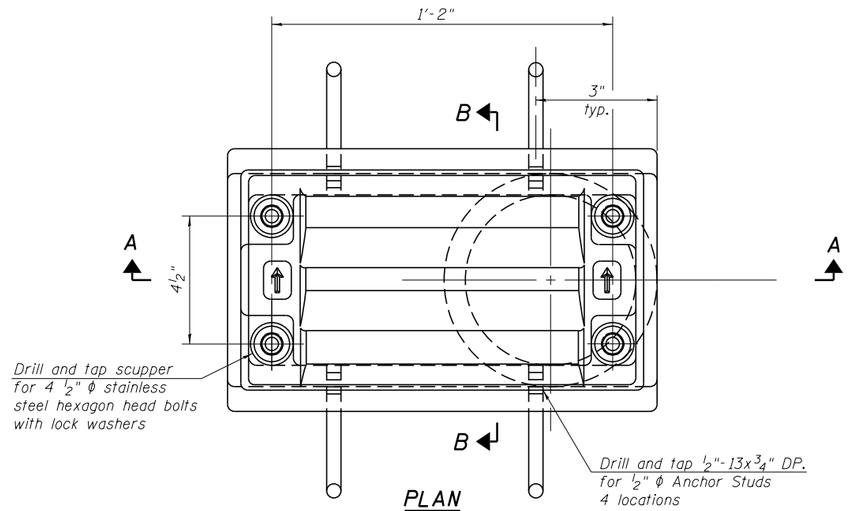
		CHECKED - JLS	REVISED -	
	PLOT SCALE =	DRAWN - PRT	REVISED -	
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -	

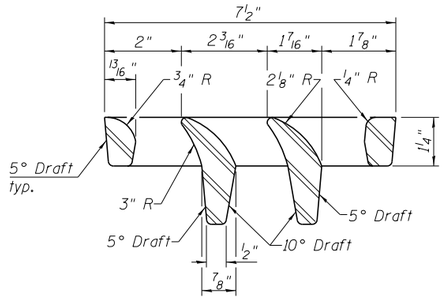
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE BILLS OF MATERIALS
STRUCTURE NO. 016-2456
SHEET NO. SC46 OF SC96 SHEETS

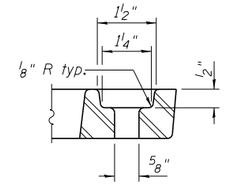
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	358
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a fascia beam shall be painted under a separate painting contract.

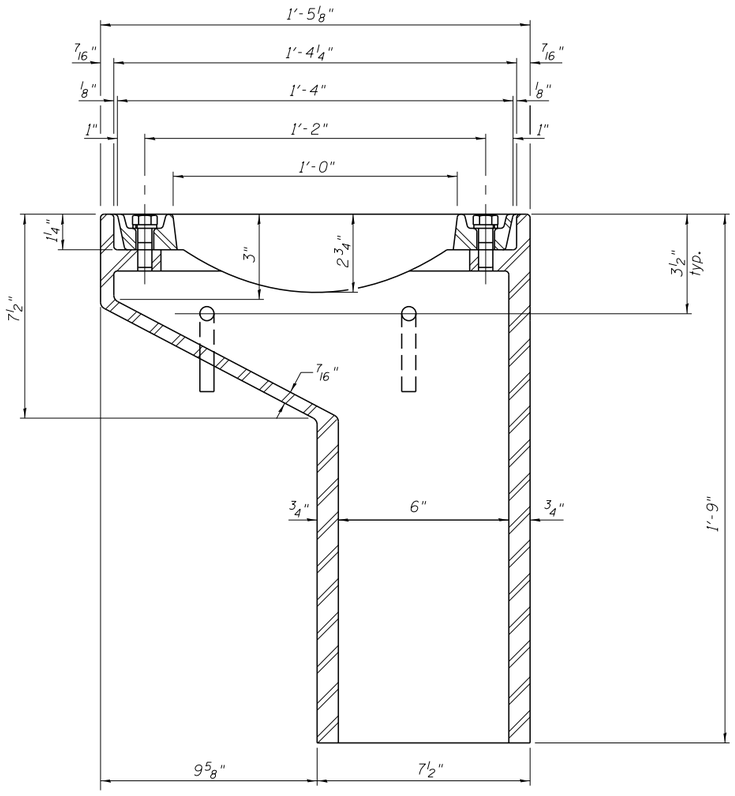
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

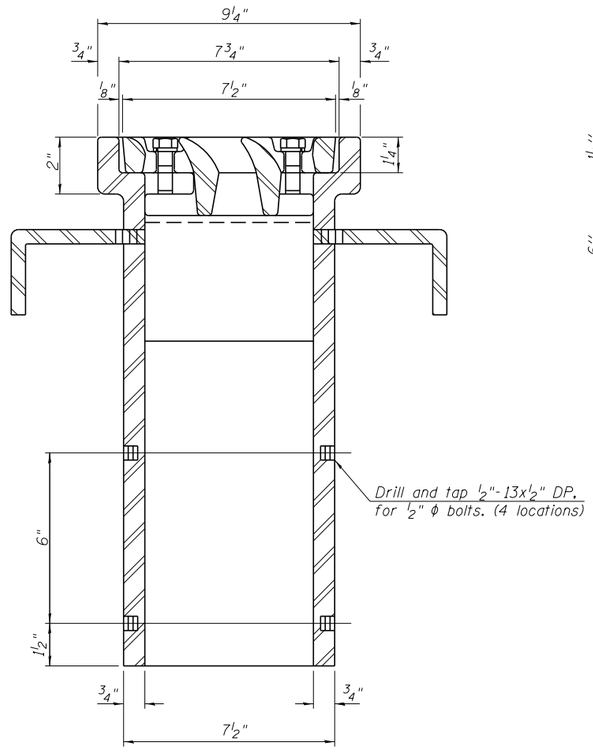
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

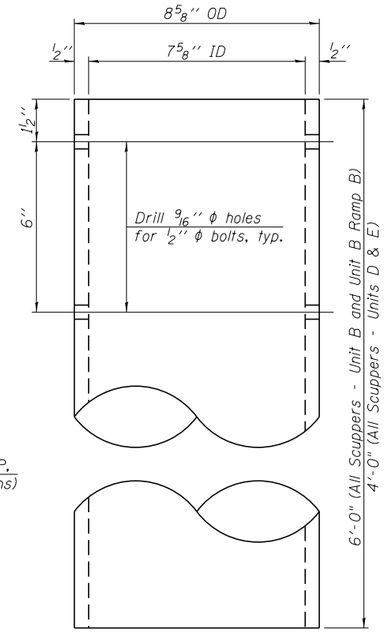


SECTION A-A

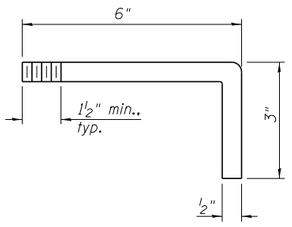
See Sheet SC45 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	16

DS-11

7-1-10

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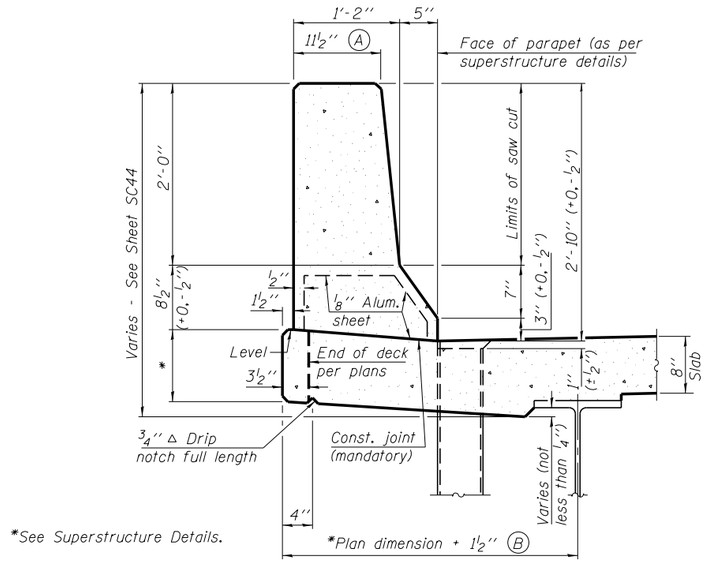
FILE NAME = 0162456_60W75_047_scupper_DS-11.dgn	USER NAME = jsurber	DESIGNED - MPL/JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 016-2456
SHEET NO. SC47 OF SC96 SHEETS

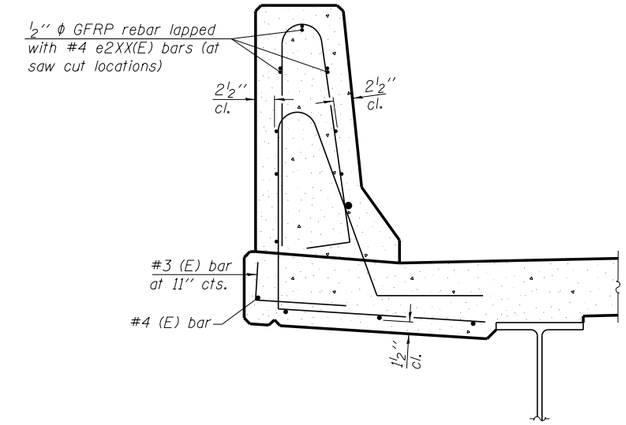
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	359
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

6/15/2015 10:05:27 AM Y:\chicago\10000s\10093\Eng_Docs_Phase_II\SN_016_2456_2457_1st_Ave_over_Des_Plaines_River_Valley\Final\2456 Final\0162456_60W75_047_scupper_DS-11.dgn



34" F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

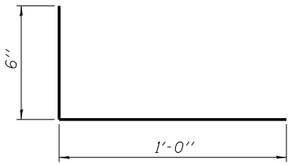
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

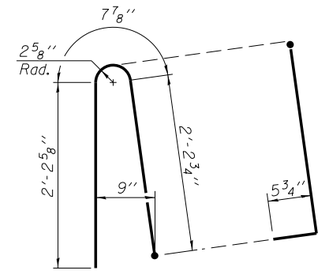
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.

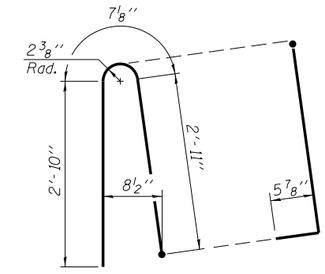


#3 (E) BAR



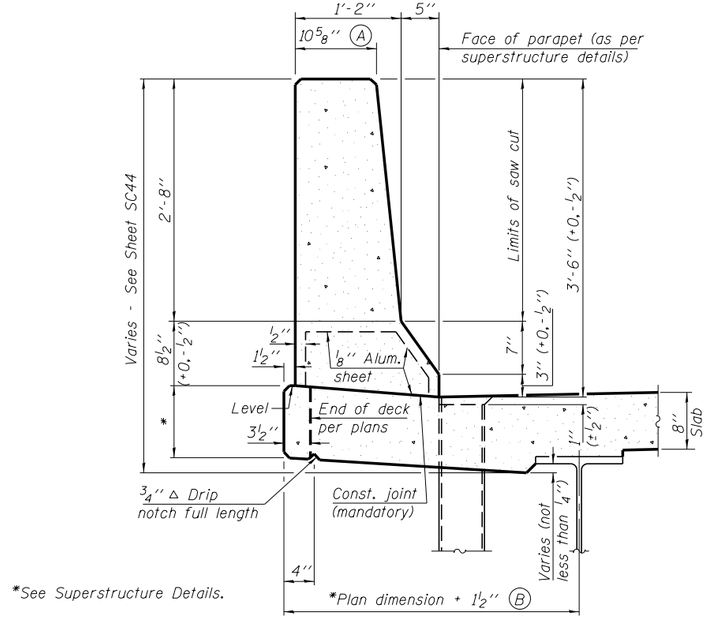
ALTERNATE BAR d200(E)

(For 34" parapet when conduit is present)



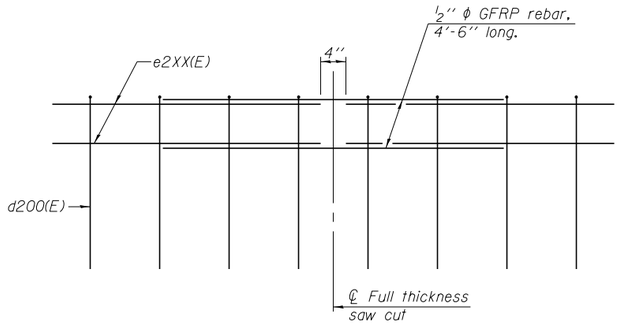
ALTERNATE BAR d200(E)

(For 42" parapet when conduit is present)



42" F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

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SFP 34-42 8-16-12

FILE NAME = 0162456_60W75_048_parapetslipform.dgn	USER NAME = jsurber	DESIGNED - MPL/JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 016-2456
SHEET NO. SC48 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	360
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

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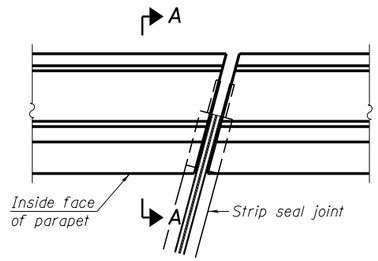
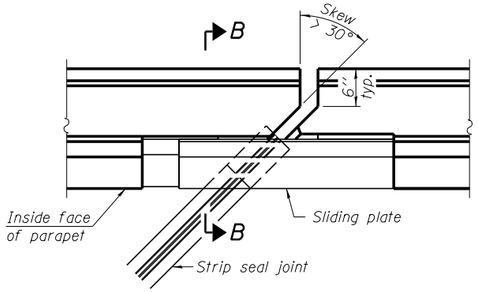
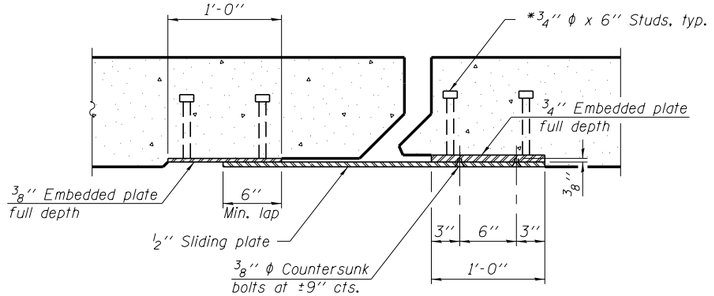


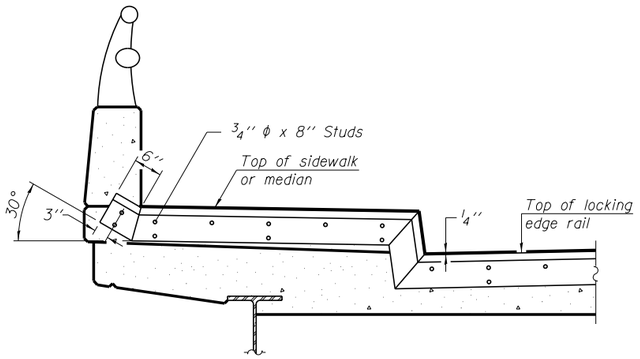
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

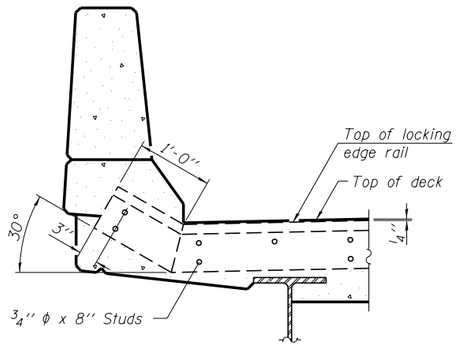


SECTION C-C

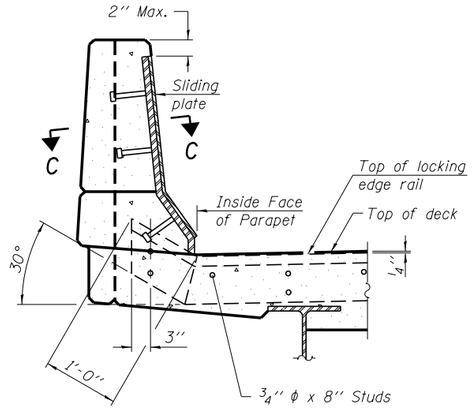


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

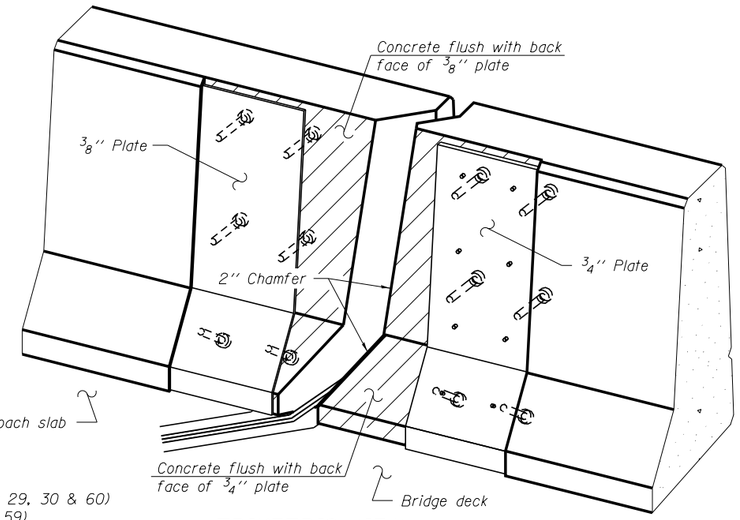
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



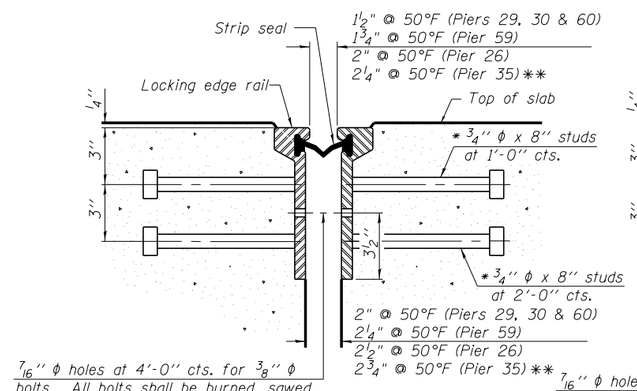
SECTION A-A



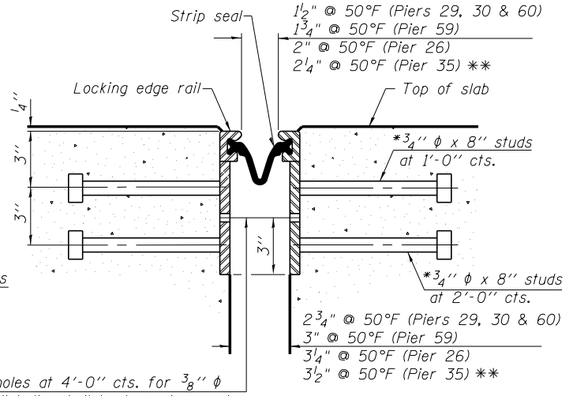
SECTION B-B



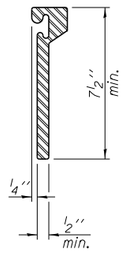
TRIMETRIC VIEW
(Showing back plates only)



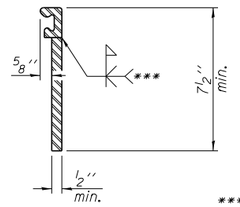
SECTION THRU ROLLED RAIL JOINT



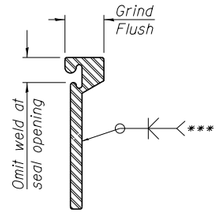
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

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

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

Notes:

At Pier 35, the strip seal shall be installed when the temperature is between 30°F and 90°F.

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	233.5

** Preformed Joint Strip Seal for Pier 35 billed with SN 016-2454.

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

EJ-SSJ 1-27-12

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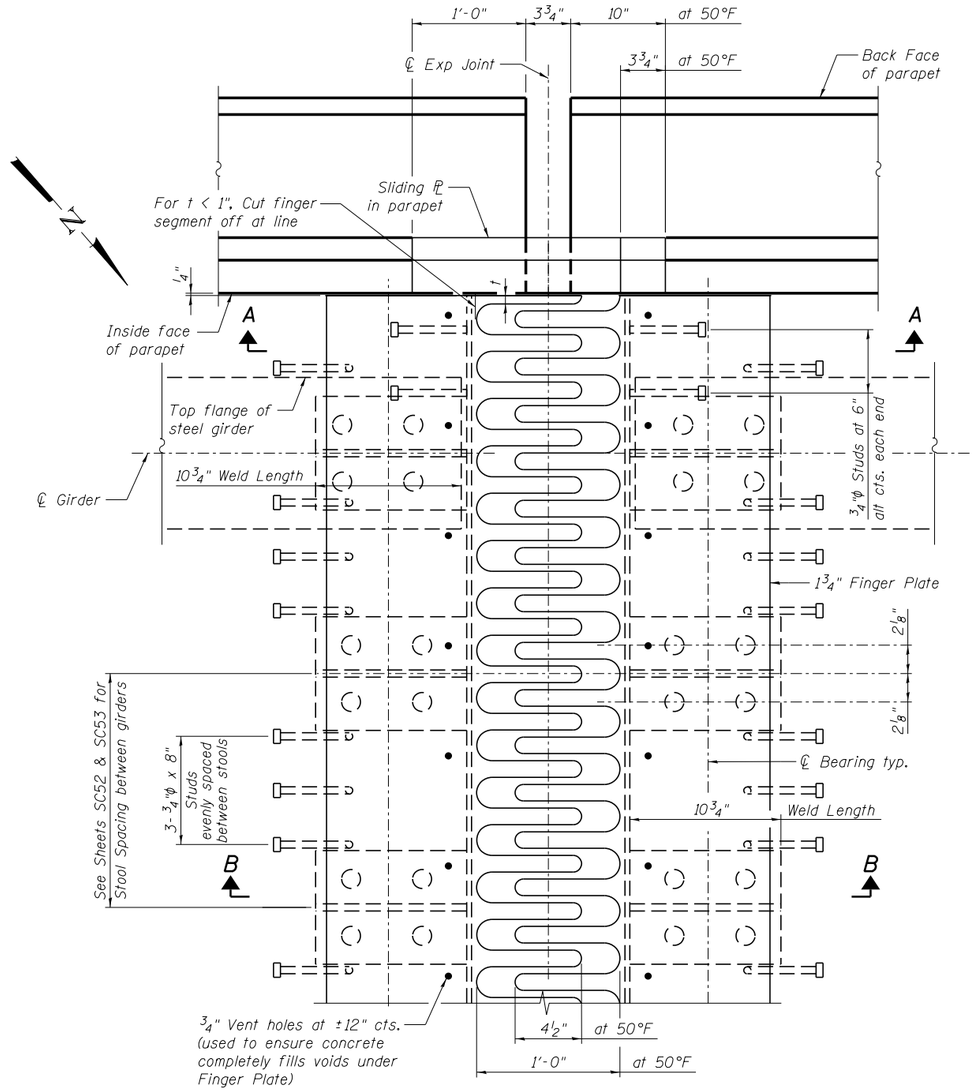
	PLOT SCALE =	DRAWN - PRT	REVISED -	
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -	

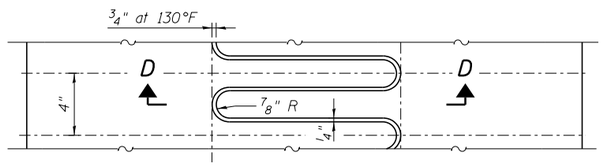
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-2456
SHEET NO. SC49 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	361
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

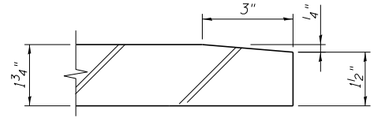


PLAN OF FINGER PLATE AT PIER 23

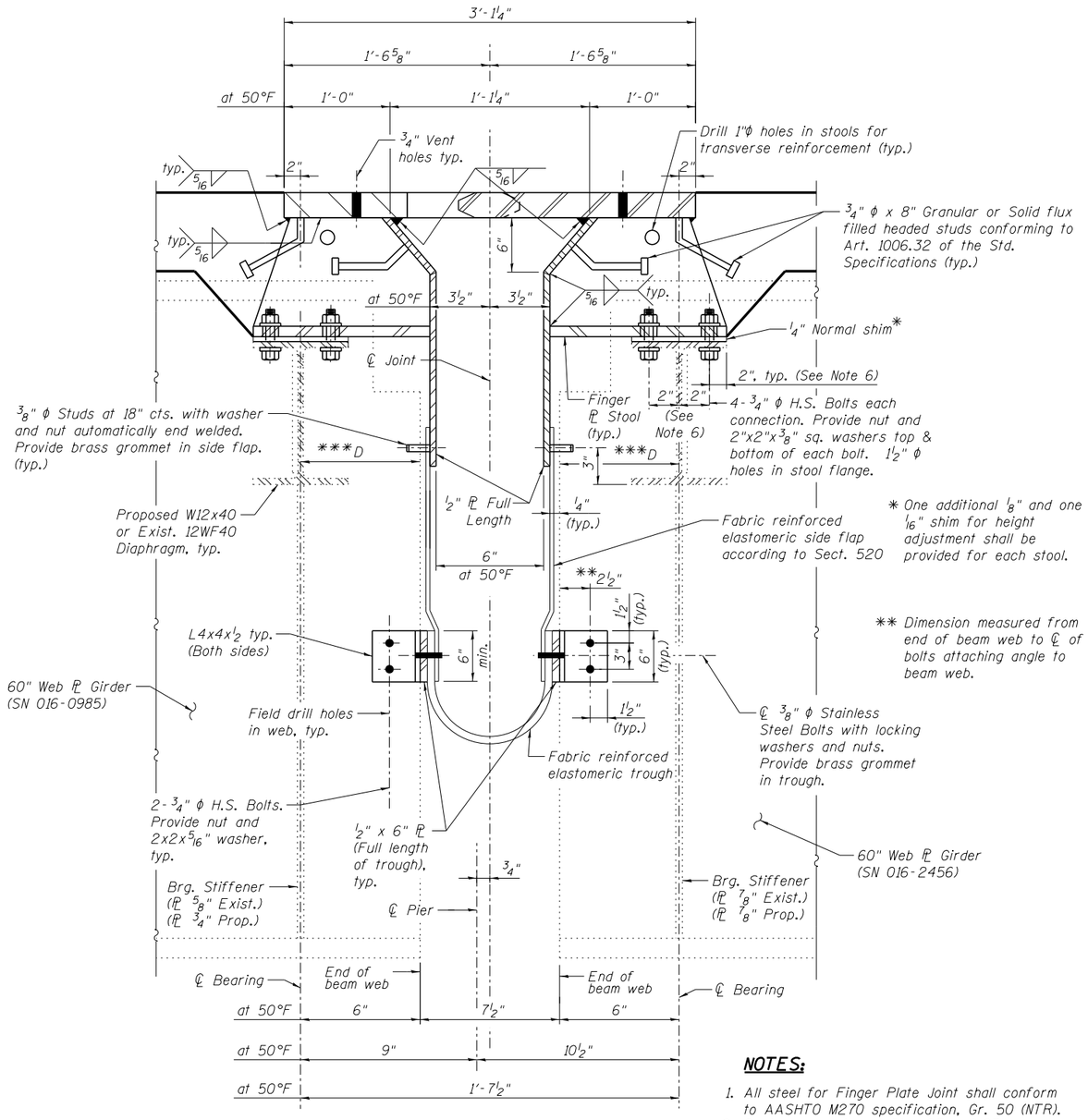
(Pier 55 similar. See SN 016-0987 plans for details and quantity.)



FINGER DETAIL



SECTION D-D



SECTION B-B

(All dimensions shown along ℙ IL-171)
(Pier 55 similar. See SN 016-0987 plans for details and quantity.)

***D = distance from end of girder to ℄ 12WF40 or ℄ W12x40 (See Note 6)

D = 6 1/2" (Existing SN 016-0985)
D = 6 1/4" (Proposed SN 016-0985)
D = 6 5/8" (Existing SN 016-2456)
D = 6 5/16" (Proposed SN 016-2456)

NOTES:

1. All steel for Finger Plate Joint shall conform to AASHTO M270 specification, Gr. 50 (NTR).
2. Design expansion at Pier 23 ± 2.83"
3. For View A-A, see Sheet SC51.
4. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
5. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
6. Hole spacing and dimensions for proposed stools on existing cross frames shall be field verified.

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	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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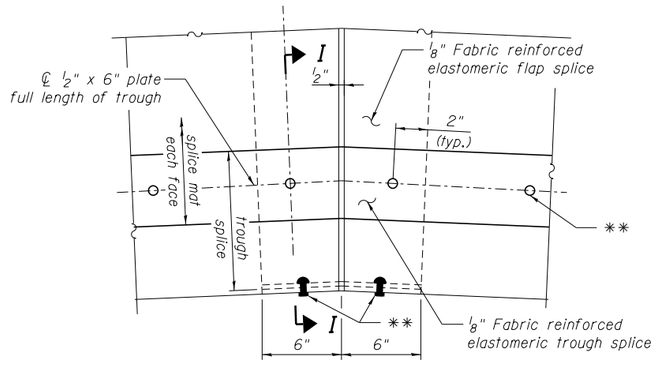
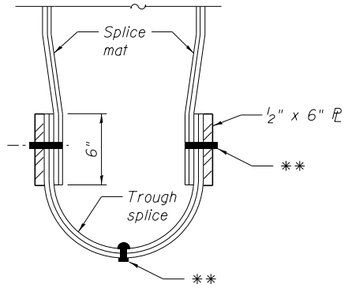
FINGER PLATE DETAILS (1 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC50 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	362
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

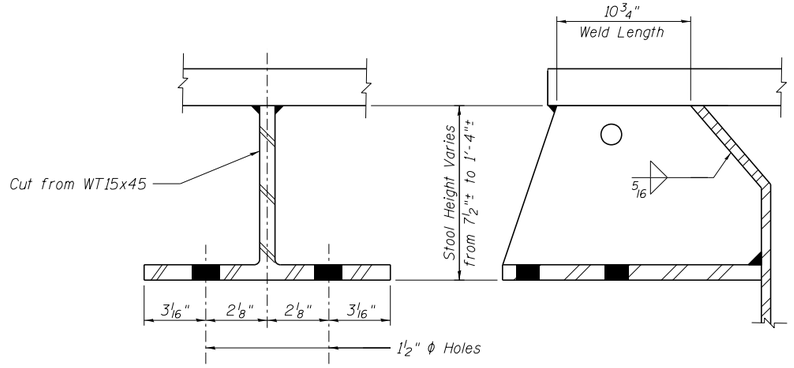


TROUGH SPLICE DETAIL



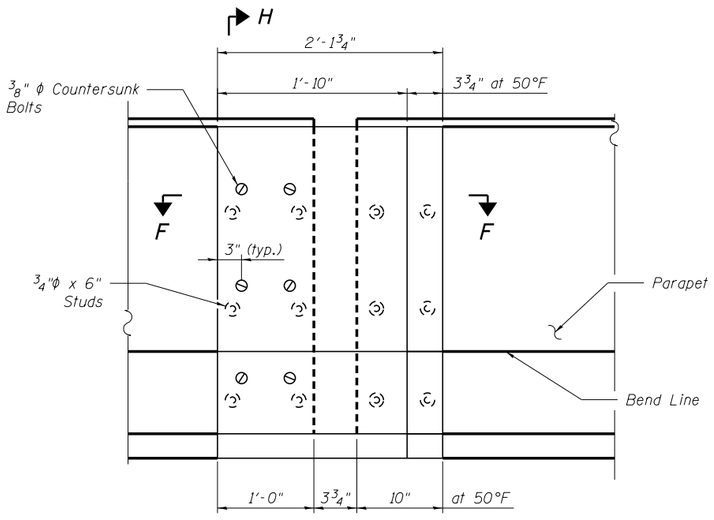
SECTION I-I

** 3/8" ϕ Stainless Steel bolts w/ washers & nuts. Provide brass grommet in trough.

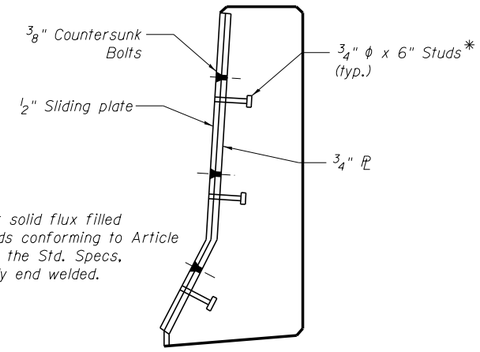


FINGER PLATE STOOL DETAIL

(Contractor shall field verify stool heights)

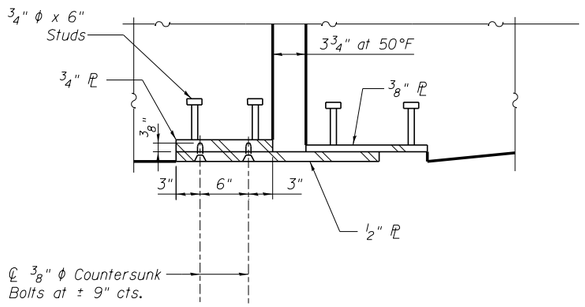


VIEW A-A



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

SECTION H-H



SECTION F-F

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Finger Plate Expansion Joint, 4"	Foot	40.0
Fabric Reinforced Elastomeric Trough	Foot	40.0

NOTES:

1. Finger Plate Expansion Joint, 4" refers to the joint at Pier 23.
2. Cost of field drilling required for Finger Plate installation included with "Finger Plate Expansion Joint" of the dimension specified.
3. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
4. The finger plate expansion joint at Pier 55 is billed with SN 016-0987.

