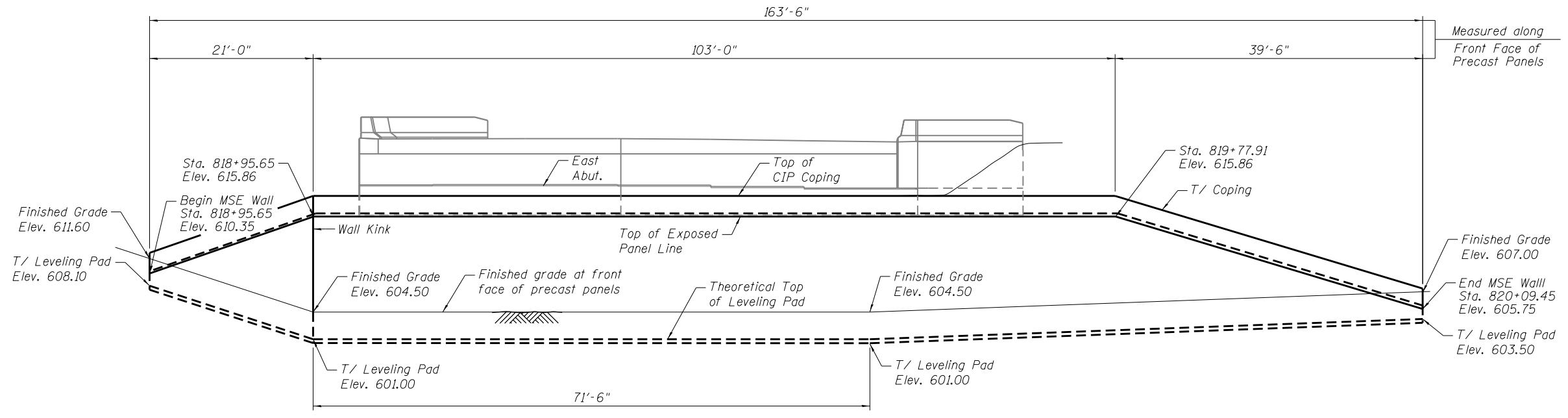


MSE WALL PLAN - EAST ABUTMENT

NOTES:

1. Stations and offsets are given to front face of precast panels relative to EB Stony Island Connector.
2. See Sheet S-27 for Sections A-A and B-B.



EAST ABUTMENT MSE WALL ELEVATION
(Looking East)

BILL OF MATERIAL

Item	Unit	Quantity
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,030
Structure Excavation	Cu. Yd.	1,438

2/21/14 PM

3/29/2013

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PLOT DATE = 03/29/2013	CHECKED - BAK	REVISED -

STATE OF ILLINOIS
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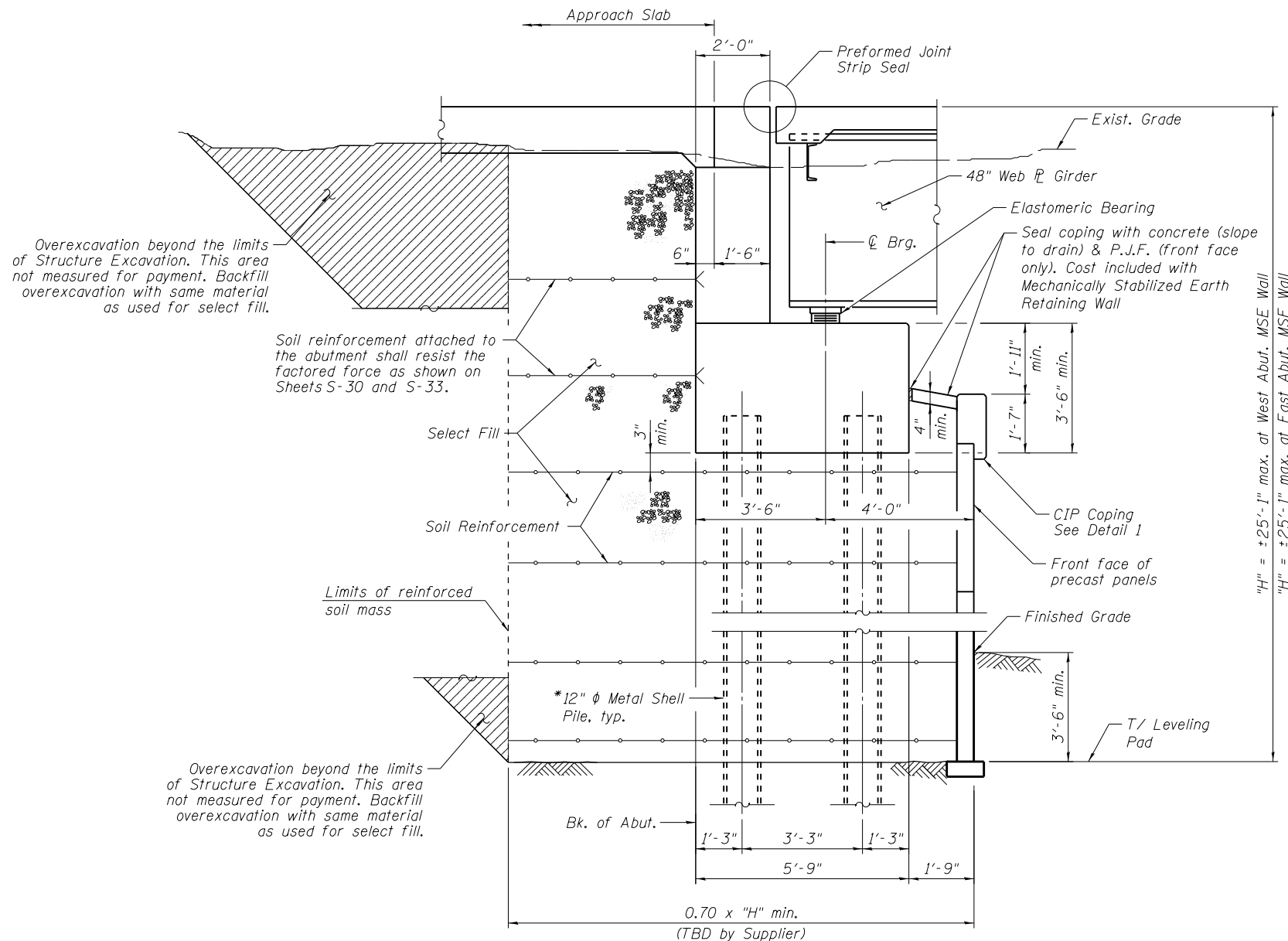
EAST ABUTMENT MSE RETAINING WALL
STRUCTURE NO. 016-2470
SHEET NO. S-26 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	401
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

2/21/35 PM

3/29/2013

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SECTION A-A
(Horizontal Dimensions @ Rt. L's)

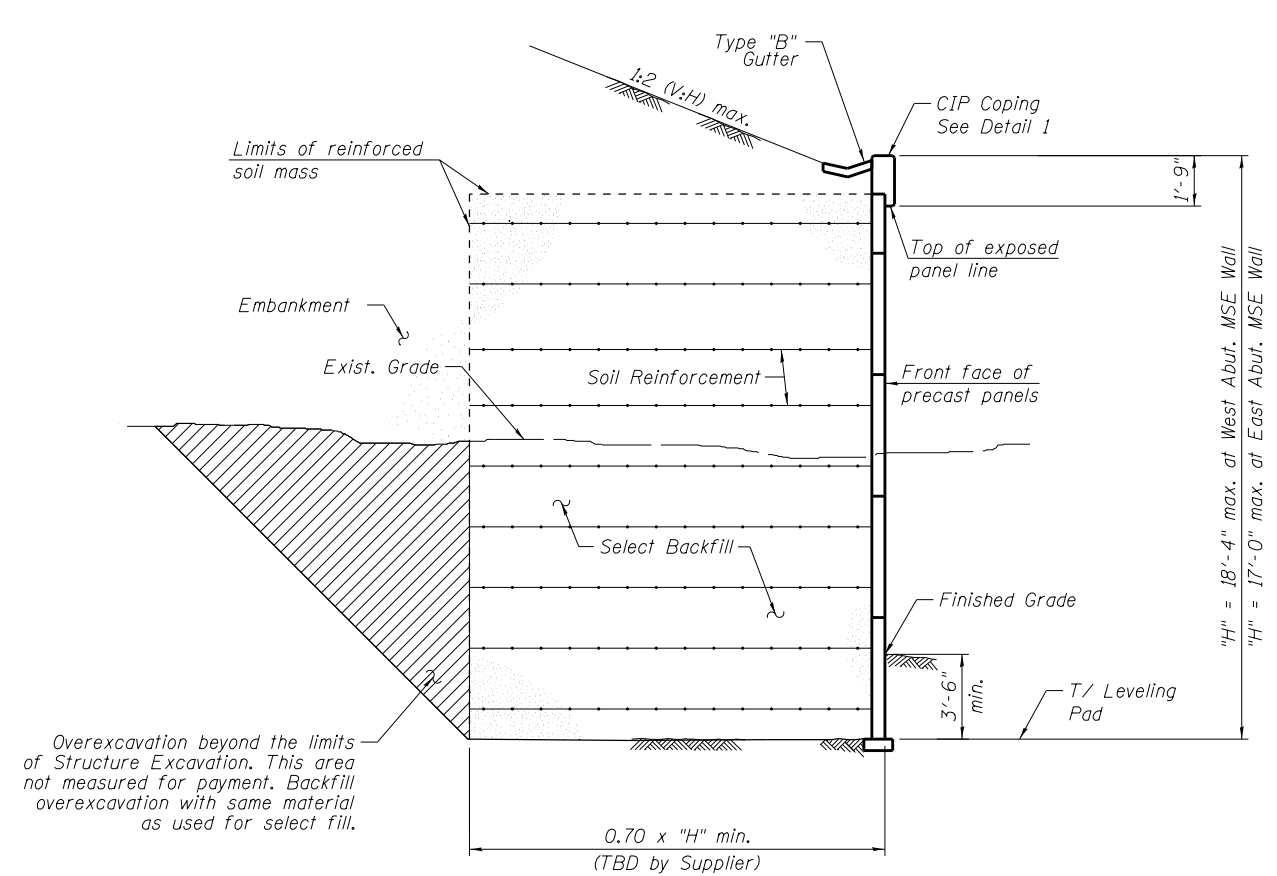
Overexcavation beyond the limits of Structure Excavation. This area not measured for payment. Backfill overexcavation with same material as used for select fill.

Soil reinforcement attached to the abutment shall resist the factored force as shown on Sheets S-30 and S-33.

Limits of reinforced soil mass

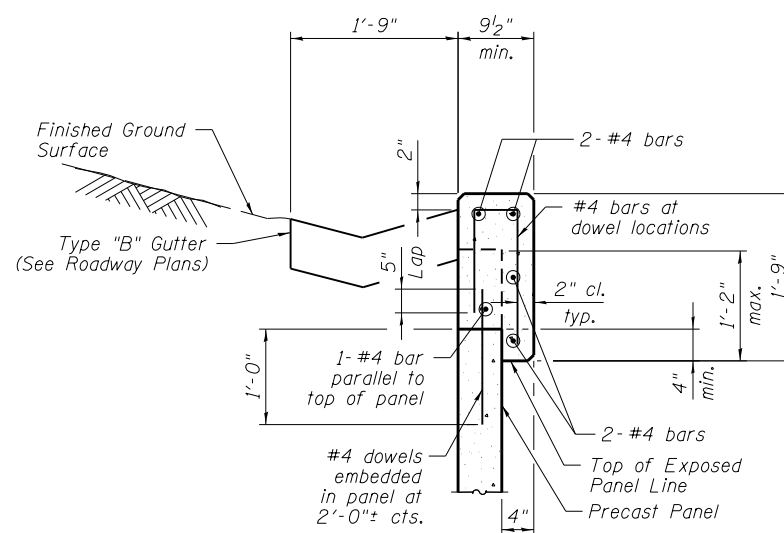
Overexcavation beyond the limits of Structure Excavation. This area not measured for payment. Backfill overexcavation with same material as used for select fill.

*Piles shall be driven prior to placement of the reinforced select fill and coated with coal tar epoxy from the bottom of the select fill to 1" above the base of the abutment. The cost of the coal tar epoxy coating shall be included with the cost of Furnishing Metal Shell Piles 12" X 0.250".



SECTION B-B

Overexcavation beyond the limits of Structure Excavation. This area not measured for payment. Backfill overexcavation with same material as used for select fill.



DETAIL 1

Notes:

The factored soil bearing resistance at the top of leveling pad elevation for the MSE wall = 4.0 ksf. The applied factored MSE wall bearing pressure must be less than the factored soil bearing resistance. See MSE wall shop drawings for equivalent uniform applied bearing pressure.

The Contractor shall design and construct the MSE wall accounting for the proposed piles and any other appurtenances within the limits of the reinforced soil mass.

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DEPARTMENT OF TRANSPORTATION

MSE RETAINING WALL DETAILS
STRUCTURE NO. 016-2470

SHEET NO. S-27 OF S-53 SHEETS

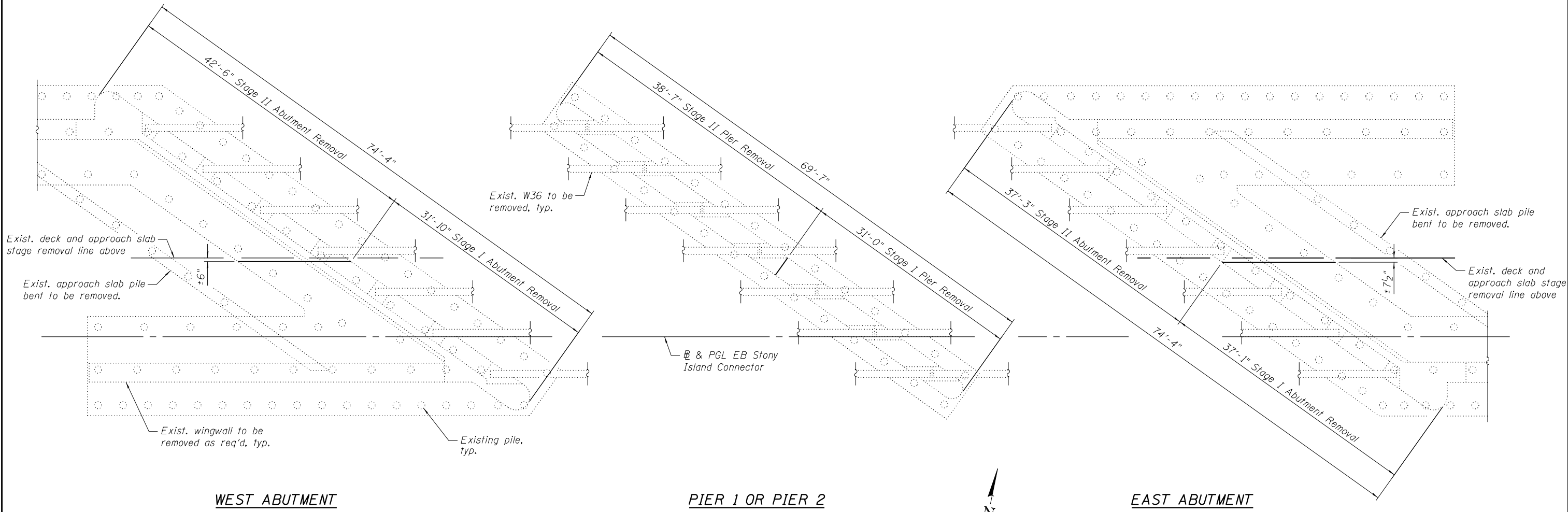
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	402
CONTRACT NO. 60J12				

ILLINOIS FED. AID PROJECT

2/21/35 PM

3/29/2013

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WEST ABUTMENT

PIER 1 OR PIER 2

EAST ABUTMENT

Note:

The limits of pier, abutment, wingwall, and approach slab pile bent removal, including piles, shall conform to Article 501.04 of the Standard Specifications.

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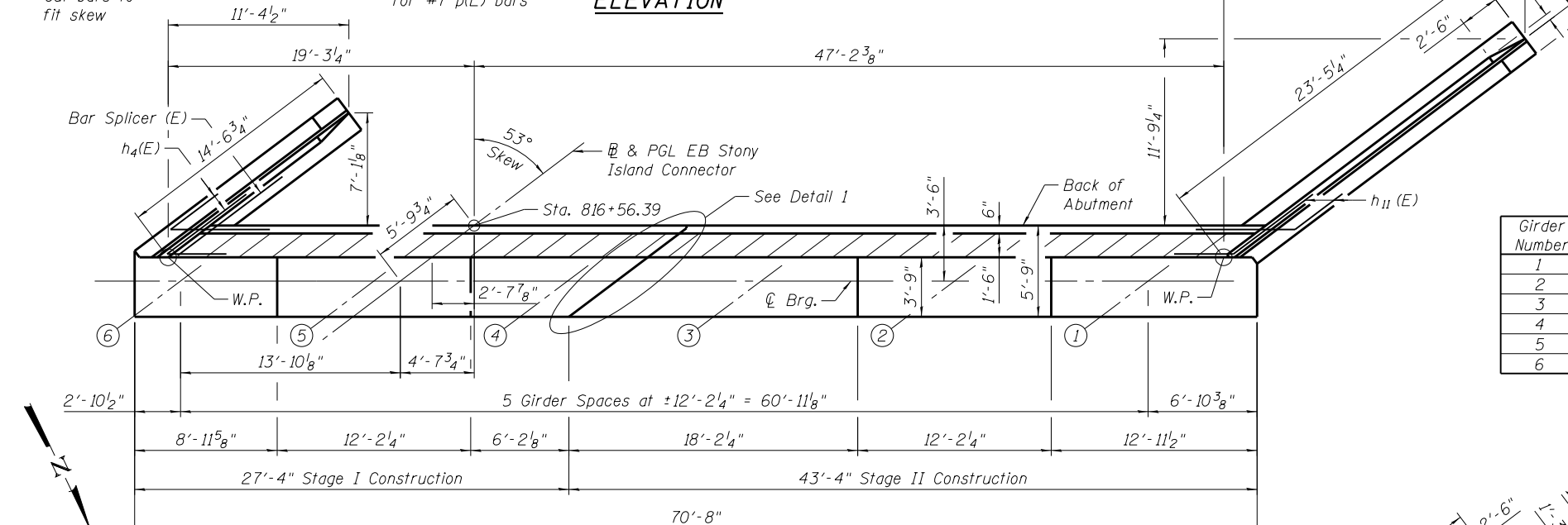
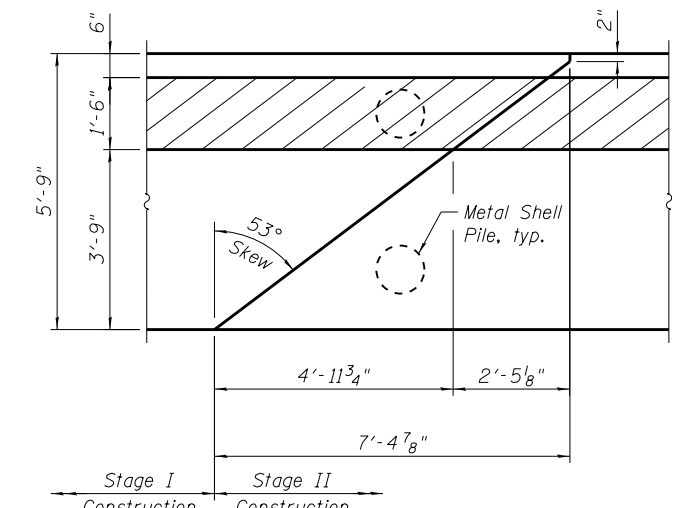
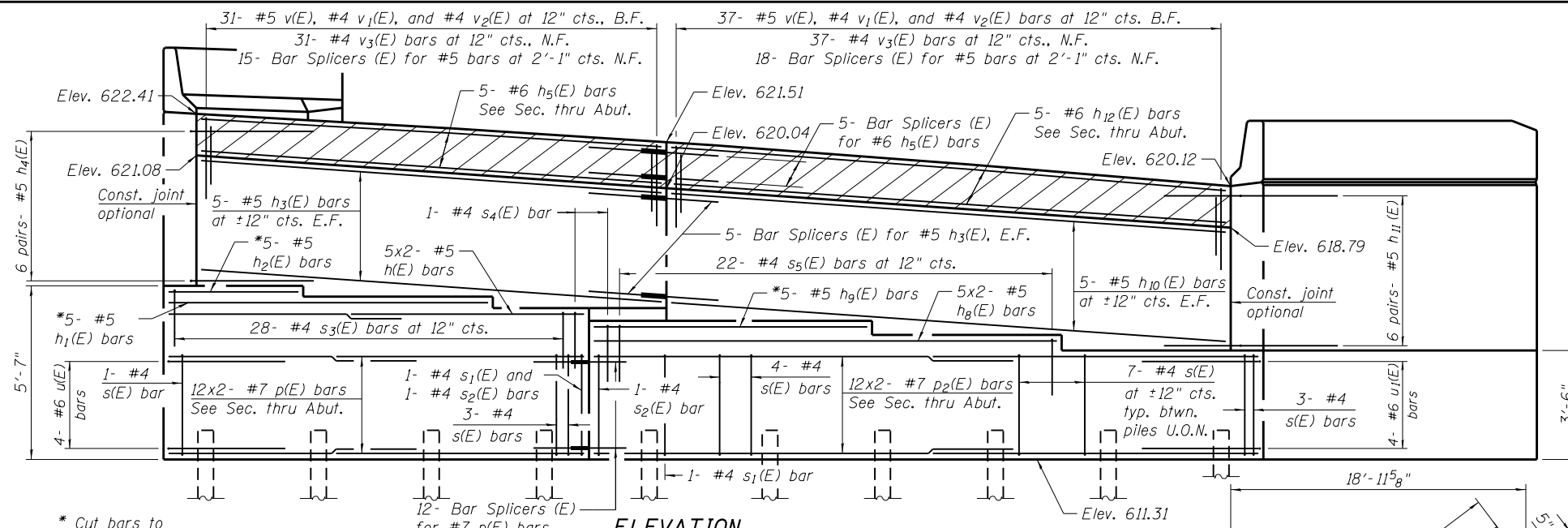
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SUBSTRUCTURE REMOVAL DETAILS
STRUCTURE NO. 016-2470

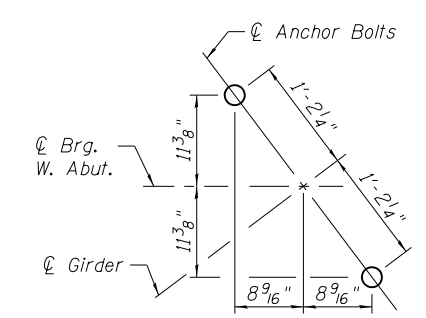
SHEET NO. S-28 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	403
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



Girder Number	Brg. Seat Elev.	Step
1	614.81	6"
2	615.31	5 1/2"
3	615.76	5"
4	616.17	4 1/2"
5	616.54	4 1/8"
6	616.89	

DETAIL 1
(Reinf. omitted for clarity)



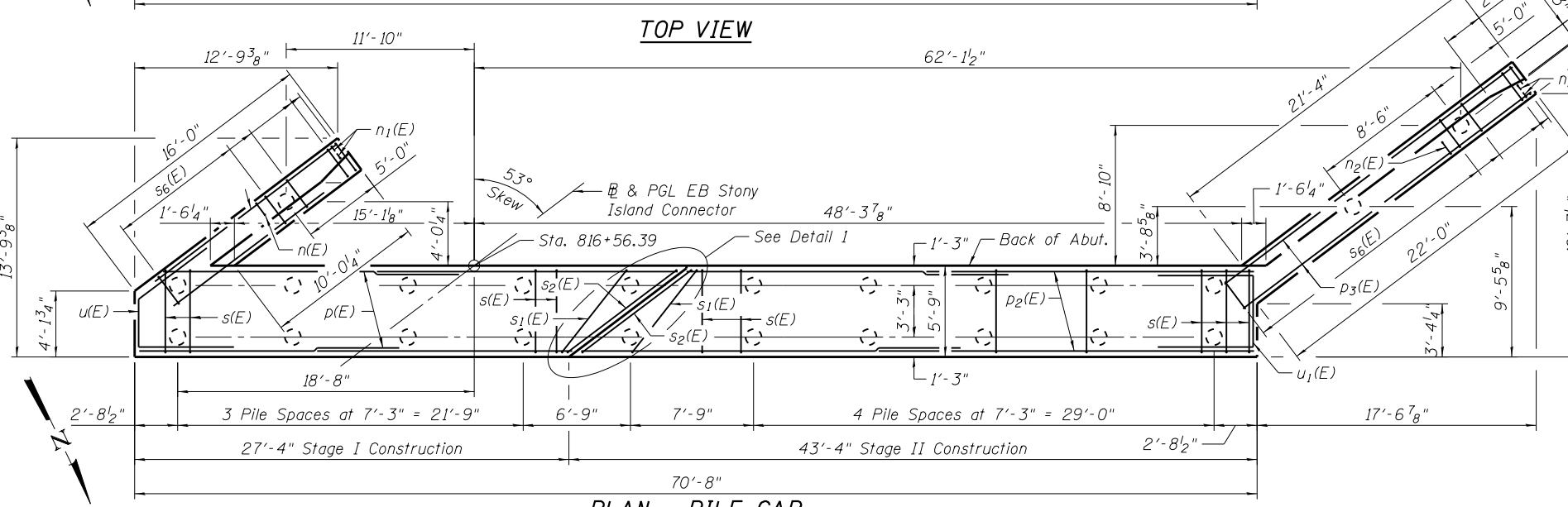
ANCHOR BOLT LAYOUT

Notes:
 N.F. - denotes Near Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face
 U.O.N. - denotes Unless Otherwise Noted

MIN. BAR LAP
 #5 - 3'-3"
 #7 - 5'-2"

Bars indicated thus 12x2- #7 etc. indicates 12 lines of bars with 2 lengths per line.
 For Bill of Material and Bar Bending Details, see Sheet S-31.
 For details of Bar Splicers, see sheet S-38.
 For details of metal shell piles see sheet S-37.

Pile locations may be adjusted up to 6" (parallel to ϕ Brg.) from the locations shown herein in order to miss existing piles. All adjusted pile locations must be approved by the Engineer prior to driving.



PILE DATA

Type: Metal Shell - 12" ϕ with 0.250" walls
 Nominal Required Bearing: 210 Kips
 Factored Resistance Available: 115 Kips
 Est. Length: 50'
 No. Production Piles: 22
 No. Test Piles: 1

2/21/13 PM

3/29/2013

S:\1072_05_CADD\Structure\1 SN 0162470.CADD Sheets\0162470-60J12-029-walldgr

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WEST ABUTMENT PLAN AND ELEVATION
 STRUCTURE NO. 016-2470

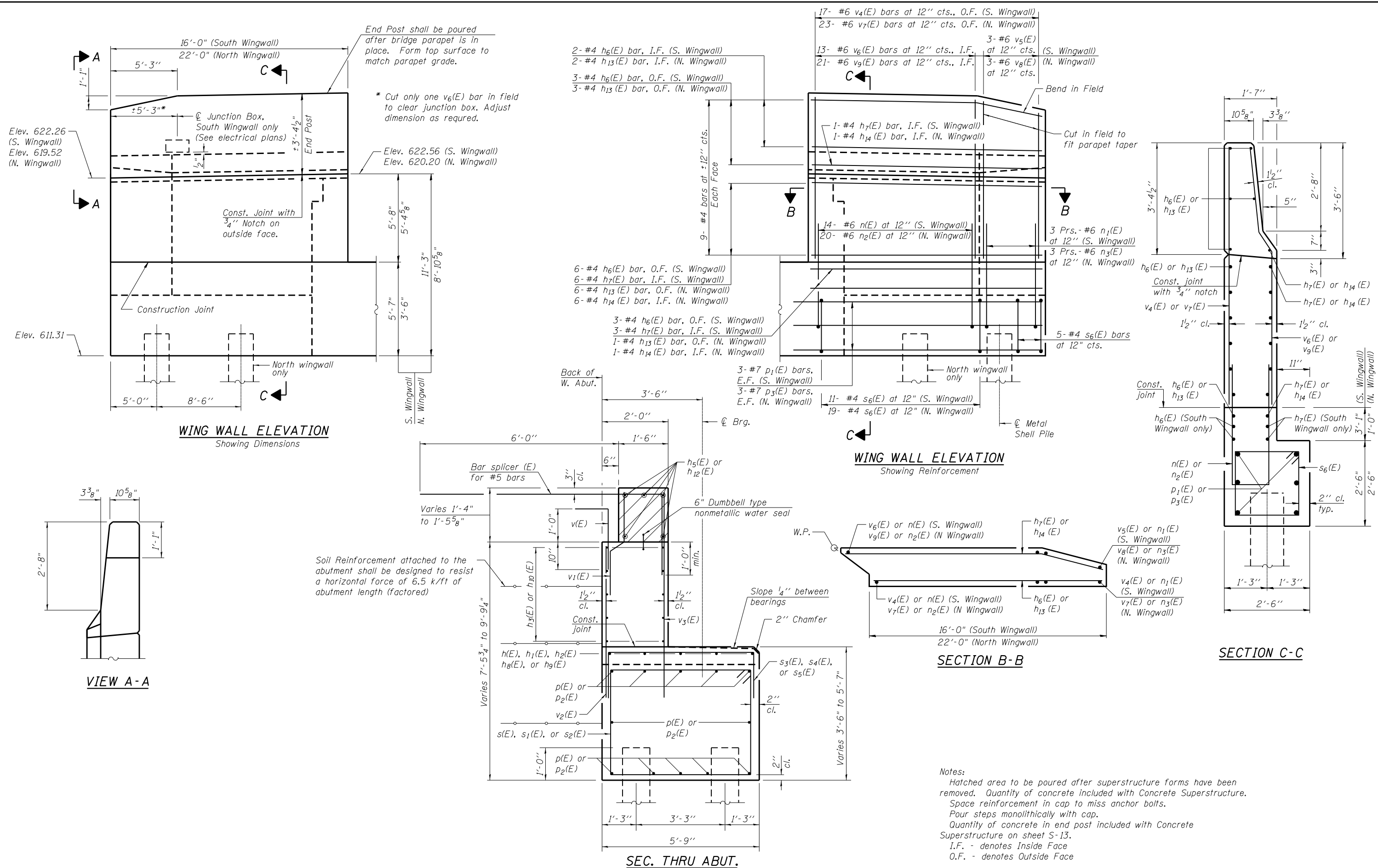
SHEET NO. S-29 OF S-53 SHEETS

F.A.I. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	404
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

2/21/13 PM

3/29/2013

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DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT SECTIONS AND DETAILS
STRUCTURE NO. 016-2470

F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	405
CONTRACT NO. 60J12				

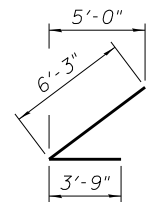
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ILLINOIS FED. AID PROJECT

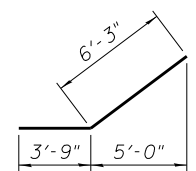
2/21/13 6 PM

3/29/2013

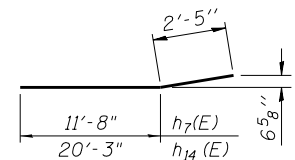
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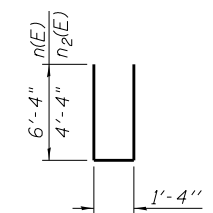
BAR h4(E)



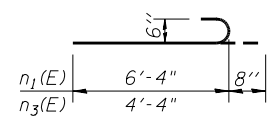
BAR h11(E)



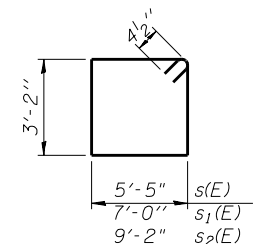
BARS h7(E)
& h14(E)



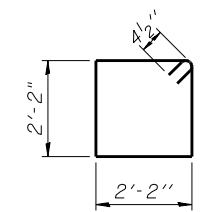
BARS n(E)
& n2(E)



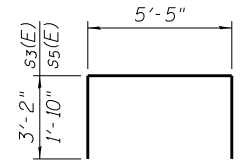
BARS n1(E)
& n3(E)



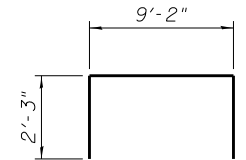
BARS s(E)
thru s2(E)



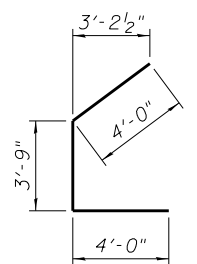
BAR s6(E)



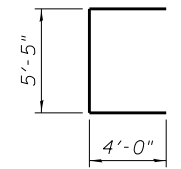
BARS s3(E)
& s5(E)



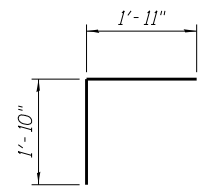
BAR s4(E)



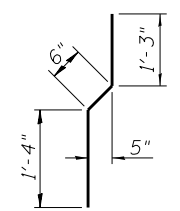
BAR u(E)



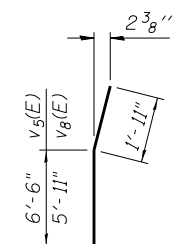
BAR u1(E)



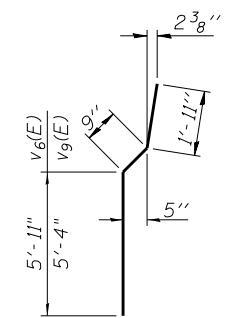
BAR v(E)



BAR v1(E)



BARS v5(E)
& v8(E)



BARS v6(E)
& v9(E)

**WEST ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	10	#5	19'-0"	—
h1(E)	5	#5	20'-10"	—
h2(E)	5	#5	8'-7"	—
h3(E)	10	#5	29'-10"	—
h4(E)	12	#5	10'-0"	∠
h5(E)	5	#6	29'-10"	—
h6(E)	14	#4	15'-8"	—
h7(E)	10	#4	14'-1"	—
h8(E)	10	#5	16'-8"	—
h9(E)	5	#5	17'-10"	—
h10(E)	10	#5	35'-11"	—
h11(E)	12	#5	10'-0"	—
h12(E)	5	#6	35'-11"	—
h13(E)	12	#4	21'-8"	—
h14(E)	8	#4	22'-8"	—
n(E)	14	#6	14'-0"	—
n1(E)	6	#6	7'-0"	—
n2(E)	20	#6	10'-0"	—
n3(E)	6	#6	5'-0"	—
p(E)	24	#7	20'-0"	—
p1(E)	6	#7	15'-4"	—
p2(E)	24	#7	24'-3"	—
p3(E)	6	#7	23'-0"	—
s(E)	60	#4	17'-11"	□
s1(E)	2	#4	21'-1"	□
s2(E)	2	#4	25'-5"	□
s3(E)	28	#4	11'-9"	□
s4(E)	2	#4	13'-8"	□
s5(E)	22	#4	9'-1"	□
s6(E)	40	#4	9'-5"	□
u(E)	4	#6	11'-9"	—
u1(E)	4	#6	13'-5"	—
v(E)	68	#5	3'-9"	—
v1(E)	68	#4	3'-1"	—
v2(E)	68	#4	5'-3"	—
v3(E)	68	#4	6'-6"	—
v4(E)	17	#6	8'-5"	—
v5(E)	3	#6	8'-5"	—
v6(E)	13	#6	8'-7"	—
v7(E)	23	#6	7'-10"	—
v8(E)	3	#6	7'-10"	—
v9(E)	21	#6	8'-0"	—
Concrete Structures	Cu. Yd.		112.9	
Reinforcement Bars, Epoxy Coated	Pound		9,410	
Furnishing Metal Shell Piles 12" x 0.250"	Foot		1,100	
Driving Piles	Foot		1,100	
Test Pile Metal Shells	Each		1	
Concrete Sealer	Sq. Ft.		723	

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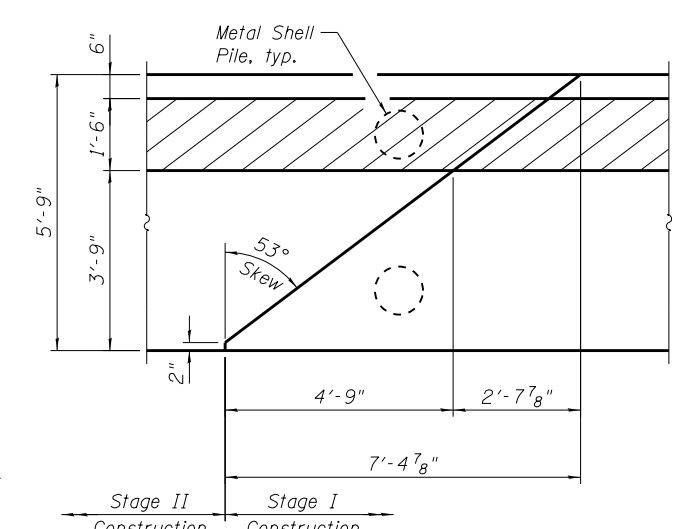
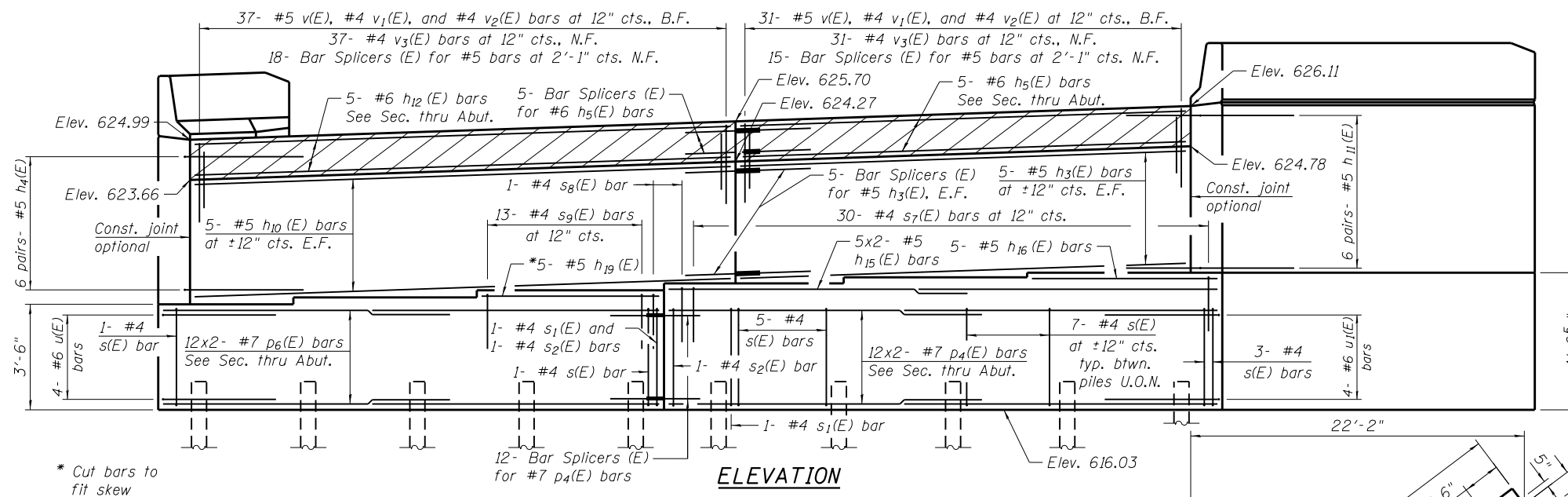
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PLOT SCALE =	DRAWN - TL	REVISED -
PLOT DATE = 03/29/2013	CHECKED - JGC	REVISED -

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DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT BILL OF MATERIALS
STRUCTURE NO. 016-2470

SHEET NO. S-31 OF S-53 SHEETS

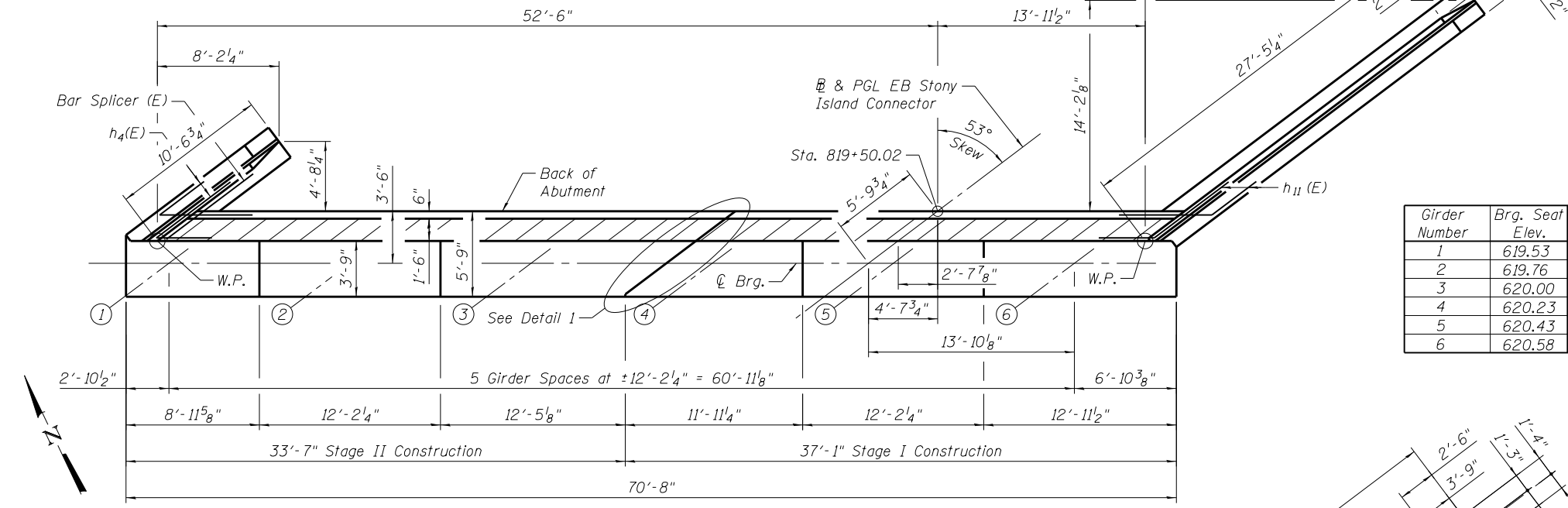
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	406
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



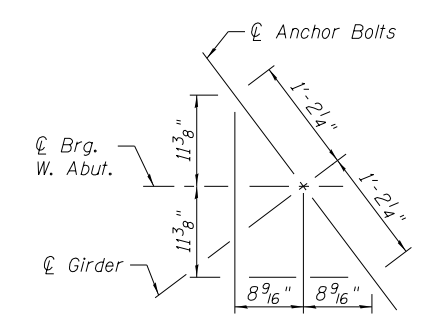
* Cut bars to fit skew

ELEVATION

DETAIL 1
(Reinf. omitted for clarity)

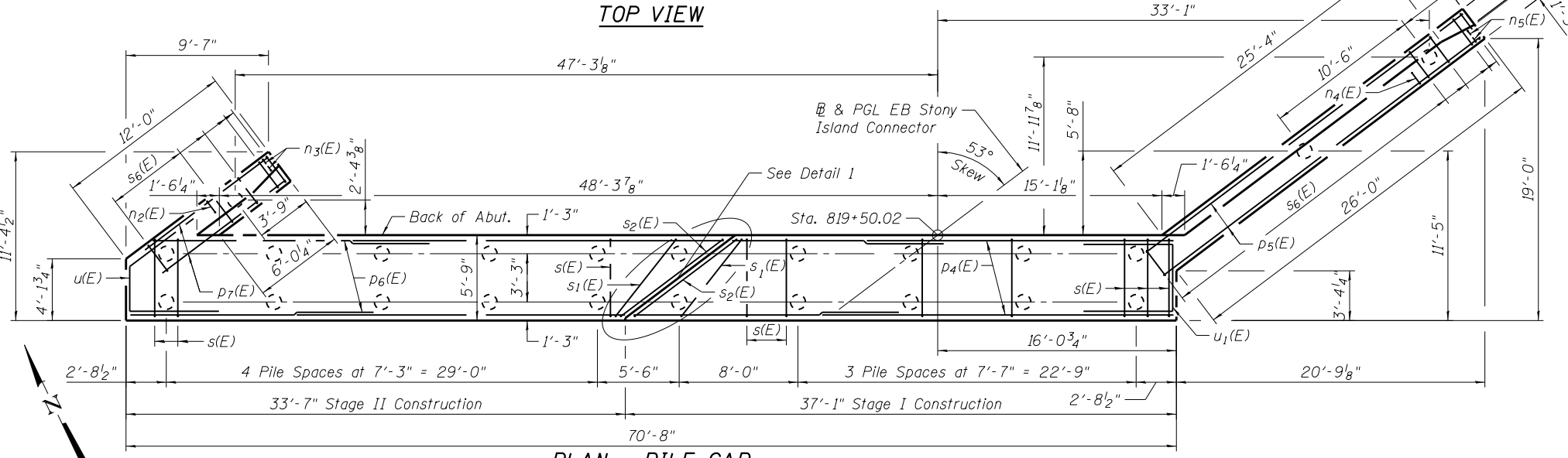


Girder Number	Brg. Seat Elev.	Step
1	619.53	2 3/4"
2	619.76	2 7/8"
3	620.00	2 7/8"
4	620.23	2 3/8"
5	620.43	2 3/8"
6	620.58	1 7/8"



ANCHOR BOLT LAYOUT

Notes:
 N.F. - denotes Near Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face
 U.O.N. - denotes Unless Otherwise Noted



MIN. BAR LAP
 #5 - 3'-3"
 #7 - 5'-2"

Bars indicated thus 12x2- #7 etc. indicates 12 lines of bars with 2 lengths per line.
 For Bill of Material and Bar Bending Details, see Sheet S-34.
 For details of Bar Splicers, see sheet S-38.
 For details of metal shell piles see sheet S-37.

Pile locations may be adjusted up to 6" (parallel to ϕ Brg.) from the locations shown herein in order to miss existing piles. All adjusted pile locations must be approved by the Engineer prior to driving.

PILE DATA

Type: Metal Shell - 12" ϕ with 0.250" walls
 Nominal Required Bearing: 210 Kips
 Factored Resistance Available: 115 Kips
 Est. Length: 57'
 No. Production Piles: 22
 No. Test Piles: 1

2/21/37 PM

3/29/2013

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT PLAN AND ELEVATION
 STRUCTURE NO. 016-2470

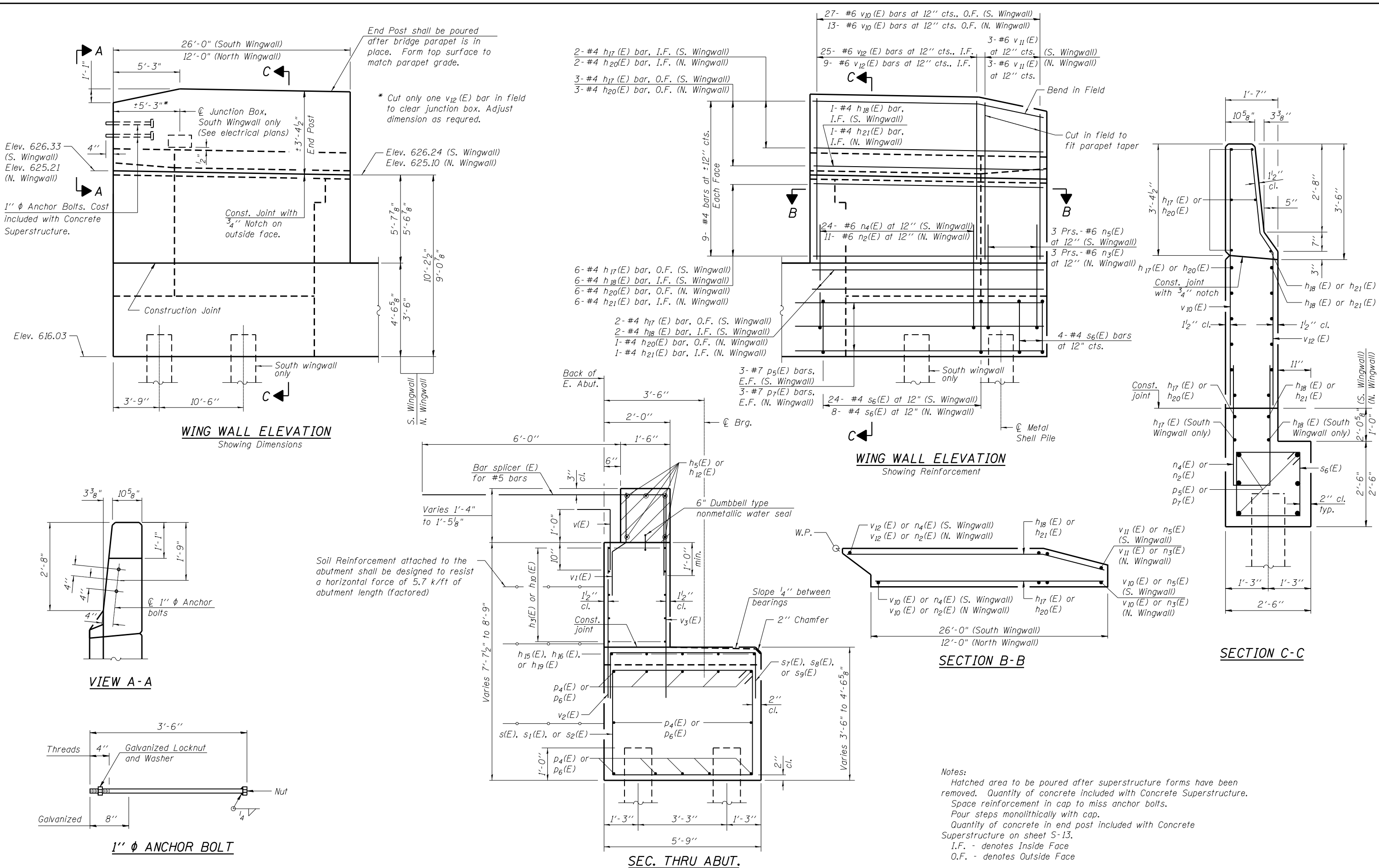
SHEET NO. S-32 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	407
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

2/21/13 37 PM

3/29/2013

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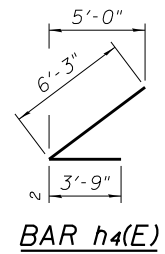


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	PLOT SCALE =	DRAWN - TL	REVISED -			CONTRACT NO. = 60J12				
	PLOT DATE = 03/29/2013	CHECKED - JGC	REVISED -		SHEET NO. S-33 OF S-53 SHEETS	ILLINOIS FED. AID PROJECT				

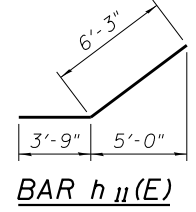
2/21/13 7 PM

3/29/2013

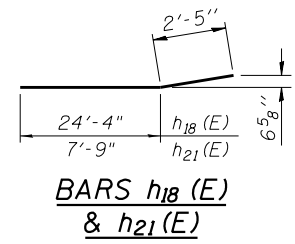
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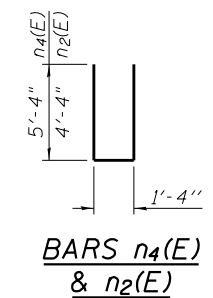
BAR h4(E)



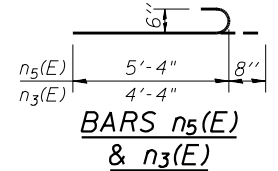
BAR h11(E)



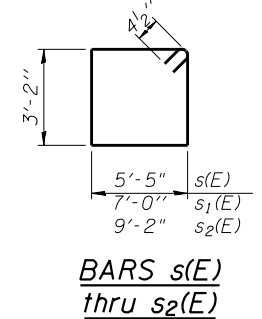
BARS h18(E) & h21(E)



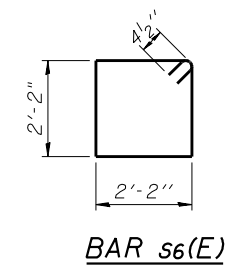
BARS n4(E) & n2(E)



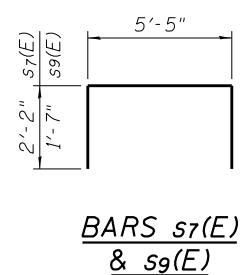
BARS n5(E) & n3(E)



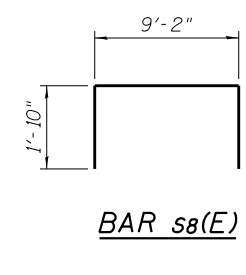
BARS s(E) thru s2(E)



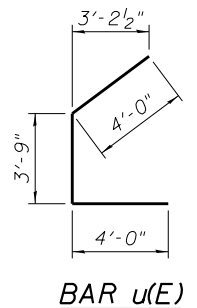
BAR s6(E)



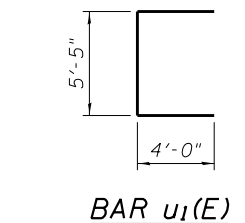
BARS s7(E) & s9(E)



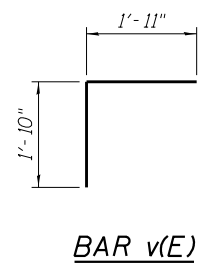
BAR s8(E)



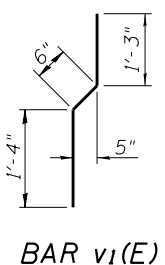
BAR u(E)



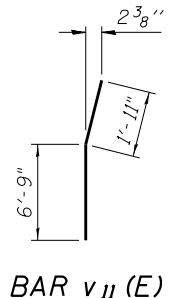
BAR u1(E)



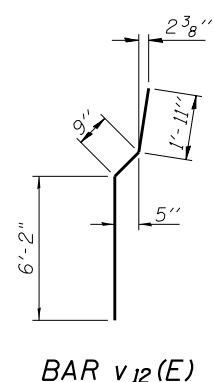
BAR v(E)



BAR v1(E)



BAR v11(E)



BAR v12(E)

**EAST ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h3(E)	10	#5	29'-10"	—
h4(E)	12	#5	10'-0"	↙
h5(E)	5	#6	29'-10"	—
h10(E)	10	#5	35'-11"	—
h11(E)	12	#5	10'-0"	↙
h12(E)	5	#6	35'-11"	—
h15(E)	10	#5	20'-2"	—
h16(E)	5	#5	12'-7"	—
h17(E)	13	#4	25'-8"	—
h18(E)	9	#4	26'-9"	—
h19(E)	5	#5	19'-6"	—
h20(E)	12	#4	11'-8"	—
h21(E)	8	#4	10'-2"	—
n2(E)	11	#6	10'-0"	—
n3(E)	6	#6	5'-0"	—
n4(E)	24	#6	12'-0"	—
n5(E)	6	#6	6'-0"	—
p4(E)	24	#7	21'-2"	—
p5(E)	6	#7	27'-0"	—
p6(E)	24	#7	23'-1"	—
p7(E)	6	#7	11'-4"	—
s(E)	59	#4	17'-11"	□
s1(E)	2	#4	21'-1"	□
s2(E)	2	#4	25'-5"	□
s6(E)	40	#4	9'-5"	□
s7(E)	30	#4	9'-9"	□
s8(E)	2	#4	12'-10"	□
s9(E)	13	#4	8'-7"	□
u(E)	4	#6	11'-9"	↙
u1(E)	4	#6	13'-5"	—
v(E)	68	#5	3'-9"	—
v1(E)	68	#4	3'-1"	—
v2(E)	68	#4	5'-3"	—
v3(E)	68	#4	6'-6"	—
v10(E)	40	#6	8'-8"	—
v11(E)	6	#6	8'-8"	—
v12(E)	34	#6	8'-10"	—
Concrete Structures		Cu. Yd.	105.6	
Reinforcement Bars, Epoxy Coated		Pound	9,130	
Furnishing Metal Shell Piles 12" X 0.250"		Foot	1,254	
Driving Piles		Foot	1,254	
Test Pile Metal Shells		Each	1	
Concrete Sealer		Sq. Ft.	698	

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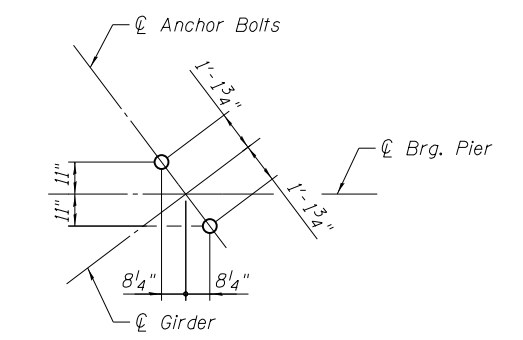
EAST ABUTMENT BILL OF MATERIALS
STRUCTURE NO. 016-2470

SHEET NO. S-34 OF S-53 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	409
				CONTRACT NO. 60J12
ILLINOIS FED. AID PROJECT				

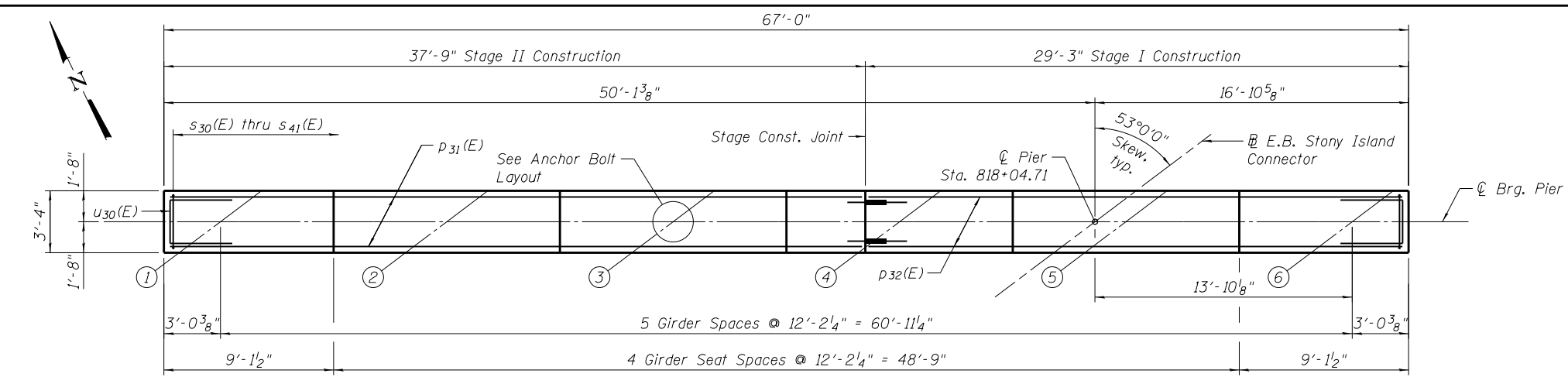
BEARING SEAT ELEVATIONS

Girder	Brg. Seat Elevation
1	617.69
2	617.98
3	618.28
4	618.56
5	618.84
6	619.12

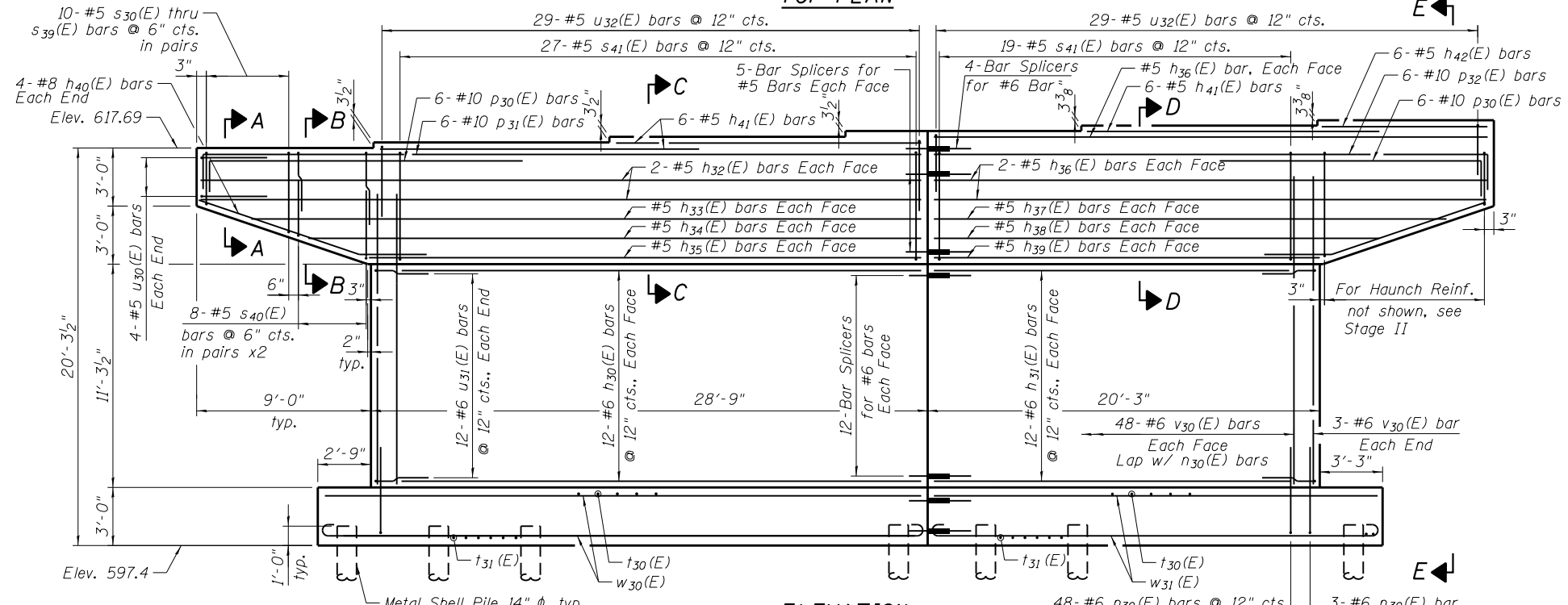


ANCHOR BOLT LAYOUT

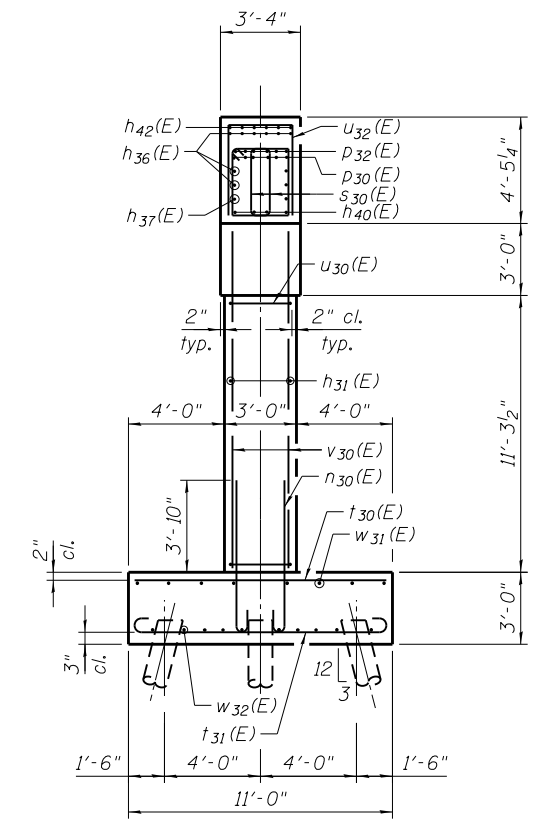
MIN. BAR LAP
 #5 - 3'-3"
 #6 - 3'-10"



TOP PLAN



ELEVATION
(Looking Upstation)



VIEW E-E

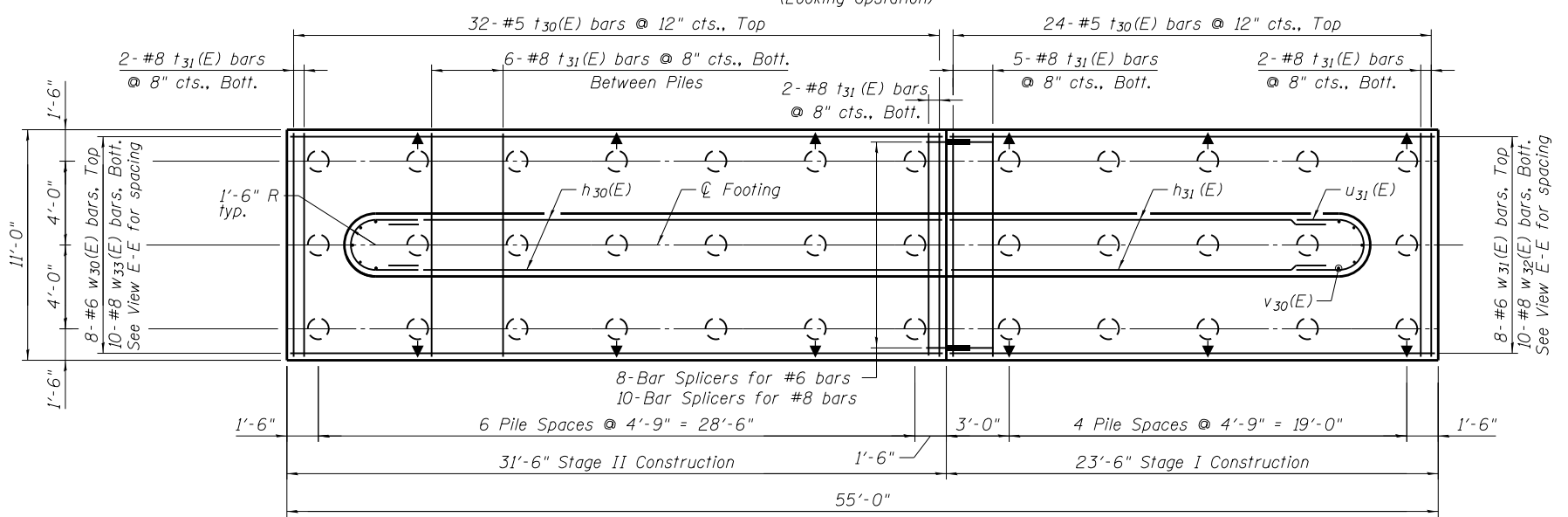
LEGEND

- Battered Pile
- Vertical Pile

PILE DATA

Type: Metal Shell - 14" ϕ with 0.312" walls
 Nominal Required Bearing: 390 kips
 Factored Resistance Available: 215 kips
 Est. Length: 40'
 No. Production Piles: 35
 No. Test Piles: 1

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see Sheet S-37.
 See Sheet No. S-36 for Sections A-A, B-B, C-C, & D-D.
 See Sheet No. S-36 for Bill of Material and Bar Bending Diagrams.



FOOTING PLAN

2/21/38 PM
 3/29/2013
 S:\1072_05_CADD\Structure\1\SN_0162470_CADD_Sheets\0162470-60J12-035-F101.dgn

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	CHECKED - SF	REVISD -

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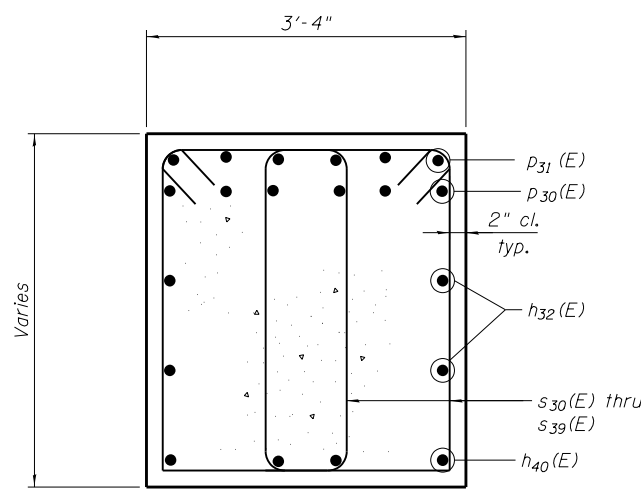
PIER DETAILS I
 STRUCTURE NO. 016-2470
 SHEET NO. S-35 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	410
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

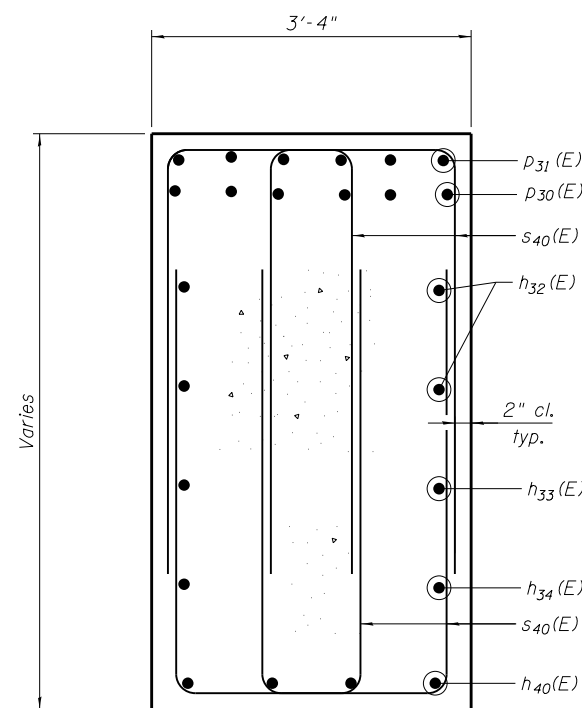
2/21/13 8 PM

3/29/2013

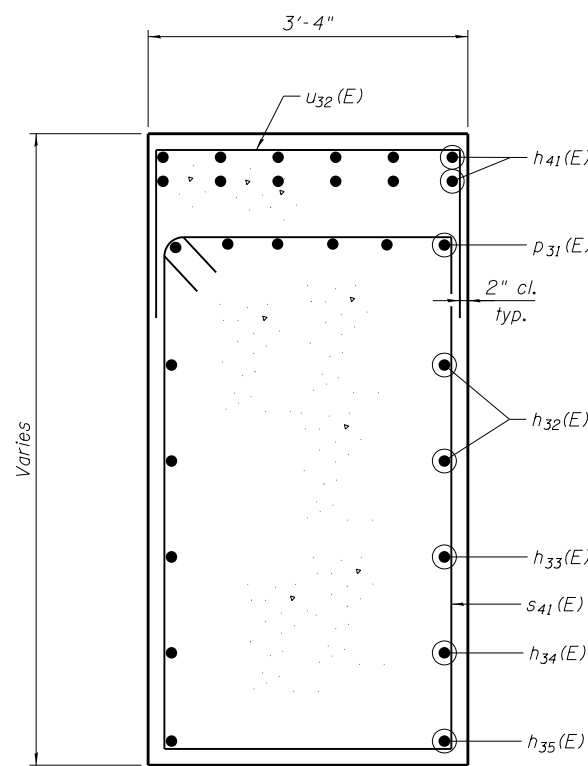
S:\1072_05_CADD\Structure\1 SN 0162470.CADD Sheets\0162470-60J12-036-P102.dgn



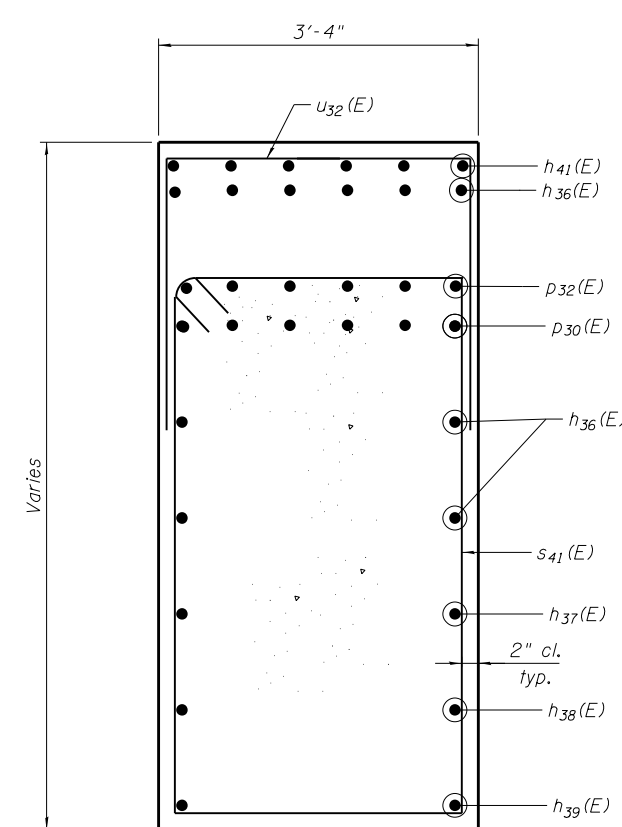
SECTION A-A



SECTION B-B



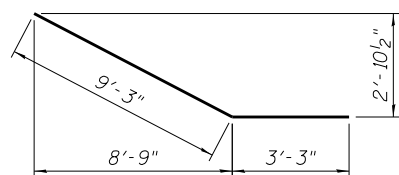
SECTION C-C



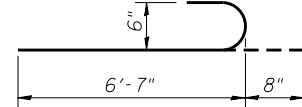
SECTION D-D

PIER
BILL OF MATERIAL

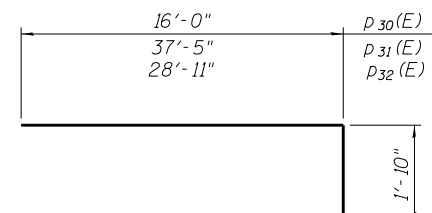
Bar	No.	Size	Length	Shape
h30(E)	24	#6	27'-0"	—
h31(E)	24	#6	18'-6"	—
h32(E)	4	#5	37'-4"	—
h33(E)	2	#5	34'-4"	—
h34(E)	2	#5	31'-4"	—
h35(E)	2	#5	28'-6"	—
h36(E)	6	#5	28'-11"	—
h37(E)	2	#5	25'-11"	—
h38(E)	2	#5	22'-11"	—
h39(E)	2	#5	19'-11"	—
h40(E)	8	#8	12'-6"	—
h41(E)	18	#5	16'-3"	—
h42(E)	6	#5	8'-9"	—
n30(E)	102	#6	7'-3"	U
p30(E)	12	#10	17'-10"	—
p31(E)	6	#10	39'-3"	—
p32(E)	6	#10	30'-9"	—
s30(E)	4	#5	10'-3"	□
s31(E)	4	#5	10'-7"	□
s32(E)	4	#5	10'-11"	□
s33(E)	4	#5	11'-3"	□
s34(E)	4	#5	11'-7"	□
s35(E)	4	#5	11'-11"	□
s36(E)	4	#5	12'-3"	□
s37(E)	4	#5	12'-7"	□
s38(E)	4	#5	12'-11"	□
s39(E)	4	#5	13'-3"	□
s40(E)	64	#5	10'-9"	□
s41(E)	46	#5	18'-3"	□
t30(E)	56	#5	10'-8"	—
t31(E)	71	#8	12'-4"	—
u30(E)	8	#5	9'-4"	U
u31(E)	24	#6	11'-10"	U
u32(E)	58	#5	8'-8"	U
v30(E)	102	#6	13'-9"	—
w30(E)	8	#6	31'-2"	—
w31(E)	8	#6	23'-2"	—
w32(E)	10	#8	25'-0"	—
w33(E)	10	#8	34'-0"	—
Structure Excavation		Cu. Yd.	151	
Concrete Structures		Cu. Yd.	178.6	
Reinforcement Bars, Epoxy Coated		Pound	17,200	
Furnishing Metal Shell Piles 14" x 0.312"		Foot	1,400	
Driving Piles		Foot	1,400	
Test Pile Metal Shells		Each	1	



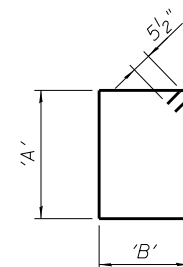
BAR h40(E)



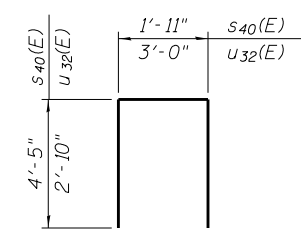
BAR n30(E)



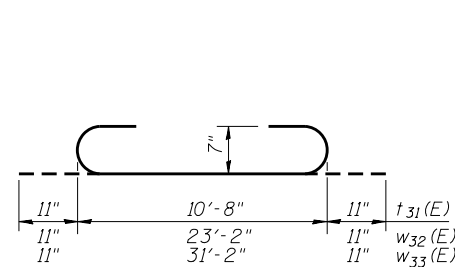
BARS p30(E) thru p32(E)



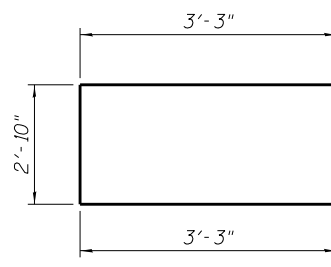
BARS s30(E) thru s39(E) & s41(E)



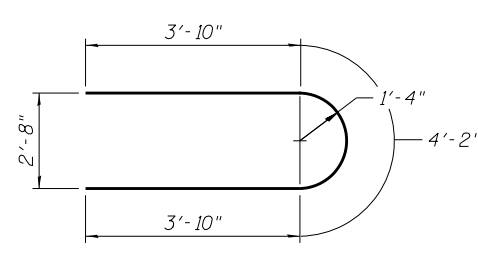
BARS s40(E) & u32(E)



BARS t31(E), w32(E) & w33(E)



BAR u30(E)



BAR u31(E)

A & B DIMENSIONS

Bar	A	B
s30(E)	2'-9"	1'-11"
s31(E)	2'-11"	1'-11"
s32(E)	3'-1"	1'-11"
s33(E)	3'-3"	1'-11"
s34(E)	3'-5"	1'-11"
s35(E)	3'-7"	1'-11"
s36(E)	3'-9"	1'-11"
s37(E)	3'-11"	1'-11"
s38(E)	4'-1"	1'-11"
s39(E)	4'-3"	1'-11"
s41(E)	5'-8"	3'-0"

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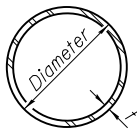
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PIER DETAILS II
STRUCTURE NO. 016-2470

SHEET NO. S-36 OF S-53 SHEETS

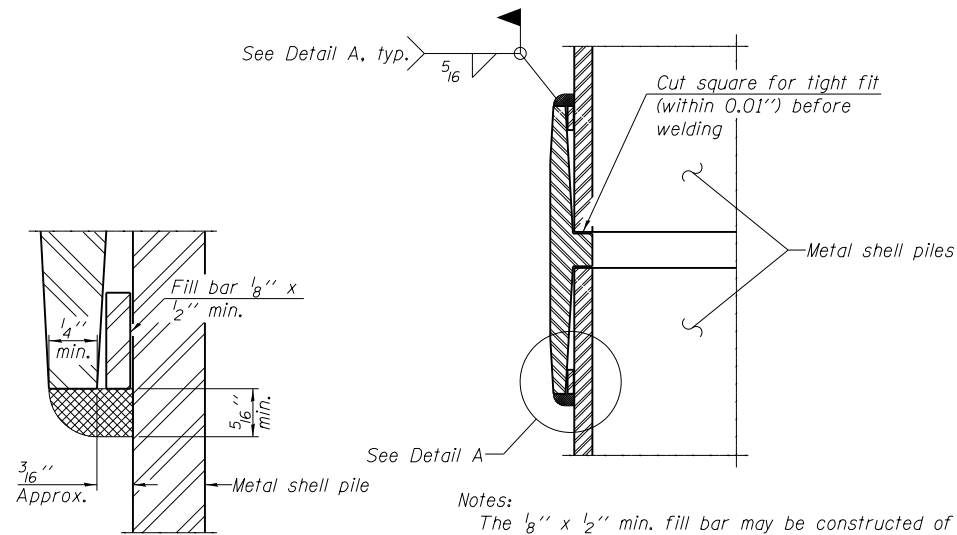
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	411
CONTRACT NO. 60J12				

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METAL SHELL PILE TABLE

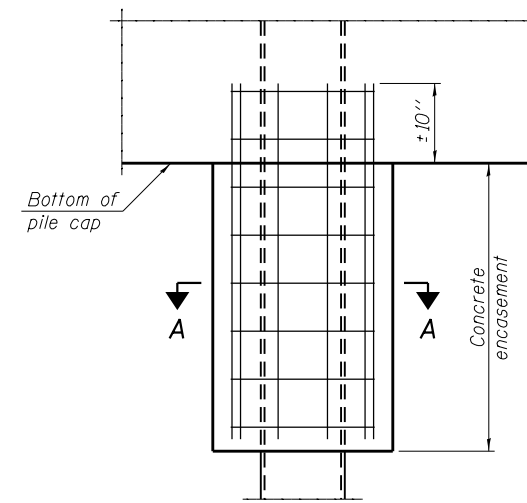
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



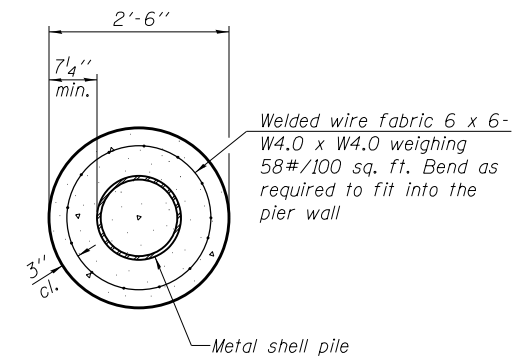
DETAIL A

Notes:
 The $\frac{1}{8}$ " x $\frac{1}{2}$ " min. fill bar may be constructed of 2 bars with a $\frac{1}{8}$ " max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



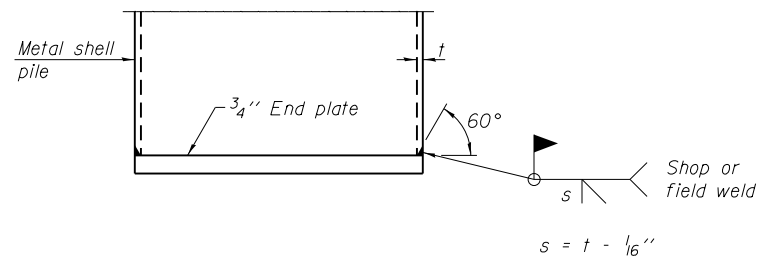
ELEVATION



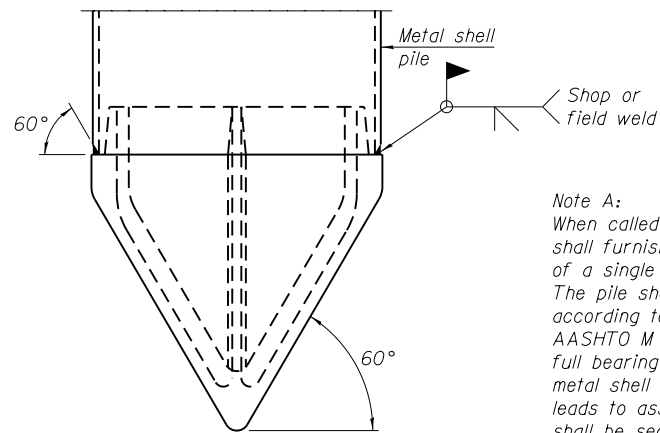
SECTION A-A

Note:
 Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



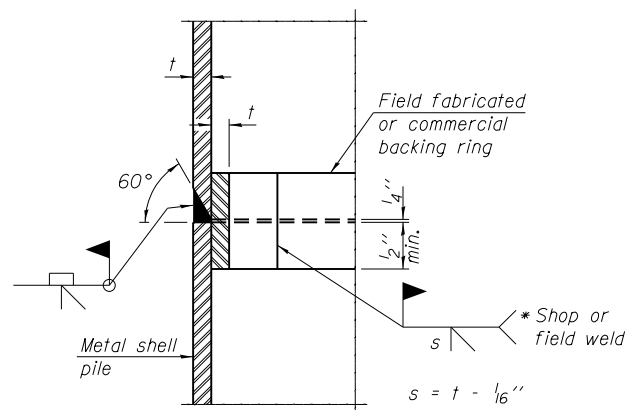
END PLATE ATTACHMENT



Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

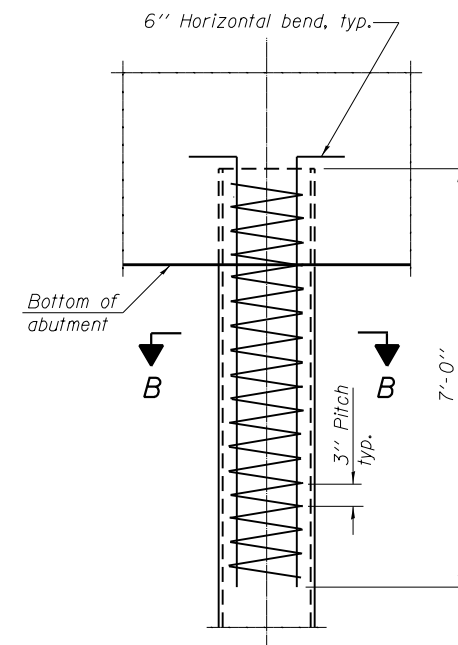
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

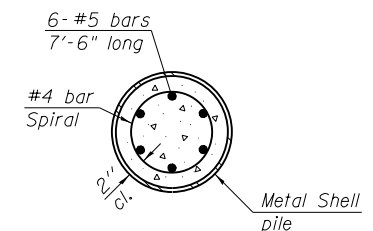


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

F-MS 1-27-12

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METAL SHELL PILE DETAILS
 STRUCTURE NO. 016-2470

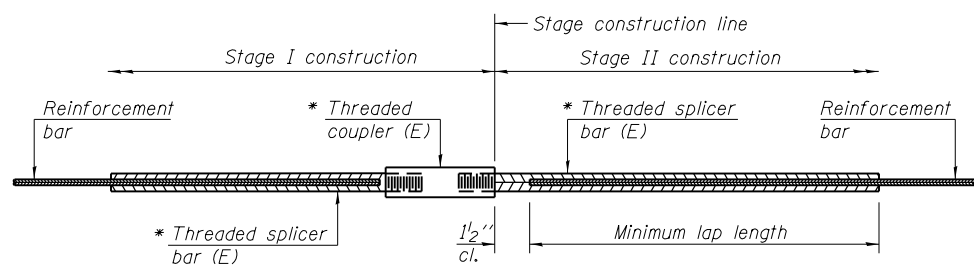
SHEET NO. S-37 OF S-53 SHEETS

F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	412
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

2/21/09 PM

3/29/2013

S:\1072_05_CADD\Structure\1 SN 0162470\CADD Sheets\0162470-60J12-037-MS01.dgn



STANDARD BAR SPLICER ASSEMBLY

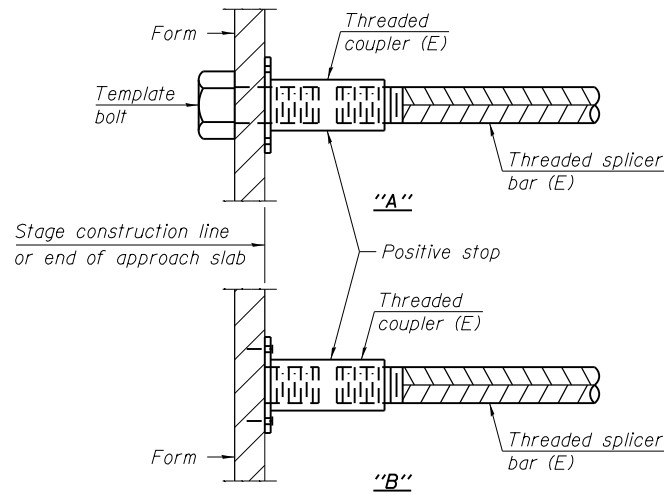
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

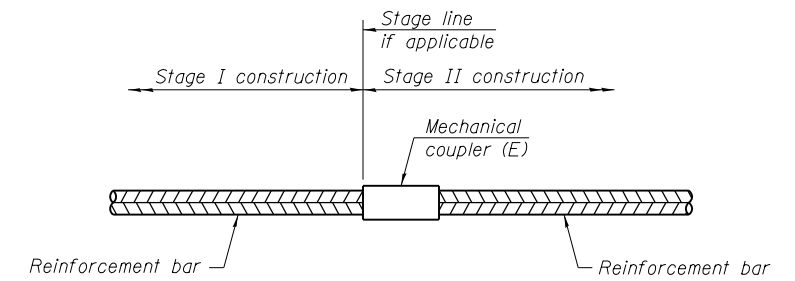
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Approach Slabs	#4	50	Table 6
Approach Slabs	#5	172	Table 5
Abutments	#5	20	Table 6
Abutments	#6	10	Table 6
Abutments	#7	24	Table 6
Pier	#5	10	Table 6
Pier	#6	36	Table 6
Pier	#8	10	Table 5



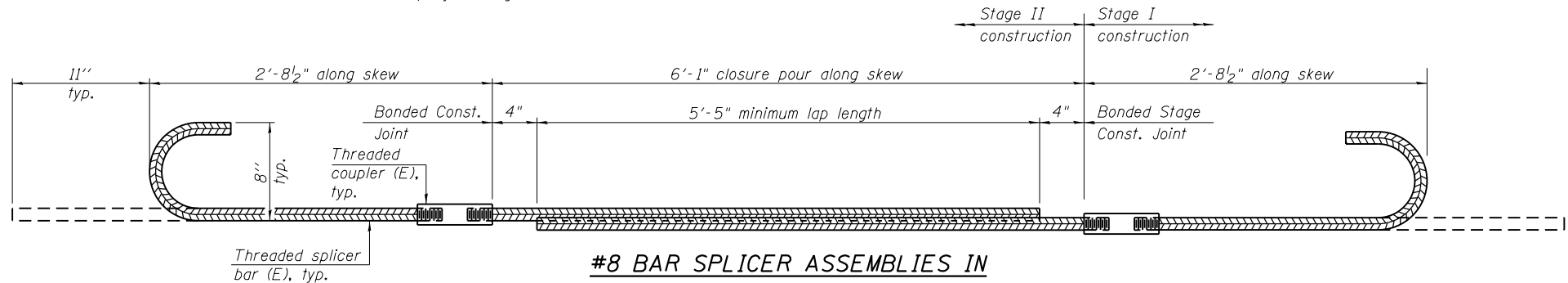
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

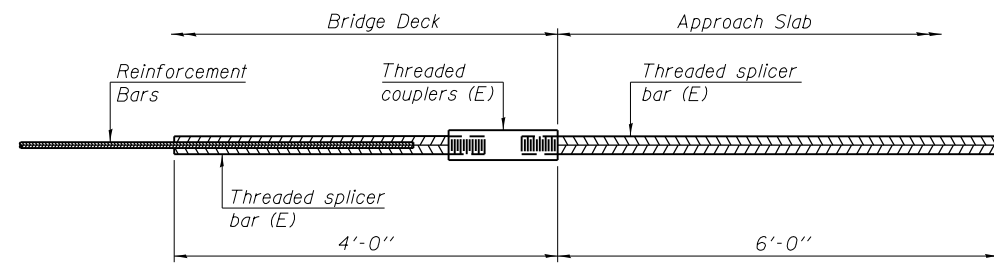
Location	Bar size	No. assemblies required



#8 BAR SPLICER ASSEMBLIES IN EDGE BEAMS AT DECK CLOSURE POUR

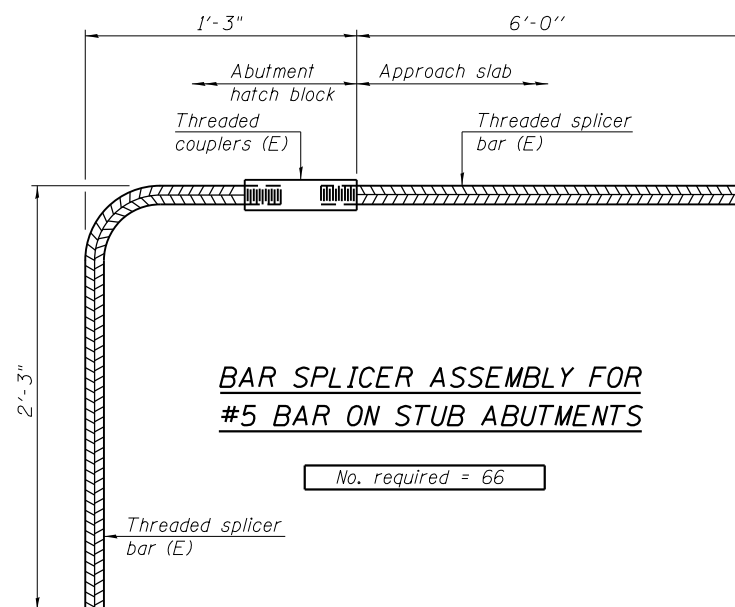
(Two bar splicer assemblies shown)

No. required = 12



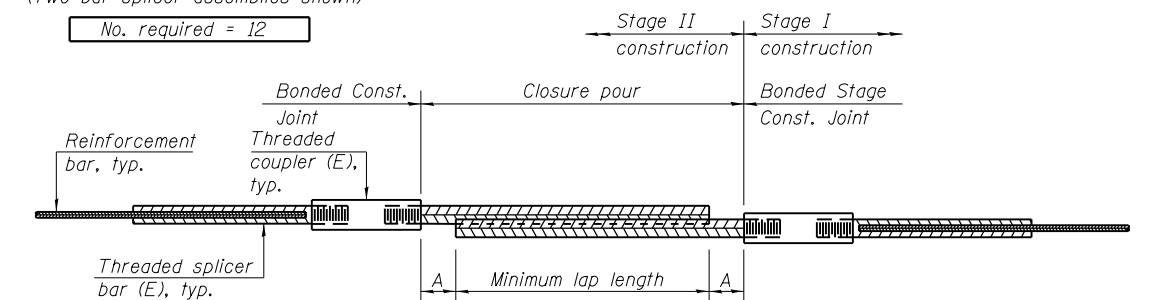
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 66



BAR SPLICER ASSEMBLIES AT DECK CLOSURE POUR

(Two bar splicer assemblies shown)

Bar size	No. assemblies required	Minimum lap length	Dim. "A"
#5	1888	3'-3"	2 1/2"
#7	16	4'-2"	1 1/2"
#8	4	5'-5"	4"

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

2/21/13 PM

3/29/2013

S:\1072_05_CADD\Structure\1 SN 0162470.CADD Sheet\162470-60J12-038-BS01.dgn

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838		SOIL BORING LOG		PAGE 1 of 3	
ROUTE <u>FAL 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>		DATE <u>12/28/2010</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>		LOGGED BY <u>DR</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u>		HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>		DEPT H S Qu T	
Station		Stream Bed Elev. <u>n/a</u>		DEPT H S Qu T	
BORING NO. <u>S36-A</u>		Groundwater Elevation:		DEPT H S Qu T	
Station: <u>818+25</u>		First Encounter <u>n/a</u>		DEPT H S Qu T	
Offset: <u>2.5' Left</u>		Upon Completion <u>n/a</u>		DEPT H S Qu T	
Ground Surface Elev. <u>620.0</u>		After _____ Hrs. <u>n/a</u>		DEPT H S Qu T	
(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)
2.5" ASPHALT, 2.5" CONCRETE, 14.0" CRUSHED STONE					
618.4	11		115	3	113
7				7	
5	3.8B	13		9	3.8B 18
CLAY LOAM-brown & gray- medium dense (A-6) Fill					
6			105	3	104
6				5	
-5	6	2.6B	20	-25	6 2.6B 21
CLAY LOAM-brown & gray- very stiff (A-6) Fill		594.5			
3			109	5	89
3				7	
6	2.5B	19		9	2.7B 25
SILTY CLAY-dark brown & gray- very stiff (A-6)		592.0			
3			107	6	106
6				9	
-10	6	3.1B	18	-50	11 2.2B 22
CLAY-brown & gray- very stiff (A-6) Wet		590.0			
6				15	107
6				18	5.5S 18
6				-55	22 14.1% 21
SAND-brown-medium dense (A-3) Fill		609.5			
6				9	122
7	NP	11		12	
6				-75	15 5.0B 13
CLAY-gray- stiff to very stiff (A-6)		607.0			
3			109	3	113
5				5	
-15	7	2.2B	20	-35	8 2.2B 18
CLAY LOAM-brown & gray- medium dense (A-6) Fill					
8				4	112
4				5	
6				-40	7 1.8B 19
4				6	118
6				8	
-20	6		26	-60	9 3.4B 15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838		SOIL BORING LOG		PAGE 2 of 3	
ROUTE <u>FAL 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>		DATE <u>12/28/2010</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>		LOGGED BY <u>DR</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u>		HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>		DEPT H S Qu T	
Station		Stream Bed Elev. <u>n/a</u>		DEPT H S Qu T	
BORING NO. <u>S36-A</u>		Groundwater Elevation:		DEPT H S Qu T	
Station: <u>818+25</u>		First Encounter <u>n/a</u>		DEPT H S Qu T	
Offset: <u>2.5' Left</u>		Upon Completion <u>n/a</u>		DEPT H S Qu T	
Ground Surface Elev. <u>620.0</u>		After _____ Hrs. <u>n/a</u>		DEPT H S Qu T	
(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)
CLAY-gray- stiff to very stiff (A-6)					
5			108	10	126
7				15	
-45	10	2.5B	21	-65	17 8.9B 12
CLAY LOAM-gray- very stiff to hard (A-6)					
6			106	11	126
9				15	
-50	11	2.2B	22	-70	20 8.0B 12
SILTY CLAY LOAM-gray-dense (A-4)		568.0			
15			107	9	122
18	5.5S	18		12	
-55	22	14.1%	21	-75	15 5.0B 13
CLAY LOAM-gray- very stiff to hard (A-6)		563.0			
6			118	8	124
8				13	
-60	9	3.4B	15	-80	15 4.9B 13

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838		SOIL BORING LOG		PAGE 3 of 3	
ROUTE <u>FAL 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>		DATE <u>12/28/2010</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>		LOGGED BY <u>DR</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u>		HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>		DEPT H S Qu T	
Station		Stream Bed Elev. <u>n/a</u>		DEPT H S Qu T	
BORING NO. <u>S36-A</u>		Groundwater Elevation:		DEPT H S Qu T	
Station: <u>818+25</u>		First Encounter <u>n/a</u>		DEPT H S Qu T	
Offset: <u>2.5' Left</u>		Upon Completion <u>n/a</u>		DEPT H S Qu T	
Ground Surface Elev. <u>620.0</u>		After _____ Hrs. <u>n/a</u>		DEPT H S Qu T	
(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)
CLAY LOAM-gray- very stiff to hard (A-6)					
9			113	12	
12				14	3.8B 18
-85	14	3.8B	18	-110	
SILTY LOAM with Fractured Rock- gray-very dense (A-4)		515.0-105		NP 13	
22				22	
39				39	
-90	50/4	NP	18	-110	
SILTY LOAM-gray-very dense (A-4)		528.0			
13			124	23	
23				-95	28 7.2B 14
CLAY LOAM-gray-hard (A-6)					
50/5			117	50/5	117
50/5				13	
-100	6		26	-120	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

2/21/09 PM

3/29/2013

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
STRUCTURE NO. 016-2470
SHEET NO. S-39 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	414
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838		SOIL BORING LOG		PAGE 1 of 3	
ROUTE <u>FAI 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>		DATE <u>12/22/2010</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>		LOGGED BY <u>DR</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u>		HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Station		Stream Bed Elev. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
BORING NO. <u>S36-B</u>		Groundwater Elevation:		DEPTH (ft) (ft/6") (tsf) (%)	
Station: <u>817+72</u>		First Encounter <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Offset: <u>11.5' Right</u>		Upon Completion <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Ground Surface Elev. <u>602.4</u>		After _____ Hrs. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
9.5" CONCRETE, 10.5" CRUSHED STONE					
600.7				4 118	
				5 118	
				7 2.48 18	
				4 111	
				8 111	
				10 3.48 20	
CLAY LOAM-brown & gray-medium stiff to very stiff (A-6) Fill		CLAY-gray-stiff to very stiff (A-6)			
				4 104	
				8 104	
				13 2.48 19	
				7 118	
				9 118	
				14 6.28 14	
				3 10P 17	
				2 111	
				3 0.9P 20	
589.4					
CLAY-brown & gray-stiff (A-6)				6 111	
				12 111	
				16 4.18 19	
586.9					
				2 111	
				3 111	
				4 1.1B 19	
CLAY-gray-stiff to very stiff (A-6)		SILTY LOAM-gray-medium dense (A-4)			
				5 111	
				8 111	
				10 NP 22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838		SOIL BORING LOG		PAGE 2 of 3	
ROUTE <u>FAI 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>		DATE <u>12/22/2010</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>		LOGGED BY <u>DR</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u>		HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Station		Stream Bed Elev. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
BORING NO. <u>S36-B</u>		Groundwater Elevation:		DEPTH (ft) (ft/6") (tsf) (%)	
Station: <u>817+72</u>		First Encounter <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Offset: <u>11.5' Right</u>		Upon Completion <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Ground Surface Elev. <u>602.4</u>		After _____ Hrs. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
SILTY LOAM-gray-medium dense (A-4)		CLAY LOAM-gray-hard (A-6)			
560.4		540.4			
				10 122	
				14 122	
				19 5.78 13	
CLAY LOAM-gray-hard (A-6)		CLAY LOAM-gray-hard (A-6)			
				9 118	
				14 118	
				21 4.98 14	
				29 4.28 15	
				9 121	
				14 121	
				17 7.88 13	
				8 106	
				16 106	
				25 4.18 22	
535.4		525.4			
				14 122	
				12 122	
				26 114	
				29 2.98 14	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838		SOIL BORING LOG		PAGE 3 of 3	
ROUTE <u>FAI 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>		DATE <u>12/22/2010</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>		LOGGED BY <u>DR</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u>		HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Station		Stream Bed Elev. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
BORING NO. <u>S36-B</u>		Groundwater Elevation:		DEPTH (ft) (ft/6") (tsf) (%)	
Station: <u>817+72</u>		First Encounter <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Offset: <u>11.5' Right</u>		Upon Completion <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
Ground Surface Elev. <u>602.4</u>		After _____ Hrs. <u>n/a</u>		DEPTH (ft) (ft/6") (tsf) (%)	
SILTY CLAY LOAM-gray-dense to very dense (A-4)		CLAY LOAM-gray-hard (A-6)			
				10 122	
				14 122	
				19 5.78 13	
CLAY LOAM-gray-hard (A-6)		CLAY LOAM-gray-hard (A-6)			
				9 118	
				14 118	
				21 4.98 14	
				29 4.28 15	
				9 121	
				14 121	
				17 7.88 13	
				8 106	
				16 106	
				25 4.18 22	
515.4		505.9			
				14 122	
				12 122	
				26 114	
				29 2.98 14	
Silty SAND, GRAVEL & FRACTURED ROCK-gray-very dense (A-2)		SILTY CLAY LOAM-gray-dense to very dense (A-4)			
				25 114	
				26 114	
				29 2.98 14	
504.4		502.4-100			
Drillers Observation: Cobbles & Boulders		Drillers Observation: Apparent Bedrock			
		501.4			
SILTY LOAM-gray-very dense (A-4)		SILTY CLAY LOAM-gray-dense to very dense (A-4)			
				27 114	
				26 114	
				29 2.98 14	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

2/21/12 PM

3/29/2013

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II
STRUCTURE NO. 016-2470
SHEET NO. S-40 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	415
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



ROCK CORE LOG

PAGE 1 of 1
 DATE 12/22/2010
 LOGGED BY DR
 GSI JOB No. 10023

ROUTE FAL 94 @ FAP 341 DESCRIPTION I-94/Stony Island Feeder Interchange Improvements #P-91-184-10
 SECTION 1212B-1 LOCATION SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.
 COUNTY Cook CORING METHOD Roller Wash Auger/Rotary
 STRUCT. NO. SN 016-2436 CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____ Core Diameter 2.0 in
 BORING NO. S36-B Top of Rock Elev. 502.4
 Northing 817+72 Begin Core Elev. 501.4
 Easting 11.5' Right
 Ground Surface Elev. 602.4

DEPTH (ft)	CORE RETRUN (#)	RECOVERY (%)	R.Q.D. (%)	CORRECTION (min /ft)	STRENGTH (tsf)
501.4	1	93.0	92.0	n/a	XX

RUN 1 (-101.0' to -111.0')
 Silurian System Niagaran Series Dolomite
 Light gray to gray & fine grained with horizontal bedding.



Color pictures of the cores YES _____ Cores will be stored for examination for XX
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

2/21/45 PM

3/29/2013

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS III
 STRUCTURE NO. 016-2470

SHEET NO. S-41 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	416
CONTRACT NO. 60J12				

ILLINOIS FED. AID PROJECT

SOIL BORING LOG		PAGE 1 of 3	
Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838			
ROUTE <u>FAL 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u> HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>	
Station <u></u>		Stream Bed Elev. <u>n/a</u>	
BORING NO. <u>S36-C</u>		Groundwater Elevation:	
Station: <u>819+49</u>		First Encounter <u>n/a</u>	
Offset: <u>22.0' Left</u>		Upon Completion <u>n/a</u>	
Ground Surface Elev. <u>620.0</u>		After _____ Hrs. <u></u>	
DEPTH (ft)	BLOW COUNT (blows/ft)	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)
2.0" ASPHALT, 2.0" CONCRETE			
10.0" CRUSHED STONE <u>618.8</u>			
4			113
3			10
3	3.8B	17	9 3.5P 17
CLAY LOAM—brown & gray—stiff to very stiff (A-6) Fill			
5			108
6			4
6	2.9B	20	5
5			108
6			4
7	3.1B	21	12
CLAYEY SAND—dark brown & gray—medium dense (A-2) Fill			
594.0			
4			102
6			3
7			4
7	2.0B	19	7 1.0B 24
CLAYEY SAND—dark brown—medium dense (A-2) Fill			
610.0 -10			
6			3
7			4
8	NP	20	7 1.0B 22
CLAY LOAM—brown & gray—stiff (A-6) Apparent Fill			
606.0			
5			102
5			4
7	1.4B	18	7 1.0B 22
CLAY LOAM—brown & gray—stiff to very stiff (A-6) Fill			
5			107
8			4
7	2.3B	21	7 1.0B 22
CLAY LOAM—brown & gray—stiff to very stiff (A-6) Fill			
582.0			
4			113
5			3
7			4
9	2.8B	18	7 1.0B 22
CLAY LOAM—gray—medium stiff to very stiff (A-6)			
563.0			
6			114
8			4
10	2.7B	16	7 1.0B 22
CLAY LOAM—gray—very stiff to hard (A-6)			
520.0			
11			128
17			4
14			118
14			4
20	6.9B	13	7 1.0B 22

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B= Bulge, S= Shear, P= Penetrometer) ST= Shelby Tube Sample VS= Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR= No Recovery

SOIL BORING LOG		PAGE 2 of 3	
Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838			
ROUTE <u>FAL 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u> HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>	
Station <u></u>		Stream Bed Elev. <u>n/a</u>	
BORING NO. <u>S36-C</u>		Groundwater Elevation:	
Station: <u>819+49</u>		First Encounter <u>n/a</u>	
Offset: <u>22.0' Left</u>		Upon Completion <u>n/a</u>	
Ground Surface Elev. <u>620.0</u>		After _____ Hrs. <u></u>	
DEPTH (ft)	BLOW COUNT (blows/ft)	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)
CLAY—gray—medium stiff to very stiff (A-6)			
3			110
4			6
4	1.5B	20	9 3.6B 15
CLAY LOAM—gray—very stiff to hard (A-6)			
4			110
6			9
9	2.2B	20	17 127
CLAY LOAM—gray—very stiff to hard (A-6)			
520.0			
6			114
8			4
10	2.7B	16	7 1.0B 22
CLAY LOAM—gray—very stiff to hard (A-6)			
520.0			
11			128
17			4
14			118
14			4
20	6.9B	13	7 1.0B 22

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B= Bulge, S= Shear, P= Penetrometer) ST= Shelby Tube Sample VS= Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR= No Recovery

SOIL BORING LOG		PAGE 3 of 3	
Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amphlett Court, Suite 204 Naperville, Illinois 60565 (630) 355-3838			
ROUTE <u>FAL 94 @ FAP 341</u>		DESCRIPTION <u>I-94/Stony Island Feeder Interchange Improvements #P-91-184-10</u>	
SECTION <u>1212B-1</u>		LOCATION <u>SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M.</u>	
COUNTY <u>Cook</u>		DRILLING METHOD <u>Hollow Stem Auger/Rotary</u> HAMMER TYPE <u>CME Automatic</u>	
STRUCT. NO. <u>SN 016-2436</u>		Surface Water Elev. <u>n/a</u>	
Station <u></u>		Stream Bed Elev. <u>n/a</u>	
BORING NO. <u>S36-C</u>		Groundwater Elevation:	
Station: <u>819+49</u>		First Encounter <u>n/a</u>	
Offset: <u>22.0' Left</u>		Upon Completion <u>n/a</u>	
Ground Surface Elev. <u>620.0</u>		After _____ Hrs. <u></u>	
DEPTH (ft)	BLOW COUNT (blows/ft)	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)
CLAY LOAM—gray—very stiff to hard (A-6)			
12			122
15			6
15	4.9B	13	9 3.6B 15
CLAY LOAM—gray—very stiff to hard (A-6)			
520.0			
11			120
18			9
18	4.0B	11	17 127
CLAY LOAM—gray—very stiff to hard (A-6)			
520.0			
10			113
19			4
27	3.0B	18	7 1.0B 22
CLAY LOAM—gray—very stiff to hard (A-6)			
520.0			
10			118
14			4
14			118
14			4
24	4.6B	15	7 1.0B 22

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B= Bulge, S= Shear, P= Penetrometer) ST= Shelby Tube Sample VS= Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR= No Recovery

2/21/15 2 PM

3/29/2013

S:\1072_05_CADD\Structure\1\SN_0162470\CADD_Sheets\0162470-60J12-042-5884.dgn

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 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
 www.bbainc.com

USER NAME =	DESIGNED - TL	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN - TL	REVISED -
	CHECKED - BAK	REVISED -

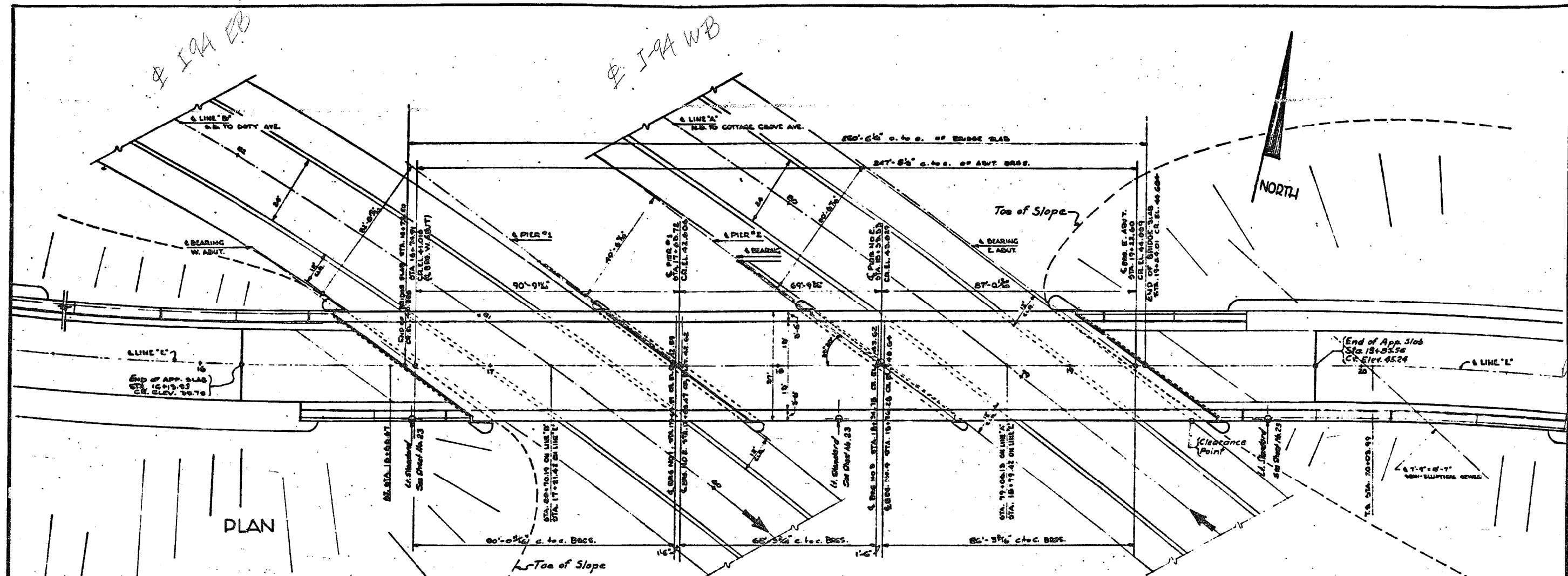
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS IV
 STRUCTURE NO. 016-2470
 SHEET NO. S-42 OF S-53 SHEETS

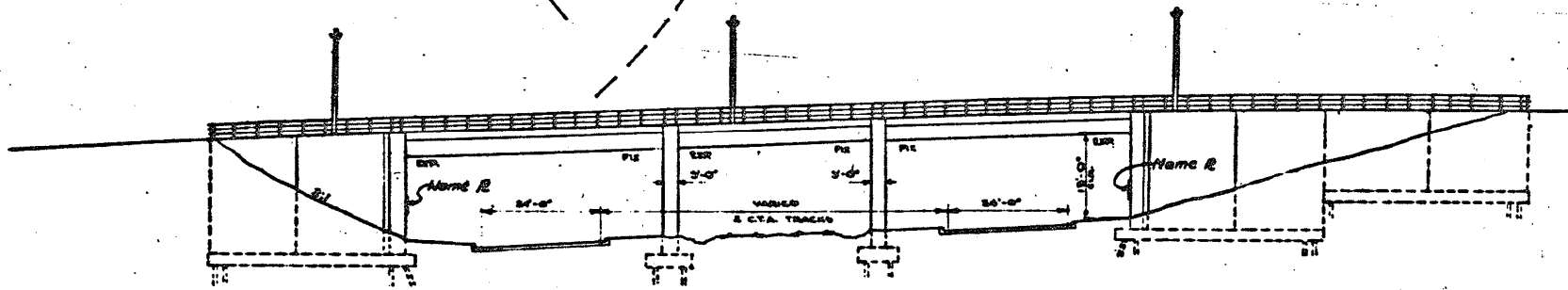
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	417
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

Φ I-94 EB

Φ I-94 WB



PLAN



ELEVATION

GENERAL NOTES:

- EXPOSED SURFACES OF CONCRETE ARE TO BE TREATED WITH SILICONES & SEE SPECIAL PROVISIONS.
- ALL PILES IN THE APPROACH SLAB PILE BENT SHALL BE DRIVEN TO ATTAIN A MINIMUM PENETRATION OF 10'-0" INTO A STRATUM OF SOLID MATERIAL, REGARDLESS OF BEARING CAPACITY DEVELOPED.
- FINISHING OF FLOOR SLAB SHALL COMPLY WITH ARTICLE 91.19 OF THE STANDARD SPECIFICATIONS.
- THE COST OF RUBBER WATERSEAL, COPPER NAILS, AND BITUMINOUS PREMOULDED JOINT FILLER SHALL BE INCLUDED IN THE BID PRICE OF CLASS X CONCRETE. THE RUBBER WATERSEAL SPLICES SHALL BE MADE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- CLASS X CONCRETE SHALL BE USED THROUGHOUT.
- THE CONTRACTOR SHALL ADEQUATELY SUPPORT, BRACE, AND PROTECT THE RUBBER WATERSEAL AND BITUMINOUS PREMOULDED JOINT FILLER DURING CONSTRUCTION, SO THAT THE RUBBER WATERSEAL DOES NOT BECOME BENT, TORN, OR DISTORTED. THE CONTRACTOR'S METHOD OF SUPPORTING, BRACING, AND PROTECTING THE RUBBER WATERSEAL AND BITUMINOUS PREMOULDED JOINT FILLER SHALL BE APPROVED BY THE ENGINEER.
- HOLES FOR PILES IN ABUTMENTS, WINGS AND PIERS & APPROACH SLAB BENT WILL BE PREDRILLED TO ORIGINAL GROUND LINE BEFORE PILES ARE DRIVEN.

DESIGN DATA

DESIGN LOADS AASHTO HS20-44
 DESIGN STRESS
 EARTH PRESSURE 20' FLUID
 STRUCTURAL STEEL 18,000 psi
 REINFORCING BARS 60,000 psi
 CONCRETE (NORMAL WEIGHT) 4,000 psi
 CONCRETE (WITH FIBER) 5,000 psi
 n = 10 ; n = 30

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

DANIEL RYAN
 ASSISTANT CHIEF OF ENGINEERS

WILLIAM J. MORTIMER
 SUPERVISOR OF HIGHWAYS

GENERAL PLAN
 EAST BOUND STONY ISLAND CONNECTOR
 OVER
 SOUTH ROUTE EXPRESSWAY

PROJECT 81-05-060-05
 SCALE 1/4" = 1'-0"
 CHECKED E.S.C. [Signature]
 APPROVED [Signature]

DATE: May 19, 2010
 DRAWN: [Signature]

F.A.I. COUNTY SHEET NO. 3 37 52 4275
 1913.5-C.F.

REVISIONS		
DATE	BY	DESCRIPTION

2/21/06 PM

3/29/2013

SA1072.05.CADD.Structure.dwg 0162470.CADD Sheets 0162470-60J12-043-FY01.dwg

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REVISED -
 REVISED -
 REVISED -
 REVISED -

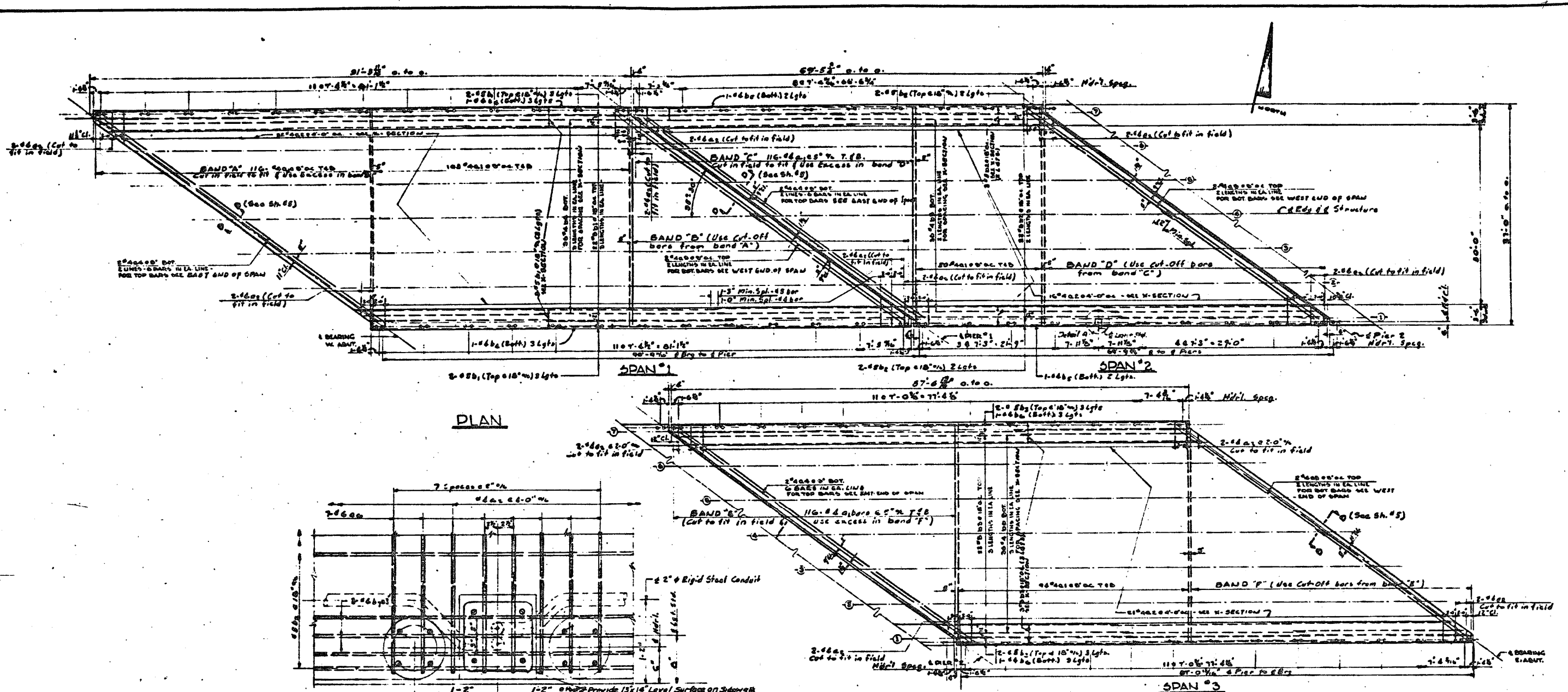
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2470

SHEET NO. S-43 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	418
CONTRACT NO. 60J12				

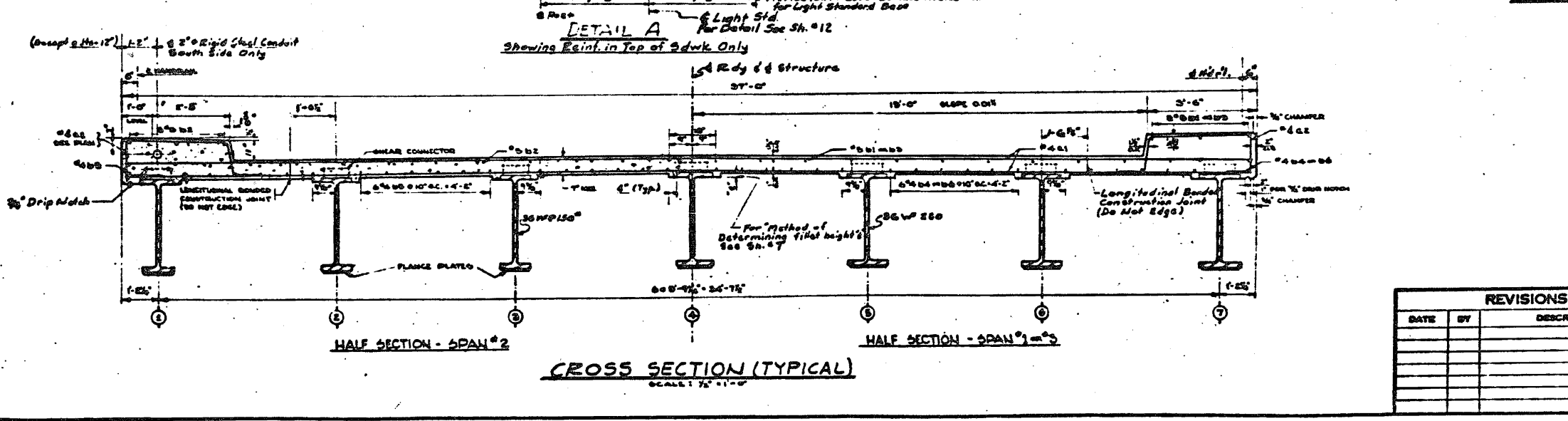
ILLINOIS FED. AID PROJECT



BILL OF MATERIAL

Reinforcement Bars	Lbs. 45,930
Class 'X' Concrete	Cu. Yds 317.5
2" Rigid Steel Conduit	Lin. Ft. 260

NOTES
 For Details of Handrail, See Sl. # 11 & 12
 For Light Standard Details, See Sl. # 12
 For Bar List, See Sl. # 28
 For Sections B-D, D-D, & Corner Details, See Sl. # 5
 For Details of Expansion Devices at Piers & Abutments
 See Sl. # 9 & 10



REVISIONS

DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

DANIEL RYAN
 COUNTY ENGINEER

WILLIAM J. MORTIMER
 COUNTY ENGINEER

SUPERSTRUCTURE CONCRETE DETAILS
EAST BOUND STONY ISLAND CONNECTOR
 OVER
SOUTH ROUTE EXPRESSWAY

PROJECT 016-2470 (S-44) 113
 SCALE As Noted
 DRAWN By [Signature]
 CHECKED By [Signature]
 APPROVED May 15 1960
 [Signature]

DATE	BY	DESCRIPTION

90 060-1818 C.P. 4 37 52 428-5

2/22/01 PM
 3/29/2013
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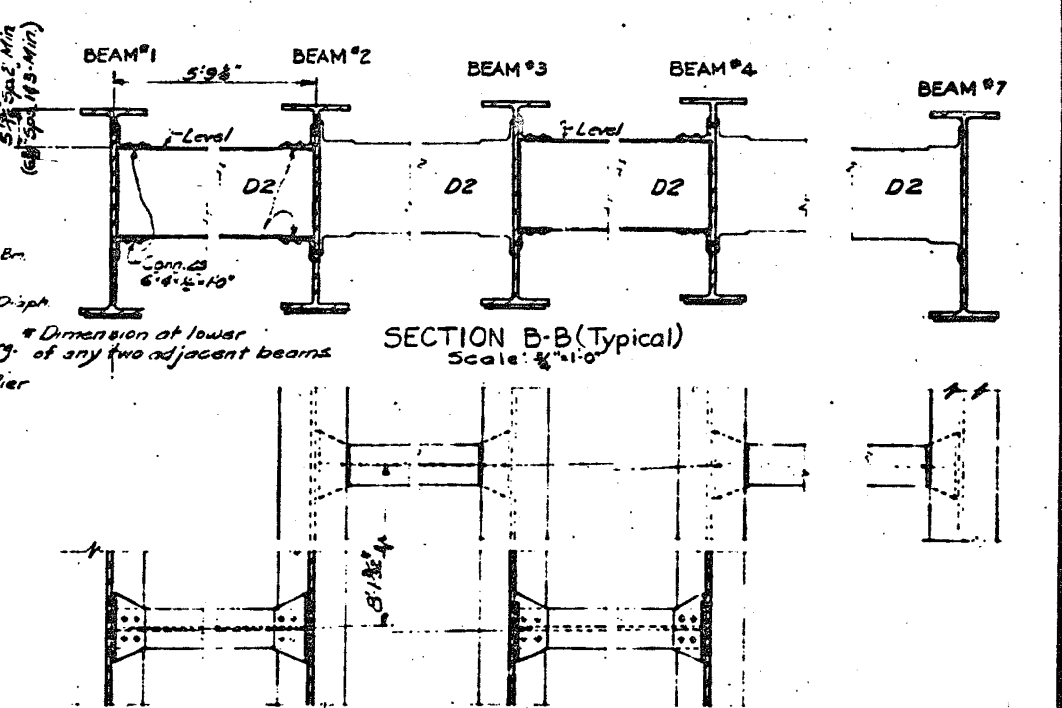
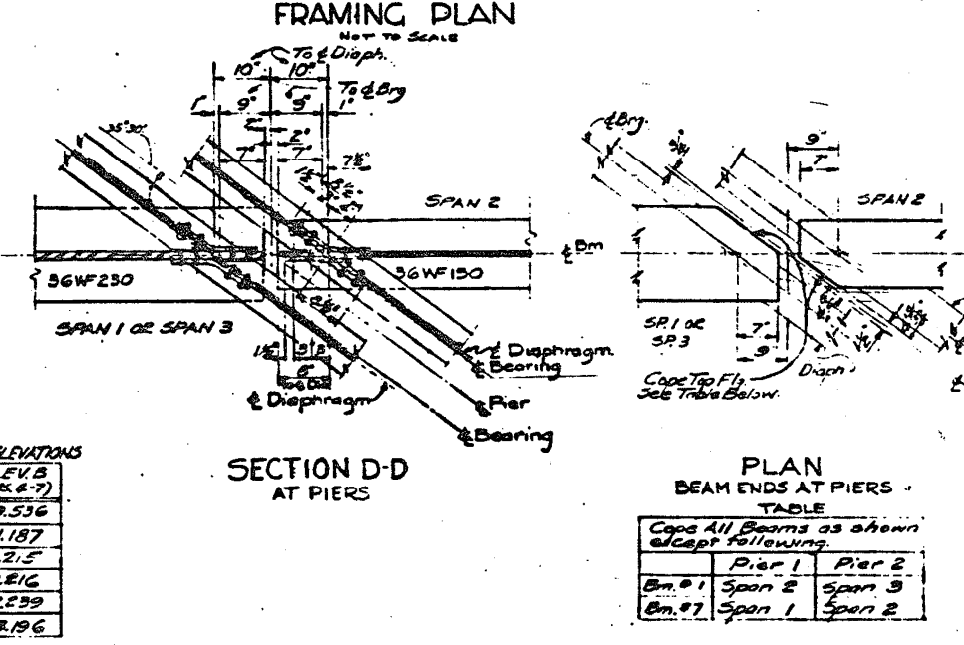
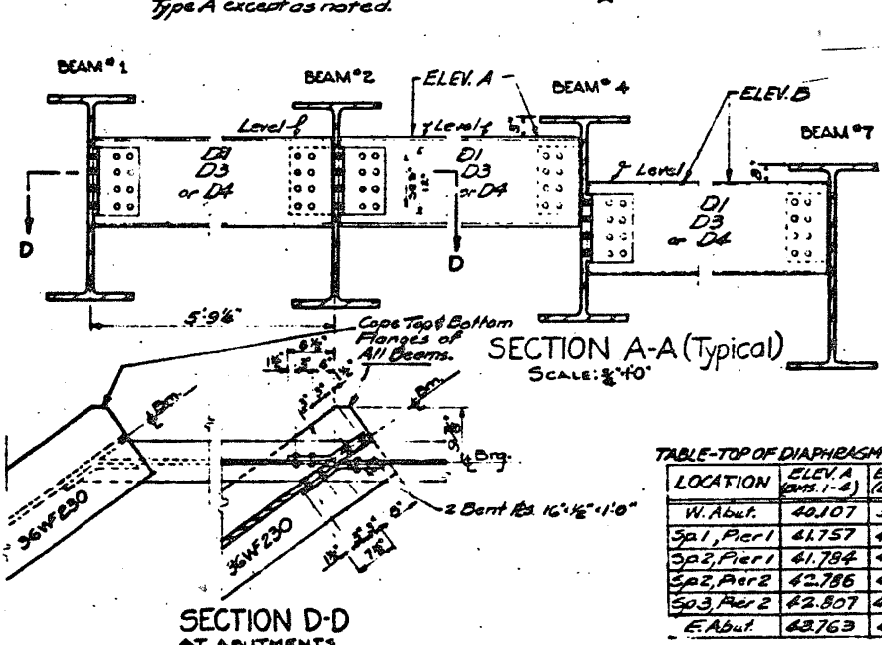
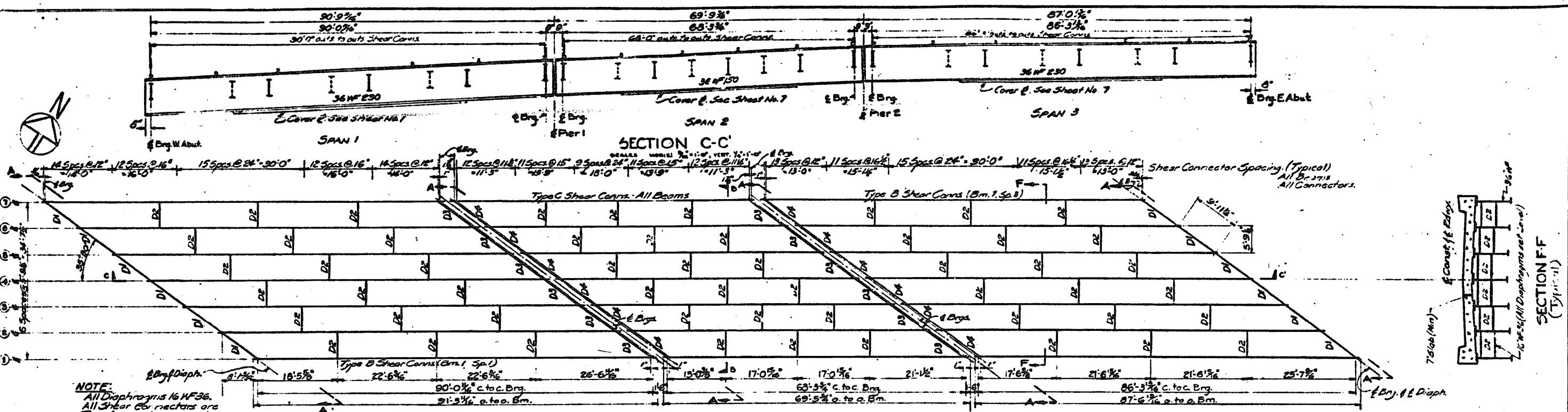
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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

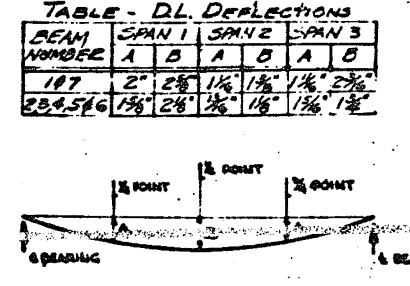
EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2470
 SHEET NO. S-44 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	419
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



STRUCTURAL STEEL NOTES

Structural Steel shall be carbon steel and shall conform to A.S.T.M.-A7 Specifications, amended to date. Rivets for W-beams shall be 3/4" with 1/2" popenholes. All shop connections shall be riveted. Field connections shall be riveted except where inaccessibility prohibits driving of rivets high strength steel bolts shall be used. See Article 507 of the Standard Specifications. Welding shall conform to the Specifications of the American Welding Society for Highway and Railway Bridges as amended to date. Contact surfaces of shop welded or shop riveted structural steel shall not be painted. See Specifications concerning inaccessible surfaces (Art. 52.4f). Tops of beams that are to have concrete poured in contact with them shall not be painted. The Structural Steel shall be given one shop coat of red lead paint and two field coats of aluminum paint. Shear Connectors shall not be painted. Structural Steel shall be inspected by the Illinois Division of Highways before painting.



See Shts. 04 & 10 for Location of Expansion Device Assembly and required Flange punching of End Diaphragms.

NOTE:
See Sheet No. 7 for additional details & Quantities & Bill of Material.

DEPARTMENT OF HIGHWAYS
SOUTH ROUTE EXPRESSWAY

COMPUTED BY: [Signature] PROJECT: 21-90-5(60)-113
DRAWN BY: [Signature] SCALE: As Noted
CHECKED BY: [Signature] APPROVED: [Signature]

DATE	BY	DESCRIPTION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	420

CONTRACT NO. 60J12

ILLINOIS FED. AID PROJECT

2/22/05 PH
 3/29/2013
 SA1072.05.CADD.STRUCTURE-11 SN 0162470.CADD Sheets 062470-66J12-045-F103.dgn

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USER NAME	DESIGNED	REVISIONS
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PLOT SCALE	DRAWN	REVISIONS
PLOT DATE = 03/29/2013	CHECKED	REVISIONS

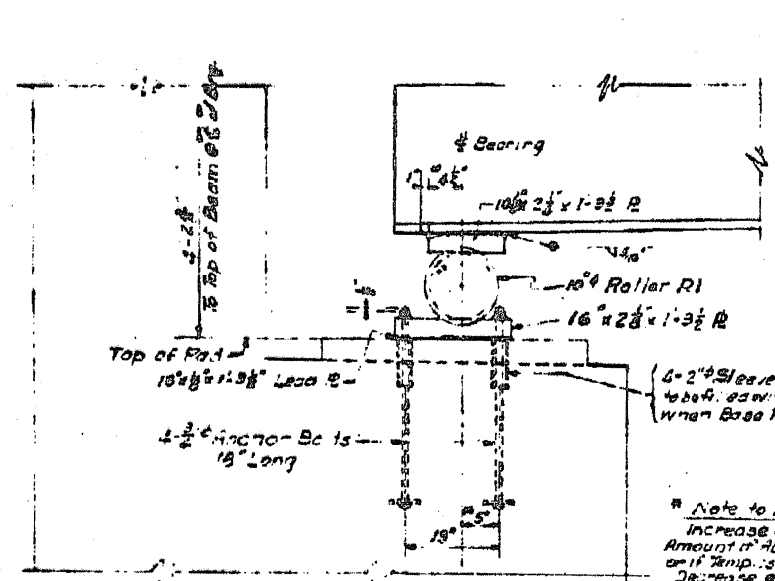
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2470
SHEET NO. S-45 OF S-53 SHEETS

2/22/09 PM

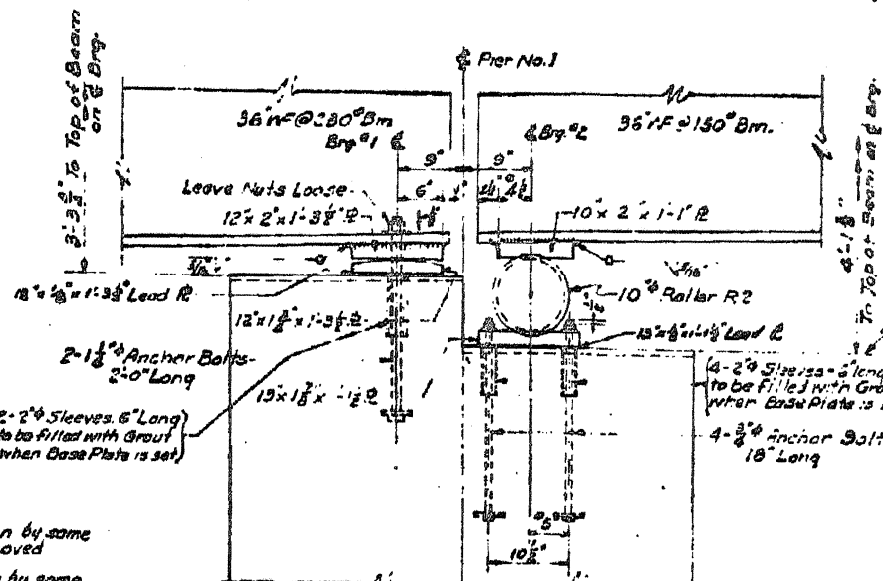
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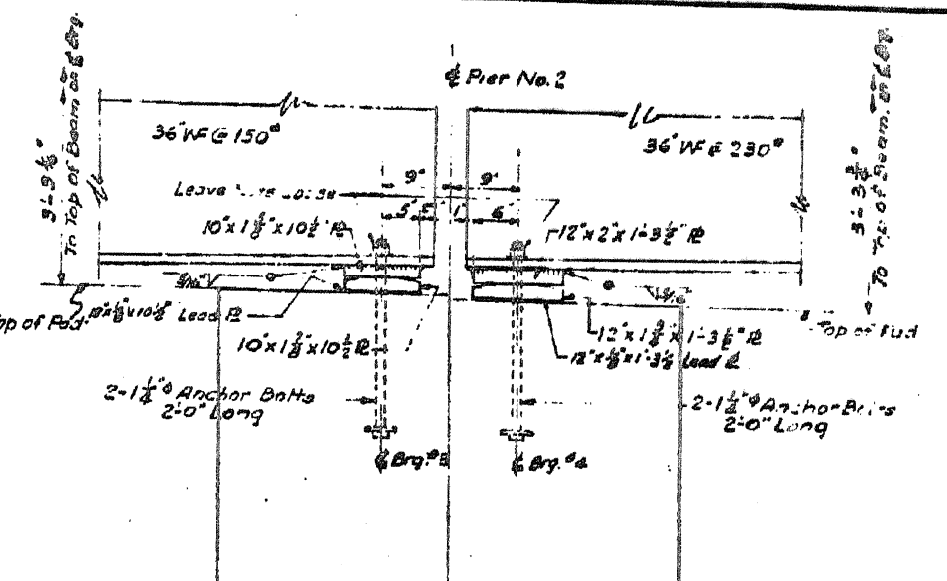


SECTION THRU ABUTMENT

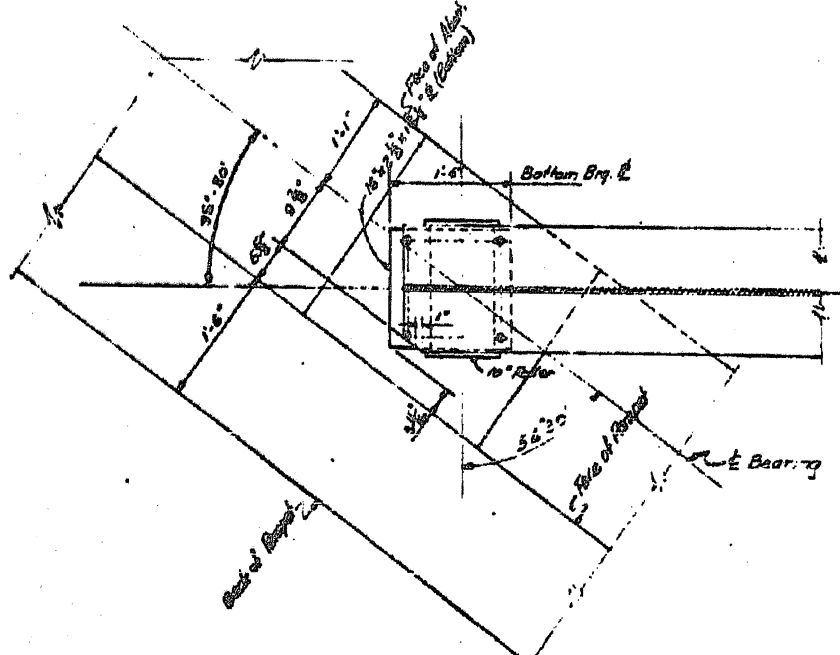
Note to Erector
 Increase each dimension by some amount if Abutment has moved or if Temp. is over 50°F
 Decrease each dimension by some amount if Temp. is below 50°F.



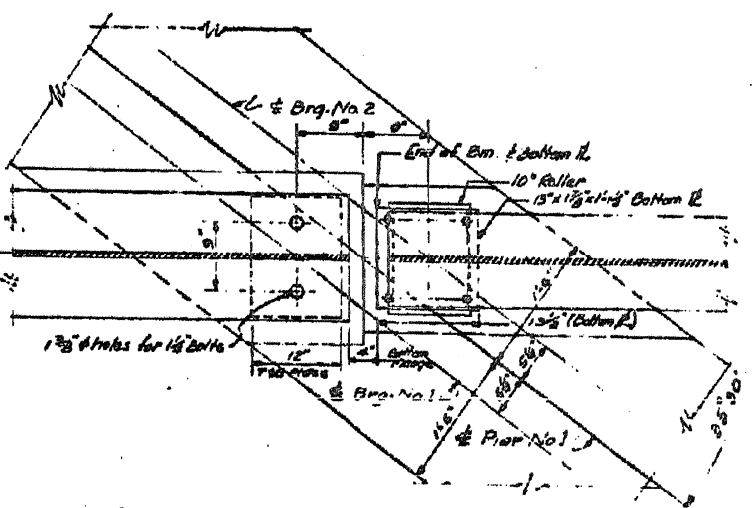
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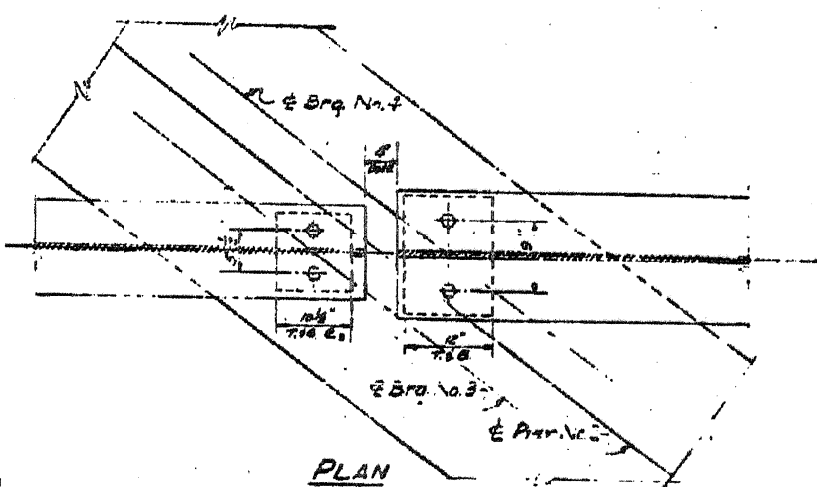
SECTION THRU PIER No. 2



PLAN

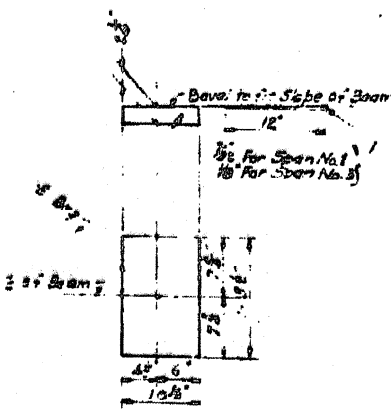


PLAN

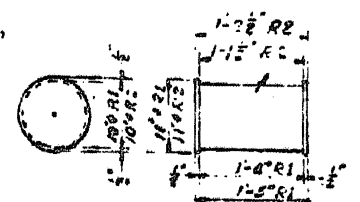


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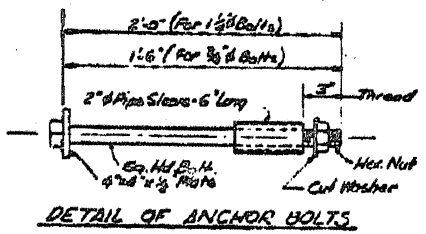
GENERAL NOTES:-
 Rollers shall be turned down from a solid bar. For all plates in contact with the Rollers the edges adjacent to the Rollers shall be square, rolled or finished.
 Weights of rollers, steel plates, sleeves, lead plates and anchor bolts are included in weight of furnishing & erecting Structural Steel (Sheet No. 1.)



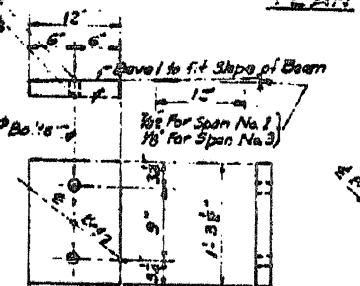
DETAIL OF TOP PLATE



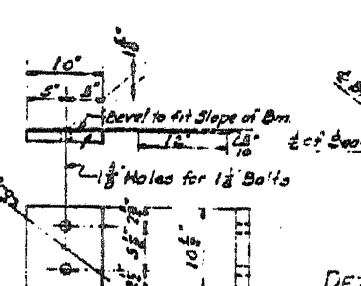
DETAIL OF ROLLER



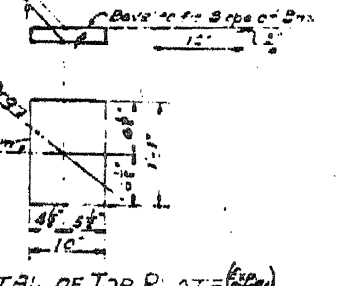
DETAIL OF ANCHOR BOLTS



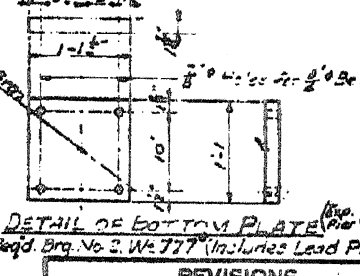
DETAIL OF TOP PLATE (Pier No. 1)



DETAIL OF TOP PLATE (Pier No. 2)



DETAIL OF BOTTOM PLATE (Pier No. 1)



DETAIL OF BOTTOM PLATE (Pier No. 2)

DATE	BY	DESCRIPTION

ITEM	SIZE	NO REQ'D	WEIGHT
ANCHOR BOLTS	1 1/2" dia	22	400 150
ANCHOR BOLTS	3/4" dia	87	215 150
PLATES	4" x 18"	126	286 160
PIPE SLEEVES	2" dia x 6"	126	230 150
CUT WASHERS	1/2"	126	26 150
WEIGHT OF ROLLERS & PLATES			16,591 150
Furnishing & Erecting Structural Steel (This Sheet)			15,855 150

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS
 DANIEL BYRAN
 WILLIAM J. MORTIMER
 ROLLERS & BEARING PLATES
 EAST BOUND STONY ISLAND CONNECTOR
 OVER
 SOUTH ROUTE EXPRESSWAY

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2470

SHEET NO. S-46 OF S-53 SHEETS

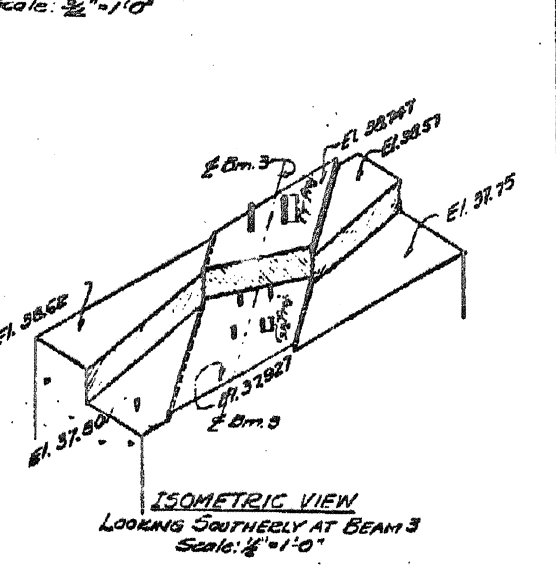
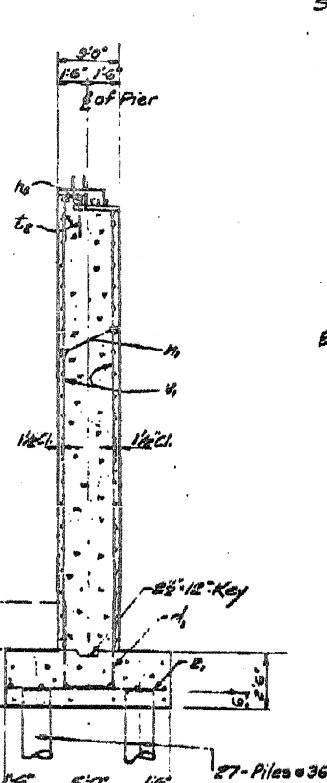
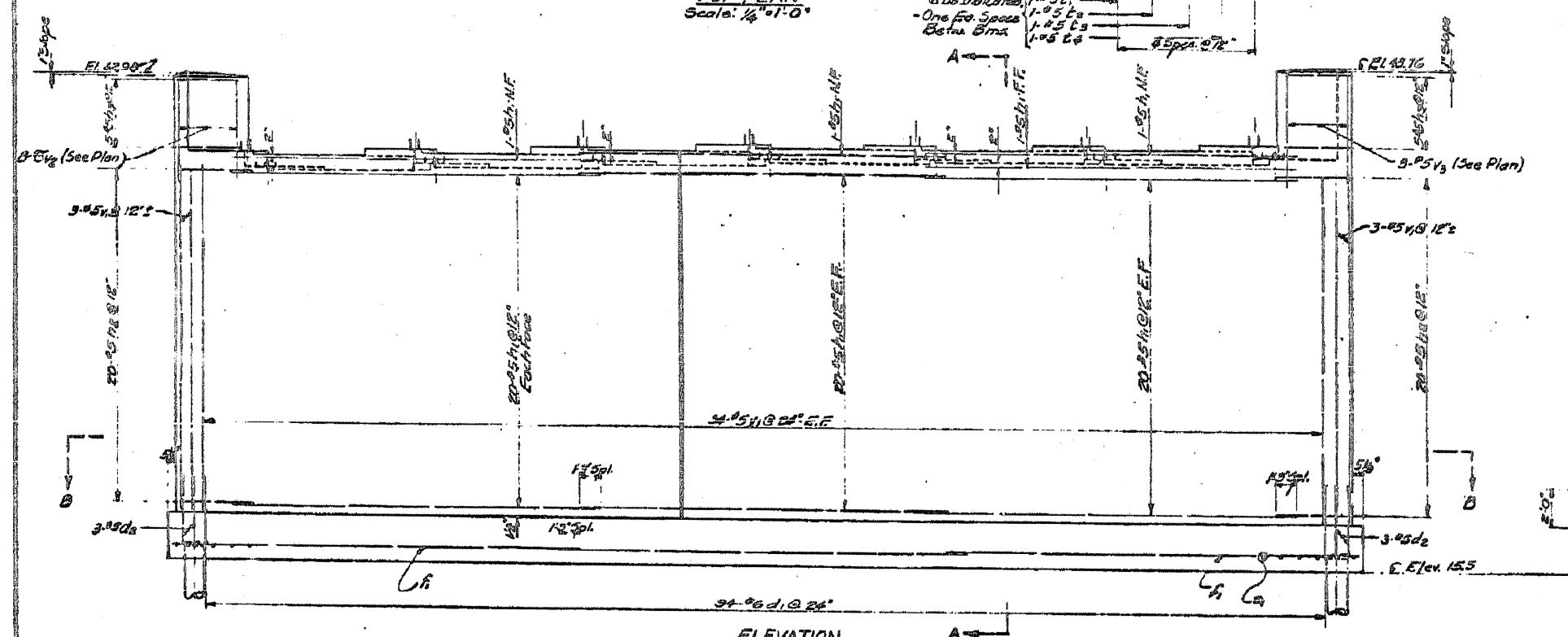
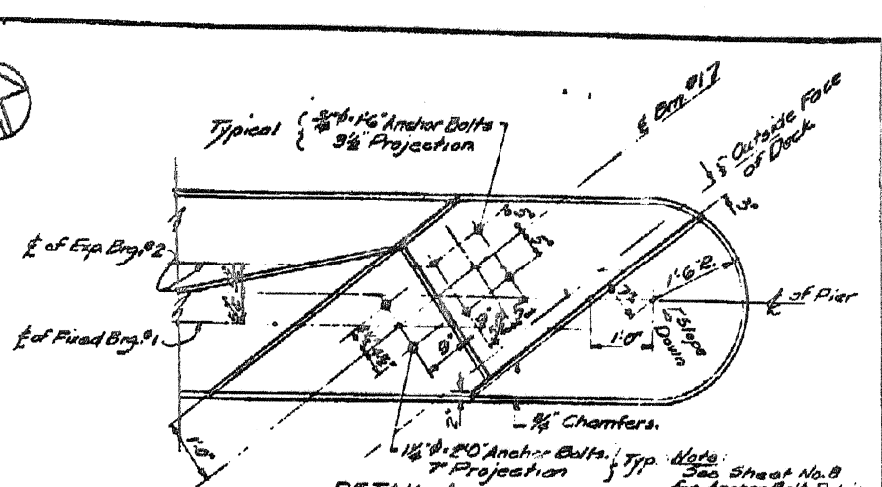
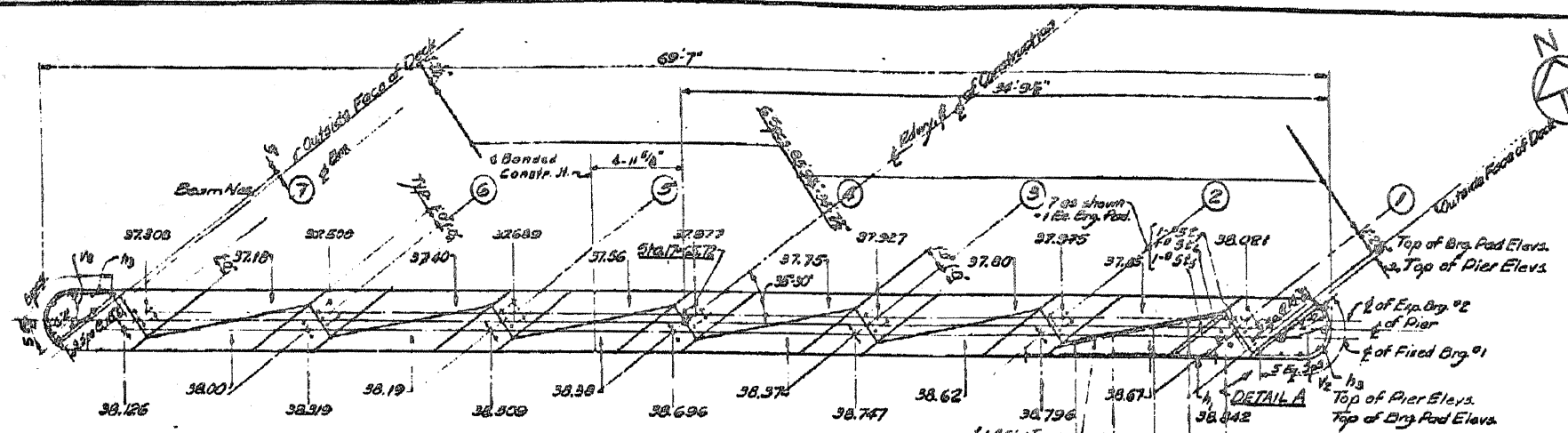
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	421
				CONTRACT NO. 60J12

ILLINOIS FED. AID PROJECT

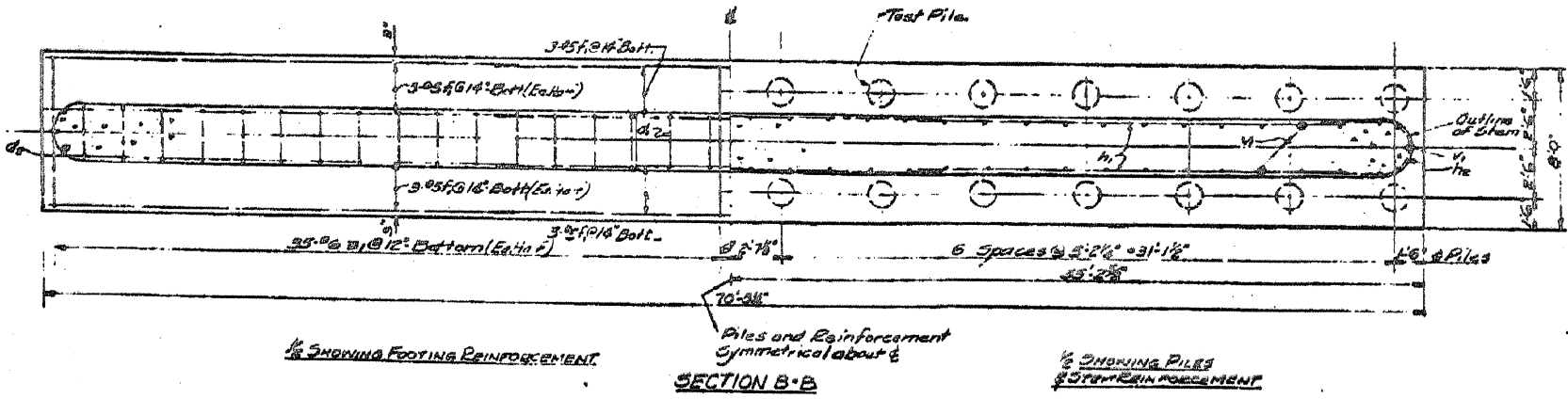
2/22/15 PM

3/29/2013

SA:1072_05_CADD_S-true.ctb SN:0162470_CADD_Sheets\062470-60J12-047-F05.dgn 3/29/2013



NOTE: Concrete Bearing Pads shall be cast integrally with Pier. Top of Bearing Pads shall be constructed exactly to the elevations shown. If bush hammering or grinding is necessary, it shall be done at no additional cost to this County. See Sheet Notes for Pile Details. See Sheet No. 28 for Bar List & Bar Details.



BILL OF MATERIAL	
Glass X Concrete	Cu Yds. 206.8
Reinforcement Bars	Lbs. 7120
Test Piles	Each 1
Existing Piles	Lin Ft 789
Driving or Drilling & Filling Piles	Lin Ft 783

DEPARTMENT OF HIGHWAYS	
COOK COUNTY, ILLINOIS	
DESIGNED BY: DANIEL RYAN	PROJECT ENGINEER: WILLIAM J. MORTIMER
PIER NO. 1 - DETAILS	
EAST BOUND STONY ISLAND CONNECTOR	
OVER SOUTH ROUTE EXPRESSWAY	
COMPUTED BY: [Signature]	PROJECT # 90-5(60)-113
DRAWN BY: [Signature]	SCALE AS NOTED
CHECKED BY: [Signature]	APPROVED BY: [Signature]
DATE: 90	DATE: 06/19/93
	DATE: 13
	DATE: 31
	DATE: 28
	DATE: 437-5

REVISIONS		
DATE	BY	DESCRIPTION

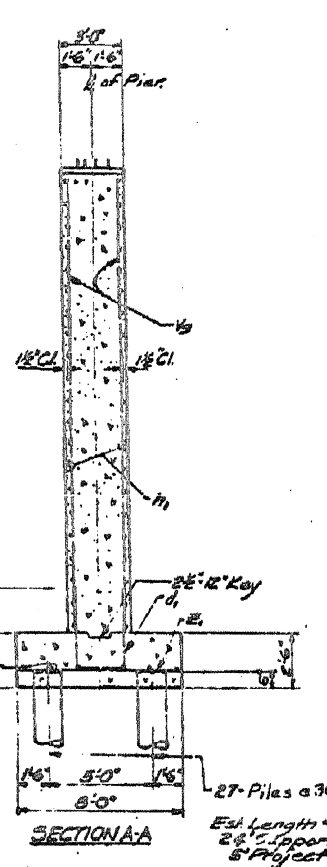
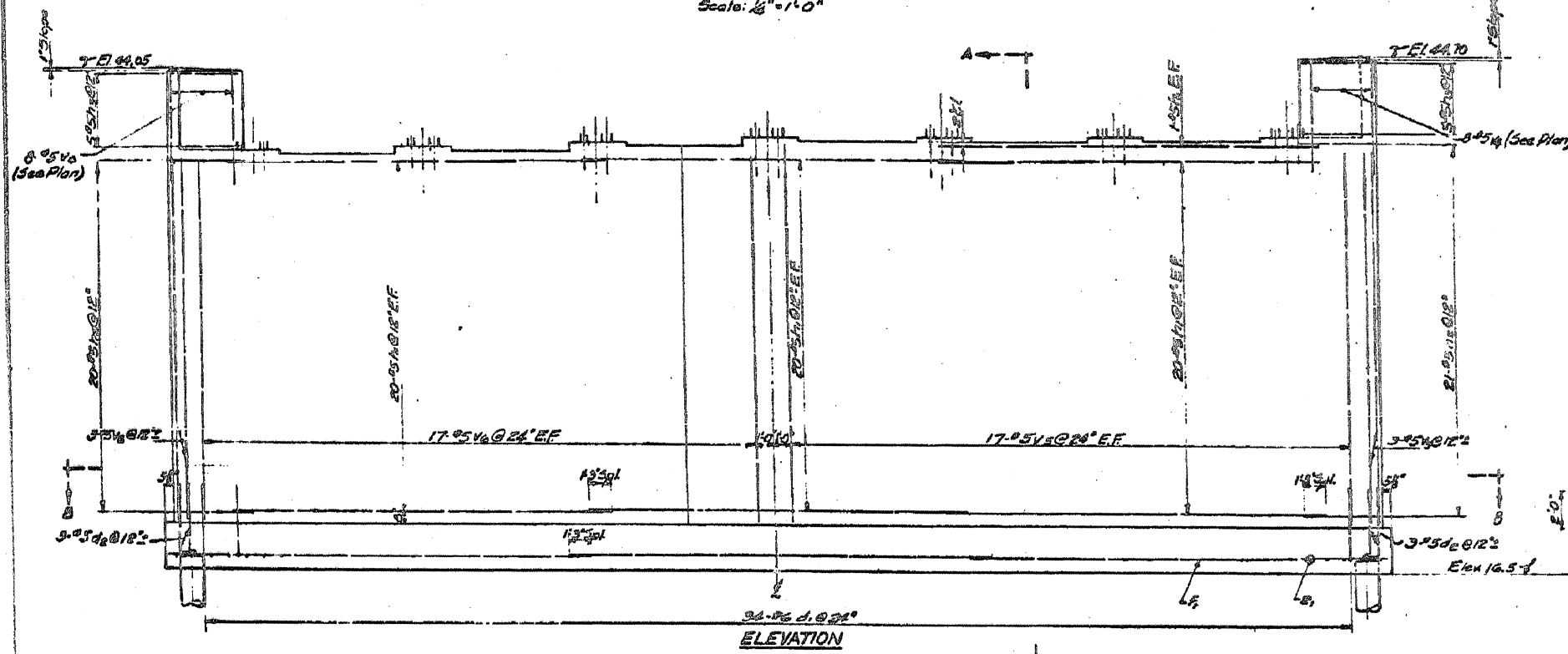
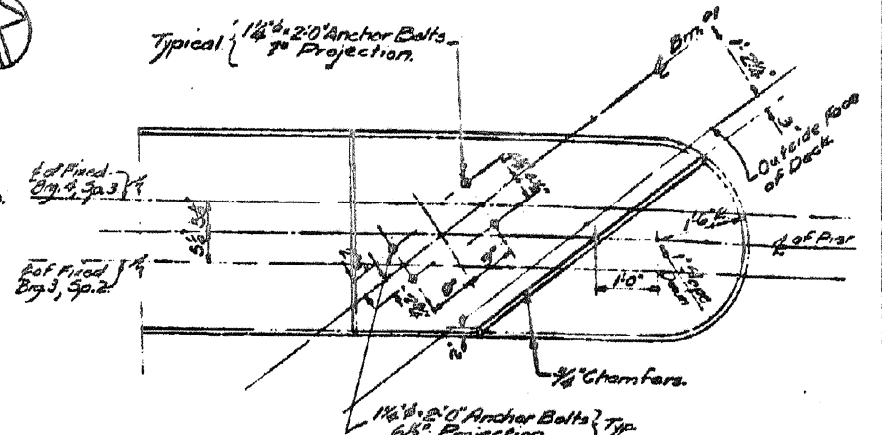
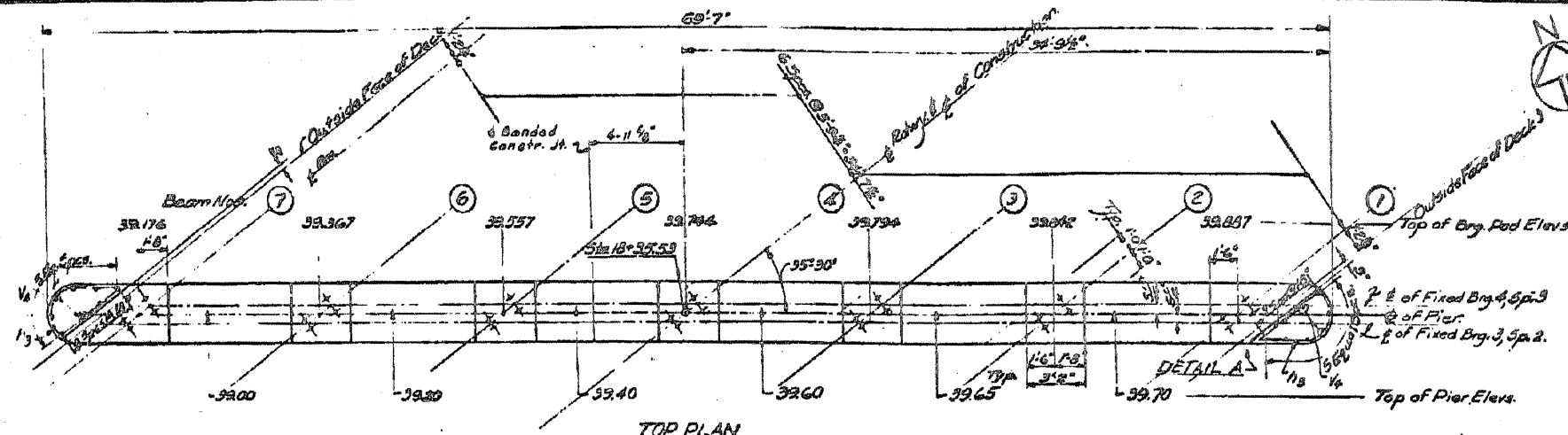
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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

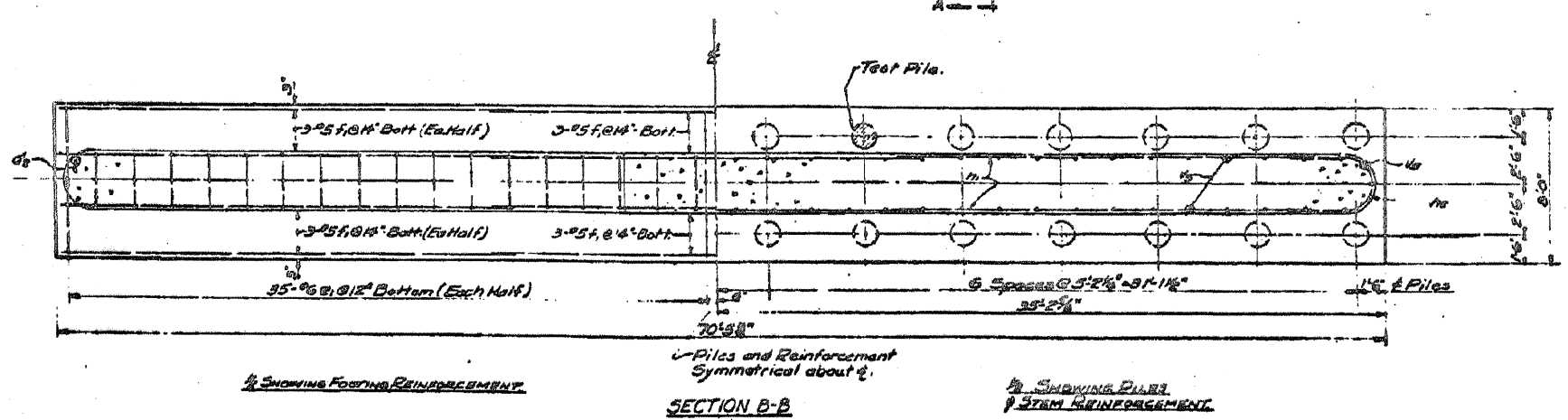
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2470
SHEET NO. S-47 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	422
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



NOTE:
 See Sheet No. 29 for Pile Details.
 See Sheet No. 28 for Bar List & Bar Details.
 Concrete Bearing Pads shall be cast integrally with Pier.
 Top of Bearing Pads shall be constructed exactly to the elevations shown. If bush hammering or grinding is necessary, it shall be done at the additional cost to the County.



BILL OF MATERIAL	
Class A Concrete	Cu. Yds 203.8
Reinforcement Bars	Lbs. 6780
Test Piles	Each 1
Furnishing Piles	Lin Ft. 783
Driving or Drilling & Filling Piles	Lin Ft. 783

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS
 DANIEL RYAN
 WILLIAM J. MORTIMER

PIER NO. 2-DETAILS
EAST BOUND STONY ISLAND CONNECTOR
OVER
SOUTH ROUTE EXPRESSWAY

REVISIONS		
DATE	BY	DESCRIPTION

COMPUTED BY: [Signature]	PROJECT: 016-2470-11A
DRAWN BY: [Signature]	SCALE: As Noted
CHECKED BY: [Signature]	APPROVED BY: [Signature]
DATE: 90	DATE: 90

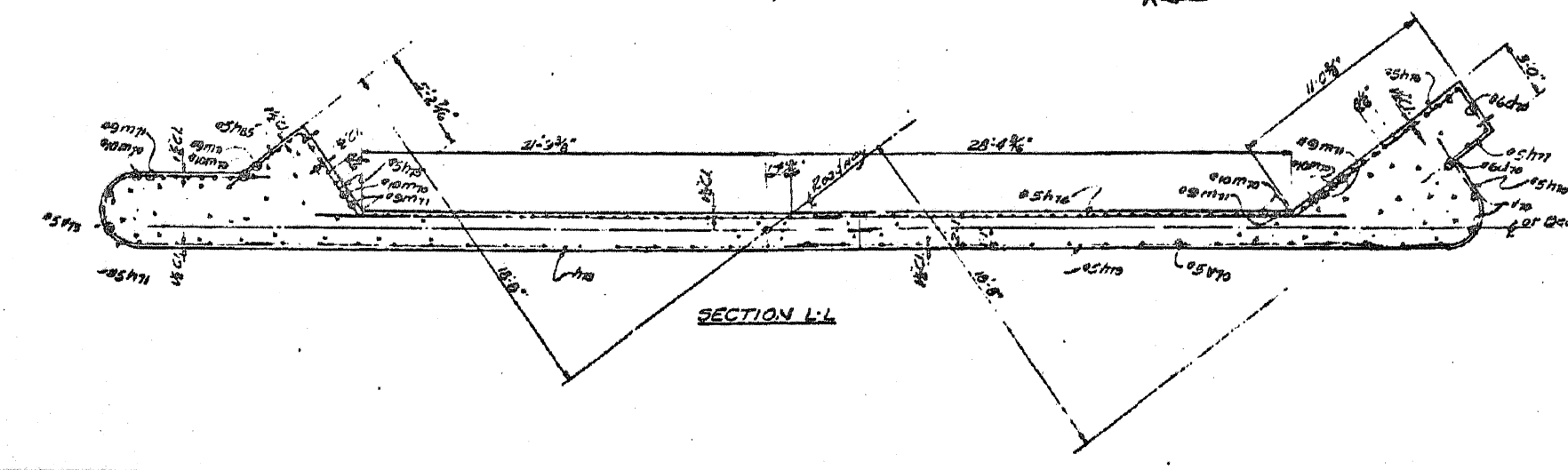
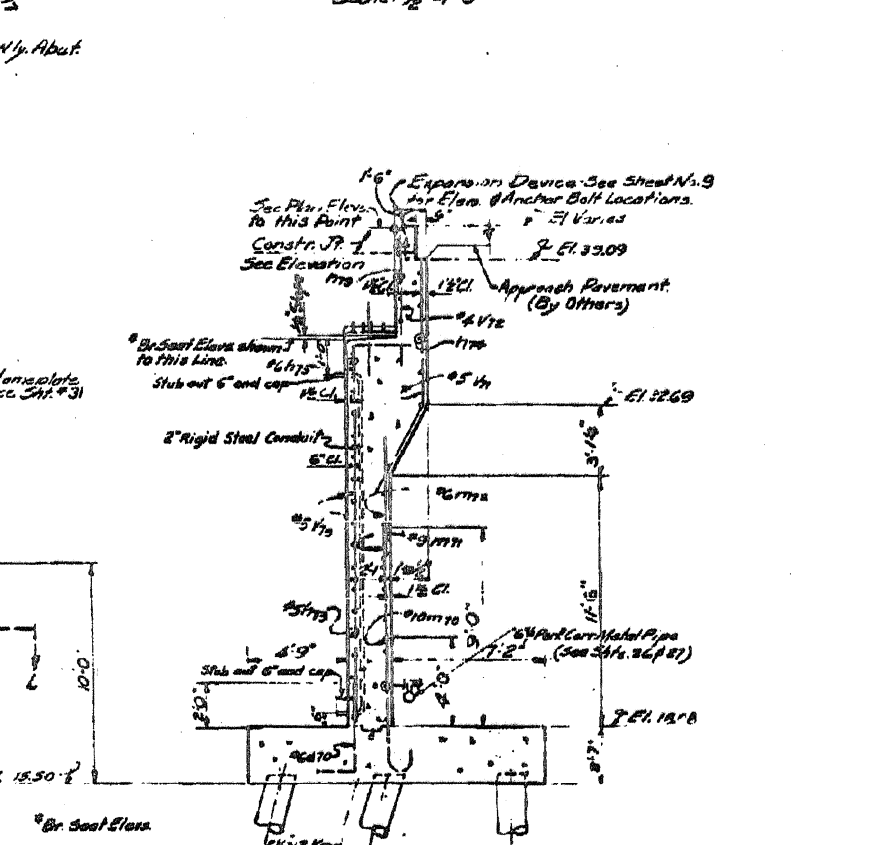
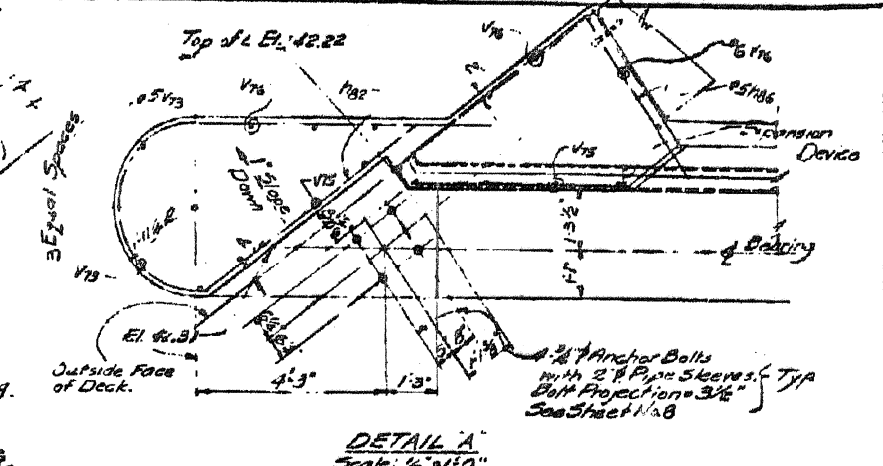
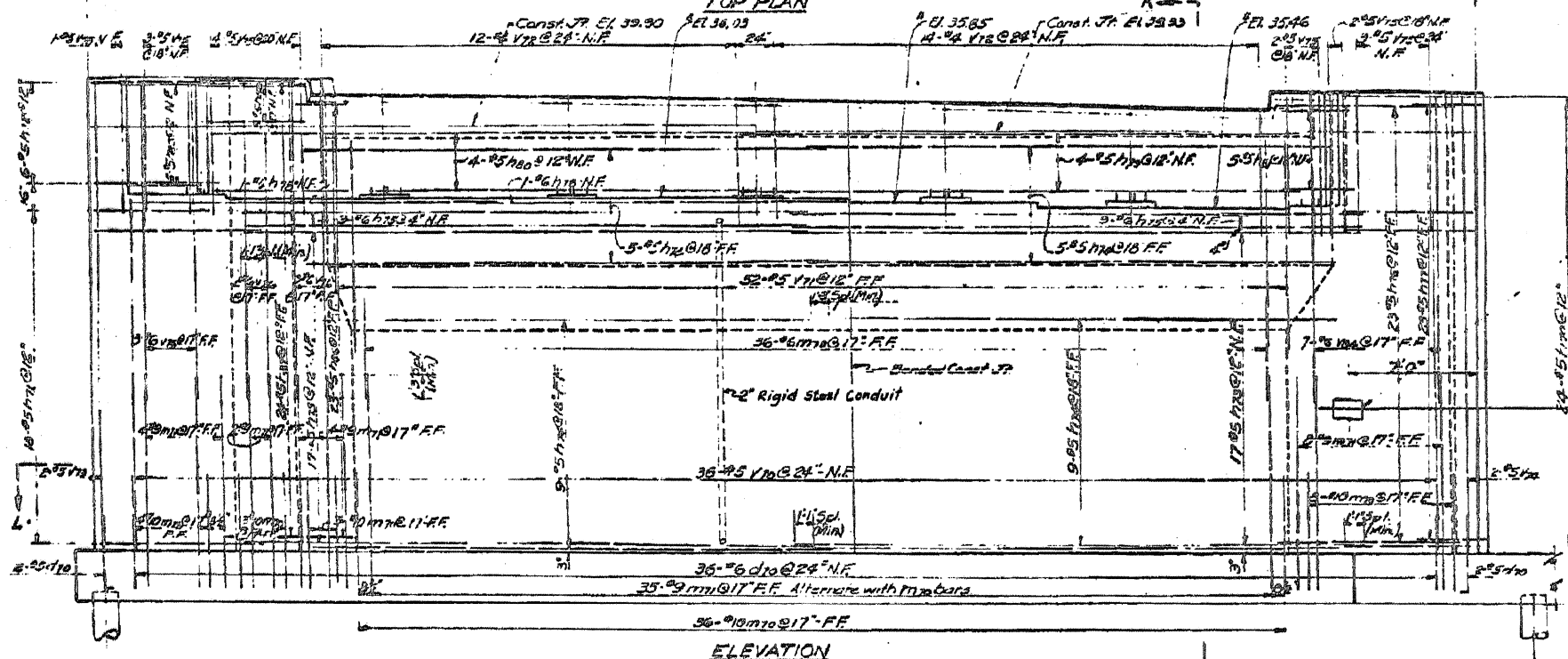
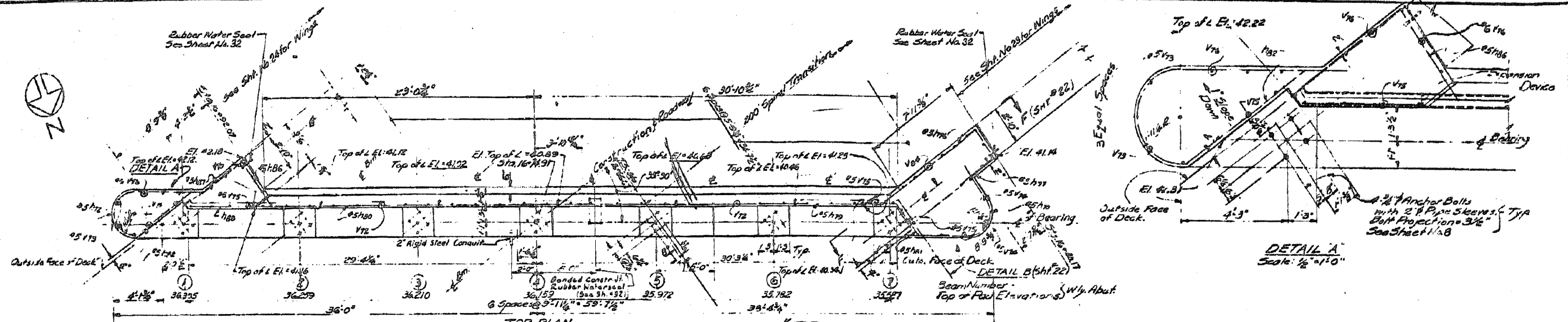
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 CONSULTING ENGINEERS
 Chicago, Illinois
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PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2470

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	423
CONTRACT NO. 60J12				



NOTE:
 For Layout see Sheet No. 15
 For Footing see Sheet Nos. 16, 17 & 18
 For Bill of Materials Bar List see Sht. No. 20
 For Additional Details see Sht. No. 22
 For Wing Walls see Sht. Nos. 23 & 24
 For Bearing Plate Details see Sht. No. 8
 For Exp. Coupling for 2" Rigid Steel Conduit see Sht. No. 23

REVISIONS		
DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS COOK COUNTY, ILLINOIS	
DANIEL RYAN DEPUTY CHIEF OF ENGINEERS	WILLIAM J. BORTNER SUPERVISOR OF HIGHWAYS
WEST ABUTMENT - MAIN WALL EAST BOUND STONY ISLAND CONNECTOR OVER SOUTH ROUTE EXPRESSWAY	
COMPUTED BY: [Signature]	PROJECT B.T. 90-5(60)-113
DRAWN BY: [Signature]	SCALE: 1/4" = 1'-0"
CHECKED BY: [Signature]	APPROVED: [Signature]
APPROVED: [Signature] 11/14/10	F.A.I. 90-5(60)-113
DATE: 11/13/10	31 2012-5

2/22/2013 3:29/2013
 SA:1072_05_CADD_STRUCTURE.dwg 0162470.CADD Sheets:062470-66012-049-F:07.dgn

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PLOT DATE = 03/29/2013	DRAWN -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

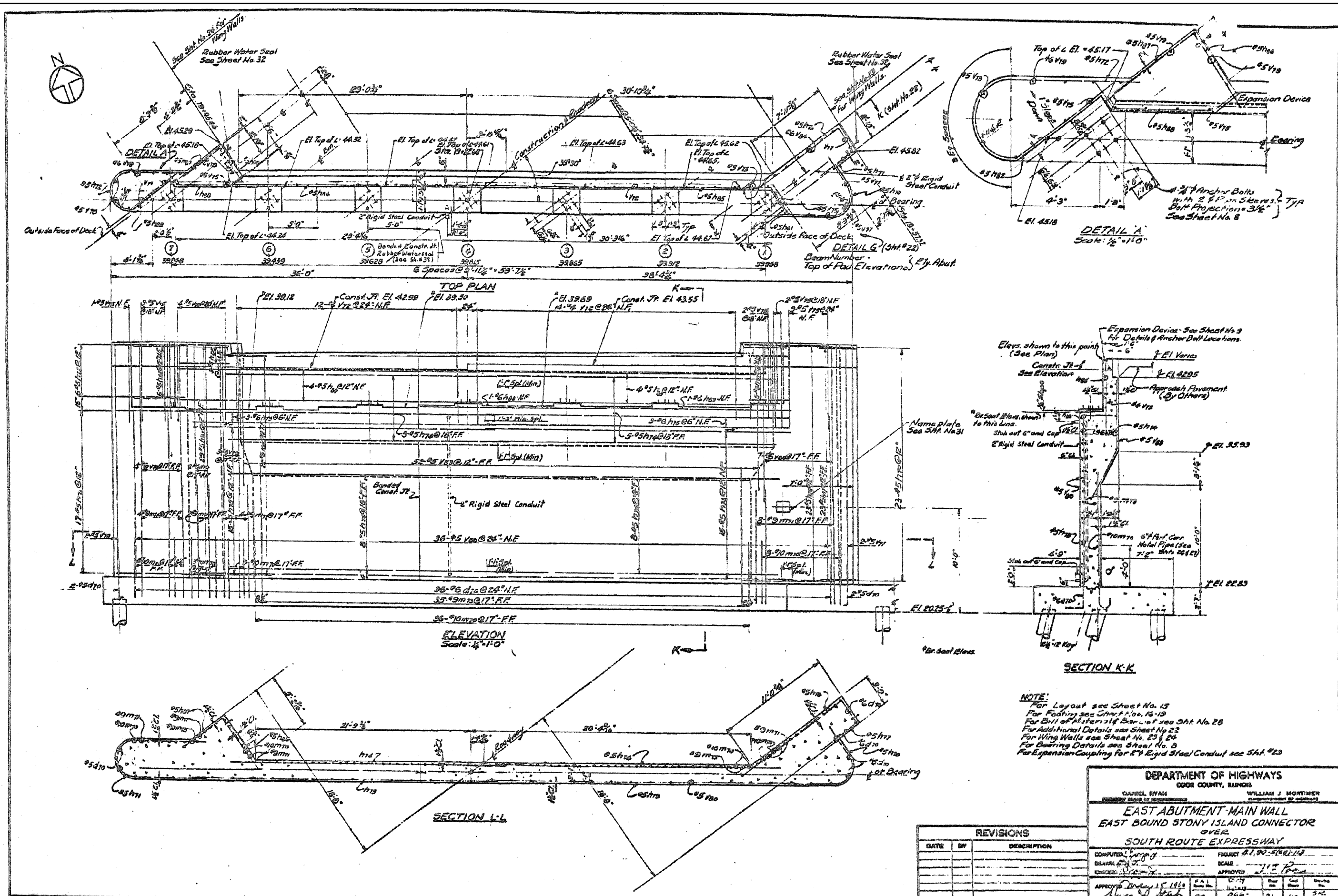
EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2470
 SHEET NO. S-49 OF S-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	424
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

2/22/09 PM

3/29/2013

SA\1072_05_CADD\Structure\1\SN 0162470.CADD Sheets\0162470-60J12-090-F\05B.dgn



NOTE:
 For Layout see Sheet No. 13
 For Facing see Sheet Nos. 16-19
 For Elevation of Material & Bar List see SHT. No. 28
 For Additional Details see Sheet No. 22
 For Wing Walls see Sheet No. 23 & 24
 For Bearing Details see Sheet No. 3
 For Expansion Coupling for 6" Rigid Steel Conduit see SHT. #23

DEPARTMENT OF HIGHWAYS COOK COUNTY, ILLINOIS	
DANIEL RYAN CHIEF ENGINEER	WILLIAM J. MORTIMER DEPARTMENT OF HIGHWAYS
EAST ABUTMENT-MAIN WALL EAST BOUND STONY ISLAND CONNECTOR OVER SOUTH ROUTE EXPRESSWAY	
COMPUTED BY: [Signature]	PROJECT: 01-90-5(001)-118
DRAWN BY: [Signature]	SCALE: 1/4" = 1'-0"
DESIGNED BY: [Signature]	APPROVED: [Signature]
APPROVED: [Signature] 1/1/13	DATE: 1/1/13
90	13/33CP 21 52 445.5

REVISIONS		
DATE	BY	DESCRIPTION

BOWMAN, BARRETT & ASSOCIATES INC.
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PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2470

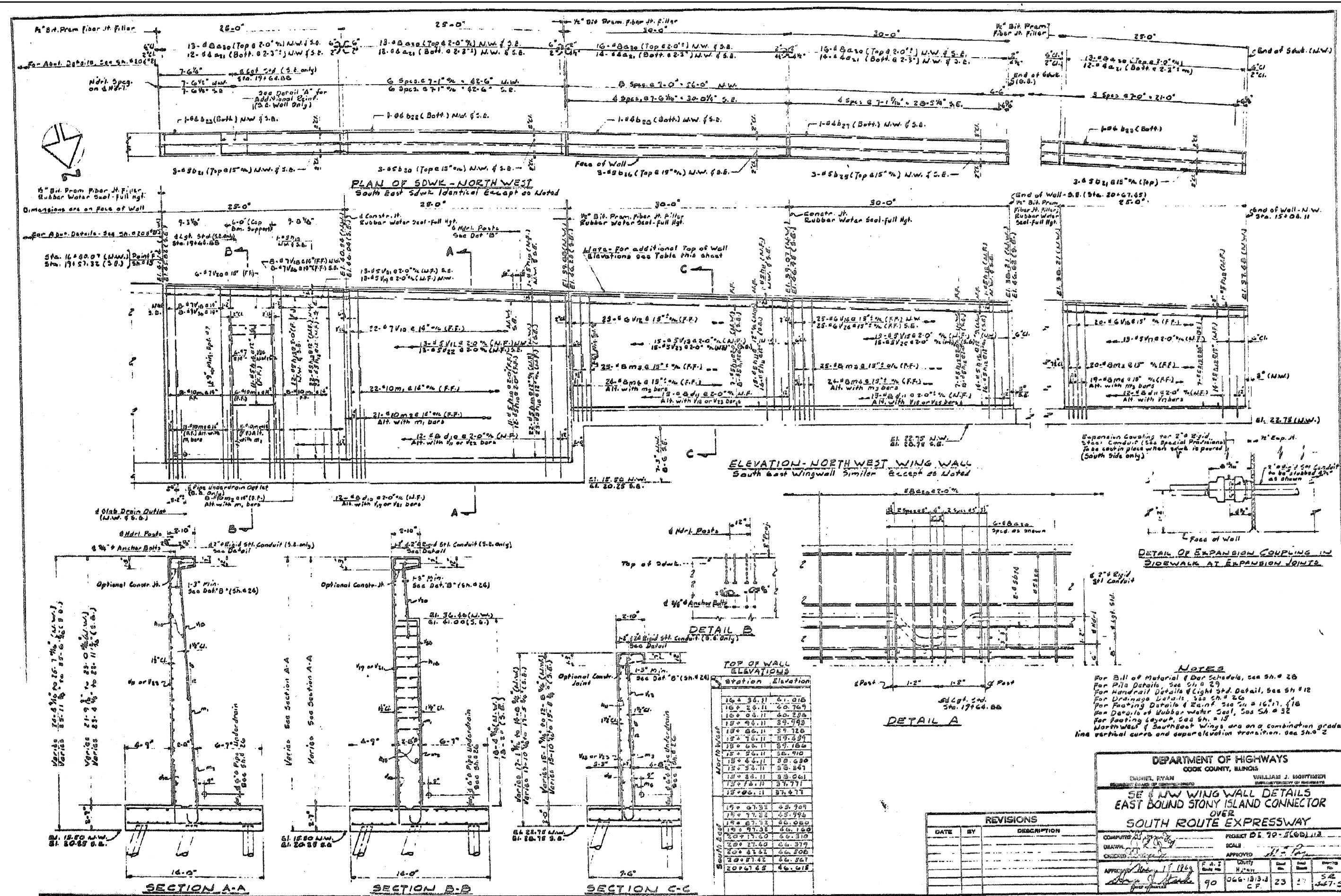
SHEET NO. S-50 OF S-53 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 425
CONTRACT NO. 60J12			ILLINOIS FED. AID PROJECT	

2/22/14 PM

3/29/2013

SA1072.05.CADD Structure.dwg 0162470.CADD Sheets\0162470-60J12-051-F09.dwg



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PLOT DATE = 03/29/2013	DRAWN -	REVISIONS -
	CHECKED -	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2470
SHEET NO. S-51 OF S-53 SHEETS

REVISIONS		
DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

DANIEL RYAN
SUPERVISOR OF CONSTRUCTION

WILLIAM J. MORTIMER
SUPERVISOR OF HIGHWAYS

SE & NW WING WALL DETAILS
EAST BOUND STONY ISLAND CONNECTOR
OVER
SOUTH ROUTE EXPRESSWAY

PROJECT DI. 90-5160J12

COMPUTED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]

APPROVED: [Signature] 90

DATE: 046-1813-8
CF: 23

SCALE: 1" = 4'-0"

SHEET NO. 52 OF 53

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 426
			CONTRACT NO. 60J12	
ILLINOIS FED. AID PROJECT				

2/22/08 PM

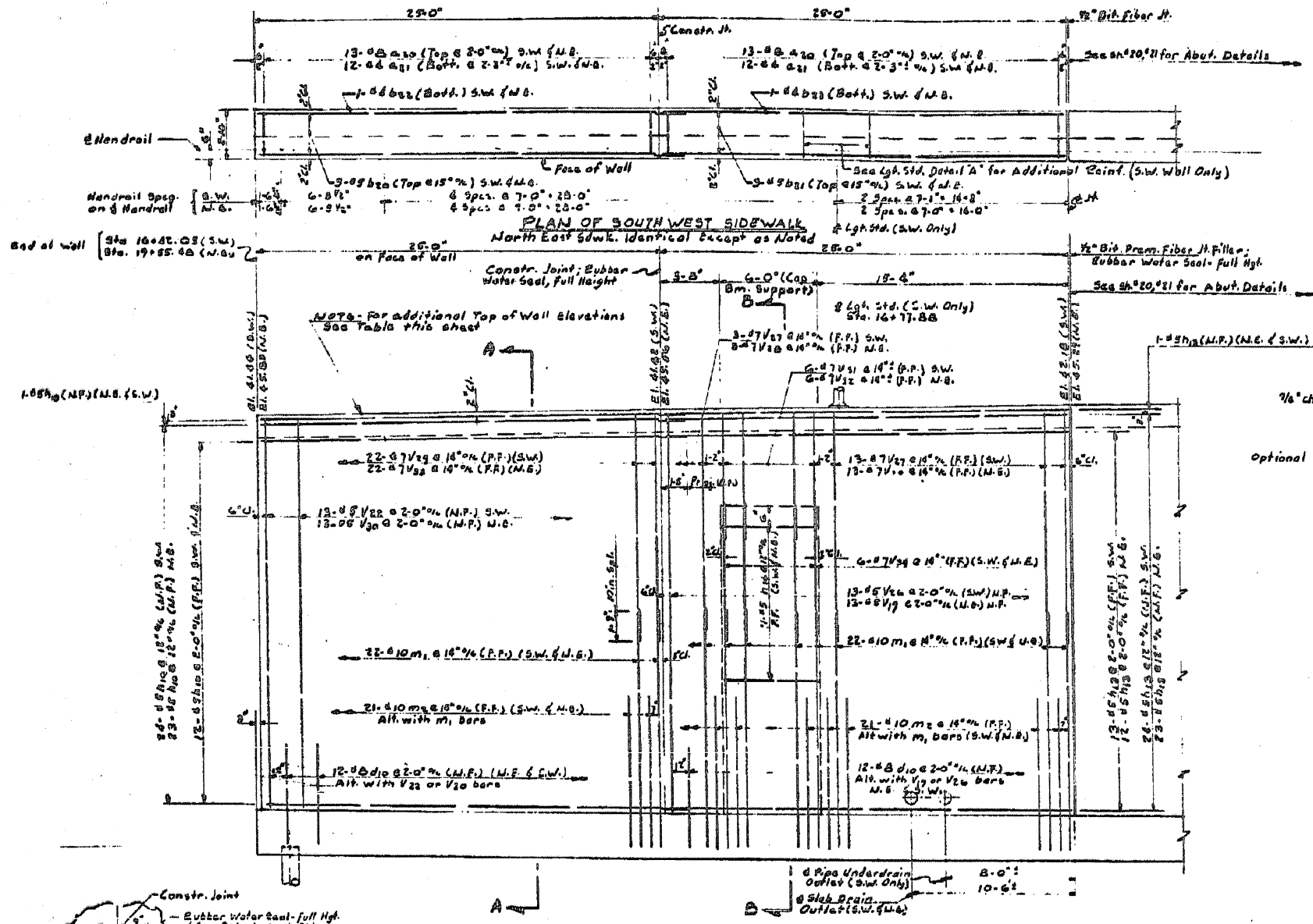
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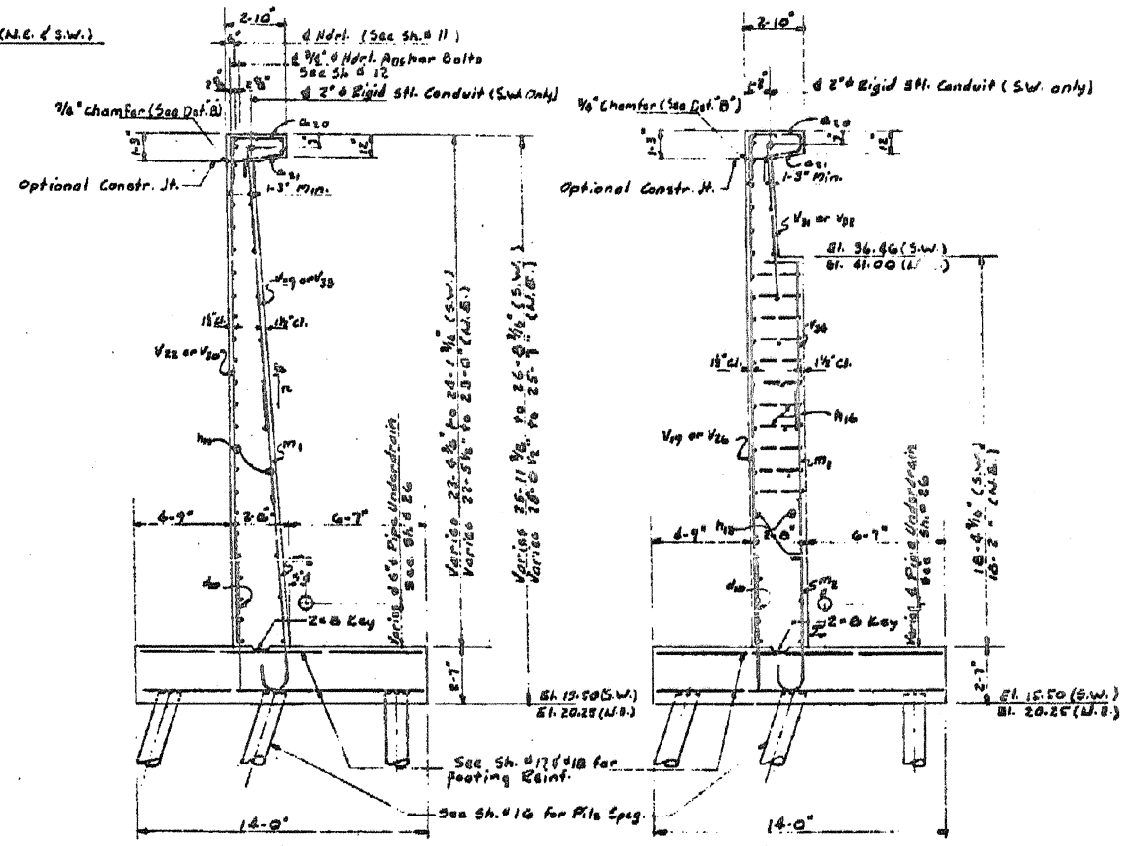


TOP OF WALL ELEVATIONS

Station	Elevation
16+82.41	42.044
16+72.41	41.901
16+62.41	41.758
16+52.41	41.601
16+42.09	41.450
19+15.44	45.204
19+05.44	45.107
19+35.44	45.009
19+45.44	44.912
19+55.44	44.818

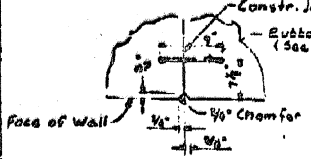


ELEVATION - SOUTH WEST WING WALL
North East Wing Wall Identical Except as Noted

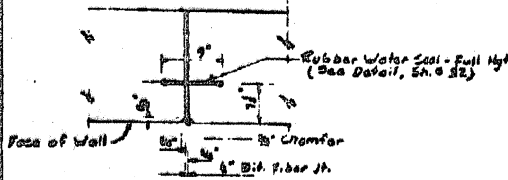


SECTION A-A

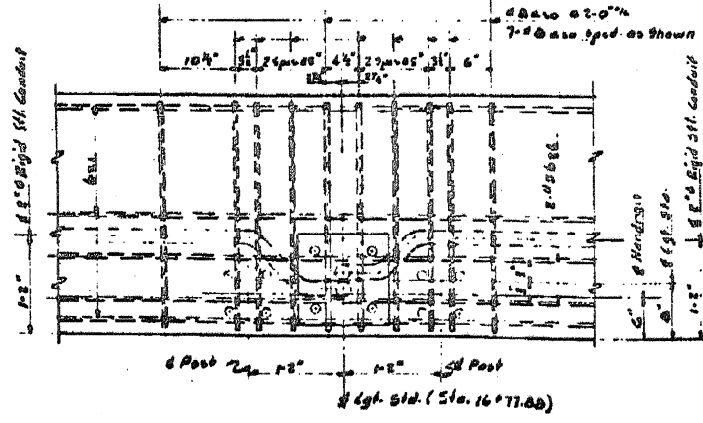
SECTION B-B



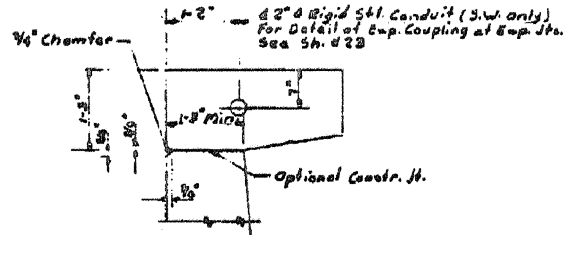
CONSTR. JOINT DETAIL



EXPANSION JOINT DETAIL



LIGHT STANDARD DETAIL 'A'



DETAIL B

Notes

- For Bill of Material & Bar Schedule see Sh. # 20
- For Pile Details, see Sh. # 29
- For Handrail Details & Light Std. Detail, see Sh. # 12
- For Drainage Details, see Sh. # 26
- For Footing Layout Details, see Sh. # 15
- For Detail of Rubber Water Seal, see Sh. # 32
- For Footing Details & Reinf., see Sh. # 16, #17 & #18
- South West Wing is on a combination grade line vertical curve and separation transition. See Sh. # 2
- For Expansion Coupling Detail for 2" Rigid Stl. Conduit, see Sh. # 23

REVISIONS

DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

DANIEL RYAN
PRESIDENT BOARD OF SUPERVISORS

WILLIAM J. MORTIMER
SUPERINTENDENT OF HIGHWAYS

SW WING WALL DETAILS
EAST BOUND STONY ISLAND CONNECTOR
OVER
SOUTH ROUTE EXPRESSWAY

PROJECT B1 90-3(60) 113

SCALE: _____

APPROVED: _____

DATE: 90

COUNTY: Cook

SECTION: 26

SHEET: 52

TOTAL SHEETS: 631

SHEET NO.: 427

CONTRACT NO.: 60J12

ILLINOIS FED. AID PROJECT

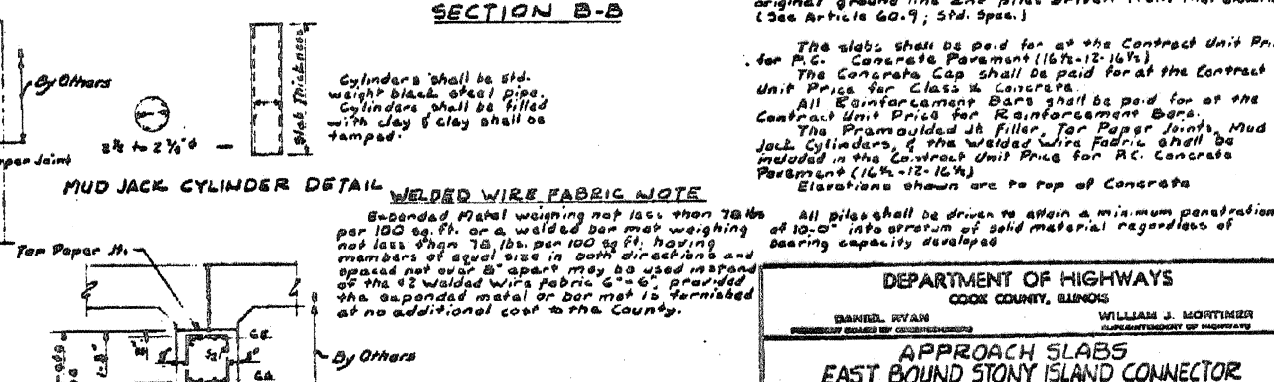
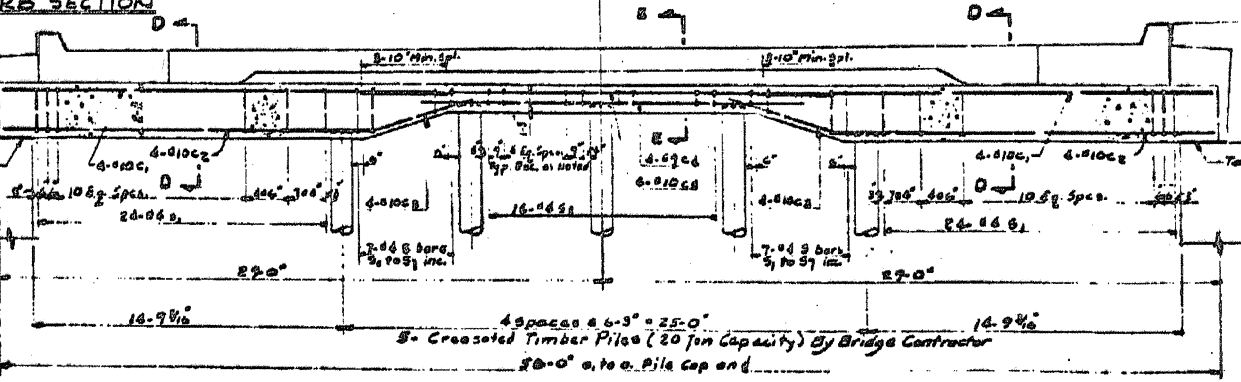
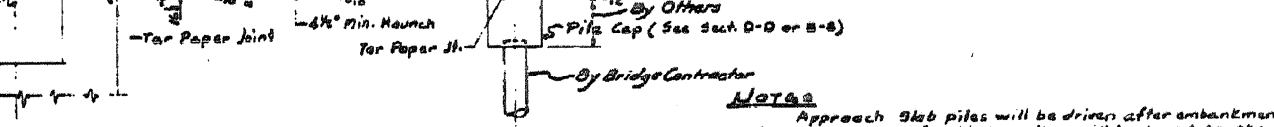
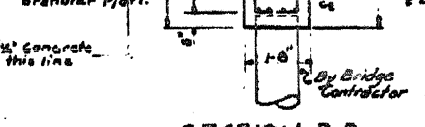
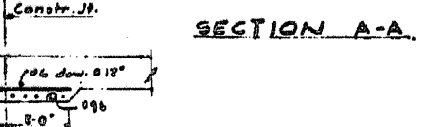
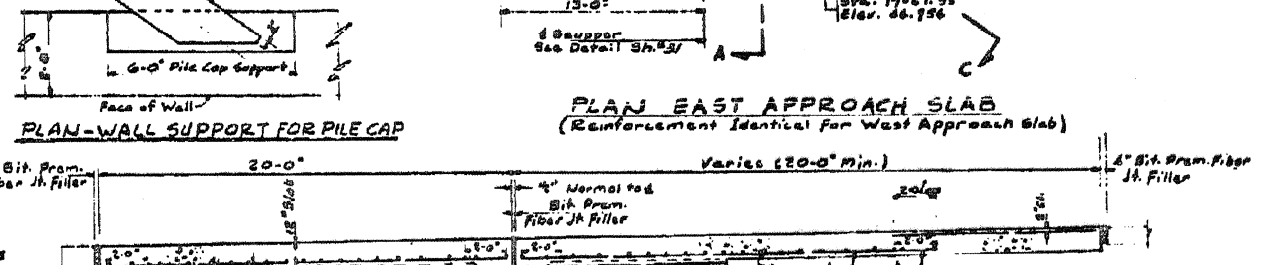
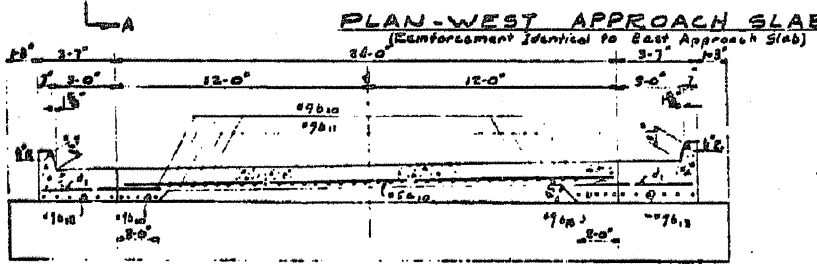
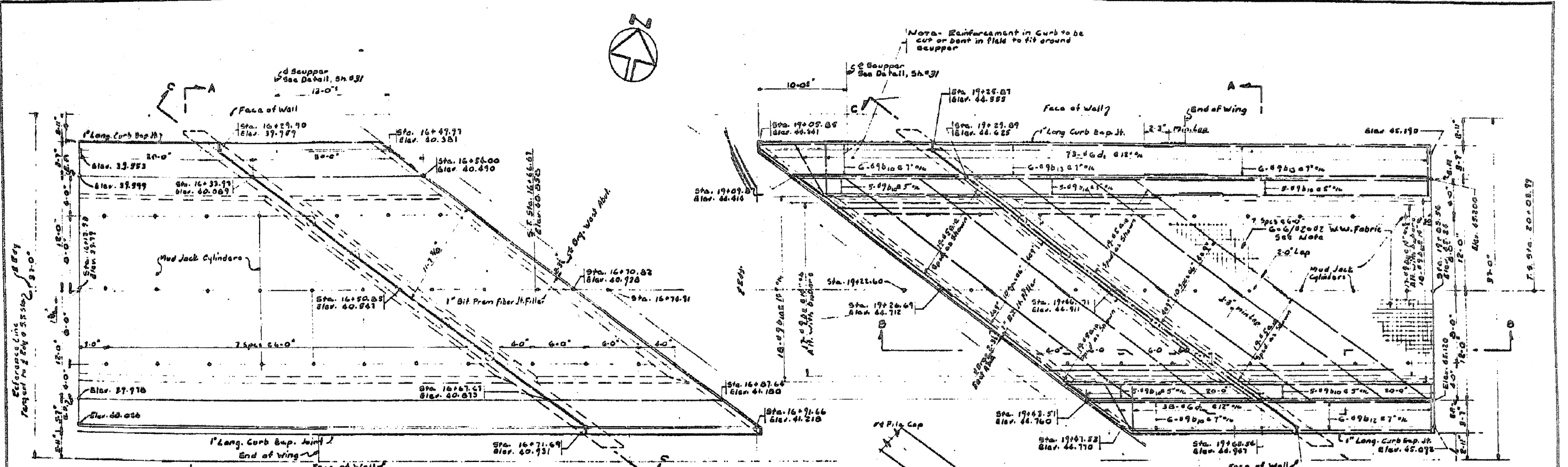
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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2470

SHEET NO. S-52 OF S-53 SHEETS



ESTIMATED PILE LENGTHS

	Projecting	Supporting	Total
West Approach	25'-0"	27'-0"	52'-0"
East Approach	30'-0"	27'-0"	57'-0"

BILL OF MATERIAL

Item	Quantity	Unit	Price
Furnishing Crossed Piles (over 30ft)	170	LF	345
Driving Timber Piles	170	LF	345

NOTES

Approach Slab piles will be driven after embankment is in place; notes for timber piles will be bored to the original ground line and piles driven from that elevation. (See Article 60.9; Std. Spec.)