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FINGER PLATE DETAILS (2 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC51 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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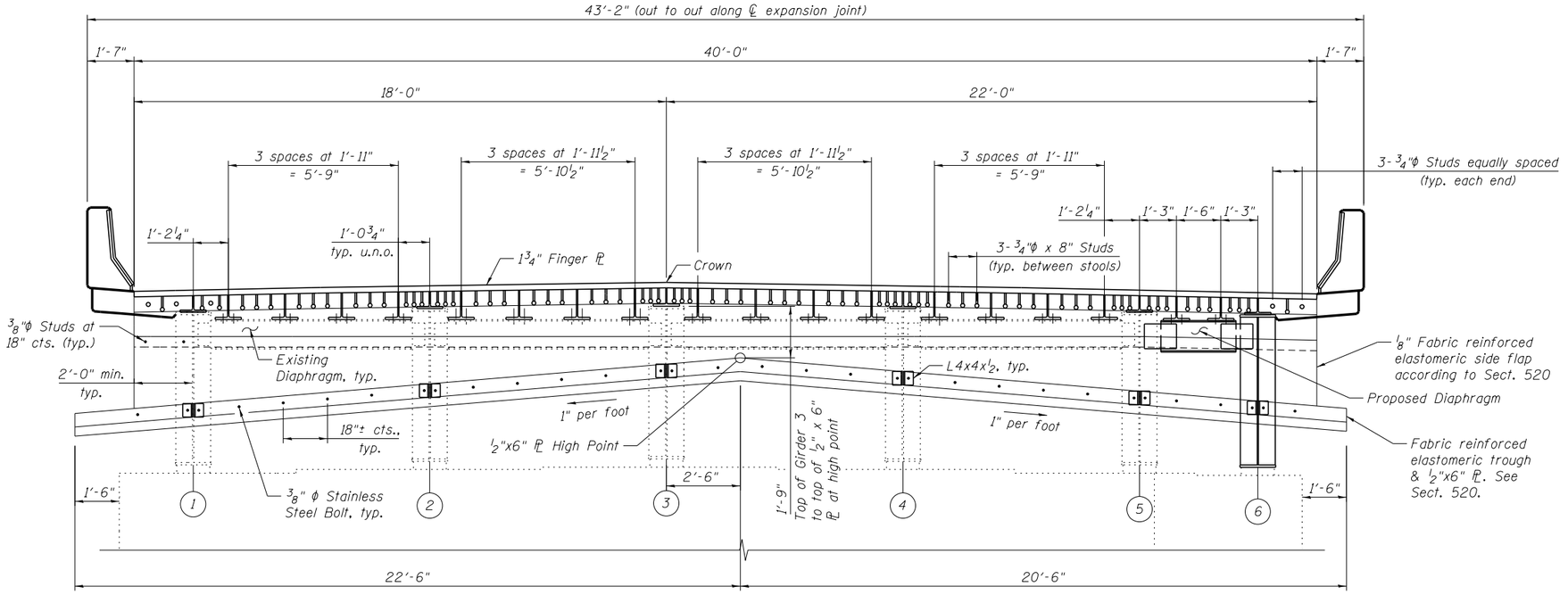
		CONTRACT NO. 60W75		
ILLINOIS FED. AID PROJECT				



PIER 23

(South side of joint - looking upstation)
(All dimensions measured along ℄ expansion joint)
(Only top diaphragm of cross frame shown for clarity)

NOTES:

1. Existing stools shall be removed and replaced with proposed stools in the same location.
2. Where existing cross frames shall remain in place, Contractor to field verify all stool locations and top of diaphragm elevations.
3. Where existing cross frames shall be replaced, Contractor to field verify bolt hole elevations and locations at connection plates. Proposed top of diaphragm elevation shall be set by matching these bolt hole locations. Field measured bolt hole locations and provided spacing shall be used to fabricate proposed stools.
4. Field drill $^{15}/_{16}$"ϕ hole in top flange of existing girder where stool bears on girder.
5. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

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FINGER PLATE ELEVATION PIER 23 (1 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC52 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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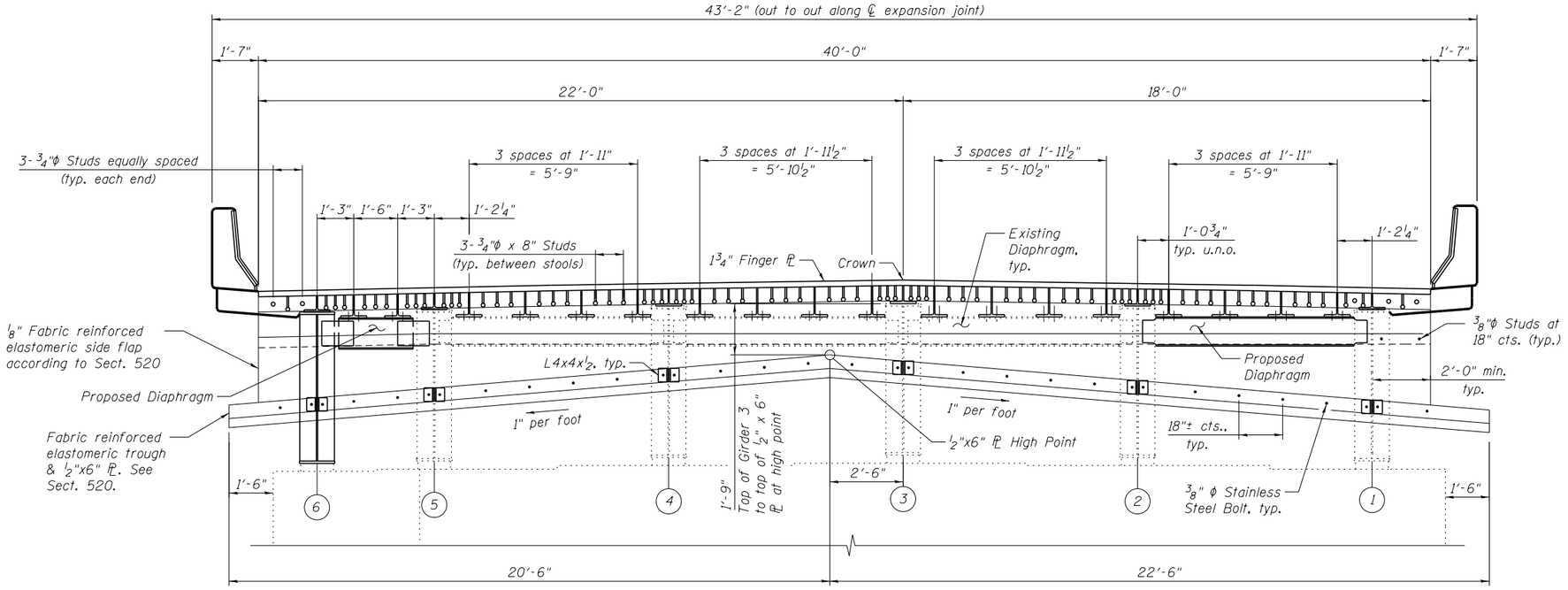
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PIER 23

(North side of joint - looking downstation)
(All dimensions measured along ℄ expansion joint)
(Only top diaphragm of cross frame shown for clarity)

NOTES:

1. Existing stools shall be removed and replaced with proposed stools in the same location.
2. Where existing cross frames shall remain in place, Contractor to field verify all stool locations and top of diaphragm elevations.
3. Where existing cross frames shall be replaced, Contractor to field verify bolt hole elevations and locations at connection plates. Proposed top of diaphragm elevation shall be set by matching these bolt hole locations. Field measured bolt hole locations and provided spacing shall be used to fabricate proposed stools.
4. Field drill 15/16"ϕ hole in top flange of existing girder where stool bears on girder.
5. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

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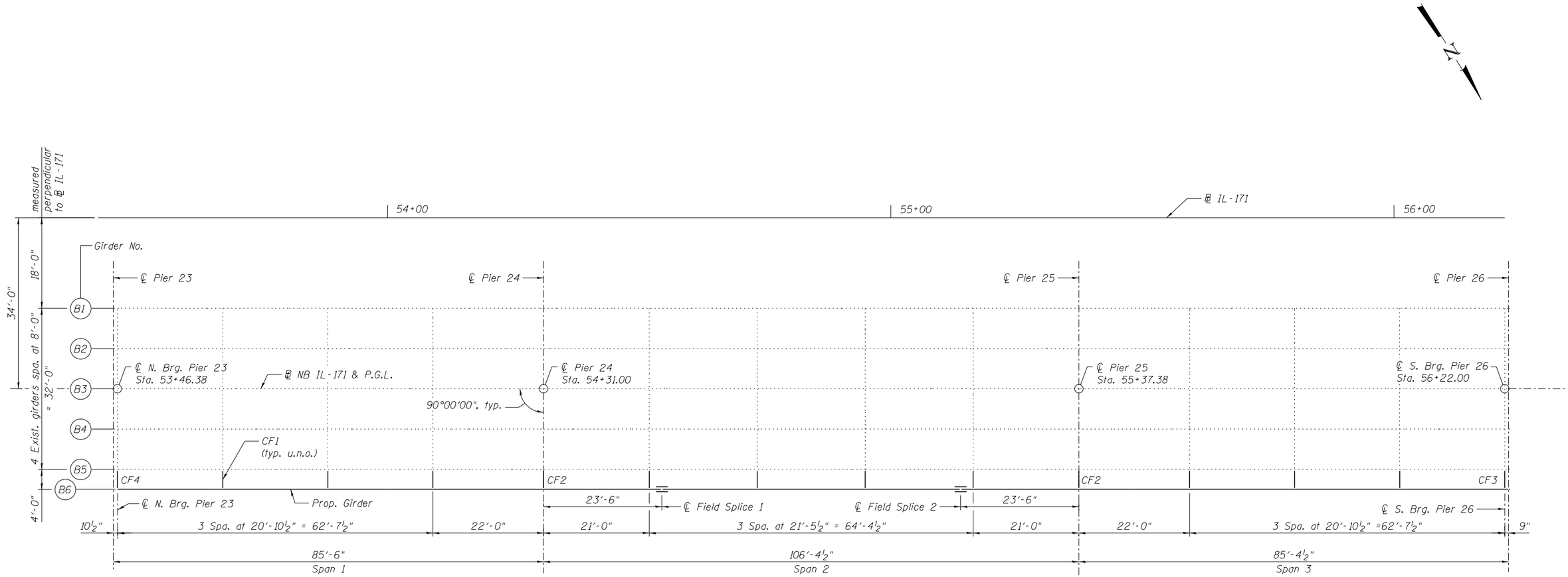
FINGER PLATE ELEVATION PIER 23 (2 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC53 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	365
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN - UNIT B SPANS 1-3

NOTES:

1. Field verify all existing stiffener plate locations on girder B5 before fabricating proposed girder. Adjust location of cross frames so that connection to existing stiffener can be made.
2. See Sheet SC56 for cross frame details.
3. See Sheet SC60 for splice details.
4. See Sheet SC67 for structural steel removal and repairs.
5. All cross frames shall be installed as steel is erected and secured with erection pins and bolts. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.

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	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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FRAMING PLAN – UNIT B
STRUCTURE NO. 016–2456
SHEET NO. SC54 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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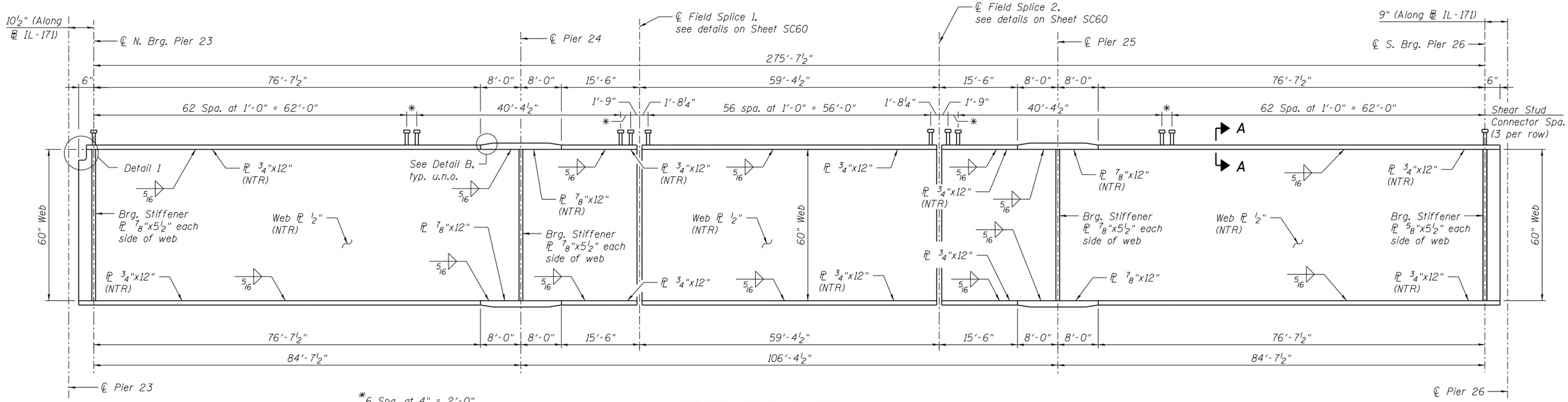
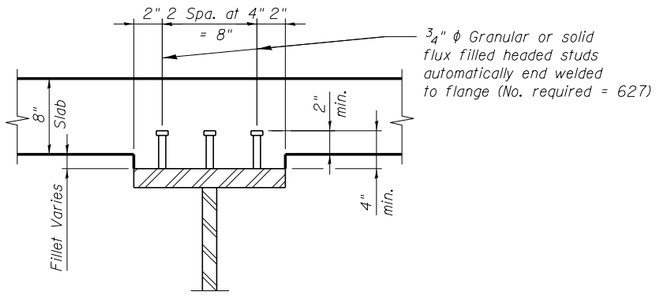
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

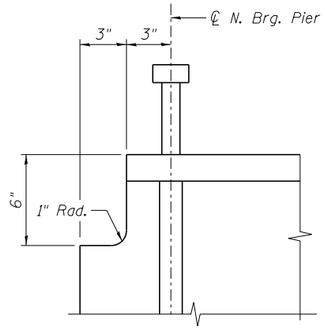


GIRDER B6 ELEVATION

(All dimensions measusred along ℄ of Girder, unless noted otherwise)

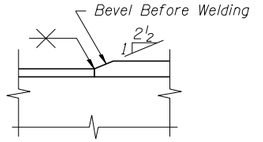


SECTION A-A



DETAIL 1

(Cope Girder as shown)



DETAIL "B"

NOTES:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
2. All flange plates and web plates shall be AASHTO M270 Grade 50 steel.
3. See Sheet SC64 for existing girder stud placement.

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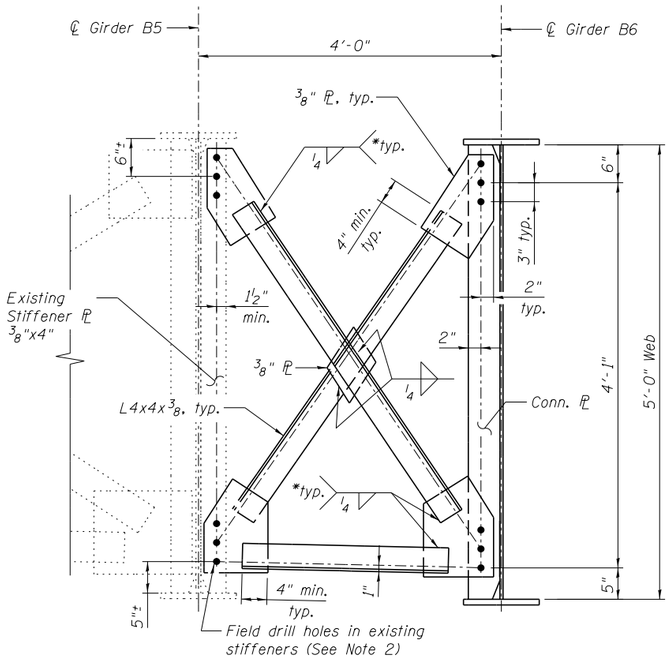
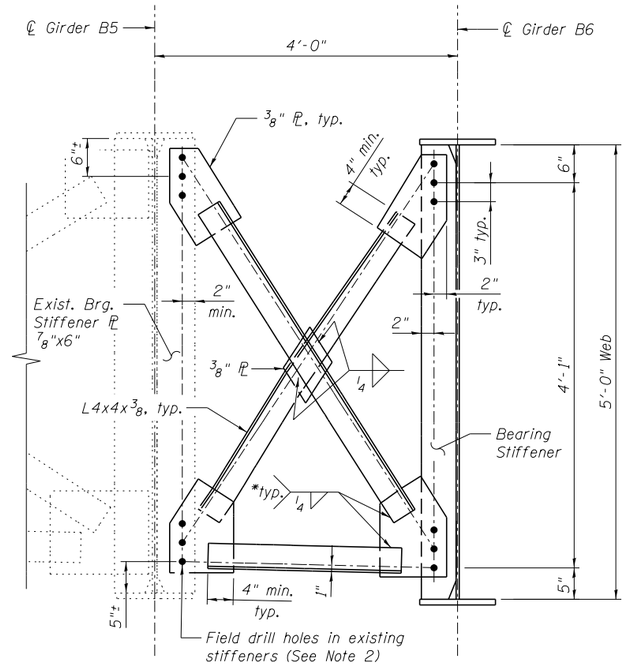
GIRDER ELEVATION & STEEL DETAILS – UNIT B
STRUCTURE NO. 016-2456
SHEET NO. SC55 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	367
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



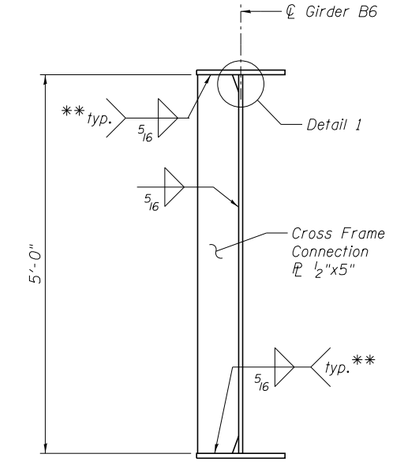
TYPE 1 CROSS FRAME

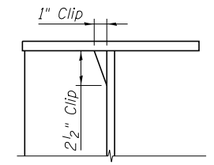
(CF1)
(No. Req'd = 10)



TYPE 2 CROSS FRAME AT PIERS 24 AND 25

(CF2)
(No. Req'd = 2)



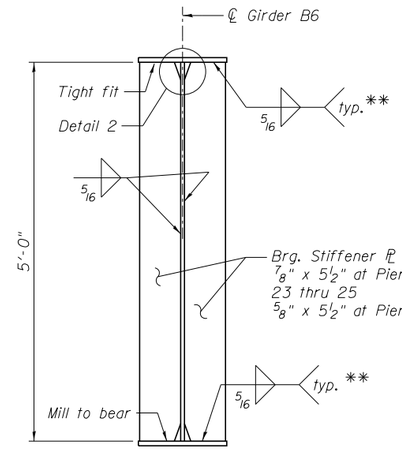


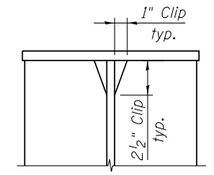
DETAIL 1

(Typical top & bottom flanges)

CONNECTION PLATE DETAIL

(No. of Connection Plates Req'd = 10)
(Omit cross frame connection PL from exterior face of Girder 6)



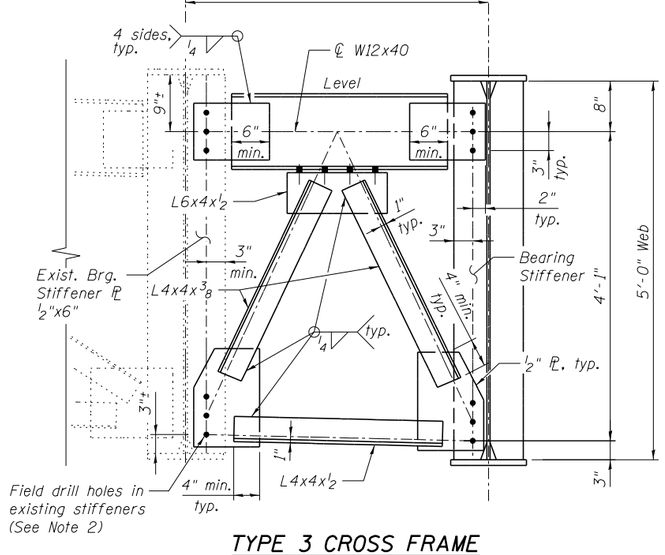


DETAIL 2

(Typical top & bottom flanges)

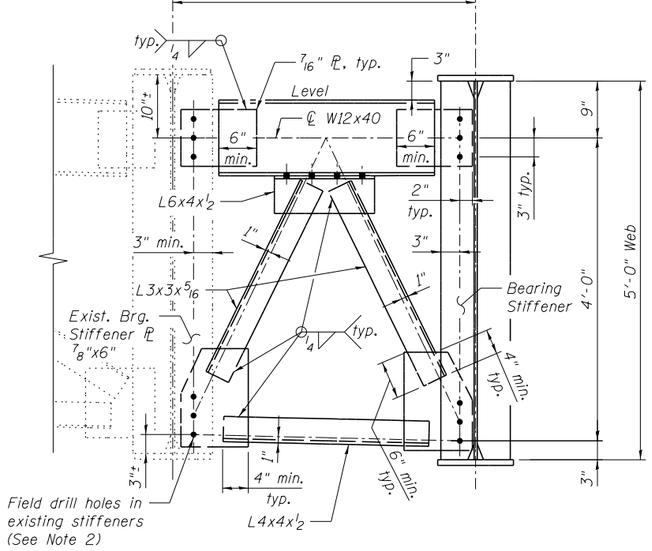
BEARING STIFFENER

(No. of 7/8" x 5 1/2" Plates Required = 6)
(No. of 5/8" x 5 1/2" Plates Required = 2)



TYPE 3 CROSS FRAME AT PIER 26

(CF3)
(No. Req'd = 1)



TYPE 4 CROSS FRAME AT PIER 23

(CF4)
(No. Req'd = 1)

* Fillet weld angles along 3 sides on one face of gusset plate.
** Terminate weld 1/4" from edges of stiffener PL.

NOTES:

1. All cross frames between girders shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
2. Fasteners shall be 3/4" ϕ ASTM A325 Type 1, mechanically galvanized bolts in 15/16" ϕ holes. Holes in new steel shall be shop drilled. Holes in existing steel shall be field drilled using holes in new steel as a template. Provide two hardened washers for each set of oversized holes. Cost of field drilling is included with "Furnishing and Erecting Structural Steel".
3. All Cross Frame elements and Connection Plates may be AASHTO M270 Grade 36. All Bearing Stiffeners shall be AASHTO M270 Grade 50.

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		CHECKED - JLS	REVISED -

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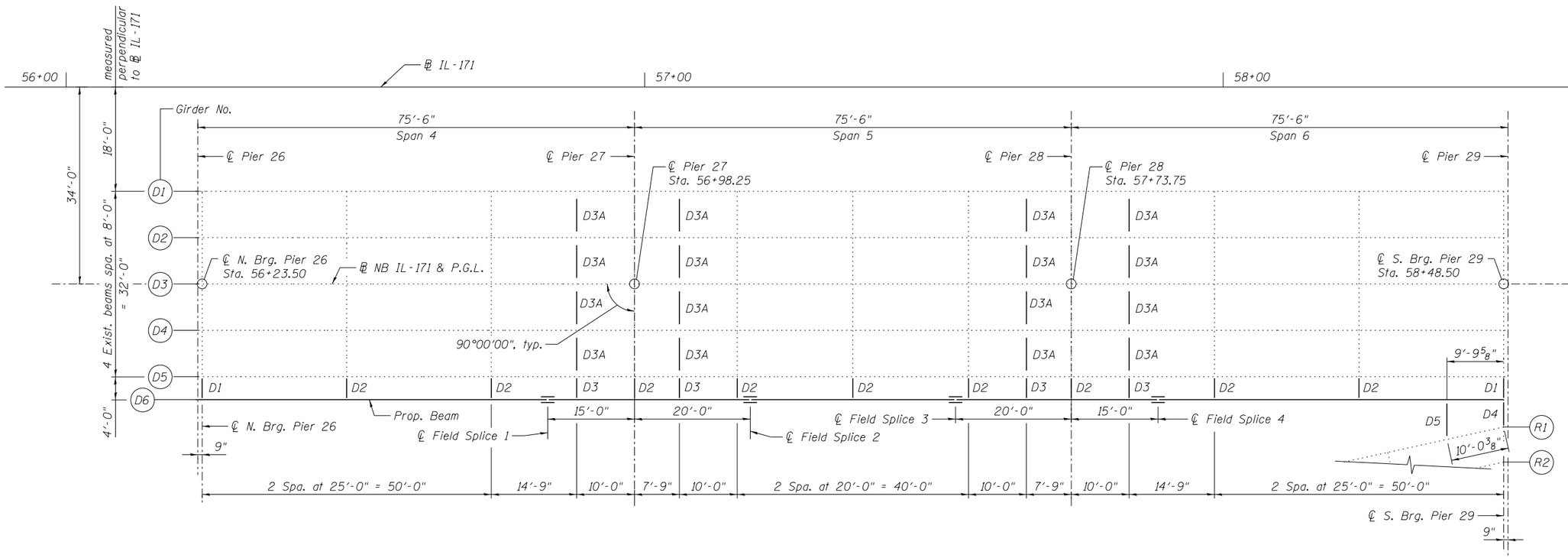
STEEL PLATE GIRDER CROSS FRAME DETAILS – UNIT B
STRUCTURE NO. 016-2456
SHEET NO. SC56 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	368
		CONTRACT NO. 60W75		
ILLINOIS FED. AID PROJECT				



FRAMING PLAN - UNIT D SPANS 4-6

NOTES:

1. Field verify all existing diaphragm locations on beam D5 before fabricating proposed beam. Adjust location of diaphragms so that connection to existing seat angle bolt holes can be made.
2. See Sheet SC59 for diaphragm details.
3. See Sheet SC60 for splice details.
4. See Sheet SC68 for structural steel removal and repairs.
5. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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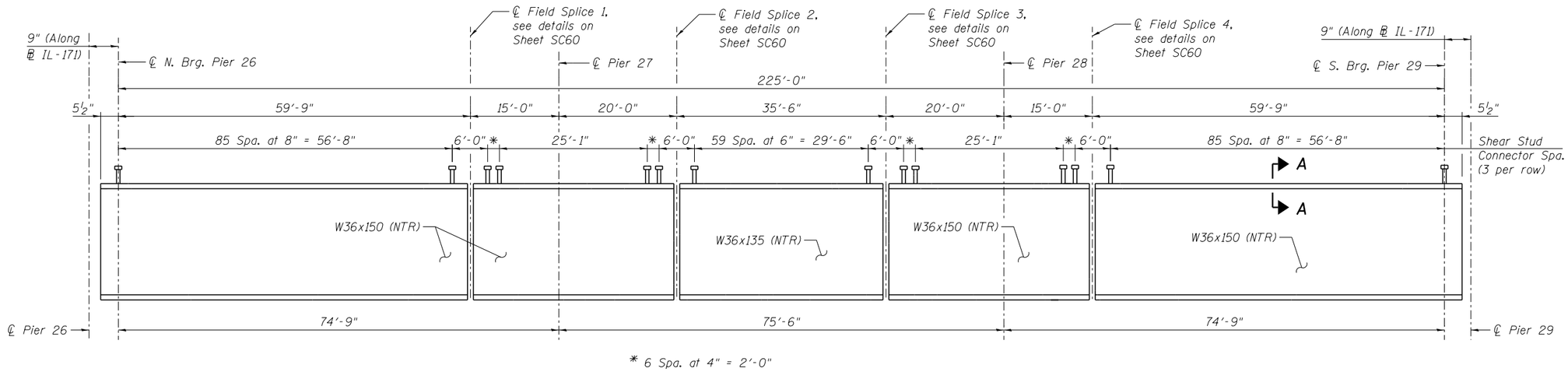
FRAMING PLAN – UNIT D
STRUCTURE NO. 016-2456
SHEET NO. SC57 OF SC96 SHEETS

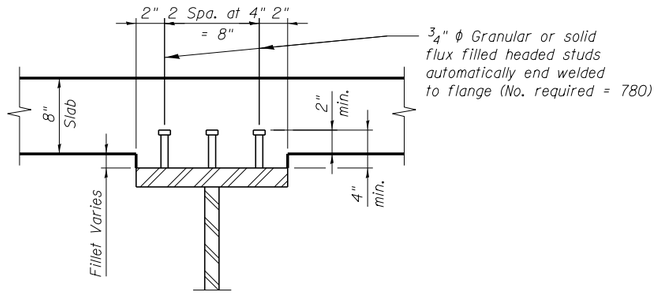
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	369
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



* 6 Spa. at 4" = 2'-0"

BEAM D6 ELEVATION

(All dimensions measusred along ℄ of Beam, unless noted otherwise)



SECTION A-A

NOTES:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
2. Beam D6 shall be AASHTO M270 Grade 50 steel.

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FILE NAME = 0162456_60W75_058_Beam_Elevation_Unit_D.dgn	USER NAME = jsurber	DESIGNED - MWG/JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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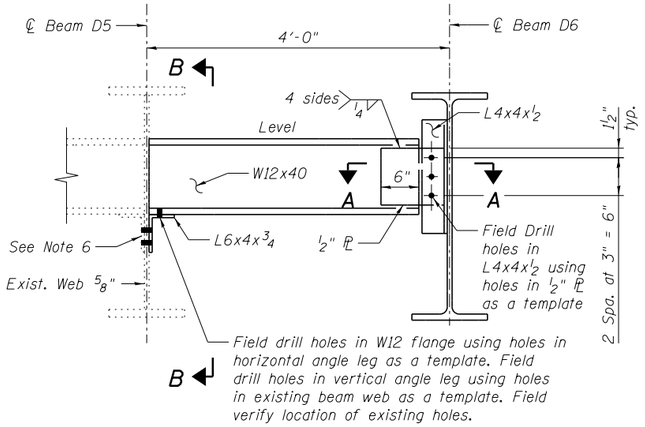
DEPARTMENT OF TRANSPORTATION

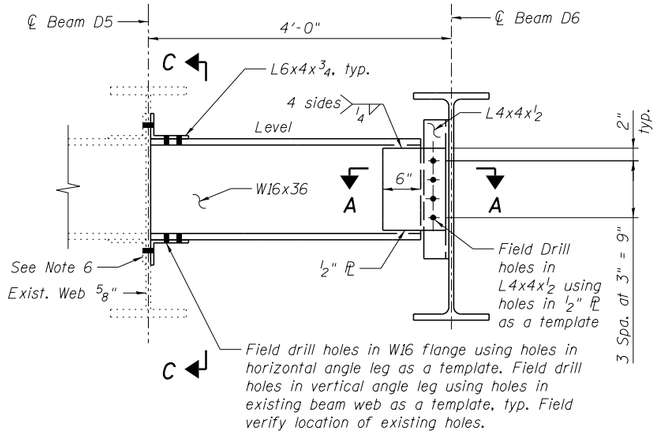
BEAM ELEVATION & STEEL DETAILS – UNIT D
STRUCTURE NO. 016-2456
SHEET NO. SC58 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	370
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



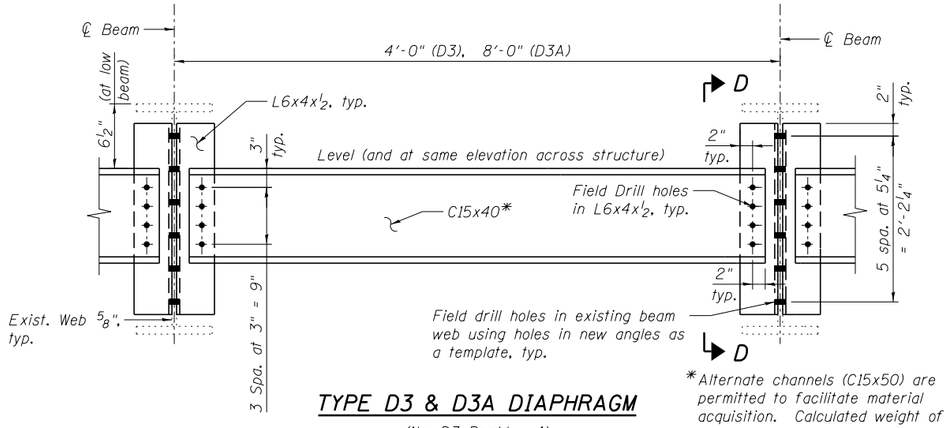
TYPE D1 DIAPHRAGM

(No. Req'd = 2)



TYPE D2 DIAPHRAGM

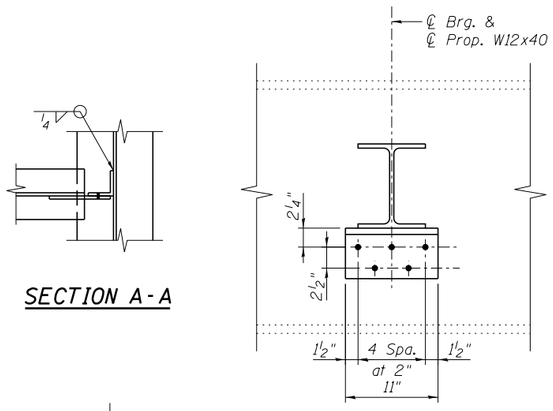
(No. Req'd = 9)



TYPE D3 & D3A DIAPHRAGM

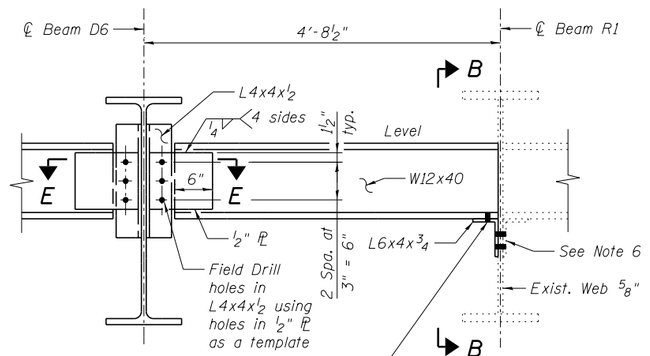
(No. D3 Req'd = 4)
(No. D3A Req'd = 16)

*Alternate channels (C15x50) are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.



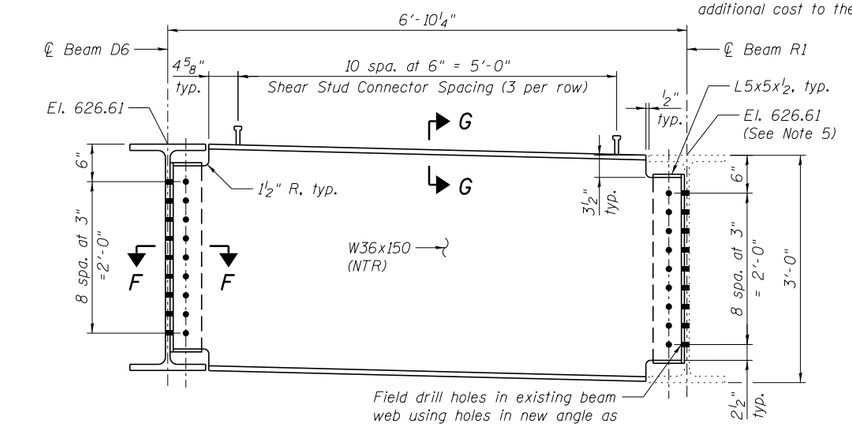
SECTION A-A

SECTION B-B



TYPE D4 DIAPHRAGM

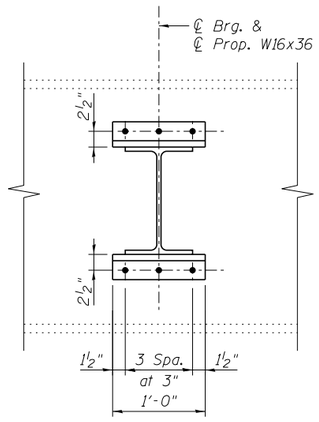
(No. Req'd = 1)



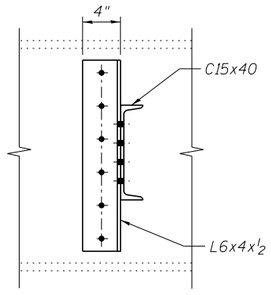
TYPE D5 DIAPHRAGM

(No. Req'd = 1)

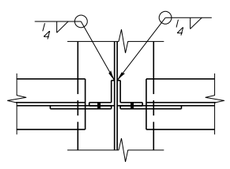
Note: Contractor shall consider location of existing beams when determining how diaphragm will be erected to ensure fit-up.