The slabs shall be paid for at the Contract Unit Price for P.C. Concrete Placement (16%+12-16%).

The Concrete Cap shall be paid for at the Contract Unit Price for Class 4 Concrete.

All Reinforcement Bars shall be paid for at the Contract Unit Price for Reinforcement Bars.

The Prestressed Jt. Filler, Tar Paper Joints, Mud Jack Cylinders, & the Welded Wire Fabric shall be included in the Contract Unit Price for P.C. Concrete Placement (16%+12-16%).

Elevations shown are to top of Concrete.

All piles shall be driven to attain a minimum penetration of 10'-0" into stratum of solid material regardless of bearing capacity developed.

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

DANIEL RYAN
PRESIDENT BOARD OF COMMISSIONERS

WILLIAM J. MORTIMER
COMMISSIONER DEPARTMENT OF HIGHWAYS

APPROACH SLABS
EAST BOUND STONY ISLAND CONNECTOR
OVER
SOUTH ROUTE EXPRESSWAY

COMPUTED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]

PROJECT 02-90-01(6)113
SCALE: [Signature]
APPROVED: [Signature]

DATE	BY	DESCRIPTION

F.A.I. RT. 94 SECTION 2012-059-BR COUNTY COOK TOTAL SHEETS 631 SHEET NO. 428 CONTRACT NO. 60J12 ILLINOIS FED. AID PROJECT

2/22/06 PM
 3/29/2013
 SA:1072,05-CADD,S-Structure-1,SN:0162470,CADD Sheets\062470-60J12-053-F111.dgn

Bench Mark: Iron pipe approximately 100' south of Pier 3, approximately 5' west of Woodlawn Avenue edge of pavement, Elevation 588.23.

Existing Structure: Structure No. 016-2440 was constructed in 1970 by the Cook County Department of Highways. The superstructure consists of thirteen steel plate girders with four continuous spans, supporting a noncomposite 8" reinforced concrete deck and 1 1/2" bituminous concrete overlay. The interior spans are 138'-0" long and the end spans are 129'-0" long. The deck has a constant out-to-out width of 88'-0". The substructure consists of three solid wall concrete piers and two stub-type concrete abutments with concrete wingwalls extending parallel to the Stony Island Connector. All substructure units have a 16°00'00" forward left skew and are all supported on steel piles. One lane of traffic in each direction is to be maintained utilizing stage construction.

No salvage.

DRAINAGE SCUPPERS

STATION	LOCATION
931+00	North Side
931+24	South Side

LIGHT POLE FOUNDATIONS

STATION	LOCATION
930+86	North Parapet
933+12	North Parapet
933+12	South Parapet
935+43	North Parapet
935+43	South Parapet

SCOPE OF WORK

1. Remove and replace deck.
2. Remove approach slabs and replace with precast approach slabs.
3. Make deck composite full-length by installing stud shear connectors.
4. Remove abutment backwalls and reconstruct as semi-integral abutments.
5. Remove expansion bearings at abutments, Pier 1, and Pier 3 and replace with elastomeric or HLMR bearings with steel extensions.
6. Install interior cross frames between all girders near each abutment and remove end cross frames.
7. Install interior cross frames between Girders 6 and 7 along entire bridge length.
8. Perform crack injection and formed concrete repairs at abutments and piers.
9. Clean and paint steel superstructure.
10. Remove and replace drainage system.
11. Remove and replace damaged portions of slope wall at West Abutment.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
 1995 FHWA Seismic Retrofitting Manual for Highway Bridges (FHWA-RD-94-052)

SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.038g
 Site Coefficient (S) = 1.0

LOADING HS20-44 & ALT. MILITARY

Allow 50#/sq. ft. for future wearing surface.

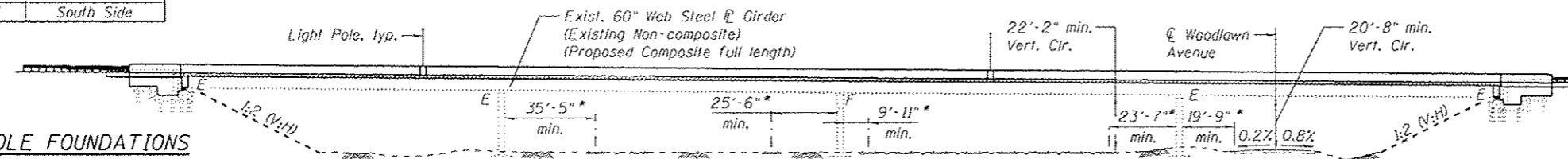
DESIGN STRESSES

FIELD UNITS (New Construction)

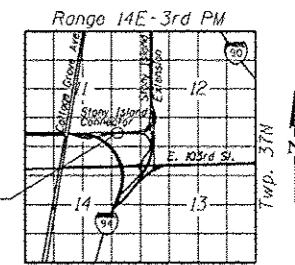
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 fy = 36,000 psi (structural steel)
 fy = 60,000 psi (reinforcement)

FIELD UNITS (Exist. Construction)

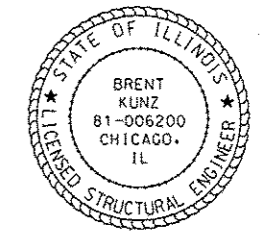
f'c = 3,000 psi
 fy = 40,000 psi (reinforcement)
 fy = 36,000 psi (structural steel)



Note:
 No freefall deck drains will be permitted in the spans over the tracks or within 10 ft. of cross arms of a railroad pole line.



LOCATION SKETCH



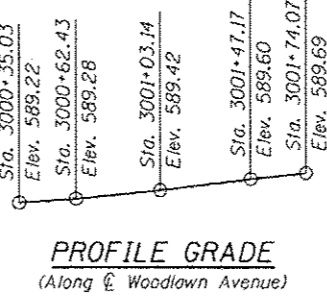
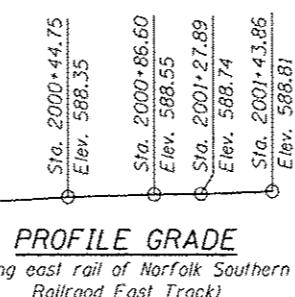
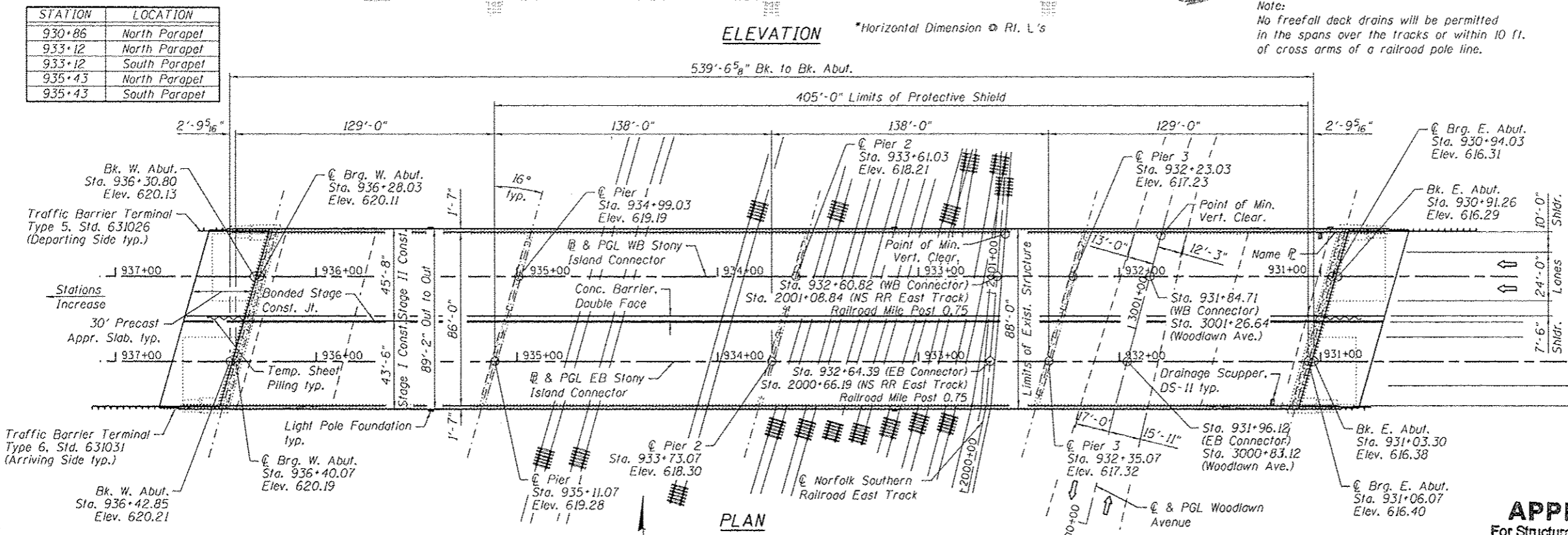
SIGNED: *Brent Kunz*
 DATE: March 29, 2013
 EXPIRES: November 30, 2014

APPROVED
 For Structural Adequacy Only

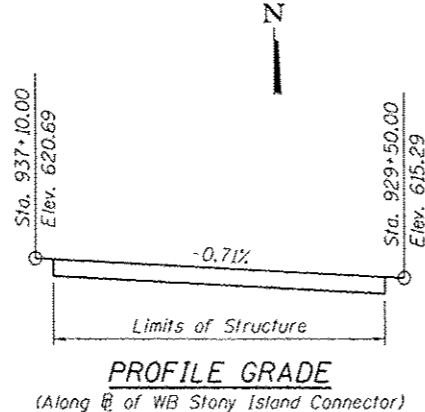
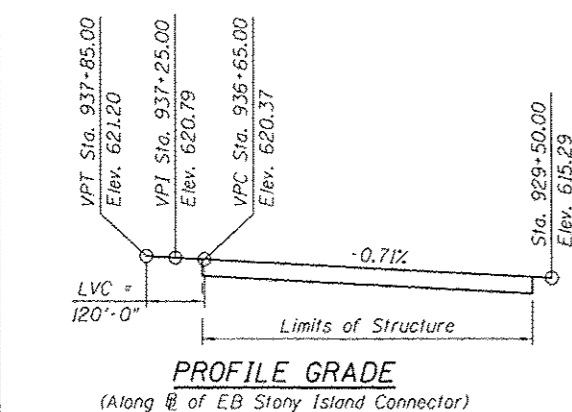
Al Carl Rogers
 Engineer of Bridges & Structures

GENERAL PLAN & ELEVATION
STONY ISLAND CONNECTOR OVER NORFOLK SOUTHERN RAILROAD & WOODLAWN AVENUE
F.A.I. RTE. 94 - SEC. 2012-059-BR
COOK COUNTY
STATION 933+61.03
STRUCTURE NO. 016-2440

3/27/13 PM
 3/29/2013
 S:\102-2440\Structural\SN 0162440-010-05112-01-01.dwg
 S:\102-2440\Structural\SN 0162440-010-05112-01-01.dwg



Note:
 The existing Profile Grades for Norfolk Southern Railroad East Track and Woodlawn Avenue were obtained from survey data.



BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS Chicago, Illinois 312.228.0100 www.bbainc.com	USER NAME:	DESIGNED - TL	REVISIONS:	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SHEET NO. 5-1 OF 5-47 SHEETS	F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 429
	PLOT SCALE:	CHECKED - BAK	REVISIONS:							
PLOT DATE: 03/29/2013		CHECKED - BAK	REVISIONS:	ILLINOIS FED. AID PROJECT						

GENERAL NOTES

All fasteners shall be ASTM A325 Type I, mechanically galvanized bolts. All bolts shall be 3/4" φ in 1 5/16" φ holes unless noted otherwise.

Calculated weight of Structural Steel =

- AASHTO M 270 Grade 36 = 12,200 lb. (Steel extensions for Elastomeric Bearings)
- AASHTO M 270 Grade 36 = 14,290 lb. (Steel extensions for HLMR Bearings)
- AASHTO M 270 Grade 36 = 19,190 lb. (Cross-frames)

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

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.

Reinforcement bars designated (E) shall be epoxy coated.

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 1/4 inch 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.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as 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.

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.

The Contractor shall design and construct a protective shield system to protect the tracks below the structure. All details and calculations shall be submitted to the Department and Norfolk Southern for review and approval prior to commencement of operations.

The proposed painting containment and protective shield systems and any other construction means or methods selected by the Contractor shall not infringe on the 21'-6" temporary vertical clearance, measured above the top of any of the rails, without written approval from Norfolk Southern.

A two-week look ahead schedule must be submitted to Norfolk Southern and Mr. Duffy, (773) 612-7102, for approval prior to commencement of operations.

The Contractor shall coordinate with the Norfolk Southern Flagman to schedule track time for work in the Northfolk Southern right-of-way.

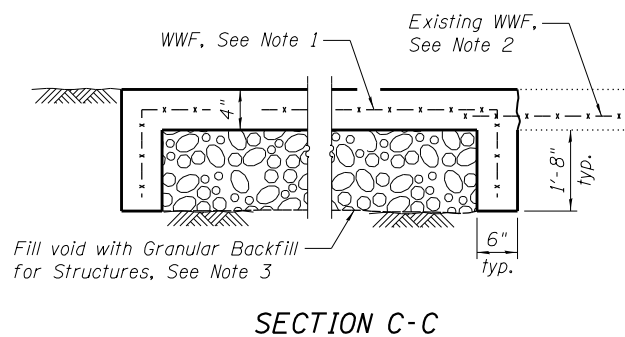
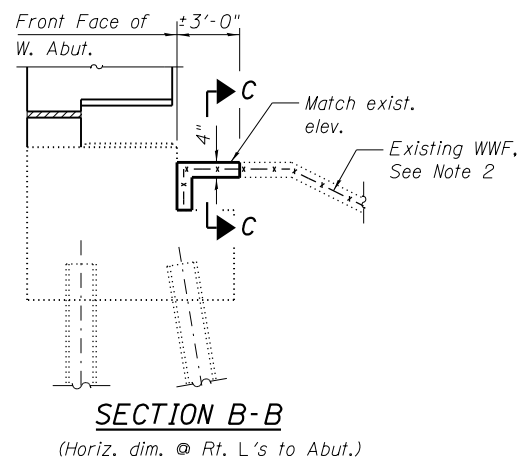
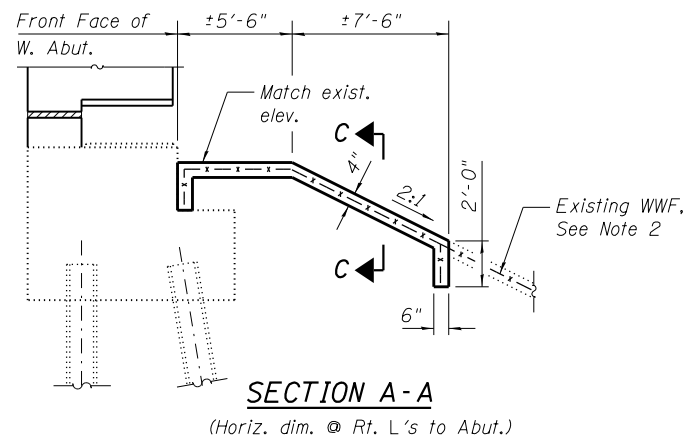
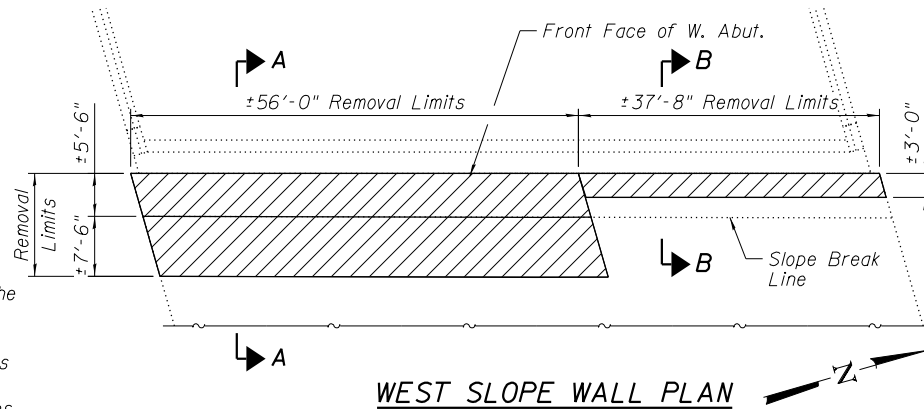
The Contractor will be required to obtain a Right of Entry permit from Norfolk Southern for access to railroad right-of-way. The cost of the permit shall be considered as included in the contract unit prices bid for the various items of work involved, and no additional compensation will be allowed.

Any required temporary railroad grade crossings to perform the work contained herein shall conform to Article 107.10 of the Standard Specifications.

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

All new structural steel shall be shop painted with an inorganic zinc-rich primer per AASHTO M 300, Type 1.

Cleaning and painting of the existing structural steel shall be as specified in the Special Provision for "Cleaning and Painting Existing Steel Structures". All existing steel shall be cleaned per Near White Blast Cleaning - SSPC-SP10. All existing steel shall be painted according to the requirements of Paint System 1 - QZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4.



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	-	103.4	103.4
Slope Wall Removal	Sq Yd	-	99	99
Removal of Existing Concrete Deck	Each	1	-	1
Protective Shield	Sq Yd	3,960	-	3,960
Structure Excavation	Cu Yd	-	398	398
Concrete Structures	Cu Yd	56.5	33.3	89.8
Concrete Superstructure	Cu Yd	1,815.8	-	1,815.8
Bridge Deck Grooving	Sq Yd	5,245	-	5,245
Protective Coat	Sq Yd	6,659	-	6,659
Furnishing and Erecting Structural Steel	L Sum	0.1	-	0.1
Stud Shear Connectors	Each	13,572	-	13,572
Reinforcement Bars, Epoxy Coated	Pound	381,770	3,700	385,470
Bar Splicers	Each	1,687	4	1,691
Slope Wall 4 Inch	Sq Yd	-	99	99
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	184	-	184
Elastomeric Bearing Assembly, Type II	Each	26	-	26
Anchor Bolts, 1"	Each	156	-	156
Epoxy Crack Injection	Foot	-	229	229
Geocomposite Wall Drain	Sq Yd	-	216	216
Pipe Drain Removal	Foot	-	220	220
Concrete Wearing Surface, 5"	Sq Yd	586	-	586
Precast Bridge Approach Slab	Sq Ft	5,120	-	5120
High Load Multi-Rotational Bearings, Guided Expansion, 350K	Each	26	-	26
Granular Backfill for Structures	Cu Yd	-	368	368
Jack and Remove Existing Bearings	Each	52	-	52
Structural Steel Removal	Pound	11,160	-	11,160
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L Sum	1	-	1
Cleaning Bridge Seats	Sq Ft	-	516	516
Cleaning and Painting Steel Bridge No. 1	L Sum	1	-	1
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	-	132	132
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	-	127	127
Drainage Scuppers, DS-II	Each	2	-	2
Temporary Sheet Piling	Sq Ft	-	286	286
Pipe Underdrains for Structures 4"	Foot	-	366	366

SLOPE WALL NOTES:

- Slope wall shall be reinforced with welded wire fabric, 6 in x 6 in - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
- Existing welded wire fabric to be cleaned and incorporated into new construction. Lap existing and new welded wire fabric a minimum of 6". Cost included with Slope Wall Removal.
- A quantity of 33 Cu. Yds. of Granular Backfill for Structures has been estimated to fill the voids under the slope wall areas to be removed. Actual quantity shall be determined in the field by the Engineer. Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Remove and dispose of debris that has accumulated on portions of the W. Abut. Slope wall to be removed according to Article 202.03 of the Standard Specifications. Cost included with Slope Wall Removal.

STATION 933+61.03
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 94 SEC. 2012-059-BR
LOADING HS-20
STRUCTURE NO. 016-2440

NAME PLATE
See Std. 515001

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

INDEX OF SHEETS

S-1	General Plan & Elevation	S-20	Precast Bridge Approach Slab Details I
S-2	General Data	S-21	Precast Bridge Approach Slab Details II
S-3	Construction Staging & Details	S-22	Precast Bridge Approach Slab Details III
S-4	Temporary Concrete Barrier for Stage Construction	S-23	Precast Bridge Approach Slab Details IV
S-5	Top of Slab Elevations Layout I	S-24	Drainage Scupper, DS-II
S-6	Top of Slab Elevations Layout II	S-25	Structural Steel Details I
S-7	Top of Slab Elevations I	S-26	Structural Steel Details II
S-8	Top of Slab Elevations II	S-27	Bearing Details I
S-9	Top of Slab Elevations III	S-28	Bearing Details II
S-10	Top of Slab Elevations IV	S-29	Abutment Removal and Repair Details
S-11	Top of Slab Elevations V	S-30	West Abutment Reconstruction
S-12	Top of Slab Elevations VI	S-31	East Abutment Reconstruction
S-13	Top of Slab Elevations VII	S-32	Abutment Reconstruction Details I
S-14	Top of Approach Slab Elevations	S-33	Abutment Reconstruction Details II
S-15	Superstructure Plan & Cross Section	S-34	Pier 1 Repairs
S-16	Superstructure Details I	S-35	Pier 2 Repairs
S-17	Superstructure Details II	S-36	Pier 3 Repairs
S-18	Superstructure Details III	S-37	Bar Splicer Assembly and Mechanical Splicer Details
S-19	Concrete Parapet Slipforming Option	S-38 thru	
		S-47	Existing Plans (For Information Only)

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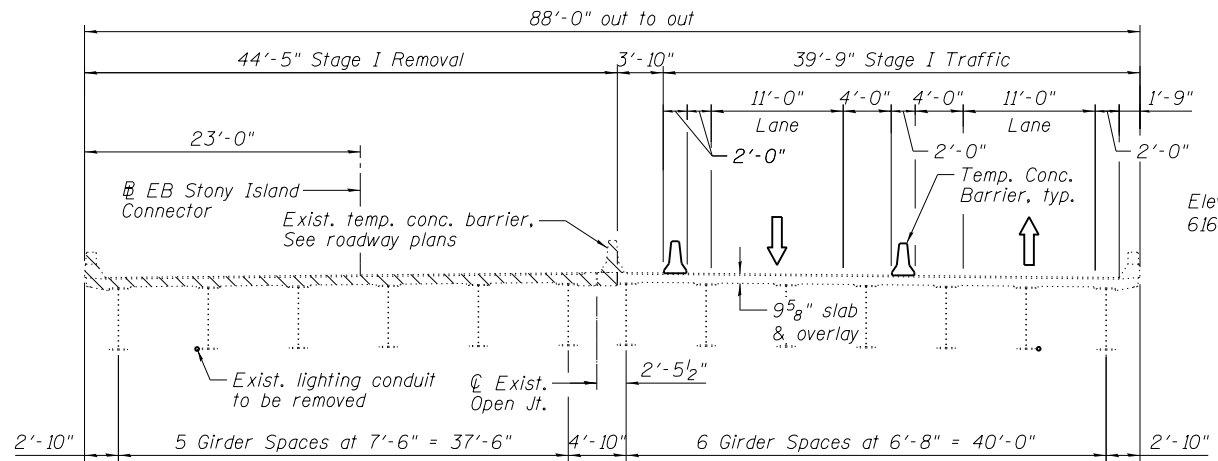
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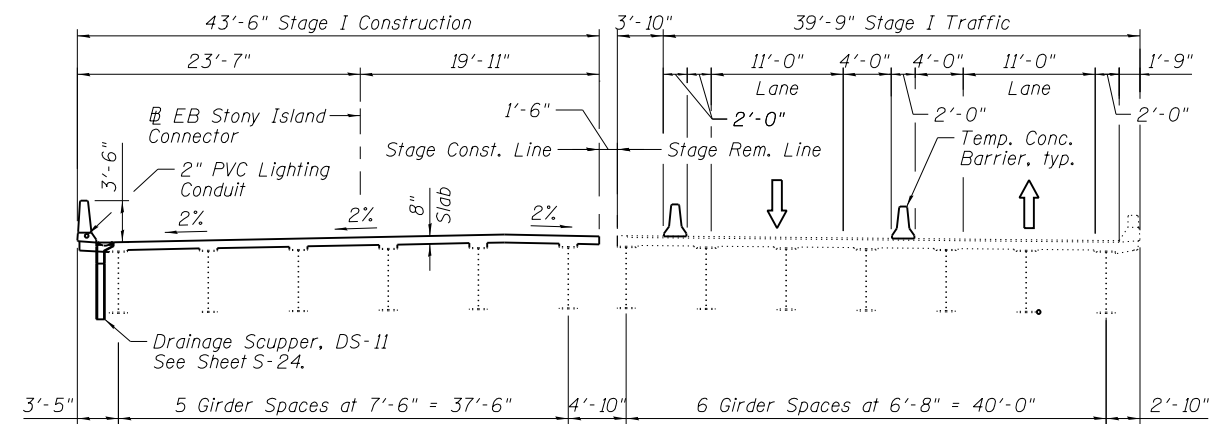
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DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 016-2440
SHEET NO. S-2 OF S-47 SHEETS

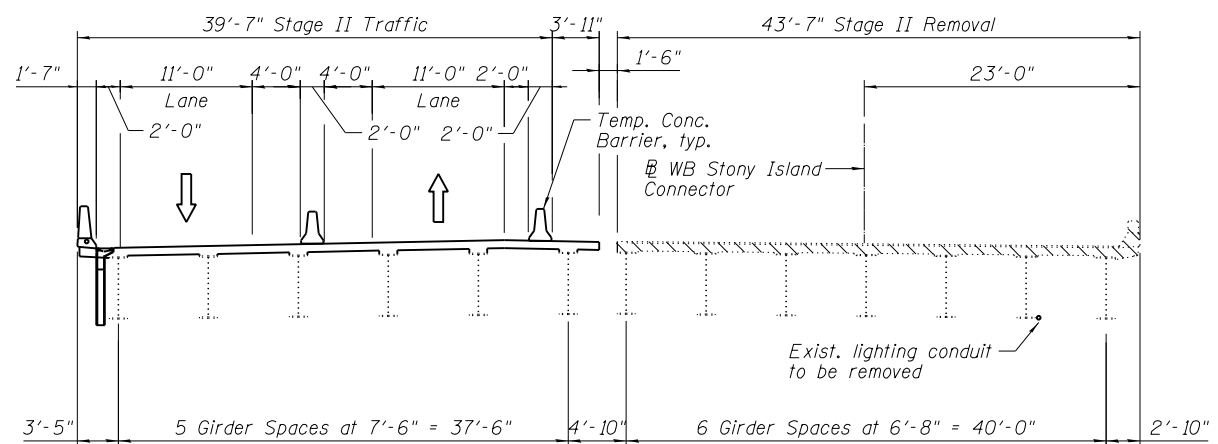
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94	2012-059-BR	COOK	631	430
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



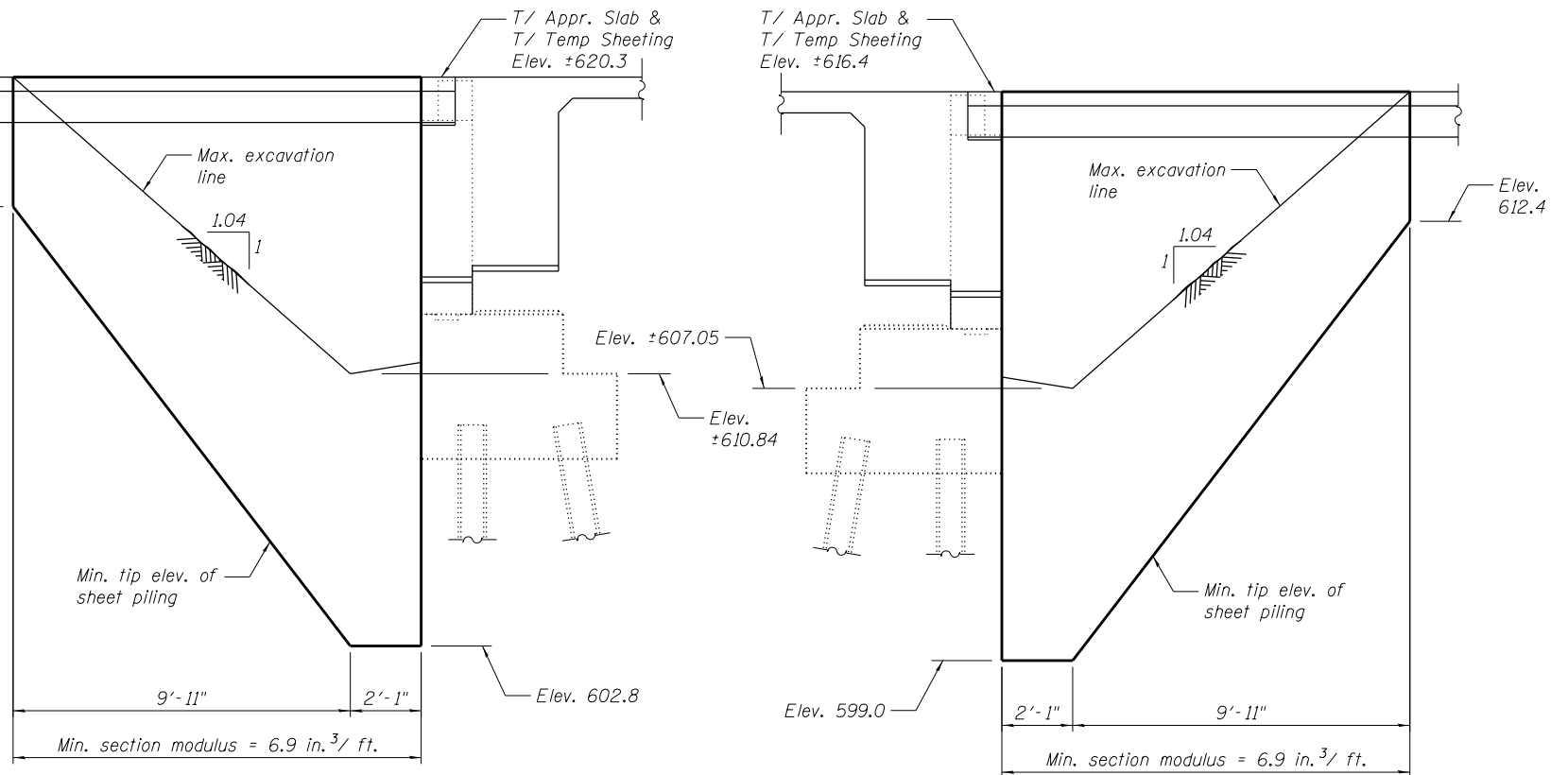
STAGE I REMOVAL
Looking West



STAGE I CONSTRUCTION
Looking West



STAGE II REMOVAL
Looking West



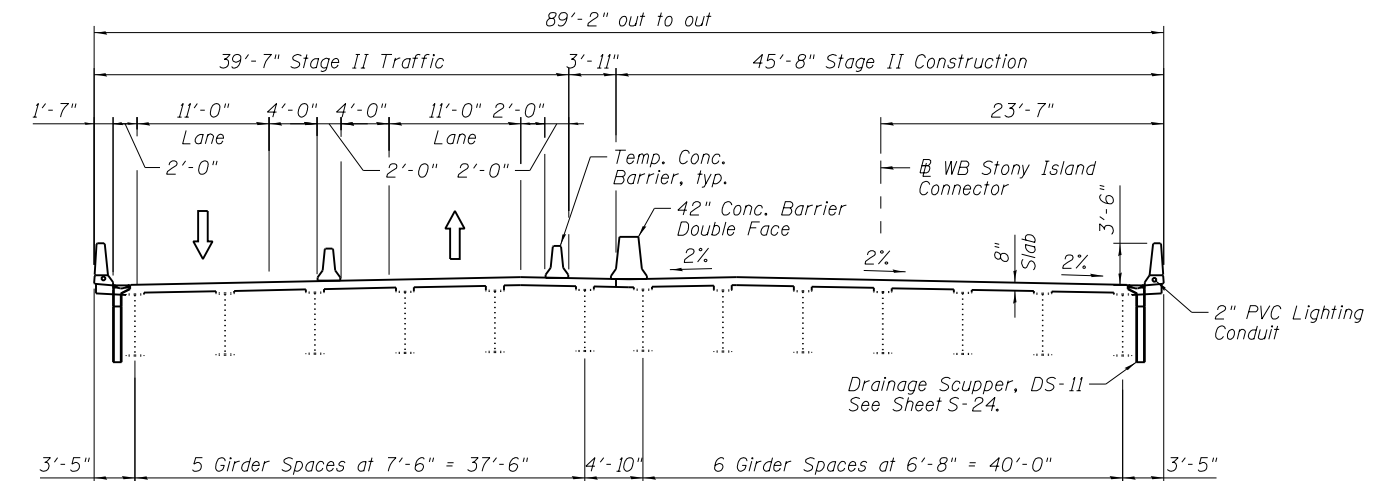
WEST ABUTMENT TEMPORARY SHEET PILING

EAST ABUTMENT TEMPORARY SHEET PILING

Note:
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Sheet Piling	Sq. Ft.	286



STAGE II CONSTRUCTION
Looking West

2/4/2008 PM

4/18/2013

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CONSTRUCTION STAGING & DETAILS
STRUCTURE NO. 016-2440

SHEET NO. S-3 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	431
CONTRACT NO. 60J12				

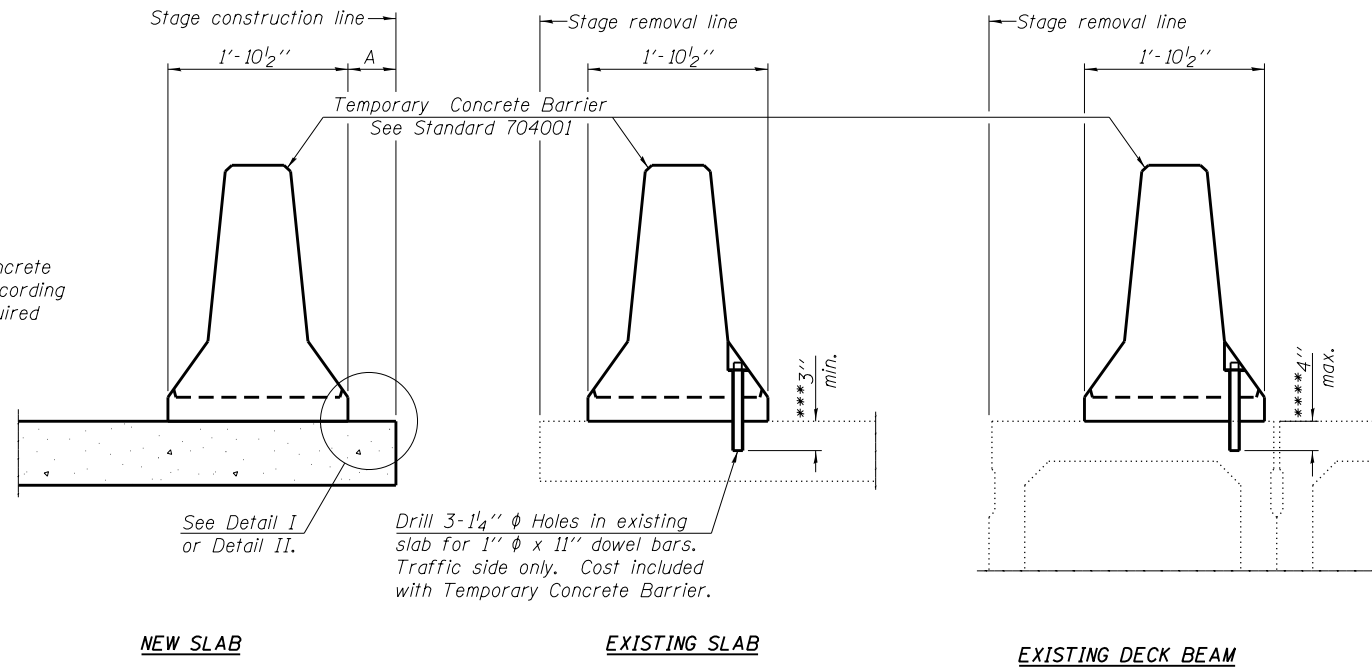
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When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

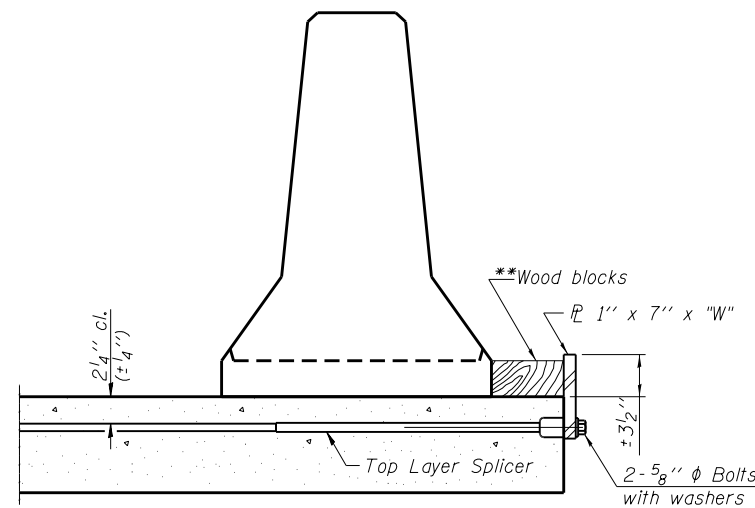
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

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 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

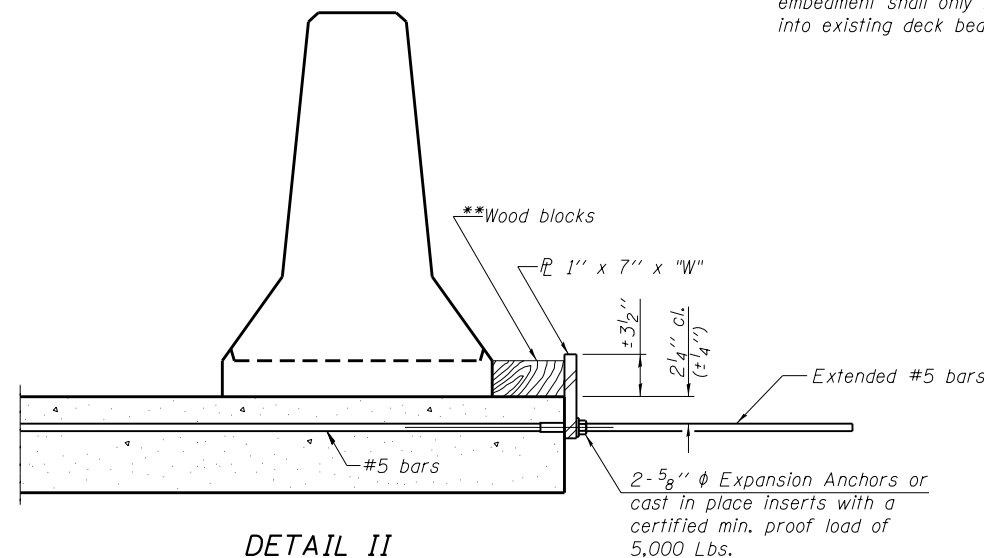
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.

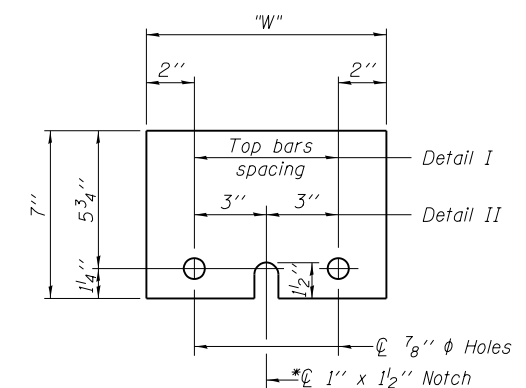
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x "W"

* Required only with Detail II

** 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.

"W" = Top bars spacing + 4"

R-27

7-1-10

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TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-2440

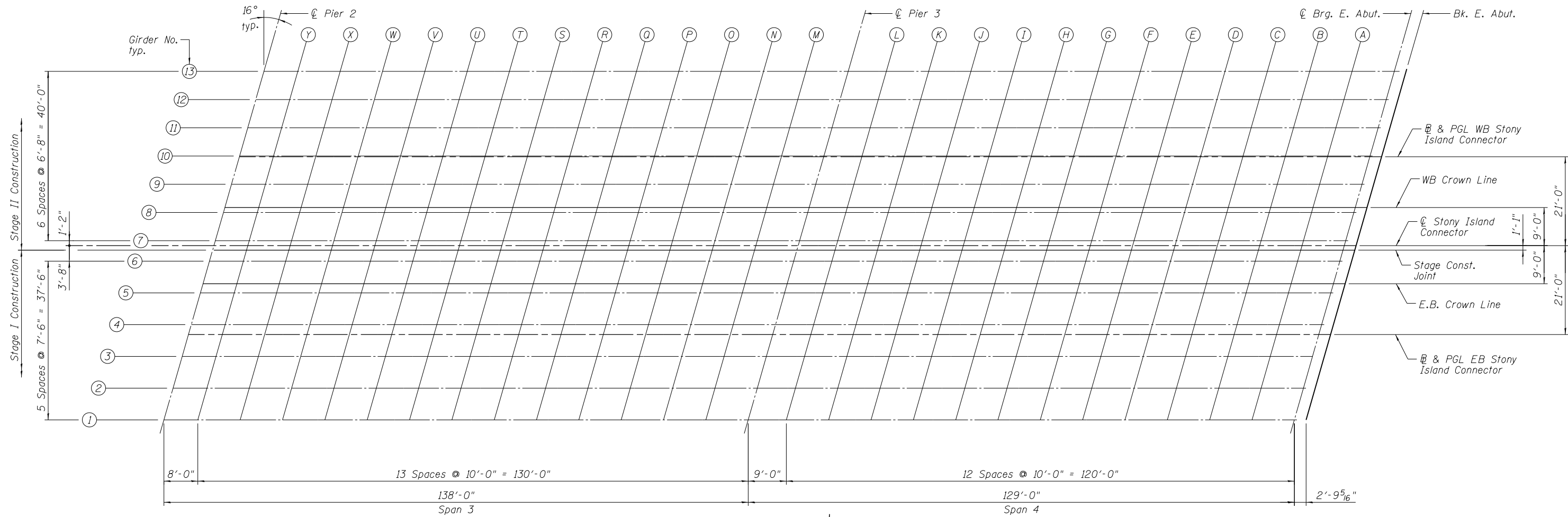
SHEET NO. S-4 OF S-47 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60J12			ILLINOIS FED. AID PROJECT	

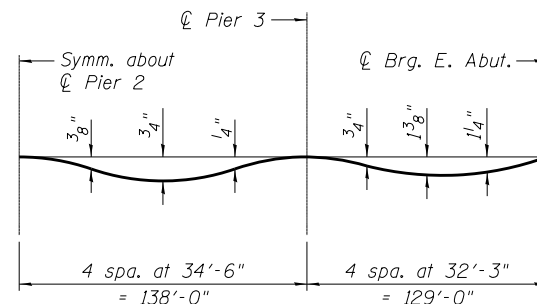
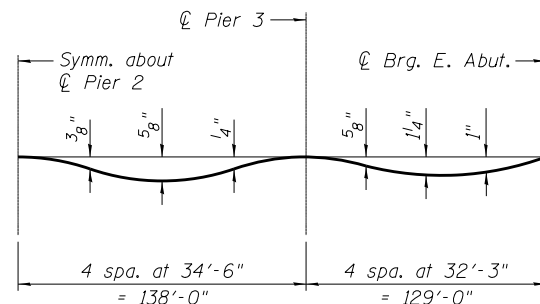
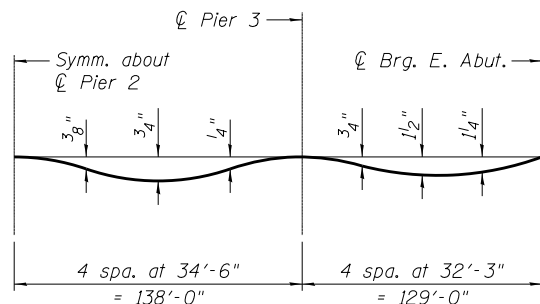
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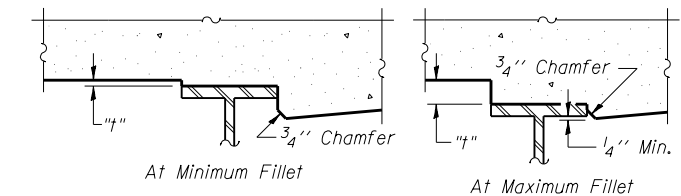
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PARTIAL PLAN



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 Sheets S-7 through S-13.



To determine "t": After all bearings have been replaced, elevations of the top flanges of the beams shall be taken at intervals shown above and on Sheet S-6. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-7 thru S-13, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

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TOP OF SLAB ELEVATIONS LAYOUT I
STRUCTURE NO. 016-2440

SHEET NO. S-5 OF S-47 SHEETS

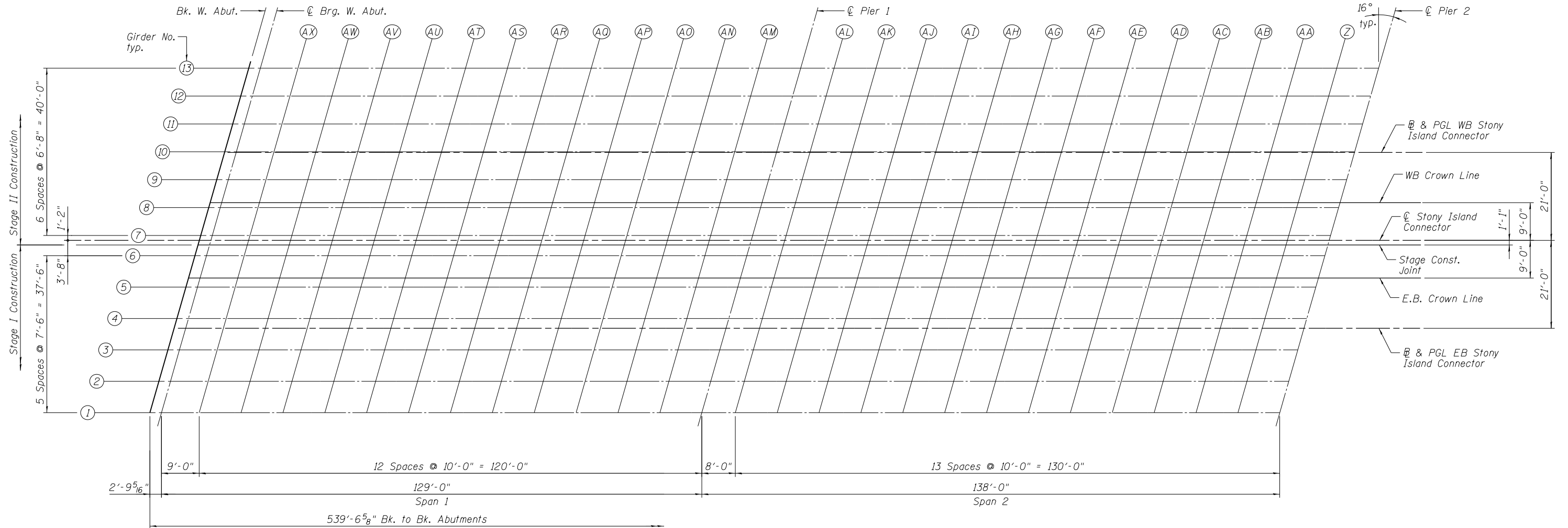
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	433
CONTRACT NO. 60J12				

ILLINOIS FED. AID PROJECT

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PARTIAL PLAN



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS LAYOUT II
 STRUCTURE NO. 016-2440

SHEET NO. S-6 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	434
CONTRACT NO. 60J12				

ILLINOIS FED. AID PROJECT

GIRDER 1

Table for GIRDER 1 with columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

GIRDER 2

Table for GIRDER 2 with columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

GIRDER 3

Table for GIRDER 3 with columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

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EASTBOUND CROWN LINE

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

GIRDER 6

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

STAGE CONSTRUCTION JOINT

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

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Table with 4 columns: USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISED, DRAWN, CHECKED. Includes dates and initials.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS III STRUCTURE NO. 016-2440

SHEET NO. S-9 OF S-47 SHEETS

Table with 5 columns: F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO. Includes project details like 94, 2012-059-BR, COOK, 631, 437.

ILLINOIS FED. AID PROJECT CONTRACT NO. 60J12

WESTBOUND CROWN LINE

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

GIRDER 9

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

B & P.G.L. WESTBOUND STONY ISLAND CONNECTOR

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

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Table with 4 columns: USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISIONS.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS V STRUCTURE NO. 016-2440

SHEET NO. S-11 OF S-47 SHEETS

Table with 5 columns: F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO.

ILLINOIS FED. AID PROJECT

GIRDER 10

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

GIRDER 11

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

GIRDER 12

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. E. Abut., Brg. E. Abut., Pier 3, Pier 2, Pier 1, Brg. W. Abut., and Bk. W. Abut.

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4/18/2013

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Table with 4 columns: USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISED, CHECKED.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS VI STRUCTURE NO. 016-2440

SHEET NO. S-12 OF S-47 SHEETS

Table with 5 columns: F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO. Values: 94, 2012-059-BR, COOK, 631, 440.

CONTRACT NO. 60J12 ILLINOIS FED. AID PROJECT

GIRDER 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	930+85.48	41.17	615.85	615.85
⊘ Brg. E. Abut.	930+88.25	41.17	615.87	615.87
A	930+98.25	41.17	615.94	615.98
B	931+08.25	41.17	616.01	616.08
C	931+18.25	41.17	616.08	616.17
D	931+28.25	41.17	616.15	616.26
E	931+38.25	41.17	616.22	616.34
F	931+48.25	41.17	616.30	616.41
G	931+58.25	41.17	616.37	616.48
H	931+68.25	41.17	616.44	616.53
I	931+78.25	41.17	616.51	616.58
J	931+88.25	41.17	616.58	616.63
K	931+98.25	41.17	616.65	616.68
L	932+08.25	41.17	616.72	616.73
⊘ Pier 3	932+17.25	41.17	616.79	616.79
M	932+27.25	41.17	616.86	616.86
N	932+37.25	41.17	616.93	616.93
O	932+47.25	41.17	617.00	617.02
P	932+57.25	41.17	617.07	617.10
Q	932+67.25	41.17	617.14	617.18
R	932+77.25	41.17	617.21	617.26
S	932+87.25	41.17	617.28	617.34
T	932+97.25	41.17	617.35	617.41
U	933+07.25	41.17	617.43	617.47
V	933+17.25	41.17	617.50	617.53
W	933+27.25	41.17	617.57	617.59
X	933+37.25	41.17	617.64	617.65
Y	933+47.25	41.17	617.71	617.71
⊘ Pier 2	933+55.25	41.17	617.77	617.77
Z	933+65.25	41.17	617.84	617.84
AA	933+75.25	41.17	617.91	617.92
AB	933+85.25	41.17	617.98	618.01
AC	933+95.25	41.17	618.05	618.09
AD	934+05.25	41.17	618.12	618.17
AE	934+15.25	41.17	618.19	618.25
AF	934+25.25	41.17	618.26	618.32
AG	934+35.25	41.17	618.33	618.39
AH	934+45.25	41.17	618.41	618.45
AI	934+55.25	41.17	618.48	618.50
AJ	934+65.25	41.17	618.55	618.56
AK	934+75.25	41.17	618.62	618.62
AL	934+85.25	41.17	618.69	618.69
⊘ Pier 1	934+93.25	41.17	618.75	618.75
AM	935+03.25	41.17	618.82	618.83
AN	935+13.25	41.17	618.89	618.92
AO	935+23.25	41.17	618.96	619.01
AP	935+33.25	41.17	619.03	619.11
AQ	935+43.25	41.17	619.10	619.20
AR	935+53.25	41.17	619.17	619.28
AS	935+63.25	41.17	619.24	619.36
AT	935+73.25	41.17	619.32	619.43
AU	935+83.25	41.17	619.39	619.50
AV	935+93.25	41.17	619.46	619.55
AW	936+03.25	41.17	619.53	619.59
AX	936+13.25	41.17	619.60	619.63
⊘ Brg. W. Abut.	936+22.25	41.17	619.66	619.66
Bk. W. Abut.	936+25.02	41.17	619.68	619.68

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DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS VII
STRUCTURE NO. 016-2440**

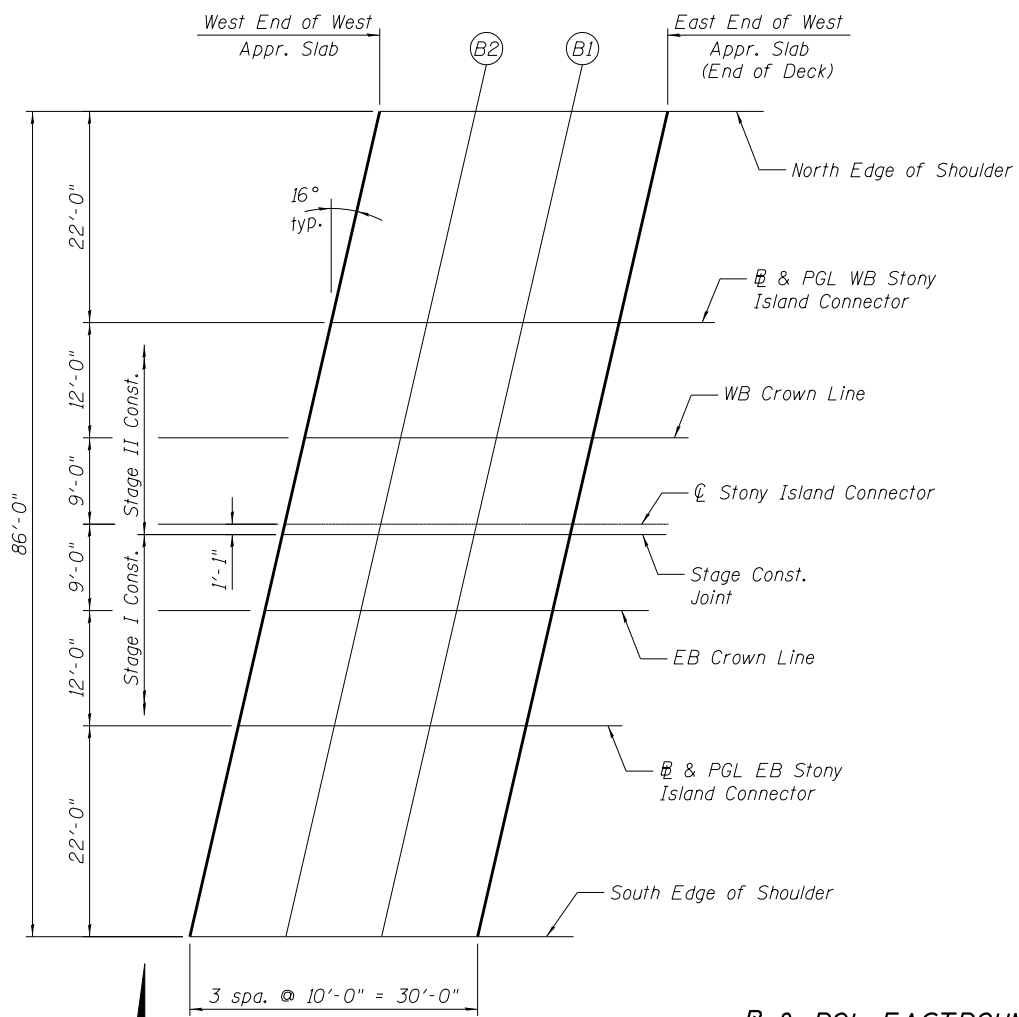
SHEET NO. S-13 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	441
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

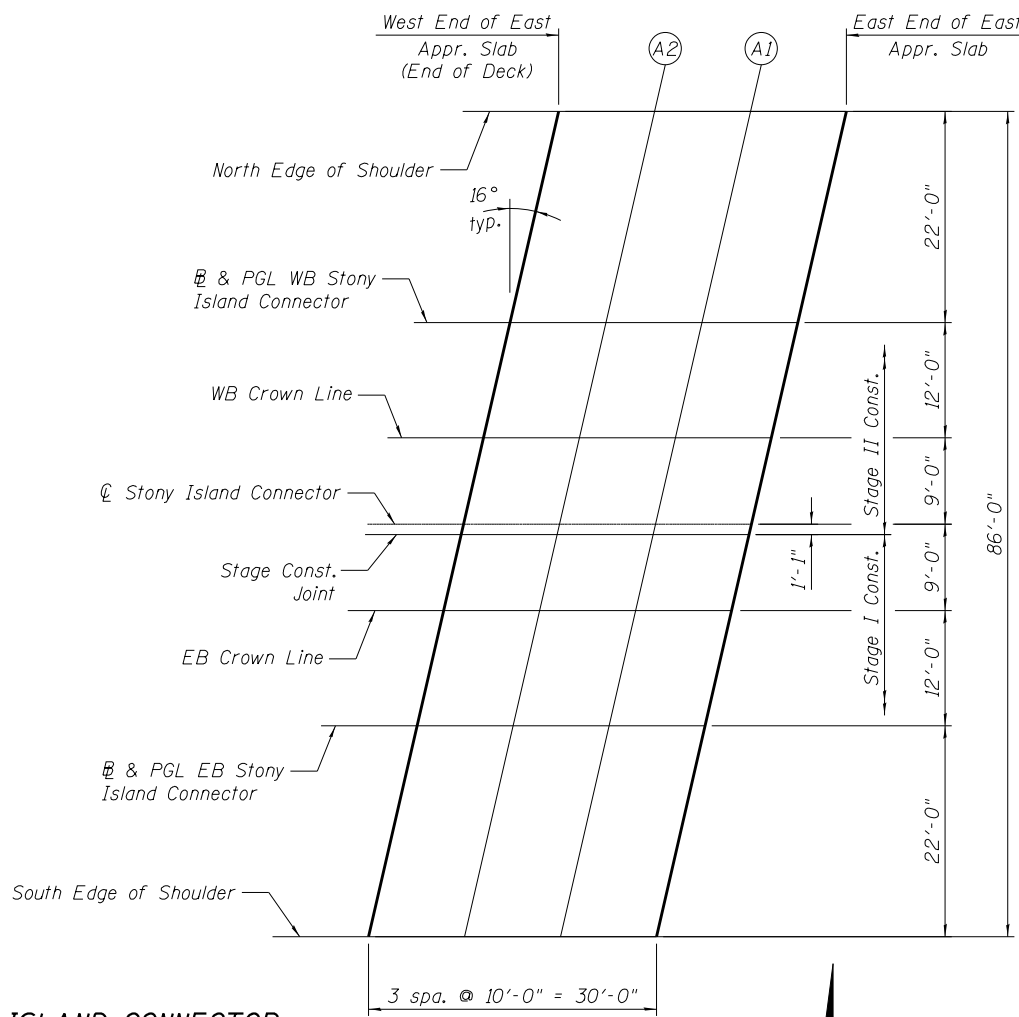
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PLAN
West Approach Slab



PLAN
East Approach Slab

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+55.99	43.00	615.60
A1	930+65.99	43.00	615.67
A2	930+75.99	43.00	615.75
W. end of East Appr. Slab	930+85.99	43.00	615.82
E. end of West Appr. Slab	936+23.46	43.00	619.64
B1	936+33.46	43.00	619.71
B2	936+43.46	43.00	619.78
W. end of West Appr. Slab	936+53.46	43.00	619.85

& PGL WESTBOUND STONY ISLAND CONNECTOR

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+62.30	21.00	616.09
A1	930+72.30	21.00	616.16
A2	930+82.30	21.00	616.23
W. end of East Appr. Slab	930+92.30	21.00	616.30
E. end of West Appr. Slab	936+29.77	21.00	620.12
B1	936+39.77	21.00	620.19
B2	936+49.77	21.00	620.26
W. end of West Appr. Slab	936+59.77	21.00	620.33

WESTBOUND CROWN LINE

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+65.74	9.00	616.35
A1	930+75.74	9.00	616.42
A2	930+85.74	9.00	616.49
W. end of East Appr. Slab	930+95.74	9.00	616.57
E. end of West Appr. Slab	936+33.21	9.00	620.38
B1	936+43.21	9.00	620.46
B2	936+53.21	9.00	620.53
W. end of West Appr. Slab	936+63.21	9.00	620.60

& PGL EASTBOUND STONY ISLAND CONNECTOR

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+74.34	-21.00	616.17
A1	930+84.34	-21.00	616.25
A2	930+94.34	-21.00	616.32
W. end of East Appr. Slab	931+04.34	-21.00	616.39
E. end of West Appr. Slab	936+41.81	-21.00	620.21
B1	936+51.81	-21.00	620.28
B2	936+61.81	-21.00	620.35
W. end of West Appr. Slab	936+71.81	-21.00	620.42

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+80.65	-43.00	615.78
A1	930+90.65	-43.00	615.85
A2	931+00.65	-43.00	615.92
W. end of East Appr. Slab	931+10.65	-43.00	615.99
E. end of West Appr. Slab	936+48.12	-43.00	619.81
B1	936+58.12	-43.00	619.88
B2	936+68.12	-43.00	619.95
W. end of West Appr. Slab	936+78.12	-43.00	620.02

EASTBOUND CROWN LINE

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+70.90	-9.00	616.39
A1	930+80.90	-9.00	616.46
A2	930+90.90	-9.00	616.53
W. end of East Appr. Slab	931+00.90	-9.00	616.60
E. end of West Appr. Slab	936+38.37	-9.00	620.42
B1	936+48.37	-9.00	620.49
B2	936+58.37	-9.00	620.56
W. end of West Appr. Slab	936+68.37	-9.00	620.63

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+68.63	-1.08	616.22
A1	930+78.63	-1.08	616.29
A2	930+88.63	-1.08	616.36
W. end of East Appr. Slab	930+98.63	-1.08	616.43
E. end of West Appr. Slab	936+36.10	-1.08	620.25
B1	936+46.10	-1.08	620.32
B2	936+56.10	-1.08	620.39
W. end of West Appr. Slab	936+66.10	-1.08	620.46

& STONY ISLAND CONNECTOR

Location	Station	Offset	Theoretical Grade Elevations
E. end of East Appr. Slab	930+68.32	0.00	616.19
A1	930+78.32	0.00	616.26
A2	930+88.32	0.00	616.33
W. end of East Appr. Slab	930+98.32	0.00	616.40
E. end of West Appr. Slab	936+35.79	0.00	620.22
B1	936+45.79	0.00	620.29
B2	936+55.79	0.00	620.37
W. end of West Appr. Slab	936+65.79	0.00	620.44

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TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-2440

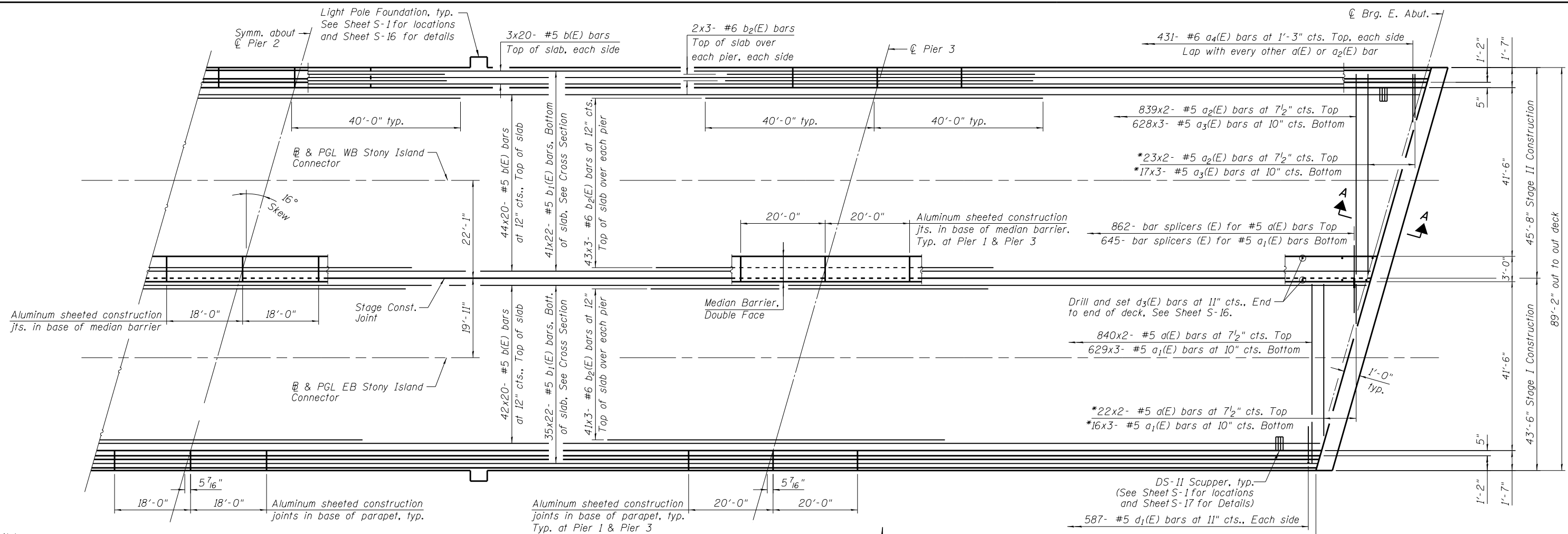
SHEET NO. S-14 OF S-47 SHEETS

F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	442
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

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Notes:
 See Sheet S-16 for superstructure details.
 See Sheet S-17 for parapet reinforcement.
 See Sheet S-18 for Bill of Material.
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

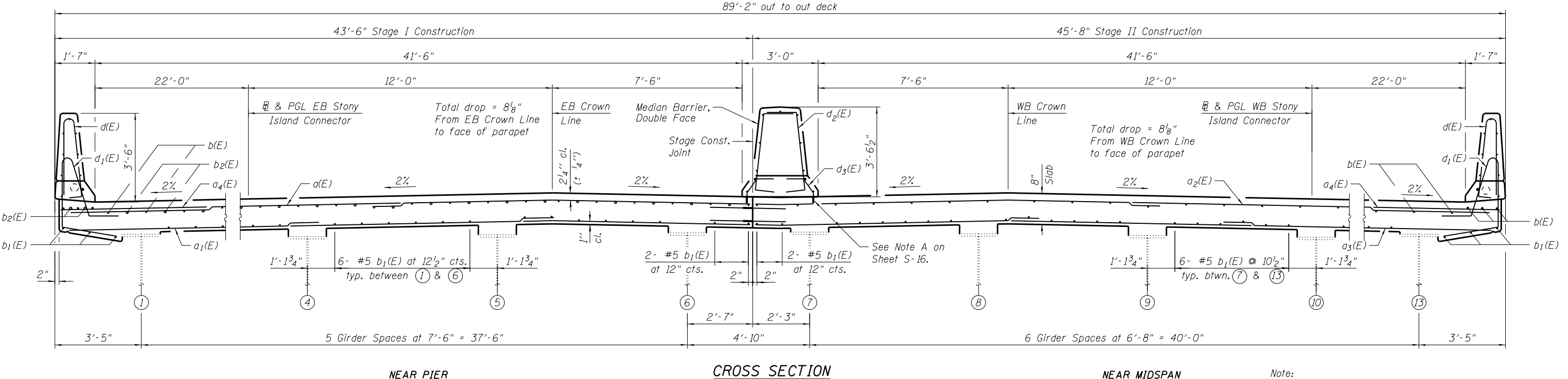
PARTIAL DECK PLAN



MIN. BAR LAP

(Deck)
 #5 - 3'-3"
 #6 - 3'-10"

*Order a(E) thru a3(E) bars full length. Cut to fit skew and use remainder of bars in opposite end of deck.



CROSS SECTION

(Looking West)

Note: Drainage Scuppers not shown for clarity.

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SUPERSTRUCTURE PLAN & CROSS SECTION
STRUCTURE NO. 016-2440

SHEET NO. S-15 OF S-47 SHEETS

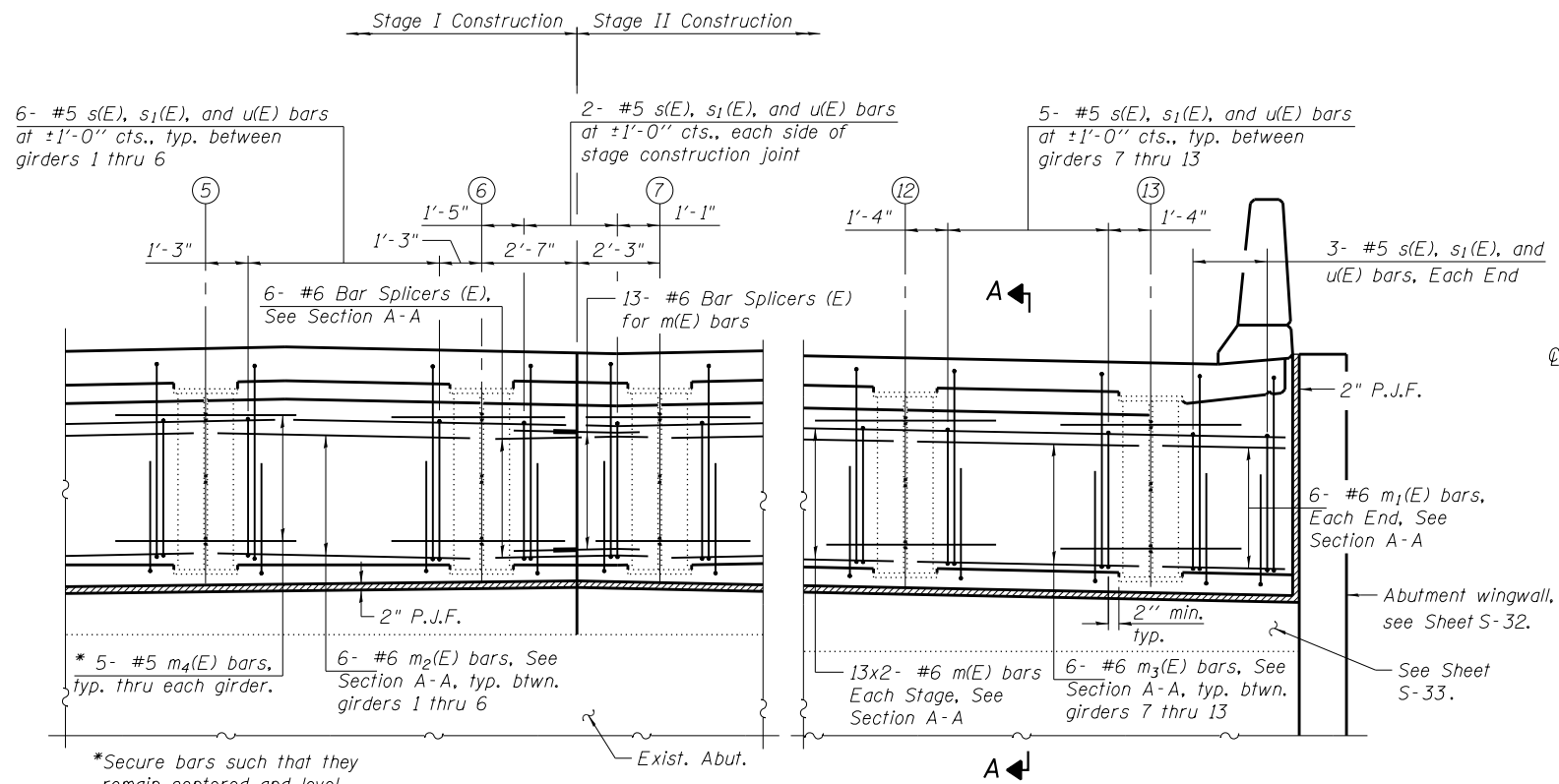
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60J12				

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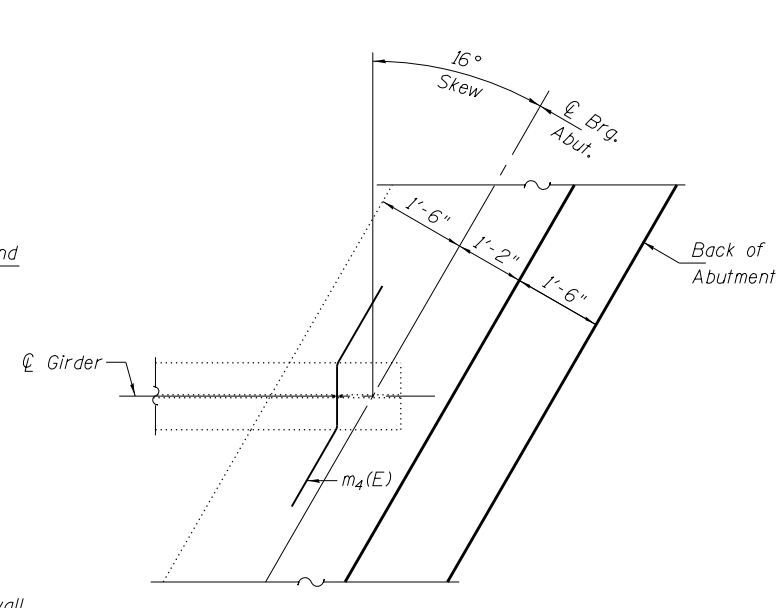
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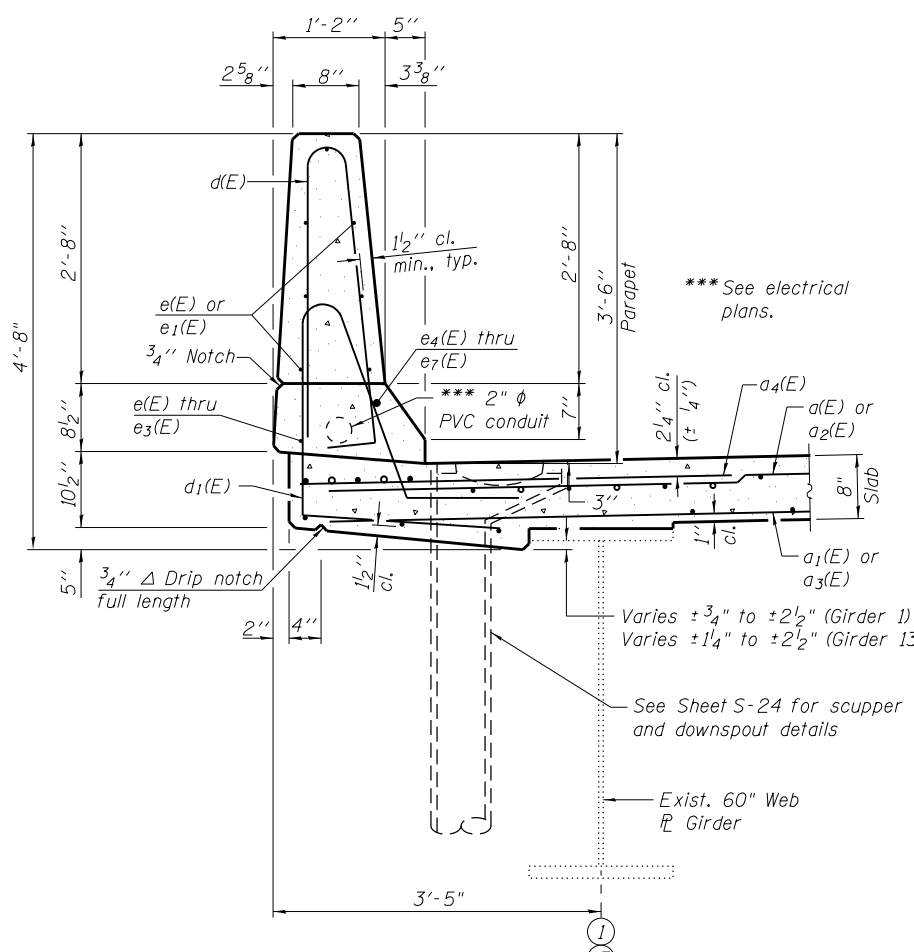
DIAPHRAGM ELEVATION AT ABUTMENT

*Secure bars such that they remain centered and level during pouring of the concrete.

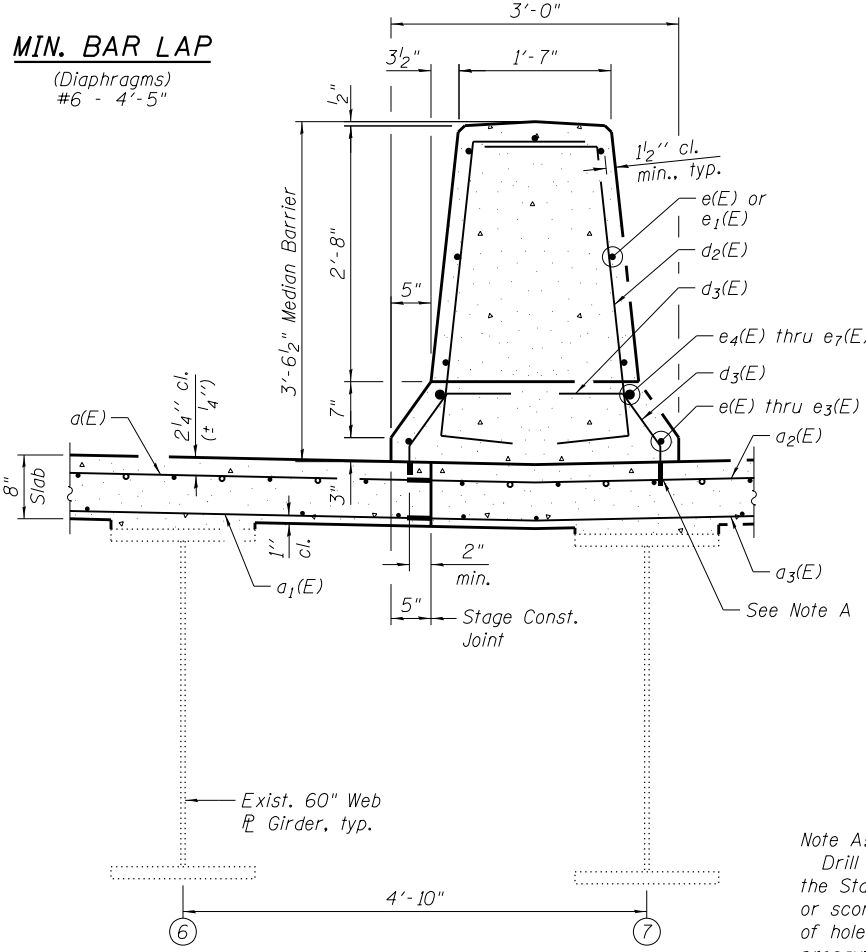


PARTIAL PLAN AT ABUTMENT
(Showing m4(E) bar through girder)

Notes:
Reinforcement bars in diaphragm are billed with superstructure on Sheet S-18.
Concrete in diaphragm is included with Concrete Superstructure on Sheet S-18.
For details of bars m4(E), s(E), s1(E) and u(E) see Sheet S-18.
The s(E), s1(E), and u(E) bars shall be placed parallel to the girders. Spacing for these bars shall be at right angles to the girders.
The approach slab seat shall have a constant slope determined from the control points shown in Table A.

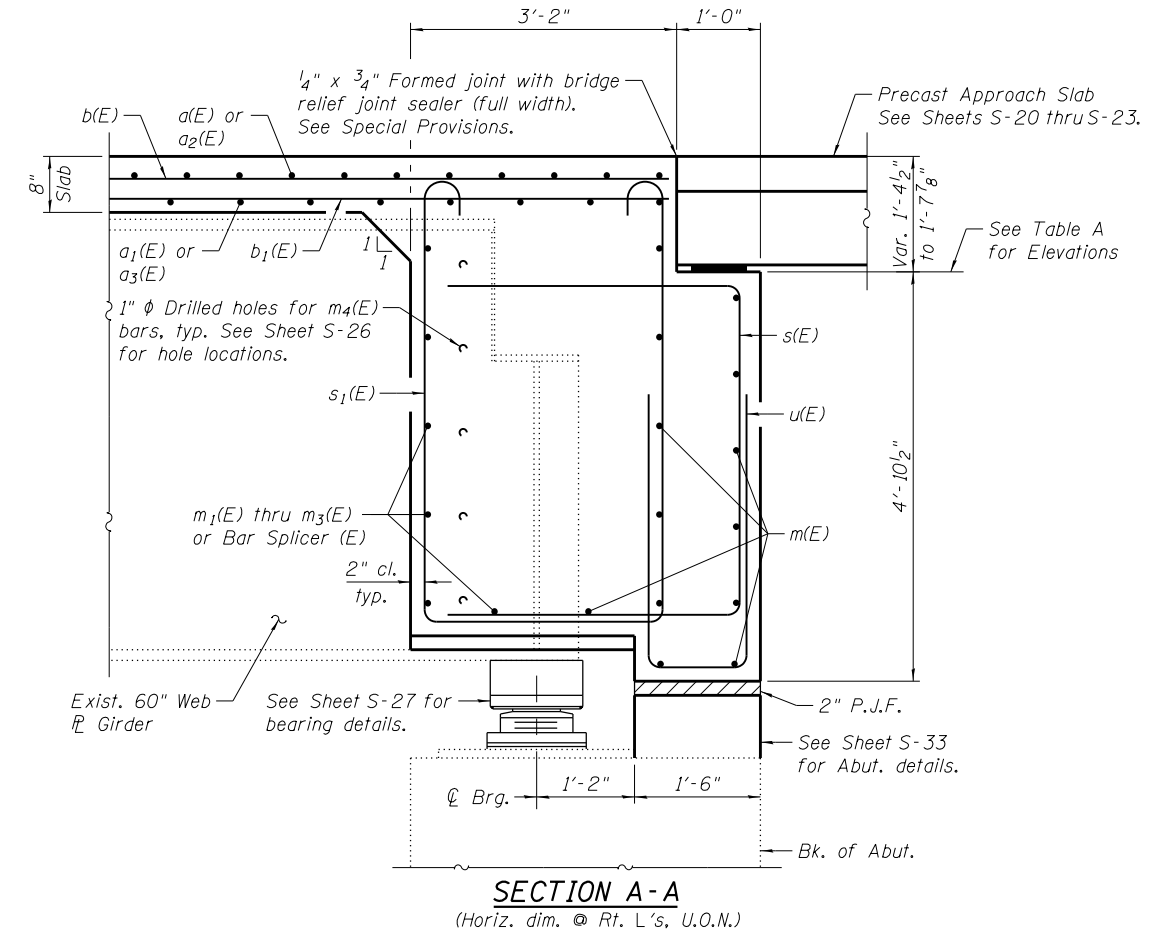


SECTION THRU PARAPET



SECTION THRU MEDIAN BARRIER

MIN. BAR LAP
(Diaphragms)
#6 - 4'-5"



SECTION A-A
(Horiz. dim. @ Rt. L's, U.O.N.)

Note A:
Drill and set #5 d3(E) bars according to Section 584 of the Standard Specifications. Drilled holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6". Contractor shall take all necessary precautions to prevent drilled hole interference with deck reinforcement bars. Locate longitudinal bars to miss drilled locations. Locate drilled holes to miss transverse bars in deck.