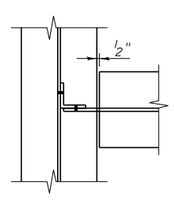
SECTION C-C



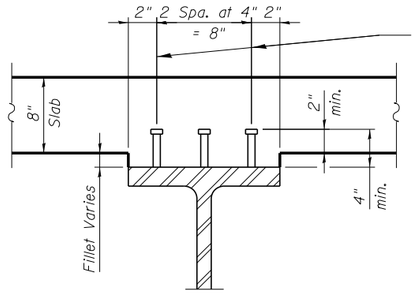
SECTION D-D



SECTION E-E



SECTION F-F



SECTION G-G

NOTES:

1. Diaphragm D5 shall be AASHTO M270 Grade 50 Steel. All other diaphragms may be AASHTO M270 Grade 36 Steel.
2. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts ¾" ϕ, holes ¹⁵⁄₁₆" ϕ (unless noted otherwise). Two hardened washers required for each set of oversized holes.
3. See Sheet SC73 for existing diaphragm details.
4. Cost of field drilling included with "Furnishing and Erecting Structural Steel".
5. Contractor to verify elevations in field after deck removal and prior to fabrication to ensure proper fit-up. Elevations given at both beams do not include concrete deflections.
6. At existing Beams D5 and R1, Contractor shall ensure that the adjacent existing diaphragm is supported during angle installation under proposed diaphragms. Cost included with "Furnishing and Erecting Structural Steel".

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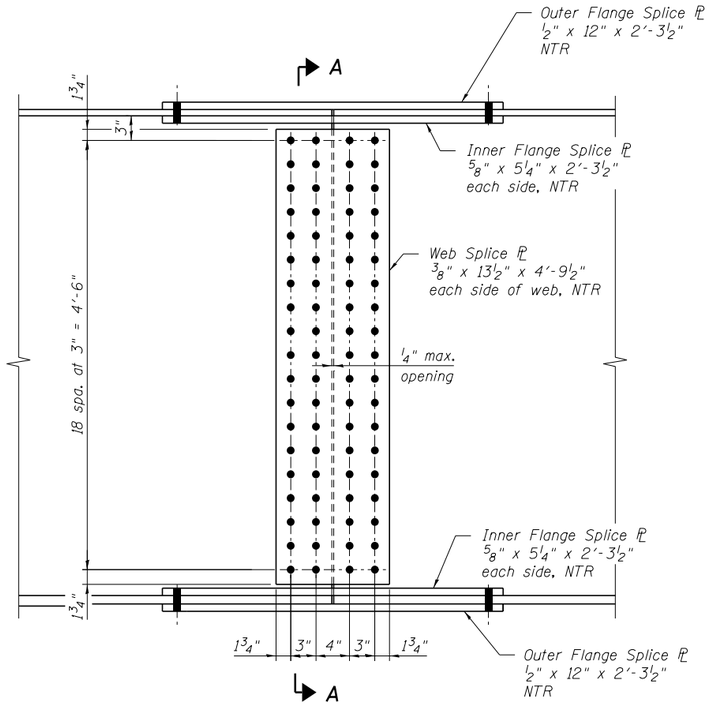
FILE NAME = 0162456_60W75_059_Steel_Diaphragm_Details_Unit_D.dgn	USER NAME = jsurber	DESIGNED - MWG/JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

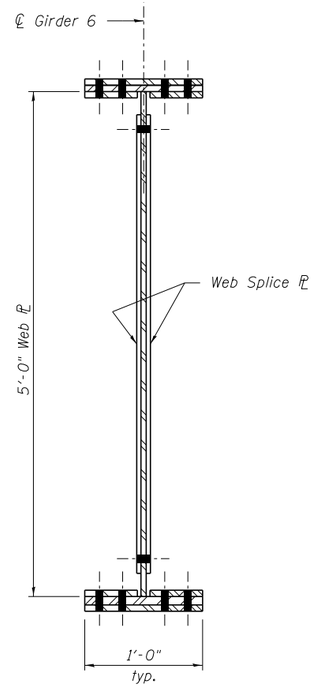
BEAM DIAPHRAGM DETAILS – UNIT D
STRUCTURE NO. 016–2456
SHEET NO. SC59 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	371
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

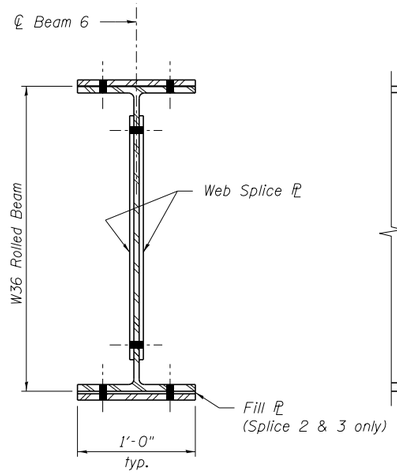


ELEVATION - FIELD SPLICE - GIRDER B6

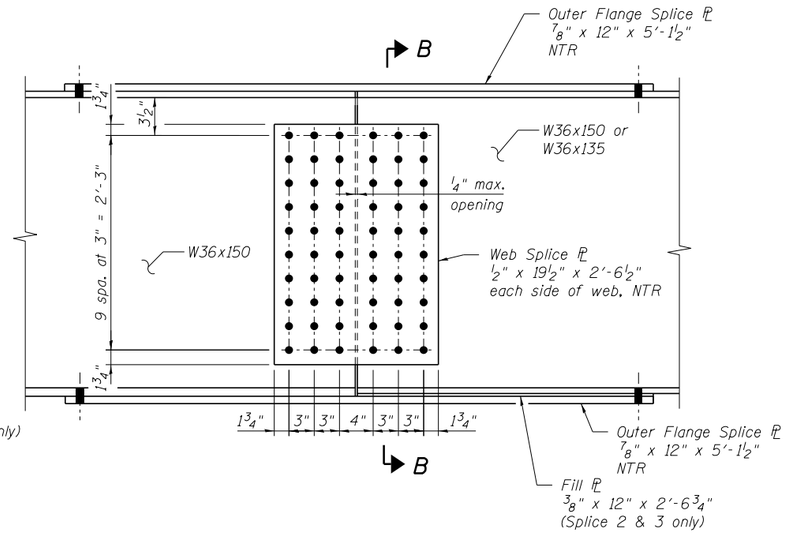
(76 Bolts per Web Splice)



SECTION A-A



SECTION B-B



ELEVATION - FIELD SPLICE - BEAM D6

(60 Bolts per Web Splice)

TOP OF FLANGE ELEVATIONS

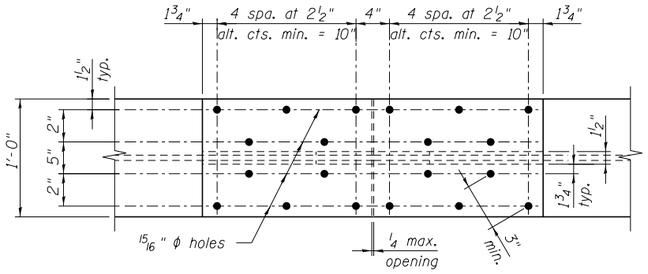
Location	Beam D6
CL. BRG. PIER 26N	623.63
FS #1	624.38
CL. BRG. PIER 27	624.56
FS #2	624.80
FS #3	625.30
CL. BRG. PIER 28	625.62
FS #4	625.86
CL. BRG. PIER 29S	626.77

For fabricator use only.

TOP OF WEB ELEVATIONS

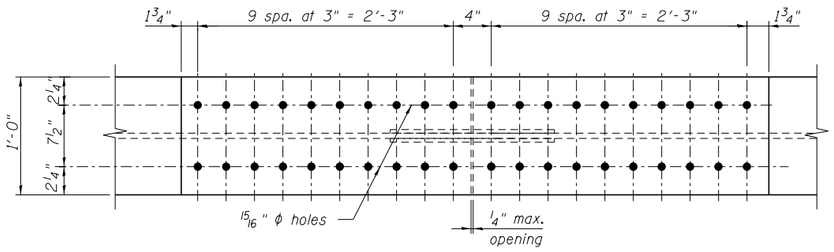
Location	Girder B6
CL. BRG. PIER 23N	620.66
CL. BRG. PIER 24	621.48
FS #1	621.71
FS #2	622.27
CL. BRG. PIER 25	622.54
CL. BRG. PIER 26S	623.52

For fabricator use only.



UNIT B FLANGE SPLICE #1 & #2

(Top & Bottom Flanges)
(20 Bolts per Flange Splice)



UNIT D FLANGE SPLICE #1 THRU #4

(Top & Bottom Flanges)
(40 Bolts per Flange Splice)

NOTES:

1. All Splice Plates shall be AASHTO M270 Grade 50 steel.
2. All Splice Bolts shall be 7/8" ϕ ASTM A325 High Strength with 15/16" ϕ holes.
3. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
4. Girder B6 and Beam D6 do not have any camber.

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FILE NAME = 0162456_60W75_060_Splice_Details_Unit_B_D.dgn	USER NAME = jsurber	DESIGNED - MWG/JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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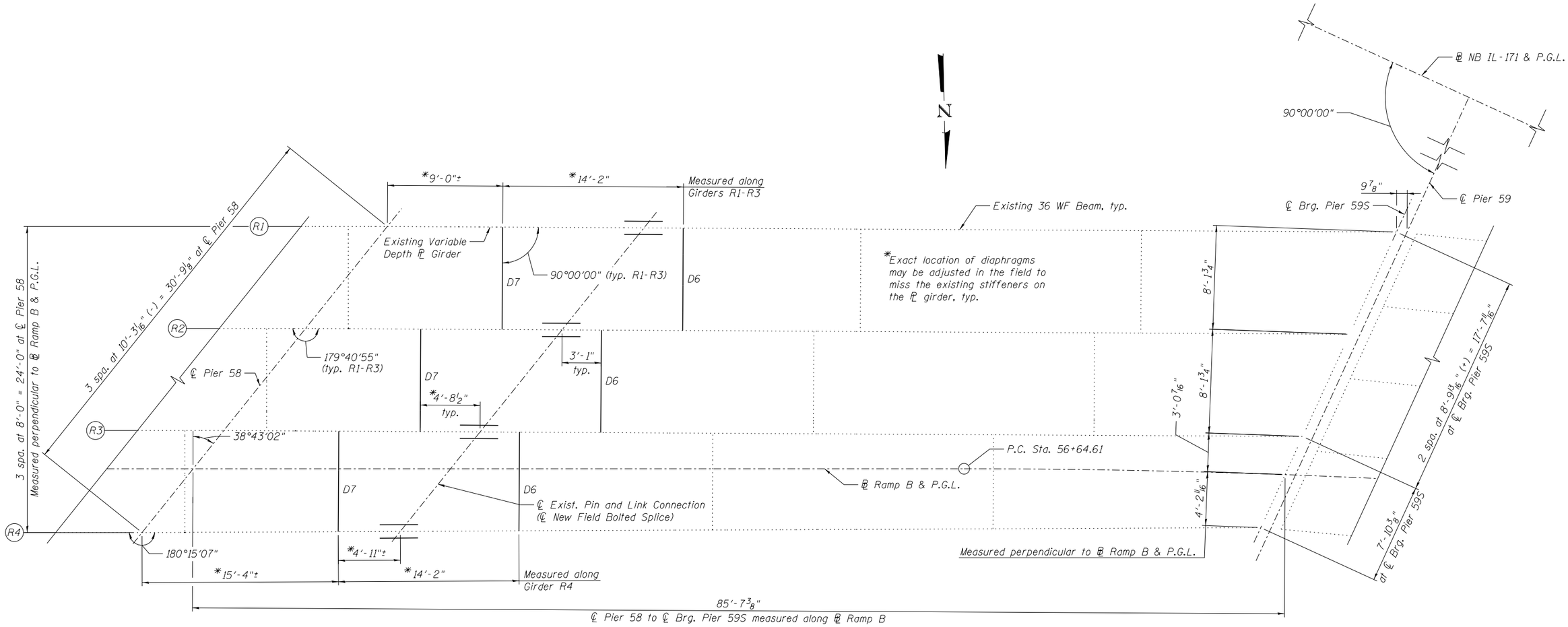
SPLICE DETAILS – UNITS B AND D
STRUCTURE NO. 016-2456
SHEET NO. SC60 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	372
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PARTIAL FRAMING PLAN - SPAN 4B

(Spans 1B-3B are not shown)

NOTES:

1. For details of existing pin and link connection removal, see Sheet SC62.
2. For details of bolted splice and diaphragms, see Sheet SC63.
3. For Span 4B moment & reaction tables, see Sheet SC66.
4. For details of structural steel repair and removal see Sheet SC69.
5. Spans 1B to 3B are not shown for clarity.

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FILE NAME = 0162456_60W75_061_Part_Framing_Mom_Table.dgn	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

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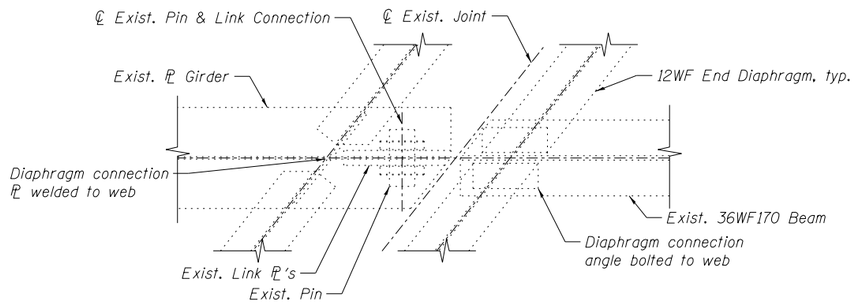
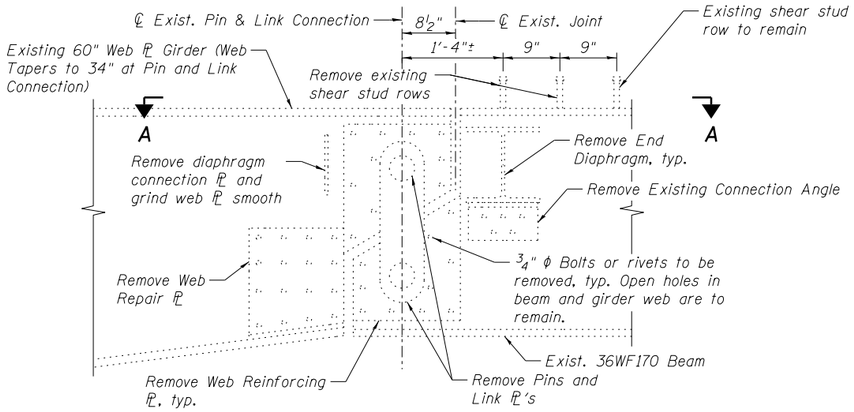
PARTIAL FRAMING PLAN – UNIT B RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC61 OF SC96 SHEETS

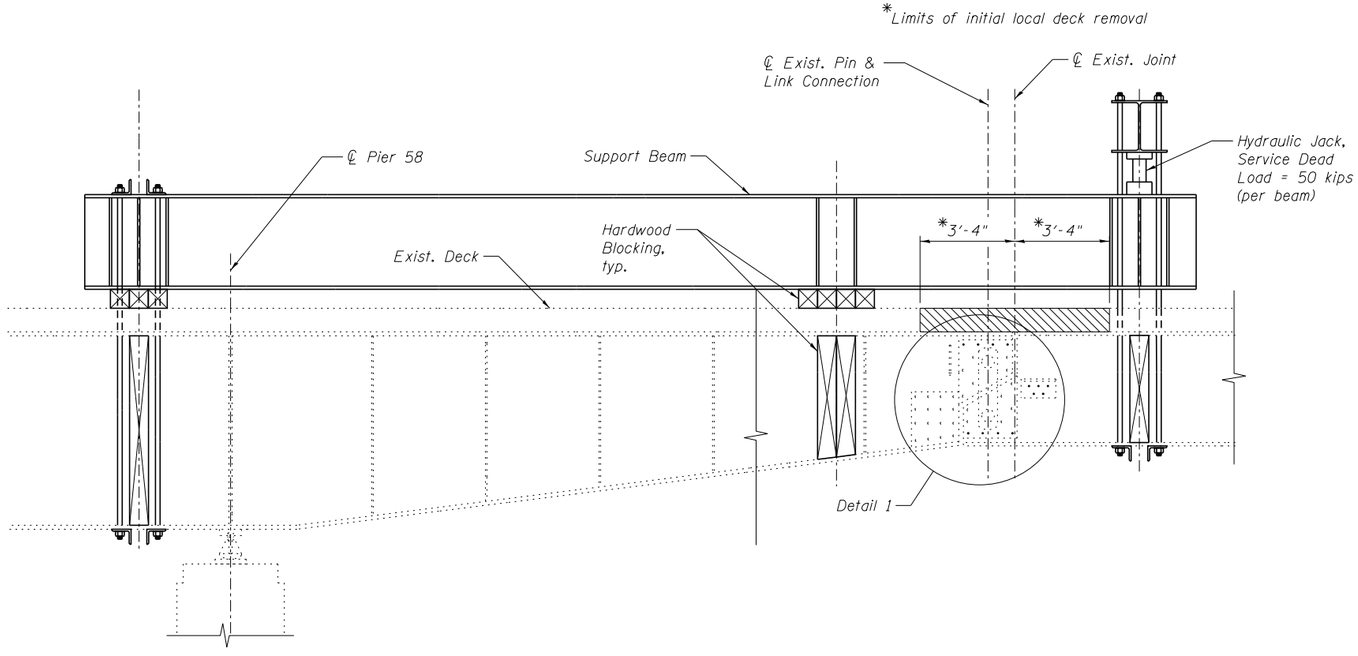
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	373
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



SECTION A-A



DETAIL 1



SUGGESTED TEMPORARY BEAM SUPPORT SYSTEM IN SPAN 4B OF UNIT B RAMP B

Note: Specific details of the Temporary Support System shall be submitted by the Contractor for review and approval by the Engineer.

SUGGESTED FIELD SPLICE PLATE FABRICATION AND INSTALLATION PROCEDURE

1. All dimensions shall be verified in the field prior to fabrication. The dimensions shall be verified with measurements from the ends of the plate girder and the W36 beam, and all existing bolt hole locations shall be located and measured. The Contractor shall also measure the gap between the plate girder and beam at the top and bottom flanges and record the temperature at the time of measurement. This data shall be submitted along with the shop drawings.
2. Plates shall be fabricated and bolt holes shall be shop drilled based on the dimensions measured in the field. The length and width of the plates as well as any bolt spacings that cross the gap between the girders may require adjustment if the measured gap varies from $1\frac{1}{2}$".
3. Splice and fill plates shall be attached to the existing plate girder side using existing bolt holes and $\frac{3}{4}$"ϕ erection bolts to match the existing holes. Flange splices may be clamped in place at this time also.
4. New bolt hole locations shall be field drilled in the existing plate girder using the shop drilled holes in the splice plates as a template.
5. After bolts are installed at new hole locations, the $\frac{3}{4}$"ϕ erection bolts can be removed and the existing hole locations shall be reamed to allow for the installation of the remaining proposed $\frac{7}{8}$"ϕ bolts on the plate girder side.
6. On the W36 side, ream existing holes to be re-used in the W36 webs and install $\frac{7}{8}$"ϕ bolts.
7. Field drill all remaining new holes in the W36 webs on the W36 side of the splice using the shop drilled holes in the splice plates as a template and install $\frac{7}{8}$"ϕ bolts.

SUGGESTED PROCEDURE FOR PIN AND LINK RETROFIT IN SPAN 4B OF UNIT B RAMP B

1. Perform local concrete deck removal above Exist. Pin & Link Connection.
2. Erect Temporary Beam Support System, installing all rods, beams and blocking.
3. Remove the Exist. Pin & Link Connection along with associated shear studs, plates and diaphragms as shown in Detail 1.
4. Install proposed bolted splices as detailed on Sheet SC63.
5. Remove Temporary Beam Support System.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Removal	Pound	5,720
Temporary Support System	Each	4

NOTES:

1. The work required to remove all existing components of the pin & link connection and diaphragms at the existing joint shall be paid for as "Structual Steel Removal".
2. Cost of reaming and field drilling included in "Furnishing and Erecting Structural Steel".

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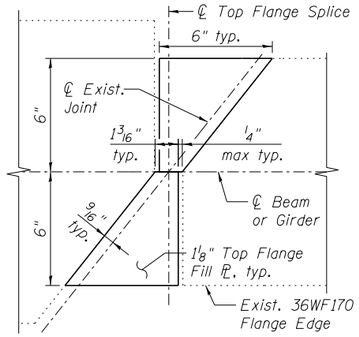
FILE NAME = 0162456_60W75_062_Pin_Link_Retrofit.dgn	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/18/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

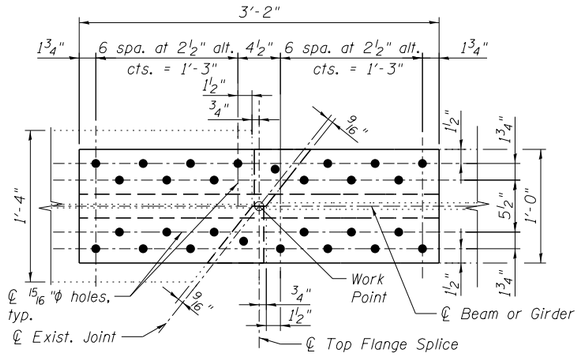
PIN & LINK REMOVAL AND RETROFIT DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC62 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	374
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



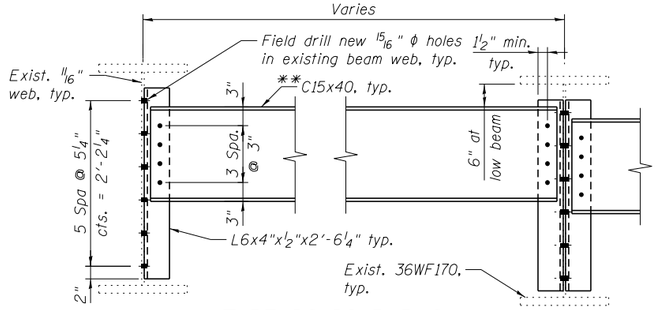
TOP FLANGE FILL PLATES

Verify all dimensions in the field.



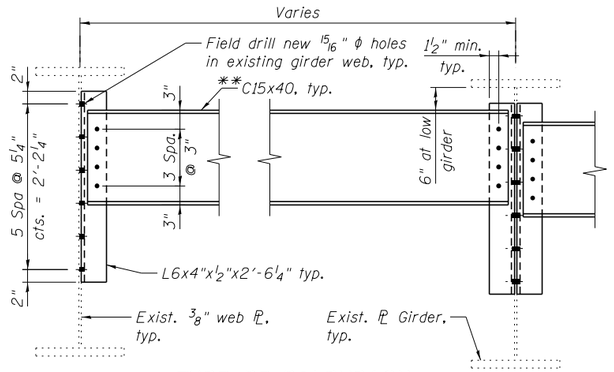
TOP FLANGE SPLICE

(Web splice ℙ's not shown for clarity)



TYPE D6 DIAPHRAGM

(No. req'd = 3 in Span 4B of Unit B Ramp B)

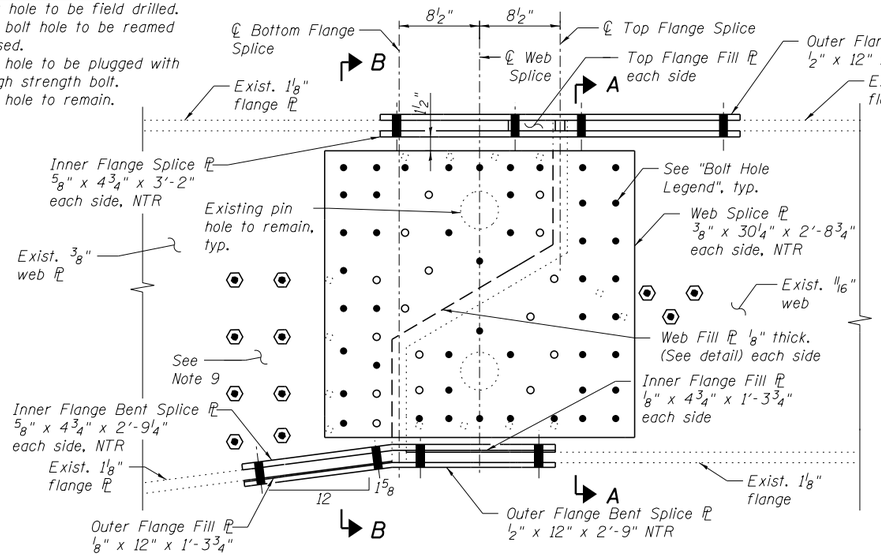


TYPE D7 DIAPHRAGM

(No. req'd = 3 in Span 4B of Unit B Ramp B)

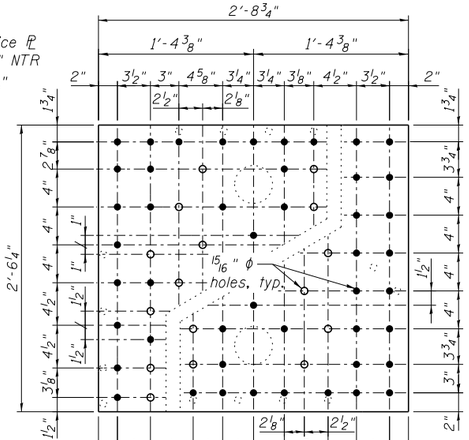
BOLT HOLE LEGEND

- ● New bolt hole to be field drilled.
- ○ Existing bolt hole to be reamed and reused.
- ⬢ Existing hole to be plugged with $\frac{3}{4}$" ϕ high strength bolt.
- ∴ Existing hole to remain.

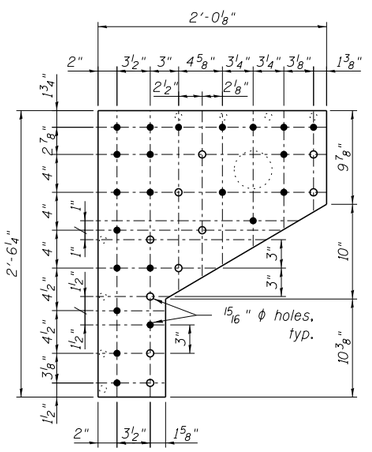


ELEVATION - FIELD SPLICE IN SPAN 4B OF UNIT B RAMP B

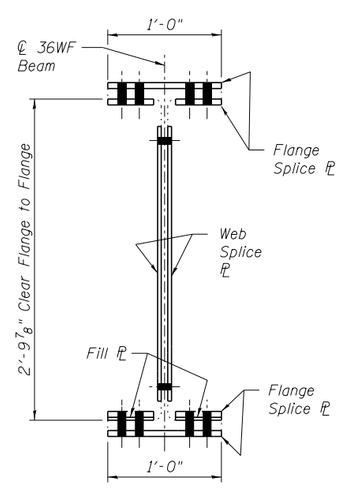
(4 Locations)



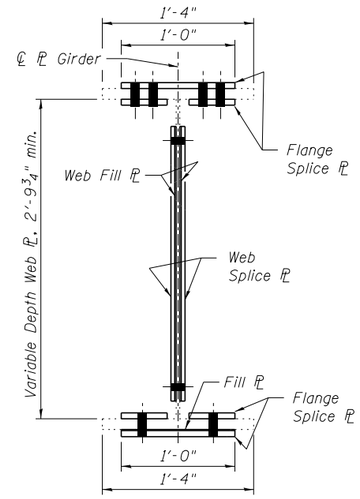
WEB SPLICE PLATE DETAIL



WEB FILL PLATE DETAIL



SECTION A-A



SECTION B-B

** C15x50 is permitted as an alternate channel. Calculated weight of structural steel is based on the C15x40. If C15x50 is used, it shall be provided at no extra cost to the Department.

NOTES:

1. All new plates and bolts for these Field Splices shall be paid for as "Furnishing and Erecting Structural Steel".
2. All Splice Plates shall be AASHTO M270 Grade 50 steel.
3. All Splice Bolts shall be $\frac{7}{8}$" ϕ High Strength ASTM A325 Type 1, mechanically galvanized with $\frac{15}{16}$" ϕ holes.
4. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
5. Cost of field drilling included in "Furnishing and Erecting Structural Steel".
6. All diaphragm bolts shall be ASTM A325 Type 1, mechanically galvanized $\frac{3}{4}$" ϕ bolts with $\frac{15}{16}$" ϕ holes. Two hardened washers required for each set of oversized holes.
7. The Contractor is responsible for verifying all dimensions of the existing bolt hole configuration before fabrication of the Splice Plates.
8. For details of existing pin and link connection removal, see Sheet SC62.
9. For Span 4B partial framing plan, see Sheet SC61.
10. After removal of existing web repair ℙ's, the area around the existing cracks and arrestor holes shall be inspected using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any additional cracking shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of inspecting and testing the existing webs shall be included with the cost of "Furnishing and Erecting Structural Steel".
11. Exact location of diaphragms may be adjusted in the field to miss the existing stiffeners on the ℙ girder, typ.
12. For additional notes regarding field measurement of existing dimensions and suggested fabrication and installation procedure for the proposed plates, see Sheet SC62.

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FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
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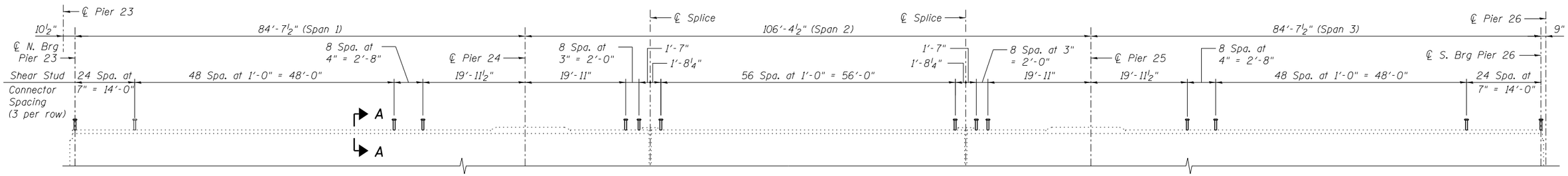
0162456.60W75.063.Splice.Diaphragm.Dtls.dgn	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

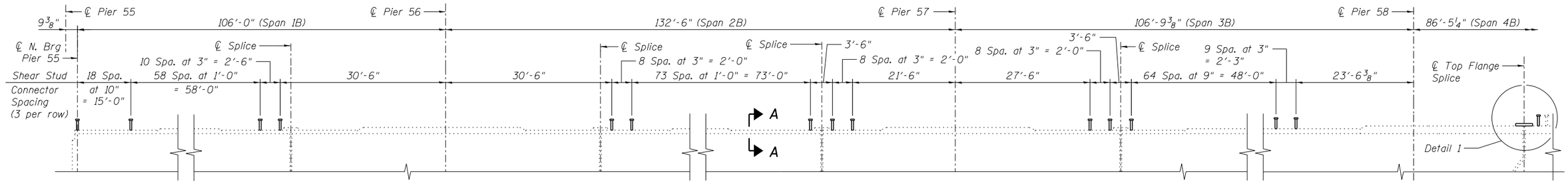
FIELD BOLTED SPLICE & DIAPHRAGM DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC63 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	375
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



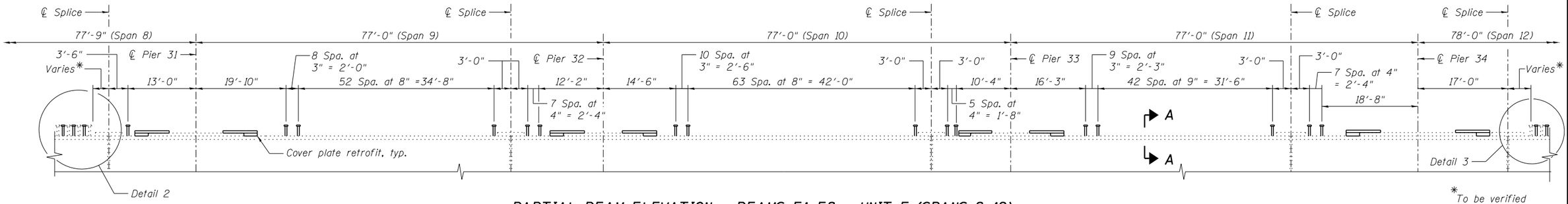
PARTIAL GIRDER ELEVATION - GIRDERS B1-B5 - UNIT B (SPANS 1-3)

(No. Stud Shear Connectors Req'd = 3,555)



PARTIAL GIRDER ELEVATION - GIRDERS R1-R4 - UNIT B RAMP B (SPANS 1B-4B)

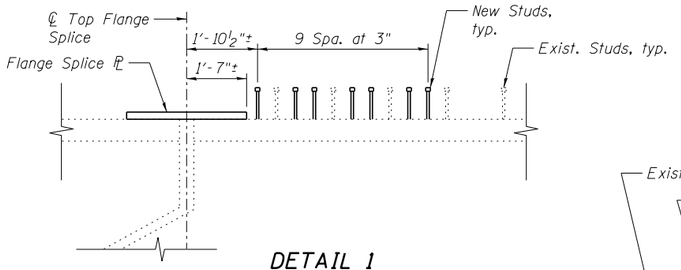
(No. Stud Shear Connectors Req'd = 3,216)



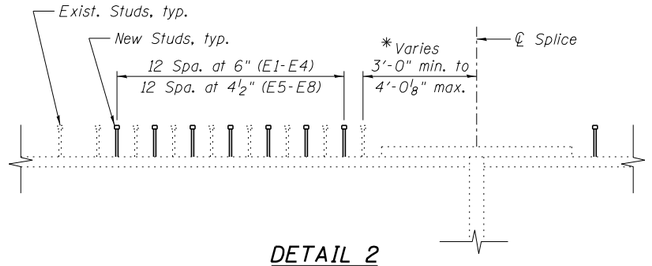
*To be verified in field.

PARTIAL BEAM ELEVATION - BEAMS E1-E8 - UNIT E (SPANS 8-12)

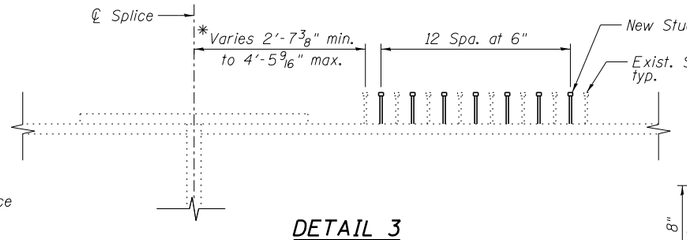
(No. Stud Shear Connectors Req'd = 5,376)



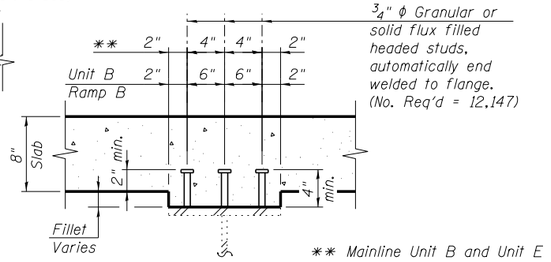
DETAIL 1



DETAIL 2



DETAIL 3



SECTION A-A

** Mainline Unit B and Unit E

NOTE:

Unit D existing beams have existing shear studs and no new shear studs shall be added.

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312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_064_Exist_Girder_Elev.dgn	USER NAME = jsurber	DESIGNED - MWG/JDC	REVISED -
		CHECKED - JLS/TPS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS/TPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GIRDER ELEVATIONS – UNIT B, UNIT B RAMP B AND UNIT E
STRUCTURE NO. 016-2456
SHEET NO. SC64 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	376
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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UNIT B - MAINLINE - GIRDER B3

	EXISTING INTERIOR GIRDER MOMENT TABLE					
		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.6 Span 3
	I_s (in^4)	26,207	37,832	26,207	37,832	26,207
	$I_{c(n)}$ (in^4)	61,705	----	61,705	----	61,705
	$I_{c(3n)}$ (in^4)	47,276	----	47,276	----	47,276
	S_s (in^3)	849	1206	849	1206	849
	$S_{c(n)}$ (in^3)	1143	----	1143	----	1143
	$S_{c(3n)}$ (in^3)	1059	----	1059	----	1059
	Z (in^3)	----	----	----	----	----
	w_D (k/')	1.013	1.231	1.013	1.231	1.013
	M_D ('k)	480.3	1123.7	460.0	1118.4	482.1
	s_D (k/')	0.173	----	0.173	----	0.173
	M_{sD} ('k)	89.5	----	97.1	----	89.8
	M_L ('k)	772.6	596.8	828.4	592.8	769.4
	M_{IM} ('k)	184.3	135.4	179.0	134.5	183.5
	$\frac{5}{3}[M_L + I]$ ('k)	1594.8	1220.3	1679.1	1212.1	1588.3
	M_a ('k)	2814.0	3047.1	2907.0	3029.7	2808.2
*	M_u ('k)	3601.3	----	4916.4	----	3616.2
	f_s D non-comp (ksi)	6.8	11.2	6.5	11.1	6.8
	f_s D (comp) (ksi)	1.0	----	1.1	----	1.0
	$f_s \frac{5}{3}[M_L + M_I]$ (ksi)	16.7	12.1	17.6	12.1	16.7
	f_s (Overload) (ksi)	24.5	23.3	25.2	23.2	24.5
**	f_s (Total) (ksi)	----	30.3	----	30.2	----
	VR (k)	54.4	----	43.6	----	54.1

EXISTING INTERIOR GIRDER REACTION TABLE					
		Pier 23	Pier 24	Pier 25	Pier 26
R_D	(k)	37.4	127.0	126.8	37.4
R_L	(k)	50.4	70.1	70.0	50.4
R_I	(k)	12.0	11.1	11.1	12.0
R_{Total}	(k)	99.8	208.2	207.9	99.8

* Compact section
** Braced non-compact and partially braced section

UNIT D - MAINLINE - BEAM D3

	EXISTING INTERIOR GIRDER MOMENT TABLE					
		0.4 Span 4	Pier 27	0.5 Span 5	Pier 28	0.6 Span 6
	I_s (in^4)	10,660	12,684	7,800	12,684	10,660
	$I_{c(n)}$ (in^4)	29,152	----	21,102	----	29,152
	$I_{c(3n)}$ (in^4)	21,201	----	15,809	----	21,201
	S_s (in^3)	648	687	439	687	648
	$S_{c(n)}$ (in^3)	923	----	647	----	923
	$S_{c(3n)}$ (in^3)	843	----	589	----	843
	Z (in^3)	----	775.4	----	775.4	----
	w_D (k/')	1.036	1.230	0.998	1.230	1.036
	M_D ('k)	460.1	667.3	134.2	666.5	460.5
	s_D (k/')	0.173	----	0.173	----	0.173
	M_{sD} ('k)	81.5	----	37.0	----	81.5
	M_L ('k)	671.8	392.1	517.6	392.0	672.6
	M_{IM} ('k)	168.2	97.9	129.1	97.9	168.3
	$\frac{5}{3}[M_L + I]$ ('k)	1400.0	816.8	1077.8	816.5	1401.5
	M_a ('k)	2524.2	1929.3	1623.8	1927.8	2526.6
*	M_u ('k)	4232.8	2326.2	3215.7	2326.2	4232.8
	f_s D non-comp (ksi)	8.5	11.6	3.7	11.6	8.5
	f_s D (comp) (ksi)	1.2	----	0.8	----	1.2
	$f_s \frac{5}{3}[M_L + M_I]$ (ksi)	18.2	14.3	20.0	14.3	18.2
	f_s (Overload) (ksi)	27.9	25.9	24.4	25.9	27.9
**	f_s (Total) (ksi)	----	----	----	----	----
	VR (k)	53.1	----	40.7	----	53.2

EXISTING INTERIOR GIRDER REACTION TABLE					
		Pier 26	Pier 27	Pier 28	Pier 29
R_D	(k)	36.5	98.6	98.6	36.5
R_L	(k)	49.6	59.1	59.1	49.6
R_I	(k)	12.4	10.7	10.7	12.4
R_{Total}	(k)	98.5	168.4	168.4	98.5

UNIT B - MAINLINE - GIRDER B6

	PROPOSED EXTERIOR GIRDER MOMENT TABLE					
		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.6 Span 3
	I_s (in^4)	25,608	28,457	25,608	28,457	25,608
	$I_{c(n)}$ (in^4)	57,577	----	57,577	----	57,577
	$I_{c(3n)}$ (in^4)	42,308	----	42,308	----	42,308
	S_s (in^3)	833	922	833	922	833
	$S_{c(n)}$ (in^3)	1158	----	1158	----	1158
	$S_{c(3n)}$ (in^3)	1040	----	1040	----	1040
	Z (in^3)	----	----	----	----	----
	w_D (k/')	0.961	1.134	0.961	1.134	0.961
	M_D ('k)	421.7	952.4	419.1	950.4	422.2
	s_D (k/')	0.173	----	0.173	----	0.173
	M_{sD} ('k)	90.5	----	99.8	----	90.9
	M_L ('k)	533.5	394.9	576.3	394.0	532.9
	M_{IM} ('k)	127.2	89.6	124.5	89.4	127.1
	$\frac{5}{3}[M_L + I]$ ('k)	1101.2	807.5	1168.0	805.6	1100.0
	M_a ('k)	2097.5	2287.9	2193.0	2282.7	2096.9
*	M_u ('k)	5319.5	----	6504.5	----	5322.8
	f_s D non-comp (ksi)	6.1	12.4	6.0	12.4	6.1
	f_s D (comp) (ksi)	1.0	----	1.2	----	1.0
	$f_s \frac{5}{3}[M_L + M_I]$ (ksi)	11.4	10.5	12.1	10.5	11.4
	f_s (Overload) (ksi)	18.5	22.9	19.3	22.9	18.5
**	f_s (Total) (ksi)	----	29.8	----	29.7	----
	VR (k)	43.6	----	38.2	----	43.3

PROPOSED EXTERIOR GIRDER REACTION TABLE					
		Pier 23	Pier 24	Pier 25	Pier 26
R_D	(k)	33.1	110.6	110.6	33.1
R_L	(k)	31.4	48.0	48.0	31.4
R_I	(k)	7.5	7.6	7.6	7.5
R_{Total}	(k)	72.0	166.2	166.2	72.0

UNIT D - MAINLINE - BEAM D6

	PROPOSED EXTERIOR GIRDER MOMENT TABLE					
		0.4 Span 4	Pier 27	0.5 Span 5	Pier 28	0.6 Span 6
	I_s (in^4)	9,040	9,040	7,800	9,040	9,040
	$I_{c(n)}$ (in^4)	21,414	----	19,266	----	21,414
	$I_{c(3n)}$ (in^4)	15,606	----	14,052	----	15,606
	S_s (in^3)	504	504	439	504	504
	$S_{c(n)}$ (in^3)	705	----	628	----	705
	$S_{c(3n)}$ (in^3)	634	----	565	----	634
	Z (in^3)	----	581.0	----	581.0	----
	w_D (k/')	0.947	1.120	0.930	1.120	0.947
	M_D ('k)	381.0	562.2	122.5	561.3	379.9
	s_D (k/')	0.173	----	0.173	----	0.173
	M_{sD} ('k)	81.5	----	37.1	----	81.5
	M_L ('k)	458.1	265.1	367.1	265.6	458.1
	M_{IM} ('k)	114.7	66.2	91.6	66.3	114.7
	$\frac{5}{3}[M_L + I]$ ('k)	954.5	552.2	764.4	553.2	954.6
	M_a ('k)	1842.1	1448.6	1201.2	1448.8	1840.8
*	M_u ('k)	3481.6	2420.8	3169.8	2420.8	3481.6
	f_s D non-comp (ksi)	9.1	13.4	3.4	13.4	9.1
	f_s D (comp) (ksi)	1.5	----	0.8	----	1.5
	$f_s \frac{5}{3}[M_L + M_I]$ (ksi)	16.3	13.2	14.6	13.2	16.3
	f_s (Overload) (ksi)	26.9	26.6	18.7	26.6	26.9
**	f_s (Total) (ksi)	----	----	----	----	----
	VR (k)	42.4	----	35.7	----	39.3

PROPOSED EXTERIOR GIRDER REACTION TABLE					
		Pier 26	Pier 27	Pier 28	Pier 29
R_D	(k)	31.1	84.2	84.2	30.5
R_L	(k)	30.8	44.6	44.8	33.2
R_I	(k)	7.7	8.1	8.1	8.3
R_{Total}	(k)	69.6	136.9	137.1	72.0

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_{c(n)}$, $S_{c(n)}$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).
$I_{c(3n)}$, $S_{c(3n)}$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).
Z: Plastic Section Modulus of the steel section in non-composite areas ($in.^3$).
w_D: Un-factored non-composite dead load (kips/ft.).
M_D: Un-factored moment due to non-composite dead load (kip-ft.).
s_D: Un-factored long-term composite (superimposed) dead load (kips/ft.)
M_{sD}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment (kip-ft.).
M_I: Un-factored moment due to impact (kip-ft.).
M_a: Factored design moment (kip-ft.).
$1.3\ [M_D + M_{sD} + \frac{5}{3}(M_L + M_I)]$
M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M_D + M_{sD} + \frac{5}{3}(M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M_D + M_{sD} + \frac{5}{3}(M_L + M_I)]$
VR: Maximum M_L + impact shear range within the composite portion of the span for stud shear connector design (kips).

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312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_065_Mom_React_Table.dgn	USER NAME = jsurber	DESIGNED - MWG	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT & REACTION TABLES (1 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC65 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	377
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

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UNIT B - RAMP B - GIRDER R3

	EXISTING INTERIOR GIRDER MOMENT TABLE							
		0.4 Span 1B	Pier 56	0.5 Span 2B	Pier 57	0.5 Span 3B	Pier 58	0.6 Span 4B
	I_s (in^4)	40,380	64,195	40,380	56,131	32,692	40,380	12,028
	$I_c(n)$ (in^4)	83,655	----	83,655	----	71,733	----	31,392
	$I_c(3n)$ (in^4)	64,145	----	64,145	----	54,975	----	22,693
	S_s (in^3)	1298	2014	1298	1775	1059	1298	717
	$S_c(n)$ (in^3)	1610	----	1610	----	1359	----	1008
	$S_c(3n)$ (in^3)	1505	----	1505	----	1266	----	917
	Z (in^3)	----	----	----	----	----	----	----
	$\mathcal{Q}$ (k/')	1.086	1.435	1.086	1.406	1.056	1.346	1.031
	$M\mathcal{Q}$ ('k)	760.4	2117.5	823.0	1641.6	317.1	1266.2	469.8
	$s\mathcal{Q}$ (k/')	0.260	----	0.260	----	0.260	----	0.260
	$M_s\mathcal{Q}$ ('k)	198.0	----	226.5	----	102.8	----	131.4
	M_L ('k)	996.2	970.7	1043.0	883.0	838.3	657.5	705.3
	M_{IM} ('k)	215.7	198.7	225.0	200.1	200.0	149.0	168.3
	$5/3\,[M_L + I]$ ('k)	2019.9	1949.0	2113.3	1805.1	1730.6	1344.2	1456.0
	M_a ('k)	3871.8	5286.4	4111.5	4480.7	2795.7	3393.4	2674.3
*	M_u ('k)	5606.4	----	6921.4	----	5378.0	----	3283.3
	f_s $\mathcal{Q}$ non-comp (ksi)	7.0	12.6	7.6	11.1	3.6	11.7	7.9
	f_s $\mathcal{Q}$ (comp) (ksi)	1.6	----	1.8	----	1.0	----	1.7
	f_s $5/3\,[M_L + M_I]$ (ksi)	15.1	11.6	15.8	12.2	15.3	12.4	17.3
	f_s (Overload) (ksi)	23.7	24.2	25.2	23.3	19.8	24.1	26.9
**	f_s (Total) (ksi)	----	31.5	----	30.3	----	31.4	----
	VR (k)	54.9	----	43.3	----	43.6	----	52.5

EXISTING INTERIOR GIRDER REACTION TABLE						
		Pier 55	Pier 56	Pier 57	Pier 58	Pier 59
$R\mathcal{Q}$	(k)	51.0	185.1	160.4	137.0	39.9
R_L	(k)	51.6	84.7	82.0	71.8	49.8
R_I	(k)	11.2	11.7	11.3	11.4	11.9
R_{Total}	(k)	113.8	281.5	253.6	220.1	101.5

* Compact section
** Braced non-compact and partially braced section

UNIT E - BEAM E6

	EXISTING INTERIOR GIRDER MOMENT TABLE									
		0.4 Span 8	Pier 31	0.5 Span 9	Pier 32	0.5 Span 10	Pier 33	0.5 Span 11	Pier 34	0.6 Span 12
	I_s (in^4)	12,361	16,133	10,500	12,684	9,040	12,217	9,040	12,684	10,500
	$I_c(n)$ (in^4)	32,548	----	26,373	----	23,367	----	23,006	----	25,266
	$I_c(3n)$ (in^4)	23,506	----	19,513	----	17,375	----	17,025	----	18,512
	S_s (in^3)	743	856	580	687	504	664	504	687	580
	$S_c(n)$ (in^3)	1044	----	824	----	724	----	721	----	813
	$S_c(3n)$ (in^3)	950	----	748	----	658	----	654	----	734
	Z (in^3)	----	----	----	775.4	----	750.1	----	775.4	----
	$\mathcal{Q}$ (k/')	1.144	1.282	1.065	1.189	0.992	1.132	0.941	1.086	0.907
	$M\mathcal{Q}$ ('k)	524.1	784.8	190.1	542.6	256.5	529.8	179.3	637.7	388.7
	$s\mathcal{Q}$ (k/')	0.130	----	0.130	----	0.130	----	13.000	----	0.130
	$M_s\mathcal{Q}$ ('k)	63.5	----	31.6	----	39.2	----	32.0	----	59.5
	M_L ('k)	769.7	450.8	599.8	385.0	576.3	363.5	544.6	367.7	642.4
	M_{IM} ('k)	190.5	111.6	148.4	95.3	142.6	90.0	134.8	91.4	160.5
	$5/3\,[M_L + I]$ ('k)	1600.4	937.4	1247.0	800.5	1198.2	755.7	1132.4	765.2	1338.2
	M_a ('k)	2844.3	2238.8	1909.3	1746.1	1942.0	1671.2	1746.8	1823.7	2322.3
*	M_u ('k)	3094.0	----	3336.5	2326.2	3563.4	2250.2	3507.7	2326.2	3777.9
	f_s $\mathcal{Q}$ non-comp (ksi)	8.5	11.0	3.9	9.5	6.1	9.6	4.3	11.1	8.0
	f_s $\mathcal{Q}$ (comp) (ksi)	0.8	----	0.5	----	0.7	----	0.6	----	1.0
	f_s $5/3\,[M_L + M_I]$ (ksi)	18.4	13.1	18.2	14.0	19.9	13.7	18.9	13.4	19.8
	f_s (Overload) (ksi)	27.7	24.1	22.6	23.4	26.7	23.2	23.7	24.5	28.8
**	f_s (Total) (ksi)	----	31.4	----	----	----	----	----	----	----
	VR (k)	58.0	----	43.1	----	40.4	----	37.5	----	44.6

EXISTING INTERIOR GIRDER REACTION TABLE							
		Pier 30	Pier 31	Pier 32	Pier 33	Pier 34	Pier 35
$R\mathcal{Q}$	(k)	39.2	108.5	86.5	83.2	90.5	30.7
R_L	(k)	54.5	58.8	55.0	52.7	52.8	41.6
R_I	(k)	13.5	10.5	9.9	9.4	9.5	10.4
R_{Total}	(k)	107.2	177.8	151.3	145.3	152.8	82.7

UNIT D - RAMP B (PIER 59-60) - BEAM R4

EXISTING INTERIOR GIRDER MOMENT TABLE		
		0.5 Span 5B
I_s	(in^4)	11,952
$I_c(n)$	(in^4)	29,900
$I_c(3n)$	(in^4)	21,198
S_s	(in^3)	740
$S_c(n)$	(in^3)	1020
$S_c(3n)$	(in^3)	923
Z	(in^3)	----
$\mathcal{Q}$	(k/')	0.845
$M\mathcal{Q}$	('k)	631.0
$s\mathcal{Q}$	(k/')	0.208
$M_s\mathcal{Q}$	('k)	155.9
M_L	('k)	616.0
M_{IM}	('k)	152.2
$5/3\,[M_L + I]$	('k)	1280.3
M_a	('k)	2687.3
* M_u	('k)	3932.3
f_s $\mathcal{Q}$ non-comp	(ksi)	10.2
f_s $\mathcal{Q}$ (comp)	(ksi)	2.0
f_s $5/3\,[M_L + M_I]$	(ksi)	15.1
f_s (Overload)	(ksi)	27.3
** f_s (Total)	(ksi)	----
VR	(k)	38.9

EXISTING INTERIOR GIRDER REACTION TABLE			
		Pier 59	Pier 60
$R\mathcal{Q}$	(k)	41.1	40.5
R_L	(k)	39.4	38.1
R_I	(k)	9.7	9.4
R_{Total}	(k)	90.3	87.9

UNIT D - RAMP B (PIER 29-30) - BEAM R3

EXISTING INTERIOR GIRDER MOMENT TABLE		
		0.5 Span 7B
I_s	(in^4)	15,700
$I_c(n)$	(in^4)	41,244
$I_c(3n)$	(in^4)	29,078
S_s	(in^3)	980
$S_c(n)$	(in^3)	1368
$S_c(3n)$	(in^3)	1239
Z	(in^3)	----
$\mathcal{Q}$	(k/')	1.139
$M\mathcal{Q}$	('k)	785.4
$s\mathcal{Q}$	(k/')	0.104
$M_s\mathcal{Q}$	('k)	72.0
M_L	('k)	798.8
M_{IM}	('k)	200.2
$5/3\,[M_L + I]$	('k)	1665.0
M_a	('k)	3279.1
* M_u	('k)	5302.1
f_s $\mathcal{Q}$ non-comp	(ksi)	9.6
f_s $\mathcal{Q}$ (comp)	(ksi)	0.7
f_s $5/3\,[M_L + M_I]$	(ksi)	14.6
f_s (Overload)	(ksi)	24.9
** f_s (Total)	(ksi)	----
VR	(k)	51.6

EXISTING INTERIOR GIRDER REACTION TABLE			
		Pier 29	Pier 30
$R\mathcal{Q}$	(k)	46.2	46.2
R_L	(k)	52.1	52.1
R_I	(k)	13.1	13.1
R_{Total}	(k)	111.3	111.3

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).
$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).
Z: Plastic Section Modulus of the steel section in non-composite areas ($in.^3$).
$\mathcal{Q}$: Un-factored non-composite dead load (kips/ft.).
$M\mathcal{Q}$: Un-factored moment due to non-composite dead load (kip-ft.).
$s\mathcal{Q}$: Un-factored long-term composite (superimposed) dead load (kips/ft.)
$M_s\mathcal{Q}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment (kip-ft.).
M_I: Un-factored moment due to impact (kip-ft.).
M_a: Factored design moment (kip-ft.). $1.3\,[M\mathcal{Q} + M_s\mathcal{Q} + \frac{5}{3}(M_L + M_I)]$
M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
f_s (Overload): Sum of stresses as computed from the moments below (ksi). $M\mathcal{Q} + M_s\mathcal{Q} + \frac{5}{3}(M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi). $1.3\,[M\mathcal{Q} + M_s\mathcal{Q} + \frac{5}{3}(M_L + M_I)]$
VR: Maximum M_L + impact shear range within the composite portion of the span for stud shear connector design (kips).

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		CHECKED - JLS	REVISED -
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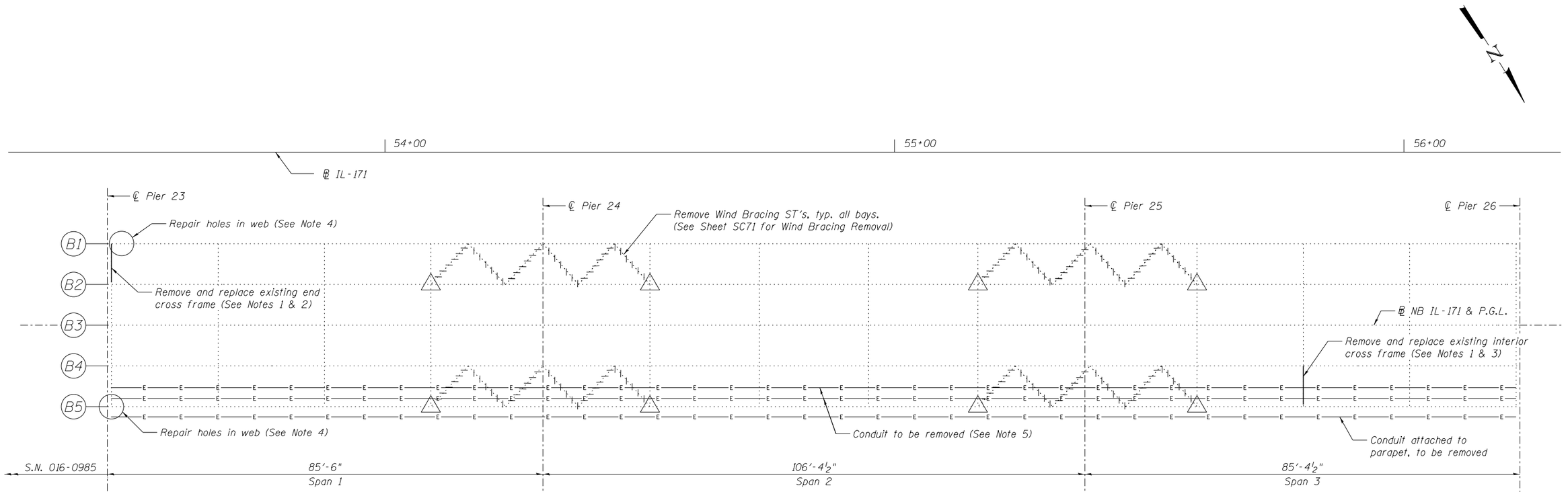
MOMENT & REACTION TABLES (2 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC66 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	378
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



EXISTING FRAMING PLAN - UNIT B SPANS 1 THRU 3

LEGEND

△ Remove existing gusset plate per "Structural Steel Removal" Special Provision. (See Sheet SC71 for Wind Bracing Removal)

NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See Sheet SC72 for End Cross Frame Removal and Replacement Details.
3. See Sheet SC72 for Interior Cross Frame Removal and Replacement Details.
4. See Sheet SC72 for Girder End Repair Details. Steel paid for as "Furnishing and Erecting Structural Steel".
5. See Sheet SC71 for Conduit Removal Detail.
6. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".

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DEPARTMENT OF TRANSPORTATION

STEEL REMOVAL AND REPAIR PLAN UNIT B
STRUCTURE NO. 016-2456
SHEET NO. SC67 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	379
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

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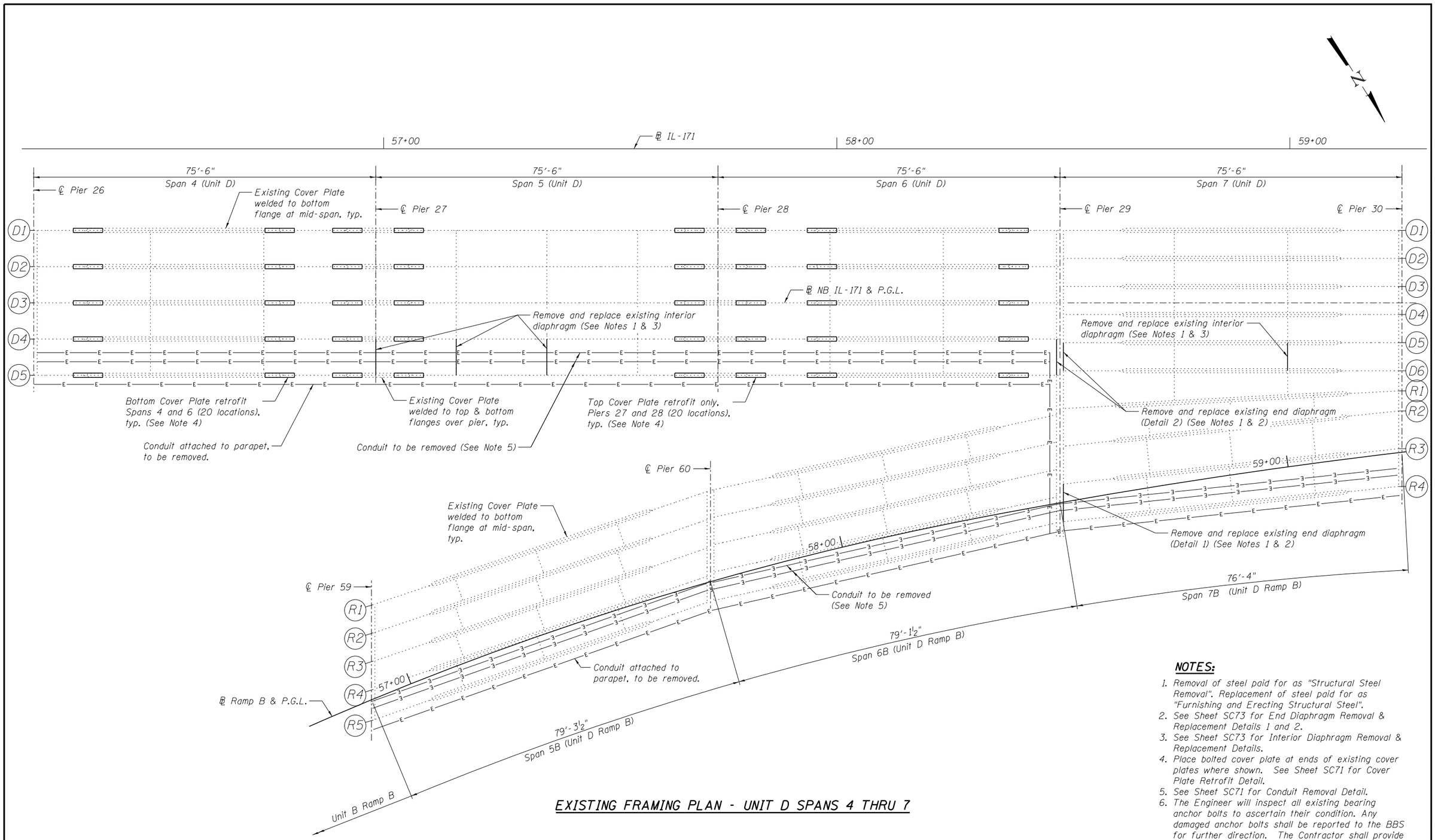

EXISTING FRAMING PLAN - UNIT D SPANS 4 THRU 7

NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See Sheet SC73 for End Diaphragm Removal & Replacement Details 1 and 2.
3. See Sheet SC73 for Interior Diaphragm Removal & Replacement Details.
4. Place bolted cover plate at ends of existing cover plates where shown. See Sheet SC71 for Cover Plate Retrofit Detail.
5. See Sheet SC71 for Conduit Removal Detail.
6. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".

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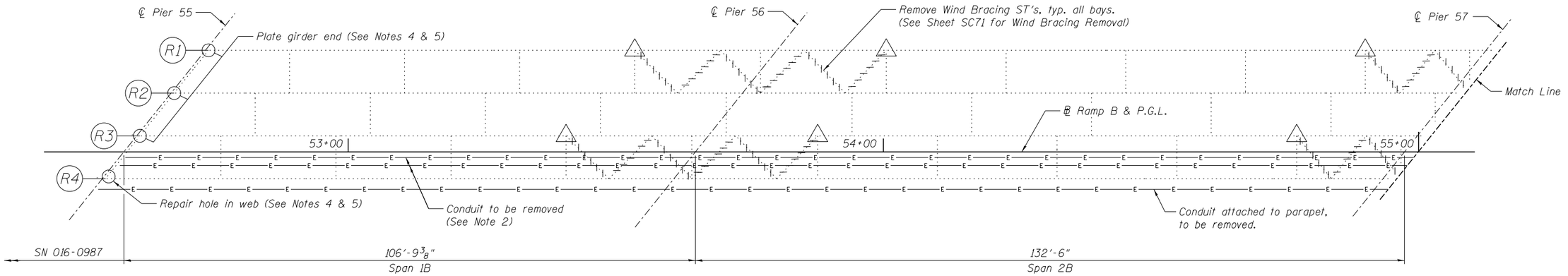
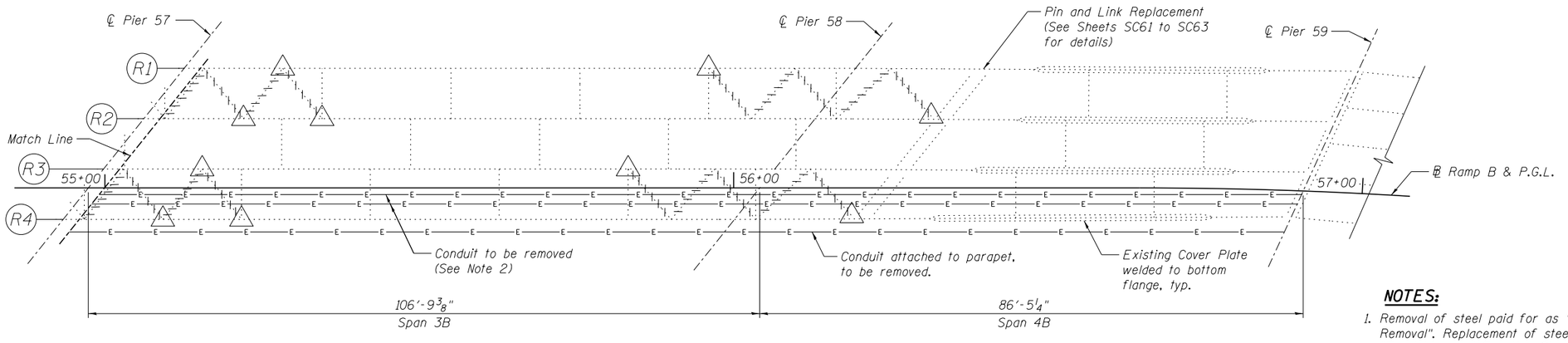
DEPARTMENT OF TRANSPORTATION

STEEL REMOVAL AND REPAIR PLAN UNIT D
STRUCTURE NO. 016-2456
SHEET NO. SC68 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	380
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		





EXISTING FRAMING PLAN - UNIT B RAMP B SPANS 1B THRU 4B

LEGEND

△ Remove existing gusset plate per "Structural Steel Removal" Special Provision. (See Sheet SC71 for Wind Bracing Removal)

NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See Sheet SC71 for Conduit Removal Detail.
3. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".
4. See Sheet SC72 for Girder End Repair Details. Steel paid for as "Furnishing and Erecting Structural Steel".
5. See SN 016-0987 plans for girder trim details required for finger plate joint replacement.

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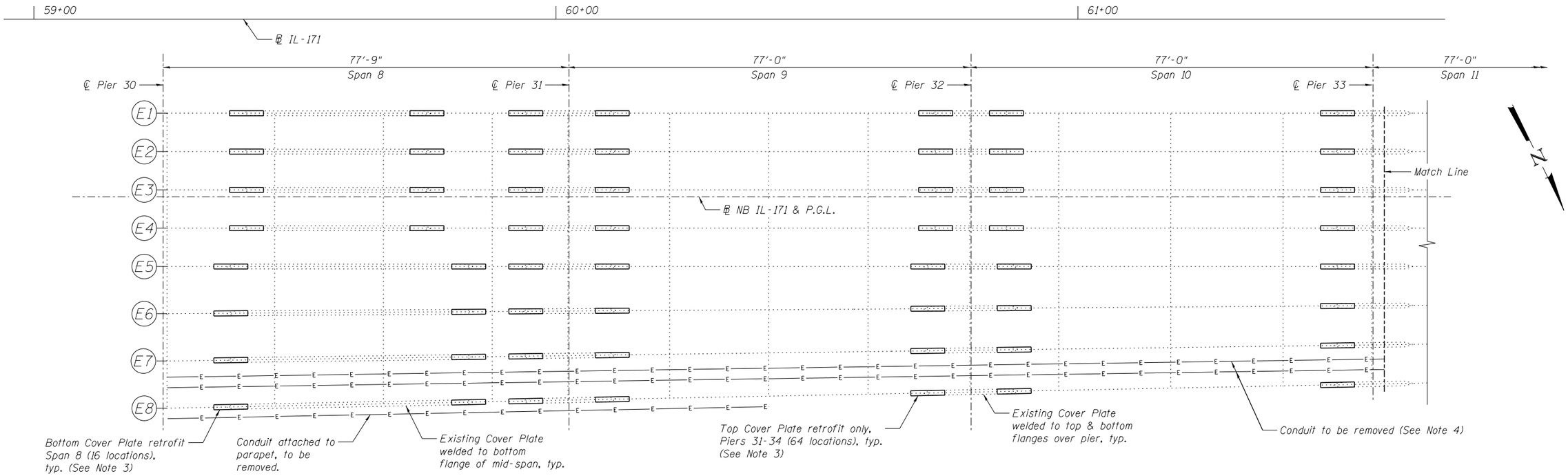
	PLOT DATE = 6/17/2015	CHECKED - JLS	REVISED -

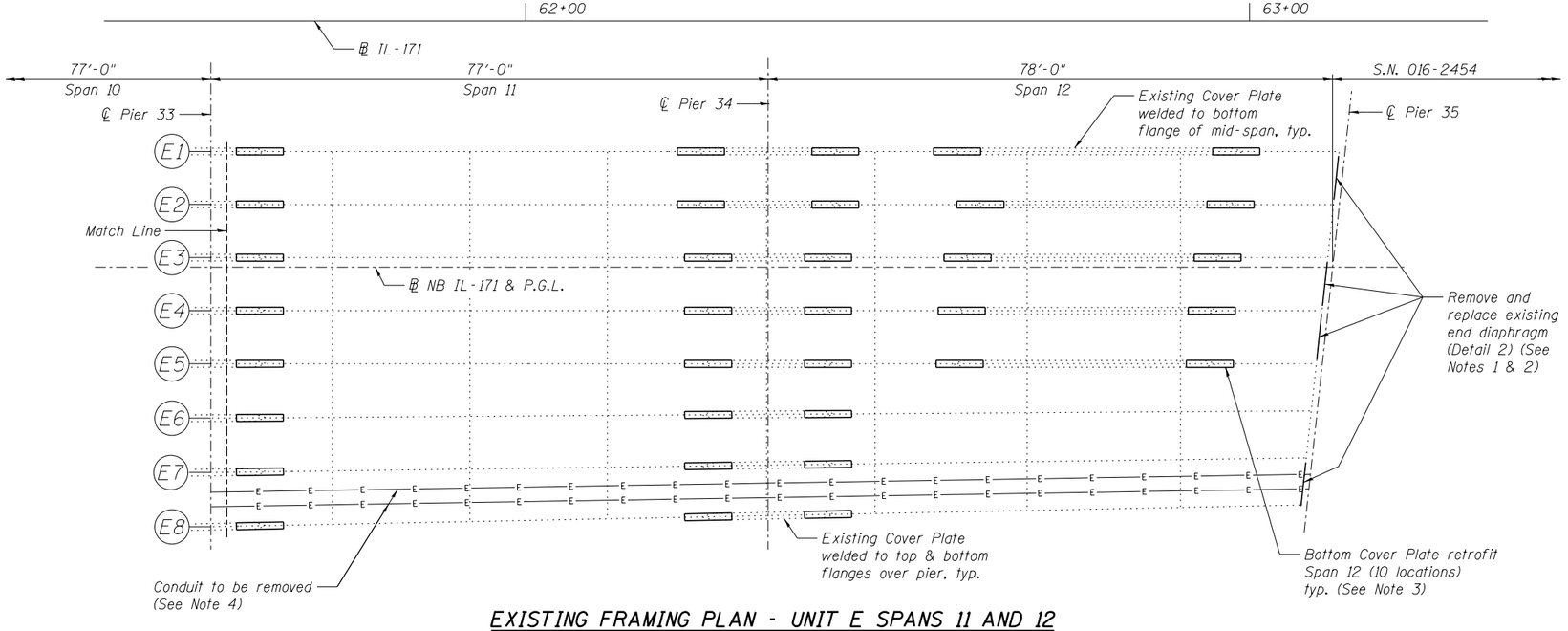
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL REMOVAL AND REPAIR PLAN UNIT B RAMP B
STRUCTURE NO. 016-2456
SHEET NO. SC69 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	381
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



EXISTING FRAMING PLAN - UNIT E SPANS 8 THRU 10



EXISTING FRAMING PLAN - UNIT E SPANS 11 AND 12

NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See Sheet SC73 for End Diaphragm Removal & Replacement Detail 2.
3. Place bolted cover plate at ends of existing cover plates where shown. See sheet SC71 for Cover Plate Retrofit Detail.
4. See Sheet SC71 for Conduit Removal Detail.
5. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".