TABLE A

	APPR. SLAB SEAT ELEVATION		
	South End	Stage Const. Jt.	North End
W. Abut.	618.42	618.87	618.24
E. Abut.	614.60	615.05	614.42

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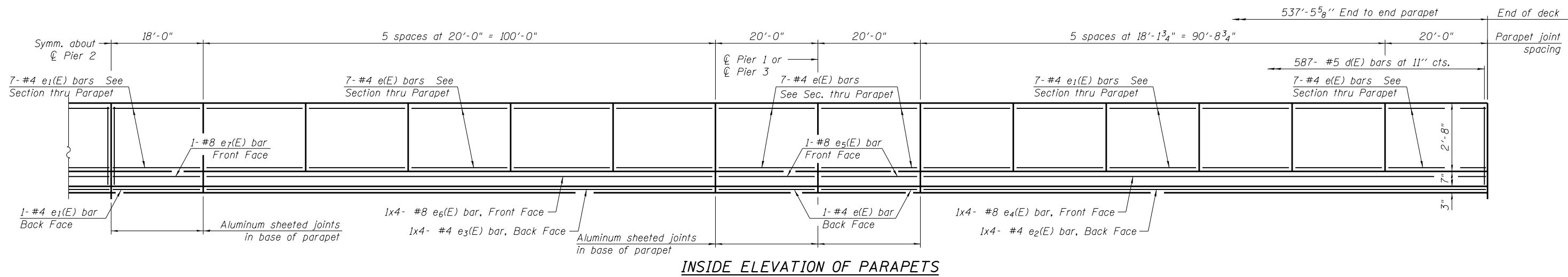
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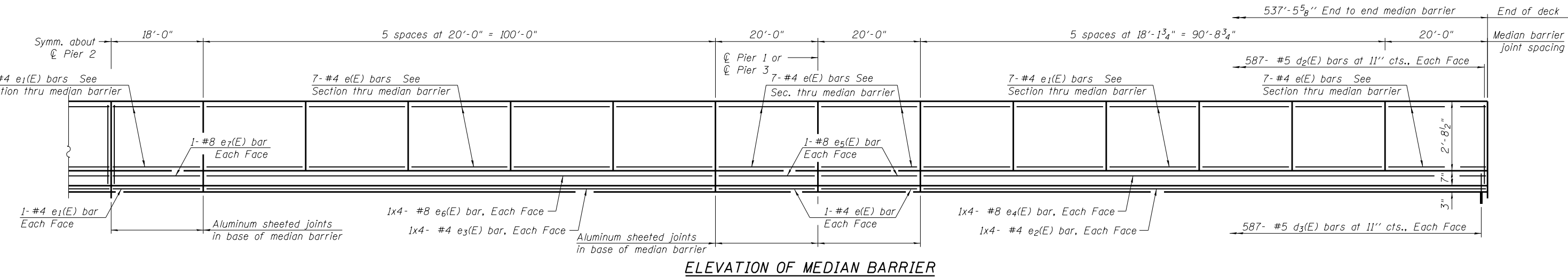
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SUPERSTRUCTURE DETAILS I
STRUCTURE NO. 016-2440
SHEET NO. S-16 OF S-47 SHEETS

F.A.I. RT. SECTION COUNTY TOTAL SHEETS SHEET NO.
94 2012-059-BR COOK 631 444
CONTRACT NO. 60J12
ILLINOIS FED. AID PROJECT

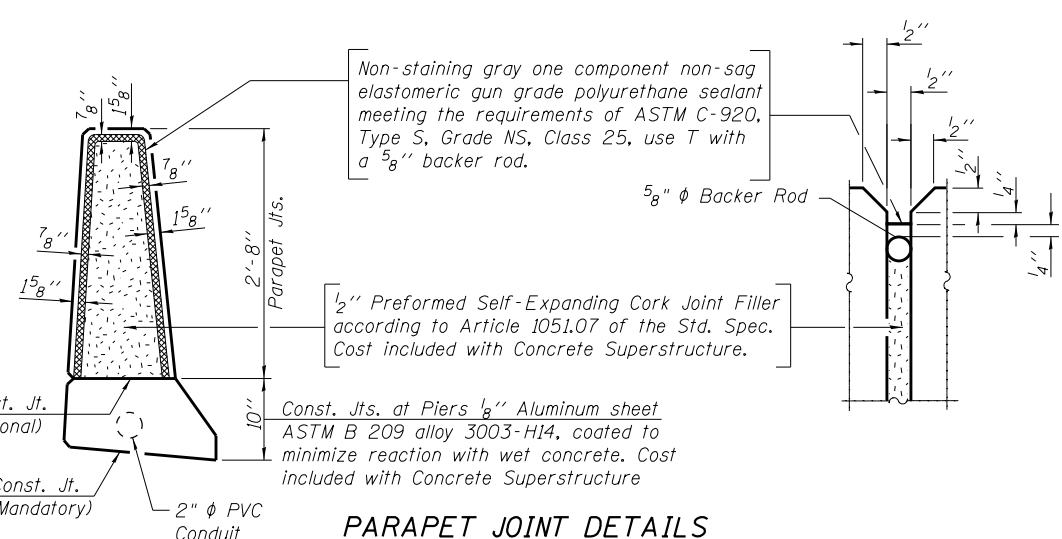


INSIDE ELEVATION OF PARAPETS

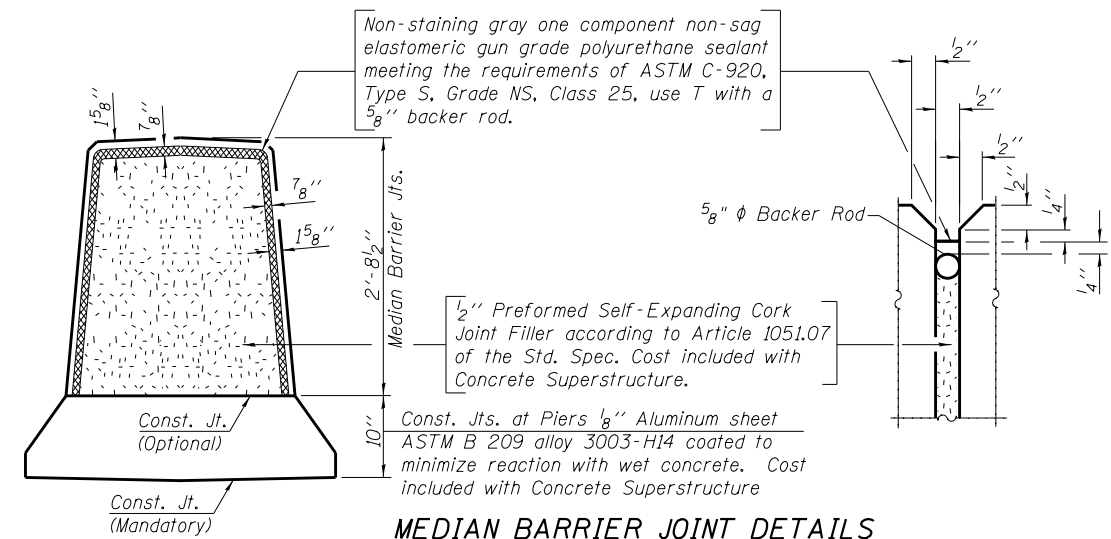


ELEVATION OF MEDIAN BARRIER
(Looking North)

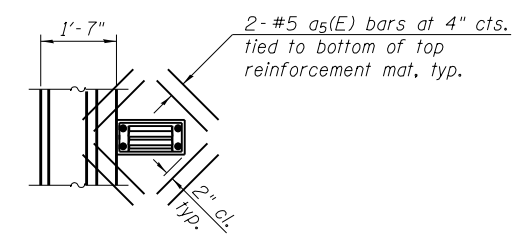
MINIMUM BAR LAP
(Parapets & Median Barrier)
#4 bar = 2'-0"
#8 bar = 5'-2"



PARAPET JOINT DETAILS



MEDIAN BARRIER JOINT DETAILS



SCUPPER DETAIL

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

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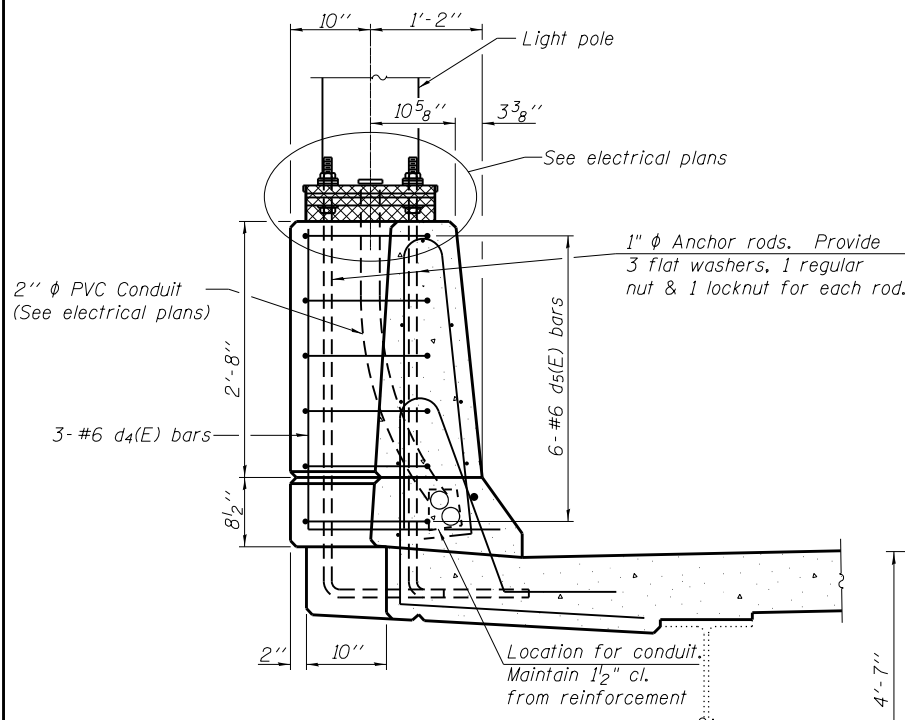
SUPERSTRUCTURE DETAILS II
STRUCTURE NO. 016-2440
SHEET NO. S-17 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	445
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

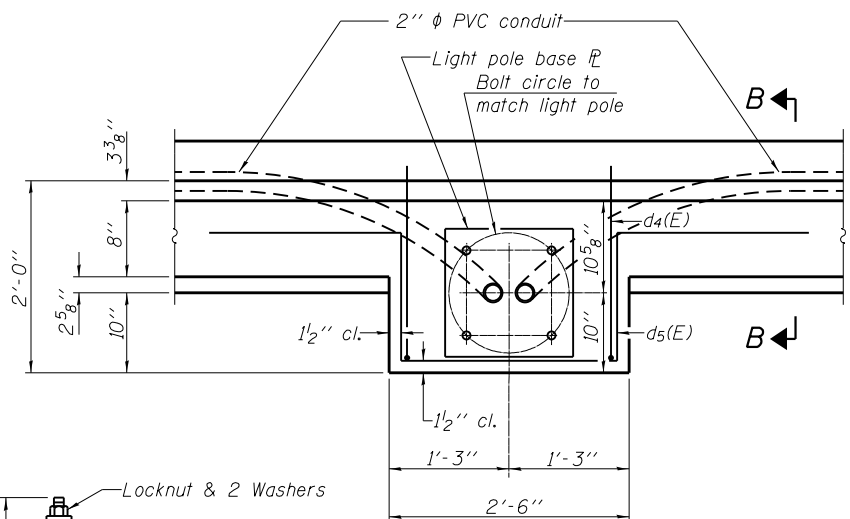
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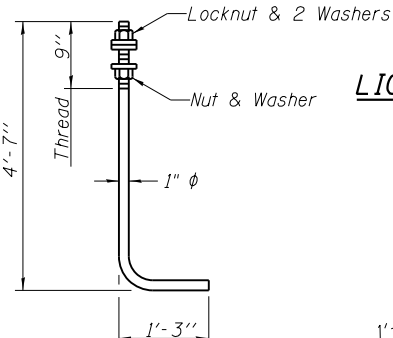
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SECTION B-B



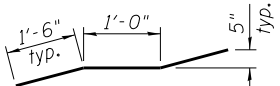
LIGHT POLE FOUNDATION PLAN



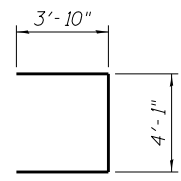
ANCHOR ROD

(ASTM F 1554 Grade 105, full length hot dipped galvanized)

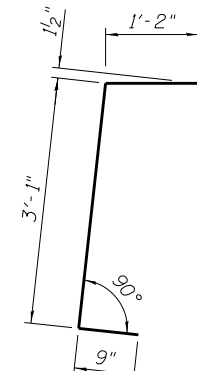
Note:
Cost of anchor rods is included with Concrete Superstructure.



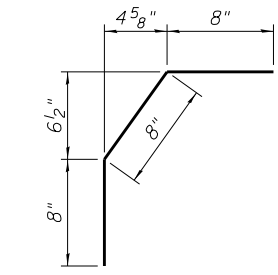
BAR m4(E)



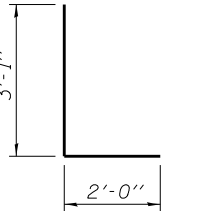
BAR s(E)



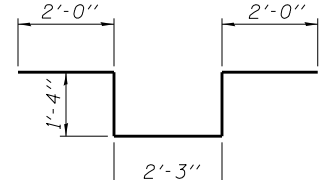
BAR d2(E)



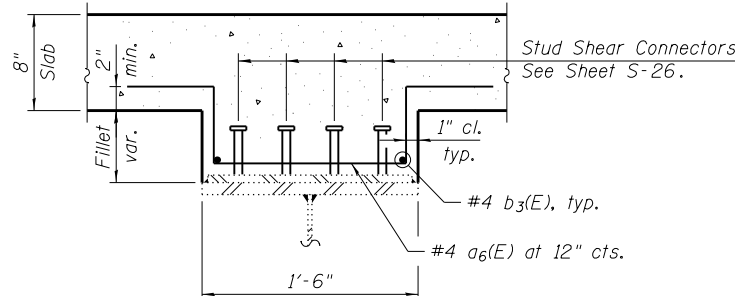
BAR d3(E)



BAR d4(E)



BAR d5(E)



DEEP FILLET SECTION

(For fillet heights greater than 6")

Deep Fillet Notes:

- Bars indicated thus 2x3- #4 etc. indicates 2 lines of bars with 3 lengths per line.
- Limits of deep fillets are estimated and are subject to variation. The Contractor shall field verify fillet depths and make necessary approved adjustments to deep fillet reinforcement bars prior to pouring the deck. Such adjustments 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.

MIN. BAR LAP

(Deep fillet reinforcement)
#4 - 2'-7"

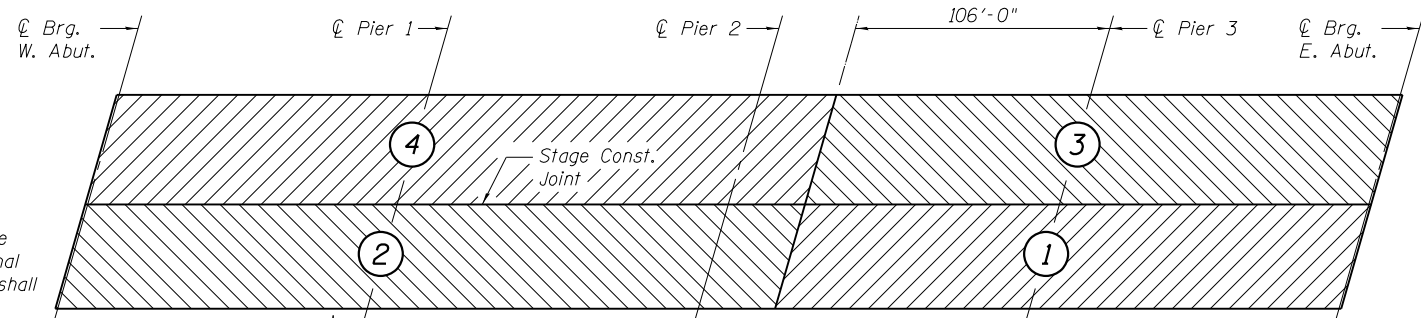
DEEP FILLET REINFORCEMENT DATA

Location	Estimated Limits	Length	Transverse bars	Longitudinal bars
Girder 5	E. end of deck to Sta. 932+91	190'-0"	191- #4 a6(E)	2x9- #4 b3(E)
	Sta. 934+74 to W. end of deck	165'-0"	166- #4 a6(E)	2x8- #4 b3(E)
Girder 8	E. end of deck to Sta. 932+41	145'-0"	146- #4 a6(E)	2x7- #4 b3(E)
	Sta. 934+92 to Sta. 935+15	23'-0"	24- #4 a6(E)	2x1- #4 b3(E)
Girder 9	E. end of deck to Sta. 932+44	150'-0"	151- #4 a6(E)	2x7- #4 b3(E)

Optional Deck Pouring Sequence Notes:

When the deck pour is stopped for the day at the transverse bonded construction joint in the optional deck pouring sequence as shown, the next pour shall not be made until both of the following are met:

- At least 72 hours shall have elapsed from the end of the previous pour.
- The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.



OPTIONAL DECK POURING SEQUENCE

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	1724	#5	23'-3"	
a1(E)	1935	#5	16'-7"	
a2(E)	1724	#5	24'-4"	
a3(E)	1935	#5	17'-4"	
a4(E)	862	#6	6'-6"	
a5(E)	16	#5	1'-6"	
a6(E)	678	#4	3'-10"	
b(E)	1840	#5	30'-0"	
b1(E)	1672	#5	27'-7"	
b2(E)	792	#6	29'-3"	
b3(E)	64	#4	23'-8"	
d(E)	1174	#5	6'-10"	
d1(E)	1174	#5	7'-11"	
d2(E)	1174	#5	5'-0"	
d3(E)	1174	#5	2'-0"	
d4(E)	15	#6	5'-1"	
d5(E)	30	#6	8'-11"	
e(E)	352	#4	19'-8"	
e1(E)	260	#4	17'-8"	
e2(E)	32	#4	29'-2"	
e3(E)	32	#4	26'-5"	
e4(E)	32	#8	31'-6"	
e5(E)	16	#8	19'-7"	
e6(E)	32	#8	28'-10"	
e7(E)	8	#8	17'-8"	
m(E)	104	#6	25'-10"	
m1(E)	24	#6	3'-2"	
m2(E)	60	#6	7'-4"	
m3(E)	72	#6	6'-6"	
m4(E)	130	#5	4'-0"	
s(E)	140	#5	11'-9"	
s1(E)	140	#5	14'-11"	
u(E)	140	#5	8'-2"	
Reinforcement Bars, Epoxy Coated	Pound		359,220	
Concrete Superstructure	Cu. Yds.		1788.8	
Bridge Deck Grooving	Sq. Yd.		4,718	
Protective Coat	Sq. Yd.		6,003	

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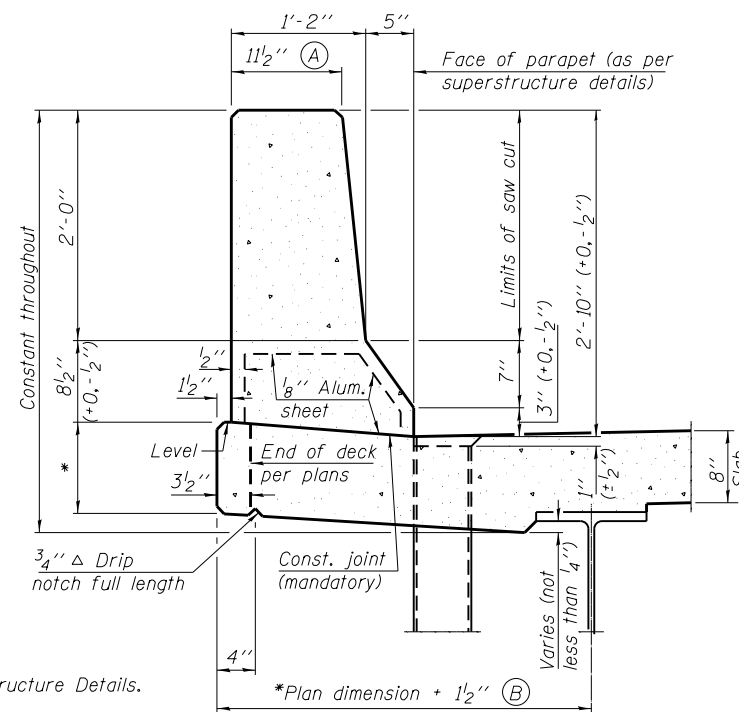
SUPERSTRUCTURE DETAILS III
STRUCTURE NO. 016-2440

SHEET NO. S-18 OF S-47 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 446
CONTRACT NO. 60J12			ILLINOIS FED. AID PROJECT	

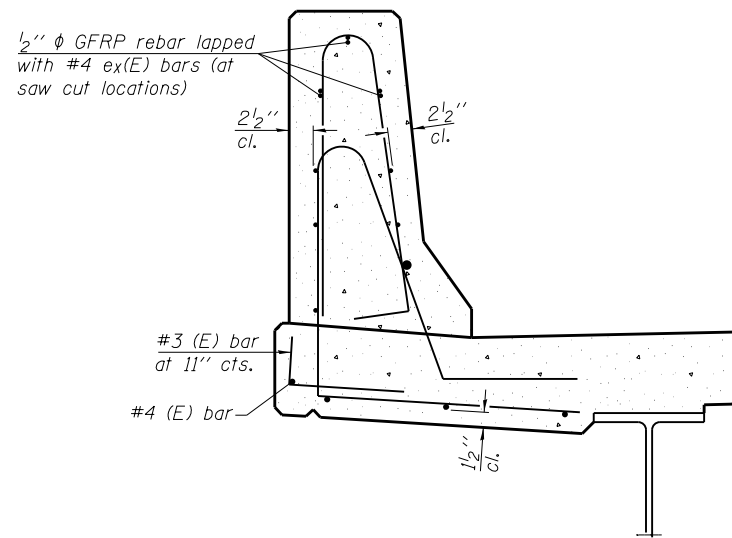
GENERAL NOTES

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.



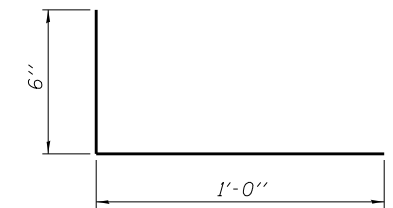
*See Superstructure Details.

34" F SHAPE PARAPET SECTION
(Showing dimensions)

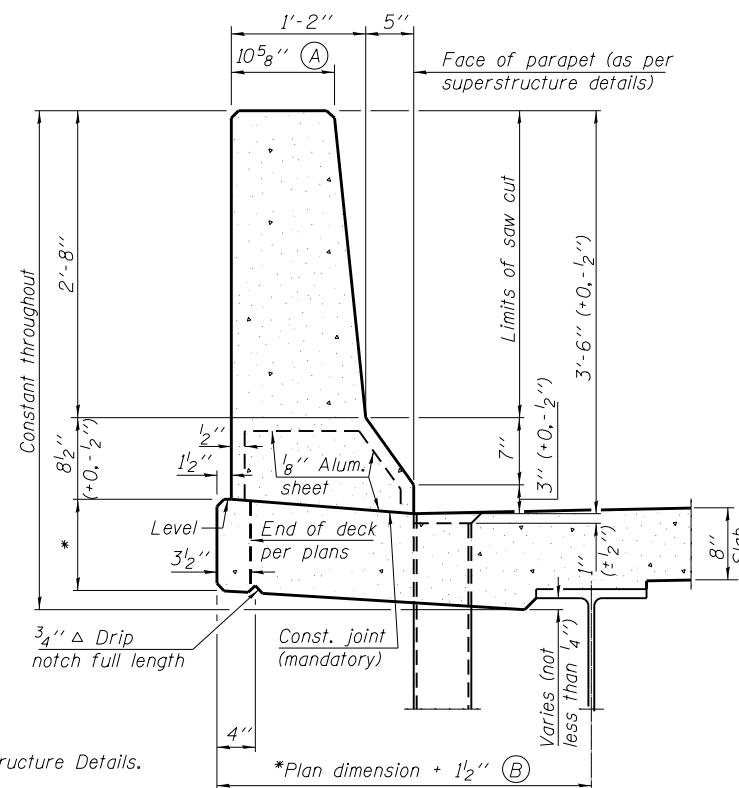


SECTION

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

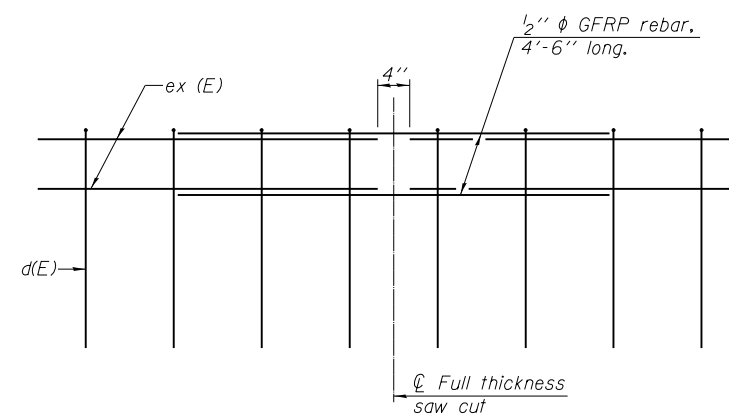


#3 (E) BAR



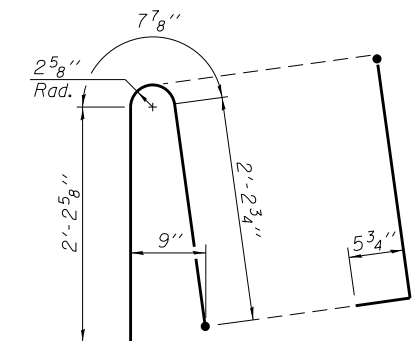
*See Superstructure Details.

42" F SHAPE PARAPET SECTION
(Showing dimensions)

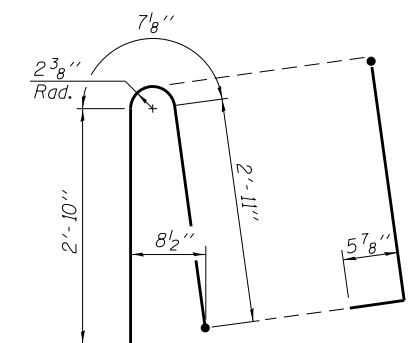


GFRP REBAR STIFFENING DETAIL

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



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

SFP 34-42 8-16-12

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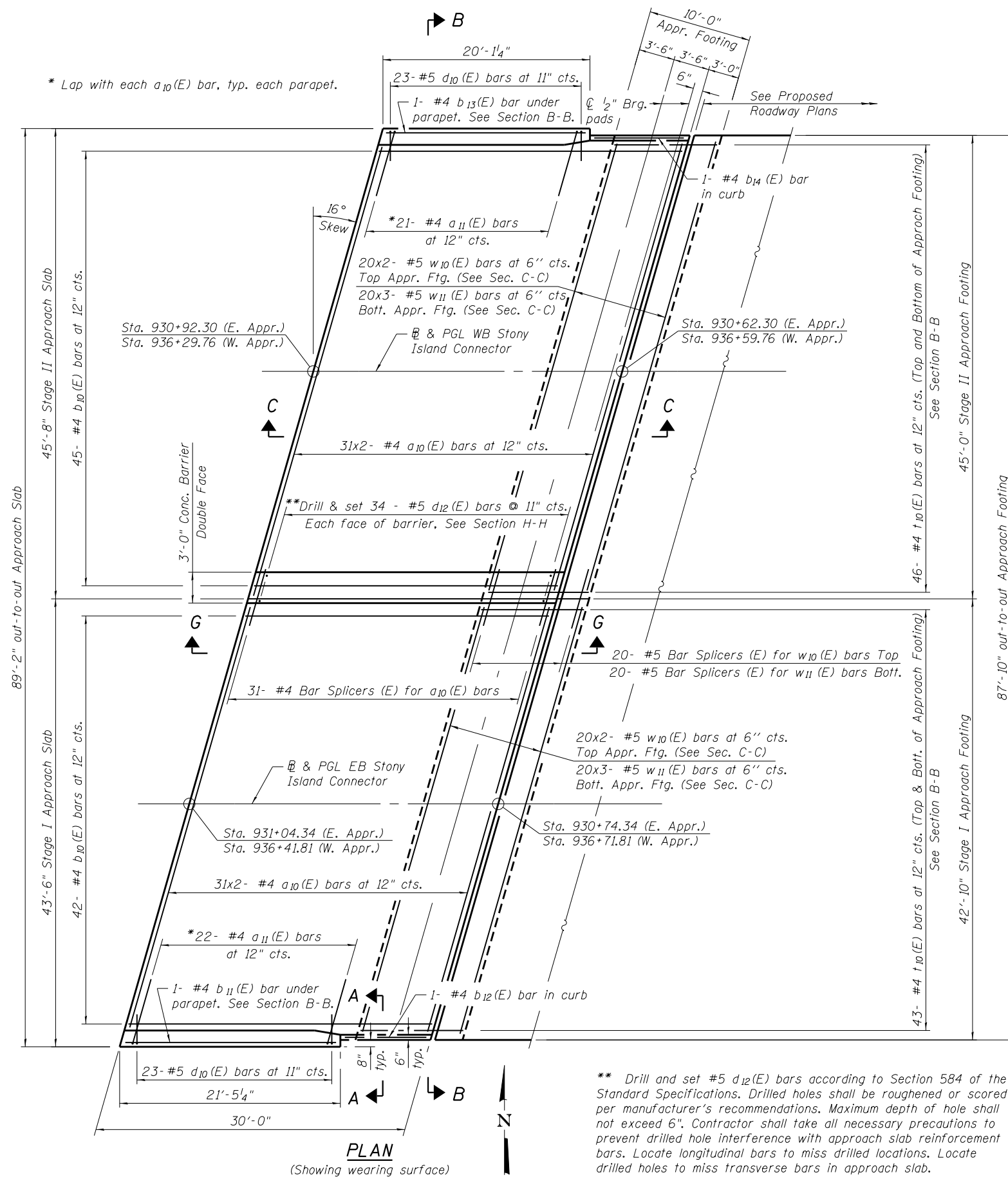
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BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS Chicago, Illinois 312.228.0100 www.bbainc.com	USER NAME =	DESIGNED - TL CHECKED - BAK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE PARAPET SLIPFORMING OPTION STRUCTURE NO. 016-2440	F.A.I. R.T.E. = 94	SECTION = 2012-059-BR	COUNTY = COOK	TOTAL SHEETS = 631	SHEET NO. = 447
	PLOT SCALE =	DRAWN - MTR CHECKED - BAK	REVISED -			SHEET NO. S-19 OF S-47 SHEETS	CONTRACT NO. 60J12	ILLINOIS FED. AID PROJECT		

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PLAN
(Showing wearing surface)

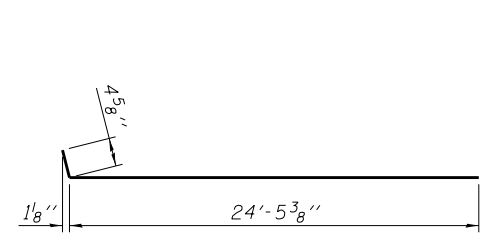
** Drill and set #5 d₁₂(E) bars according to Section 584 of the Standard Specifications. Drilled holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6". Contractor shall take all necessary precautions to prevent drilled hole interference with approach slab reinforcement bars. Locate longitudinal bars to miss drilled locations. Locate drilled holes to miss transverse bars in approach slab.

MIN. BAR LAP

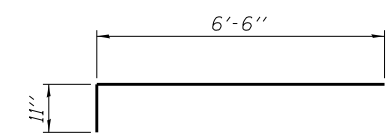
- #4 - 2'-7"
- #5 - 3'-3"

Notes:

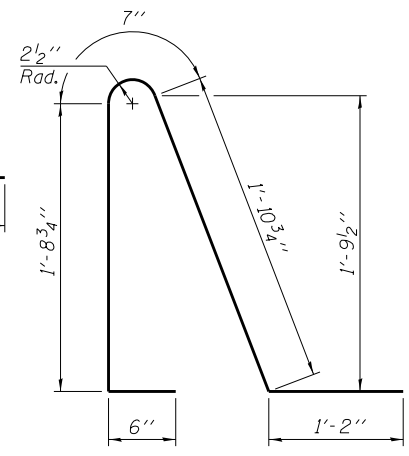
1. See Sheet S-21 for Sections B-B and C-C.
2. a₁₀(E) bar spacings measured along B & PGL Stony Island Connector.
3. For bar splicer details, see Sheet S-37.



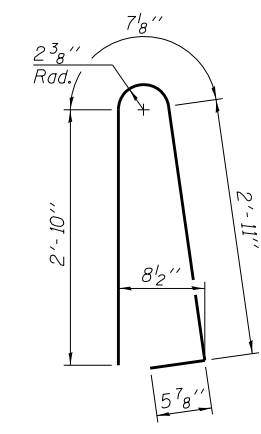
BAR a₁₀(E)



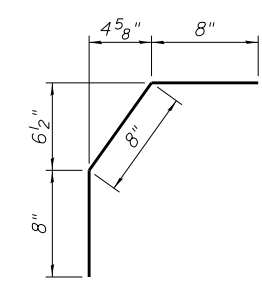
BAR a₁₁(E)



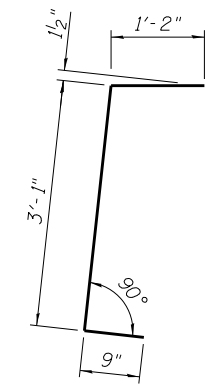
BAR d₁₀(E)



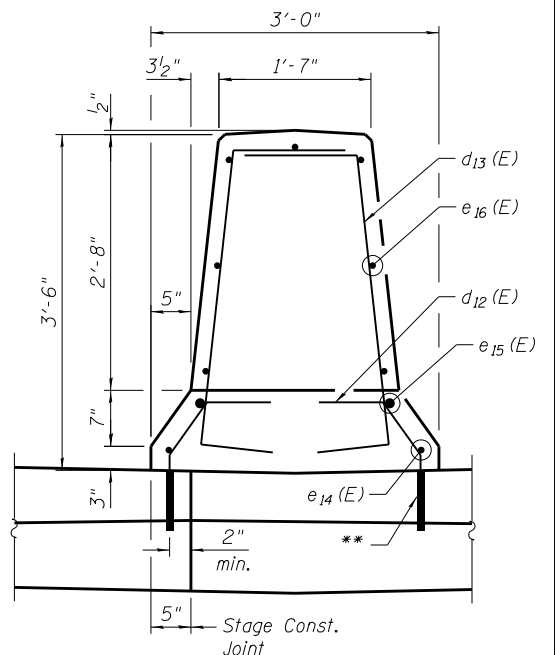
BAR d₁₁(E)



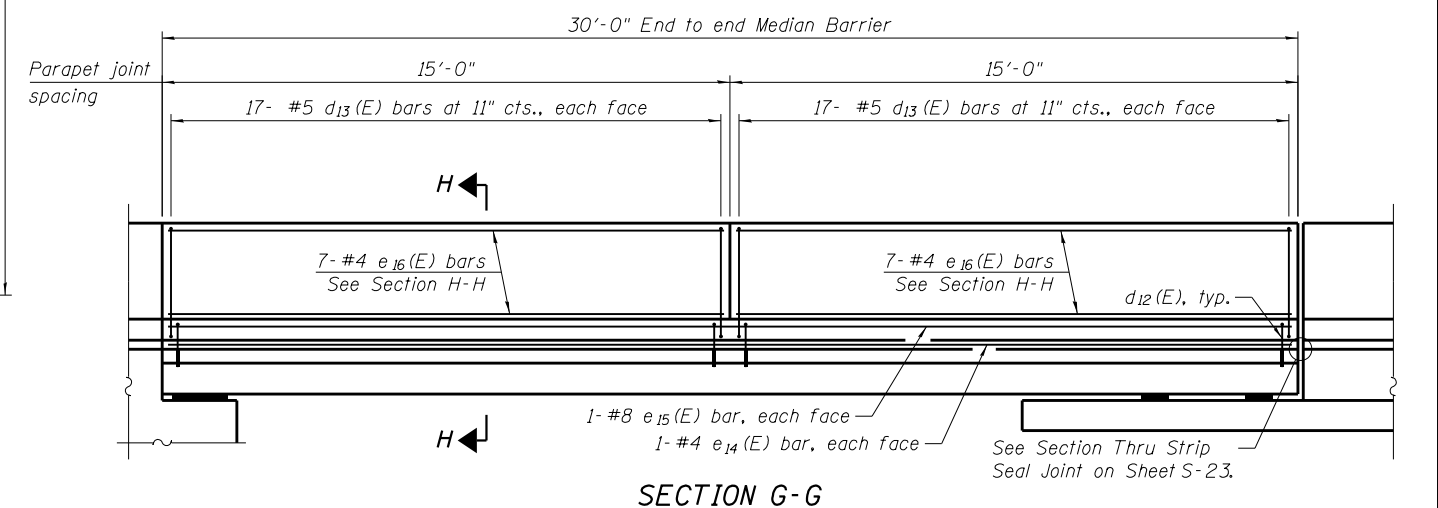
BAR d₁₂(E)



BAR d₁₃(E)



SECTION H-H
(Looking West)



SECTION G-G

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	CHECKED - BAK	REVISED -

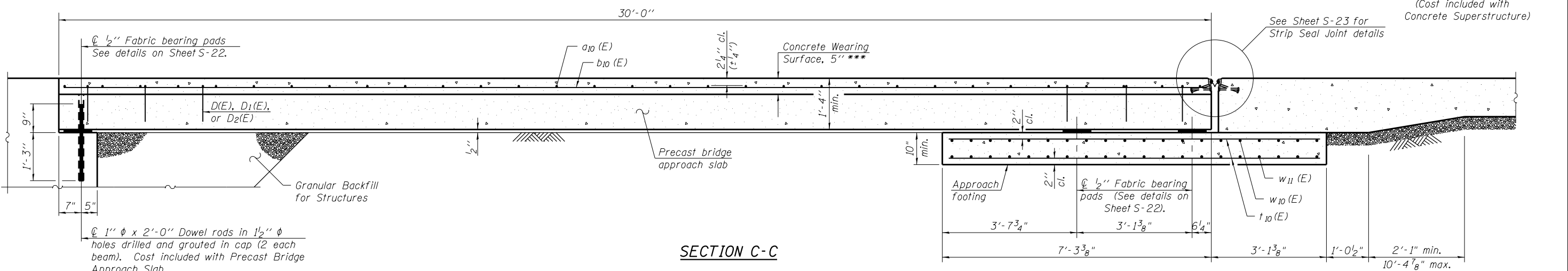
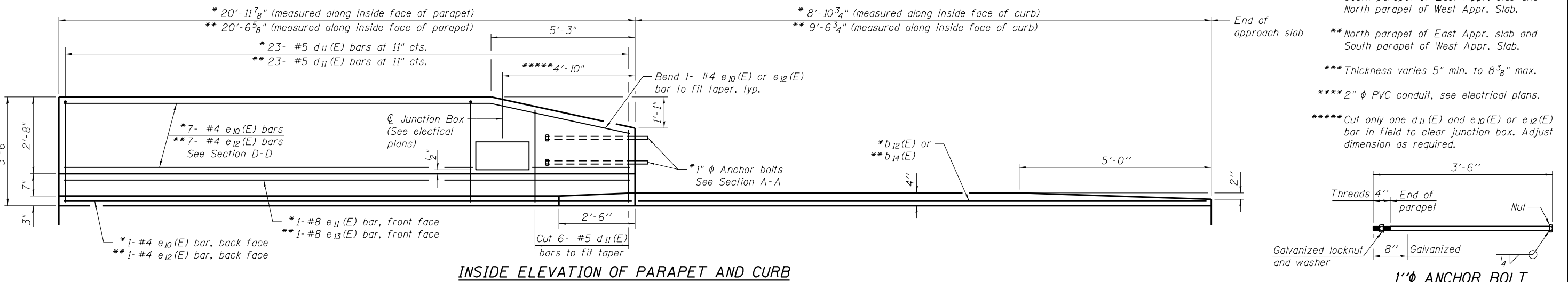
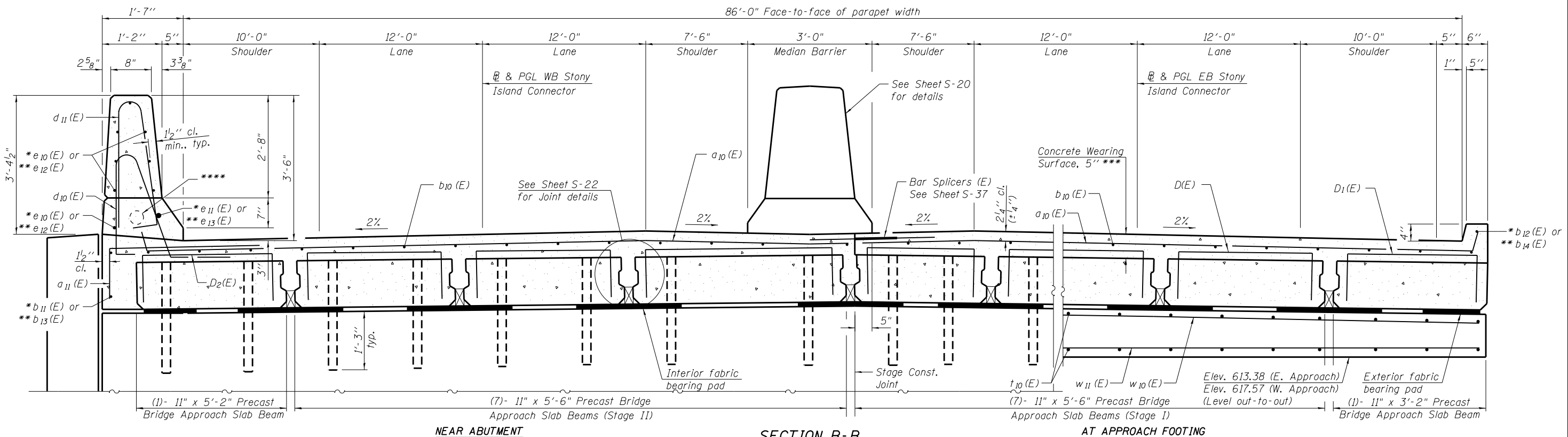
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PRECAST BRIDGE APPROACH SLAB DETAILS I
STRUCTURE NO. 016-2440

SHEET NO. S-20 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	448
CONTRACT NO. 60J12				

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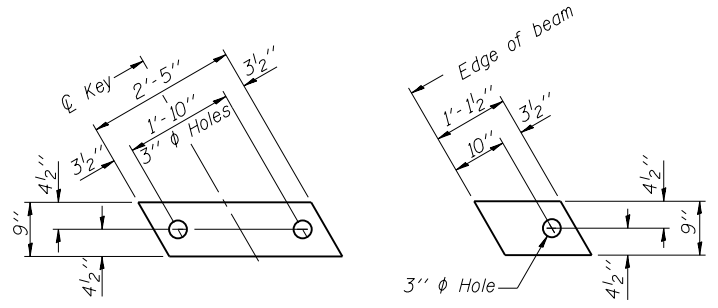
STATE OF ILLINOIS
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PRECAST BRIDGE APPROACH SLAB DETAILS II
STRUCTURE NO. 016-2440

F.A.I. R.E. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 449
CONTRACT NO. 60J12				

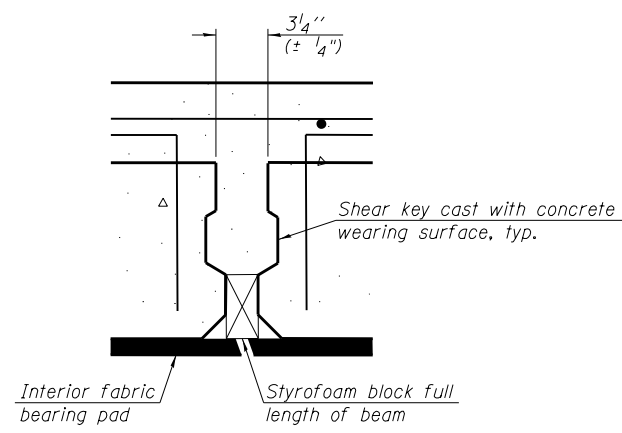
SHEET NO. S-21 OF S-47 SHEETS

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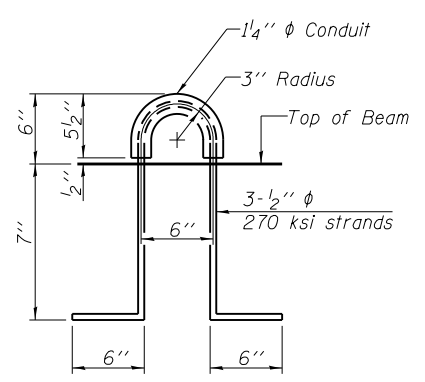


INTERIOR **EXTERIOR**
FABRIC BEARING PAD

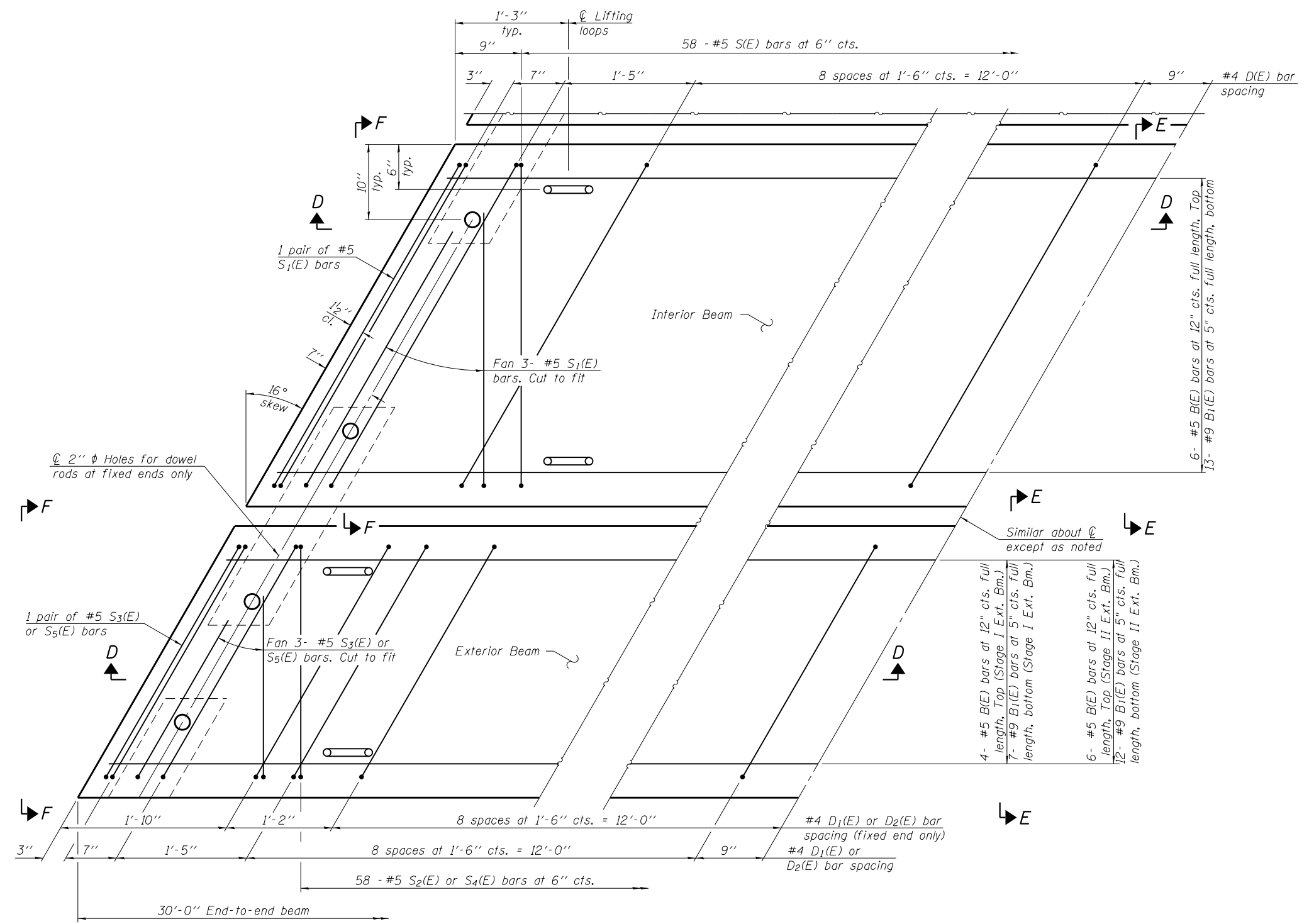
Notes:
All bearing pads shall be 1/2" thick.
Omit holes for fabric bearing pads at approach slab footing end of beams.
Expansion bearing pad shall be bonded to the approach slab footing.



SECTION THRU SHEAR KEY JOINT



LIFTING LOOP DETAIL



PLAN VIEW

(showing precast bridge approach beams)

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4/18/2013

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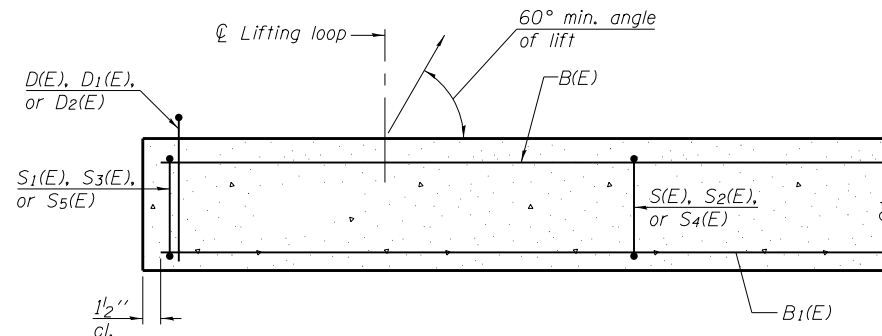
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PRECAST BRIDGE APPROACH SLAB DETAILS III
STRUCTURE NO. 016-2440

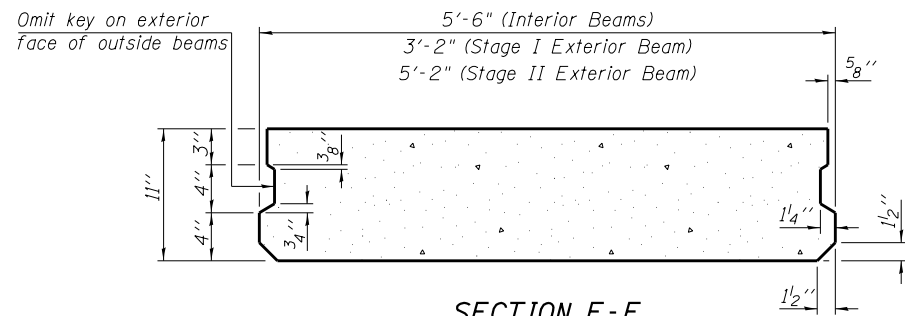
SHEET NO. S-22 OF S-47 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 450
CONTRACT NO. 60J12				

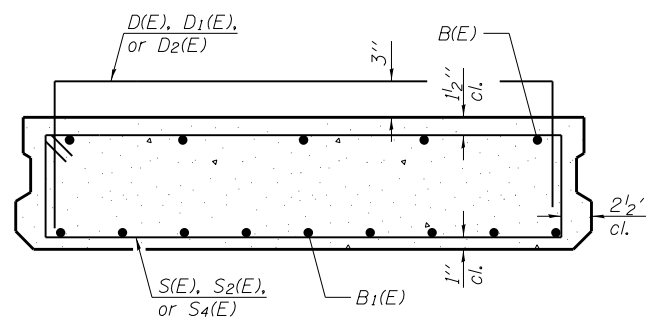
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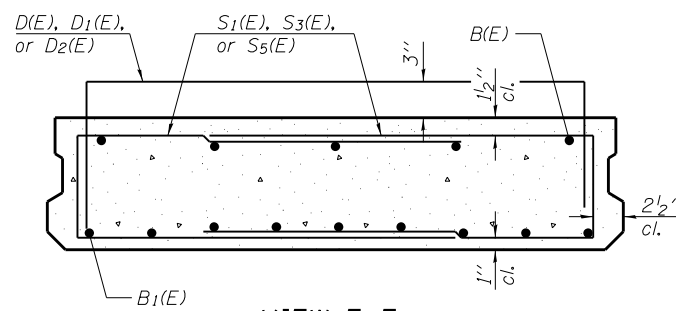
SECTION D-D



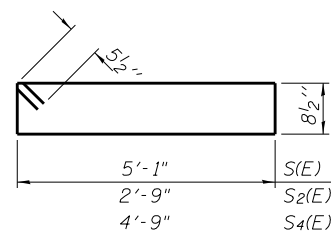
**SECTION E-E
(Showing dimensions)**



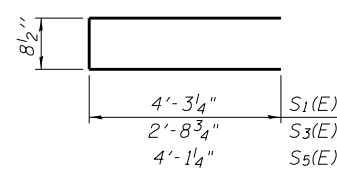
**SECTION E-E
(Showing reinforcement)**



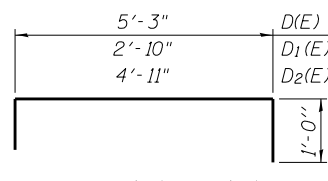
**VIEW F-F
(Showing reinforcement)**



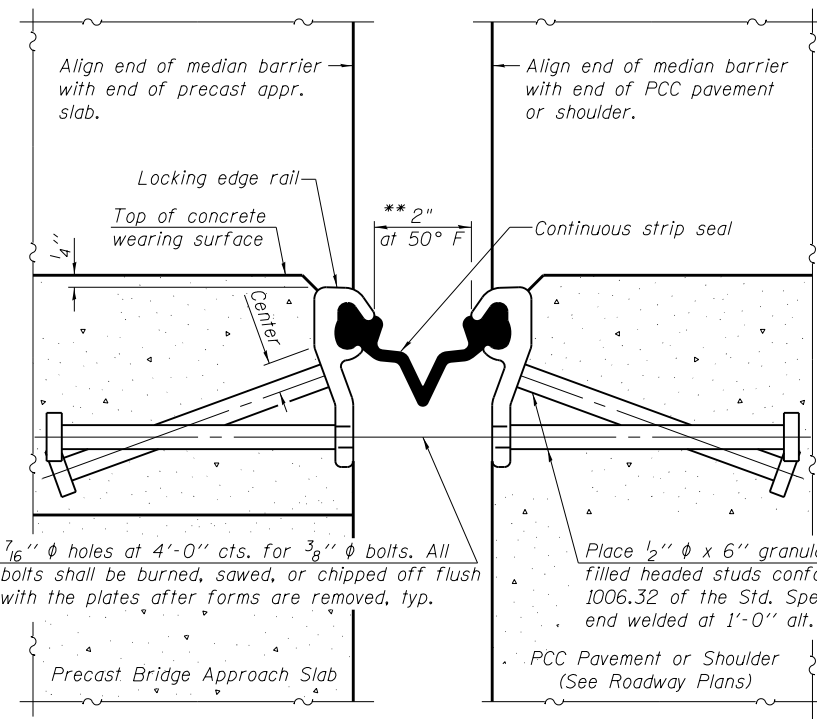
**BARS S(E), S2(E),
& S4(E)**



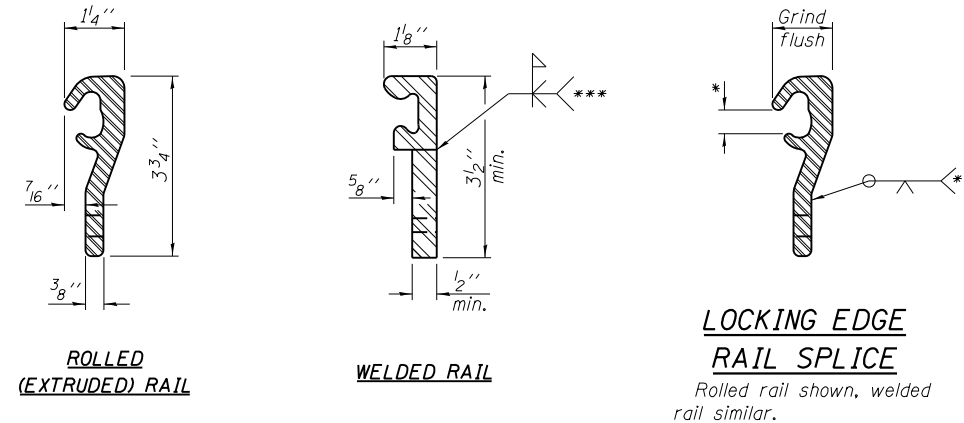
**BARS S1(E), S3(E),
& S5(E)**



**BARS D(E), D1(E),
& D2(E)**



**SECTION THRU STRIP SEAL JOINT
(at rt. angles)**



LOCKING EDGE RAIL

* Omit weld at seal opening.
 ** The joint opening shall be determined per Article 520.04 except that the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as the distance, measured along the girders, from Pier 2 to the end of approach slab. The minimum dimension shall be 1'2" for installation purposes.
 *** Back gouge not required if complete joint penetration is verified by mock-up.

**BAR LIST
EACH INTERIOR BEAM
(For information only)**

Bar	No.	Size	Length	Shape
B(E)	6	#5	29'-8"	—
B1(E)	13	#9	29'-8"	—
D(E)	22	#4	7'-3"	□
S(E)	58	#5	12'-6"	▬
S1(E)	10	#5	9'-3"	□

**BAR LIST
STAGE I EXTERIOR BEAM
(For information only)**

Bar	No.	Size	Length	Shape
B(E)	4	#5	29'-8"	—
B1(E)	7	#9	29'-8"	—
D1(E)	31	#4	4'-10"	□
S2(E)	58	#5	7'-10"	▬
S3(E)	10	#5	6'-2"	□

**BAR LIST
STAGE II EXTERIOR BEAM
(For information only)**

Bar	No.	Size	Length	Shape
B(E)	6	#5	29'-8"	—
B1(E)	12	#9	29'-8"	—
D2(E)	31	#4	6'-11"	□
S4(E)	58	#5	11'-10"	▬
S5(E)	10	#5	8'-11"	□

**TWO APPROACHES
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a10(E)	248	#4	24'-10"	▬
a11(E)	86	#4	7'-5"	▬
b10(E)	174	#4	29'-8"	▬
b11(E)	2	#4	21'-1"	▬
b12(E)	2	#4	8'-5"	▬
b13(E)	2	#4	19'-9"	▬
b14(E)	2	#4	9'-3"	▬
d10(E)	92	#5	5'-11"	▬
d11(E)	92	#5	6'-10"	▬
d12(E)	136	#5	2'-0"	▬
d13(E)	136	#5	5'-0"	▬
e10(E)	16	#4	20'-8"	▬
e11(E)	2	#8	20'-8"	▬
e12(E)	16	#4	19'-9"	▬
e13(E)	2	#8	19'-9"	▬
e14(E)	4	#4	29'-8"	▬
e15(E)	4	#8	29'-8"	▬
e16(E)	28	#4	14'-8"	▬
t10(E)	356	#4	10'-0"	▬
w10(E)	160	#5	24'-10"	▬
w11(E)	240	#5	17'-8"	▬
Bridge Deck Grooving		Sq. Yd.	527	
Protective Coat		Sq. Yd.	656	
Concrete Superstructure		Cu. Yd.	27.0	
Concrete Structures		Cu. Yd.	56.5	
Reinforcement Bars, Epoxy Coated		Pound	22,550	
Precast Bridge Approach Slab		Sq. Ft.	5,120	
Concrete Wearing Surface, 5"		Sq. Yd.	586	
Preformed Joint Strip Seal		Foot	184	

Notes:
 The precast bridge approach slab shall be according to Section 504 of the Standard Specifications and shall be paid for at the contract unit price per square foot for Precast Bridge Approach Slab.
 Cast-in-place substitution of Precast Bridge Approach Slab is not allowed.
 Parapet and median barrier concrete shall be paid for as Concrete Superstructure.
 Parapet, median barrier, and wearing surface reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 Approach footing concrete shall be paid for as Concrete Structures.
 The top surface of precast bridge approach slabs shall be roughened to a depth of 1/4" according to the IDOT "Manual for Fabrication of Precast Prestressed Concrete Products."
 After precast bridge approach slab has been erected, holes shall be drilled into abutment concrete diaphragm and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and allowed to cure fully prior to grouting the longitudinal shear keys.
 Two 3/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Cost included with Precast Bridge Approach Slab.
 A minimum 2 1/2" phi lifting pin shall be used to engage the lifting loops during handling. Compressive strength of precast concrete, f'c shall be 6,000 psi.
 For additional parapet and median barrier details, see Sheets S-16 and S-17.
 Any concrete poured monolithically with the wearing surface, such as curbs, will not be paid for separately, but will be included in the cost of Concrete Wearing Surface, 5".
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The strip seal shall extend 6" beyond the edge of the approach slab on each end. The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
 The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
 The inside of the Locking Edge Rail groove shall be free of weld residue.
 Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.
 The strip seal gland shall be sized for a maximum rated movement of 4". Open or "webbed" strip seal gland configurations are not permitted.
 The strip seal joint shall extend level between faces of the median barrier without any joints in the gland.

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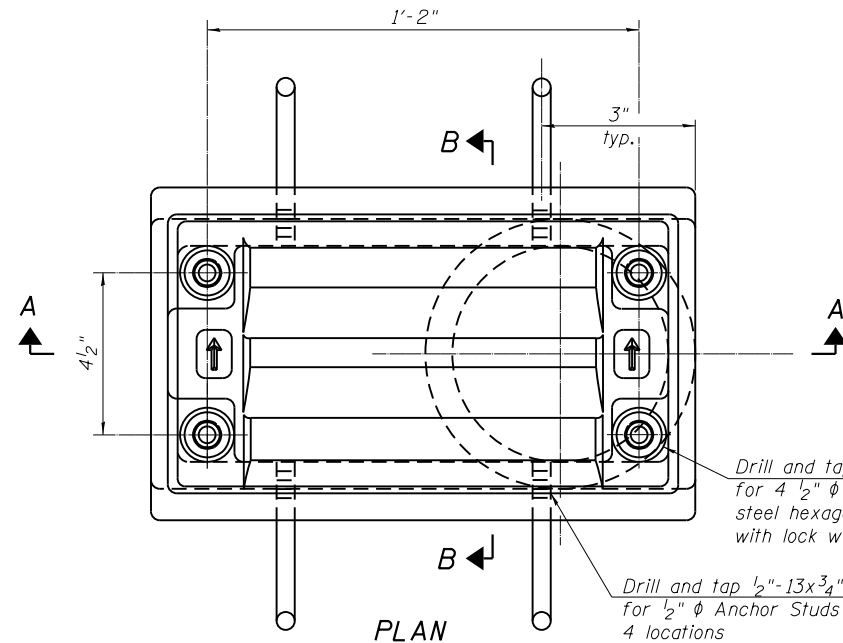
PRECAST BRIDGE APPROACH SLAB DETAILS IV
 STRUCTURE NO. 016-2440
 SHEET NO. S-23 OF S-47 SHEETS

F.A.I. R.T.E. SECTION COUNTY TOTAL SHEETS SHEET NO.
 94 2012-059-BR COOK 631 451
 CONTRACT NO. 60J12
 ILLINOIS FED. AID PROJECT

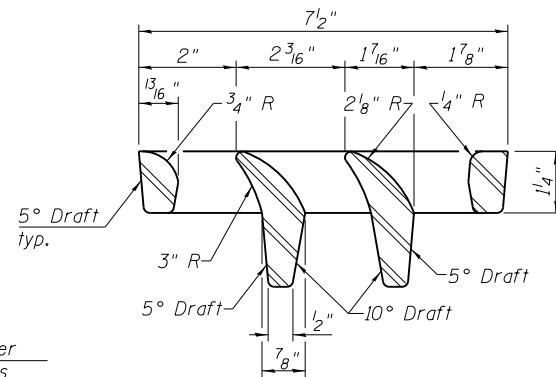
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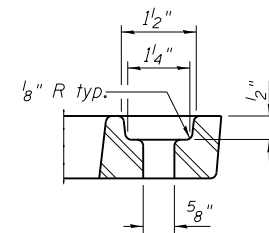
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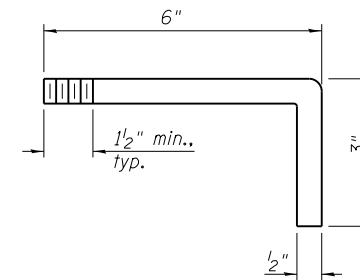
PLAN



VANE GRATE DETAIL



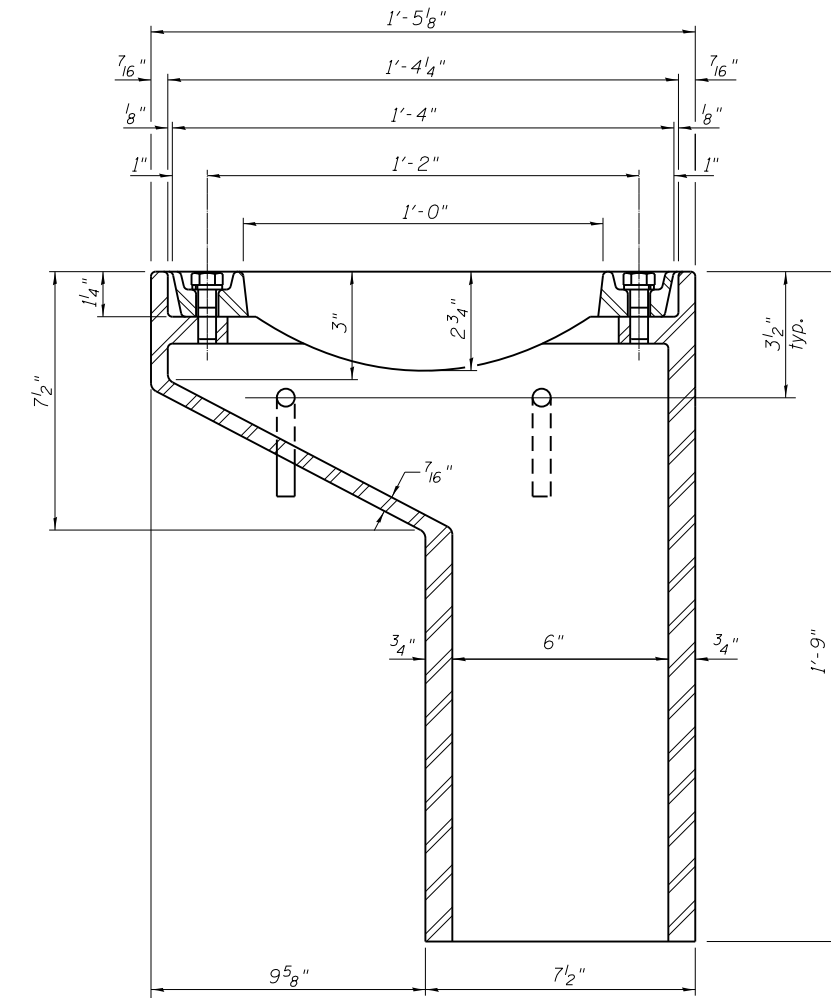
BOLT HOLE DETAIL



ANCHOR STUD DETAIL

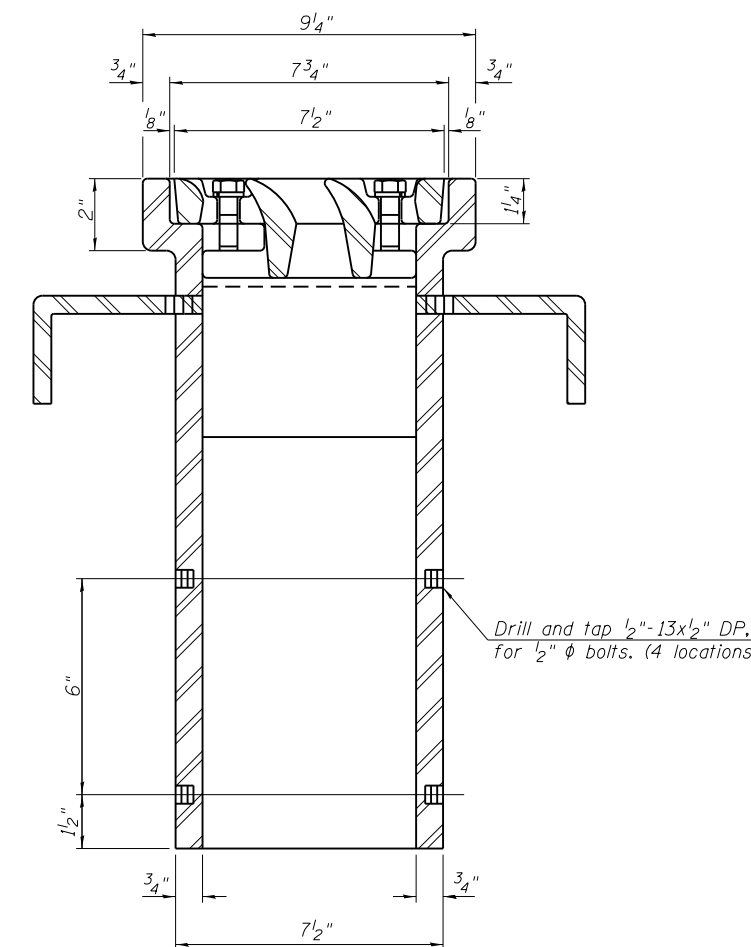
Notes:

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 painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
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 may 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.

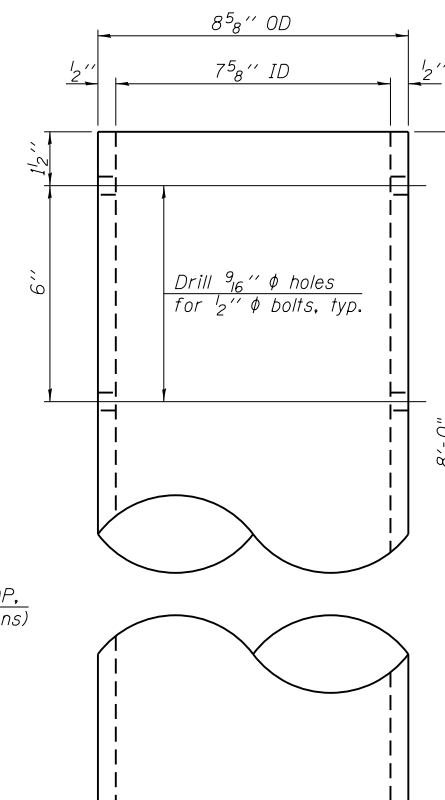


SECTION A-A

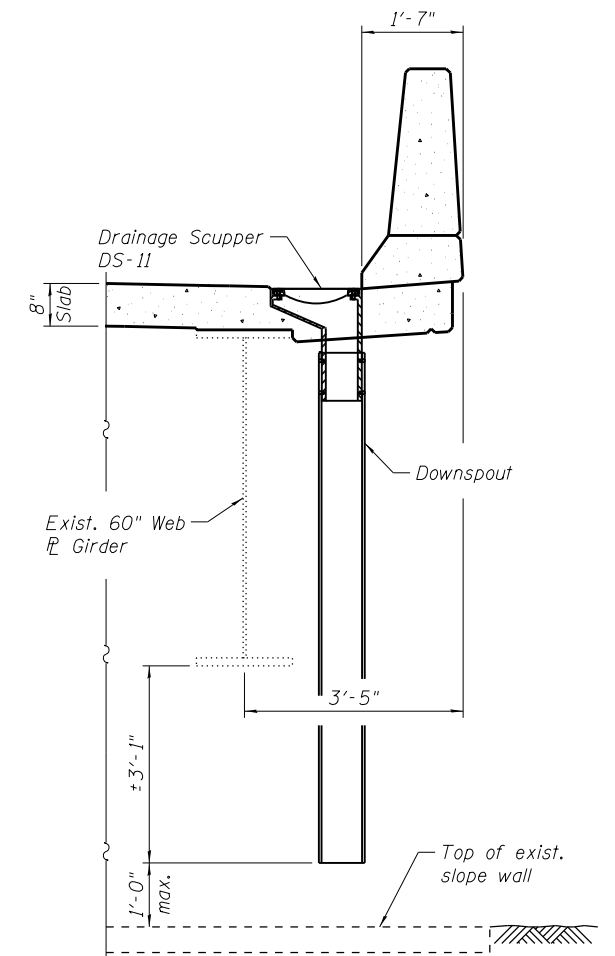
See Section Thru Scupper this sheet for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



SECTION THRU SCUPPER

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

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DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 016-2440

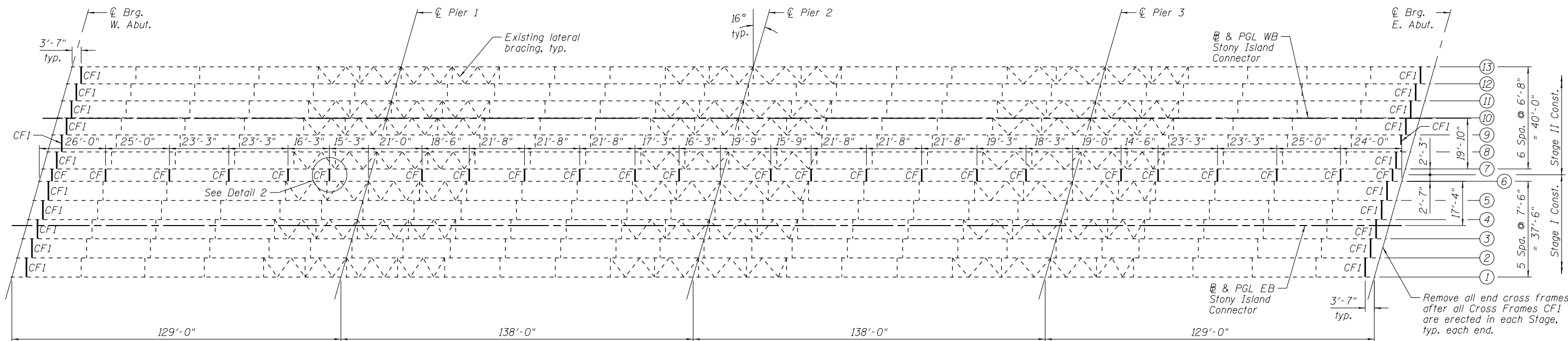
SHEET NO. S-24 OF S-47 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	452
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

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FRAMING PLAN

		0.4 Sp. 1 or 0.6 Sp. 4	Pier 1 or Pier 3	0.5 Sp. 2 or 0.5 Sp. 3	Pier 2
I_s	(in ⁴)	61,196	82,702	47,959	73,263
$I_c(n)$	(in ⁴)	114,391	-	95,924	-
$I_c(3n)$	(in ⁴)	87,126	-	72,322	-
$I_c(cr)$	(in ⁴)	-	91,883	-	82,264
S_s	(in ³)	1,943	2,574	1,541	2,298
$S_c(n)$	(in ³)	2,362	-	1,944	-
$S_c(3n)$	(in ³)	2,190	-	1,790	-
$S_c(cr)$	(in ³)	-	2,667	-	2,393
$\bar{\rho}$	(k/')	1.17	1.24	1.12	1.21
$M\bar{\rho}$	(k)	1,419	2,314	719	1,679
$s\bar{\rho}$	(k/')	0.50	0.50	0.50	0.50
$M_s\bar{\rho}$	(k)	605	989	325	749
$M\bar{t}$	(k)	1,122	1,309	936	1,226
M_I	(k)	221	253	178	233
$\bar{M}_3[M\bar{t} + M_I]$	(k)	2,239	2,603	1,857	2,432
M_a	(k)	5,541	7,678	3,771	6,317
M_u	(k)	8,276	-	7,640	-
$f_s \bar{\rho}$ non-comp	(ksi)	8.76	10.79	5.60	8.76
$f_s \bar{\rho}$ comp	(ksi)	3.31	4.45	2.18	3.75
$f_s \bar{M}_3[M\bar{t} + M_I]$	(ksi)	11.38	11.71	11.47	12.20
f_s (Overload)	(ksi)	23.45	26.95	19.24	24.72
f_s (Total)	(ksi)	-	35.03	-	32.13
VR	(k)	65.8	71.5	51.6	71.5

		W. Abut. or E. Abut.	Pier 1 or Pier 3	Pier 2
$R\bar{\rho}$	(k)	83.2	255.8	215.3
$R\bar{t}$	(k)	49.5	89.5	86.4
R_I	(k)	9.7	17.3	16.4
R_{Total}	(k)	142.4	362.6	318.1

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 (in⁴ and in³).

$I_c(n), S_c(n)$: 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 (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total and Overload) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

$\bar{\rho}$: Un-factored non-composite dead load (kips/ft.).

$M\bar{\rho}$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\bar{\rho}$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s\bar{\rho}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M\bar{t}$: Un-factored live load moment (kip-ft.).

M_I : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).

$1.3 [M\bar{\rho} + M_s\bar{\rho} + \frac{2}{3}(M\bar{t} + M_I)]$

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).

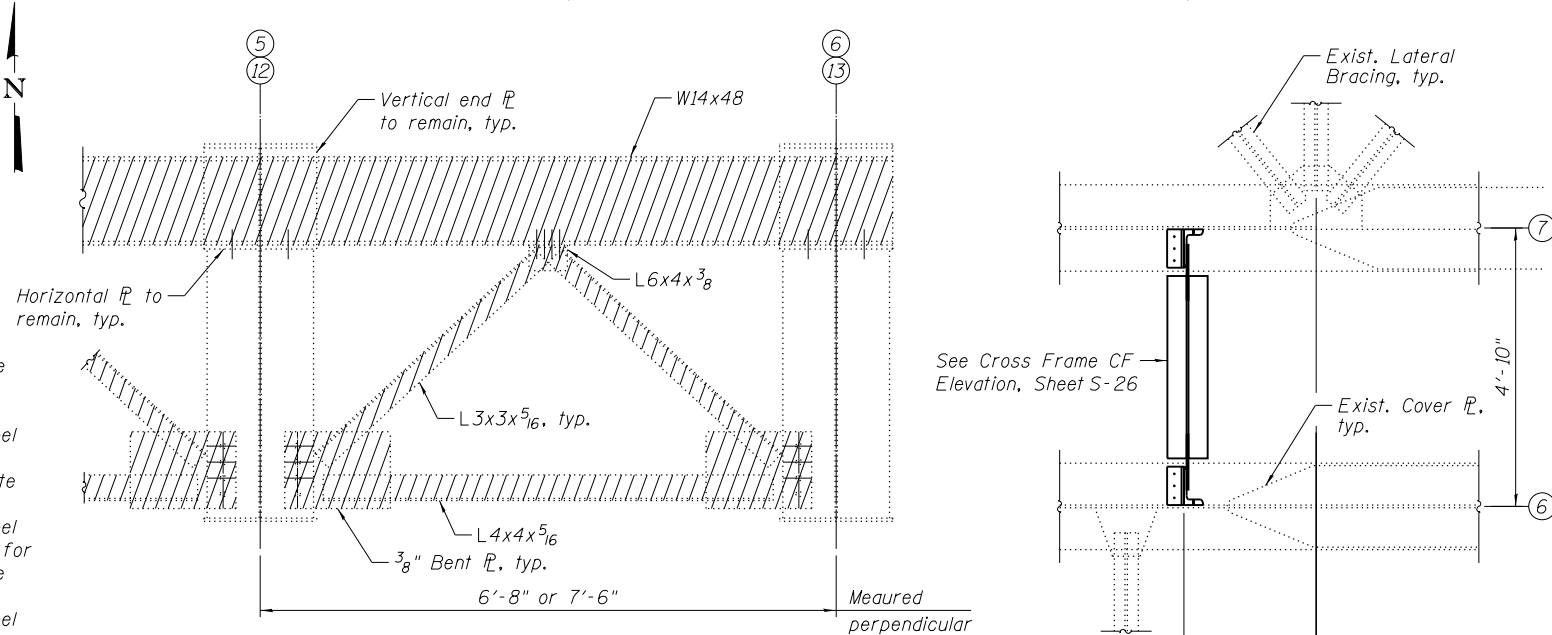
$M\bar{\rho} + M_s\bar{\rho} + \frac{2}{3}(M\bar{t} + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).

$1.3 [M\bar{\rho} + M_s\bar{\rho} + \frac{2}{3}(M\bar{t} + M_I)]$

VR: Maximum \bar{t} + impact shear range within the composite portion of the span for stud shear connector design (kips).

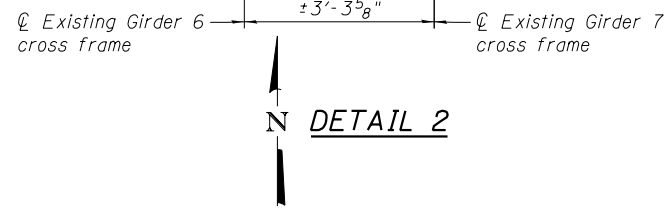
* Compact section
** Braced non-compact and partially braced section



END CROSS FRAME ELEVATION
(Looking Upstation)

LEGEND

Structural Steel Removal



DETAIL 2

Notes:
1. See Sheet S-26 for Cross Frame CF and Cross Frame CF1 details.

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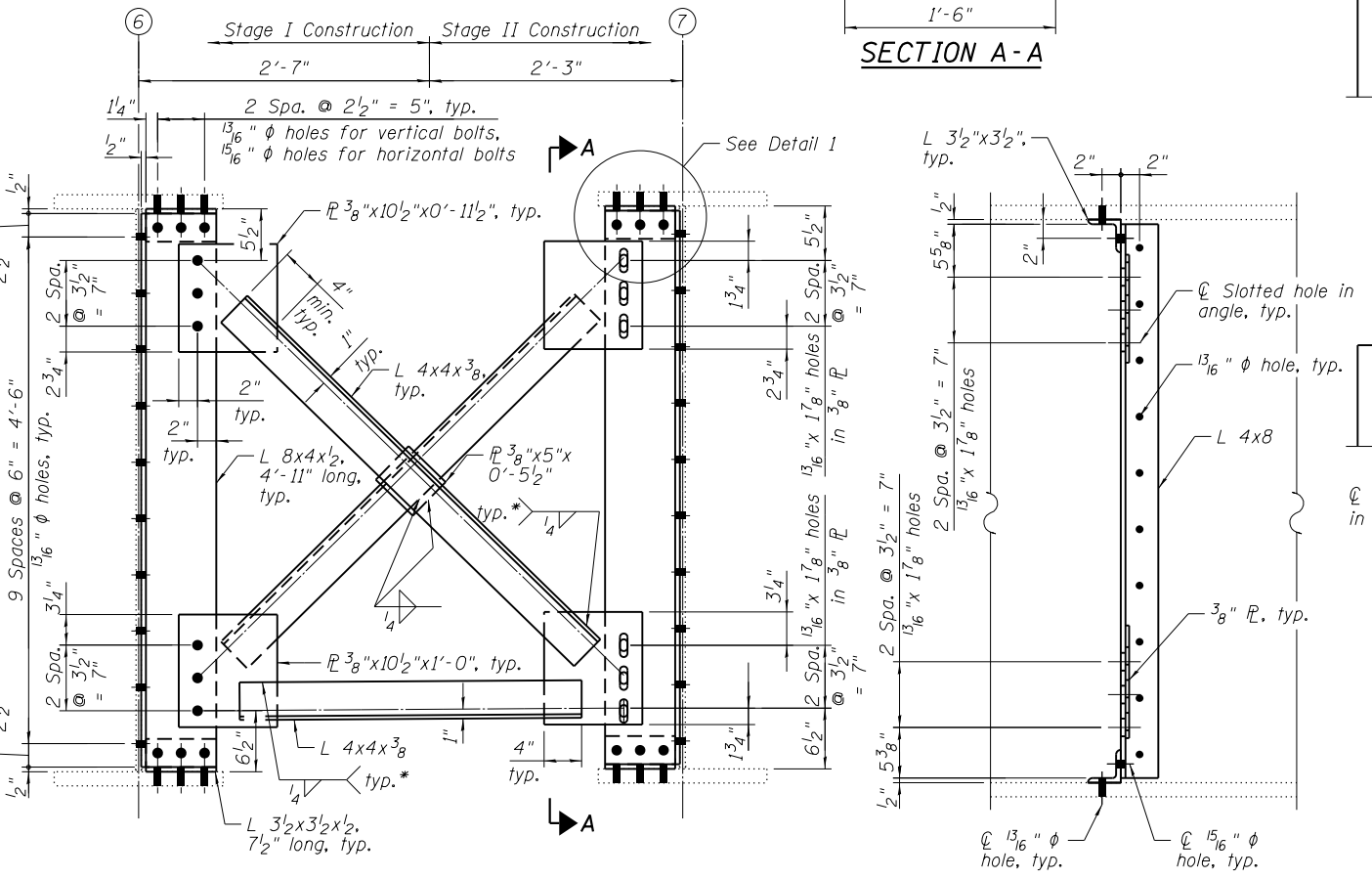
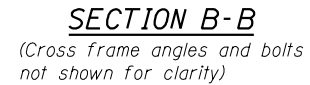
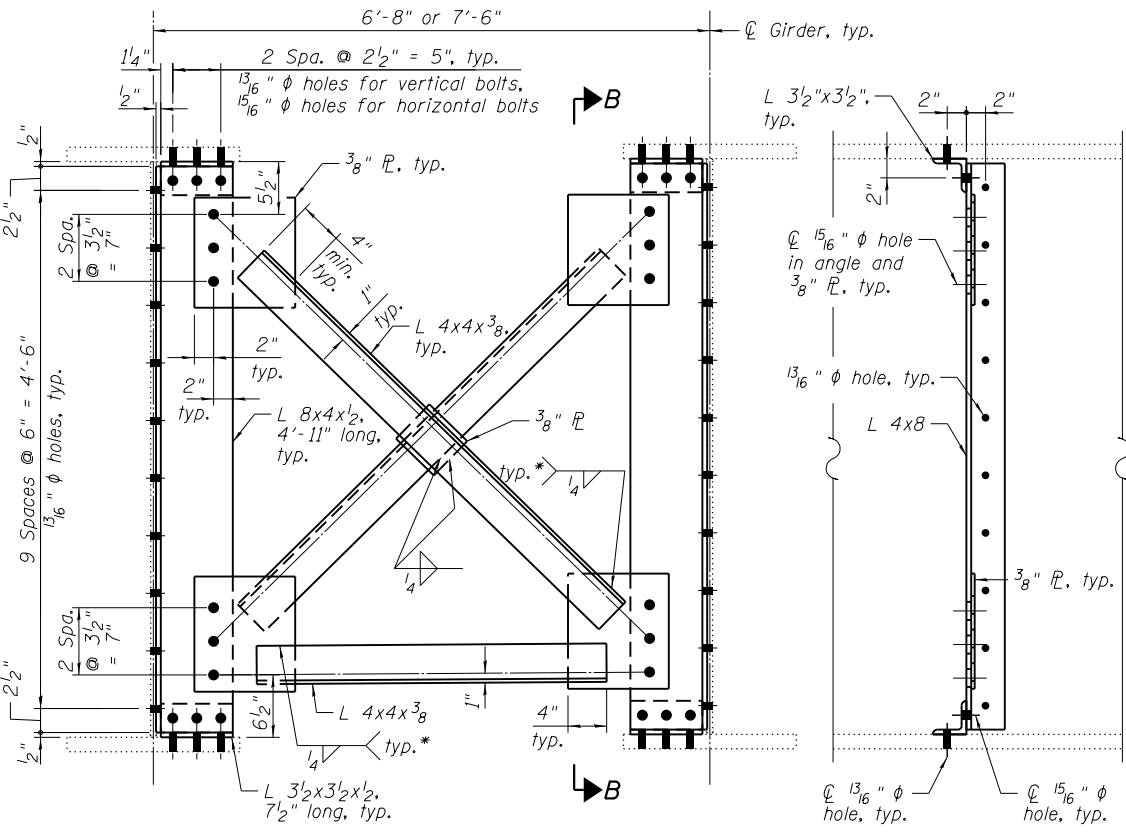
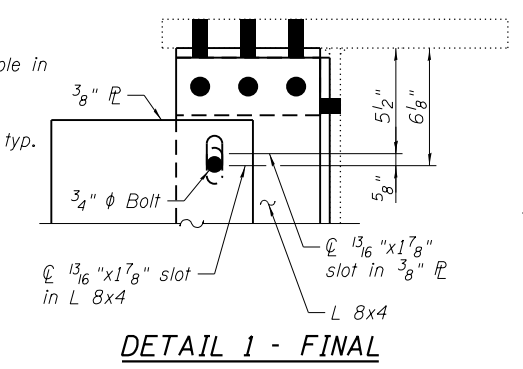
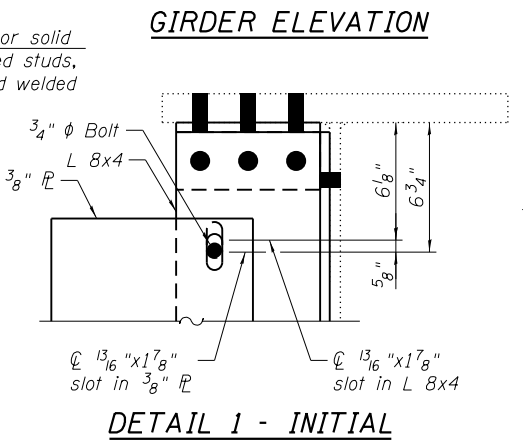
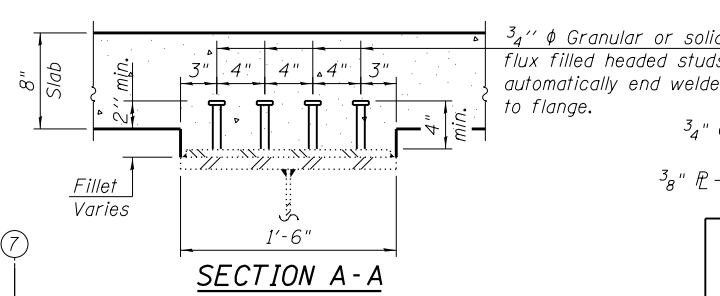
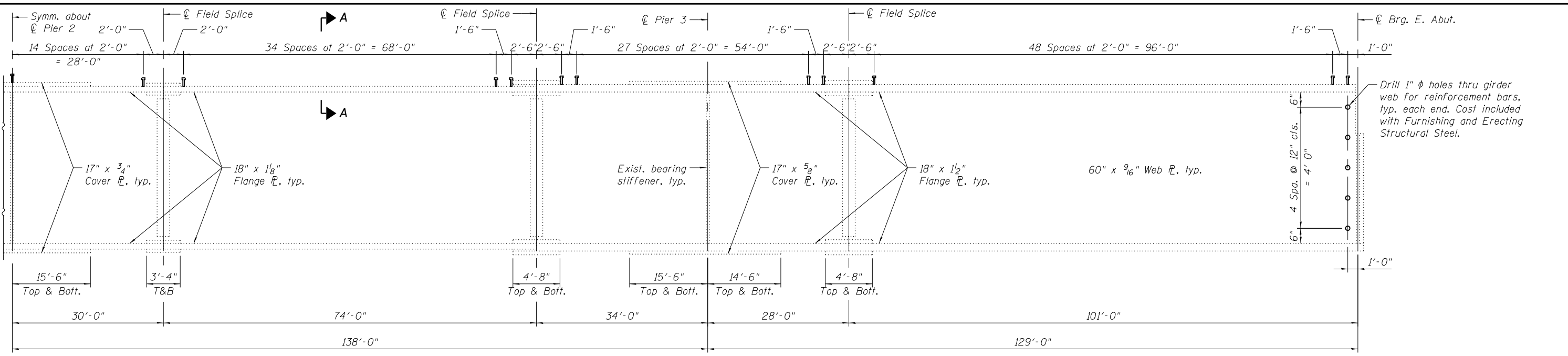
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STRUCTURAL STEEL DETAILS I
STRUCTURE NO. 016-2440

SHEET NO. S-25 OF S-47 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	453
CONTRACT NO. 60J12				
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- Notes:
1. Adjust spacing of stud shear connectors so that stud is at least 1/2" clear from end of flange cover plates and cross frame connection bolts and washers.
 2. Erect Cross Frames CF before Stage II deck pour, finger-tightening bolts connecting 3/8" plates to angles. Bolts shall be fully tightened after Stage II deck pour.
 3. The Contractor shall field verify the elevations, locations, and dimensions of the girders at each proposed cross frame location before Stage I deck removal and adjust any dimensions shown herein as required before ordering any material.
 4. The final configuration of Cross Frames CF, after Stage II deck pour, is shown unless noted otherwise.
 5. Two hardened washers required for each set of 15/16" hole oversized and 13/16" x 1 7/8" slotted holes.
 6. Two 3"x3"x5/16" plate washers required for each set of 13/16" x 1 7/8" slotted holes.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Stud Shear Connectors	Each	13,572
Structural Steel Removal	Pound	11,160

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STRUCTURAL STEEL DETAILS II
STRUCTURE NO. 016-2440

SHEET NO. S-26 OF S-47 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 454
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

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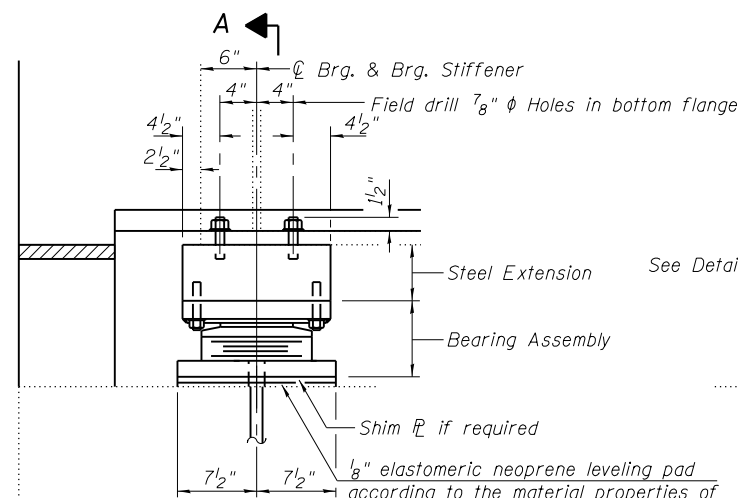
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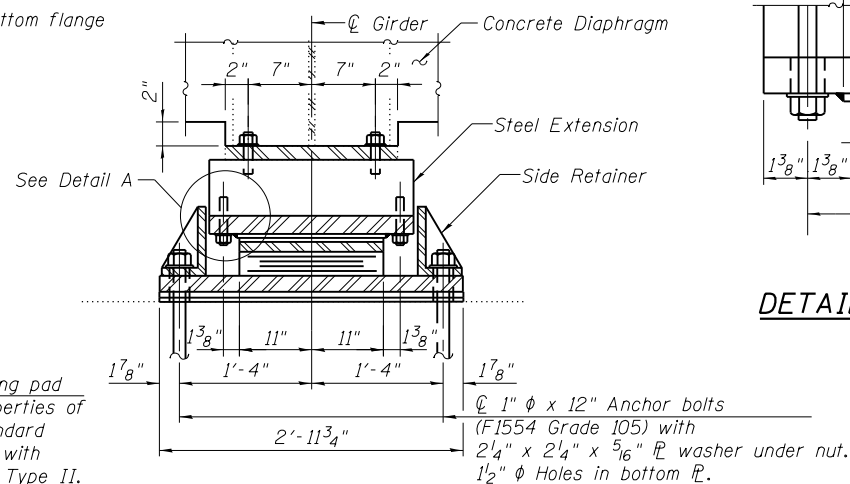
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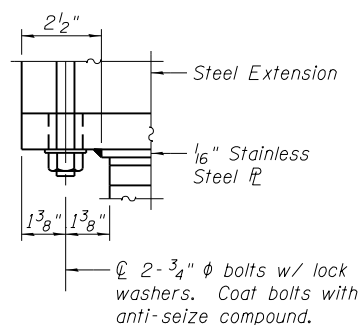


ELEVATION

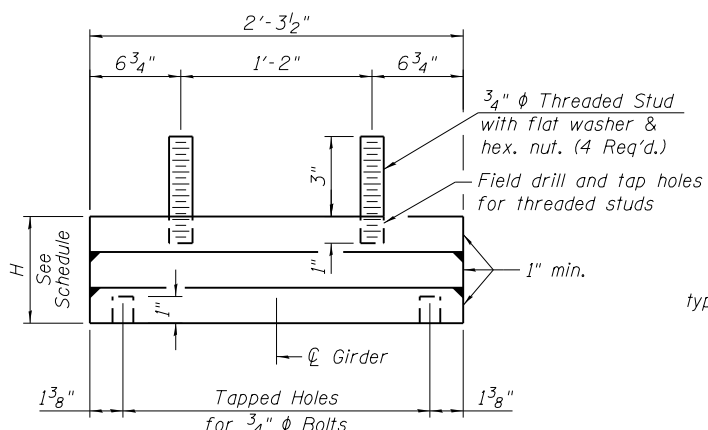
TYPE II ELASTOMERIC EXP. BRG.
At Abutments



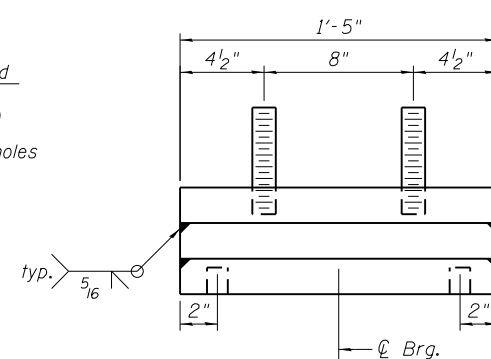
SECTION A-A



DETAIL A



END VIEW STEEL EXTENSION



ELEVATION STEEL EXTENSION

STEEL EXTENSION SCHEDULE

Location		H
East Abutment	Girders 1 thru 8, Girder 12	3 1/2"
	Girders 9, 10, & 13	2 1/2"
	Girder 11	3"
West Abutment	Girders 1 thru 8, Girder 13	3 3/4"
	Girder 9	3 1/2"
	Girders 10 thru 12	4 1/4"

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

Cost of threaded studs, bolts, nuts, washers, anti-seize compound and field drilling & tapping holes shall be included in the cost of Elastomeric Bearing Assembly, Type II.

Cost of the steel extensions shall be included with Furnishing and Erecting Structural Steel.

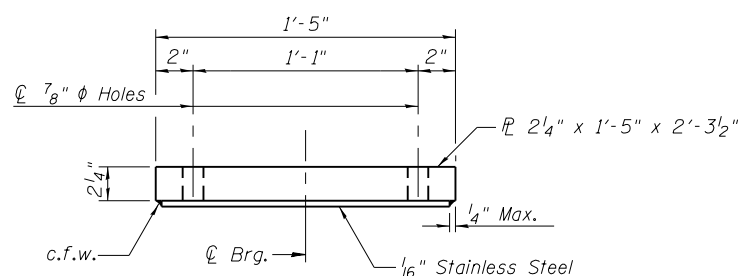
See Sheet S-28 for Jack and Remove Existing Bearings Procedure.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

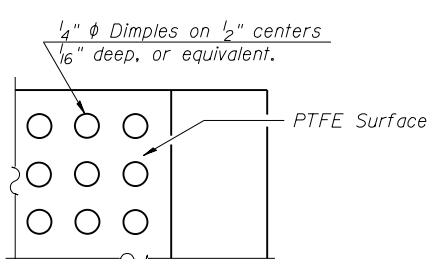
Prior to ordering any material, the Contractor shall verify in the field all existing bearing height and shim thickness dimensions and adjust the proposed steel extension heights as required.

BILL OF MATERIAL

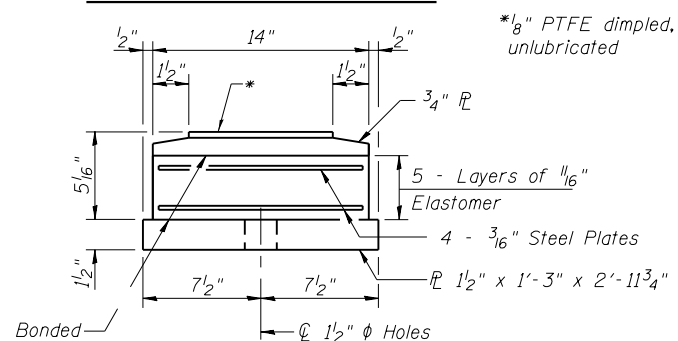
Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	26
Anchor Bolts, 1"	Each	52
Jack and Remove Existing Bearings	Each	26



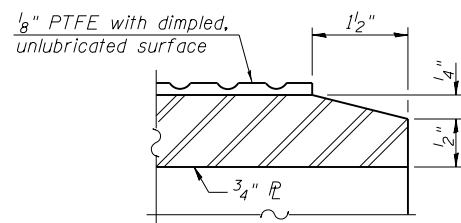
TOP BEARING ASSEMBLY



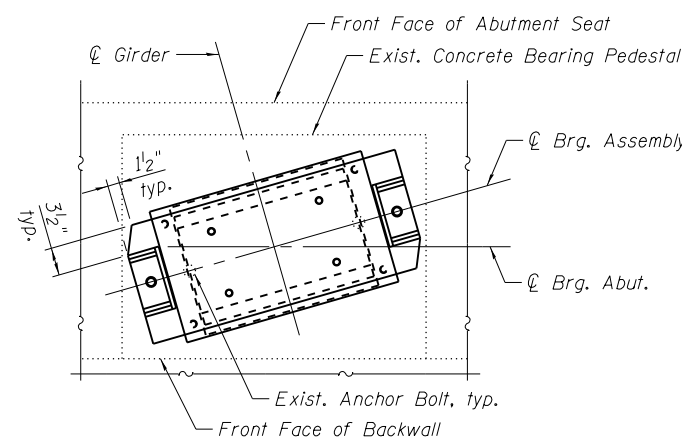
PLAN-PTFE SURFACE



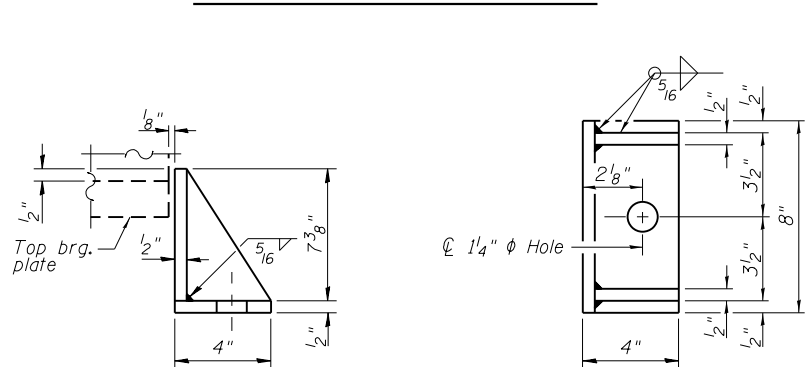
BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

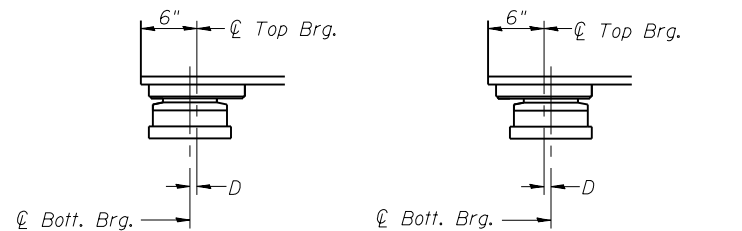


BOTTOM BEARING CLIP DETAIL



SIDE RETAINER

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



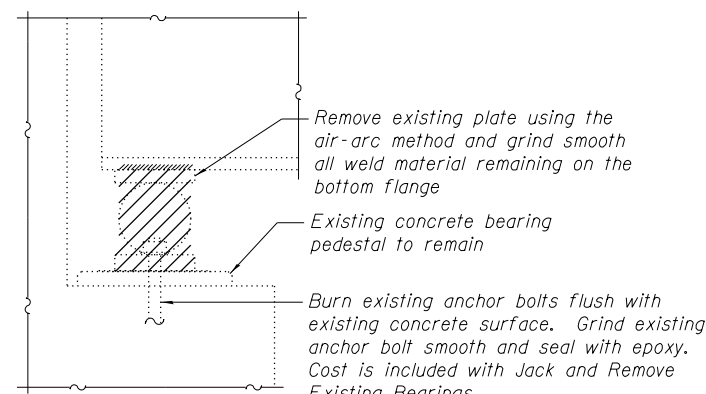
BELOW 50°F.

ABOVE 50°F.