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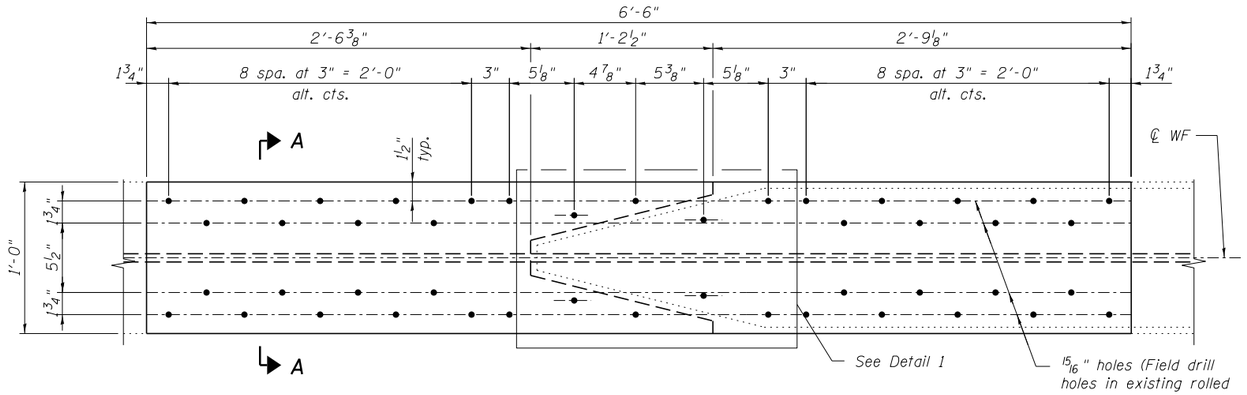
DEPARTMENT OF TRANSPORTATION

STEEL REMOVAL AND REPAIR PLAN UNIT E
STRUCTURE NO. 016-2456
SHEET NO. SC70 OF SC96 SHEETS

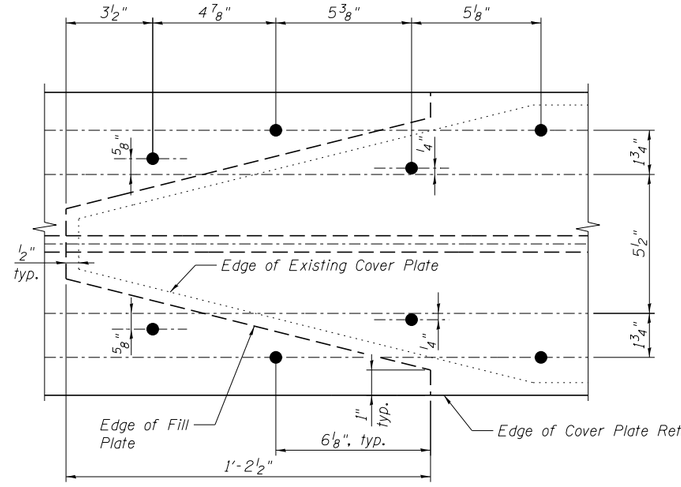
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	382
		CONTRACT NO. 60W75		
ILLINOIS	FED. AID PROJECT			



COVER PLATE RETROFIT

(46 bolts per retrofit)
(130 Locations, 84 Top & 46 Bottom)
(See Note 2)

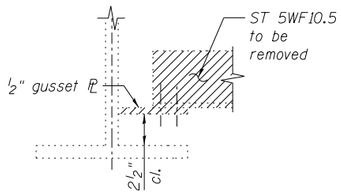
Note: Locations of Cover plate retrofit are symmetrical about the ℄ of the existing cover plate.



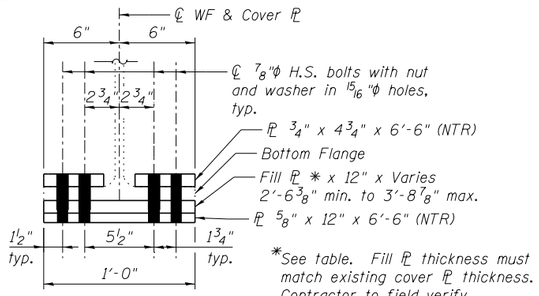
DETAIL 1

EXISTING COVER ℙ THICKNESS

Cover ℙ Location	Thick.
Span 4 Beams D1-D5	1/2"
Piers 27 & 28 Beams D1-D5	1/2"
Span 6 Beams D1-D5	1/2"
Span 8 Beams E1-E4	1/16"
Span 8 Beams E5-E8	9/16"
Pier 31 Beams E1-E4	5/8"
Pier 31 Beams E5-E8	3/4"
Pier 32 Beams E1-E4	1/16"
Pier 32 Beams E5-E8	1/2"
Pier 33 Beams E1-E8	1/16"
Pier 34 Beams E1-E2	3/4"
Pier 34 Beams E3-E5	5/8"
Pier 34 Beams E6-E8	1/2"
Span 12 Beams E1-E5	7/16"



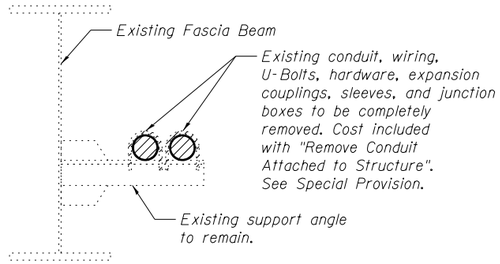
SECTION B-B



SECTION A-A

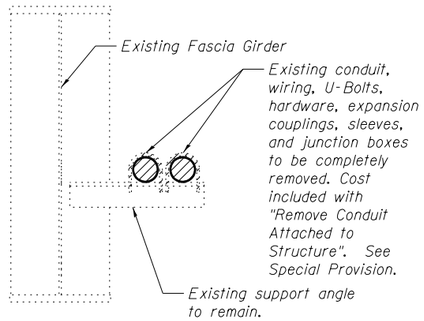
(Bottom shown, Top similar)

*See table. Fill ℙ thickness must match existing cover ℙ thickness. Contractor to field verify thickness prior to ordering new materials.



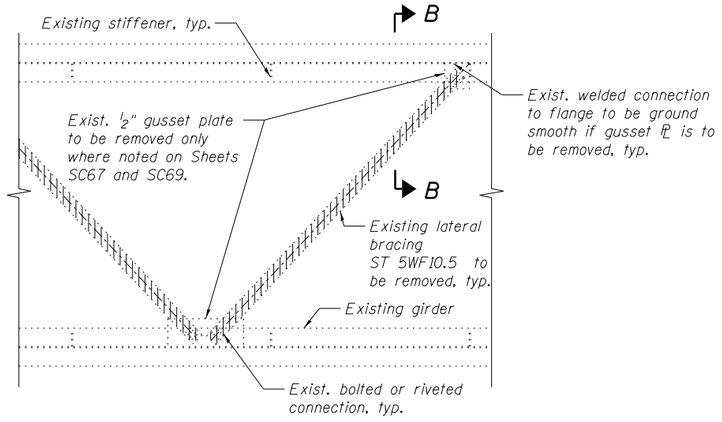
CONDUIT REMOVAL DETAIL

(Wide Flange Detail)



CONDUIT REMOVAL DETAIL

(Plate Girder Detail)



WIND BRACING REMOVAL

(Removal of lateral bracing and gusset plates paid for as "Structural Steel Removal")
(60 angles to be removed)
(24 gusset ℙ's to be removed)

NOTES:

1. See Sheets SC68 and SC70 for locations of cover plate retrofits.
2. Cost of furnishing all labor, equipment, and materials necessary to furnish and install the cover plate retrofit detail shall be included with "Structural Steel Repair". See Special Provision. "Structural Steel Repair" weight billed below is calculated based on gross section of plate with voids for bolts holes not accounted for.
3. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
4. Structural Steel Plates for cover plate retrofit shall conform to the requirements of AASHTO M270 Grade 50.
5. Cost of field drilling included with "Structural Steel Repair".

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Removal	Pound	10,850
Remove Conduit Attached to Structure	Foot	4,407
Structural Steel Repair	Pound	51,680

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FILE NAME = 0162456_60W75_071_Steel_Repair_Details_1.dgn	USER NAME = jsurber	DESIGNED - JDC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL REPAIR DETAILS (1 OF 3) STRUCTURE NO. 016-2456	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - JLS	REVISED -			372	2013-037B-R	COOK	787	383
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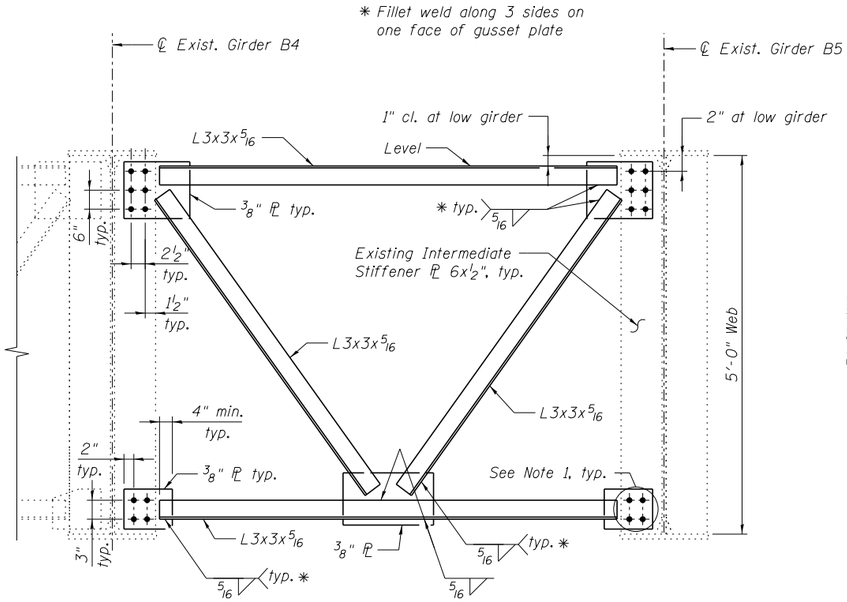
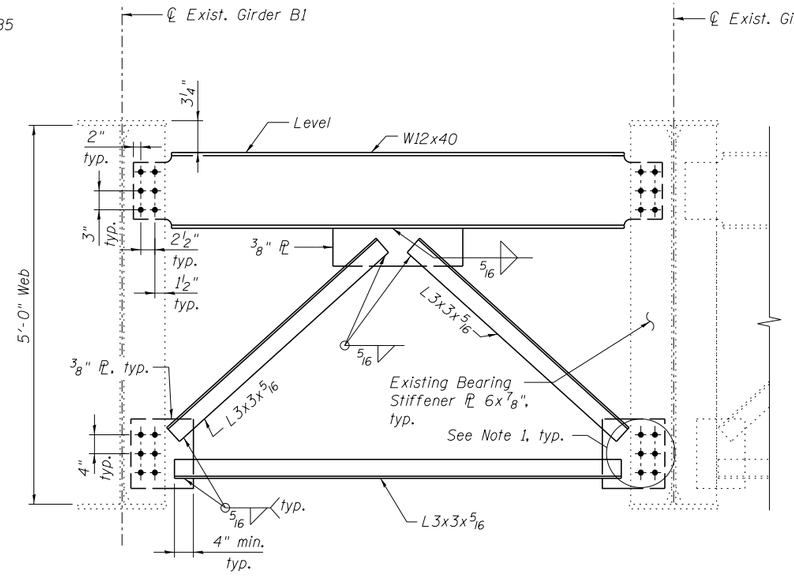
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -		SHEET NO. SC71 OF SC96 SHEETS			ILLINOIS	FED. AID PROJECT	



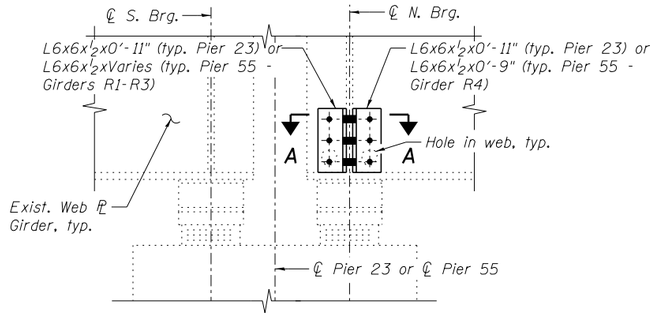
INTERIOR CROSS FRAME REPLACEMENT DETAIL

(No. of Locations = 1)



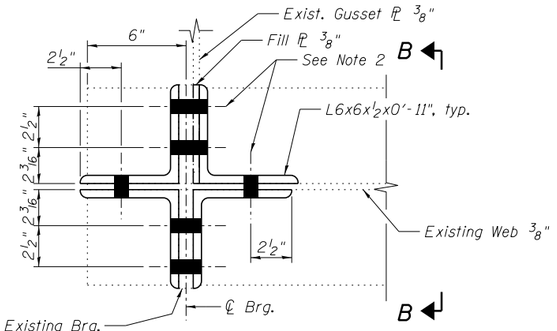
END CROSS FRAME REPLACEMENT DETAIL

(No. of Locations = 1)



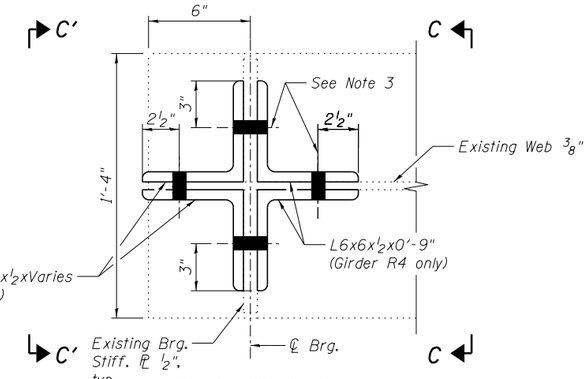
GIRDER END REPAIR DETAIL

(Pier 23 - Exist. Fascia Girders at 2 locations)
(Pier 55 - Exist. Girder at 4 locations)



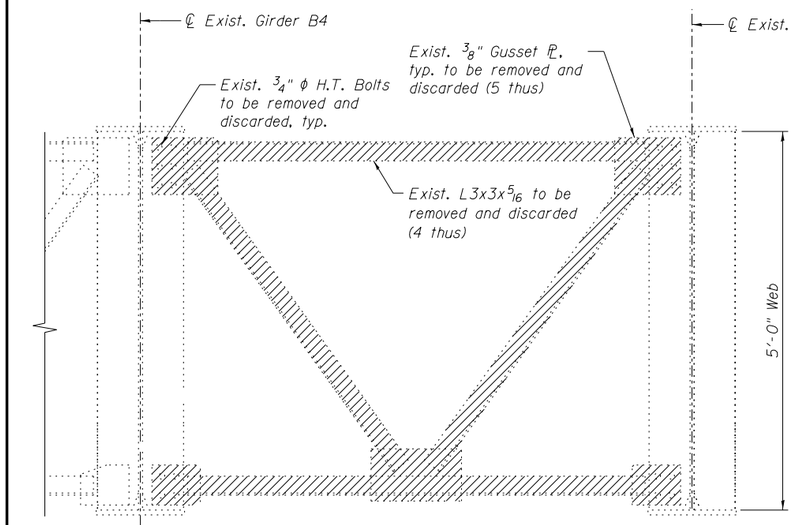
SECTION A-A

(at Pier 23 - Girder B5 shown)



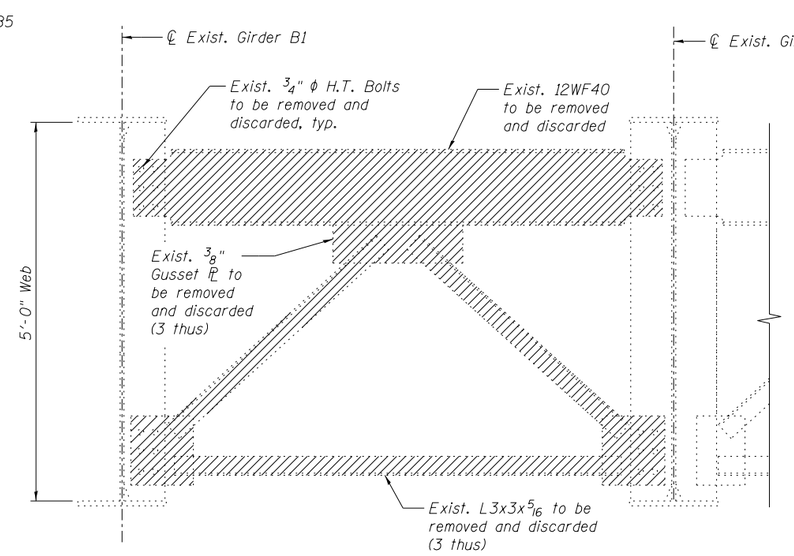
SECTION A-A

(at Pier 55)



EXISTING INTERIOR CROSS FRAME REMOVAL DETAIL

(No. of Locations = 1)



EXISTING END CROSS FRAME REMOVAL DETAIL

(No. of Locations = 1)

CROSS FRAME REPLACEMENT NOTES:

1. New 3/4" dia. fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Field drill holes in new steel using holes in existing stiffener as a template. Contractor to field verify location, size and spacing of existing holes prior to ordering new materials. Cost included with "Furnishing and Erecting Structural Steel".
2. See Sheet SC67 for location of cross frame removal and replacements.

GIRDER END REPAIR NOTES:

1. See Sheets SC67 and SC69 for locations of girder end repair.
2. Bolts for girder end repair shall be 3/4"ϕ, ASTM A325 Type 1, mechanically galvanized, in 13/16"ϕ holes. Holes in new angles shall be shop drilled. Holes in the existing web and bearing stiffeners shall be field drilled using the holes from the new angles as a template. Cost of field drilling included with "Furnishing and Erecting Structural Steel".
3. Bolts for girder end repair shall be 3/4"ϕ, ASTM A325 Type 1, mechanically galvanized, in 13/16"ϕ holes. Holes in new angle legs connecting to existing steel shall be shop drilled unless noted otherwise. Holes in the new angle legs in locations where existing gusset plate holes or existing angle holes (at Girder R4) overlap with the new angle leg shall be field drilled using the existing holes as a template. New holes in existing steel shall be field drilled using the shop drilled angles holes as template. Cost of field drilling included with "Furnishing and Erecting Structural Steel".
4. For Views B-B, C-C and C'-C' see Sheet SC73.

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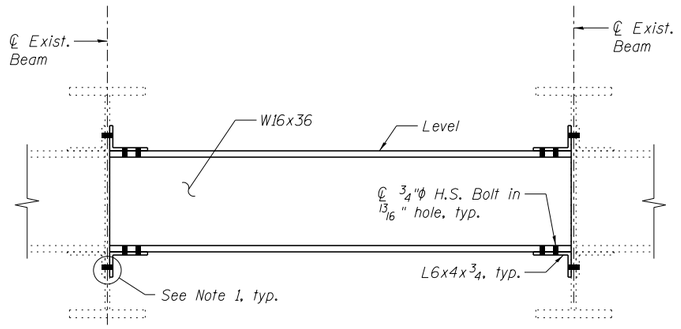
FILE NAME = 0162456_60W75_072_Steel_Repair_Details_2.dgn	USER NAME = jsurber	DESIGNED - JDC	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/17/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

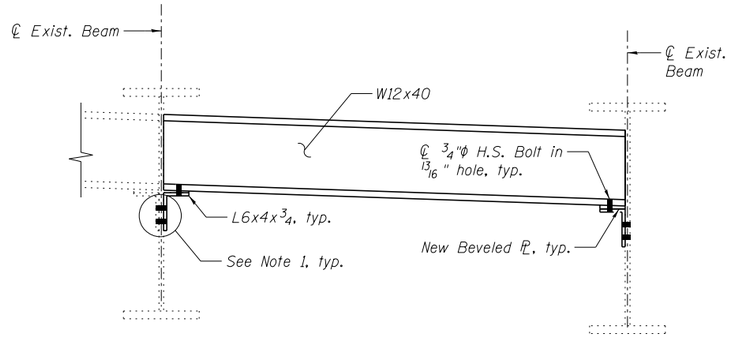
STRUCTURAL STEEL REPAIR DETAILS (2 OF 3)
STRUCTURE NO. 016-2456
SHEET NO. SC72 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	384
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



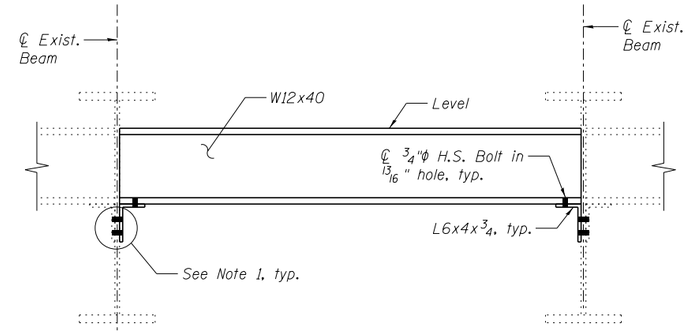
INTERIOR DIAPHRAGM REPLACEMENT DETAIL

(No. of Locations = 4)



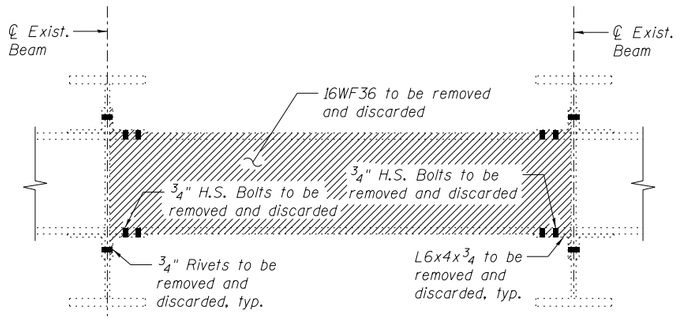
END DIAPHRAGM REPLACEMENT DETAIL 1

(No. of Locations = 1)



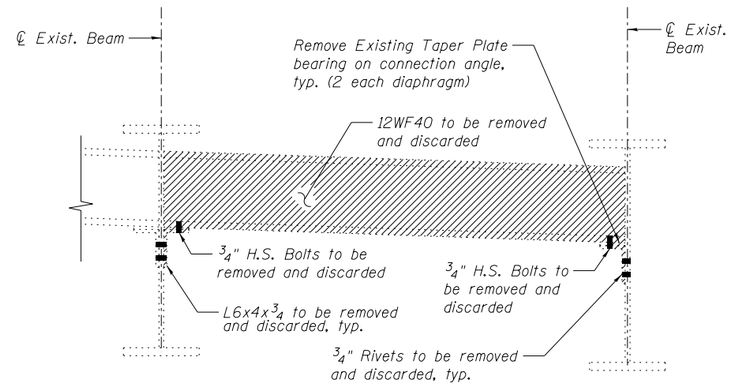
END DIAPHRAGM REPLACEMENT DETAIL 2

(No. of Locations = 6)



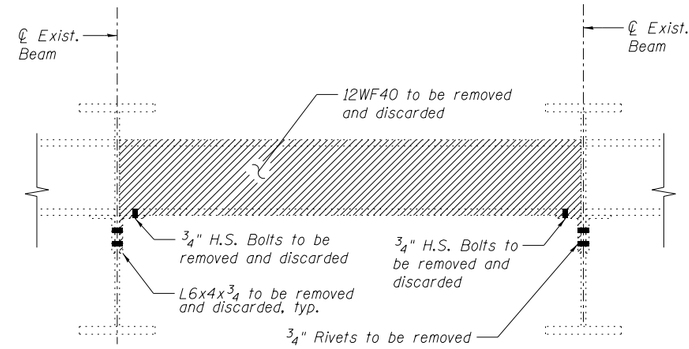
EXISTING INTERIOR DIAPHRAGM REMOVAL DETAIL

(No. of Locations = 4)



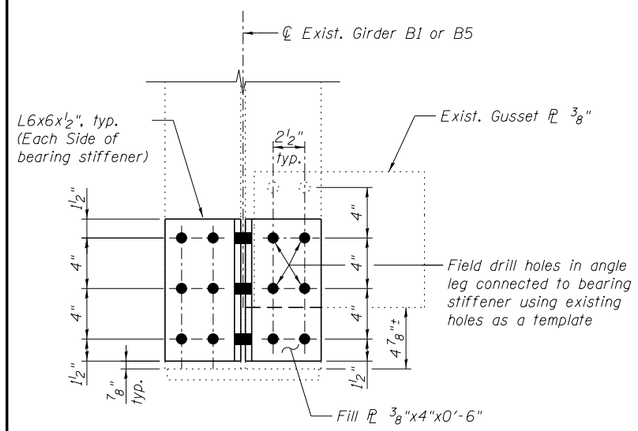
EXISTING END DIAPHRAGM REMOVAL DETAIL 1

(No. of Locations = 1)



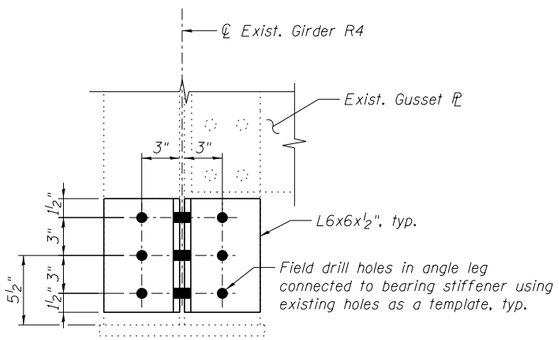
EXISTING END DIAPHRAGM REMOVAL DETAIL 2

(No. of Locations = 6)



VIEW B-B

(See Sheet SC72 and Note 6)

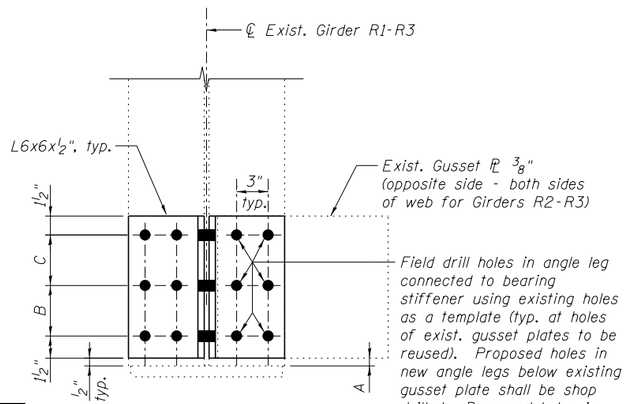


VIEW C-C

(See Sheet SC72 and Note 6)

Note: Existing L6x6x1/2"x0'-9" on other side of bearing stiffener (See Sheet SCX33)

Girder	A	B	C
R1	1/2"±	4"	4"
R2	3 3/4"±	3 1/4"	4"
R3	7 1/4"±	2 3/4"	4"



VIEW C'-C'

(See Sheet SC72 and Note 6)
(Girder R1 shown)

NOTES:

1. New 3/4" dia. fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Field drill holes in W12 or W16 flange using holes in horizontal angle leg as a template. Field drill holes in vertical angle leg using holes in existing beam web as a template. Contractor to field verify location, size and spacing of existing holes prior to ordering new materials. Cost included with "Furnishing and Erecting Structural Steel".
2. See Sheets SC68 and SC70 for location of diaphragm replacement and removal.
3. Contractor shall ensure that the adjacent existing diaphragm is supported during angle replacement under proposed diaphragm. Cost included with "Structural Steel Removal."
4. Cost of field drilling included with "Furnishing and Erecting Structural Steel."
5. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
6. Contractor shall field verify existing dimensions and hole locations and make necessary adjustments prior to construction or ordering of materials. Girder end repair steel paid for as "Furnishing and Erecting Structural Steel".

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	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/17/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
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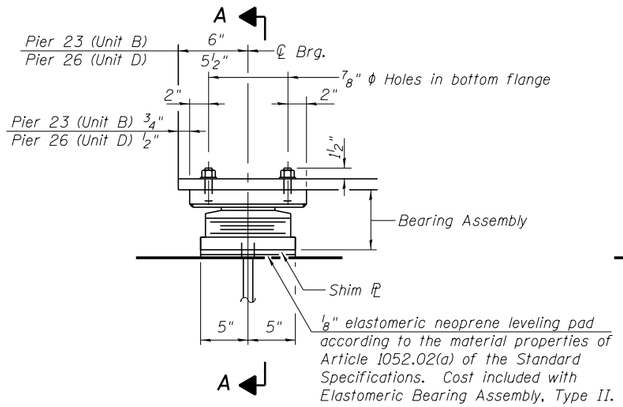
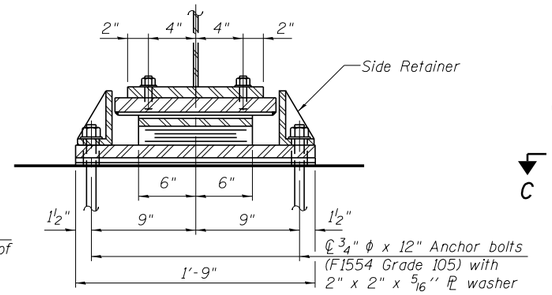
STRUCTURAL STEEL REPAIR DETAILS (3 OF 3)
STRUCTURE NO. 016-2456
SHEET NO. SC73 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	385
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



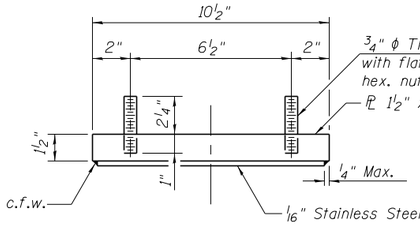
ELEVATION



SECTION A-A

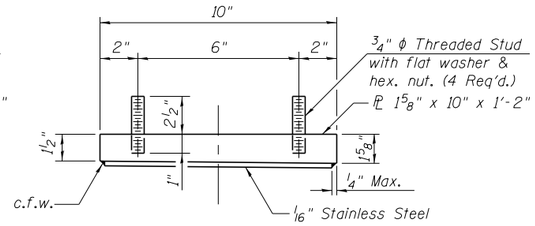
TYPE II ELASTOMERIC EXP. BRG. AT PIERS 23 (UNIT B) & 26 (UNIT D)

(1 required at each pier)



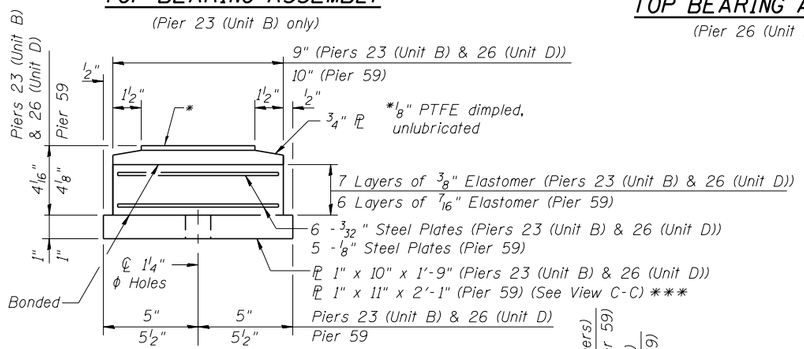
TOP BEARING ASSEMBLY

(Pier 23 (Unit B) only)



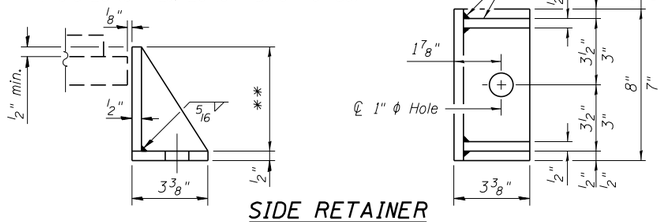
TOP BEARING ASSEMBLY

(Pier 26 (Unit D) only)



BOTTOM BEARING ASSEMBLY

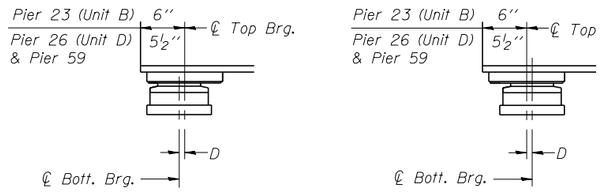
(Piers 23 (Unit B), 26 (Unit D) & Pier 59)



SIDE RETAINER

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

** 5⅝" Pier 23 (Unit B)
5¾" Pier 26 (Unit D)
5⅞" Pier 59



BELOW 50°F.

(Move bott. brg. away from fixed brg.)

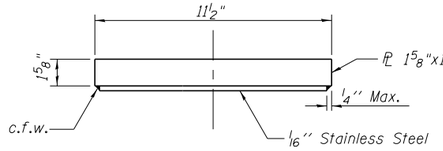
ABOVE 50°F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

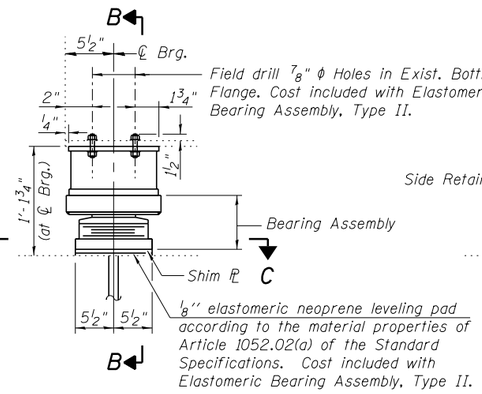
D=⅛" per each 100° of expansion for every 15° temp. change from the normal temp. of 50°F.