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

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



EXISTING BEARING REMOVAL

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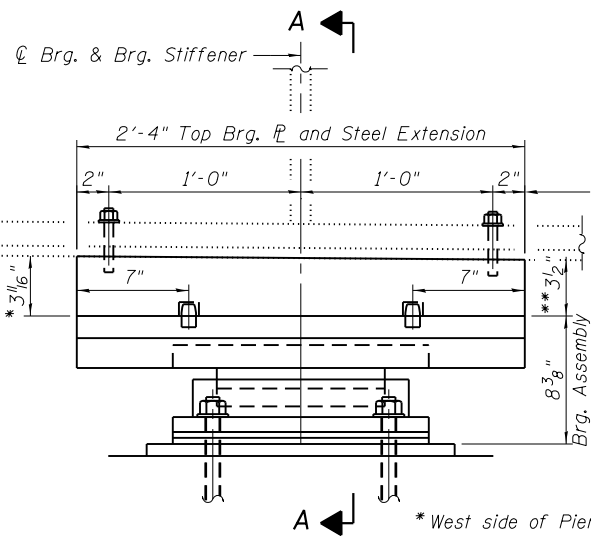
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BEARING DETAILS I
STRUCTURE NO. 016-2440

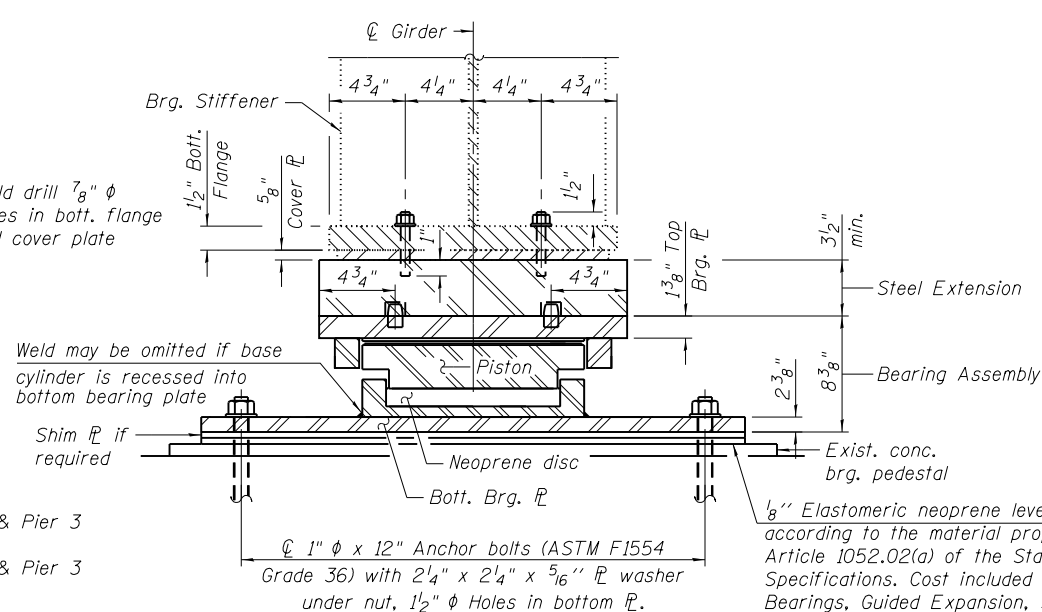
SHEET NO. S-27 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	455
CONTRACT NO. 60J12				

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ELEVATION

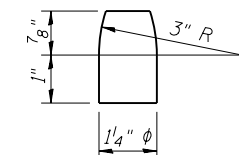


SECTION A-A

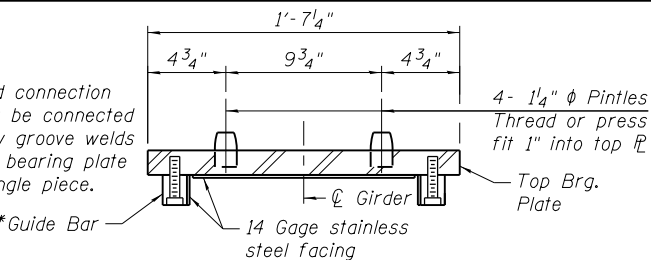
***As alternates to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece.

HLMR BEARING DESIGN DATA

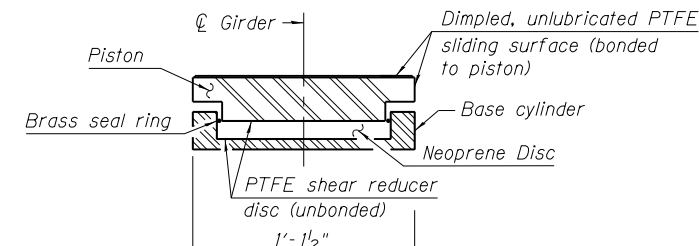
Location	Vertical Design Load (kips)	Lateral Design Load Hs (kips)	Design Rotation, Θ_s
Pier 1	350	70	0.4%
Pier 3			



PINTLE



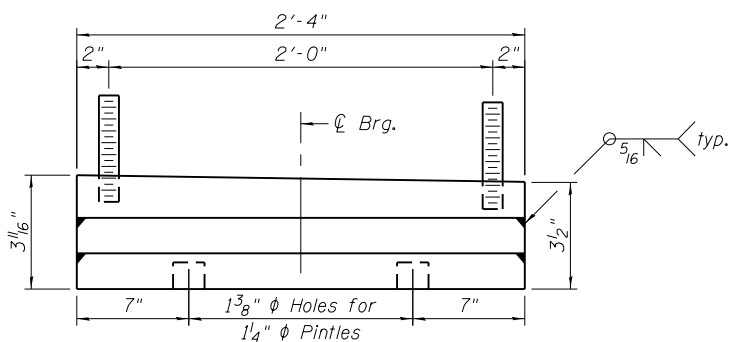
TOP BEARING PLATE ASSEMBLY



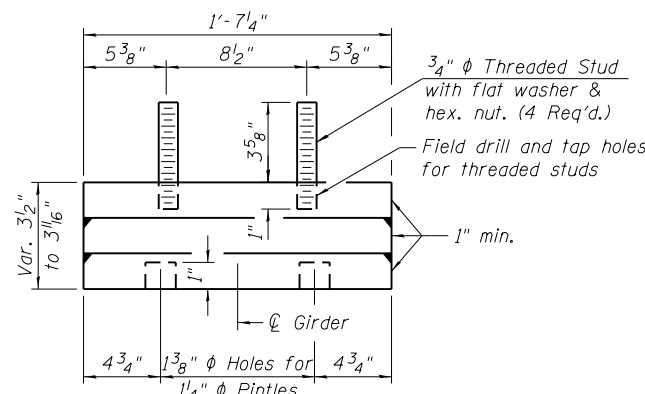
PISTON ASSEMBLY

GUIDED EXPANSION HLMR BEARING

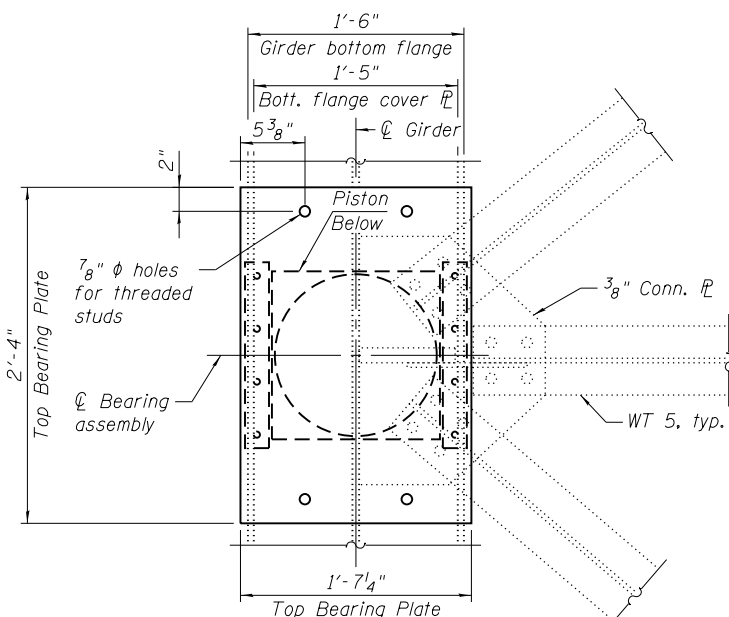
At Pier 1 and Pier 3



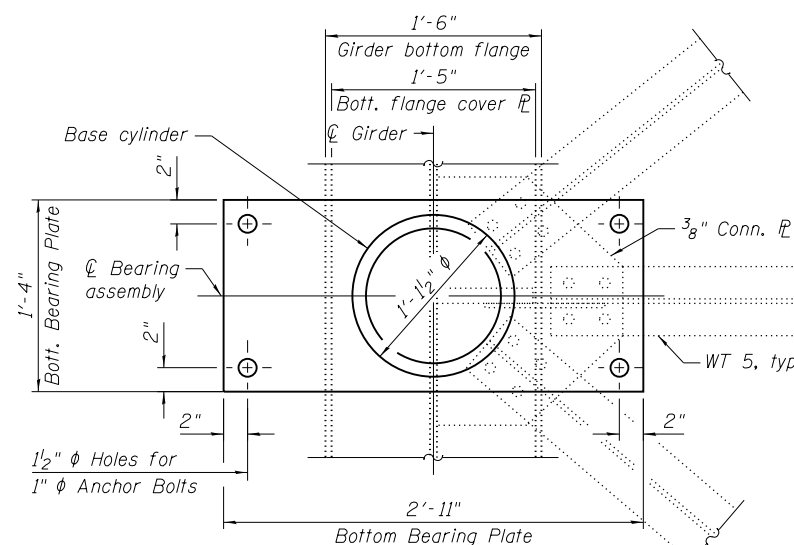
ELEVATION STEEL EXTENSION



END VIEW STEEL EXTENSION



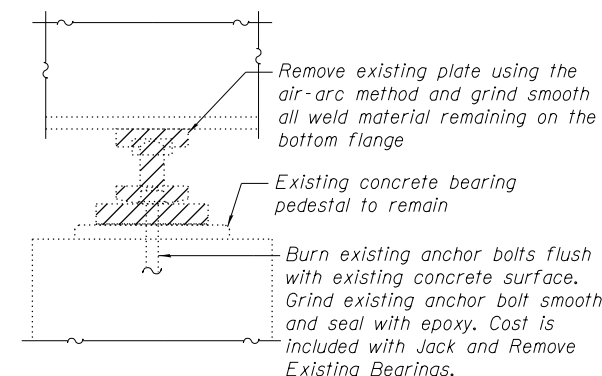
TOP BEARING PLATE AND PISTON PLAN



BOTTOM BEARING PLATE AND BASE CYLINDER PLAN

NOTES

- The $\frac{1}{8}$ " PTFE sheet shall be bonded directly to the piston with a two component medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MM-A-134, Type 1. The bond agent shall be applied to the full area of the contact surfaces.
- The Vertical and Lateral Design Loads given are the actual unfactored controlling service loads. The Design Rotation given is the actual unfactored controlling service rotation (potential additional rotation allowances due to fabrication and installation tolerances and other uncertainties have not been included in the Θ_s values shown in the table).
- HLMR Bearings dimensions and details are based on a specific manufacturer's design tables. Actual dimensions and details may differ. Contractor to verify bearing heights and adjust steel extension heights as necessary based on the actual bearings provided. Cost included with HLMR Bearings, Guided Expansion, 350K.
- Cost of threaded studs and field drilling and tapping shall be included in the cost of HLMR Bearings, Guided Expansion, 350 K.
- Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Cost of fabricating and installing the steel extensions and pintles shall be included with Furnishing and Erecting Structural Steel.
- Prior to ordering any material, the Contractor shall verify in the field the slope of the existing girders and all existing bearing height and shim thickness dimensions and adjust the proposed steel extension heights as required.
- The expected movement of each bearing due to temperature change from a normal temperature of 50°F is $\frac{7}{8}$ " in each direction for a total movement range of 1 $\frac{3}{4}$ ".
- 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 HLMR bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after bearings are in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Existing cross-frame bolts shall not be disconnected without prior approval from the Engineer. Existing lateral bracing bolts may be disconnected and lateral bracing members removed provided that bolts for no more than one member are disconnected at one time. Any bolts removed shall be replaced with new ASTM A325 high strength bolts of the same diameter as existing. Cost included with HLMR Bearings, Guided Expansion, 350K.



EXISTING BEARING REMOVAL

JACK AND REMOVE EXISTING BEARINGS PROCEDURE

- Jacking of existing beams shall be done after deck is removed.
- The Contractor shall submit for approval by the Engineer details and calculations for jacking existing beams and removing and installing bearings prior to commencing any related work. Below shows the minimum jack capacity required for each bearing.

Location	Beam DL Reaction (k)	Min. Jacking Capacity (k)
W. Abut. & E. Abut.	18	30
Pier 1 & Pier 3	53	80

- There shall be at least one jack per bearing and the jack shall be placed directly under the girder. The jacking operation shall follow procedures outlined in the special provision "Jack and Remove Existing Bearings". The girders shall be blocked in position until after the completion of the installation of new bearings.
- The new bearings and steel extensions shall be in place and the jacks shall be removed before the new concrete deck is poured.

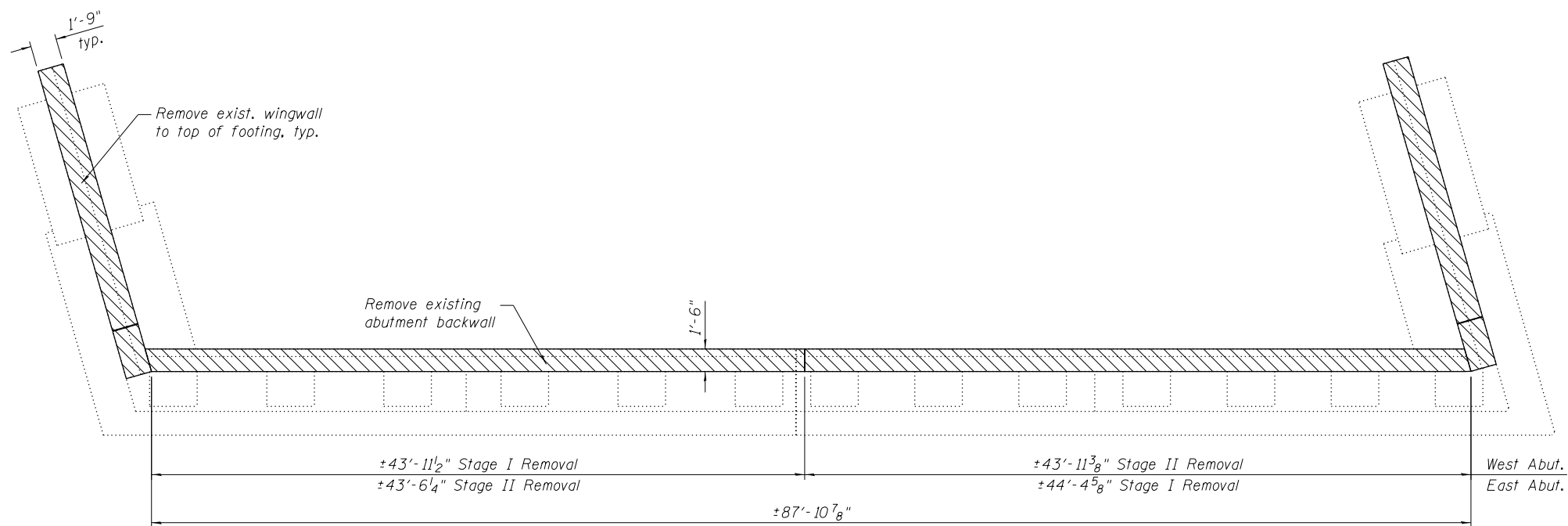
BILL OF MATERIAL

Item	Unit	Total
HLMR Bearings, Guided Expansion, 350K	Each	26
Anchor Bolts, 1"	Each	104
Jack and Remove Existing Bearings	Each	26

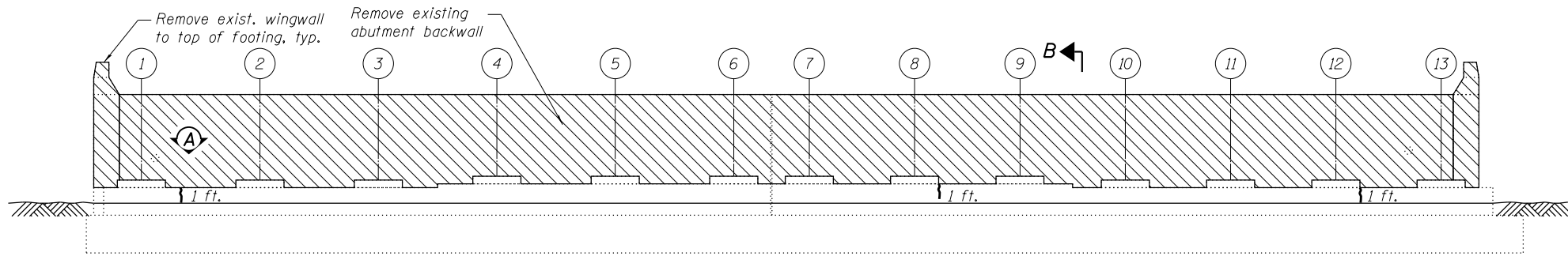
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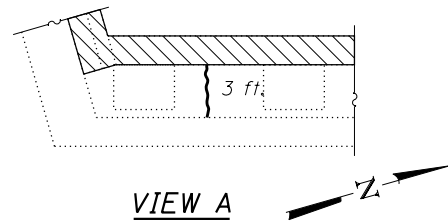
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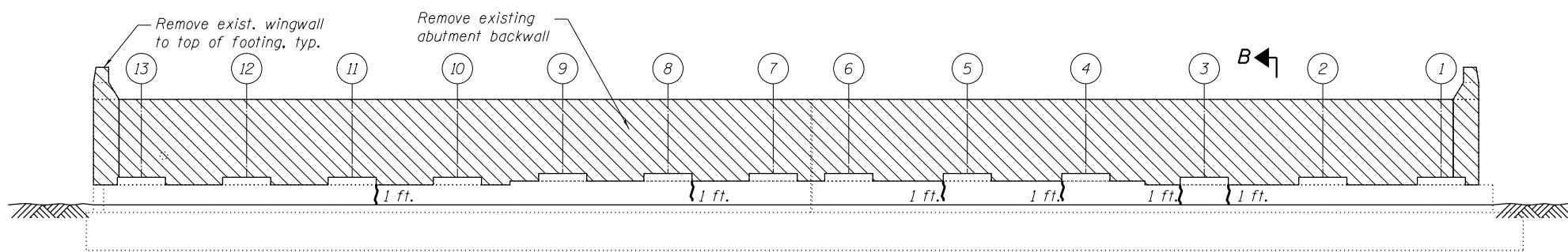
WEST ABUTMENT PLAN
(East Abutment similar)



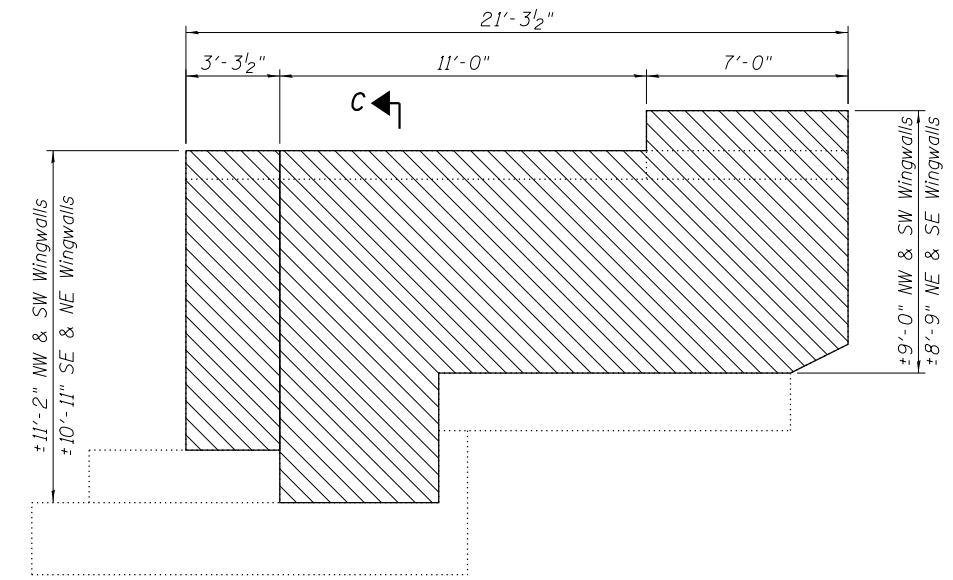
WEST ABUTMENT ELEVATION
(Looking West)



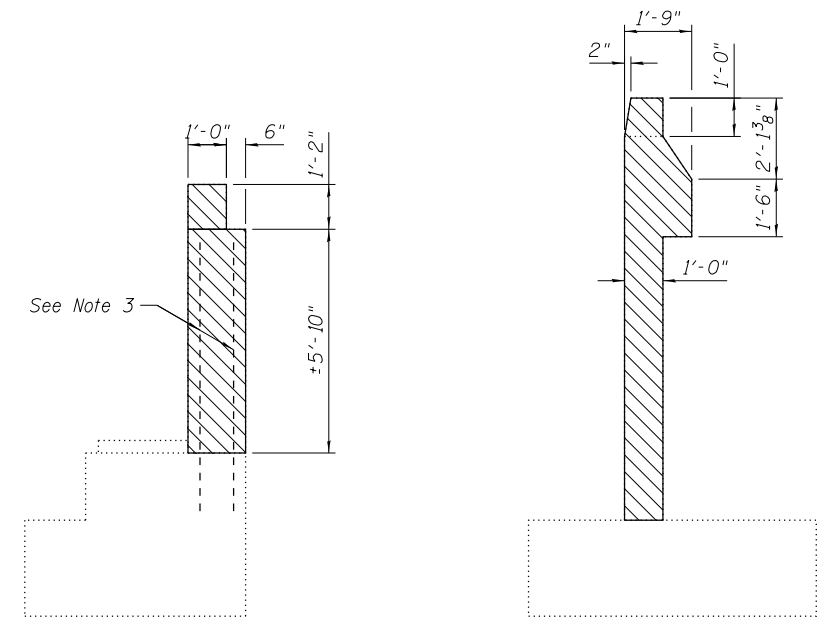
VIEW A



EAST ABUTMENT ELEVATION
(Looking East)



TYPICAL WINGWALL ELEVATION



SECTION B-B

SECTION C-C

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.
- Any existing reinforcement to remain that is damaged during removal operations shall be replaced with an approved bar splicer or anchorage system at no additional cost.
- Existing vertical backwall reinforcement extending into removal area shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
- Remove existing steel handrail components mounted on top of wingwalls. Cost included with Concrete Removal.

LEGEND

- Concrete Removal
- Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	103.4
Epoxy Crack Injection	Foot	12
Cleaning Bridge Seats	Sq. Ft.	516

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ABUTMENT REMOVAL AND REPAIR DETAILS
STRUCTURE NO. 016-2440

SHEET NO. S-29 OF S-47 SHEETS

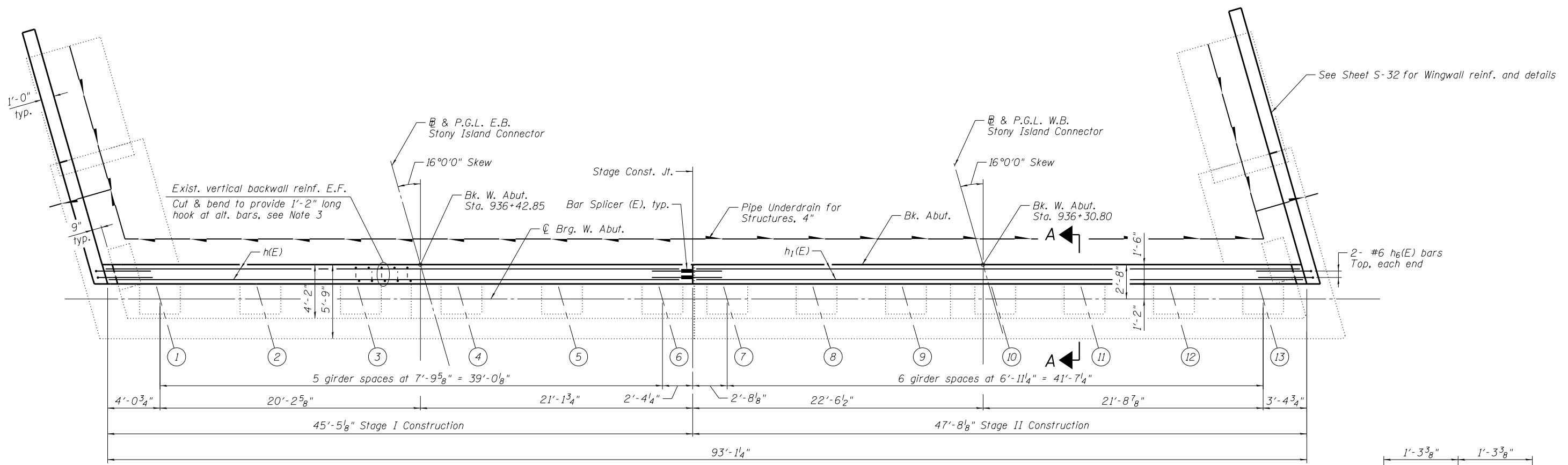
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	457
CONTRACT NO. 60J12				

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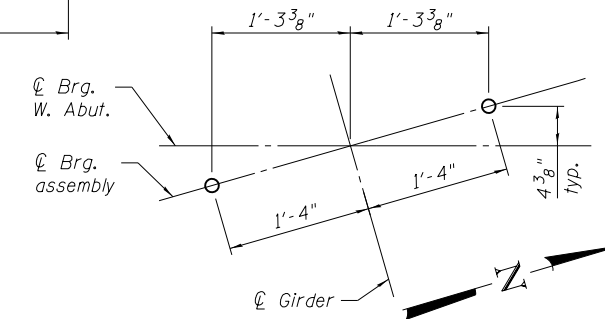
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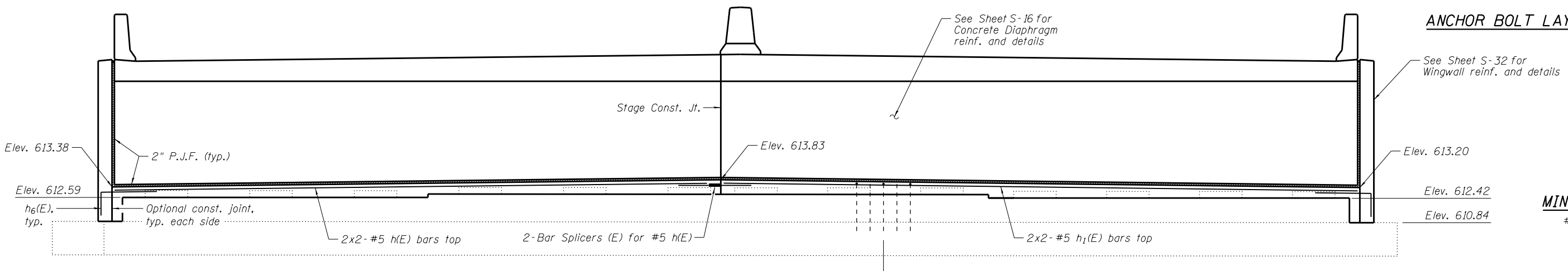
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PLAN - WEST ABUTMENT



ANCHOR BOLT LAYOUT



ELEVATION
(Looking West)

MIN. BAR LAP
#5 - 3'-3"

- Notes:
1. For details of Bar Splicers, see Sheet S-37.
 2. For Section A-A, Bill of Material, and Bar Bending Diagrams, see Sheet S-33.
 3. Exist. vertical backwall reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

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	CHECKED - SF	REVISED -

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WEST ABUTMENT RECONSTRUCTION
STRUCTURE NO. 016-2440

SHEET NO. S-30 OF S-47 SHEETS

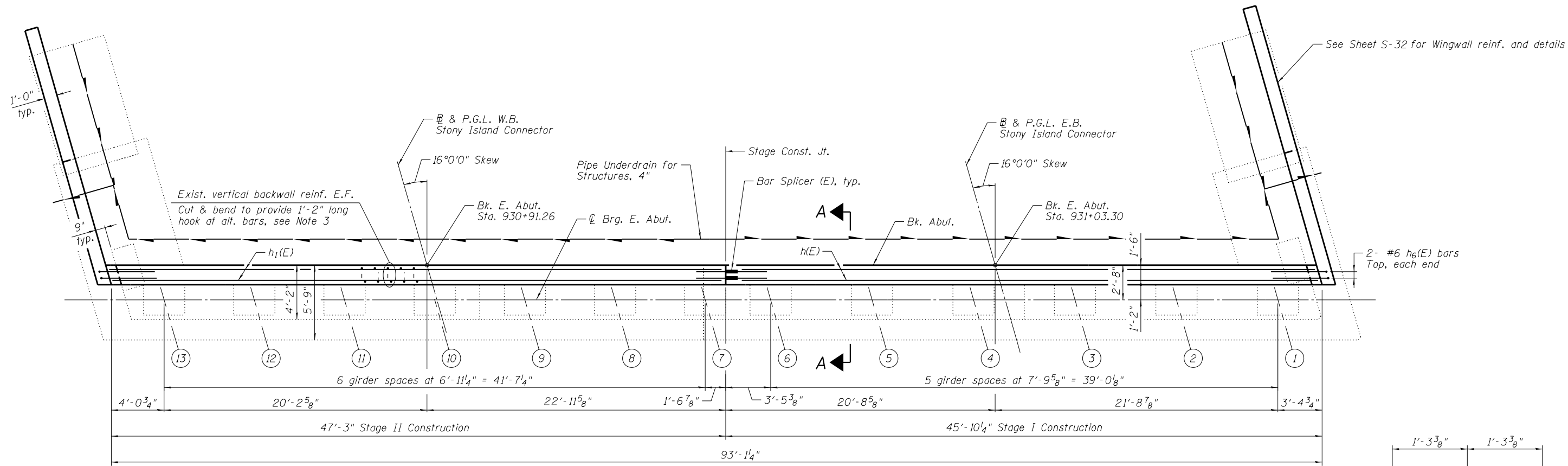
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94	2012-059-BR	COOK	631	458
CONTRACT NO. 60J12				

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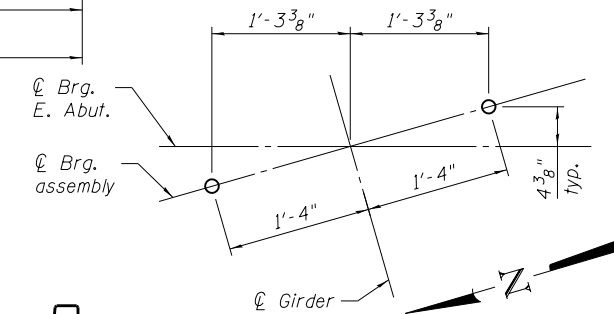
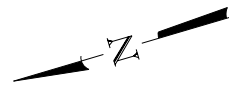
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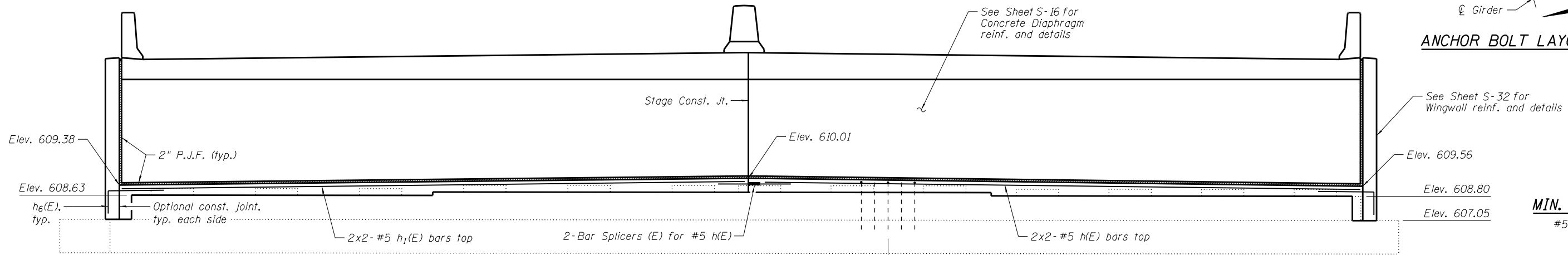
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PLAN - EAST ABUTMENT



ANCHOR BOLT LAYOUT



ELEVATION
(Looking East)

MIN. BAR LAP
#5 - 3'-3"

- Notes:
1. For details of Bar Splicers, see Sheet S-37.
 2. For Section A-A, Bill of Material, and Bar Bending Diagrams, see Sheet S-33.
 3. Exist. vertical backwall reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

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	CHECKED - SF	REVISED -

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EAST ABUTMENT RECONSTRUCTION
STRUCTURE NO. 016-2440

SHEET NO. S-31 OF S-47 SHEETS

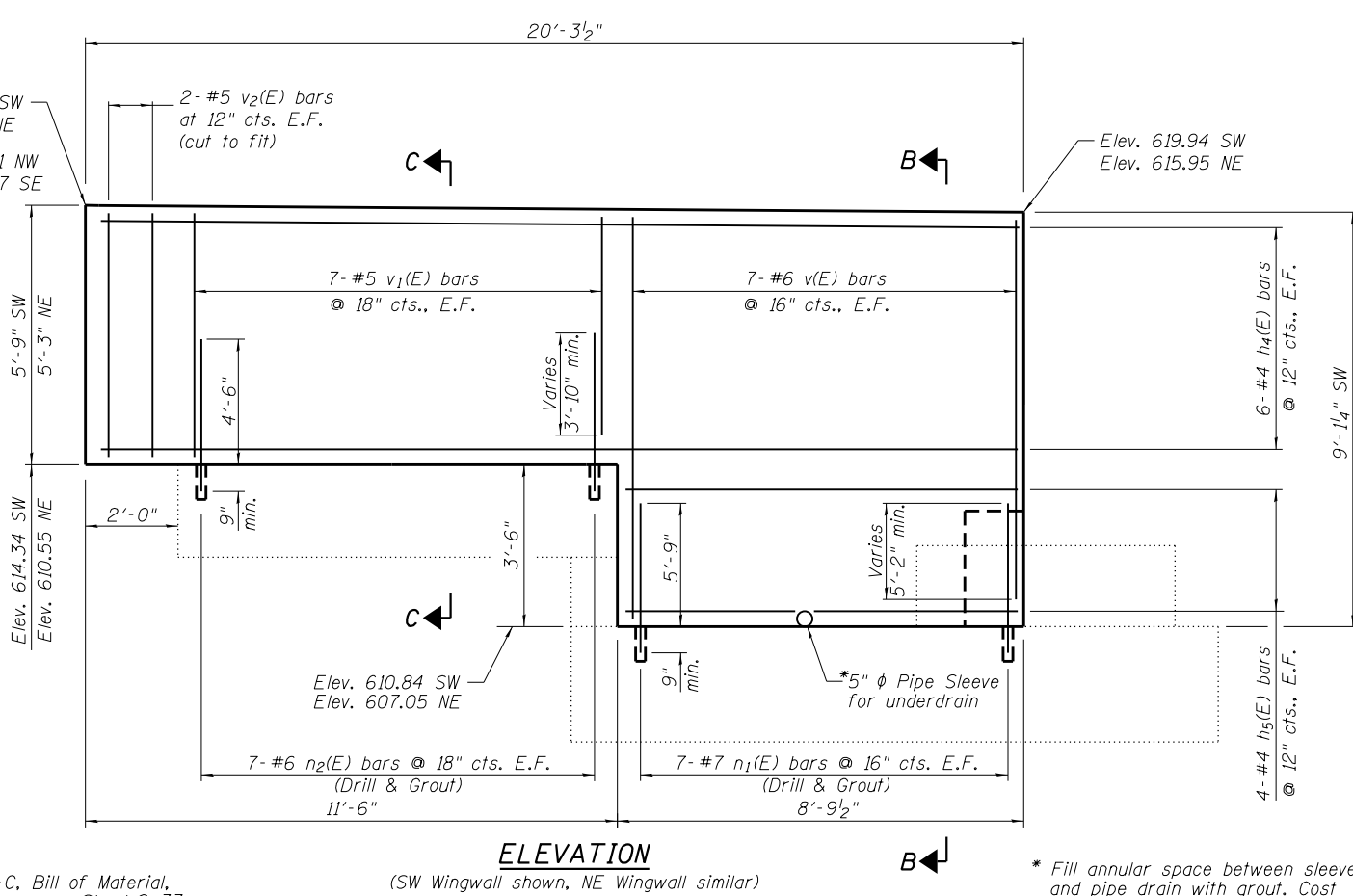
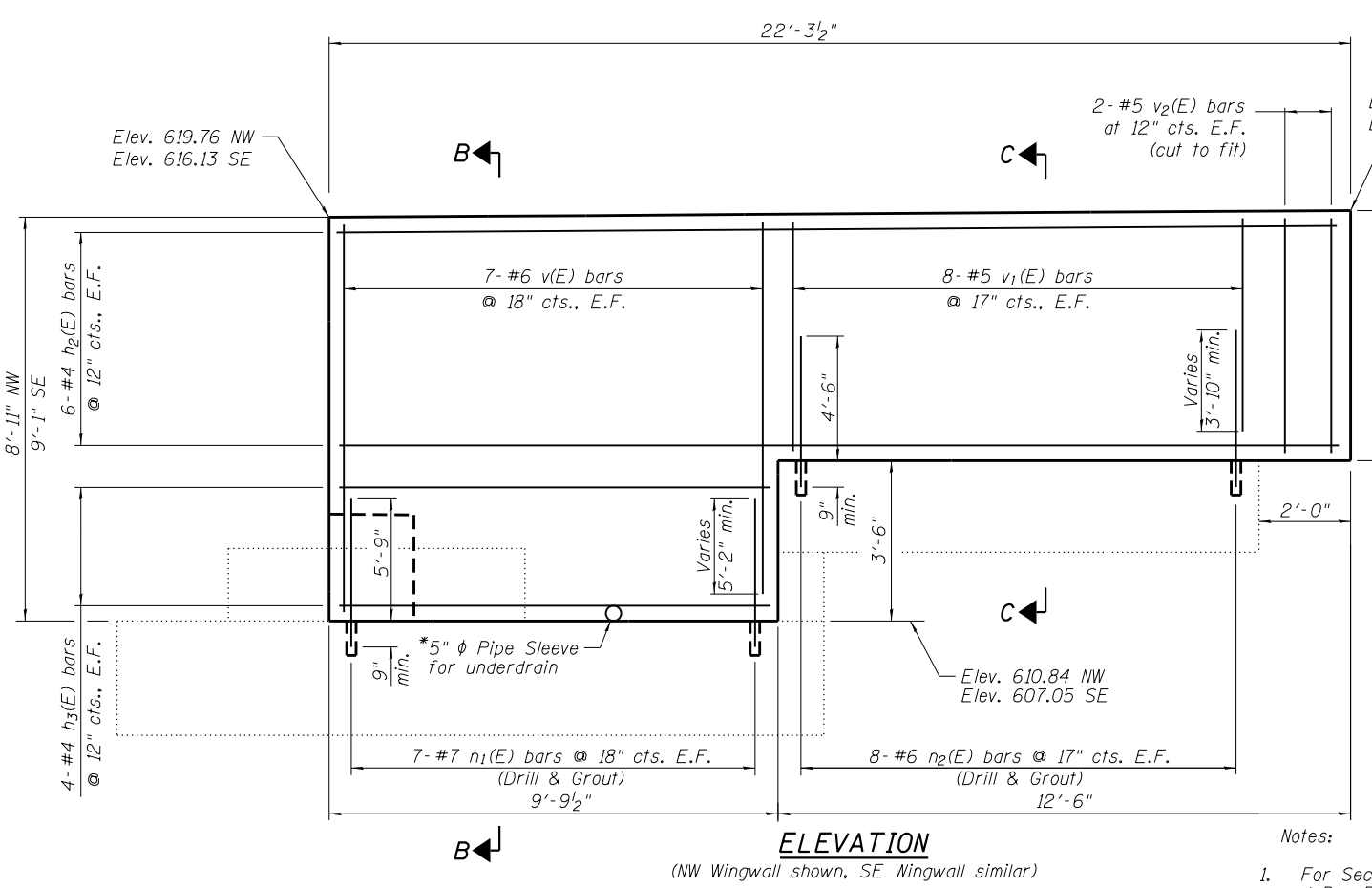
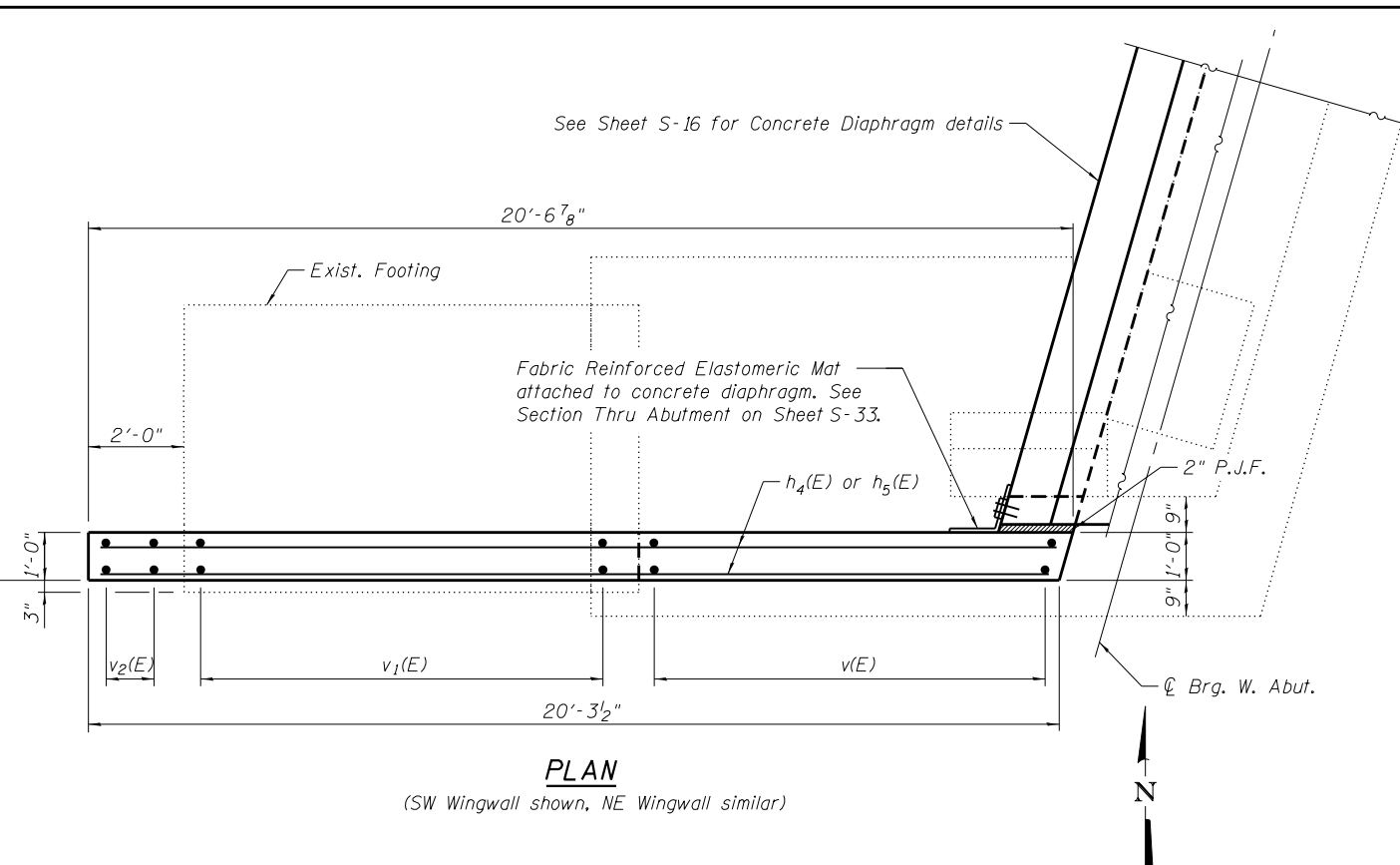
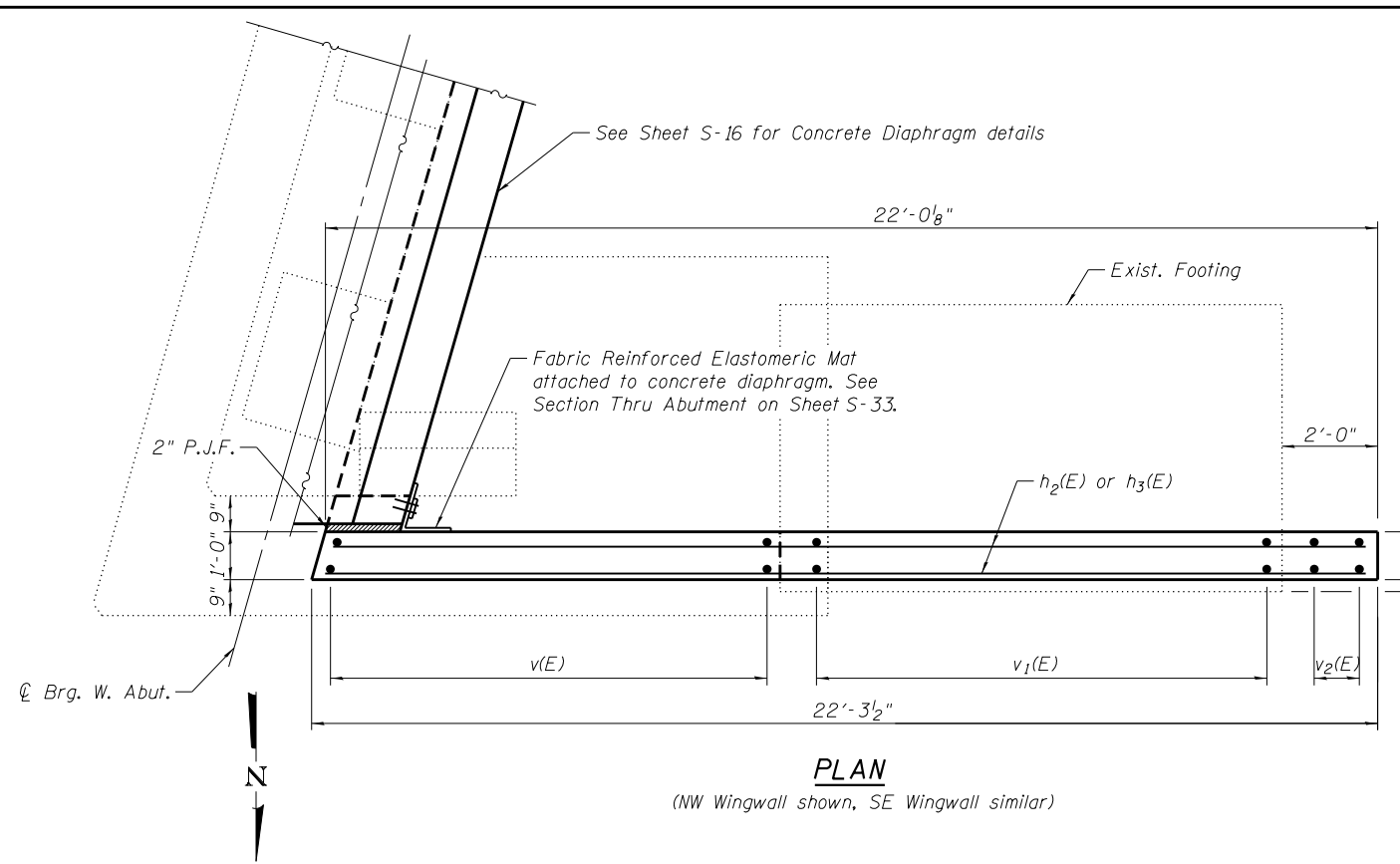
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	459
CONTRACT NO. 60J12				

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- Notes:
1. For Sections B-B, C-C, Bill of Material, and Bar Bending Diagrams, see Sheet S-33.
 2. E.F. denotes Each Face

* Fill annular space between sleeve and pipe drain with grout. Cost included with Pipe Underdrains for Structures 4".

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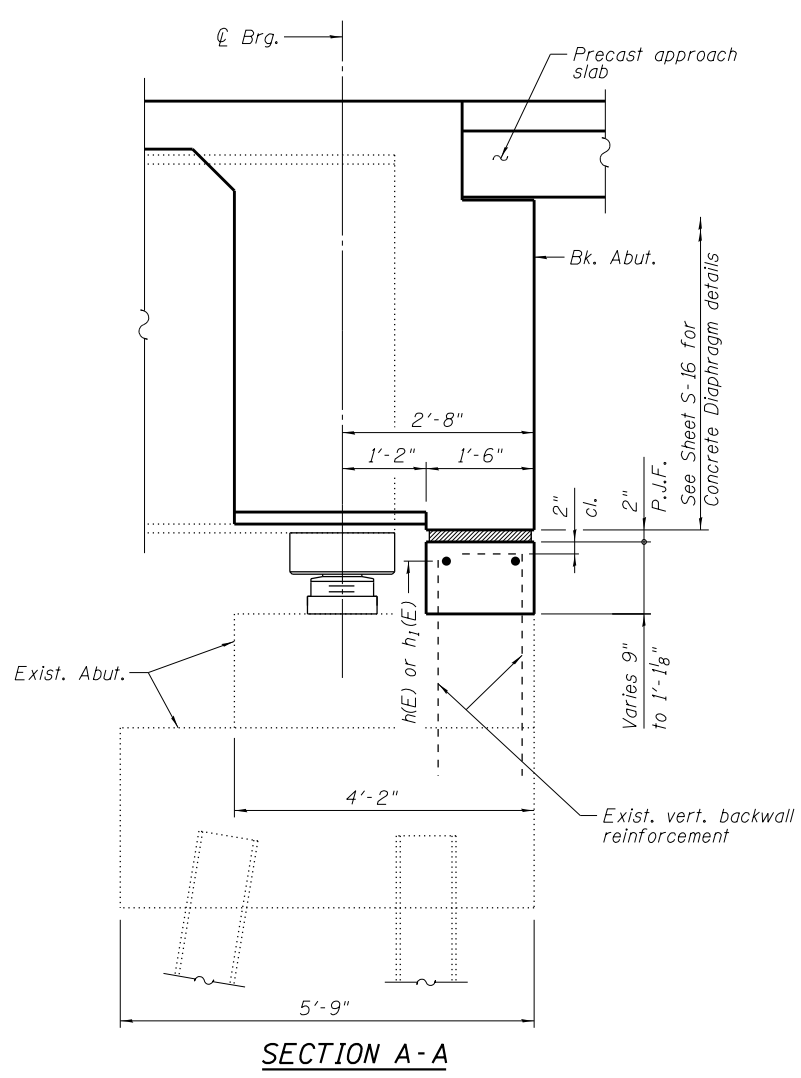
ABUTMENT RECONSTRUCTION DETAILS I
STRUCTURE NO. 016-2440
SHEET NO. S-32 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60J12				
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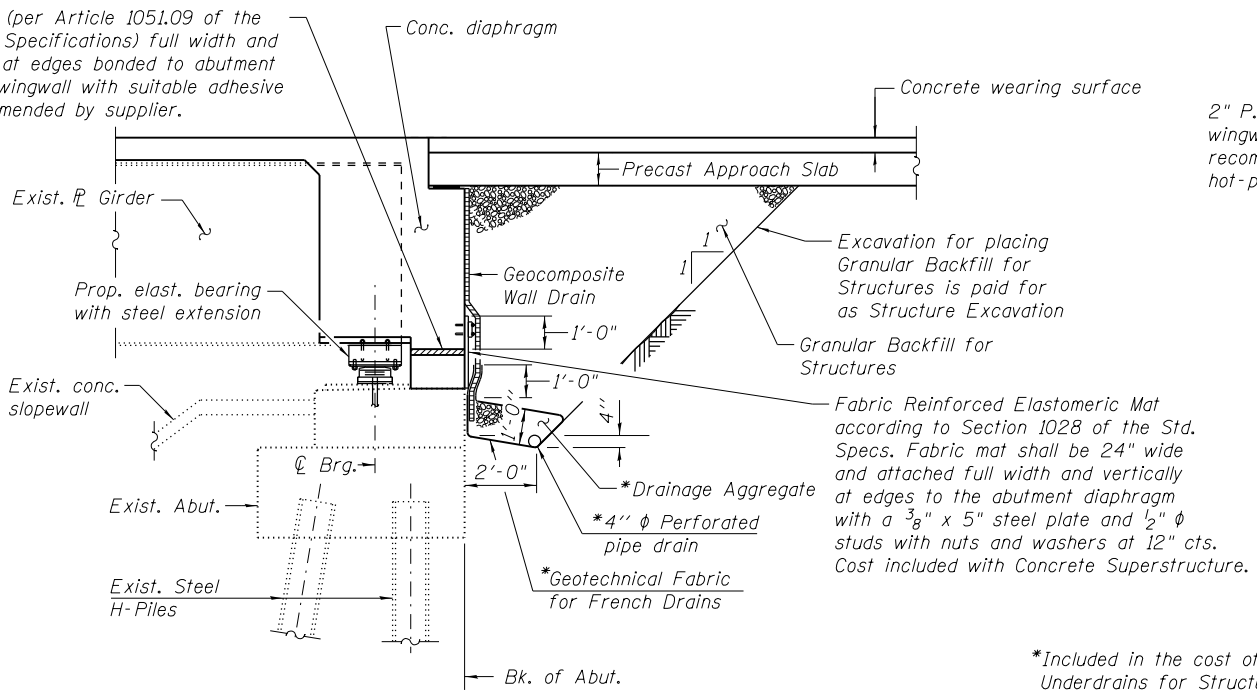
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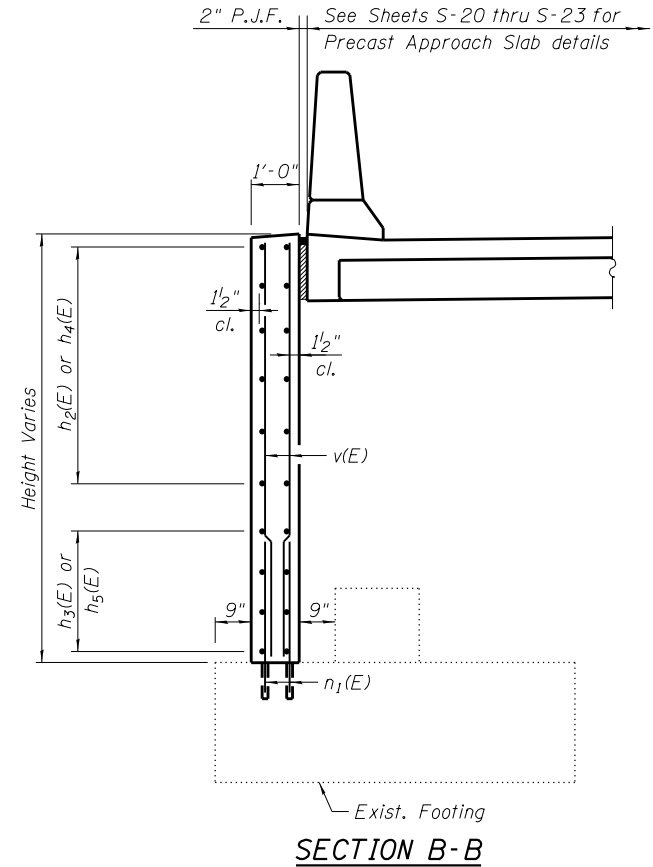


SECTION A-A

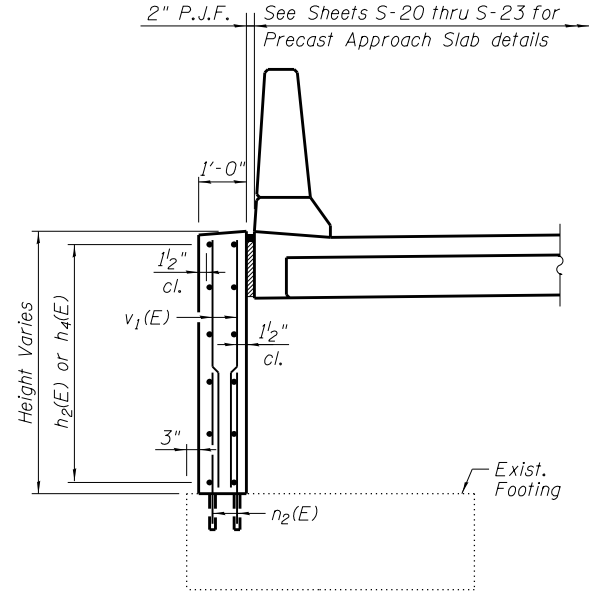
2" P.J.F. (per Article 1051.09 of the Standard Specifications) full width and vertically at edges bonded to abutment cap and wingwall with suitable adhesive as recommended by supplier.



SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. L's)

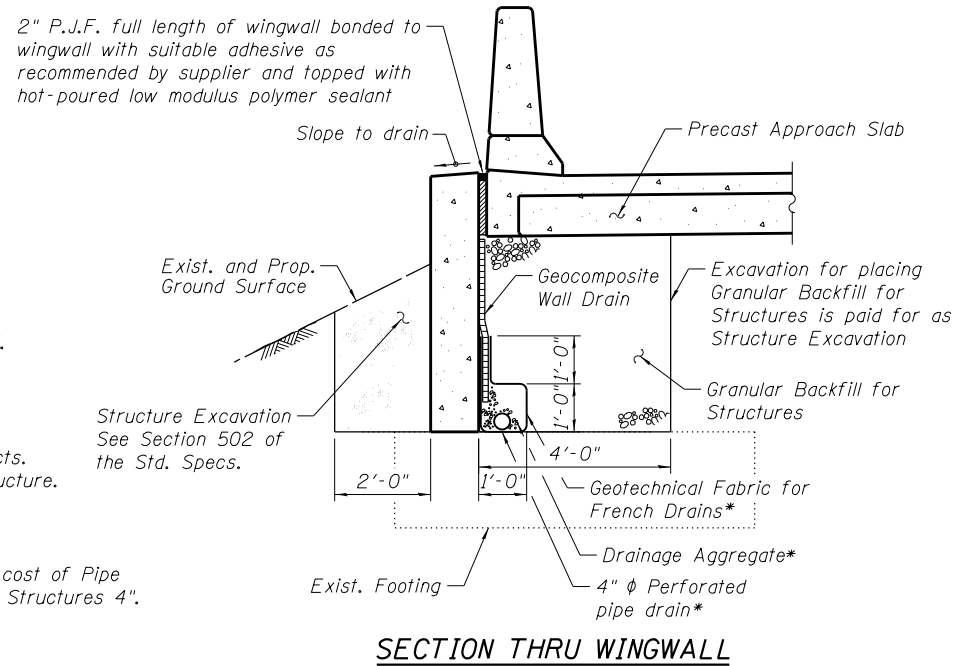


SECTION B-B



SECTION C-C

- Notes:
- All drainage system components shall extend to 2'-0" from the end of each wingwall. Outlet pipes shall extend through the pipe sleeves cast in the wingwall stem until intersecting with the embankment side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).
 - Any overexcavation beyond the limits of Structure Excavation will not be measured for payment.
 - Epoxy grout n1(E) & n2(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.
 - For details of Bar Splicers, see Sheet S-37.



SECTION THRU WINGWALL

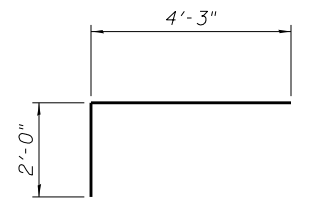
*Included in the cost of Pipe Underdrains for Structures 4".

W. ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#5	24'-6"	—
h1(E)	4	#5	25'-6"	—
h2(E)	12	#4	21'-8"	—
h3(E)	8	#4	9'-2"	—
h4(E)	12	#4	19'-11"	—
h5(E)	8	#4	8'-5"	—
h6(E)	4	#6	6'-3"	└
n1(E)	28	#7	6'-6"	—
n2(E)	30	#6	5'-3"	—
v(E)	28	#6	8'-7"	—
v1(E)	30	#5	5'-0"	—
v2(E)	8	#5	5'-5"	—
Structure Excavation		Cu. Yd.	200	
Concrete Structures		Cu. Yd.	16.8	
Reinforcement Bars, Epoxy Coated		Pound	1,850	
Geocomposite Wall Drain		Sq. Yd.	109	
Pipe Underdrains for Structures 4"		Foot	183	
Granular Backfill for Structures		Cu. Yd.	185	

E. ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#5	24'-6"	—
h1(E)	4	#5	25'-6"	—
h2(E)	12	#4	21'-8"	—
h3(E)	8	#4	9'-2"	—
h4(E)	12	#4	19'-11"	—
h5(E)	8	#4	8'-5"	—
h6(E)	4	#6	6'-3"	└
n1(E)	28	#7	6'-6"	—
n2(E)	30	#6	5'-3"	—
v(E)	28	#6	8'-7"	—
v1(E)	30	#5	5'-0"	—
v2(E)	8	#5	5'-5"	—
Structure Excavation		Cu. Yd.	198	
Concrete Structures		Cu. Yd.	16.5	
Reinforcement Bars, Epoxy Coated		Pound	1,850	
Geocomposite Wall Drain		Sq. Yd.	107	
Pipe Underdrains for Structures 4"		Foot	183	
Granular Backfill for Structures		Cu. Yd.	183	



BAR h6(E)

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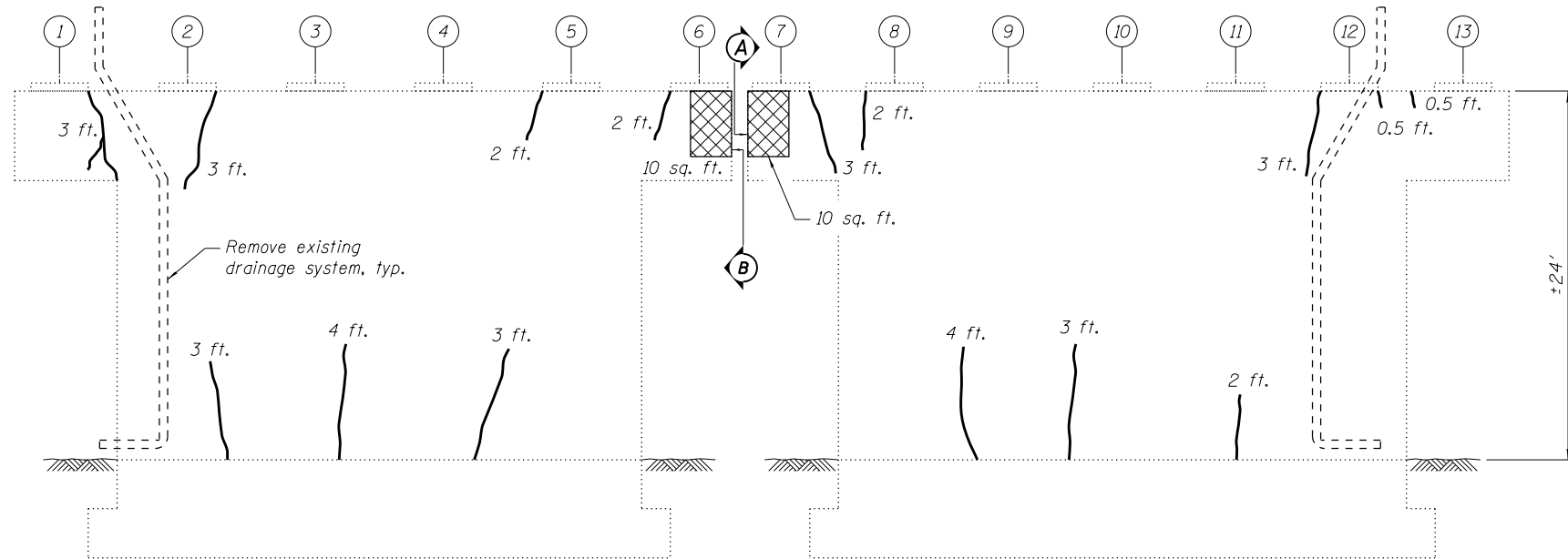
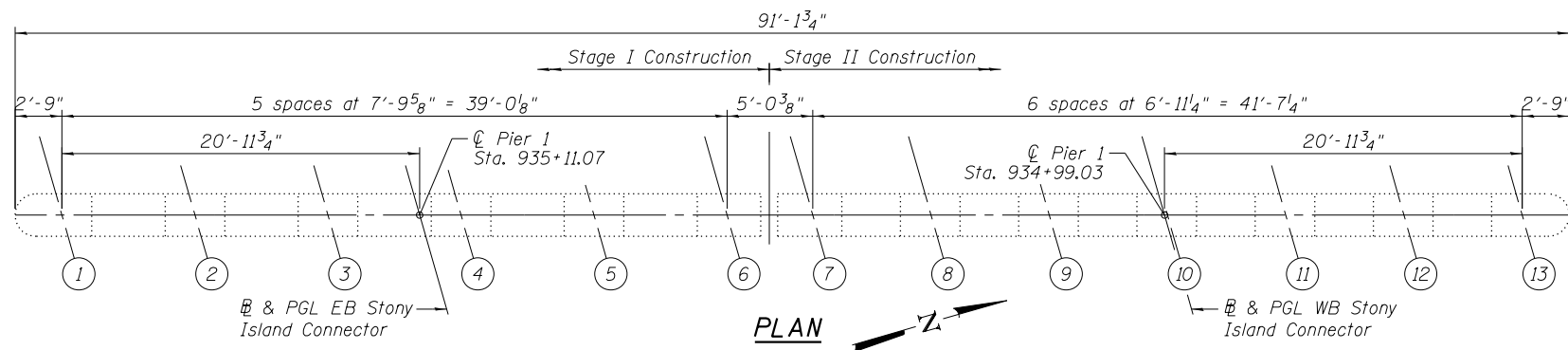
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ABUTMENT RECONSTRUCTION DETAILS II
STRUCTURE NO. 016-2440

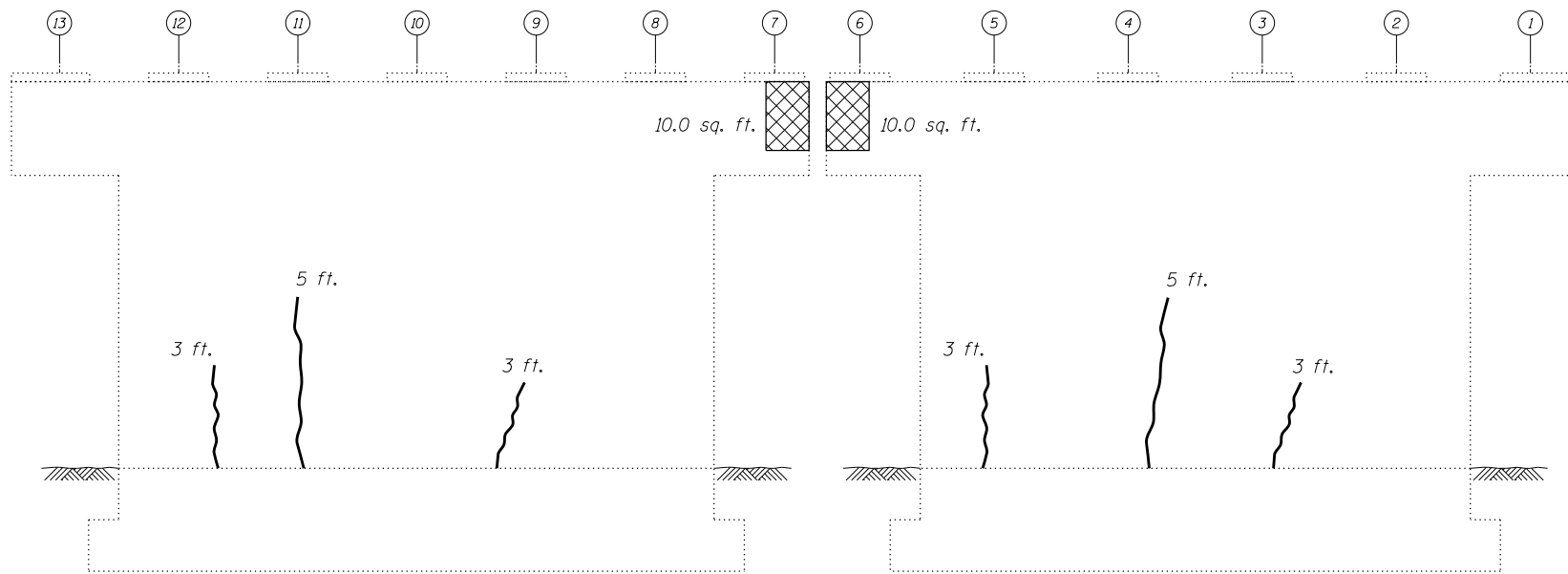
SHEET NO. S-33 OF S-47 SHEETS

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CONTRACT NO. 60J12				

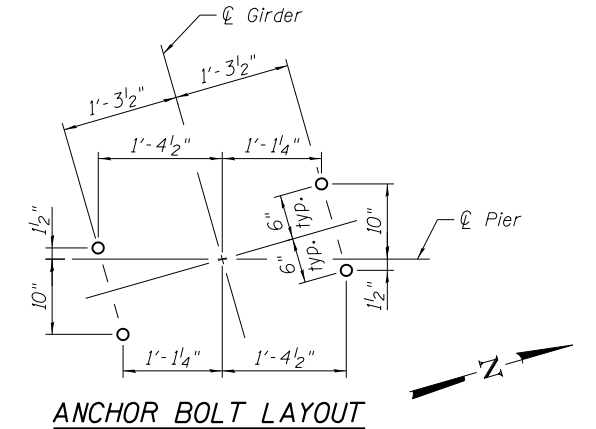
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EAST ELEVATION
(Looking West)



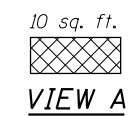
WEST ELEVATION
(Looking East)



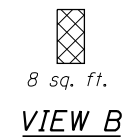
ANCHOR BOLT LAYOUT

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.
- Removal and disposal of existing drainage system shall be paid for as Pipe Drain Removal.



VIEW A



VIEW B

LEGEND

Structural Repair of Concrete (Depth greater than 5 inches)

Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	58
Epoxy Crack Injection	Foot	60
Pipe Drain Removal	Foot	76

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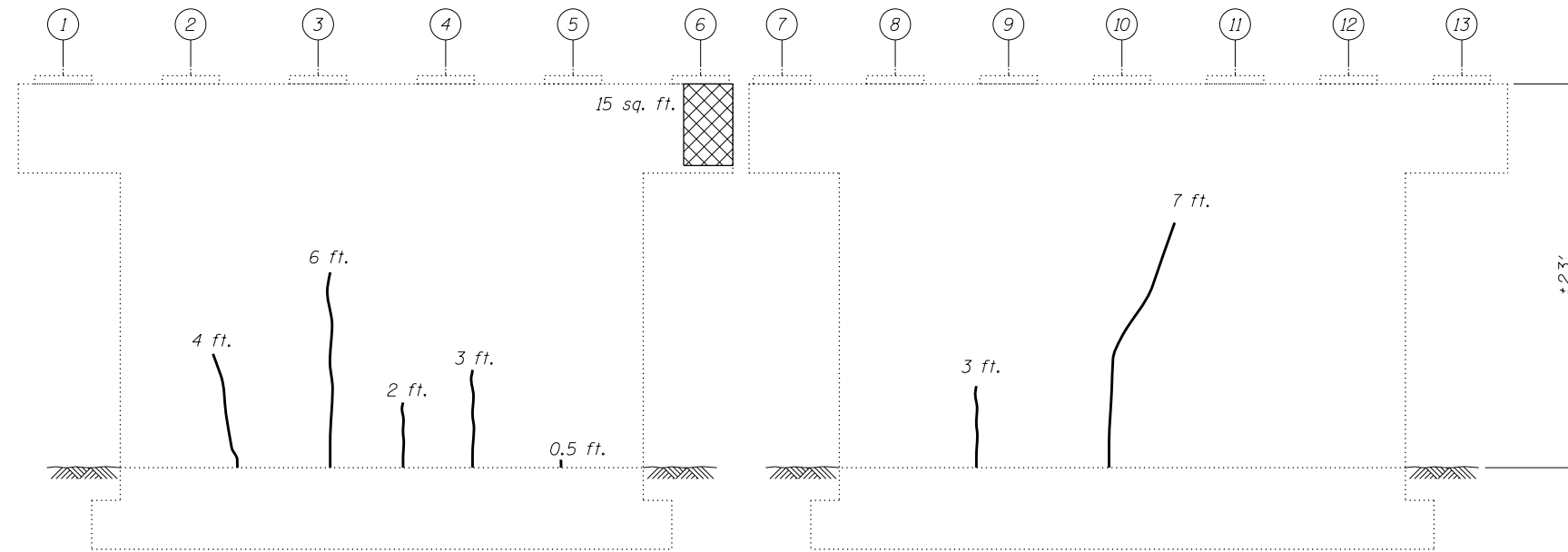
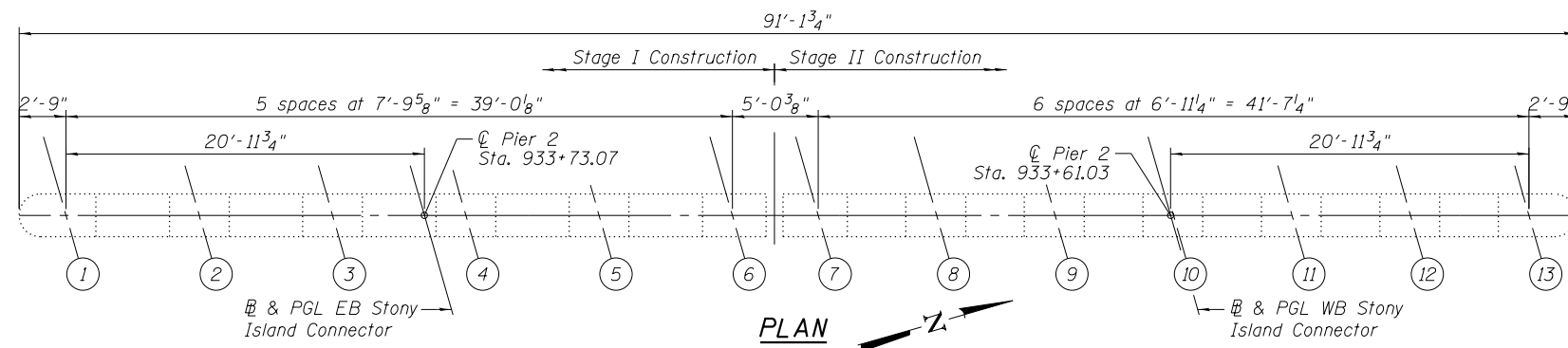
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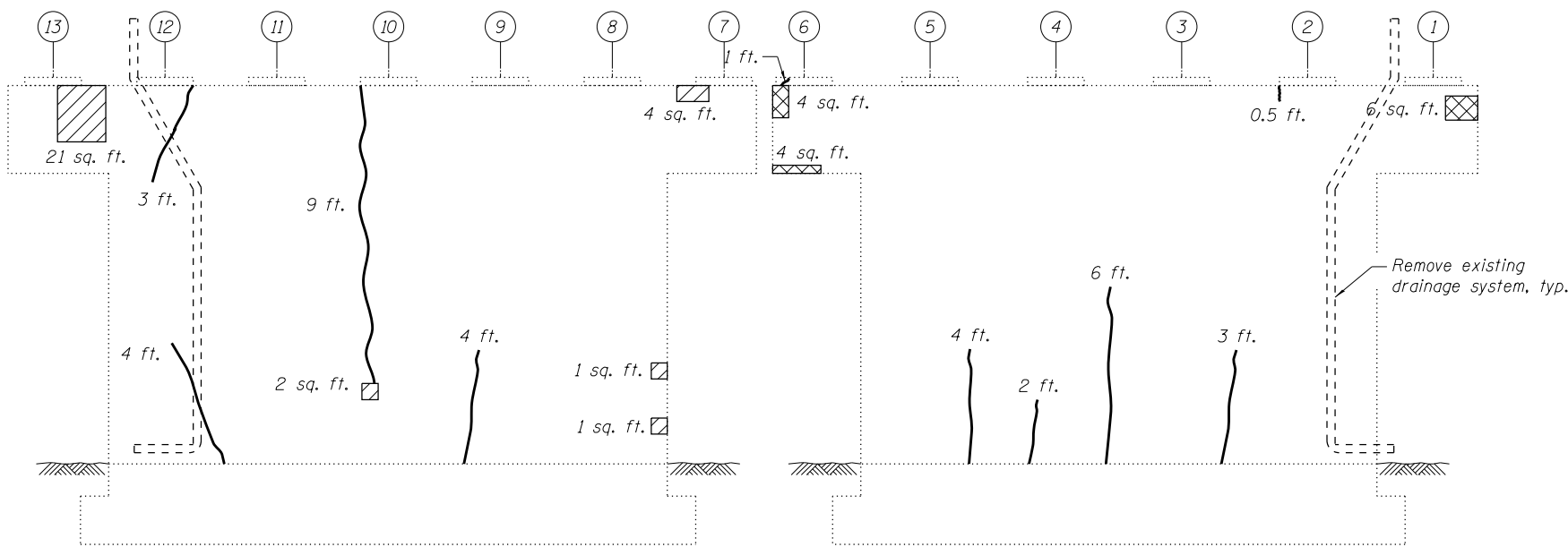
PIER 1 REPAIRS
STRUCTURE NO. 016-2440

SHEET NO. S-34 OF S-47 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	462
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



EAST ELEVATION
(Looking West)



WEST ELEVATION
(Looking East)

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.
- Removal and disposal of existing drainage system shall be paid for as Pipe Drain Removal.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 inches)
- Structural Repair of Concrete (Depth greater than 5 inches)
- Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	29
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	29
Epoxy Crack Injection	Foot	62
Pipe Drain Removal	Foot	73

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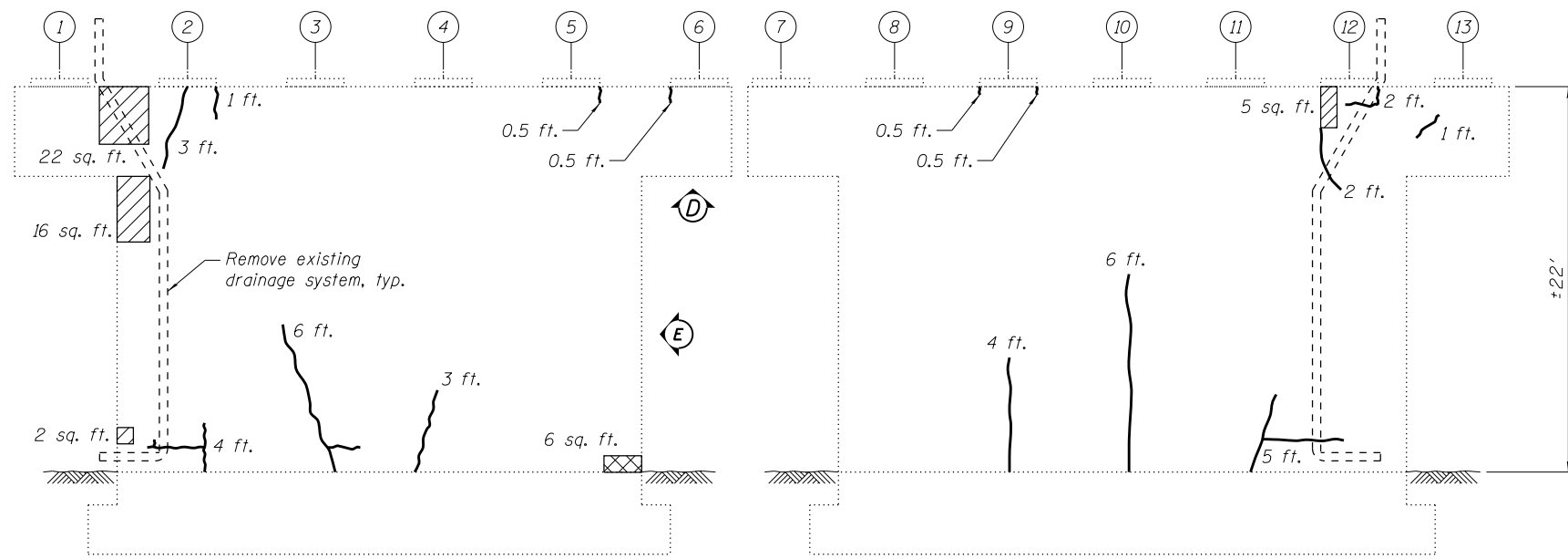
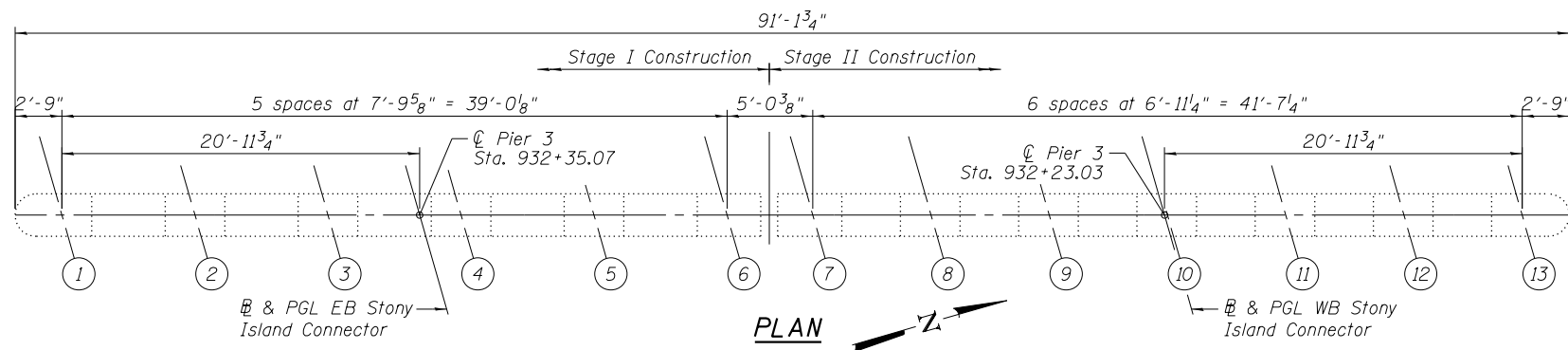
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PIER 2 REPAIRS
STRUCTURE NO. 016-2440

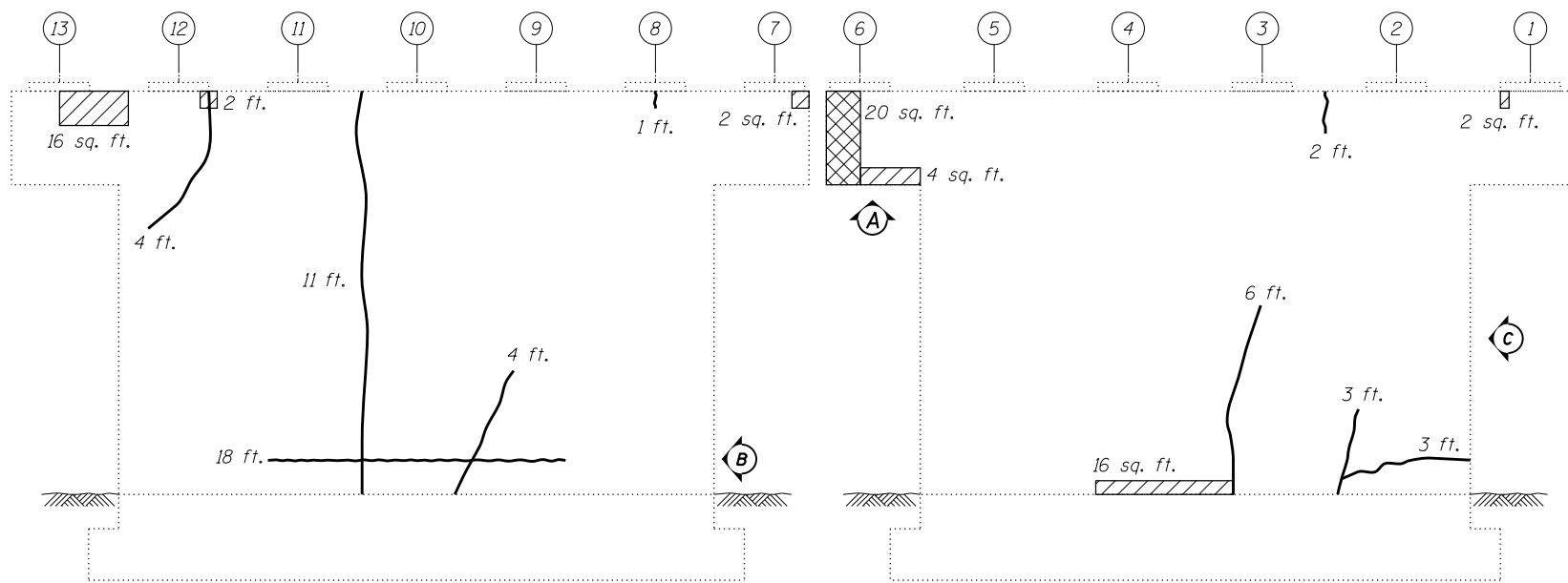
SHEET NO. S-35 OF S-47 SHEETS

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				CONTRACT NO. 60J12

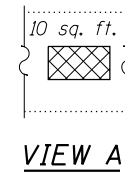
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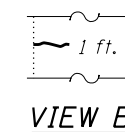
EAST ELEVATION
(Looking West)



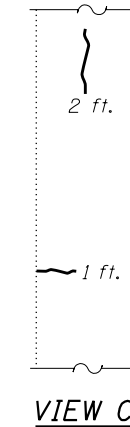
WEST ELEVATION
(Looking East)



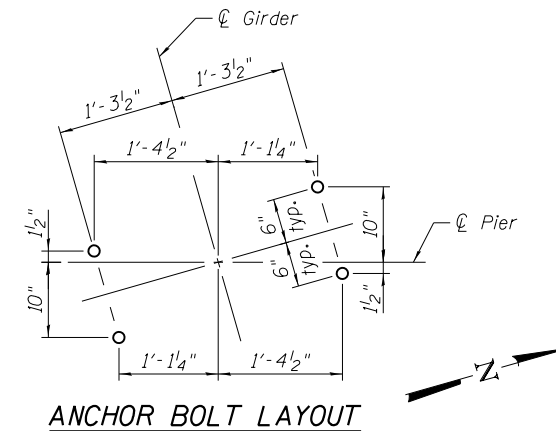
VIEW A



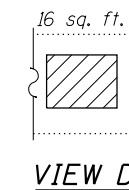
VIEW B



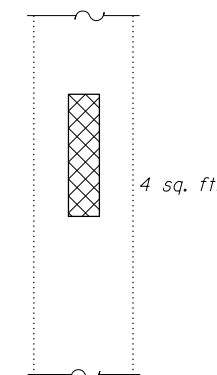
VIEW C



ANCHOR BOLT LAYOUT



VIEW D



VIEW E

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.
- Removal and disposal of existing drainage system shall be paid for as Pipe Drain Removal.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 inches)
- Structural Repair of Concrete (Depth greater than 5 inches)
- Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	103
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	40
Epoxy Crack Injection	Foot	95
Pipe Drain Removal	Foot	71

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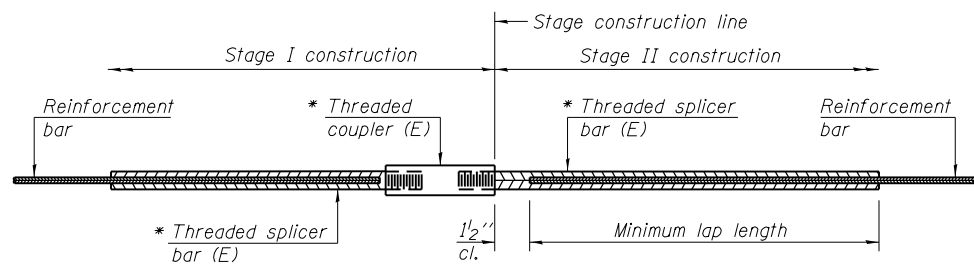
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PIER 3 REPAIRS
STRUCTURE NO. 016-2440

SHEET NO. S-36 OF S-47 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	464
CONTRACT NO. 60J12				
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STANDARD BAR SPLICER ASSEMBLY

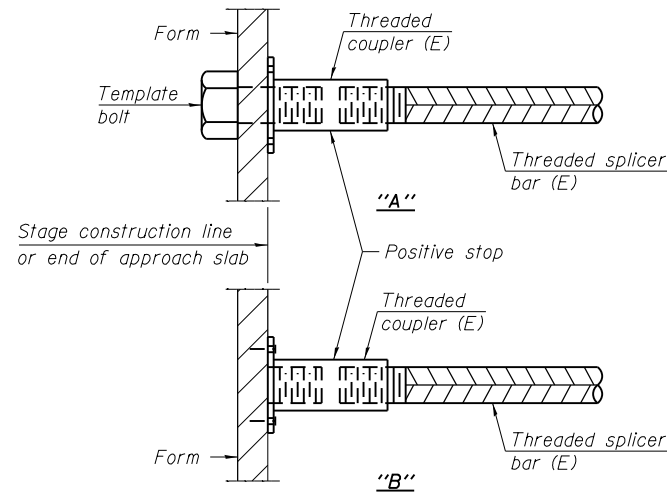
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar lap, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

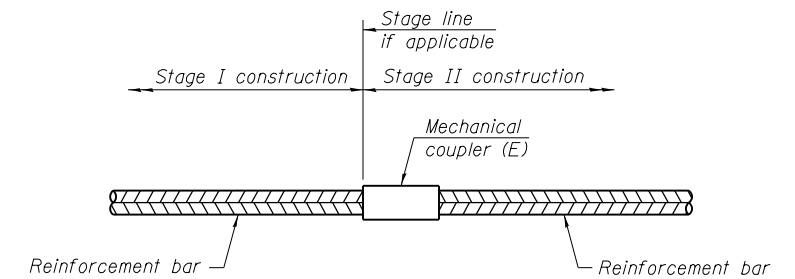
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Bridge Deck	#5	1507	Table 5
E. Abut. diaphragm	#6	13	Table 6
W. Abut. diaphragm	#6	13	Table 6
East Appr. Slab	#4	31	Table 5
East Appr. Slab	#5	40	Table 5
West Appr. Slab	#4	31	Table 5
West Appr. Slab	#5	40	Table 5
East Abutment	#5	2	Table 5
West Abutment	#5	2	Table 5



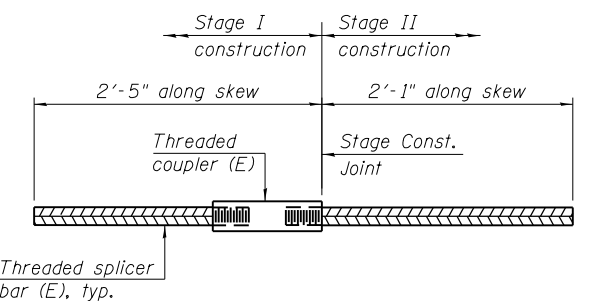
INSTALLATION AND SETTING METHODS

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



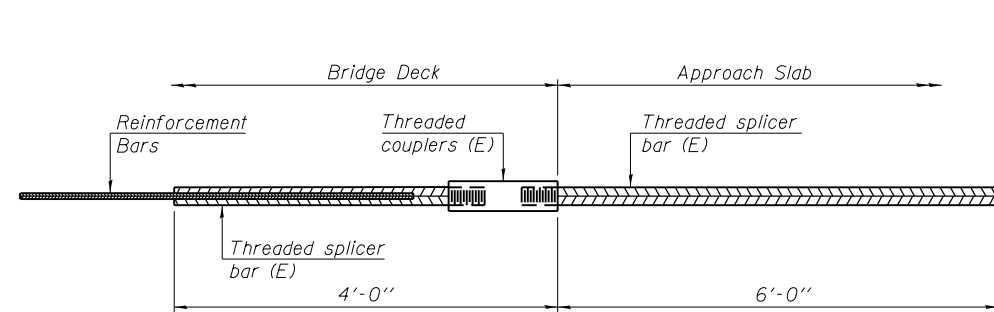
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



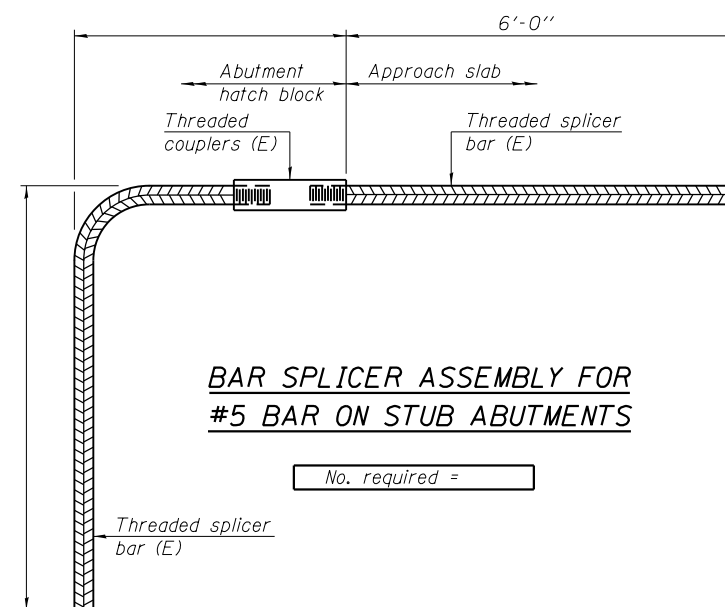
#6 BAR SPLICER ASSEMBLY IN DIAPHRAGM AT STAGE CONSTRUCTION JOINT

No. required = 12



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

2:48:32 PM

4/18/2013

S:\1072_05_CADD\Structure\1\SN_0162440\CADD_Sheets\0162440-60J12-036-B501.dgn

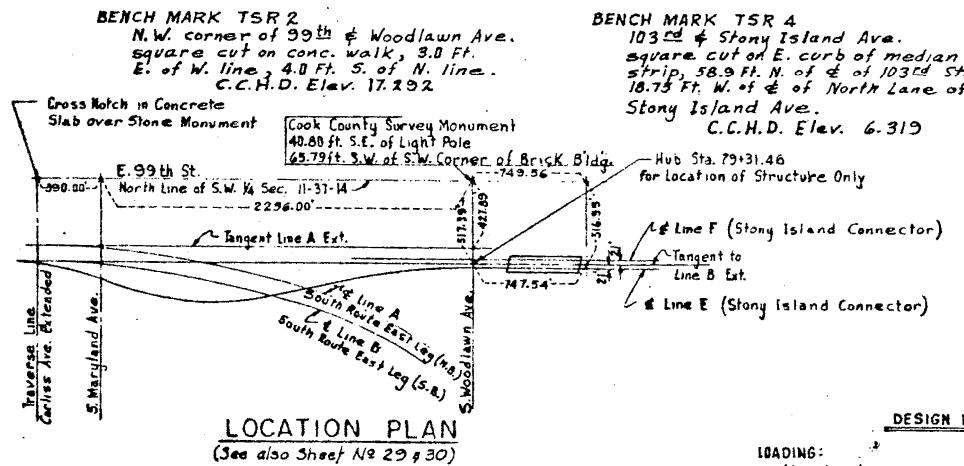
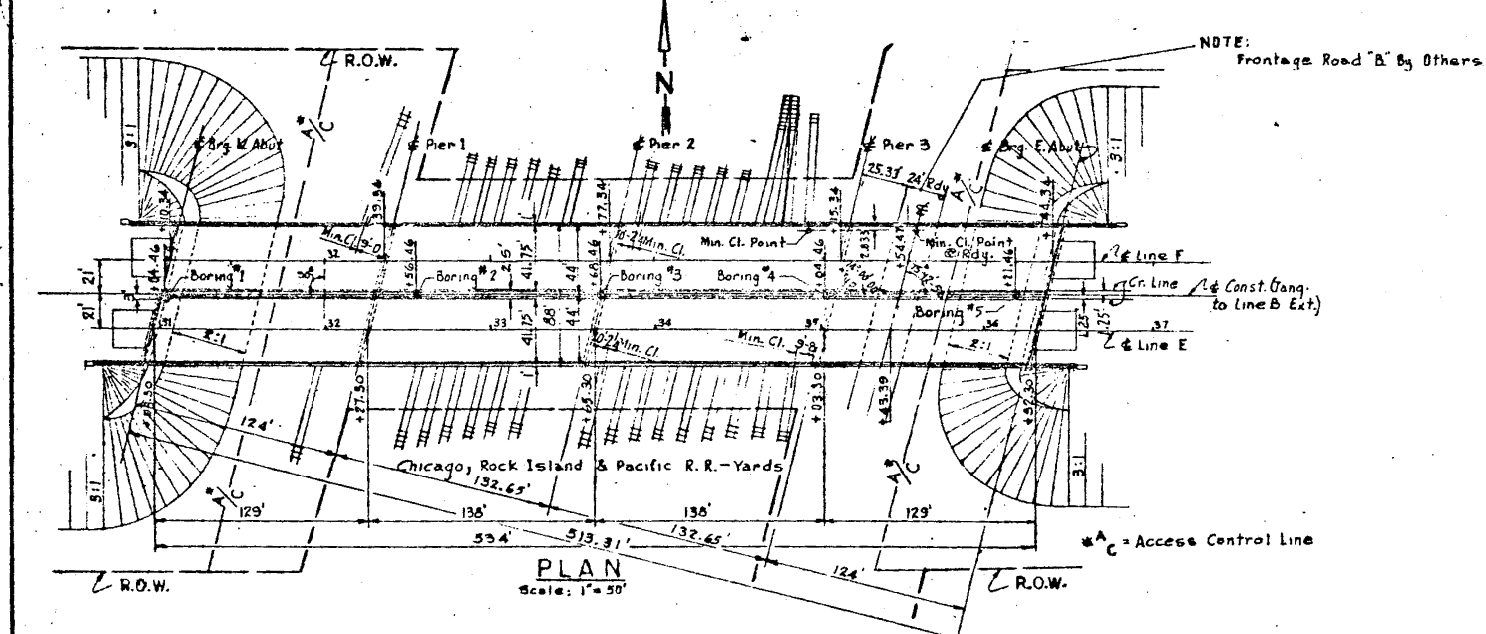


USER NAME =	DESIGNED - TL	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN - TL	REVISED -
	CHECKED - BAK	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	465
CONTRACT NO. 60J12				

COUNTY PROGRAM		SHEET
ITEM No.	YEAR	No.
	1969	4

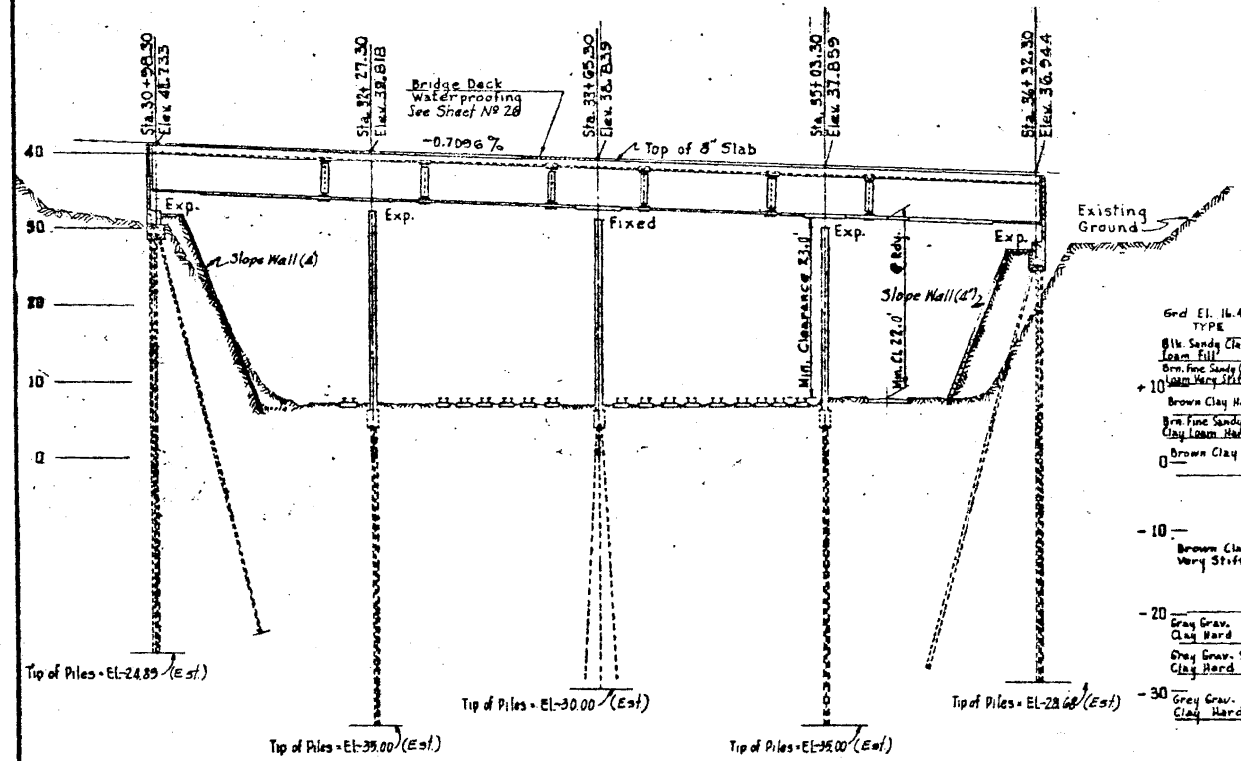
Section 11-37-14
City of Chicago - Hyde Park
Population 3,550,404



LOCATION PLAN
(See also Sheet No 29 & 30)

DESIGN DATA

- LOADING: Live Load HS20-44 & Alternate
- SPECIFICATIONS: Design A.A.S.H.O. Specifications for Highway Bridges, 1965 & as Amended to Date.
- CONSTRUCTION & MATERIAL: Standard Specifications for Road and Bridge Construction of the State of Illinois, 1968, and as Amended to Date.
- WELDING: A.W.S. Standard Specifications for Welded Highway & Railway Bridges, 1969 and as Amended to Date.
- ALLOWABLE STRESSES:
 - F_s Structural Steel A.S.T.M.-A36 20,000 P.S.I.
 - F_s Reinforcement Bars 20,000 P.S.I.
 - F_c Compressive Stress of Concrete:
 - Without Earth Pressure 1,200 P.S.I.
 - With Earth Pressure 1,000 P.S.I.
 - Earth Pressure 40% C.F. Equiv. Fluid
- SUPERSTRUCTURE: All Girders are Designed as 60" Welded Plate Girders with Non-Composite Sections. 2' Roadways @ 24'-0" Plus 10'-0" Shoulders on the Right Plus 6'-0" Shoulders on the Left & 6'-0" Flush Median
- SUBSTRUCTURES: Reinforced Concrete Pile Cap Abutments on Steel Piles. Reinforced Concrete Piers on Steel Piles.
- DESIGN DESIGNATION: 3350 (87) FR-3
 - 1987 Average Daily Traffic 33,450 Vehicles
 - 1987 Design Hour Volume 4,020 Vehicles
 - 1987 Average Daily Truck Traffic 3,350 Trucks
 - West Bound 3,350 Trucks
 - East Bound 3,350 Trucks
 - Design Speed 60 Miles per Hour
- HANDRAIL: A.A.S.H.O. Interim Specifications, 1966-1967.



PROFILE - ALONG LINE "E"
PROFILE ALONG LINE "F" - SIMILAR
STATIONS & ELEVATIONS SHOWN FOR LINE "E" ONLY
Scales: Vert. 3/2"=1'-0"
Horiz. 1"=30'

BORING NO.	LOCATION	SOIL TYPE	DEPTH (ft)	MOISTURE (%)	U.C.S. (lb/sq ft)
BORING NO. 1	173' East of & Woodlawn Ave. & 928' South of & 99th St.	Black Cinder Fill	0.0 - 1.0	10.0	100
		Brown Clay Hard	1.0 - 1.5	10.0	100
		Brown Clay Very Stiff	1.5 - 2.0	10.0	100
		Brown Clay Stiff	2.0 - 2.5	10.0	100
		Brown Clay Very Stiff	2.5 - 3.0	10.0	100
		Brown Clay Very Stiff	3.0 - 3.5	10.0	100
		Brown Clay Very Stiff	3.5 - 4.0	10.0	100
		Brown Clay Very Stiff	4.0 - 4.5	10.0	100
		Brown Clay Very Stiff	4.5 - 5.0	10.0	100
		Brown Clay Very Stiff	5.0 - 5.5	10.0	100
BORING NO. 2	325' East of & Woodlawn Ave. & 517' South of & 99th St.	Black Cinder Fill	0.0 - 1.0	10.0	100
		Brown Clay Hard	1.0 - 1.5	10.0	100
		Brown Clay Very Stiff	1.5 - 2.0	10.0	100
		Brown Clay Stiff	2.0 - 2.5	10.0	100
		Brown Clay Very Stiff	2.5 - 3.0	10.0	100
		Brown Clay Very Stiff	3.0 - 3.5	10.0	100
		Brown Clay Very Stiff	3.5 - 4.0	10.0	100
		Brown Clay Very Stiff	4.0 - 4.5	10.0	100
		Brown Clay Very Stiff	4.5 - 5.0	10.0	100
		Brown Clay Very Stiff	5.0 - 5.5	10.0	100
BORING NO. 3	437' East of & Woodlawn Ave. & 517' South of & 99th St.	Black Cinder Fill	0.0 - 1.0	10.0	100
		Brown Clay Hard	1.0 - 1.5	10.0	100
		Brown Clay Very Stiff	1.5 - 2.0	10.0	100
		Brown Clay Stiff	2.0 - 2.5	10.0	100
		Brown Clay Very Stiff	2.5 - 3.0	10.0	100
		Brown Clay Very Stiff	3.0 - 3.5	10.0	100
		Brown Clay Very Stiff	3.5 - 4.0	10.0	100
		Brown Clay Very Stiff	4.0 - 4.5	10.0	100
		Brown Clay Very Stiff	4.5 - 5.0	10.0	100
		Brown Clay Very Stiff	5.0 - 5.5	10.0	100
BORING NO. 4	575' East of & Woodlawn Ave. & 517' South of & 99th St.	Black Cinder Fill	0.0 - 1.0	10.0	100
		Brown Clay Hard	1.0 - 1.5	10.0	100
		Brown Clay Very Stiff	1.5 - 2.0	10.0	100
		Brown Clay Stiff	2.0 - 2.5	10.0	100
		Brown Clay Very Stiff	2.5 - 3.0	10.0	100
		Brown Clay Very Stiff	3.0 - 3.5	10.0	100
		Brown Clay Very Stiff	3.5 - 4.0	10.0	100
		Brown Clay Very Stiff	4.0 - 4.5	10.0	100
		Brown Clay Very Stiff	4.5 - 5.0	10.0	100
		Brown Clay Very Stiff	5.0 - 5.5	10.0	100
BORING NO. 5	637' East of & Woodlawn Ave. & 517' South of & 99th St.	Black Cinder Fill	0.0 - 1.0	10.0	100
		Brown Clay Hard	1.0 - 1.5	10.0	100
		Brown Clay Very Stiff	1.5 - 2.0	10.0	100
		Brown Clay Stiff	2.0 - 2.5	10.0	100
		Brown Clay Very Stiff	2.5 - 3.0	10.0	100
		Brown Clay Very Stiff	3.0 - 3.5	10.0	100
		Brown Clay Very Stiff	3.5 - 4.0	10.0	100
		Brown Clay Very Stiff	4.0 - 4.5	10.0	100
		Brown Clay Very Stiff	4.5 - 5.0	10.0	100
		Brown Clay Very Stiff	5.0 - 5.5	10.0	100

REVISIONS		
DATE	BY	DESCRIPTION
4/16/67	J.M.	Added Bench Marks & Seal Location
5-7-70	J.S.	Deleted "Future Load"
		R.W.S. - 3rd Spec. for Welded
		12" & 8" Bridges, 1966 changed to 1969

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
PRESIDENT BOARD OF COMMISSIONERS

THOMAS G. COTS
COMMISSIONER

PLAN & PROFILE
STONY ISLAND EXP CONNECTOR
TO F.A.I. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

COMPUTED: PROJECT EBU-EBUG-246 (64)
CHECKED: SUBMITTED: 3-10-67
DRAWN: C.M. CLARK
CHECKED: J.B. SMITH

EXAMINED: [Signature]
CHIEF ENGINEER OF DISTRICT

SECTION NUMBER: 174 A
SHEET NO.: 4
TOTAL SHEETS: 47
SHEET NO.: 5126

3/29/2013

3/29/2013

SA 1072 05 CADD Structural SN 0162440 CADD Sheets 0162440-60J12-037-F10.dgn

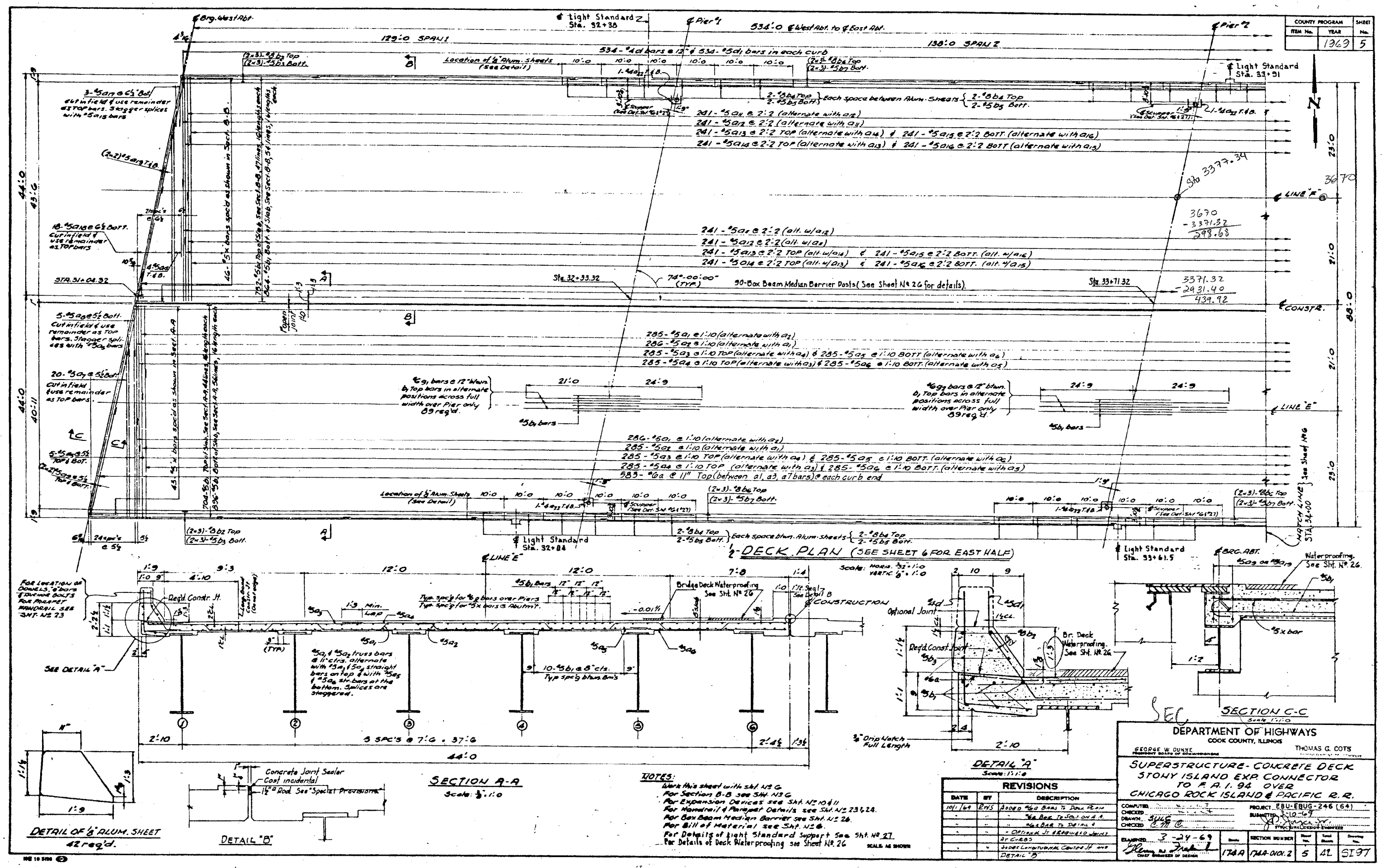
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

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PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2440
SHEET NO. S-38 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	466
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



NOTES:
 Work this sheet with SH. 13 G.
 For Section B-B see SH. 13 G.
 For Expansion Devices see SH. 12 10 & 11.
 For Handrail & Parapet Details see SH. 12 23 & 24.
 For Box Beam Median Barrier see SH. 12 26.
 For Bill of Material see SH. 12 6.
 For Details of Light Standard Support see SH. 12 27.
 For Details of Deck Waterproofing see SH. 26.

REVISIONS		
DATE	BY	DESCRIPTION
10/1/69	BWS	Added #6 Bars to Deck Rein
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.
		See SH. 12 23 on A.

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
 President of Cook County

THOMAS G. COTS
 President of Cook County

SUPERSTRUCTURE-CONCRETE DECK
STONY ISLAND EXP CONNECTOR
TO P.A. 1. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

PROJECT EBU-EBUG-246 (64)
 SUBMITTED 3-10-69

COMPUTER: _____
 CHECKED: _____
 DRAWN: _____
 CHECKED: _____

EXAMINED: 3-24-69
 DATE OF DESIGN: _____

SECTION NUMBER: 17A A
 SHEET NO.: 5
 TOTAL SHEETS: 47
 DRAWING NO.: SI 97

3/27/2013

3/29/2013

SA:107.05.05.CADD.Structure\1 SN 0162440.CADD Sheets\062440-60J12-03B-F102.dgn

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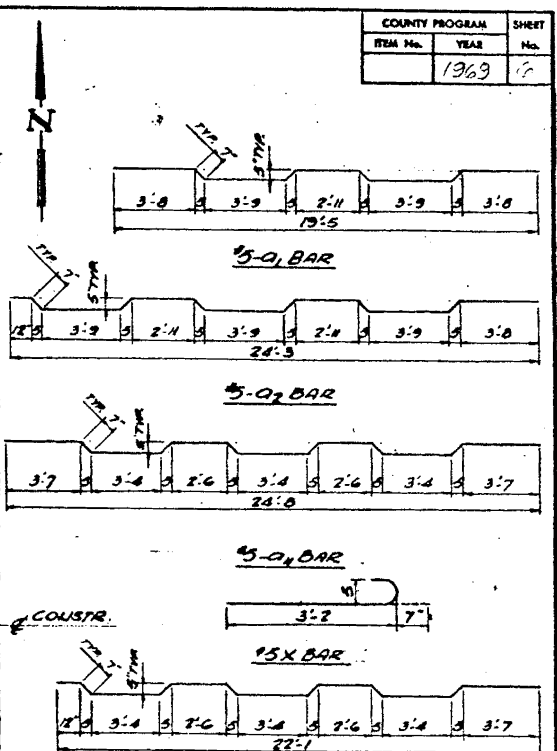
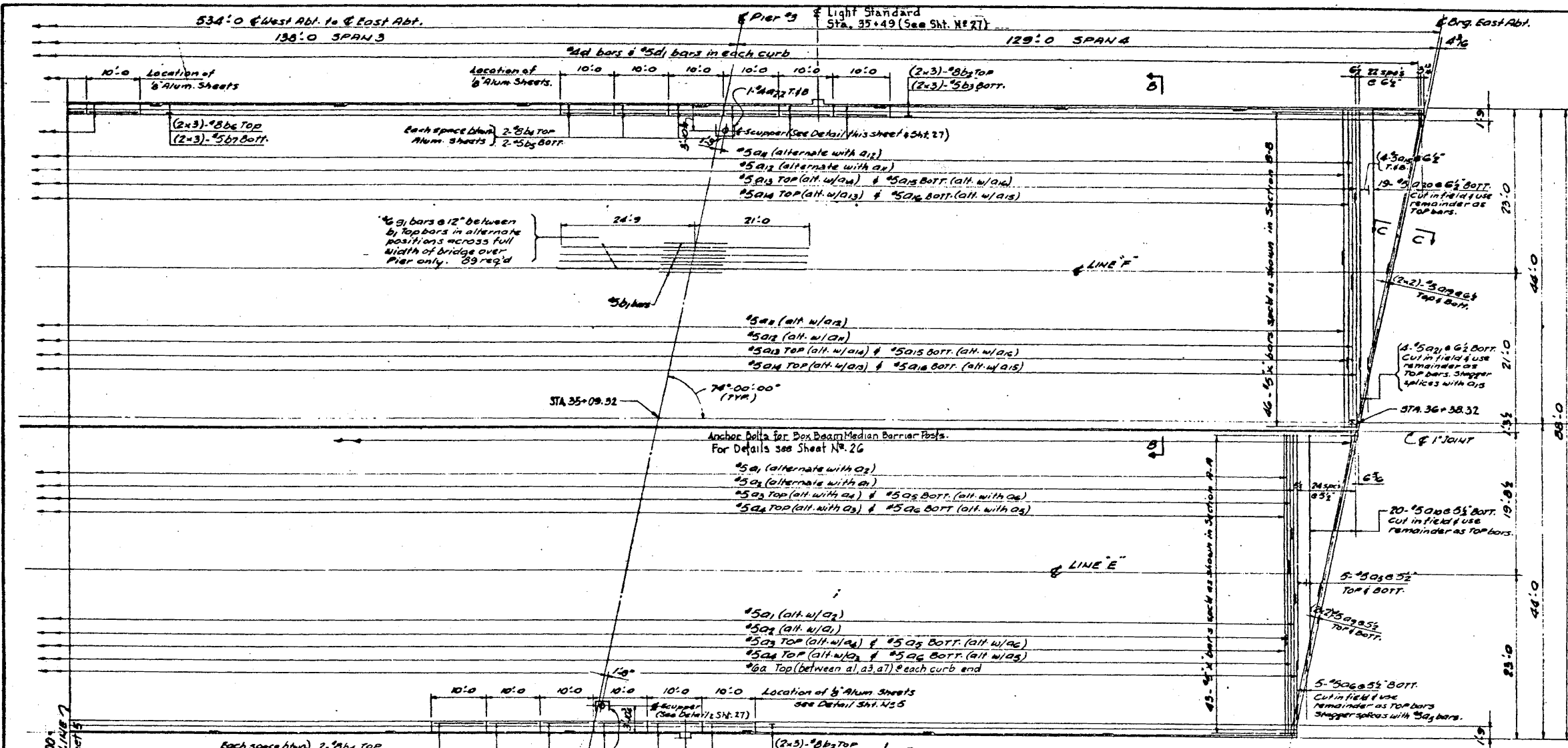
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PLOT SCALE =	CHECKED - BAK	REVISIONS -
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	CHECKED -	REVISIONS -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

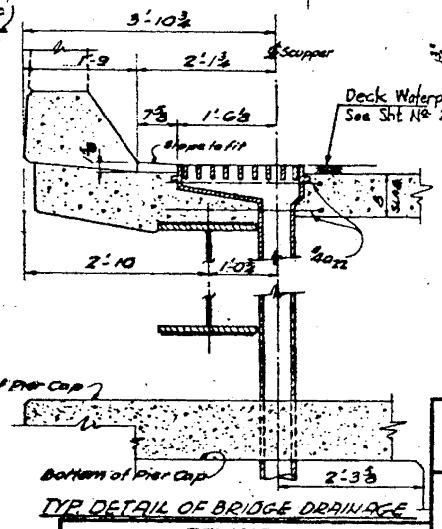
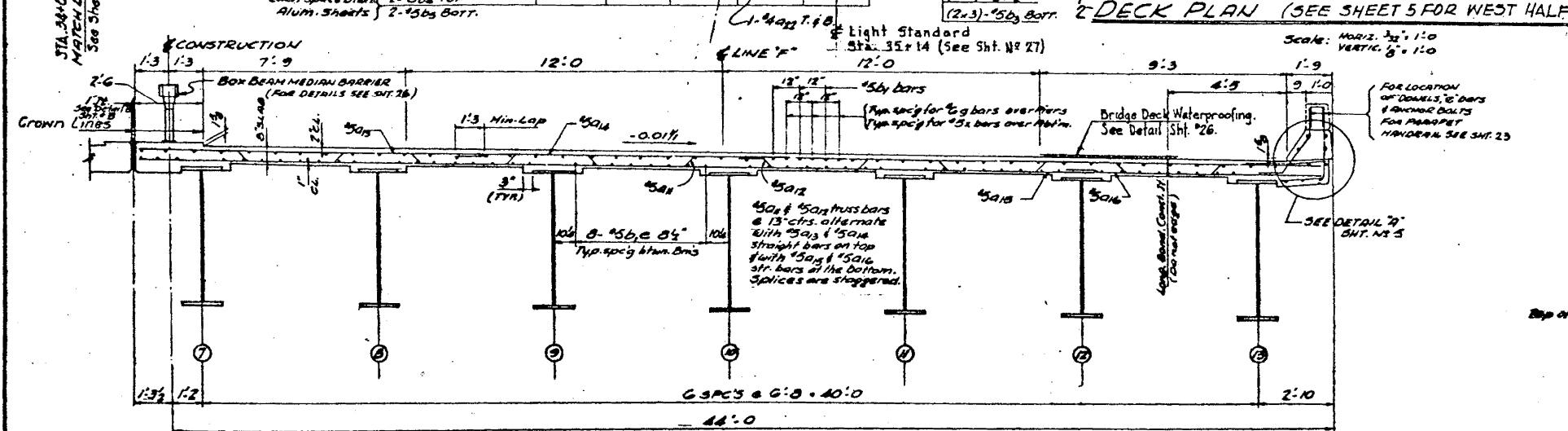
EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2440

SHEET NO. S-39 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	467
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



BAR SCHEDULE				
MARK	NO.	SIZE	LENGTH	SHEETS
01	571	3	20.1	
02	571	3	23.3	
03	570	3	14.6	
04	570	3	29.0	
05	590	3	33.3	
06	575	3	10.3	
07	70	3	35.2	
08	70	3	32.7	
09	482	3	25.8	
10	482	3	23.1	
11	482	3	13.0	
12	482	3	33.2	
13	482	3	36.4	
14	482	3	10.0	
15	3	3	10.10	
16	18	3	36.8	
17	16	3	24.0	
18	19	3	36.2	
19	12	3	10.0	
20	12	3	27.9	
21	1166	6	2.0	
22	326	6	34.7	
23	24	6	34.4	
24	24	6	33.10	
25	22	6	8.9	
26	24	6	9.9	
27	24	6	27.3	
28	24	6	26.9	
29	178	6	25.9	
30	89	6	49.0	
d	1068	4	4.3	
d	1068	3	3.5	
x	178	3	3.9	



BILL OF MATERIAL		
Class X Concrete	1329	Cu. Yds.
Reinforcement Bars	312,392	Lbs.
Protective Coat	387	Sq. Yds.
Coal Tar Interlayer Protective Coat	4,790	Sq. Yds.
Bitum. Conc. Surface Course, Class I, 1 1/2"	284	Tons

REVISIONS		
DATE	BY	DESCRIPTION
10/1/64	EWS	Added #5a bars on Deck Plan
		Added #5a Bar Detail
		Added #5a Bars to Bar Schedule
		Revised Bar Quantities
		Added Laminated Center Joint

DEPARTMENT OF HIGHWAYS
 GEORGE W. QUINN
 THOMAS G. COTS

SUPERSTRUCTURE-CONCRETE DECK
STONY ISLAND EXP. CONNECTOR
TO F.A. 1. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

COMPUTED: _____ PROJECT: EBV-EBUG-205.164
 CHECKED: _____ SUBMITTED: 3-10-69
 DRAWN: JWC
 CHECKED: G. J. [Signature]

EXAMINED: 3-24-69
 [Signature]
 CHIEF ENGINEER OF BRIDGE

DATE	SECTION NUMBER	Sheet No.	Total Sheets
176A	174A-0013	6	41

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

3/29/2013
 SA:1072.05.CADD.S-Structure-1.SN 0162440.CADD Sheets\0162440-60J12-039-F1033.dgn
 3:29/2013
 3/29/2013
 3:29/2013

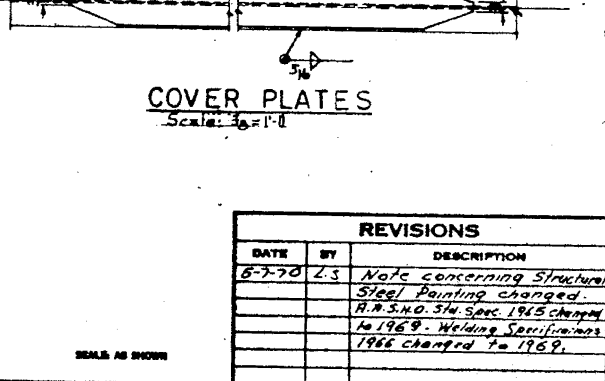
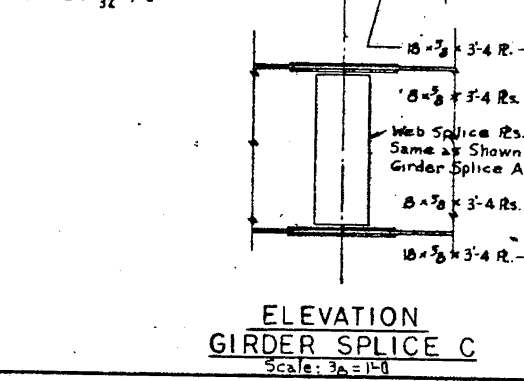
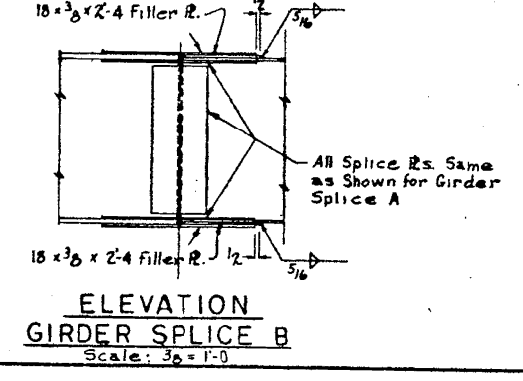
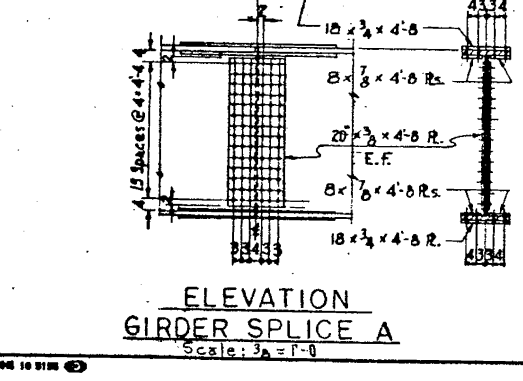
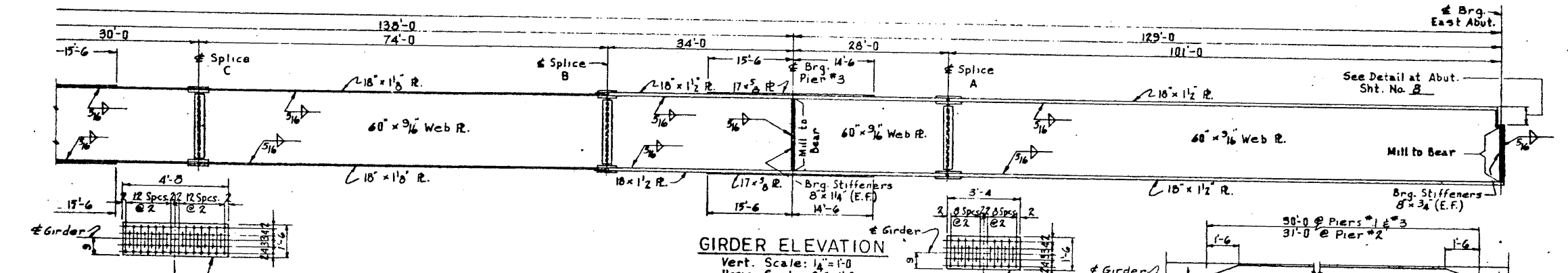
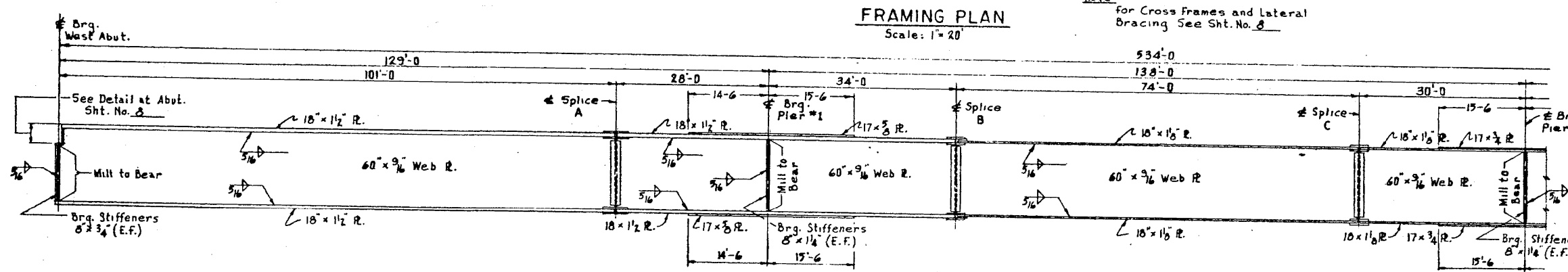
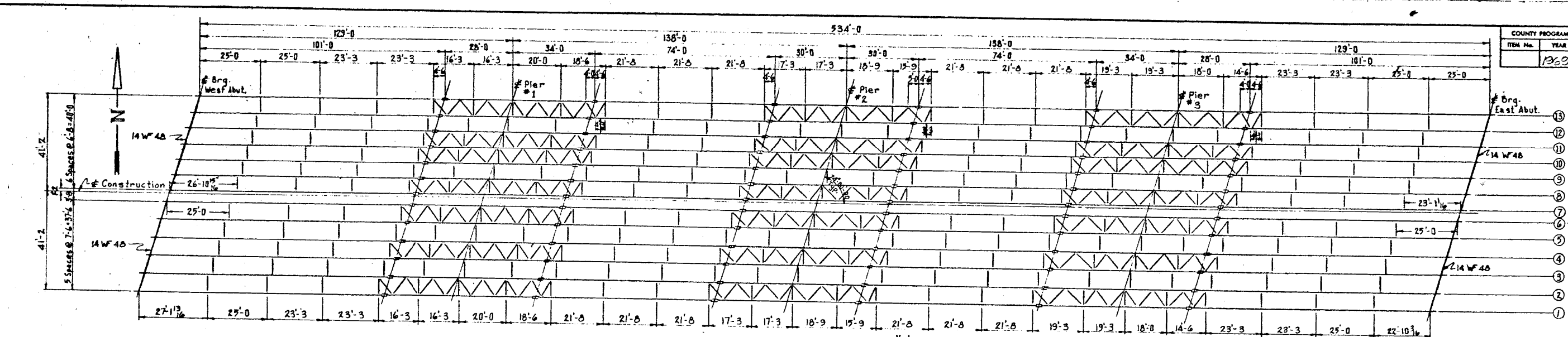
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PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2440
 SHEET NO. S-40 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	468
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



Structural Steel Notes

Structural Steel shall be Carbon Steel A-36 and shall conform to A.S.T.M. Specifications Amended to Date.

All Rivets shall be 3/8" ϕ , Open Holes 1 1/8" ϕ , unless otherwise noted.

All Girder Splices shall have Rivet Holes Sub-Punched to 1 1/8" ϕ and Reamed to 1 3/8" ϕ . Before Reaming is done, All Girders of a continuous Unit shall be Assembled in their proper position with or without the Bracing in place. Match Mark and Leave Assembled for Inspection.

As an alternate for Rivets for field connections, the Contractor may elect to use High Tensile Strength bolts as specified in Section 507 of the Standard Specifications and Section 2:10:20 of the A.A.S.H.O. Standard Specifications 1969 as amended.

Welding shall conform to the Specifications of American Welding Society for Highway and Railway Bridges, 1969 Amended to Date.

Contact Surfaces of Shop Welded or Shop Riveted Structural Steel shall not be Painted. See Standard Specifications concerning inaccessible Surfaces. Top of Girders that are to have Concrete poured in contact with them shall not be Painted except over Abutments and Piers. Such Surfaces shall be Painted for a distance of 5 feet each way from Center Line of Bearing.

All Structural Steel shall be painted in accordance with Std. Spec. and Spec. Prov. for Paint Materials and Mixed Paints.

Structural steel shall be inspected by the Illinois Division of Highways before painting.

Anchor bolts shall be set before riveting diaphragms (bolting cross frames) over supports.

Field welding of construction accessories will not be permitted in the bottom of flange of beams or girders nor on the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Notes: Quantities for this Sheet are included in the Bill of Material on Sheet No. 8

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
PRESIDENT BOARD OF COMMISSIONERS

THOMAS G. COYS
SUPERVISOR OF HIGHWAYS

FRAMING PLAN & GIRDER ELEVATION
STONY ISLAND EXP. CONNECTOR
TO F.A.I. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

DATE	BY	DESCRIPTION	COMPUTED	CHECKED	DESIGNED	PROJECT
6-7-70	Z.S.	Note concerning Structural Steel Painting changed.				PROJ. EBU-EBUG-246 (64)
		R.R.S.M.O. 344 Spec. 1945 changed to 1969.				SUBMITTED 2-10-67
		1965 changed to 1969.				APPROVED 3-20-69

EXAMINED 3-20-69
Blair H. Franklin
CHY ENGINEER OF DESIGN

County Highway	Sheet No.	Total Sheets	Sheet No.
174A	174A-0101.2	7	41

DATE: 7/1/69

3/29/2013 3:29:03 PM SA:\072_05_CADD\Structural\SN 0162440.CADD Sheets\062440-60J12-040-F04.dgn

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CONSULTING ENGINEERS
Chicago, Illinois
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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

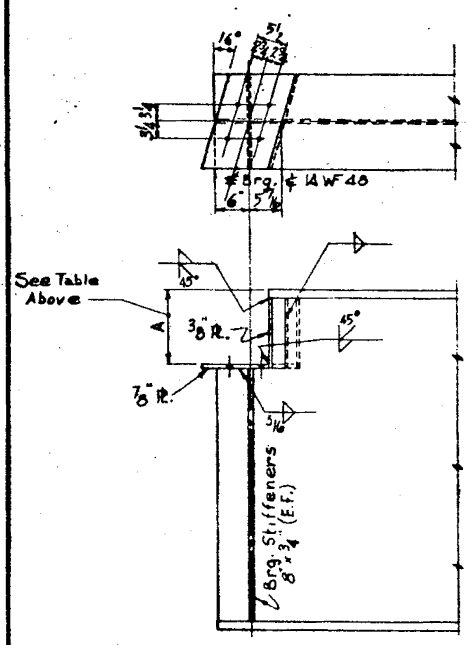
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2440
SHEET NO. S-41 OF S-47 SHEETS

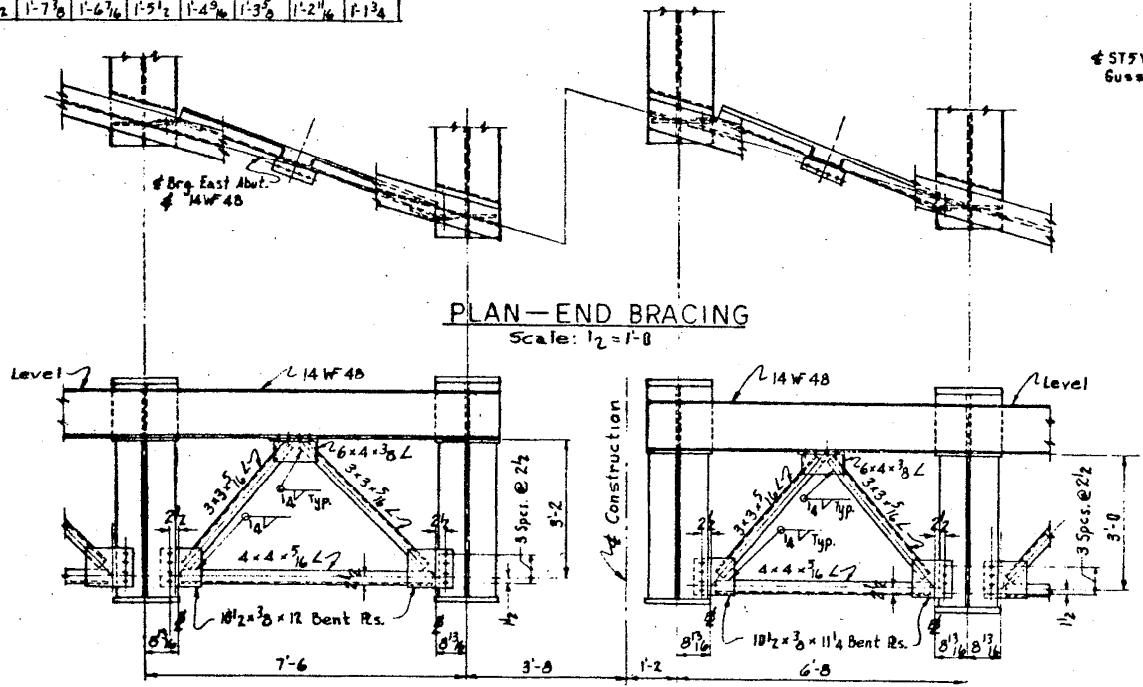
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	469
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

Girder No.	1	2	3	4	5	6	7	8	9	10	11	12	13
"A"	1'-1 1/2"	1'-2 1/2"	1'-3 1/4"	1'-4"	1'-4 3/4"	1'-5 1/2"	1'-7"	1'-6 3/4"	1'-5 1/2"	1'-4 3/4"	1'-3 3/8"	1'-2 1/4"	1'-1 3/4"

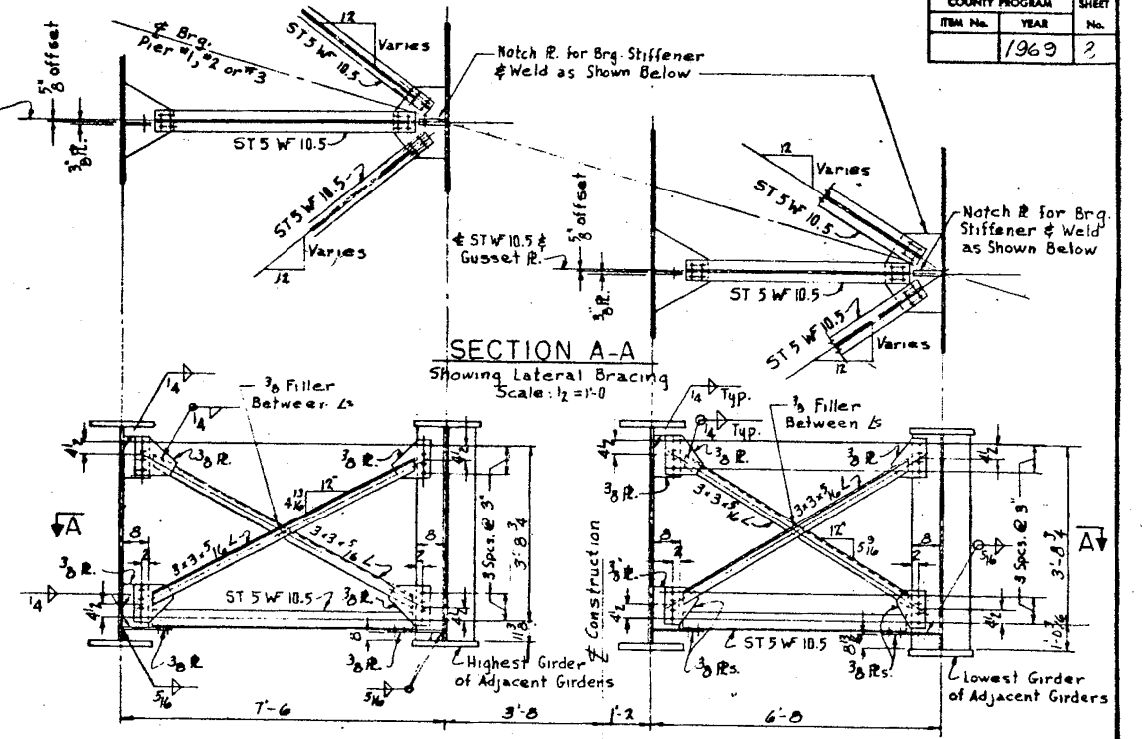
COUNTY PROGRAM	YEAR	SHEET No.
ITEM No.	1969	2



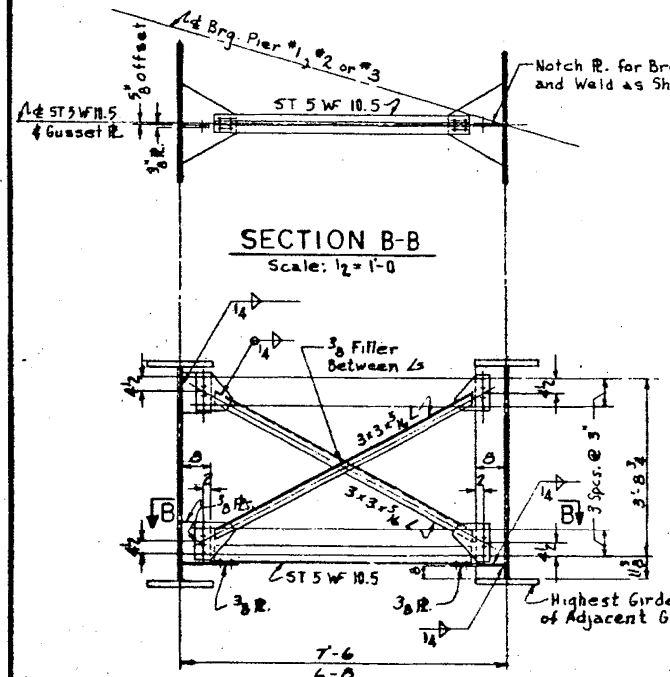
GIRDER DETAIL AT WEST ABUT.
Detail @ East Abut. Same By 180° Rotation
Scale: 3/4"=1'-0"



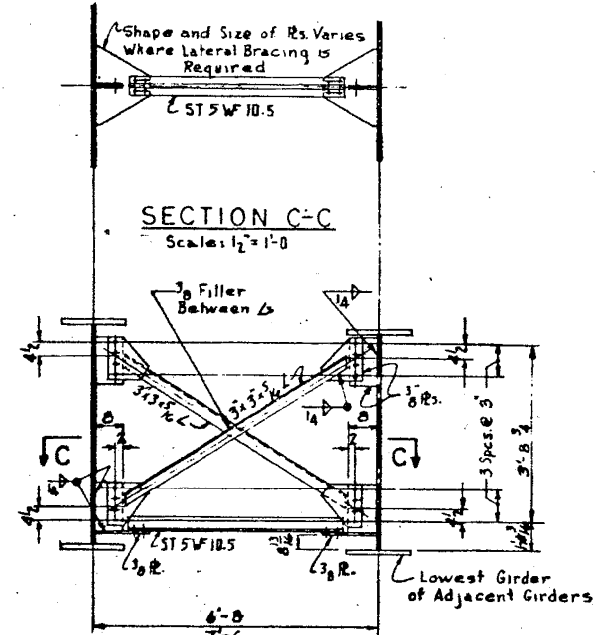
ELEVATION-END BRACING
End Bracing @ West Abut. Similar
Scale: 1/2"=1'-0"



ELEVATION-PIER CROSS FRAMING WITH LATERAL BRACING
Scale: 1/2"=1'-0"



ELEVATION-PIER CROSS FRAMING WITHOUT LATERAL BRACING
Scale: 1/2"=1'-0"



ELEVATION-INTERMEDIATE CROSS FRAMING
Scale: 1/2"=1'-0"

BILL OF MATERIAL	
* Structural Steel	LUMP SUM

* Calculated weights of structural steel including quantities from sheets 7, 8, 9, 10, 11, 26 and 27
2,359,437 Lbs.

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
PRESIDENT BOARD OF COMMISSIONERS

THOMAS C. POTTS
DIRECTOR DEPARTMENT OF HIGHWAYS

STRUCTURAL STEEL DETAILS
STONY ISLAND EXP. CONNECTOR
TO F.A.I. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

COMPUTED	PROJECT: EBU-EBUG-246 (647)
CHECKED: C. M. Clark	SUBMITTED: 3-10-69
DRAWN: C. M. Clark	DATE: 3-10-69
CHECKED: J. P. ...	SCALE: AS SHOWN
EXAMINED: 3-24-69	Sheet No. 74 A
Chief Engineer of Division	Project No. 174A-0101.2
	Sheet No. 8
	Scale: 1/2"=1'-0"

REVISIONS		
DATE	BY	DESCRIPTION
10-6-61	C.M.C.	Revised Clearance for Welding of Lateral Bracing R's.
5-7-70	L.S.	Structural Steel quantity changed to Lump Sum Note added.

3/29/2013 3:29 PM SA1072.05.CADD.STRUCTURE1.SN 0162440.CADD Sheets\0162440-60J12-041-FY05.dgn

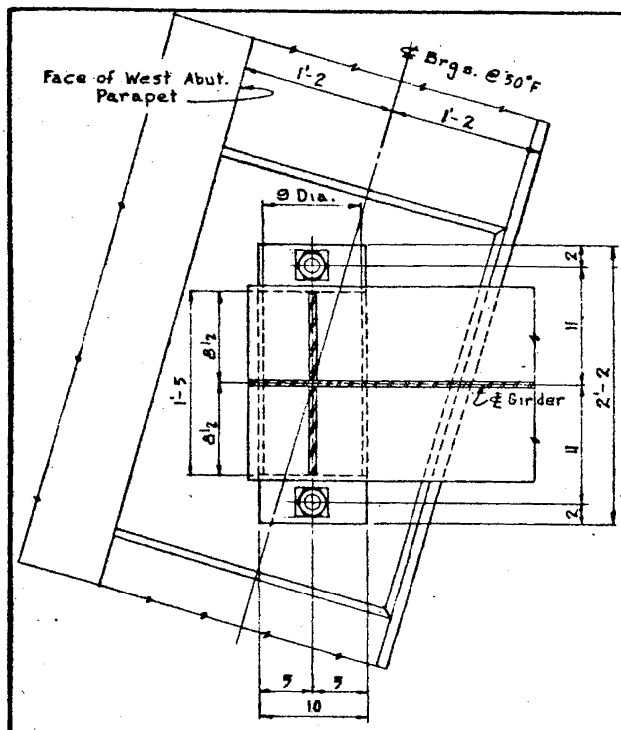
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

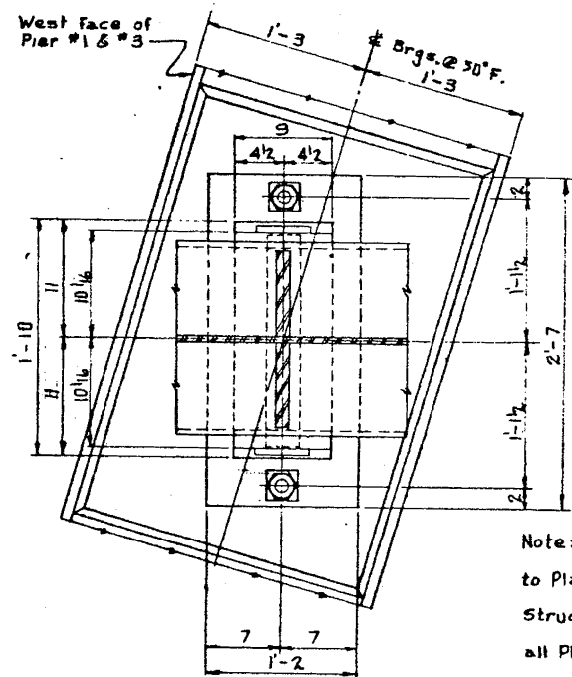
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2440
SHEET NO. S-42 OF S-47 SHEETS

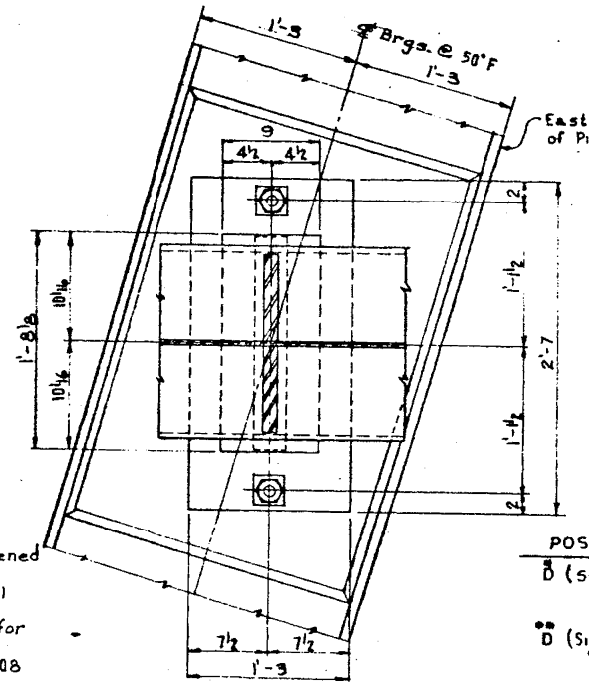
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	470
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



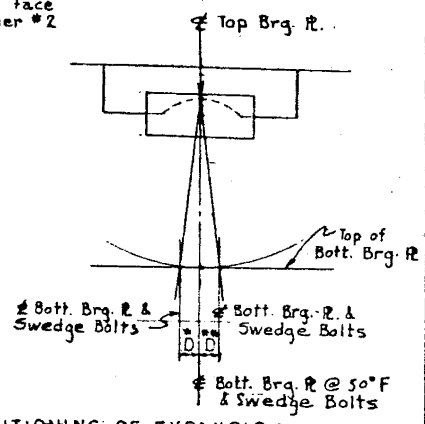
PLAN
Scale: 1/2" = 1'-0"



PLAN
Scale: 1/2" = 1'-0"

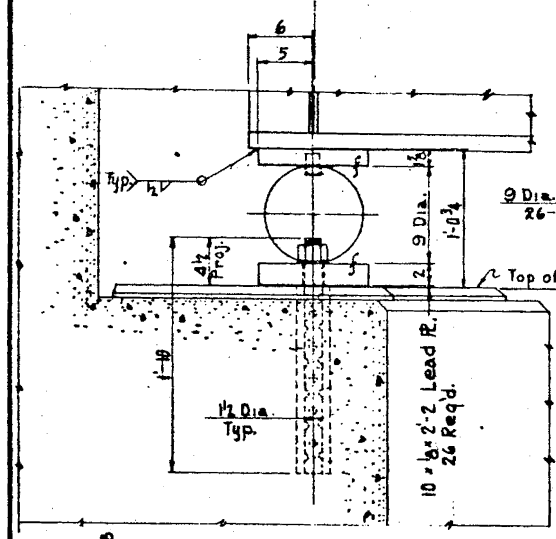


PLAN
Scale: 1/2" = 1'-0"

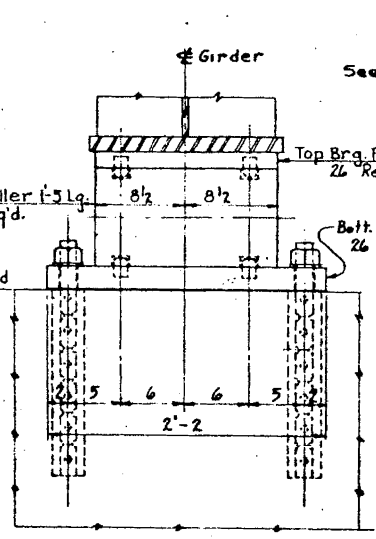


POSITIONING OF EXPANSION ROCKERS
 Ⓚ (Side of Brg. Away from Fixed Brg.)
 Ⓚ = 1/8" Per Each 100' of Expansion for Every 15° Fall Below Normal Temp. of 50°F
 Ⓚ (Side of Brg. Toward Fixed Brg.)
 Ⓚ = 1/8" Per Each 100' of Expansion for Every 15° Rise Above Normal Temp. of 50°F

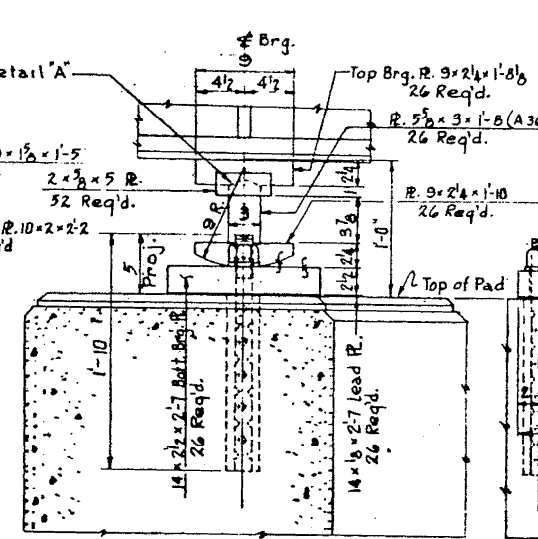
Note:
 All Bearing Plates shall be Straightened to Plane Surfaces.
 All Bearings to be Made from A-441 Structural Steel Unless Noted.
 Finished Dimensions are Shown for all Plates.
 for 9" Dia. Rollers use A.S.T.M. A-108 Grade 1016 to 1030 Inc.



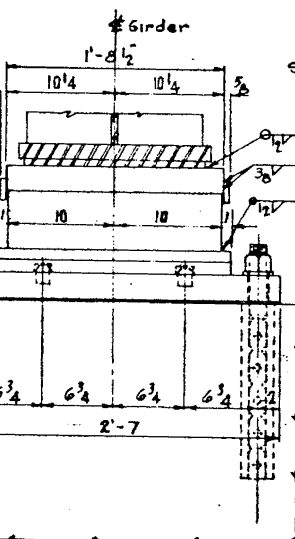
ELEVATION
Scale: 1/2" = 1'-0"



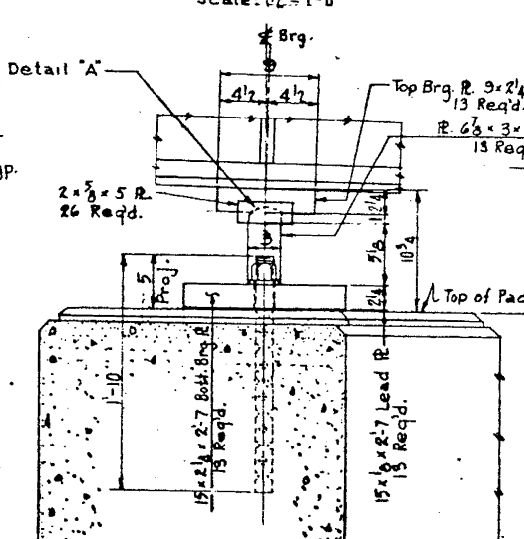
ELEVATION
Scale: 1/2" = 1'-0"



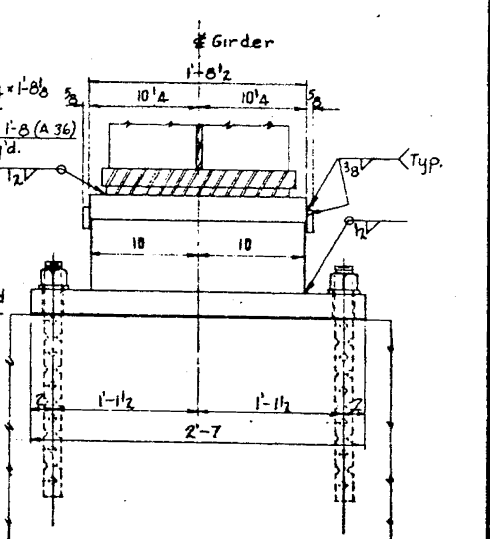
ELEVATION
Scale: 1/2" = 1'-0"



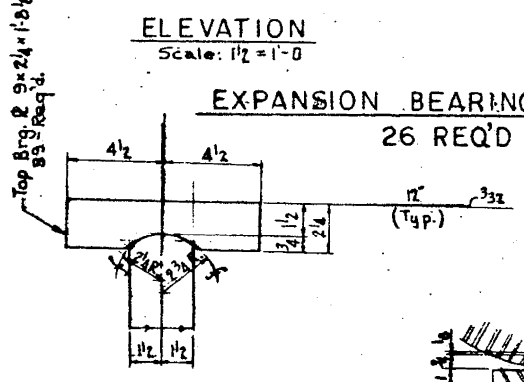
ELEVATION
Scale: 1/2" = 1'-0"



ELEVATION
Scale: 1/2" = 1'-0"

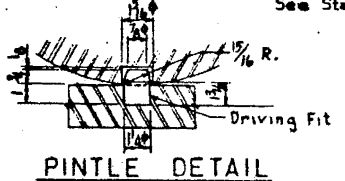


ELEVATION
Scale: 1/2" = 1'-0"



DETAIL A
Scale: 3" = 1'-0"

Note:
 Determine Location of Swedge Bolts for Exp. Brgs. and Drill 3" Dia. Holes Prior to Erection of Girders and Bottom Brg. Plates.
 Swedge Bolts to be Grouted in Place after Erection of Girder as Shown in Detail at Upper Right Hand Corner of this Sheet.
 See Standard Specifications Section 507.08



PINTLE DETAIL

Note:
 Swedge Bolts for Fixed Brg. to be Cast in Place. All Swedge Bolts are 1 1/2" Dia. All Washers 2 1/2 x 2 1/2 x 3/8"

Note:
 Estimated Weights of Bearings (Rockers, Bolsters, Bearing Plates, Lead Plates, Anchor Bolts & Washers) are to be included in the Contract Bid Price Per Lump Sum of Furnishing and Erecting Structural Steel, this furnishing and Erecting Structural Steel, this

Sheet 47, 52, 115.

REVISIONS		
DATE	BY	DESCRIPTION
1-22-70	C.M.C.	Changed Spacing of Swedge Bolts at Exp. Brgs. to Read 15" on Plan
5-8-70	L.S.	Unit price of str. steel per pound changed to Lump Sum
6-26-70	D.S.	Changed Rocker Assembly height to 10" from 10 1/2" to 10"

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 THOMAS G. COTS
 SUPERVISOR OF HIGHWAYS

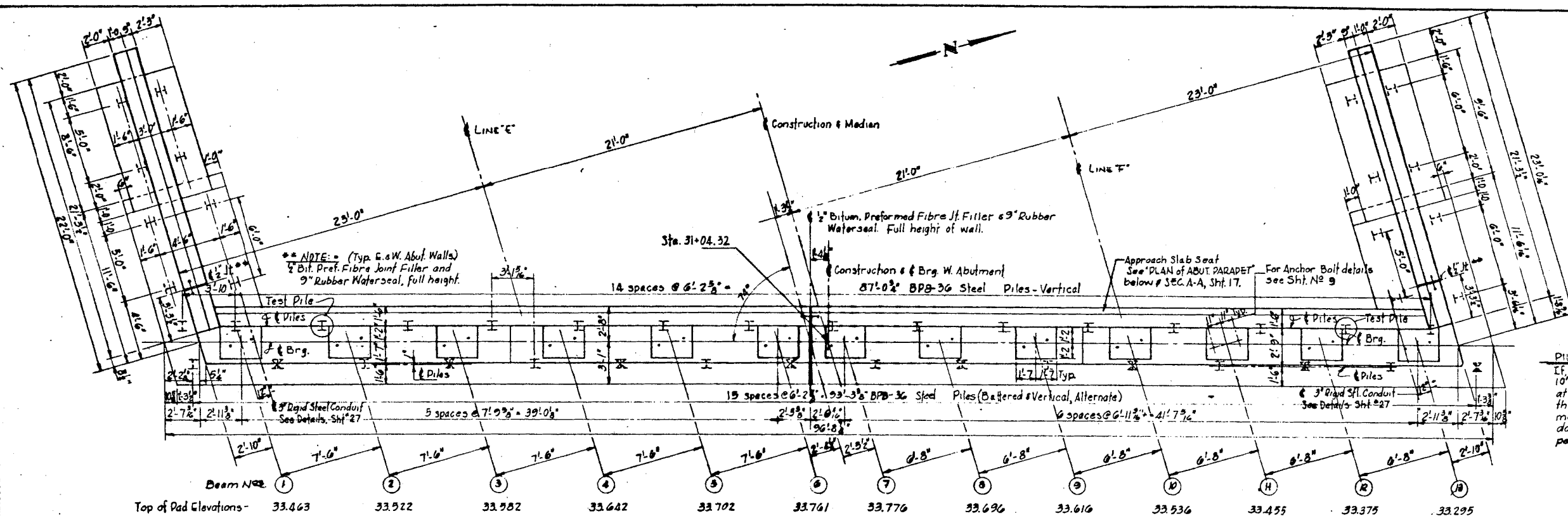
BEARING DETAILS
 STONY ISLAND EXP. CONNECTOR
 TO F.A. 1.94 OVER
 CHICAGO ROCK ISLAND & PACIFIC R.R.

PROJECT: EBU-EBUG-246 (64)
 SUBMITTED: 3-10-69
 DRAWN: C.M. CLARK
 CHECKED: J.P. ...

EXAMINED: 3-24-69
 Chief Engineer of Design

SECTION NUMBER	Sheet No.	Total Sheets	Drawing No.
174A-01012 C.F.	9	41	SI101

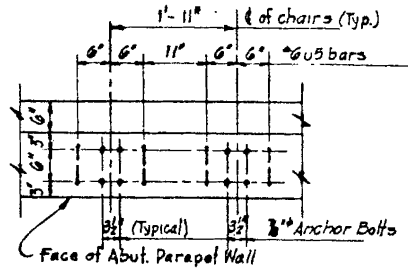
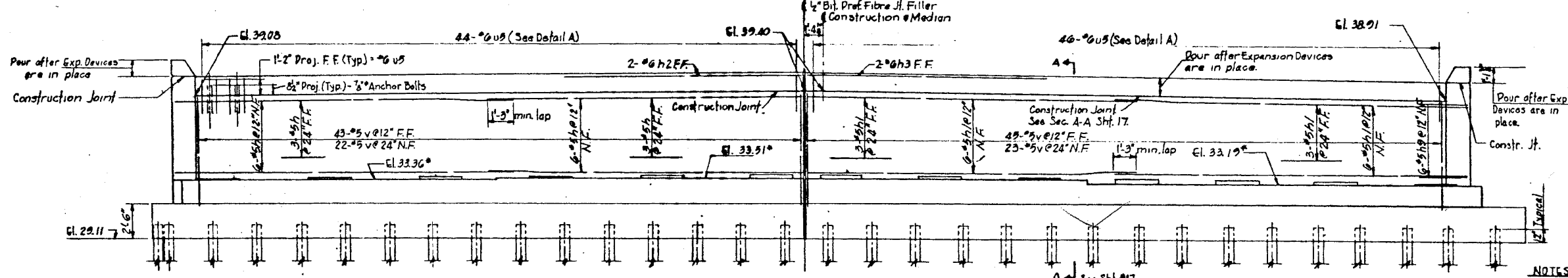
3/29/2013 3:08:16 PM S:\1072_05_CADD\Structure\1 SN 0162440.CADD Sheets\062440-60J12-042-FY05.dgn



PILE CAPACITY
 WALLS - FRONT ROW = 20T
 REAR ROW = 18T
 ABUTMENT - FRONT ROW = 32T
 REAR ROW = 36T
 ESTIMATED LENGTH ALL PILES = 55'
 SUPPORTING = 52'
 PROJECTING = 3'

PILE NOTE:
 If, in driving the Test Pile, a penetration of 10' into a firm stratum can not be attained at design capacity, the Engineer shall order that pre-coring thru the existing embankment to the original ground surface be done in order to allow the other piles to penetrate a minimum of 10' into firm strata.

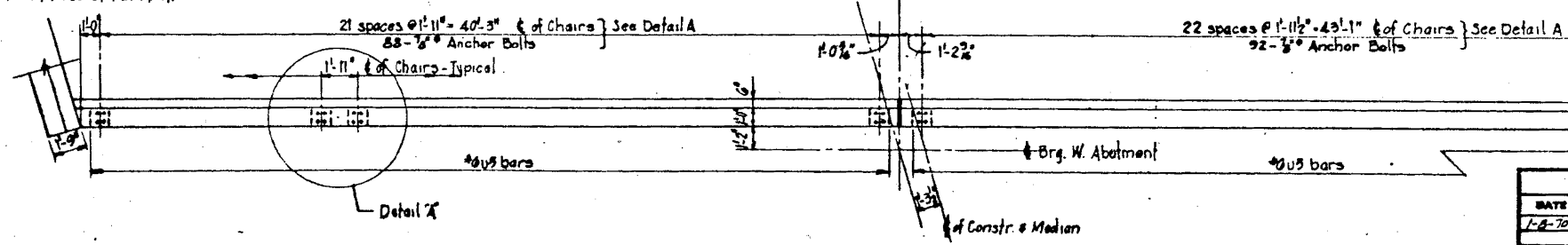
PLAN OF WEST ABUTMENT
 (SHOWING BRIDGE SEAT PLAN & PILE LAYOUT)
 Scale: 1/4" = 1'-0"



ELEVATION-WEST ABUTMENT
 Scale: 1/4" = 1'-0"

NOTES:
 For Section A-A see Sht. No. 17
 For Wingwall details see Sht. No. 18
 F.F. = Far Face
 N.F. = Near Face
 For Bill of Material see Sht. No. 21

* Elevations @ Front Face of Parapet:



PLAN OF ABUTMENT PARAPET
 Scale: 1/4" = 1'-0"

REVISIONS		
DATE	BY	DESCRIPTION
1-8-70	BWS	Added 12" Pile Embedment

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS
 GEORGE W. DUNNE, PRESIDENT BOARD OF COMMISSIONERS
 THOMAS G. COYS, SUPERINTENDENT OF HIGHWAYS

WEST ABUTMENT
STONY ISLAND EXP CONNECTOR
TO F.A.I. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

COMPUTED: PROJECT EBU:EBUG:246 (64)
 CHECKED: SUBMITTED 9-10-57
 DRAWN: W.W. Spier
 CHECKED: J.B.S. Smith

DESIGNED: J-24-69
 DRAWN: J. B. Smith
 CHECKED: J. B. Smith

SECTION NUMBER	Sheet No.	Total Sheets	Drawing No.
174A	16	47	SI 108

3/29/2013

3/29/2013

SA\1072_05_CADD\Structure\1 SN 0162440.CADD Sheets\0162440-60J12-043-F107.dgn

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PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

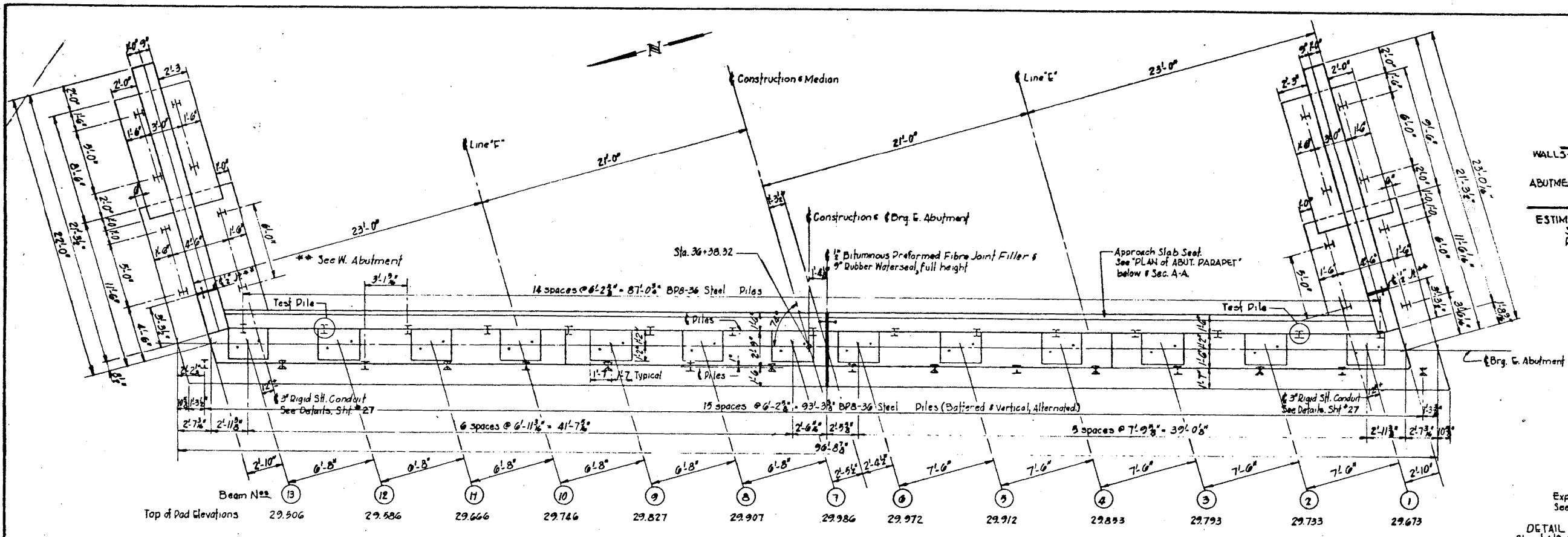
EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2440

SHEET NO. S-44 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	472
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

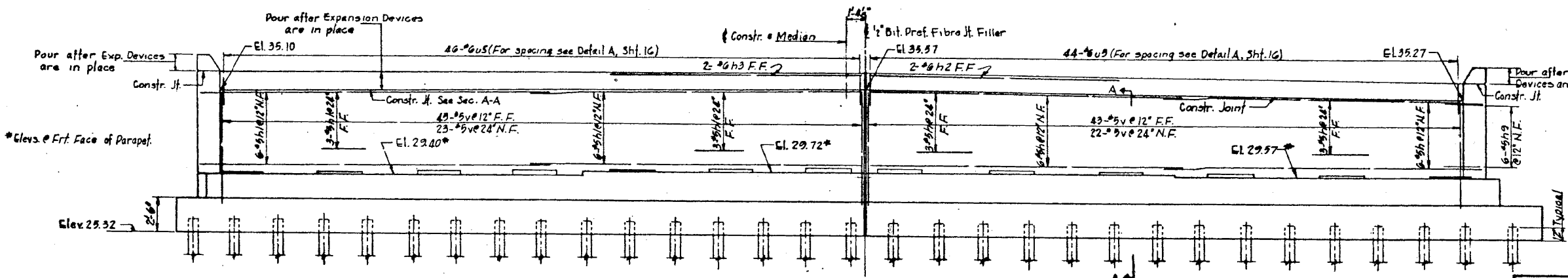
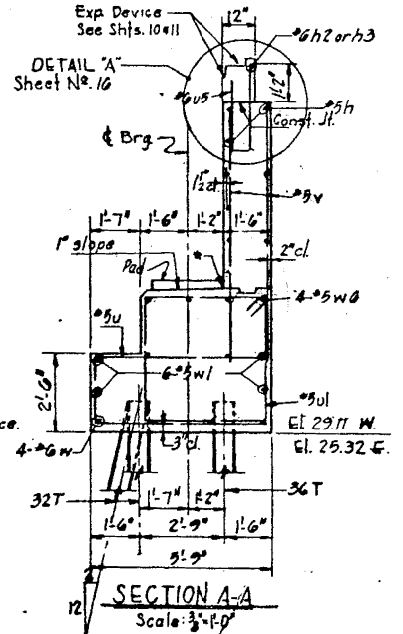
COUNTY PROGRAM	SHEET
ITEM No. YEAR No.	
1060	17

PILE CAPACITY
 WALLS- FRONT ROW = 20T
 REAR ROW = 18T
 ABUTMENT- FRONT ROW = 32T
 REAR ROW = 36T
 ESTIMATED LENGTH ALL PILES = 55'
 SUPPORTING = 52'
 PROJECTING = 3'

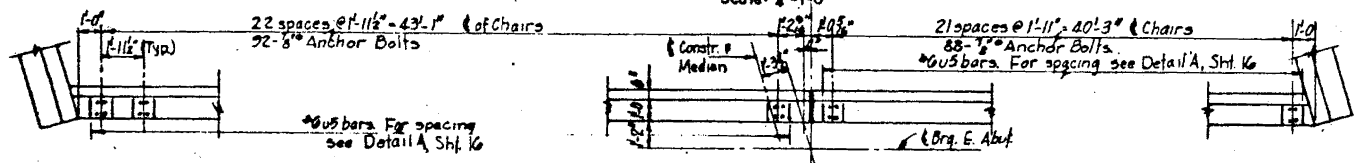


PLAN OF EAST ABUTMENT
 (SHOWING BRIDGE SEAT PLAN & PILE LAYOUT)
 Scale: 1/4" = 1'-0"

PILE NOTE:
 If in driving the Test Pile, a penetration of 10' into a firm stratum cannot be attained at design capacity, the Engineer shall order that pregrading thru the existing embankment to the original ground surface be done in order to allow the other piles to penetrate a minimum of 10 feet into firm strata.



ELEVATION-EAST ABUTMENT
 Scale: 1/4" = 1'-0"



PLAN OF ABUTMENT PARAPET
 Scale: 1/4" = 1'-0"

NOTES:
 For Bill of Material see Sht. No. 21
 F.F. - For Face, N.F. - Near Face.

REVISIONS		
DATE	BY	DESCRIPTION
1-8-70	RWS	Added 12" Parapet and 1" Slope on Bridge Seat

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS
 GEORGE W. DUNNE
 THOMAS R. COTS

EAST ABUTMENT
STONY ISLAND EXP. CONNECTOR
TO F.A.I. 94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

COMPUTER: EBU-EBUG-246 (S.4)
 CHECKED: R.W. SAUER
 DRAWN: J.B. SMITH
 PROJECT: 3-10-69
 SUBMITTED: 3-10-69
 STRUCTURAL DESIGN ENGINEER

DESIGNED: 3-24-69
 SECTION NUMBER: 174 A
 SHEET NO.: 17
 DATE: 4/15/09

3/29/2013 3:29 PM SA:1072.05-CADD-Structural-SN 0162440-CADD Sheets\062440-60J12-044-FY8B.dgn

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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

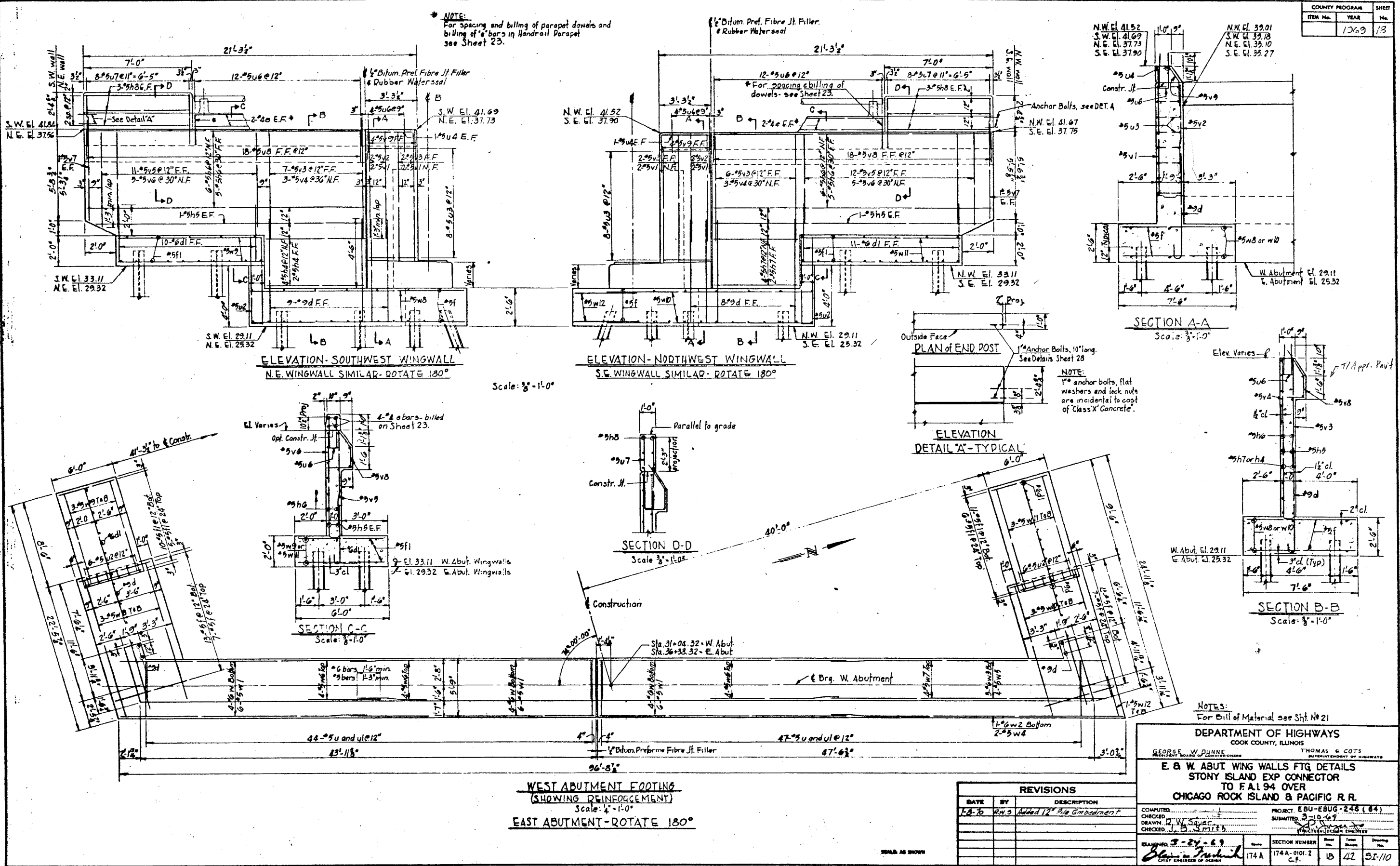
EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 016-2440

SHEET NO. S-45 OF S-47 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 473
			CONTRACT NO. 60J12	
ILLINOIS FED. AID PROJECT				

COUNTY PROGRAM		SHEET
ITEM No.	YEAR	No.
1069	13	13

NOTE:
For spacing and billing of parapet dowels and billing of #6 bars in Handrail Parapet see Sheet 23.



NOTE:
1" anchor bolts, flat washers and lock nuts are incidental to cost of 'Class X' Concrete.

NOTES:
For Bill of Material see Sht. No 21

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

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THOMAS G. COTS
SUPERINTENDENT OF HIGHWAYS

E & W ABUT WING WALLS FTG DETAILS
STONY ISLAND EXP CONNECTOR
TO I-94 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

PROJECT: EBU-EBUG-248 (84)
SUBMITTED: 3-29-69

COMPUTED: _____
CHECKED: _____
DRAWN: D.W. Sayer
CHECKED: J.B. Smith

EXAMINED: 3-29-69
Blair T. Frutkin
CHIEF ENGINEER OF DESIGN

DATE	BY	DESCRIPTION
1-2-70	R.M.S.	Added 12" Dia Embedment

SECTION NUMBER	Sheet No.	Total Sheets	Sheet No.
174 A	174 A-0101.2	18	11

3/29/2013 PM

3/29/2013

SA\1072_05_CADD\Structure\1 SN 0162440\CADD Sheets\0162440-60J12-045-F185.dgn

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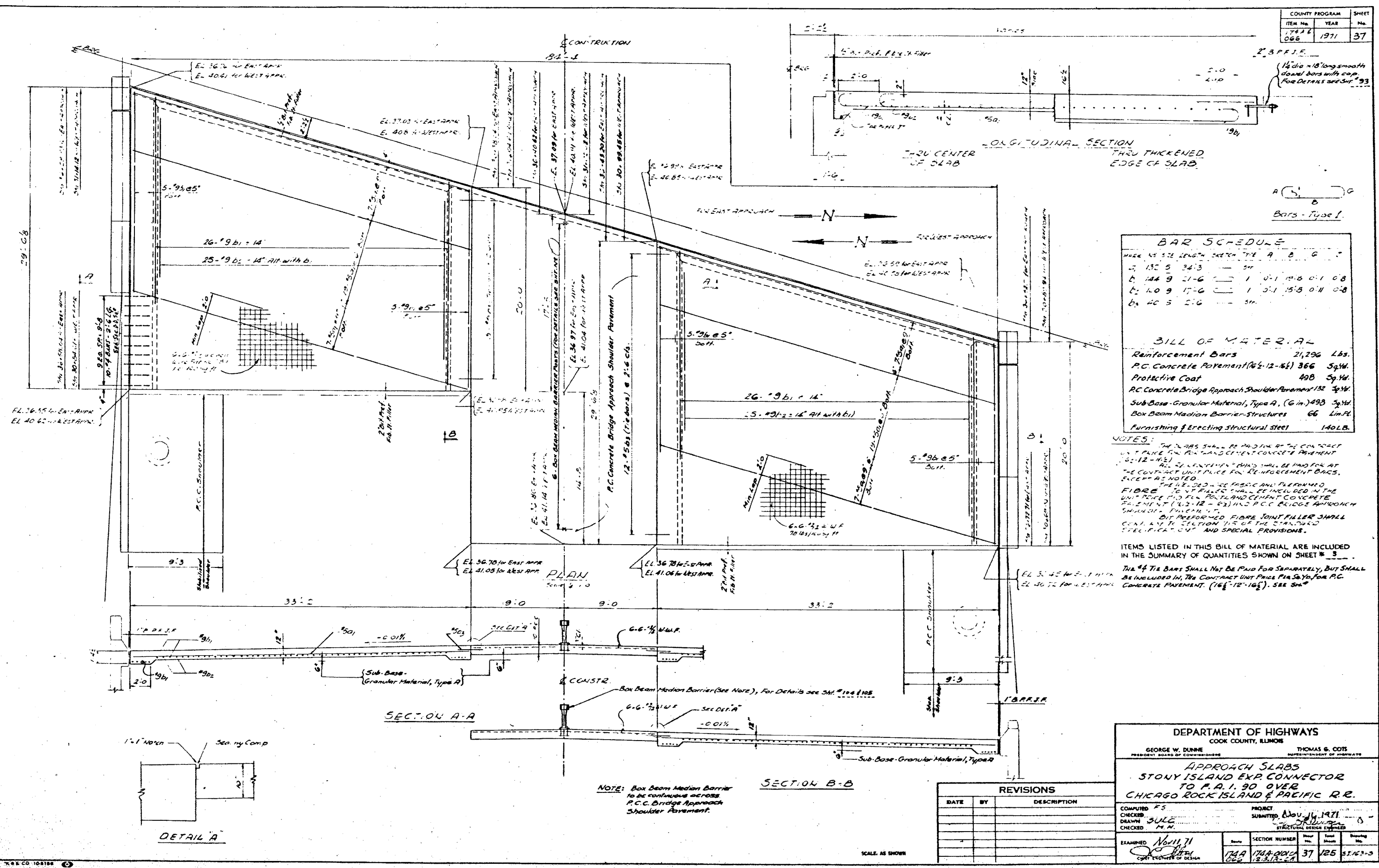
USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2440

SHEET NO. S-46 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	474
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



BAR SCHEDULE

USE AS SIZE LENGTH SCHEDULE TYPE A B C

a	132	5	34	3	54			
b	144	9	21	6	1	0	1	0
c	10	9	17	6	1	0	1	0
d	40	5	2	6	54			

BILL OF MATERIAL

Reinforcement Bars	21,296	Lbs.
P.C. Concrete Pavement (16'-12'-16')	366	Sq.Yd.
Protective Coat	498	Sq.Yd.
P.C. Concrete Bridge Approach Shoulder Pavement	132	Sq.Yd.
Sub-Base-Granular Material, Type A, (6 in.)	498	Sq.Yd.
Box Beam Median Barrier-Structures	66	Lin.Ft.
Furnishing & Erecting Structural Steel	140	Lbs.

NOTES:

1. THE BARS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR P.C. AND CEMENT CONCRETE PAVEMENT (16'-12'-16').

2. ALL REINFORCEMENT BARS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR REINFORCEMENT BARS, EXCEPT AS NOTED.

3. THE 1/4" DIA. WIRE FABRIC AND FIBERGLASS FIBRE TO BE USED SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR P.C. AND CEMENT CONCRETE PAVEMENT (16'-12'-16').

4. BUT PREFORMED FIBRE JOINT FILLER SHALL BE INCLUDED IN SECTION 115 OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

ITEMS LISTED IN THIS BILL OF MATERIAL ARE INCLUDED IN THE SUMMARY OF QUANTITIES SHOWN ON SHEET # 3.

THE 1/4" DIA. WIRE FABRIC SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR P.C. CONCRETE PAVEMENT (16'-12'-16'). SEE SHEET # 3.

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
PRESIDENT BOARD OF COMMISSIONERS

THOMAS G. COTS
SUPERINTENDENT OF HIGHWAYS

APPROACH SLABS
STONY ISLAND EXP. CONNECTOR
TO P.A. 1. 90 OVER
CHICAGO ROCK ISLAND & PACIFIC R.R.

COMPUTED BY PS PROJECT SUBMITTED Nov 16, 1971

CHECKED BY SULE DRAWN BY SULE STRUCTURAL DESIGN ENGINEER

CHECKED BY M.H.

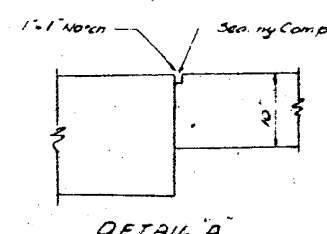
EXAMINED Nov 17, 1971

SECTION NUMBER	Sheet No.	Total Sheets	Drawing No.
17A & 066	37	125	51.423-3

REVISIONS

DATE	BY	DESCRIPTION

NOTE: Box Beam Median Barrier to be continuous across P.C. Bridge Approach Shoulder Pavement.



3/29/2013

3/29/2013

SA\1072_05_CADD\Structure\17A_0162440_CADD_Sheets\0162440-60J12-046-FY10.dgn

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PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2440

SHEET NO. S-47 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	475
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				

BENCHMARK:

Cross-out on West Abutment of bridge over Norfolk Southern R.R. tracks (Sta. 936+62.47, Elev. 619.87 NAVD88 17.30' ft.).

EXISTING STRUCTURE:

S.N. 016-2439, originally built in 1971 to carry Eastbound and Westbound traffic from Stony Island Avenue to and from Interstate 94, is located in IDOT District One within the City of Chicago, Cook County, Illinois. All bridge elements are under the jurisdiction of the Illinois Department of Transportation. The existing structure consists of a three-span steel wide flange beam superstructure (155'-6 1/2" Bk. to Bk. Abutments) with a reinforced concrete deck (varies from 93'-9 3/8" to 97'-10 1/8" Out-to-Out of Deck) supported by reinforced concrete pier walls that extend the width of the structure supported on spread footings and closed abutments on steel piles. The structure received full and partial-depth deck repairs in 1999. In 1999, the longitudinal deck joint was replaced with a pre-formed expansion joint. Also in 1999, both abutment deck joints on the north and south half of East Abutment were replaced with silicone joint sealer. The deck joint of West Abutment on the south half was reconstructed and replaced with a preformed expansion joint. In 2005 formed concrete repairs were made to the piers beneath the longitudinal deck joint. Existing superstructure and deck to be removed and not replaced. There is also partial removal of existing substructure. One lane of traffic in each direction is to be maintained utilizing stage construction.

NO SALVAGE.

INDEX OF SHEETS

- S1 General Plan and Elevation
S2 Construction Staging
S3 Temporary Concrete Barrier
S4 Abutment Removal Details and Temporary Sheet Piling
S5 Pier Removal Details
S6 Geotextile Retaining Wall
S7 Soil Boring Logs I
S8 Soil Boring Logs II
S9 Existing Plans
1a (For Information Only)
S18

GENERAL NOTES

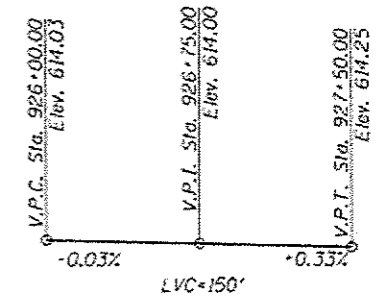
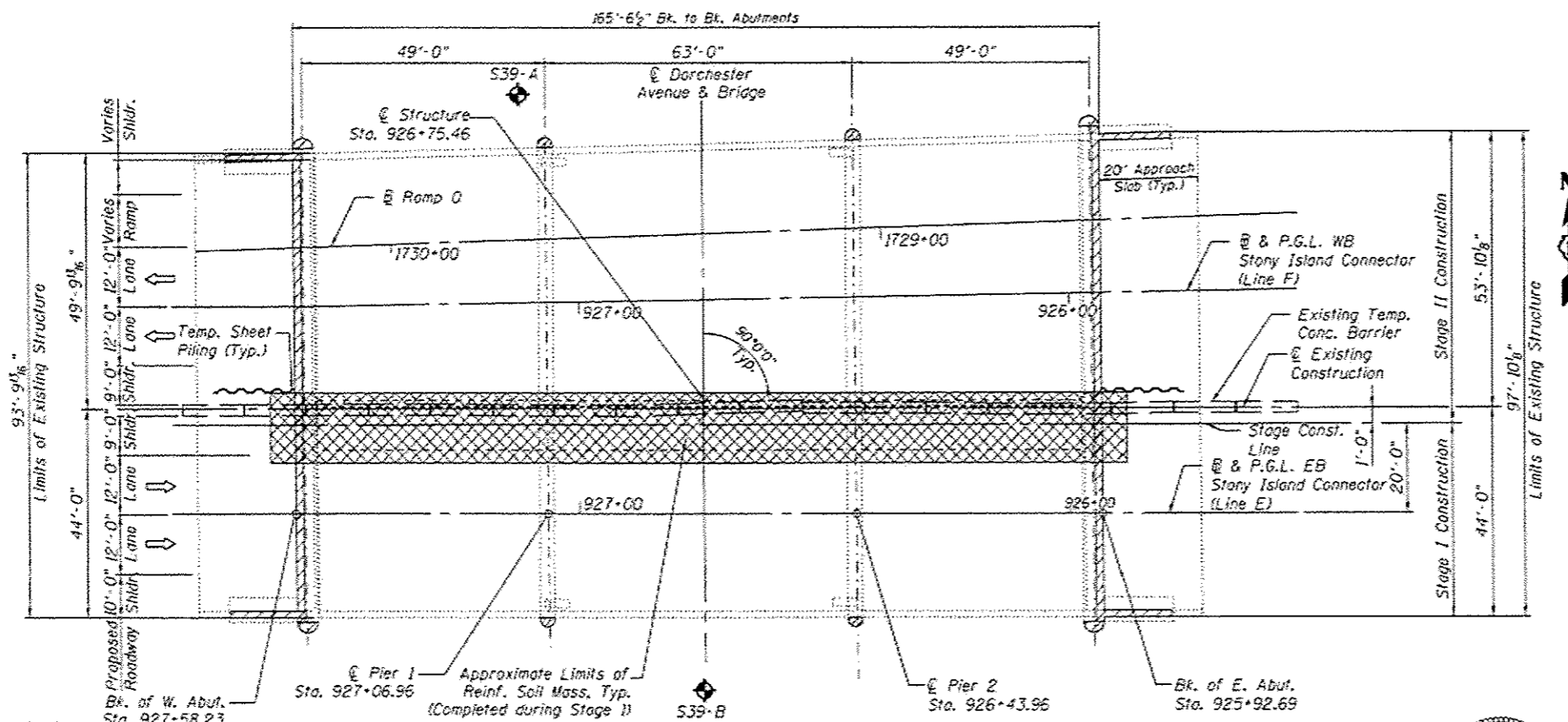
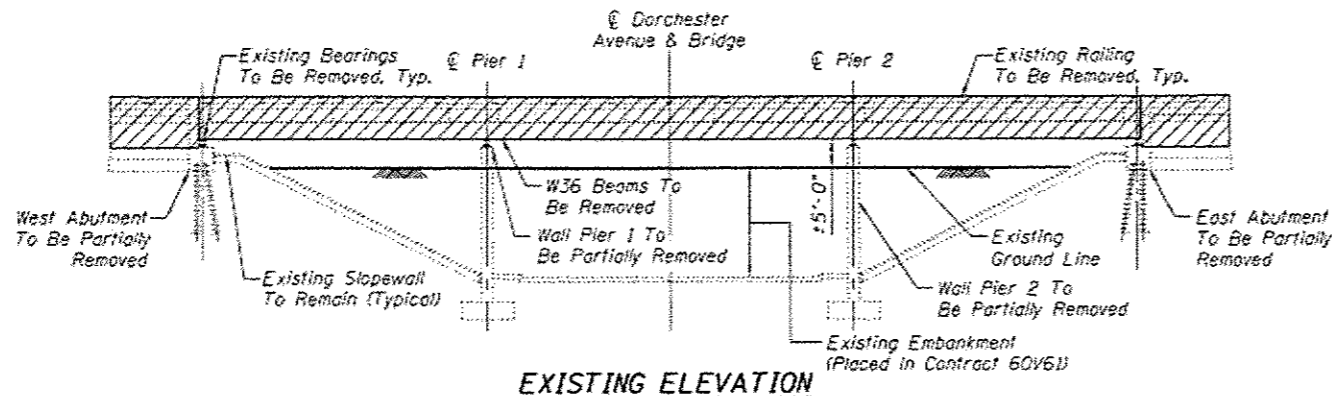
- 1. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. Contractor should verify dimensions and make necessary approved adjustments prior to starting construction. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for actual quantity furnished and approved by Engineer at unit price bid for the work.
2. Existing Dimensions are taken from original Contract Plans, dated July, 1970.

TOTAL BILL OF MATERIAL

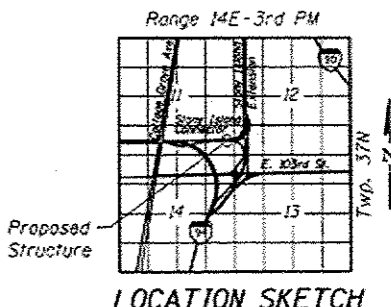
Table with 5 columns: ITEM, UNIT, SUPER, SUB, TOTAL. Rows include Removal of Existing Superstructures, Concrete Removal, Geotextile Retaining Wall, and Temporary Sheet Piling.

SCOPE OF WORK

- 1. Remove existing superstructure and portions of the substructure.
2. Construct embankment and roadway pavement (see Roadway Plans).



PROFILE GRADE LINE (EB Stony Island Connector - Line E)



LOCATION SKETCH

LEGEND

- Face of Temporary Geotextile Retaining Wall
Reinforced Soil Mass of Temporary Geotextile Retaining Wall
Removal of Existing Bridge Component
Temporary Sheet Piling
Soil Boring

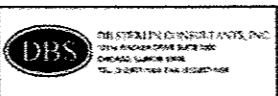
PLAN



Signed Ghulam Masoom Kamal, S.E.
Il. Lic. No. 081-006522
Expires 11-30-2014
Date 03/15/2013

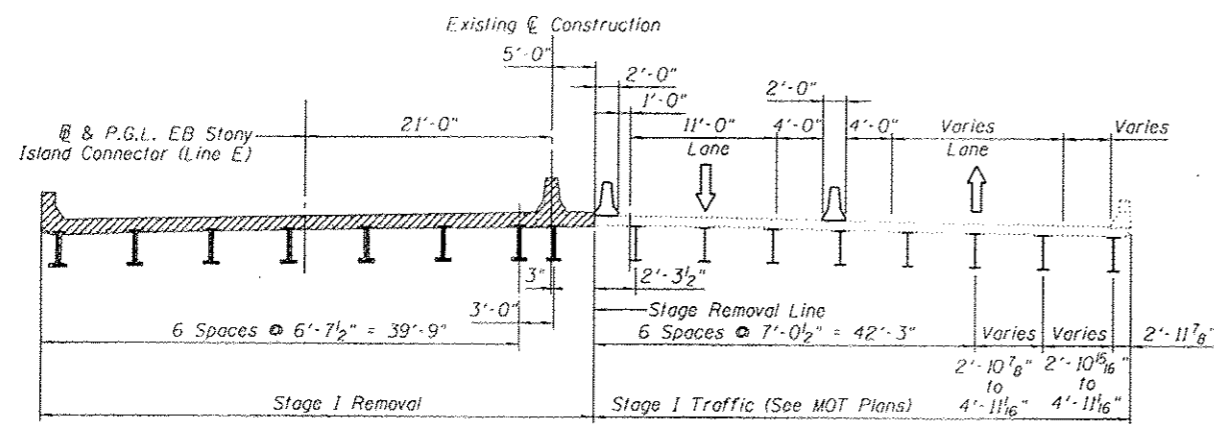
GENERAL PLAN & ELEVATION
STONY ISLAND CONNECTOR
OVER DORCHESTER AVENUE
F.A.I. RTE. 94 - SEC. 2012-059-BR
COOK COUNTY
STATION 926+75.46
STRUCTURE NO. 016-2439

Table with columns: USER NAME, DESIGNED, DRAWN, CHECKED, DATE, REVISIONS.

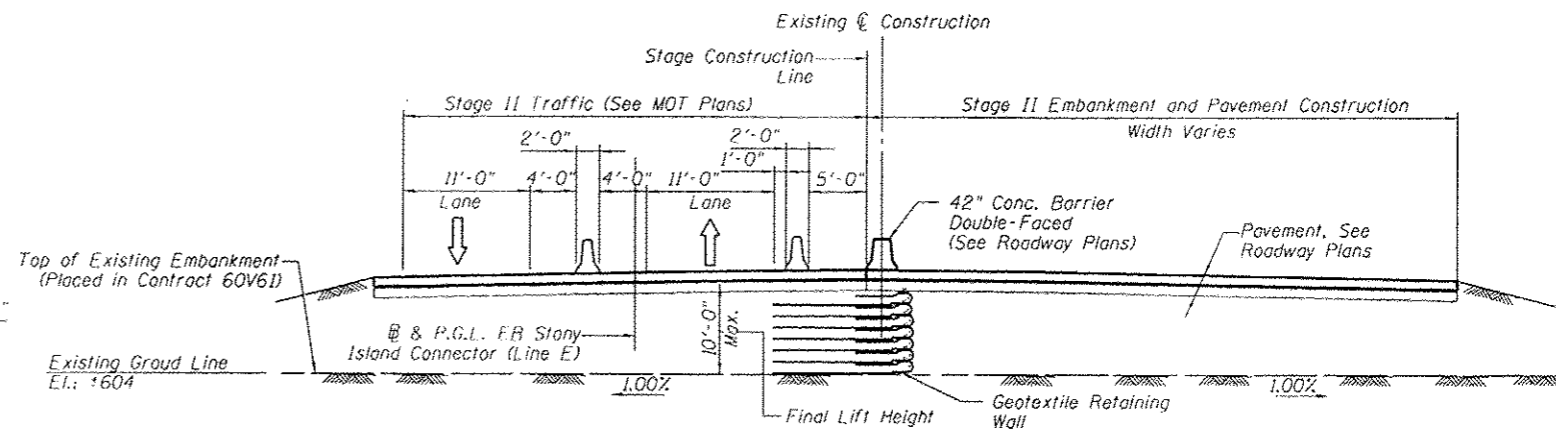


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Table with columns: F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO., FED. ROAD DIST. NO.