(Steel Extension at Pier 59 not shown)

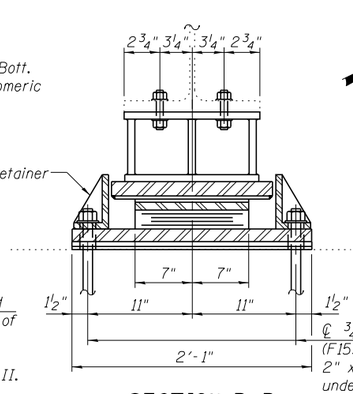


TOP BEARING PLATE

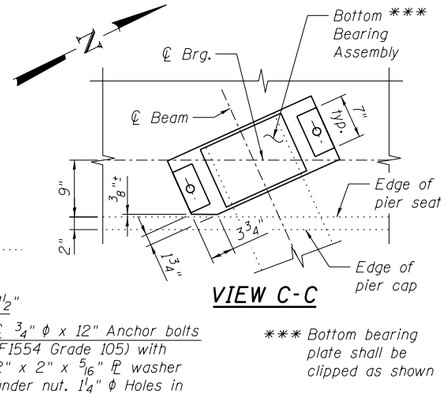
(Pier 59 only)



ELEVATION



SECTION B-B



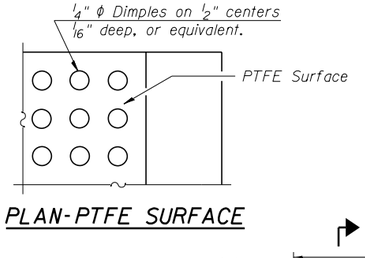
VIEW C-C

*** Bottom bearing plate shall be clipped as shown

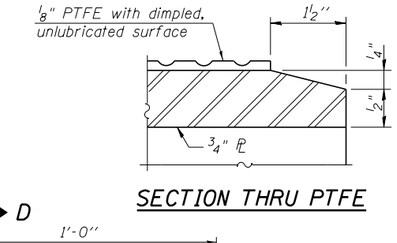
TYPE II ELASTOMERIC EXP. BRG. AT PIER 59

(4 required)

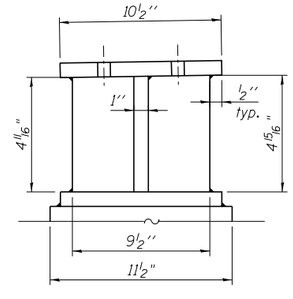
(See Sheet SC75 for Existing Bearings Removal Detail)



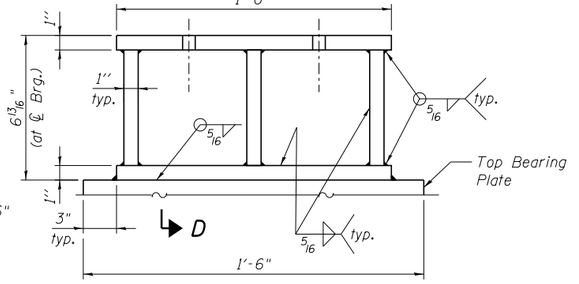
PLAN-PTFE SURFACE



SECTION THRU PTFE

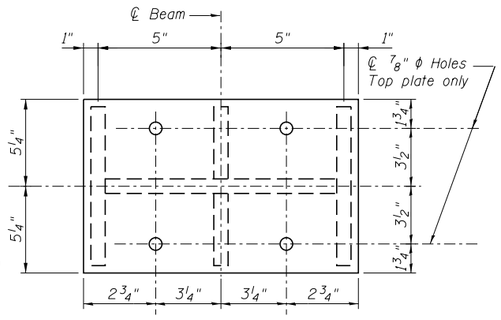


SECTION D-D



ELEVATION STEEL EXTENSION

(Weight included with Furnishing and Erecting Structural Steel.)



PLAN STEEL EXTENSION

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

Notes:

Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛" PTFE 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 ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

The structural steel plates of the bearing assemblies and the steel extensions shall meet the requirements of AASHTO M270 Grade 50.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	6
Anchor Bolts, ¾"	Each	12

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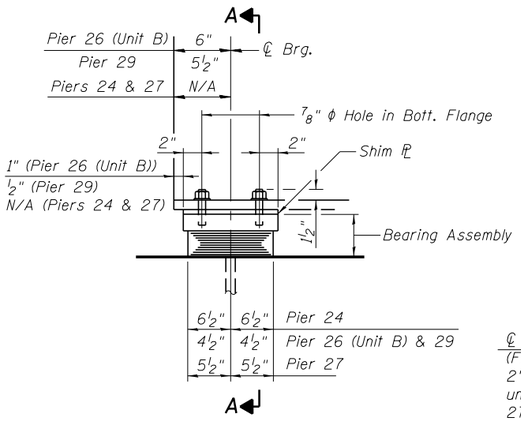
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

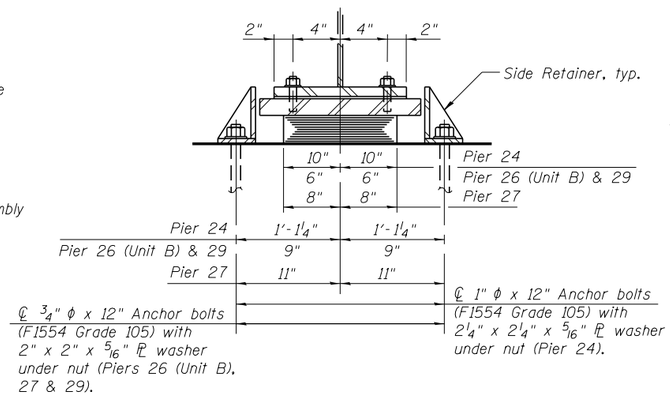
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS (1 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC74 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	386
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



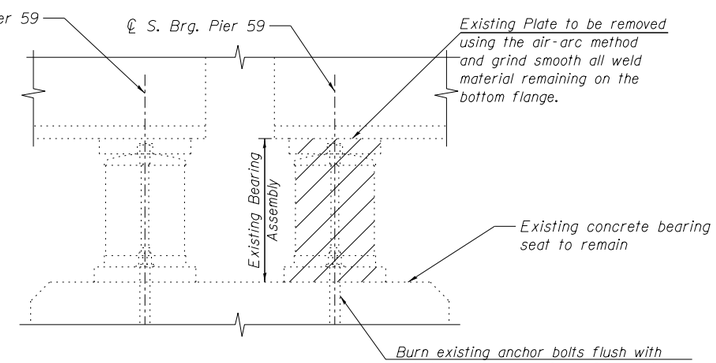
ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. AT PIERS 24, 26 (UNIT B), 27 & 29

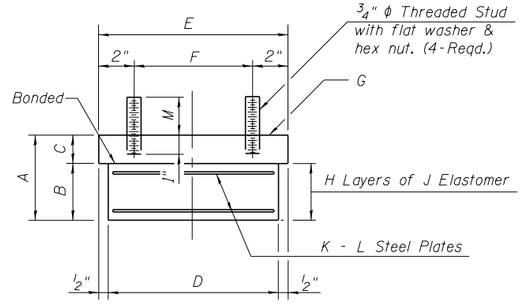
(1 required at each pier)



EXISTING BEARINGS REMOVAL DETAIL AT PIER 59

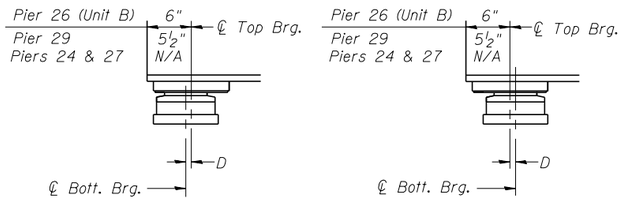
(4 bearings total)

1. See Special Provision for "Jack and Remove Existing Bearings".
2. Jacking shall not commence until the deck has been removed entirely. The (steel only) dead load reaction is 8 kips for each south bearing at Pier 59. Minimum jack capacity = 6.0 tons.



BEARING ASSEMBLY

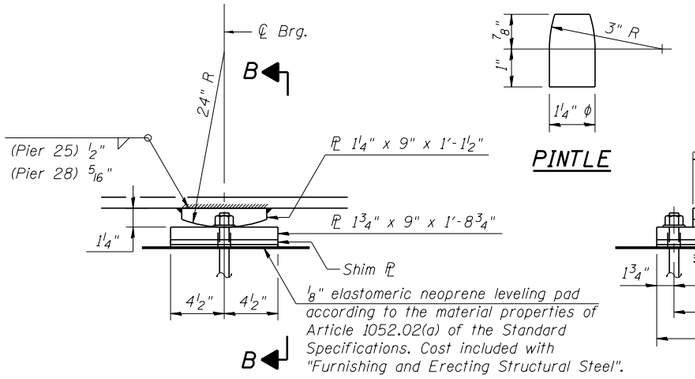
Note:
Shim plates shall not be placed under Bearing Assembly.



Location	A	B	C	D	E	F	G	H	J	K	L	M
Pier 24	5 5/8"	3 7/8"	1 3/4"	13"	14"	10"	PL 1¾" x 14" x 1'-10"	5	5/8"	4	3/16"	2 5/8"
Pier 26 (Unit B)	4 11/16"	3 3/16"	1½"	9"	10"	6"	PL 1½" x 10" x 1'-2"	7	3/8"	6	3/32"	2½"
Pier 27	4 3/8"	2 3/8"	2"	11"	12"	8"	PL 2" x 12" x 1'-6"	4	½"	3	⅛"	2 3/4"
Pier 29	4 11/16"	3 3/16"	1½"	9"	10"	6"	PL 1½" x 10" x 1'-2"	7	3/8"	6	3/32"	2 3/4"

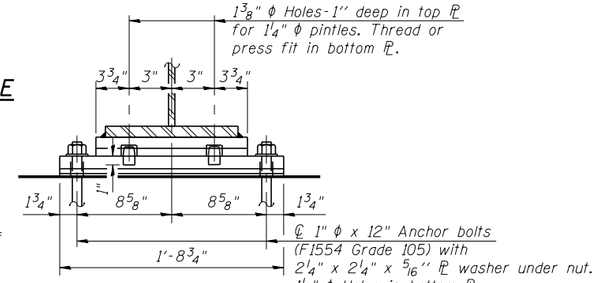
SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛'' per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



ELEVATION

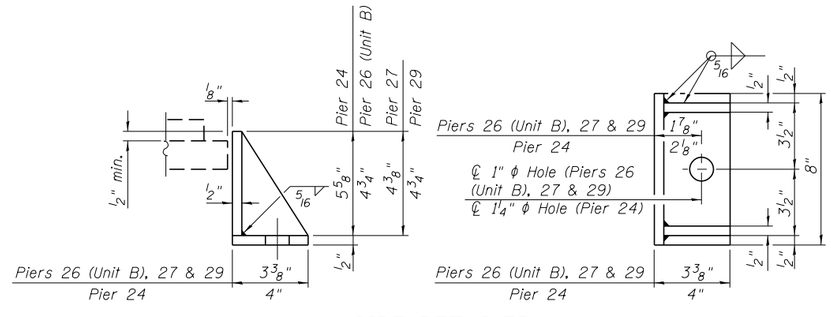
PINTLE



SECTION B-B

FIXED BEARING AT PIERS 25 & 28

(1 required at each pier)



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	4
Elastomeric Bearing Assembly, Type I	Each	4
Anchor Bolts, ¾"	Each	6
Anchor Bolts, 1"	Each	6

Notes:

Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Steel members and pintles required for fixed bearing assemblies shall be included with cost of Furnishing and Erecting Structural Steel.

The structural steel plates of the elastomeric bearing assemblies shall meet the requirements of AASHTO M270 Grade 50.

The structural steel plates and pintles of the fixed bearing assemblies shall meet the requirements of AASHTO M270 Grade 50.

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		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - JLS	REVISED -

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BEARING DETAILS (2 OF 2)
STRUCTURE NO. 016-2456
SHEET NO. SC75 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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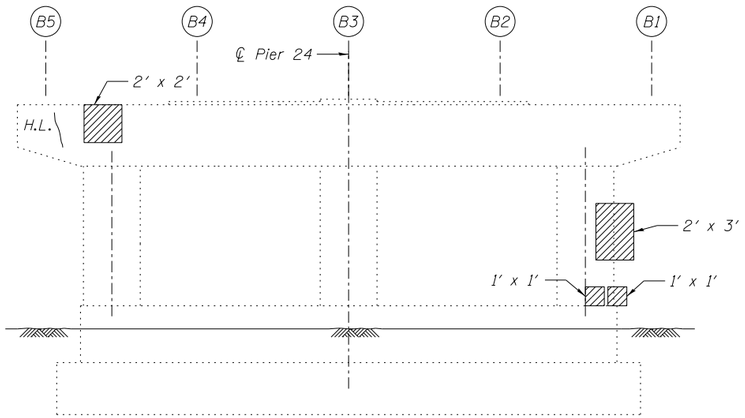
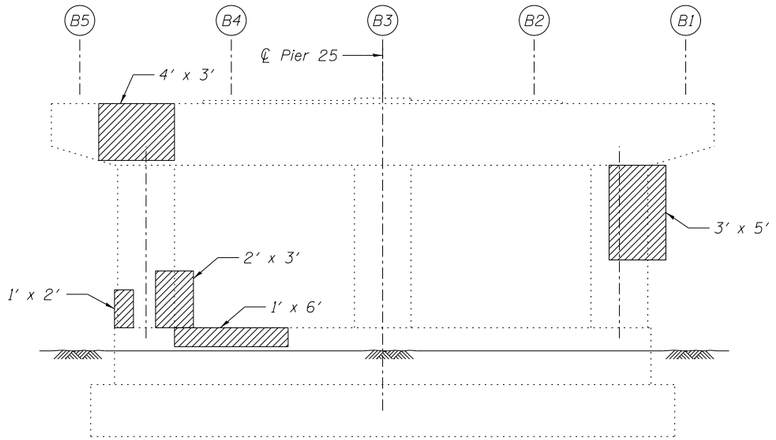
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

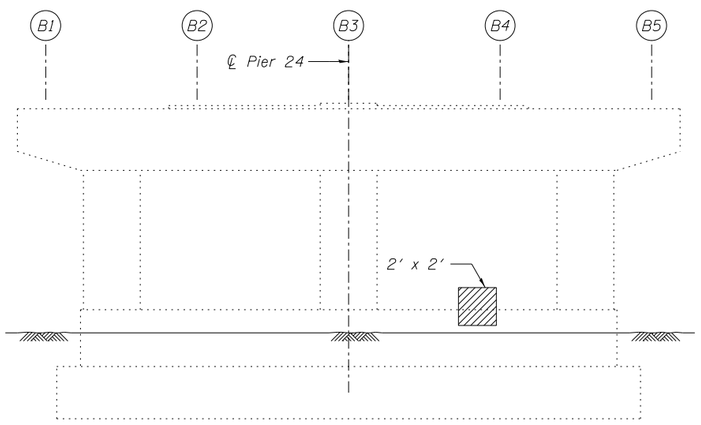


PIER 24
Looking East

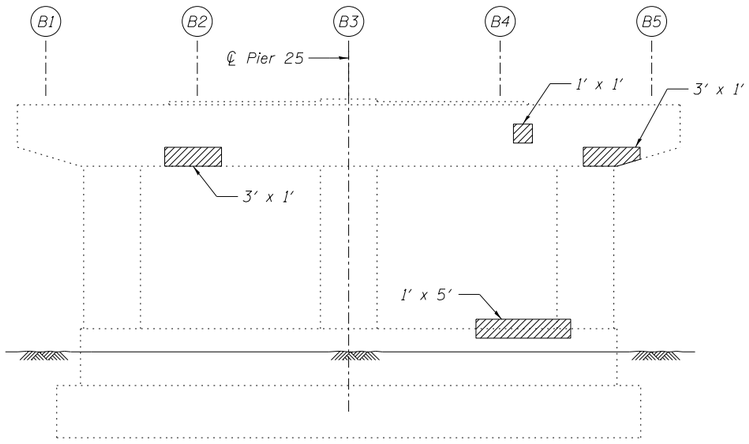


PIER 25
Looking East

See Str. No. 016-0985
For Pier 23



PIER 24
Looking West



PIER 25
Looking West

LEGEND

▨	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
H.L.	Hairline Crack (not to be repaired)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	69

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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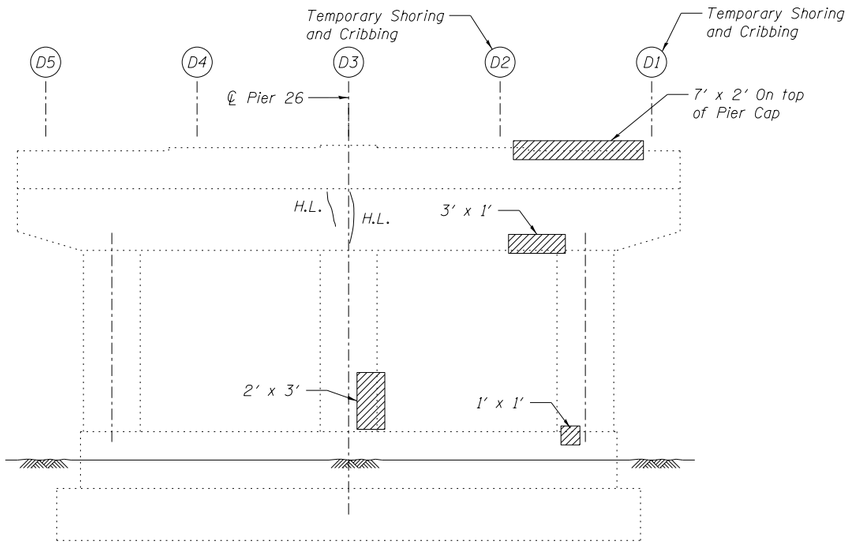
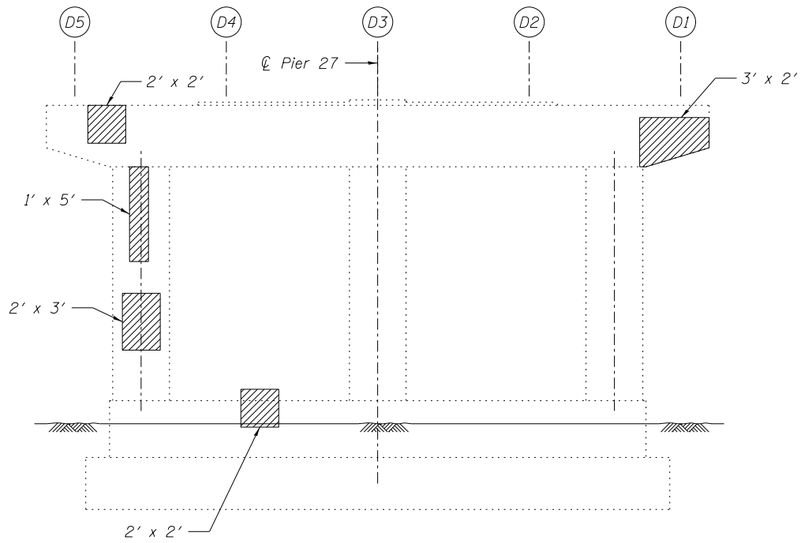
FILE NAME = 0162456_60W75_076_Pierrepair_24.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIERS 24 & 25 CONCRETE REPAIR DETAILS STRUCTURE NO. 016-2456
		CHECKED - AJK	REVISED -		
	PLOT SCALE =	DRAWN - PRT	REVISED -		SHEET NO. SC76 OF SC96 SHEETS
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -		

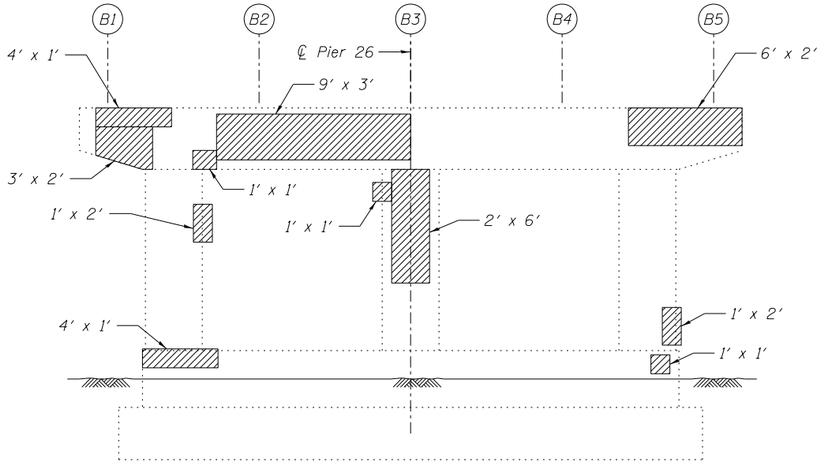
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	388
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



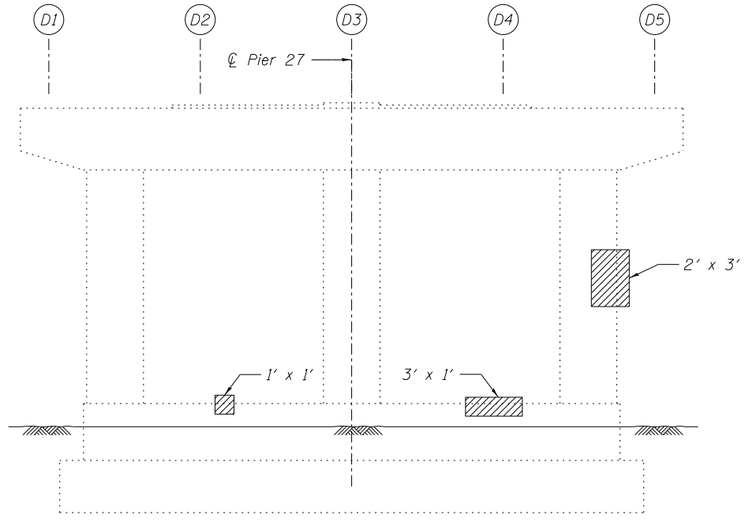
PIER 26
Looking East



PIER 27
Looking East



PIER 26
Looking West



PIER 27
Looking West

UNFACTORED BEAM REACTIONS (KIPS)

LOCATION	DEAD LOAD
Girder D1 - Span 4	6
Girder D2 - Span 4	6

Repairs shall be completed when the deck is removed.
Dead Load represents steel weight only.

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

H.L. Hairline Crack (not to be repaired)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	131
Temporary Shoring and Cribbing	Each	2

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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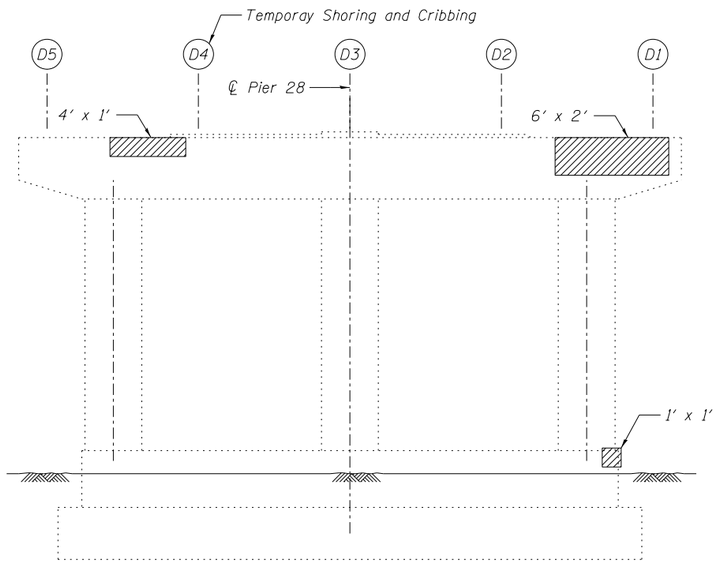
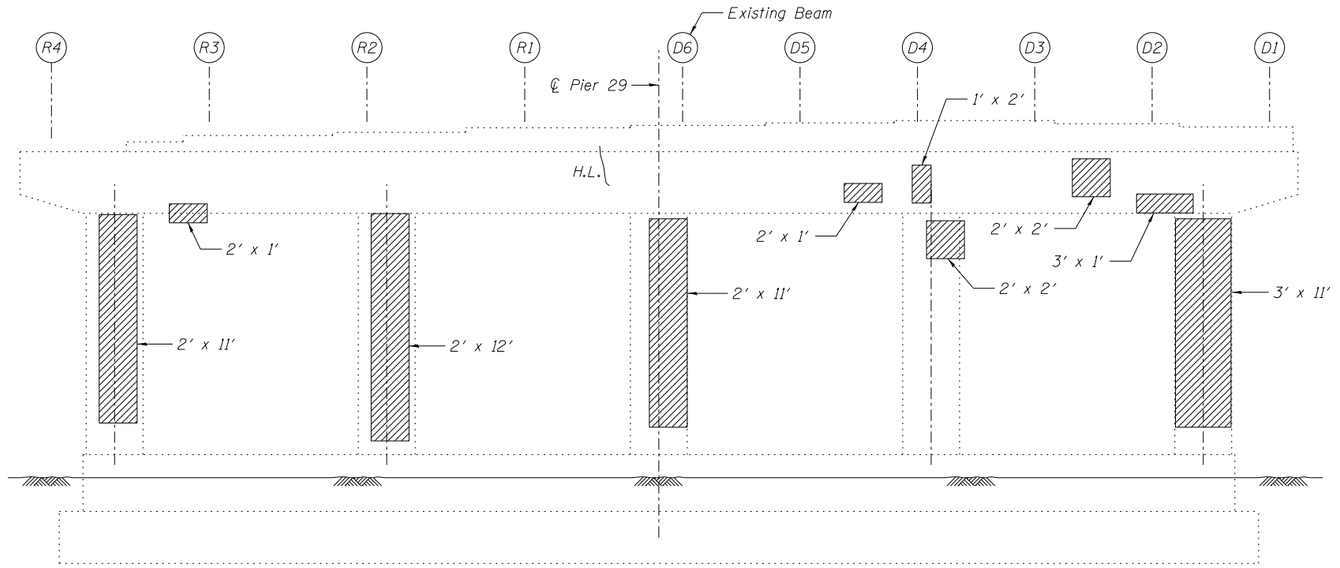
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

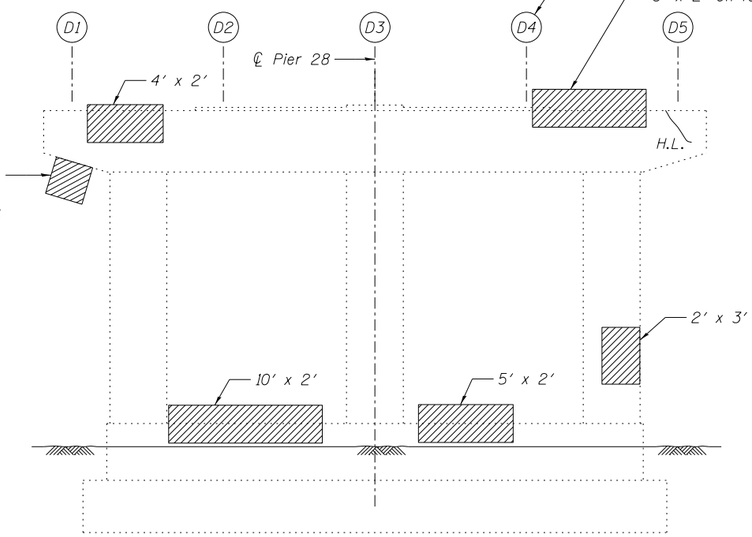
PIERS 26 & 27 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC77 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	389
		CONTRACT NO. 60W75		
	ILLINOIS	FED. AID PROJECT		

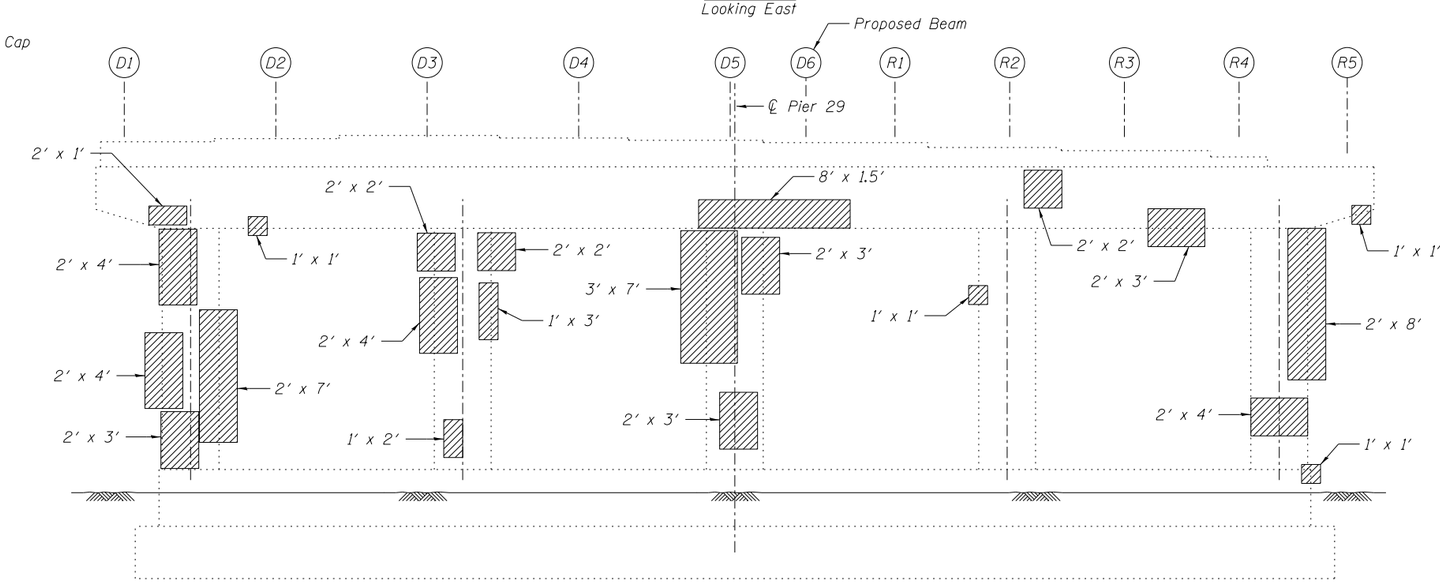




PIER 28
Looking East



PIER 29
Looking East



LEGEND

Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)

H.L. — Hairline Crack (not to be repaired)

PIER 28
Looking West

PIER 29
Looking West

UNFACTORED BEAM REACTIONS (KIPS)

LOCATION	DEAD LOAD
Girder D4	15

Repairs shall be completed when the deck is removed.
Dead Load represents steel weight only.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	337
Temporary Shoring and Cribbing	Each	1

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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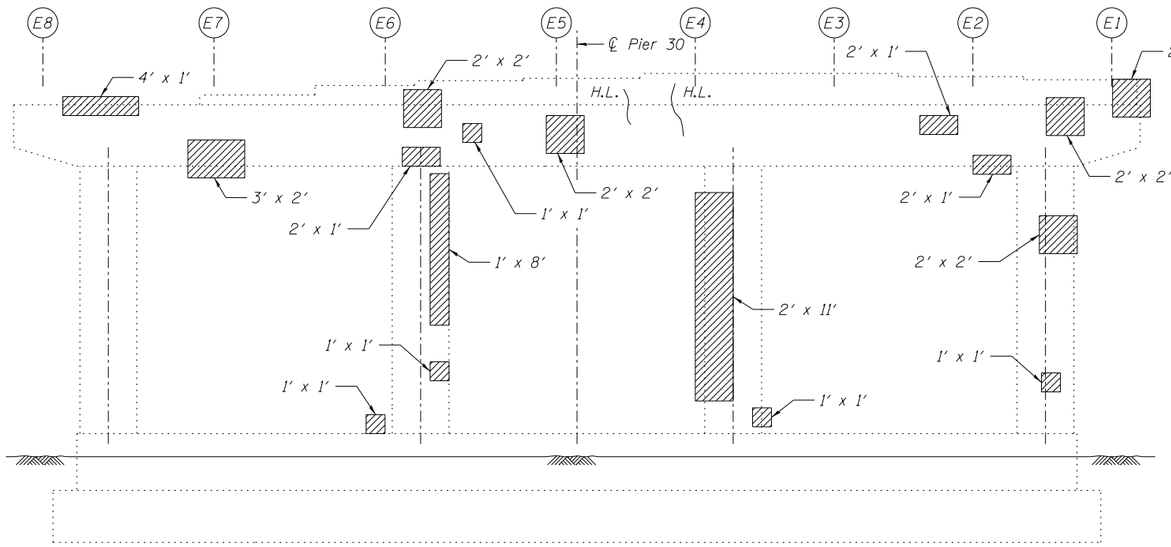
FILE NAME = 0162456_60W75_078_Pierrepair_28.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

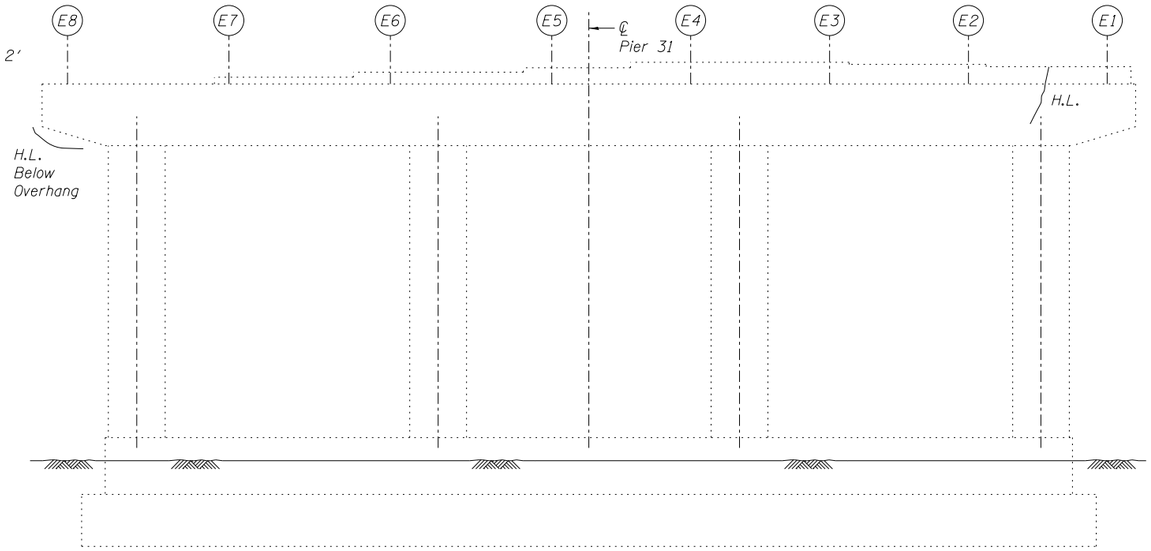
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 28 & 29 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC78 OF SC96 SHEETS

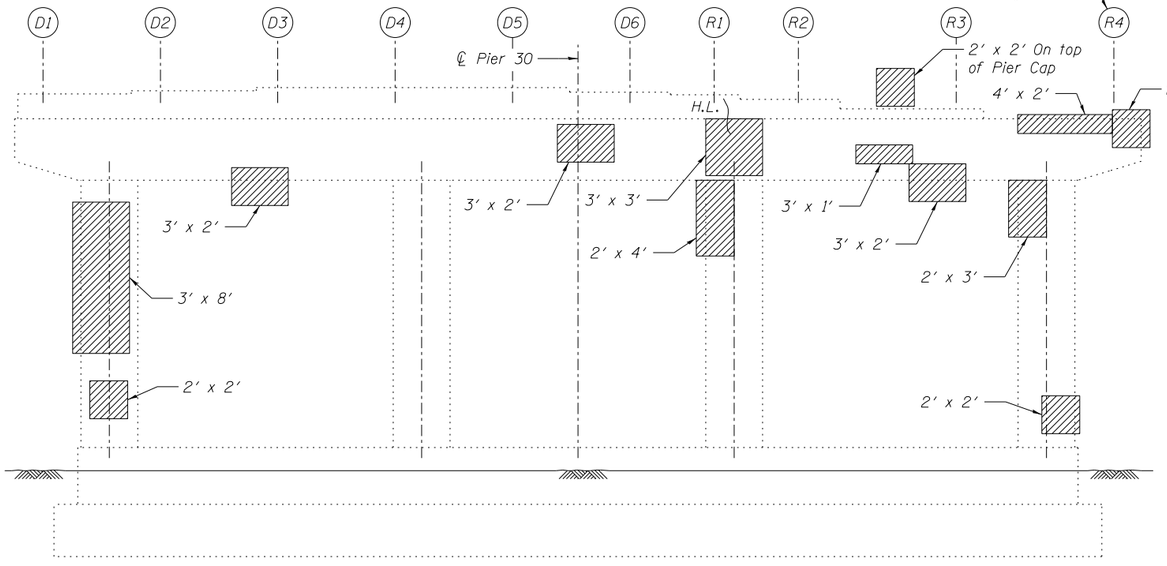
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	390
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

6/15/2015 10:06:10 AM Y:\chicago\10000S\10093\Eng_Docs_Phase_II\SN_016_2456_2457_1st_Ave_over_Des_Plaines_River_Valley\Final\2456 Final\0162456_60W75_078_Pierrepair_28.dgn

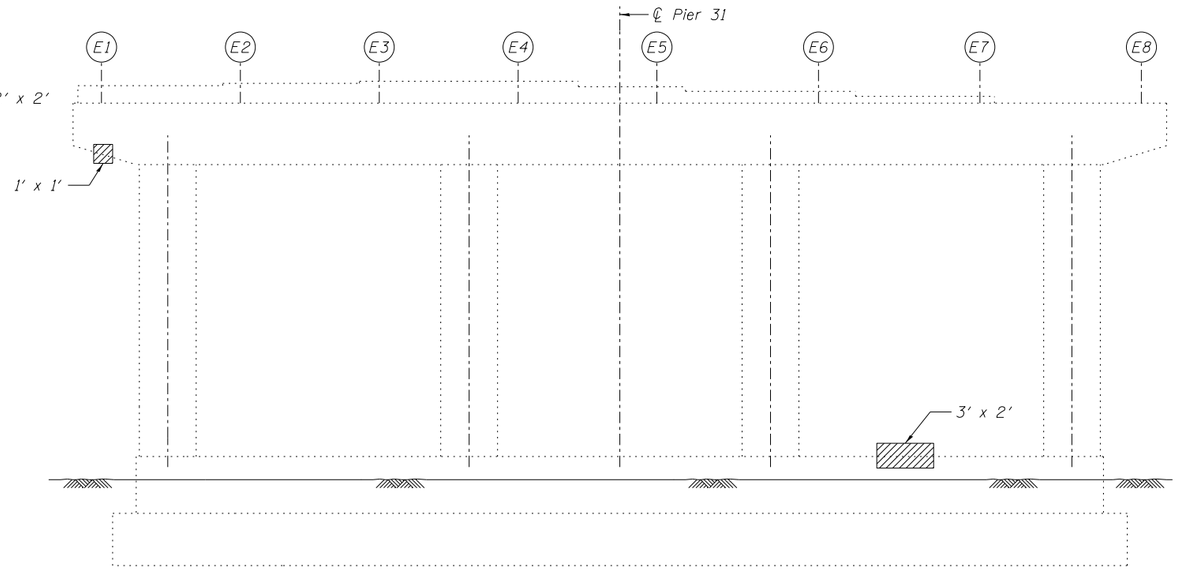




PIER 30
Looking East



PIER 31
Looking East



LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

H.L. Hairline Crack (not to be repaired)

PIER 30
Looking West

UNFACTORED BEAM REACTIONS (KIPS)

LOCATION	DEAD LOAD
Girder R4 - Span 7	10

Repairs shall be completed when the deck is removed. Dead Load represents steel weight only.