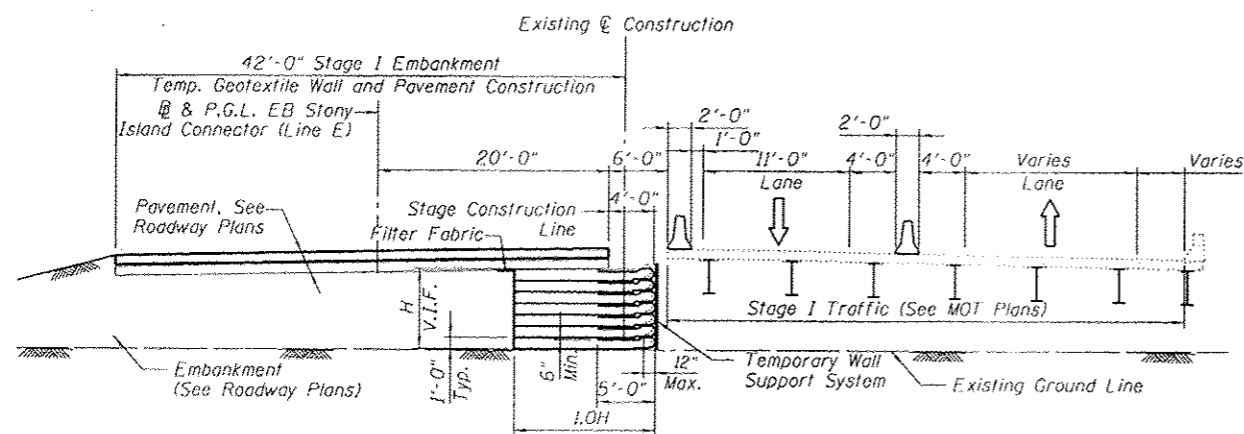


STAGE I REMOVAL

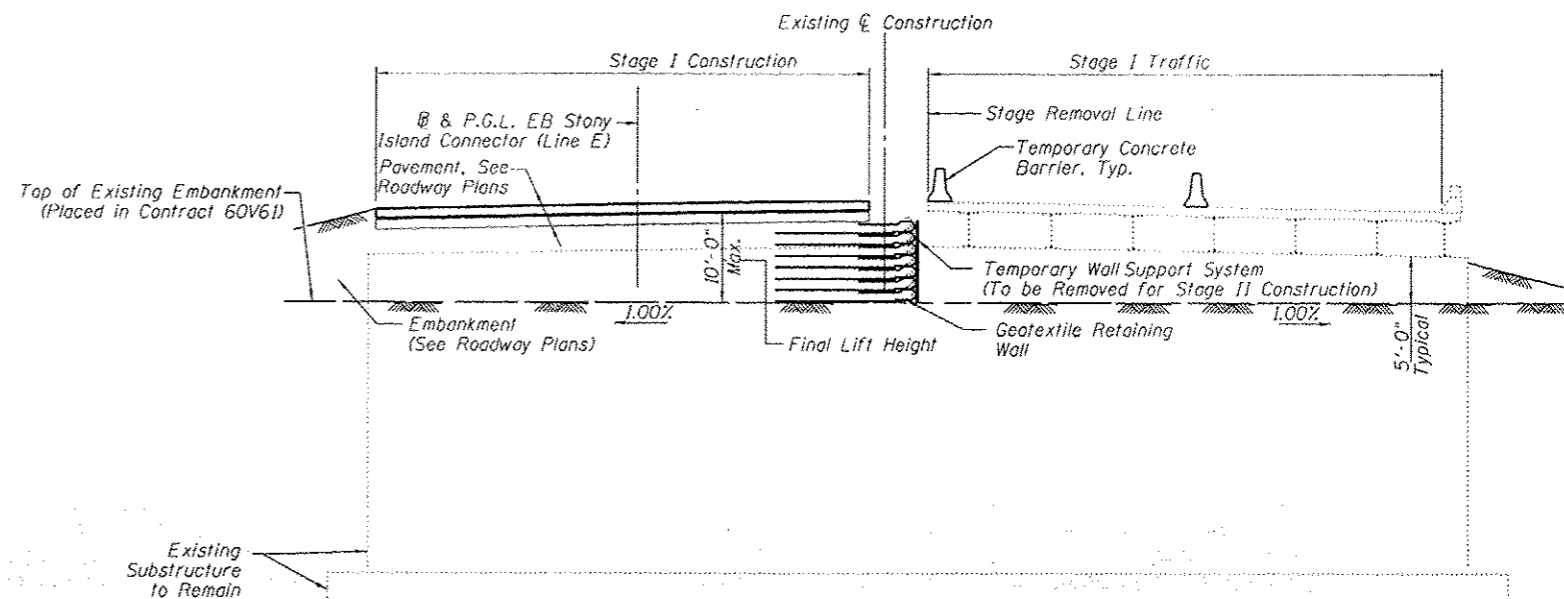


STAGE II CONSTRUCTION

STAGING SECTION
(Looking West)



STAGE I CONSTRUCTION



SECTION THRU GEOTEXTILE RETAINING WALL AT STAGE I CONSTRUCTION

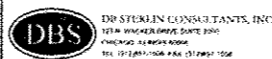
STAGE II REMOVAL

STAGING SECTIONS
(Looking West)

LEGEND

Denotes Removal of Existing Superstructure

USER NAME :	DESIGNED - GFP / GMK	REVISED -
PLOT SCALE :	DRAWN - GFP	REVISED -
PLOT DATE :	CHECKED - GMK	REVISED -
FILE NAME :	DATE - 03/29/13	REVISED -



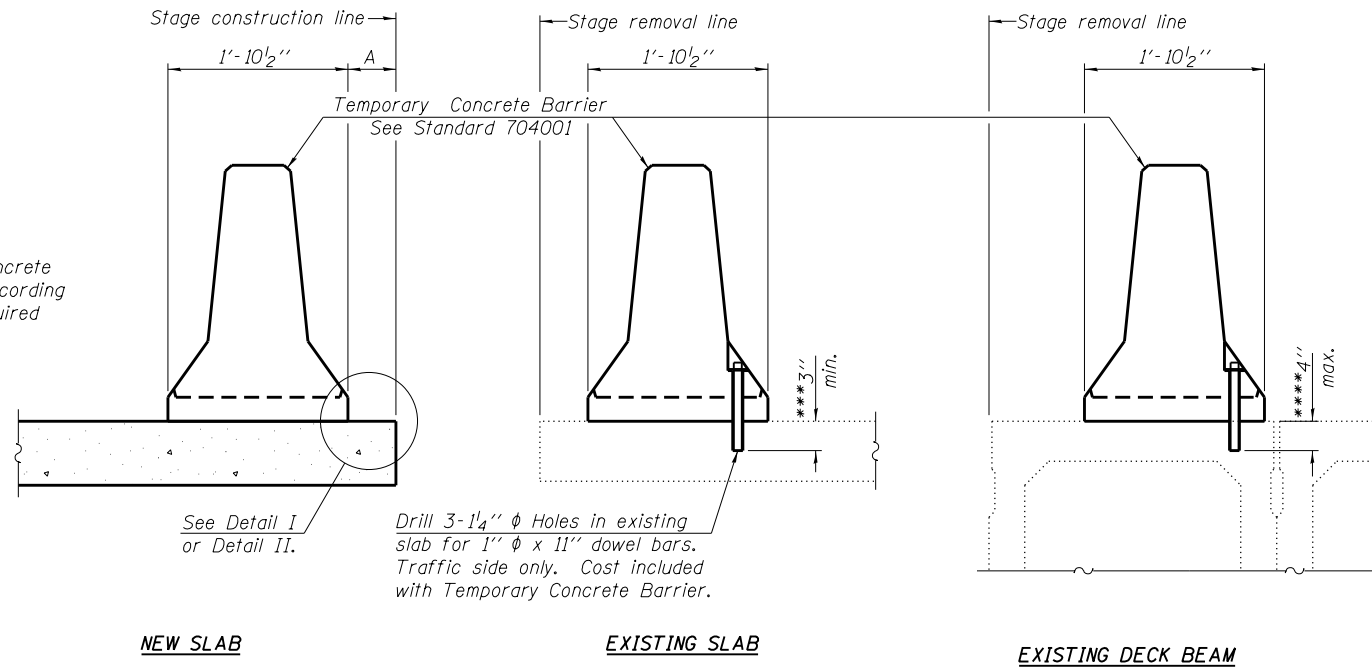
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING
SN 016-2439

SHEET NO. 52 OF 518 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	477
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

When "A" is 3'-6" 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'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

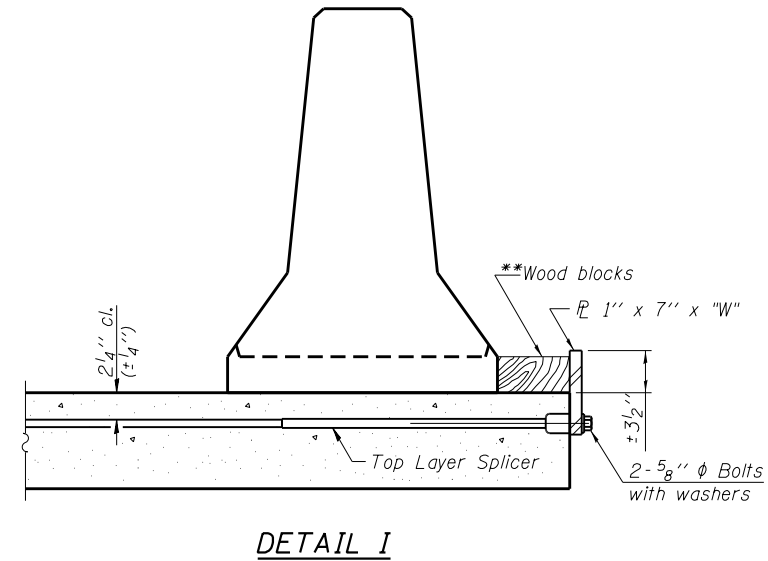
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

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 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

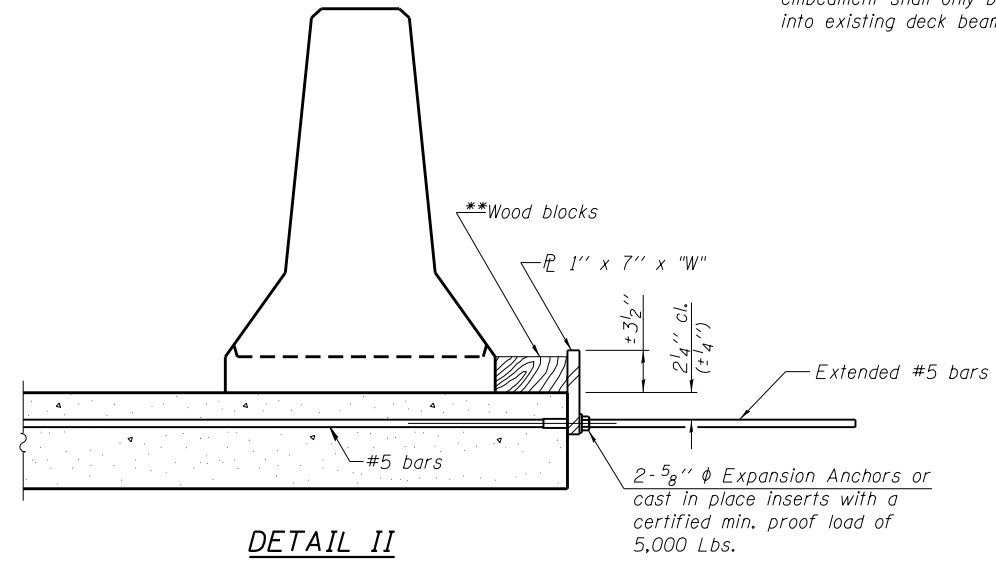
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.

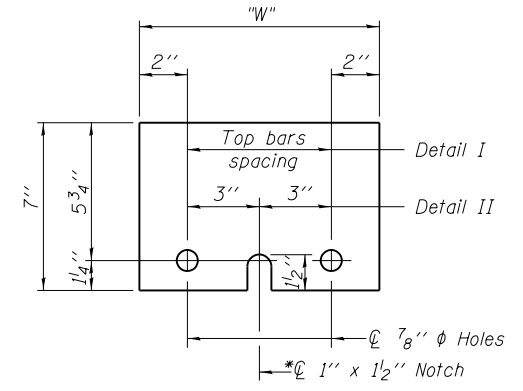
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x "W"
* Required only with Detail II

** 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.

"W" = Top bars spacing + 4"

R-27

7-1-10

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -

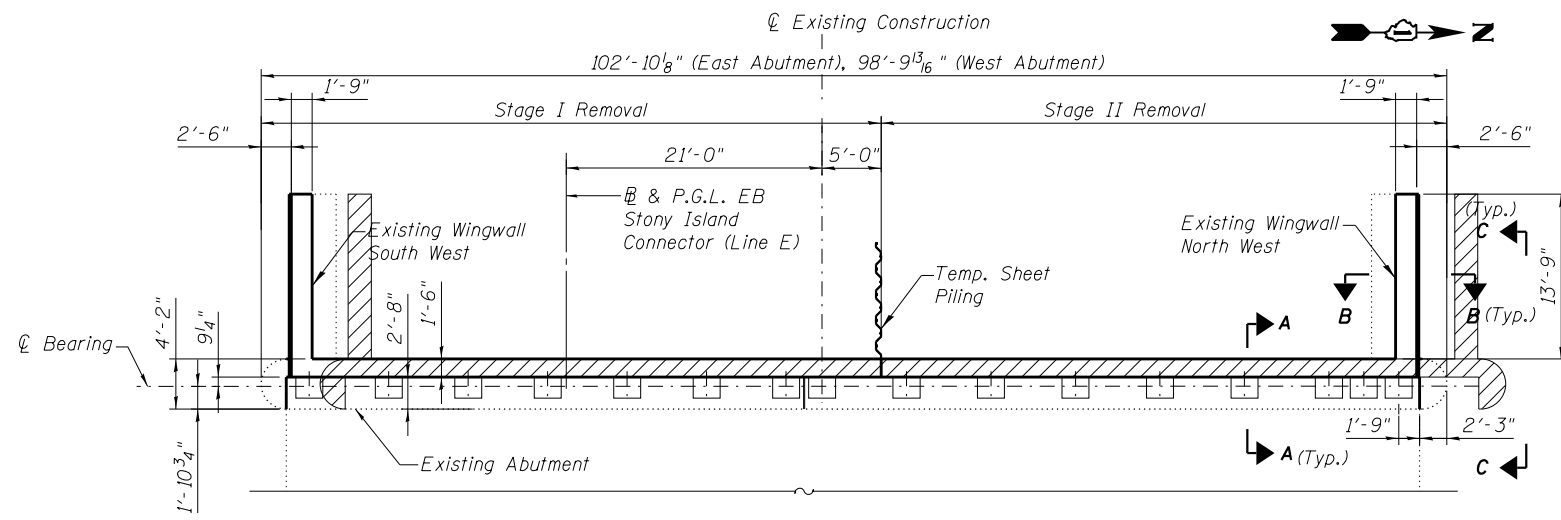


**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER
SN 016-2439**

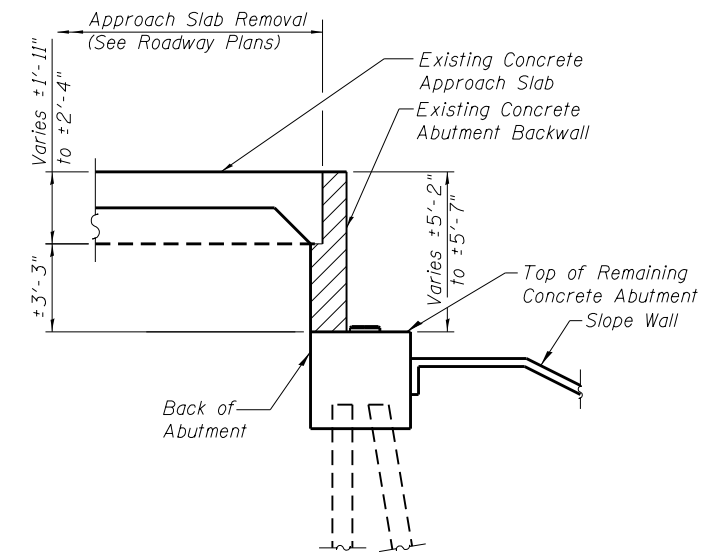
SHEET NO. S3 OF S18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	478
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

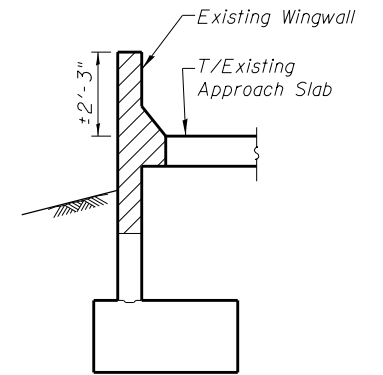


ABUTMENT PLAN

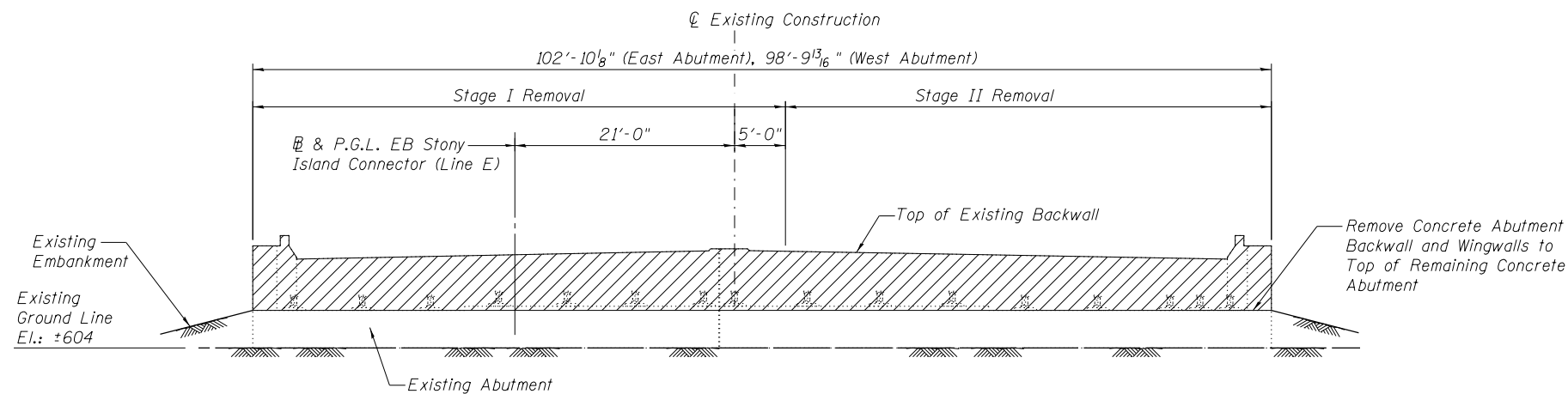
(West Abutment as Shown; East Abutment Similar, Opposite)



SECTION A-A

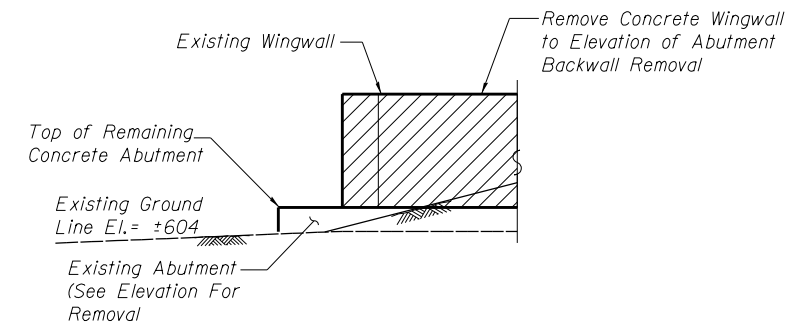


SECTION B-B



EXISTING ABUTMENT ELEVATION

(West Abutment as Shown; East Abutment Similar, Opposite)



SECTION C-C

LEGEND:

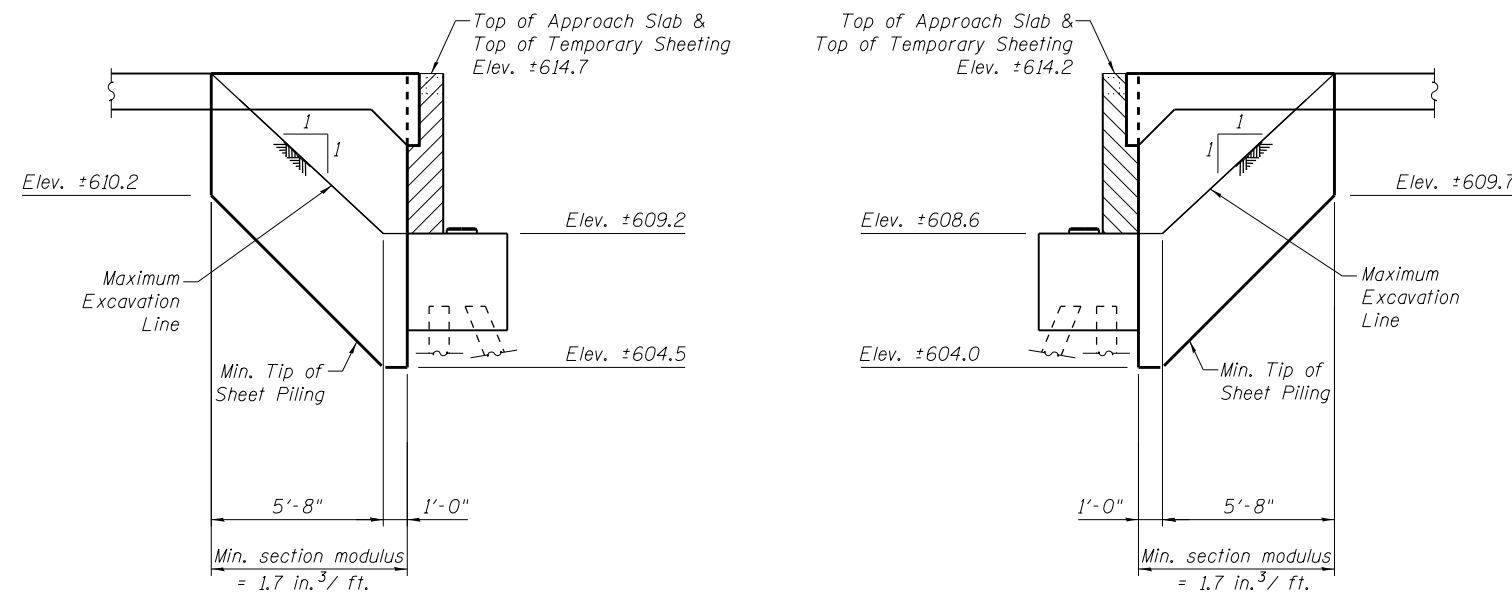
- Concrete Removal
- Temporary Sheet Piling

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yd	70
Temporary Sheet Piling	Sq Ft	109

NOTE:

- Existing reinforcement of existing abutments and wingwalls to be cut flush to match removal areas of concrete. Cost included with "Concrete Removal".
- If the Contractor chooses to alter the Temporary Cantilivered Sheet Piling design requirements as shown in the details on this sheet, a design submittal including proposed details and structural calculations will be required for review and acceptance by the Engineer.
- Excavate and backfill as required to perform the removals described herein. Cost included with "Concrete Removal".
- Remove aluminum railing mounted on top of wingwall. Cost included with "Concrete Removal".



WEST ABUTMENT TEMPORARY SHEET PILING

EAST ABUTMENT TEMPORARY SHEET PILING

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -

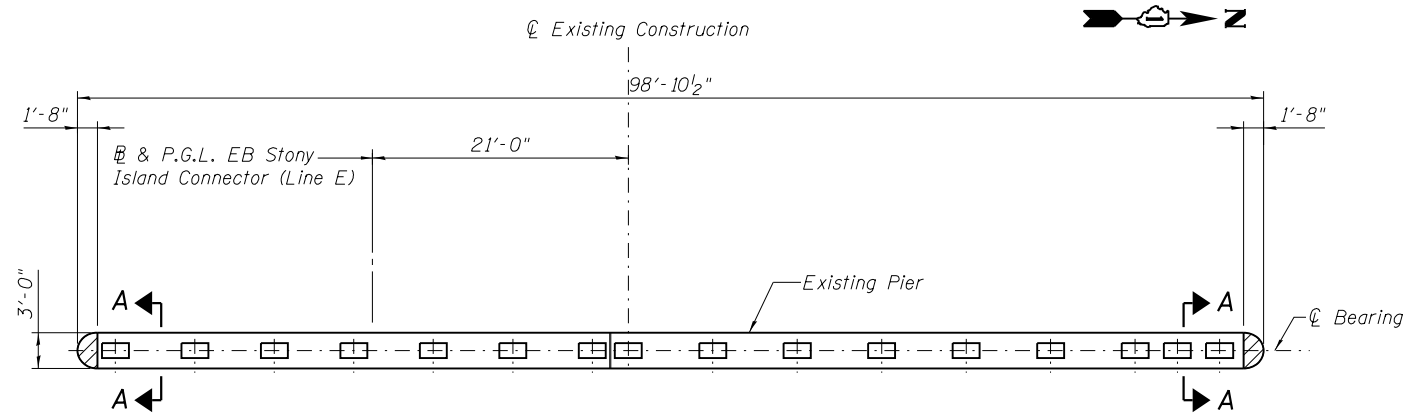


STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

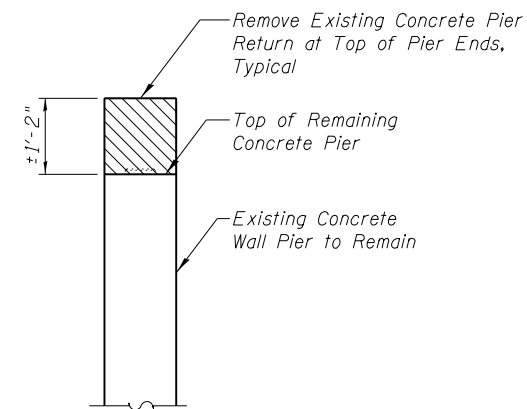
ABUTMENT REMOVAL DETAILS
 AND TEMPORARY SHEET PILING
 SN 016-2439

SHEET NO. 54 OF 518 SHEETS

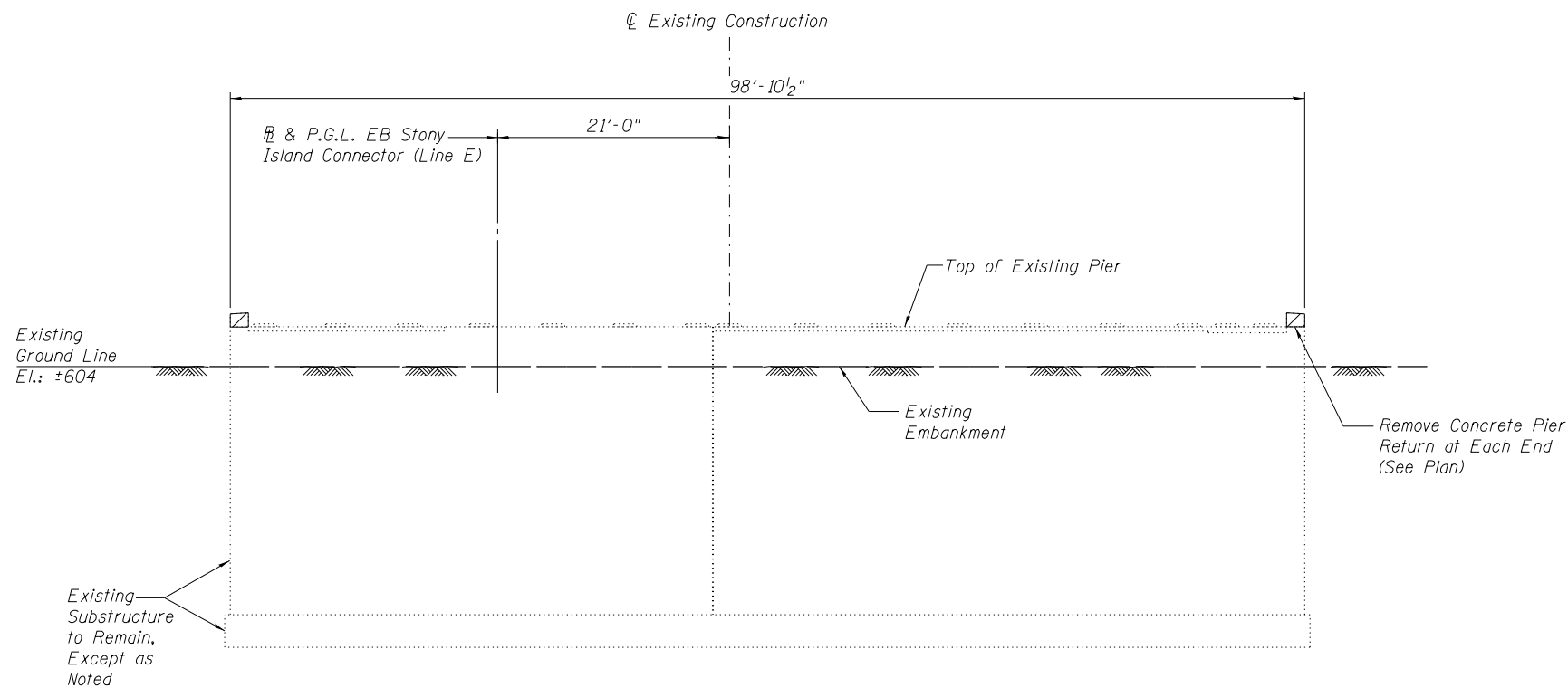
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	479
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



PIER PLAN
(Pier 1 as Shown; Pier 2 Similar, Opposite)




SECTION A-A



EXISTING PIER ELEVATION
(Pier 1 as Shown; Pier 2 Similar, Opposite)

LEGEND:

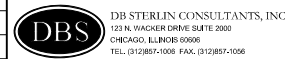
 Concrete Removal

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yd	1

NOTE:

- Existing reinforcement of existing piers/ bearings to be cut flush to match removal areas of concrete. Cost included with "Concrete Removal".

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -

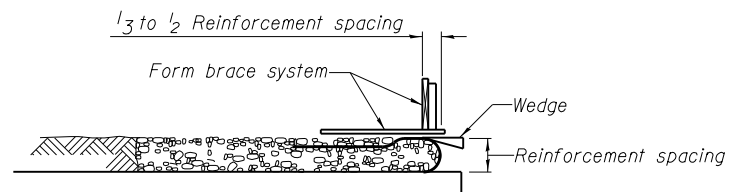


**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

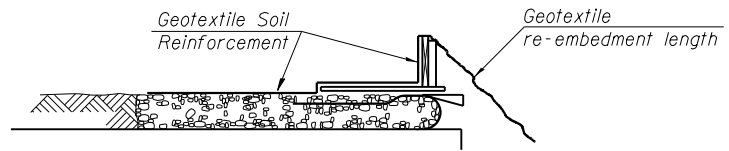
**PIER REMOVAL DETAILS
SN 016-2349**

SHEET NO. S5 OF S18 SHEETS

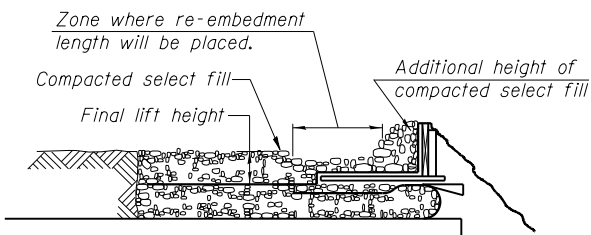
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	480
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



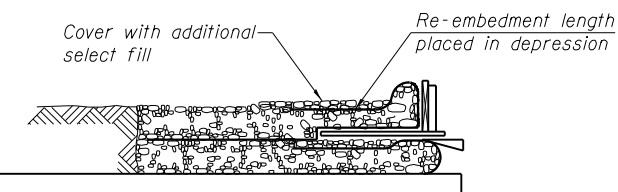
1. Place form brace system on completed reinforcement level; back from the finished fabric face a distance of 1'-0" Min. geotextile reinforcement spacing.



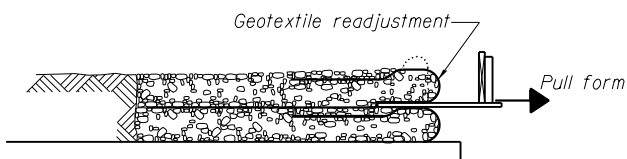
2. Position fabric so that the required geotextile re-embedment length extends over the top of the form brace and the design reinforcement width is placed with no slack against the previous level.



3. Compact select fill material in lifts to final lift height, create (+3") depression in zone where re-embedment length will be located and place additional height of compacted select fill against form brace.



4. Fold geotextile re-embedment length back over form brace into zone where depression was made in select fill and place additional select fill (+3") to embed geotextile and bring to final lift height.

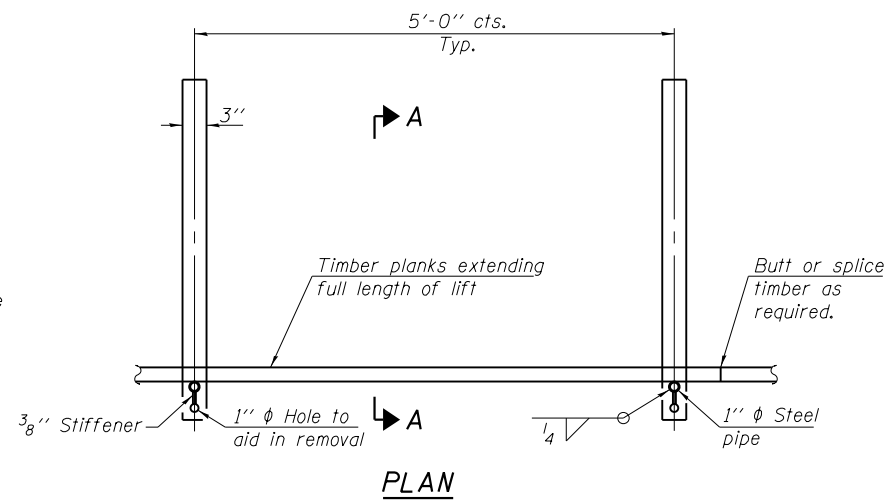


5. Pull form brace outward allowing geotextile face to slightly readjust to form tight round face level with plan reinforcement spacing.

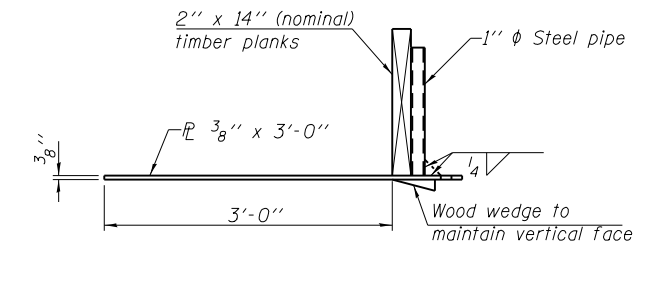
TEMPORARY GEOTEXTILE WALL CONSTRUCTION SEQUENCE

NOTE :

The geotextile soil reinforcement shall have a minimum allowable tensile strength *T* min. of 42 lb./in. as determined by the procedure described in the Special Provision. The computations supporting the determination of *T* min. shall be submitted to the Engineer for approval.



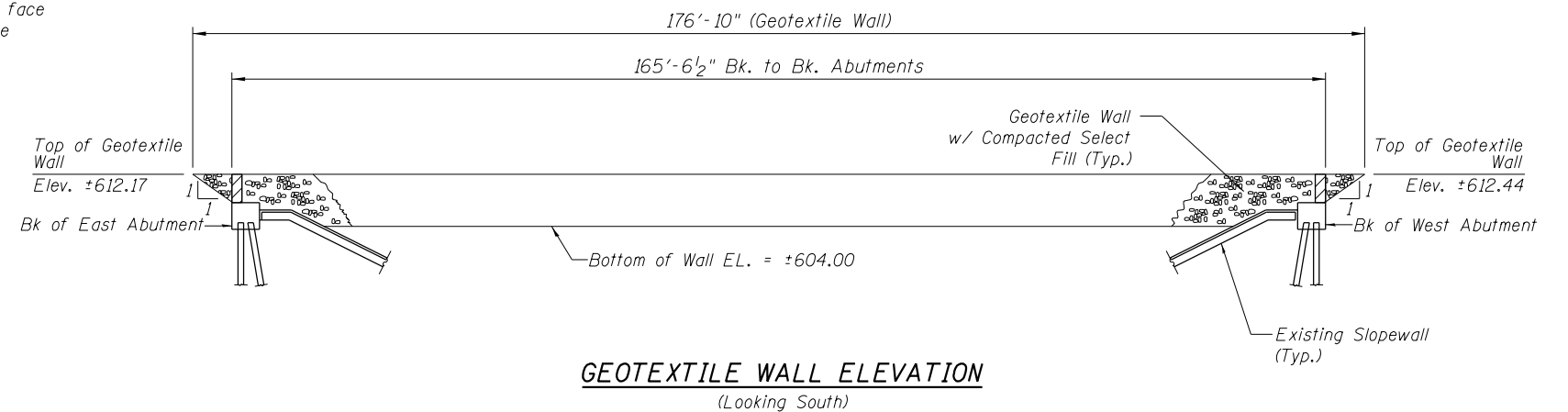
TEMPORARY GEOTEXTILE FORM BRACE DETAIL



SECTION A-A

NOTE :

This is a suggested detail, the Contractor is responsible for the design of the form brace system to be used.

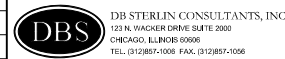


GEOTEXTILE WALL ELEVATION (Looking South)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Geotextile Retaining Wall	Sq Ft	1,769

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

GEOTEXTILE RETAINING WALL SN 016-2439

SHEET NO. 56 OF 518 SHEETS

F.A.I. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
94	2012-059-BR	COOK	631	481
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amberst Court, Suite 204 Naperville, Illinois 60565 (630) 355-2838

SOIL BORING LOG PAGE 1 of 3 DATE 1/24/2012 LOGGED BY RT GSI JOB No. 10023

ROUTE FAI 94 @ FAP 341 DESCRIPTION I-94/Stony Island Feeder Interchange Improvements #P-91-184-10 SECTION 1212B-1 LOCATION SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M. COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. SN 016-2439 Station 926+82 BORING NO. S39-B Station 926+82 Offset: 76.5' Left Ground Surface Elev. 587.1

DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
0				10.0" CONCRETE, 4.0" CRUSHED STONE	0			
3	112			CLAY-gray-stiff to very stiff (A-6)	3	112		
4	238	16		CLAY LOAM-dark brown & gray-stiff to very stiff (A-6) Fill	4	238	16	
3	104			Sand & gravel seams from -23.5' to -25.0'	3	104		
4	148	21		CLAY LOAM-gray-stiff to hard (A-6)	4	148	21	
5	178	22			5	178	22	
3	92				3	92		
4	118				4	118		
5	118				5	118		
6	258	21			6	258	21	
3	108				3	108		
4	110				4	110		
6	298	19			6	298	19	
3	110				3	110		
5	110				5	110		
8	318	18			8	318	18	

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amberst Court, Suite 204 Naperville, Illinois 60565 (630) 355-2838

SOIL BORING LOG PAGE 2 of 3 DATE 1/24/2012 LOGGED BY RT GSI JOB No. 10023

ROUTE FAI 94 @ FAP 341 DESCRIPTION I-94/Stony Island Feeder Interchange Improvements #P-91-184-10 SECTION 1212B-1 LOCATION SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M. COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. SN 016-2439 Station 926+82 BORING NO. S39-B Station 926+82 Offset: 76.5' Left Ground Surface Elev. 587.1

DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
10	116			CLAY LOAM-gray-stiff to hard (A-6)	10	116		
14	118				14	118		
18	3.85				18	3.85		
24	11.3	13		CLAY LOAM-gray-stiff to hard (A-6)	24	11.3	13	
9	118				9	118		
14	118				14	118		
18	4.98	13			18	4.98	13	
9	118				9	118		
14	118				14	118		
15	4.55				15	4.55		
12	3.08	14			12	3.08	14	
6	118				6	118		
11	118				11	118		
9	108				9	108		
10	118				10	118		
15	1.58	22			15	1.58	22	

Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amberst Court, Suite 204 Naperville, Illinois 60565 (630) 355-2838

SOIL BORING LOG PAGE 3 of 3 DATE 1/24/2012 LOGGED BY RT GSI JOB No. 10023

ROUTE FAI 94 @ FAP 341 DESCRIPTION I-94/Stony Island Feeder Interchange Improvements #P-91-184-10 SECTION 1212B-1 LOCATION SEC. 11, 12, 13, & 14, TWP. 37 N., RNG. 14 E., 3rd P.M. COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. SN 016-2439 Station 926+82 BORING NO. S39-B Station 926+82 Offset: 76.5' Left Ground Surface Elev. 587.1

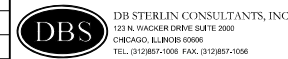
DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
503.1	36			CLAY LOAM-gray-stiff to hard (A-6)	503.1	36		
85	NP	10		Silty SAND, GRAVEL & FRACTURED ROCK-gray-very dense (A-2)	85	NP	10	
498.1	51/2	NP	5		498.1	51/2	NP	5
90				Drillers Observation: Possible Bedrock	90			
495.1					495.1			
11	119				11	119		
15	4.55				15	4.55		
22	12.7	13			22	12.7	13	
21	5.08	14			21	5.08	14	
80					80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-S Shelby Tube Sample VS-Vane Shear Test The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%) NR-No Recovery

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-S Shelby Tube Sample VS-Vane Shear Test The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%) NR-No Recovery

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-S Shelby Tube Sample VS-Vane Shear Test The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%) NR-No Recovery

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

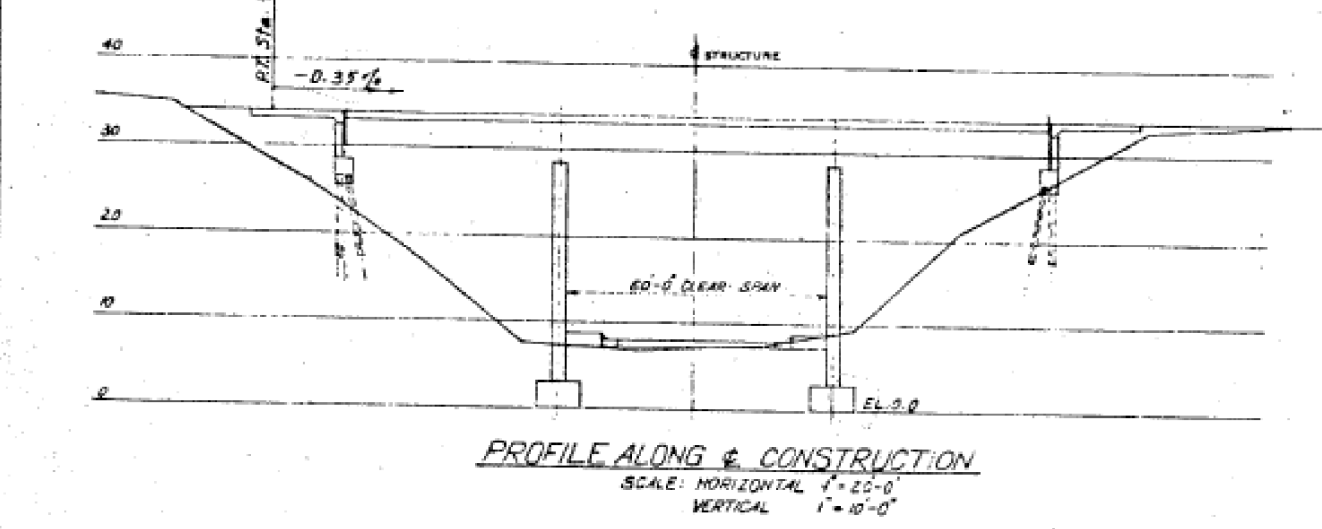
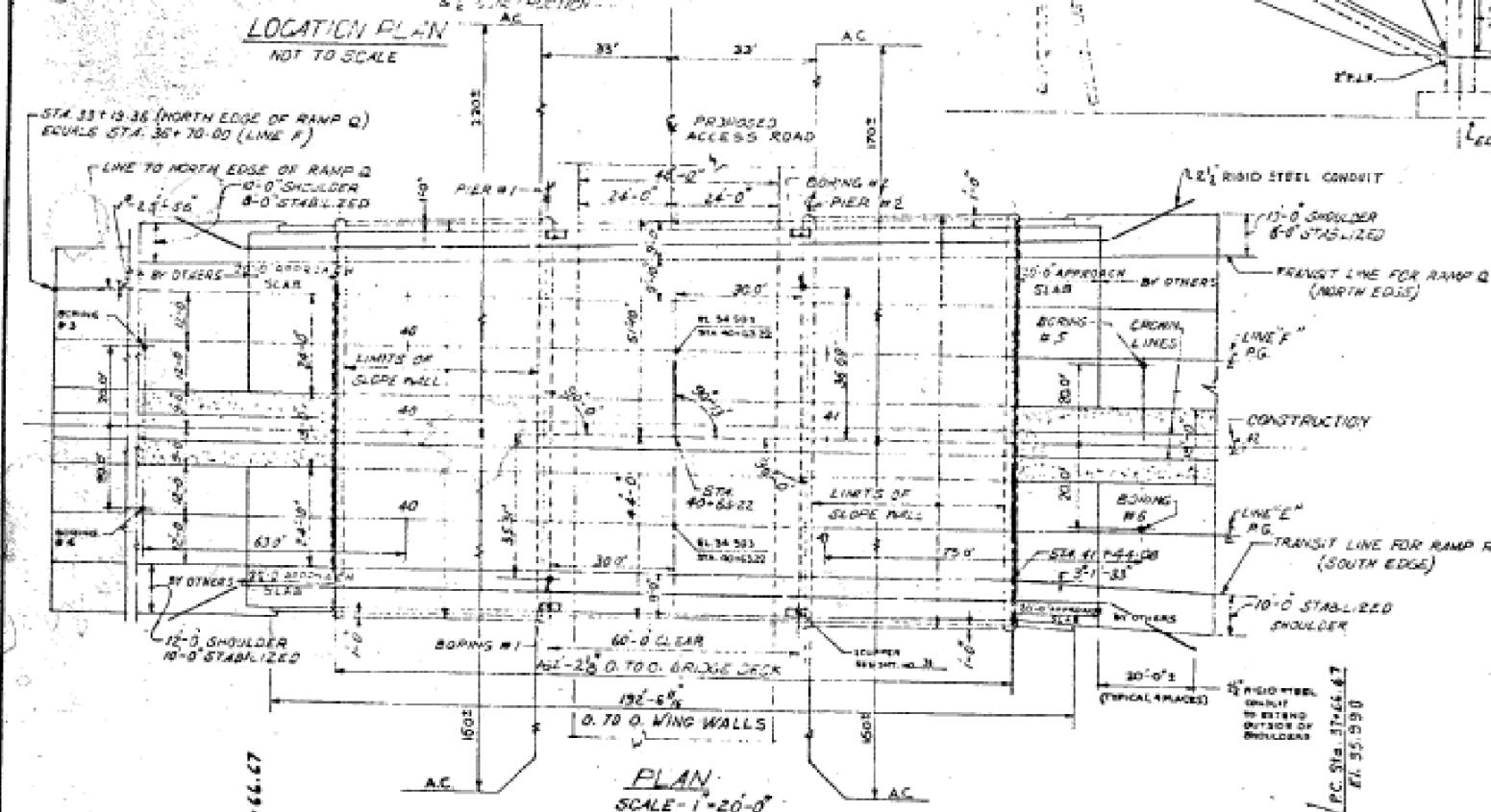
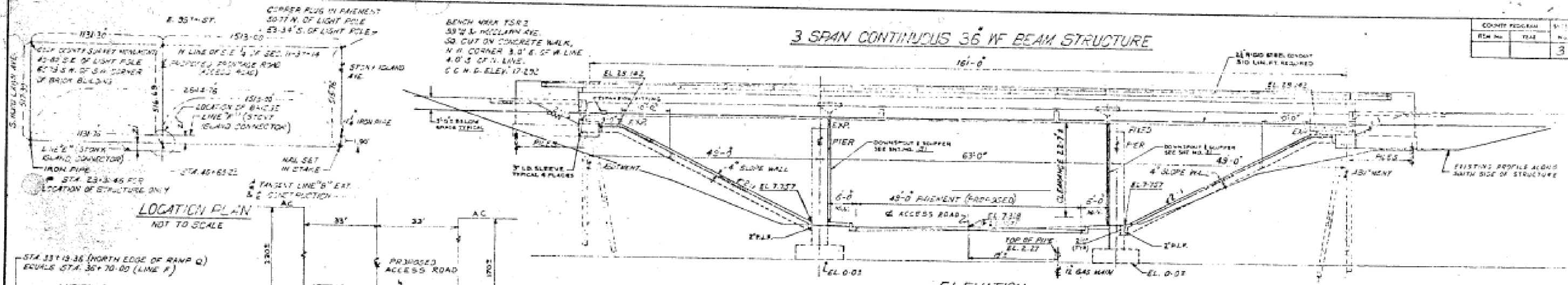
SOIL BORING LOGS II SN 016-2439

SHEET NO. S8 OF S18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	483
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

3 SPAN CONTINUOUS 36" WF BEAM STRUCTURE

COUNTY PROGRAM	1411
REV. NO.	3



NOTE: SECURE CONDUIT TO STRUCTURE WITH MECHANICAL CONDUIT HANGERS AND/OR CLAMPS AT NOT MORE THAN 5'-0" ON CENTERS A MINIMUM OF TWO CONDUIT CLAMPS PER RUN OF CONDUIT USE MECHANICAL MEANS TO SECURE CONDUIT AND FITTING. NO WELDING PERMITTED. SEE SPECIAL PROVISION.

- DESIGN LOADS**
LIVE LOAD - A.A.S.H.O. HS 20-44 & ALTERNATE
EARTH PRESSURE - 40 RICH. FT. EASY FLUID
- DESIGN STRESSES**
STRUCTURAL STEEL (A36) 20,700 P.S.I.
REINFORCEMENT BARS 20,000 P.S.I.
CONCRETE (WITHOUT EARTH PRESSURE) 1,200 P.S.I.
CONCRETE (WITH EARTH PRESSURE) 1,500 P.S.I.
N=10
- SUPERSTRUCTURE**
3-SPAN CONTINUOUS WIDE FLANGE BEAMS & CONCRETE SLAB BRIDGE (48'-0", 63'-0", 48'-0" SPANS) WITH TWO 24'-0" ROADWAYS, TWO 6'-0" MEDIAN SHOULDERS PLUS 5'-0" FLUSH MEDIAN, VARIABLE LANE FOR RAMP "D", 10'-0" SHOULDER (NORTH SIDE) AND 10'-0" & 12'-0" SHOULDERS (SOUTH SIDE).
- SUBSTRUCTURE**
REINFORCED CONCRETE PILE CAP ABUTMENTS
REINFORCED CONCRETE PIERS ON SPREAD FOOTINGS.
- TRAFFIC**
DESIGN DESIGNATION - 2-53B (87) PR-3.
AVERAGE DAILY TRAFFIC - 25,390 VEHICLES, DESIGN HOUR VOLUME - 1997
1,538 VEHICLES, AVERAGE DAY TRUCK TRAFFIC - WEST BOUND 2,540
EAST BOUND 2,540 - DESIGN SPEED 50 MPH PER 1997
MAX. DESIGN - SOIL PRESSURE 5,000 P.S.F.

ITEM	QUANTITY	UNIT
SLOPE WALL	10240	LSYD8.
2" RIGID STEEL CONDUIT	513.0	LSYD8.

SEE SECTION 618 OF THE STANDARD SPECIFICATION

Structure
Sta. 40+63.22
El. 34.593
(Top of Deck Surfacing)

PROFILE GRADE ALONG & LINE E' & LINE F'

V.C. 200'

DATE	BY	DESCRIPTION
7-28-20	B.S.R.	WINSHALLS SHORTENED AS REQUESTED BY STATE

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. BUNNE
MEMBER BOARD OF SUPERVISORS

PHOENIX S. COOK
MEMBER BOARD OF SUPERVISORS

GENERAL PLAN
STONY ISLAND CONNECTOR TO FAI.94
OVER ACCESS ROAD TO FRONTAGE ROAD

PROJECT: 2012-059-BR
SUBMITTED: 03/29/13

DESIGNED: J.P. LEE
CHECKED: J.P. LEE
DATE: 03/29/13

SECTION NUMBER: 174A
SHEET NO.: 3

USER NAME :	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE :	DRAWN - GFP	REVISED -
PLOT DATE :	CHECKED - GMK	REVISED -
FILE NAME :	DATE - 03/29/13	REVISED -



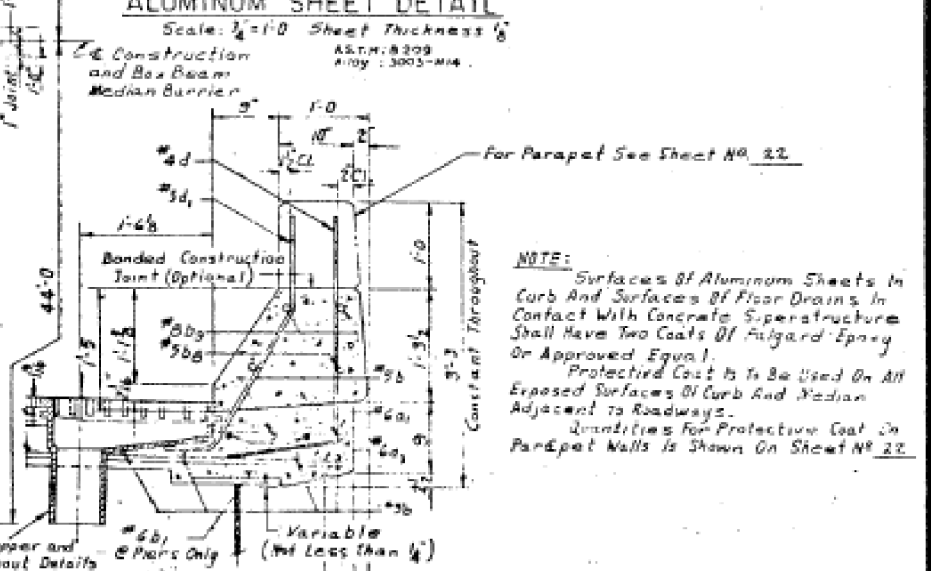
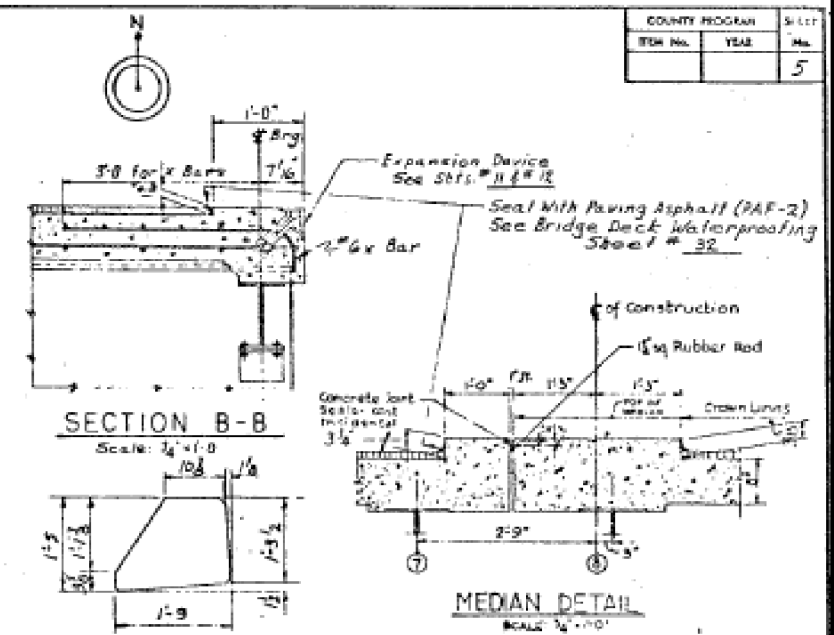
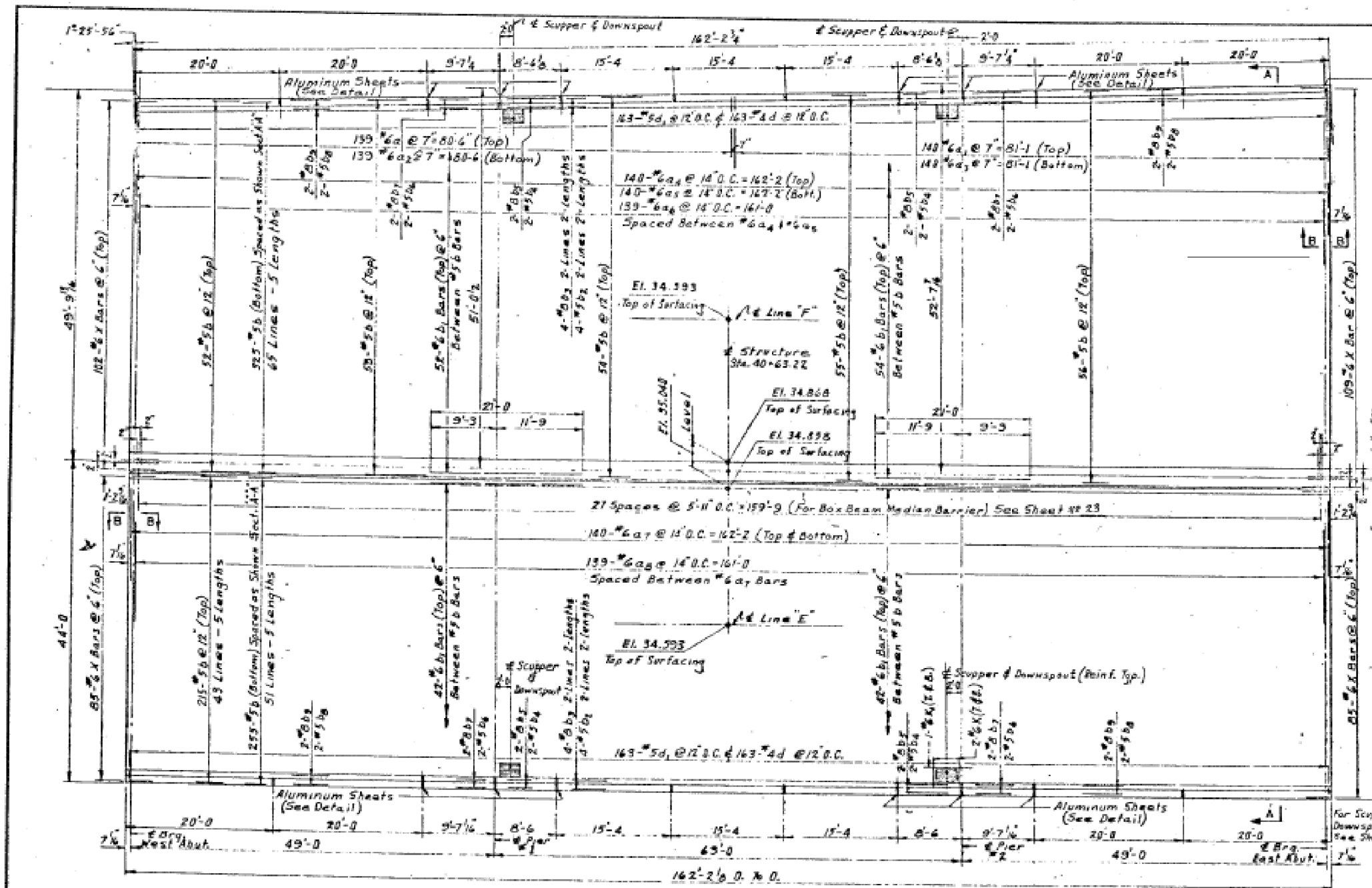
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

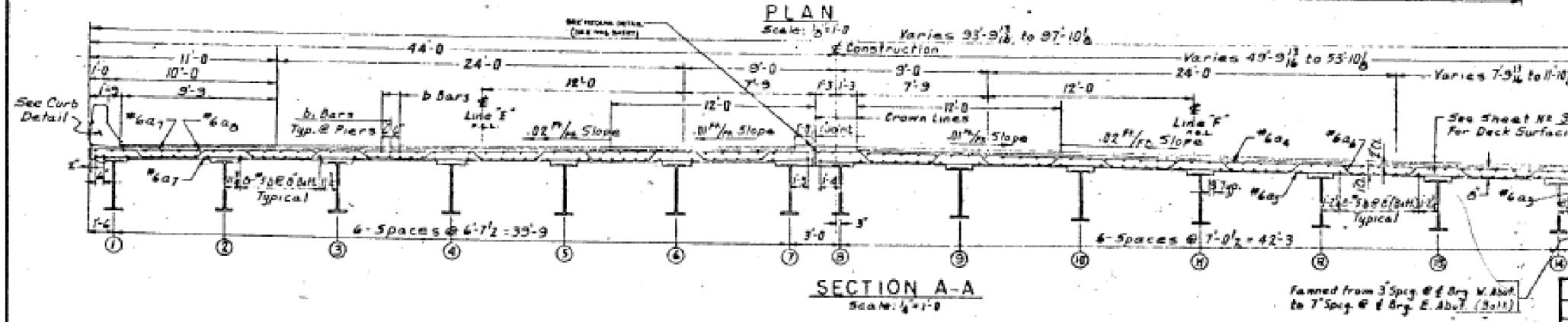
SHEET NO. S9 OF S18 SHEETS

F.A.I. RT.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	484
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

COUNTY PROGRAM	SHEET
FORM No.	YEAR
	5



BILL OF MATERIAL	
Class X Concrete	4,217 Cu. Yds.
Reinforcement Bars	106,880 Lbs.
Floor Drains	4 Each
Protective Coat	124 Sq. Yds.
Coal Tar Interlayer Protective Coat	1,600 Sq. Yds.
Bilumens Concrete Surface Course, Class I (S)	123 Tons



REVISIONS	
DATE	DESCRIPTION

DEPARTMENT OF HIGHWAYS COOK COUNTY, ILLINOIS	
SUPERSTRUCTURE STONY ISLAND CONNECTOR TO F.A.I. 94 OVER ACCESS ROAD TO FRONTAGE ROAD	
COMPUTED BY: [Signature]	PROJECT REVIEWED BY: [Signature]
CHECKED BY: [Signature]	APPROVED BY: [Signature]
DRAWN BY: [Signature]	PROJECT NO. 0101.5-F
DATE: 03/29/13	SECTION NUMBER: 174A
	NO. OF SHEETS: 5
	SHEET NO.: 51168-5

USER NAME :	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE :	DRAWN - GFP	REVISED -
PLOT DATE :	CHECKED - GMK	REVISED -
FILE NAME :	DATE - 03/29/13	REVISED -

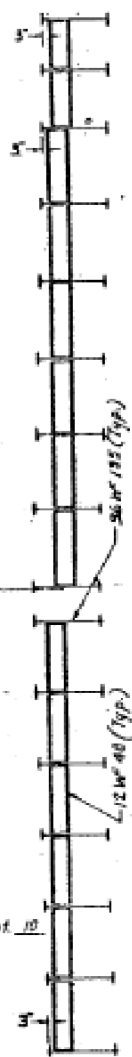
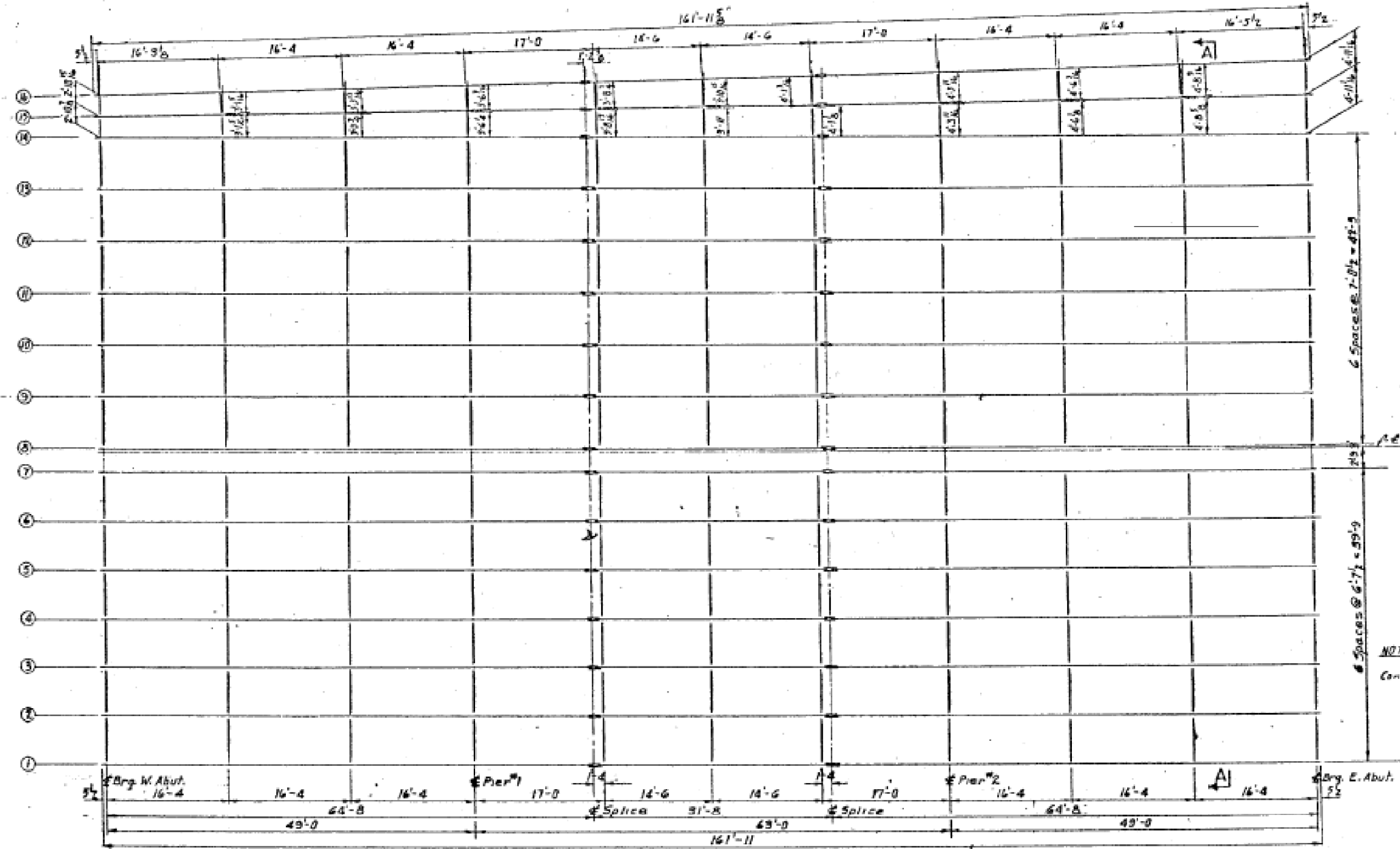


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

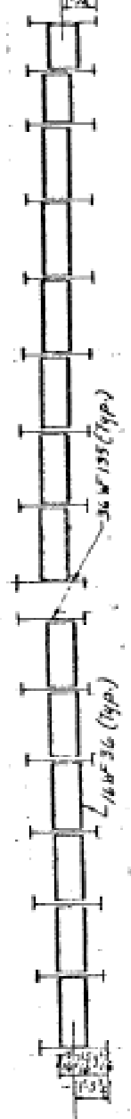
EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S10 OF S18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	485
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



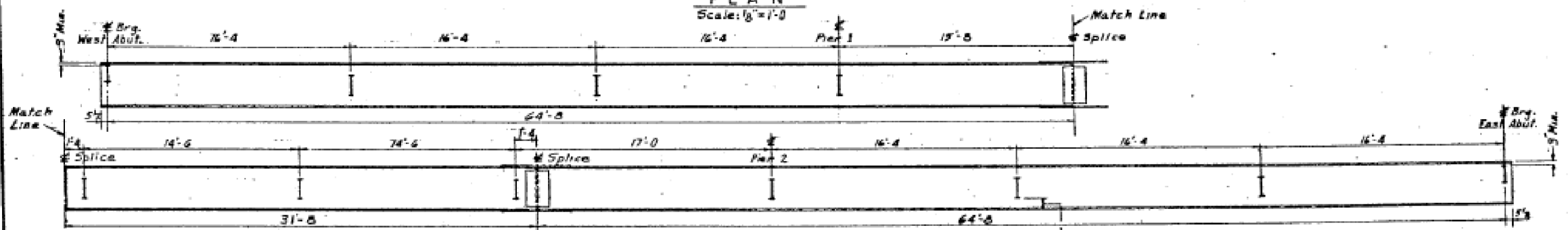
END DIAPHRAGMS
East End Shown
West End Similar



SECTION A-A
INTERMEDIATE DIAPHRAGMS

NOTE
For Diaphragm
Connections See Sht. 10

PLAN
Scale: 1/8" = 1'-0"



ELEVATION
Beams #1 thru #18 Typical
Except as Noted
Beams #15 and #16 Similar
Scale: 1/4" = 1'-8"

Varies Each Beam
See Sheet 10

BILL OF MATERIAL		
Item	Quantity	Unit
Furnishing and Erecting Structural Steel		Temp. S.
Calculated Plan Weight of Structural Steel		
This Sheet and Sht. # 10	406,870	Lbs.
Bearing Weight - Shts. # 13 & 14	13,610	Lbs.
Expansion Device Weight - Shts. # 18 & 19	6,920	Lbs.
Box Beam Median Barrier Weight - Sht. # 23	220	Lbs.
Total Weight	433,620	Lbs.

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

REGINA W. DINHE
THOMAS G. COFF

FRAMING PLAN
STONY ISLAND CONNECTOR TO F.A.I. 94
OVER ACCESS ROAD TO FRONTAGE ROAD

COMPUTED: [Signature] PROJECT: EBU-242 (53)
CHECKED: [Signature] SUBMITTED:
DRAWN: [Signature]
CHECKED: [Signature]

DESIGNED: [Signature] DATE: 03/29/13
DRAWN: [Signature] DATE: 03/29/13
CHECKED: [Signature] DATE: 03/29/13
DESIGNED: [Signature] DATE: 03/29/13

SECTION NUMBER: 174A
SCALE: 1/4" = 1'-8"

REVISIONS		
DATE	BY	DESCRIPTION

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -

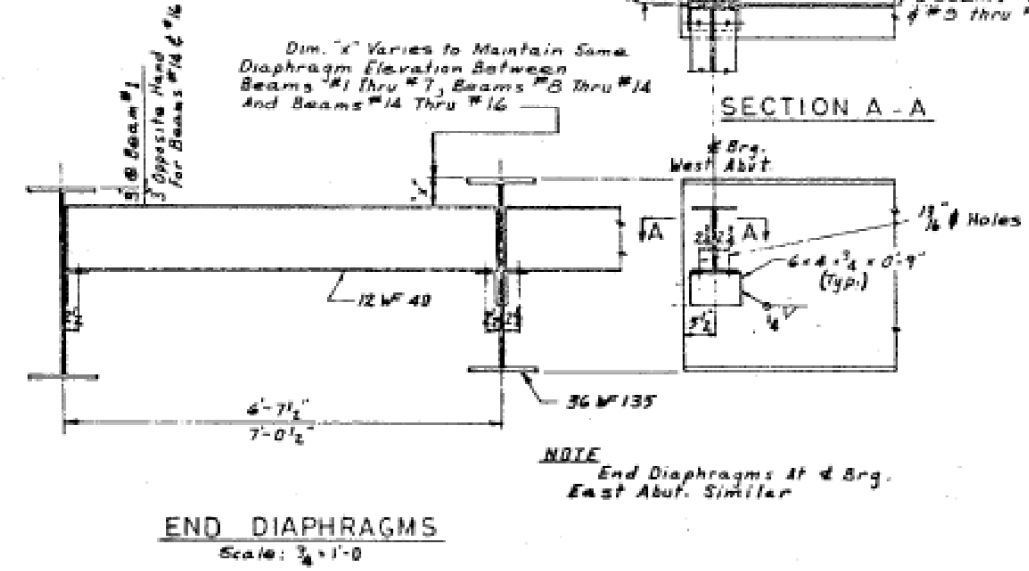
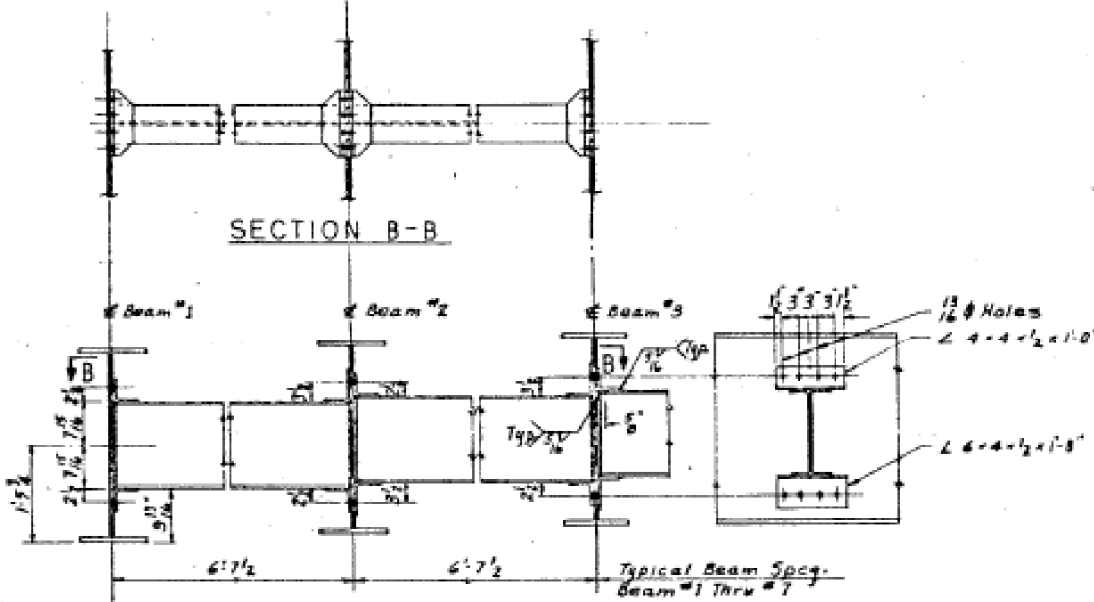
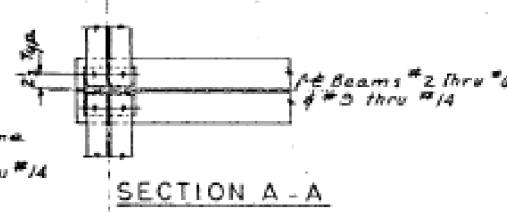
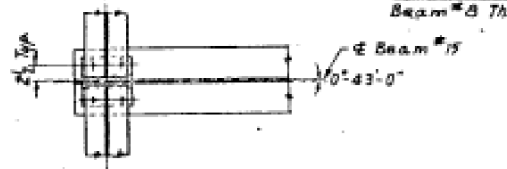
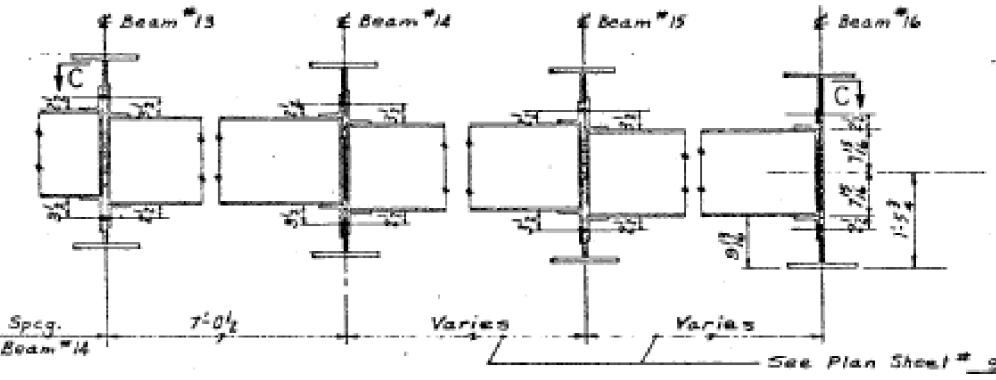
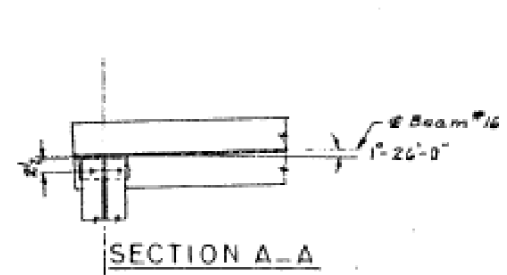
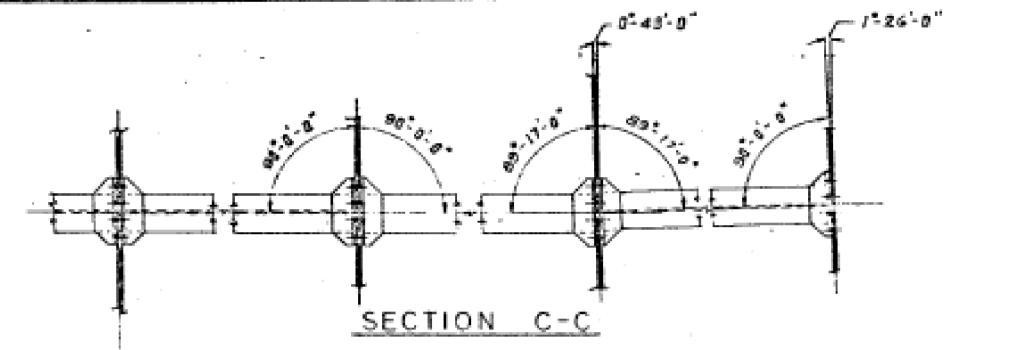
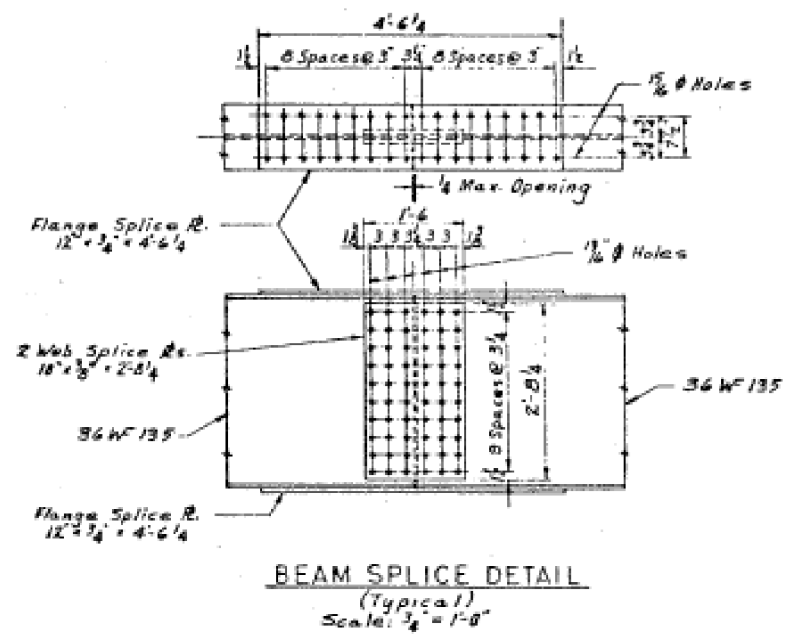


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S11 OF S18 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 486
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



DEPARTMENT OF HIGHWAYS COOK COUNTY, ILLINOIS		THOMAS S. COTT SUPERVISOR OF HIGHWAYS	
STRUCTURAL STEEL DETAILS			
STONY ISLAND CONNECTOR TO FA.194 OVER ACCESS ROAD TO FRONTAGE ROAD			
COMPUTED BY: [Signature]	PROJECT: EAV-2439 (62)	CHECKED BY: G.M. CLARK	SUBMITTED:
DATE: [Blank]	SECTION NUMBER: 174A	DATE: 0101.5	SCALE: 10
DATE: [Blank]	SECTION NUMBER: 174A	DATE: 0101.5	SCALE: 10
DATE: [Blank]	SECTION NUMBER: 174A	DATE: 0101.5	SCALE: 10

REVISIONS		
DATE	BY	DESCRIPTION

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -

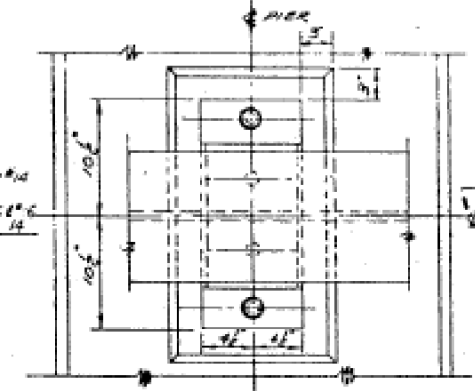
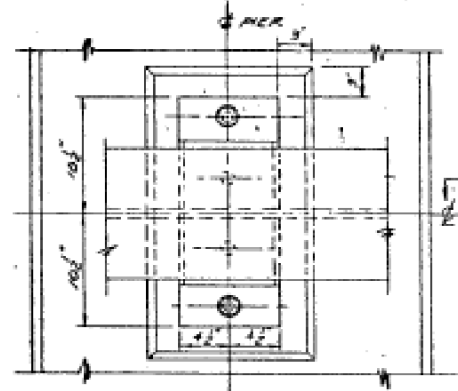
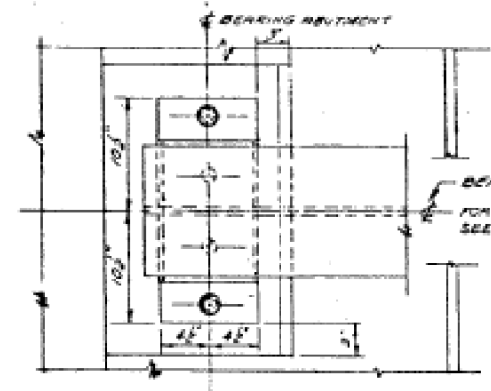
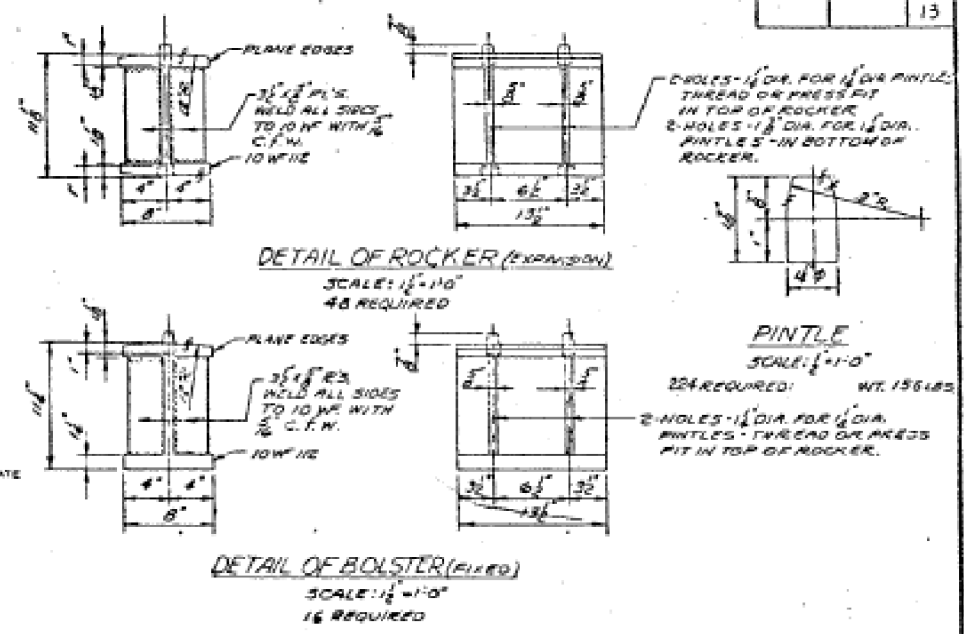
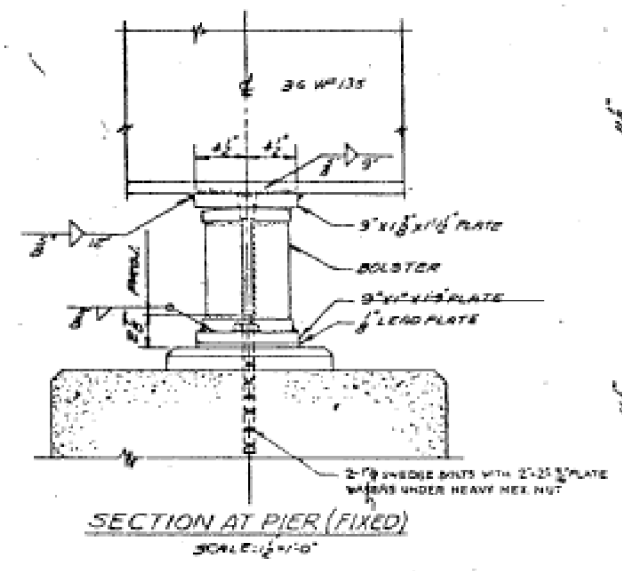
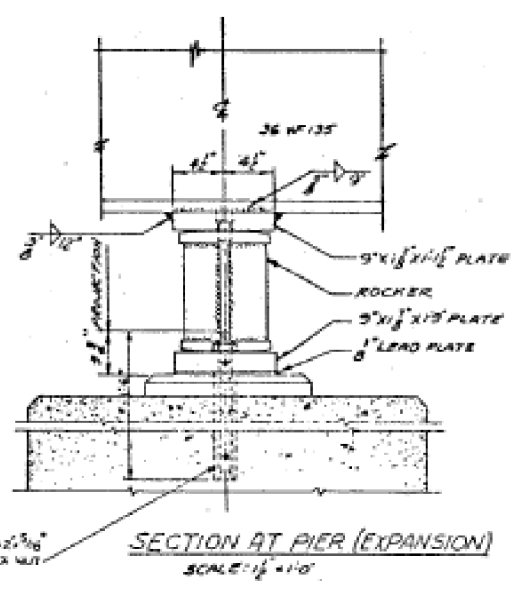
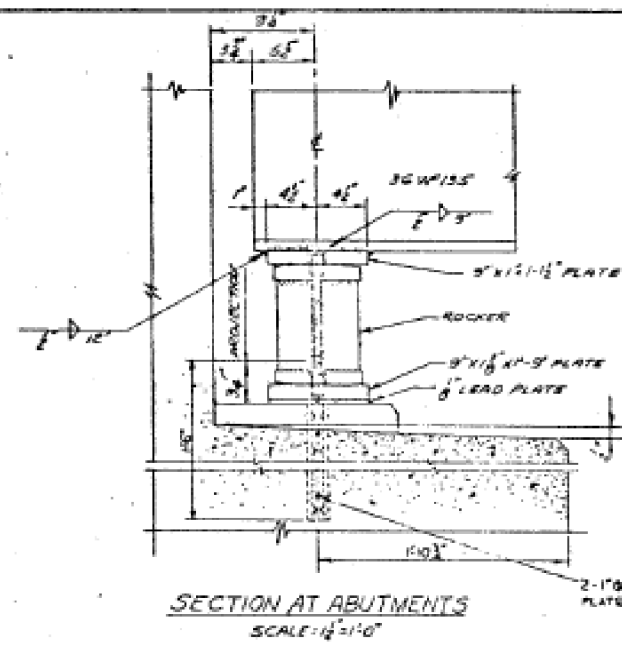


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

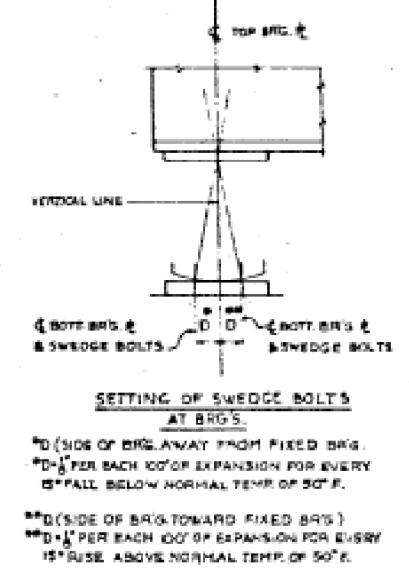
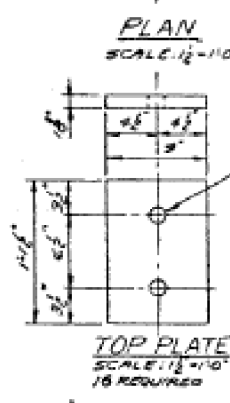
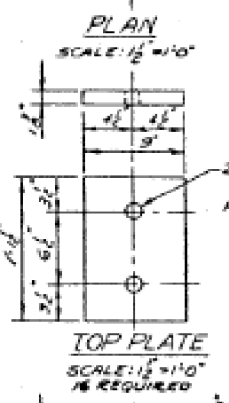
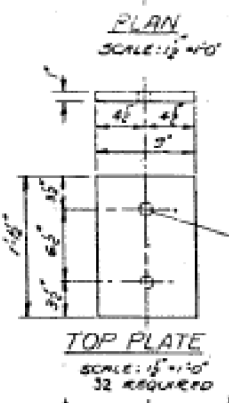
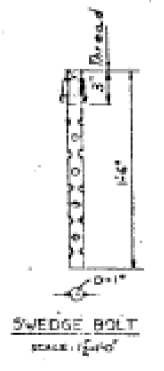
EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S12 OF S18 SHEETS

F.A.I. RTE. 94	SECTION 2012-059-BR	COUNTY COOK	TOTAL SHEETS 631	SHEET NO. 487
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

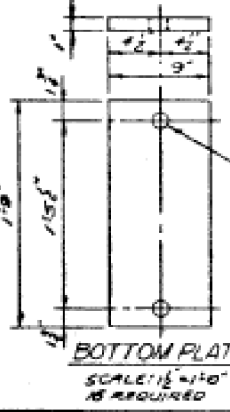
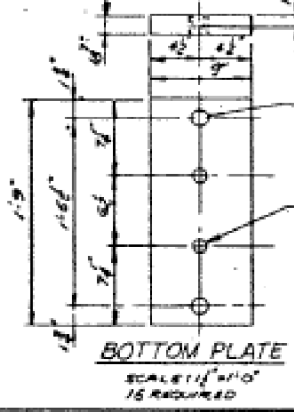
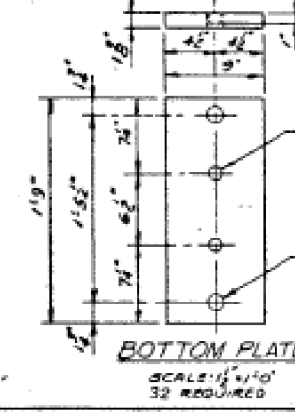


NOTE:
SWEDGE BOLTS FOR FIXED BRG'S TO BE CAST IN PLACE. ALL SWEDGE BOLTS ARE 1" DIA. ALL WASHERS ARE 2"x2 1/2" DIA.



NOTE:
CALCULATED WEIGHTS OF BRG'S INCLUDES ROCKERS, BOLSTERS, BRG. PLATES, LEAD PLATES, ANCHOR BOLTS, NUTS & WASHERS.

CALCULATED WEIGHTS OF STRUCTURAL STEEL THIS SHEET 19,512 LBS. INCLUDED IN TOTAL WEIGHT OF STRUCTURAL STEEL SHEET NO. 9.)



DEPARTMENT OF HIGHWAYS COOK COUNTY, ILLINOIS GEORGE W. QUINCE PRESIDENT BOARD OF SUPERVISORS THOMAS G. COTTS SUPERVISOR OF HIGHWAYS	
ROCKERS, BOLSTERS & BEARING PLATES STONY ISLAND CONNECTOR TO FA. 194 OVER ACCESS ROAD TO FRONTAGE ROAD	
COMPUTED: J.P. B... CHECKED: J.P. B... DRAWN: J.P. B... CHECKED: J.P. B...	PROJECT: ABU-246 (63) SHEET NO. 13 DATE: 1/7/65
REVISIONS DATE BY DESCRIPTION	

USER NAME :	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE :	DRAWN - GFP	REVISED -
PLOT DATE :	CHECKED - GMK	REVISED -
FILE NAME :	DATE - 03/29/13	REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

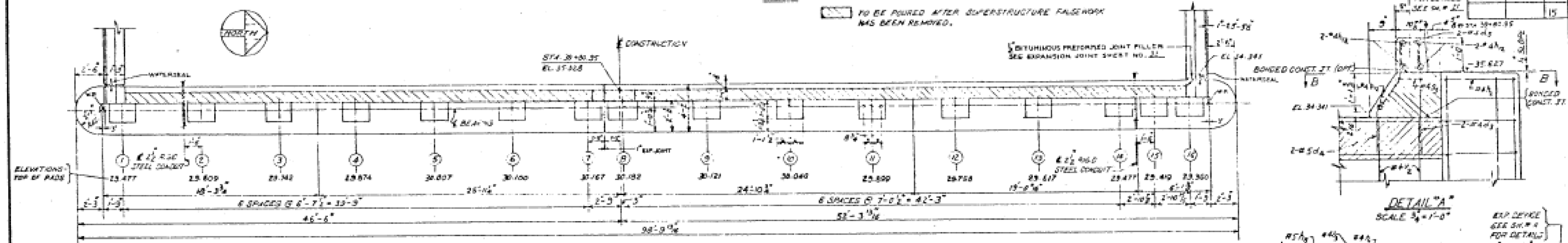
EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S13 OF S18 SHEETS

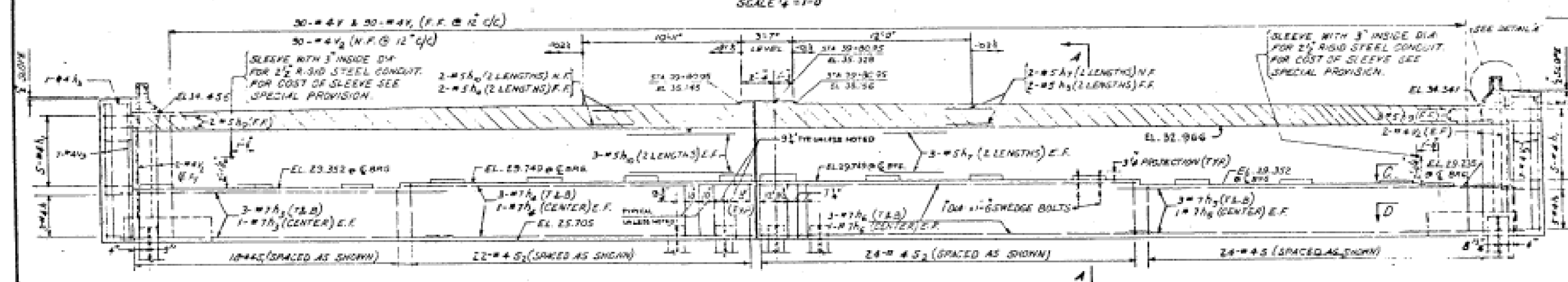
F.A.I. RTE.:	SECTION:	COUNTY:	TOTAL SHEETS:	SHEET NO.:
94	2012-059-BR	COOK	631	488
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

NOTE

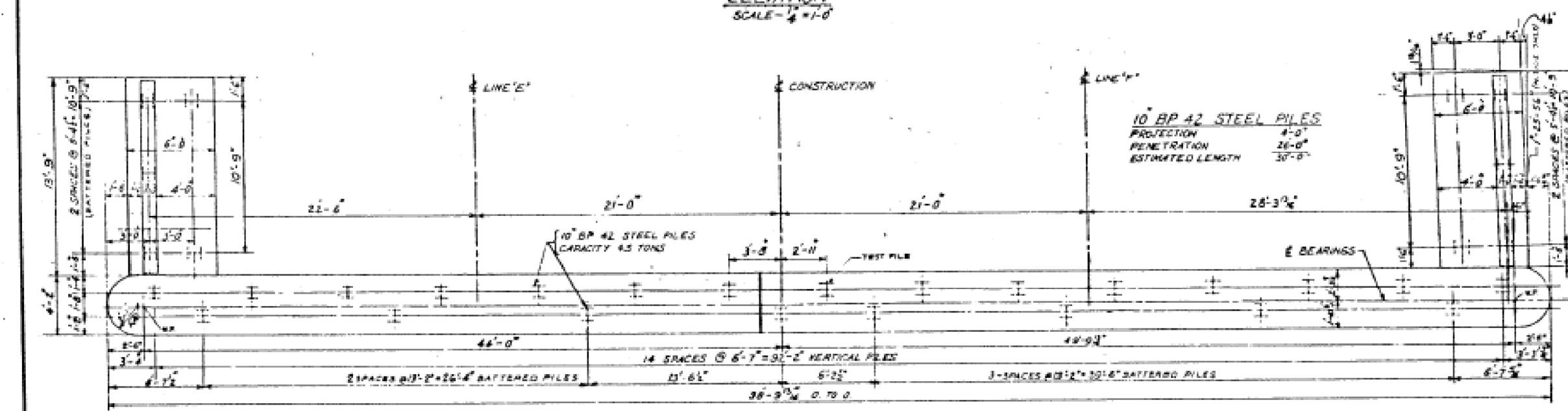
TO BE POURED AFTER SUPERSTRUCTURE FALSEWORK HAS BEEN REMOVED.



PLAN-WEST ABUTMENT SCALE 1/4"=1'-0"



ELEVATION SCALE 1/4"=1'-0"



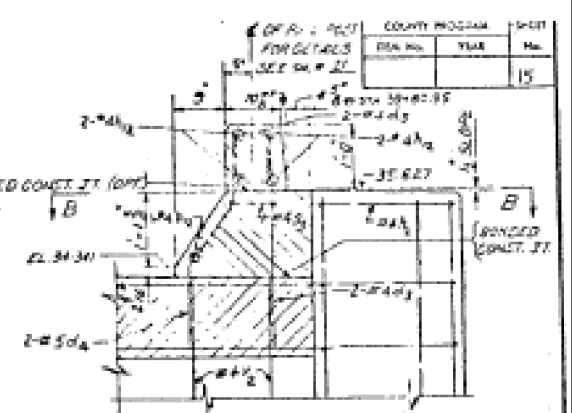
PILE LOCATION PLAN SCALE 1/4"=1'-0"

BILL OF MATERIAL FOR WEST ABUTMENT

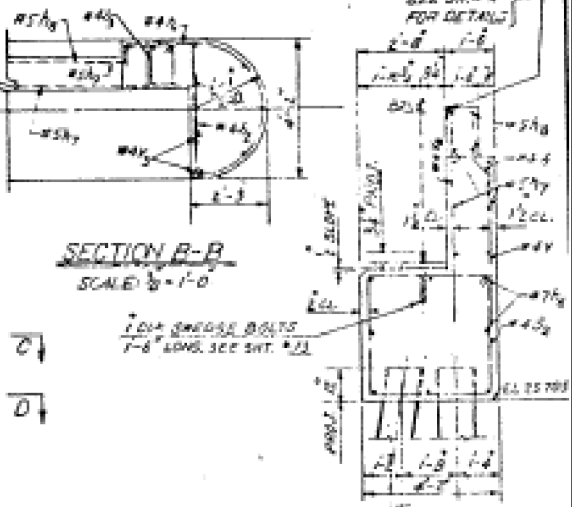
FLYING SANDS STEEL PILES (10 #42)	950	LN. FT.
DRIVING STEEL PILES (10 #42)	950	LN. FT.
TEST PILES	1	EACH
CLASS 'A' CONCRETE	98.7	CU. YDS.
REINFORCEMENT BARS	6,910	LBS.
BRIDGE SEAT SEALANT	23	SQ. YDS.

REVISIONS

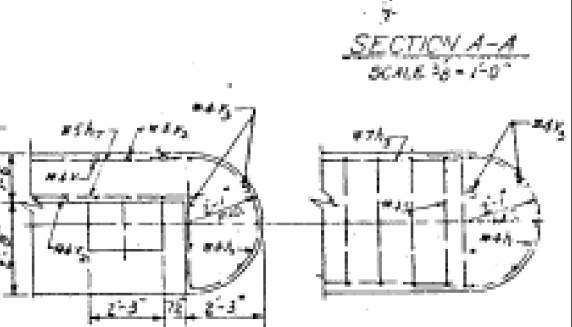
DATE	BY	DESCRIPTION
7-28-13	SKV	1st of Piles reduced as requested by State. Ring wall height increased as requested by State.



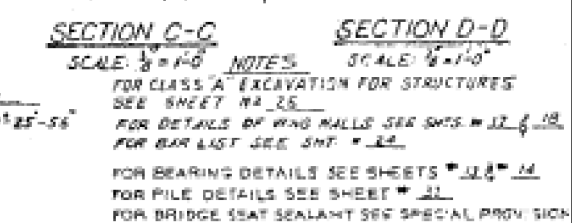
DETAIL 'A' SCALE 3/8"=1'-0"



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



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



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

NOTES

- FOR CLASS 'A' EXCAVATION FOR STRUCTURES SEE SHEET NA 25.
- FOR DETAILS OF RING WALLS SEE SHS. # 12 & 18.
- FOR BAR LIST SEE SHS. # 24.
- FOR BEARING DETAILS SEE SHEETS # 12 & 14.
- FOR PILE DETAILS SEE SHEET # 21.
- FOR BRIDGE SEAT SEALANT SEE SPECIAL PROVISION.