PIER 31
Looking West

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	170
Temporary Shoring and Cribbing	Each	1

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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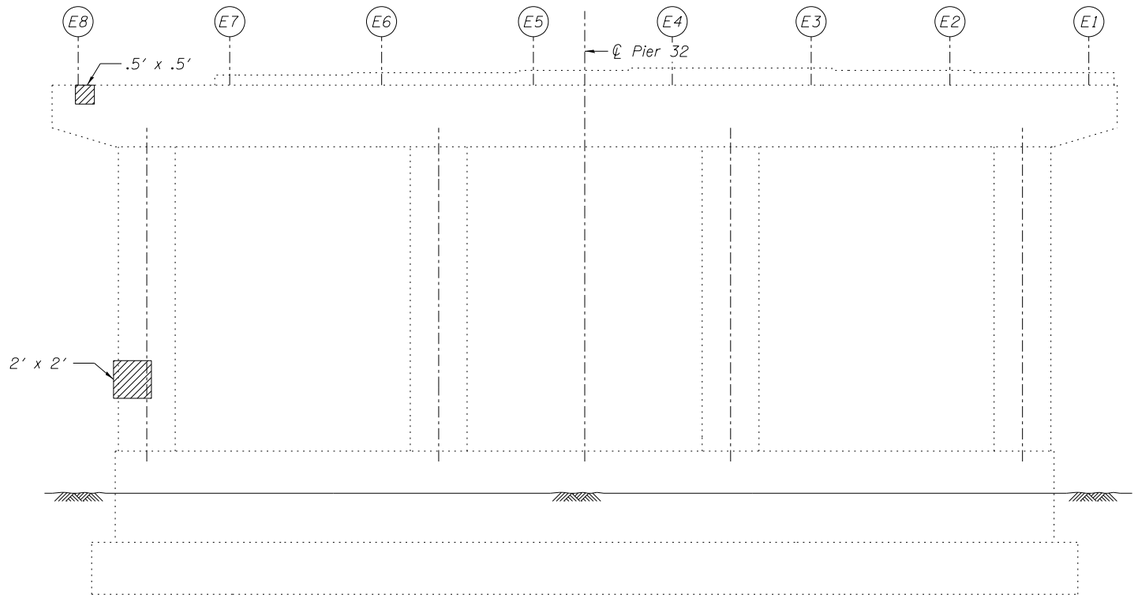
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

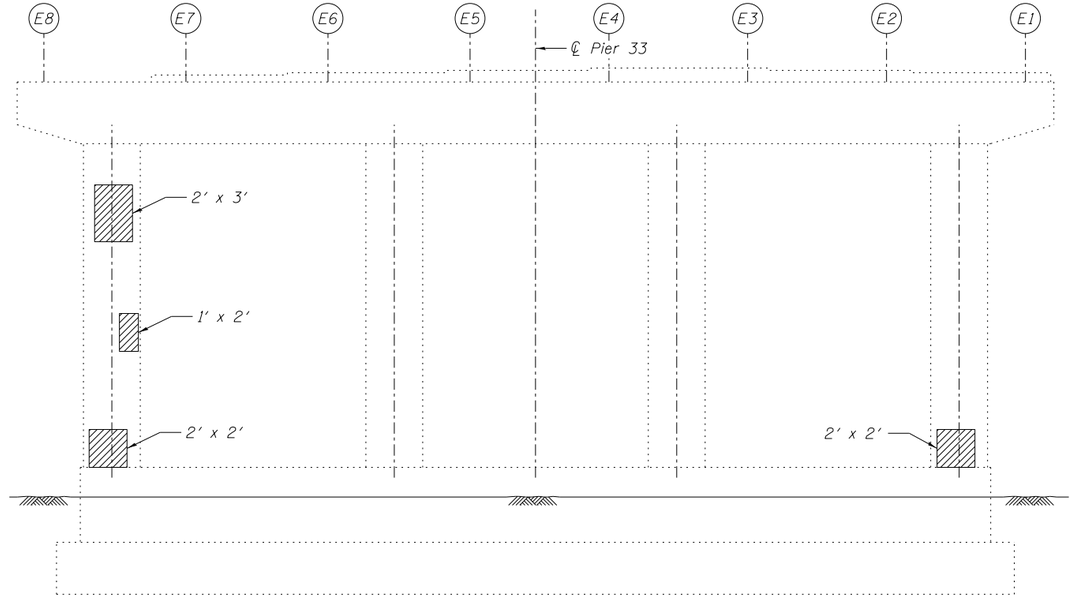
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 30 & 31 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC79 OF SC96 SHEETS

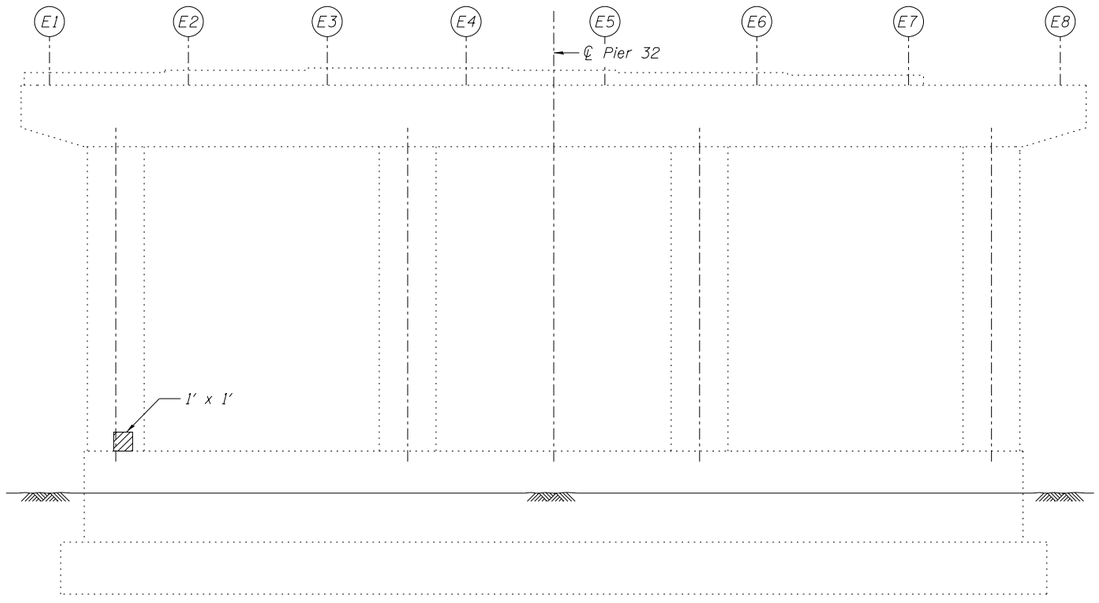
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	391
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



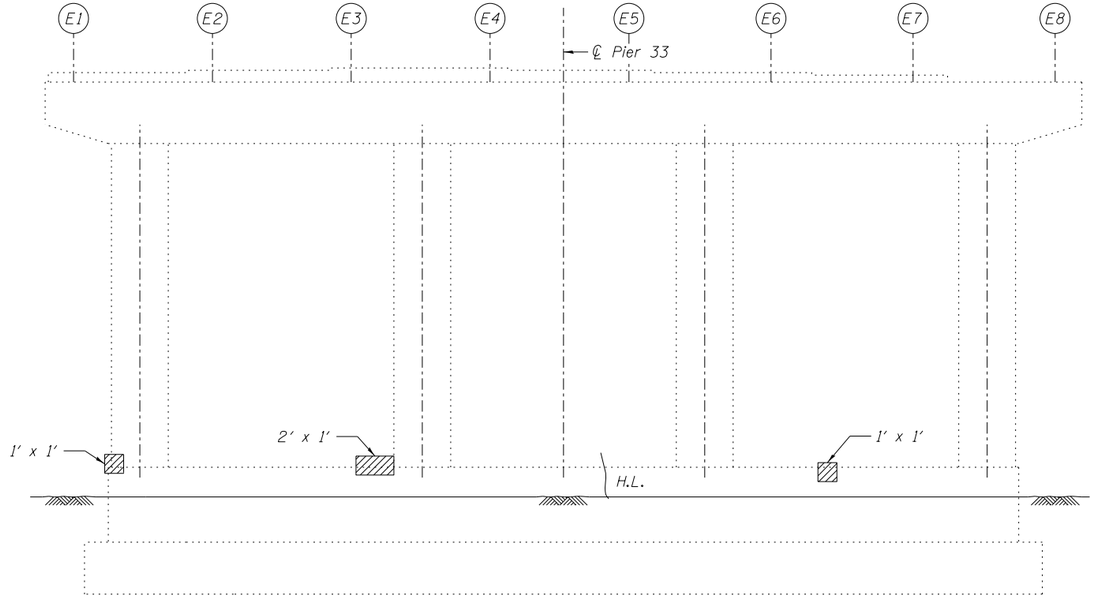
PIER 32
Looking East



PIER 33
Looking East



PIER 32
Looking West



PIER 33
Looking West

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

H.L. Hairline Crack (not to be repaired)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	26

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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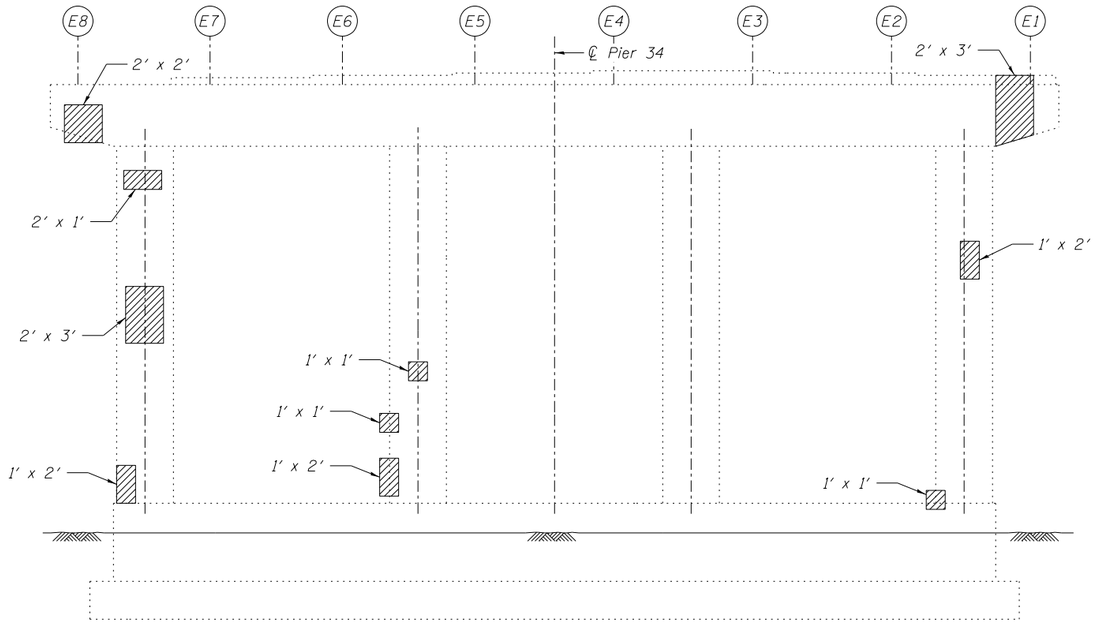
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

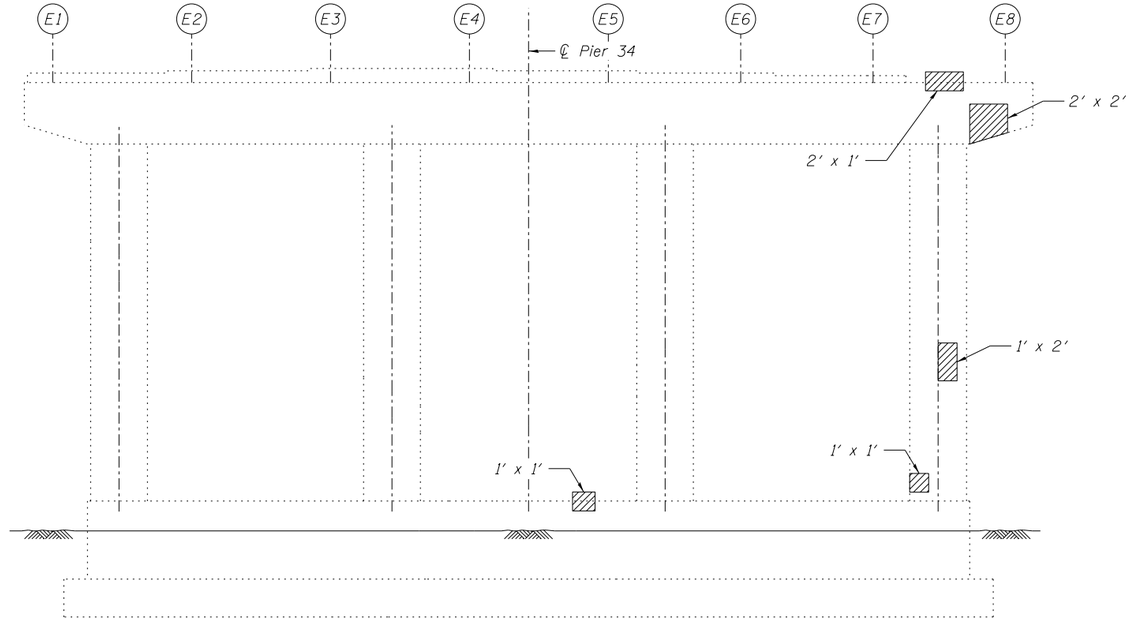
PIERS 32 & 33 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC80 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	392
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



PIER 34
Looking East

See Str. No. 016-2454
For Pier 35



PIER 34
Looking West

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	37

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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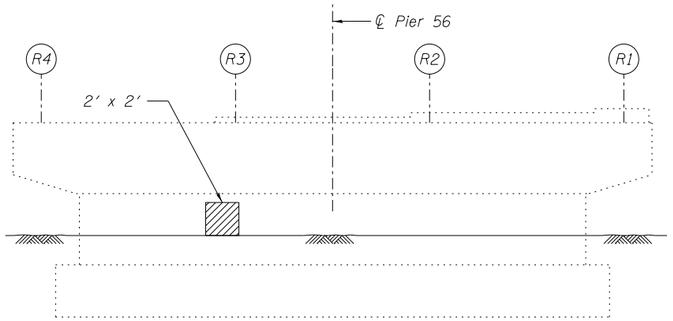
FILE NAME = 0162456_60W75_081_Pierrepair_34.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

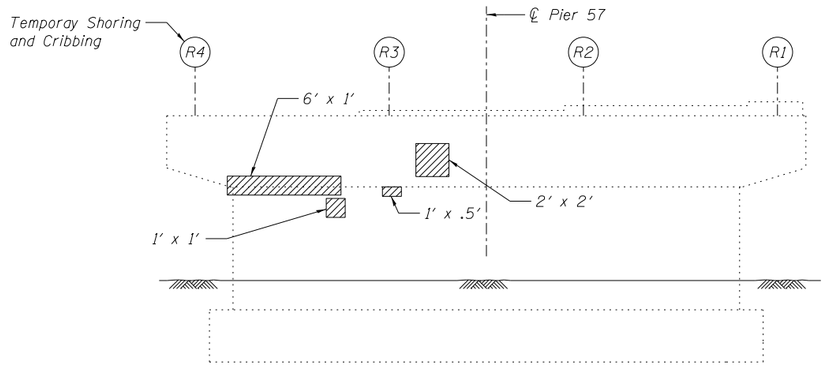
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 34 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC81 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	393
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			

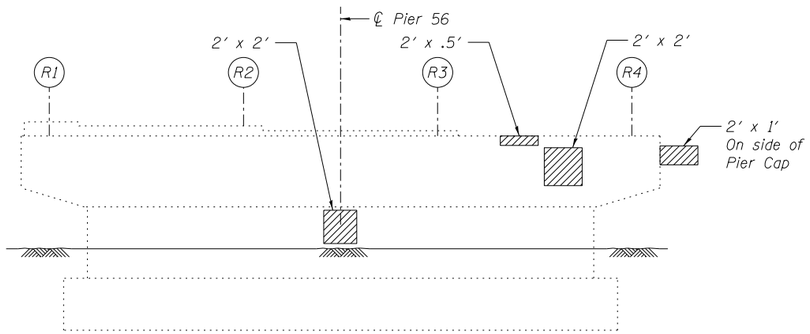


PIER 56
Looking East

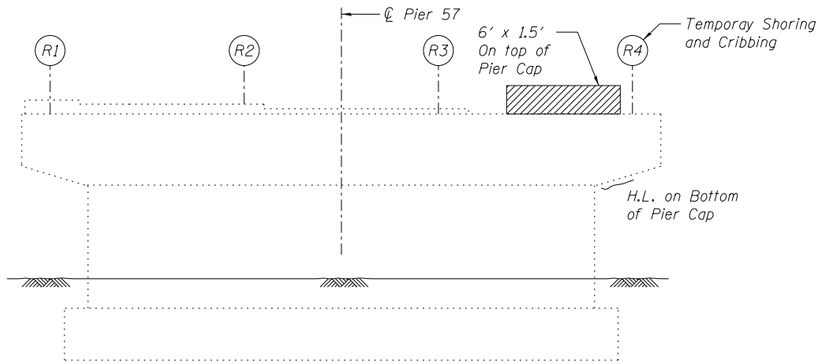


PIER 57
Looking East

See Str. No. 016-0987
For Pier 55



PIER 56
Looking West



PIER 57
Looking West

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

H.L. — Hairline Crack (not to be repaired)

UNFACTORED BEAM REACTIONS (KIPS)

LOCATION	DEAD LOAD
Girder R4	26

Repairs shall be completed when the deck is removed. Dead Load represents steel weight only.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	36
Temporary Shoring and Cribbing	Each	1

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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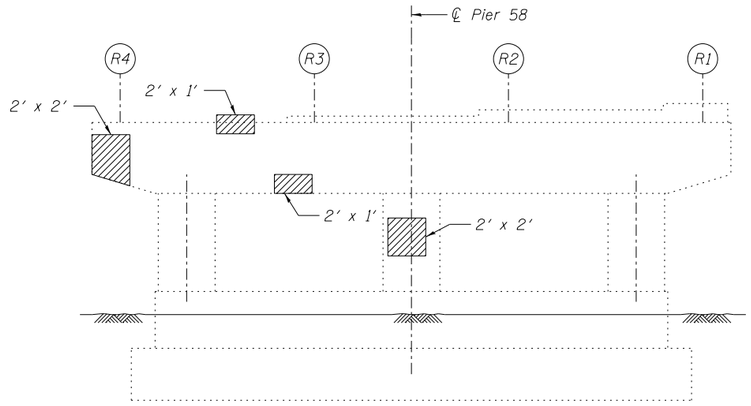
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

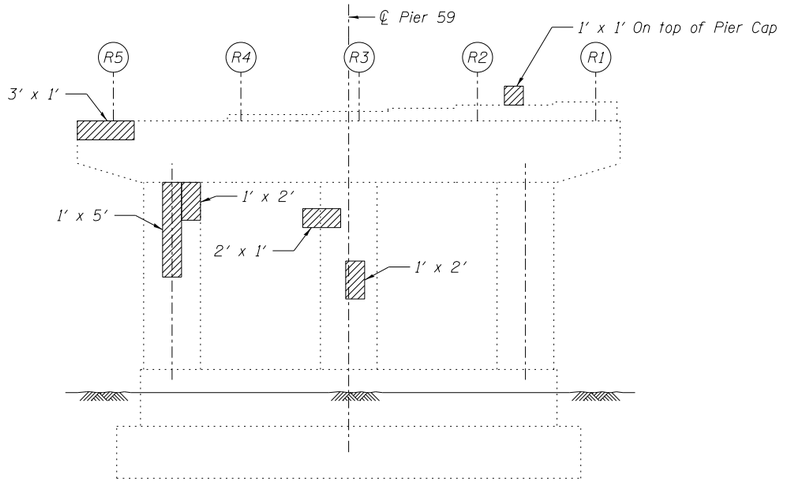
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 56 & 57 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC82 OF SC96 SHEETS

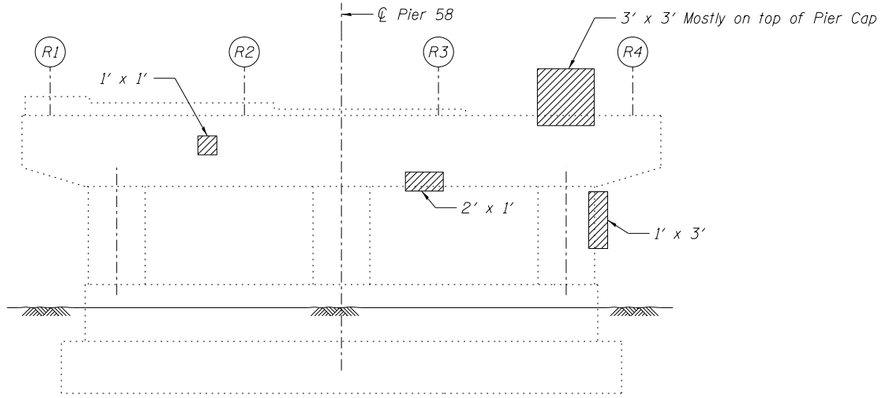
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	394
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



PIER 58
Looking East



PIER 59
Looking East



PIER 58
Looking West

PIER 59
Looking West

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

H.L. Hairline Crack (not to be repaired)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	72

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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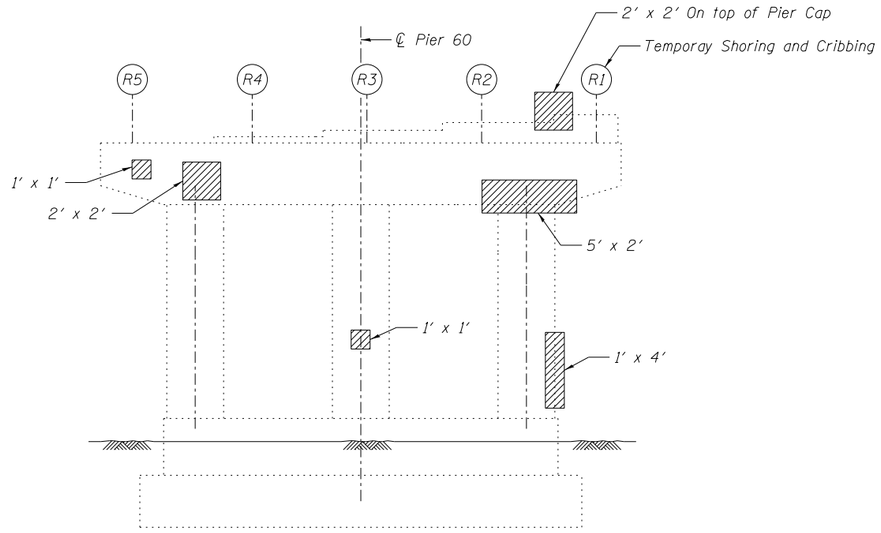
FILE NAME = 0162456_60W75_083_Pierrepair_58.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

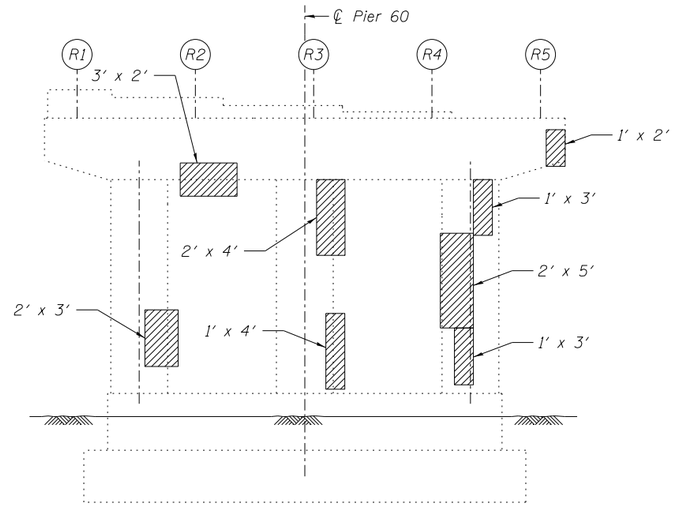
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 58 & 59 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC83 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	395
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



PIER 60
Looking East



PIER 60
Looking West

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	66
Temporary Shoring and Cribbing	Each	1

UNFACTORED BEAM REACTIONS (KIPS)

LOCATION	DEAD LOAD
Girder R1 - Span 6B	8

Repairs shall be completed when the deck is removed.
Dead Load represents steel weight only.

NOTES:

1. Actual quantities shall be approved by the engineer.
2. If Temporary Shoring and Cribbing is required to perform a concrete repair, shoring and repair shall be done while the bridge deck is removed.

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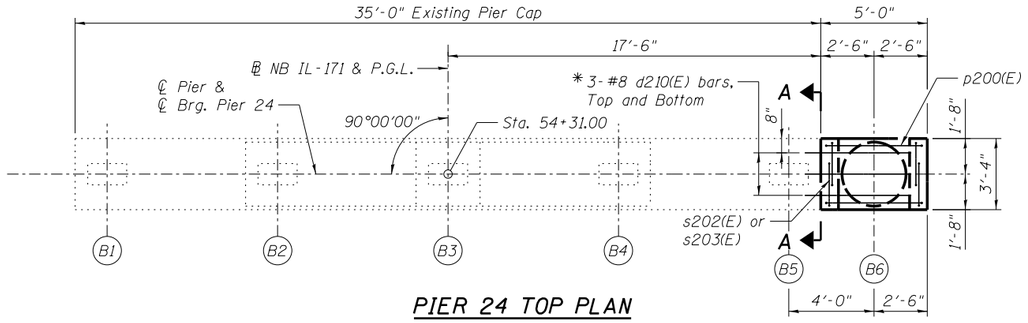
FILE NAME = 0162456_60W75_084_Pierrepair_60.dgn	USER NAME = jsurber	DESIGNED - MPL	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

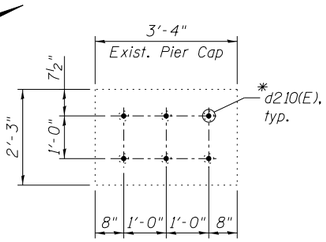
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 60 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC84 OF SC96 SHEETS

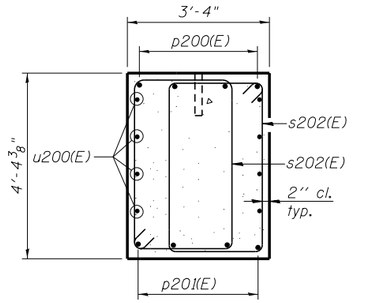
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	396
		CONTRACT NO. 60W75		
ILLINOIS	FED. AID PROJECT			



PIER 24 TOP PLAN



SECTION A-A

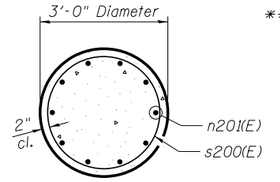


SECTION B-B

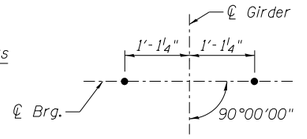
BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	d210(E)	6	#8	5'-0"	——
	d211(E)	8	#5	4'-0"	——
	h203(E)	8	#5	7'-2"	——
	h204(E)	8	#5	5'-11"	——
	n201(E)	10	#9	14'-5"	⊃
	p200(E)	4	#9	7'-2"	⊂⊃
	p201(E)	4	#5	5'-8"	⌒
	s200(E)	8	#4	11'-0"	○
	s202(E)	8	#5	13'-1"	□
	s203(E)	4	#5	11'-5"	□
	s210(E)	14	#6	11'-5"	⊔
	s211(E)	1	#5	8'-8"	⊔
**	sp200(E)	1	#5	17'-0"	MMM
	u200(E)	17	#5	10'-11"	⊔
	v200(E)	10	#8	22'-0"	——
	Structure Excavation			Cu. Yd.	10
	Concrete Structures			Cu. Yd.	9.5
	Reinforcement Bars, Epoxy Coated			Pound	2,280
	Permanent Casing			Foot	13
	Drilled Shaft in Soil			Cu. Yd.	2.3
	Drilled Shaft in Rock			Cu. Yd.	0.5

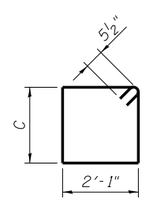
** Length is height of spiral.



SECTION C-C

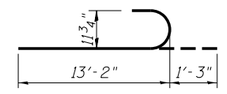


ANCHOR BOLT LAYOUT

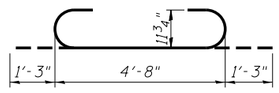


Bar	C
s202(E)	4'-0"
s203(E)	3'-2"

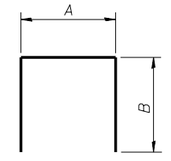
s202(E) AND s203(E) BARS



BAR n201(E)

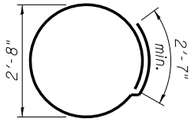


p200(E) BAR

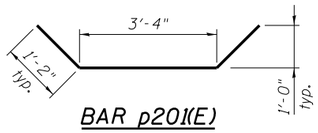


Bar	A	B
s210(E)	5'-5"	3'-0"
s211(E)	3'-0"	2'-10"
u200(E)	2'-11"	4'-0"

BARS s210(E), s211(E) & u200(E)

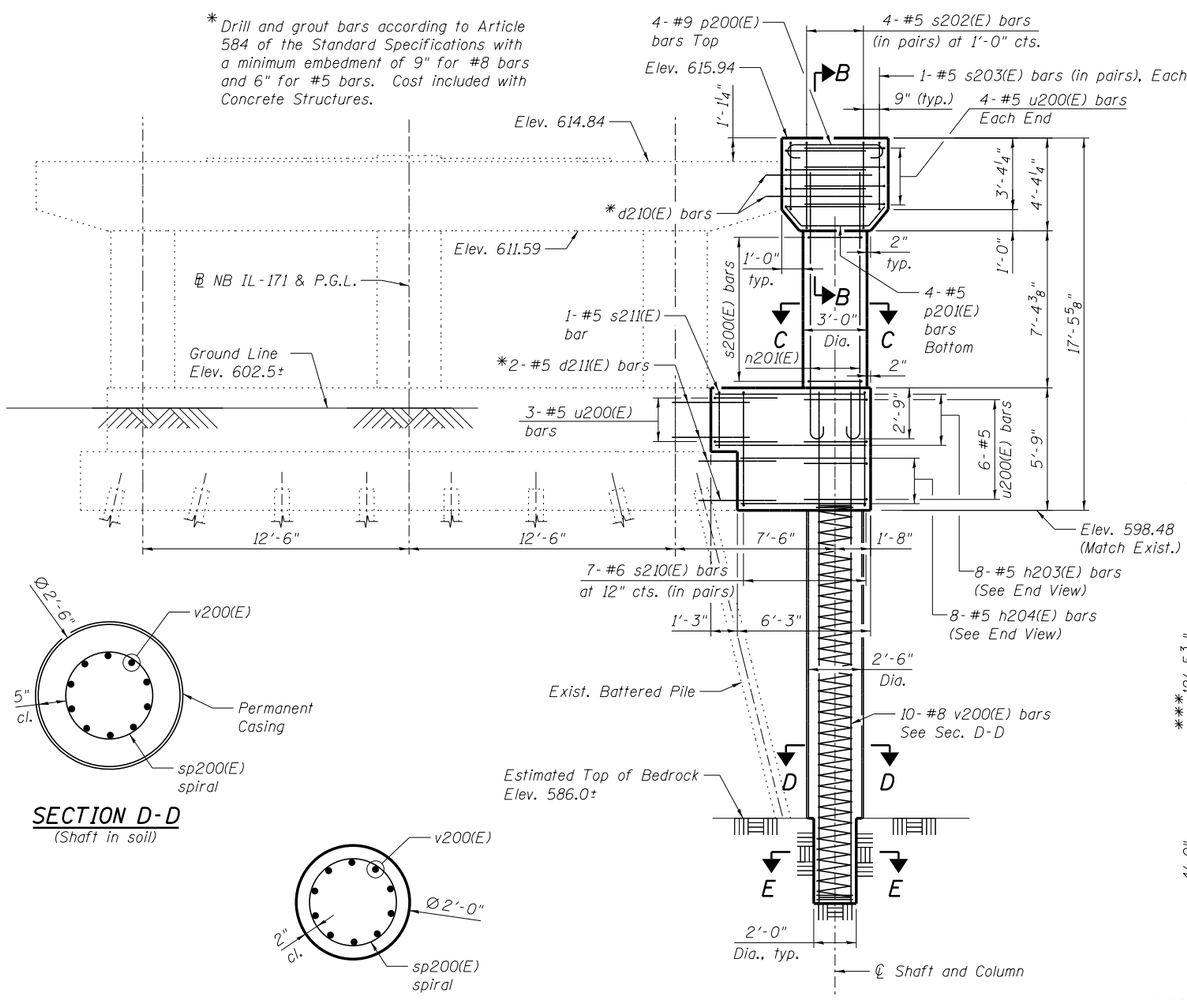


BAR s200(E)



BAR p201(E)

* Drill and grout bars according to Article 584 of the Standard Specifications with a minimum embedment of 9" for #8 bars and 6" for #5 bars. Cost included with Concrete Structures.



PIER 24 ELEVATION

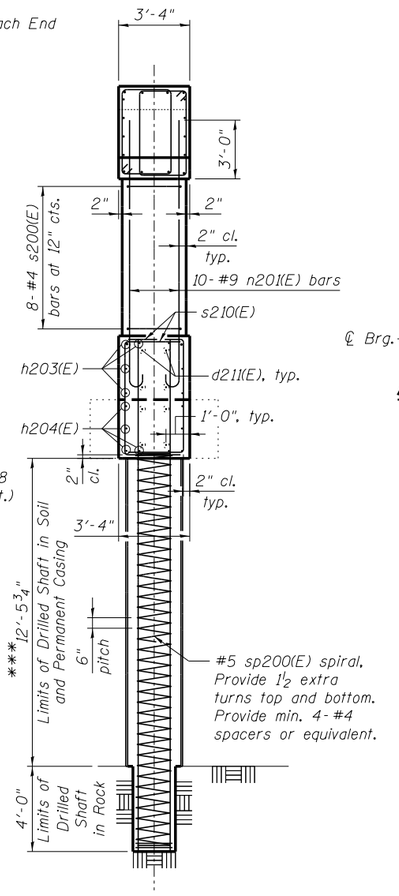
(Looking Upstation)

SECTION D-D

(Shaft in soil)

SECTION E-E

(Shaft in rock)



END VIEW

*** The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation. Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits of the Permanent Casing are based on the minimum length shown.

NOTES:

1. Space reinforcement to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For drilled shaft layout and location, see Sheet SC6.

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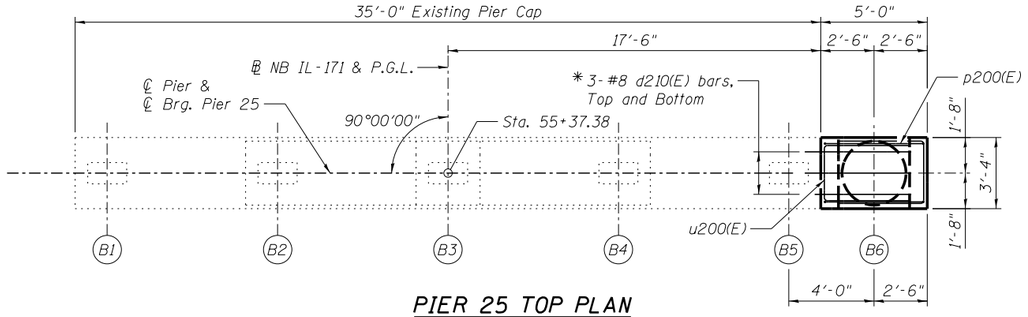
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_085_Pier_24_Widening_Details.dgn	USER NAME = jsurber	DESIGNED - JLS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT/RMG	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

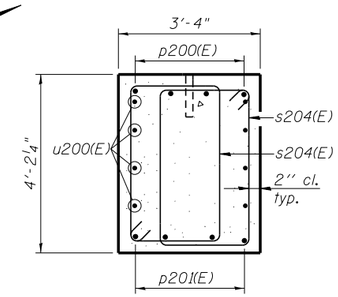
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 24 WIDENING DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC85 OF SC96 SHEETS

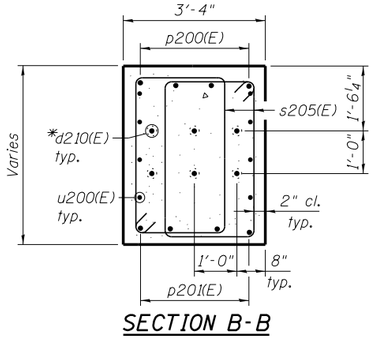
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	397
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



PIER 25 TOP PLAN



SECTION A-A

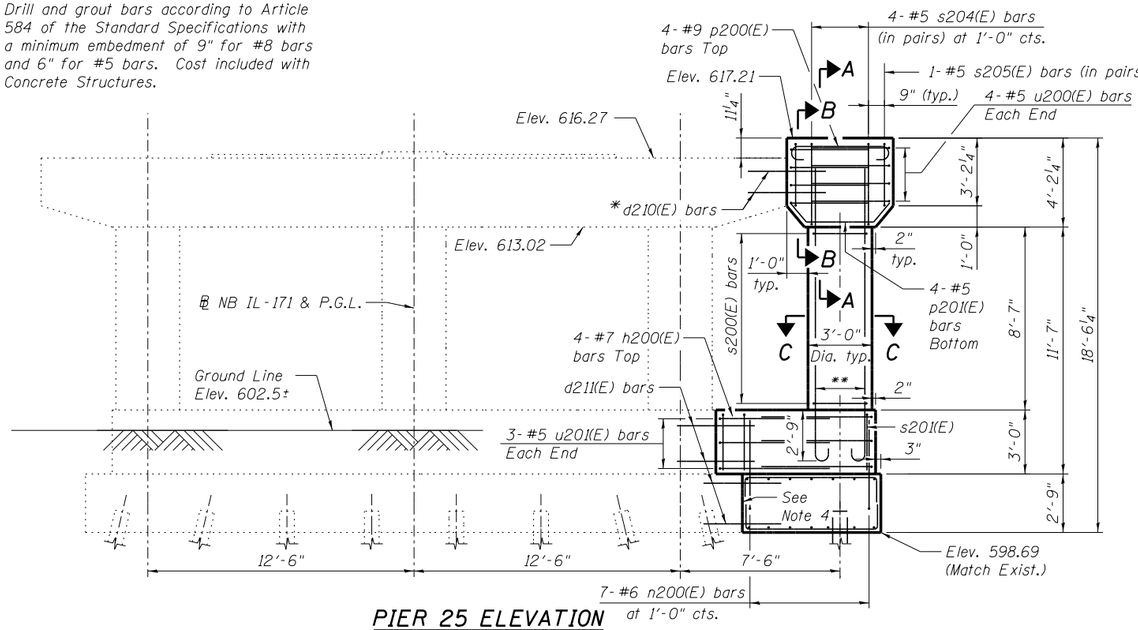


SECTION B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d210(E)	6	#8	5'-0"	——
d211(E)	10	#5	4'-0"	——
h200(E)	4	#7	7'-2"	——
n200(E)	7	#6	12'-0"	⊔
n202(E)	10	#9	15'-7"	⊔
p200(E)	4	#9	7'-2"	⊔
p201(E)	4	#5	5'-8"	⊔
s200(E)	9	#4	11'-0"	○
s201(E)	8	#5	8'-8"	⊔
s204(E)	8	#5	12'-9"	⊏
s205(E)	4	#5	11'-1"	⊏
t200(E)	14	#5	5'-8"	——
u200(E)	8	#5	10'-11"	⊔
u201(E)	6	#5	13'-5"	⊔
w200(E)	16	#7	8'-6"	⊔
Structure Excavation			Cu. Yd.	14
Concrete Structures			Cu. Yd.	11.5
Reinforcement Bars, Epoxy Coated			Pound	1,790
Furnishing Steel Piles HP14x73			Foot	46
Driving Piles			Foot	46
Test Pile Steel HP14x73			Each	1
Pile Shoes			Each	2

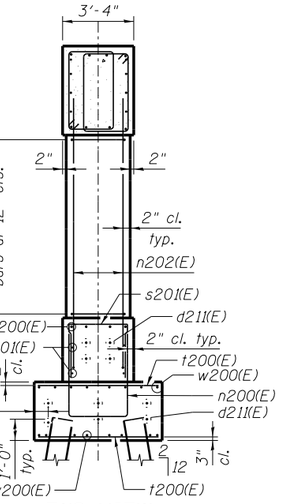
* Drill and grout bars according to Article 584 of the Standard Specifications with a minimum embedment of 9" for #8 bars and 6" for #5 bars. Cost included with Concrete Structures.



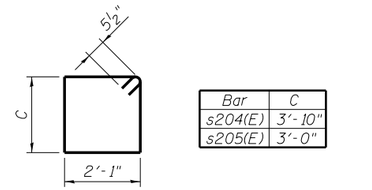
PIER 25 ELEVATION

(Looking Upstation)

** 10-#9 n202(E) bars

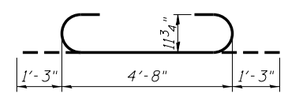


END VIEW

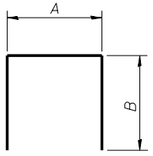


Bar	C
s204(E)	3'-10"
s205(E)	3'-0"

s204(E) AND s205(E) BARS

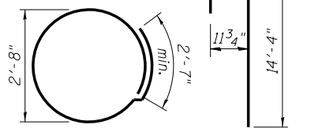


p200(E) BAR

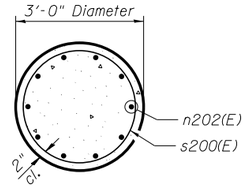


Bar	A	B
n200(E)	3'-0"	4'-6"
s201(E)	3'-0"	2'-10"
u200(E)	2'-11"	4'-0"
u201(E)	2'-11"	5'-3"
w200(E)	6'-2"	1'-2"

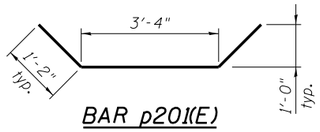
BARS n200(E), s201(E), u200(E), u201(E), & w200(E)



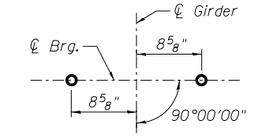
BAR s200(E) BAR n202(E)



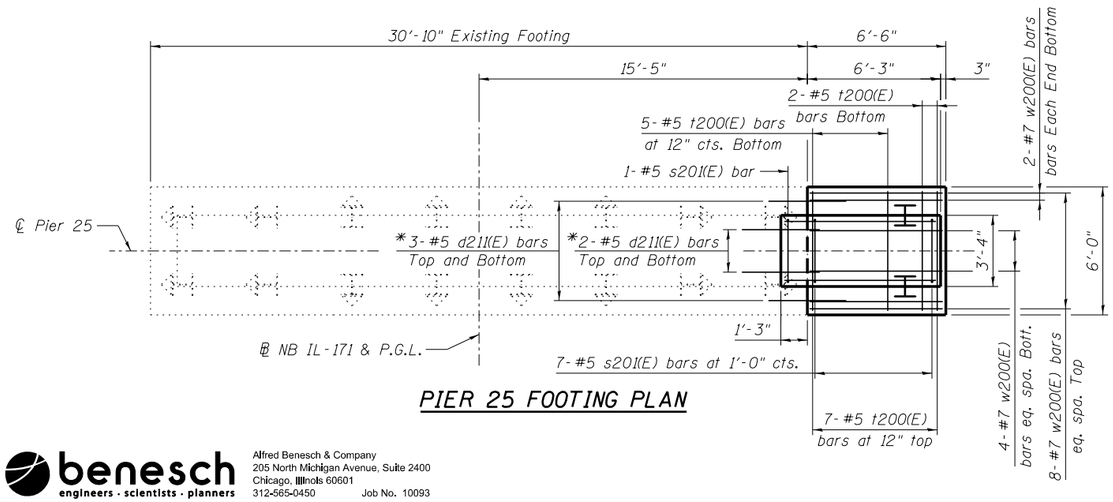
SECTION C-C



BAR p201(E)



ANCHOR BOLT DETAIL



PIER 25 FOOTING PLAN

PILE DATA

Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 578 kips
Allowable Resistance Available: 193 kips
Est. Length: 46 ft.
No. Production Piles: 1
No. Test Piles: 1

NOTES:

1. Space reinforcement to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For pile spacing and footing layout, see Foundation Layout on Sheet SC6.

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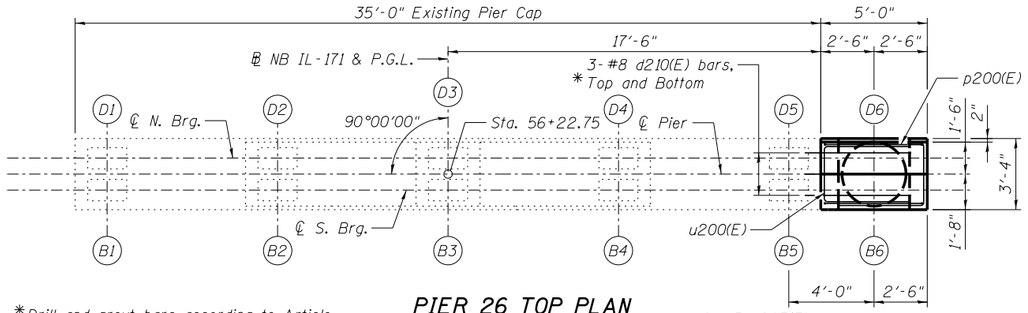
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MWG	REVISED -
		CHECKED - AJK	REVISED -
0162456_60W75_086_Pier_25_Widening_Details.dgn	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

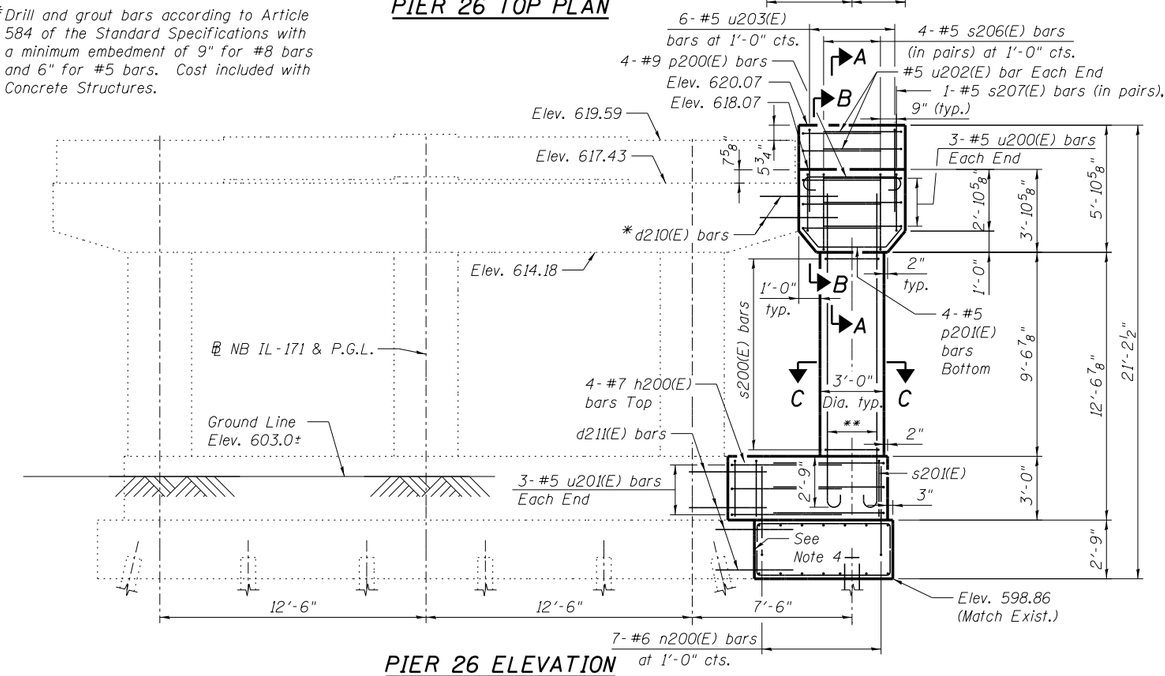
PIER 25 WIDENING DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC86 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	398
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		



PIER 26 TOP PLAN

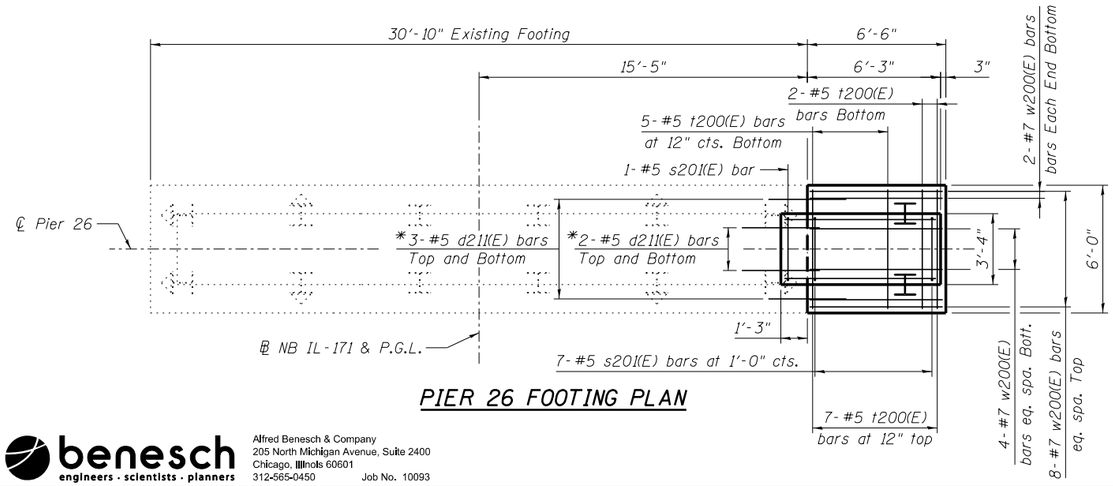
*Drill and grout bars according to Article 584 of the Standard Specifications with a minimum embedment of 9" for #8 bars and 6" for #5 bars. Cost included with Concrete Structures.



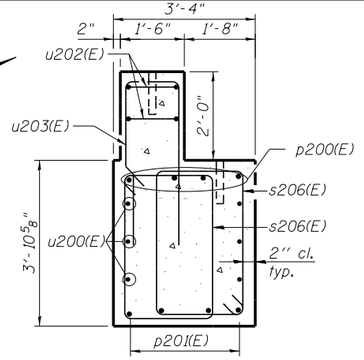
PIER 26 ELEVATION

(Looking Upstation)

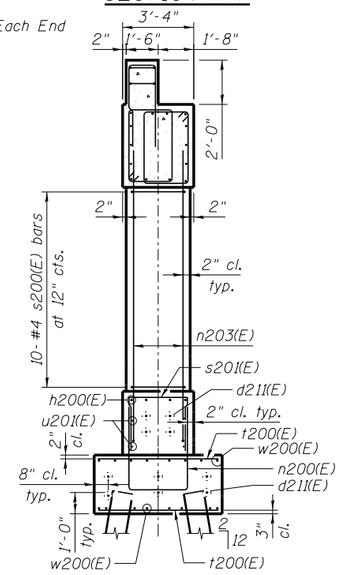
** 10-#9 n203(E) bars



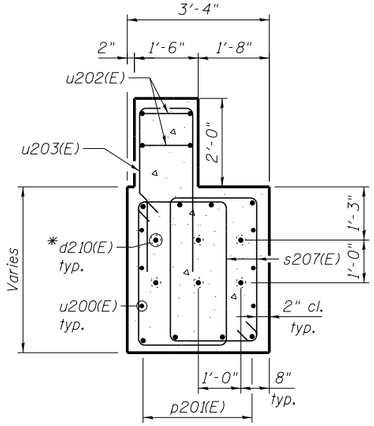
PIER 26 FOOTING PLAN



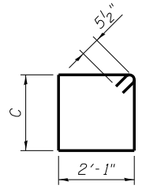
SECTION A-A



END VIEW

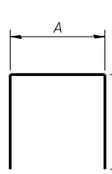


SECTION B-B



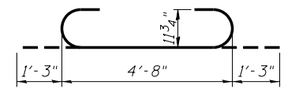
Bar	C
s206(E)	3'-6"
s207(E)	2'-8"

s206(E) AND s207(E) BARS

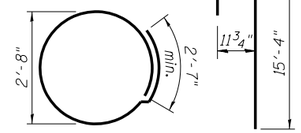


Bar	A	B
n200(E)	3'-0"	4'-6"
s201(E)	3'-0"	2'-10"
u200(E)	2'-11"	4'-0"
u201(E)	2'-11"	5'-3"
u202(E)	1'-1"	4'-0"
u203(E)	1'-2"	4'-2"
w200(E)	6'-2"	1'-2"

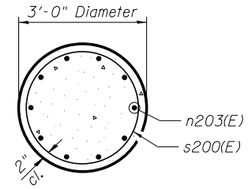
BARS n200(E), s201(E), u200(E) THRU u203(E), & w200(E)



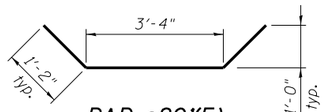
p200(E) BAR



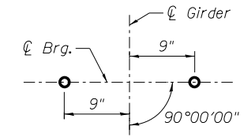
BAR s200(E) BAR n203(E)



SECTION C-C



BAR p201(E)



ANCHOR BOLT DETAIL

(Unit B and Unit D)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d210(E)	6	#8	5'-0"	——
d211(E)	10	#5	4'-0"	——
h200(E)	4	#7	7'-2"	——
n200(E)	7	#6	12'-0"	U
n203(E)	10	#9	16'-7"	U
p200(E)	4	#9	7'-2"	C
p201(E)	4	#5	5'-8"	C
s200(E)	10	#4	11'-0"	O
s201(E)	8	#5	8'-8"	U
s206(E)	8	#5	12'-1"	□
s207(E)	4	#5	10'-5"	□
t200(E)	14	#5	5'-8"	——
u200(E)	6	#5	10'-11"	U
u201(E)	6	#5	13'-5"	U
u202(E)	4	#5	9'-1"	U
u203(E)	6	#5	9'-6"	U
w200(E)	16	#7	8'-6"	U

Structure Excavation	Cu. Yd.	15
Concrete Structures	Cu. Yd.	12.2
Concrete Sealer	Sq. Ft.	244
Reinforcement Bars, Epoxy Coated	Pound	1,900
Furnishing Steel Piles HP14x73	Foot	80
Driving Piles	Foot	80
Pile Shoes	Each	2

PILE DATA

Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 578 kips
Allowable Resistance Available: 193 kips
Est. Length: 40 ft.
No. Production Piles: 2

NOTES:

1. Space reinforcement to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For pile spacing and footing layout, see Foundation Layout on Sheet SC6.
4. All exposed surface areas of the pier widening shall be treated with Concrete Sealer.

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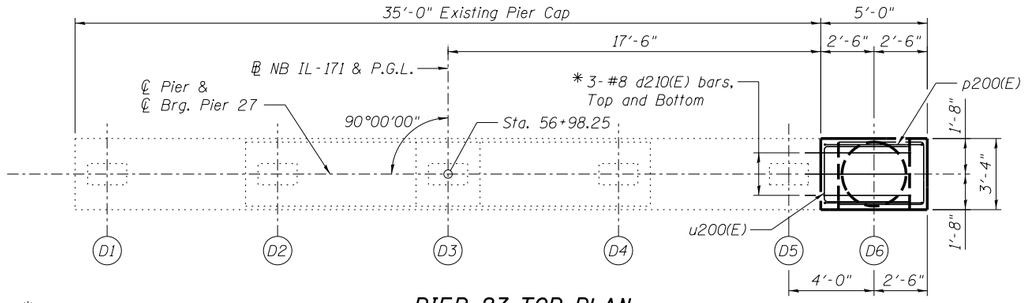
312-565-0450 Job No. 10093

FILE NAME = 0162456_60W75_087_Pier_26_Widening_Details.dgn	USER NAME = jsurber	DESIGNED - MWG	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

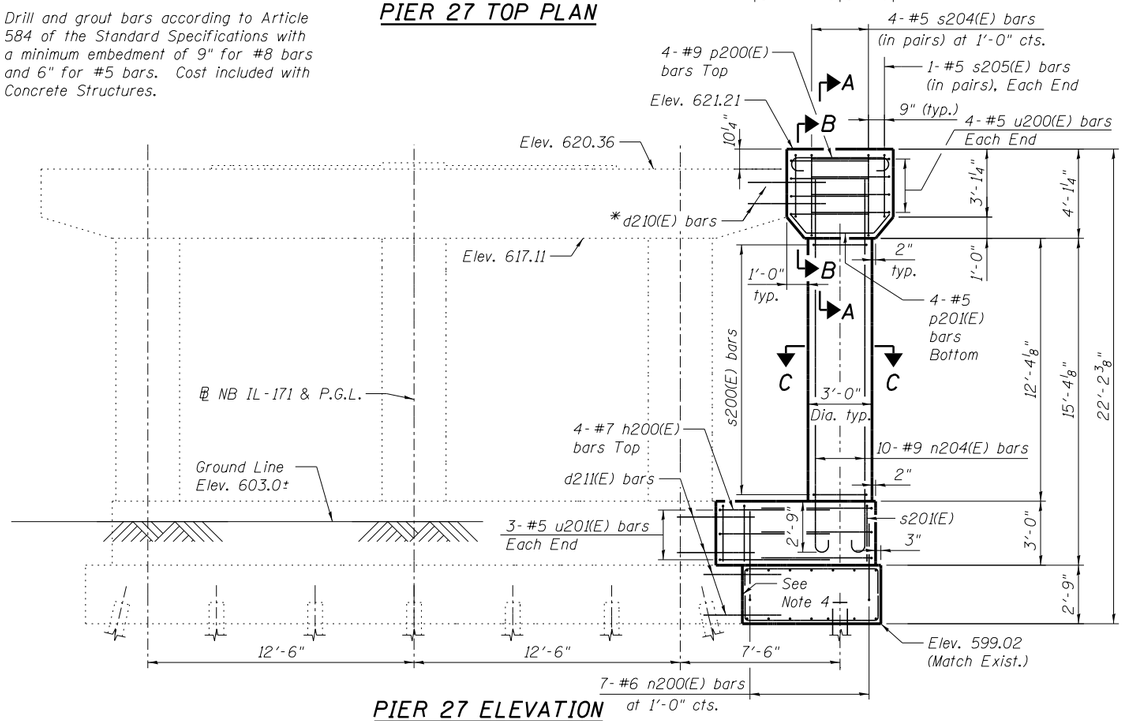
PIER 26 WIDENING DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC87 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	399
		CONTRACT NO. 60W75		
	ILLINOIS FED. AID PROJECT			



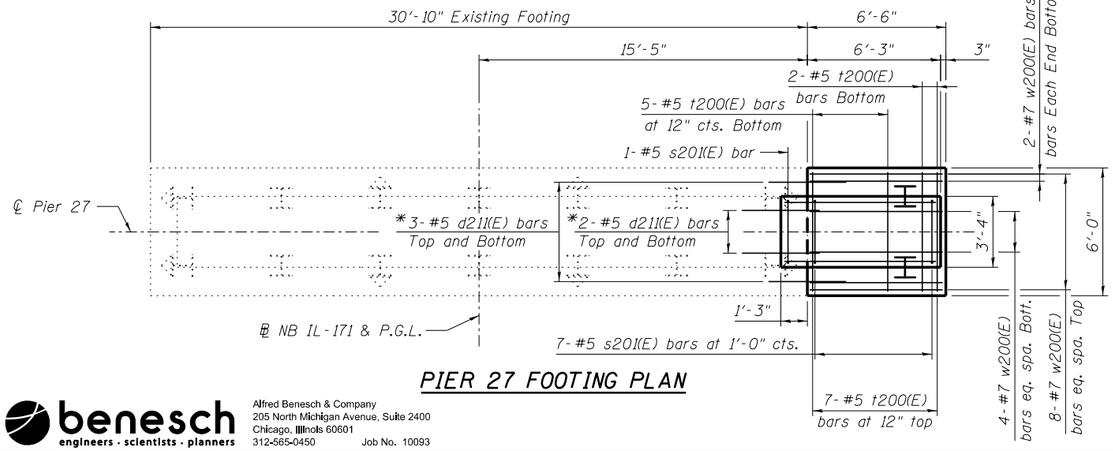
PIER 27 TOP PLAN

* Drill and grout bars according to Article 584 of the Standard Specifications with a minimum embedment of 9" for #8 bars and 6" for #5 bars. Cost included with Concrete Structures.

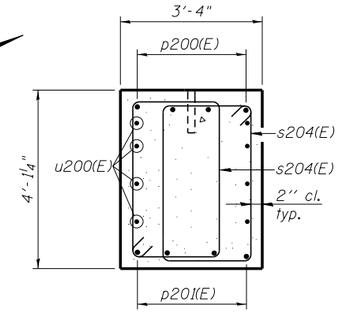


PIER 27 ELEVATION

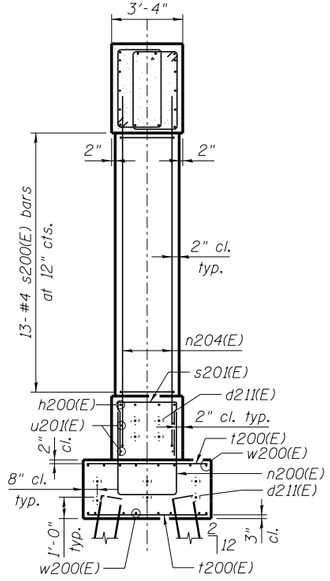
(Looking Upstation)



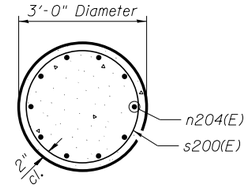
PIER 27 FOOTING PLAN



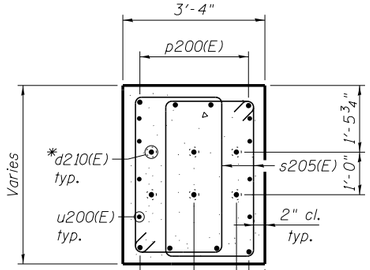
SECTION A-A



END VIEW



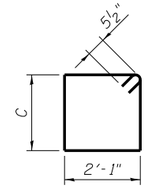
SECTION C-C



SECTION B-B

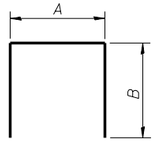
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d210(E)	6	#8	5'-0"	——
d211(E)	10	#5	4'-0"	——
h200(E)	4	#7	7'-2"	——
n200(E)	7	#6	12'-0"	⊔
n204(E)	10	#9	19'-4"	⊔
p200(E)	4	#9	7'-2"	⊏⊐
p201(E)	4	#5	5'-8"	⌒
s200(E)	13	#4	11'-0"	○
s201(E)	8	#5	8'-8"	⊔
s204(E)	8	#5	12'-7"	⊏
s205(E)	4	#5	10'-11"	⊏
t200(E)	14	#5	5'-8"	——
u200(E)	8	#5	10'-11"	⊔
u201(E)	6	#5	13'-5"	⊔
w200(E)	16	#7	8'-6"	⊔
Structure Excavation			Cu. Yd.	15
Concrete Structures			Cu. Yd.	12.5
Reinforcement Bars, Epoxy Coated			Pound	1,940
Furnishing Steel Piles HP14x73			Foot	35
Driving Piles			Foot	35
Test Pile Steel HP14x73			Each	1
Pile Shoes			Each	2



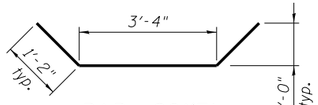
Bar	C
s204(E)	3'-9"
s205(E)	2'-11"

s204(E) AND s205(E) BARS

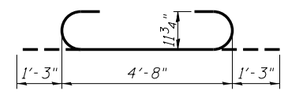


Bar	A	B
n200(E)	3'-0"	4'-6"
s201(E)	3'-0"	2'-10"
u200(E)	2'-11"	4'-0"
u201(E)	2'-11"	5'-3"
w200(E)	6'-2"	1'-2"

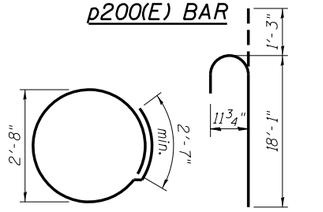
BARS n200(E), s201(E), u200(E), u201(E), & w200(E)



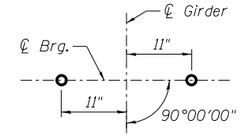
BAR p201(E)



p200(E) BAR



BAR s200(E) BAR n204(E)



ANCHOR BOLT DETAIL

PILE DATA

Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 578 kips
Allowable Resistance Available: 193 kips
Est. Length: 35 ft.
No. Production Piles: 1
No. Test Piles: 1

NOTES:

1. Space reinforcement to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For pile spacing and footing layout, see Foundation Layout on Sheet SC6.

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Job No. 10093

FILE NAME = 0162456_60W75_088_Pier_27_Widening_Details.dgn	USER NAME = jsurber	DESIGNED - MWG	REVISED -
		CHECKED - AJK	REVISED -
	USER SCALE =	DRAWN - PRT	REVISED -
	PLOT DATE = 6/15/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 27 WIDENING DETAILS
STRUCTURE NO. 016-2456
SHEET NO. SC88 OF SC96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	400
		CONTRACT NO. 60W75		
		ILLINOIS FED. AID PROJECT		

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