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
 COUNTY BOARD OF SUPERVISORS

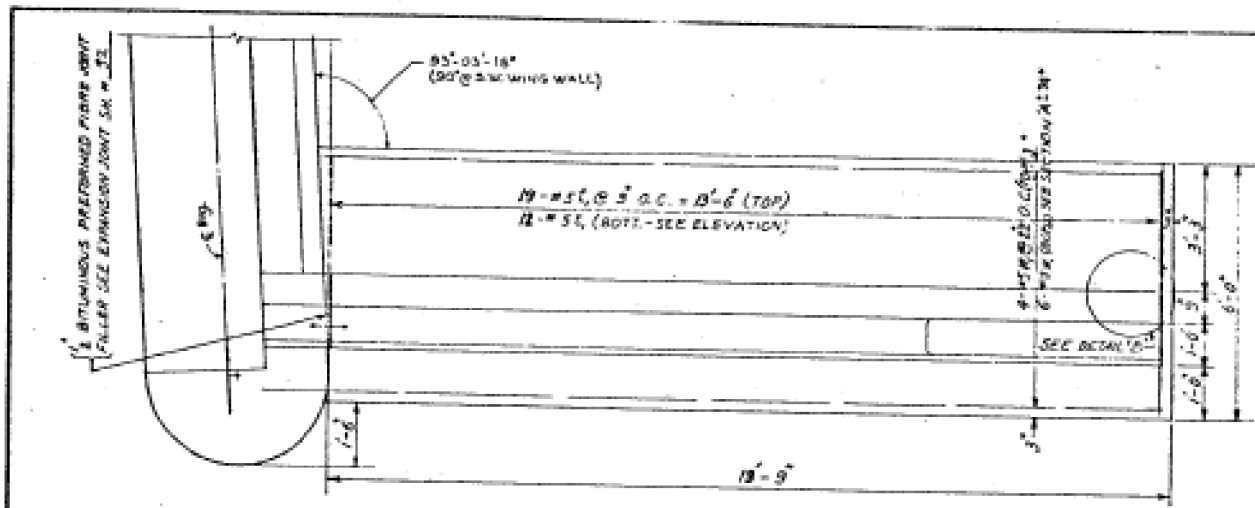
THOMAS S. COO'S
 COUNTY BOARD OF SUPERVISORS

WEST ABUTMENT DETAILS
STONY ISLAND CONNECTOR TO FA. 194
OVER ACCESS ROAD TO FRONTAGE ROAD

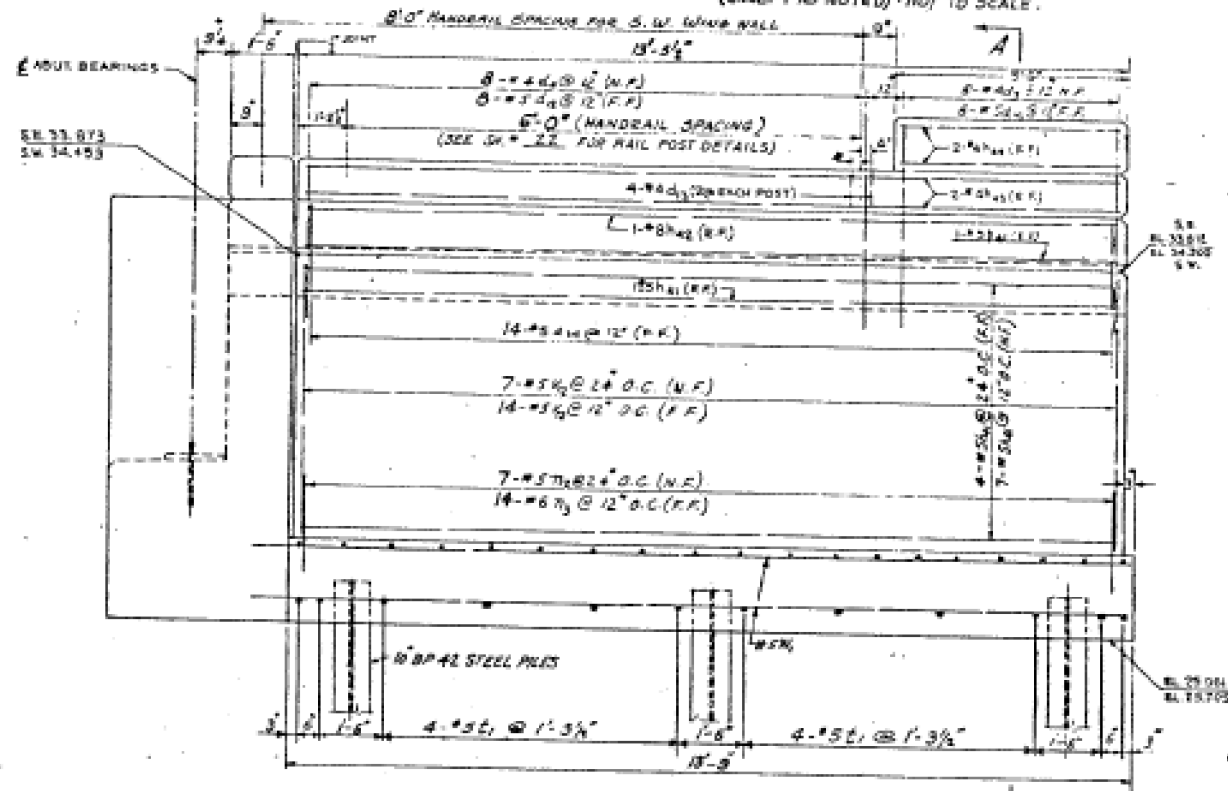
COMPUTED BY: [Signature] PROJECT: 2012-059-BR
 CHECKED BY: [Signature] DRAWN BY: [Signature]
 DATE: 03/29/13

DATE	SECTION NUMBER	SCALE	SHEET NO.	TOTAL SHEETS
03/29/13	174 A	1/4" = 1'-0"	15	61/78

COUNTY PROGRAM	SHEET
FEA No.	FEA No.
	17

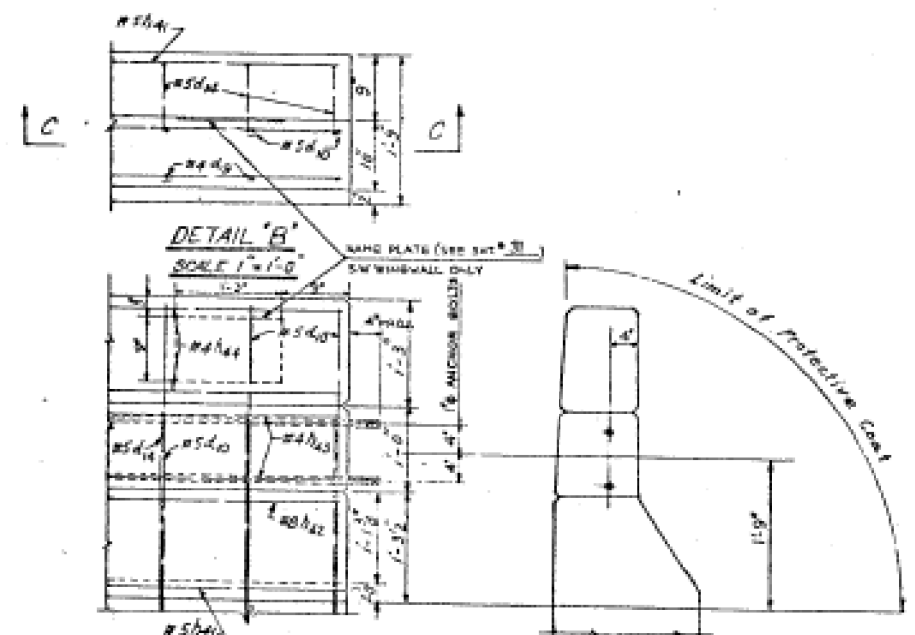


**SOUTH EAST WING WALL - FOOTING PLAN SHOWN
SOUTH WEST WING WALL - FOOTING PLAN OPPOSITE HAND**
(EXCEPT AS NOTED) - NOT TO SCALE.

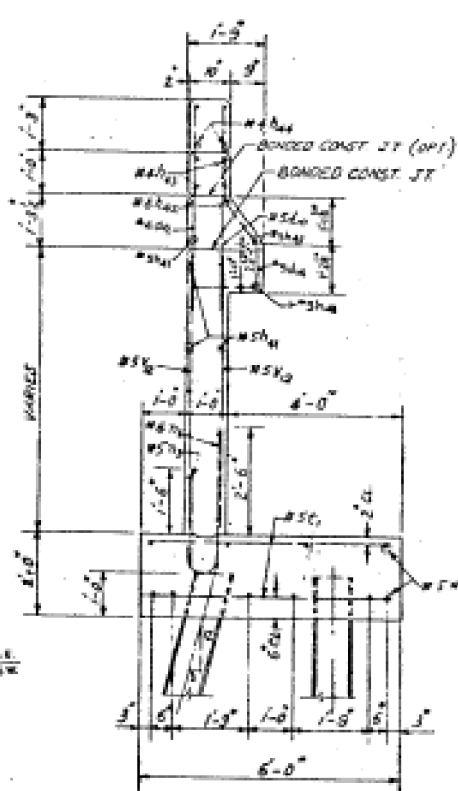


**SOUTH EAST WING WALL - ELEVATION SHOWN
SOUTH WEST WING WALL - ELEVATION OPPOSITE HAND**
NOT TO SCALE

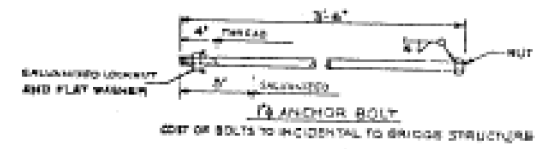
NOTE:
FOR WEST WING WALL FOOTING REINFORCEMENT
SEE BAR LIST FOR WEST ABUTMENT ON SHIT # 24



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



SECTION A-A
SCALE 1/2" = 1'-0"



NOTES:-
SEE SHTS # 15 & 16 FOR ABUTMENT DETAILS AND SPACING OF PILES
FOR DETAILS OF 10SP42 STEEL PILES SEE SHEET # 22
CLASS 'X' CONCRETE FOR FOOTING AND FOOTING REINFORCEMENT LISTED WITH ABUTMENTS, SHEET # 13 AND # 14.
QUANTITIES INCLUDED IN BILL OF MATERIAL ON SHEET # 18.
SEE SHEET # 15 FOR PROTECTIVE COAT NOTES.

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

**S. W. & S. E. WING WALL DETAILS
STONY ISLAND CONNECTOR
TO F. A. I. 94
OVER ACCESS ROAD TO FRONTAGE ROAD**

PROJECT: EBV-299(LA)
SHEET NO. 17

REVISIONS		
DATE	BY	DESCRIPTION
7-11-94	E.H.C.	Dimension changes due to shortening of wing walls as requested by State.

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -



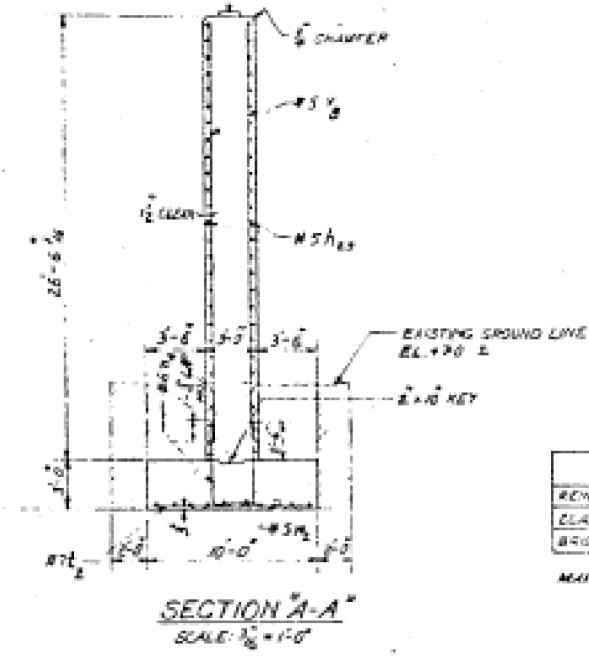
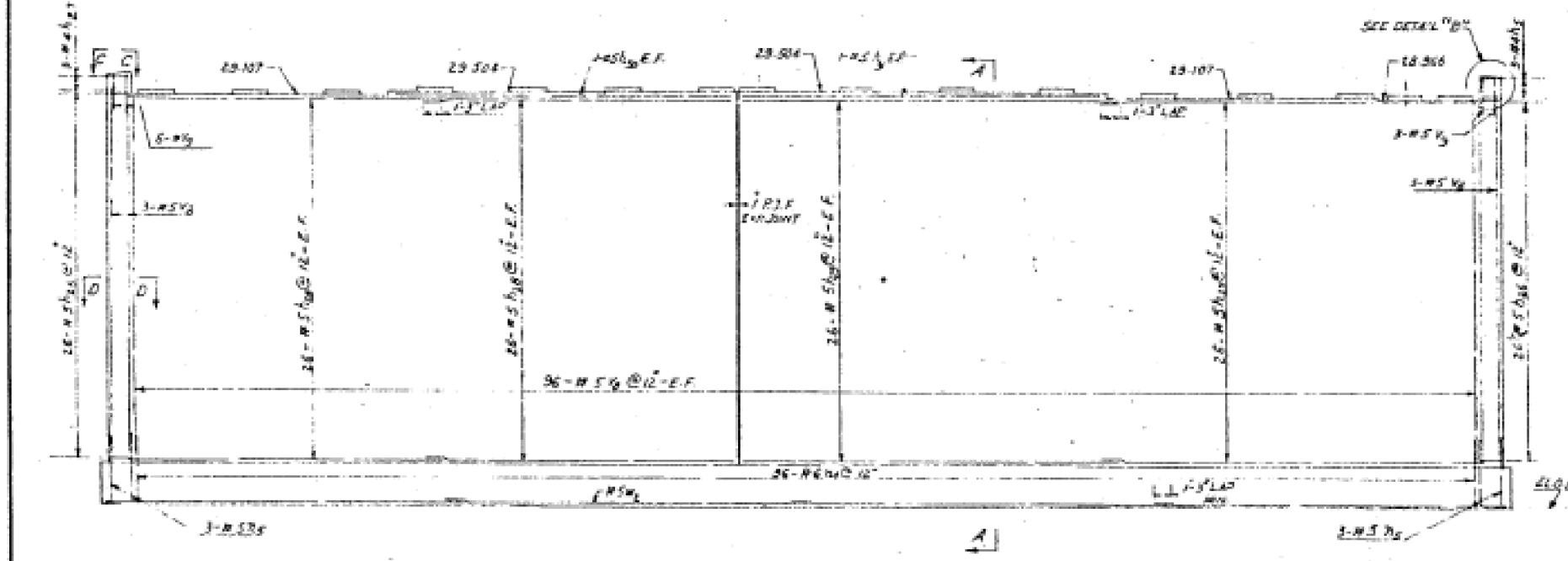
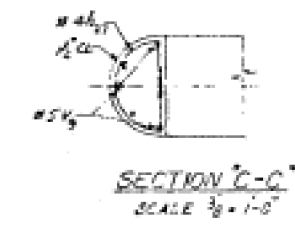
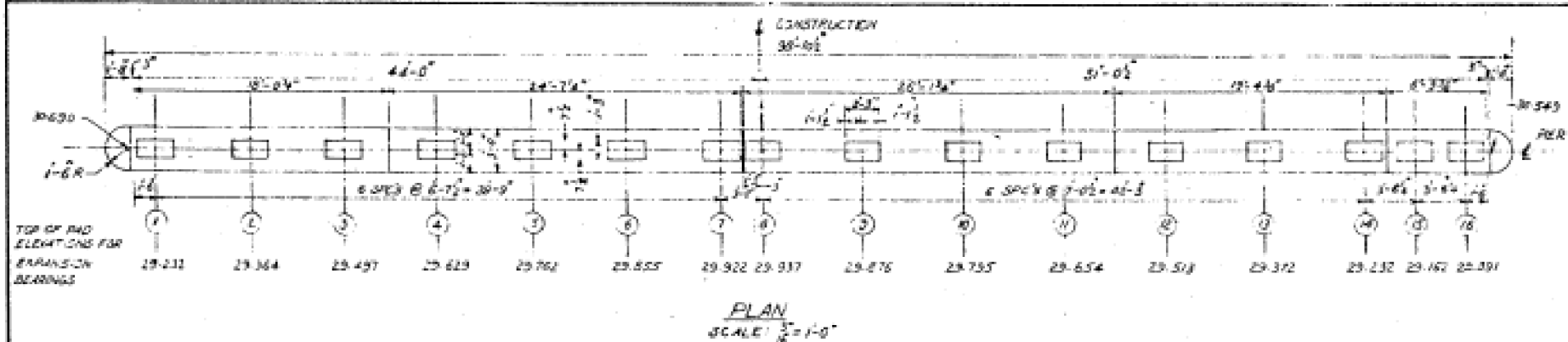
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S15 OF S18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	490
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				

PROJECT PROGRAM	SHEET
AREA NO.	NO.



BILL OF MATERIAL

ITEM	QUANTITY	UNIT
REINFORCEMENT BARS	15370	LBS
CLASS "A" SEALANT	3307	CU. YD.
BRIDGE SEAT SEALANT	21	SQ. YD.

MAXIMUM SOIL PRESSURE = 4800 P.S.F.

CLASS "A" EXAMINATION FOR STRUCTURE FOR QUANTITY SEE SHEET NO. 24

NOTE: FOR B-R SCHEDULE SEE SHEET NO. 22 FOR BRIDGE SEAT SEALANT SEE SPECIAL PROVISIONS

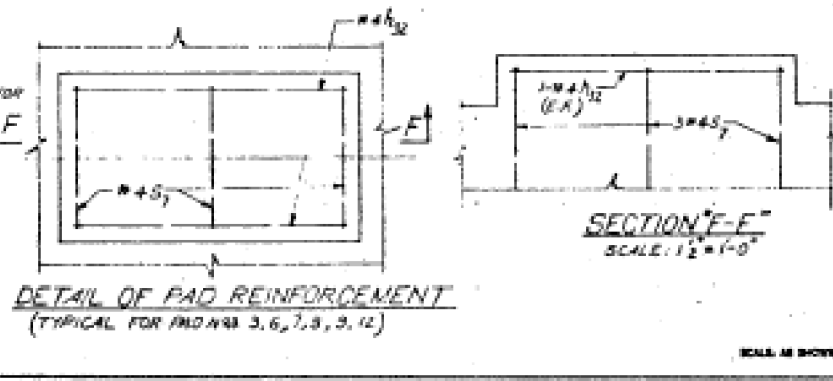
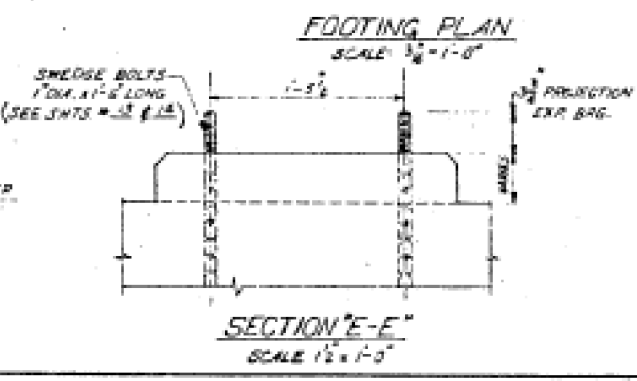
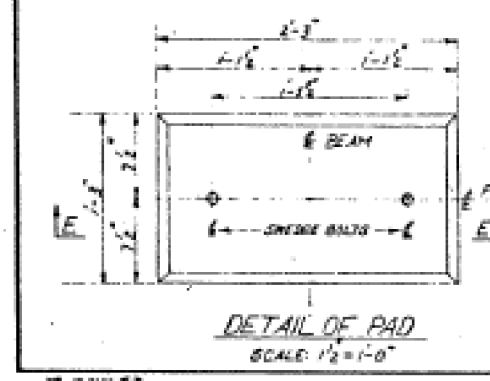
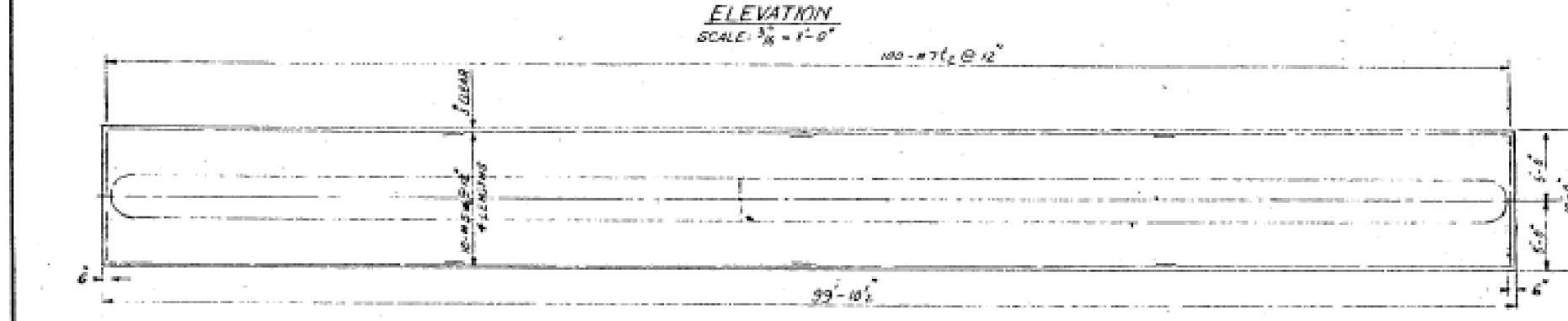
DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

FOR THE STONY ISLAND CONNECTOR TO F.A.I. OVER ACCESS ROAD TO FRONTAGE ROAD

REVISIONS

DATE	BY	DESCRIPTION
7-31-20	B.S.R.	ADDED MAX. SOIL PRESSURE

SECTION NUMBER: 174A



REVISIONS

DATE	BY	DESCRIPTION
7-31-20	B.S.R.	ADDED MAX. SOIL PRESSURE

USER NAME :	DESIGNED - GFP/GMK	REVISED -
PLOT SCALE :	DRAWN - GFP	REVISED -
PLOT DATE :	CHECKED - GMK	REVISED -
FILE NAME :	DATE - 03/29/13	REVISED -

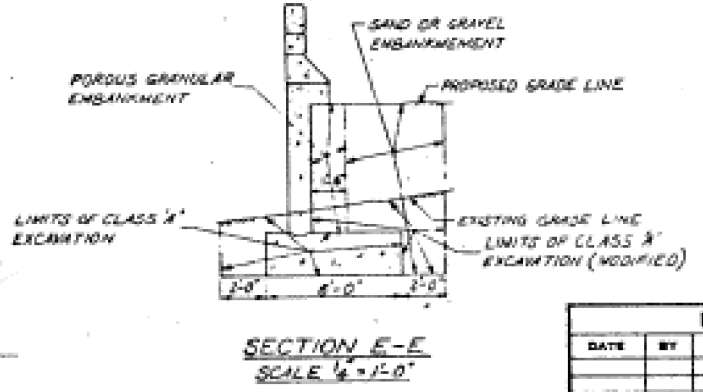
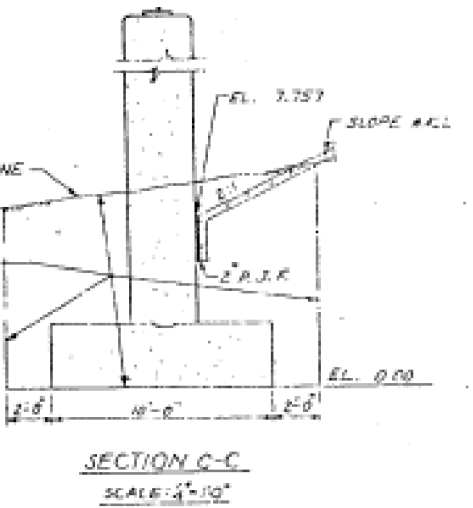
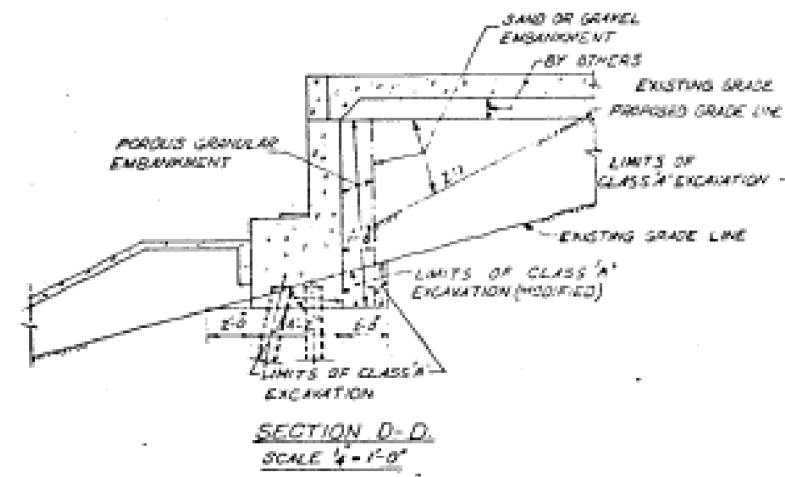
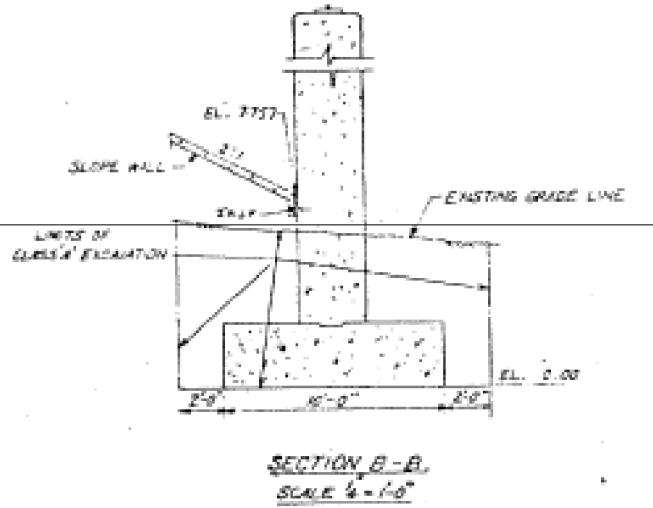
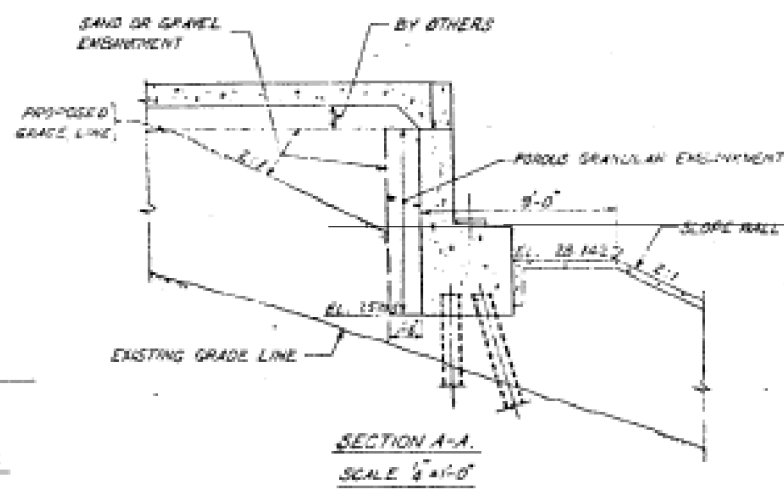
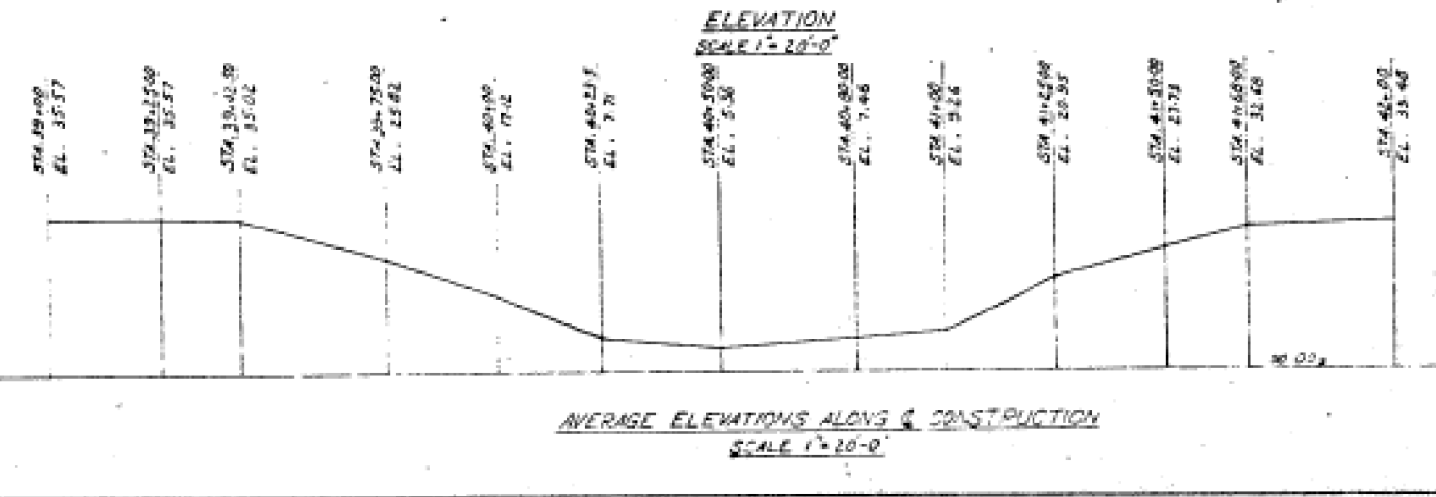
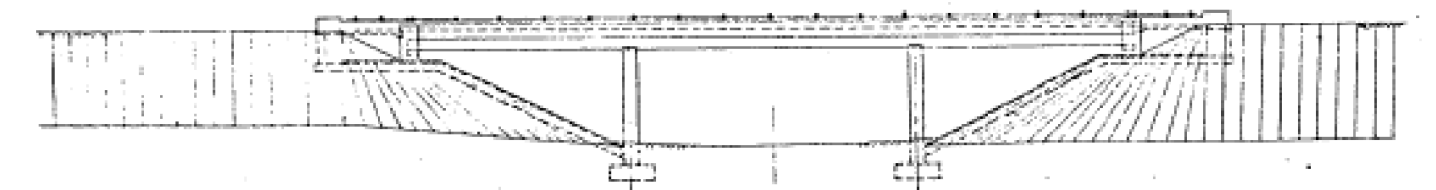
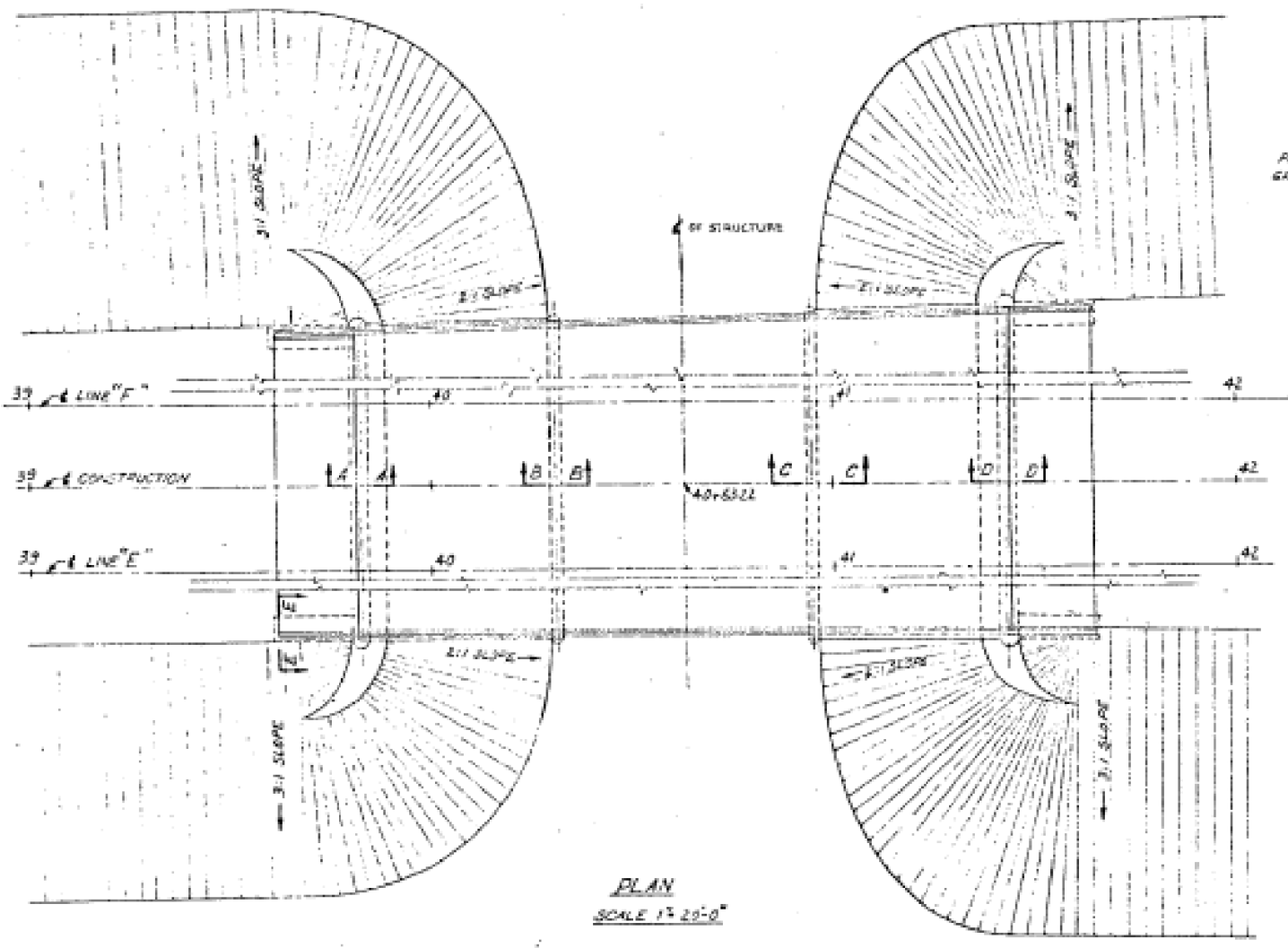


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S16 OF S18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	491
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				



BILL OF MATERIAL		
ITEM	QUANTITY	UNITS
CLASS 'A' EXCAVATION FOR STRUCTURES	899	CUYD
CLASS 'A' EXCAVATION FOR STRUCTURES (MODIFIED)	30	CUYD
SAND OR GRAVEL EMBANKMENT	180	CUYD
POREUS GRANULAR EMBANKMENT	100	CUYD

FOR EARTH EXCAVATION AND BOTTOM EXCAVATION SEE SHEET NO. 27.
SAND OR GRAVEL EMBANKMENT SHALL BE FURNISHED AND PAID FOR IN ACCORDANCE WITH SPECIAL PROVISIONS FOR SAND OR GRAVEL EMBANKMENT.

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DORSE
MEMBER BOARD OF SUPERVISORS

THOMAS G. OSTY
MEMBER BOARD OF SUPERVISORS

EMBANKMENT & EXCAVATION FOR STRUCTURES
STONY ISLAND CONNECTOR
TO F.A.I. 94
OVER ACCESS ROAD TO FRONTAGE ROAD

COMPUTED BY: J.L.L. PROJECT: EBR-245 (2)

CHECKED BY: R.J. JENSEN SUBMITTED:

DRAWN BY: J.L.L.

DATE	BY	DESCRIPTION

SECTION NUMBER	DATE	BY	SCALE
174A	1/24/13	J.L.L.	1/4" = 1'-0"

USER NAME =
PLOT SCALE =
PLOT DATE =
FILE NAME =

DESIGNED - GFP/ GMK
DRAWN - GFP
CHECKED - GMK
DATE - 03/29/13

REVISED -
REVISED -
REVISED -
REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

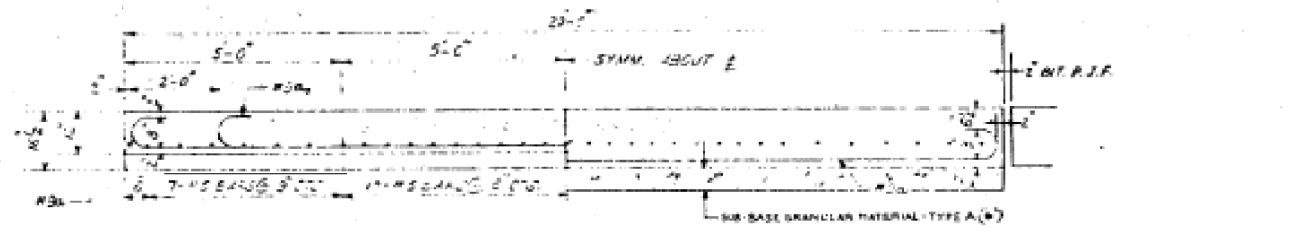
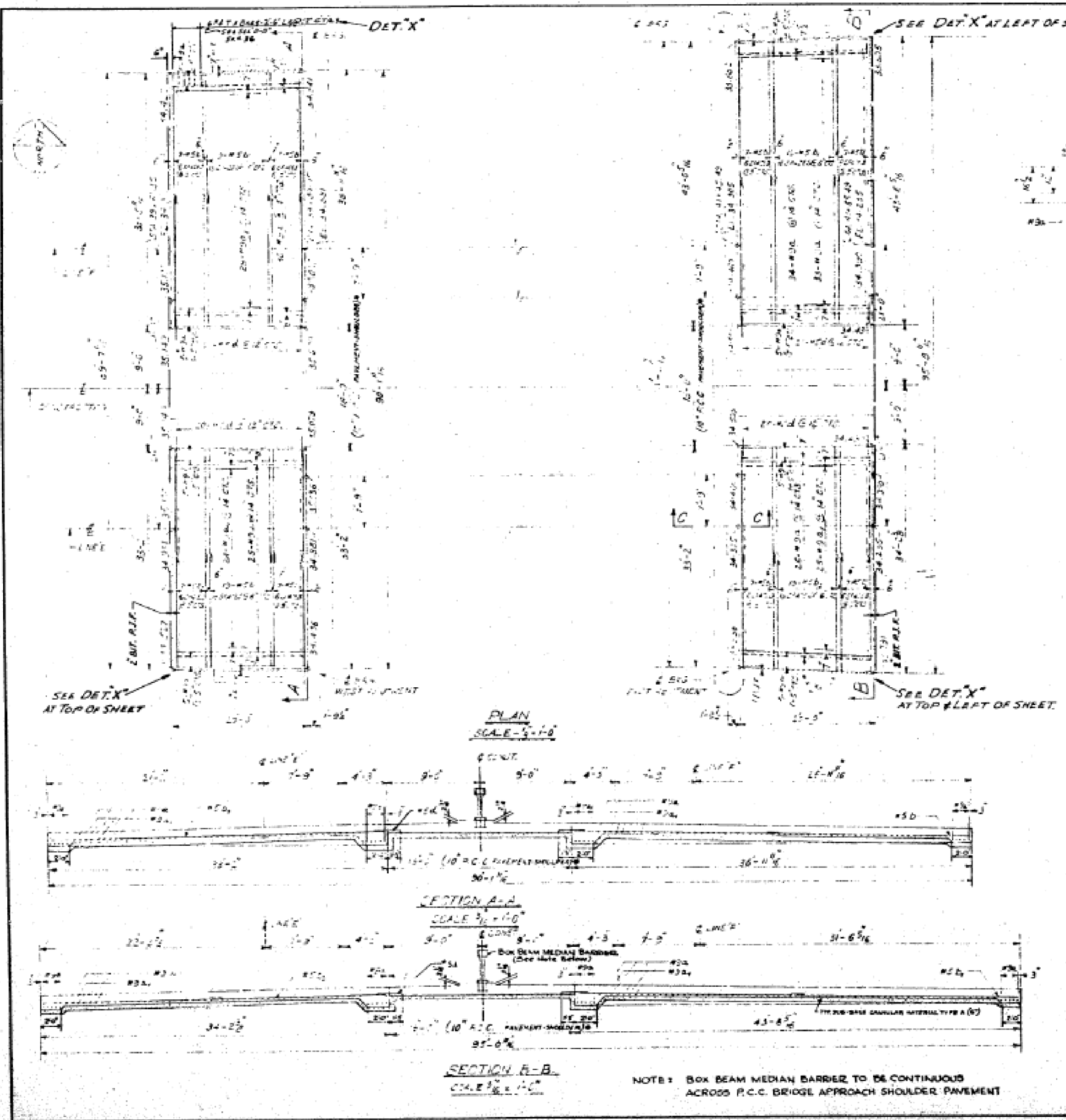
SHEET NO. S17 OF S18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	492

CONTRACT NO. 60J12

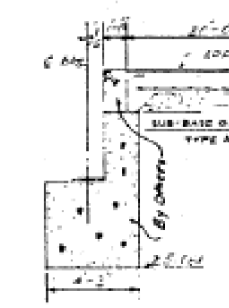
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

COUNTY PROGRAM		SHEET
ITEM No.	YEAR	No.
174A	1371	38

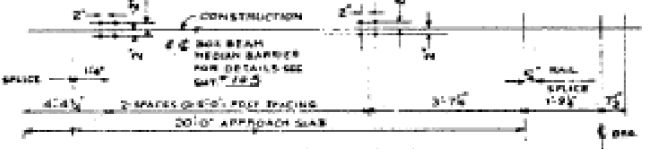


LONGITUDINAL SECTION THRU CENTER OF SLAB
SCALE 1/4" = 1'-0"

LONGITUDINAL SECTION THRU THICKENED EDGE OF SLAB
SCALE 1/4" = 1'-0"



SECTION C-C
SCALE 1/4" = 1'-0"



LOCATION OF ANCHOR BOLTS FOR BOX BEAM MEDIAN BARRIER
SCALE 1/2" = 1'-0"

BILL OF MATERIAL		
ITEM	QUANTITY	UNIT
P.C.C. PAVEMENT (10'-12'-14")	380	SQ. YDS.
REINFORCEMENT BARS	24978	LBS.
PROTECTIVE COAT	410	SQ. YDS.
SUB-BASE GRANULAR MATERIAL TYPE A (6")	410	SQ. YDS.
P.C.C. BRIDGE APPROACH SHOULDER PAVEMENT	80	SQ. YDS.
BOX BEAM MEDIAN BARRIER STRUCTURES	35	LINE FT.
FURNISHING AND ERECTING STRUCTURAL STEEL	47	LBS.

ITEMS LISTED IN THIS BILL OF MATERIAL ARE ALSO INCLUDED IN THE SUMMARY OF QUANTITIES SHOWN ON SHEET # 3

NOTES:-
WIDTH OF BRIDGE APPROACH SLAB FOUR SHALL BE DETERMINED BEFORE THE REINFORCEMENT BARS ARE FABRICATED.

THE COST OF BITUMINOUS PREFORMED FIBRE JOINT FILLER IS TO BE INCLUDED IN THE CONTRACT UNIT - 1/2" PER SQUARE YARD FOR PART AND SEVENTH CONCRETE PAVEMENT (10'-12'-14") AND SHALL CONFORM TO SECTION 715 OF THE STANDARD SPECIFICATION AND SPECIAL PROVISION.

BRIDGE APPROACH PAVEMENT AS SHOWN WILL BE MEASURED IN SQUARE YARDS AND PAID FOR AS P.C.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT WHICH SHALL INCLUDE THE COST OF THE BARS, REINFORCEMENT, JOINT FILLERS, AND SEALING. SEE # 12 BARS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR BOX BEAM MEDIAN BARRIER STRUCTURES (10'-12'-14"). SEE SHEET # 3.

SEE BOX BEAM MEDIAN BARRIER STANDARD.

BAR BENDING SCHEDULE									
MARK	NO.	SKETCH	SIZE	LENGTH	TYPE	A	B	J	
a	155		9	21'-6 3/4"	1	19'-3 1/2"	1/2"	B'	
a ₁	111		9	17'-6 3/4"	1	15'-8 1/2"	1/2"	B'	
b	66	—	5	19'-10 3/4"					
b ₁	66	—	5	22'-1 1/2"					
b ₂	66	—	5	17'-5 3/4"					
b ₃	66	—	5	17'-2 1/2"					
d	80	—	5	2'-6"					

REVISIONS		
DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DUNNE
PRESIDENT BOARD OF SUPERVISORS

THOMAS S. COY
COMMISSIONER OF HIGHWAYS

APPROACH SLABS
STONY ISLAND CONNECTOR
TO F.A.I. 94
OVER ACCESS ROAD TO FRONTAGE ROAD

COMPUTED BY: C.L.C.
CHECKED BY: R.S.P.
DRAWN BY: R.S.P.
CHECKED BY: R.S.P.

PROJECT: COY-188 (2)
SUBMITTED: 14 Aug 1970
DESIGNED BY: R.S.P.
CHECKED BY: R.S.P.

EXAMINED BY: R.S.P.
DATE: 1/28/71

SECTION NUMBER: 174A-001-C
SHEET NO.: 38
TOTAL SHEETS: 125

NOTE: BOX BEAM MEDIAN BARRIER TO BE CONTINUOUS ACROSS P.C.C. BRIDGE APPROACH SHOULDER PAVEMENT

USER NAME =	DESIGNED - GFP/ GMK	REVISED -
PLOT SCALE =	DRAWN - GFP	REVISED -
PLOT DATE =	CHECKED - GMK	REVISED -
FILE NAME =	DATE - 03/29/13	REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN (FOR INFORMATION ONLY)
SN 016-2439

SHEET NO. S18 OF S18 SHEETS

F.A.I. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
94	2012-059-BR	COOK	631	493
CONTRACT NO. 60J12				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Bench Mark: P.K. Nail in edge of outside bituminous shoulder of Northbound Stony Island Extension, approximately 90' south of East Abutment, Elevation 585.34.

Existing Structure: Structure No. 016-2438 was constructed in 1972 by the Cook County Department of Highways. The superstructure is a curved steel plate girder bridge with two continuous spans, 105'-4 1/2" and 123'-11 1/8" long, supporting a composite 7 1/2" reinforced concrete deck. The end-to-end length of the bridge between centerlines of abutment bearings is 229'-3 5/8" with a constant out-to-out deck width of 42'-0". The west abutment is a vaulted abutment with P.P.C. I-beams supporting a concrete slab. The east abutment is a closed concrete abutment. Both abutments have concrete wingwalls extending parallel to the Stony Island Connector. The pier is a four-column hammerhead pier. All substructure units are supported on steel H-Piles. The bridge will be replaced using staged construction, maintaining one lane of traffic in each stage.

No Salvage.

SCOPE OF WORK

- 1. Remove and replace existing bridge and approach slabs.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S₀₁) = 0.063g
 Design Spectral Acceleration at 0.2 sec. (S₀₅) = 0.112g
 Soil Site Class = C

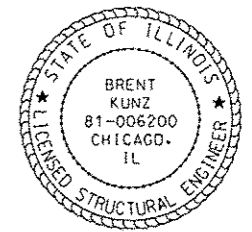
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

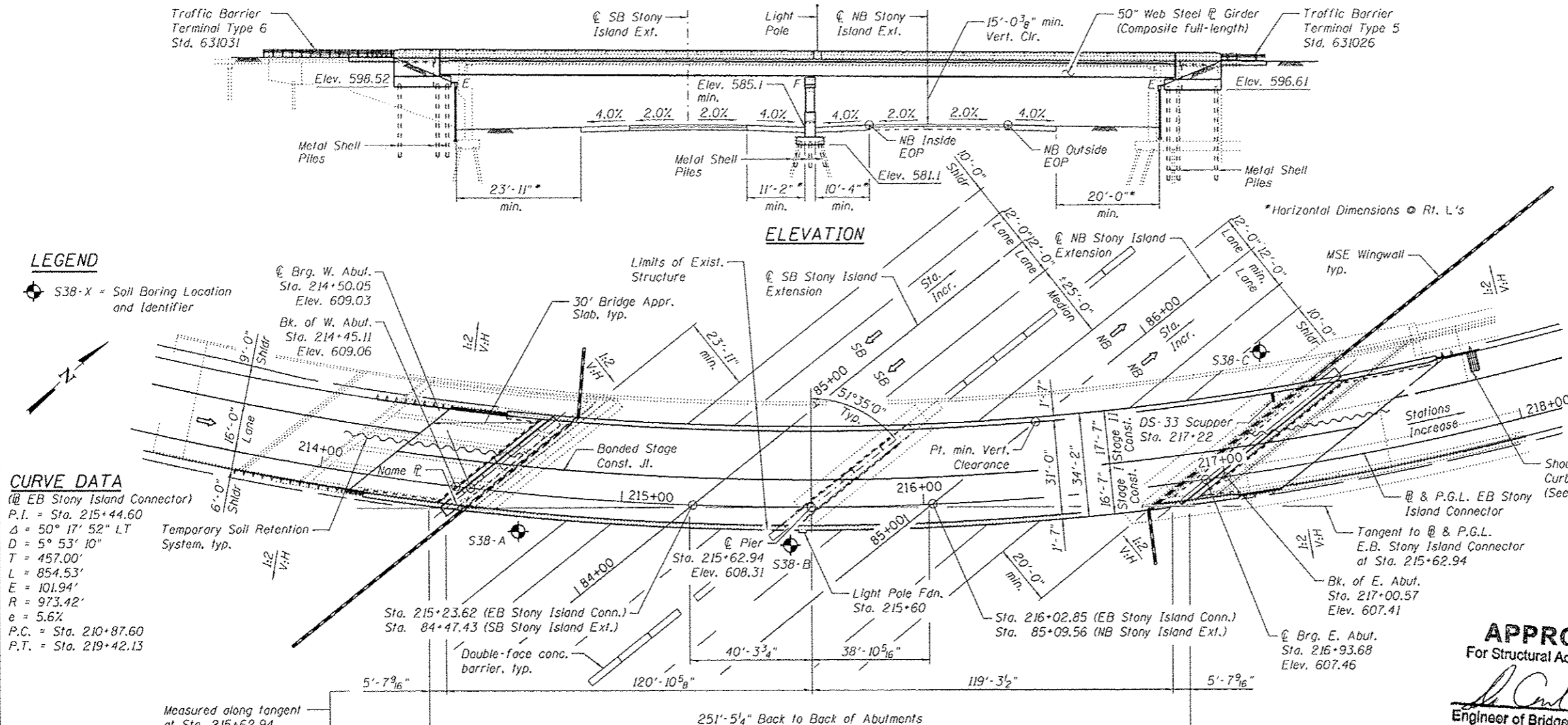
DESIGN STRESSES

FIELD UNITS

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



SIGNED: *Brent Kunz*
 DATE: March 29, 2013
 EXPIRES: November 30, 2014



LEGEND

S38-X = Soil Boring Location and Identifier

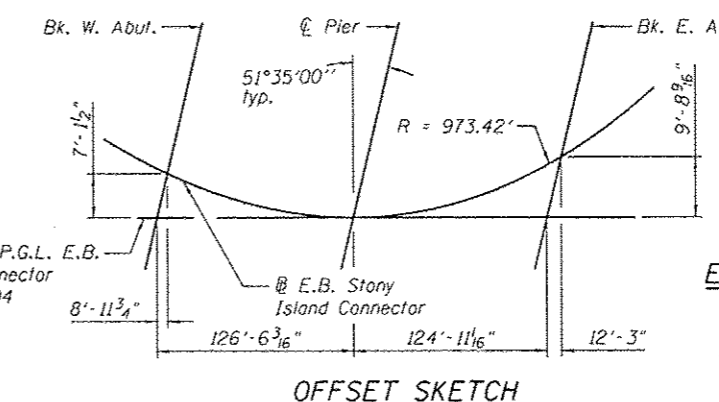
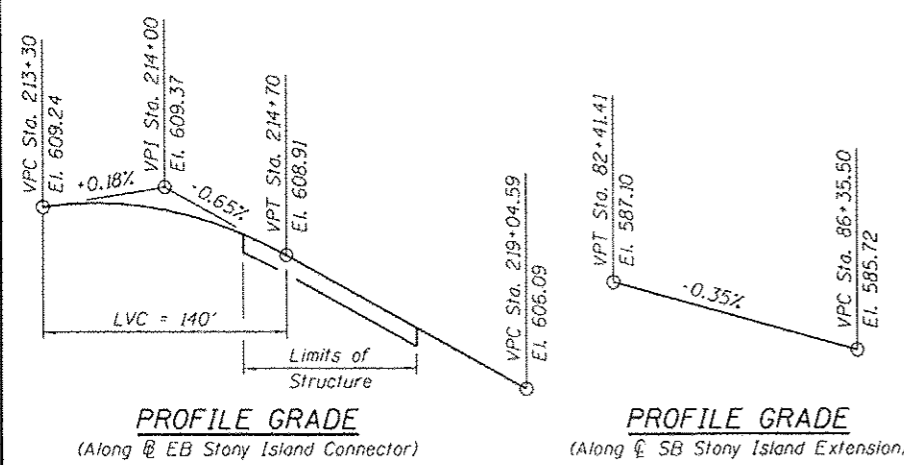
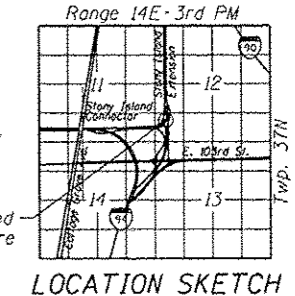
CURVE DATA

@ EB Stony Island Connector
 P.I. = Sta. 215+44.60
 Δ = 50° 17' 52" LT
 D = 5° 53' 10"
 T = 457.00'
 L = 854.53'
 E = 101.94'
 R = 973.42'
 e = 5.6%
 P.C. = Sta. 210+87.60
 P.T. = Sta. 219+42.13

3/29/2013

S:\1072\05_CADD\Structure\1\S\ 8182471\000_Sheets\8182471-58112-021-020.dwg

APPROVED
 For Structural Adequacy Only
Carl Krueger
 Engineer of Bridges & Structures



GENERAL PLAN & ELEVATION
EASTBOUND STONY ISLAND CONNECTOR
OVER STONY ISLAND EXTENSION
F.A.I. RTE. 94 - SEC. 2012-059-BR
COOK COUNTY
STATION 215+62.94
STRUCTURE NO. 016-2471

BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS Chicago, Illinois 312.228.9106 www.bbainc.com	USER NAME: _____	DESIGNED - TL	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SHEET NO. S-1 OF S-63 SHEETS
	PLOT SCALE: _____ PLOT DATE: 03/29/2013	CHECKED - BAK DRAWN - TL CHECKED - BAK	REVISED - REVISED - REVISED -		

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8" φ, holes 15/16" φ, unless otherwise noted.

Calculated weight of Structural Steel =

AASHTO M 270 Grade 50 = 481,910 lb.

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

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Concrete Sealer shall be applied to all exposed surfaces of the abutment backwalls, bridge seats, and pile caps, and to all exposed surfaces of the pier.

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

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surface and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas, all of which shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4.

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

Slipforming of the parapets is not allowed.

See "Erection of Curved Steel Structures" Special Provision.

INDEX OF SHEETS

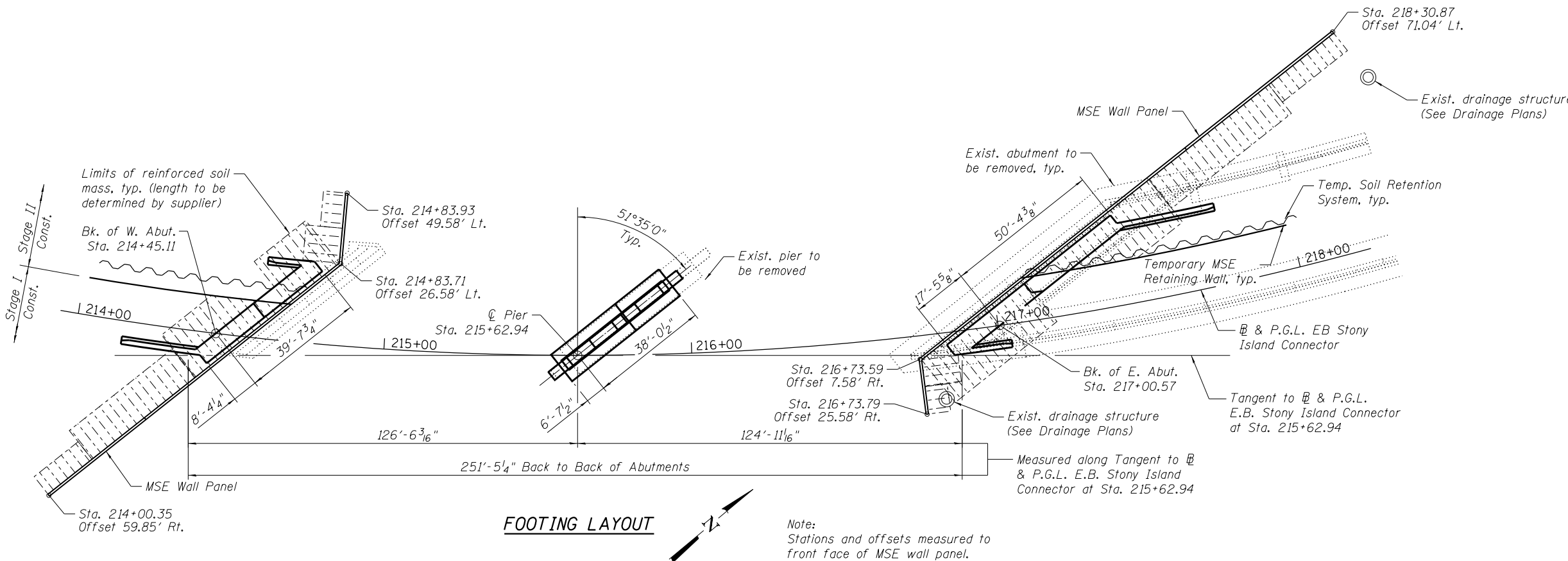
S-1	General Plan & Elevation	S-24	Structural Steel Details III
S-2	General Data	S-25	Stage I Deck Pour Temporary Bracing Details
S-3	Construction Staging Details I	S-26	Bearing Details
S-4	Construction Staging Details II	S-27	West Abutment MSE Retaining Wall
S-5	Construction Staging Details III	S-28	East Abutment MSE Retaining Wall
S-6	Temporary Concrete Barrier for Stage Construction	S-29	MSE Retaining Wall Details
S-7	Top of Slab Elevations Layout	S-30	Substructure Removal Details
S-8	Top of Slab Elevations I	S-31	West Abutment Plan and Elevation
S-9	Top of Slab Elevations II	S-32	West Abutment Sections and Details
S-10	Top of Approach Slab Elevations	S-33	West Abutment Bill of Materials
S-11	Superstructure Plan and Cross Section	S-34	East Abutment Plan and Elevation
S-12	Superstructure Details I	S-35	East Abutment Sections and Details
S-13	Superstructure Details II	S-36	East Abutment Bill of Materials
S-14	West Bridge Approach Slab Details I	S-37	Pier Details I
S-15	West Bridge Approach Slab Details II	S-38	Pier Details II
S-16	East Bridge Approach Slab Details I	S-39	Metal Shell Pile Details
S-17	East Bridge Approach Slab Details II	S-40	Bar Splicer Assembly and Mechanical Splicer Details
S-18	Preformed Joint Strip Seal	S-41	Soil Boring Logs I
S-19	Drainage Scupper, DS-33	S-42	Soil Boring Logs II
S-20	Drainage System Details	S-43	Soil Boring Logs III
S-21	Framing Plan	S-44	Soil Boring Logs IV
S-22	Structural Steel Details I	S-45 thru	
S-23	Structural Steel Details II	S-63	Existing Plans (For Information Only)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures No. 2	Each	1	-	1
Protective Shield	Sq Yd	960	-	960
Structure Excavation	Cu Yd	-	2,342	2,342
Removal and Disposal of Unsuitable Material for Structures	Cu Yd	-	515	515
Concrete Structures	Cu Yd	35.5	331.8	367.3
Concrete Superstructure	Cu Yd	413.5	-	413.5
Bridge Deck Grooving	Sq Yd	1,014	-	1,014
Protective Coat	Sq Yd	1,374	-	1,374
Furnishing and Erecting Structural Steel	L Sum	0.45	-	0.45
Stud Shear Connectors	Each	4,677	-	4,677
Reinforcement Bars, Epoxy Coated	Pound	104,330	32,810	137,140
Bar Splicers	Each	948	167	1,115
Furnishing Metal Shell Piles 12" X 0.250"	Foot	-	2,418	2,418
Driving Piles	Foot	-	2,418	2,418
Test Pile Metal Shells	Each	-	3	3
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	112	-	112
Elastomeric Bearing Assembly, Type I	Each	12	-	12
Anchor Bolts 3/4"	Each	24	-	24
Anchor Bolts 1/2"	Each	12	-	12
Concrete Sealer	Sq Ft	-	2,935	2,935
Drainage Scuppers, DS-33	Each	1	-	1
Drainage System	L Sum	-	0.5	0.5
Mechanically Stabilized Earth Retaining Wall	Sq Ft	-	4,290	4,290
Temporary Soil Retention System	Sq Ft	-	2,420	2,420
Temporary Mechanically Stabilized Earth Retaining Wall	Sq Ft	-	2,680	2,680

STATION 215+62.94
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.I. RT. 94 SEC. 2012-059-BR
 LOADING HL-93
 STRUCTURE NO. 016-2471

NAME PLATE
 See Std. 515001



Note:
 Stations and offsets measured to front face of MSE wall panel.

12/29/24 PM

5/2/2013

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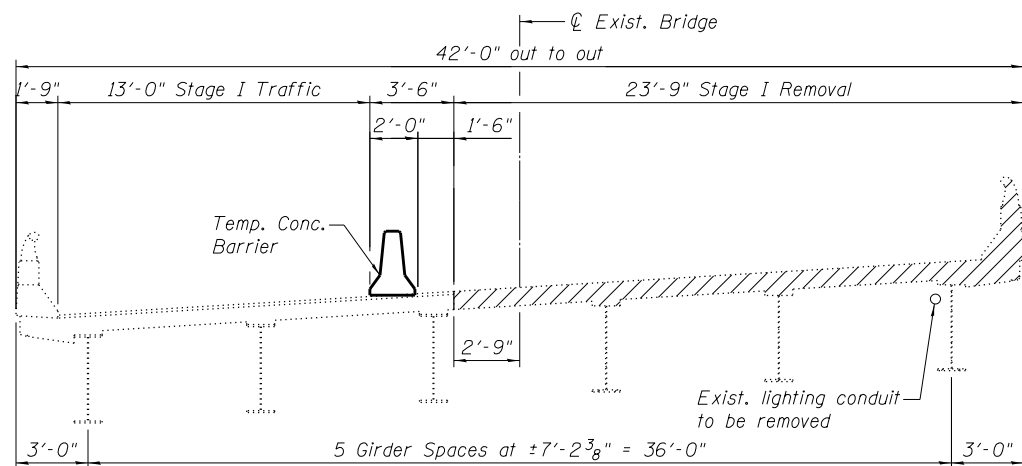
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 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
 www.bbainc.com

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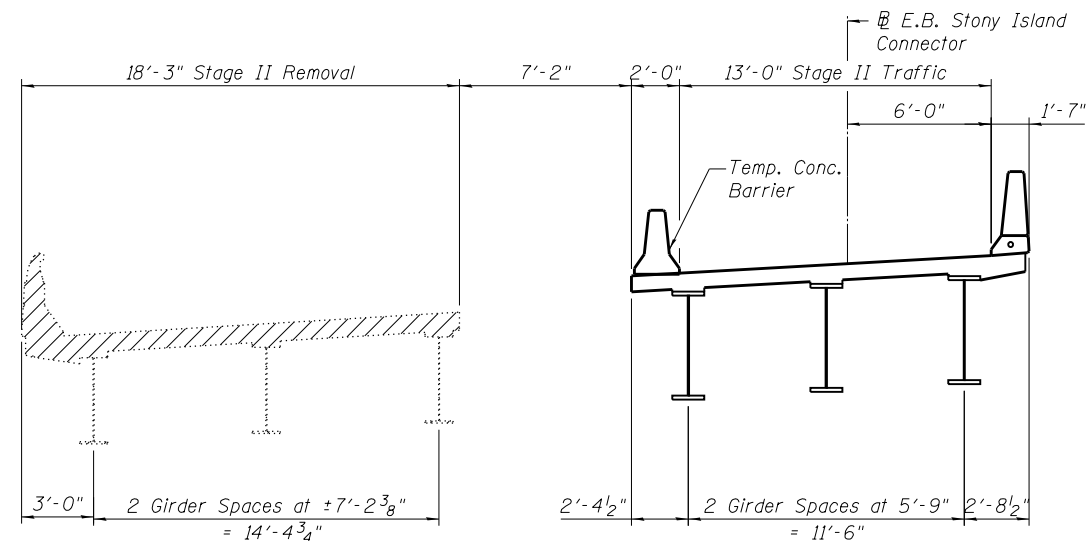
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL DATA
 STRUCTURE NO. 016-2471
 SHEET NO. S-2 OF S-63 SHEETS

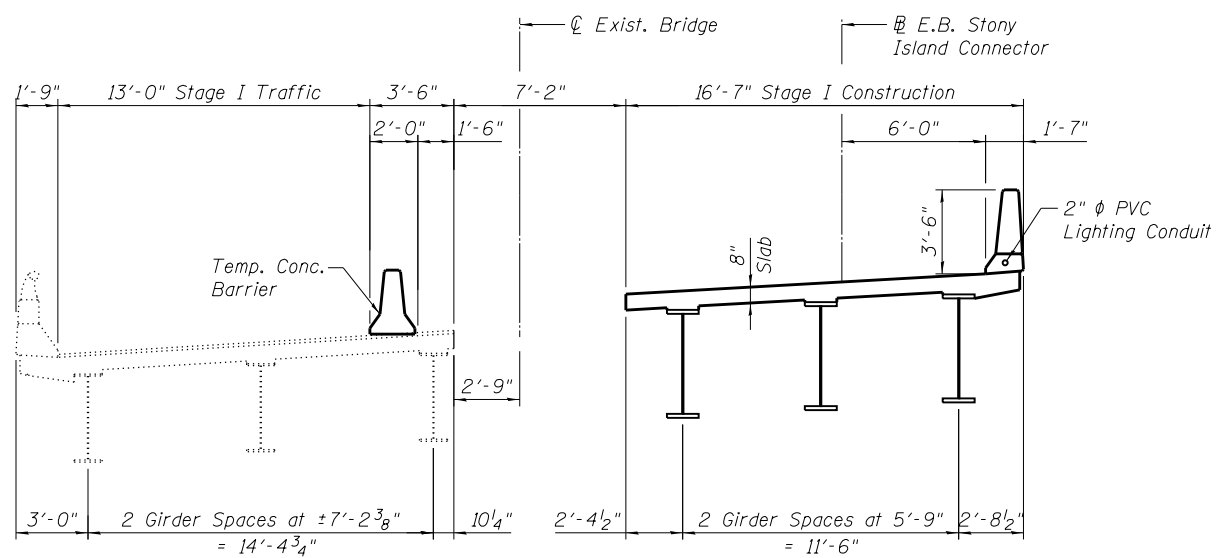
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	495
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



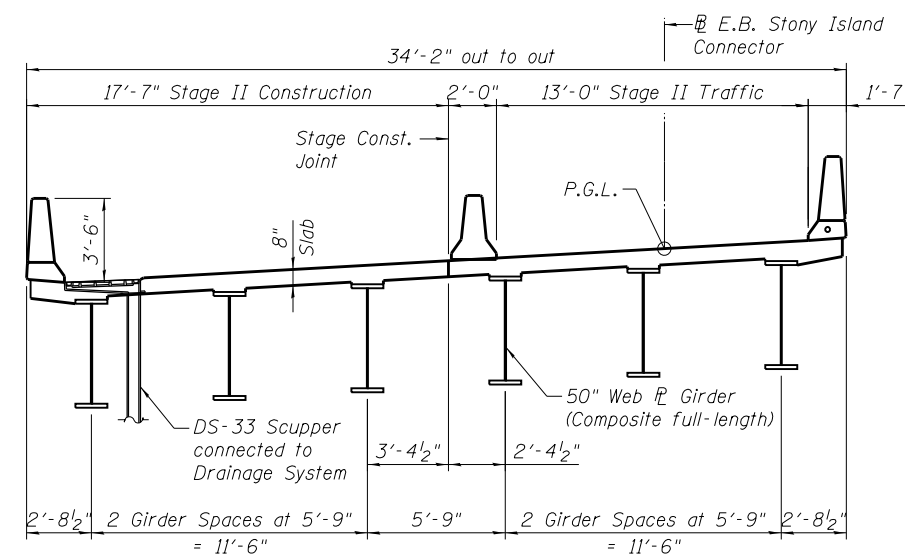
STAGE I SUPERSTRUCTURE REMOVAL
(Looking East)



STAGE II SUPERSTRUCTURE REMOVAL
(Looking East)



STAGE I SUPERSTRUCTURE CONSTRUCTION
(Looking East)



STAGE II SUPERSTRUCTURE CONSTRUCTION
(Looking East)

Notes:

1. Hatched areas indicate items paid for as Removal of Existing Structures No. 2.
2. See roadway plans for quantity of Temporary Concrete Barrier.
3. See Sheet S-6 for details of Temporary Concrete Barrier.

3/23/19 PM

4/30/2013

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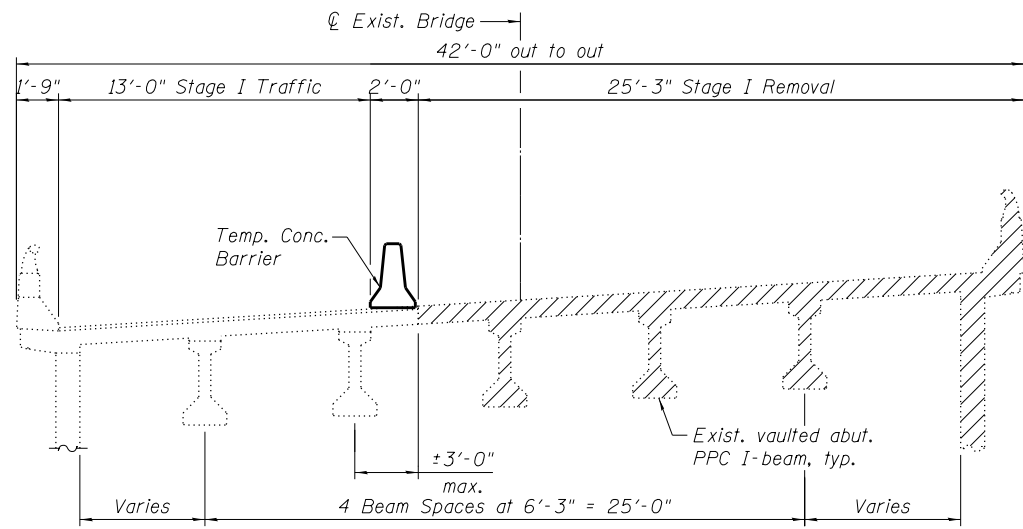
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PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN - MTR	REVISED -
	CHECKED - BAK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

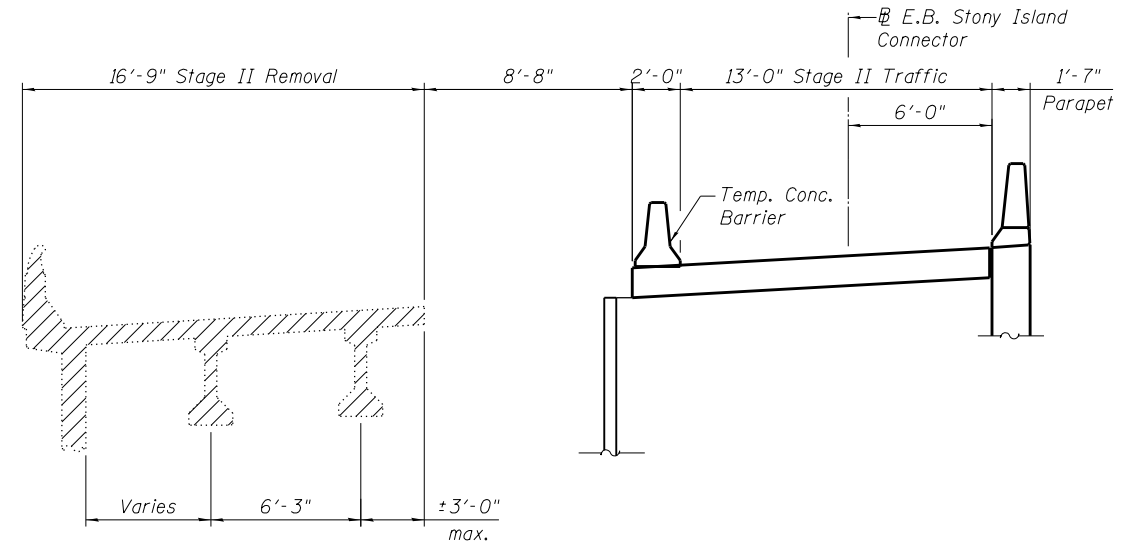
CONSTRUCTION STAGING DETAILS I
STRUCTURE NO. 016-2471

SHEET NO. S-3 OF S-63 SHEETS

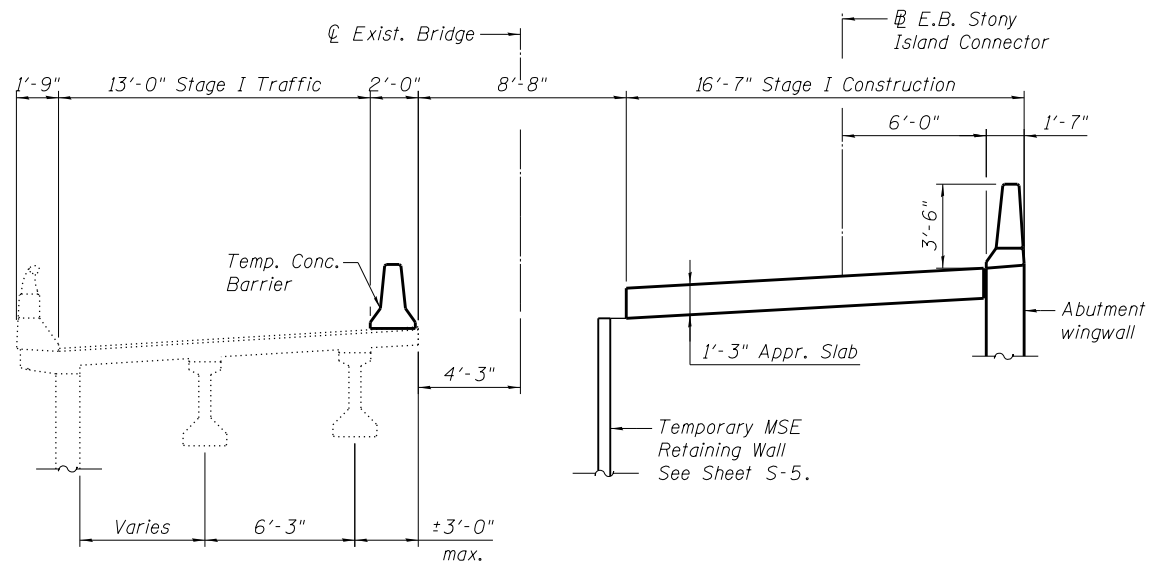
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94	2012-059-BR	COOK	631	496
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



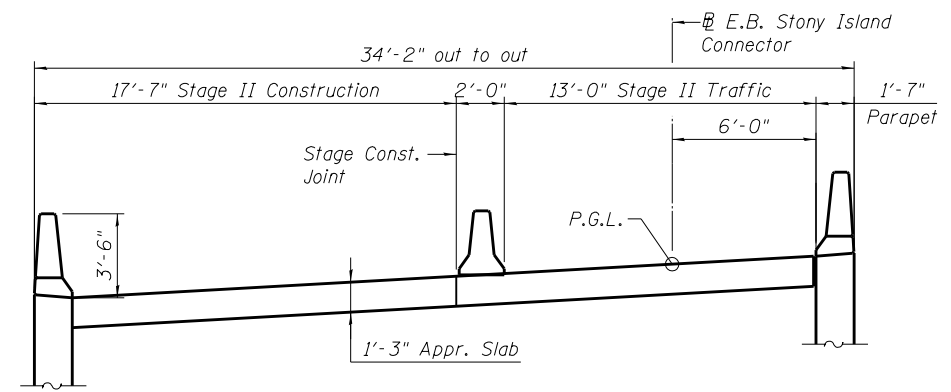
STAGE I WEST APPROACH SPAN REMOVAL
(Looking East)



STAGE II WEST APPROACH SPAN REMOVAL
(Looking East)



STAGE I WEST APPROACH SLAB CONSTRUCTION
(Looking East)



STAGE II WEST APPROACH SLAB CONSTRUCTION
(Looking East)

Notes:

1. Hatched areas indicate items paid for as Removal of Existing Structures No. 2.
2. See roadway plans for quantity of Temporary Concrete Barrier.
3. See Sheet S-6 for details of Temporary Concrete Barrier.

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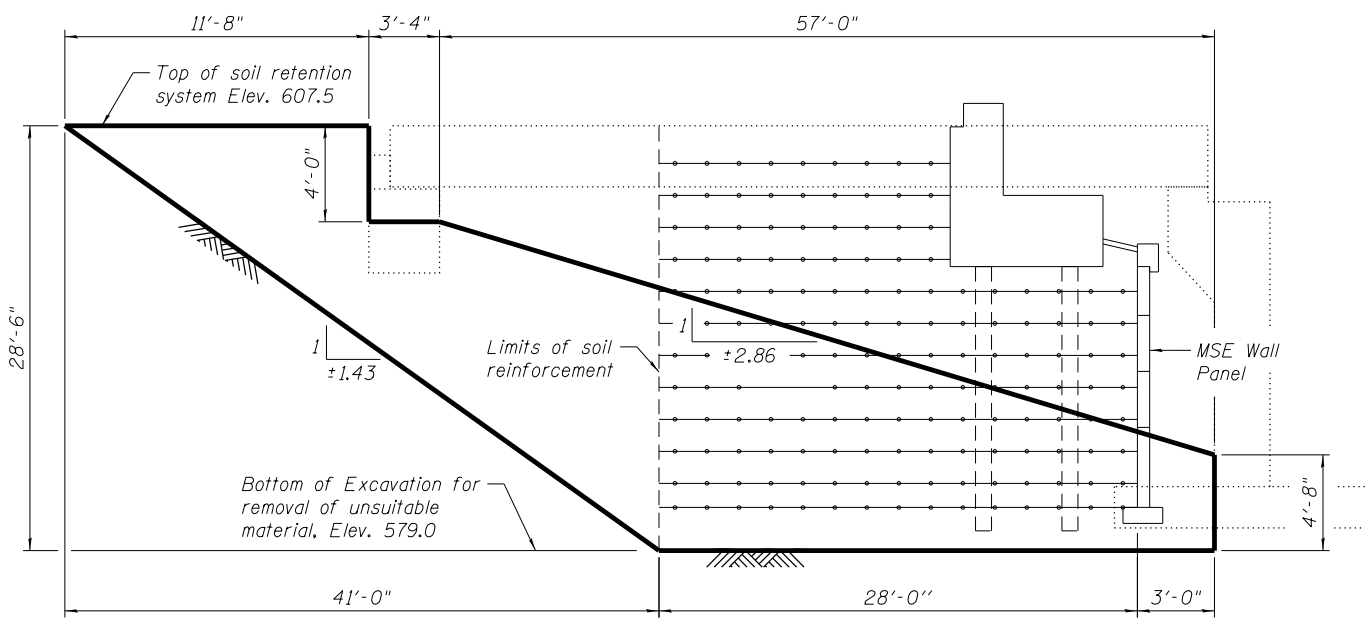
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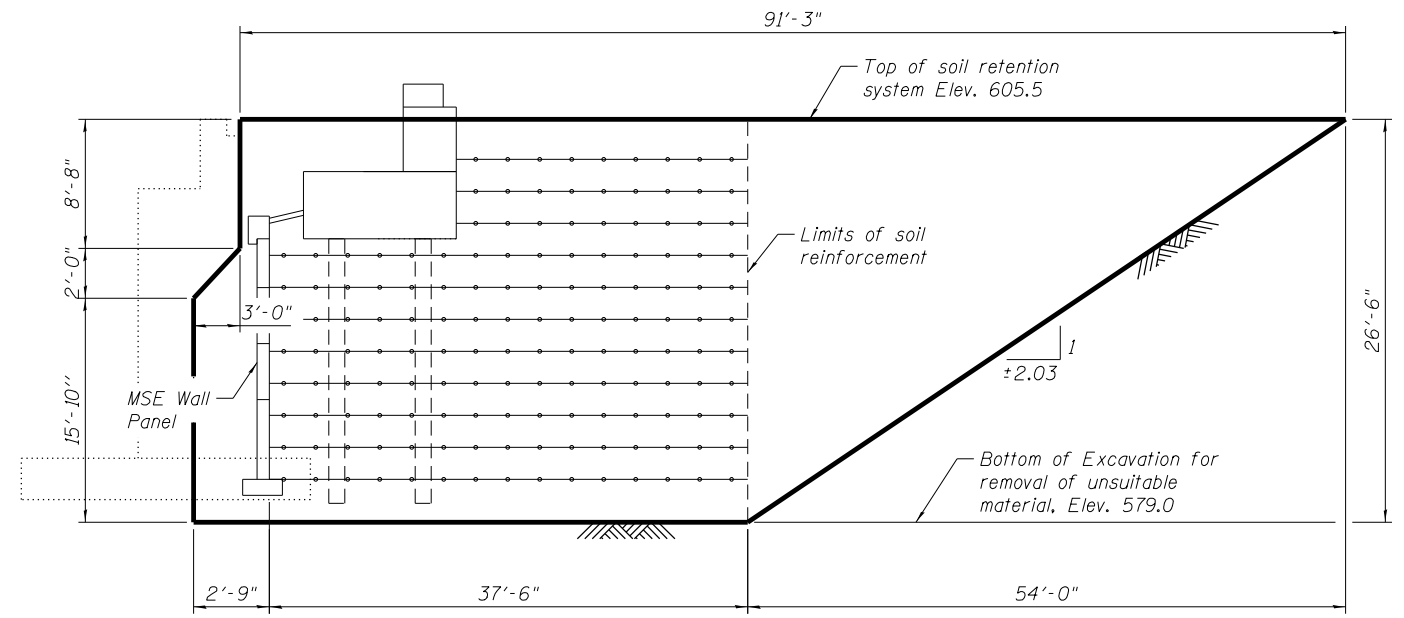
CONSTRUCTION STAGING DETAILS II
STRUCTURE NO. 016-2471

SHEET NO. S-4 OF S-63 SHEETS

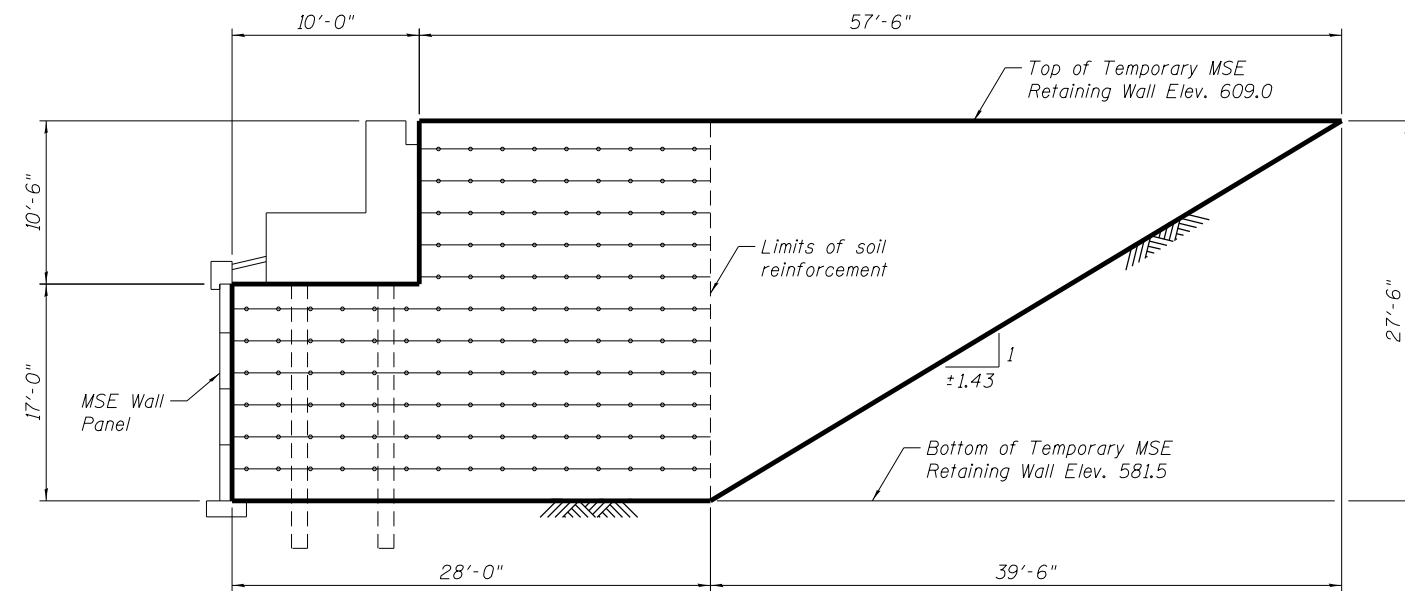
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	497
CONTRACT NO. 60J12				
ILLINOIS FED. AID PROJECT				



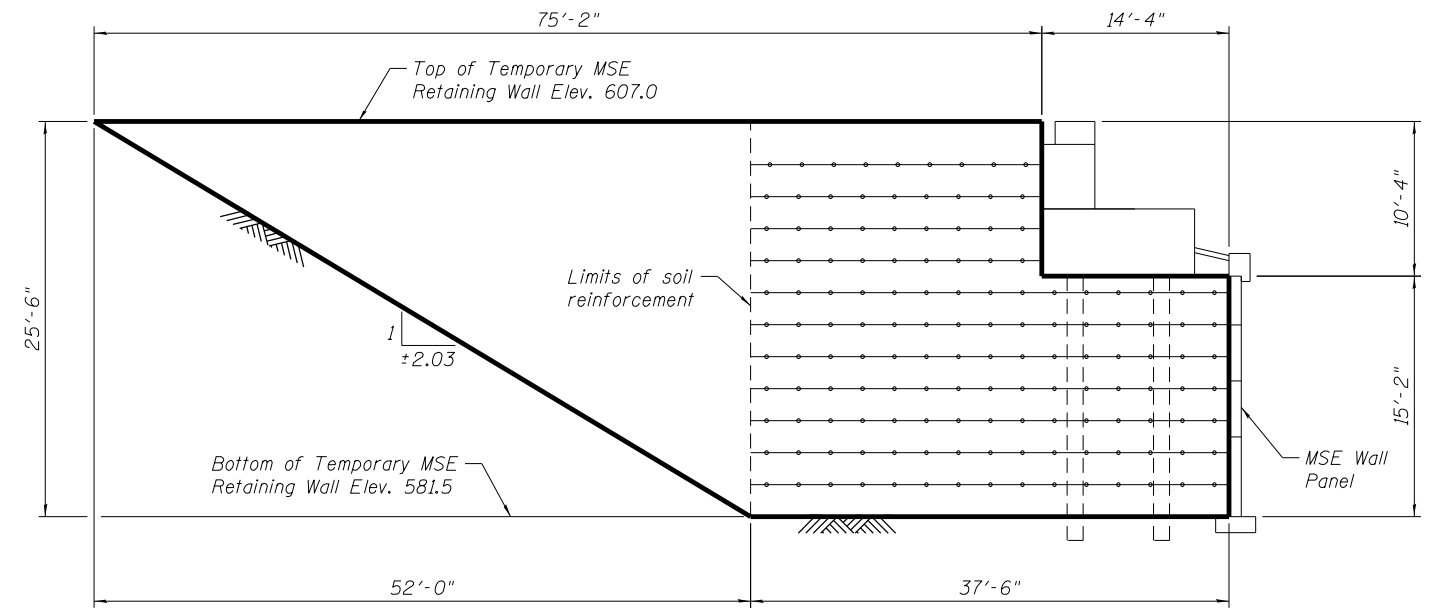
WEST ABUTMENT TEMPORARY SOIL RETENTION SYSTEM
(Looking North)



EAST ABUTMENT TEMPORARY SOIL RETENTION SYSTEM
(Looking North)



WEST ABUTMENT TEMPORARY MSE RETAINING WALL
(Looking South)



EAST ABUTMENT TEMPORARY MSE RETAINING WALL
(Looking South)

Notes:

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

The Contractor shall design the face of the temporary MSE retaining walls to permit attachment of straps from the permanent MSE walls in acute corners as applicable.

See MSE wall shop drawings for actual limits of soil reinforcement.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Soil Retention System	Sq. Ft.	2,420
Temporary Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,680

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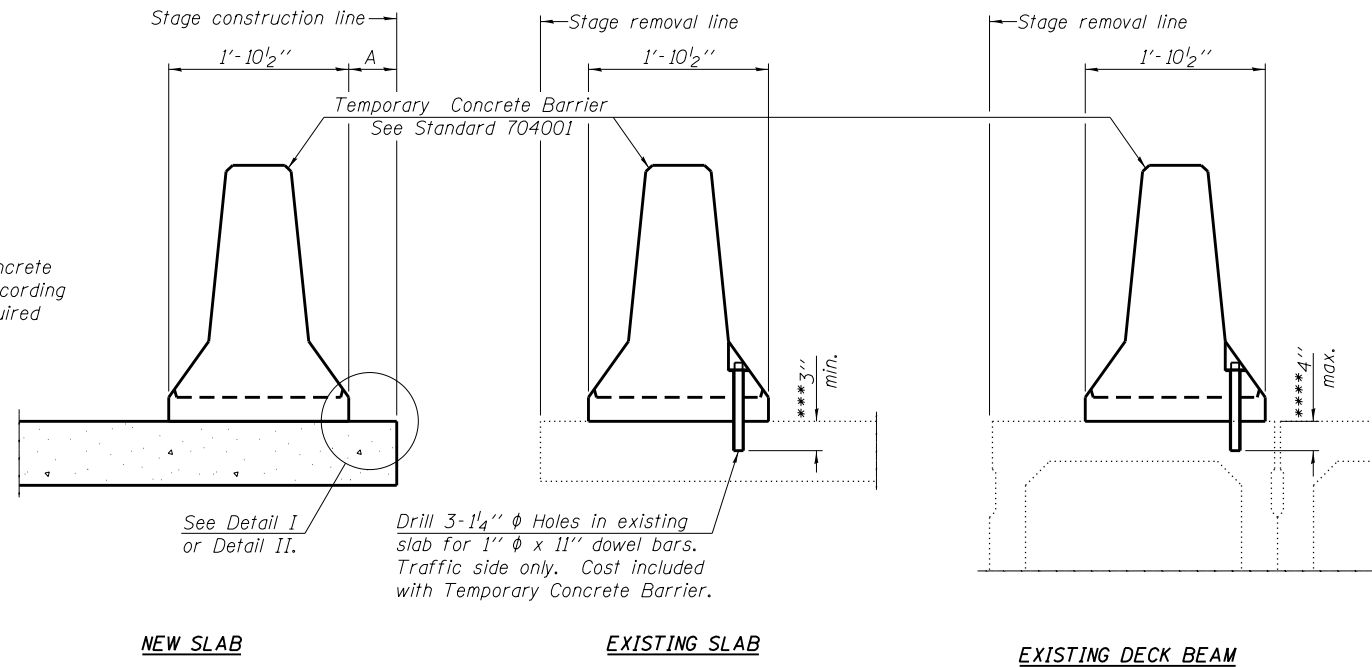
CONSTRUCTION STAGING DETAILS III
STRUCTURE NO. 016-2471

SHEET NO. S-5 OF S-63 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	498
CONTRACT NO. 60J12				

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When "A" is 3'-6" 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'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

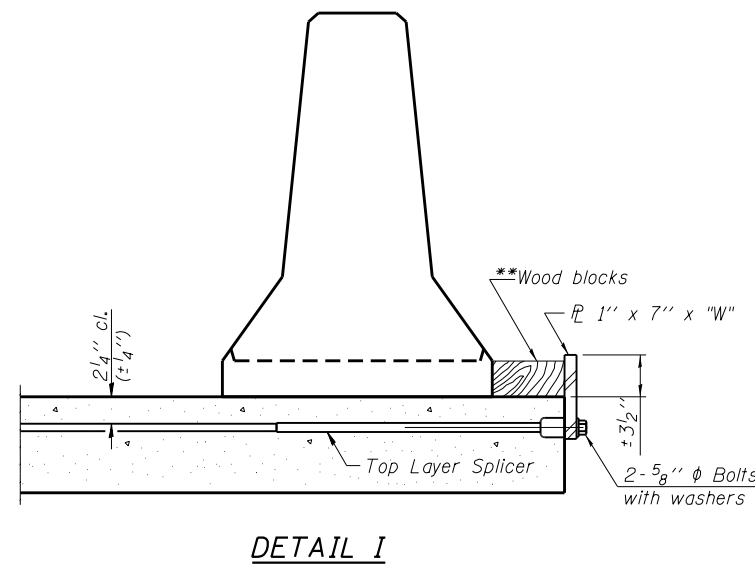
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the top layer of couplers with 2- $\frac{5}{8}$ " ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the concrete slab or concrete wearing surface with 2- $\frac{5}{8}$ " ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

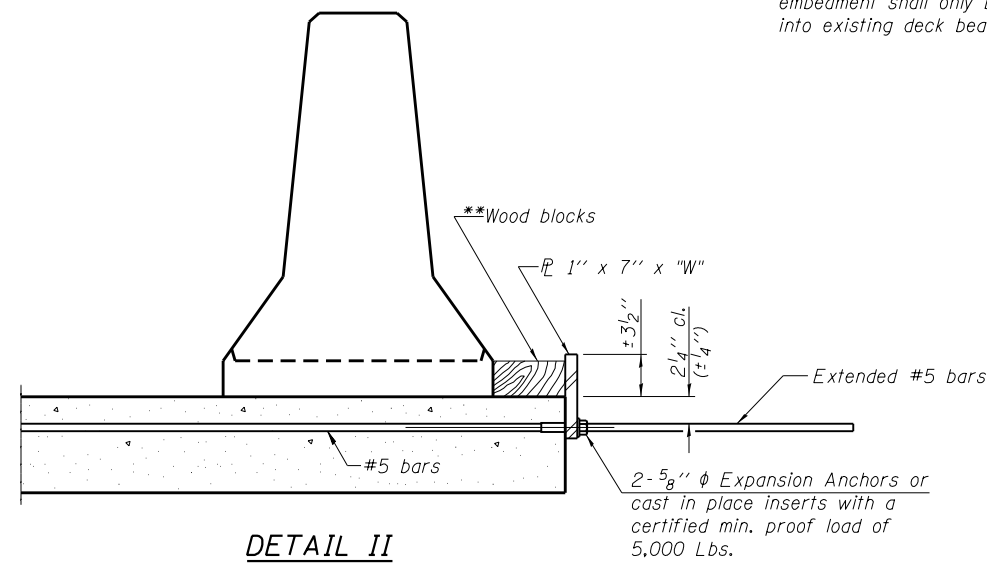
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.



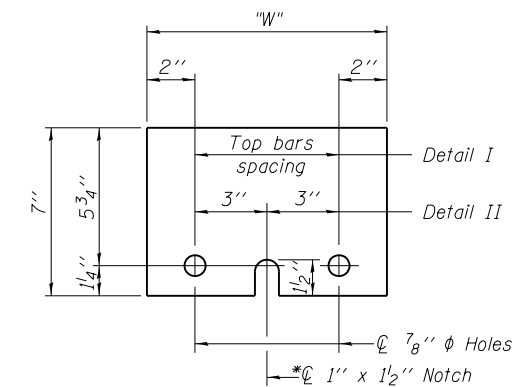
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



STEEL RETAINER \bar{L} 1" x 7" x "W"

* Required only with Detail II

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TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-2471

SHEET NO. S-6 OF S-63 SHEETS

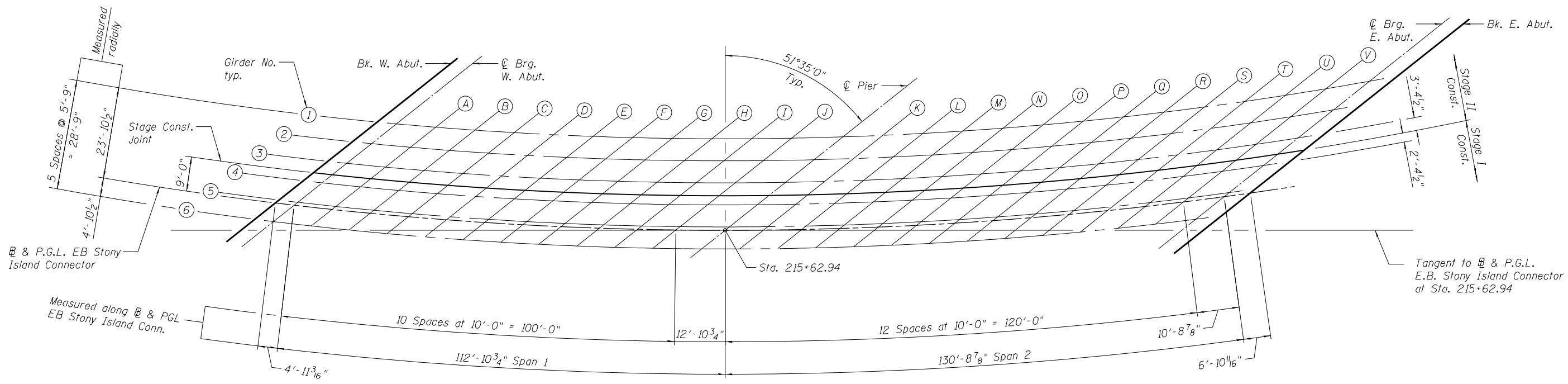
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94	2012-059-BR	COOK	631	499
CONTRACT NO. 60J12				

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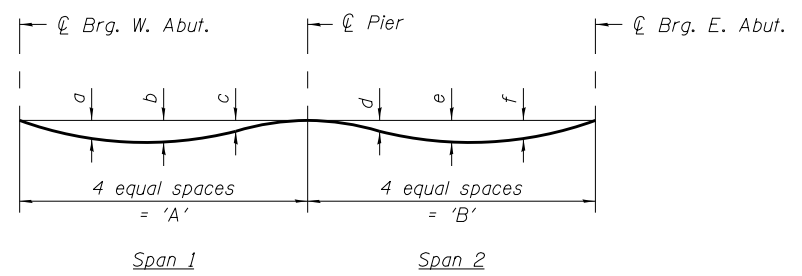
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PLAN



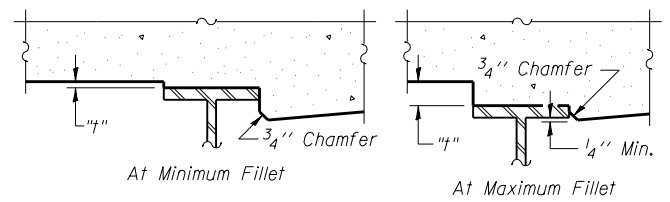
DEAD LOAD DEFLECTION DIAGRAM

(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 Sheets S-8 through S-9.

DEAD LOAD DEFLECTION TABLE

	Span 1				Span 2			
	a	b	c	'A'	d	e	f	'B'
Girder 1	15/16"	1"	5/16"	116'-8 3/4"	1 3/16"	2 1/8"	1 1/16"	138'-6 5/16"
Girder 2	7/8"	1"	3/8"	115'-8 15/16"	1"	2"	1 3/8"	136'-5 9/16"
Girder 3	1"	1 1/16"	3/8"	114'-9 9/16"	1"	2 1/16"	1 3/4"	134'-6 5/16"
Girder 4	3/4"	13/16"	1/4"	113'-10 11/16"	7/8"	1 1/16"	1 5/16"	132'-8 1/2"
Girder 5	15/16"	1"	3/8"	113'-0 5/16"	1"	1 7/8"	1 1/2"	130'-11 7/8"
Girder 6	1 3/16"	1 3/8"	1/2"	112'-2 5/16"	1 1/16"	2 1/4"	1 15/16"	129'-4 7/16"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-8 thru S-9, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

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TOP OF SLAB ELEVATIONS LAYOUT
STRUCTURE NO. 016-2471

SHEET NO. S-7 OF S-63 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	500
CONTRACT NO. 60J12				

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